NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Combined Level 2 and Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 18-0633

Naval Construction Battalion Center Gulfport
Gulfport, Mississippi

July 2019

N62604_002155
GULFPORT_NCBC
SSIC 5000-33c

LABORATORY DATA PACKAGE 18-0633 NCBC GULFPORT MS

11/08/2018
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Approved for public release: distribution unlimited.

PFAS Analytical work
Project No 100112541
PFAS by DoD QSM 5.1 Table B-15

GW, QC

Batch 18-0633

Package DP-18-0331

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

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

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PFAS Analytical work
Project No 100112541
PFAS by DoD QSM 5.1 Table B-15

GW, QC

Batch 18-0633

Package DP-18-0331

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

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

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

Analyst Approval: schumitzd@battelle.org 2018.11.06 14:01:18 -05'00'

QC Chemist Approval: Digitally signed by devinec@battelle.org DN: cn=devinec@battelle.org Date: 2018.11.08 11:25:16 -05'00'

Project Manager Approval: Digitally signed by Jonathan Thorn Date: 2018.11.08 11:43:02 -05'00'

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PFAS Analytical work
Project No 100112541
PFAS by DoD QSM 5.1 Table B-15

GW, QC

Batch 18-0633

Package DP-18-0331

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Signature Page

Battelle 2018 (1 of 2)
Signature Page

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

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Battelle 2018 (2 of 2)
Signature Page

Name (Printed)	Signature	Initials	Date
KAVITHA DASU		KD	04/04/18
Kayla Lamarre		KAL	04/04/18
Weidong Li		W.L	04/04/18
Tracy W Stenman		TWS	04/04/18
Ellyn M Fitch		EMF	12-April-2018
Gail DeRuzzo		GD	4/18/18
Zachary Willenberg		ZJW	4/20/18
Kevin Bailey		KB	10/25/18
Andrea Kulda		AK	10/25/18
William Mendelsohn		WM	10/25/18

Sample Summary

Client: Tetra Tech, Inc.
SDG: 18-0633
Project/Site: Naval Construction Battalion Center (NCBC)
CTO: JM08

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CS035PB-FS	Procedural Blank	WATER	10/24/2018	10/24/2018
CS036LCS-FS	Laboratory Control Sample	WATER	10/24/2018	10/24/2018
J9041-FS	04GW10R101818	GW	10/18/2018	10/19/2018
J9042-FS	04GW15101818	GW	10/18/2018	10/19/2018
J9043-FS	04FRB101818	QC	10/18/2018	10/19/2018
J9044-FS	04GW28101818	GW	10/18/2018	10/19/2018
J9045-FS	04GWGP1101818	GW	10/18/2018	10/19/2018
J9046-FS	03GW34101818	GW	10/18/2018	10/19/2018
J9047-FS	03FRB101818	QC	10/18/2018	10/19/2018
J9048-FS	03GW19101818	GW	10/18/2018	10/19/2018

Work Plan

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WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title:	CTO-JM08 - Naval Construction Battalion Center (NCBC)
Project Number:	100112541
Client:	Tetra Tech 661 Anderson Drive Foster Plaza 7 Pittsburgh, PA 15220 USA
Client Contact Information:	Greg Roof NA NA NA greg.roof@tetratech.com
Effective Date of QAPP:	3/21/2018
Version Number:	100112541(L)-02
Project Manager:	Thorn, Jonathan
Laboratory Task Manager:	Thorn, Jonathan
Deliverable Due Date:	4/10/2018

2.0 SCOPE OF WORK

Overview:	Analysis of non-potable water samples collected at NCBC in Gulfport, Mississippi. All time should be charged to 100115738-JM08.
Matrix:	Water

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

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

Storage Directions:	Store samples refrigerated prior to extraction.
Sub_Sampling:	None
Procedures:	NA
Contact:	NA
Comment:	NA
Archiving:	NA
Disposal:	NA

2.1.2 Sample Preparation

NA

Samples Expected:	Samples Per Batch:	Batches Expected:
12	20	1

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

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

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	**5-370-05**
SOP Title:	*Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices*
Sample Size:	250 ml
SIS and LCS/MS Compounds:	Defined in Table 2.
Deviations:	None.
Comments:	FRB samples will only be extracted and analyzed if hits in the associated samples are greater than 1/3 the LOQ (5.0 ng/L).

Table 2: SIS and LCS/MS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Low Level Labelled Extracted Internal Standards (SIS)	JR05 SIS	~ 0.100 ng	50 uL	NA

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 10.0 ng	200 uL	MS/MSD samples
PFAS - Second Source Low Level	JP88	LCS/MS	~ 2.50 ng	500 uL	LCS sample.

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 500

Table 3: RIS Spiking Level

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	JR08	RIS	~ 0.050 ng	25 uL	NA

2.1.4 Instrumental Analysis

The list of analytes along with data quality criteria are presented in Attachment 2.

1) SOP_No-Rev: **5-369-05**

SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*

Deviations: None

Comments: All criteria from DoD QSM 5.1 Table B-15 must be met

2.2. DELIVERABLES

Deliverables Due:	4/10/2018
LIMS Reports:	*Yes*
Histograms:	*No*
Excel Tables:	*Yes*
EICs:	*No*
Chromatograms:	*No*

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WORK/QUALITY ASSURANCE PROJECT PLAN

EDDs:	*Yes*
Comments:	• Three week Turnaround Time • Data tables must contain LOD/LOQ information. • Case narrative must identify instrument used. • Include sample calculation in final deliverable. • Hard copy summary package, including case narrative, cross reference table of client to laboratory sample IDs, copy of COC, and all CLP-like data tables. • Full L4 validation package per SAP and ADAPT EDD format. • PDF of L4 and summary package will be provided (CD or DVD, two copies) • ADAPT EDD format required - see SOW for details.

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	Zach Willenberg will perform QA review after data has been finalized by QC Chemist and deliverables have been made.

4.2 COMMUNICATION

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

5.0 SCHEDULE

The project schedule is presented in Table 5.

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	NA	NA	0	NA
Sample Preparation	NA	NA	0	NA
Instrument Analysis	NA	NA	0	NA
Quality Control Review	NA	NA	0	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	1	1	1	NA
Sample Preparation	4	1	4	NA
Instrument Analysis	4	1	4	NA
Quality Control Review	2	1	2	0.5 hours for QA review.

7.0 STAFF DEVELOPMENT

None anticipated

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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: **SHP-180320-02**

Status: Approved

Description: 112G08005-JM08

Range: J5386-J5397

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J5386	06GW09FRB0318	03/17/2018 9:05 am	QC	R0118 (NA)			
2	J5387	06GW08031718	03/17/2018 9:25 am	GW	R0118 (NA)			MSMSD
3	J5388	06GW09031718	03/17/2018 9:23 am	GW	R0118 (NA)			
4	J5389	06GW04031718	03/17/2018 9:30 am	GW	R0118 (NA)			
5	J5390	06GW16031718	03/17/2018 10:23 am	GW	R0118 (NA)			
6	J5391	06GW15FRB0318	03/17/2018 10:25 am	QC	R0118 (NA)			
7	J5392	06GW15031718	03/17/2018 10:30 am	GW	R0118 (NA)			
8	J5393	06GW14FRB0318	03/17/2018 10:35 am	QC	R0118 (NA)			
9	J5394	06GW14031718	03/17/2018 10:40 am	GW	R0118 (NA)			
10	J5395	06GW06031718	03/17/2018 11:25 am	GW	R0118 (NA)			
11	J5396	06GW03031718	03/17/2018 12:05 pm	GW	R0118 (NA)			
12	J5397	06FDGW0318	03/17/2018 12:00 am	GW	R0118 (NA)			

Shipment: **SHP-180921-02**

Status: Approved

Description: NEBC Gulfport

Range: J8278-J8281

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8278	07GW07092018	09/20/2018 9:20 am	GW	R0119 (NA)			
2	J8279	07FRB092018	09/20/2018 10:00 am	QC	R0119 (NA)			
3	J8280	07GW13092018	09/20/2018 10:25 am	GW	R0119 (NA)			
4	J8281	07GW11092018	09/20/2018 11:20 am	GW	R0119 (NA)			

Shipment: **SHP-181019-02**

Status: Pending

Description: NCBC Gulfport

Range: J9041-J9048

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J9041	04GW10R101818	10/18/2018 9:18 am	GW	R0119 (NA)			
2	J9042	04GW15101818	10/18/2018 10:15 am	GW	R0119 (NA)			
3	J9043	04FRB101818	10/18/2018 10:20 am	QC	R0119 (NA)			
4	J9044	04GW28101818	10/18/2018 11:05 am	GW	R0119 (NA)			
5	J9045	04GWGP101818	10/18/2018 12:15 pm	GW	R0119 (NA)			
6	J9046	03GW34101818	10/18/2018 2:00 pm	GW	R0119 (NA)			
7	J9047	03FRB101818	10/18/2018 3:05 pm	QC	R0119 (NA)			
8	J9048	03GW19101818	10/18/2018 3:30 pm	GW	R0119 (NA)			

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WORK/QUALITY ASSURANCE PROJECT PLAN

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Attachment 2: Test Codes

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

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

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

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Attachment 2: Test Codes

Project Test Code Name: Master_369

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
5	13C6-PFDA	13C6-PFDA	SIS	13C2-PFDA		No	No
6	13C7-PFUnA	13C7-PFUnA	SIS	13C2-PFDA		No	No
7	13C2-PFDoA	13C2-PFDoA	SIS	13C2-PFDA		No	No
8	13C2-PFTeDA	13C2-PFTeDA	SIS	13C2-PFDA		No	No
9	d3-MeFOSAA	d3-MeFOSAA	SIS	13C4-PFOS		No	No
10	d5-EtFOSAA	d5-EtFOSAA	SIS	13C4-PFOS		No	No
11	13C3-PFBS	13C3-PFBS	SIS	13C4-PFOS		No	No
12	13C3-PFHxS	13C3-PFHxS	SIS	13C4-PFOS		No	No
13	13C8-PFOS	13C8-PFOS	SIS	13C4-PFOS		No	No

Total Analytes: 27

Subtract Peaks:

None

Sum Peaks:

None

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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369

ICAL Acceptance Criteria:

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

Continuing Calibration Verification Criteria:

CCV Name: 5-369

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

Independent Calibration Verification:

ICC Name: 5-369

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

Mass Discrimination Criteria:

None

Degredation Check Criteria:

None

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

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Attachment 3: Method Quality Objectives

MQO Application	***Universal_LC***		
MQO:	**Acceptance Criteria**	**Qual:**	**Corrective Action:**
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-5: R-squared greater than or equal to 0.990		Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-369-5: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-369-5: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.

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ShpNo SHP-181019-02

Battelle Project No:

Sample Receipt Form

Approved: ☐ **Authorized** ☐

Project Number: 112G08005-JM08 **Client:** Tetra Tech

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 19, 2018 10:00 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** 8085 1759 8678

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	8085 1759 8678	Custody Seals	Intact	Intact	Therm_1	1.1	8

Samples

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

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

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

Temperature upon receipt (°C): 1.1 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:** J9041 - J9048

Samples logged in by: Schumitz, Matt **Date/Time:** 10/19/2018 10:00 AM

Approved By: **Approved On:**

Authorized By: **Authorized On:**

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ShpNo SHP-181019-02

Battelle Project No: 100112541

Sample Receipt Form Details

Approved: ☐ **Authorized** ☐

Project Number: 112G08005-JM08 **Client:** Tetra Tech

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 19, 2018 10:00 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J9041	04GW10R101818	10/18/18 9:18	10/19/18 11:14	2	GW	1.1	NA	NA	NA	R0119 (NA)			
J9042	04GW15101818	10/18/18 10:15	10/19/18 11:14	2	GW	1.1	NA	NA	NA	R0119 (NA)			
J9043	04FRB101818	10/18/18 10:20	10/19/18 11:14	1	QC	1.1	NA	NA	NA	R0119 (NA)			
J9044	04GW28101818	10/18/18 11:05	10/19/18 11:15	2	GW	1.1	NA	NA	NA	R0119 (NA)			
J9045	04GWGP1101818	10/18/18 12:15	10/19/18 11:15	2	GW	1.1	NA	NA	NA	R0119 (NA)			
J9046	03GW34101818	10/18/18 14:00	10/19/18 11:16	2	GW	1.1	NA	NA	NA	R0119 (NA)			
J9047	03FRB101818	10/18/18 15:05	10/19/18 11:16	1	QC	1.1	NA	NA	NA	R0119 (NA)			
J9048	03GW19101818	10/18/18 15:30	10/19/18 11:17	2	GW	1.1	NA	NA	NA	R0119 (NA)			

Total Samples: 8

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information	Project Manager: G. Roof	Sampling Site: NCBC GA	Site Information: sites 3/4
	Sampler Information (print name): WADOlson		
	Phone: 850 443 6855		
	Email: William.Olson@tetratech		
	Turnaround Time (TAT) Requested:		
Project Name: NCBC Gulfport	Normal ☒ Priority ☐ RUSH ☐		
Project No.: 126408005 - JMOD	Time Zone:		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative: 4°C	Analysis: PFAS	COC # / Page#
04GW10R10181B	10-18-18	0918	G	GW	2	2		J9041
04GW15 10181B	10-18-18	1015	G	GW	2	2		J9042
04FRB 10181B	10-18-18	1020	QC	QC	1	1		J9043
04GW28 10181B	10-18-18	1105	G	GW	2	2		J9044
04GW GP1 10181B	10-18-18	1215	G	GW	2	2		J9045
03GW34 10181B	10-18-18	1400	G	GW	2	2		J9046
03FRB 10181B	10-18-18	1505	QC	QC	1	1		J9047
03GW19 10181B	10-18-18	1530	G	GW	2	2		J9048

Receipt Temperature:(°C) 1.1°

Samples Intact: (Yes) - No

Samples on Ice: (Yes) - No

Receipt Comments:

Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
WADolson	Tetra Tech	10-18-18 1645		Battelle	10-19-18 1000

Comments: FedEx 8085 1759 8678


TO BILL OLSON
ORIGIN ID:XPUA (781) 681-5588
MATTHEW SCHUMITZ
BATTELLE
141 LONGWATER DR
SUITE 202
NORWELL, MA 02061
UNITED STATES US
Page 1 of 1
ORIGIN ID:E (850) 385-9899
W.D. OLSON
TETRA TECH N INC
1558 VILLAGE ARE BLVD STE 2
TALLAHASSEE, FL 309
UNITED STATES US
SHIP DATE: 18OCT18
ACTWGT: 36.70 LB
CAD: 006993800/SSFE1922
DIMS: 24x13x14 IN
BILL THIRD PARTY
TO SAMPLE CUSTODY
BATELLE
141 LONGWATER DR SUITE 202
NORWELL MA 02061
(781) 681-5588
INV:
PO:
REF:
DEPT:
1.10 10:00
TB ✓
Therm 1
FedEx
Express
TRK# 8085 1759 8678
FRI - 19 OCT 10:30A
PRIORITY OVERNIGHT
XE XPUA
02061
MA-US BOS

Data Tables

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GW10R101818				
Battelle ID		J9041-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.290				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	2.42	J	0.16	0.43	4.31
PFHpA	375-85-9	2.51	J	0.14	0.43	4.31
PFOA	335-67-1	15.00		0.16	0.43	4.31
PFNA	375-95-1	0.86	U	0.22	0.86	4.31
PFDA	335-76-2	0.43	U	0.14	0.43	4.31
PFUnA	2058-94-8	0.86	U	0.25	0.86	4.31
PFDoA	307-55-1	0.43	U	0.16	0.43	4.31
PFTrDA	72629-94-8	0.43	U	0.13	0.43	4.31
PFTeDA	376-06-7	0.86	U	0.22	0.86	4.31
NMeFOSAA	2355-31-9	1.72	U	0.48	1.72	4.31
NEtFOSAA	2991-50-6	4.46		0.42	0.86	4.31
PFBS	375-73-5	4.80		0.11	0.43	4.31
PFHxS	355-46-4	1.81	J	0.09	0.34	4.31
PFOS	1763-23-1	11.10		0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	113
13C4-PFHpA	117
13C8-PFOA	91
13C9-PFNA	93
13C6-PFDA	97
13C7-PFUnA	86
13C2-PFDoA	73
13C2-PFTeDA	78
d3-MeFOSAA	109
d5-EtFOSAA	122
13C3-PFBS	97
13C3-PFHxS	133
13C8-PFOS	109

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GW15101818				
Battelle ID		J9042-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.290				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	3.53	J	0.16	0.43	4.31
PFHpA	375-85-9	2.91	J	0.14	0.43	4.31
PFOA	335-67-1	19.25		0.16	0.43	4.31
PFNA	375-95-1	0.86	U	0.22	0.86	4.31
PFDA	335-76-2	0.43	U	0.14	0.43	4.31
PFUnA	2058-94-8	0.86	U	0.25	0.86	4.31
PFDoA	307-55-1	0.43	U	0.16	0.43	4.31
PFTrDA	72629-94-8	0.43	U	0.13	0.43	4.31
PFTeDA	376-06-7	0.86	U	0.22	0.86	4.31
NMeFOSAA	2355-31-9	1.72	U	0.48	1.72	4.31
NEtFOSAA	2991-50-6	0.86	U	0.42	0.86	4.31
PFBS	375-73-5	3.85	J	0.11	0.43	4.31
PFHxS	355-46-4	3.09	J	0.09	0.34	4.31
PFOS	1763-23-1	9.40		0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	102
13C4-PFHpA	100
13C8-PFOA	90
13C9-PFNA	82
13C6-PFDA	85
13C7-PFUnA	85
13C2-PFDoA	66
13C2-PFTeDA	56
d3-MeFOSAA	68
d5-EtFOSAA	82
13C3-PFBS	71
13C3-PFHxS	89
13C8-PFOS	87

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04FRB101818			
Battelle ID		J9043-FS			
Sample Type		SA			
Collection Date		10/18/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		QC			
Sample Size		0.260			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	0.48 U	0.18	0.48	4.81
PFHpA	375-85-9	0.48 U	0.15	0.48	4.81
PFOA	335-67-1	1.21 J	0.17	0.48	4.81
PFNA	375-95-1	0.96 U	0.25	0.96	4.81
PFDA	335-76-2	0.48 U	0.15	0.48	4.81
PFUnA	2058-94-8	0.96 U	0.28	0.96	4.81
PFDoA	307-55-1	0.48 U	0.17	0.48	4.81
PFTrDA	72629-94-8	0.48 U	0.14	0.48	4.81
PFTeDA	376-06-7	0.96 U	0.24	0.96	4.81
NMeFOSAA	2355-31-9	1.92 U	0.54	1.92	4.81
NEtFOSAA	2991-50-6	0.96 U	0.47	0.96	4.81
PFBS	375-73-5	0.48 U	0.13	0.48	4.81
PFHxS	355-46-4	0.38 U	0.11	0.38	4.81
PFOS	1763-23-1	0.48 U	0.18	0.48	4.81

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	92
13C8-PFOA	102
13C9-PFNA	99
13C6-PFDA	91
13C7-PFUnA	92
13C2-PFDoA	79
13C2-PFTeDA	81
d3-MeFOSAA	82
d5-EtFOSAA	85
13C3-PFBS	83
13C3-PFHxS	99
13C8-PFOS	83

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GW28101818				
Battelle ID		J9044-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.290				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	2.32	J	0.16	0.43	4.31
PFHpA	375-85-9	1.77	J	0.14	0.43	4.31
PFOA	335-67-1	15.52		0.16	0.43	4.31
PFNA	375-95-1	0.86	U	0.22	0.86	4.31
PFDA	335-76-2	0.43	U	0.14	0.43	4.31
PFUnA	2058-94-8	0.86	U	0.25	0.86	4.31
PFDoA	307-55-1	0.43	U	0.16	0.43	4.31
PFTrDA	72629-94-8	0.43	U	0.13	0.43	4.31
PFTeDA	376-06-7	0.86	U	0.22	0.86	4.31
NMeFOSAA	2355-31-9	1.72	U	0.48	1.72	4.31
NEtFOSAA	2991-50-6	0.86	U	0.42	0.86	4.31
PFBS	375-73-5	2.39	J	0.11	0.43	4.31
PFHxS	355-46-4	2.21	J	0.09	0.34	4.31
PFOS	1763-23-1	8.26		0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	110
13C4-PFHpA	124
13C8-PFOA	97
13C9-PFNA	83
13C6-PFDA	81
13C7-PFUnA	84
13C2-PFDoA	65
13C2-PFTeDA	63
d3-MeFOSAA	104
d5-EtFOSAA	91
13C3-PFBS	97
13C3-PFHxS	122
13C8-PFOS	92

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GWGP1101818				
Battelle ID		J9045-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.270				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	0.46	U	0.18	0.46	4.63
PFHpA	375-85-9	1.01	J	0.15	0.46	4.63
PFOA	335-67-1	9.33	B	0.17	0.46	4.63
PFNA	375-95-1	0.93	U	0.24	0.93	4.63
PFDA	335-76-2	0.46	U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93	U	0.27	0.93	4.63
PFDoA	307-55-1	0.46	U	0.17	0.46	4.63
PFTrDA	72629-94-8	0.46	U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93	U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85	U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93	U	0.45	0.93	4.63
PFBS	375-73-5	3.20	J	0.12	0.46	4.63
PFHxS	355-46-4	1.73	J	0.10	0.37	4.63
PFOS	1763-23-1	3.72	J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	120
13C4-PFHpA	113
13C8-PFOA	96
13C9-PFNA	85
13C6-PFDA	78
13C7-PFUnA	75
13C2-PFDoA	63
13C2-PFTeDA	61
d3-MeFOSAA	52
d5-EtFOSAA	63
13C3-PFBS	95
13C3-PFHxS	101
13C8-PFOS	99

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		03GW34101818				
Battelle ID		J9046-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.280				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	0.45	U	0.17	0.45	4.46
PFHpA	375-85-9	0.45	U	0.14	0.45	4.46
PFOA	335-67-1	1.88	J	0.16	0.45	4.46
PFNA	375-95-1	0.89	U	0.23	0.89	4.46
PFDA	335-76-2	0.45	U	0.14	0.45	4.46
PFUnA	2058-94-8	0.89	U	0.26	0.89	4.46
PFDoA	307-55-1	0.45	U	0.16	0.45	4.46
PFTrDA	72629-94-8	0.45	U	0.13	0.45	4.46
PFTeDA	376-06-7	0.89	U	0.22	0.89	4.46
NMeFOSAA	2355-31-9	1.79	U	0.50	1.79	4.46
NEtFOSAA	2991-50-6	0.89	U	0.44	0.89	4.46
PFBS	375-73-5	0.66	J	0.12	0.45	4.46
PFHxS	355-46-4	0.41	J	0.10	0.36	4.46
PFOS	1763-23-1	0.77	J	0.17	0.45	4.46

Surrogate Recoveries (%)

13C5-PFHxA	93
13C4-PFHpA	94
13C8-PFOA	78
13C9-PFNA	69
13C6-PFDA	57
13C7-PFUnA	67
13C2-PFDoA	70
13C2-PFTeDA	65
d3-MeFOSAA	74
d5-EtFOSAA	102
13C3-PFBS	108
13C3-PFHxS	102
13C8-PFOS	103

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		03FRB101818			
Battelle ID		J9047-FS			
Sample Type		SA			
Collection Date		10/18/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		QC			
Sample Size		0.260			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	0.48 U	0.18	0.48	4.81
PFHpA	375-85-9	0.48 U	0.15	0.48	4.81
PFOA	335-67-1	1.15 J	0.17	0.48	4.81
PFNA	375-95-1	0.96 U	0.25	0.96	4.81
PFDA	335-76-2	0.48 U	0.15	0.48	4.81
PFUnA	2058-94-8	0.96 U	0.28	0.96	4.81
PFDoA	307-55-1	0.48 U	0.17	0.48	4.81
PFTrDA	72629-94-8	0.48 U	0.14	0.48	4.81
PFTeDA	376-06-7	0.96 U	0.24	0.96	4.81
NMeFOSAA	2355-31-9	1.92 U	0.54	1.92	4.81
NEtFOSAA	2991-50-6	0.96 U	0.47	0.96	4.81
PFBS	375-73-5	0.48 U	0.13	0.48	4.81
PFHxS	355-46-4	0.38 U	0.11	0.38	4.81
PFOS	1763-23-1	0.48 U	0.18	0.48	4.81

Surrogate Recoveries (%)

13C5-PFHxA	78
13C4-PFHpA	81
13C8-PFOA	97
13C9-PFNA	85
13C6-PFDA	91
13C7-PFUnA	95
13C2-PFDoA	82
13C2-PFTeDA	86
d3-MeFOSAA	100
d5-EtFOSAA	98
13C3-PFBS	92
13C3-PFHxS	91
13C8-PFOS	106

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		03GW19101818				
Battelle ID		J9048-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.285				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	0.44	U	0.17	0.44	4.39
PFHpA	375-85-9	0.44	U	0.14	0.44	4.39
PFOA	335-67-1	1.70	J	0.16	0.44	4.39
PFNA	375-95-1	0.88	U	0.23	0.88	4.39
PFDA	335-76-2	0.44	U	0.14	0.44	4.39
PFUnA	2058-94-8	0.88	U	0.25	0.88	4.39
PFDoA	307-55-1	0.44	U	0.16	0.44	4.39
PFTrDA	72629-94-8	0.44	U	0.13	0.44	4.39
PFTeDA	376-06-7	0.88	U	0.22	0.88	4.39
NMeFOSAA	2355-31-9	1.75	U	0.49	1.75	4.39
NEtFOSAA	2991-50-6	0.88	U	0.43	0.88	4.39
PFBS	375-73-5	0.23	J	0.11	0.44	4.39
PFHxS	355-46-4	0.24	J	0.10	0.35	4.39
PFOS	1763-23-1	0.82	J	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	90
13C8-PFOA	72
13C9-PFNA	70
13C6-PFDA	73
13C7-PFUnA	67
13C2-PFDoA	67
13C2-PFTeDA	75
d3-MeFOSAA	62
d5-EtFOSAA	54
13C3-PFBS	104
13C3-PFHxS	92
13C8-PFOS	91

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		KC73 IB				
Battelle ID		KC73 IB_11/01/2018				
Sample Type		IB				
Collection Date		NA				
Extraction Date		NA				
Analysis Date		11/01/2018				
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	307-24-4	0.50	U	0.19	0.50	5.00
PFHpA	375-85-9	0.20	J	0.16	0.50	5.00
PFOA	335-67-1	0.26	J	0.18	0.50	5.00
PFNA	375-95-1	0.27	J	0.26	1.00	5.00
PFDA	335-76-2	0.27	J	0.16	0.50	5.00
PFUnA	2058-94-8	0.32	J	0.29	1.00	5.00
PFDoA	307-55-1	0.23	J	0.18	0.50	5.00
PFTrDA	72629-94-8	0.22	J	0.15	0.50	5.00
PFTeDA	376-06-7	1.00	U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00	U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00	U	0.49	1.00	5.00
PFBS	375-73-5	0.21	J	0.13	0.50	5.00
PFHxS	355-46-4	0.30	J	0.11	0.40	5.00
PFOS	1763-23-1	0.29	J	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	98
13C8-PFOA	103
13C9-PFNA	97
13C6-PFDA	97
13C7-PFUnA	97
13C2-PFDoA	93
13C2-PFTeDA	93
d3-MeFOSAA	90
d5-EtFOSAA	80
13C3-PFBS	87
13C3-PFHxS	84
13C8-PFOS	93

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		Procedural Blank			
Battelle ID		CS035PB-FS			
Sample Type		PB			
Collection Date		10/24/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
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	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	1.17 J	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDoA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.41 J	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	84
13C4-PFHpA	88
13C8-PFOA	97
13C9-PFNA	86
13C6-PFDA	96
13C7-PFUnA	92
13C2-PFDoA	86
13C2-PFTeDA	84
d3-MeFOSAA	85
d5-EtFOSAA	76
13C3-PFBS	82
13C3-PFHxS	82
13C8-PFOS	80

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		Laboratory Control Sample					
Battelle ID		CS036LCS-FS					
Sample Type		LCS					
Collection Date		10/24/2018					
Extraction Date		10/24/2018					
Analysis Date		11/02/2018					
Analytical Instrument		Sciex 5500 LC/MS/MS					
% Moisture		NA					
Matrix		WATER					
Sample Size		0.250					
Size Unit-Basis		L				Control Limits	
Units		ng/L	Target	Recovery	Qual	Lower	Upper
PFHxA	307-24-4	9.49	10.10	94		51	137
PFHpA	375-85-9	9.95	10.00	100		48	136
PFOA	335-67-1	11.86	10.00	119		49	141
PFNA	375-95-1	11.09	10.00	111		58	122
PFDA	335-76-2	10.32	10.00	103		59	135
PFUnA	2058-94-8	10.06	10.00	101		64	134
PFDoA	307-55-1	10.64	10.00	106		75	131
PFTrDA	72629-94-8	11.20	10.00	112		42	148
PFTeDA	376-06-7	10.84	10.00	108		42	158
NMeFOSAA	2355-31-9	10.80	10.00	108		50	146
NEtFOSAA	2991-50-6	10.05	10.00	101		51	131
PFBS	375-73-5	9.84	10.10	97		56	134
PFHxS	355-46-4	11.44	10.10	113		52	128
PFOS	1763-23-1	10.69	10.00	107		40	144
Surrogate Recoveries (%)							
13C5-PFHxA		86					
13C4-PFHpA		83					
13C8-PFOA		91					
13C9-PFNA		86					
13C6-PFDA		88					
13C7-PFUnA		87					
13C2-PFDoA		78					
13C2-PFTeDA		78					
d3-MeFOSAA		92					
d5-EtFOSAA		88					
13C3-PFBS		91					
13C3-PFHxS		85					
13C8-PFOS		88					

Glossary of Data Qualifiers

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

Miscellaneous Documentation

QA/QC Summary
Batch 18-0633

Project:	CTO-JM08: Naval Construction Battalion Center (NCBC) Gulfport, Mississippi
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW, QC
Data Set:	DP-18-0331
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
10/18/2018	10/19/2018	1.1
Corrective Actions	None	
Sample Storage	The water samples were stored refrigerated until extraction.	
Related samples	NA	

	METHOD SUMMARIES
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with 0.4% NH_3 in methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	Sample J9041-FS (04GW10R101818) had a sulfur odor.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. PFHxS and PFOS are reported in all samples as a combination of linear and branched isomers.

Holding Times	Extraction Date(s)	Analysis Date(s)
	10/24/2018	11/1-2/2018

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ Samples >10x PB	One exceedance noted.
	Sample J9045-FS (04GWGP1101818) has a B qualifier for PFOA as the detected concentration in the sample is less than 10x the concentration found in the PB (1.17 ng/L, less than ½ the LOQ). PB was re-run to verify, the quant report can

QA/QC Summary
Batch 18-0633

	be found in the unused data section of the full data package.

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

Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery and <30% RPD	An MS/MSD set was not prepared with this SDG.
	No comments.

Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted.
	No comments.

Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted.
	No comments.

Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadradic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted.
	No comments.

Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.

Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.

QA/QC Summary
Batch 18-0633

Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
≤ ½ the LOQ	No exceedances noted.
	No comments.

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project Number: 100112541
Preparation Batch: 18-0633
Data Set: DP-18-0331
Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	1	PFOA was detected in one authentic sample at less than 10 times the amount detected in the PB, and is B qualified in these samples. The PB was rerun for confirmation and the quant report can be found in the unused
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	NA	None
Matrix Spike / Matrix Spike Duplicate Precision	NA	None
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None

BATTELLE
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BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

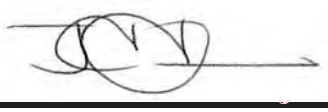
Project Title:	PFAS Analytical work	**Data Set Number:**	DP-18-0331
Project Number:	100112541	**Prep Batch Number:**	18-0633
Entered By:	Denise Schumitz	**Entered On:**	11/06/2018
Test Code (Matrix Type):	Master_369(L)		

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

Task Leader Approval:

SupervisorApproval:

PM Approval:



Digitally signed by Jonathan Thorn
Date: 2018.11.07 09:04:57 -05'00'

Example Calculation for PFAS

Calculation of final concentration from area:

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

Where:

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

Sample ID:	J9041-FS(0)
Client Sample ID:	04GW10R101818
Sample Size:	0.29
Units:	L
Dilution Factor:	1.000
PIV (L):	0.001
Target Analyte:	PFOA
MRM Transition:	413.0 / 369.0
Data file:	AC_11012018_369.wiff
Result table:	18-0633
Area:	1,214,544.96
IS Name:	13C8-PFOA
IS Area:	70,776.14
IS Amount (ng/L):	250
y-intercept:	0.0836
slope:	0.98169

$$\text{Concentration} = \frac{[(1214544.96/70776.14) - 0.0836]}{0.98169} * 250 * 0.001 * 1 / 0.29$$

ng/L = 15.00

*Final concentration may vary based on rounding.

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541
Preparation Batch: 18-0633
Data Set: DP-18-0331

		CS035PB-FS (Procedural Blank)	CS036LCS-FS (Laboratory Control Sample)	J9041-FS (04GW10R101818)	J9042-FS (04GW15101818)	J9043-FS (04FRB101818)	J9044-FS (04GW28101818)
PFHxA	307-24-4	-	L	L	L	-	L
PFHpA	375-85-9	-	L	L	L	-	L
PFOA	335-67-1	L	L	L	L	L	L
PFNA	375-95-1	-	L	-	-	-	-
PFDA	335-76-2	-	L	-	-	-	-
PFUnA	2058-94-8	-	L	-	-	-	-
PFDoA	307-55-1	-	L	-	-	-	-
PFTrDA	72629-94-8	-	L	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	L	-	-	-
PFBS	375-73-5	-	L	L	L	-	L
PFHxS	355-46-4	-	L/Br	L/Br	L/Br	-	L/Br
PFOS	1763-23-1	-	L/Br	L/Br	L/Br	-	L/Br

"L" :Linear
"Br": branched
"L/Br": Linear/Branched
"-": Not detected

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541
Preparation Batcl
Data Set: DP-18-

	J9045-FS (04GWGP1101818)	J9046-FS (03GW34101818)	J9047-FS (03FRB101818)	J9048-FS (03GW19101818)
PFHxA	L	L	-	L
PFHpA	L	L	-	L
PFOA	L	L	L	L
PFNA	-	-	-	-
PFDA	-	-	-	-
PFUnA	-	-	-	-
PFDoA	-	-	-	-
PFTrDA	-	-	-	-
PFTeDA	-	-	-	-
NMeFOSAA	-	-	-	-
NEtFOSAA	-	L	-	L
PFBS	L	L	-	L
PFHxS	L/Br	L/Br	-	L/Br
PFOS	L/Br	L/Br	-	L/Br

"L" :Linear
"Br": branched
"L/Br": Linear/Bra
"-": Not detected

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

BATTELLE
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Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	11/1/18 19:58	13C2-PFOA	72,221.32	36,110.66	108,331.98

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	11/1/18 19:14	13C2-PFOA	61,864.97	36,110.66	108,331.98	
KB74	L2	11/1/18 19:25	13C2-PFOA	65,242.38	36,110.66	108,331.98	
KB75	L3	11/1/18 19:36	13C2-PFOA	58,925.63	36,110.66	108,331.98	
KB76	L4	11/1/18 19:47	13C2-PFOA	62,875.72	36,110.66	108,331.98	
KB77	L5	11/1/18 19:58	13C2-PFOA	72,221.32	36,110.66	108,331.98	
KB78	L6	11/1/18 20:09	13C2-PFOA	61,222.46	36,110.66	108,331.98	
KB79	L7	11/1/18 20:20	13C2-PFOA	74,147.58	36,110.66	108,331.98	
KC73 IB	Instrument Blank	11/1/18 20:30	13C2-PFOA	76,070.00	36,110.66	108,331.98	
KB81 ICC	ICC	11/1/18 20:41	13C2-PFOA	66,442.19	36,110.66	108,331.98	
KB77 CCV	CCV	11/2/18 3:01	13C2-PFOA	78,211.92	36,110.66	108,331.98	
CS035PB-FS(0)	Procedural Blank	11/2/18 3:23	13C2-PFOA	70,486.06	36,110.66	108,331.98	
CS036LCS-FS(0)	Laboratory Control Sample	11/2/18 3:34	13C2-PFOA	69,780.92	36,110.66	108,331.98	
J9041-FS(0)	04GW10R101818	11/2/18 3:45	13C2-PFOA	73,501.94	36,110.66	108,331.98	
~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/18 3:56~~	~~13C2-PFOA~~	~~77,854.13~~	~~36,110.66~~	~~108,331.98~~	1
~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/18 4:07~~	~~13C2-PFOA~~	~~84,420.61~~	~~36,110.66~~	~~108,331.98~~	1
J9042-FS(0)	04GW15101818	11/2/18 4:18	13C2-PFOA	65,693.98	36,110.66	108,331.98	
~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/18 4:28~~	~~13C2-PFOA~~	~~72,141.98~~	~~36,110.66~~	~~108,331.98~~	1
~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/18 4:39~~	~~13C2-PFOA~~	~~80,382.91~~	~~36,110.66~~	~~108,331.98~~	1
J9043-FS(0)	04FRB101818	11/2/18 4:50	13C2-PFOA	65,945.07	36,110.66	108,331.98	
J9044-FS(0)	04GW28101818	11/2/18 5:01	13C2-PFOA	66,762.95	36,110.66	108,331.98	
KB76 CCV	CCV	11/2/18 5:12	13C2-PFOA	80,490.02	36,110.66	108,331.98	
J9044-FS(0)	04GW28101818	11/2/18 5:34	13C2-PFOA	78,576.06	36,110.66	108,331.98	
~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/18 5:45~~	~~13C2-PFOA~~	~~73,467.59~~	~~36,110.66~~	~~108,331.98~~	1
J9045-FS(0)	04GWGP1101818	11/2/18 5:56	13C2-PFOA	68,442.40	36,110.66	108,331.98	
~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/18 6:06~~	~~13C2-PFOA~~	~~73,702.17~~	~~36,110.66~~	~~108,331.98~~	1
~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/18 6:17~~	~~13C2-PFOA~~	~~83,428.48~~	~~36,110.66~~	~~108,331.98~~	1
~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/18 6:28~~	~~13C2-PFOA~~	~~68,898.47~~	~~36,110.66~~	~~108,331.98~~	1
J9046-FS(0)	03GW34101818	11/2/18 6:39	13C2-PFOA	65,364.28	36,110.66	108,331.98	
~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/18 6:50~~	~~13C2-PFOA~~	~~78,243.77~~	~~36,110.66~~	~~108,331.98~~	1
KB77 CCV	CCV	11/2/18 7:01	13C2-PFOA	70,029.09	36,110.66	108,331.98	
~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/18 7:23~~	~~13C2-PFOA~~	~~80,112.15~~	~~36,110.66~~	~~108,331.98~~	1
~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/18 7:33~~	~~13C2-PFOA~~	~~73,214.22~~	~~36,110.66~~	~~108,331.98~~	1
J9047-FS(0)	03FRB101818	11/2/18 7:44	13C2-PFOA	73,468.34	36,110.66	108,331.98	
J9048-FS(0)	03GW19101818	11/2/18 7:55	13C2-PFOA	75,855.19	36,110.66	108,331.98	
~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/18 8:06~~	~~13C2-PFOA~~	~~83,576.27~~	~~36,110.66~~	~~108,331.98~~	1
~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/18 8:17~~	~~13C2-PFOA~~	~~73,556.88~~	~~36,110.66~~	~~108,331.98~~	1
KB76 CCV	CCV	11/2/18 8:28	13C2-PFOA	69,447.83	36,110.66	108,331.98	
1 Dilutions made and run but not needed so they are not being reported. DMS 11/8/2018							

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

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Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	11/1/18 19:58	13C2-PFDA	87,557.63	43,778.82	131,336.45

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	11/1/18 19:14	13C2-PFDA	78,626.59	43,778.82	131,336.45	
KB74	L2	11/1/18 19:25	13C2-PFDA	72,340.64	43,778.82	131,336.45	
KB75	L3	11/1/18 19:36	13C2-PFDA	69,287.70	43,778.82	131,336.45	
KB76	L4	11/1/18 19:47	13C2-PFDA	76,754.58	43,778.82	131,336.45	
KB77	L5	11/1/18 19:58	13C2-PFDA	87,557.63	43,778.82	131,336.45	
KB78	L6	11/1/18 20:09	13C2-PFDA	67,693.37	43,778.82	131,336.45	
KB79	L7	11/1/18 20:20	13C2-PFDA	88,557.55	43,778.82	131,336.45	
KC73 IB	Instrument Blank	11/1/18 20:30	13C2-PFDA	91,089.89	43,778.82	131,336.45	
KB81 ICC	ICC	11/1/18 20:41	13C2-PFDA	78,279.79	43,778.82	131,336.45	
KB77 CCV	CCV	11/2/18 3:01	13C2-PFDA	85,925.54	43,778.82	131,336.45	
CS035PB-FS(0)	Procedural Blank	11/2/18 3:23	13C2-PFDA	84,623.13	43,778.82	131,336.45	
CS036LCS-FS(0)	Laboratory Control Sample	11/2/18 3:34	13C2-PFDA	84,589.81	43,778.82	131,336.45	
J9041-FS(0)	04GW10R101818	11/2/18 3:45	13C2-PFDA	98,231.50	43,778.82	131,336.45	
~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/18 3:56~~	~~13C2-PFDA~~	~~96,243.54~~	~~43,778.82~~	~~131,336.45~~	1
~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/18 4:07~~	~~13C2-PFDA~~	~~102,249.74~~	~~43,778.82~~	~~131,336.45~~	1
J9042-FS(0)	04GW15101818	11/2/18 4:18	13C2-PFDA	83,077.38	43,778.82	131,336.45	
~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/18 4:28~~	~~13C2-PFDA~~	~~90,163.35~~	~~43,778.82~~	~~131,336.45~~	1
~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/18 4:39~~	~~13C2-PFDA~~	~~90,622.92~~	~~43,778.82~~	~~131,336.45~~	1
J9043-FS(0)	04FRB101818	11/2/18 4:50	13C2-PFDA	88,343.88	43,778.82	131,336.45	
J9044-FS(0)	04GW28101818	11/2/18 5:01	13C2-PFDA	88,880.39	43,778.82	131,336.45	
KB76 CCV	CCV	11/2/18 5:12	13C2-PFDA	96,581.35	43,778.82	131,336.45	
J9044-FS(0)	04GW28101818	11/2/18 5:34	13C2-PFDA	86,245.79	43,778.82	131,336.45	
~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/18 5:45~~	~~13C2-PFDA~~	~~85,872.04~~	~~43,778.82~~	~~131,336.45~~	1
J9045-FS(0)	04GWGP1101818	11/2/18 5:56	13C2-PFDA	91,139.12	43,778.82	131,336.45	
~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/18 6:06~~	~~13C2-PFDA~~	~~82,487.06~~	~~43,778.82~~	~~131,336.45~~	1
~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/18 6:17~~	~~13C2-PFDA~~	~~93,326.75~~	~~43,778.82~~	~~131,336.45~~	1
~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/18 6:28~~	~~13C2-PFDA~~	~~76,691.80~~	~~43,778.82~~	~~131,336.45~~	1
J9046-FS(0)	03GW34101818	11/2/18 6:39	13C2-PFDA	86,026.85	43,778.82	131,336.45	
~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/18 6:50~~	~~13C2-PFDA~~	~~94,395.91~~	~~43,778.82~~	~~131,336.45~~	1
KB77 CCV	CCV	11/2/18 7:01	13C2-PFDA	84,544.48	43,778.82	131,336.45	
~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/18 7:23~~	~~13C2-PFDA~~	~~96,283.97~~	~~43,778.82~~	~~131,336.45~~	1
~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/18 7:33~~	~~13C2-PFDA~~	~~82,091.35~~	~~43,778.82~~	~~131,336.45~~	1
J9047-FS(0)	03FRB101818	11/2/18 7:44	13C2-PFDA	85,031.02	43,778.82	131,336.45	
J9048-FS(0)	03GW19101818	11/2/18 7:55	13C2-PFDA	85,331.10	43,778.82	131,336.45	
~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/18 8:06~~	~~13C2-PFDA~~	~~96,580.55~~	~~43,778.82~~	~~131,336.45~~	1
~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/18 8:17~~	~~13C2-PFDA~~	~~81,631.38~~	~~43,778.82~~	~~131,336.45~~	1
KB76 CCV	CCV	11/2/18 8:28	13C2-PFDA	81,217.79	43,778.82	131,336.45	
1 Dilutions made and run but not needed so they are not being reported. DMS 11/8/2018							

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

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Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	11/1/18 19:58	13C4-PFOS	26,711.29	13,355.65	40,066.94

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	11/1/18 19:14	13C4-PFOS	21,870.93	13,355.65	40,066.94	
KB74	L2	11/1/18 19:25	13C4-PFOS	22,247.01	13,355.65	40,066.94	
KB75	L3	11/1/18 19:36	13C4-PFOS	20,915.41	13,355.65	40,066.94	
KB76	L4	11/1/18 19:47	13C4-PFOS	23,455.31	13,355.65	40,066.94	
KB77	L5	11/1/18 19:58	13C4-PFOS	26,711.29	13,355.65	40,066.94	
KB78	L6	11/1/18 20:09	13C4-PFOS	22,177.86	13,355.65	40,066.94	
KB79	L7	11/1/18 20:20	13C4-PFOS	25,818.86	13,355.65	40,066.94	
KC73 IB	Instrument Blank	11/1/18 20:30	13C4-PFOS	30,410.03	13,355.65	40,066.94	
KB81 ICC	ICC	11/1/18 20:41	13C4-PFOS	28,256.64	13,355.65	40,066.94	
KB77 CCV	CCV	11/2/18 3:01	13C4-PFOS	25,682.98	13,355.65	40,066.94	
CS035PB-FS(0)	Procedural Blank	11/2/18 3:23	13C4-PFOS	27,377.21	13,355.65	40,066.94	
CS036LCS-FS(0)	Laboratory Control Sample	11/2/18 3:34	13C4-PFOS	23,852.12	13,355.65	40,066.94	
J9041-FS(0)	04GW10R101818	11/2/18 3:45	13C4-PFOS	21,467.43	13,355.65	40,066.94	
~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/18 3:56~~	~~13C4-PFOS~~	~~24,721.28~~	~~13,355.65~~	~~40,066.94~~	1
~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/18 4:07~~	~~13C4-PFOS~~	~~30,237.05~~	~~13,355.65~~	~~40,066.94~~	1
J9042-FS(0)	04GW15101818	11/2/18 4:18	13C4-PFOS	22,836.16	13,355.65	40,066.94	
~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/18 4:28~~	~~13C4-PFOS~~	~~21,379.26~~	~~13,355.65~~	~~40,066.94~~	1
~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/18 4:39~~	~~13C4-PFOS~~	~~25,481.71~~	~~13,355.65~~	~~40,066.94~~	1
J9043-FS(0)	04FRB101818	11/2/18 4:50	13C4-PFOS	24,958.61	13,355.65	40,066.94	
J9044-FS(0)	04GW28101818	11/2/18 5:01	13C4-PFOS	20,222.03	13,355.65	40,066.94	
KB76 CCV	CCV	11/2/18 5:12	13C4-PFOS	25,760.79	13,355.65	40,066.94	
J9044-FS(0)	04GW28101818	11/2/18 5:34	13C4-PFOS	23,146.54	13,355.65	40,066.94	
~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/18 5:45~~	~~13C4-PFOS~~	~~24,627.69~~	~~13,355.65~~	~~40,066.94~~	1
J9045-FS(0)	04GWGP1101818	11/2/18 5:56	13C4-PFOS	24,019.71	13,355.65	40,066.94	
~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/18 6:06~~	~~13C4-PFOS~~	~~24,795.95~~	~~13,355.65~~	~~40,066.94~~	1
~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/18 6:17~~	~~13C4-PFOS~~	~~32,109.66~~	~~13,355.65~~	~~40,066.94~~	1
~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/18 6:28~~	~~13C4-PFOS~~	~~24,886.64~~	~~13,355.65~~	~~40,066.94~~	1
J9046-FS(0)	03GW34101818	11/2/18 6:39	13C4-PFOS	20,944.85	13,355.65	40,066.94	
~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/18 6:50~~	~~13C4-PFOS~~	~~28,590.75~~	~~13,355.65~~	~~40,066.94~~	1
KB77 CCV	CCV	11/2/18 7:01	13C4-PFOS	24,826.32	13,355.65	40,066.94	
~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/18 7:23~~	~~13C4-PFOS~~	~~27,144.99~~	~~13,355.65~~	~~40,066.94~~	1
~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/18 7:33~~	~~13C4-PFOS~~	~~22,215.33~~	~~13,355.65~~	~~40,066.94~~	1
J9047-FS(0)	03FRB101818	11/2/18 7:44	13C4-PFOS	22,757.58	13,355.65	40,066.94	
J9048-FS(0)	03GW19101818	11/2/18 7:55	13C4-PFOS	24,482.74	13,355.65	40,066.94	
~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/18 8:06~~	~~13C4-PFOS~~	~~28,315.02~~	~~13,355.65~~	~~40,066.94~~	1
~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/18 8:17~~	~~13C4-PFOS~~	~~27,921.19~~	~~13,355.65~~	~~40,066.94~~	1
KB76 CCV	CCV	11/2/18 8:28	13C4-PFOS	25,138.09	13,355.65	40,066.94	
1 Dilutions made and run but not needed so they are not being reported. DMS 11/8/2018							

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 06/11/2018 1:08:10 PM

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 8:20:00 PM	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.55	39	>10
PFBS_2	298.9 / 99.0	1.55	35	>10
PFHxA_1	313.0 / 269.0	1.88	25	>10
PFHxA_2	313.0 / 119.0	1.88	25	>10
PFHpA_1	363.0 / 319.0	2.29	28	>10
PFHpA_2	363.0 / 169.0	2.29	31	>10
PFHxS_1	399.0 / 80.0	2.32	42	>10
PFHxS_2	399.0 / 99.0	2.32	43	>10
PFOA_1	413.0 / 369.0	2.71	36	>10
PFOA_2	413.0 / 169.0	2.71	41	>10
PFNA_1	463.0 / 419.0	3.11	32	>10
PFNA_2	463.0 / 219.0	3.11	29	>10
PFOS_1	499.0 / 80.0	3.10	37	>10
PFOS_2	499.0 / 99.0	3.10	34	>10
PFDA_1	513.0 / 469.0	3.46	34	>10
PFDA_2	513.0 / 219.0	3.46	41	>10
PFUnA_1	563.0 / 519.0	3.79	33	>10
PFUnA_2	563.0 / 269.0	3.79	51	>10
PFDoA_1	613.0 / 569.0	4.07	39	>10
PFDoA_2	613.0 / 319.0	4.07	40	>10
PFTrDA_1	663.0 / 619.0	4.32	54	>10
PFTrDA_2	663.0 / 169.0	4.32	47	>10
PFTeDA_1	713.0 / 669.0	4.53	66	>10
PFTeDA_2	713.0 / 169.0	4.53	76	>10
NMeFOSAA_1	570.0 / 419.0	3.62	29	>10
NMeFOSAA_2	570.0 / 512.0	3.62	27	>10
NEtFOSAA_1	584.0 / 419.0	3.78	29	>10
NEtFOSAA_2	584.0 / 483.0	3.78	33	>10

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 06/11/2018 1:39:40 PM

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 8:20:00 PM	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	4.06	46	>10
d3-MeFOSAA	573.0 / 419.0	3.62	29	>10
d5-EtFOSAA	589.0 / 419.0	3.78	31	>10
13C5-PFHxA	318.0 / 273.0	1.87	24	>10
13C4-PFHpA	367.0 / 322.0	2.28	37	>10
13C8-PFOA	421.0 / 376.0	2.70	32	>10
13C9-PFNA	472.0 / 427.0	3.09	26	>10
13C6-PFDA	519.0 / 474.0	3.45	30	>10
13C7-PFUnA	570.0 / 525.0	3.77	26	>10
13C2-PFTeDA	715.0 / 670.0	4.53	57	>10
13C3-PFBS	302.0 / 99.0	1.53	21	>10
13C3-PFHxS	402.0 / 99.0	2.30	25	>10
13C8-PFOS	507.0 / 99.0	3.09	21	>10

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It can be done

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

Analyte	CAS No.	Average (ng/L)	ST DEV	2 Sigma	n
PFBA	375-22-4	12.29	2.02	4.04	13
PFPeA	2706-90-3	10.73	1.51	3.02	9
PFHxA	307-24-4	9.93	1.27	2.54	41
PFHpA	375-85-9	9.44	1.53	3.06	41
PFOA	335-67-1	10.23	1.46	2.92	43
PFNA	375-95-1	9.73	1.19	2.38	41
PFDA	335-76-2	9.92	1.30	2.60	41
PFUnA	2058-94-8	9.88	1.28	2.56	41
PFDoA	307-55-1	10.76	1.26	2.52	41
PFTrDA	72629-94-8	11.17	1.50	3.00	41
PFTeDA	376-06-7	10.71	1.86	3.72	41
NMeFOSAA	2355-31-9	10.35	1.89	3.78	41
NEtFOSAA	2991-50-6	9.68	1.52	3.04	41
PFOSA	754-91-6	9.74	1.14	2.28	4
PFBS	375-73-5	10.08	1.42	2.84	42
PFPeS	2706-91-4	9.80	0.96	1.92	5
PFHxS	355-46-4	9.86	1.43	2.86	41
PFHpS	375-92-8	10.96	0.96	1.92	10
PFOS	1763-23-1	10.05	1.33	2.66	41
PFNS	68259-12-1	9.34	1.10	2.20	4
PFDS	335-77-3	10.13	1.88	3.76	9
4:2FTS	414911-30-1	11.03	1.26	2.52	9
6:2FTS	27619-97-2	12.52	2.91	5.82	9
8:2FTS	39108-34-4	12.11	2.54	5.08	9

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

Analytical SOP 5-369
Extraction SOP 5-370

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

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

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

ID 596 04/18

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

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

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS[1]	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS[1]	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS[1]	318.0 / 273.0	NA

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

[1] – extracted internal standard (surrogate)
[2] – injection internal standard

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Non-Potable 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
10,000	1	1	0.250	40.0
20,000	1	1	0.250	80.0

[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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Suite 200
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:	12-June-2018

Request ID:	9749
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: Suspected issue with pulse gas manifold. TRAP testing in POSITIVE mode couldn't be finished because of pulse gas issue. The same issue will be taken care in separate service call.

Performed By: Kaustubh Dhayagude **Date:** 12-June-2018

Approved By :_____ **Date:** _____

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QTRAP 5500

LC/MS/MS Detector System
Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

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

CAD Settings	Vacuum Reading (x 10^{-5} Torr)	Acceptance Criteria
☑ CAD 0	0.6	0.4 to 1.1 x10^{-5} Torr
☑ CAD Low	1.3	Read Only
☑ CAD Medium	2.7	Read Only
☑ CAD High	3.7	Read Only
☑ CAD 12	3.7	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	4.01 e6	Read Only	0.6998	Read Only
Q1 500.380	2.81 e7	Read Only	0.7038	Read Only
Q1 906.673	4.21 e7	Read Only	0.7071	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	5.45 e6	Read Only	0.6873	Read Only
Q3 500.380	2.69 e7	Read Only	0.7591	Read Only
Q3 906.673	4.50 e7	Read Only	0.7843	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: :__28.87%__ (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	4.26 e7	Read Only	0.7011	Read Only
MS/MS 195.1	1.23 e7	Read Only	0.7069	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	1.42 e7	Read Only	0.7686	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	2.24 e7	Read Only	0.7243	Read Only

☑ Perform Product Ion scan using NEG PPG 3e-5M. Record10mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.31 e6	Read Only	0.6746	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	0.7	0.4 to 1.1 x10^{-5} Torr
☑ CAD Low	1.3	Read Only
☑ CAD Medium	2.7	Read Only
☑ CAD High	3.7	Read Only
☑ CAD 12	3.7	2.4 to 4.5 x10^{-5} Torr

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

Mass	Q1 Intensity		Q1 Width	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.04 e6	≥1.2^{e}6	0.6737	0.6 to 0.8
Q1 500.380	1.60 e7	≥9.0^{e}6	0.6961	0.6 to 0.8
Q1 906.673	2.84 e7	≥1.4^{e}7	0.7179	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8^{e}7	0.7465	0.6 to 0.8

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

Mass	Q3 Intensity		Q3 Width	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	5.02 e6	≥1.2^{e}6	0.6719	0.6 to 0.8
Q3 500.380	1.72 e7	≥9.0^{e}6	0.7443	0.6 to 0.8
Q3 906.673	3.00 e7	≥1.4^{e}7	0.7504	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.46 e8	≥6.8^{e}7	0.7202	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: 21.10% (≥ 10.0%)

Mass	MSMS Intensity		Width	Width Specs
	Value	Spec	Value	
Q1 609.3	5.78 e7	N/A	0.6888	Read Only
MS/MS 195.1	1.22 e7	N/A	0.7003	Read Only

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

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

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.35 e7	≥1.0^{e}7	0.7486	0.6 to 0.8
Q1 933.636	1000	50	7.52 e7	≥4.0^{e}7	0.7206	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	2.15 e7	≥8.0^{e}6	0.7492	0.6 to 0.8
Q3 933.636	1000	50	8.33 e7	≥4.0^{e}7	0.7299	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	8.54 e6	≥7.2 ^{e}6	0.1473	<0.35
ER 922.010	0.05	4.96 e7	≥2.8 ^{e}6	0.2434	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		≥2.4 ^{e}7		<0.65
ER 922.010	0.05		≥6.8 ^{e}7		<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	1.81 e8	≥4.4 ^{e}7	0.1862	<0.35
ER 601.978	0.05	1.70 e8	≥5.6 ^{e}7	0.1809	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	5.72 e8	≥1.2 ^{e}8	0.5102	<0.65
ER 601.978	0.05	4.52 e8	≥1.6 ^{e}8	0.6187	<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	> 3.0 e6	≥2.0 e6	> 7.0 e6	≥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	Yes	Contains only 397.2	N/A	N/A
☐ 236 OR ☑ 365	1000	Yes	Fragment Intensity	> 2.0 e6	≥1.6x $10^{e}6$

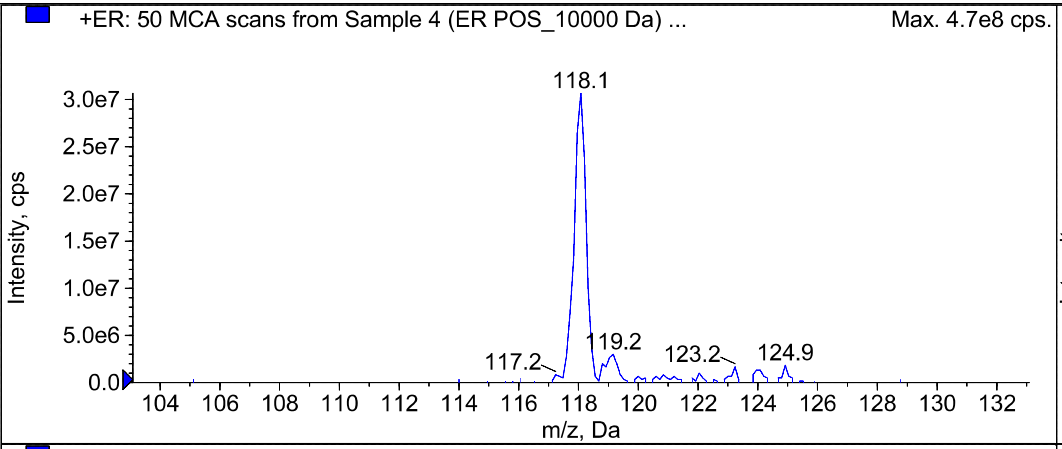
REVIEW:

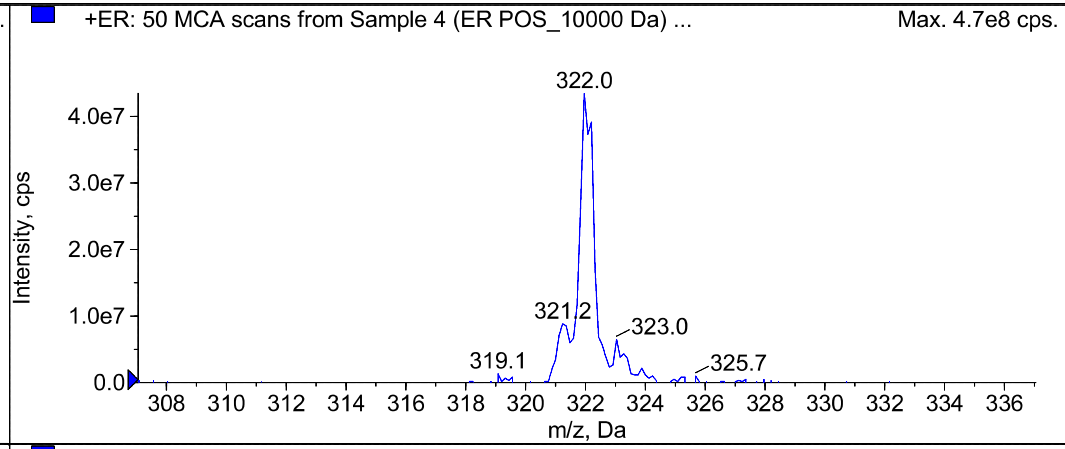
☑ Attach all spectrums printouts to this procedure.
☑ If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
☐ Empty tuning cache folder, if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

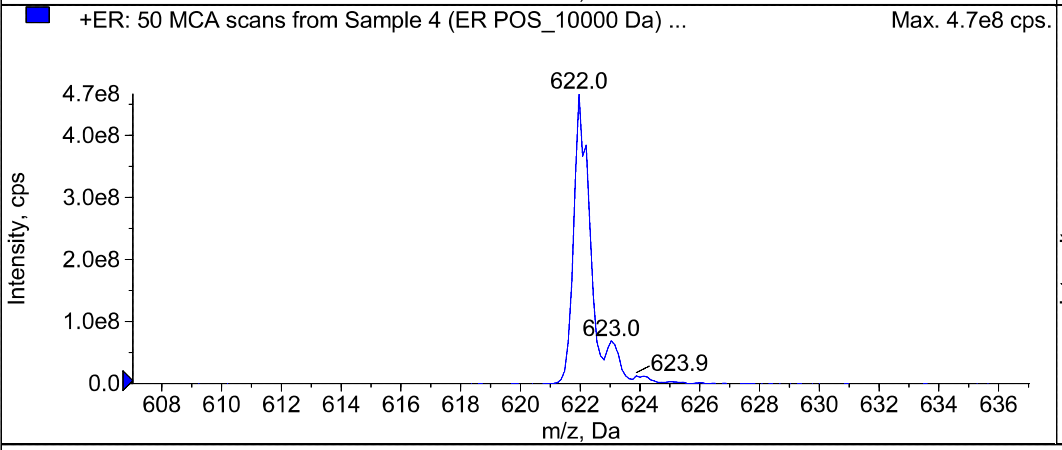
END OF PREVENTIVE MAINTENANCE CHECKLIST

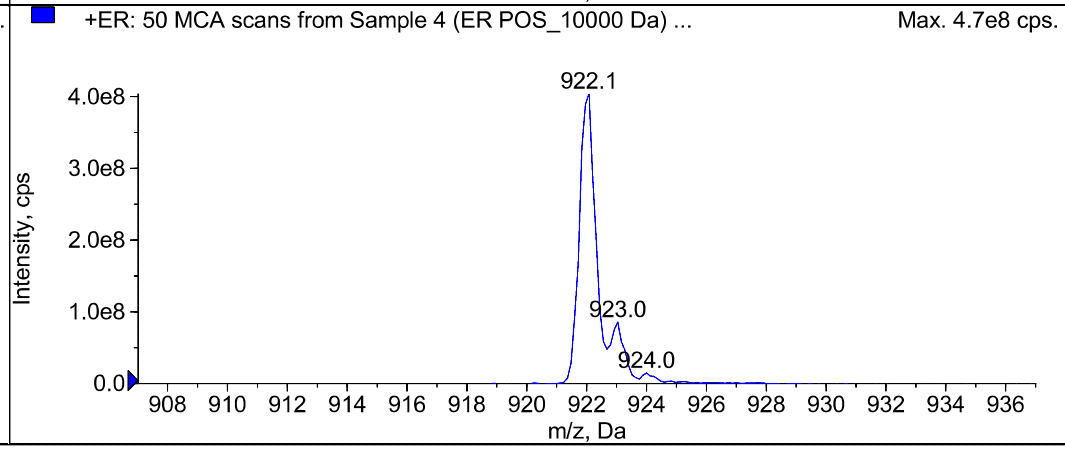
Document history:

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









Peak List for " +ER: 50 MCA scans from Sample 4 (ER POS_10000 Da) of TRAP ER with NEW Pulse Manifold.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	118.0870	118.0702	3.0667e7	0.4146	0.0168
2	322.0490	322.0509	4.3500e7	0.4945	-1.9159e-3
3	622.0290	622.0370	4.6717e8	0.5757	-8.0044e-3
4	922.0100	922.0101	4.0400e8	0.5732	-1.4148e-4

Battelle Standard ID	Description	Intermediate Solutions	Battelle Reagent ID (purchased solutions)
KC19	PFAS - DoD Low Level Labelled Extracted Internal Standard (SIS)	KB71	180726-05
KB82	PFAS - DoD Second Source LCS/MS Solution	-	170724-01
KC52	PFAS - DoD Internal Standard Spiking Solution	JY25	180726-04
KB73	PFAS - DoD Calibration L1	JY25	180726-04
KB73	PFAS - DoD Calibration L1	JY23	180705-02
KB73	PFAS - DoD Calibration L1	KB71	180726-05
KB74	PFAS - DoD Calibration L2	KB71	180726-05
KB74	PFAS - DoD Calibration L2	JY23	180705-02
KB74	PFAS - DoD Calibration L2	JY25	180726-04
KB75	PFAS - DoD Calibration L3	JY25	180726-04
KB75	PFAS - DoD Calibration L3	KB70	180705-02
KB75	PFAS - DoD Calibration L3	KB71	180726-05
KB76	PFAS - DoD Calibration L4	KB71	180726-05
KB76	PFAS - DoD Calibration L4	KB70	180705-02
KB76	PFAS - DoD Calibration L4	JY25	180726-04
KB77	PFAS - DoD Calibration L5	KB70	180705-02
KB77	PFAS - DoD Calibration L5	JY25	180726-04
KB77	PFAS - DoD Calibration L5	KB71	180726-05
KB78	PFAS - DoD Calibraiton L6	KB71	180726-05
KB78	PFAS - DoD Calibraiton L6	JY25	180726-04
KB78	PFAS - DoD Calibraiton L6	KB70	180705-02
KB79	PFAS - DoD Calibration L7	KB70	180705-02
KB79	PFAS - DoD Calibration L7	JY25	180726-04
KB79	PFAS - DoD Calibration L7	KB71	180726-05
KC73	PFAS - DoD Instrument Blank	KB71	180726-05
KC73	PFAS - DoD Instrument Blank	JY25	180726-04
KB81	PFAS - DoD ICC	JY25	180726-04
KB81	PFAS - DoD ICC	KB82	170724-01
KB81	PFAS - DoD ICC	KB71	180726-05
KB89	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-02
KB89	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-03
KB89	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-04
KB89	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-06
KB89	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-07

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: JX28

Description: PFAS Branched 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)
180618-02	Branched NEtFOSAA Standard (50 µg/mL)	Neat	~50.000000	01/17/23	---	---	100 uL	1	10	~0.5000
180618-03	Branched NMeFOSAA Standard (50 µg/mL)	Neat	~50.000000	01/17/23	---	---	100 uL	1	10	~0.5000
180618-04	PFOA - Technical Mix	Neat	~50.000000	02/16/22	---	---	100 uL	1	10	~0.5000
180618-06	Branched PFHxS Standard (50 µg/mL)	Neat	~50.000000	01/04/22	---	---	100 uL	1	10	~0.5000
180618-07	Branched PFOS Standard (50 µg/mL)	Neat	~50.000000	01/12/22	---	---	100 uL	1	10	~0.5000

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 6/18/2018 **Expiration Date:** 6/18/2019

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

Balance ID:

Comment:

Solvent:	Lot:
Methanol (HPLC)	179315

Approved By: Thorn, Jonathan **Date:** 7/3/2018 8:10:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: JX28

Description: PFAS Branched Standard Stock

Stock Id: 180618-02

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	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-03

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-n-octanoic Acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-hexanesulfonate	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-07

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-octanesulfonate	100	50.00	1	100.000	1	10	0.50000

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.50000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.50000
Perfluoro-1-hexanesulfonate	.50000
Perfluoro-1-octanesulfonate	.50000
Perfluoro-n-octanoic Acid	.50000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180618-02	Pipette	I0793912B
180618-03	Pipette	I0793912B
180618-04	Pipette	I0793912B
180618-06	Pipette	I0793912B
180618-07	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 6/18/2018 **Expiration Date:** 6/18/2019

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

Comment:

Approved By: Thorn, Jonathan **Date:** 7/3/2018 8:10:00 AM

BATTELLE

It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.000000	06/19/23	---	---	500 uL	1	100	~0.0050

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/16/2018 **Expiration Date:** 7/16/2019

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

Balance ID:

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 8/29/2018 10:10:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Stock Id: 180705-02

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

Final Concentrations:

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

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/16/2018 **Expiration Date:** 7/16/2019

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

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 8/29/2018 10:10:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

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

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/16/2018 **Expiration Date:** 7/16/2019

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

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 8/29/2018 10:10:00 AM

BATTELLE

It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: JY25

Description: PFAS - DoD Internal Standard Stock Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-04	Mass-labelled PFAS injection standards	Neat	~2.000000	05/02/22	---	---	625 uL	1	25	~0.0500

Solution Prepared By: Schultz, Stephanie	**Date Prepared:** 7/16/2018	**Expiration Date:**	7/16/2019
Solution Volume 40 mL X 1 Vials	**Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107		

Balance ID:

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan **Date:** 8/29/2018 10:09:00 AM

BATTELLE

It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: JY25

Description: PFAS - DoD Internal Standard Stock Solution

Stock Id: 180726-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	625	2.00	1	100.000	1	25	0.05000
13C2-PFOA	625	2.00	1	100.000	1	25	0.05000
13C3-PFBA	625	2.00	1	100.000	1	25	0.05000
13C4-PFOS	625	1.91	1	100.000	1	25	0.04785

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.05000
13C2-PFOA	.05000
13C3-PFBA	.05000
13C4-PFOS	.04785

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-04	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/16/2018 **Expiration Date:** 7/16/2019

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

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan **Date:** 8/29/2018 10:09:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB70**

Description: PFAS - DoD High ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - ICAL Mix	Neat	~1.000000	06/19/23	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	**Date Prepared:** 10/1/2018	**Expiration Date:**	10/1/2019
Solution Volume 40 **mL X** 1 **Vials**	**Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107		

Balance ID:

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 10/12/2018 8:03:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB70

Description: PFAS - DoD High ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	20	0.05050
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	20	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-butanesulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-octanesulfonate	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-pentanoic acid	1000	1.01	1	100.000	1	20	0.05050
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	.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanesulfonate	.05050

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 10/1/2019

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

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 10/12/2018 8:03:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB70**

Description: PFAS - DoD High ICAL Stock

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05050
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:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 10/1/2019

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

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 10/12/2018 8:03:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB71**

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

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-05	Mass-labelled PFAS Extraction Standard Solution	Neat	~1.000000	02/07/23	---	---	1000 uL	1	20	~0.0500

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	10/1/2019
Solution Volume	40 **mL X** 1 **Vials**	**Refrigerator/Freezer No:**	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/4/2018 2:44:00 PM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB71

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

Stock Id: 180726-05

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	1000	0.94	1	100.000	1	20	0.04675
13C2-6:2FTS	1000	0.95	1	100.000	1	20	0.04745
13C2-8:2FTS	1000	0.96	1	100.000	1	20	0.04790
13C2-PFDoA	1000	1.00	1	100.000	1	20	0.05000
13C2-PFTeDA	1000	1.00	1	100.000	1	20	0.05000
13C3-PFBS	1000	0.93	1	100.000	1	20	0.04645
13C3-PFHxS	1000	0.95	1	100.000	1	20	0.04730
13C4-PFBA	1000	1.00	1	100.000	1	20	0.05000
13C4-PFHpA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFHxA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFPeA	1000	1.00	1	100.000	1	20	0.05000
13C6-PFDA	1000	1.00	1	100.000	1	20	0.05000
13C7-PFUnA	1000	1.00	1	100.000	1	20	0.05000
13C8-FOSA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOS	1000	0.96	1	100.000	1	20	0.04785
13C9-PFNA	1000	1.00	1	100.000	1	20	0.05000
d3-MeFOSAA	1000	1.00	1	100.000	1	20	0.05000
d5-EtFOSAA	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.04675
13C2-6:2FTS	.04745
13C2-8:2FTS	.04790
13C2-PFDoA	.05000
13C2-PFTeDA	.05000
13C3-PFBS	.04645
13C3-PFHxS	.04730
13C4-PFBA	.05000
13C4-PFHpA	.05000
13C5-PFHxA	.05000
13C5-PFPeA	.05000
13C6-PFDA	.05000
13C7-PFUnA	.05000
13C8-FOSA	.05000

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 10/1/2019

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

Comment: 96/4 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/4/2018 2:44:00 PM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB71

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

13C8-PFOA	.05000
13C8-PFOS	.04785
13C9-PFNA	.05000
d3-MeFOSAA	.05000
d5-EtFOSAA	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-05	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 10/1/2019

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

Comment: 96/4 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/4/2018 2:44:00 PM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB73**

Description: PFAS - DoD Calibration L1

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	200 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	7/16/2019
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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB73

Description: PFAS - DoD Calibration L1

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-decanesulfonate	200	0.01	---	---	1	10	0.00010
(NA) Perfluoro-1-heptanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-nonanesulfonate	200	0.01	---	---	1	10	0.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-1-butanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-hexanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonamide	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-n-butanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-decanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-dodecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-heptanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-hexanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluorononanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-pentanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tetradecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tridecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-undecanoic acid	200	0.01	---	---	1	10	0.00010
Sodium perfluoro-1-pentanesulfonate	200	0.01	---	---	1	10	0.00010

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB73**

Description: PFAS - DoD Calibration L1

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00010
(Na) Perfluoro-1-decanesulfonate	.00010
(NA) Perfluoro-1-heptanesulfonate	.00010
(Na) Perfluoro-1-nonanesulfonate	.00010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB73

Description: PFAS - DoD Calibration L1

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanesulfonate	.00010
Perfluoro-1-hexanesulfonate	.00010
Perfluoro-1-octanesulfonamide	.00010
Perfluoro-1-octanesulfonate	.00010
Perfluoro-n-butanoic Acid	.00010
Perfluoro-n-decanoic Acid	.00010
Perfluoro-n-dodecanoic acid	.00010
Perfluoro-n-heptanoic Acid	.00010
Perfluoro-n-hexanoic acid	.00010
Perfluoro-n-octanoic Acid	.00010
Perfluorononanoic Acid	.00010
Perfluoro-n-pentanoic acid	.00010
Perfluoro-n-tetradecanoic acid	.00010
Perfluoro-n-tridecanoic acid	.00010
Perfluoro-n-undecanoic acid	.00010
Sodium perfluoro-1-pentanesulfonate	.00010

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B814657482
JY25	Pipette	B814659662
KB71	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB74**

Description: PFAS - DoD Calibration L2

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	500 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	7/16/2019
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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB74

Description: PFAS - DoD Calibration L2

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-decanesulfonate	500	0.01	---	---	1	10	0.00025
(NA) Perfluoro-1-heptanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-nonanesulfonate	500	0.01	---	---	1	10	0.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-1-butanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonamide	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-n-butanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-decanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluorononanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanoic acid	500	0.01	---	---	1	10	0.00025
Sodium perfluoro-1-pentanesulfonate	500	0.01	---	---	1	10	0.00025

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB74**

Description: PFAS - DoD Calibration L2

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00025
(Na) Perfluoro-1-decanesulfonate	.00025
(NA) Perfluoro-1-heptanesulfonate	.00025
(Na) Perfluoro-1-nonanesulfonate	.00025
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB74**

Description: PFAS - DoD Calibration L2

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanesulfonate	.00025
Perfluoro-1-hexanesulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
Perfluoro-n-butanoic Acid	.00025
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025
Perfluoro-n-octanoic Acid	.00025
Perfluorononanoic Acid	.00025
Perfluoro-n-pentanoic acid	.00025
Perfluoro-n-tetradecanoic acid	.00025
Perfluoro-n-tridecanoic acid	.00025
Perfluoro-n-undecanoic acid	.00025
Sodium perfluoro-1-pentanesulfonate	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B820865811
JY25	Pipette	B814659662
KB71	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB75**

Description: PFAS - DoD Calibration L3

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KB70	PFAS - DoD High ICAL Stock	Solution	~0	10/01/19	---	---	100 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	7/16/2019
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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB75

Description: PFAS - DoD Calibration L3

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB70

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-decanesulfonate	100	0.05	---	---	1	10	0.00051
(NA) Perfluoro-1-heptanesulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-nonanesulfonate	100	0.05	---	---	1	10	0.00051
N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-1-butanesulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-hexanesulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-octanesulfonamide	100	0.05	---	---	1	10	0.00050
Perfluoro-1-octanesulfonate	100	0.05	---	---	1	10	0.00050
Perfluoro-n-butanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-decanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-octanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluorononanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-pentanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-tetradecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	100	0.05	---	---	1	10	0.00050
Sodium perfluoro-1-pentanesulfonate	100	0.05	---	---	1	10	0.00050

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB75**

Description: PFAS - DoD Calibration L3

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00050
(Na) Perfluoro-1-decanesulfonate	.00051
(NA) Perfluoro-1-heptanesulfonate	.00050
(Na) Perfluoro-1-nonanesulfonate	.00051
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB75

Description: PFAS - DoD Calibration L3

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanesulfonate	.00051
Perfluoro-1-hexanesulfonate	.00051
Perfluoro-1-octanesulfonamide	.00050
Perfluoro-1-octanesulfonate	.00050
Perfluoro-n-butanoic Acid	.00050
Perfluoro-n-decanoic Acid	.00050
Perfluoro-n-dodecanoic acid	.00050
Perfluoro-n-heptanoic Acid	.00050
Perfluoro-n-hexanoic acid	.00051
Perfluoro-n-octanoic Acid	.00050
Perfluorononanoic Acid	.00050
Perfluoro-n-pentanoic acid	.00051
Perfluoro-n-tetradecanoic acid	.00050
Perfluoro-n-tridecanoic acid	.00050
Perfluoro-n-undecanoic acid	.00050
Sodium perfluoro-1-pentanesulfonate	.00050

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
KB70	Pipette	B814659662
KB71	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB76**

Description: PFAS - DoD Calibration L4

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KB70	PFAS - DoD High ICAL Stock	Solution	~0	10/01/19	---	---	1000 uL	1	50	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	250 uL	1	50	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	250 uL	1	50	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	7/16/2019
Solution Volume	40 **mL X** 2 **Vials**	**Refrigerator/Freezer No:**	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB76

Description: PFAS - DoD Calibration L4

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	250	0.05	---	---	1	50	0.00025
13C2-PFOA	250	0.05	---	---	1	50	0.00025
13C3-PFBA	250	0.05	---	---	1	50	0.00025
13C4-PFOS	250	0.05	---	---	1	50	0.00024

Stock Id: KB70

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.05	---	---	1	50	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.05	---	---	1	50	0.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.05	---	---	1	50	0.00100
(Na) Perfluoro-1-decanesulfonate	1000	0.05	---	---	1	50	0.00101
(NA) Perfluoro-1-heptanesulfonate	1000	0.05	---	---	1	50	0.00100
(Na) Perfluoro-1-nonanesulfonate	1000	0.05	---	---	1	50	0.00101
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	50	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-1-butanesulfonate	1000	0.05	---	---	1	50	0.00101
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	50	0.00101
Perfluoro-1-octanesulfonamide	1000	0.05	---	---	1	50	0.00100
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-butanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	50	0.00101
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluorononanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-pentanoic acid	1000	0.05	---	---	1	50	0.00101
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	50	0.00100
Sodium perfluoro-1-pentanesulfonate	1000	0.05	---	---	1	50	0.00100

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	250	0.05	---	---	1	50	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB76**

Description: PFAS - DoD Calibration L4

13C2-6:2FTS	250	0.05	---	---	1	50	0.00024
13C2-8:2FTS	250	0.05	---	---	1	50	0.00024
13C2-PFDoA	250	0.05	---	---	1	50	0.00025
13C2-PFTeDA	250	0.05	---	---	1	50	0.00025
13C3-PFBS	250	0.05	---	---	1	50	0.00023
13C3-PFHxS	250	0.05	---	---	1	50	0.00024
13C4-PFBA	250	0.05	---	---	1	50	0.00025
13C4-PFHpA	250	0.05	---	---	1	50	0.00025
13C5-PFHxA	250	0.05	---	---	1	50	0.00025
13C5-PFPeA	250	0.05	---	---	1	50	0.00025
13C6-PFDA	250	0.05	---	---	1	50	0.00025
13C7-PFUnA	250	0.05	---	---	1	50	0.00025
13C8-FOSA	250	0.05	---	---	1	50	0.00025
13C8-PFOA	250	0.05	---	---	1	50	0.00025
13C8-PFOS	250	0.05	---	---	1	50	0.00024
13C9-PFNA	250	0.05	---	---	1	50	0.00025
d3-MeFOSAA	250	0.05	---	---	1	50	0.00025
d5-EtFOSAA	250	0.05	---	---	1	50	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB76

Description: PFAS - DoD Calibration L4

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanesulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanoic Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00101
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814657482
KB70	Pipette	B820865811
KB71	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:40:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB77**

Description: PFAS - DoD Calibration L5

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KB70	PFAS - DoD High ICAL Stock	Solution	~0	10/01/19	---	---	2500 uL	1	50	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	250 uL	1	50	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	250 uL	1	50	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	7/16/2019
Solution Volume	40 **mL X** 2 **Vials**	**Refrigerator/Freezer No:**	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB77

Description: PFAS - DoD Calibration L5

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	250	0.05	---	---	1	50	0.00025
13C2-PFOA	250	0.05	---	---	1	50	0.00025
13C3-PFBA	250	0.05	---	---	1	50	0.00025
13C4-PFOS	250	0.05	---	---	1	50	0.00024

Stock Id: KB70

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	2500	0.05	---	---	1	50	0.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	2500	0.05	---	---	1	50	0.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	2500	0.05	---	---	1	50	0.00250
(Na) Perfluoro-1-decanesulfonate	2500	0.05	---	---	1	50	0.00253
(NA) Perfluoro-1-heptanesulfonate	2500	0.05	---	---	1	50	0.00250
(Na) Perfluoro-1-nonanesulfonate	2500	0.05	---	---	1	50	0.00253
N-ethylperfluoro-octanesulfonamidoacetic acid	2500	0.05	---	---	1	50	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-1-butanesulfonate	2500	0.05	---	---	1	50	0.00253
Perfluoro-1-hexanesulfonate	2500	0.05	---	---	1	50	0.00253
Perfluoro-1-octanesulfonamide	2500	0.05	---	---	1	50	0.00250
Perfluoro-1-octanesulfonate	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-butanoic Acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-decanoic Acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-dodecanoic acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-heptanoic Acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-hexanoic acid	2500	0.05	---	---	1	50	0.00253
Perfluoro-n-octanoic Acid	2500	0.05	---	---	1	50	0.00250
Perfluorononanoic Acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-pentanoic acid	2500	0.05	---	---	1	50	0.00253
Perfluoro-n-tetradecanoic acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-tridecanoic acid	2500	0.05	---	---	1	50	0.00250
Perfluoro-n-undecanoic acid	2500	0.05	---	---	1	50	0.00250
Sodium perfluoro-1-pentanesulfonate	2500	0.05	---	---	1	50	0.00250

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	250	0.05	---	---	1	50	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB77

Description: PFAS - DoD Calibration L5

13C2-6:2FTS	250	0.05	---	---	1	50	0.00024
13C2-8:2FTS	250	0.05	---	---	1	50	0.00024
13C2-PFDoA	250	0.05	---	---	1	50	0.00025
13C2-PFTeDA	250	0.05	---	---	1	50	0.00025
13C3-PFBS	250	0.05	---	---	1	50	0.00023
13C3-PFHxS	250	0.05	---	---	1	50	0.00024
13C4-PFBA	250	0.05	---	---	1	50	0.00025
13C4-PFHpA	250	0.05	---	---	1	50	0.00025
13C5-PFHxA	250	0.05	---	---	1	50	0.00025
13C5-PFPeA	250	0.05	---	---	1	50	0.00025
13C6-PFDA	250	0.05	---	---	1	50	0.00025
13C7-PFUnA	250	0.05	---	---	1	50	0.00025
13C8-FOSA	250	0.05	---	---	1	50	0.00025
13C8-PFOA	250	0.05	---	---	1	50	0.00025
13C8-PFOS	250	0.05	---	---	1	50	0.00024
13C9-PFNA	250	0.05	---	---	1	50	0.00025
d3-MeFOSAA	250	0.05	---	---	1	50	0.00025
d5-EtFOSAA	250	0.05	---	---	1	50	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00250
(Na) Perfluoro-1-decanesulfonate	.00253
(NA) Perfluoro-1-heptanesulfonate	.00250
(Na) Perfluoro-1-nonanesulfonate	.00253
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB77**

Description: PFAS - DoD Calibration L5

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanesulfonate	.00253
Perfluoro-1-hexanesulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanesulfonate	.00250
Perfluoro-n-butanoic Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253
Perfluoro-n-octanoic Acid	.00250
Perfluorononanoic Acid	.00250
Perfluoro-n-pentanoic acid	.00253
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250
Sodium perfluoro-1-pentanesulfonate	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814657482
KB70	Pipette	OU16914
KB71	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB78**

Description: PFAS - DoD Calibraiton 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)
KB70	PFAS - DoD High ICAL Stock	Solution	~0	10/01/19	---	---	2000 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	**Date Prepared:** 10/1/2018	**Expiration Date**	7/16/2019
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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB78

Description: PFAS - DoD Calibraiton L6

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB70

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	2000	0.05	---	---	1	10	0.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	2000	0.05	---	---	1	10	0.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	2000	0.05	---	---	1	10	0.01000
(Na) Perfluoro-1-decanesulfonate	2000	0.05	---	---	1	10	0.01010
(NA) Perfluoro-1-heptanesulfonate	2000	0.05	---	---	1	10	0.01000
(Na) Perfluoro-1-nonanesulfonate	2000	0.05	---	---	1	10	0.01010
N-ethylperfluoro-octanesulfonamidoacetic acid	2000	0.05	---	---	1	10	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-1-butanesulfonate	2000	0.05	---	---	1	10	0.01010
Perfluoro-1-hexanesulfonate	2000	0.05	---	---	1	10	0.01010
Perfluoro-1-octanesulfonamide	2000	0.05	---	---	1	10	0.01000
Perfluoro-1-octanesulfonate	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-butanoic Acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-decanoic Acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-dodecanoic acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-heptanoic Acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-hexanoic acid	2000	0.05	---	---	1	10	0.01010
Perfluoro-n-octanoic Acid	2000	0.05	---	---	1	10	0.01000
Perfluorononanoic Acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-pentanoic acid	2000	0.05	---	---	1	10	0.01010
Perfluoro-n-tetradecanoic acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-tridecanoic acid	2000	0.05	---	---	1	10	0.01000
Perfluoro-n-undecanoic acid	2000	0.05	---	---	1	10	0.01000
Sodium perfluoro-1-pentanesulfonate	2000	0.05	---	---	1	10	0.01000

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB78**

Description: PFAS - DoD Calibraiton L6

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.01000
(Na) Perfluoro-1-decanesulfonate	.01010
(NA) Perfluoro-1-heptanesulfonate	.01000
(Na) Perfluoro-1-nonanesulfonate	.01010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB78**

Description: PFAS - DoD Calibraiton L6

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanesulfonate	.01010
Perfluoro-1-hexanesulfonate	.01010
Perfluoro-1-octanesulfonamide	.01000
Perfluoro-1-octanesulfonate	.01000
Perfluoro-n-butanoic Acid	.01000
Perfluoro-n-decanoic Acid	.01000
Perfluoro-n-dodecanoic acid	.01000
Perfluoro-n-heptanoic Acid	.01000
Perfluoro-n-hexanoic acid	.01010
Perfluoro-n-octanoic Acid	.01000
Perfluorononanoic Acid	.01000
Perfluoro-n-pentanoic acid	.01010
Perfluoro-n-tetradecanoic acid	.01000
Perfluoro-n-tridecanoic acid	.01000
Perfluoro-n-undecanoic acid	.01000
Sodium perfluoro-1-pentanesulfonate	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
KB70	Pipette	OU16914
KB71	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB79**

Description: PFAS - DoD Calibration L7

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KB70	PFAS - DoD High ICAL Stock	Solution	~0	10/01/19	---	---	4000 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	**Date Prepared:** 10/1/2018	**Expiration Date**	7/16/2019
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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB79

Description: PFAS - DoD Calibration L7

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB70

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	4000	0.05	---	---	1	10	0.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	4000	0.05	---	---	1	10	0.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	4000	0.05	---	---	1	10	0.02000
(Na) Perfluoro-1-decanesulfonate	4000	0.05	---	---	1	10	0.02020
(NA) Perfluoro-1-heptanesulfonate	4000	0.05	---	---	1	10	0.02000
(Na) Perfluoro-1-nonanesulfonate	4000	0.05	---	---	1	10	0.02020
N-ethylperfluoro-octanesulfonamidoacetic acid	4000	0.05	---	---	1	10	0.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-1-butanesulfonate	4000	0.05	---	---	1	10	0.02020
Perfluoro-1-hexanesulfonate	4000	0.05	---	---	1	10	0.02020
Perfluoro-1-octanesulfonamide	4000	0.05	---	---	1	10	0.02000
Perfluoro-1-octanesulfonate	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-butanoic Acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-decanoic Acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-dodecanoic acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-heptanoic Acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-hexanoic acid	4000	0.05	---	---	1	10	0.02020
Perfluoro-n-octanoic Acid	4000	0.05	---	---	1	10	0.02000
Perfluorononanoic Acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-pentanoic acid	4000	0.05	---	---	1	10	0.02020
Perfluoro-n-tetradecanoic acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-tridecanoic acid	4000	0.05	---	---	1	10	0.02000
Perfluoro-n-undecanoic acid	4000	0.05	---	---	1	10	0.02000
Sodium perfluoro-1-pentanesulfonate	4000	0.05	---	---	1	10	0.02000

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB79**

Description: PFAS - DoD Calibration L7

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.02000
(Na) Perfluoro-1-decanesulfonate	.02020
(NA) Perfluoro-1-heptanesulfonate	.02000
(Na) Perfluoro-1-nonanesulfonate	.02020
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB79**

Description: PFAS - DoD Calibration L7

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.02000
Perfluoro-1-butanesulfonate	.02020
Perfluoro-1-hexanesulfonate	.02020
Perfluoro-1-octanesulfonamide	.02000
Perfluoro-1-octanesulfonate	.02000
Perfluoro-n-butanoic Acid	.02000
Perfluoro-n-decanoic Acid	.02000
Perfluoro-n-dodecanoic acid	.02000
Perfluoro-n-heptanoic Acid	.02000
Perfluoro-n-hexanoic acid	.02020
Perfluoro-n-octanoic Acid	.02000
Perfluorononanoic Acid	.02000
Perfluoro-n-pentanoic acid	.02020
Perfluoro-n-tetradecanoic acid	.02000
Perfluoro-n-tridecanoic acid	.02000
Perfluoro-n-undecanoic acid	.02000
Sodium perfluoro-1-pentanesulfonate	.02000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
KB70	Pipette	OU16914
KB71	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KC73**

Description: PFAS - DoD Instrument Blank

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	**Date Prepared:** 10/31/2018	**Expiration Date:**	7/16/2019
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: Thorn, Jonathan **Date:** 11/2/2018 2:47:00 PM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KC73

Description: PFAS - DoD Instrument Blank

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/31/2018 **Expiration Date:** 7/16/2019

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

Comment: 80/20 methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 11/2/2018 2:47:00 PM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KC73**

Description: PFAS - DoD Instrument Blank

13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025
13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
KB71	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/31/2018 **Expiration Date:** 7/16/2019

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

Comment: 80/20 methanol/milli-q water

Approved By: Thorn, Jonathan **Date:** 11/2/2018 2:47:00 PM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB81**

Description: PFAS - DoD ICC

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KB82	PFAS - DoD Second Source LCS/MS Solution	Solution	~0	10/01/19	---	---	200 uL	1	10	~0.0000
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/1/2018	**Expiration Date**	7/16/2019
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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB81

Description: PFAS - DoD ICC

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KB82

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

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB81**

Description: PFAS - DoD ICC

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

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB81**

Description: PFAS - DoD ICC

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanesulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanoic Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
KB71	Pipette	B814659662
KB82	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

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:** 10/9/2018 9:41:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KB82**

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)
170724-01	PFOA - 2nd Source	Neat	~1.000000	03/22/22	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	**Date Prepared:** 10/1/2018	**Expiration Date:**	10/1/2019
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: Thorn, Jonathan **Date:** 10/12/2018 8:05:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB82

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: 170724-01

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

Final Concentrations:

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

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 10/1/2019

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

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan **Date:** 10/12/2018 8:05:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB82

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:
170724-01	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 10/1/2019

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

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan **Date:** 10/12/2018 8:05:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB89

Description: PFAS Branched Solution (~5,000 ng/L)

Stock Id: JX28

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	0.50	---	---	1	10	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
Perfluoro-1-hexanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-1-octanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-n-octanoic Acid	100	0.50	---	---	1	10	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-hexanesulfonate	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-octanoic Acid	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JX28	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/3/2018 **Expiration Date:** 6/18/2019

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:** 10/9/2018 9:43:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: KB89

Description: PFAS Branched Solution (~5,000 ng/L)

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)
JX28	PFAS Branched Standard Stock	Solution	~0	06/18/19	---	---	100 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	**Date Prepared:**	10/3/2018	**Expiration Date**	6/18/2019
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:** 10/9/2018 9:43:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KC19**

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

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KB71	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	10/01/19	---	---	2500 uL	1	25	~0.0000

Solution Prepared By: Schultz, Stephanie		**Date Prepared:**	10/16/2018	**Expiration Date:**	10/1/2019
Solution Volume 40 **mL X** 1 **Vials**		**Refrigerator/Freezer No:**	LC Laboratory: Refrigerator - R0107		

Balance ID:

Comment: 96/4 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/18/2018 11:55:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KC19

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

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	2500	0.05	---	---	1	25	0.00468
13C2-6:2FTS	2500	0.05	---	---	1	25	0.00475
13C2-8:2FTS	2500	0.05	---	---	1	25	0.00479
13C2-PFDoA	2500	0.05	---	---	1	25	0.00500
13C2-PFTeDA	2500	0.05	---	---	1	25	0.00500
13C3-PFBS	2500	0.05	---	---	1	25	0.00465
13C3-PFHxS	2500	0.05	---	---	1	25	0.00473
13C4-PFBA	2500	0.05	---	---	1	25	0.00500
13C4-PFHpA	2500	0.05	---	---	1	25	0.00500
13C5-PFHxA	2500	0.05	---	---	1	25	0.00500
13C5-PFPeA	2500	0.05	---	---	1	25	0.00500
13C6-PFDA	2500	0.05	---	---	1	25	0.00500
13C7-PFUnA	2500	0.05	---	---	1	25	0.00500
13C8-FOSA	2500	0.05	---	---	1	25	0.00500
13C8-PFOA	2500	0.05	---	---	1	25	0.00500
13C8-PFOS	2500	0.05	---	---	1	25	0.00478
13C9-PFNA	2500	0.05	---	---	1	25	0.00500
d3-MeFOSAA	2500	0.05	---	---	1	25	0.00500
d5-EtFOSAA	2500	0.05	---	---	1	25	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00468
13C2-6:2FTS	.00475
13C2-8:2FTS	.00479
13C2-PFDoA	.00500
13C2-PFTeDA	.00500
13C3-PFBS	.00465
13C3-PFHxS	.00473
13C4-PFBA	.00500
13C4-PFHpA	.00500
13C5-PFHxA	.00500
13C5-PFPeA	.00500
13C6-PFDA	.00500
13C7-PFUnA	.00500
13C8-FOSA	.00500

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/16/2018 **Expiration Date:** 10/1/2019

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

Comment: 96/4 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/18/2018 11:55:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KC19**

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

13C8-PFOA	.00500
13C8-PFOS	.00478
13C9-PFNA	.00500
d3-MeFOSAA	.00500
d5-EtFOSAA	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
KB71	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/16/2018 **Expiration Date:** 10/1/2019

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

Comment: 96/4 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/18/2018 11:55:00 AM

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☑

Standard Laboratory ID Number: **KC52**

Description: PFAS - DoD Internal Standard Spiking Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	2500 uL	1	25	~0.0000

Solution Prepared By: Schultz, Stephanie		**Date Prepared:**	10/19/2018	**Expiration Date:**	7/16/2019
Solution Volume 40 **mL X** 1 **Vials**		**Refrigerator/Freezer No:**	LC Laboratory: Refrigerator - R0107		

Balance ID:

Comment: 96/4 methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/23/2018 8:56:00 AM

BATTELLE
It can be done

Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KC52

Description: PFAS - DoD Internal Standard Spiking Solution

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	2500	0.05	---	---	1	25	0.00500
13C2-PFOA	2500	0.05	---	---	1	25	0.00500
13C3-PFBA	2500	0.05	---	---	1	25	0.00500
13C4-PFOS	2500	0.05	---	---	1	25	0.00479

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00500
13C2-PFOA	.00500
13C3-PFBA	.00500
13C4-PFOS	.00479

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/19/2018 **Expiration Date:** 7/16/2019

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

Comment: 96/4 methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/23/2018 8:56:00 AM

BATTELLE
It can be done

BDO Id: 170724-01

Reagent Receipt Report

Approved: ☐ **Authorized** ☐

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

Received: 7/24/2017
Custodian: Schumitz, Matt
Expires: 3/22/2022
Consumed:
Stored In: LC Laboratory - F0111

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--	☐			
(Na) 1H,1H,2H,2H-Perfluorohexane s	414911-30-1	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-butanesulfonate	375-73-5	1.0100	100.00	--	--	☐			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	☐			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	☐			
Perfluoro-1-octanesulfonate	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-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	☐			

Total Analytes: 24

Notes:

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

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

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CERTIFIED WEIGHT REPORT

17024-01

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

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

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

Paul Barron 032217
Formulated By: Paul Barron DATE

Pedro Rentas 032217
Reviewed By: Pedro L. Rentas DATE

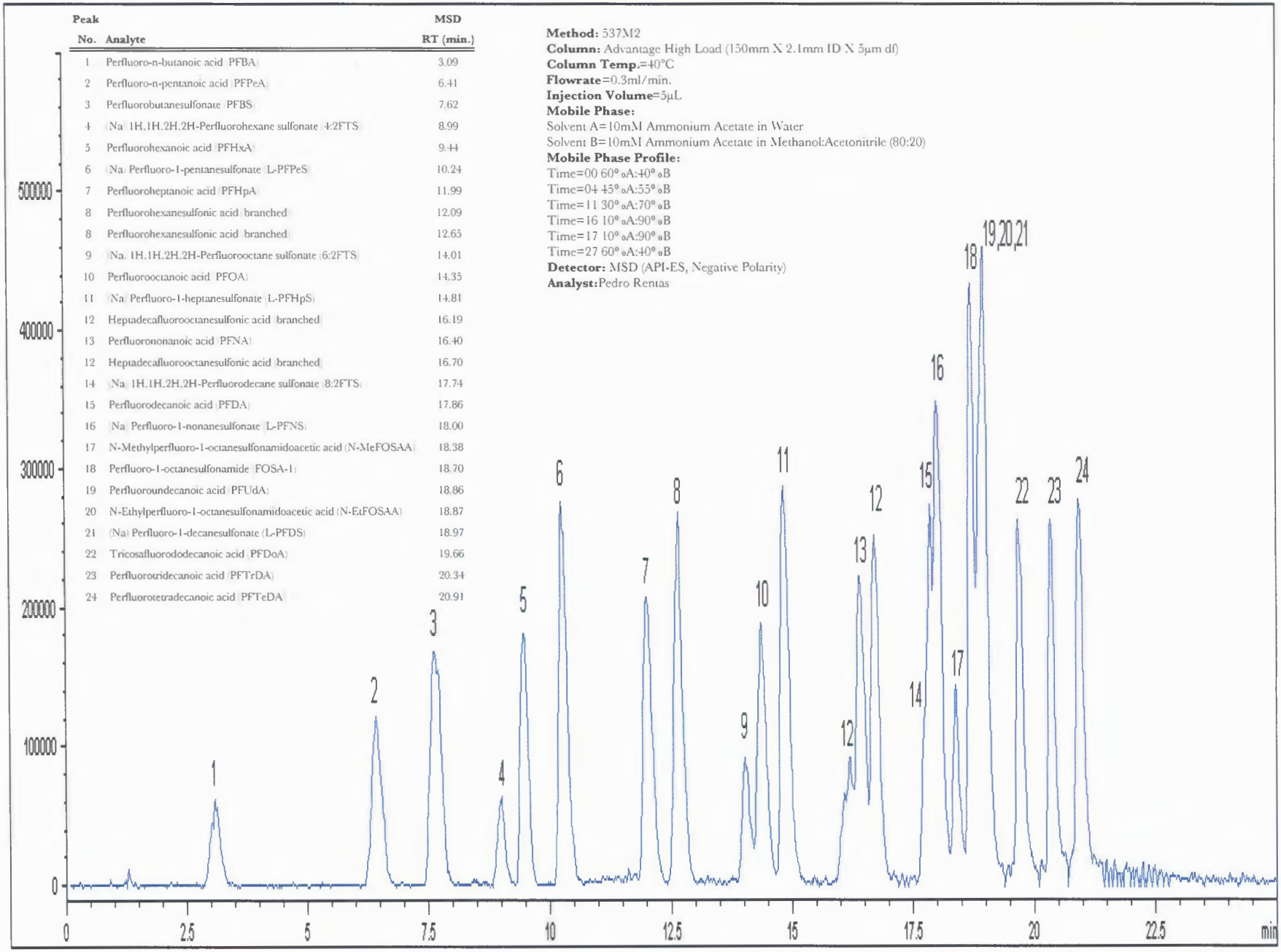
Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0516	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	orl-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafluorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	00-00-0	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS1016	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

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

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

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



BATTELLE

It can be done

BDO Id: 180618-02

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	Branched NEtFOSAA Standard (50 µ	Received:	6/18/2018
Vendor:	Wellington Laboratories	Custodian:	Thorn, Jonathan
Catalogue No:	br-NEtFOSAAA	Expires:	1/17/2023
Type:	Solution	Consumed:	
Lot No:	brNEtFOSAA0118	Stored In:	Sample Preparation - C0103
Quantity:	1 ea mL % Moisture: 0		
Description:	Branched NEtFOSAA Standard (50 µg/mL)		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

180618-02

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSAA

N-Ethylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NEtFOSAA
LOT NUMBER:	brNEtFOSAA0118
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	01/10/2018
LAST TESTED: (mm/dd/yyyy)	01/17/2018
EXPIRY DATE: (mm/dd/yyyy)	01/17/2023
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

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

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: 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 acetic acid moiety to its respective 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.

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED 17034 REFERENCE MATERIAL PRODUCER

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

Table A: **br-NEtFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

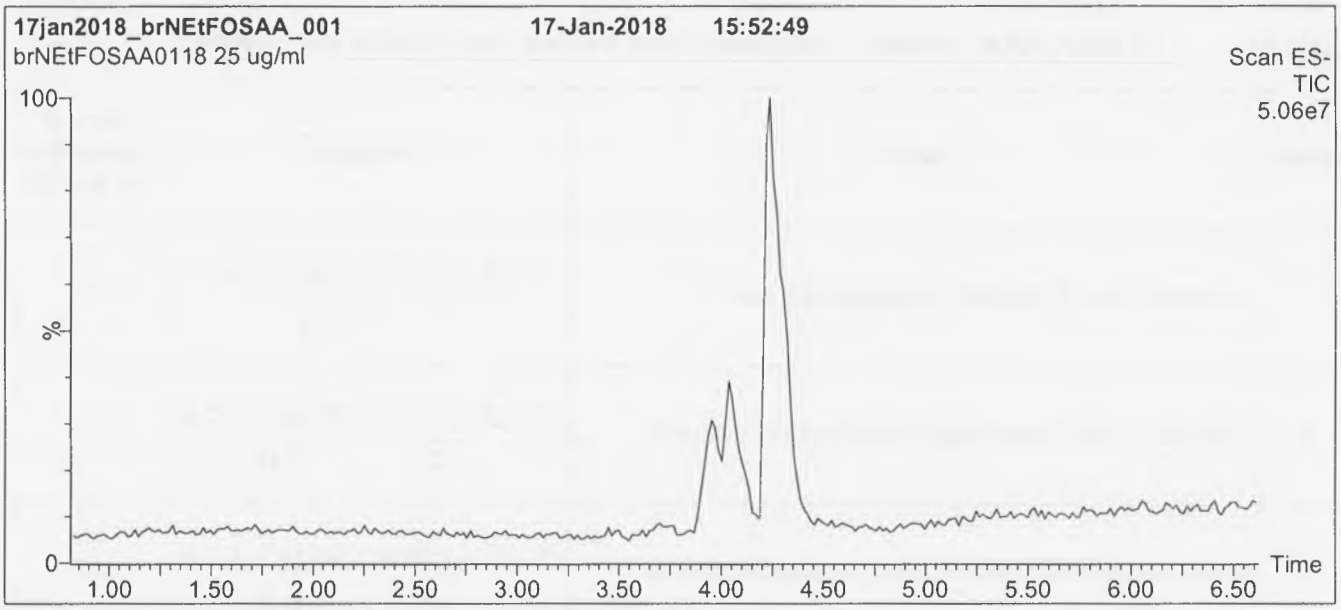
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(C_2H_5)CH_2CO_2H$	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	2.3
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	2.2
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	5.4
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(C_2H_5)CH_2CO_2H$	10.4
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	0.3
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	0.3
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF_2CF(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	0.3
9	Other Unidentified Isomers		1.3

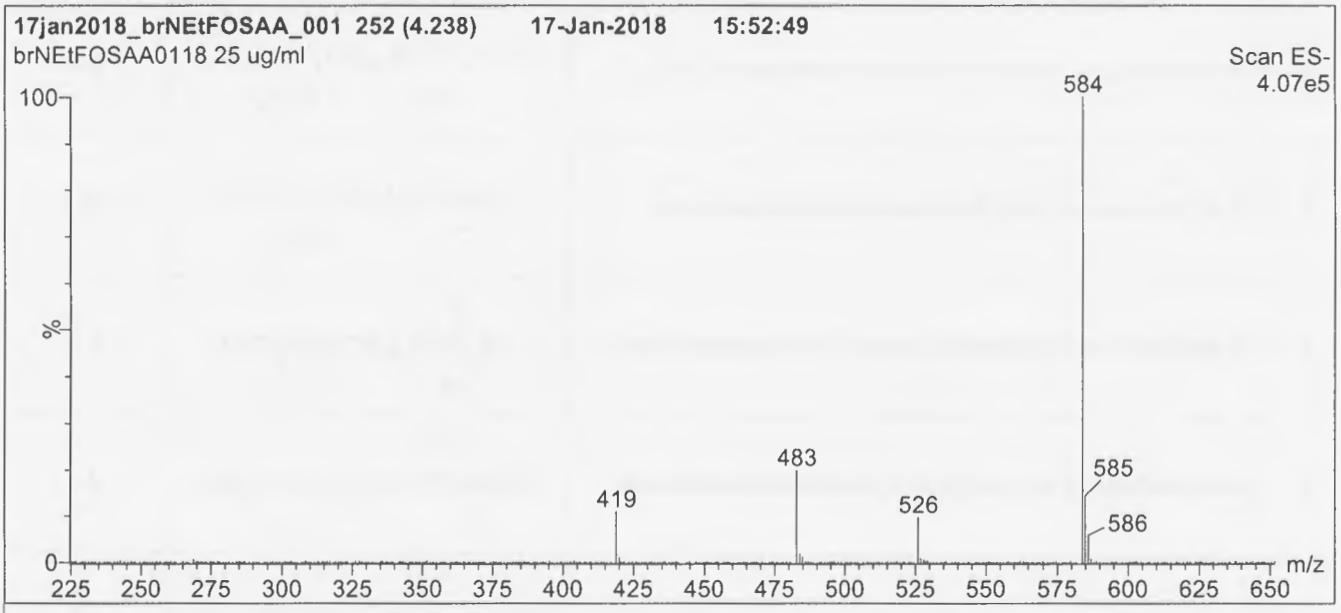
* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: _____ **Date:** 03/22/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **br-NEtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc 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

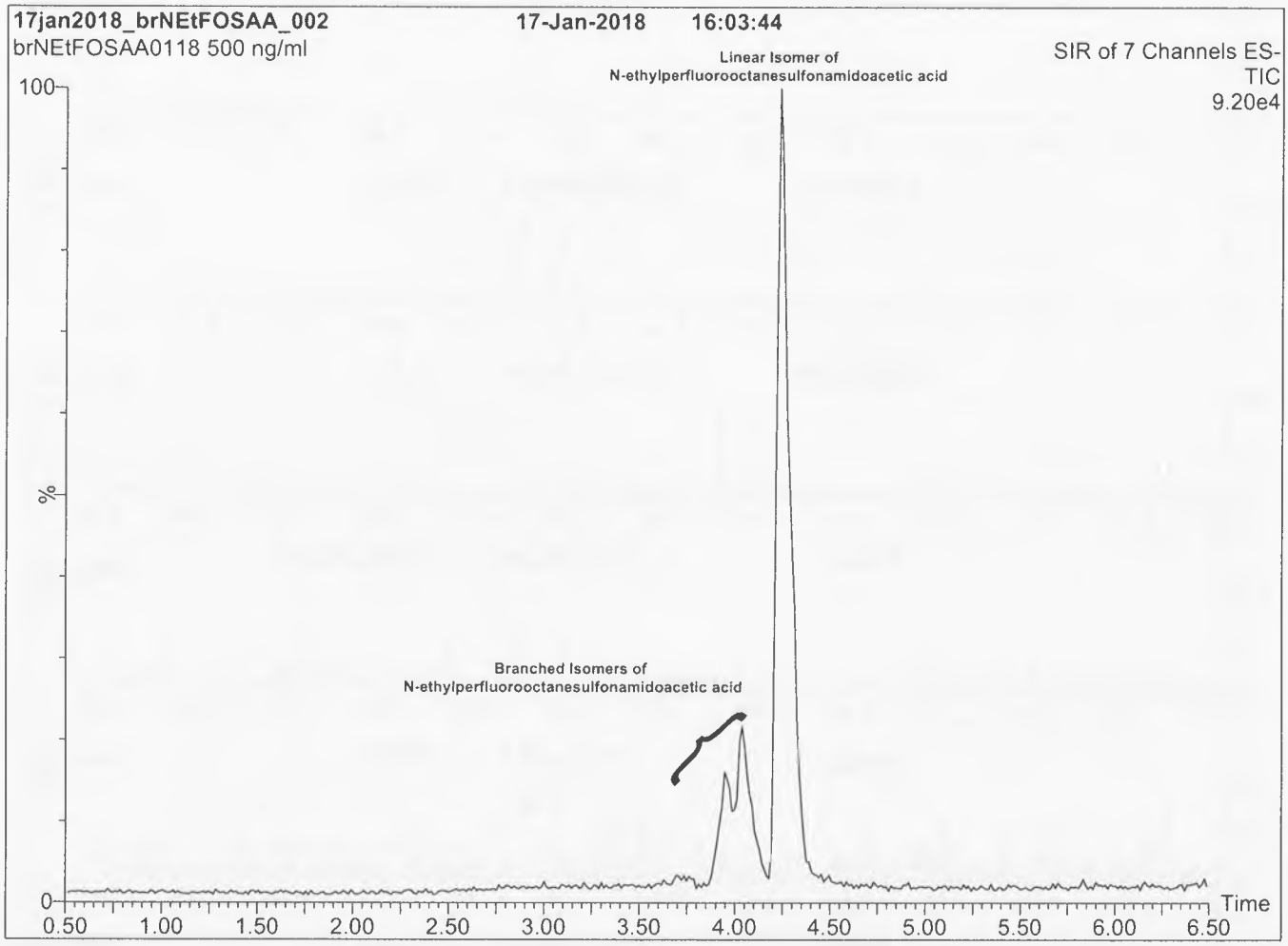
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-NEtFOSAA; LC/MS Data (SIR)**



Conditions for Figure 2:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc 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

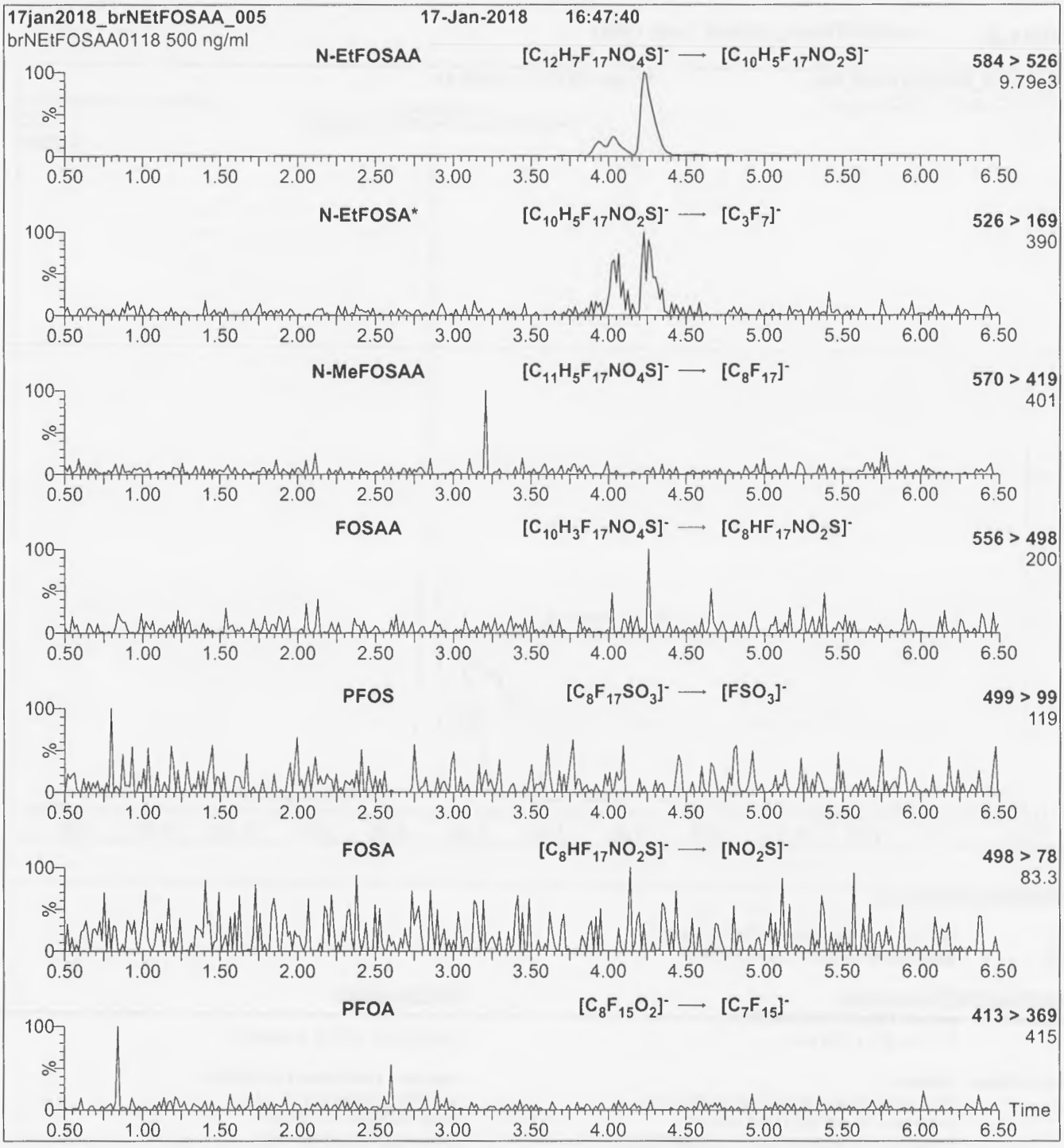
Flow: 300 µl/min

MS Parameters

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 3: **br-NEtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



***Note**: N-EtFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

BATTELLE

It can be done

BDO Id: 180618-03

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	Branched NMeFOSAA Standard (50	Received:	6/18/2018
Vendor:	Wellington Laboratories	Custodian:	Thorn, Jonathan
Catalogue No:	brNMeFOSAA	Expires:	1/17/2023
Type:	Solution	Consumed:	
Lot No:	brNMeFOSAA0118	Stored In:	Sample Preparation - C0103
Quantity:	1 ea mL % Moisture: 0		
Description:	Branched NMeFOSAA Standard (50 µg/mL)		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

180618-03

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NMeFOSAA

N-Methylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NMeFOSAA
LOT NUMBER:	brNMeFOSAA0118
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	01/10/2018
LAST TESTED: (mm/dd/yyyy)	01/17/2018
EXPIRY DATE: (mm/dd/yyyy)	01/17/2023
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

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

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: 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 acetic acid moiety to its respective 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.

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED 9070 REFERENCE MATERIAL PRODUCER

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

Table A: **br-NMeFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

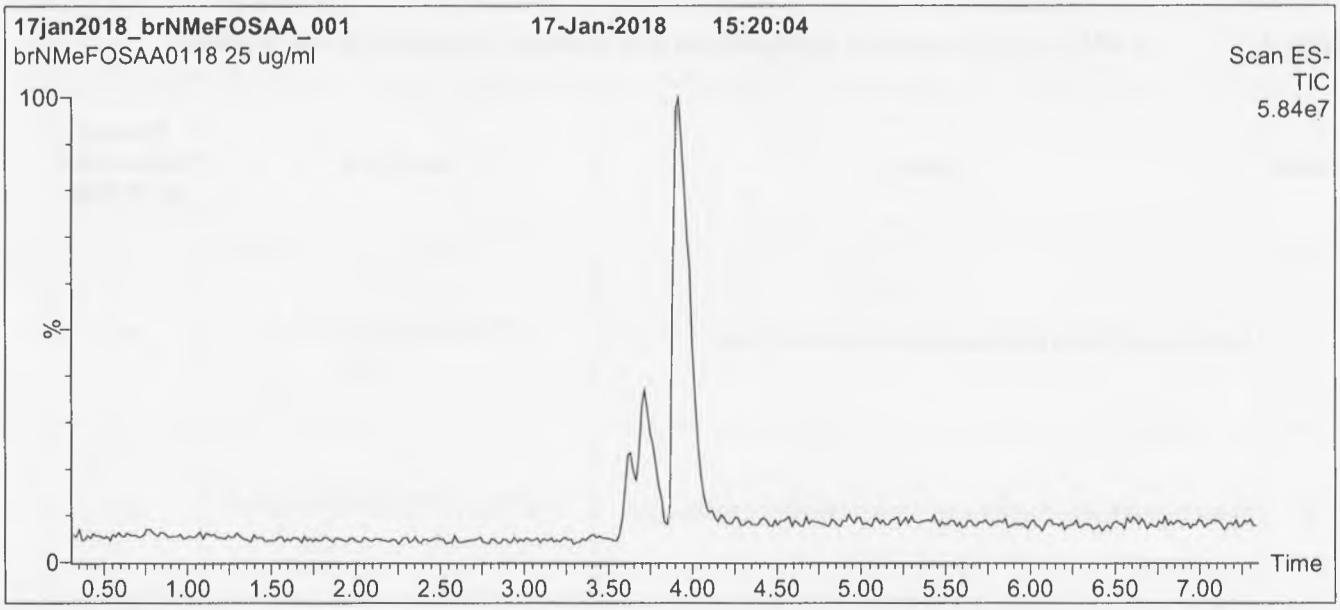
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CO_2H$	2.0
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	6.0
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CO_2H$	14.0
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	0.2
7	Other Unidentified Isomers		1.1

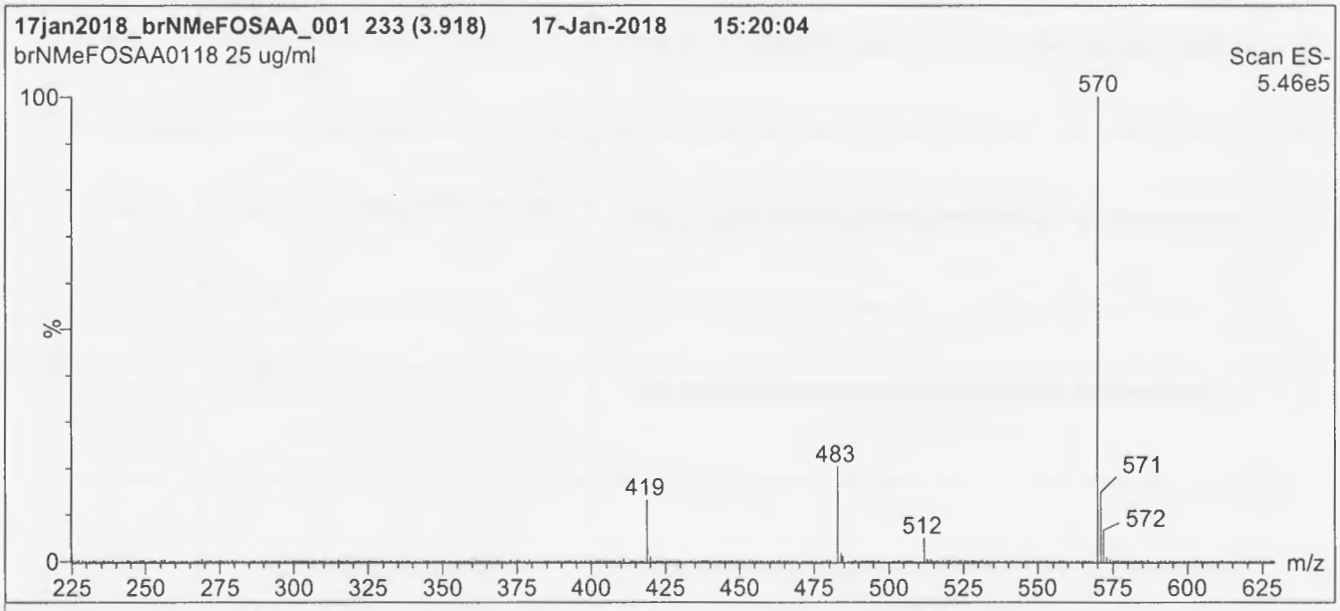
* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: _____ **Date:** 03/22/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **br-NMeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc 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

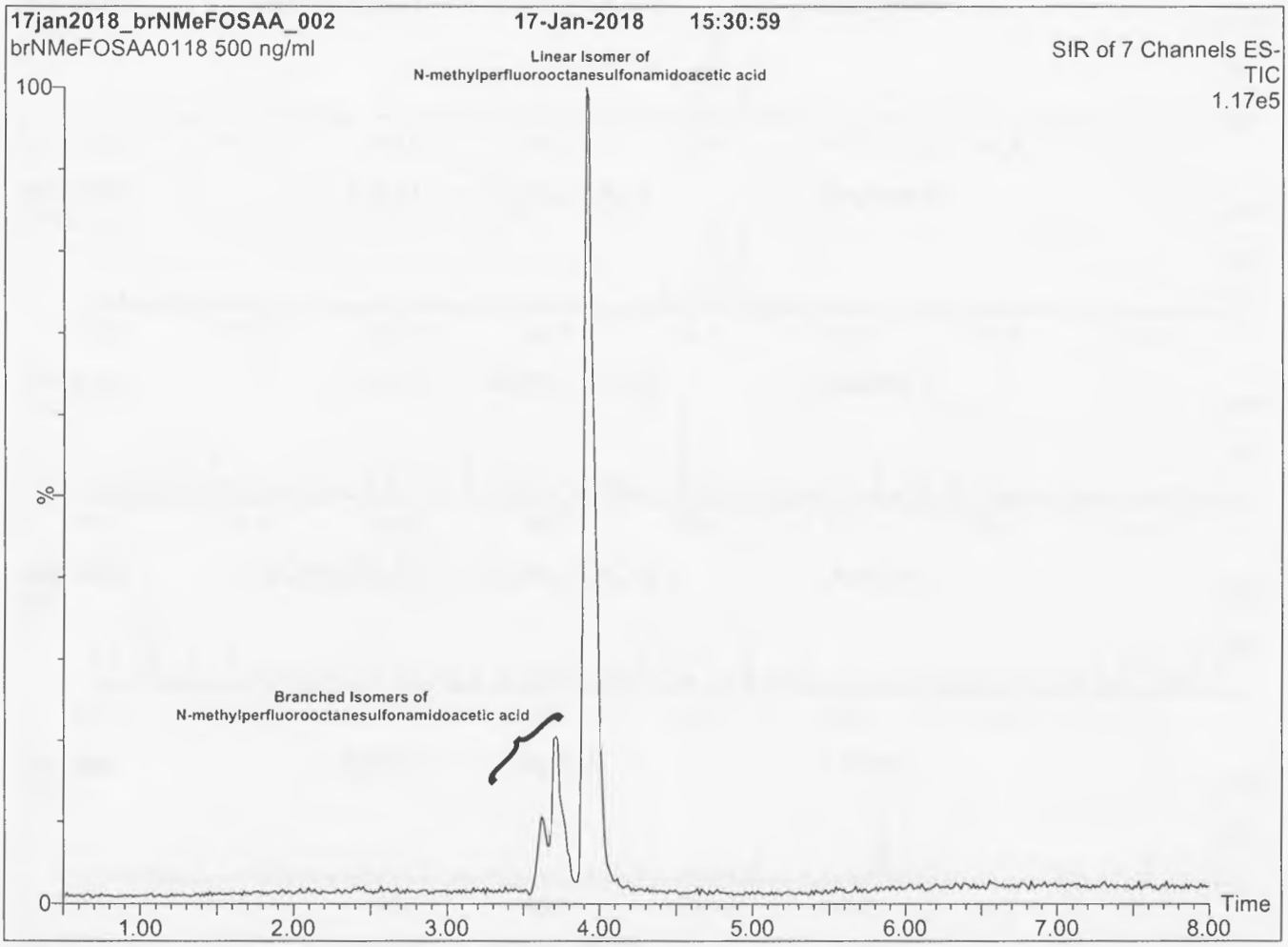
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-NMeFOSAA; LC/MS Data (SIR)**



Conditions for Figure 2:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc 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

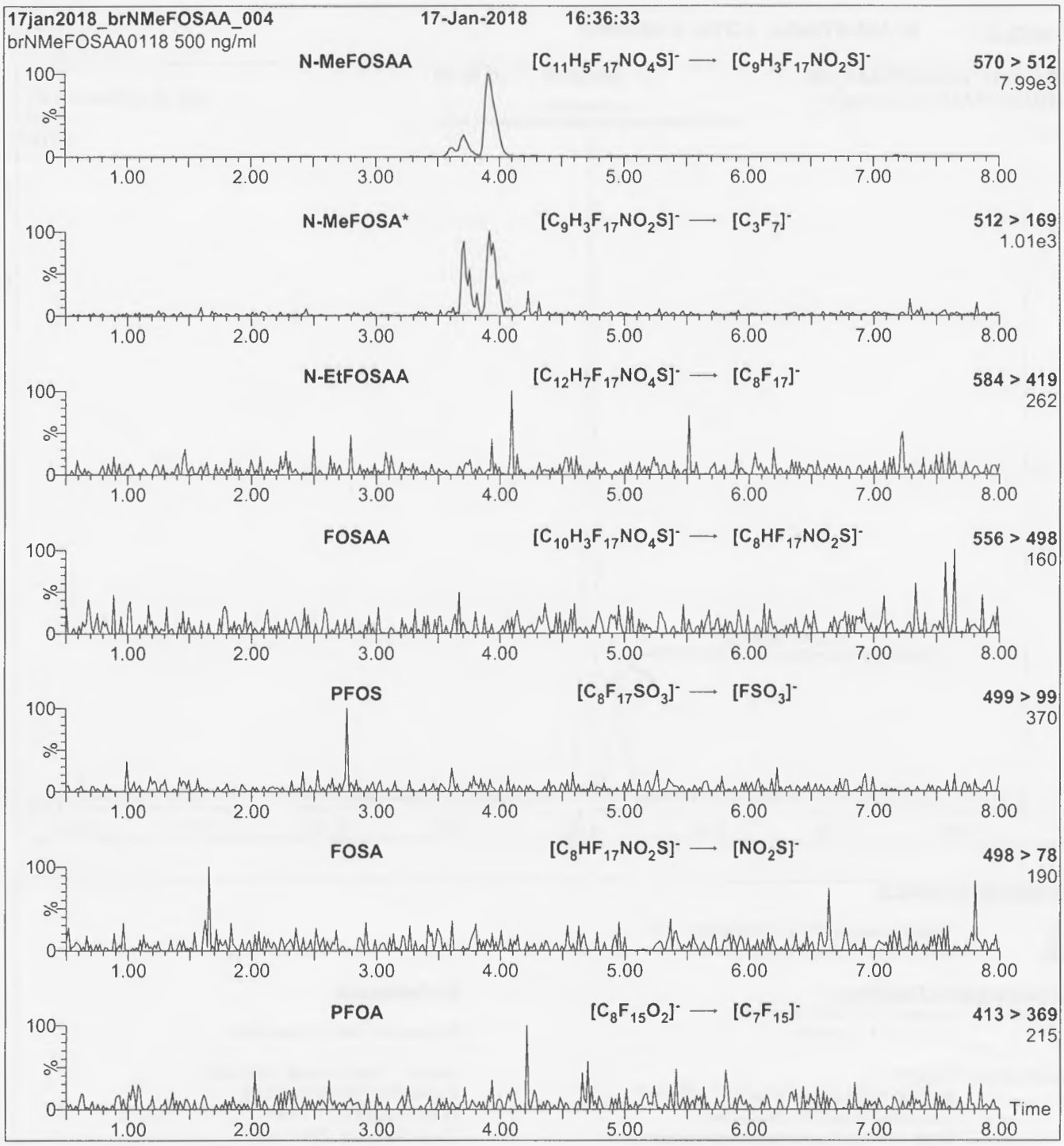
Flow: 300 µl/min

MS Parameters

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 3: **br-NMeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*Note: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

BATTELLE

It can be done

BDO Id: 180618-04

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	PFOA - Technical Mix	Received:	6/18/2018
Vendor:	Wellington Laboratories	Custodian:	Thorn, Jonathan
Catalogue No:	T-PFOA	Expires:	2/16/2022
Type:	Solution	Consumed:	
Lot No:	TPFOA0217	Stored In:	Sample Preparation - C0103
Quantity:	1 ea mL % Moisture: 0		
Description:	PFOA - Technical Mix		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

180618-04

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	T-PFOA	**LOT NUMBER:**	TPFOA0217
COMPOUND:	Technical Ammonium Perfluorooctanoate		
STRUCTURE:	(see Table A)	**CAS #:**	95328-99-7 (for linear ammonium perfluorooctanoate)

MOLECULAR FORMULA:	$C_8F_{15}O_2NH_4$
CONCENTRATION:	50 ± 2.5 µg/ml (gravimetric)
CHEMICAL PURITY:	Technical material
SOLVENT(S):	Methanol/Water (<1%)
LAST TESTED: (mm/dd/yyyy)	02/16/2017
EXPIRY DATE: (mm/dd/yyyy)	02/16/2022
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/22/2017 (mm/dd/yyyy)

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

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used for the identification and/or semi-quantitative determination of the specific chemical compound(s) 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.

CHARACTERIZATION / HOMOGENEITY:

This product is a technical mixture obtained from an industrial manufacturer. It has been characterized as to its content and components 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. Testing of samples in solution has shown it to be homogeneous. As this product is a technical mixture, it should not be used to quantitate any of the listed components.

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,...x_n on which it depends is:

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

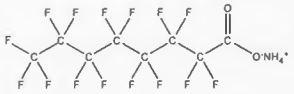
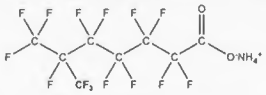
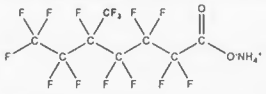
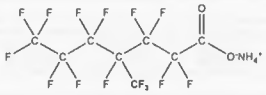
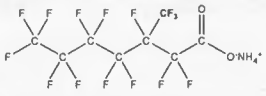
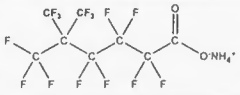
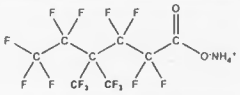
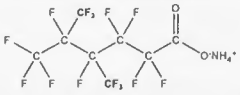
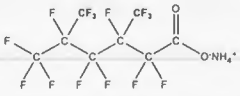
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

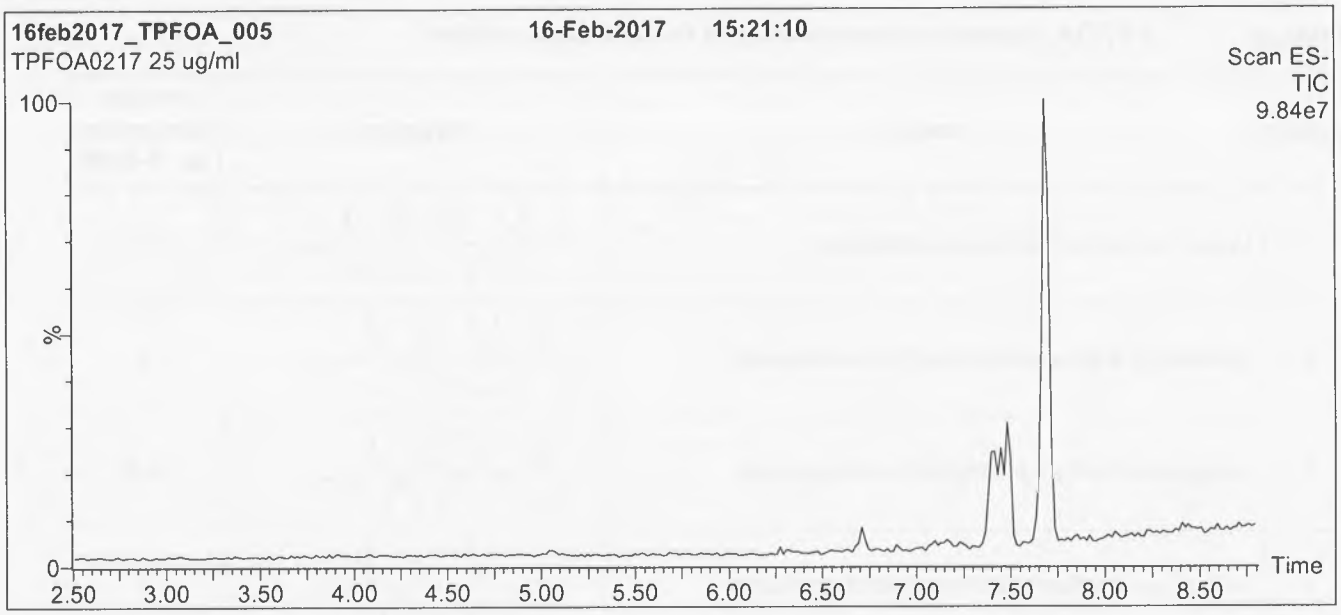
Table A: **T-PFOA; Isomeric Components and Percent Composition***

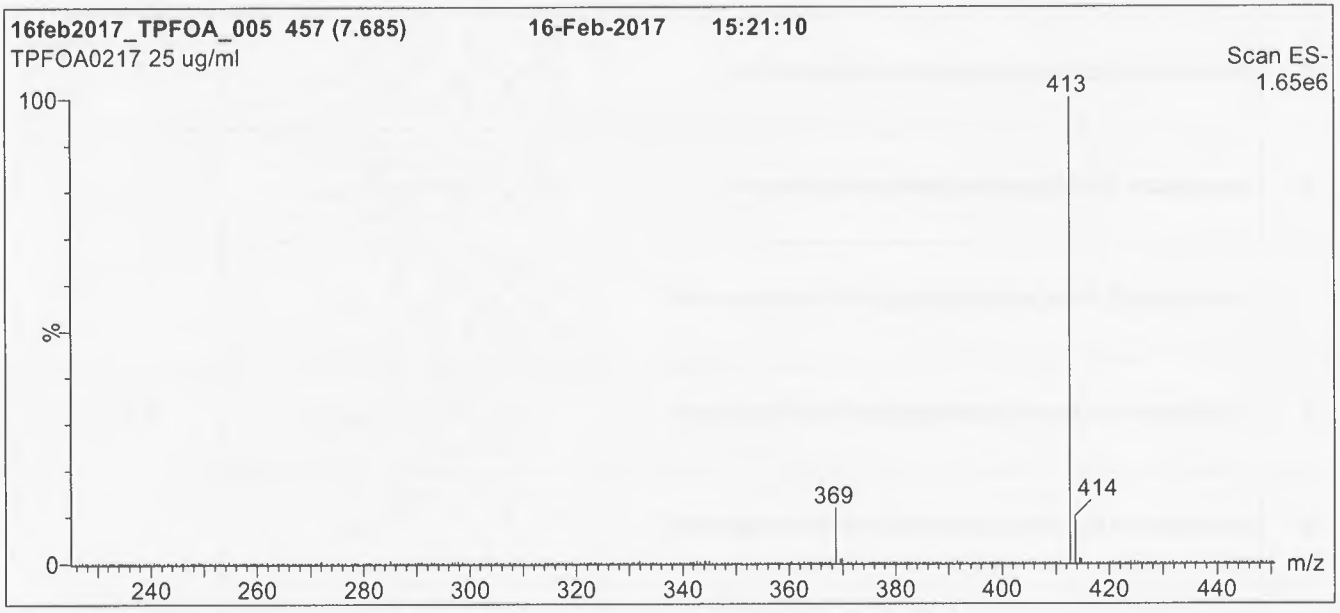
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Linear ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3
6[a]	Ammonium 2-trifluoromethylperfluoroheptanoate		0.5
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
9[a]	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ^{19}F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

[a] Presence of this isomer could not be verified by LC/MS due to co-elution.

Figure 1: **T-PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Kinetex PFP
2.6 µm, 4.6 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

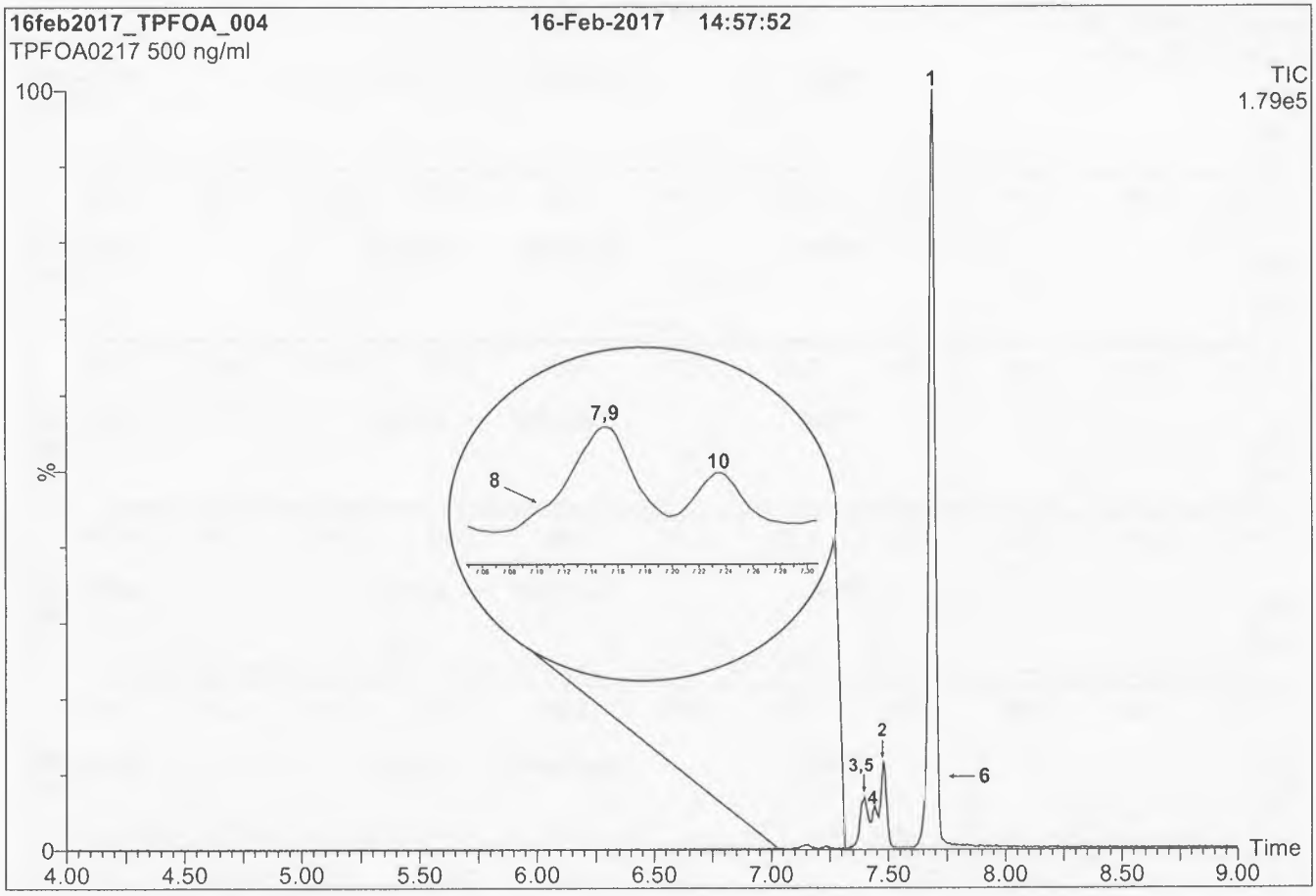
Flow: 1.0 ml/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **T-PFOA; LC/MS Data (SIR)**



Conditions for Figure 2:

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

Chromatographic Conditions:

Column: Kinetex PFP
2.6 µm, 4.6 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

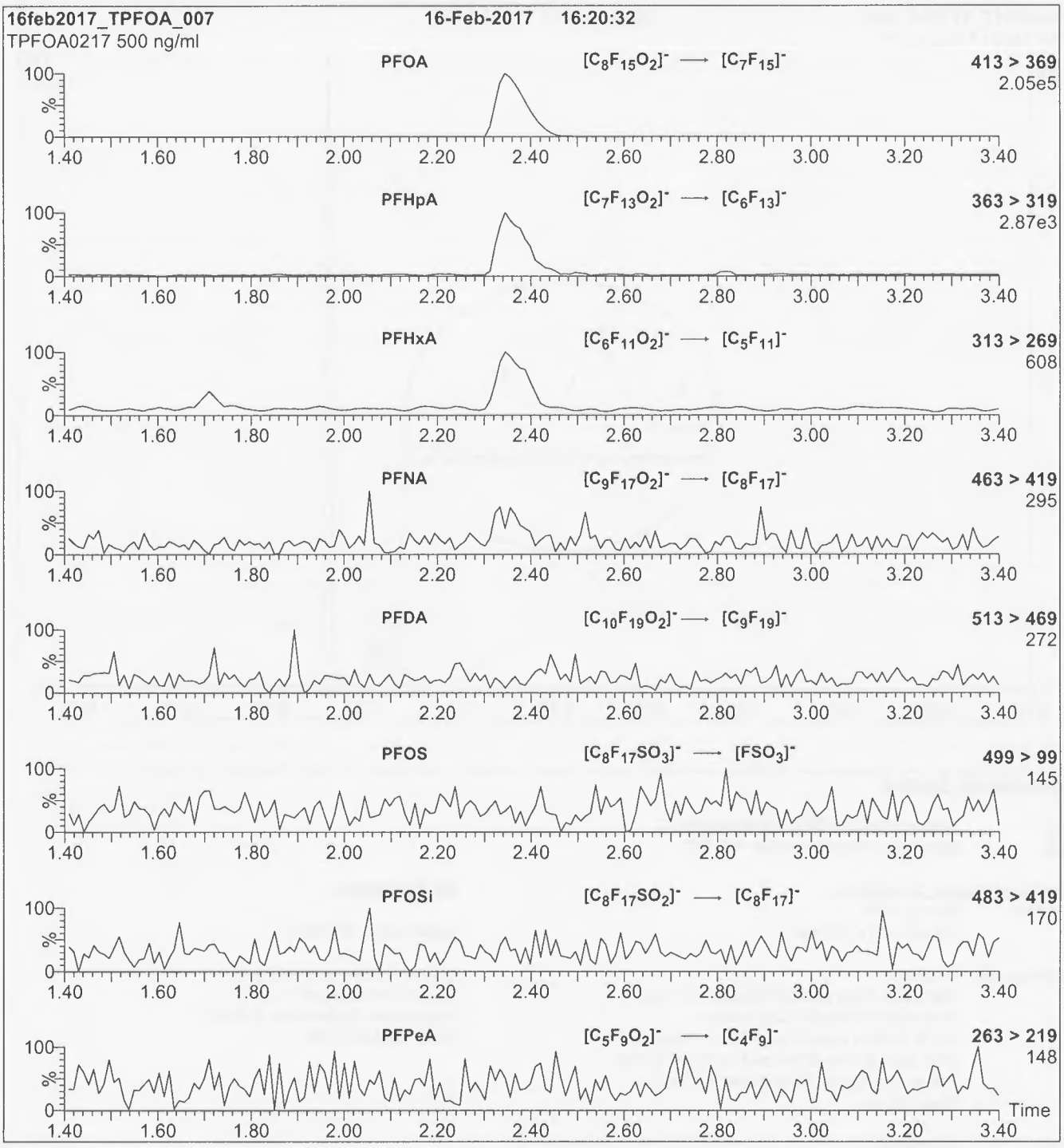
Flow: 1.0 ml/min

MS Parameters:

Experiment: SIR (ES^-)

Source conditions: see Figure 1
Source Temperature = 110 °C
Desolvation Temperature = 325 °C
Cone Voltage = 15V

Figure 3: **T-PFOA; LC/MS/MS Data (Selected MRM Transitions)**



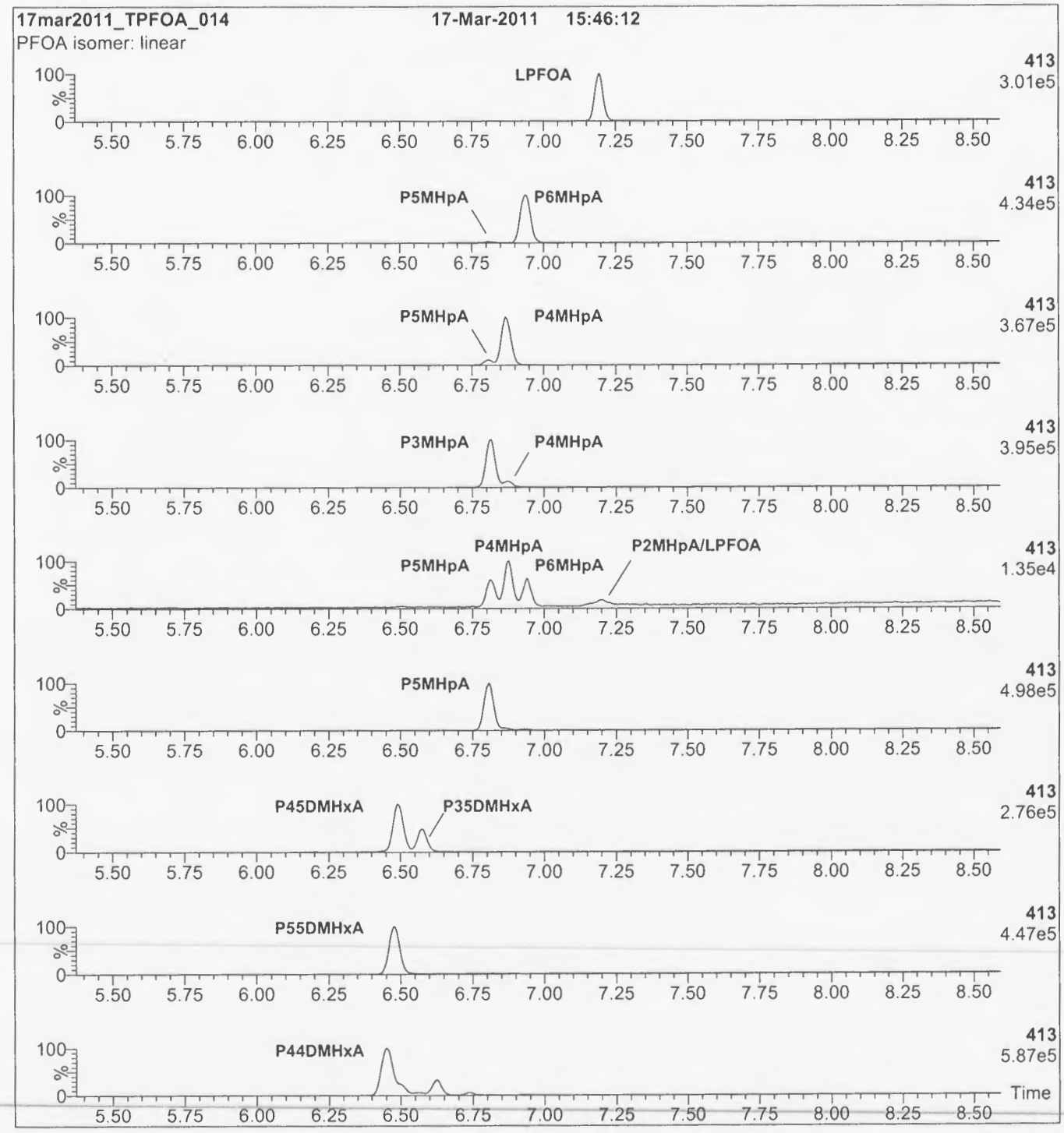
Conditions for Figure 3:

Injection:	Direct loop injection 10 µl (500 ng/ml T-PFOA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = variable (9-40)

Figure 4: **T-PFOA; LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers**



Conditions for Figure 4:

Same as Figure 2.

BATTELLE

It can be done

BDO Id: 180618-06

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	Branched PFHxS Standard (50 µg/m	Received:	6/18/2018
Vendor:	Wellington Laboratories	Custodian:	Thorn, Jonathan
Catalogue No:	br-PFHxSK	Expires:	1/4/2022
Type:	Solution	Consumed:	
Lot No:	brPFHxSK0117	Stored In:	Sample Preparation - C0103
Quantity:	1 ea mL % Moisture: 0		
Description:	Branched PFHxS Standard (50 µg/mL)		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

180618-06

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK0117
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.5 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	01/03/2017
LAST TESTED: (mm/dd/yyyy)	01/04/2017
EXPIRY DATE: (mm/dd/yyyy)	01/04/2022
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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 are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

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,...x_n on which it depends is:

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

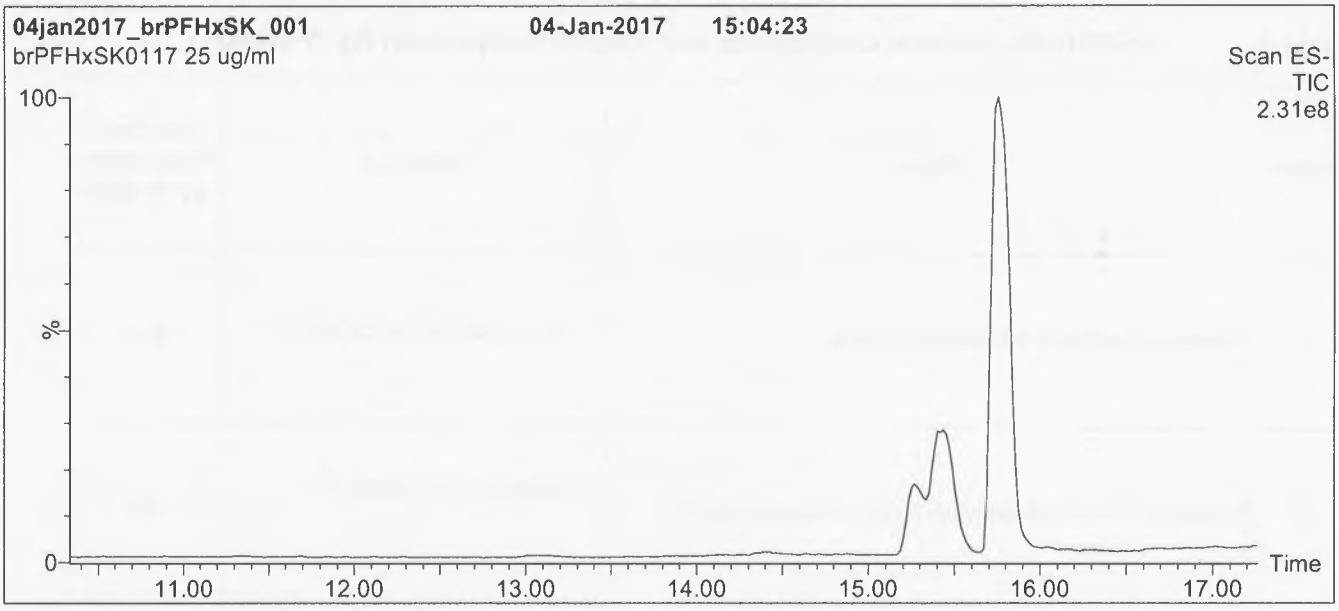
Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

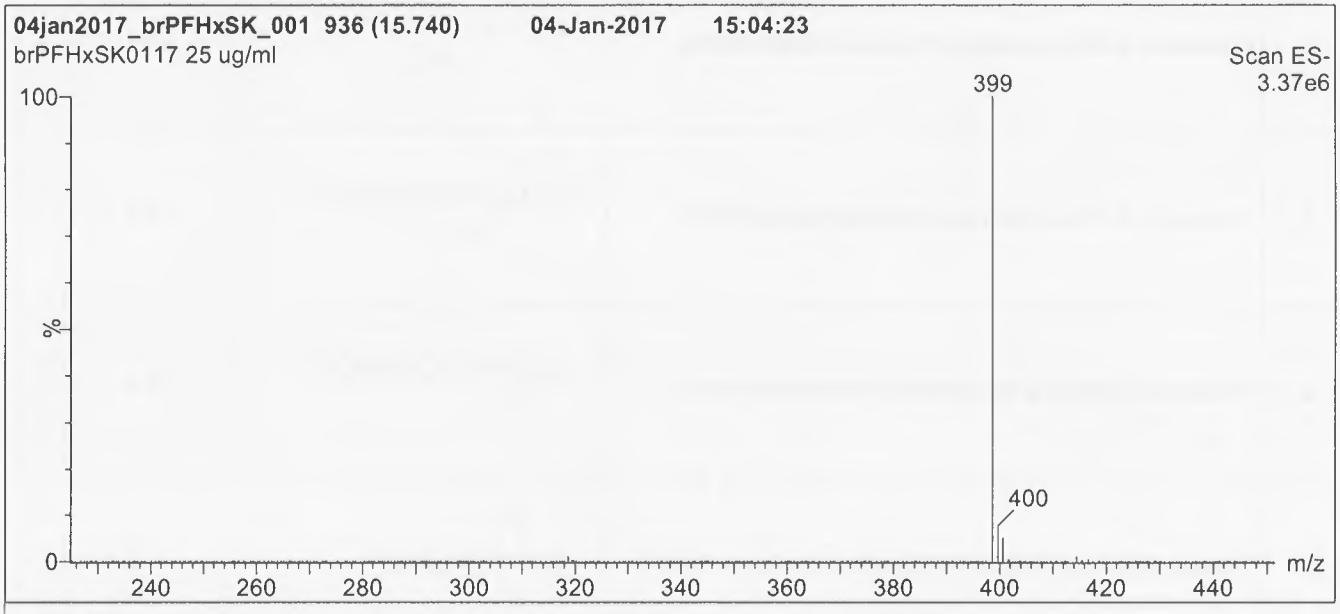
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3C(CF_3)_2CF_2CF_2SO_3^-K^+$	0.2
7	Other Unidentified Isomers		0.5

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

Certified By: B.G. Chittim **Date:** 01/20/2017 (mm/dd/yyyy)

Figure 1: **br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 14 min. Ramp to 90% organic over 3 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 20 min

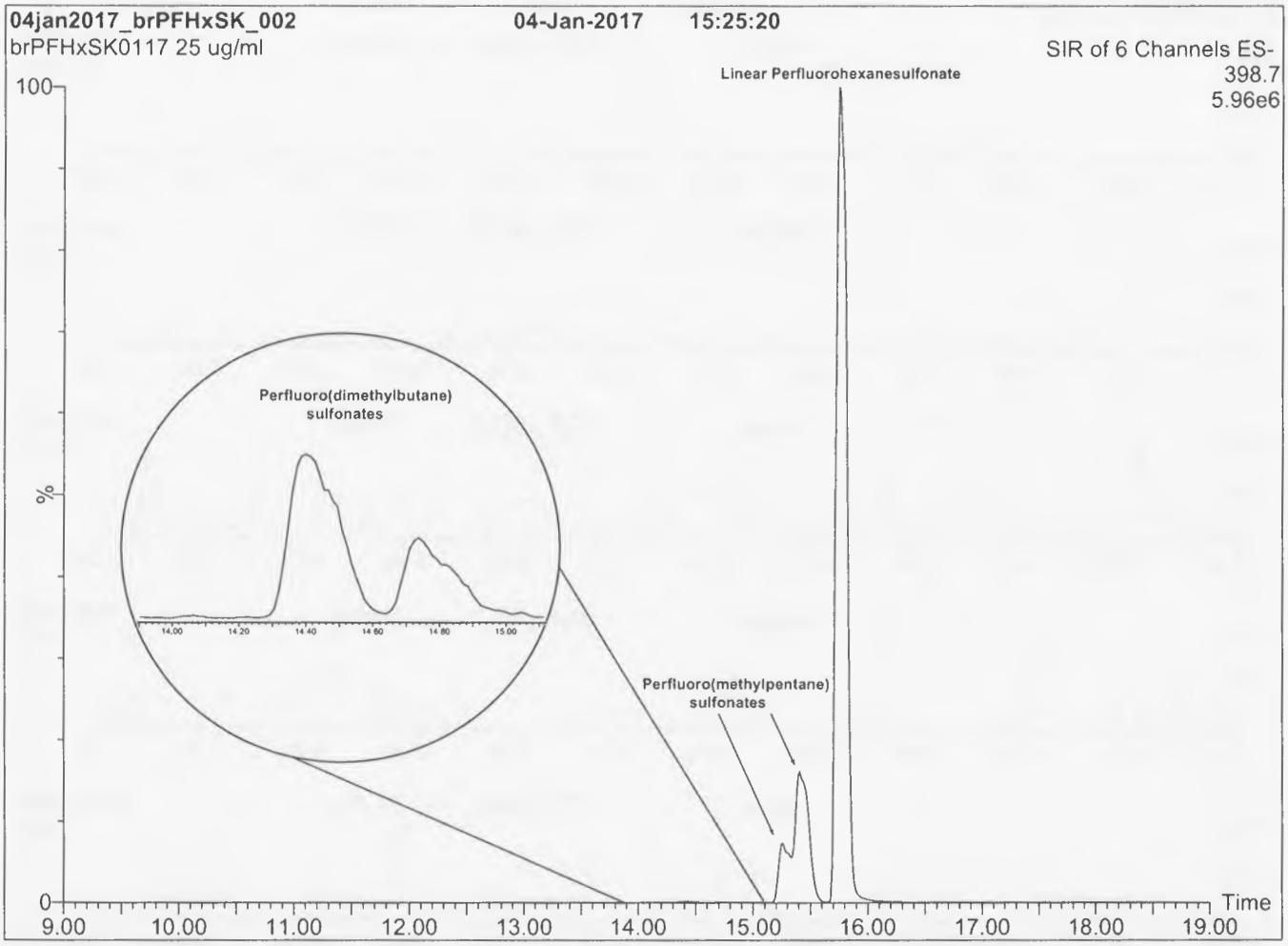
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 50.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-PFHxSK; LC/MS Data (SIR)**



Conditions for Figure 2:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 14 min. Ramp to 90% organic over 3 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 20 min

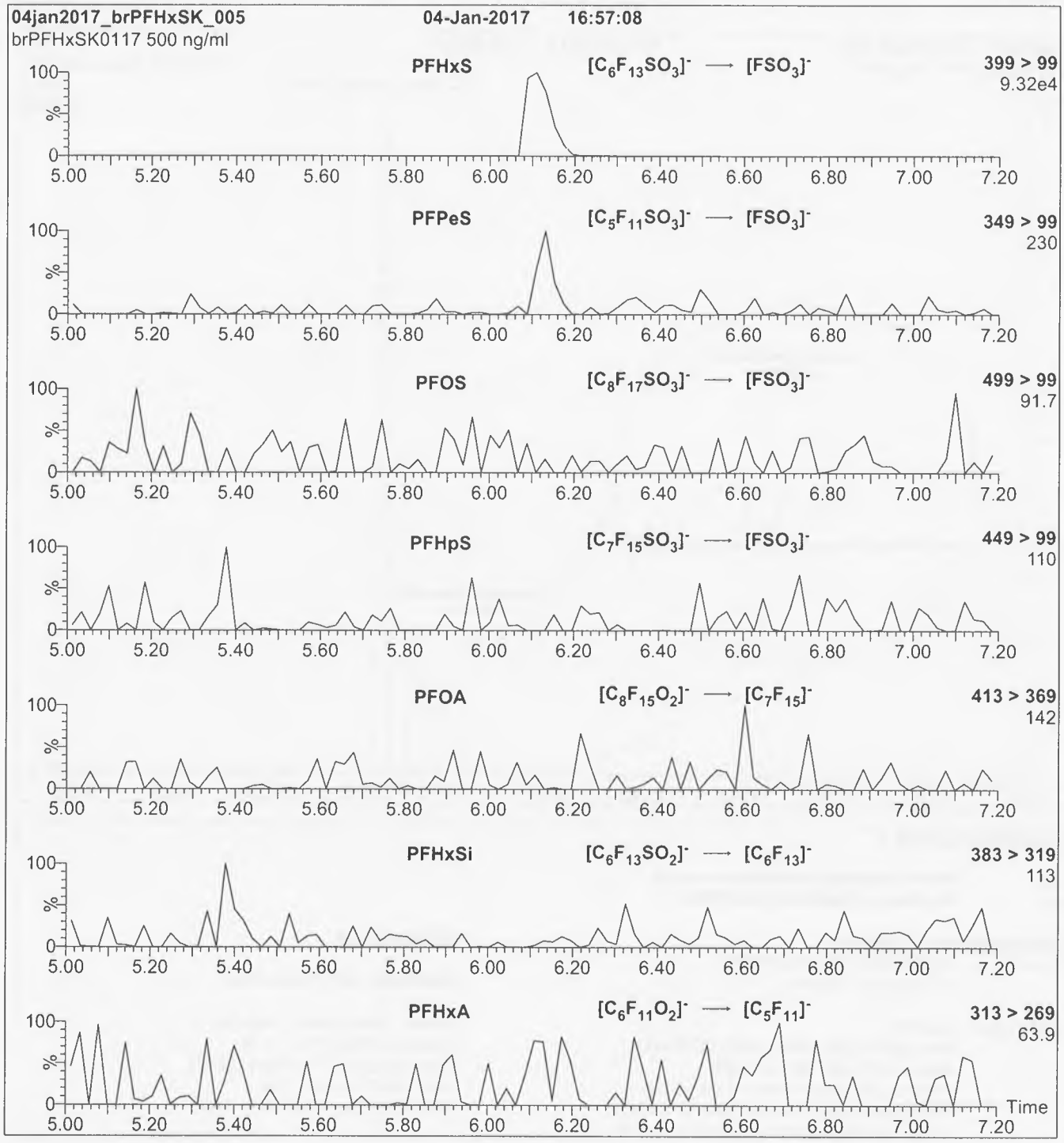
Flow: 300 µl/min

MS Parameters

Experiment: SIR (6 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = variable (15-62)
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: Direct loop injection
10 µl (500 ng/ml br-PFHxSK)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 30

BATTELLE

It can be done

BDO Id: 180618-07

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	Branched PFOS Standard (50 µg/mL	**Received:**	6/18/2018
Vendor:	Wellington Laboratories	**Custodian:**	Thorn, Jonathan
Catalogue No:	br-PFOSK	**Expires:**	1/12/2022
Type:	Solution	**Consumed:**	
Lot No:	brPFOSK0117	**Stored In:**	Sample Preparation - C0103
Quantity:	1 ea mL **% Moisture:** 0		
Description:	Branched PFOS Standard (50 µg/mL)		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:

Notes:

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

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

180618-07

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0117
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	01/09/2017
LAST TESTED: (mm/dd/yyyy)	01/12/2017
EXPIRY DATE: (mm/dd/yyyy)	01/12/2022
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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 are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

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,...x_n on which it depends is:

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

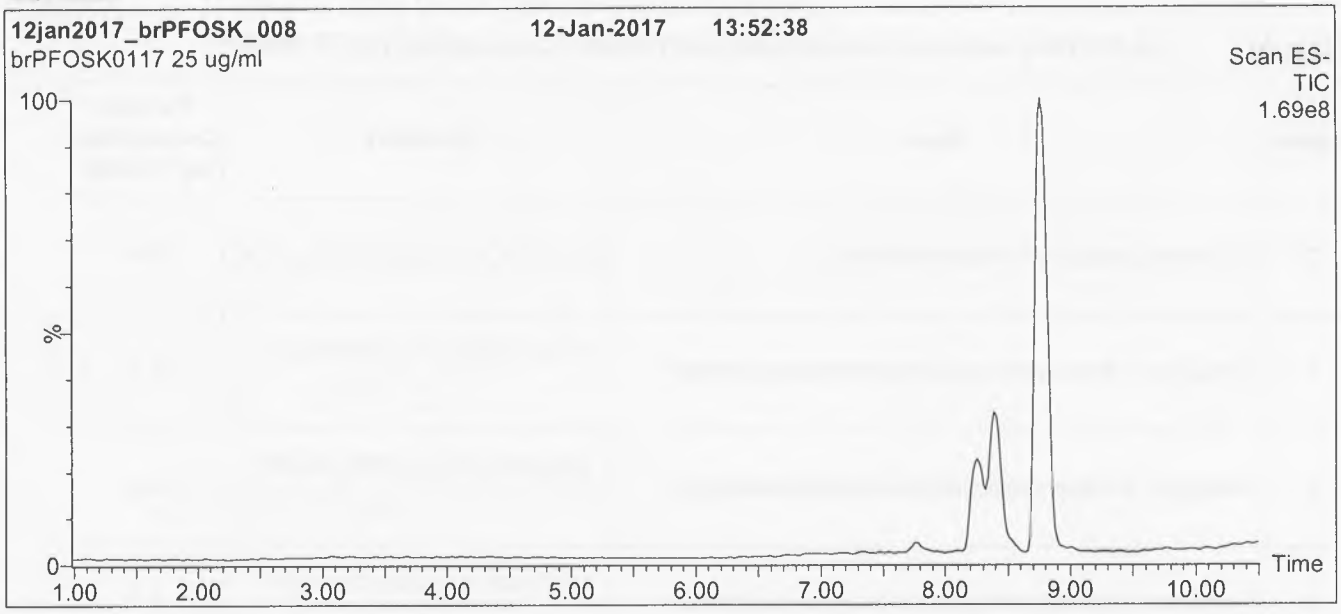
Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

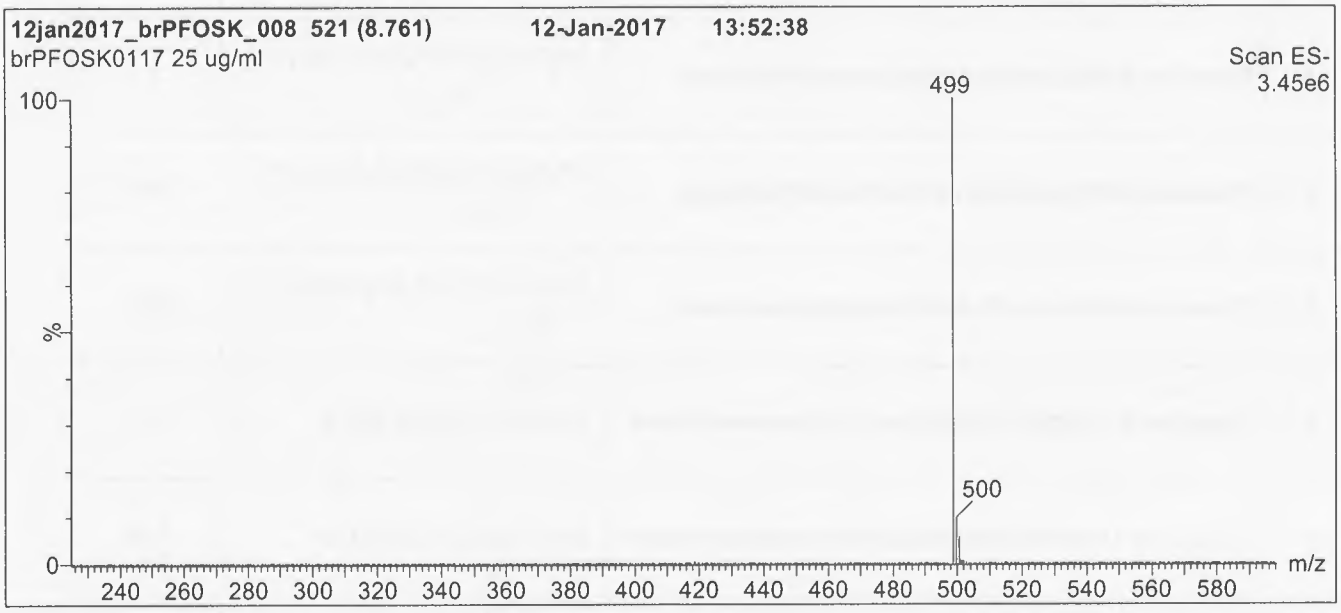
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)CF_2CF_2CF_2SO_3^-K^+$	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2SO_3^-K^+$	0.07

* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By: B.G. Chittim **Date:** 01/20/2017 (mm/dd/yyyy)

Figure 1: **br-PFOSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 12 min and hold for 2 min.
Return to initial conditions over 0.5 min.
Time: 16 min

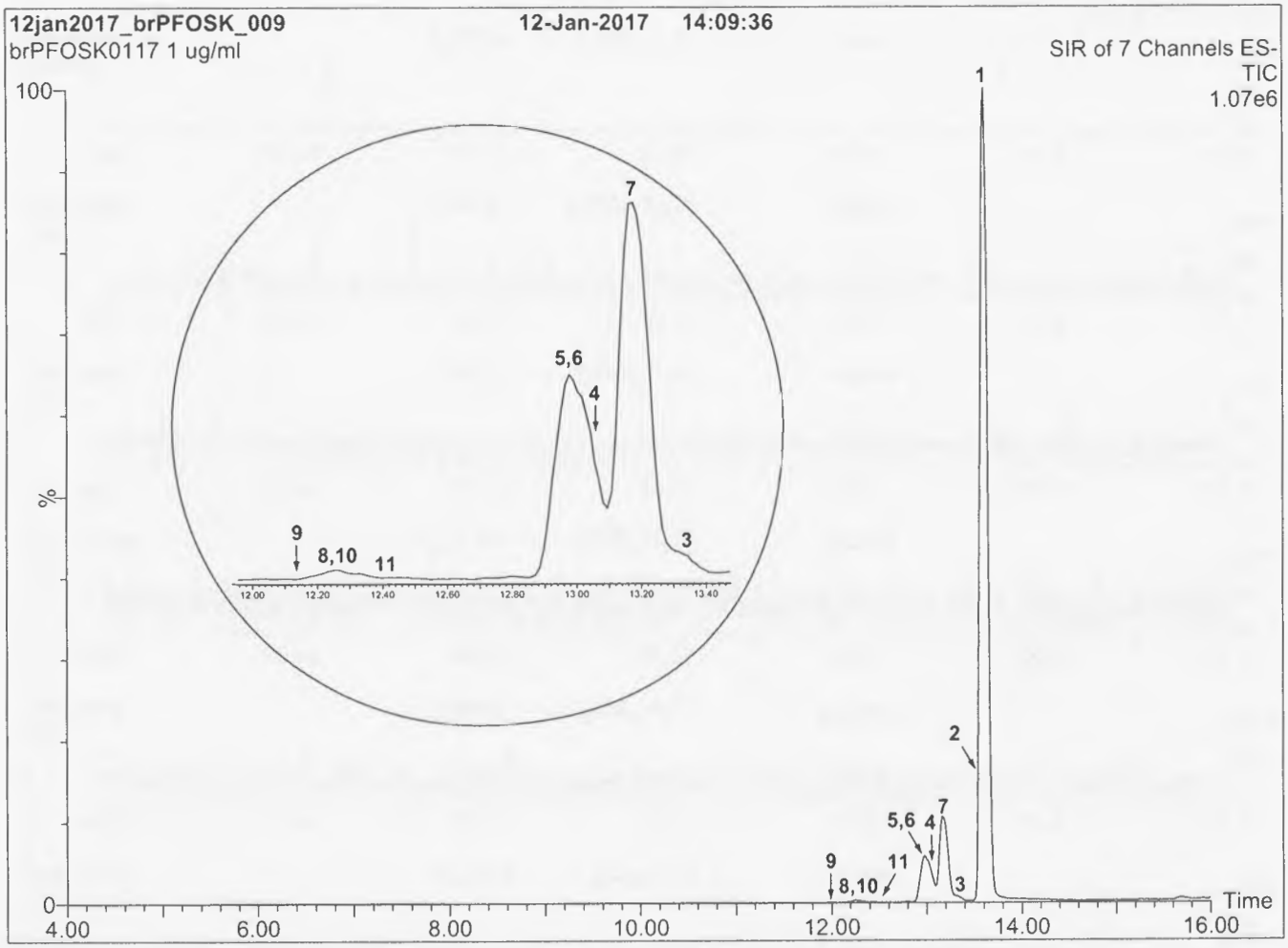
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-PFOSK; LC/MS Data (SIR)**



Conditions for Figure 2:

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

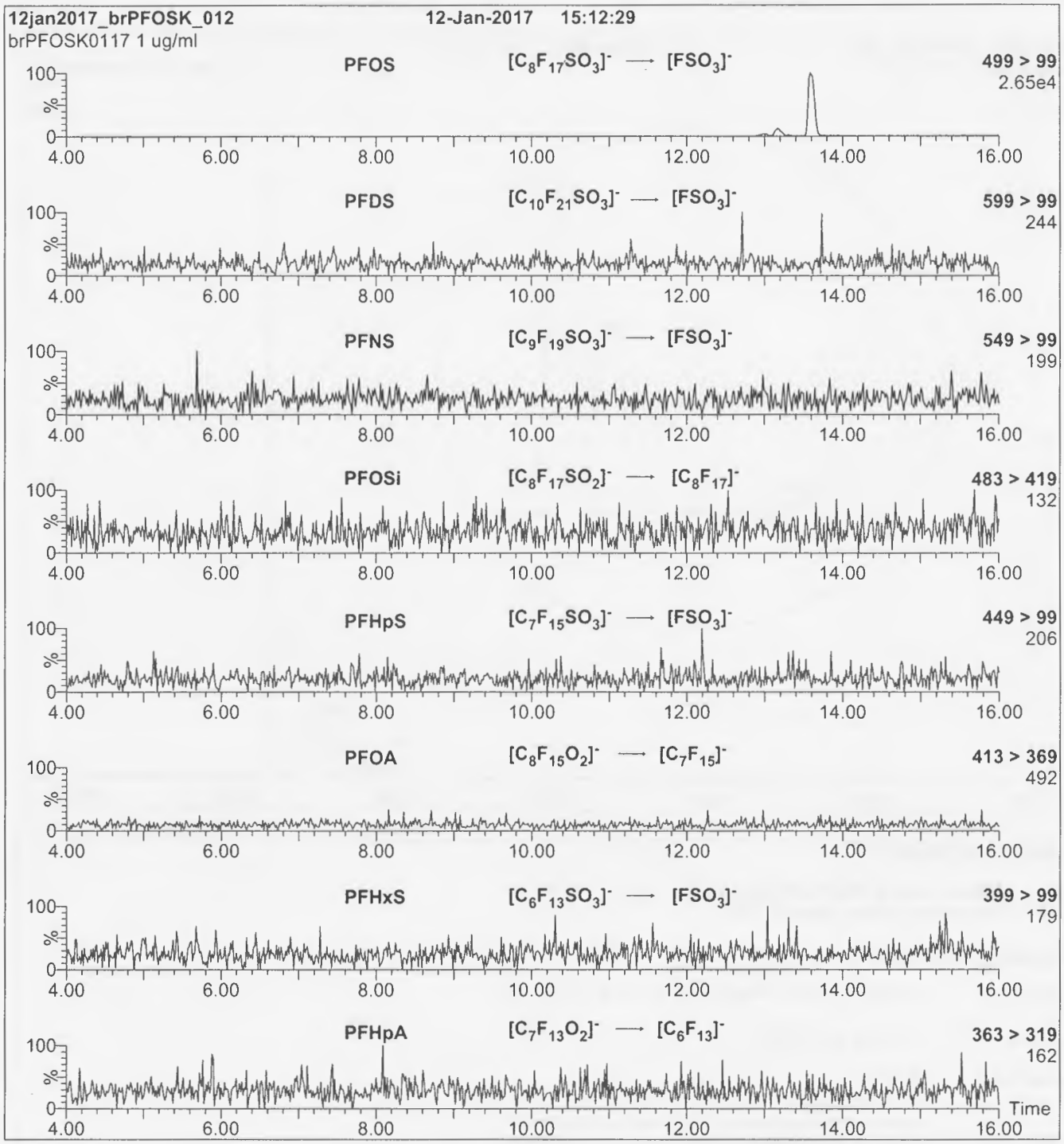
Chromatographic Conditions:

Column:	Acquity UPLC BEH Shield RP_{18} (1.7 µm, 2.1 x 100 mm)
Injection:	1.0 µg/ml of br-PFOSK
Mobile Phase:	Gradient 45% (80:20 MeOH:ACN) / 55% H_2O (both with 10 mM NH_4OAc buffer) Ramp to 90% organic over 15 min and hold for 3 min. Return to initial conditions over 1 min. Time: 20 min
Flow:	300 µl/min

MS Conditions:

SIR (ES-)
Source = 110 °C
Desolvation = 325 °C
Cone Voltage = 60V

Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 11-50 (variable)

CERTIFIED WEIGHT REPORT

180705-02

Part Number:	99207
Lot Number:	061918
Description:	PFOA - DOD
	24 components
Expiration Date:	061923
Recommended Storage:	Freezer (0 °C)
Nominal Concentration (µg/mL):	1.0
NIST Test ID#:	2684186

Solvent(s):	Lot#	
Methanol (1 mM KOH)	061918	(98%)
2-Propanol	23214	(2%)

5E-05 Balance Uncertainty

Volume(s) shown below were combined and diluted to (mL): 50.0 0.007 Flask Uncertainty

Formulated By:	Mario Luis	061918 DATE
Reviewed By:	Pedro L. Rentas	061918 DATE

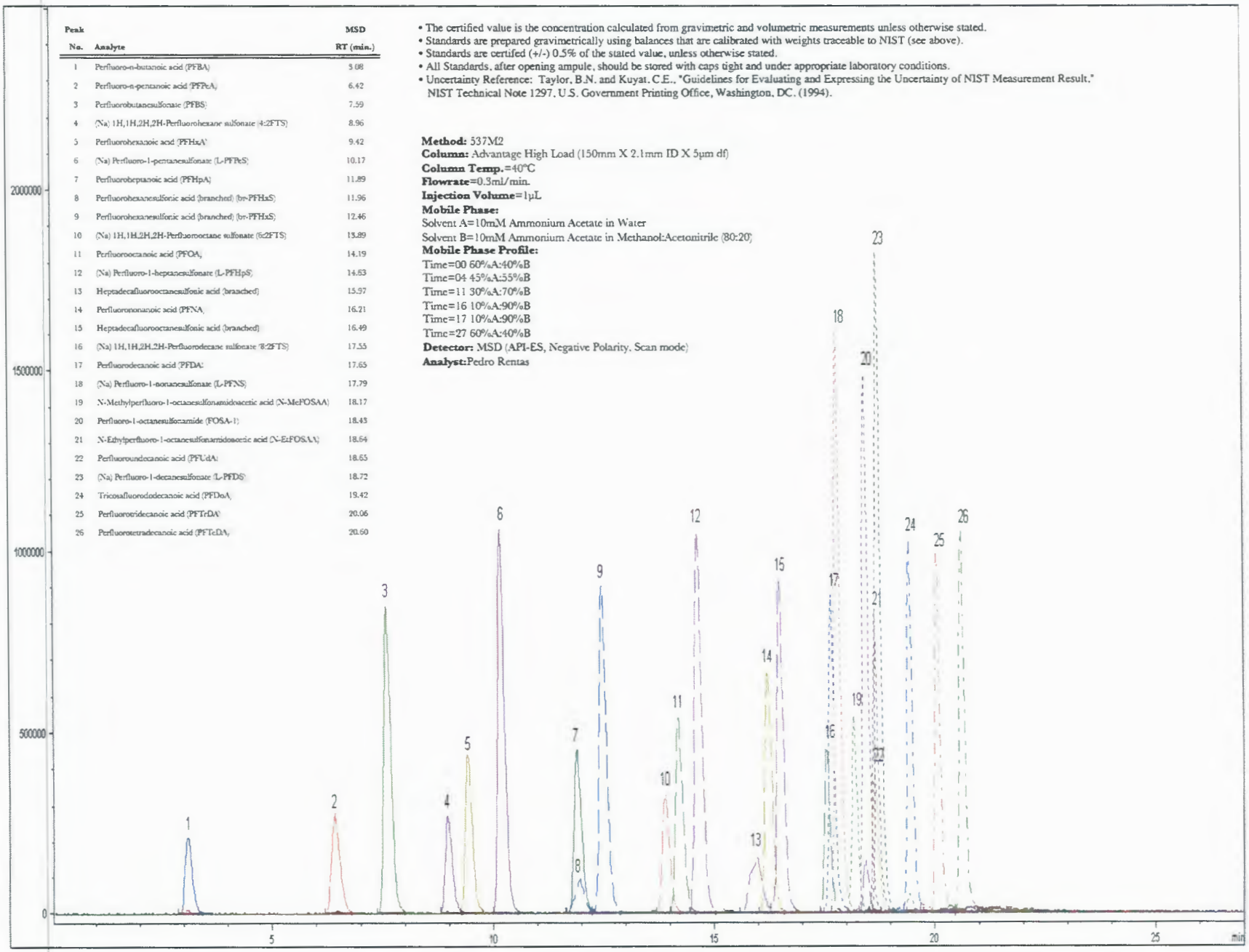
Note: All assigned values are anion concentrations.

	Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1.	Perfluoro-n-butanoic acid (linear)	99542	110317	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2.	Perfluoro-n-pentanoic acid	99543	110317	0.02	1.00	0.004	50.7	1.01	0.01	2706-90-3	N/A	N/A
3.	Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4.	Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5.	Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6.	Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7.	Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	orl-rat 57mg/kg
8.	Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9.	Tricosafluorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10.	Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11.	Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12.	Perfluoro-1-octanesulfonamide	3677	FOSA0817I	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	NMeFOSAA0118	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	NEtFOSAA0118	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-pentanesulfonate	99544	111017	0.02	0.98	0.004	51.3	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	LPFNS0917	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

Peak No.	Analyte	MSD RT (min.)
1	Perfluoro-n-butanoic acid (PFBA)	3.08
2	Perfluoro-n-pentanoic acid (PFPeA)	6.42
3	Perfluorobutanesulfonate (PFBS)	7.59
4	(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate (4:2FTS)	8.96
5	Perfluorohexanoic acid (PFHxA)	9.42
6	(Na) Perfluoro-1-pentanesulfonate (L-PFPeS)	10.17
7	Perfluoroheptanoic acid (PFHpA)	11.89
8	Perfluorohexanesulfonic acid (branched) (br-PFHxS)	11.96
9	Perfluorohexanesulfonic acid (branched) (br-PFHxS)	12.46
10	(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate (6:2FTS)	13.89
11	Perfluorooctanoic acid (PFOA)	14.19
12	(Na) Perfluoro-1-heptanesulfonate (L-PFHpS)	14.63
13	Heptadecafluorooctanesulfonic acid (branched)	15.97
14	Perfluorononanoic acid (PFNA)	16.21
15	Heptadecafluorooctanesulfonic acid (branched)	16.49
16	(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate (8:2FTS)	17.55
17	Perfluorodecanoic acid (PFDA)	17.65
18	(Na) Perfluoro-1-nonanesulfonate (L-PFNS)	17.79
19	N-Methylperfluoro-1-octanesulfonamidoacetic acid (N-MeFOSAA)	18.17
20	Perfluoro-1-octanesulfonamide (FOSA-1)	18.43
21	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (N-EtFOSAA)	18.64
22	Perfluoroundecanoic acid (PFUdA)	18.65
23	(Na) Perfluoro-1-decanesulfonate (L-PFDS)	18.72
24	Tricosafluorododecanoic acid (PFDoA)	19.42
25	Perfluorotridecanoic acid (PFTrDA)	20.06
26	Perfluorotetradecanoic acid (PFTeDA)	20.60

- 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).

Method: 537M2
Column: Advantage High Load (150mm X 2.1mm ID X 5µm df)
Column Temp.=40°C
Flowrate=0.3ml/min.
Injection Volume=1µL
Mobile Phase:
Solvent A=10mM Ammonium Acetate in Water
Solvent B=10mM Ammonium Acetate in Methanol:Acetonitrile (80:20)
Mobile Phase Profile:
Time=00 60%A:40%B
Time=04 45%A:55%B
Time=11 30%A:70%B
Time=16 10%A:90%B
Time=17 10%A:90%B
Time=27 60%A:40%B
Detector: MSD (API-ES, Negative Polarity, Scan mode)
Analyst: Pedro Rentas



BATTELLE

It can be done

BDO Id: 180726-04

Reagent Receipt Report

Approved: ☑ **Authorized** ☐

Name:	Mass-labelled PFAS injection standar	**Received:**	7/26/2018
Vendor:	Wellington Laboratories	**Custodian:**	Thorn, Jonathan
Catalogue No:	MPFAC-C-IS	**Expires:**	5/2/2022
Type:	Solution	**Consumed:**	
Lot No:	MPFACCIS0516	**Stored In:**	LC Laboratory - R0107
Quantity:	2 ea 1.2 mL **% Moisture:** 0		
Description:	Mass-labelled PFAS injection standards		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	2.0000	100.00	--	--	☐			
13C2-PFOA	BDO-2107	2.0000	100.00	--	--	☐			
13C3-PFBA	BDO-2231	2.0000	100.00	--	--	☐			
13C4-PFOS	BDO-2121	1.9140	100.00	--	--	☐			

Total Analytes: 4

Notes:

Approved by: Lizotte Jr, Robert **Approved on:** 7/27/2018 11:10:00 AM

Authorized by: **Authorized on:**

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-C-IS

Mass-Labelled Perfluorinated Compound Injection Standards Solution

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

DESCRIPTION:

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

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

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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:

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UNCERTAINTY:

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

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

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

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

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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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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

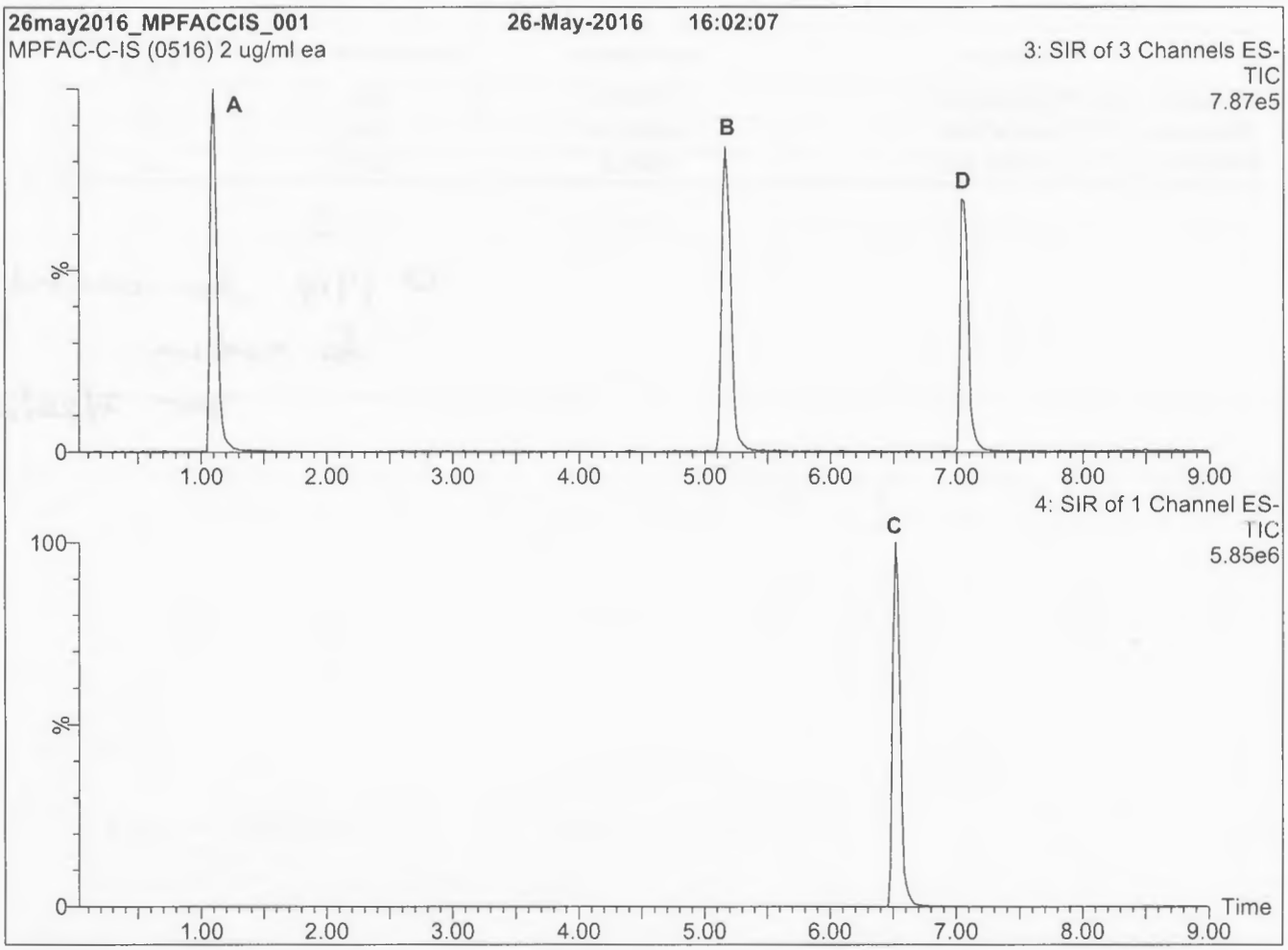
Table A: **MPFAC-C-IS; Components and Concentrations (ng/ml; ± 5% in Methanol / Water (<1%))**

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

① 1914 when corrected for sodium
JMS 7/26/2017

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

Figure 1: **MPFAC-C-IS; LC/MS Data (Total Ion Current Chromatogram; SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min
and hold for 2 min before returning
to initial conditions in 1 min.
Time: 12 min

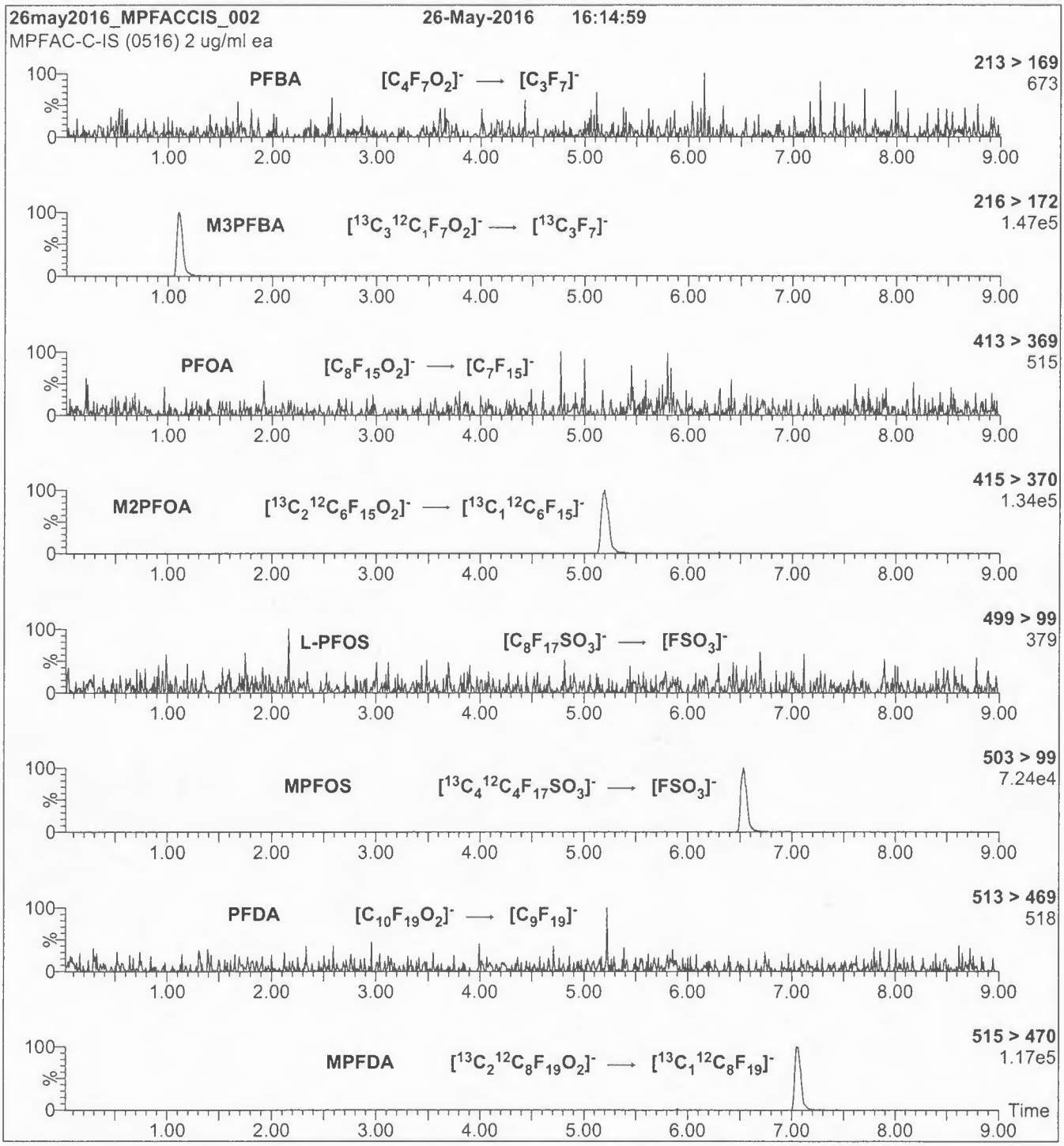
Flow: 300 µl/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (10-80)
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFAC-C-IS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFAC-C-IS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3

Collision Energy (eV) = 8-50 (variable)

BATTELLE

It can be done

BDO Id: 180726-05

Reagent Receipt Report

Approved: ☑ Authorized ☐

Name: Mass-labelled PFAS Extraction Stand
Vendor: Wellington Laboratories
Catalogue No: MPFAC-24ES
Type: Solution
Lot No: MPFAC24ES0218
Quantity: 2 ea 1.2 mL **% Moisture:** 0
Description: Mass-labelled PFAS Extraction Standard Solution

Received: 7/26/2018
Custodian: Thorn, Jonathan
Expires: 2/7/2023
Consumed:
Stored In: LC Laboratory - R0107

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C2-4:2FTS	BDO-2229	0.9350	100.00	--	--	☐			
13C2-6:2FTS	BDO-2230	0.9490	100.00	--	--	☐			
13C2-8:2FTS	BDO-2220	0.9580	100.00	--	--	☐			
13C2-PFDoA	BDO-2112	1.0000	100.00	--	--	☐			
13C2-PFTeDA	BDO-2224	1.0000	100.00	--	--	☐			
13C3-PFBS	BDO-2226	0.9290	100.00	--	--	☐			
13C3-PFHxS	BDO-2227	0.9460	100.00	--	--	☐			
13C4-PFBA	BDO-2105	1.0000	100.00	--	--	☐			
13C4-PFHpA	BDO-2218	1.0000	100.00	--	--	☐			
13C5-PFHxA	BDO-2217	1.0000	100.00	--	--	☐			
13C5-PFPeA	BDO-2216	1.0000	100.00	--	--	☐			
13C6-PFDA	BDO-2222	1.0000	100.00	--	--	☐			
13C7-PFUnA	BDO-2223	1.0000	100.00	--	--	☐			
13C8-FOSA	BDO-2225	1.0000	100.00	--	--	☐			
13C8-PFOA	BDO-2219	1.0000	100.00	--	--	☐			
13C8-PFOS	BDO-2228	0.9570	100.00	--	--	☐			
13C9-PFNA	BDO-2221	1.0000	100.00	--	--	☐			
d3-MeFOSAA	BDO-1838	1.0000	100.00	--	--	☐			
d5-EtFOSAA	BDO-1839	1.0000	100.00	--	--	☐			

Total Analytes: 19

Notes:

Approved by: Lizotte Jr, Robert **Approved on:** 7/27/2018 11:10:00 AM
Authorized by: **Authorized on:**

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

MPFAC-24ES

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

PRODUCT CODE:	MPFAC-24ES
LOT NUMBER:	MPFAC24ES0218
SOLVENT(S):	Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	02/07/2018
LAST TESTED: (mm/dd/yyyy)	02/07/2018
EXPIRY DATE: (mm/dd/yyyy)	02/07/2023
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

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

The individual mass-labelled perfluoroalkylcarboxylic acids, mass-labelled perfluoroalkylsulfonates, mass-labelled telomer sulfonates, and perfluoro-1-[$^{13}C_8$]octanesulfonamide all have chemical purities of >98% and isotopic purities of ≥99%. The individual mass-labelled perfluorooctanesulfonamidoacetic acids all have chemical purities of >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED 3070 REFERENCE MATERIAL PRODUCER

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

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

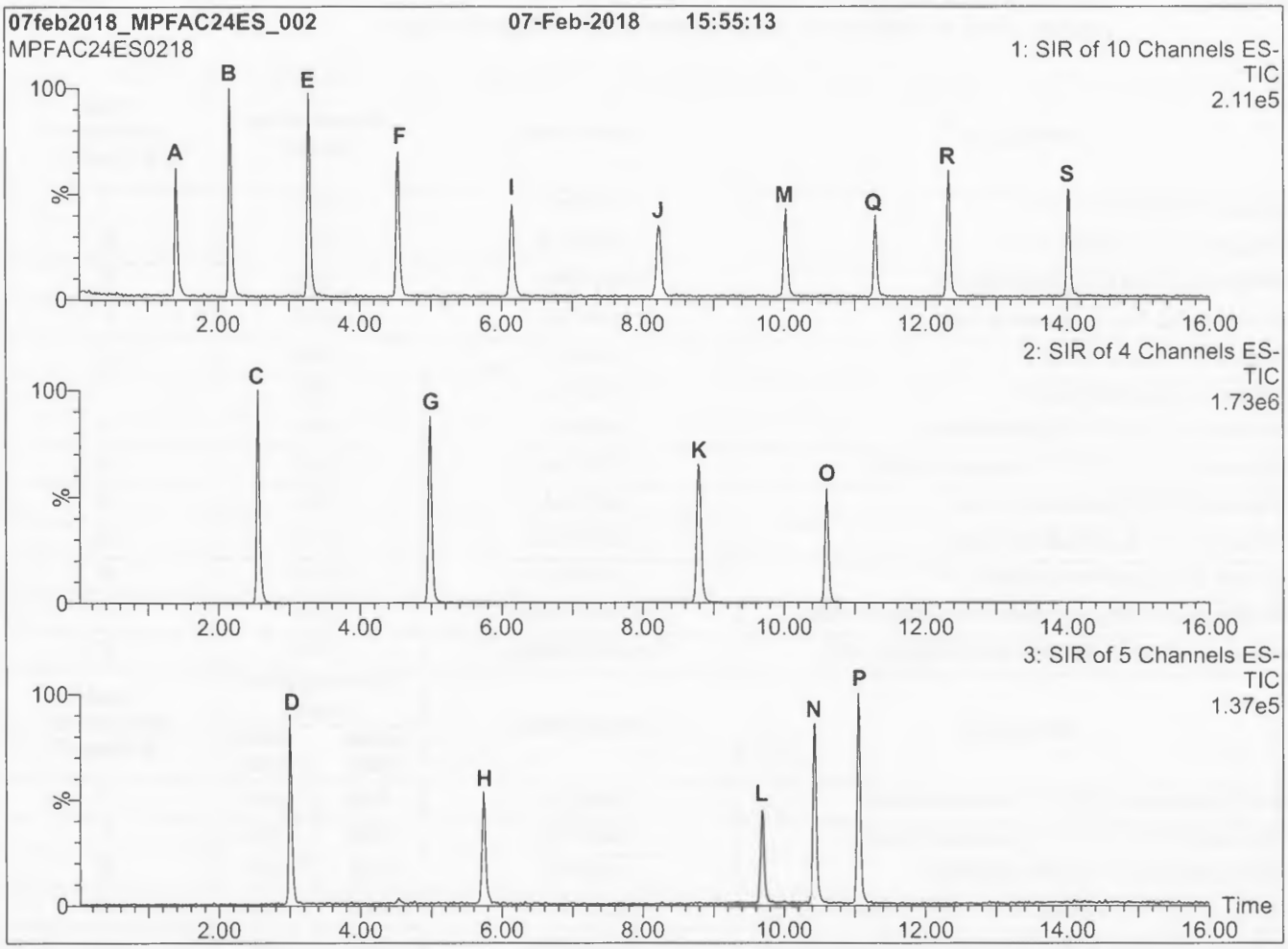
Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[$^{13}C_4$]butanoic acid	MPFBA	1000	A
Perfluoro-n-[$^{13}C_5$]pentanoic acid	M5PFPeA	1000	B
Perfluoro-n-[1,2,3,4,6-$^{13}C_5$]hexanoic acid	M5PFHxA	1000	E
Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid	M4PFHpA	1000	F
Perfluoro-n-[$^{13}C_8$]octanoic acid	M8PFOA	1000	I
Perfluoro-n-[$^{13}C_9$]nonanoic acid	M9PFNA	1000	J
Perfluoro-n-[1,2,3,4,5,6-$^{13}C_6$]decanoic acid	M6PFDA	1000	M
Perfluoro-n-[1,2,3,4,5,6,7-$^{13}C_7$]undecanoic acid	M7PFUdA	1000	Q
Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid	MPFDoA	1000	R
Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid	M2PFTeDA	1000	S
Perfluoro-1-[$^{13}C_8$]octanesulfonamide	M8FOSA	1000	O
N-methyl-d_3-perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000	N
N-ethyl-d_5-perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000	P

Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Sodium perfluoro-1-[2,3,4-$^{13}C_3$]butanesulfonate	M3PFBS	1000	929	C
Sodium perfluoro-1-[1,2,3-$^{13}C_3$]hexanesulfonate	M3PFHxS	1000	946	G
Sodium perfluoro-1-[$^{13}C_8$]octanesulfonate	M8PFOS	1000	957	K
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-$^{13}C_2$]hexanesulfonate	M2-4:2FTS	1000	935	D
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-$^{13}C_2$]octanesulfonate	M2-6:2FTS	1000	949	H
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-$^{13}C_2$]decanesulfonate	M2-8:2FTS	1000	958	L

Certified By: _____ **Date:** 02/09/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **MPFAC-24ES; LC/MS Data (Total Ion Current Chromatogram; SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc 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 µl/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = variable (10-60)
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**

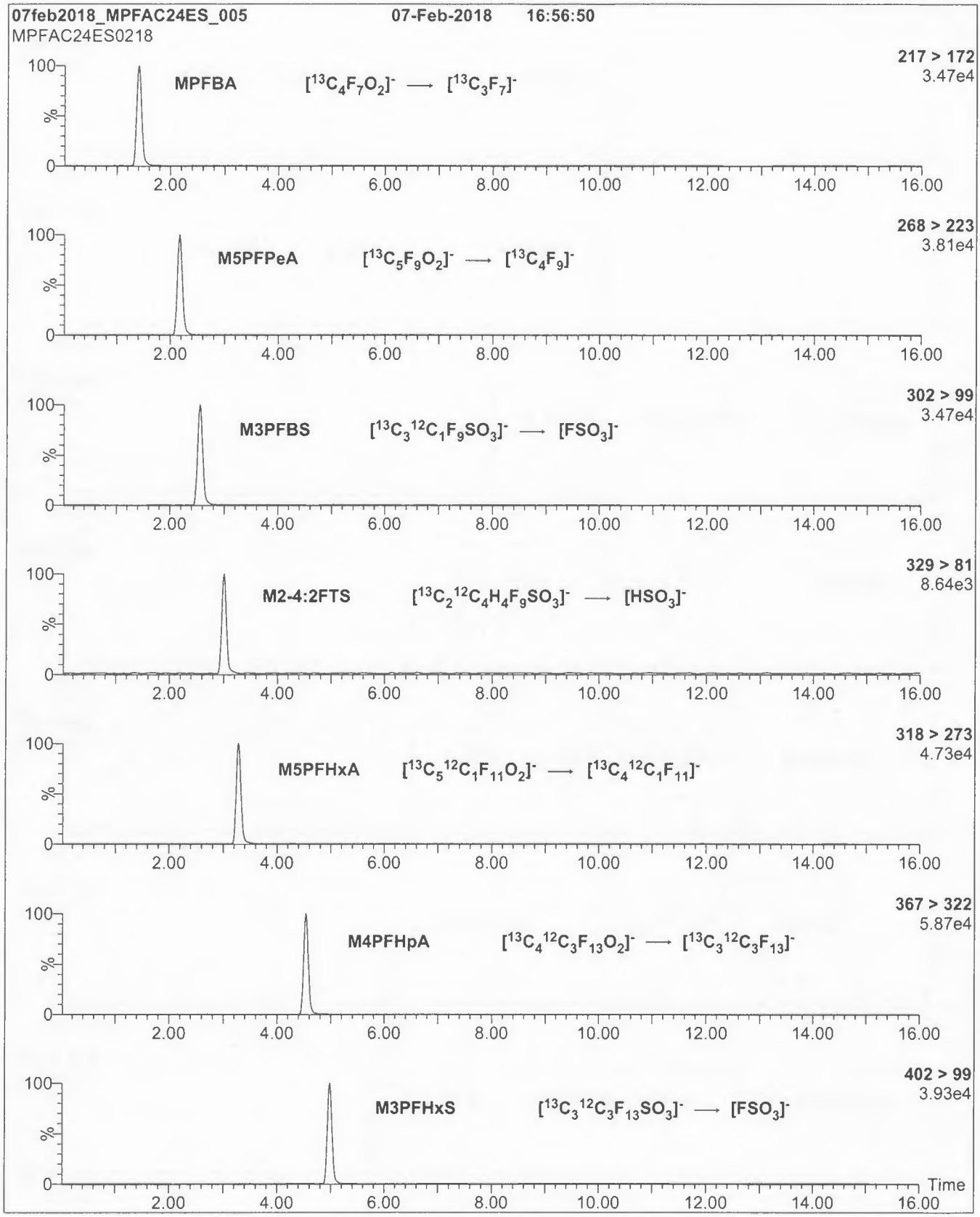


Figure 2: **MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**

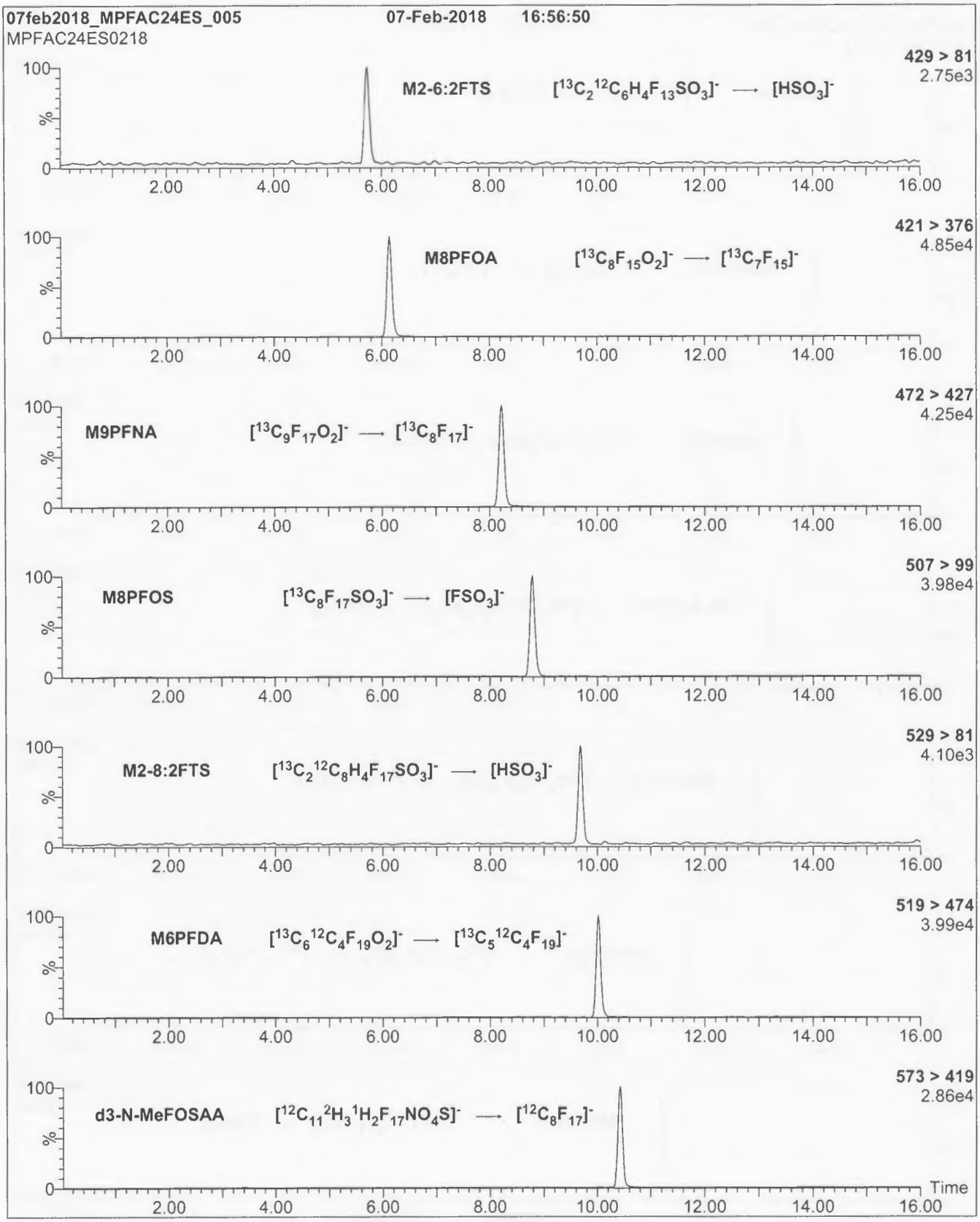
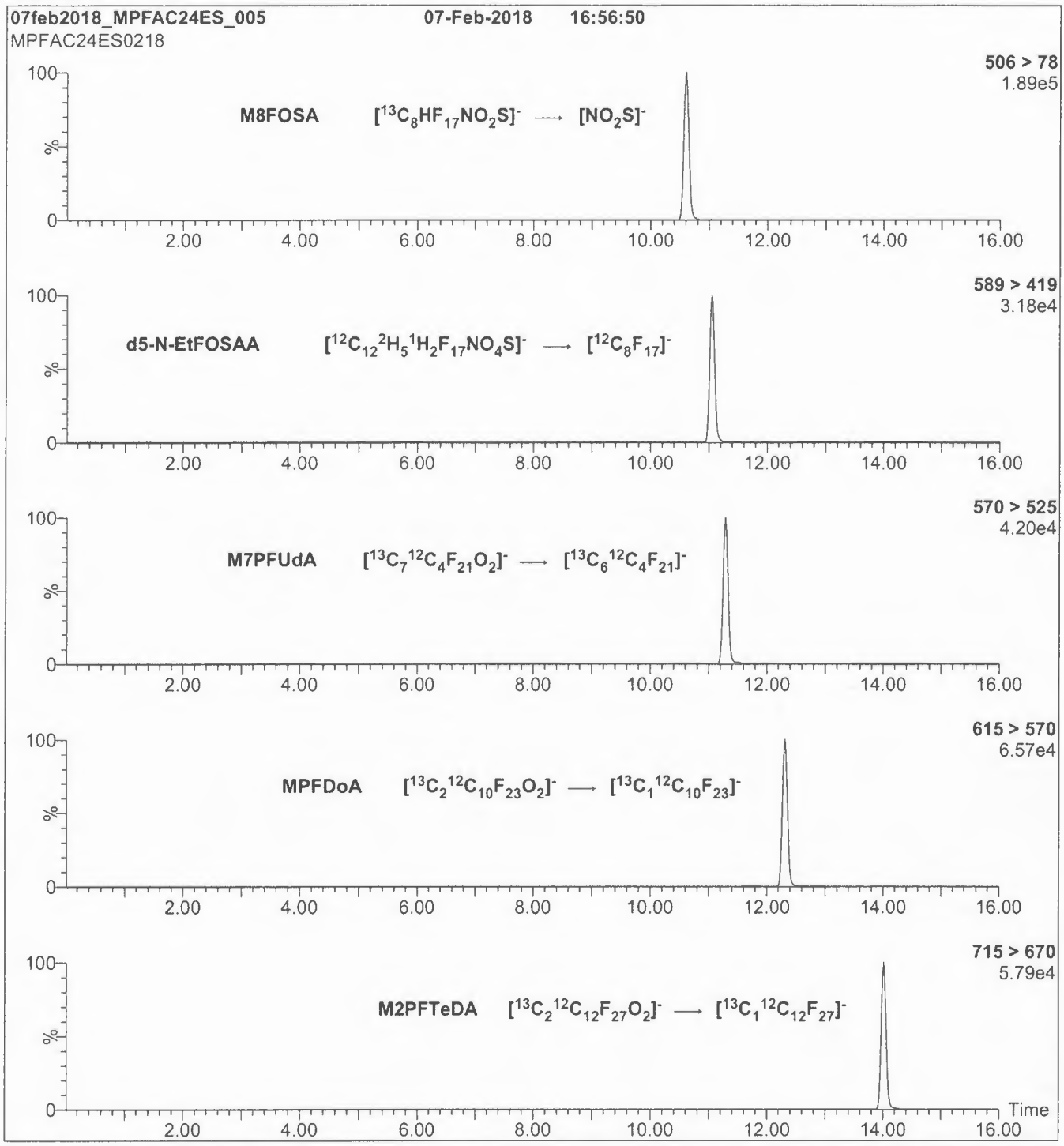


Figure 2: **MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFAC-24ES)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3

Collision Energy (eV) = 8-40 (variable)

Sample Preparation

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS

Project Title(s)	**Project No.(s)**
PFAS Analytical work	100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:	
CS035PB-FS	J9045-FS
CS036LCS-FS	J9046-FS
J9041-FS	J9047-FS
J9042-FS	J9048-FS
J9043-FS	
J9044-FS	

Laboratory Preparation Records

COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID	Description
CS035PB-FS	Procedural Blank
CS036LCS-FS	Laboratory Control Sample
J9041-FS	04GW10R101818
J9042-FS	04GW15101818
J9043-FS	04FRB101818
J9044-FS	04GW28101818
J9045-FS	04GWGP101818
J9046-FS	03GW34101818
J9047-FS	03FRB101818
J9048-FS	03GW19101818

Samples Assigned By: Jonathan Thorn Date : October 19, 2018

Comments:

BATTELLE
It can be done

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SAMPLE CUSTODY LOG

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Requested On/By:	10/24/2018 SAS	**Purpose:**	Sample Preparation
Relinquished On/By:	10/24/2018 MDS	**Last Activity:**	Transfer

Accepted On/By:	10/24/2018 SAS	**Returned On/To:**	
Stored In Facility:	Sample Preparation	**Returned To Facility:**	
Stored Until	10/24/2018		
Stored Comment:	NA	**Returned Comment:**	NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J9041	1	C	Consumed	NA
2	J9042	1	C	Consumed	NA
3	J9043	1	C	Consumed	NA
4	J9044	1	C	Consumed	NA
5	J9045	1	C	Consumed	NA
6	J9046	1	C	Consumed	NA
7	J9047	1	C	Consumed	NA
8	J9048	1	C	Consumed	NA

Total Samples 8 * "C" = Consumed Container

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
LIQUID SAMPLE ID FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CS035PB-FS	Procedural Blank	250.0	NA	--	10/24/18 SAS
CS036LCS-FS	Laboratory Control Sample	250.0	NA	--	10/24/18 SAS
J9041-FS	04GW10R101818	290.0	1	C	10/24/18 AEK
J9042-FS	04GW15101818	290.0	1	C	10/24/18 AEK
J9043-FS	04FRB101818	260.0	1	C	10/24/18 AEK
J9044-FS	04GW28101818	290.0	1	C	10/24/18 AEK
J9045-FS	04GWGP101818	270.0	1	C	10/24/18 AEK
J9046-FS	03GW34101818	280.0	1	C	10/24/18 AEK
J9047-FS	03FRB101818	260.0	1	C	10/24/18 AEK
J9048-FS	03GW19101818	285.0	1	C	10/24/18 AEK

Comments:

Samples Assigned By Jonathan Thorn Date : October 19, 2018

* - "C" = Sample is Consumed

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
SURROGATE SPIKE FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CS035PB-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
CS036LCS-FS	KB82	LCS/MS	1	50	10/24/18 SAS	KB	NA
CS036LCS-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9041-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9042-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9043-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9044-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9045-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9046-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9047-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA
J9048-FS	KC19	SIS	1	50	10/24/18 SAS	KB	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KB82	Pipette	B814659662
KC19	Pipette	B814659662

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
SAMPLE EXTRACTION FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CS035PB-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
CS036LCS-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9041-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9042-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9043-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9044-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9045-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9046-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9047-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA
J9048-FS	10/24/18 SAS	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH3 in Methanol	RP-181024-1	10/24/18	SHBJ0412	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
0.4% NH3 in Methanol	RP-181024-1	10/24/18	182000	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
Pre-packed SPE Column	RP-181024-4	10/24/18	003537220A/ 0035	Pre-packed SPE Column	

Solvents/Reagents:

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

(N/A Fraction)

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution *	Date Spiked/ Spiked By	Witn'd By
CS035PB-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
CS036LCS-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9041-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9041-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9041-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB
J9042-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9042-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9042-FS-D(5)	954	46	KC52	50	1	1000	62.500	10/30/18 SAS	KB
J9043-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9044-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9044-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9044-FS-D(5)	954	46	KC52	50	1	1000	62.500	10/30/18 SAS	KB
J9045-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9045-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9045-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB
J9045-FS-D(7)	955	45	KC52	50	1	1000	500.000	10/30/18 SAS	KB
J9046-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9046-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9046-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB

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

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

(N/A Fraction)

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution *	Date Spiked/ Spiked By	Witn'd By
J9046-FS-D(7)	965	35	KC52	50	1	1000	166.667	10/30/18 SAS	KB
J9047-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9048-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9048-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9048-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KC19	Pipette	B814659662
KC52	Pipette	B814659662

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

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

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It can be done

BATTELLE - NORWELL OPERATIONS
EXTRACT SPIKE FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
J9041-FS-D(3)	5	KC19	SIS	1	40	0	0	10/30/18 SAS	KB
J9041-FS-D(5)	50	KC19	SIS	1	45	0	0	10/30/18 SAS	KB
J9042-FS-D(3)	5	KC19	SIS	1	40	0	0	10/30/18 SAS	KB
J9042-FS-D(5)	62.5	KC19	SIS	1	46	0	0	10/30/18 SAS	KB
J9044-FS-D(3)	5	KC19	SIS	1	40	0	0	10/30/18 SAS	KB
J9044-FS-D(5)	62.5	KC19	SIS	1	46	0	0	10/30/18 SAS	KB
J9045-FS-D(3)	5	KC19	SIS	1	40	0	0	10/30/18 SAS	KB
J9045-FS-D(5)	50	KC19	SIS	1	45	0	0	10/30/18 SAS	KB
J9045-FS-D(7)	500	KC19	SIS	1	45	0	0	10/30/18 SAS	KB
J9046-FS-D(3)	5	KC19	SIS	1	40	0	0	10/30/18 SAS	KB
J9046-FS-D(5)	50	KC19	SIS	1	45	0	0	10/30/18 SAS	KB
J9046-FS-D(7)	166.667	KC19	SIS	1	35	0	0	10/30/18 SAS	KB
J9048-FS-D(3)	5	KC19	SIS	1	40	0	0	10/30/18 SAS	KB
J9048-FS-D(5)	50	KC19	SIS	1	45	0	0	10/30/18 SAS	KB

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KC19	Pipette	B814659662
KC52	Pipette	B814659662

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It can be done

BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CS035PB-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
CS036LCS-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9041-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9041-FS	2	--	10/30/2018 9:26:00 AM	J9041-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9041-FS-D	3	C	10/30/2018 9:26:00 AM	J9041-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9041-FS-D	4	--	10/30/2018 9:31:00 AM	J9041-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9041-FS-D	5	--	10/30/2018 9:31:00 AM	J9041-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS
J9042-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9042-FS	2	--	10/30/2018 9:26:00 AM	J9042-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9042-FS-D	3	C	10/30/2018 9:26:00 AM	J9042-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9042-FS-D	4	--	10/30/2018 9:33:00 AM	J9042-FS-D	3	1000	920	1.087	5.435	10/30/18 SAS
J9042-FS-D	5	--	10/30/2018 9:33:00 AM	J9042-FS-D	3	1000	80	12.500	62.500	10/30/18 SAS
J9043-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9044-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J9044-FS	2	--	10/30/2018 9:26:00 AM	J9044-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9044-FS-D	3	C	10/30/2018 9:26:00 AM	J9044-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9044-FS-D	4	--	10/30/2018 9:34:00 AM	J9044-FS-D	3	1000	920	1.087	5.435	10/30/18 SAS
J9044-FS-D	5	--	10/30/2018 9:34:00 AM	J9044-FS-D	3	1000	80	12.500	62.500	10/30/18 SAS
J9045-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9045-FS	2	--	10/30/2018 9:26:00 AM	J9045-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9045-FS-D	3	C	10/30/2018 9:26:00 AM	J9045-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9045-FS-D	4	--	10/30/2018 9:37:00 AM	J9045-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9045-FS-D	5	C	10/30/2018 9:37:00 AM	J9045-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS
J9045-FS-D	6	--	10/30/2018 9:38:00 AM	J9045-FS-D	5	1000	900	1.111	55.556	10/30/18 SAS
J9045-FS-D	7	--	10/30/2018 9:38:00 AM	J9045-FS-D	5	1000	100	10.000	500.000	10/30/18 SAS
J9046-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9046-FS	2	--	10/30/2018 9:26:00 AM	J9046-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9046-FS-D	3	C	10/30/2018 9:26:00 AM	J9046-FS	0	1000	200	5.000	5.000	10/30/18 SAS

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J9046-FS-D	4	--	10/30/2018 9:39:00 AM	J9046-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9046-FS-D	5	C	10/30/2018 9:39:00 AM	J9046-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS
J9046-FS-D	6	--	10/30/2018 9:40:00 AM	J9046-FS-D	5	1000	700	1.429	71.429	10/30/18 SAS
J9046-FS-D	7	--	10/30/2018 9:40:00 AM	J9046-FS-D	5	1000	300	3.333	166.667	10/30/18 SAS
J9047-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9048-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9048-FS	2	--	10/30/2018 9:26:00 AM	J9048-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9048-FS-D	3	C	10/30/2018 9:26:00 AM	J9048-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9048-FS-D	4	--	10/30/2018 9:42:00 AM	J9048-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9048-FS-D	5	--	10/30/2018 9:42:00 AM	J9048-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS

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

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BATTELLE - NORWELL OPERATIONS
EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	Nov 1 2018 5:00PM KB	**Received On/By:**	Nov 1 2018 5:03PM 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	CS035PB-FS(0)	1000	1	Intact	NA
2	CS036LCS-FS(0)	1000	1	Intact	NA
3	J9041-FS(0)	1000	1	Intact	NA
4	J9041-FS-D(3)	1000	5	Intact	NA
5	J9041-FS-D(5)	1000	50	Intact	NA
6	J9042-FS(0)	1000	1	Intact	NA
7	J9042-FS-D(3)	1000	5	Intact	NA
8	J9042-FS-D(5)	1000	62.5	Intact	NA
9	J9043-FS(0)	1000	1	Intact	NA
10	J9044-FS(0)	1000	1	Intact	NA
11	J9044-FS-D(3)	1000	5	Intact	NA
12	J9044-FS-D(5)	1000	62.5	Intact	NA
13	J9045-FS(0)	1000	1	Intact	NA
14	J9045-FS-D(3)	1000	5	Intact	NA
15	J9045-FS-D(5)	1000	50	Intact	NA
16	J9045-FS-D(7)	1000	500	Intact	NA
17	J9046-FS(0)	1000	1	Intact	NA
18	J9046-FS-D(3)	1000	5	Intact	NA
19	J9046-FS-D(5)	1000	50	Intact	NA
20	J9046-FS-D(7)	1000	166.667	Intact	NA
21	J9047-FS(0)	1000	1	Intact	NA
22	J9048-FS(0)	1000	1	Intact	NA
23	J9048-FS-D(3)	1000	5	Intact	NA
24	J9048-FS-D(5)	1000	50	Intact	NA

Total Extracts: 24

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It can be done

BATTELLE - NORWELL OPERATIONS
SAMPLE SPECIFIC COMMENTS

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID:	Comment:	Date/Initials:
CS035PB-FS	Extraction started 10:05am, extraction block 1, ended at 11:05am	10/24/18 SAS
CS036LCS-FS	Extraction started 10:05am, extraction block 1, ended at 11:09am	10/24/18 SAS
J9041-FS	Sample had a sulfourous odor.	10/24/18 SAS
J9041-FS	Extraction started 10:05am, extraction block 1, ended at 10:59am	10/24/18 SAS
J9042-FS	Extraction started 10:05am, extraction block 1, ended at 11:16am	10/24/18 SAS
J9043-FS	Extraction started 10:05am, extraction block 1, ended at 11:09am	10/24/18 SAS
J9044-FS	Extraction started 10:05am, extraction block 1, ended at 11:40am	10/24/18 SAS
J9045-FS	Extraction started 10:05am, extraction block 1, ended at 11:15am	10/24/18 SAS
J9046-FS	Extraction started 10:05am, extraction block 1, ended at 11:14am	10/24/18 SAS
J9047-FS	Extraction started 10:05am, extraction block 1, ended at 11:06am	10/24/18 SAS
J9048-FS	Extraction started 10:05am, extraction block 1, ended at 11:29am	10/24/18 SAS

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BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title(s)	**Project No.(s)**
PFAS Analytical work	100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Entered By:	**On:**

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

Analytical Calibrations

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/11/2018 10:00:23 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
~~1~~	~~MeOH~~		~~11/1/2018 6:31:25 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~2~~	~~KB77~~		~~11/1/2018 6:42:18 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~3~~	~~KA30~~	~~L1a~~	~~11/1/2018 6:53:10 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~4~~	~~KA31~~	~~L2b~~	~~11/1/2018 7:04:01 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
5	KB73	L1	11/1/2018 7:14:53 PM	5-0369.dam	AC_11012018_369.wiff
6	KB74	L2	11/1/2018 7:25:45 PM	5-0369.dam	AC_11012018_369.wiff
7	KB75	L3	11/1/2018 7:36:36 PM	5-0369.dam	AC_11012018_369.wiff
8	KB76	L4	11/1/2018 7:47:28 PM	5-0369.dam	AC_11012018_369.wiff
9	KB77	L5	11/1/2018 7:58:18 PM	5-0369.dam	AC_11012018_369.wiff
10	KB78	L6	11/1/2018 8:09:09 PM	5-0369.dam	AC_11012018_369.wiff
11	KB79	L7	11/1/2018 8:20:00 PM	5-0369.dam	AC_11012018_369.wiff
12	KC73 IB	Instrument Blank	11/1/2018 8:30:52 PM	5-0369.dam	AC_11012018_369.wiff
13	KB81 ICC	ICC	11/1/2018 8:41:44 PM	5-0369.dam	AC_11012018_369.wiff
14	KB89 Branched	Branch Standard	11/1/2018 8:52:35 PM	5-0369.dam	AC_11012018_369.wiff
~~15~~	~~CS084PB-FS(0)~~		~~11/1/2018 9:03:27 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~16~~	~~CS085LCS-FS(0)~~		~~11/1/2018 9:14:18 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~17~~	~~J9133-FS(0)~~		~~11/1/2018 9:25:10 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~18~~	~~J9133-FS-D(3)~~		~~11/1/2018 9:36:03 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~19~~	~~J9134-FS(0)~~		~~11/1/2018 9:46:54 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~20~~	~~J9134-FS-D(3)~~		~~11/1/2018 9:57:46 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~21~~	~~J9135-FS(0)~~		~~11/1/2018 10:08:38 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~22~~	~~J9135-FS-D(3)~~		~~11/1/2018 10:19:30 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~23~~	~~J9136-FS(0)~~		~~11/1/2018 10:30:22 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~24~~	~~J9136-FS-D(3)~~		~~11/1/2018 10:41:15 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~25~~	~~KB77 CCV~~	~~CCV~~	~~11/1/2018 10:52:07 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~26~~	~~MeOH~~		~~11/1/2018 11:02:57 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~27~~	~~J9137-FS(0)~~		~~11/1/2018 11:13:49~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~

1

2

1 Standards are not part of the calibration curve. DMS 11/6/2018

2 Samples from another batch not reported with this one. DMS 11/6/2018

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/11/2018 10:00:23 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File	
			PM			
~~28~~	~~J9137-FS-D(3)~~		~~11/1/2018 11:24:41 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~29~~	~~J9138-FS(0)~~		~~11/1/2018 11:35:34 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~30~~	~~J9138-FS-D(3)~~		~~11/1/2018 11:46:25 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~31~~	~~J9140-FS(0)~~		~~11/1/2018 11:57:18 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~32~~	~~J9140-FS-D(3)~~		~~11/2/2018 12:08:10 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~33~~	~~J9141-FS(0)~~		~~11/2/2018 12:19:02 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~34~~	~~J9141-FS-D(3)~~		~~11/2/2018 12:29:53 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~35~~	~~J9142-FS(0)~~		~~11/2/2018 12:40:44 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~36~~	~~J9142-FS-D(3)~~		~~11/2/2018 12:51:35 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~37~~	~~KB76 CCV~~	~~CCV~~	~~11/2/2018 1:02:26 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~38~~	~~MeOH~~		~~11/2/2018 1:13:18 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~39~~	~~J9139-FS-D(9)~~		~~11/2/2018 1:24:10 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~40~~	~~J9139-FS-D(7)~~		~~11/2/2018 1:35:01 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~41~~	~~J9139-FS-D(5)~~		~~11/2/2018 1:45:53 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~42~~	~~J9139-FS-D(3)~~		~~11/2/2018 1:56:45 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~43~~	~~MeOH~~		~~11/2/2018 2:07:36 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~44~~	~~MeOH~~		~~11/2/2018 2:18:28 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~45~~	~~J9139-FS(0)~~		~~11/2/2018 2:29:20 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~46~~	~~MeOH~~		~~11/2/2018 2:40:12 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~47~~	~~MeOH~~		~~11/2/2018 2:51:03 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
48	KB77 CCV	CCV	11/2/2018 3:01:54 AM	5-0369.dam	AC_11012018_369.wiff	
49	MeOH		11/2/2018 3:12:46 AM	5-0369.dam	AC_11012018_369.wiff	
1	CS035PB-FS(0)	Procedural Blank	11/2/2018 3:23:38 AM	5-0369.dam	AC_11012018_369.wiff	
2	CS036LCS-FS(0)	Laboratory Control Sample	11/2/2018 3:34:32 AM	5-0369.dam	AC_11012018_369.wiff	
3	J9041-FS(0)	04GW10R101818	11/2/2018 3:45:26 AM	5-0369.dam	AC_11012018_369.wiff	
~~4~~	~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/2018 3:56:19 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	2

1 Samples from another batch not reported with this one. DMS 11/6/2018

2 Dilution run but not needed. DMS 11/6/2018

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/11/2018 10:00:23 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File	
~~5~~	~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/2018 4:07:12 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
6	J9042-FS(0)	04GW15101818	11/2/2018 4:18:06 AM	5-0369.dam	AC_11012018_369.wiff	
~~7~~	~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/2018 4:28:58 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~8~~	~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/2018 4:39:51 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
9	J9043-FS(0)	04FRB101818	11/2/2018 4:50:43 AM	5-0369.dam	AC_11012018_369.wiff	
10	J9044-FS(0)	04GW28101818	11/2/2018 5:01:35 AM	5-0369.dam	AC_11012018_369.wiff	
11	KB76 CCV	CCV	11/2/2018 5:12:28 AM	5-0369.dam	AC_11012018_369.wiff	
12	MeOH		11/2/2018 5:23:21 AM	5-0369.dam	AC_11012018_369.wiff	
~~13~~	~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/2018 5:34:14 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~14~~	~~J9044-FS-D(5)~~	~~04GW28101818~~	~~11/2/2018 5:45:07 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
15	J9045-FS(0)	04GWGP1101818	11/2/2018 5:56:00 AM	5-0369.dam	AC_11012018_369.wiff	
~~16~~	~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/2018 6:06:53 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~17~~	~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/2018 6:17:45 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
~~18~~	~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/2018 6:28:38 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
19	J9046-FS(0)	03GW34101818	11/2/2018 6:39:30 AM	5-0369.dam	AC_11012018_369.wiff	
~~20~~	~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/2018 6:50:23 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
21	KB77 CCV	CCV	11/2/2018 7:01:16 AM	5-0369.dam	AC_11012018_369.wiff	
22	MeOH		11/2/2018 7:12:09 AM	5-0369.dam	AC_11012018_369.wiff	
~~23~~	~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/2018 7:23:02 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~24~~	~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/2018 7:33:55 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
25	J9047-FS(0)	03FRB101818	11/2/2018 7:44:47 AM	5-0369.dam	AC_11012018_369.wiff	
26	J9048-FS(0)	03GW19101818	11/2/2018 7:55:41 AM	5-0369.dam	AC_11012018_369.wiff	
~~27~~	~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/2018 8:06:34 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~28~~	~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/2018 8:17:27 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
29	KB76 CCV	CCV	11/2/2018 8:28:21 AM	5-0369.dam	AC_11012018_369.wiff	

1 Dilution run but not needed DMS 11/6/2018

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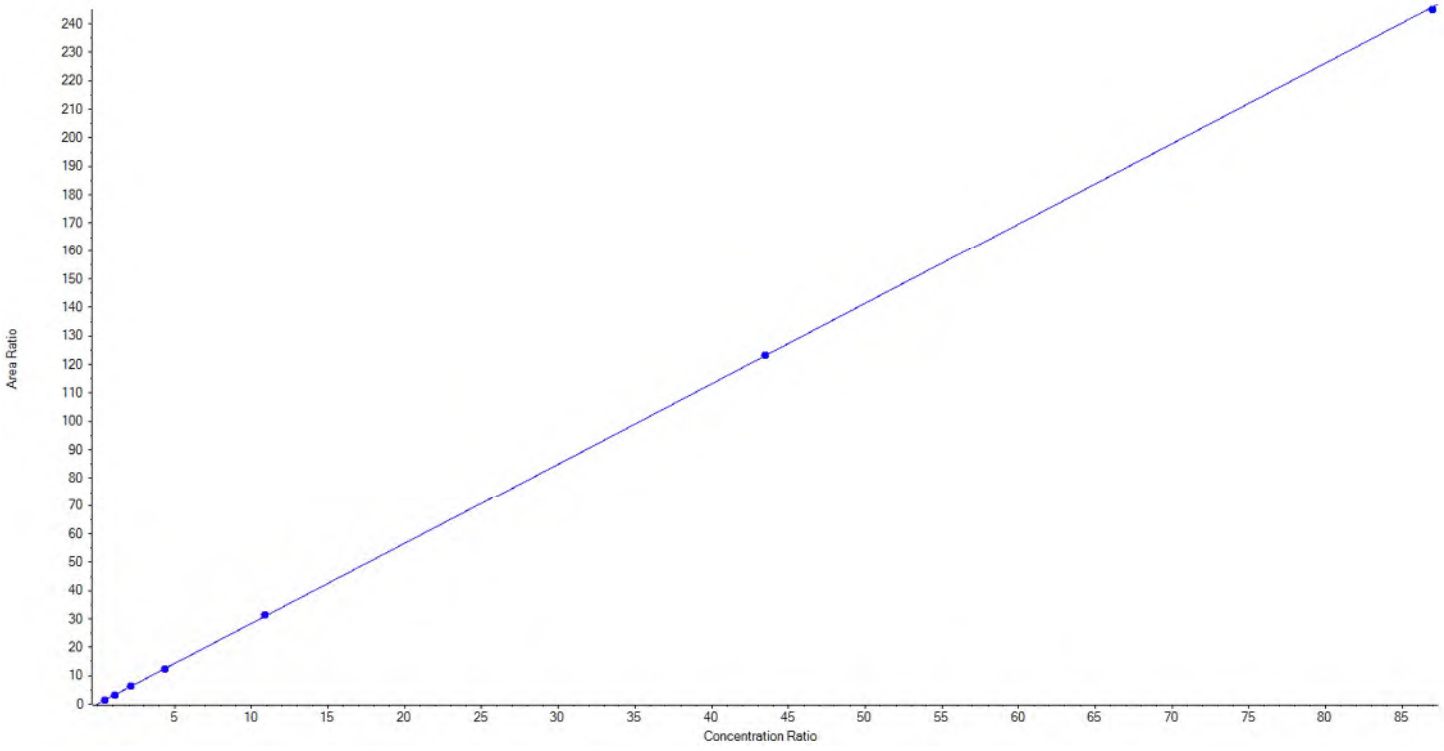
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFBS_1	**Data File**	AC_11012018_369.wiff
MRM Transition	298.9 / 80.0	**Result Table**	18-0633
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.82516 x + 0.15865 (r = 0.99996) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	96.415230	95.5
6	KB74	L2	True	252.50	250.691097	99.3
7	KB75	L3	True	505.00	519.290801	102.8
8	KB76	L4	True	1010.00	1014.494476	100.4
9	KB77	L5	True	2525.00	2583.095707	102.3
10	KB78	L6	True	10100.00	10105.866254	100.1
11	KB79	L7	True	20200.00	20123.646435	99.6



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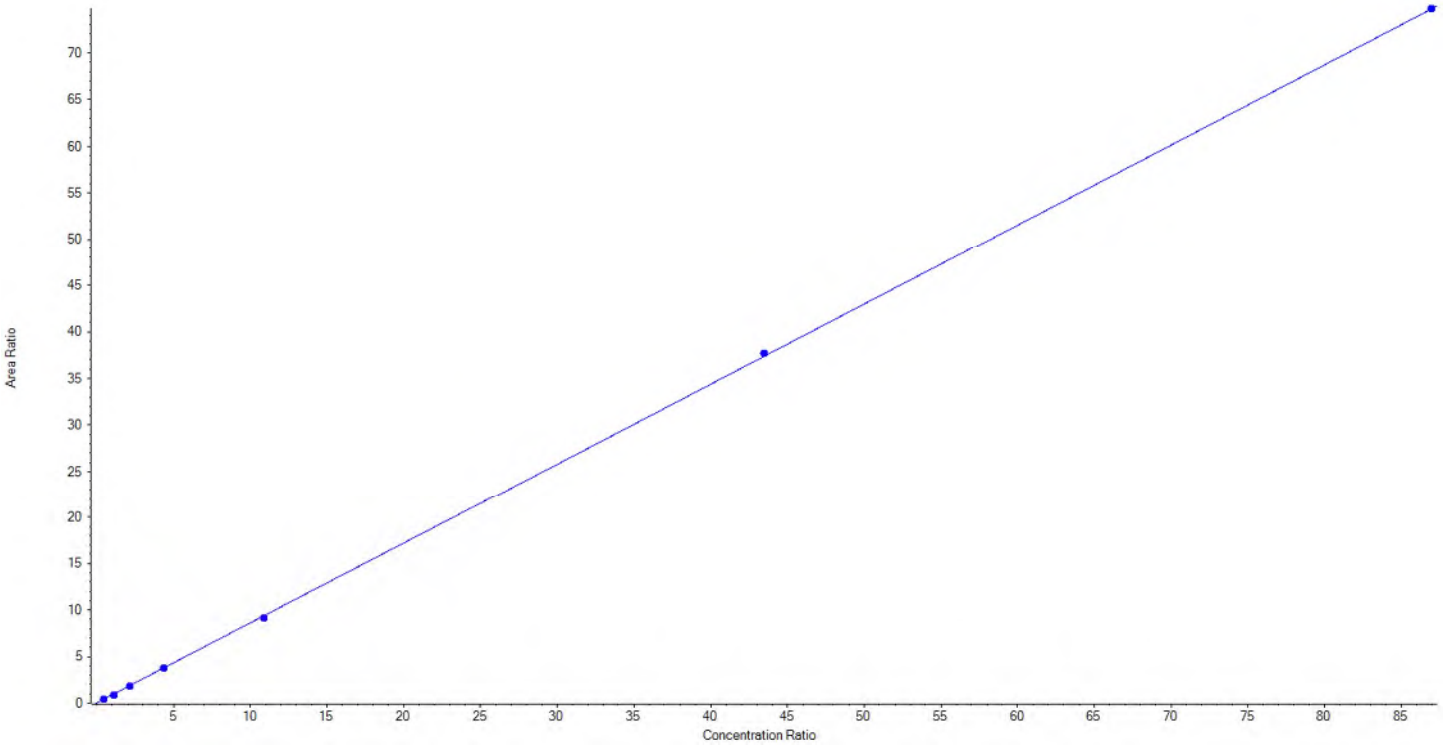
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFBS_2	**Data File**	AC_11012018_369.wiff
MRM Transition	298.9 / 99.0	**Result Table**	18-0633
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.85841 x + 0.04423 (r = 0.99988) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	116.773135	115.6
6	KB74	L2	True	252.50	225.927568	89.5
7	KB75	L3	True	505.00	493.777211	97.8
8	KB76	L4	True	1010.00	994.728137	98.5
9	KB77	L5	True	2525.00	2468.668836	97.8
10	KB78	L6	True	10100.00	10182.540545	100.8
11	KB79	L7	True	20200.00	20211.084568	100.1



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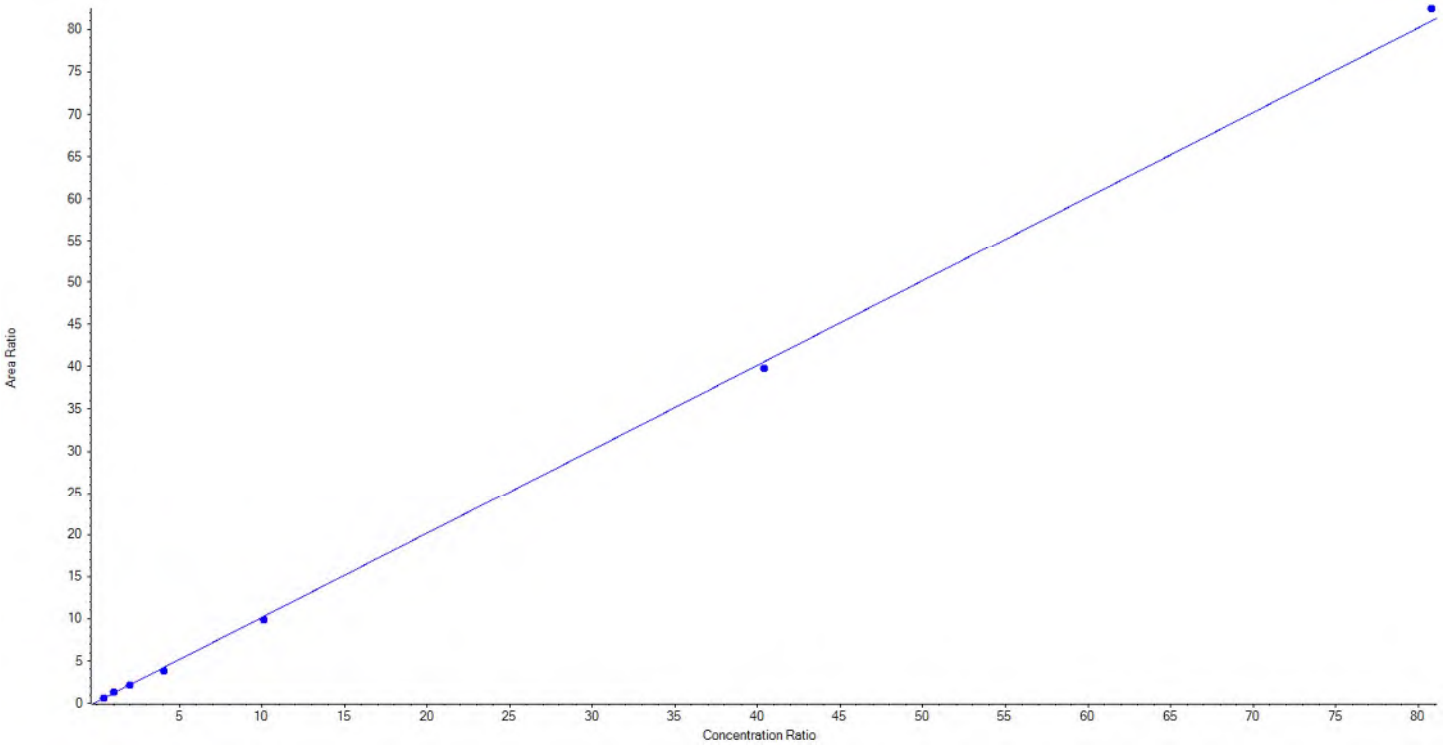
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0633
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.00047 x + 0.16149 (r = 0.99953) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	103.106050	102.1
6	KB74	L2	True	252.50	291.941278	115.6
7	KB75	L3	True	505.00	481.935864	95.4
8	KB76	L4	True	1010.00	915.475323	90.6
9	KB77	L5	True	2525.00	2433.455260	96.4
10	KB78	L6	True	10100.00	9901.318374	98.0
11	KB79	L7	True	20200.00	20566.267850	101.8



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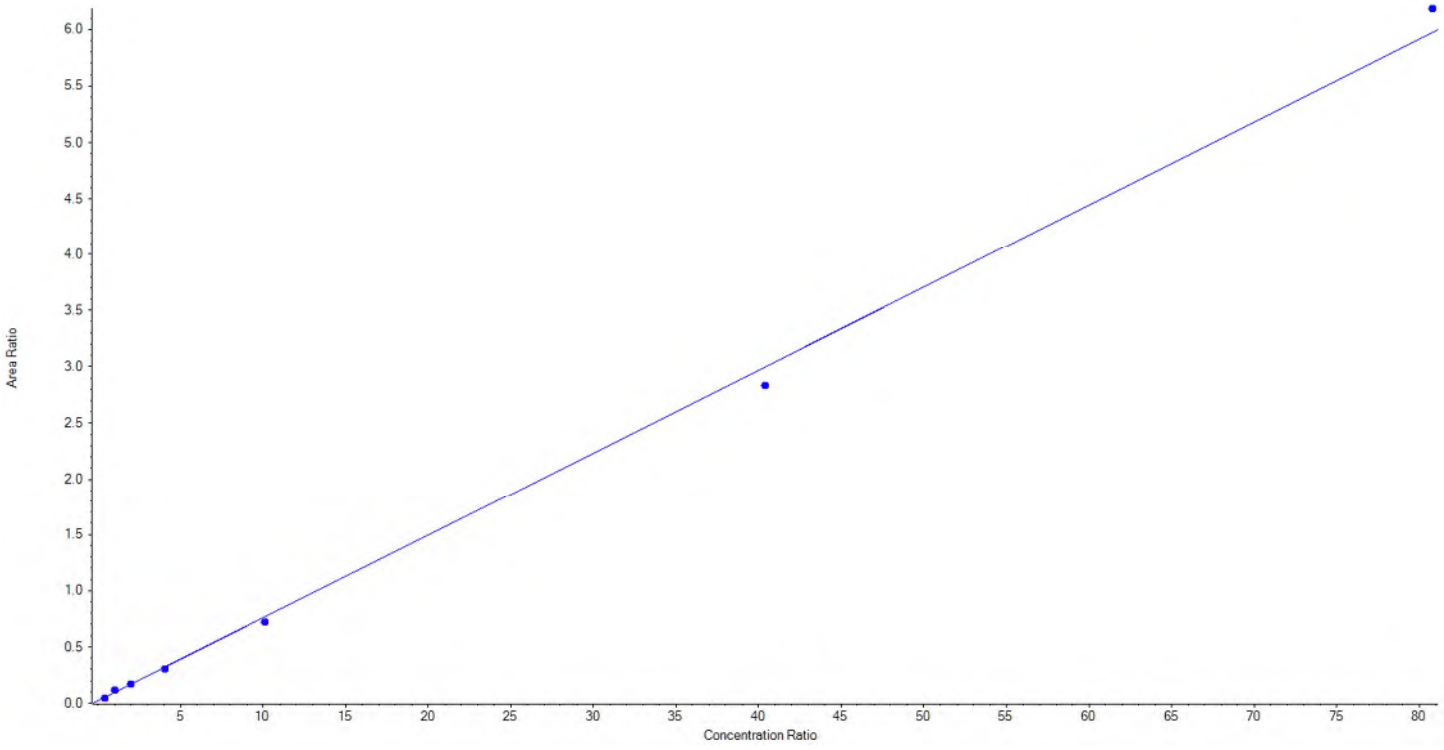
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0633
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.07368 x + 0.02177 (r = 0.99864) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	89.958075	89.1
6	KB74	L2	True	252.50	320.291277	126.9
7	KB75	L3	True	505.00	491.099156	97.3
8	KB76	L4	True	1010.00	957.543855	94.8
9	KB77	L5	True	2525.00	2371.976831	93.9
10	KB78	L6	True	10100.00	9551.793940	94.6
11	KB79	L7	True	20200.00	20910.836865	103.5



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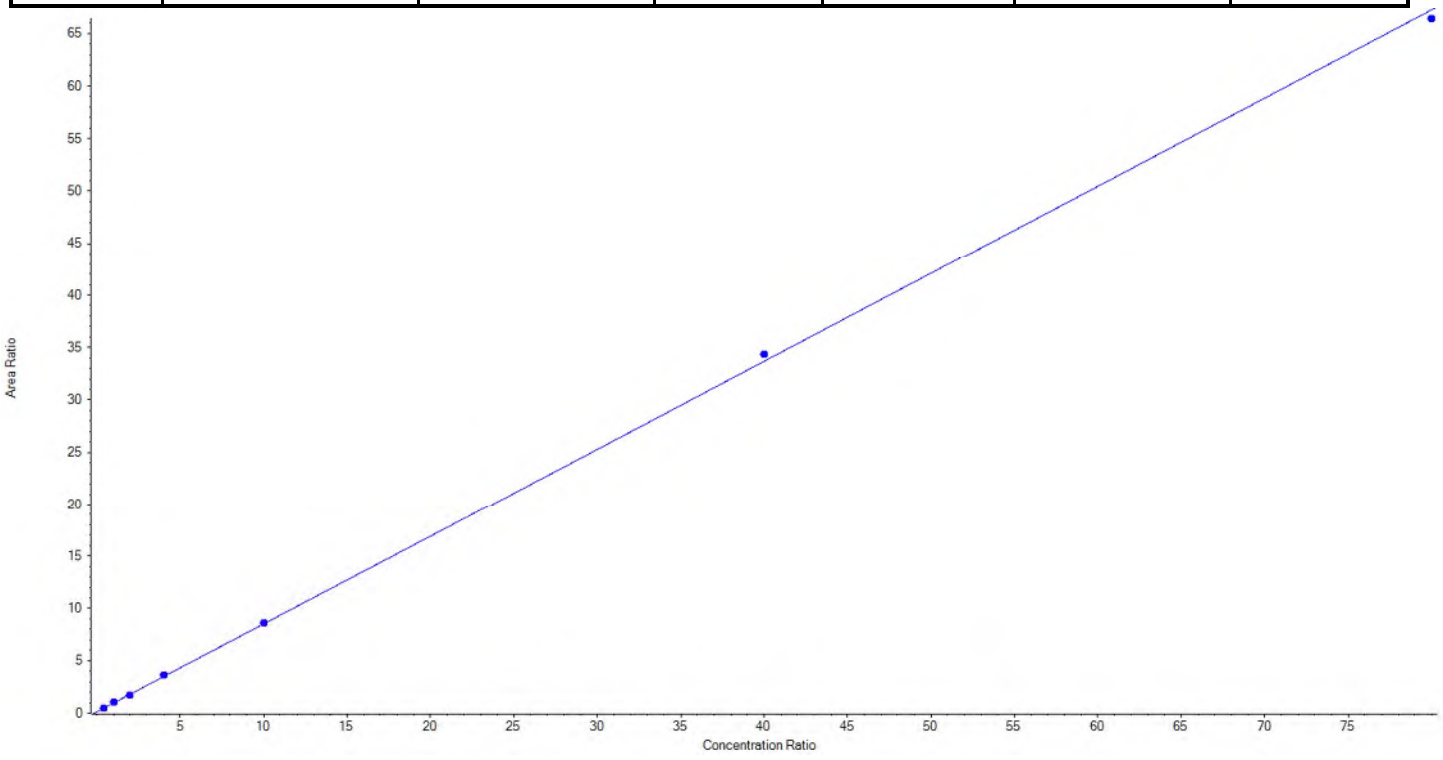
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHpA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	363.0 / 319.0	**Result Table**	18-0633
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.83884 x + 0.13021 (r = 0.99983) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	91.478218	91.5
6	KB74	L2	True	250.00	264.085955	105.6
7	KB75	L3	True	500.00	483.824047	96.8
8	KB76	L4	True	1000.00	1044.110201	104.4
9	KB77	L5	True	2500.00	2527.117254	101.1
10	KB78	L6	True	10000.00	10185.991641	101.9
11	KB79	L7	True	20000.00	19753.392683	98.8



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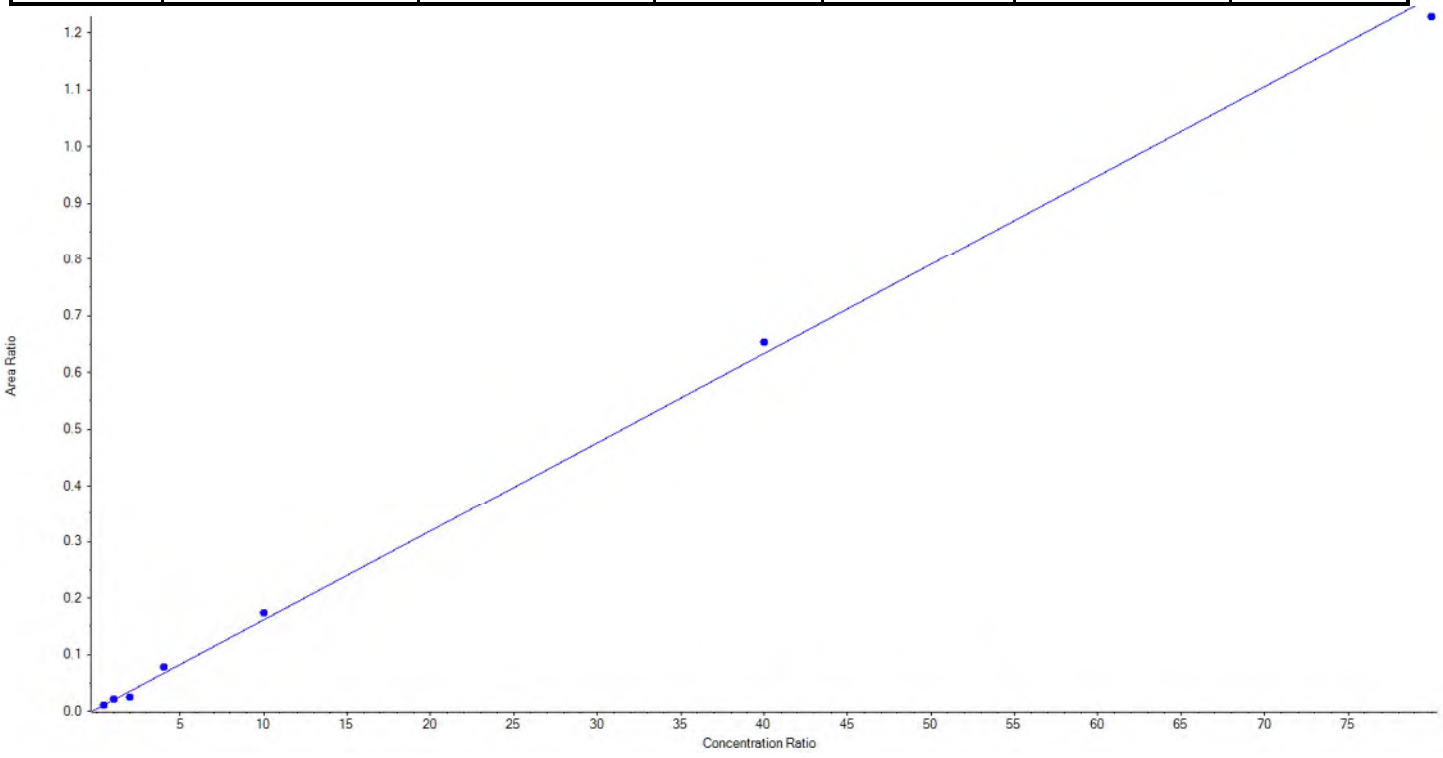
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHpA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	363.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.01574 x + 0.00383 (r = 0.99802) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	96.516947	96.5
6	KB74	L2	True	250.00	271.995222	108.8
7	KB75	L3	True	500.00	341.377446	68.3
8	KB76	L4	True	1000.00	1183.825995	118.4
9	KB77	L5	True	2500.00	2691.386469	107.7
10	KB78	L6	True	10000.00	10309.385436	103.1
11	KB79	L7	True	20000.00	19455.512486	97.3



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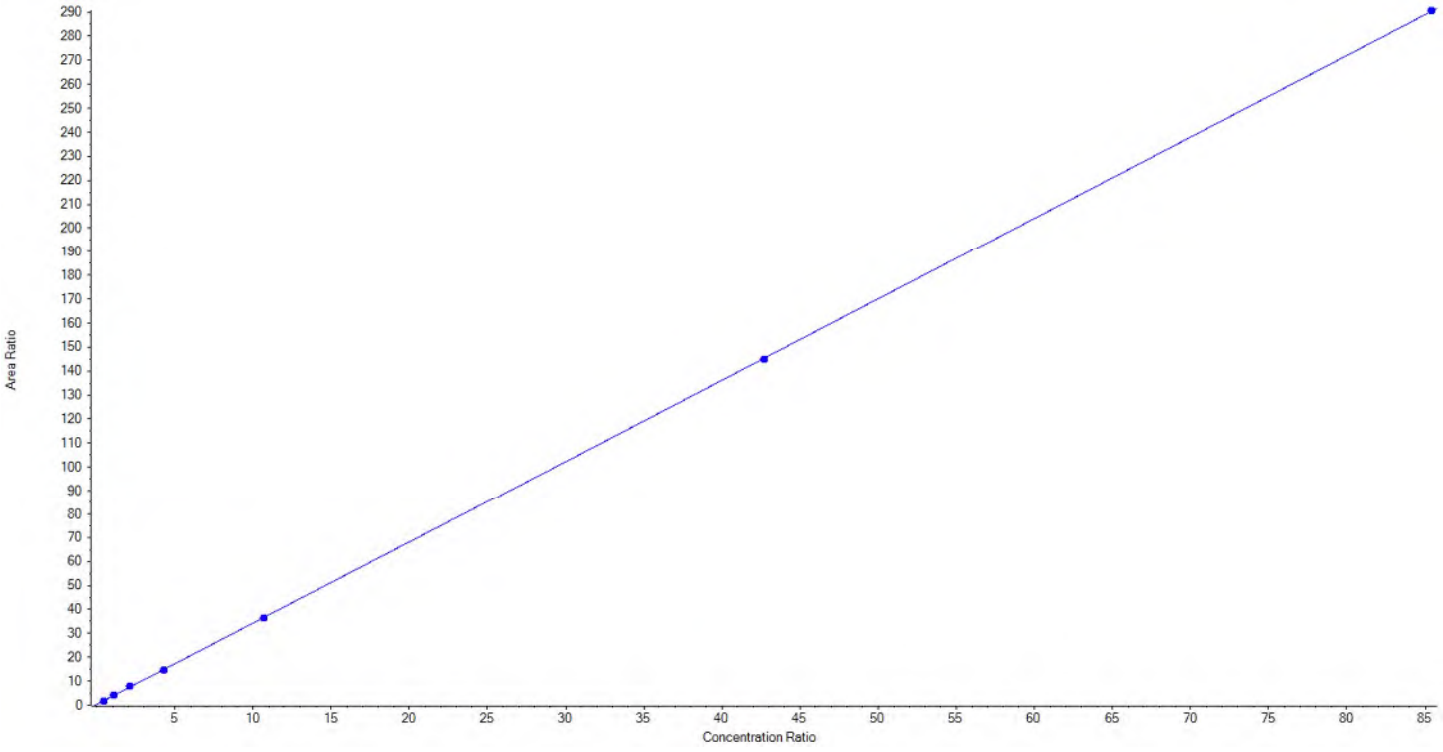
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxS_1	**Data File**	AC_11012018_369.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0633
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 3.39552 x + 0.33286 (r = 0.99992) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	88.127346	87.3
6	KB74	L2	True	252.50	277.914633	110.1
7	KB75	L3	True	505.00	524.068284	103.8
8	KB76	L4	True	1010.00	1002.721710	99.3
9	KB77	L5	True	2525.00	2523.710501	100.0
10	KB78	L6	True	10100.00	10057.553060	99.6
11	KB79	L7	True	20200.00	20219.404466	100.1



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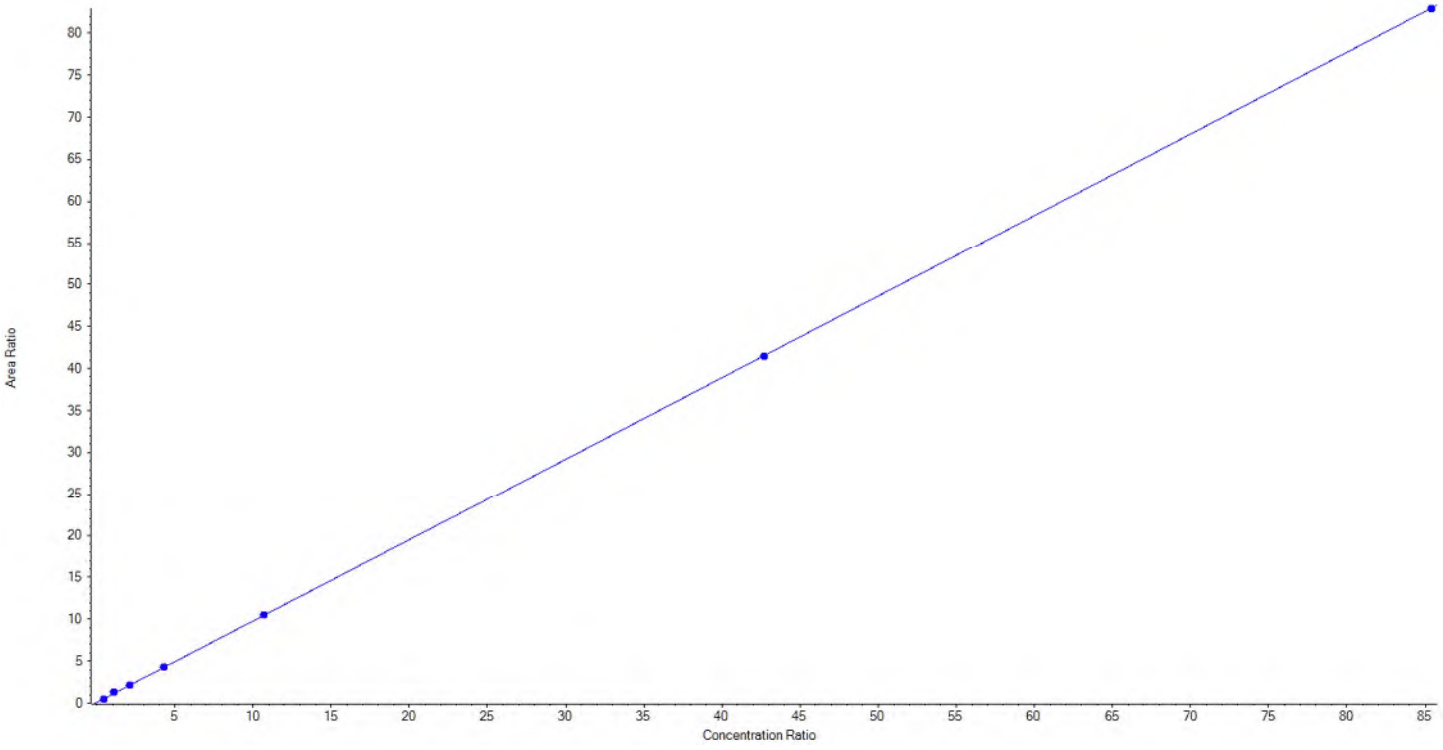
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxS_2	**Data File**	AC_11012018_369.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0633
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.97032 x + 0.08695 (r = 0.99985) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	85.634821	84.8
6	KB74	L2	True	252.50	294.723772	116.7
7	KB75	L3	True	505.00	493.362281	97.7
8	KB76	L4	True	1010.00	1015.701521	100.6
9	KB77	L5	True	2525.00	2536.972999	100.5
10	KB78	L6	True	10100.00	10083.723760	99.8
11	KB79	L7	True	20200.00	20183.380846	99.9



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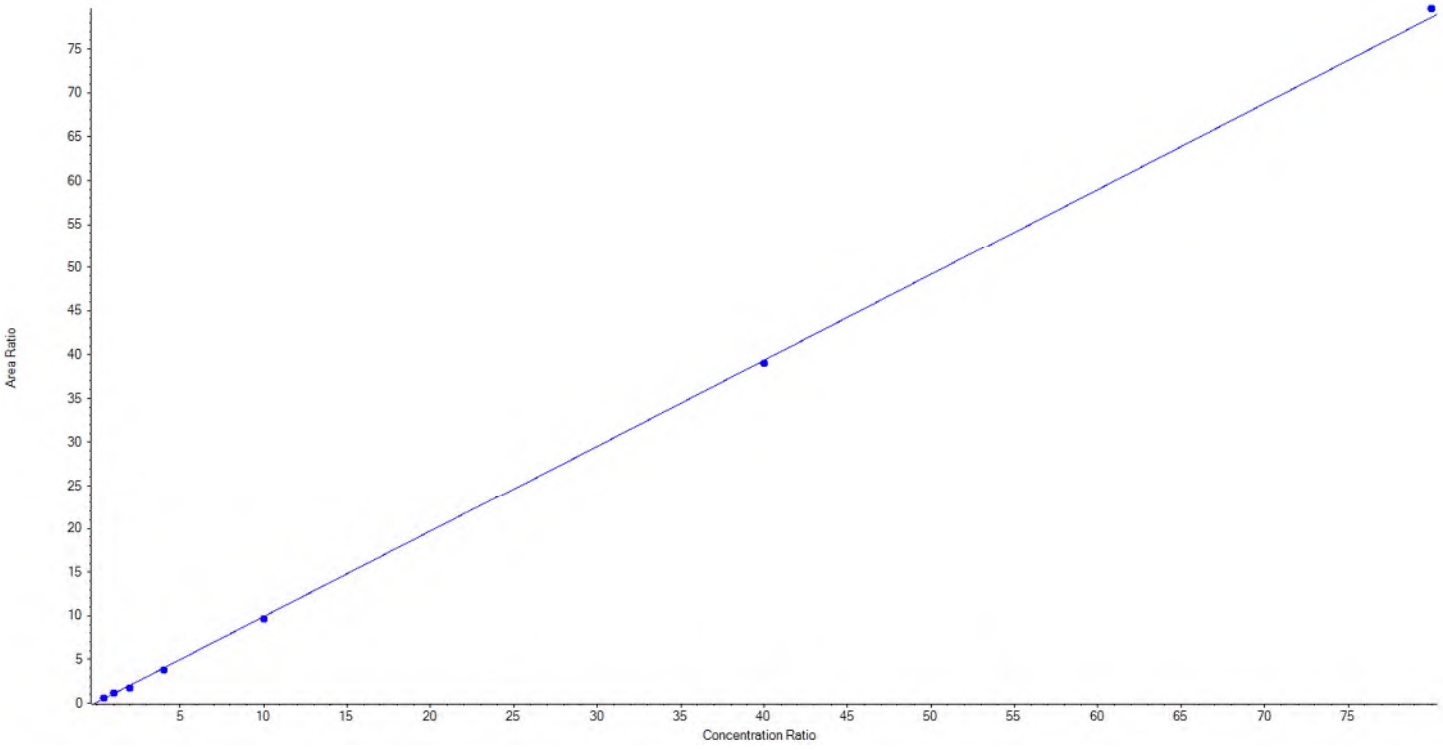
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	413.0 / 369.0	**Result Table**	18-0633
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98169 x + 0.08360 (r = 0.99961) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	117.664660	117.7
6	KB74	L2	True	250.00	264.546778	105.8
7	KB75	L3	True	500.00	425.764411	85.2
8	KB76	L4	True	1000.00	934.770463	93.5
9	KB77	L5	True	2500.00	2435.905069	97.4
10	KB78	L6	True	10000.00	9918.750801	99.2
11	KB79	L7	True	20000.00	20252.597816	101.3



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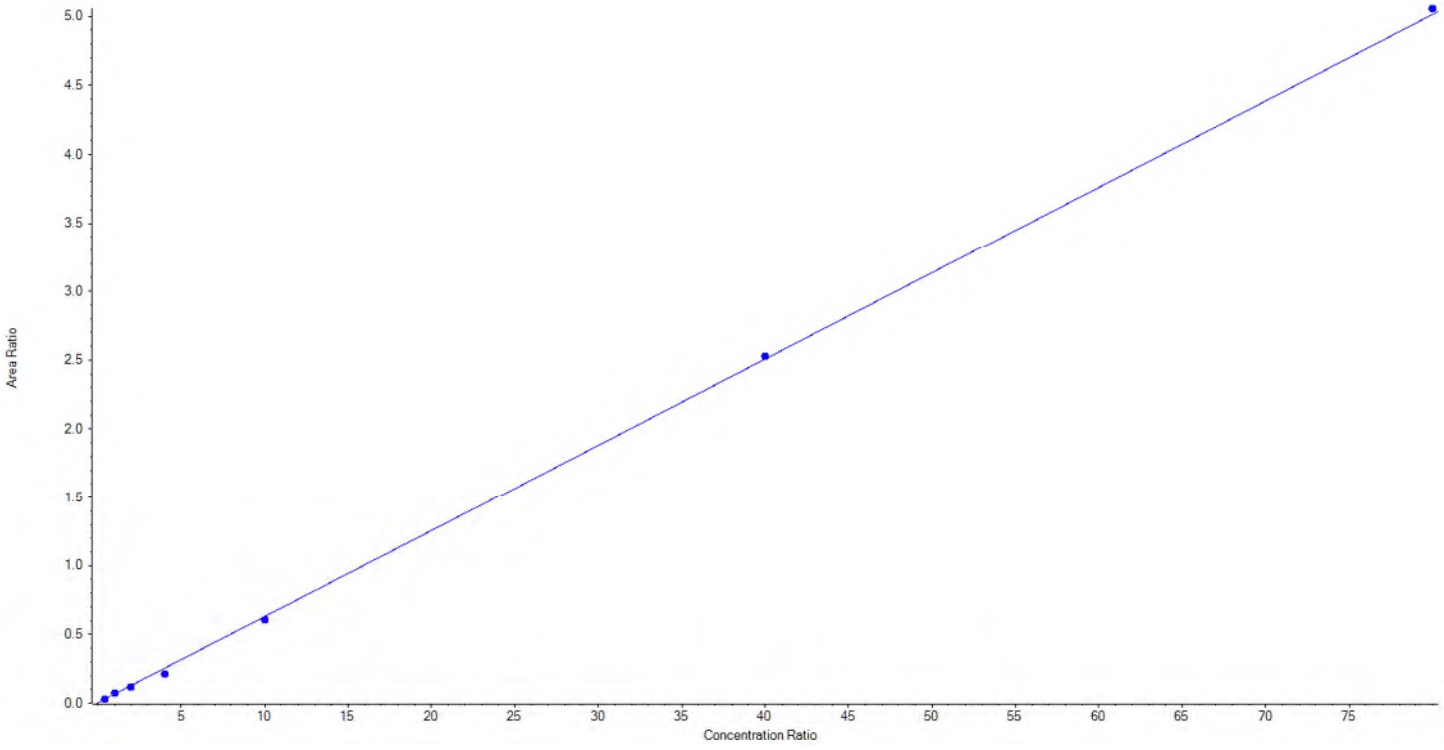
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	413.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.06263 x + 0.00301 (r = 0.99938) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	112.880833	112.9
6	KB74	L2	True	250.00	280.665995	112.3
7	KB75	L3	True	500.00	465.588777	93.1
8	KB76	L4	True	1000.00	844.897561	84.5
9	KB77	L5	True	2500.00	2387.587124	95.5
10	KB78	L6	True	10000.00	10089.974859	100.9
11	KB79	L7	True	20000.00	20168.404851	100.8



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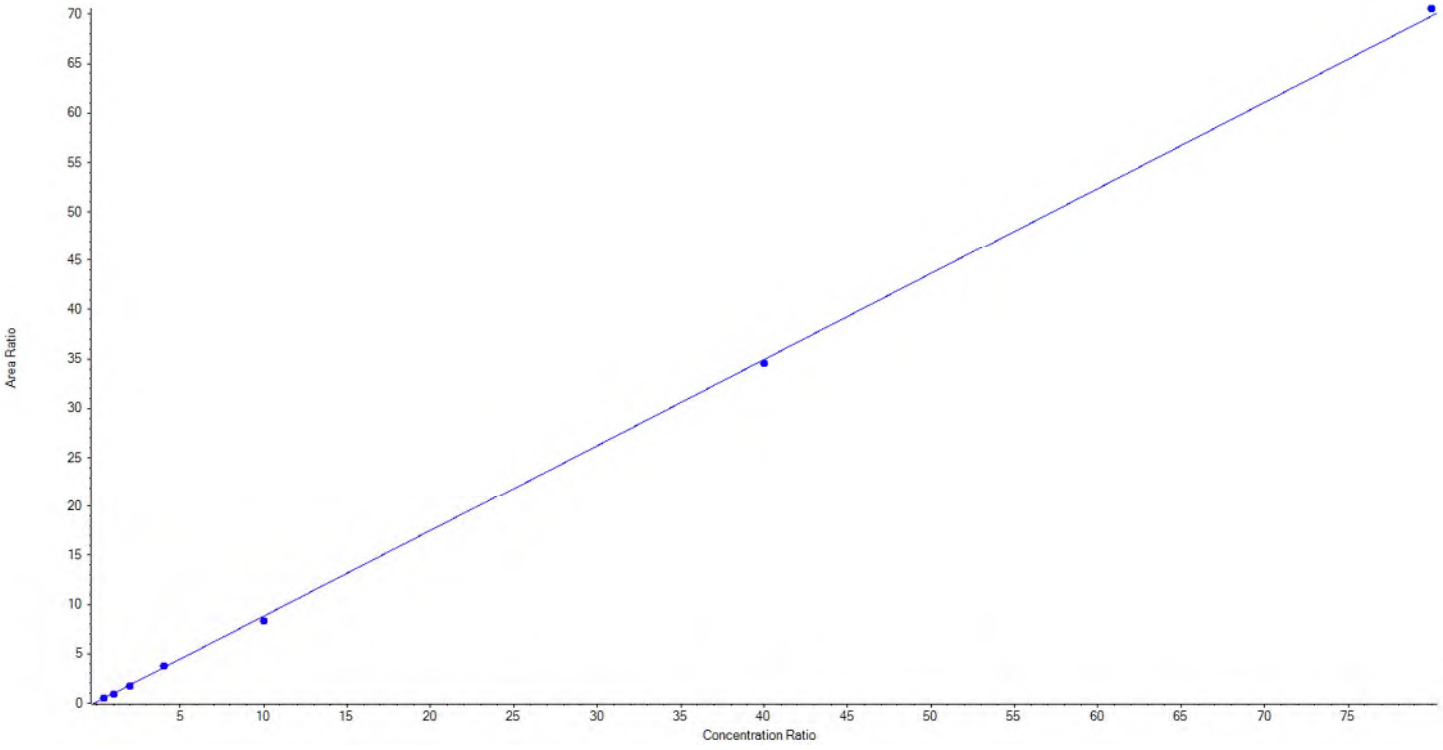
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFNA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	463.0 / 419.0	**Result Table**	18-0633
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.87104 x + 0.10665 (r = 0.99972) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	108.008345	108.0
6	KB74	L2	True	250.00	246.451412	98.6
7	KB75	L3	True	500.00	468.474574	93.7
8	KB76	L4	True	1000.00	1055.147814	105.5
9	KB77	L5	True	2500.00	2352.218404	94.1
10	KB78	L6	True	10000.00	9902.832185	99.0
11	KB79	L7	True	20000.00	20216.867267	101.1



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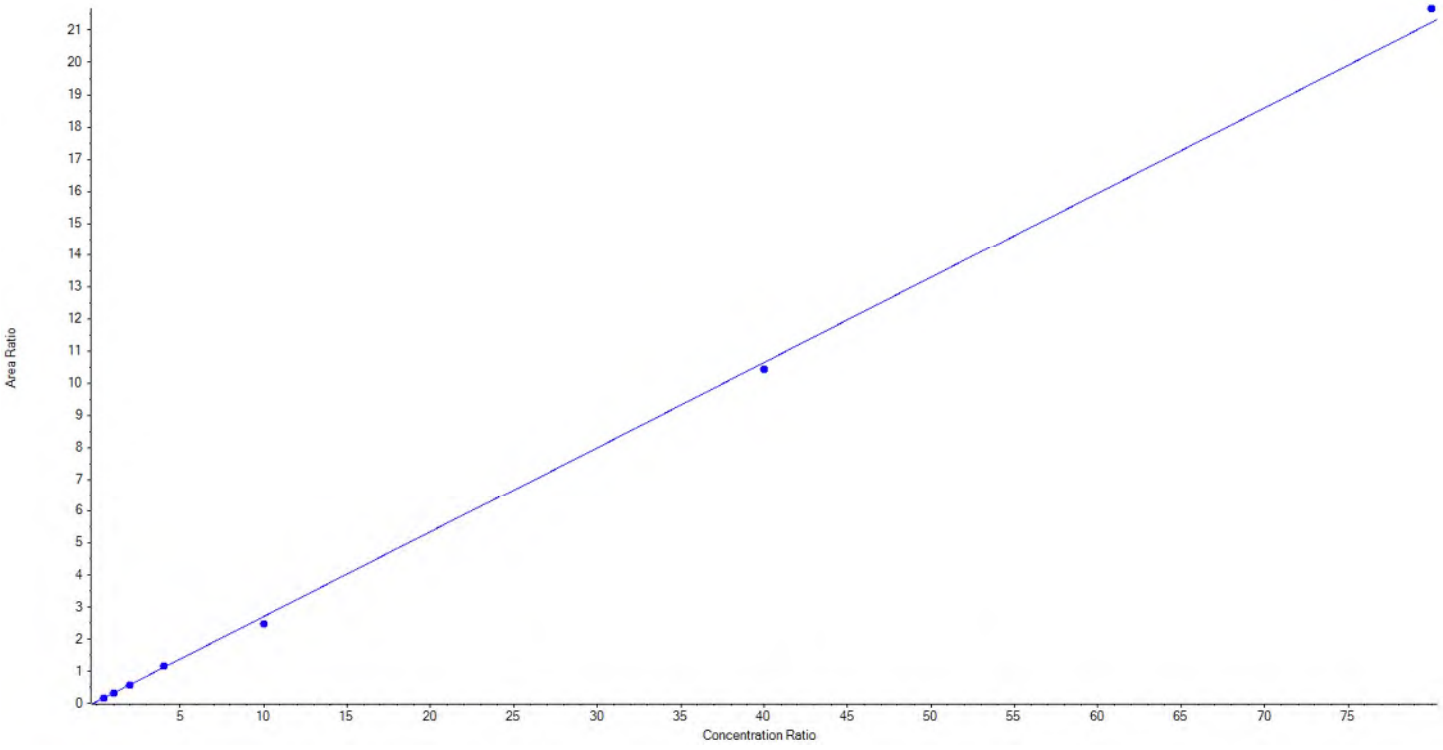
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFNA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	463.0 / 219.0	**Result Table**	18-0633
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.26488 x + 0.04833 (r = 0.99944) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	104.808083	104.8
6	KB74	L2	True	250.00	263.032748	105.2
7	KB75	L3	True	500.00	478.709473	95.7
8	KB76	L4	True	1000.00	1032.474748	103.3
9	KB77	L5	True	2500.00	2277.170555	91.1
10	KB78	L6	True	10000.00	9786.720902	97.9
11	KB79	L7	True	20000.00	20407.083491	102.0



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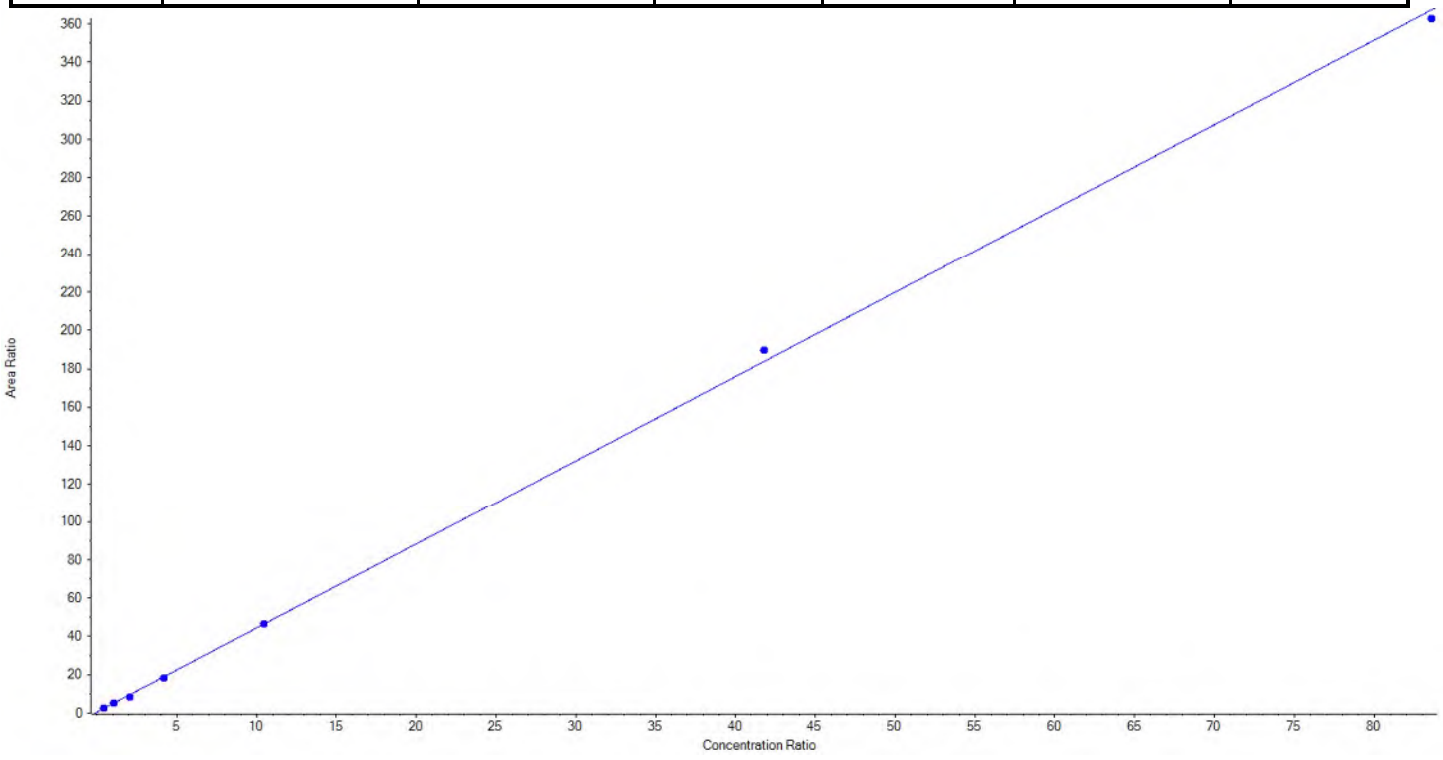
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOS_1	**Data File**	AC_11012018_369.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0633
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 4.38681 x + 0.51340 (r = 0.99962) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	113.289330	113.3
6	KB74	L2	True	250.00	250.458550	100.2
7	KB75	L3	True	500.00	441.639440	88.3
8	KB76	L4	True	1000.00	961.462485	96.2
9	KB77	L5	True	2500.00	2499.398693	100.0
10	KB78	L6	True	10000.00	10331.681673	103.3
11	KB79	L7	True	20000.00	19752.069830	98.8



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Calibration Summary Report

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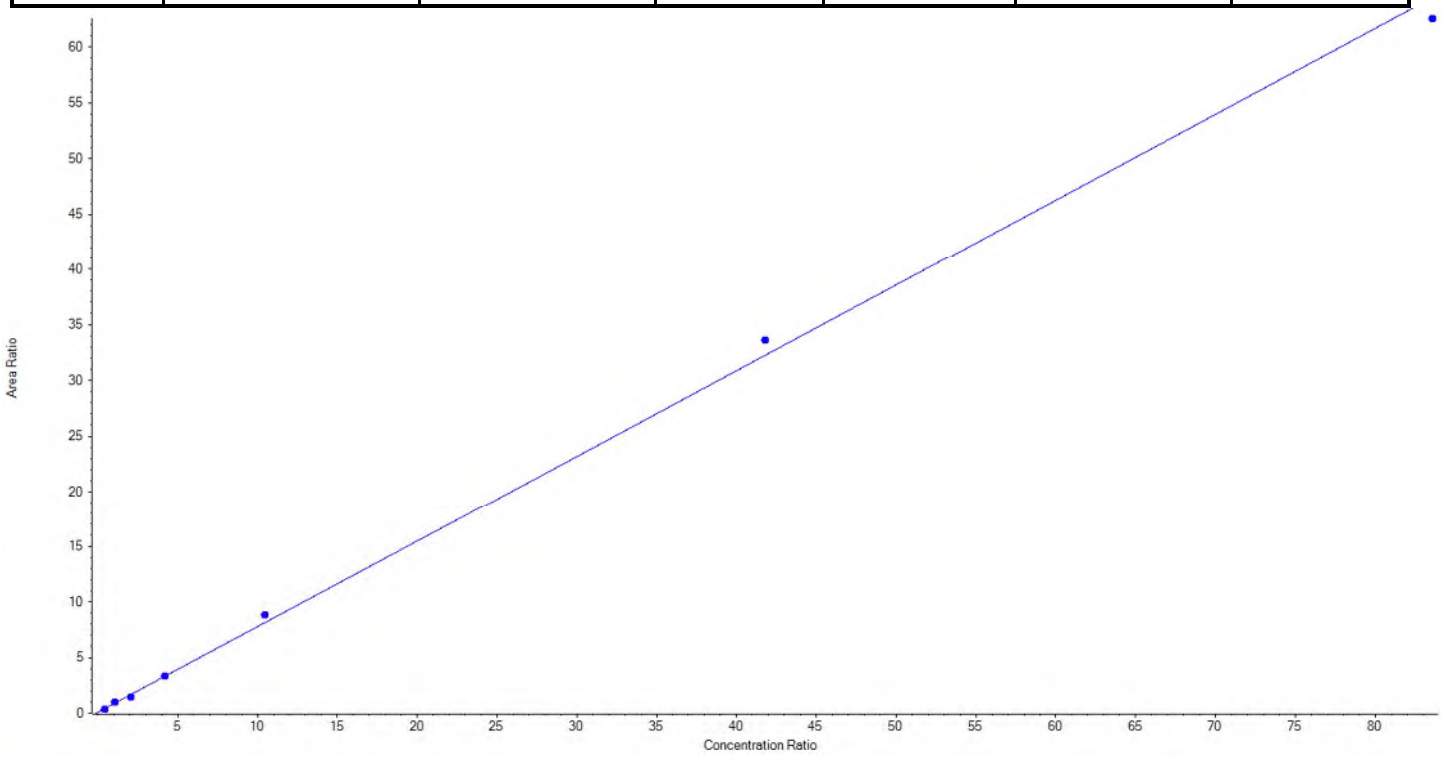
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOS_2	**Data File**	AC_11012018_369.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0633
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.76969 x + 0.08239 (r = 0.99887) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	94.731026	94.7
6	KB74	L2	True	250.00	279.096820	111.6
7	KB75	L3	True	500.00	416.357129	83.3
8	KB76	L4	True	1000.00	1005.018936	100.5
9	KB77	L5	True	2500.00	2712.527480	108.5
10	KB78	L6	True	10000.00	10428.896908	104.3
11	KB79	L7	True	20000.00	19413.371701	97.1



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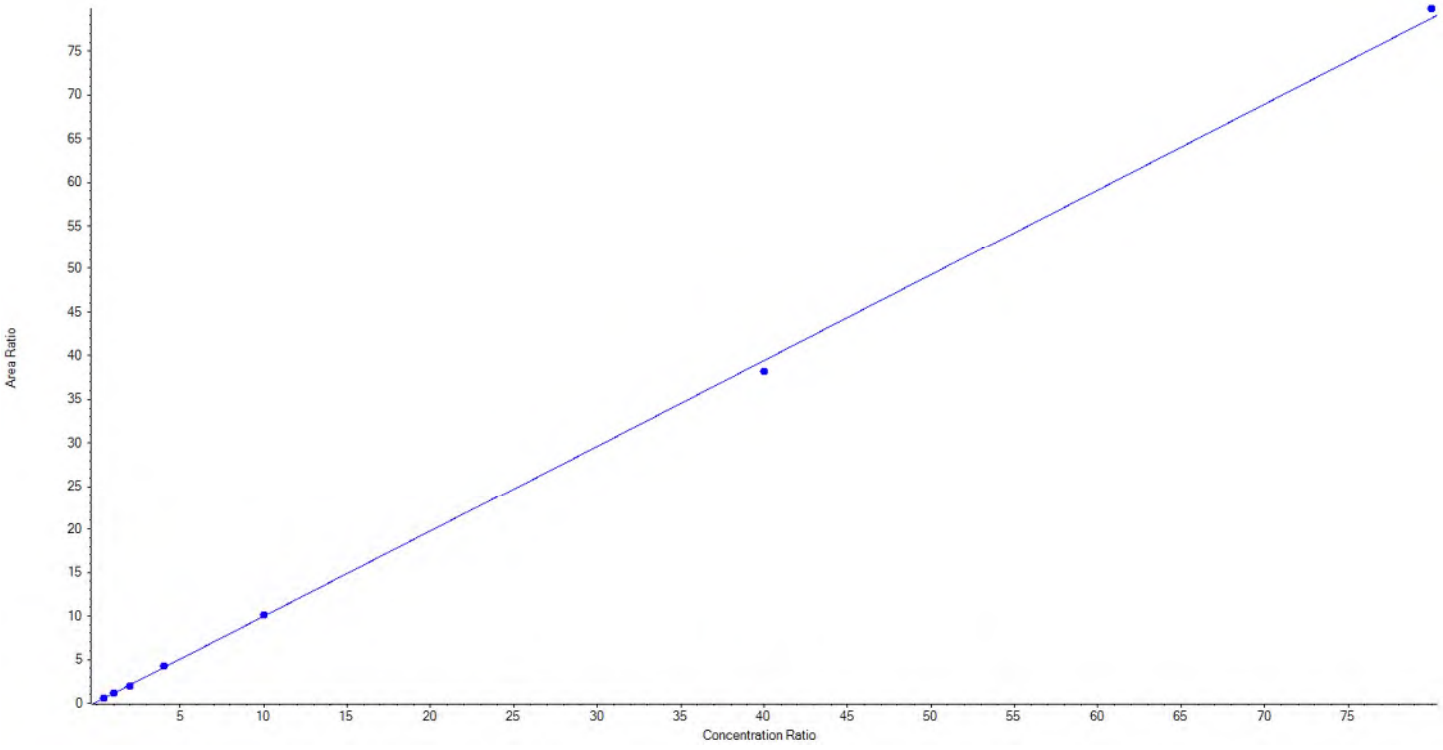
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	513.0 / 469.0	**Result Table**	18-0633
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98282 x + 0.13557 (r = 0.99969) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	100.158075	100.2
6	KB74	L2	True	250.00	257.113066	102.9
7	KB75	L3	True	500.00	465.079740	93.0
8	KB76	L4	True	1000.00	1047.059860	104.7
9	KB77	L5	True	2500.00	2528.689044	101.2
10	KB78	L6	True	10000.00	9673.540293	96.7
11	KB79	L7	True	20000.00	20278.359921	101.4



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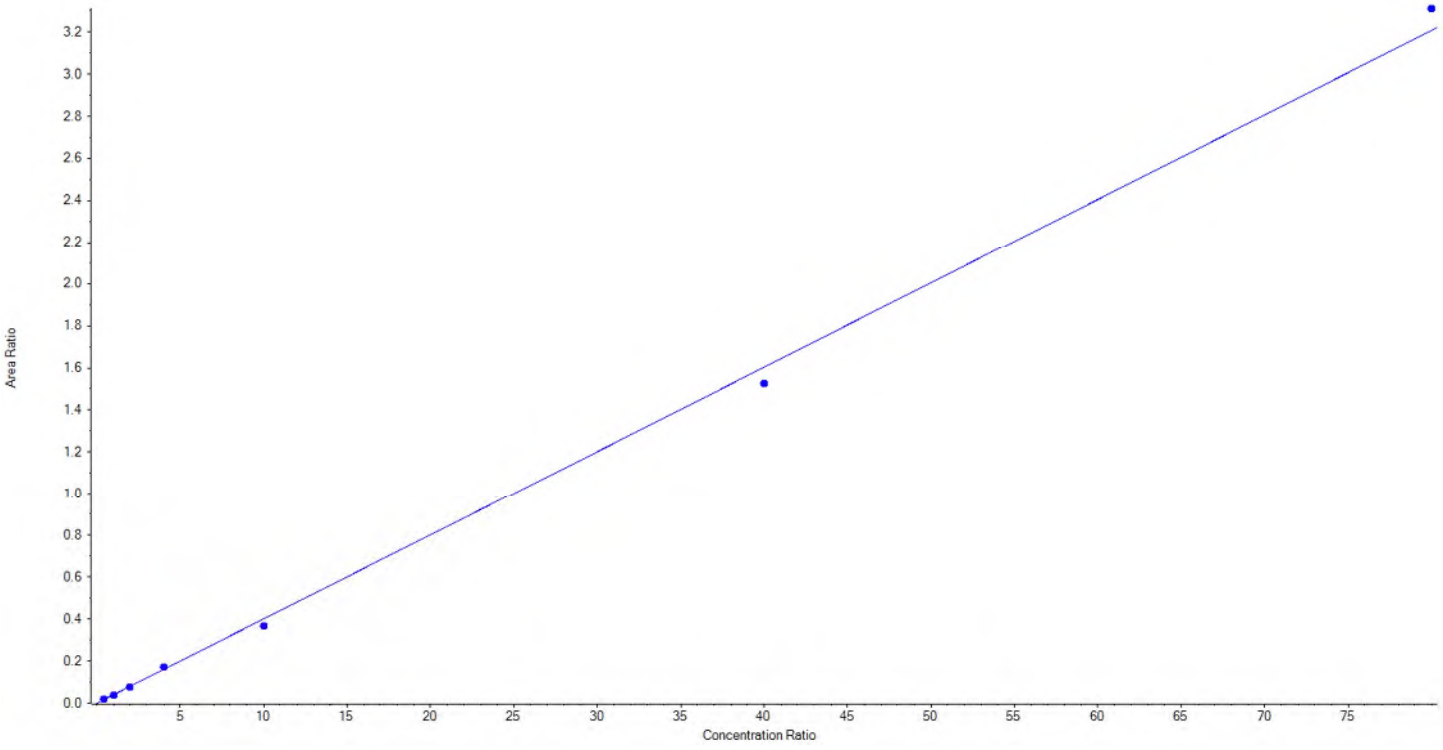
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	513.0 / 219.0	**Result Table**	18-0633
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04009 x + -2.12729e-4 (r = 0.99892) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	116.896891	116.9
6	KB74	L2	True	250.00	228.013862	91.2
7	KB75	L3	True	500.00	478.070887	95.6
8	KB76	L4	True	1000.00	1058.798060	105.9
9	KB77	L5	True	2500.00	2297.792098	91.9
10	KB78	L6	True	10000.00	9527.951083	95.3
11	KB79	L7	True	20000.00	20642.477118	103.2



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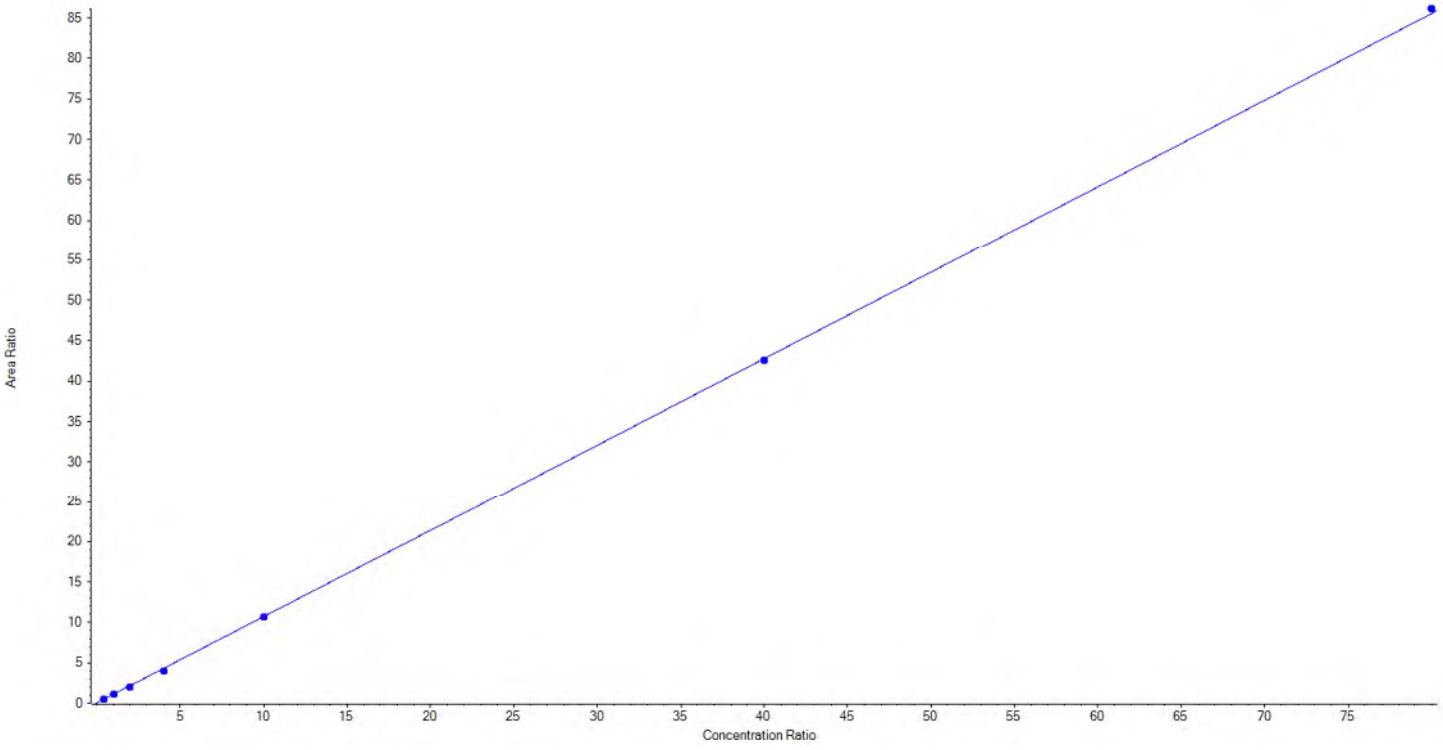
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFUnA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0633
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.06854 x + 0.03112 (r = 0.99983) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	112.180341	112.2
6	KB74	L2	True	250.00	257.599590	103.0
7	KB75	L3	True	500.00	457.954181	91.6
8	KB76	L4	True	1000.00	933.004902	93.3
9	KB77	L5	True	2500.00	2490.527932	99.6
10	KB78	L6	True	10000.00	9954.742824	99.6
11	KB79	L7	True	20000.00	20143.990230	100.7



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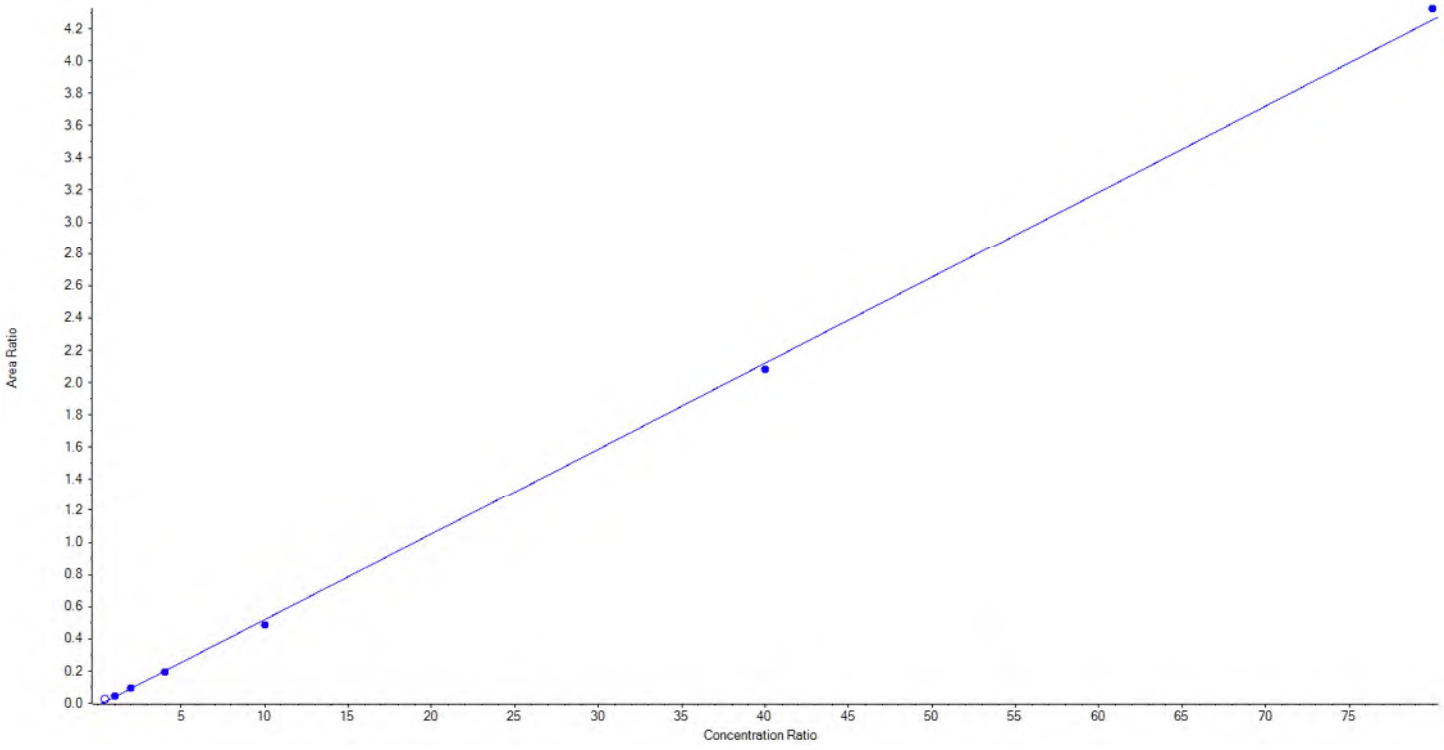
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFUnA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0633
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05337 x + -0.01489 (r = 0.99966) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	False	100.00	189.532698	189.5
6	KB74	L2	True	250.00	273.166005	109.3
7	KB75	L3	True	500.00	501.113618	100.2
8	KB76	L4	True	1000.00	963.325414	96.3
9	KB77	L5	True	2500.00	2356.267381	94.3
10	KB78	L6	True	10000.00	9829.399972	98.3
11	KB79	L7	True	20000.00	20326.727610	101.6



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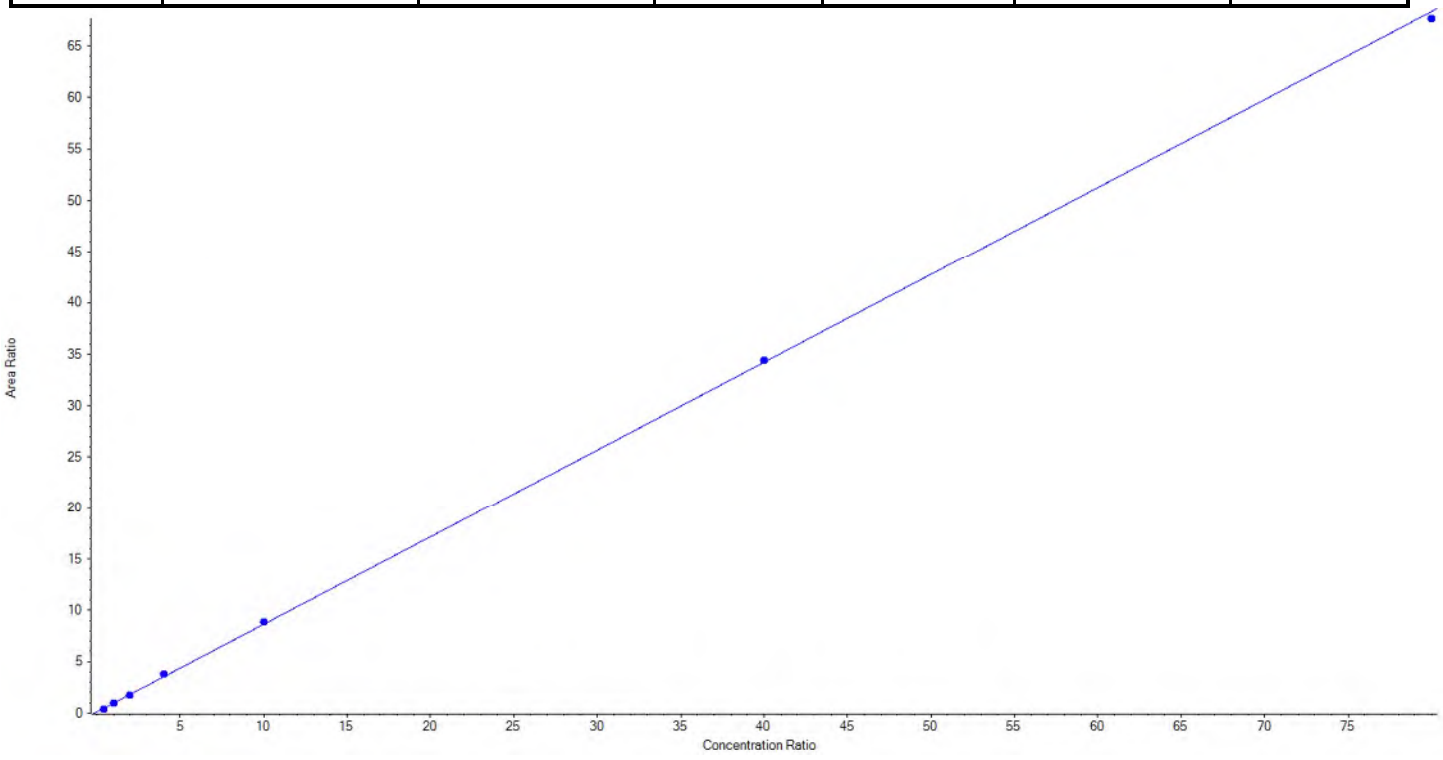
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDoA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	613.0 / 569.0	**Result Table**	18-0633
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.85265 x + 0.11297 (r = 0.99981) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	90.478478	90.5
6	KB74	L2	True	250.00	254.661144	101.9
7	KB75	L3	True	500.00	486.549987	97.3
8	KB76	L4	True	1000.00	1076.151440	107.6
9	KB77	L5	True	2500.00	2576.953698	103.1
10	KB78	L6	True	10000.00	10065.549839	100.7
11	KB79	L7	True	20000.00	19799.655415	99.0



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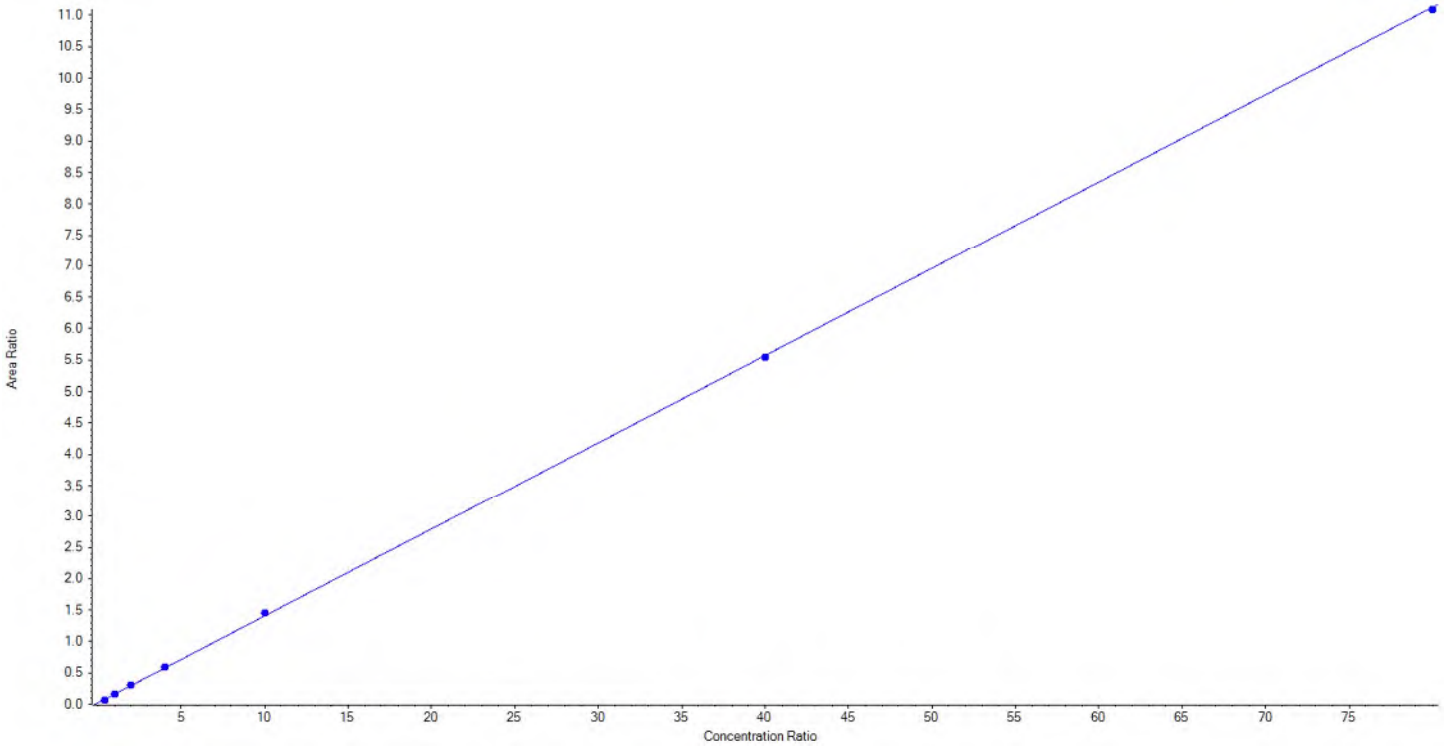
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDoA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	613.0 / 319.0	**Result Table**	18-0633
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.13884 x + 0.01826 (r = 0.99992) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	92.536523	92.5
6	KB74	L2	True	250.00	249.459599	99.8
7	KB75	L3	True	500.00	506.159531	101.2
8	KB76	L4	True	1000.00	1043.720829	104.4
9	KB77	L5	True	2500.00	2571.621427	102.9
10	KB78	L6	True	10000.00	9955.656099	99.6
11	KB79	L7	True	20000.00	19930.845991	99.7



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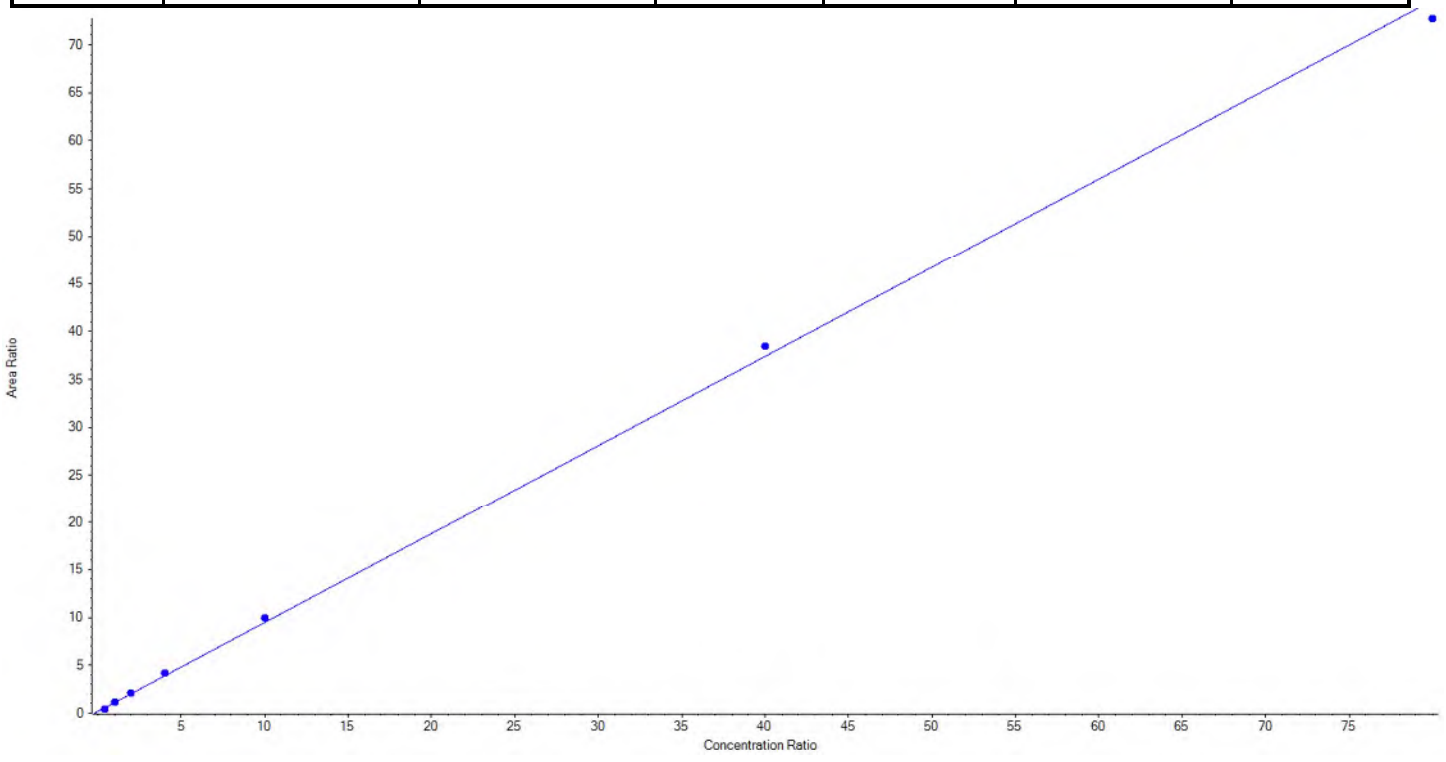
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTrDA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.93064 x + 0.16869 (r = 0.99934) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	77.725128	77.7
6	KB74	L2	True	250.00	255.764827	102.3
7	KB75	L3	True	500.00	531.405785	106.3
8	KB76	L4	True	1000.00	1078.009373	107.8
9	KB77	L5	True	2500.00	2642.246108	105.7
10	KB78	L6	True	10000.00	10274.551778	102.8
11	KB79	L7	True	20000.00	19490.297001	97.5



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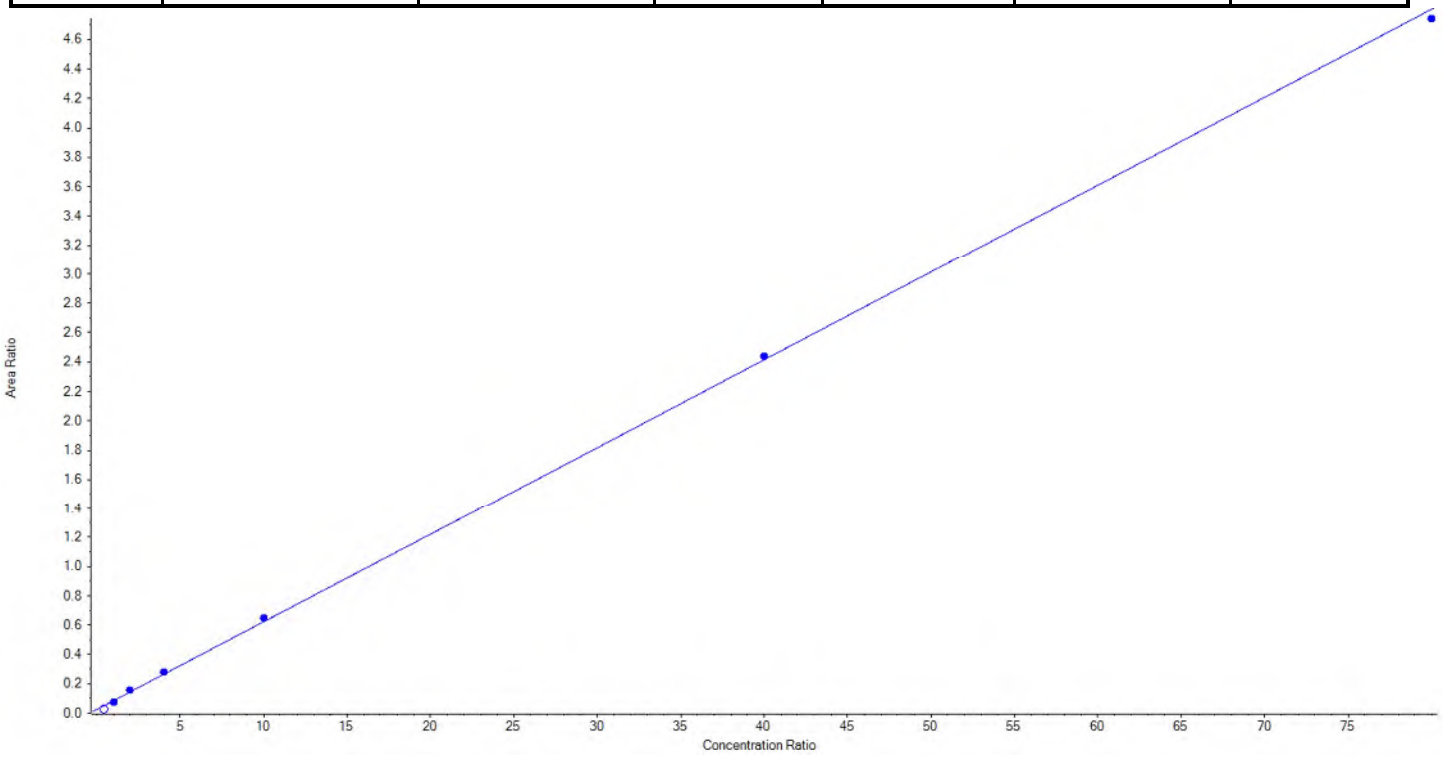
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTrDA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05974 x + 0.02550 (r = 0.99957) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	False	100.00	6.709205	6.7
6	KB74	L2	True	250.00	202.815274	81.1
7	KB75	L3	True	500.00	545.875721	109.2
8	KB76	L4	True	1000.00	1055.834717	105.6
9	KB77	L5	True	2500.00	2611.247297	104.5
10	KB78	L6	True	10000.00	10098.849508	101.0
11	KB79	L7	True	20000.00	19735.377482	98.7



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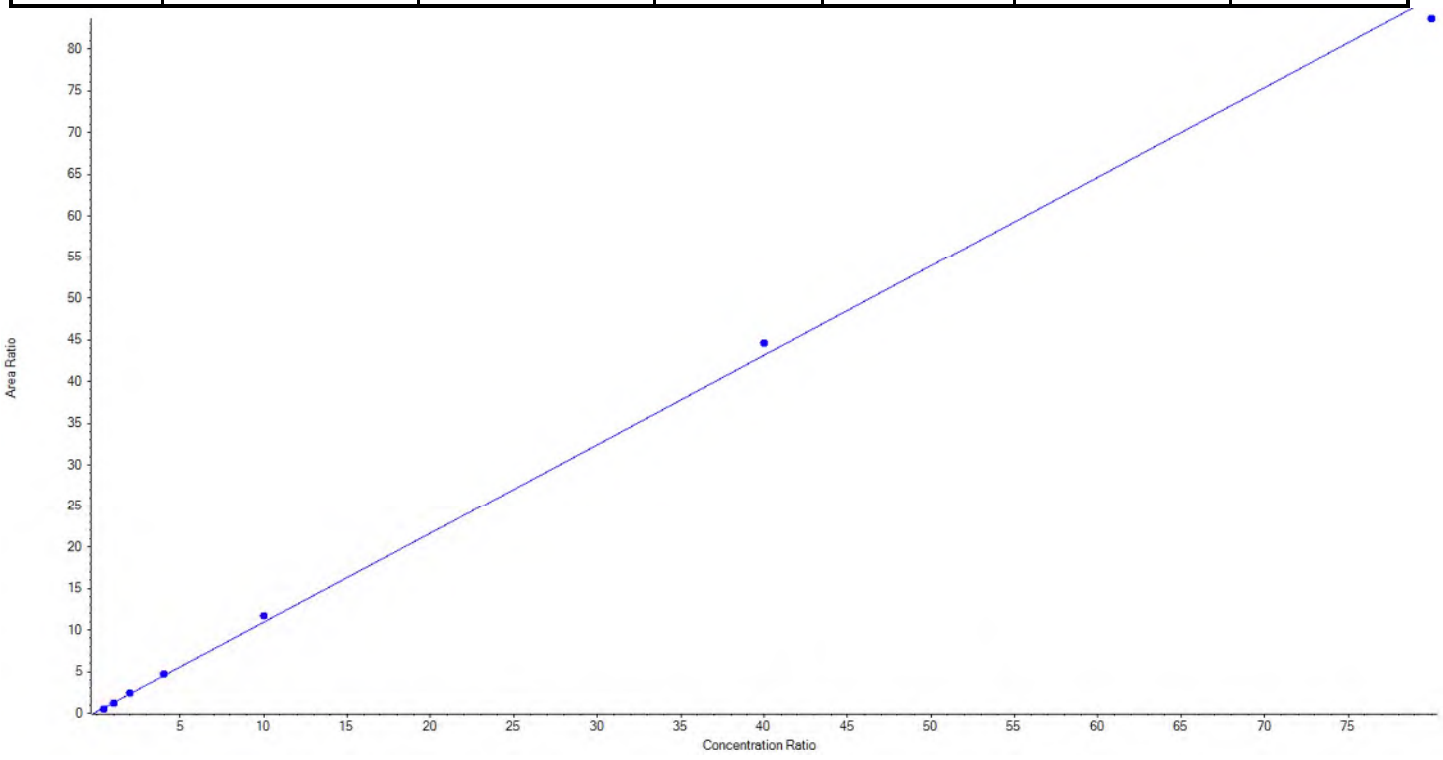
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTeDA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	713.0 / 669.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.07412 x + 0.18531 (r = 0.99925) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	82.176947	82.2
6	KB74	L2	True	250.00	248.817171	99.5
7	KB75	L3	True	500.00	524.214982	104.8
8	KB76	L4	True	1000.00	1062.825606	106.3
9	KB77	L5	True	2500.00	2665.532399	106.6
10	KB78	L6	True	10000.00	10343.433386	103.4
11	KB79	L7	True	20000.00	19422.999508	97.1



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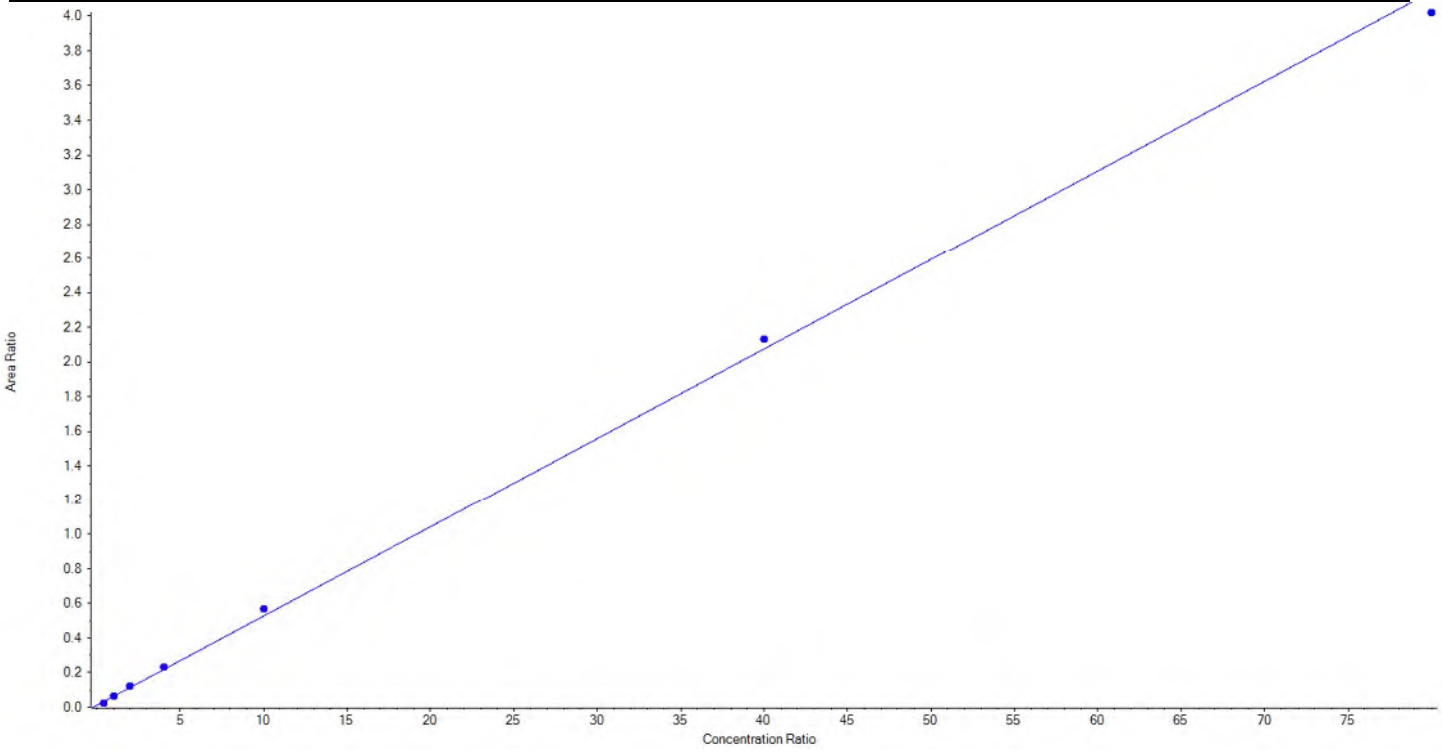
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTeDA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	713.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05163 x + 0.01046 (r = 0.99907) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	72.738185	72.7
6	KB74	L2	True	250.00	261.375790	104.6
7	KB75	L3	True	500.00	531.482702	106.3
8	KB76	L4	True	1000.00	1082.201825	108.2
9	KB77	L5	True	2500.00	2708.177653	108.3
10	KB78	L6	True	10000.00	10279.510237	102.8
11	KB79	L7	True	20000.00	19414.513608	97.1



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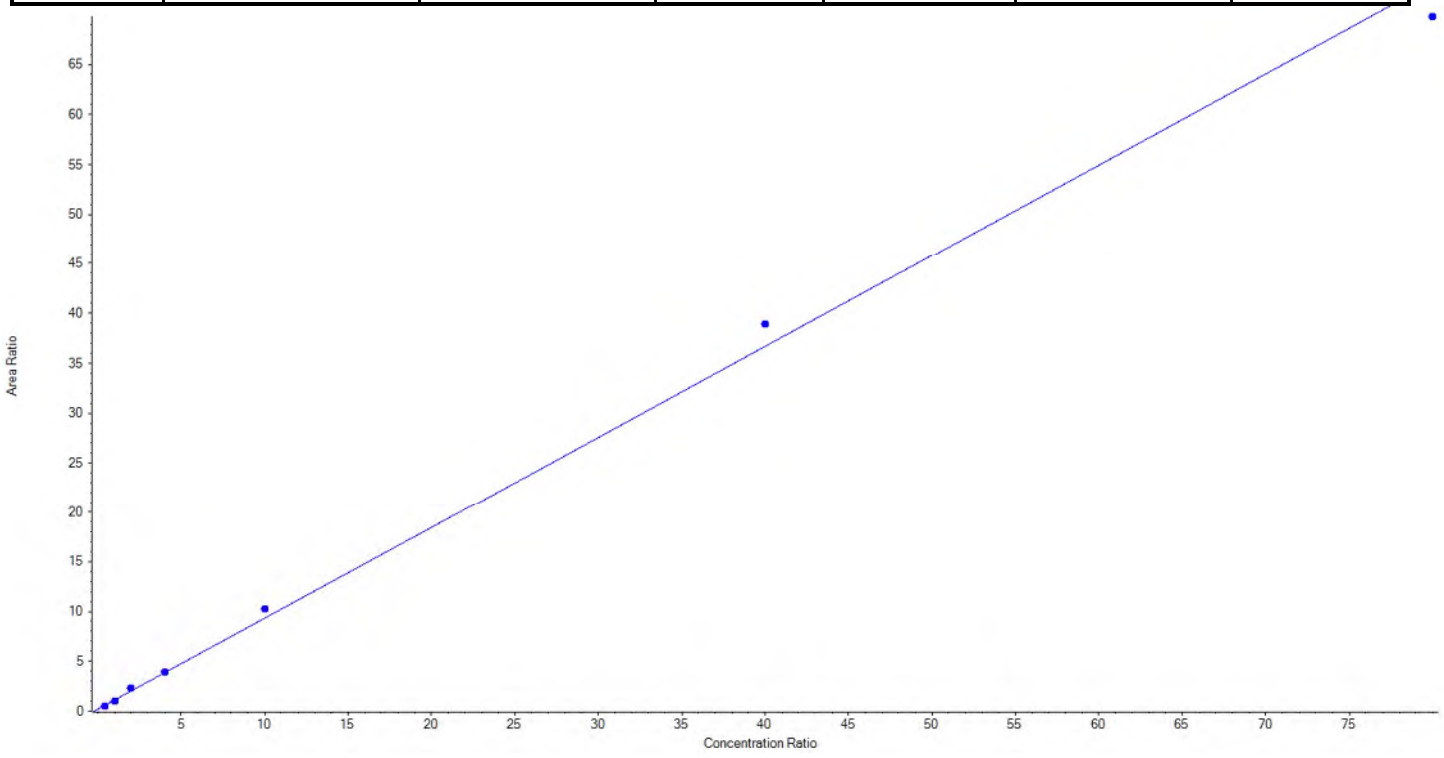
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NMeFOSAA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	570.0 / 419.0	**Result Table**	18-0633
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.91208 x + 0.20251 (r = 0.99798) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	78.781525	78.8
6	KB74	L2	True	250.00	225.408997	90.2
7	KB75	L3	True	500.00	581.297920	116.3
8	KB76	L4	True	1000.00	1028.523797	102.9
9	KB77	L5	True	2500.00	2764.635102	110.6
10	KB78	L6	True	10000.00	10600.148972	106.0
11	KB79	L7	True	20000.00	19071.203685	95.4



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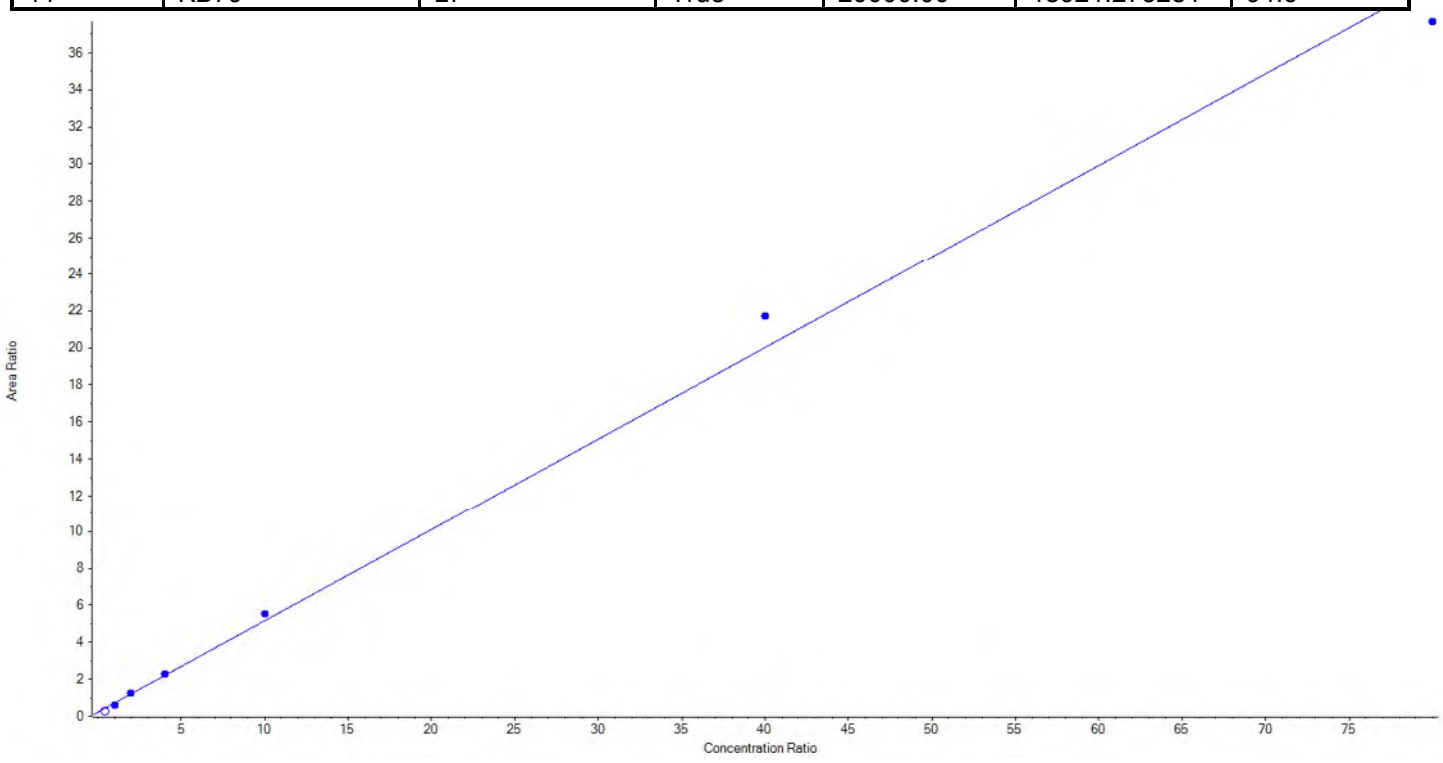
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NMeFOSAA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	570.0 / 512.0	**Result Table**	18-0633
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.49494 x + 0.21748 (r = 0.99726) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	False	100.00	22.241229	22.2
6	KB74	L2	True	250.00	198.243521	79.3
7	KB75	L3	True	500.00	525.118686	105.0
8	KB76	L4	True	1000.00	1047.871826	104.8
9	KB77	L5	True	2500.00	2690.345954	107.6
10	KB78	L6	True	10000.00	10867.146732	108.7
11	KB79	L7	True	20000.00	18921.273281	94.6



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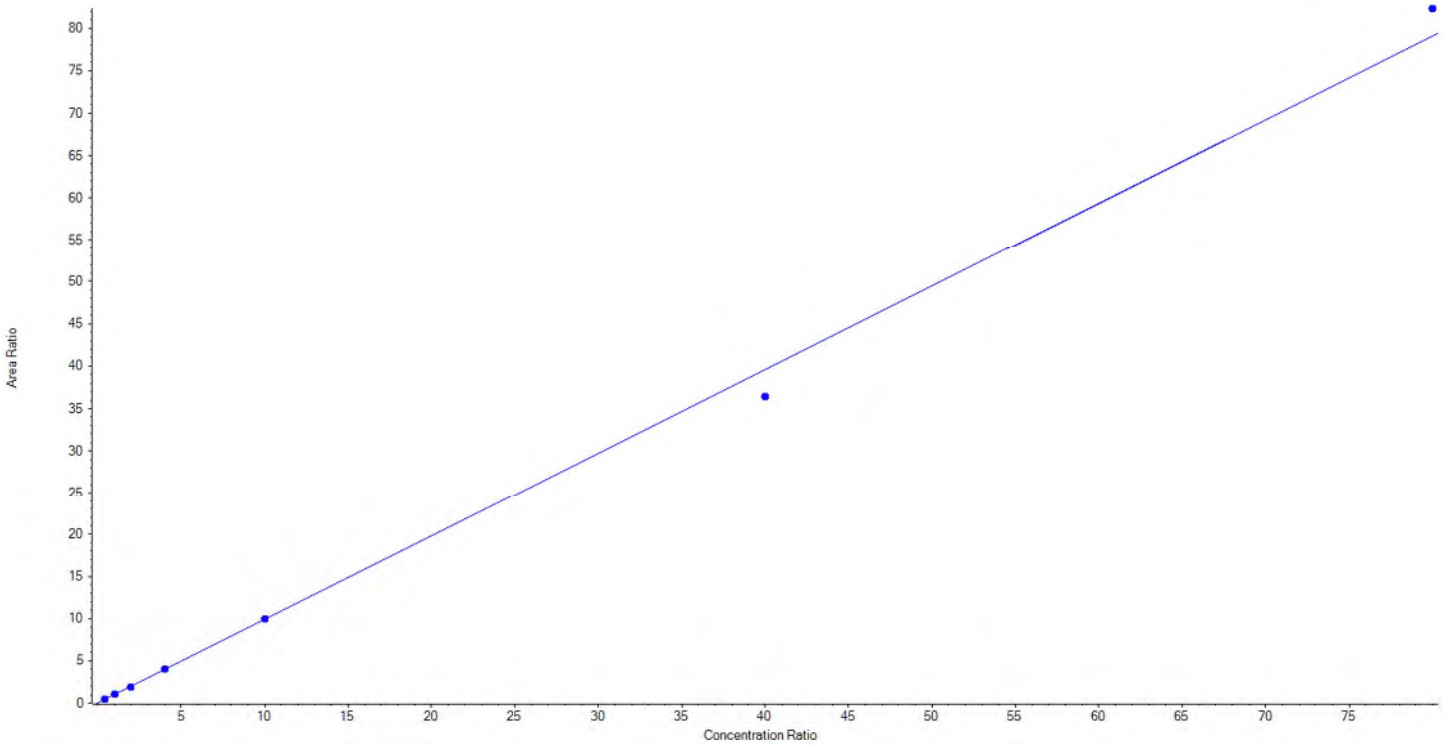
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NEtFOSAA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	584.0 / 419.0	**Result Table**	18-0633
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98847 x + 0.03764 (r = 0.99843) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	108.521375	108.5
6	KB74	L2	True	250.00	248.063284	99.2
7	KB75	L3	True	500.00	477.356918	95.5
8	KB76	L4	True	1000.00	1007.298310	100.7
9	KB77	L5	True	2500.00	2500.787468	100.0
10	KB78	L6	True	10000.00	9196.146996	92.0
11	KB79	L7	True	20000.00	20811.825649	104.1



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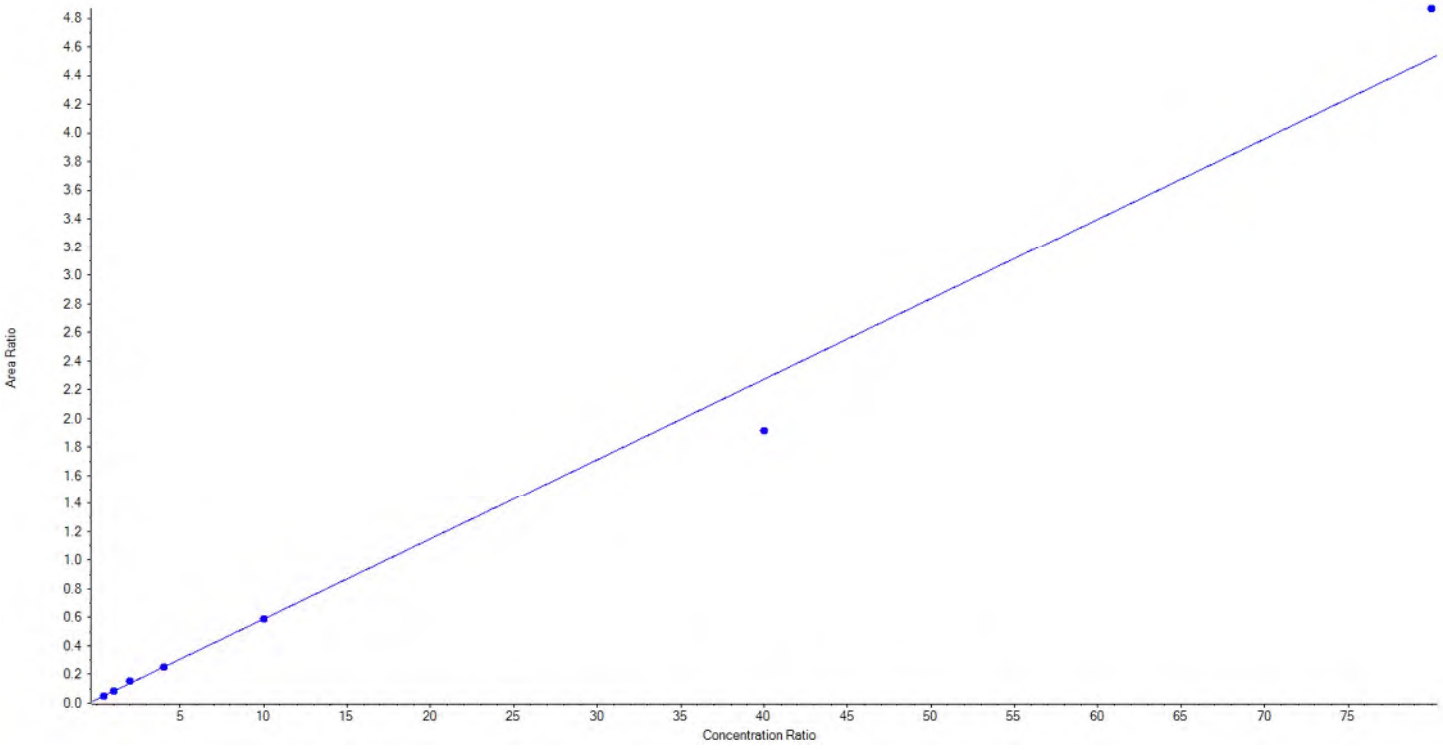
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NEtFOSAA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	584.0 / 483.0	**Result Table**	18-0633
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05620 x + 0.02698 (r = 0.99389) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	90.415626	90.4
6	KB74	L2	True	250.00	257.616448	103.1
7	KB75	L3	True	500.00	578.787877	115.8
8	KB76	L4	True	1000.00	994.488523	99.5
9	KB77	L5	True	2500.00	2491.455585	99.7
10	KB78	L6	True	10000.00	8397.392759	84.0
11	KB79	L7	True	20000.00	21539.843182	107.7



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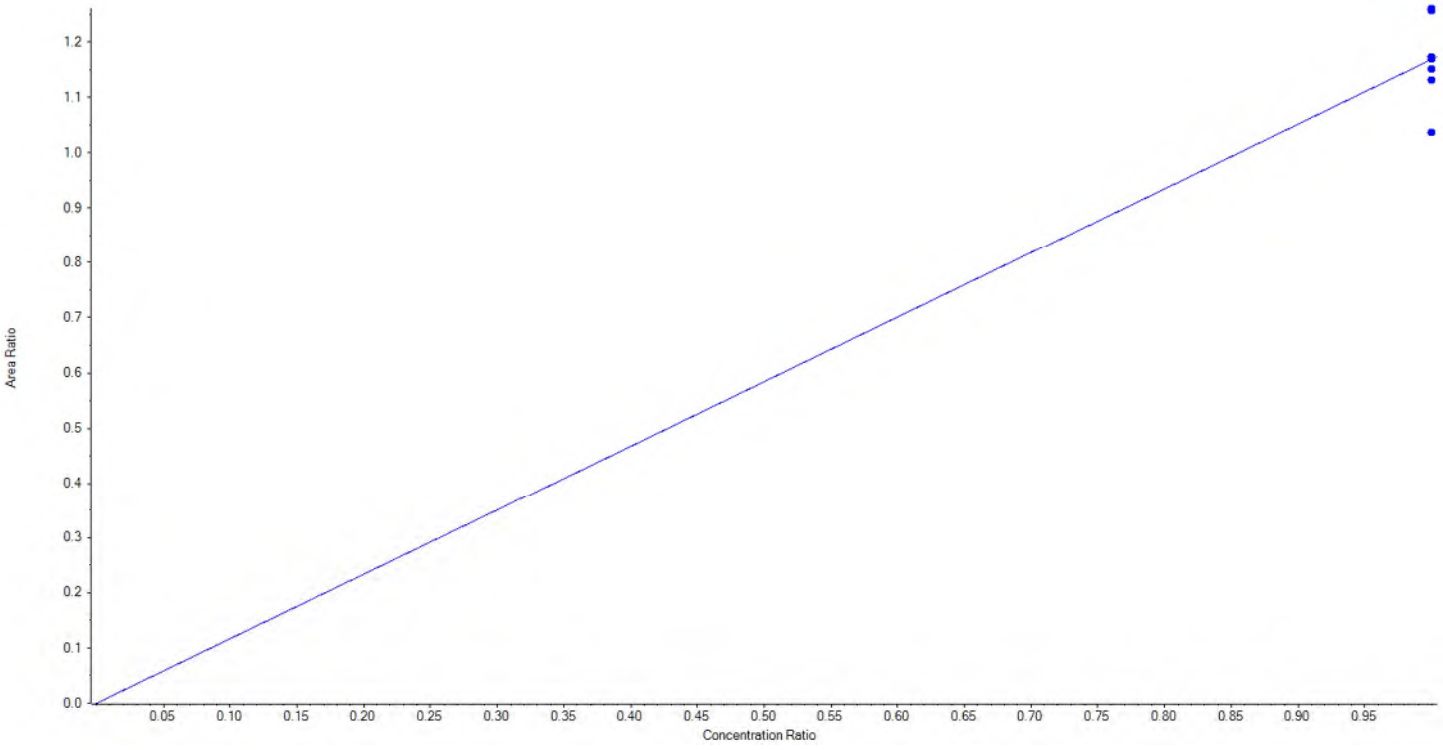
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C2-PFDoA	**Data File**	AC_11012018_369.wiff
MRM Transition	615.0 / 570.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.16832 x (std. dev. = 0.07657) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	221.874200	88.8
6	KB74	L2	True	250.00	269.618167	107.9
7	KB75	L3	True	250.00	246.392376	98.6
8	KB76	L4	True	250.00	241.891146	96.8
9	KB77	L5	True	250.00	251.107095	100.4
10	KB78	L6	True	250.00	268.834411	107.5
11	KB79	L7	True	250.00	250.282606	100.1



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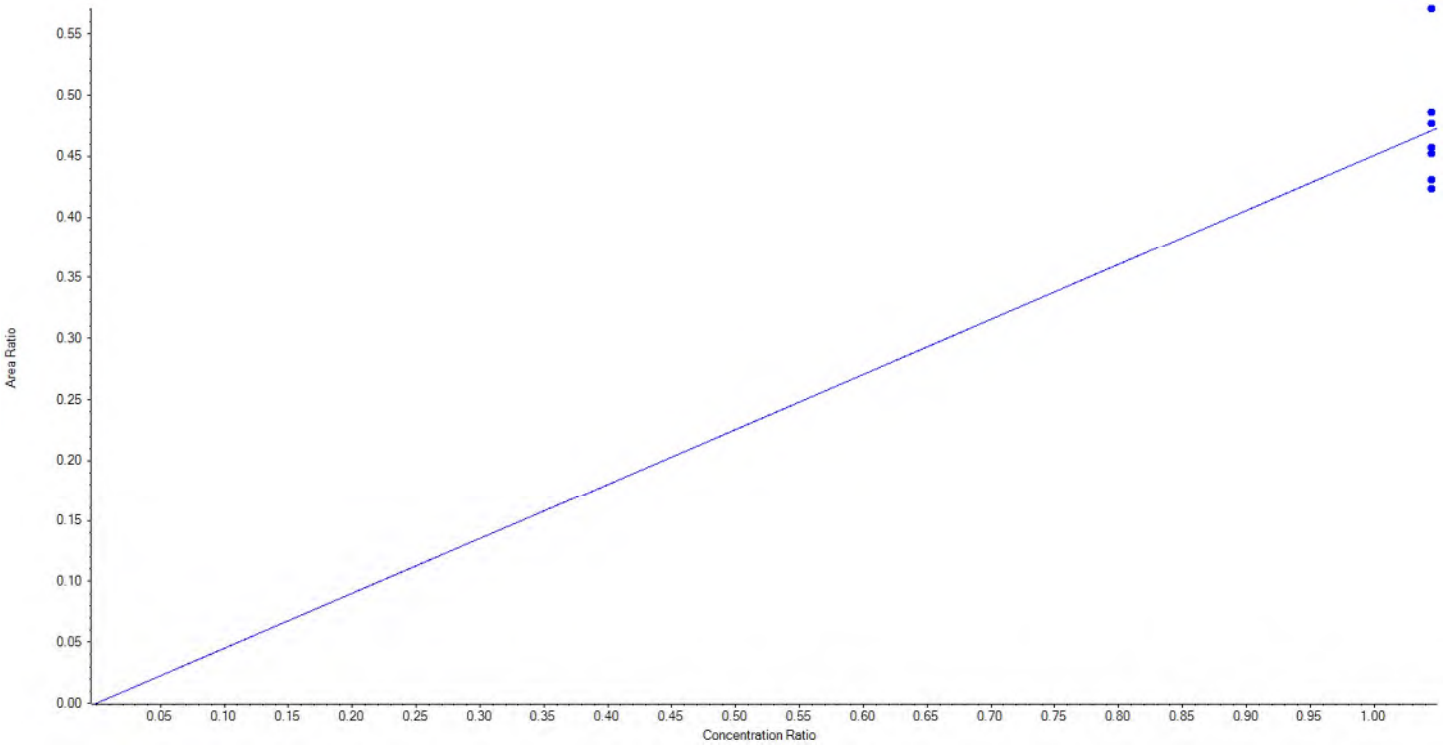
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	d3-MeFOSAA	**Data File**	AC_11012018_369.wiff
MRM Transition	573.0 / 419.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.45085 x (std. dev. = 0.04732) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	253.289490	101.3
6	KB74	L2	True	250.00	257.992554	103.2
7	KB75	L3	True	250.00	224.600617	89.8
8	KB76	L4	True	250.00	228.649055	91.5
9	KB77	L5	True	250.00	239.841865	95.9
10	KB78	L6	True	250.00	242.723352	97.1
11	KB79	L7	True	250.00	302.903067	121.2



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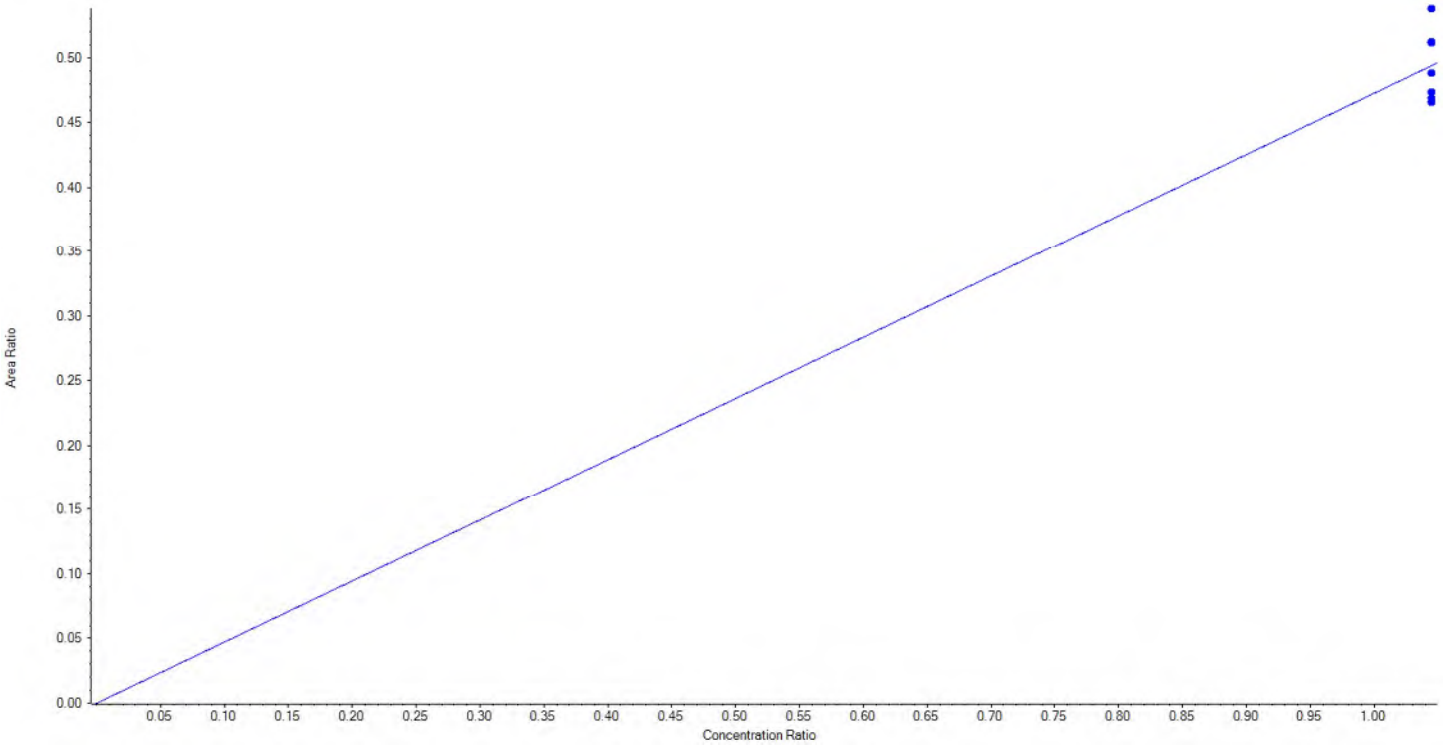
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	d5-EtFOSAA	**Data File**	AC_11012018_369.wiff
MRM Transition	589.0 / 419.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.47276 x (std. dev. = 0.02615) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	235.606368	94.2
6	KB74	L2	True	250.00	259.107745	103.6
7	KB75	L3	True	250.00	272.247701	108.9
8	KB76	L4	True	250.00	247.254486	98.9
9	KB77	L5	True	250.00	239.506569	95.8
10	KB78	L6	True	250.00	259.030750	103.6
11	KB79	L7	True	250.00	237.246382	94.9



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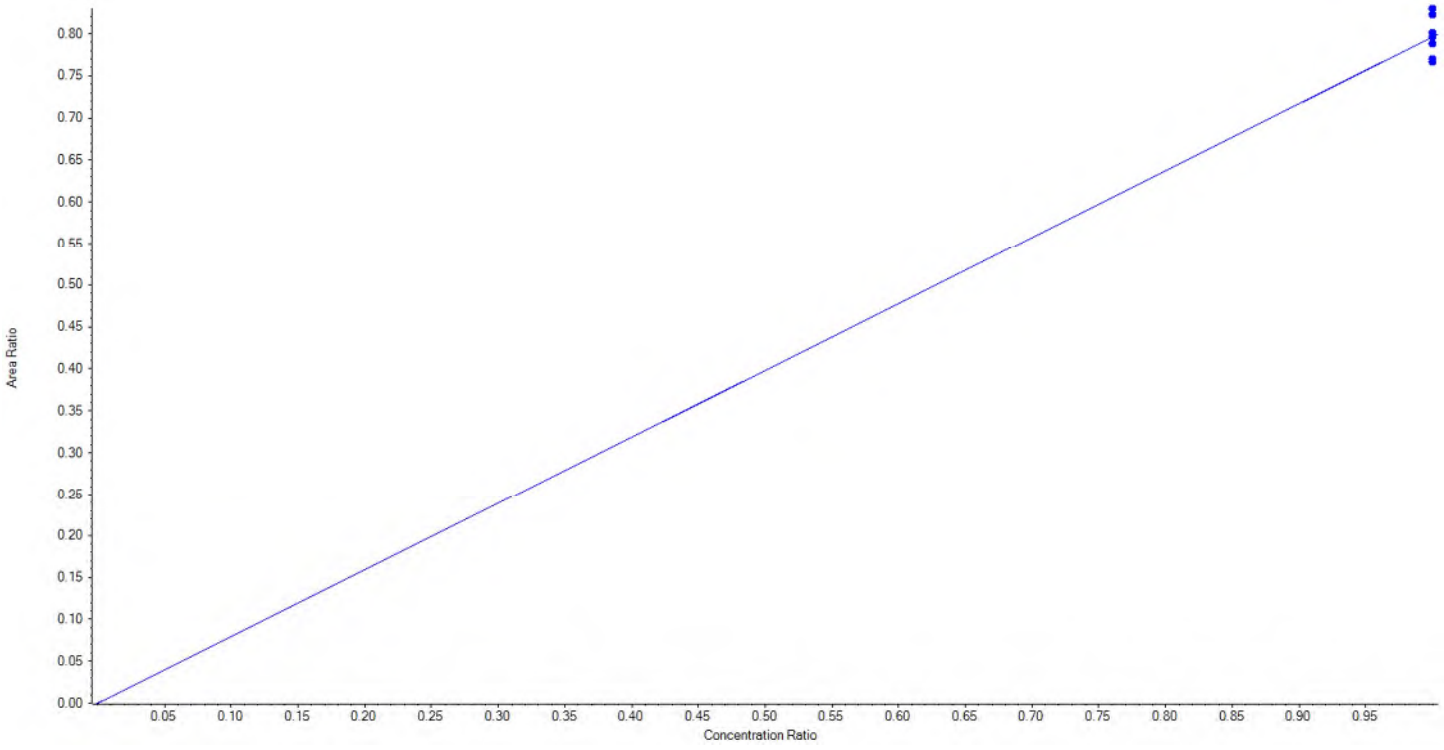
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C5-PFHxA	**Data File**	AC_11012018_369.wiff
MRM Transition	318.0 / 273.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.79637 x (std. dev. = 0.02439) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	251.522965	100.6
6	KB74	L2	True	250.00	247.380056	99.0
7	KB75	L3	True	250.00	240.451138	96.2
8	KB76	L4	True	250.00	260.525562	104.2
9	KB77	L5	True	250.00	258.360456	103.3
10	KB78	L6	True	250.00	241.599752	96.6
11	KB79	L7	True	250.00	250.160072	100.1



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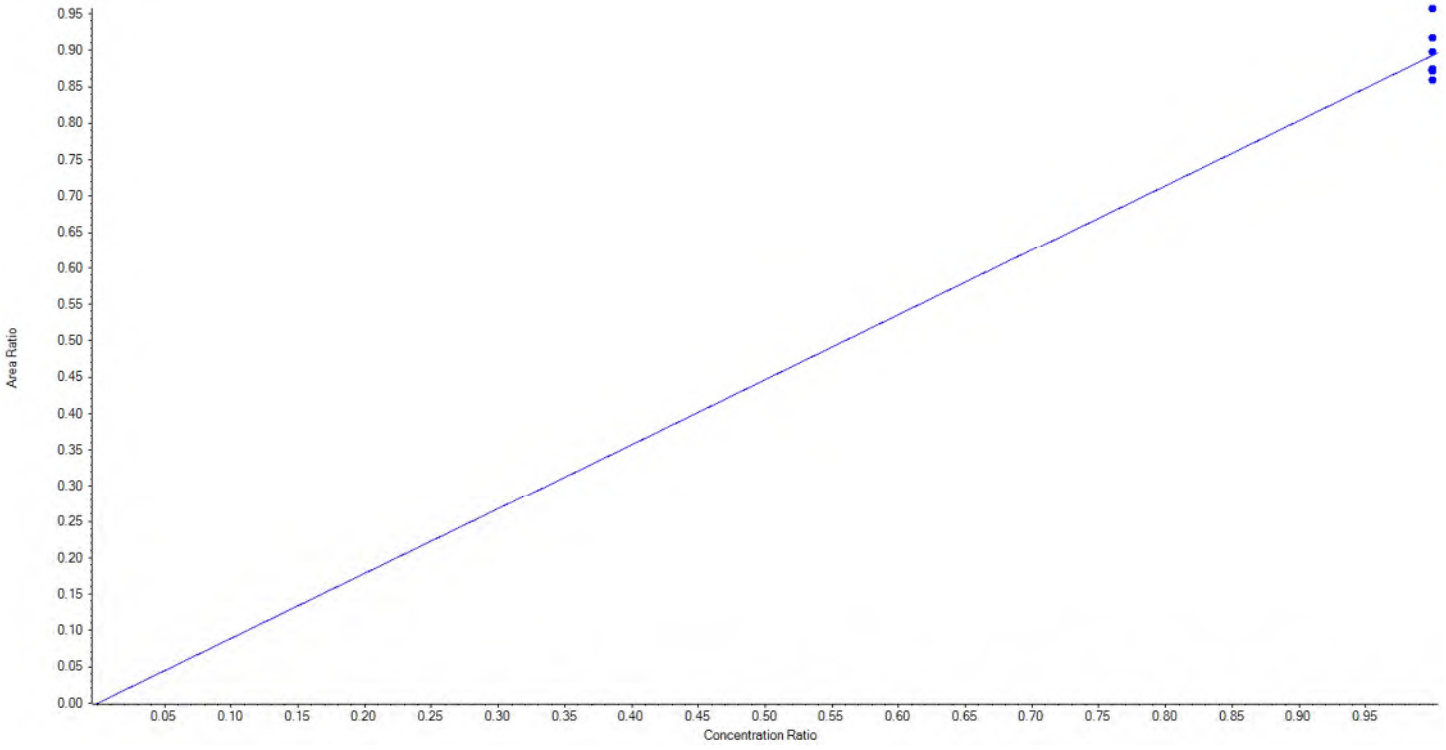
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C4-PFHpA	**Data File**	AC_11012018_369.wiff
MRM Transition	367.0 / 322.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.89282 x (std. dev. = 0.03418) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	240.671319	96.3
6	KB74	L2	True	250.00	244.933611	98.0
7	KB75	L3	True	250.00	251.274094	100.5
8	KB76	L4	True	250.00	243.933176	97.6
9	KB77	L5	True	250.00	256.733560	102.7
10	KB78	L6	True	250.00	244.487947	97.8
11	KB79	L7	True	250.00	267.966293	107.2



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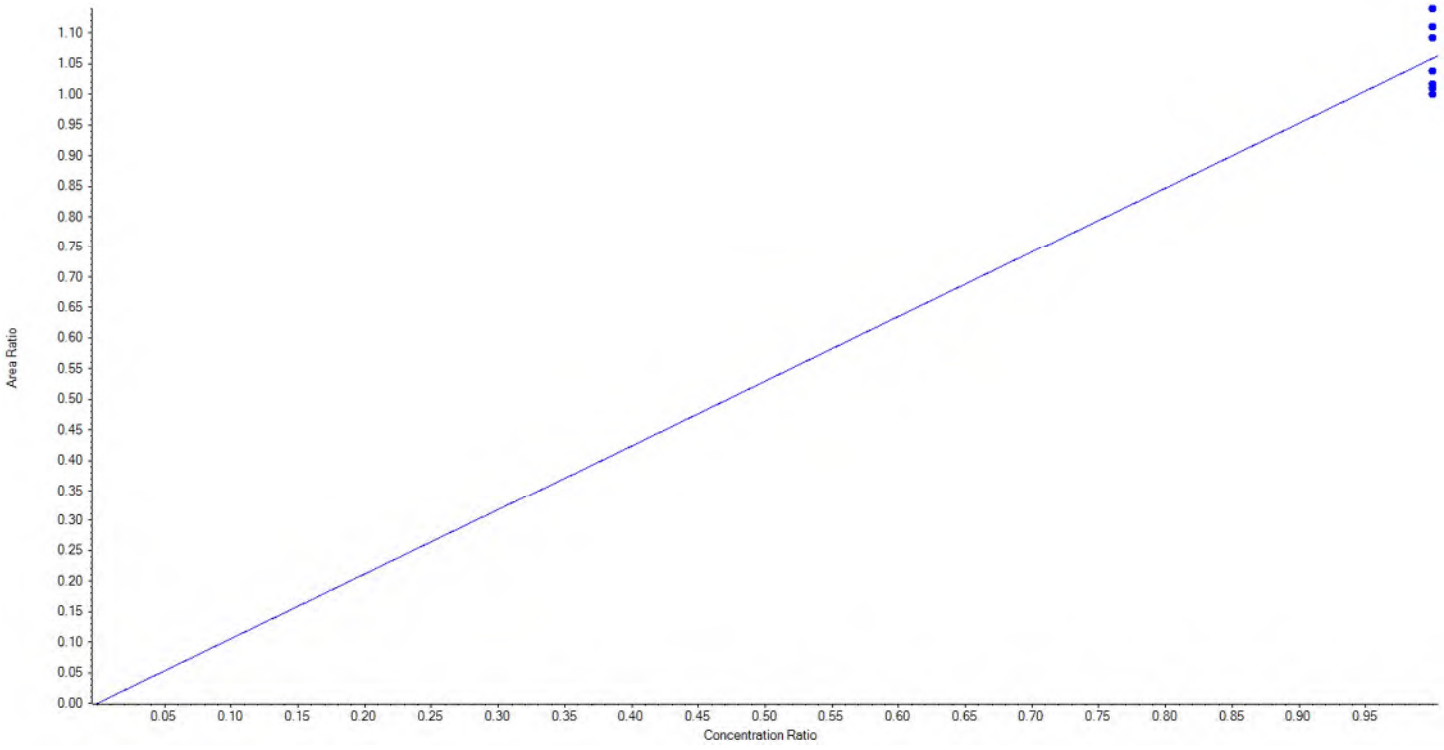
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C8-PFOA	**Data File**	AC_11012018_369.wiff
MRM Transition	421.0 / 376.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.05882 x (std. dev. = 0.05530) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	236.382004	94.6
6	KB74	L2	True	250.00	245.338082	98.1
7	KB75	L3	True	250.00	269.194968	107.7
8	KB76	L4	True	250.00	262.314402	104.9
9	KB77	L5	True	250.00	258.139882	103.3
10	KB78	L6	True	250.00	238.552806	95.4
11	KB79	L7	True	250.00	240.077856	96.0



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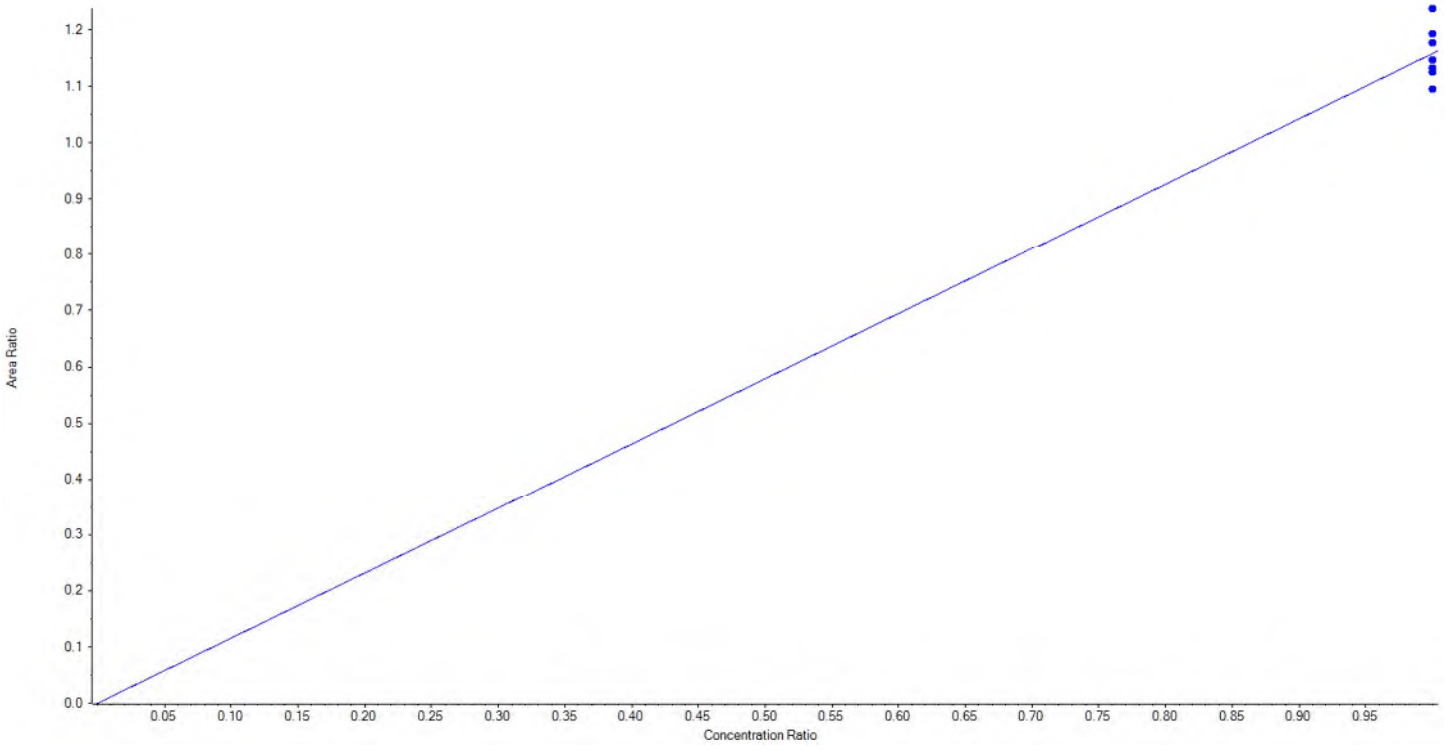
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C9-PFNA	**Data File**	AC_11012018_369.wiff
MRM Transition	472.0 / 427.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.15801 x (std. dev. = 0.04807) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	257.638879	103.1
6	KB74	L2	True	250.00	244.508084	97.8
7	KB75	L3	True	250.00	253.946550	101.6
8	KB76	L4	True	250.00	242.867338	97.2
9	KB77	L5	True	250.00	267.178569	106.9
10	KB78	L6	True	250.00	247.664656	99.1
11	KB79	L7	True	250.00	236.195924	94.5



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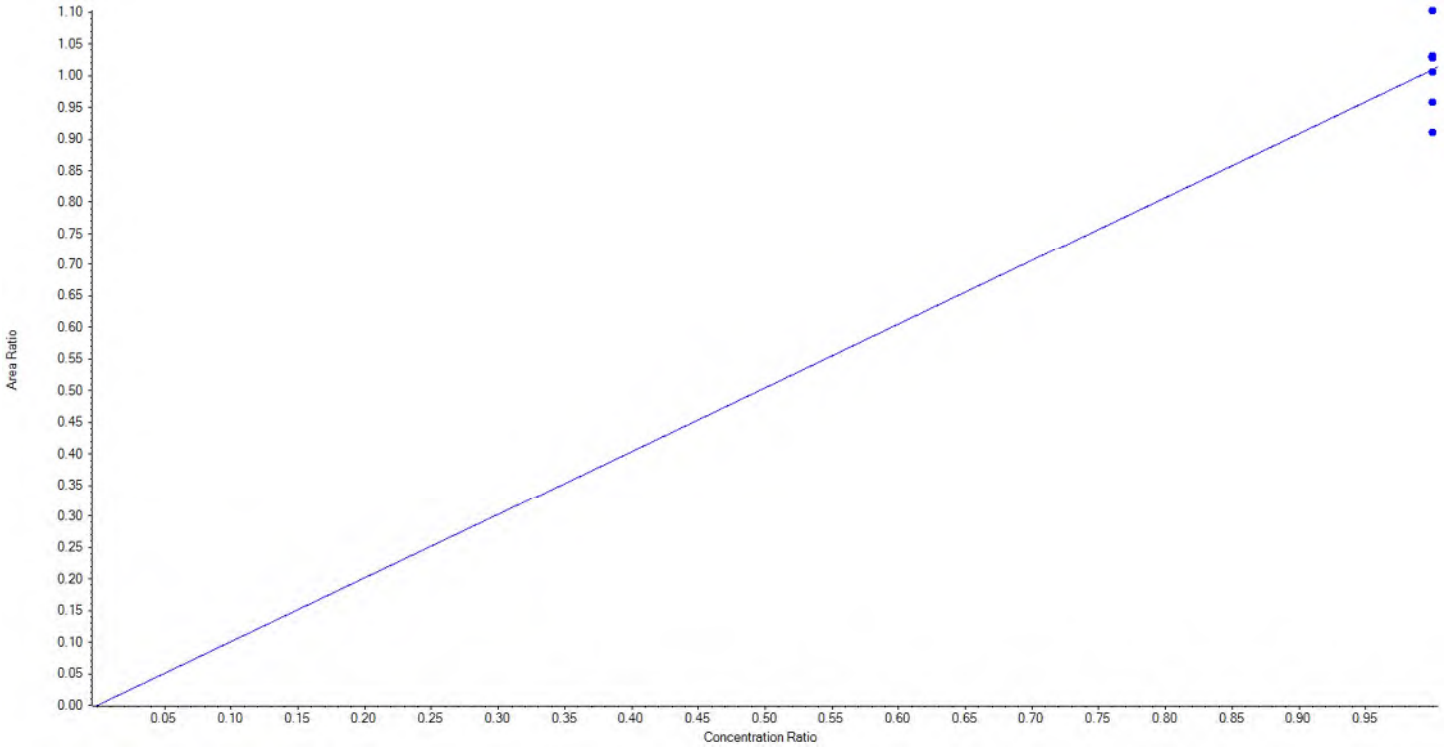
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C6-PFDA	**Data File**	AC_11012018_369.wiff
MRM Transition	519.0 / 474.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.00921 x (std. dev. = 0.06109) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	225.368194	90.2
6	KB74	L2	True	250.00	255.566340	102.2
7	KB75	L3	True	250.00	254.500167	101.8
8	KB76	L4	True	250.00	249.061324	99.6
9	KB77	L5	True	250.00	254.883384	102.0
10	KB78	L6	True	250.00	273.131659	109.3
11	KB79	L7	True	250.00	237.488931	95.0



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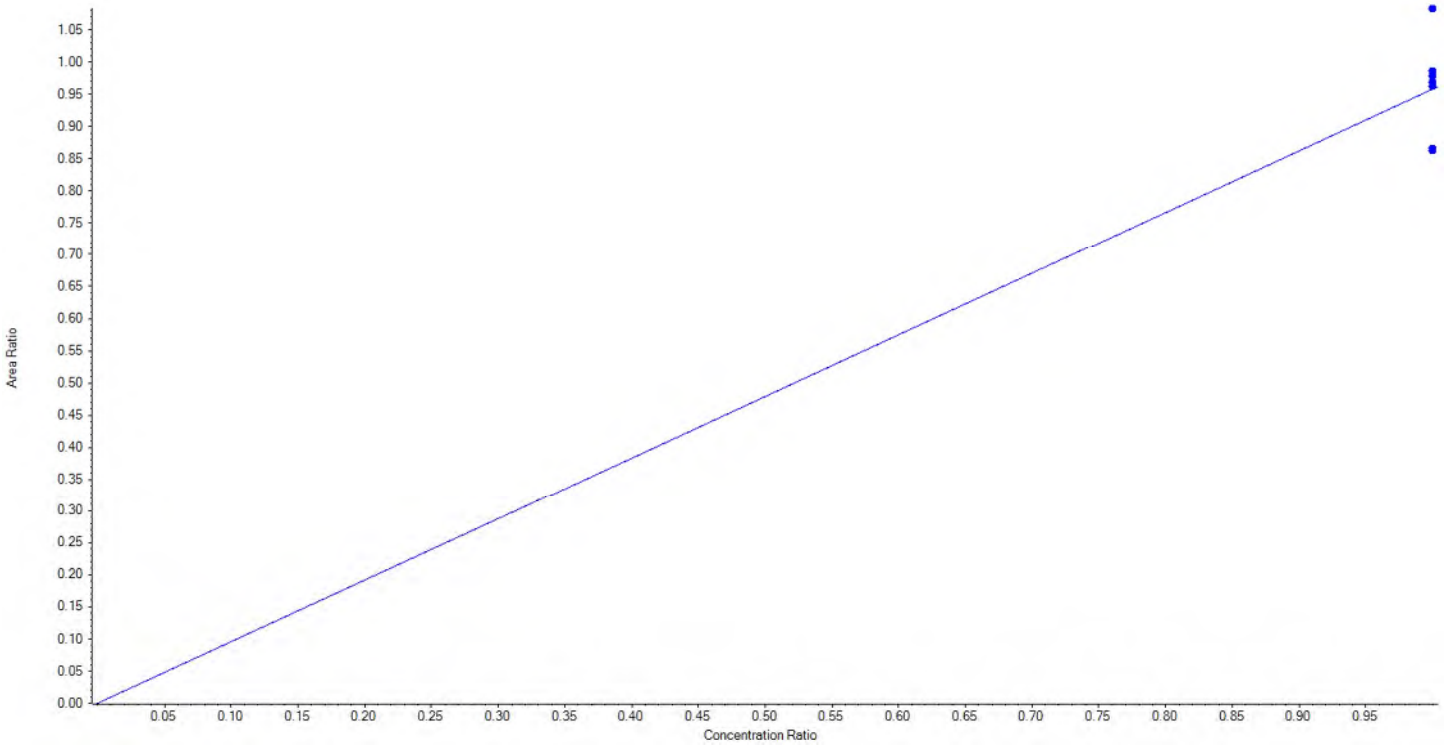
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C7-PFUnA	**Data File**	AC_11012018_369.wiff
MRM Transition	570.0 / 525.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.95813 x (std. dev. = 0.07587) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	225.849026	90.3
6	KB74	L2	True	250.00	282.577309	113.0
7	KB75	L3	True	250.00	255.150846	102.1
8	KB76	L4	True	250.00	257.246177	102.9
9	KB77	L5	True	250.00	252.732731	101.1
10	KB78	L6	True	250.00	251.317123	100.5
11	KB79	L7	True	250.00	225.126787	90.1



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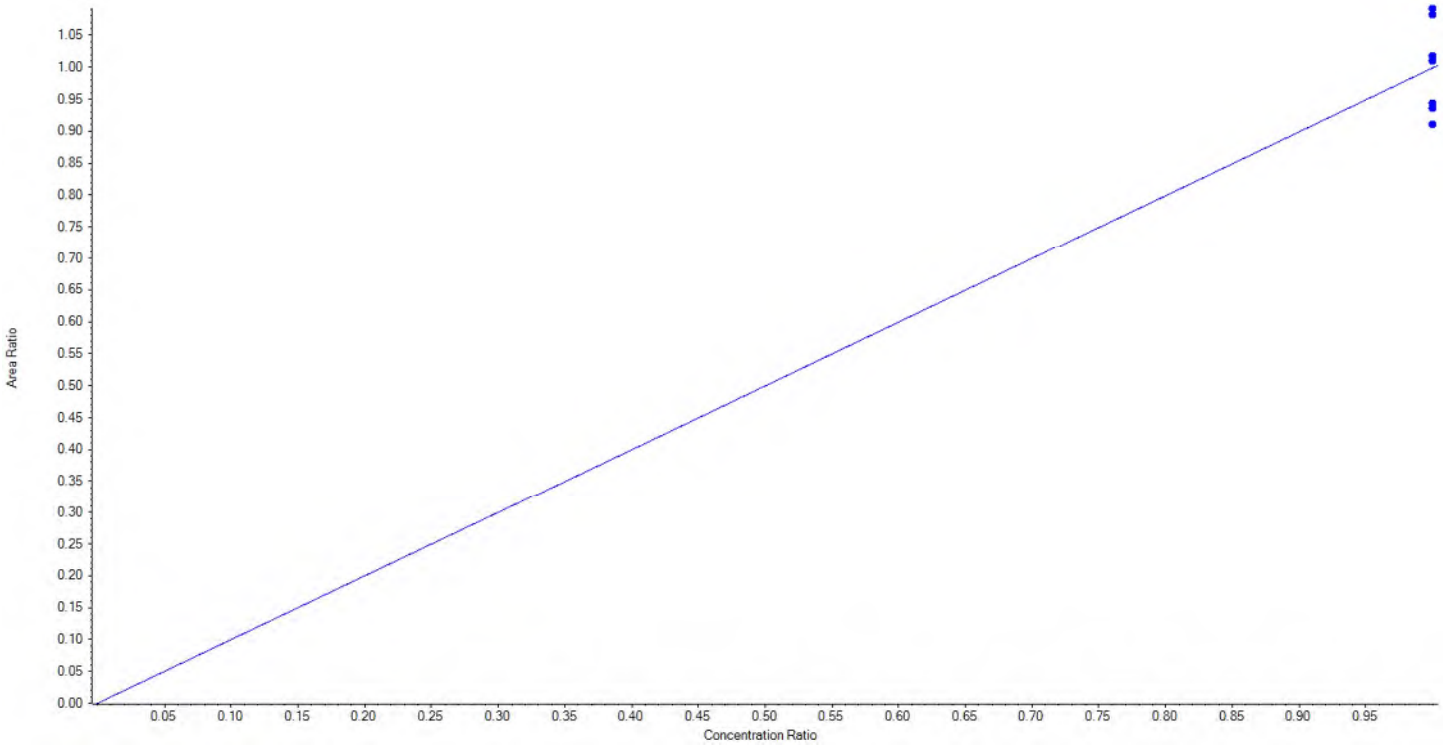
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C2-PFTeDA	**Data File**	AC_11012018_369.wiff
MRM Transition	715.0 / 670.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.99883 x (std. dev. = 0.07165) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	227.875803	91.2
6	KB74	L2	True	250.00	254.680189	101.9
7	KB75	L3	True	250.00	234.193645	93.7
8	KB76	L4	True	250.00	236.294888	94.5
9	KB77	L5	True	250.00	252.929882	101.2
10	KB78	L6	True	250.00	270.812090	108.3
11	KB79	L7	True	250.00	273.213503	109.3



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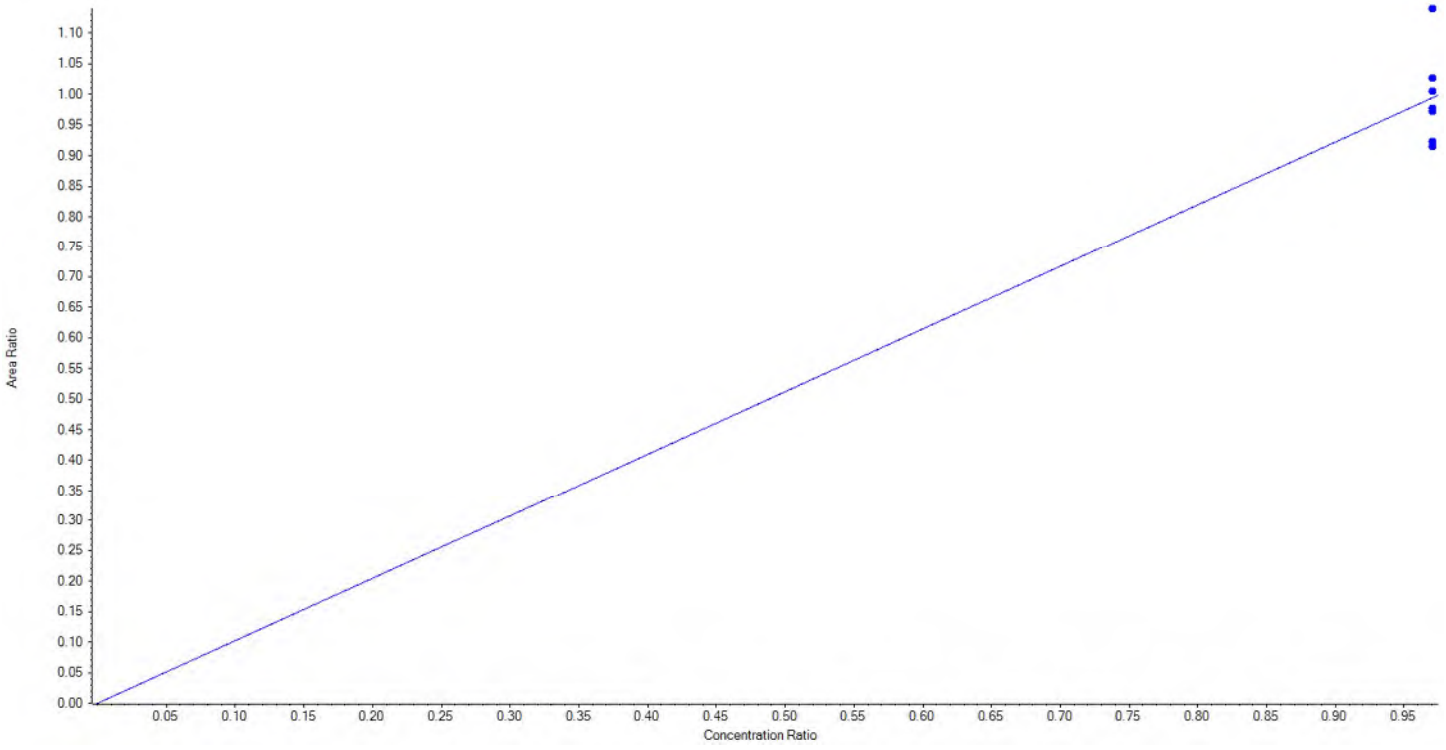
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C3-PFBS	**Data File**	AC_11012018_369.wiff
MRM Transition	302.0 / 99.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.02449 x (std. dev. = 0.07806) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	232.25	234.832007	101.1
6	KB74	L2	True	232.25	239.865304	103.3
7	KB75	L3	True	232.25	213.718538	92.0
8	KB76	L4	True	232.25	215.637782	92.9
9	KB77	L5	True	232.25	227.194054	97.8
10	KB78	L6	True	232.25	228.284895	98.3
11	KB79	L7	True	232.25	266.217418	114.6



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Calibration Summary Report

Created with Analyst Reporter
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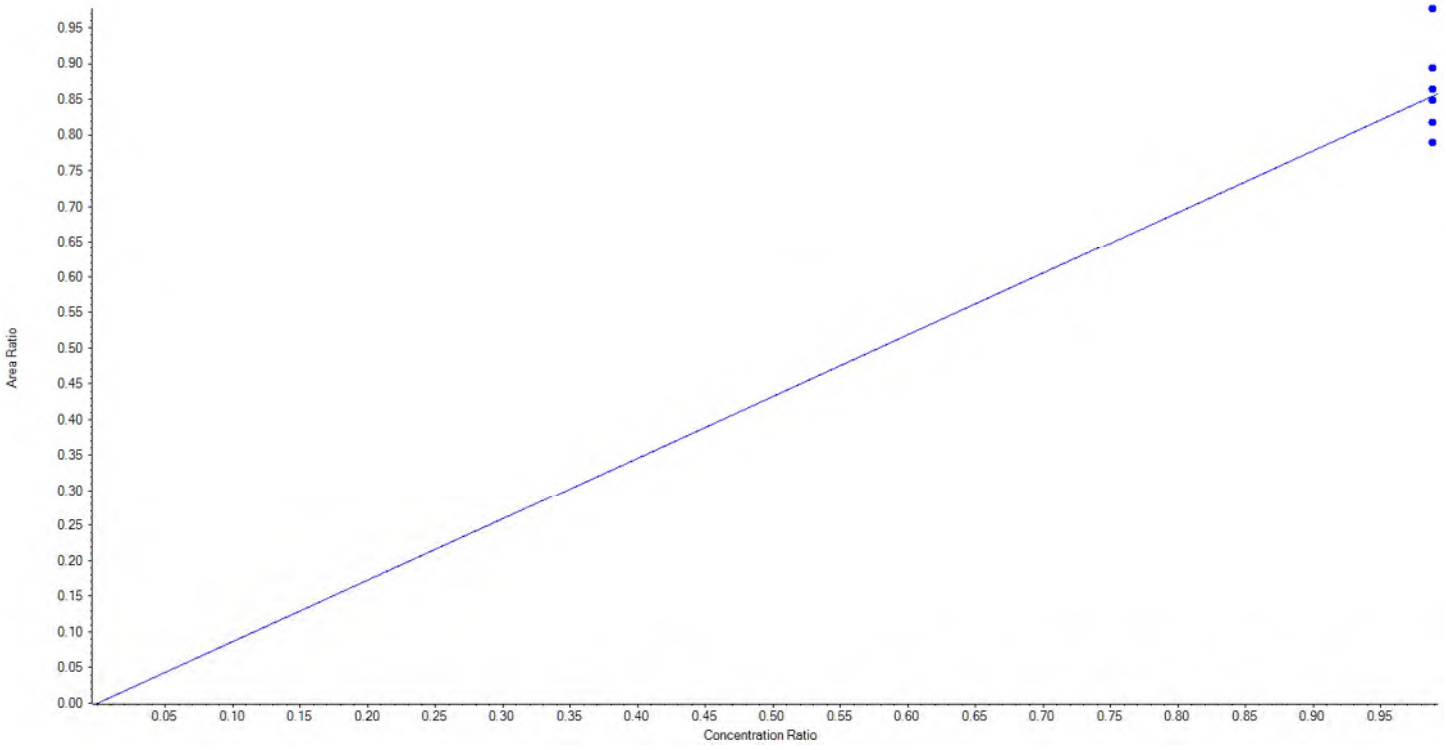
Analyte Name	13C3-PFHxS	**Data File**	AC_11012018_369.wiff
MRM Transition	402.0 / 99.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.86466 x (std. dev. = 0.06719) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	236.50	270.400845	114.3
6	KB74	L2	True	236.50	247.449917	104.6
7	KB75	L3	True	236.50	218.552556	92.4
8	KB76	L4	True	236.50	226.208890	95.7
9	KB77	L5	True	236.50	235.081371	99.4
10	KB78	L6	True	236.50	218.617271	92.4
11	KB79	L7	True	236.50	239.189151	101.1



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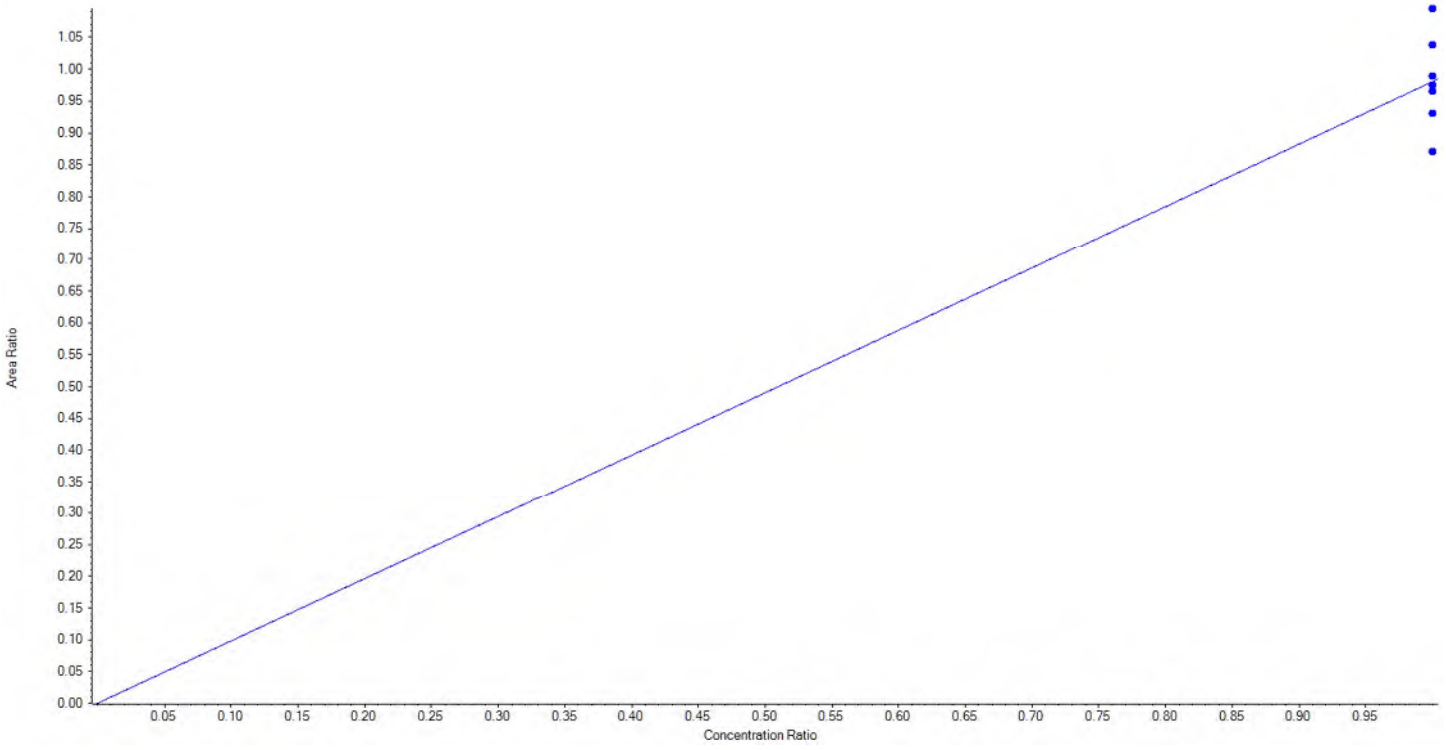
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C8-PFOS	**Data File**	AC_11012018_369.wiff
MRM Transition	507.0 / 99.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98043 x (std. dev. = 0.07220) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	239.25	212.336733	88.8
6	KB74	L2	True	239.25	253.220934	105.8
7	KB75	L3	True	239.25	267.170580	111.7
8	KB76	L4	True	239.25	237.794439	99.4
9	KB77	L5	True	239.25	235.481205	98.4
10	KB78	L6	True	239.25	227.313182	95.0
11	KB79	L7	True	239.25	241.432927	100.9



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	Isotope Dilution Calibration Curve Concentrations (ng/L)						
	KB73	KB74	KB75	KB76	KB77	KB78	KB79
PFBA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFPeA	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHxA	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFNA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFUnA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDoA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTrDA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTeDA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NMeFOSAA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NEtFOSAA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOSA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFBS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFPeS	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFHxS (Branched)	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpS	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOS (Branched)	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFNS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
4:2FTS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
6:2FTS	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
8:2FTS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
	Surrogates / Extracted Internal Standards						
13C4-PFBA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C5-PFPeA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C5-PFHxA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C4-PFHpA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C8-PFOA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C9-PFNA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C6-PFDA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C7-PFUnA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFDoA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFTeDA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
d3-MeFOSAA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
d5-EtFOSAA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C8-FOSA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C3-PFBS	232.25	232.25	232.25	232.25	232.25	232.25	232.25
13C3-PFHxS	236.50	236.50	236.50	236.50	236.50	236.50	236.50
13C8-PFOS	239.25	239.25	239.25	239.25	239.25	239.25	239.25
13C2-4:2FTS	233.75	233.75	233.75	233.75	233.75	233.75	233.75
13C2-6:2FTS	237.25	237.25	237.25	237.25	237.25	237.25	237.25
13C2-8:2FTS	239.50	239.50	239.50	239.50	239.50	239.50	239.50
	Internal Standards						
13C3-PFBA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFOA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFDA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C4-PFOS	239.25	239.25	239.25	239.25	239.25	239.25	239.25

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Summary Quant Report

Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	29282.81	96.415230	103.2	false
PFBS_2	298.9 / 99.0	1.56	10464.86	116.773135	90.9	false
PFHxA_1	313.0 / 269.0	1.89	28457.11	103.106050	22.4	true
PFHxA_2	313.0 / 119.0	1.90	2393.14	89.958075	11.4	true
PFHpA_1	363.0 / 319.0	2.31	23244.80	91.478218	36.2	true
PFHpA_2	363.0 / 169.0	2.30	526.81	96.516947	17.4	true
PFHxS_1	399.0 / 80.0	2.33	34007.33	88.127346	111.6	false
PFHxS_2	399.0 / 99.0	2.34	9326.69	85.634821	81.0	false
PFOA_1	413.0 / 369.0	2.72	33794.81	117.664660	71.4	false
PFOA_2	413.0 / 169.0	2.73	1937.86	112.880833	45.0	true
PFNA_1	463.0 / 419.0	3.12	35656.77	108.008345	106.6	false
PFNA_2	463.0 / 219.0	3.12	11766.42	104.808083	106.3	false
PFOS_1	499.0 / 80.0	3.12	48377.63	113.289330	57.3	false
PFOS_2	499.0 / 99.0	3.12	7229.75	94.731026	52.8	false
PFDA_1	513.0 / 469.0	3.48	37863.17	100.158075	141.8	false
PFDA_2	513.0 / 219.0	3.50	1325.64	116.896891	33.7	false
PFUnA_1	563.0 / 519.0	3.81	34749.59	112.180341	137.2	false
PFUnA_2	563.0 / 269.0	3.81	1740.28	189.532698	30.3	false
PFDoA_1	613.0 / 569.0	4.09	34367.95	90.478478	174.6	false
PFDoA_2	613.0 / 319.0	4.09	5678.35	92.536523	95.7	false
PFTrDA_1	663.0 / 619.0	4.34	32787.21	77.725128	265.1	false
PFTrDA_2	663.0 / 169.0	4.33	1939.96	6.709205	75.7	false
PFTeDA_1	713.0 / 669.0	4.55	38539.46	82.176947	540.1	false
PFTeDA_2	713.0 / 169.0	4.55	1824.07	72.738185	143.2	false
NMeFOSAA_1	570.0 / 419.0	3.63	5165.49	78.781525	177.2	false
NMeFOSAA_2	570.0 / 512.0	3.65	2757.16	22.241229	194.6	false
NEtFOSAA_1	584.0 / 419.0	3.80	5051.25	108.521375	99.3	false
NEtFOSAA_2	584.0 / 483.0	3.82	511.97	90.415626	39.3	true

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Summary Quant Report

Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	73307.33	250.691097	159.7	false
PFBS_2	298.9 / 99.0	1.56	20091.84	225.927568	97.8	false
PFHxA_1	313.0 / 269.0	1.89	68368.58	291.941278	38.1	true
PFHxA_2	313.0 / 119.0	1.89	5972.35	320.291277	24.8	true
PFHpA_1	363.0 / 319.0	2.30	58000.15	264.085955	69.4	true
PFHpA_2	363.0 / 169.0	2.29	1195.86	271.995222	28.2	true
PFHxS_1	399.0 / 80.0	2.32	85501.16	277.914633	174.6	false
PFHxS_2	399.0 / 99.0	2.32	25635.79	294.723772	211.0	false
PFOA_1	413.0 / 369.0	2.71	76090.51	264.546778	136.5	false
PFOA_2	413.0 / 169.0	2.71	4970.56	280.665995	88.7	true
PFNA_1	463.0 / 419.0	3.11	71328.98	246.451412	178.7	false
PFNA_2	463.0 / 219.0	3.11	24163.81	263.032748	192.4	false
PFOS_1	499.0 / 80.0	3.11	117717.48	250.458550	92.3	false
PFOS_2	499.0 / 99.0	3.11	22601.34	279.096820	224.3	false
PFDA_1	513.0 / 469.0	3.47	85554.53	257.113066	215.2	false
PFDA_2	513.0 / 219.0	3.47	2712.88	228.013862	58.8	false
PFUnA_1	563.0 / 519.0	3.80	88696.19	257.599590	193.5	false
PFUnA_2	563.0 / 269.0	3.80	3402.14	273.166005	65.5	false
PFDoA_1	613.0 / 569.0	4.08	89464.73	254.661144	237.9	false
PFDoA_2	613.0 / 319.0	4.08	14292.20	249.459599	156.2	false
PFTrDA_1	663.0 / 619.0	4.33	82499.04	255.764827	381.4	false
PFTrDA_2	663.0 / 169.0	4.33	5444.14	202.815274	138.8	false
PFTeDA_1	713.0 / 669.0	4.55	92330.19	248.817171	766.3	false
PFTeDA_2	713.0 / 169.0	4.54	4743.09	261.375790	235.3	false
NMeFOSAA_1	570.0 / 419.0	3.63	11394.90	225.408997	197.1	false
NMeFOSAA_2	570.0 / 512.0	3.63	6781.63	198.243521	316.1	false
NEtFOSAA_1	584.0 / 419.0	3.79	12092.15	248.063284	279.5	false
NEtFOSAA_2	584.0 / 483.0	3.78	1007.91	257.616448	47.0	false

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Summary Quant Report

Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	123946.88	519.290801	262.6	false
PFBS_2	298.9 / 99.0	1.56	35779.69	493.777211	188.6	false
PFHxA_1	313.0 / 269.0	1.89	94336.70	481.935864	49.1	true
PFHxA_2	313.0 / 119.0	1.89	7515.13	491.099156	33.9	true
PFHpA_1	363.0 / 319.0	2.30	92727.60	483.824047	102.1	false
PFHpA_2	363.0 / 169.0	2.31	1339.00	341.377446	27.8	true
PFHxS_1	399.0 / 80.0	2.33	129455.83	524.068284	171.3	false
PFHxS_2	399.0 / 99.0	2.32	34783.79	493.362281	181.8	false
PFOA_1	413.0 / 369.0	2.72	117936.75	425.764411	165.4	false
PFOA_2	413.0 / 169.0	2.72	8038.13	465.588777	106.0	false
PFNA_1	463.0 / 419.0	3.11	120528.14	468.474574	290.7	false
PFNA_2	463.0 / 219.0	3.12	38505.96	478.709473	229.6	false
PFOS_1	499.0 / 80.0	3.11	196679.14	441.639440	126.1	false
PFOS_2	499.0 / 99.0	3.11	32475.41	416.357129	187.6	false
PFDA_1	513.0 / 469.0	3.47	139800.55	465.079740	272.7	false
PFDA_2	513.0 / 219.0	3.48	5441.85	478.070887	83.9	false
PFUnA_1	563.0 / 519.0	3.80	134729.00	457.954181	218.9	false
PFUnA_2	563.0 / 269.0	3.80	6239.53	501.113618	122.4	false
PFDoA_1	613.0 / 569.0	4.08	141405.73	486.549987	342.8	false
PFDoA_2	613.0 / 319.0	4.08	23883.69	506.159531	206.4	false
PFTrDA_1	663.0 / 619.0	4.32	139183.09	531.405785	413.0	false
PFTrDA_2	663.0 / 169.0	4.32	10109.49	545.875721	223.8	false
PFTeDA_1	713.0 / 669.0	4.54	158030.21	524.214982	885.4	false
PFTeDA_2	713.0 / 169.0	4.54	7793.71	531.482702	382.5	false
NMeFOSAA_1	570.0 / 419.0	3.63	21028.97	581.297920	346.4	false
NMeFOSAA_2	570.0 / 512.0	3.63	11378.42	525.118686	289.3	false
NEtFOSAA_1	584.0 / 419.0	3.79	22456.88	477.356918	312.6	false
NEtFOSAA_2	584.0 / 483.0	3.79	1832.53	578.787877	135.3	false

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Summary Quant Report

Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	270711.68	1014.494476	379.1	false
PFBS_2	298.9 / 99.0	1.56	80586.31	994.728137	256.5	false
PFHxA_1	313.0 / 269.0	1.89	199595.99	915.475323	79.4	false
PFHxA_2	313.0 / 119.0	1.89	15861.76	957.543855	51.9	false
PFHpA_1	363.0 / 319.0	2.30	199026.56	1044.110201	162.8	false
PFHpA_2	363.0 / 169.0	2.30	4292.02	1183.825995	66.9	false
PFHxS_1	399.0 / 80.0	2.32	284551.70	1002.721710	277.9	false
PFHxS_2	399.0 / 99.0	2.32	82186.27	1015.701521	367.6	false
PFOA_1	413.0 / 369.0	2.71	262245.49	934.770463	249.5	false
PFOA_2	413.0 / 169.0	2.71	14995.40	844.897561	183.3	false
PFNA_1	463.0 / 419.0	3.11	267579.84	1055.147814	362.5	false
PFNA_2	463.0 / 219.0	3.11	80796.00	1032.474748	363.8	false
PFOS_1	499.0 / 80.0	3.11	417880.92	961.462485	163.8	false
PFOS_2	499.0 / 99.0	3.11	76370.50	1005.018936	282.6	false
PFDA_1	513.0 / 469.0	3.47	328116.76	1047.059860	390.4	false
PFDA_2	513.0 / 219.0	3.47	13085.67	1058.798060	143.6	false
PFUnA_1	563.0 / 519.0	3.79	304122.58	933.004902	301.7	false
PFUnA_2	563.0 / 269.0	3.79	14435.87	963.325414	166.4	false
PFDoA_1	613.0 / 569.0	4.08	328259.04	1076.151440	363.1	false
PFDoA_2	613.0 / 319.0	4.07	51877.28	1043.720829	331.8	false
PFTrDA_1	663.0 / 619.0	4.32	303007.50	1078.009373	593.9	false
PFTrDA_2	663.0 / 169.0	4.32	20129.40	1055.834717	305.3	false
PFTeDA_1	713.0 / 669.0	4.54	344316.45	1062.825606	1198.5	false
PFTeDA_2	713.0 / 169.0	4.54	16952.02	1082.201825	530.0	false
NMeFOSAA_1	570.0 / 419.0	3.63	40970.79	1028.523797	462.8	false
NMeFOSAA_2	570.0 / 512.0	3.63	23744.09	1047.871826	450.4	false
NEtFOSAA_1	584.0 / 419.0	3.79	45691.77	1007.298310	586.0	false
NEtFOSAA_2	584.0 / 483.0	3.78	2847.34	994.488523	192.1	false

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Summary Quant Report

Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	820659.96	2583.095707	673.6	false
PFBS_2	298.9 / 99.0	1.55	238260.62	2468.668836	399.8	false
PFHxA_1	313.0 / 269.0	1.88	588431.48	2433.455260	145.0	false
PFHxA_2	313.0 / 119.0	1.88	42845.86	2371.976831	83.4	false
PFHpA_1	363.0 / 319.0	2.30	570103.70	2527.117254	264.2	false
PFHpA_2	363.0 / 169.0	2.30	11473.20	2691.386469	150.9	false
PFHxS_1	399.0 / 80.0	2.32	824657.15	2523.710501	418.6	false
PFHxS_2	399.0 / 99.0	2.32	236702.14	2536.972999	515.3	false
PFOA_1	413.0 / 369.0	2.71	761864.41	2435.905069	404.4	false
PFOA_2	413.0 / 169.0	2.71	47465.33	2387.587124	339.7	false
PFNA_1	463.0 / 419.0	3.11	742041.84	2352.218404	534.3	false
PFNA_2	463.0 / 219.0	3.11	219968.14	2277.170555	586.9	false
PFOS_1	499.0 / 80.0	3.11	1202695.75	2499.398693	275.8	false
PFOS_2	499.0 / 99.0	3.11	228616.20	2712.527480	527.8	false
PFDA_1	513.0 / 469.0	3.47	907793.56	2528.689044	632.1	false
PFDA_2	513.0 / 219.0	3.47	33175.10	2297.792098	242.0	false
PFUnA_1	563.0 / 519.0	3.80	905420.41	2490.527932	474.3	false
PFUnA_2	563.0 / 269.0	3.79	41399.08	2356.267381	274.9	false
PFDoA_1	613.0 / 569.0	4.07	914659.90	2576.953698	531.5	false
PFDoA_2	613.0 / 319.0	4.07	148619.69	2571.621427	382.5	false
PFTrDA_1	663.0 / 619.0	4.32	885201.25	2642.246108	847.8	false
PFTrDA_2	663.0 / 169.0	4.32	57464.64	2611.247297	562.1	false
PFTeDA_1	713.0 / 669.0	4.54	1029699.18	2665.532399	1653.0	false
PFTeDA_2	713.0 / 169.0	4.54	50408.96	2708.177653	905.3	false
NMeFOSAA_1	570.0 / 419.0	3.63	127611.22	2764.635102	1133.0	false
NMeFOSAA_2	570.0 / 512.0	3.63	68758.27	2690.345954	933.7	false
NEtFOSAA_1	584.0 / 419.0	3.79	130194.31	2500.787468	676.9	false
NEtFOSAA_2	584.0 / 483.0	3.79	7700.40	2491.455585	345.4	false

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Summary Quant Report

Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	2668542.72	10105.866254	1059.3	false
PFBS_2	298.9 / 99.0	1.56	816884.38	10182.540545	658.0	false
PFHxA_1	313.0 / 269.0	1.89	1874584.36	9901.318374	262.5	false
PFHxA_2	313.0 / 119.0	1.89	133668.09	9551.793940	140.9	false
PFHpA_1	363.0 / 319.0	2.30	1833939.45	10185.991641	423.6	false
PFHpA_2	363.0 / 169.0	2.30	34898.50	10309.385436	235.7	false
PFHxS_1	399.0 / 80.0	2.32	2599256.58	10057.553060	628.1	false
PFHxS_2	399.0 / 99.0	2.32	744561.58	10083.723760	731.2	false
PFOA_1	413.0 / 369.0	2.71	2414354.28	9918.750801	713.3	false
PFOA_2	413.0 / 169.0	2.71	156537.75	10089.974859	588.8	false
PFNA_1	463.0 / 419.0	3.11	2430767.05	9902.832185	1052.2	false
PFNA_2	463.0 / 219.0	3.11	731670.70	9786.720902	1051.8	false
PFOS_1	499.0 / 80.0	3.11	3845502.26	10331.681673	474.2	false
PFOS_2	499.0 / 99.0	3.11	680894.43	10428.896908	658.7	false
PFDA_1	513.0 / 469.0	3.47	2848542.45	9673.540293	903.9	false
PFDA_2	513.0 / 219.0	3.47	114018.16	9527.951083	409.2	false
PFUnA_1	563.0 / 519.0	3.80	2776204.40	9954.742824	710.7	false
PFUnA_2	563.0 / 269.0	3.79	135851.41	9829.399972	509.5	false
PFDoA_1	613.0 / 569.0	4.08	2929197.86	10065.549839	700.6	false
PFDoA_2	613.0 / 319.0	4.07	471771.73	9955.656099	625.4	false
PFTrDA_1	663.0 / 619.0	4.32	2813700.24	10274.551778	1192.3	false
PFTrDA_2	663.0 / 169.0	4.32	178614.12	10098.849508	803.8	false
PFTeDA_1	713.0 / 669.0	4.54	3268491.72	10343.433386	2177.0	false
PFTeDA_2	713.0 / 169.0	4.54	156246.35	10279.510237	1405.7	false
NMeFOSAA_1	570.0 / 419.0	3.62	405134.81	10600.148972	1120.3	false
NMeFOSAA_2	570.0 / 512.0	3.62	226475.72	10867.146732	1280.3	false
NEtFOSAA_1	584.0 / 419.0	3.79	432975.54	9196.146996	1256.2	false
NEtFOSAA_2	584.0 / 483.0	3.79	22776.02	8397.392759	480.5	false

BATTELLE

Summary Quant Report

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	7209502.59	20123.646435	1478.0	false
PFBS_2	298.9 / 99.0	1.55	2199975.26	20211.084568	979.8	false
PFHxA_1	313.0 / 269.0	1.88	4872592.04	20566.267850	406.3	false
PFHxA_2	313.0 / 119.0	1.88	365433.16	20910.836865	204.9	false
PFHpA_1	363.0 / 319.0	2.29	4712302.92	19753.392683	795.0	false
PFHpA_2	363.0 / 169.0	2.29	87181.79	19455.512486	474.0	false
PFHxS_1	399.0 / 80.0	2.32	6472149.03	20219.404466	1329.3	false
PFHxS_2	399.0 / 99.0	2.32	1846048.81	20183.380846	1630.2	false
PFOA_1	413.0 / 369.0	2.71	6002105.61	20252.597816	1055.7	false
PFOA_2	413.0 / 169.0	2.71	381150.18	20168.404851	918.0	false
PFNA_1	463.0 / 419.0	3.11	5722806.66	20216.867267	1329.6	false
PFNA_2	463.0 / 219.0	3.11	1757940.67	20407.083491	1552.5	false
PFOS_1	499.0 / 80.0	3.10	9273466.57	19752.069830	520.5	false
PFOS_2	499.0 / 99.0	3.10	1599032.70	19413.371701	1089.5	false
PFDA_1	513.0 / 469.0	3.46	6779744.85	20278.359921	811.1	false
PFDA_2	513.0 / 219.0	3.46	281008.63	20642.477118	576.2	false
PFUnA_1	563.0 / 519.0	3.79	6580984.39	20143.990230	823.2	false
PFUnA_2	563.0 / 269.0	3.79	330437.45	20326.727610	686.7	false
PFDoA_1	613.0 / 569.0	4.07	7006372.52	19799.655415	904.4	false
PFDoA_2	613.0 / 319.0	4.07	1148410.03	19930.845991	756.5	false
PFTrDA_1	663.0 / 619.0	4.32	7029821.80	19490.297001	1548.6	false
PFTrDA_2	663.0 / 169.0	4.32	458331.83	19735.377482	1172.2	false
PFTeDA_1	713.0 / 669.0	4.53	8084788.71	19422.999508	2494.4	false
PFTeDA_2	713.0 / 169.0	4.53	388574.57	19414.513608	1681.0	false
NMeFOSAA_1	570.0 / 419.0	3.62	1023978.15	19071.203685	907.9	false
NMeFOSAA_2	570.0 / 512.0	3.62	552883.44	18921.273281	1868.7	false
NEtFOSAA_1	584.0 / 419.0	3.78	1005160.29	20811.825649	1222.1	false
NEtFOSAA_2	584.0 / 483.0	3.78	59448.95	21539.843182	818.5	false

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Summary Quant Report

Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.08	81526.60	221.874200	845.2	false
d3-MeFOSAA	573.0 / 419.0	3.63	10439.07	253.289490	173.4	false
d5-EtFOSAA	589.0 / 419.0	3.79	10182.26	235.606368	155.1	false
13C5-PFHxA	318.0 / 273.0	1.88	49567.34	251.522965	468.8	false
13C4-PFHpA	367.0 / 322.0	2.30	53173.34	240.671319	746.2	false
13C8-PFOA	421.0 / 376.0	2.71	61935.92	236.382004	1106.7	false
13C9-PFNA	472.0 / 427.0	3.10	73829.16	257.638879	302617.4	false
13C6-PFDA	519.0 / 474.0	3.46	71532.59	225.368194	740.3	false
13C7-PFUnA	570.0 / 525.0	3.79	68056.96	225.849026	726.4	false
13C2-PFTeDA	715.0 / 670.0	4.55	71584.24	227.875803	1117.3	false
13C3-PFBS	302.0 / 99.0	1.55	21992.82	234.832007	279.3	false
13C3-PFHxS	402.0 / 99.0	2.32	21373.13	270.400845	220.8	false
13C8-PFOS	507.0 / 99.0	3.10	19030.76	212.336733	187.3	false

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Summary Quant Report

Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.07	91149.56	269.618167	917.5	false
d3-MeFOSAA	573.0 / 419.0	3.62	10815.74	257.992554	139.0	false
d5-EtFOSAA	589.0 / 419.0	3.79	11390.48	259.107745	171.4	false
13C5-PFHxA	318.0 / 273.0	1.87	51412.38	247.380056	521.4	false
13C4-PFHpA	367.0 / 322.0	2.29	57069.36	244.933611	1067.3	false
13C8-PFOA	421.0 / 376.0	2.70	67791.96	245.338082	1407.3	false
13C9-PFNA	472.0 / 427.0	3.10	73891.55	244.508084	885.6	false
13C6-PFDA	519.0 / 474.0	3.46	74632.48	255.566340	3718.9	false
13C7-PFUnA	570.0 / 525.0	3.78	78343.78	282.577309	799.7	false
13C2-PFTeDA	715.0 / 670.0	4.54	73608.38	254.680189	1759.8	false
13C3-PFBS	302.0 / 99.0	1.54	22850.49	239.865304	213.8	false
13C3-PFHxS	402.0 / 99.0	2.31	19895.36	247.449917	232.1	false
13C8-PFOS	507.0 / 99.0	3.09	23085.28	253.220934	212.5	false

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Summary Quant Report

Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.07	79782.29	246.392376	626.5	false
d3-MeFOSAA	573.0 / 419.0	3.62	8852.28	224.600617	139.4	false
d5-EtFOSAA	589.0 / 419.0	3.78	11251.77	272.247701	166.0	false
13C5-PFHxA	318.0 / 273.0	1.88	45134.05	240.451138	564.3	false
13C4-PFHpA	367.0 / 322.0	2.29	52878.22	251.274094	845.9	false
13C8-PFOA	421.0 / 376.0	2.71	67182.25	269.194968	1765.6	false
13C9-PFNA	472.0 / 427.0	3.10	69313.58	253.946550	740.4	false
13C6-PFDA	519.0 / 474.0	3.46	71184.60	254.500167	882.5	false
13C7-PFUnA	570.0 / 525.0	3.78	67754.49	255.150846	1004.4	false
13C2-PFTeDA	715.0 / 670.0	4.54	64830.75	234.193645	1309.7	false
13C3-PFBS	302.0 / 99.0	1.55	19141.02	213.718538	241.5	false
13C3-PFHxS	402.0 / 99.0	2.32	16520.20	218.552556	188.6	false
13C8-PFOS	507.0 / 99.0	3.10	22899.13	267.170580	161.5	false

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Summary Quant Report

Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.07	86765.55	241.891146	830.8	false
d3-MeFOSAA	573.0 / 419.0	3.62	10106.21	228.649055	167.2	false
d5-EtFOSAA	589.0 / 419.0	3.78	11459.76	247.254486	203.4	false
13C5-PFHxA	318.0 / 273.0	1.88	52180.30	260.525562	539.7	false
13C4-PFHpA	367.0 / 322.0	2.29	54774.53	243.933176	748.8	false
13C8-PFOA	421.0 / 376.0	2.70	69853.55	262.314402	1977.8	false
13C9-PFNA	472.0 / 427.0	3.10	70733.29	242.867338	2915.4	false
13C6-PFDA	519.0 / 474.0	3.45	77170.70	249.061324	941.9	false
13C7-PFUnA	570.0 / 525.0	3.78	75672.51	257.246177	531.3	false
13C2-PFTeDA	715.0 / 670.0	4.54	72461.68	236.294888	1456.2	false
13C3-PFBS	302.0 / 99.0	1.54	21658.21	215.637782	271.1	false
13C3-PFHxS	402.0 / 99.0	2.31	19175.37	226.208890	196.8	false
13C8-PFOS	507.0 / 99.0	3.09	22856.34	237.794439	207.8	false

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Summary Quant Report

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Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.07	102748.63	251.107095	1207.2	false
d3-MeFOSAA	573.0 / 419.0	3.62	12072.50	239.841865	171.7	false
d5-EtFOSAA	589.0 / 419.0	3.78	12641.61	239.506569	149.0	false
13C5-PFHxA	318.0 / 273.0	1.87	59438.07	258.360456	668.0	false
13C4-PFHpA	367.0 / 322.0	2.29	66217.52	256.733560	837.4	false
13C8-PFOA	421.0 / 376.0	2.70	78959.41	258.139882	1585.9	false
13C9-PFNA	472.0 / 427.0	3.10	89379.68	267.178569	772.0	false
13C6-PFDA	519.0 / 474.0	3.45	90090.16	254.883384	1617.3	false
13C7-PFUnA	570.0 / 525.0	3.78	84808.69	252.732731	1326.1	false
13C2-PFTeDA	715.0 / 670.0	4.53	88479.75	252.929882	2029.0	false
13C3-PFBS	302.0 / 99.0	1.54	25986.53	227.194054	251.1	false
13C3-PFHxS	402.0 / 99.0	2.31	22693.73	235.081371	233.8	false
13C8-PFOS	507.0 / 99.0	3.09	25775.97	235.481205	194.2	false

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Summary Quant Report

Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.07	85046.04	268.834411	2049.5	false
d3-MeFOSAA	573.0 / 419.0	3.61	10143.99	242.723352	126.6	false
d5-EtFOSAA	589.0 / 419.0	3.78	11351.70	259.030750	150.8	false
13C5-PFHxA	318.0 / 273.0	1.88	47117.31	241.599752	519.1	false
13C4-PFHpA	367.0 / 322.0	2.29	53455.58	244.487947	759.8	false
13C8-PFOA	421.0 / 376.0	2.70	61855.55	238.552806	782.4	false
13C9-PFNA	472.0 / 427.0	3.10	70233.86	247.664656	1113.6	false
13C6-PFDA	519.0 / 474.0	3.45	74638.01	273.131659	879.1	false
13C7-PFUnA	570.0 / 525.0	3.78	65200.83	251.317123	478.5	false
13C2-PFTeDA	715.0 / 670.0	4.53	73242.64	270.812090	1581.4	false
13C3-PFBS	302.0 / 99.0	1.54	21679.70	228.284895	291.1	false
13C3-PFHxS	402.0 / 99.0	2.31	17522.53	218.617271	218.4	false
13C8-PFOS	507.0 / 99.0	3.09	20658.94	227.313182	226.6	false

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Summary Quant Report

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.06	103580.82	250.282606	1089.7	false
d3-MeFOSAA	573.0 / 419.0	3.62	14737.31	302.903067	129.9	false
d5-EtFOSAA	589.0 / 419.0	3.78	12103.94	237.246382	143.3	false
13C5-PFHxA	318.0 / 273.0	1.87	59086.49	250.160072	465.7	false
13C4-PFHpA	367.0 / 322.0	2.28	70958.10	267.966293	772.5	false
13C8-PFOA	421.0 / 376.0	2.70	75393.25	240.077856	1565.3	false
13C9-PFNA	472.0 / 427.0	3.09	81122.46	236.195924	2249.6	false
13C6-PFDA	519.0 / 474.0	3.45	84900.61	237.488931	864.8	false
13C7-PFUnA	570.0 / 525.0	3.77	76407.80	225.126787	611.6	false
13C2-PFTeDA	715.0 / 670.0	4.53	96666.85	273.213503	1857.2	false
13C3-PFBS	302.0 / 99.0	1.53	29432.70	266.217418	239.4	false
13C3-PFHxS	402.0 / 99.0	2.30	22318.83	239.189151	216.8	false
13C8-PFOS	507.0 / 99.0	3.09	25544.50	241.432927	204.3	false

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Summary Ion Ratio Report

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Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.360	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.34	PFHxS	0.270	0.284	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.73	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.12	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.330	0.314	ü
PFOS_1	499.0 / 80.0	3.12	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.150	0.176	ü
PFDA_1	513.0 / 469.0	3.48	PFDA			
PFDA_2	513.0 / 219.0	3.50	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.81	PFUnA			
PFUnA_2	563.0 / 269.0	3.81	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.09	PFDoA	0.170	0.163	ü
PFTrDA_1	663.0 / 619.0	4.34	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.33	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.55	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.55	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.65	NMeFOSAA	0.530	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.82	NEtFOSAA	0.100	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.270	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.090	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.300	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.340	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.190	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.030	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.040	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.33	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.33	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.55	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.600	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.080	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	PFHpA	0.010	0.020	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.270	0.284	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.72	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.320	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.170	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.48	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.170	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.080	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.300	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.580	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.303	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.190	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.560	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.050	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.310	0.314	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.170	0.176	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.53	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.53	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.071	ü

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Summary Internal Standard Report

Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	21992.82	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	21992.82	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	49567.34	250.00
PFHxA_2	313.0 / 119.0	1.90	13C5-PFHxA	318.0 / 273.0	49567.34	250.00
PFHpA_1	363.0 / 319.0	2.31	13C4-PFHpA	367.0 / 322.0	53173.34	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	53173.34	250.00
PFHxS_1	399.0 / 80.0	2.33	13C3-PFHxS	402.0 / 99.0	21279.40	236.50
PFHxS_2	399.0 / 99.0	2.34	13C3-PFHxS	402.0 / 99.0	21279.40	236.50
PFOA_1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	61935.92	250.00
PFOA_2	413.0 / 169.0	2.73	13C8-PFOA	421.0 / 376.0	61935.92	250.00
PFNA_1	463.0 / 419.0	3.12	13C9-PFNA	472.0 / 427.0	73829.16	250.00
PFNA_2	463.0 / 219.0	3.12	13C9-PFNA	472.0 / 427.0	73829.16	250.00
PFOS_1	499.0 / 80.0	3.12	13C8-PFOS	507.0 / 99.0	18674.05	239.25
PFOS_2	499.0 / 99.0	3.12	13C8-PFOS	507.0 / 99.0	18674.05	239.25
PFDA_1	513.0 / 469.0	3.48	13C6-PFDA	519.0 / 474.0	71532.59	250.00
PFDA_2	513.0 / 219.0	3.50	13C6-PFDA	519.0 / 474.0	71532.59	250.00
PFUnA_1	563.0 / 519.0	3.81	13C7-PFUnA	570.0 / 525.0	68056.96	250.00
PFUnA_2	563.0 / 269.0	3.81	13C7-PFUnA	570.0 / 525.0	68056.96	250.00
PFDoA_1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	81526.60	250.00
PFDoA_2	613.0 / 319.0	4.09	13C2-PFDoA	615.0 / 570.0	81526.60	250.00
PFTrDA_1	663.0 / 619.0	4.34	13C2-PFTeDA	715.0 / 670.0	71584.24	250.00
PFTrDA_2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	71584.24	250.00
PFTeDA_1	713.0 / 669.0	4.55	13C2-PFTeDA	715.0 / 670.0	71584.24	250.00
PFTeDA_2	713.0 / 169.0	4.55	13C2-PFTeDA	715.0 / 670.0	71584.24	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	10543.32	250.00
NMeFOSAA_2	570.0 / 512.0	3.65	d3-MeFOSAA	573.0 / 419.0	10543.32	250.00
NEtFOSAA_1	584.0 / 419.0	3.80	d5-EtFOSAA	589.0 / 419.0	10822.86	250.00
NEtFOSAA_2	584.0 / 483.0	3.82	d5-EtFOSAA	589.0 / 419.0	10822.86	250.00

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Summary Internal Standard Report

Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	22850.49	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	22850.49	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	51412.38	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	51412.38	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	57069.36	250.00
PFHpA_2	363.0 / 169.0	2.29	13C4-PFHpA	367.0 / 322.0	57069.36	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	19778.30	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	19778.30	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	67791.96	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	67791.96	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	73891.55	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	73891.55	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	23055.99	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	23055.99	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	74632.48	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	74632.48	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	78343.78	250.00
PFUnA_2	563.0 / 269.0	3.80	13C7-PFUnA	570.0 / 525.0	78343.78	250.00
PFDoA_1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	91149.56	250.00
PFDoA_2	613.0 / 319.0	4.08	13C2-PFDoA	615.0 / 570.0	91149.56	250.00
PFTrDA_1	663.0 / 619.0	4.33	13C2-PFTeDA	715.0 / 670.0	73608.38	250.00
PFTrDA_2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	73608.38	250.00
PFTeDA_1	713.0 / 669.0	4.55	13C2-PFTeDA	715.0 / 670.0	73608.38	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	73608.38	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	11118.32	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	11118.32	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	11873.08	250.00
NEtFOSAA_2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	11873.08	250.00

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Summary Internal Standard Report

Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	19141.02	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	19141.02	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	45134.05	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	45134.05	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	52878.22	250.00
PFHpA_2	363.0 / 169.0	2.31	13C4-PFHpA	367.0 / 322.0	52878.22	250.00
PFHxS_1	399.0 / 80.0	2.33	13C3-PFHxS	402.0 / 99.0	16476.30	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	16476.30	236.50
PFOA_1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	67182.25	250.00
PFOA_2	413.0 / 169.0	2.72	13C8-PFOA	421.0 / 376.0	67182.25	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	69313.58	250.00
PFNA_2	463.0 / 219.0	3.12	13C9-PFNA	472.0 / 427.0	69313.58	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	22840.06	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	22840.06	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	71184.60	250.00
PFDA_2	513.0 / 219.0	3.48	13C6-PFDA	519.0 / 474.0	71184.60	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	67754.49	250.00
PFUnA_2	563.0 / 269.0	3.80	13C7-PFUnA	570.0 / 525.0	67754.49	250.00
PFDoA_1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	79782.29	250.00
PFDoA_2	613.0 / 319.0	4.08	13C2-PFDoA	615.0 / 570.0	79782.29	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	64830.75	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	64830.75	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	64830.75	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	64830.75	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	9051.42	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	9051.42	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	11665.62	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	11665.62	250.00

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Summary Internal Standard Report

Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	21658.21	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	21658.21	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	52180.30	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	52180.30	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	54774.53	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	54774.53	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	19318.76	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	19318.76	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	69853.55	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	69853.55	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	70733.29	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	70733.29	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	23033.33	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	23033.33	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	77170.70	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	77170.70	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	75672.51	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	75672.51	250.00
PFDoA_1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	86765.55	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	86765.55	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	72461.68	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	72461.68	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	72461.68	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	72461.68	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	10359.48	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	10359.48	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	11365.07	250.00
NEtFOSAA_2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	11365.07	250.00

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Summary Internal Standard Report

Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	25986.53	232.25
PFBS_2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	25986.53	232.25
PFHxA_1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	59438.07	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	59438.07	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	66217.52	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	66217.52	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	22552.15	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	22552.15	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	78959.41	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	78959.41	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	89379.68	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	89379.68	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	25952.87	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	25952.87	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	90090.16	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	90090.16	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	84808.69	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	84808.69	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	102748.63	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	102748.63	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	88479.75	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	88479.75	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	88479.75	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	88479.75	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	12402.89	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	12402.89	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	13117.24	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	13117.24	250.00

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Summary Internal Standard Report

Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	21679.70	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	21679.70	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	47117.31	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	47117.31	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	53455.58	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	53455.58	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	17959.01	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	17959.01	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	61855.55	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	61855.55	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	70233.86	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	70233.86	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	20244.64	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	20244.64	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	74638.01	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	74638.01	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	65200.83	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	65200.83	250.00
PFDoA_1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	85046.04	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	85046.04	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	73242.64	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	73242.64	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	73242.64	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	73242.64	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	10421.36	250.00
NMeFOSAA_2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	10421.36	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	11895.58	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	11895.58	250.00

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Summary Internal Standard Report

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Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	29432.70	232.25
PFBS_2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	29432.70	232.25
PFHxA_1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	59086.49	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	59086.49	250.00
PFHpA_1	363.0 / 319.0	2.29	13C4-PFHpA	367.0 / 322.0	70958.10	250.00
PFHpA_2	363.0 / 169.0	2.29	13C4-PFHpA	367.0 / 322.0	70958.10	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	22269.37	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	22269.37	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	75393.25	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	75393.25	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	81122.46	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	81122.46	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	25569.24	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	25569.24	239.25
PFDA_1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	84900.61	250.00
PFDA_2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	84900.61	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	76407.80	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	76407.80	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	103580.82	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	103580.82	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	96666.85	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	96666.85	250.00
PFTeDA_1	713.0 / 669.0	4.53	13C2-PFTeDA	715.0 / 670.0	96666.85	250.00
PFTeDA_2	713.0 / 169.0	4.53	13C2-PFTeDA	715.0 / 670.0	96666.85	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	14674.24	250.00
NMeFOSAA_2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	14674.24	250.00
NEtFOSAA_1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	12209.67	250.00
NEtFOSAA_2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	12209.67	250.00

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Summary Internal Standard Report

Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.08	13C2-PFDA	515.0 / 470.0	78626.59	250.00
d3-MeFOSAA	573.0 / 419.0	3.63	13C4-PFOS	503.0 / 99.0	21870.93	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	21870.93	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	61864.97	250.00
13C4-PFHpA	367.0 / 322.0	2.30	13C2-PFOA	415.0 / 370.0	61864.97	250.00
13C8-PFOA	421.0 / 376.0	2.71	13C2-PFOA	415.0 / 370.0	61864.97	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	61864.97	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	78626.59	250.00
13C7-PFUnA	570.0 / 525.0	3.79	13C2-PFDA	515.0 / 470.0	78626.59	250.00
13C2-PFTeDA	715.0 / 670.0	4.55	13C2-PFDA	515.0 / 470.0	78626.59	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	21870.93	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	21870.93	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	21870.93	239.25

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Summary Internal Standard Report

Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.07	13C2-PFDA	515.0 / 470.0	72340.64	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	22247.01	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	22247.01	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	65242.38	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	65242.38	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	65242.38	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	65242.38	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	72340.64	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	72340.64	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	72340.64	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	22247.01	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	22247.01	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	22247.01	239.25

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Summary Internal Standard Report

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Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.07	13C2-PFDA	515.0 / 470.0	69287.70	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	20915.41	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	20915.41	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	58925.63	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	58925.63	250.00
13C8-PFOA	421.0 / 376.0	2.71	13C2-PFOA	415.0 / 370.0	58925.63	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	58925.63	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	69287.70	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	69287.70	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	69287.70	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	20915.41	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	20915.41	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	20915.41	239.25

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Summary Internal Standard Report

Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.07	13C2-PFDA	515.0 / 470.0	76754.58	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	23455.31	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	23455.31	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	62875.72	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	62875.72	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	62875.72	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	62875.72	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	76754.58	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	76754.58	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	76754.58	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	23455.31	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	23455.31	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	23455.31	239.25

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Summary Internal Standard Report

Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.07	13C2-PFDA	515.0 / 470.0	87557.63	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	26711.29	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	26711.29	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	72221.32	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	72221.32	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	72221.32	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	72221.32	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	87557.63	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	87557.63	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	87557.63	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	26711.29	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	26711.29	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	26711.29	239.25

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Summary Internal Standard Report

Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.07	13C2-PFDA	515.0 / 470.0	67693.37	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	22177.86	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	22177.86	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	61222.46	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	61222.46	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	61222.46	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	61222.46	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	67693.37	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	67693.37	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	67693.37	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	22177.86	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	22177.86	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	22177.86	239.25

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Summary Internal Standard Report

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.06	13C2-PFDA	515.0 / 470.0	88557.55	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	25818.86	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	25818.86	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	74147.58	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	74147.58	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	74147.58	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	74147.58	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	88557.55	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	88557.55	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	88557.55	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	25818.86	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	25818.86	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	25818.86	239.25

QC Summary Report

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	927.603917	1010.00	91.84
PFBS_2	298.9 / 99.0	1.56	953.869743	1010.00	94.44
PFHxA_1	313.0 / 269.0	1.88	919.721775	1010.00	91.06
PFHxA_2	313.0 / 119.0	1.88	808.336049	1010.00	80.03
PFHpA_1	363.0 / 319.0	2.30	929.940806	1000.00	92.99
PFHpA_2	363.0 / 169.0	2.30	1179.825541	1000.00	117.98
PFHxS_1	399.0 / 80.0	2.32	1007.343734	1010.00	99.74
PFHxS_2	399.0 / 99.0	2.32	985.412305	1010.00	97.57
PFOA_1	413.0 / 369.0	2.71	927.985462	1000.00	92.80
PFOA_2	413.0 / 169.0	2.71	910.773165	1000.00	91.08
PFNA_1	463.0 / 419.0	3.11	1050.637074	1000.00	105.06
PFNA_2	463.0 / 219.0	3.11	1063.592757	1000.00	106.36
PFOS_1	499.0 / 80.0	3.10	860.948590	1000.00	86.09
PFOS_2	499.0 / 99.0	3.10	876.197435	1000.00	87.62
PFDA_1	513.0 / 469.0	3.46	917.920031	1000.00	91.79
PFDA_2	513.0 / 219.0	3.47	864.863568	1000.00	86.49
PFUnA_1	563.0 / 519.0	3.79	888.060148	1000.00	88.81
PFUnA_2	563.0 / 269.0	3.79	1031.107370	1000.00	103.11
PFDoA_1	613.0 / 569.0	4.07	1060.249602	1000.00	106.02
PFDoA_2	613.0 / 319.0	4.07	1024.135289	1000.00	102.41
PFTrDA_1	663.0 / 619.0	4.32	1094.267647	1000.00	109.43
PFTrDA_2	663.0 / 169.0	4.32	1003.226200	1000.00	100.32
PFTeDA_1	713.0 / 669.0	4.53	1038.723555	1000.00	103.87
PFTeDA_2	713.0 / 169.0	4.53	1045.050116	1000.00	104.51
NMeFOSAA_1	570.0 / 419.0	3.62	1084.733334	1000.00	108.47
NMeFOSAA_2	570.0 / 512.0	3.62	1033.254548	1000.00	103.33
NEtFOSAA_1	584.0 / 419.0	3.78	1063.071392	1000.00	106.31
NEtFOSAA_2	584.0 / 483.0	3.79	1018.970290	1000.00	101.90

QC Summary Report

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	2465.082815	2525.00	97.63
PFBS_2	298.9 / 99.0	1.54	2487.801096	2525.00	98.53
PFHxA_1	313.0 / 269.0	1.87	2456.639418	2525.00	97.29
PFHxA_2	313.0 / 119.0	1.87	2498.517870	2525.00	98.95
PFHpA_1	363.0 / 319.0	2.28	2519.034559	2500.00	100.76
PFHpA_2	363.0 / 169.0	2.28	2673.901342	2500.00	106.96
PFHxS_1	399.0 / 80.0	2.30	2735.427329	2525.00	108.33
PFHxS_2	399.0 / 99.0	2.30	2781.942776	2525.00	110.18
PFOA_1	413.0 / 369.0	2.69	2466.369094	2500.00	98.65
PFOA_2	413.0 / 169.0	2.69	2403.410646	2500.00	96.14
PFNA_1	463.0 / 419.0	3.08	2540.347227	2500.00	101.61
PFNA_2	463.0 / 219.0	3.08	2514.766279	2500.00	100.59
PFOS_1	499.0 / 80.0	3.08	2717.832048	2500.00	108.71
PFOS_2	499.0 / 99.0	3.08	2792.780000	2500.00	111.71
PFDA_1	513.0 / 469.0	3.43	2518.306272	2500.00	100.73
PFDA_2	513.0 / 219.0	3.44	2538.463675	2500.00	101.54
PFUnA_1	563.0 / 519.0	3.76	2653.303080	2500.00	106.13
PFUnA_2	563.0 / 269.0	3.76	2655.523198	2500.00	106.22
PFDoA_1	613.0 / 569.0	4.04	2588.735267	2500.00	103.55
PFDoA_2	613.0 / 319.0	4.04	2528.377305	2500.00	101.14
PFTrDA_1	663.0 / 619.0	4.28	2641.077968	2500.00	105.64
PFTrDA_2	663.0 / 169.0	4.28	2627.230144	2500.00	105.09
PFTeDA_1	713.0 / 669.0	4.50	2718.364504	2500.00	108.73
PFTeDA_2	713.0 / 169.0	4.49	2745.670059	2500.00	109.83
NMeFOSAA_1	570.0 / 419.0	3.59	2889.604277	2500.00	115.58
NMeFOSAA_2	570.0 / 512.0	3.59	2577.279322	2500.00	103.09
NEtFOSAA_1	584.0 / 419.0	3.75	2267.998134	2500.00	90.72
NEtFOSAA_2	584.0 / 483.0	3.76	2500.187630	2500.00	100.01

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QC Summary Report

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	931.471433	1010.00	92.22
PFBS_2	298.9 / 99.0	1.54	978.667517	1010.00	96.90
PFHxA_1	313.0 / 269.0	1.86	993.831219	1010.00	98.40
PFHxA_2	313.0 / 119.0	1.86	839.268731	1010.00	83.10
PFHpA_1	363.0 / 319.0	2.27	994.873315	1000.00	99.49
PFHpA_2	363.0 / 169.0	2.27	1030.324412	1000.00	103.03
PFHxS_1	399.0 / 80.0	2.30	1032.512997	1010.00	102.23
PFHxS_2	399.0 / 99.0	2.29	1076.311398	1010.00	106.57
PFOA_1	413.0 / 369.0	2.68	981.172709	1000.00	98.12
PFOA_2	413.0 / 169.0	2.68	969.185841	1000.00	96.92
PFNA_1	463.0 / 419.0	3.08	1040.486605	1000.00	104.05
PFNA_2	463.0 / 219.0	3.08	985.229956	1000.00	98.52
PFOS_1	499.0 / 80.0	3.08	1098.735991	1000.00	109.87
PFOS_2	499.0 / 99.0	3.08	1126.297309	1000.00	112.63
PFDA_1	513.0 / 469.0	3.43	1040.282012	1000.00	104.03
PFDA_2	513.0 / 219.0	3.43	1154.466021	1000.00	115.45
PFUnA_1	563.0 / 519.0	3.75	1002.022476	1000.00	100.20
PFUnA_2	563.0 / 269.0	3.75	1113.531268	1000.00	111.35
PFDoA_1	613.0 / 569.0	4.03	1116.162862	1000.00	111.62
PFDoA_2	613.0 / 319.0	4.03	1105.313682	1000.00	110.53
PFTrDA_1	663.0 / 619.0	4.28	1067.845841	1000.00	106.78
PFTrDA_2	663.0 / 169.0	4.28	1101.649603	1000.00	110.16
PFTeDA_1	713.0 / 669.0	4.49	1050.330855	1000.00	105.03
PFTeDA_2	713.0 / 169.0	4.49	1066.328026	1000.00	106.63
NMeFOSAA_1	570.0 / 419.0	3.58	1161.249888	1000.00	116.12
NMeFOSAA_2	570.0 / 512.0	3.59	1035.921467	1000.00	103.59
NEtFOSAA_1	584.0 / 419.0	3.75	1151.555461	1000.00	115.16
NEtFOSAA_2	584.0 / 483.0	3.75	1276.929723	1000.00	127.69

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QC Summary Report

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	2568.023937	2525.00	101.70
PFBS_2	298.9 / 99.0	1.54	2537.758574	2525.00	100.51
PFHxA_1	313.0 / 269.0	1.86	2305.738829	2525.00	91.32
PFHxA_2	313.0 / 119.0	1.86	2213.234130	2525.00	87.65
PFHpA_1	363.0 / 319.0	2.27	2621.541000	2500.00	104.86
PFHpA_2	363.0 / 169.0	2.27	2774.072038	2500.00	110.96
PFHxS_1	399.0 / 80.0	2.30	2410.056085	2525.00	95.45
PFHxS_2	399.0 / 99.0	2.30	2465.503304	2525.00	97.64
PFOA_1	413.0 / 369.0	2.68	2446.625259	2500.00	97.87
PFOA_2	413.0 / 169.0	2.68	2524.922896	2500.00	101.00
PFNA_1	463.0 / 419.0	3.08	2637.140693	2500.00	105.49
PFNA_2	463.0 / 219.0	3.08	2795.618235	2500.00	111.82
PFOS_1	499.0 / 80.0	3.08	2773.590854	2500.00	110.94
PFOS_2	499.0 / 99.0	3.08	2751.703408	2500.00	110.07
PFDA_1	513.0 / 469.0	3.43	2272.946584	2500.00	90.92
PFDA_2	513.0 / 219.0	3.43	2310.461426	2500.00	92.42
PFUnA_1	563.0 / 519.0	3.75	2538.409706	2500.00	101.54
PFUnA_2	563.0 / 269.0	3.75	2644.778178	2500.00	105.79
PFDoA_1	613.0 / 569.0	4.03	2605.258087	2500.00	104.21
PFDoA_2	613.0 / 319.0	4.03	2602.059581	2500.00	104.08
PFTrDA_1	663.0 / 619.0	4.27	2729.371600	2500.00	109.17
PFTrDA_2	663.0 / 169.0	4.27	2715.636078	2500.00	108.63
PFTeDA_1	713.0 / 669.0	4.49	2470.656593	2500.00	98.83
PFTeDA_2	713.0 / 169.0	4.49	2607.773161	2500.00	104.31
NMeFOSAA_1	570.0 / 419.0	3.59	2644.415721	2500.00	105.78
NMeFOSAA_2	570.0 / 512.0	3.58	2460.884911	2500.00	98.44
NEtFOSAA_1	584.0 / 419.0	3.74	2390.223881	2500.00	95.61
NEtFOSAA_2	584.0 / 483.0	3.75	2584.029446	2500.00	103.36

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QC Summary Report

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	996.934374	1010.00	98.71
PFBS_2	298.9 / 99.0	1.54	1019.181085	1010.00	100.91
PFHxA_1	313.0 / 269.0	1.86	979.305092	1010.00	96.96
PFHxA_2	313.0 / 119.0	1.86	970.815444	1010.00	96.12
PFHpA_1	363.0 / 319.0	2.27	1013.605472	1000.00	101.36
PFHpA_2	363.0 / 169.0	2.27	1250.547757	1000.00	125.05
PFHxS_1	399.0 / 80.0	2.29	988.438567	1010.00	97.87
PFHxS_2	399.0 / 99.0	2.29	1032.627249	1010.00	102.24
PFOA_1	413.0 / 369.0	2.68	962.121125	1000.00	96.21
PFOA_2	413.0 / 169.0	2.68	926.420492	1000.00	92.64
PFNA_1	463.0 / 419.0	3.08	1036.500085	1000.00	103.65
PFNA_2	463.0 / 219.0	3.08	1026.754743	1000.00	102.68
PFOS_1	499.0 / 80.0	3.08	1083.117463	1000.00	108.31
PFOS_2	499.0 / 99.0	3.08	1149.758957	1000.00	114.98
PFDA_1	513.0 / 469.0	3.43	1107.827900	1000.00	110.78
PFDA_2	513.0 / 219.0	3.43	1018.038220	1000.00	101.80
PFUnA_1	563.0 / 519.0	3.75	981.562414	1000.00	98.16
PFUnA_2	563.0 / 269.0	3.75	1164.672588	1000.00	116.47
PFDoA_1	613.0 / 569.0	4.03	990.403201	1000.00	99.04
PFDoA_2	613.0 / 319.0	4.03	1006.572937	1000.00	100.66
PFTrDA_1	663.0 / 619.0	4.27	1043.207079	1000.00	104.32
PFTrDA_2	663.0 / 169.0	4.27	1022.714877	1000.00	102.27
PFTeDA_1	713.0 / 669.0	4.49	1040.577670	1000.00	104.06
PFTeDA_2	713.0 / 169.0	4.49	1102.495004	1000.00	110.25
NMeFOSAA_1	570.0 / 419.0	3.58	1276.628851	1000.00	127.66
NMeFOSAA_2	570.0 / 512.0	3.58	1076.749665	1000.00	107.67
NEtFOSAA_1	584.0 / 419.0	3.74	1017.461348	1000.00	101.75
NEtFOSAA_2	584.0 / 483.0	3.74	852.298648	1000.00	85.23

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.06	226.729181	250.00	90.69
d3-MeFOSAA	573.0 / 419.0	3.61	194.909228	250.00	77.96
d5-EtFOSAA	589.0 / 419.0	3.78	196.477993	250.00	78.59
13C5-PFHxA	318.0 / 273.0	1.87	234.825052	250.00	93.93
13C4-PFHpA	367.0 / 322.0	2.29	242.310669	250.00	96.92
13C8-PFOA	421.0 / 376.0	2.70	247.051316	250.00	98.82
13C9-PFNA	472.0 / 427.0	3.09	228.305518	250.00	91.32
13C6-PFDA	519.0 / 474.0	3.45	254.507323	250.00	101.80
13C7-PFUnA	570.0 / 525.0	3.77	252.645404	250.00	101.06
13C2-PFTeDA	715.0 / 670.0	4.53	230.799062	250.00	92.32
13C3-PFBS	302.0 / 99.0	1.54	182.297239	232.25	78.49
13C3-PFHxS	402.0 / 99.0	2.31	186.101241	236.50	78.69
13C8-PFOS	507.0 / 99.0	3.09	214.371412	239.25	89.60

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.03	234.467785	250.00	93.79
d3-MeFOSAA	573.0 / 419.0	3.58	239.247069	250.00	95.70
d5-EtFOSAA	589.0 / 419.0	3.74	254.608078	250.00	101.84
13C5-PFHxA	318.0 / 273.0	1.85	214.783826	250.00	85.91
13C4-PFHpA	367.0 / 322.0	2.27	213.395368	250.00	85.36
13C8-PFOA	421.0 / 376.0	2.68	242.524478	250.00	97.01
13C9-PFNA	472.0 / 427.0	3.07	226.638743	250.00	90.66
13C6-PFDA	519.0 / 474.0	3.42	246.016298	250.00	98.41
13C7-PFUnA	570.0 / 525.0	3.74	235.744655	250.00	94.30
13C2-PFTeDA	715.0 / 670.0	4.49	236.874810	250.00	94.75
13C3-PFBS	302.0 / 99.0	1.53	221.181596	232.25	95.23
13C3-PFHxS	402.0 / 99.0	2.29	231.201001	236.50	97.76
13C8-PFOS	507.0 / 99.0	3.06	225.846470	239.25	94.40

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	200.091092	250.00	80.04
d3-MeFOSAA	573.0 / 419.0	3.58	227.894031	250.00	91.16
d5-EtFOSAA	589.0 / 419.0	3.74	210.418477	250.00	84.17
13C5-PFHxA	318.0 / 273.0	1.85	201.264265	250.00	80.51
13C4-PFHpA	367.0 / 322.0	2.26	211.973377	250.00	84.79
13C8-PFOA	421.0 / 376.0	2.67	248.657877	250.00	99.46
13C9-PFNA	472.0 / 427.0	3.06	216.209266	250.00	86.48
13C6-PFDA	519.0 / 474.0	3.42	228.345486	250.00	91.34
13C7-PFUnA	570.0 / 525.0	3.74	228.855063	250.00	91.54
13C2-PFTeDA	715.0 / 670.0	4.48	209.610601	250.00	83.84
13C3-PFBS	302.0 / 99.0	1.53	229.564720	232.25	98.84
13C3-PFHxS	402.0 / 99.0	2.28	222.477669	236.50	94.07
13C8-PFOS	507.0 / 99.0	3.06	217.999021	239.25	91.12

QC Summary Report

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	216.611227	250.00	86.64
d3-MeFOSAA	573.0 / 419.0	3.58	250.472991	250.00	100.19
d5-EtFOSAA	589.0 / 419.0	3.74	243.057924	250.00	97.22
13C5-PFHxA	318.0 / 273.0	1.85	223.968589	250.00	89.59
13C4-PFHpA	367.0 / 322.0	2.26	207.799920	250.00	83.12
13C8-PFOA	421.0 / 376.0	2.67	255.691008	250.00	102.28
13C9-PFNA	472.0 / 427.0	3.06	220.556143	250.00	88.22
13C6-PFDA	519.0 / 474.0	3.42	253.921095	250.00	101.57
13C7-PFUnA	570.0 / 525.0	3.73	235.007264	250.00	94.00
13C2-PFTeDA	715.0 / 670.0	4.48	229.354182	250.00	91.74
13C3-PFBS	302.0 / 99.0	1.53	201.877203	232.25	86.92
13C3-PFHxS	402.0 / 99.0	2.28	224.522007	236.50	94.94
13C8-PFOS	507.0 / 99.0	3.06	205.369286	239.25	85.84

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	239.161633	250.00	95.66
d3-MeFOSAA	573.0 / 419.0	3.58	198.281799	250.00	79.31
d5-EtFOSAA	589.0 / 419.0	3.74	235.061485	250.00	94.02
13C5-PFHxA	318.0 / 273.0	1.85	216.142730	250.00	86.46
13C4-PFHpA	367.0 / 322.0	2.26	213.957294	250.00	85.58
13C8-PFOA	421.0 / 376.0	2.67	253.442770	250.00	101.38
13C9-PFNA	472.0 / 427.0	3.06	232.483958	250.00	92.99
13C6-PFDA	519.0 / 474.0	3.41	239.005314	250.00	95.60
13C7-PFUnA	570.0 / 525.0	3.73	256.504833	250.00	102.60
13C2-PFTeDA	715.0 / 670.0	4.48	225.571271	250.00	90.23
13C3-PFBS	302.0 / 99.0	1.52	200.301706	232.25	86.24
13C3-PFHxS	402.0 / 99.0	2.28	219.157809	236.50	92.67
13C8-PFOS	507.0 / 99.0	3.06	211.933695	239.25	88.58

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Summary Quant Report

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	252389.07	927.603917	316.4	false
PFBS_2	298.9 / 99.0	1.56	78741.13	953.869743	236.3	false
PFHxA_1	313.0 / 269.0	1.88	190955.43	919.721775	79.9	false
PFHxA_2	313.0 / 119.0	1.88	12922.38	808.336049	38.3	false
PFHpA_1	363.0 / 319.0	2.30	186891.32	929.940806	163.4	false
PFHpA_2	363.0 / 169.0	2.30	4490.83	1179.825541	91.6	true
PFHxS_1	399.0 / 80.0	2.32	278555.75	1007.343734	283.1	false
PFHxS_2	399.0 / 99.0	2.32	77753.97	985.412305	323.3	false
PFOA_1	413.0 / 369.0	2.71	259143.85	927.985462	315.2	false
PFOA_2	413.0 / 169.0	2.71	16071.25	910.773165	222.4	false
PFNA_1	463.0 / 419.0	3.11	264699.80	1050.637074	312.4	false
PFNA_2	463.0 / 219.0	3.11	82576.43	1063.592757	437.0	false
PFOS_1	499.0 / 80.0	3.10	407103.85	860.948590	141.8	false
PFOS_2	499.0 / 99.0	3.10	72462.38	876.197435	361.6	false
PFDA_1	513.0 / 469.0	3.46	301123.66	917.920031	339.8	false
PFDA_2	513.0 / 219.0	3.47	11136.47	864.863568	132.7	false
PFUnA_1	563.0 / 519.0	3.79	290058.18	888.060148	327.4	false
PFUnA_2	563.0 / 269.0	3.79	15556.25	1031.107370	218.8	false
PFDoA_1	613.0 / 569.0	4.07	309299.12	1060.249602	344.2	false
PFDoA_2	613.0 / 319.0	4.07	48689.64	1024.135289	280.4	false
PFTrDA_1	663.0 / 619.0	4.32	306209.81	1094.267647	763.4	false
PFTrDA_2	663.0 / 169.0	4.32	19144.50	1003.226200	324.1	false
PFTeDA_1	713.0 / 669.0	4.53	335516.32	1038.723555	1159.6	false
PFTeDA_2	713.0 / 169.0	4.53	16332.97	1045.050116	482.5	false
NMeFOSAA_1	570.0 / 419.0	3.62	43462.59	1084.733334	520.4	false
NMeFOSAA_2	570.0 / 512.0	3.62	23644.15	1033.254548	336.2	false
NEtFOSAA_1	584.0 / 419.0	3.78	47059.75	1063.071392	579.9	false
NEtFOSAA_2	584.0 / 483.0	3.79	2841.17	1018.970290	451.4	false

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Summary Quant Report

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	733265.54	2465.082815	677.8	false
PFBS_2	298.9 / 99.0	1.54	224745.79	2487.801096	563.8	false
PFHxA_1	313.0 / 269.0	1.87	534724.61	2456.639418	141.4	false
PFHxA_2	313.0 / 119.0	1.87	40569.46	2498.517870	93.6	false
PFHpA_1	363.0 / 319.0	2.28	511556.45	2519.034559	289.9	false
PFHpA_2	363.0 / 169.0	2.28	10261.87	2673.901342	152.0	false
PFHxS_1	399.0 / 80.0	2.30	846099.37	2735.427329	594.4	false
PFHxS_2	399.0 / 99.0	2.30	245689.15	2781.942776	560.0	false
PFOA_1	413.0 / 369.0	2.69	784760.14	2466.369094	395.6	false
PFOA_2	413.0 / 169.0	2.69	48611.49	2403.410646	366.8	false
PFNA_1	463.0 / 419.0	3.08	735479.51	2540.347227	576.7	false
PFNA_2	463.0 / 219.0	3.08	222738.58	2514.766279	475.5	false
PFOS_1	499.0 / 80.0	3.08	1207624.61	2717.832048	214.8	false
PFOS_2	499.0 / 99.0	3.08	217484.75	2792.780000	463.6	false
PFDA_1	513.0 / 469.0	3.43	856396.66	2518.306272	752.7	false
PFDA_2	513.0 / 219.0	3.44	34717.37	2538.463675	284.7	false
PFUnA_1	563.0 / 519.0	3.76	882829.28	2653.303080	443.5	false
PFUnA_2	563.0 / 269.0	3.76	42856.37	2655.523198	286.8	false
PFDoA_1	613.0 / 569.0	4.04	841914.68	2588.735267	627.2	false
PFDoA_2	613.0 / 319.0	4.04	133923.70	2528.377305	420.3	false
PFTrDA_1	663.0 / 619.0	4.28	813205.40	2641.077968	1050.6	false
PFTrDA_2	663.0 / 169.0	4.28	53124.41	2627.230144	564.0	false
PFTeDA_1	713.0 / 669.0	4.50	964820.92	2718.364504	1868.3	false
PFTeDA_2	713.0 / 169.0	4.49	46958.81	2745.670059	829.8	false
NMeFOSAA_1	570.0 / 419.0	3.59	128878.70	2889.604277	699.4	false
NMeFOSAA_2	570.0 / 512.0	3.59	63809.69	2577.279322	1320.2	false
NEtFOSAA_1	584.0 / 419.0	3.75	116574.48	2267.998134	694.3	false
NEtFOSAA_2	584.0 / 483.0	3.76	7624.99	2500.187630	336.4	false

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Summary Quant Report

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	290948.58	931.471433	394.1	false
PFBS_2	298.9 / 99.0	1.54	92720.36	978.667517	331.0	false
PFHxA_1	313.0 / 269.0	1.86	213572.44	993.831219	82.5	false
PFHxA_2	313.0 / 119.0	1.86	13887.68	839.268731	53.2	false
PFHpA_1	363.0 / 319.0	2.27	211335.06	994.873315	164.6	false
PFHpA_2	363.0 / 169.0	2.27	4185.72	1030.324412	77.8	false
PFHxS_1	399.0 / 80.0	2.30	312423.00	1032.512997	393.5	false
PFHxS_2	399.0 / 99.0	2.29	92815.59	1076.311398	312.1	false
PFOA_1	413.0 / 369.0	2.68	333679.91	981.172709	248.0	false
PFOA_2	413.0 / 169.0	2.68	20836.21	969.185841	187.8	false
PFNA_1	463.0 / 419.0	3.08	300824.59	1040.486605	306.2	false
PFNA_2	463.0 / 219.0	3.08	88042.52	985.229956	334.1	false
PFOS_1	499.0 / 80.0	3.08	486816.66	1098.735991	144.1	false
PFOS_2	499.0 / 99.0	3.08	87323.44	1126.297309	351.6	false
PFDA_1	513.0 / 469.0	3.43	376160.64	1040.282012	437.2	false
PFDA_2	513.0 / 219.0	3.43	16462.06	1154.466021	153.8	false
PFUnA_1	563.0 / 519.0	3.75	365435.82	1002.022476	339.8	false
PFUnA_2	563.0 / 269.0	3.75	18876.54	1113.531268	178.1	false
PFDoA_1	613.0 / 569.0	4.03	353999.41	1116.162862	424.2	false
PFDoA_2	613.0 / 319.0	4.03	57086.78	1105.313682	278.8	false
PFTrDA_1	663.0 / 619.0	4.28	335161.43	1067.845841	748.2	false
PFTrDA_2	663.0 / 169.0	4.28	23354.22	1101.649603	351.4	false
PFTeDA_1	713.0 / 669.0	4.49	379989.20	1050.330855	1121.7	false
PFTeDA_2	713.0 / 169.0	4.49	18656.96	1066.328026	620.9	false
NMeFOSAA_1	570.0 / 419.0	3.58	49687.63	1161.249888	773.6	false
NMeFOSAA_2	570.0 / 512.0	3.59	25389.90	1035.921467	421.0	false
NEtFOSAA_1	584.0 / 419.0	3.75	50894.55	1151.555461	473.5	false
NEtFOSAA_2	584.0 / 483.0	3.75	3481.40	1276.929723	894.0	false

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Summary Quant Report

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	673817.72	2568.023937	771.0	false
PFBS_2	298.9 / 99.0	1.54	202250.92	2537.758574	479.5	false
PFHxA_1	313.0 / 269.0	1.86	469082.24	2305.738829	139.4	false
PFHxA_2	313.0 / 119.0	1.86	33677.47	2213.234130	81.6	false
PFHpA_1	363.0 / 319.0	2.27	463899.87	2621.541000	298.9	false
PFHpA_2	363.0 / 169.0	2.27	9275.04	2774.072038	142.1	false
PFHxS_1	399.0 / 80.0	2.30	696534.08	2410.056085	610.0	false
PFHxS_2	399.0 / 99.0	2.30	203418.83	2465.503304	697.9	false
PFOA_1	413.0 / 369.0	2.68	734922.73	2446.625259	332.7	false
PFOA_2	413.0 / 169.0	2.68	48197.05	2524.922896	432.8	false
PFNA_1	463.0 / 419.0	3.08	664984.41	2637.140693	621.7	false
PFNA_2	463.0 / 219.0	3.08	215371.51	2795.618235	504.2	false
PFOS_1	499.0 / 80.0	3.08	1102856.93	2773.590854	241.8	false
PFOS_2	499.0 / 99.0	3.08	191826.72	2751.703408	489.9	false
PFDA_1	513.0 / 469.0	3.43	786115.52	2272.946584	619.2	false
PFDA_2	513.0 / 219.0	3.43	32088.55	2310.461426	232.5	false
PFUnA_1	563.0 / 519.0	3.75	828529.16	2538.409706	555.9	false
PFUnA_2	563.0 / 269.0	3.75	41860.98	2644.778178	372.5	false
PFDoA_1	613.0 / 569.0	4.03	770117.82	2605.258087	505.7	false
PFDoA_2	613.0 / 319.0	4.03	125237.87	2602.059581	388.4	false
PFTrDA_1	663.0 / 619.0	4.27	800194.25	2729.371600	884.6	false
PFTrDA_2	663.0 / 169.0	4.27	52247.58	2715.636078	456.1	false
PFTeDA_1	713.0 / 669.0	4.49	836723.02	2470.656593	1782.3	false
PFTeDA_2	713.0 / 169.0	4.49	42530.95	2607.773161	953.5	false
NMeFOSAA_1	570.0 / 419.0	3.59	117802.96	2644.415721	694.6	false
NMeFOSAA_2	570.0 / 512.0	3.58	60866.85	2460.884911	730.1	false
NEtFOSAA_1	584.0 / 419.0	3.74	116230.15	2390.223881	658.8	false
NEtFOSAA_2	584.0 / 483.0	3.75	7446.13	2584.029446	462.8	false

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Summary Quant Report

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	264893.92	996.934374	417.6	false
PFBS_2	298.9 / 99.0	1.54	82174.18	1019.181085	294.2	false
PFHxA_1	313.0 / 269.0	1.86	195115.81	979.305092	71.6	false
PFHxA_2	313.0 / 119.0	1.86	14722.11	970.815444	57.5	false
PFHpA_1	363.0 / 319.0	2.27	187384.51	1013.605472	152.6	false
PFHpA_2	363.0 / 169.0	2.27	4380.99	1250.547757	61.1	false
PFHxS_1	399.0 / 80.0	2.29	288306.00	988.438567	236.7	false
PFHxS_2	399.0 / 99.0	2.29	85824.77	1032.627249	309.9	false
PFOA_1	413.0 / 369.0	2.68	287866.59	962.121125	220.4	false
PFOA_2	413.0 / 169.0	2.68	17525.06	926.420492	180.4	false
PFNA_1	463.0 / 419.0	3.08	278054.05	1036.500085	381.2	false
PFNA_2	463.0 / 219.0	3.08	84972.63	1026.754743	447.8	false
PFOS_1	499.0 / 80.0	3.08	448386.98	1083.117463	135.0	false
PFOS_2	499.0 / 99.0	3.08	83221.83	1149.758957	431.9	false
PFDA_1	513.0 / 469.0	3.43	351898.27	1107.827900	472.0	false
PFDA_2	513.0 / 219.0	3.43	12775.36	1018.038220	141.4	false
PFUnA_1	563.0 / 519.0	3.75	337450.27	981.562414	390.2	false
PFUnA_2	563.0 / 269.0	3.75	18663.34	1164.672588	202.8	false
PFDoA_1	613.0 / 569.0	4.03	316880.18	990.403201	398.9	false
PFDoA_2	613.0 / 319.0	4.03	52401.74	1006.572937	264.6	false
PFTrDA_1	663.0 / 619.0	4.27	296593.60	1043.207079	646.8	false
PFTrDA_2	663.0 / 169.0	4.27	19753.99	1022.714877	328.4	false
PFTeDA_1	713.0 / 669.0	4.49	340807.06	1040.577670	1425.4	false
PFTeDA_2	713.0 / 169.0	4.49	17430.45	1102.495004	564.3	false
NMeFOSAA_1	570.0 / 419.0	3.58	46843.68	1276.628851	1360.3	false
NMeFOSAA_2	570.0 / 512.0	3.58	22642.54	1076.749665	3294.1	false
NEtFOSAA_1	584.0 / 419.0	3.74	48687.82	1017.461348	456.2	false
NEtFOSAA_2	584.0 / 483.0	3.74	2620.77	852.298648	194.6	false

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Summary Quant Report

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.06	82943.08	226.729181	1148.5	false
d3-MeFOSAA	573.0 / 419.0	3.61	10378.40	194.909228	177.7	false
d5-EtFOSAA	589.0 / 419.0	3.78	10970.45	196.477993	239.6	false
13C5-PFHxA	318.0 / 273.0	1.87	49700.59	234.825052	644.7	false
13C4-PFHpA	367.0 / 322.0	2.29	57496.49	242.310669	640.5	false
13C8-PFOA	421.0 / 376.0	2.70	69520.76	247.051316	1078.9	false
13C9-PFNA	472.0 / 427.0	3.09	70263.87	228.305518	1131.7	false
13C6-PFDA	519.0 / 474.0	3.45	80425.13	254.507323	1161.6	false
13C7-PFUnA	570.0 / 525.0	3.77	75795.94	252.645404	781.4	false
13C2-PFTeDA	715.0 / 670.0	4.53	72182.76	230.799062	1535.0	false
13C3-PFBS	302.0 / 99.0	1.54	22057.54	182.297239	274.2	false
13C3-PFHxS	402.0 / 99.0	2.31	19004.77	186.101241	198.0	false
13C8-PFOS	507.0 / 99.0	3.09	24822.83	214.371412	219.7	false

Summary Quant Report

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	94151.78	234.467785	986.1	false
d3-MeFOSAA	573.0 / 419.0	3.58	11578.96	239.247069	186.8	false
d5-EtFOSAA	589.0 / 419.0	3.74	12921.34	254.608078	213.6	false
13C5-PFHxA	318.0 / 273.0	1.85	53511.58	214.783826	895.7	false
13C4-PFHpA	367.0 / 322.0	2.27	59605.01	213.395368	822.6	false
13C8-PFOA	421.0 / 376.0	2.68	80336.32	242.524478	524.2	false
13C9-PFNA	472.0 / 427.0	3.07	82106.75	226.638743	1991.2	false
13C6-PFDA	519.0 / 474.0	3.42	85335.16	246.016298	1033.9	false
13C7-PFUnA	570.0 / 525.0	3.74	77633.48	235.744655	2987.3	false
13C2-PFTeDA	715.0 / 670.0	4.49	81318.80	236.874810	1297.6	false
13C3-PFBS	302.0 / 99.0	1.53	24324.89	221.181596	289.7	false
13C3-PFHxS	402.0 / 99.0	2.29	21459.91	231.201001	257.6	false
13C8-PFOS	507.0 / 99.0	3.06	23769.64	225.846470	213.3	false

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Summary Quant Report

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	90311.72	200.091092	884.7	false
d3-MeFOSAA	573.0 / 419.0	3.58	11062.92	227.894031	190.2	false
d5-EtFOSAA	589.0 / 419.0	3.74	10711.08	210.418477	213.3	false
13C5-PFHxA	318.0 / 273.0	1.85	51603.83	201.264265	462.4	false
13C4-PFHpA	367.0 / 322.0	2.26	60932.39	211.973377	822.3	false
13C8-PFOA	421.0 / 376.0	2.67	84767.17	248.657877	1373.7	false
13C9-PFNA	472.0 / 427.0	3.06	80609.85	216.209266	1285.2	false
13C6-PFDA	519.0 / 474.0	3.42	89028.20	228.345486	945.4	false
13C7-PFUnA	570.0 / 525.0	3.74	84710.79	228.855063	750.7	false
13C2-PFTeDA	715.0 / 670.0	4.48	80882.83	209.610601	2074.2	false
13C3-PFBS	302.0 / 99.0	1.53	25323.34	229.564720	371.2	false
13C3-PFHxS	402.0 / 99.0	2.28	20712.78	222.477669	223.1	false
13C8-PFOS	507.0 / 99.0	3.06	23013.24	217.999021	197.4	false

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Summary Quant Report

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	85583.35	216.611227	1088.1	false
d3-MeFOSAA	573.0 / 419.0	3.58	11717.93	250.472991	268.4	false
d5-EtFOSAA	589.0 / 419.0	3.74	11923.73	243.057924	173.4	false
13C5-PFHxA	318.0 / 273.0	1.85	49961.88	223.968589	576.0	false
13C4-PFHpA	367.0 / 322.0	2.26	51969.52	207.799920	582.3	false
13C8-PFOA	421.0 / 376.0	2.67	75836.33	255.691008	2562.3	false
13C9-PFNA	472.0 / 427.0	3.06	71543.36	220.556143	834.8	false
13C6-PFDA	519.0 / 474.0	3.42	86661.44	253.921095	639.5	false
13C7-PFUnA	570.0 / 525.0	3.73	76146.77	235.007264	910.0	false
13C2-PFTeDA	715.0 / 670.0	4.48	77471.46	229.354182	2328.5	false
13C3-PFBS	302.0 / 99.0	1.53	21461.31	201.877203	289.6	false
13C3-PFHxS	402.0 / 99.0	2.28	20144.85	224.522007	189.4	false
13C8-PFOS	507.0 / 99.0	3.06	20893.53	205.369286	236.7	false

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Summary Quant Report

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	90774.89	239.161633	1272.2	false
d3-MeFOSAA	573.0 / 419.0	3.58	9392.75	198.281799	138.8	false
d5-EtFOSAA	589.0 / 419.0	3.74	11676.27	235.061485	216.8	false
13C5-PFHxA	318.0 / 273.0	1.85	47815.92	216.142730	583.5	false
13C4-PFHpA	367.0 / 322.0	2.26	53065.30	213.957294	837.9	false
13C8-PFOA	421.0 / 376.0	2.67	74545.59	253.442770	1102.1	false
13C9-PFNA	472.0 / 427.0	3.06	74786.54	232.483958	956.9	false
13C6-PFDA	519.0 / 474.0	3.41	78361.11	239.005314	642.3	false
13C7-PFUnA	570.0 / 525.0	3.73	79842.04	256.504833	606.9	false
13C2-PFTeDA	715.0 / 670.0	4.48	73195.56	225.571271	1765.7	false
13C3-PFBS	302.0 / 99.0	1.52	21561.23	200.301706	313.6	false
13C3-PFHxS	402.0 / 99.0	2.28	19910.50	219.157809	233.4	false
13C8-PFOS	507.0 / 99.0	3.06	21832.14	211.933695	198.6	false

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Summary Ion Ratio Report

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Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.280	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.310	0.314	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.53	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.53	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.04	PFDoA			
PFDoA_2	613.0 / 319.0	4.04	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.28	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.500	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.070	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.320	0.303	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.300	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.290	0.314	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.03	PFDoA			
PFDoA_2	613.0 / 319.0	4.03	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.28	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.510	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.070	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.303	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.320	0.314	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.03	PFDoA			
PFDoA_2	613.0 / 319.0	4.03	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.520	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Printed: 06/11/2018 1:17:15 PM

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.300	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.310	0.314	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.190	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.060	0.046	ü
PFDoA_1	613.0 / 569.0	4.03	PFDoA			
PFDoA_2	613.0 / 319.0	4.03	PFDoA	0.170	0.163	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.480	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.050	0.071	ü

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Summary Internal Standard Report

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	22057.54	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	22057.54	232.25
PFHxA_1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	49700.59	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	49700.59	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	57496.49	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	57496.49	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	18826.86	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	18826.86	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	69520.76	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	69520.76	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	70263.87	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	70263.87	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	24976.52	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	24976.52	239.25
PFDA_1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	80425.13	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	80425.13	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	75795.94	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	75795.94	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	82943.08	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	82943.08	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	72182.76	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	72182.76	250.00
PFTeDA_1	713.0 / 669.0	4.53	13C2-PFTeDA	715.0 / 670.0	72182.76	250.00
PFTeDA_2	713.0 / 169.0	4.53	13C2-PFTeDA	715.0 / 670.0	72182.76	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	10447.79	250.00
NMeFOSAA_2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	10447.79	250.00
NEtFOSAA_1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	11096.67	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	11096.67	250.00

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Summary Internal Standard Report

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	24324.89	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	24324.89	232.25
PFHxA_1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	53511.58	250.00
PFHxA_2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	53511.58	250.00
PFHpA_1	363.0 / 319.0	2.28	13C4-PFHpA	367.0 / 322.0	59605.01	250.00
PFHpA_2	363.0 / 169.0	2.28	13C4-PFHpA	367.0 / 322.0	59605.01	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	21362.71	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	21362.71	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	80336.32	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	80336.32	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	82106.75	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	82106.75	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	23986.20	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	23986.20	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	85335.16	250.00
PFDA_2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	85335.16	250.00
PFUnA_1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	77633.48	250.00
PFUnA_2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	77633.48	250.00
PFDoA_1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	94151.78	250.00
PFDoA_2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	94151.78	250.00
PFTrDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	81318.80	250.00
PFTrDA_2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	81318.80	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	81318.80	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	81318.80	250.00
NMeFOSAA_1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	11994.57	250.00
NMeFOSAA_2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	11994.57	250.00
NEtFOSAA_1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	12945.51	250.00
NEtFOSAA_2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	12945.51	250.00

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Summary Internal Standard Report

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	25323.34	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	25323.34	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	51603.83	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	51603.83	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	60932.39	250.00
PFHpA_2	363.0 / 169.0	2.27	13C4-PFHpA	367.0 / 322.0	60932.39	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	20612.43	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	20612.43	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	84767.17	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	84767.17	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	80609.85	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	80609.85	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	23563.87	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	23563.87	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	89028.20	250.00
PFDA_2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	89028.20	250.00
PFUnA_1	563.0 / 519.0	3.75	13C7-PFUnA	570.0 / 525.0	84710.79	250.00
PFUnA_2	563.0 / 269.0	3.75	13C7-PFUnA	570.0 / 525.0	84710.79	250.00
PFDoA_1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	90311.72	250.00
PFDoA_2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	90311.72	250.00
PFTrDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	80882.83	250.00
PFTrDA_2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	80882.83	250.00
PFTeDA_1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	80882.83	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	80882.83	250.00
NMeFOSAA_1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	11193.08	250.00
NMeFOSAA_2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	11193.08	250.00
NEtFOSAA_1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	11086.34	250.00
NEtFOSAA_2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	11086.34	250.00

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Summary Internal Standard Report

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	21461.31	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	21461.31	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	49961.88	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	49961.88	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	51969.52	250.00
PFHpA_2	363.0 / 169.0	2.27	13C4-PFHpA	367.0 / 322.0	51969.52	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	19938.06	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	19938.06	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	75836.33	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	75836.33	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	71543.36	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	71543.36	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	21469.30	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	21469.30	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	86661.44	250.00
PFDA_2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	86661.44	250.00
PFUnA_1	563.0 / 519.0	3.75	13C7-PFUnA	570.0 / 525.0	76146.77	250.00
PFUnA_2	563.0 / 269.0	3.75	13C7-PFUnA	570.0 / 525.0	76146.77	250.00
PFDoA_1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	85583.35	250.00
PFDoA_2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	85583.35	250.00
PFTrDA_1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	77471.46	250.00
PFTrDA_2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	77471.46	250.00
PFTeDA_1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	77471.46	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	77471.46	250.00
NMeFOSAA_1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	11959.42	250.00
NMeFOSAA_2	570.0 / 512.0	3.58	d3-MeFOSAA	573.0 / 419.0	11959.42	250.00
NEtFOSAA_1	584.0 / 419.0	3.74	d5-EtFOSAA	589.0 / 419.0	12249.87	250.00
NEtFOSAA_2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	12249.87	250.00

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Summary Internal Standard Report

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	21561.23	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	21561.23	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	47815.92	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	47815.92	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	53065.30	250.00
PFHpA_2	363.0 / 169.0	2.27	13C4-PFHpA	367.0 / 322.0	53065.30	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	19850.01	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	19850.01	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	74545.59	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	74545.59	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	74786.54	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	74786.54	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	22008.80	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	22008.80	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	78361.11	250.00
PFDA_2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	78361.11	250.00
PFUnA_1	563.0 / 519.0	3.75	13C7-PFUnA	570.0 / 525.0	79842.04	250.00
PFUnA_2	563.0 / 269.0	3.75	13C7-PFUnA	570.0 / 525.0	79842.04	250.00
PFDoA_1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	90774.89	250.00
PFDoA_2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	90774.89	250.00
PFTrDA_1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	73195.56	250.00
PFTrDA_2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	73195.56	250.00
PFTeDA_1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	73195.56	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	73195.56	250.00
NMeFOSAA_1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	9638.46	250.00
NMeFOSAA_2	570.0 / 512.0	3.58	d3-MeFOSAA	573.0 / 419.0	9638.46	250.00
NEtFOSAA_1	584.0 / 419.0	3.74	d5-EtFOSAA	589.0 / 419.0	11990.44	250.00
NEtFOSAA_2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	11990.44	250.00

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Summary Internal Standard Report

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.06	13C2-PFDA	515.0 / 470.0	78279.79	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	28256.64	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	28256.64	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	66442.19	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	66442.19	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	66442.19	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	66442.19	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	78279.79	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	78279.79	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	78279.79	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	28256.64	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	28256.64	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	28256.64	239.25

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Summary Internal Standard Report

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	85925.54	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	25682.98	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	25682.98	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	78211.92	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	78211.92	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	78211.92	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	78211.92	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	85925.54	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	85925.54	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	85925.54	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	25682.98	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	25682.98	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	25682.98	239.25

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Summary Internal Standard Report

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	96581.35	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	25760.79	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	25760.79	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	80490.02	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	80490.02	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	80490.02	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	80490.02	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	96581.35	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	96581.35	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	96581.35	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	25760.79	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	25760.79	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	25760.79	239.25

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Summary Internal Standard Report

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	84544.48	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	24826.32	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	24826.32	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	70029.09	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	70029.09	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	70029.09	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	70029.09	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	84544.48	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	84544.48	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	84544.48	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	24826.32	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	24826.32	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	24826.32	239.25

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Summary Internal Standard Report

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	81217.79	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	25138.09	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	25138.09	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	69447.83	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	69447.83	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	69447.83	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	69447.83	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	81217.79	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	81217.79	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	81217.79	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	25138.09	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	25138.09	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	25138.09	239.25

Raw Analytical Data

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Summary Quant Report

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Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.58	20910.97	52.173733	100.7	false
PFBS_2	298.9 / 99.0	1.58	8158.05	71.769461	65.2	false
PFHxA_1	313.0 / 269.0	1.90	20303.18	45.238311	17.9	true
PFHxA_2	313.0 / 119.0	1.90	1709.71	24.010371	11.4	true
PFHpA_1	363.0 / 319.0	2.31	19777.90	49.393747	37.9	true
PFHpA_2	363.0 / 169.0	2.35	523.75	63.630683	15.7	true
PFHxS_1	399.0 / 80.0	2.33	31170.89	75.230081	103.5	false
PFHxS_2	399.0 / 99.0	2.33	9570.50	84.545292	72.3	false
PFOA_1	413.0 / 369.0	2.72	28097.66	64.704292	65.9	false
PFOA_2	413.0 / 169.0	2.71	2023.17	85.043965	46.7	false
PFNA_1	463.0 / 419.0	3.11	29005.68	66.353085	106.8	false
PFNA_2	463.0 / 219.0	3.11	8752.10	50.597429	100.3	false
PFOS_1	499.0 / 80.0	3.11	50067.76	71.500733	70.5	false
PFOS_2	499.0 / 99.0	3.11	8241.27	67.733962	67.5	false
PFDA_1	513.0 / 469.0	3.47	35851.51	67.457542	150.2	false
PFDA_2	513.0 / 219.0	3.47	2130.63	149.854892	68.9	false
PFUnA_1	563.0 / 519.0	3.79	31049.07	78.750293	137.9	false
PFUnA_2	563.0 / 269.0	3.78	1644.11	160.960240	30.4	true
PFDoA_1	613.0 / 569.0	4.07	30554.74	57.419301	167.7	false
PFDoA_2	613.0 / 319.0	4.07	6020.24	76.679493	92.3	false
PFTrDA_1	663.0 / 619.0	4.32	31318.35	54.081245	259.6	false
PFTrDA_2	663.0 / 169.0	4.31	1885.44	< 0	70.4	false
PFTeDA_1	713.0 / 669.0	4.53	33049.61	47.749090	430.2	false
PFTeDA_2	713.0 / 169.0	4.53	2055.16	66.922658	127.1	false
NMeFOSAA_1	570.0 / 419.0	3.62	5125.96	52.820436	111.6	false
NMeFOSAA_2	570.0 / 512.0	3.61	2646.23	< 0	167.2	false
NEtFOSAA_1	584.0 / 419.0	3.78	4848.21	91.707276	195.7	false
NEtFOSAA_2	584.0 / 483.0	3.80	130.97	< 0	14.6	false

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Summary Quant Report

Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	4809.47	4.681607	33.8	true
PFBS_2	298.9 / 99.0	1.56	2039.76	12.772651	26.3	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.31	34221.92	102.137527	106.3	true
PFHxS_2	399.0 / 99.0	2.31	9675.61	102.797778	79.5	false
PFOA_1	413.0 / 369.0	2.69	89022.41	292.174606	146.5	true
PFOA_2	413.0 / 169.0	2.69	5269.36	278.821592	89.1	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	651722.59	2459.157257	645.2	false
PFBS_2	298.9 / 99.0	1.54	185339.29	2301.878995	434.3	false
PFHxA_1	313.0 / 269.0	1.86	463786.99	2371.617685	128.1	false
PFHxA_2	313.0 / 119.0	1.86	36839.52	2527.592459	77.3	false
PFHpA_1	363.0 / 319.0	2.28	437312.26	2487.225679	300.5	false
PFHpA_2	363.0 / 169.0	2.28	9462.24	2852.230745	117.1	false
PFHxS_1	399.0 / 80.0	2.30	695502.10	2858.985656	524.2	false
PFHxS_2	399.0 / 99.0	2.30	207985.74	2994.892577	671.5	false
PFOA_1	413.0 / 369.0	2.69	791117.75	2964.335285	440.2	false
PFOA_2	413.0 / 169.0	2.69	46661.88	2748.290948	337.1	false
PFNA_1	463.0 / 419.0	3.08	675511.52	2773.622980	532.8	false
PFNA_2	463.0 / 219.0	3.08	212812.24	2859.496442	594.7	false
PFOS_1	499.0 / 80.0	3.08	1030381.81	2672.350527	260.9	false
PFOS_2	499.0 / 99.0	3.08	186698.92	2763.040100	499.7	false
PFDA_1	513.0 / 469.0	3.43	770382.32	2580.458169	581.8	false
PFDA_2	513.0 / 219.0	3.43	34258.57	2852.226224	265.9	false
PFUnA_1	563.0 / 519.0	3.76	761917.69	2516.073244	428.0	false
PFUnA_2	563.0 / 269.0	3.76	39430.61	2684.188352	279.0	false
PFDoA_1	613.0 / 569.0	4.04	704624.44	2660.878934	591.0	false
PFDoA_2	613.0 / 319.0	4.04	110139.96	2553.186744	412.4	false
PFTrDA_1	663.0 / 619.0	4.28	694393.90	2799.199698	896.4	false
PFTrDA_2	663.0 / 169.0	4.28	44235.84	2716.233226	457.1	false
PFTeDA_1	713.0 / 669.0	4.50	775934.72	2710.817485	1595.1	false
PFTeDA_2	713.0 / 169.0	4.49	39792.06	2887.671154	830.1	false
NMeFOSAA_1	570.0 / 419.0	3.59	106203.91	2699.349944	673.2	false
NMeFOSAA_2	570.0 / 512.0	3.59	57634.82	2645.170324	612.8	false
NEtFOSAA_1	584.0 / 419.0	3.75	103439.81	2513.468275	627.2	false
NEtFOSAA_2	584.0 / 483.0	3.75	5908.23	2414.657340	225.6	false

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Summary Quant Report

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Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	354473.06	1390.645364	46.8	true
PFBS_2	298.9 / 99.0	1.53	59623.12	765.082052	90.6	false
PFHxA_1	313.0 / 269.0	1.84	197101.03	703.181017	31.9	true
PFHxA_2	313.0 / 119.0	1.85	11074.54	493.407763	33.6	false
PFHpA_1	363.0 / 319.0	2.27	197960.49	727.727574	33.5	false
PFHpA_2	363.0 / 169.0	2.26	4076.76	780.500035	58.4	false
PFHxS_1	399.0 / 80.0	2.29	187531.83	526.172019	25.7	true
PFHxS_2	399.0 / 99.0	2.29	52228.24	514.200864	136.5	false
PFOA_1	413.0 / 369.0	2.68	1214544.96	4348.821988	160.5	false
PFOA_2	413.0 / 169.0	2.67	74376.68	4182.835620	225.0	true
PFNA_1	463.0 / 419.0	3.08	16826.69	30.104918	38.8	false
PFNA_2	463.0 / 219.0	3.08	6906.32	36.333021	39.5	false
PFOS_1	499.0 / 80.0	3.07	1367429.54	3217.942051	110.5	false
PFOS_2	499.0 / 99.0	3.08	213330.28	2860.537904	392.8	false
PFDA_1	513.0 / 469.0	3.43	9635.26	< 0	26.3	false
PFDA_2	513.0 / 219.0	3.45	605.52	40.716259	10.8	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	3.75	67710.01	1292.648747	300.2	true
NEtFOSAA_2	584.0 / 483.0	3.68	3930.28	1209.441815	53.0	true

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Summary Quant Report

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Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	221588.18	1116.554525	42.2	true
PFBS_2	298.9 / 99.0	1.53	32141.37	527.280162	66.9	true
PFHxA_1	313.0 / 269.0	1.84	226115.82	1022.874404	35.5	true
PFHxA_2	313.0 / 119.0	1.86	9888.84	557.519460	34.8	false
PFHpA_1	363.0 / 319.0	2.27	174388.56	843.993193	33.7	false
PFHpA_2	363.0 / 169.0	2.23	3651.34	924.308818	46.7	false
PFHxS_1	399.0 / 80.0	2.29	225931.10	894.979290	48.0	false
PFHxS_2	399.0 / 99.0	2.29	53852.85	744.653420	105.7	false
PFOA_1	413.0 / 369.0	2.68	1373058.14	5582.036064	187.1	false
PFOA_2	413.0 / 169.0	2.67	80280.61	5123.315154	255.3	true
PFNA_1	463.0 / 419.0	3.07	11309.39	21.717010	24.4	false
PFNA_2	463.0 / 219.0	3.09	2584.67	< 0	22.5	true
PFOS_1	499.0 / 80.0	3.05	975941.50	2726.375112	101.6	false
PFOS_2	499.0 / 99.0	3.08	140137.40	2228.543914	384.3	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

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Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.31	12022.39	16.689946	37.5	false
PFHxS_2	399.0 / 99.0	2.30	2793.79	11.232315	27.8	false
PFOA_1	413.0 / 369.0	2.68	93462.07	314.430225	144.4	false
PFOA_2	413.0 / 169.0	2.68	4416.61	236.660369	57.4	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	167550.49	693.144584	35.5	true
PFBS_2	298.9 / 99.0	1.53	21218.28	282.360668	60.6	true
PFHxA_1	313.0 / 269.0	1.84	166041.31	671.780836	25.4	true
PFHxA_2	313.0 / 119.0	1.86	8687.05	432.044124	31.5	true
PFHpA_1	363.0 / 319.0	2.26	137298.82	513.686635	34.6	false
PFHpA_2	363.0 / 169.0	2.24	3591.32	709.385399	43.5	false
PFHxS_1	399.0 / 80.0	2.29	200104.87	639.849683	51.3	true
PFHxS_2	399.0 / 99.0	2.29	54320.70	608.650162	127.6	false
PFOA_1	413.0 / 369.0	2.68	1220730.58	4500.289310	198.2	false
PFOA_2	413.0 / 169.0	2.66	67788.49	3923.730432	258.5	true
PFNA_1	463.0 / 419.0	3.07	10519.13	16.411461	27.1	false
PFNA_2	463.0 / 219.0	3.08	2941.72	< 0	25.5	true
PFOS_1	499.0 / 80.0	3.05	842646.07	2394.274614	121.9	false
PFOS_2	499.0 / 99.0	3.08	127103.51	2056.798419	280.4	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	243074.03	864.715209	84.4	true
PFBS_2	298.9 / 99.0	1.54	54926.67	640.811327	137.8	false
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	2.27	72189.16	271.946086	27.1	true
PFHpA_2	363.0 / 169.0	2.25	1571.15	299.616396	23.0	true
PFHxS_1	399.0 / 80.0	2.29	141613.47	467.785755	72.3	false
PFHxS_2	399.0 / 99.0	2.29	34981.76	403.212545	140.0	false
PFOA_1	413.0 / 369.0	2.68	682094.28	2518.359749	188.2	true
PFOA_2	413.0 / 169.0	2.67	42972.22	2495.929753	199.6	true
PFNA_1	463.0 / 419.0	3.08	12853.72	24.236948	39.5	false
PFNA_2	463.0 / 219.0	3.07	5165.44	26.866636	50.2	false
PFOS_1	499.0 / 80.0	2.96	448364.75	1003.958019	80.1	false
PFOS_2	499.0 / 99.0	3.07	60572.77	768.970132	141.0	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	53980.42	184.676550	45.4	true
PFBS_2	298.9 / 99.0	1.53	11326.69	124.573882	57.0	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.29	36034.62	115.746168	40.1	false
PFHxS_2	399.0 / 99.0	2.29	7404.97	78.712590	47.5	false
PFOA_1	413.0 / 369.0	2.68	115995.45	525.031528	110.4	false
PFOA_2	413.0 / 169.0	2.68	6688.33	481.757354	88.6	false
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	3.01	95429.49	214.308207	51.0	false
PFOS_2	499.0 / 99.0	2.99	6685.80	71.142622	45.2	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Summary Quant Report

Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.68	95342.78	299.155338	134.2	true
PFOA_2	413.0 / 169.0	2.68	7315.36	373.377943	114.5	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

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Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	24079.78	65.328843	45.3	true
PFBS_2	298.9 / 99.0	1.53	8124.06	75.054218	45.6	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.29	24419.78	67.718777	42.6	false
PFHxS_2	399.0 / 99.0	2.29	6268.27	60.460264	48.2	false
PFOA_1	413.0 / 369.0	2.68	114931.60	485.154346	94.9	false
PFOA_2	413.0 / 169.0	2.68	8072.57	545.562659	120.6	false
PFNA_1	463.0 / 419.0	3.08	3997.04	< 0	19.2	true
PFNA_2	463.0 / 219.0	3.09	2179.82	< 0	26.9	true
PFOS_1	499.0 / 80.0	3.04	105825.08	233.234346	54.9	false
PFOS_2	499.0 / 99.0	3.08	15568.24	193.422592	71.3	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

BATTELLE

Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:46:58 PM

Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.06	98945.55	232.435796	1206.7	false
d3-MeFOSAA	573.0 / 419.0	3.61	12867.87	224.549666	193.1	false
d5-EtFOSAA	589.0 / 419.0	3.78	11990.90	199.546833	177.2	false
13C5-PFHxA	318.0 / 273.0	1.87	59274.21	244.612797	521.9	false
13C4-PFHpA	367.0 / 322.0	2.28	66830.02	245.998996	876.9	false
13C8-PFOA	421.0 / 376.0	2.70	83208.18	258.267174	1772.1	false
13C9-PFNA	472.0 / 427.0	3.09	85858.82	243.668698	1104.5	false
13C6-PFDA	519.0 / 474.0	3.45	89458.95	243.282977	1101.4	false
13C7-PFUnA	570.0 / 525.0	3.77	84438.94	241.873161	1292.6	false
13C2-PFTeDA	715.0 / 670.0	4.53	84642.53	232.578023	2481.4	false
13C3-PFBS	302.0 / 99.0	1.54	26359.35	202.423657	256.7	false
13C3-PFHxS	402.0 / 99.0	2.31	21907.69	199.336484	226.9	false
13C8-PFOS	507.0 / 99.0	3.09	27589.99	221.396551	243.7	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:02 PM

Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	85178.11	215.385188	1032.9	false
d3-MeFOSAA	573.0 / 419.0	3.59	10992.99	213.083035	144.5	false
d5-EtFOSAA	589.0 / 419.0	3.74	10244.13	189.363269	168.7	false
13C5-PFHxA	318.0 / 273.0	1.85	47353.78	210.900777	608.1	false
13C4-PFHpA	367.0 / 322.0	2.27	55638.79	221.029201	768.1	false
13C8-PFOA	421.0 / 376.0	2.68	72121.27	241.588773	508.5	false
13C9-PFNA	472.0 / 427.0	3.07	70462.06	215.814389	891.2	false
13C6-PFDA	519.0 / 474.0	3.42	82185.89	240.583750	1031.1	false
13C7-PFUnA	570.0 / 525.0	3.74	74695.49	230.314031	1121.3	false
13C2-PFTeDA	715.0 / 670.0	4.49	70743.19	209.240510	1507.0	false
13C3-PFBS	302.0 / 99.0	1.53	22307.84	190.288128	286.3	false
13C3-PFHxS	402.0 / 99.0	2.29	19108.77	193.130437	242.7	false
13C8-PFOS	507.0 / 99.0	3.07	21532.36	191.928112	194.4	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:05 PM

Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	76688.36	193.994027	3371.9	false
d3-MeFOSAA	573.0 / 419.0	3.58	10287.23	228.872638	170.4	false
d5-EtFOSAA	589.0 / 419.0	3.74	10336.89	219.317334	194.0	false
13C5-PFHxA	318.0 / 273.0	1.85	48048.67	216.158044	597.8	false
13C4-PFHpA	367.0 / 322.0	2.27	51595.94	207.039875	740.8	false
13C8-PFOA	421.0 / 376.0	2.68	67479.47	228.324009	2113.6	false
13C9-PFNA	472.0 / 427.0	3.07	69138.79	213.901250	1835.0	false
13C6-PFDA	519.0 / 474.0	3.42	74939.78	219.458555	729.7	false
13C7-PFUnA	570.0 / 525.0	3.74	70644.63	217.909520	809.4	false
13C2-PFTeDA	715.0 / 670.0	4.49	65577.97	194.039493	1413.9	false
13C3-PFBS	302.0 / 99.0	1.53	21671.66	212.182043	319.6	false
13C3-PFHxS	402.0 / 99.0	2.29	17341.14	201.167505	188.7	false
13C8-PFOS	507.0 / 99.0	3.07	20616.75	210.925618	165.5	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:08 PM

Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	84254.30	183.534721	1059.8	false
d3-MeFOSAA	573.0 / 419.0	3.59	11058.57	273.363838	117.4	false
d5-EtFOSAA	589.0 / 419.0	3.74	12962.39	305.572921	163.1	false
13C5-PFHxA	318.0 / 273.0	1.84	66240.34	282.911452	96.9	false
13C4-PFHpA	367.0 / 322.0	2.26	76967.91	293.214902	322.8	false
13C8-PFOA	421.0 / 376.0	2.67	70776.14	227.355088	546.4	false
13C9-PFNA	472.0 / 427.0	3.06	79545.36	233.638435	451.7	false
13C6-PFDA	519.0 / 474.0	3.42	95868.33	241.758943	812.2	false
13C7-PFUnA	570.0 / 525.0	3.74	81279.89	215.897419	650.5	false
13C2-PFTeDA	715.0 / 670.0	4.49	76258.93	194.307769	1430.2	false
13C3-PFBS	302.0 / 99.0	1.51	20759.92	225.833800	214.7	false
13C3-PFHxS	402.0 / 99.0	2.28	24363.21	314.023013	160.1	false
13C8-PFOS	507.0 / 99.0	3.06	22867.37	259.939381	139.2	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:12 PM

Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	64197.74	165.353675	830.6	false
d3-MeFOSAA	573.0 / 419.0	3.58	7334.58	170.441266	104.5	false
d5-EtFOSAA	589.0 / 419.0	3.74	9245.55	204.889457	146.0	false
13C5-PFHxA	318.0 / 273.0	1.84	53142.19	253.945567	92.5	false
13C4-PFHpA	367.0 / 322.0	2.26	58873.32	250.938953	330.9	false
13C8-PFOA	421.0 / 376.0	2.67	62403.49	224.284847	532.7	false
13C9-PFNA	472.0 / 427.0	3.06	62033.47	203.858474	431.0	false
13C6-PFDA	519.0 / 474.0	3.42	71372.52	212.817036	736.6	false
13C7-PFUnA	570.0 / 525.0	3.74	67468.94	211.902550	581.9	false
13C2-PFTeDA	715.0 / 670.0	4.49	46236.34	139.299924	1227.2	false
13C3-PFBS	302.0 / 99.0	1.52	16126.35	164.913550	160.4	false
13C3-PFHxS	402.0 / 99.0	2.28	17279.04	209.364788	140.8	false
13C8-PFOS	507.0 / 99.0	3.06	19474.58	208.104233	155.2	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:16 PM

Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	81721.17	197.940675	922.3	false
d3-MeFOSAA	573.0 / 419.0	3.58	9606.57	204.253877	146.9	false
d5-EtFOSAA	589.0 / 419.0	3.74	10441.54	211.716143	172.9	false
13C5-PFHxA	318.0 / 273.0	1.85	45276.20	215.533295	574.6	false
13C4-PFHpA	367.0 / 322.0	2.26	54266.96	230.424315	613.1	false
13C8-PFOA	421.0 / 376.0	2.67	70896.32	253.838749	993.8	false
13C9-PFNA	472.0 / 427.0	3.06	75605.08	247.512352	1306.0	false
13C6-PFDA	519.0 / 474.0	3.42	80755.08	226.439158	17058.6	false
13C7-PFUnA	570.0 / 525.0	3.74	77477.49	228.830646	674.2	false
13C2-PFTeDA	715.0 / 670.0	4.49	71510.91	202.603070	1689.9	false
13C3-PFBS	302.0 / 99.0	1.53	20705.67	193.736841	338.4	false
13C3-PFHxS	402.0 / 99.0	2.29	21224.74	235.303857	208.2	false
13C8-PFOS	507.0 / 99.0	3.06	20174.95	197.254988	237.2	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:19 PM

Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	67840.25	163.327177	1025.7	false
d3-MeFOSAA	573.0 / 419.0	3.58	9920.94	260.345671	168.7	false
d5-EtFOSAA	589.0 / 419.0	3.74	9068.80	226.952435	139.2	false
13C5-PFHxA	318.0 / 273.0	1.84	58262.49	273.955649	118.7	false
13C4-PFHpA	367.0 / 322.0	2.26	74063.20	310.629075	483.2	false
13C8-PFOA	421.0 / 376.0	2.67	68753.61	243.151303	585.3	false
13C9-PFNA	472.0 / 427.0	3.06	64209.28	207.630180	509.3	false
13C6-PFDA	519.0 / 474.0	3.42	72945.87	203.307279	733.8	false
13C7-PFUnA	570.0 / 525.0	3.74	71199.89	209.020318	711.5	false
13C2-PFTeDA	715.0 / 670.0	4.49	56173.30	158.188241	1816.2	false
13C3-PFBS	302.0 / 99.0	1.51	19504.69	225.246279	165.8	false
13C3-PFHxS	402.0 / 99.0	2.28	21108.51	288.828424	192.3	false
13C8-PFOS	507.0 / 99.0	3.06	18297.70	220.804400	148.8	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:23 PM

Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	66604.12	156.377130	1011.1	false
d3-MeFOSAA	573.0 / 419.0	3.58	5899.92	130.346857	116.5	true
d5-EtFOSAA	589.0 / 419.0	3.74	7442.65	156.808622	135.8	false
13C5-PFHxA	318.0 / 273.0	1.85	65248.64	299.276791	165.7	false
13C4-PFHpA	367.0 / 322.0	2.26	69234.03	283.249771	494.6	false
13C8-PFOA	421.0 / 376.0	2.67	69317.40	239.129796	597.7	false
13C9-PFNA	472.0 / 427.0	3.06	67264.93	212.173780	470.4	false
13C6-PFDA	519.0 / 474.0	3.42	71878.22	195.366747	1036.6	false
13C7-PFUnA	570.0 / 525.0	3.74	65395.90	187.223706	593.4	false
13C2-PFTeDA	715.0 / 670.0	4.48	55086.96	151.284421	1698.9	false
13C3-PFBS	302.0 / 99.0	1.52	22765.49	221.336321	235.9	false
13C3-PFHxS	402.0 / 99.0	2.28	20650.21	237.883320	162.0	false
13C8-PFOS	507.0 / 99.0	3.06	23288.00	236.592311	185.4	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:27 PM

Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	70346.37	174.978483	670.1	false
d3-MeFOSAA	573.0 / 419.0	3.58	7312.31	185.267652	161.9	false
d5-EtFOSAA	589.0 / 419.0	3.74	10593.96	255.971207	208.5	false
13C5-PFHxA	318.0 / 273.0	1.84	48177.66	231.383293	258.6	false
13C4-PFHpA	367.0 / 322.0	2.25	55074.06	235.929262	681.7	false
13C8-PFOA	421.0 / 376.0	2.67	54070.26	195.314539	616.9	false
13C9-PFNA	472.0 / 427.0	3.06	51923.29	171.494432	567.6	false
13C6-PFDA	519.0 / 474.0	3.42	49608.49	142.849964	681.1	false
13C7-PFUnA	570.0 / 525.0	3.73	55553.23	168.496317	609.6	false
13C2-PFTeDA	715.0 / 670.0	4.48	56275.53	163.732845	1150.4	false
13C3-PFBS	302.0 / 99.0	1.51	22444.07	250.246347	233.2	false
13C3-PFHxS	402.0 / 99.0	2.28	18228.24	240.810032	194.2	false
13C8-PFOS	507.0 / 99.0	3.06	21156.59	246.492948	216.3	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:30 PM

Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	81921.33	206.156264	1230.2	false
d3-MeFOSAA	573.0 / 419.0	3.58	10707.98	249.691453	194.1	false
d5-EtFOSAA	589.0 / 419.0	3.73	11061.86	245.986861	243.1	false
13C5-PFHxA	318.0 / 273.0	1.84	45799.54	195.698590	658.0	false
13C4-PFHpA	367.0 / 322.0	2.26	52906.77	201.644393	858.2	false
13C8-PFOA	421.0 / 376.0	2.67	75770.41	243.509554	1840.1	false
13C9-PFNA	472.0 / 427.0	3.06	72636.47	213.443419	902.8	false
13C6-PFDA	519.0 / 474.0	3.41	78225.33	227.891510	828.0	false
13C7-PFUnA	570.0 / 525.0	3.73	77729.84	238.520387	1378.2	false
13C2-PFTeDA	715.0 / 670.0	4.48	73000.68	214.881861	1298.9	false
13C3-PFBS	302.0 / 99.0	1.52	20882.36	214.287510	273.8	false
13C3-PFHxS	402.0 / 99.0	2.28	17754.23	215.865273	200.6	false
13C8-PFOS	507.0 / 99.0	3.06	23619.95	253.273005	207.3	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:34 PM

Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	66332.92	166.340765	957.8	false
d3-MeFOSAA	573.0 / 419.0	3.58	7148.67	154.948538	146.9	false
d5-EtFOSAA	589.0 / 419.0	3.74	6521.13	134.794767	145.5	false
13C5-PFHxA	318.0 / 273.0	1.84	52051.66	215.415042	316.0	false
13C4-PFHpA	367.0 / 322.0	2.26	60686.13	224.016142	650.5	false
13C8-PFOA	421.0 / 376.0	2.67	57792.77	179.889096	746.0	false
13C9-PFNA	472.0 / 427.0	3.06	61647.96	175.453345	686.9	false
13C6-PFDA	519.0 / 474.0	3.41	63262.25	183.651911	863.0	false
13C7-PFUnA	570.0 / 525.0	3.74	54495.96	166.637240	828.6	false
13C2-PFTeDA	715.0 / 670.0	4.48	63527.84	186.340389	1584.7	false
13C3-PFBS	302.0 / 99.0	1.52	25258.68	240.931818	296.4	false
13C3-PFHxS	402.0 / 99.0	2.28	19237.49	217.418049	194.9	false
13C8-PFOS	507.0 / 99.0	3.06	21748.70	216.775081	186.0	false

BATTELLE

Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 06/11/2018 1:26:25 PM

Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.58	PFBS			
PFBS_2	298.9 / 99.0	1.58	PFBS	0.390	0.303	ü
PFHxA_1	313.0 / 269.0	1.90	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.35	PFHpA	0.030	0.020	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	PFHxS	0.310	0.284	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.160	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.060	0.038	
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.78	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.200	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.31	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.53	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.53	PFTeDA	0.060	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.61	NMeFOSAA	0.520	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.80	NEtFOSAA	0.030	0.071	

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Summary Ion Ratio Report

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Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.420	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	PFHxS	0.280	0.284	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.280	0.303	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.300	0.284	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.320	0.314	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.04	PFDoA			
PFDoA_2	613.0 / 319.0	4.04	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.28	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.170	0.303	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.060	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.280	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.410	0.314	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.160	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.060	0.038	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.68	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.150	0.303	
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.040	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.23	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.240	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.230	0.314	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.140	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.230	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.050	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.130	0.303	
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.050	0.079	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.030	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.270	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.280	0.314	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.150	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.230	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.250	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.400	0.314	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.140	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.210	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.210	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	3.01	PFOS			
PFOS_2	499.0 / 99.0	2.99	PFOS	0.070	0.176	
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.080	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.340	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.260	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.550	0.314	
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.150	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Internal Standard Report

Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.58	13C3-PFBS	302.0 / 99.0	26359.35	232.25
PFBS_2	298.9 / 99.0	1.58	13C3-PFBS	302.0 / 99.0	26359.35	232.25
PFHxA_1	313.0 / 269.0	1.90	13C5-PFHxA	318.0 / 273.0	59274.21	250.00
PFHxA_2	313.0 / 119.0	1.90	13C5-PFHxA	318.0 / 273.0	59274.21	250.00
PFHpA_1	363.0 / 319.0	2.31	13C4-PFHpA	367.0 / 322.0	66830.02	250.00
PFHpA_2	363.0 / 169.0	2.35	13C4-PFHpA	367.0 / 322.0	66830.02	250.00
PFHxS_1	399.0 / 80.0	2.33	13C3-PFHxS	402.0 / 99.0	22060.65	236.50
PFHxS_2	399.0 / 99.0	2.33	13C3-PFHxS	402.0 / 99.0	22060.65	236.50
PFOA_1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	83208.18	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	83208.18	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	85858.82	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	85858.82	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	27443.23	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	27443.23	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	89458.95	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	89458.95	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	84438.94	250.00
PFUnA_2	563.0 / 269.0	3.78	13C7-PFUnA	570.0 / 525.0	84438.94	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	98945.55	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	98945.55	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	84642.53	250.00
PFTrDA_2	663.0 / 169.0	4.31	13C2-PFTeDA	715.0 / 670.0	84642.53	250.00
PFTeDA_1	713.0 / 669.0	4.53	13C2-PFTeDA	715.0 / 670.0	84642.53	250.00
PFTeDA_2	713.0 / 169.0	4.53	13C2-PFTeDA	715.0 / 670.0	84642.53	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	12970.06	250.00
NMeFOSAA_2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	12970.06	250.00
NEtFOSAA_1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	12113.27	250.00
NEtFOSAA_2	584.0 / 483.0	3.80	d5-EtFOSAA	589.0 / 419.0	12113.27	250.00

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Summary Internal Standard Report

Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	22307.84	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	22307.84	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	47353.78	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	47353.78	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	55638.79	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	55638.79	250.00
PFHxS_1	399.0 / 80.0	2.31	13C3-PFHxS	402.0 / 99.0	19019.75	236.50
PFHxS_2	399.0 / 99.0	2.31	13C3-PFHxS	402.0 / 99.0	19019.75	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	72323.03	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	72323.03	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	70462.06	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	70462.06	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	22071.91	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	22071.91	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	82185.89	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	82185.89	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	74695.49	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	74695.49	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	85178.11	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	85178.11	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	70743.19	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	70743.19	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	70743.19	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	70743.19	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	11302.37	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	11302.37	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10131.86	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10131.86	250.00

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Summary Internal Standard Report

Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	21671.66	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	21671.66	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	48048.67	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	48048.67	250.00
PFHpA_1	363.0 / 319.0	2.28	13C4-PFHpA	367.0 / 322.0	51595.94	250.00
PFHpA_2	363.0 / 169.0	2.28	13C4-PFHpA	367.0 / 322.0	51595.94	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	16807.55	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	16807.55	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	67479.47	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	67479.47	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	69138.79	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	69138.79	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	20810.45	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	20810.45	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	74939.78	250.00
PFDA_2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	74939.78	250.00
PFUnA_1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	70644.63	250.00
PFUnA_2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	70644.63	250.00
PFDoA_1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	76688.36	250.00
PFDoA_2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	76688.36	250.00
PFTrDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	65577.97	250.00
PFTrDA_2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	65577.97	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	65577.97	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	65577.97	250.00
NMeFOSAA_1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	10566.88	250.00
NMeFOSAA_2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	10566.88	250.00
NEtFOSAA_1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	10369.31	250.00
NEtFOSAA_2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	10369.31	250.00

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Summary Internal Standard Report

Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	13C3-PFBS	302.0 / 99.0	20759.92	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	20759.92	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	66240.34	250.00
PFHxA_2	313.0 / 119.0	1.85	13C5-PFHxA	318.0 / 273.0	66240.34	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	76967.91	250.00
PFHpA_2	363.0 / 169.0	2.26	13C4-PFHpA	367.0 / 322.0	76967.91	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	23776.43	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	23776.43	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	70776.14	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	70776.14	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	79545.36	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	79545.36	250.00
PFOS_1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	22975.64	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	22975.64	239.25
PFDA_1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	95868.33	250.00
PFDA_2	513.0 / 219.0	3.45	13C6-PFDA	519.0 / 474.0	95868.33	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	81279.89	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	81279.89	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	84254.30	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	84254.30	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	76258.93	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	76258.93	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	76258.93	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	76258.93	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	11232.82	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	11232.82	250.00
NEtFOSAA_1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	13151.13	250.00
NEtFOSAA_2	584.0 / 483.0	3.68	d5-EtFOSAA	589.0 / 419.0	13151.13	250.00

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Summary Internal Standard Report

Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	16126.35	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	16126.35	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	53142.19	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	53142.19	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	58873.32	250.00
PFHpA_2	363.0 / 169.0	2.23	13C4-PFHpA	367.0 / 322.0	58873.32	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	17138.85	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	17138.85	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	62403.49	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	62403.49	250.00
PFNA_1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	62033.47	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	62033.47	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	19324.32	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	19324.32	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	71372.52	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	71372.52	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	67468.94	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	67468.94	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	64197.74	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	64197.74	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	46236.34	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	46236.34	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	46236.34	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	46236.34	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	7539.55	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	7539.55	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	9129.26	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	9129.26	250.00

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Summary Internal Standard Report

Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	20705.67	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	20705.67	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	45276.20	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	45276.20	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	54266.96	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	54266.96	250.00
PFHxS_1	399.0 / 80.0	2.31	13C3-PFHxS	402.0 / 99.0	21000.48	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	21000.48	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	70896.32	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	70896.32	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	75605.08	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	75605.08	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	20402.90	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	20402.90	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	80755.08	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	80755.08	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	77477.49	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	77477.49	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	81721.17	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	81721.17	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	71510.91	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	71510.91	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	71510.91	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	71510.91	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9525.16	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9525.16	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10566.57	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10566.57	250.00

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Summary Internal Standard Report

Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	13C3-PFBS	302.0 / 99.0	19504.69	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	19504.69	232.25
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	58262.49	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	58262.49	250.00
PFHpA_1	363.0 / 319.0	2.26	13C4-PFHpA	367.0 / 322.0	74063.20	250.00
PFHpA_2	363.0 / 169.0	2.24	13C4-PFHpA	367.0 / 322.0	74063.20	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	21020.72	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	21020.72	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	68753.61	250.00
PFOA_2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	68753.61	250.00
PFNA_1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	64209.28	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	64209.28	250.00
PFOS_1	499.0 / 80.0	3.05	13C8-PFOS	507.0 / 99.0	18972.53	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	18972.53	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	72945.87	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	72945.87	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	71199.89	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	71199.89	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	67840.25	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	67840.25	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	56173.30	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56173.30	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	56173.30	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56173.30	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	9769.25	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	9769.25	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	9161.64	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	9161.64	250.00

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Summary Internal Standard Report

Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	22765.49	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	22765.49	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	65248.64	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	65248.64	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	69234.03	250.00
PFHpA_2	363.0 / 169.0	2.25	13C4-PFHpA	367.0 / 322.0	69234.03	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	20089.79	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	20089.79	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	68396.90	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	68396.90	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	67264.93	250.00
PFNA_2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	67264.93	250.00
PFOS_1	499.0 / 80.0	2.96	13C8-PFOS	507.0 / 99.0	23695.88	239.25
PFOS_2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	23695.88	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	71878.22	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	71878.22	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	65395.90	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	65395.90	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	66604.12	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	66604.12	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	55086.96	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	55086.96	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	55086.96	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	55086.96	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	5750.95	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	5750.95	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	7443.14	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	7443.14	250.00

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Summary Internal Standard Report

Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	13C3-PFBS	302.0 / 99.0	22444.07	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	22444.07	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	48177.66	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	48177.66	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	55074.06	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	55074.06	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	18065.48	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	18065.48	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	54070.26	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	54070.26	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	51923.29	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	51923.29	250.00
PFOS_1	499.0 / 80.0	3.01	13C8-PFOS	507.0 / 99.0	21479.19	239.25
PFOS_2	499.0 / 99.0	2.99	13C8-PFOS	507.0 / 99.0	21479.19	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	49608.49	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	49608.49	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	55553.23	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	55553.23	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	70346.37	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	70346.37	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	56275.53	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56275.53	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	56275.53	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	56275.53	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	7825.00	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	7825.00	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10635.77	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10635.77	250.00

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Summary Internal Standard Report

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Printed: 06/11/2018 1:29:58 PM

Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	20882.36	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	20882.36	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	45799.54	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	45799.54	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	52906.77	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	52906.77	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	17796.14	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	17796.14	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	75770.41	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	75770.41	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	72636.47	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	72636.47	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	24061.91	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	24061.91	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	78225.33	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	78225.33	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	77729.84	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	77729.84	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	81921.33	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	81921.33	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	73000.68	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	73000.68	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	73000.68	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	73000.68	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10923.82	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10923.82	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	10970.55	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	10970.55	250.00

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Summary Internal Standard Report

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Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	13C3-PFBS	302.0 / 99.0	25258.68	232.25
PFBS_2	298.9 / 99.0	1.53	13C3-PFBS	302.0 / 99.0	25258.68	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	52051.66	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	52051.66	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	60686.13	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	60686.13	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	18710.74	236.50
PFHxS_2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	18710.74	236.50
PFOA_1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	57792.77	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	57792.77	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	61647.96	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	61647.96	250.00
PFOS_1	499.0 / 80.0	3.04	13C8-PFOS	507.0 / 99.0	22093.36	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	22093.36	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	63262.25	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	63262.25	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	54495.96	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	54495.96	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	66332.92	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	66332.92	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	63527.84	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	63527.84	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	63527.84	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	63527.84	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	7281.03	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	7281.03	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	6838.08	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	6838.08	250.00

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Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.06	13C2-PFDA	515.0 / 470.0	91089.89	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	30410.03	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	30410.03	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	76070.00	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	76070.00	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	76070.00	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	76070.00	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	91089.89	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	91089.89	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	91089.89	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	30410.03	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	30410.03	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	30410.03	239.25

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Summary Internal Standard Report

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Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	84623.13	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	27377.21	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	27377.21	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	70486.06	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	70486.06	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	70486.06	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	70486.06	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	84623.13	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	84623.13	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	84623.13	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	27377.21	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	27377.21	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	27377.21	239.25

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Summary Internal Standard Report

Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	84589.81	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	23852.12	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	23852.12	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	69780.92	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	69780.92	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	69780.92	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	69780.92	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	84589.81	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	84589.81	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	84589.81	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	23852.12	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	23852.12	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	23852.12	239.25

Summary Internal Standard Report

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Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	98231.50	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	21467.43	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	21467.43	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	73501.94	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	73501.94	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	73501.94	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	73501.94	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	98231.50	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	98231.50	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	98231.50	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	21467.43	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	21467.43	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	21467.43	239.25

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Summary Internal Standard Report

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Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	83077.38	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	22836.16	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	22836.16	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	65693.98	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	65693.98	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	65693.98	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	65693.98	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	83077.38	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	83077.38	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	83077.38	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22836.16	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	22836.16	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	22836.16	239.25

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Summary Internal Standard Report

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Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.03	13C2-PFDA	515.0 / 470.0	88343.88	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	24958.61	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	24958.61	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	65945.07	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	65945.07	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	65945.07	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	65945.07	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	88343.88	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	88343.88	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	88343.88	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	24958.61	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	24958.61	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	24958.61	239.25

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Summary Internal Standard Report

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Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	88880.39	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	20222.03	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	20222.03	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	66762.95	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	66762.95	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	66762.95	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	66762.95	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	88880.39	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	88880.39	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	88880.39	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	20222.03	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	20222.03	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	20222.03	239.25

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Summary Internal Standard Report

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Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	91139.12	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	24019.71	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	24019.71	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	68442.40	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	68442.40	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	68442.40	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	68442.40	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	91139.12	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	91139.12	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	91139.12	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24019.71	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	24019.71	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	24019.71	239.25

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Summary Internal Standard Report

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Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	86026.85	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	20944.85	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	20944.85	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	65364.28	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	65364.28	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	65364.28	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	65364.28	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	86026.85	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	86026.85	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	86026.85	250.00
13C3-PFBS	302.0 / 99.0	1.51	13C4-PFOS	503.0 / 99.0	20944.85	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	20944.85	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	20944.85	239.25

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Summary Internal Standard Report

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Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	85031.02	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	22757.58	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	22757.58	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	73468.34	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	73468.34	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	73468.34	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	73468.34	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	85031.02	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	85031.02	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	85031.02	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22757.58	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	22757.58	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	22757.58	239.25

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Summary Internal Standard Report

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Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	85331.10	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	24482.74	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	24482.74	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	75855.19	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	75855.19	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	75855.19	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	75855.19	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	85331.10	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	85331.10	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	85331.10	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24482.74	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	24482.74	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	24482.74	239.25

Chromatograms

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Chromatogram Report

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Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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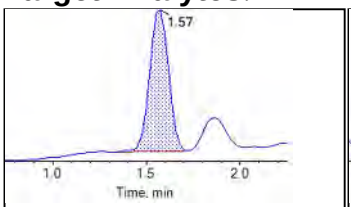
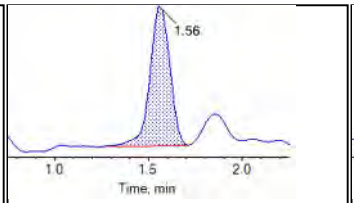
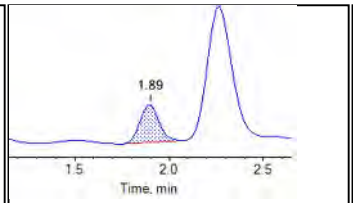


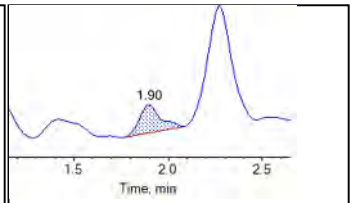
PFBS_1



PFBS_2



PFHxA_1



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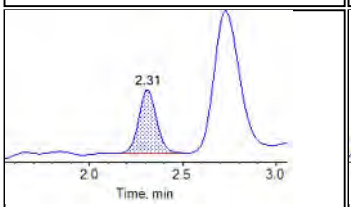

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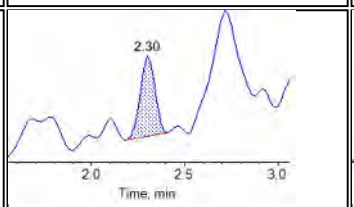

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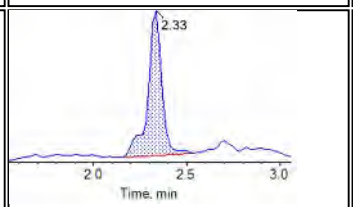

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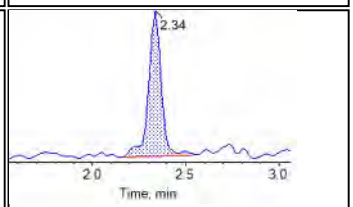

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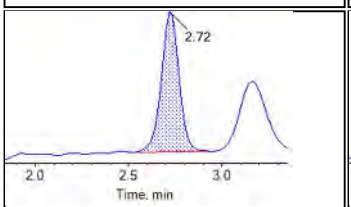

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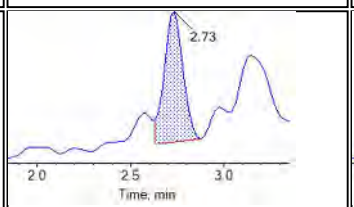

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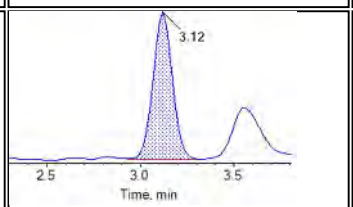

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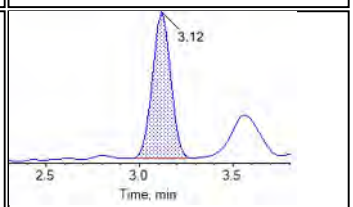

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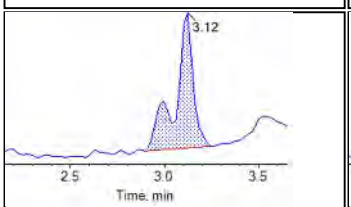

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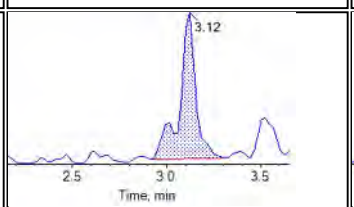

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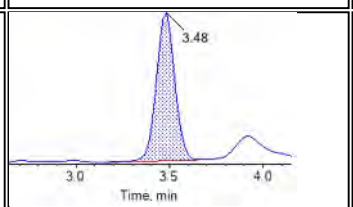

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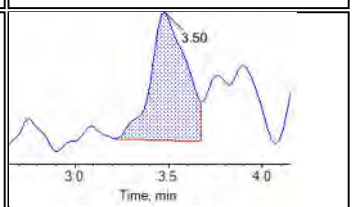

PFDA_2

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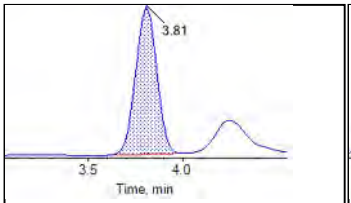

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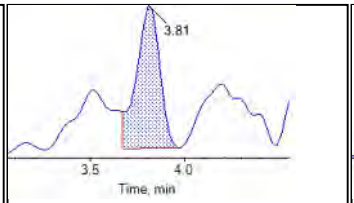

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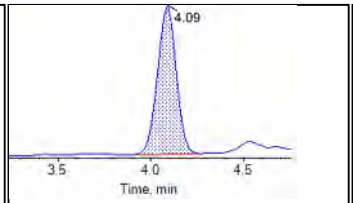

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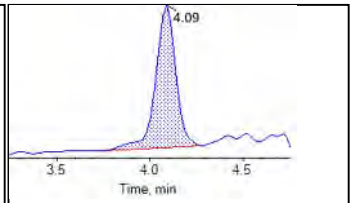

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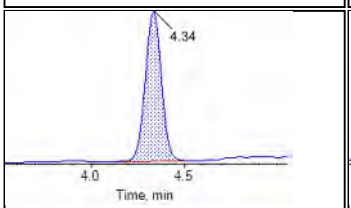

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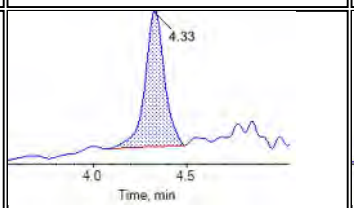
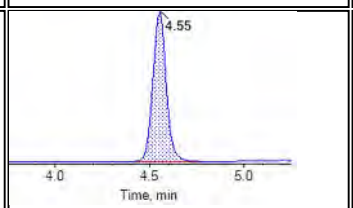
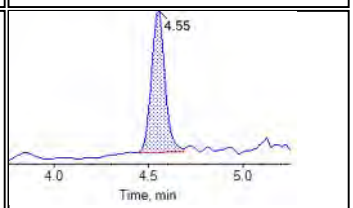


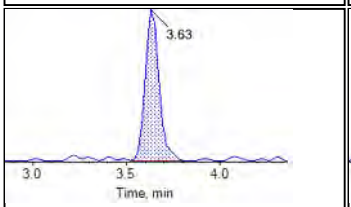
PFTrDA_2



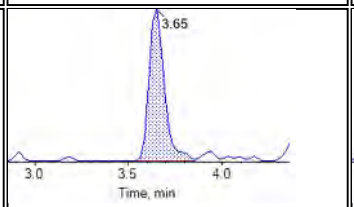
PFTeDA_1



PFTeDA_2



NMeFOSAA_1



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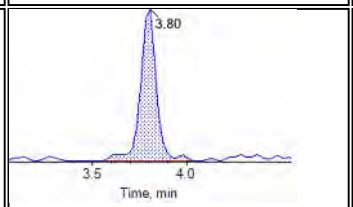

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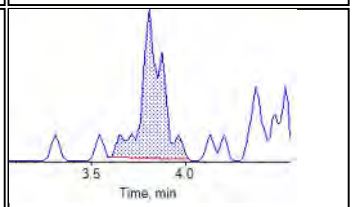
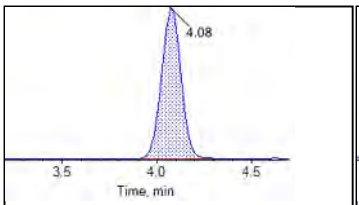
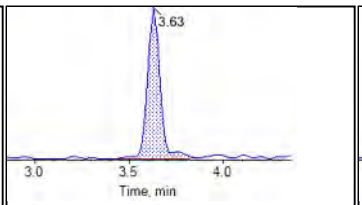


NEtFOSAA_2

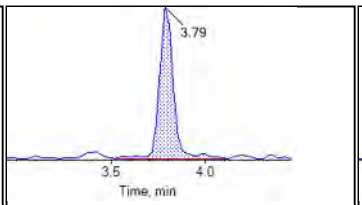
Internal Standards:



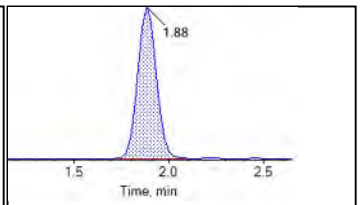
13C2-PFDoA



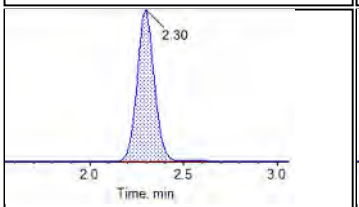
d3-MeFOSAA



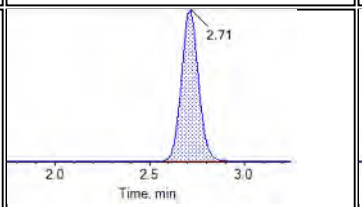
d5-EtFOSAA



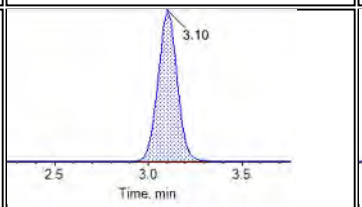
13C5-PFHxA



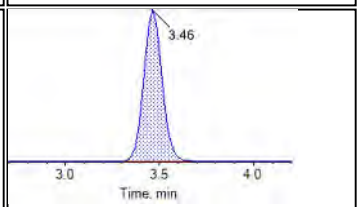
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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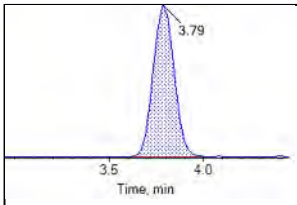

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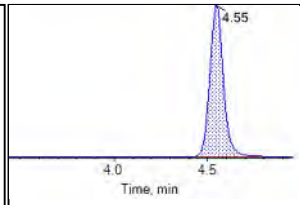
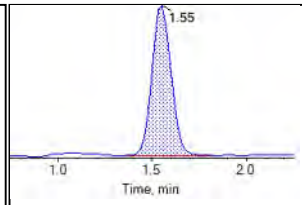
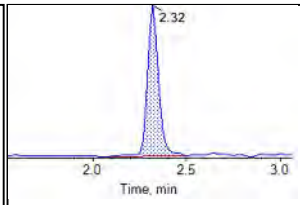


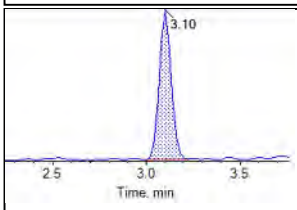
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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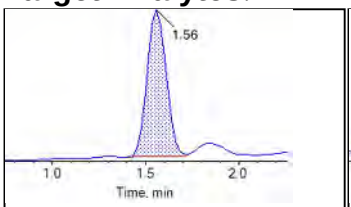
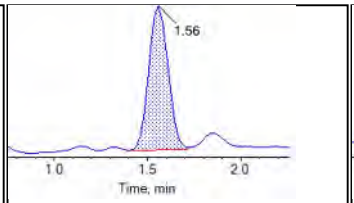
Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

Target Analytes:



PFBS_1



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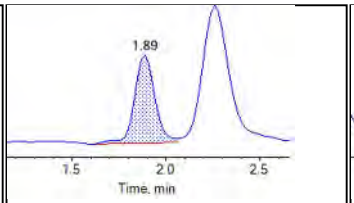

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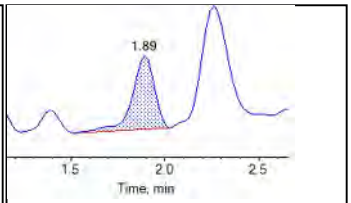

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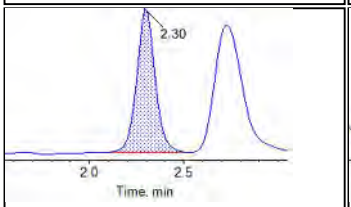

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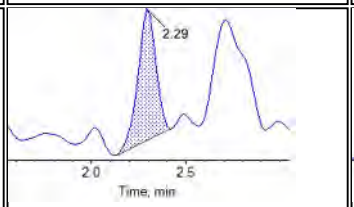

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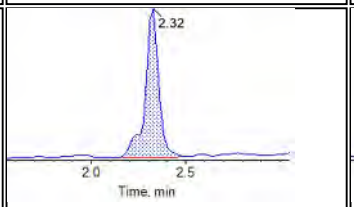

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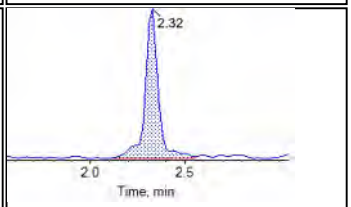

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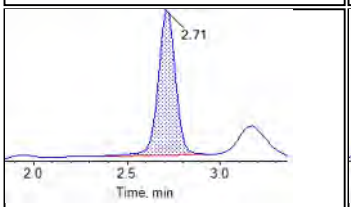

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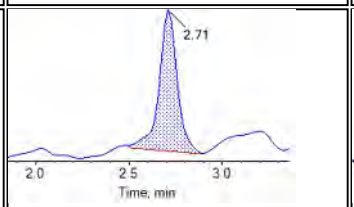

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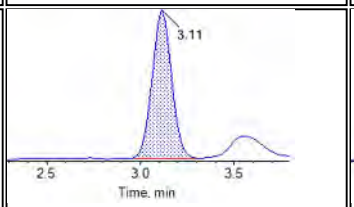

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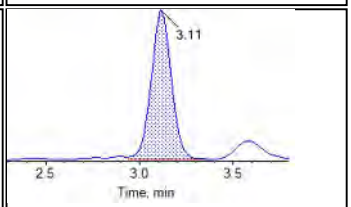

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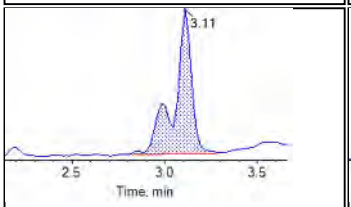

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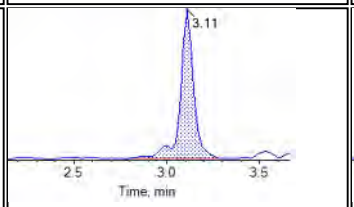

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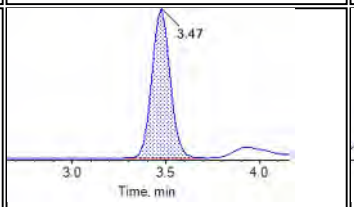

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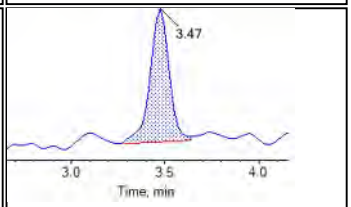

PFDA_2

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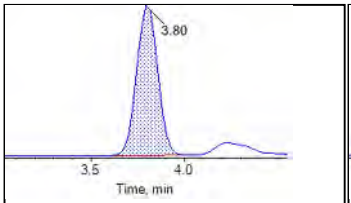

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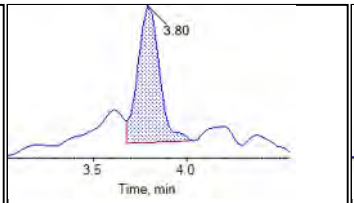

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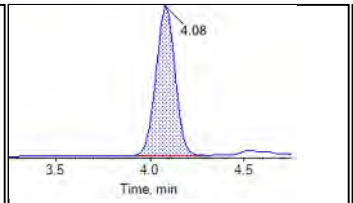

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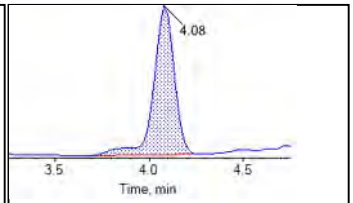

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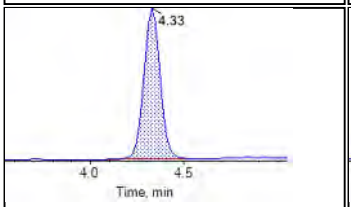

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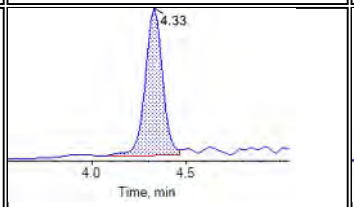

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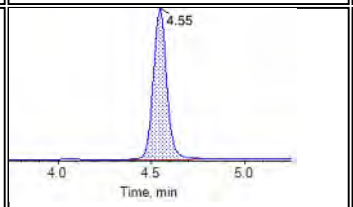

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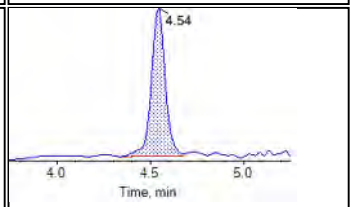

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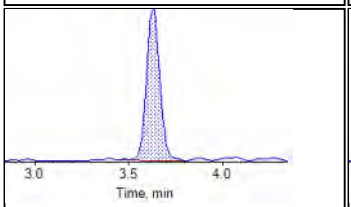

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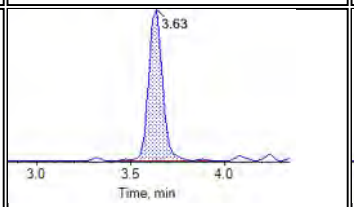

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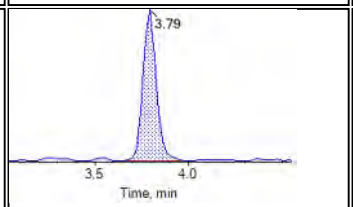

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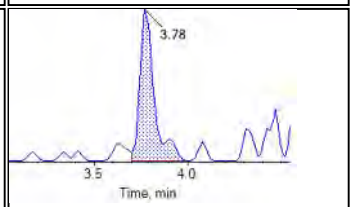

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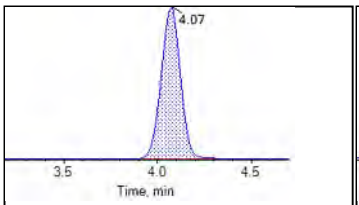

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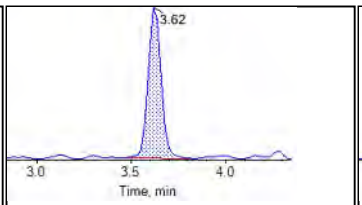

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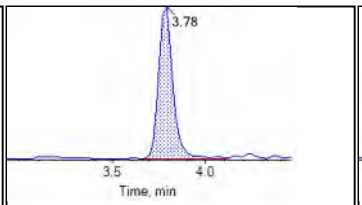

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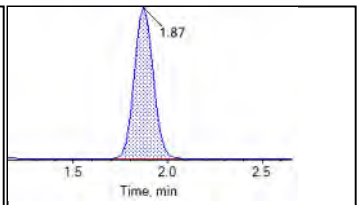

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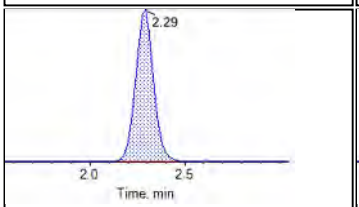

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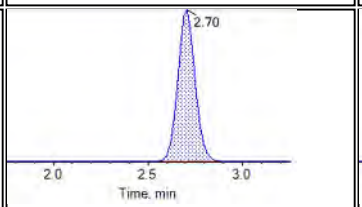

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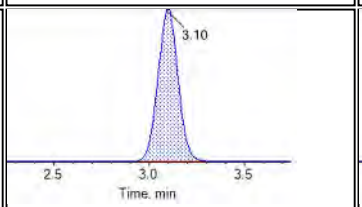

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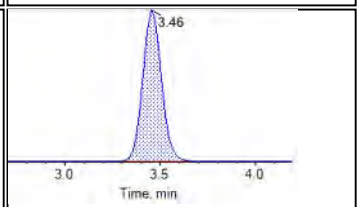

13C6-PFDA

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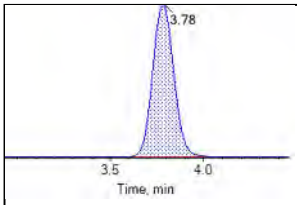

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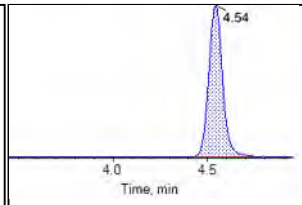

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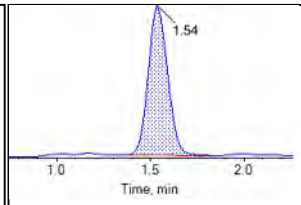

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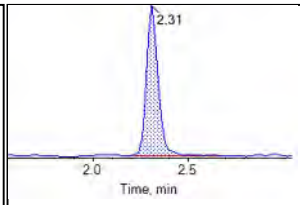

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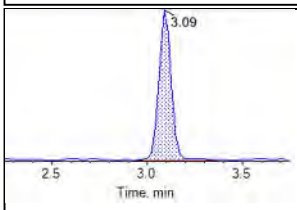

13C8-PFOS

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Chromatogram Report

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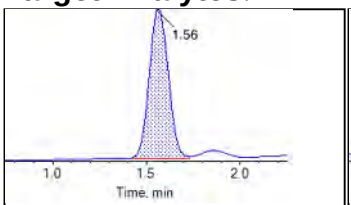
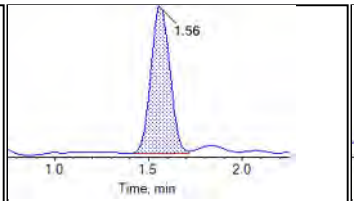
Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

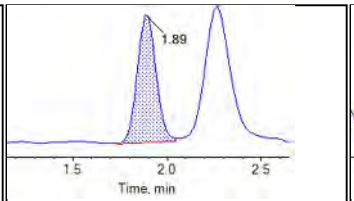
Target Analytes:



PFBS_1



PFBS_2



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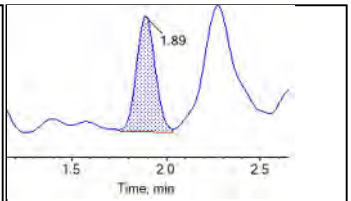

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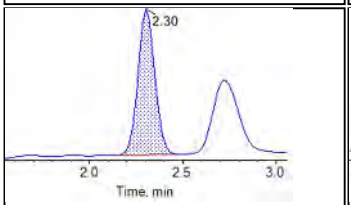

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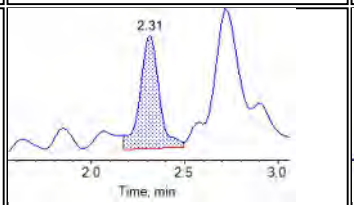

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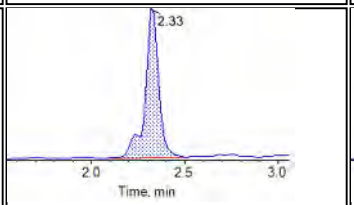

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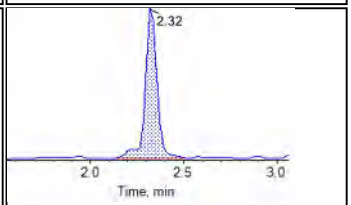

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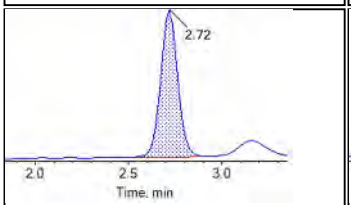

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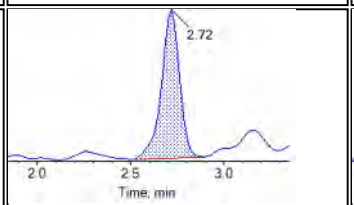

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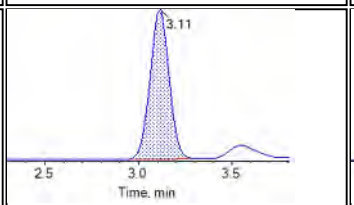

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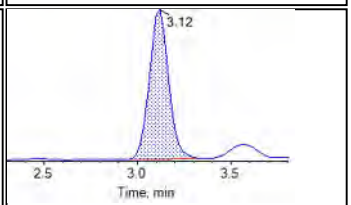

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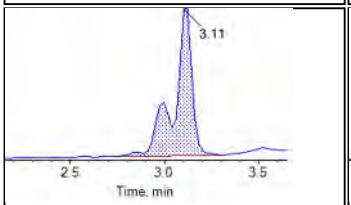

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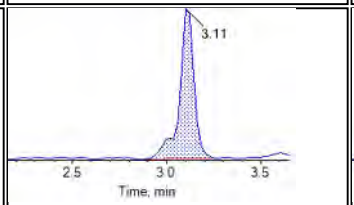

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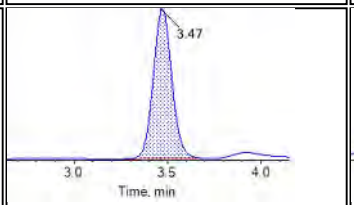
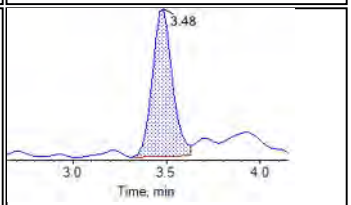


PFDA_1



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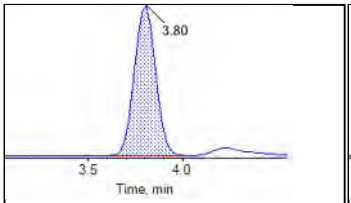

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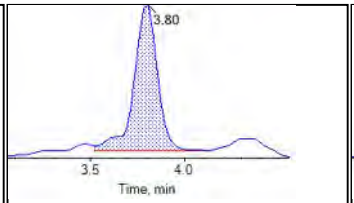

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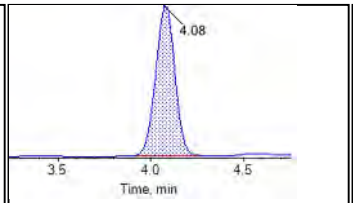

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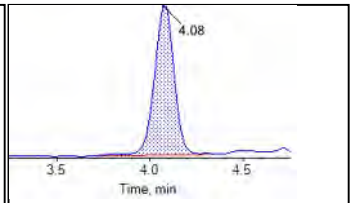

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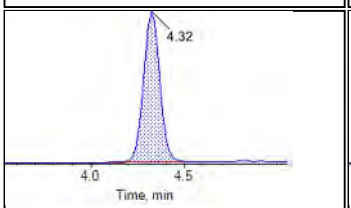

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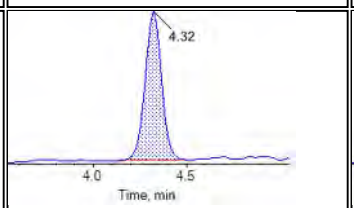

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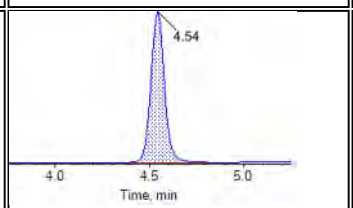

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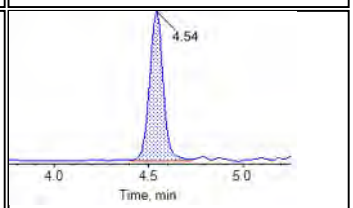

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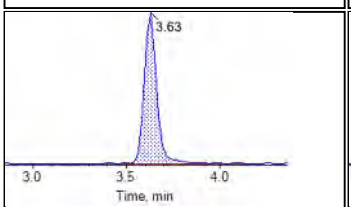

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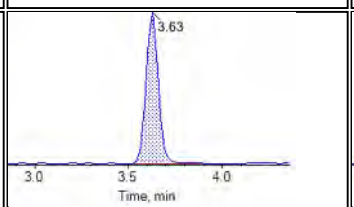

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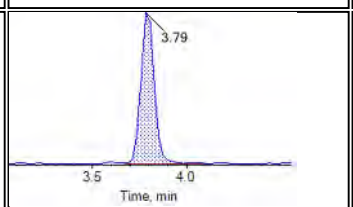

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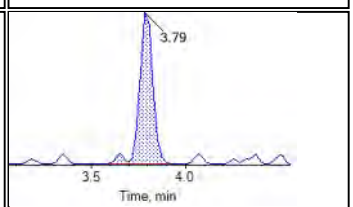

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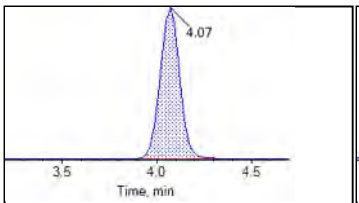

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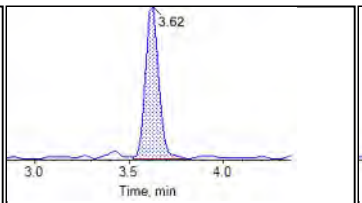

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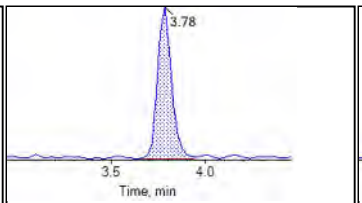

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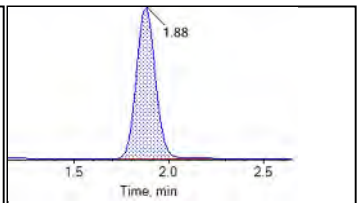

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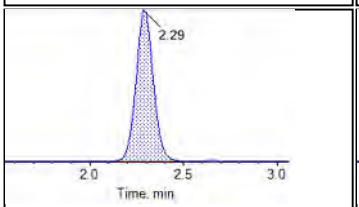

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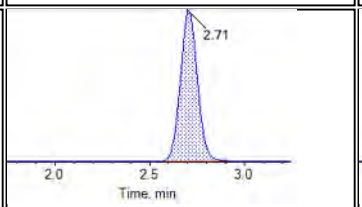

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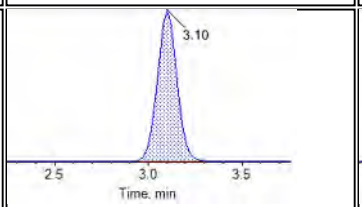

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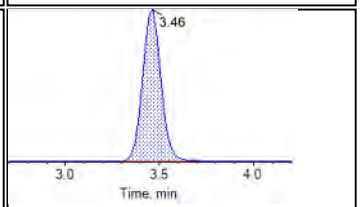

13C6-PFDA

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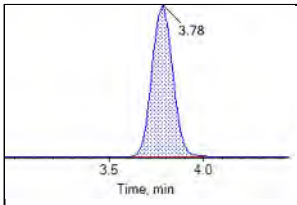

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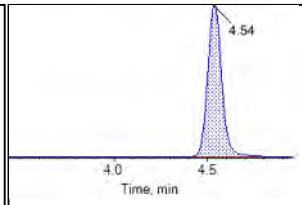

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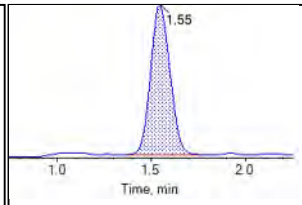

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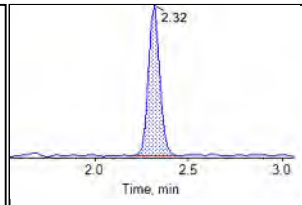

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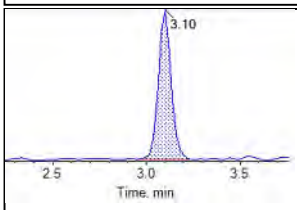

13C8-PFOS

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Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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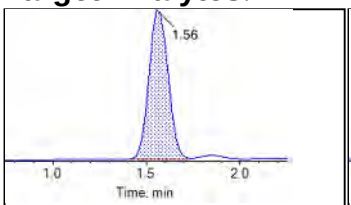

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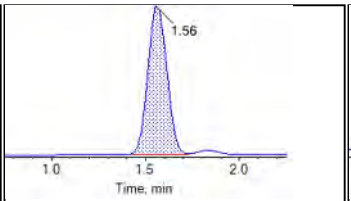

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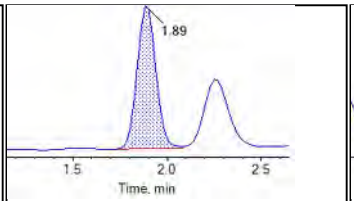

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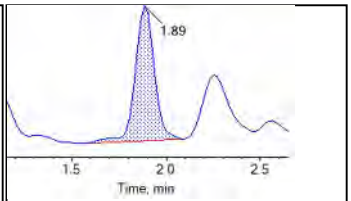

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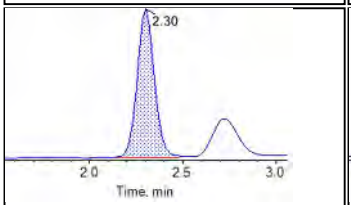

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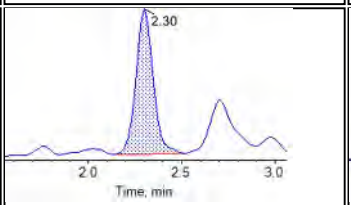

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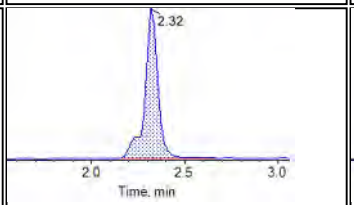

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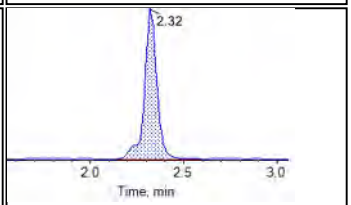

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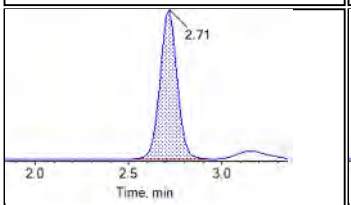

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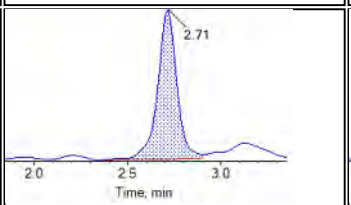

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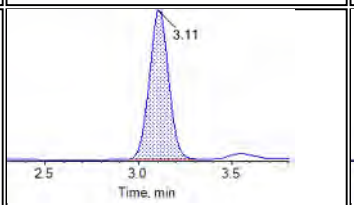

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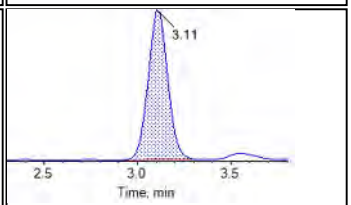

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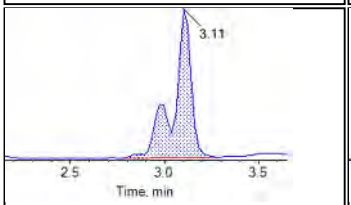

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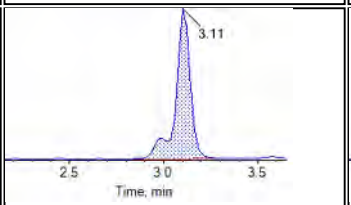

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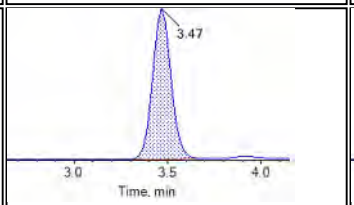

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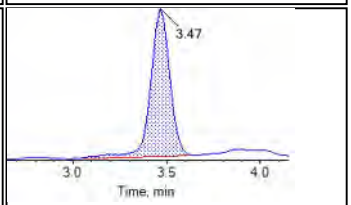

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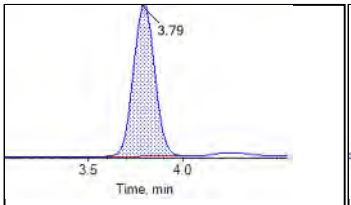

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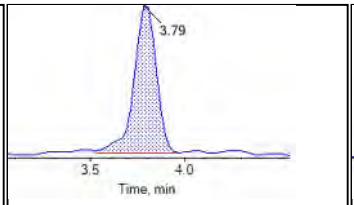

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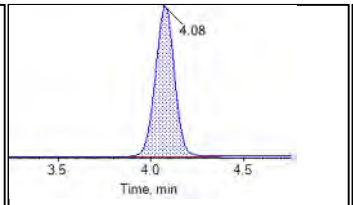

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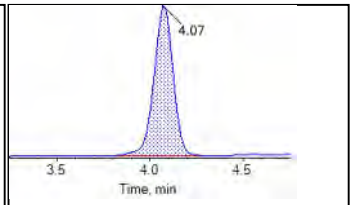

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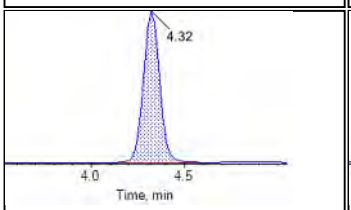

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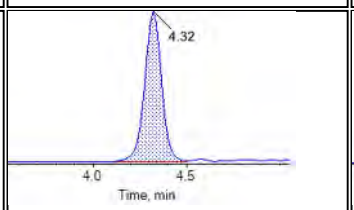

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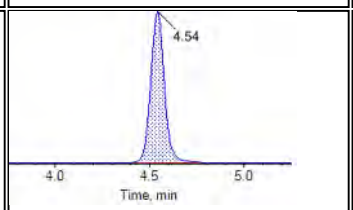

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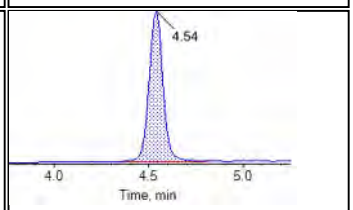

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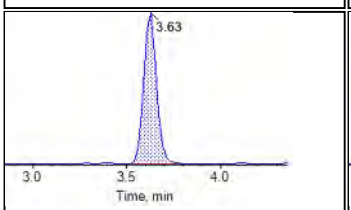

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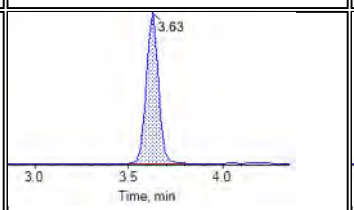

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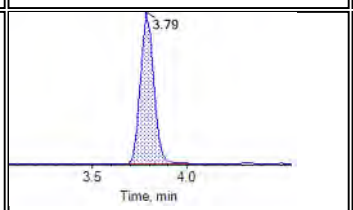

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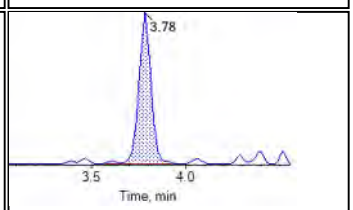

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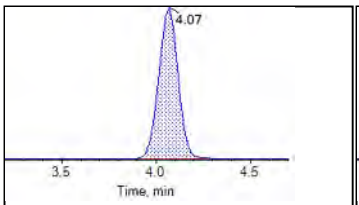

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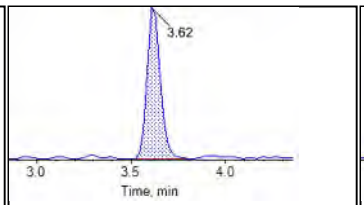
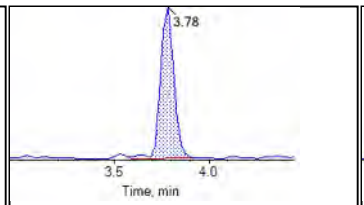
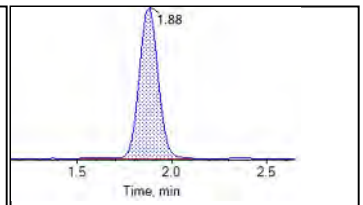


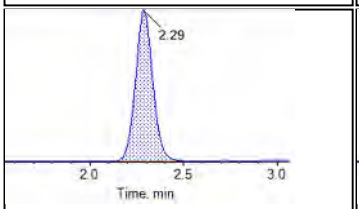
d3-MeFOSAA



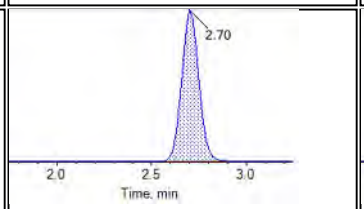
d5-EtFOSAA



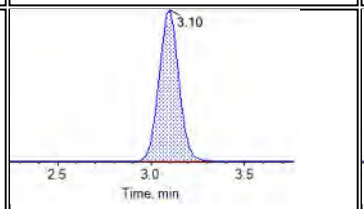
13C5-PFHxA



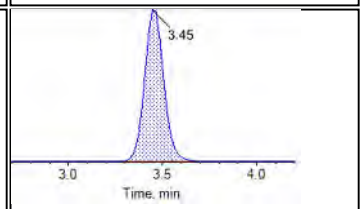
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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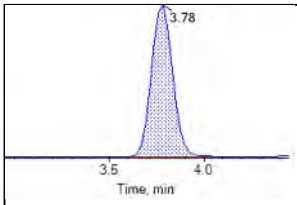
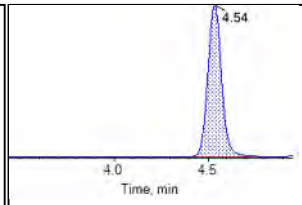
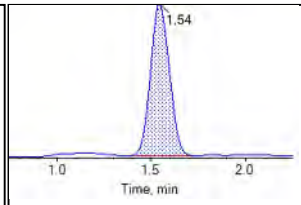


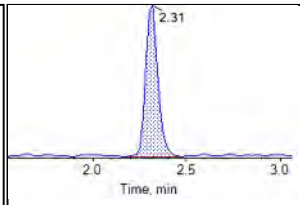
13C7-PFUnA



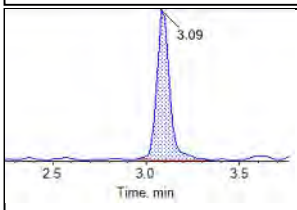
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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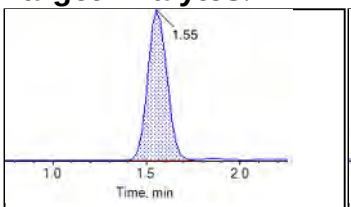
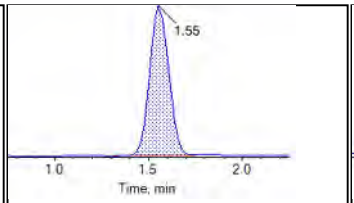
Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

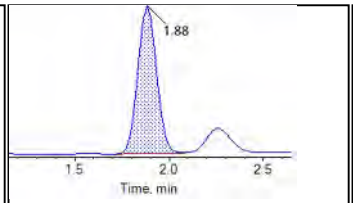
Target Analytes:



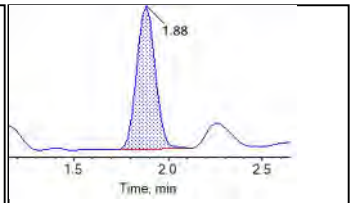
PFBS_1



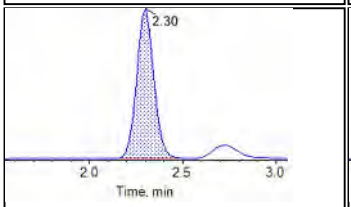
PFBS_2



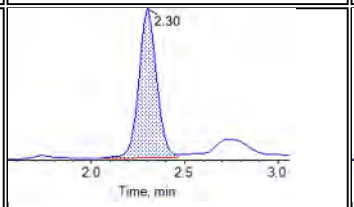
PFHxA_1



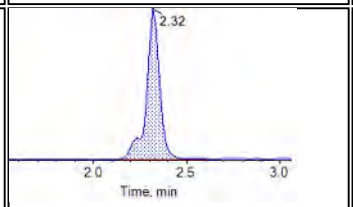
PFHxA_2



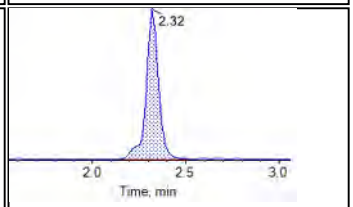
PFHpA_1



PFHpA_2



PFHxS_1



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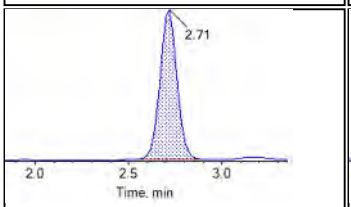
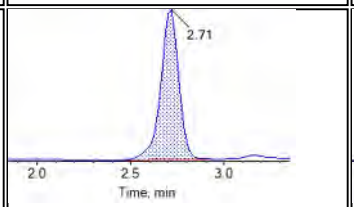


PFOA_1



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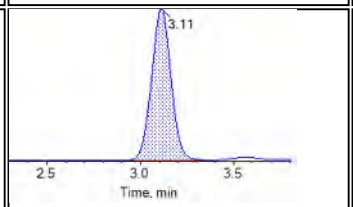

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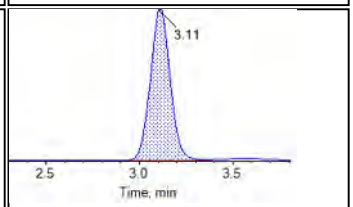

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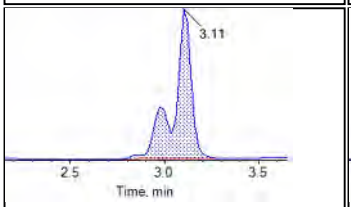

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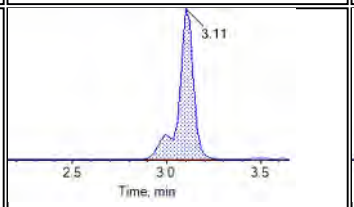
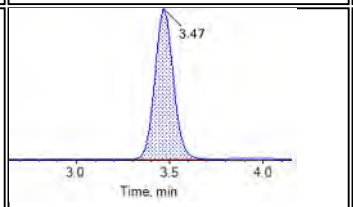


PFOS_2



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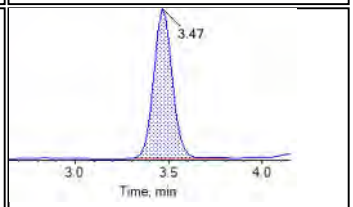

PFDA_2

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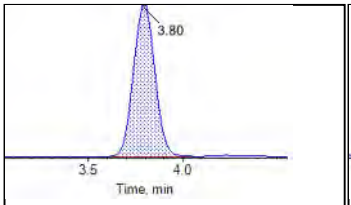
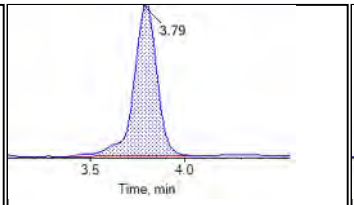
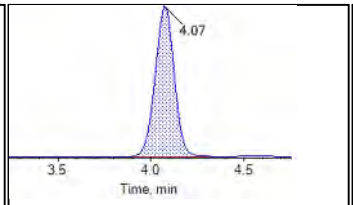


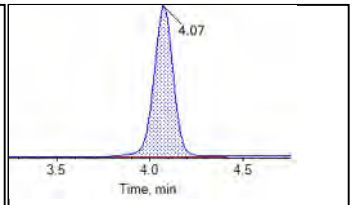
PFUnA_1



PFUnA_2



PFDoA_1



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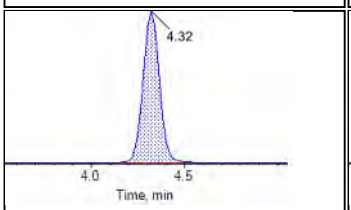
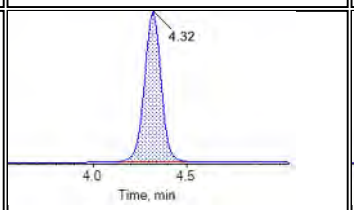


PFTrDA_1



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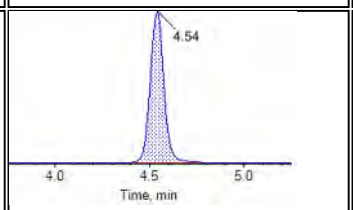
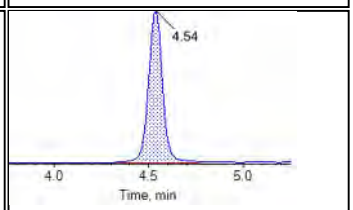
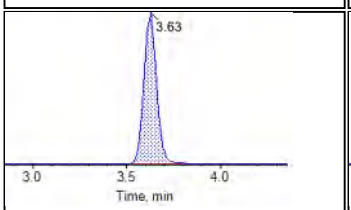


PFTeDA_1



PFTeDA_2



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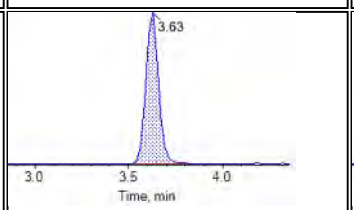

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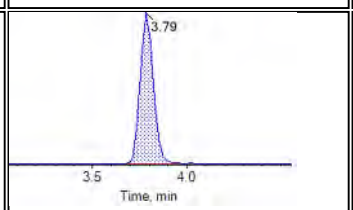

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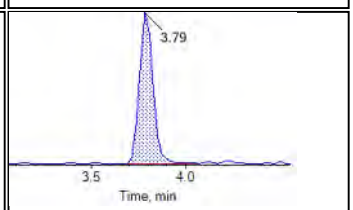

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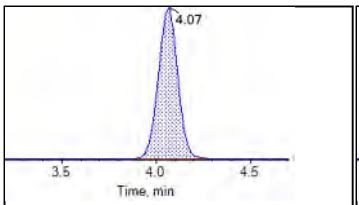
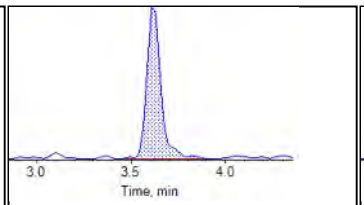
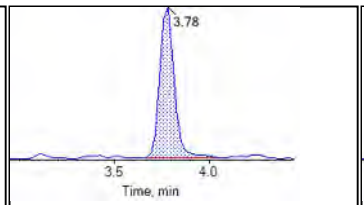
Internal Standards:



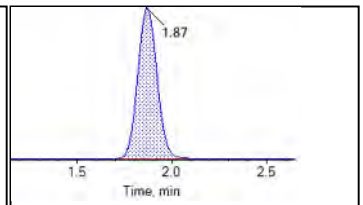
13C2-PFDoA



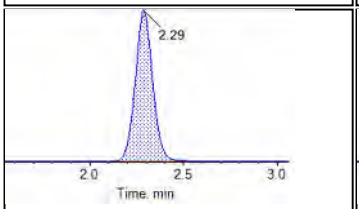
d3-MeFOSAA



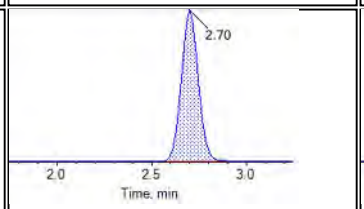
d5-EtFOSAA



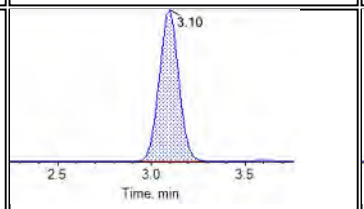
13C5-PFHxA



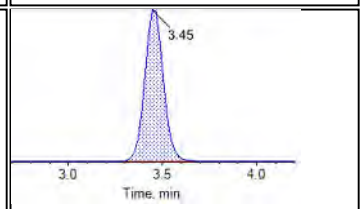
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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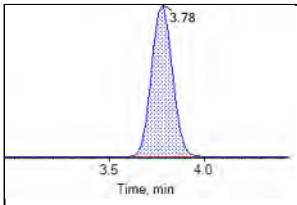
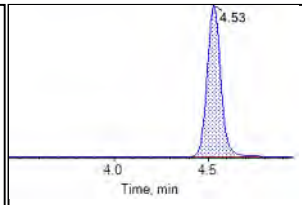
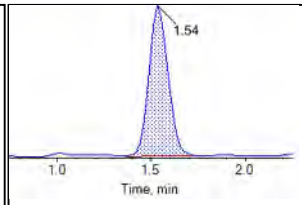


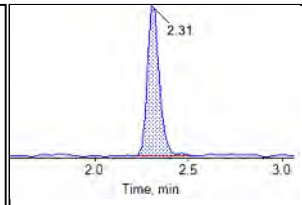
13C7-PFUnA



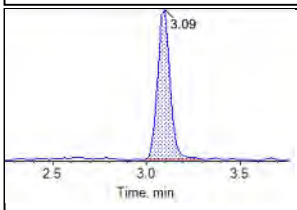
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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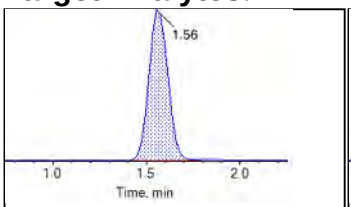
Printed: 06/11/2018 1:31:22 PM

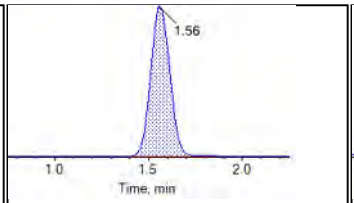
Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

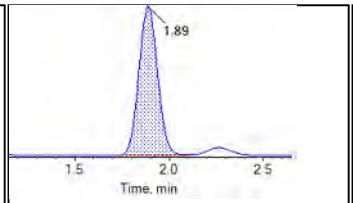
Target Analytes:



PFBS_1



PFBS_2



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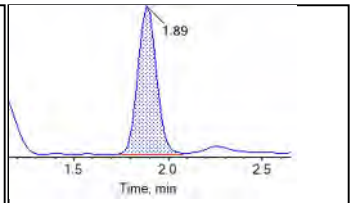

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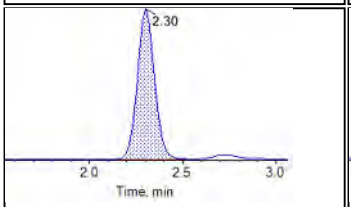

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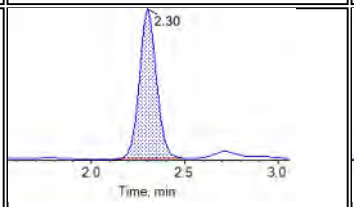

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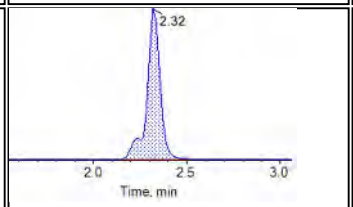

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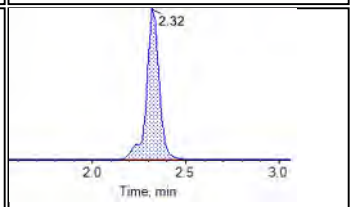

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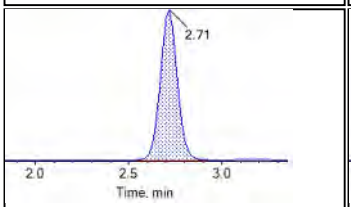

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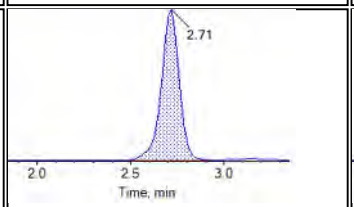

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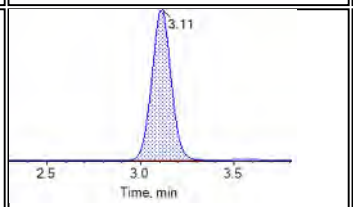

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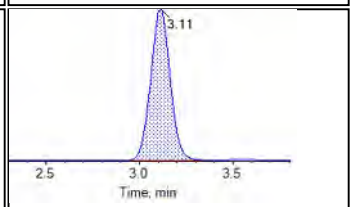

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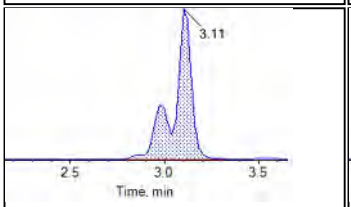

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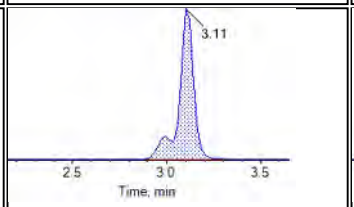

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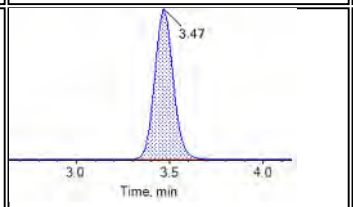

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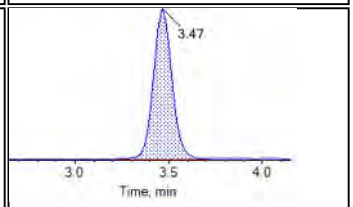

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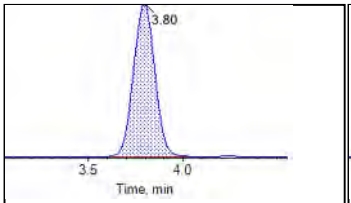

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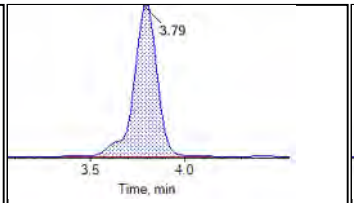

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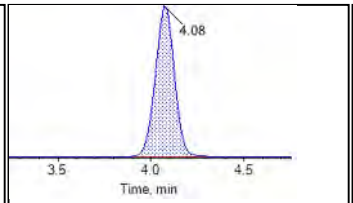

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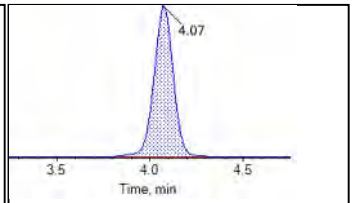

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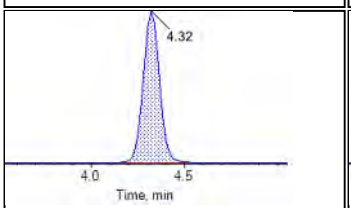

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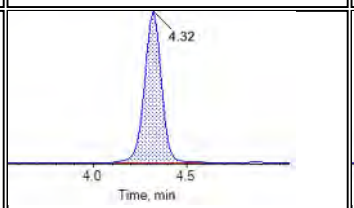

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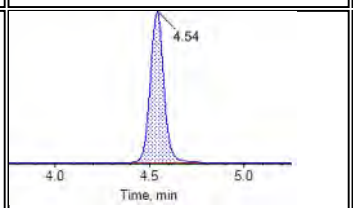

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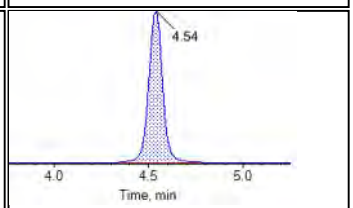

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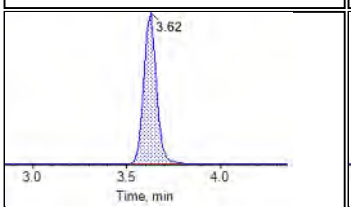

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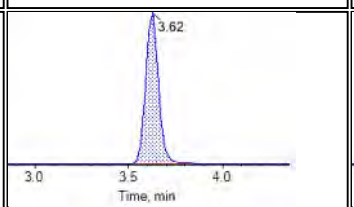

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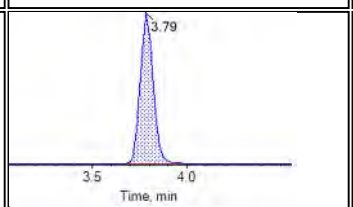

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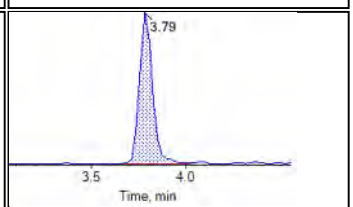

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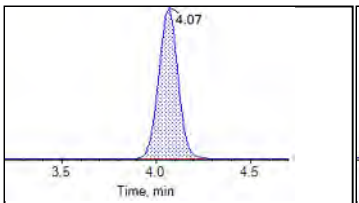

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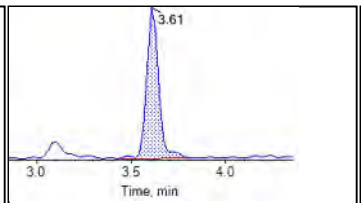

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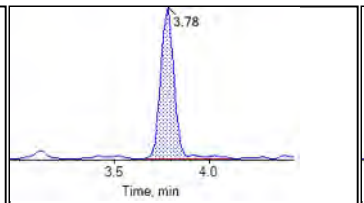

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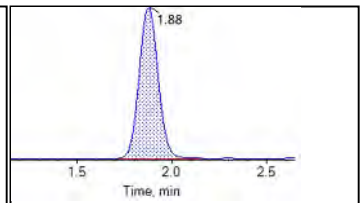

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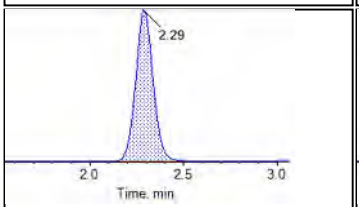

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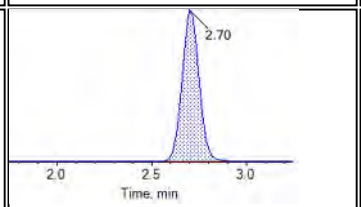

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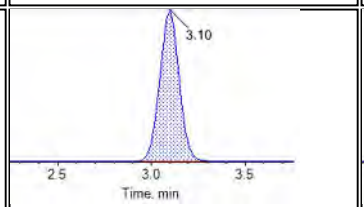

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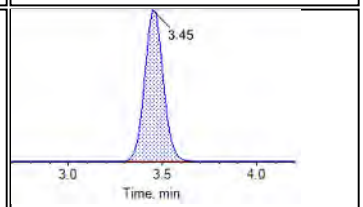

13C6-PFDA

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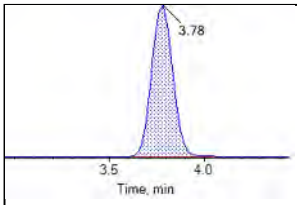

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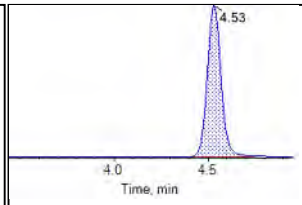

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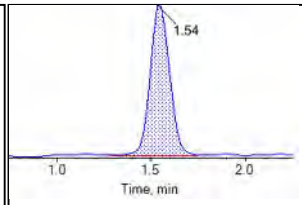

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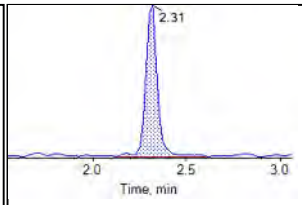

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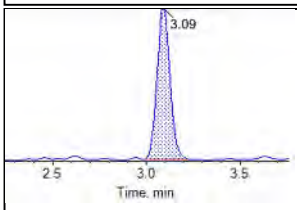

13C8-PFOS

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Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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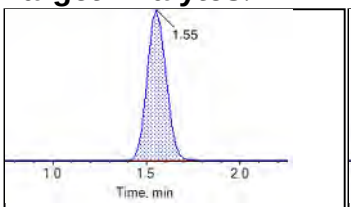

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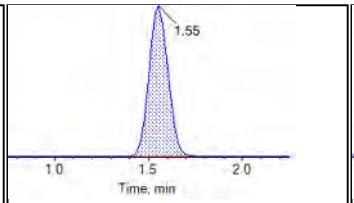

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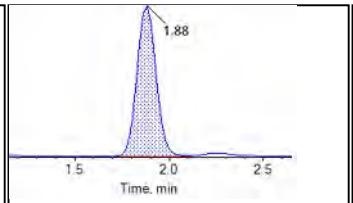

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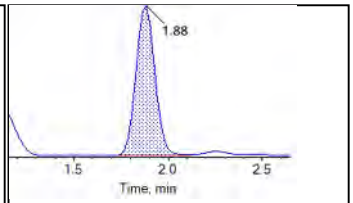

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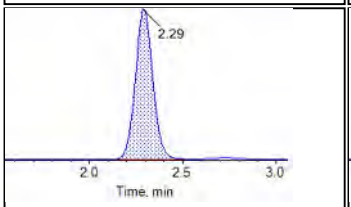

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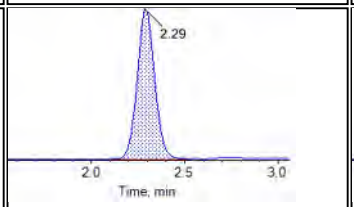

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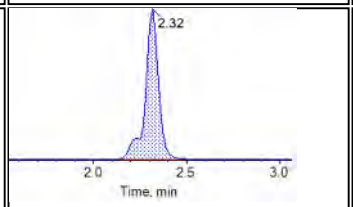

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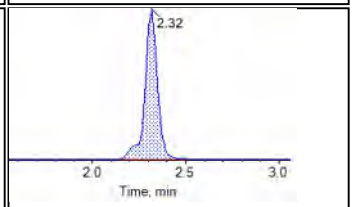

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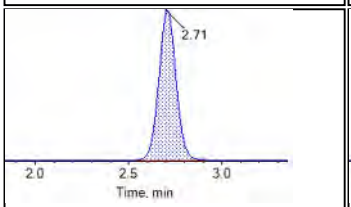

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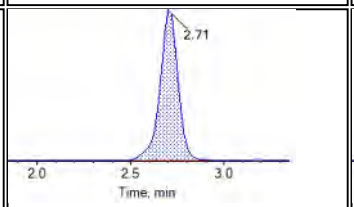

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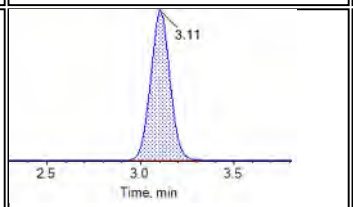

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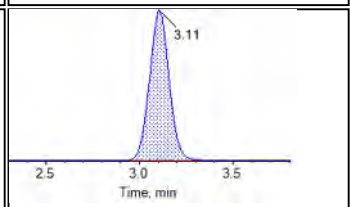

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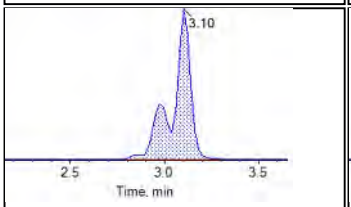

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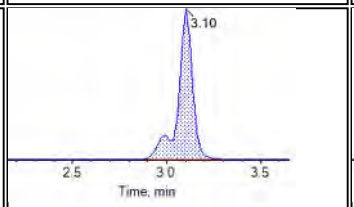

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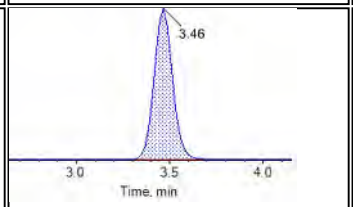

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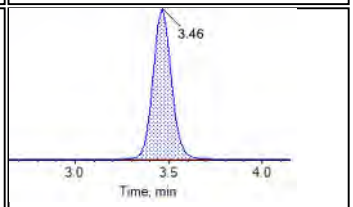

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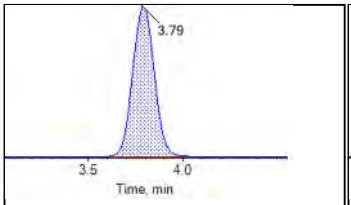

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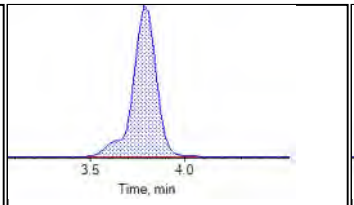

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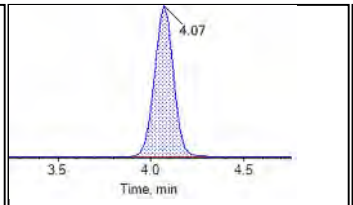

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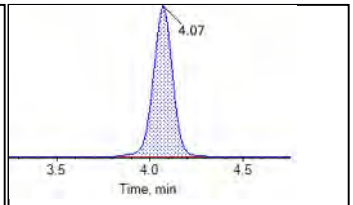

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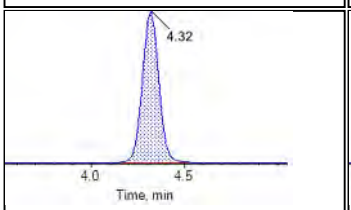

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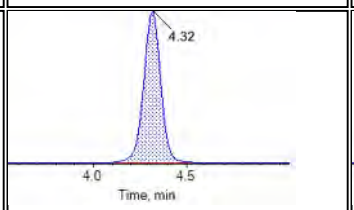

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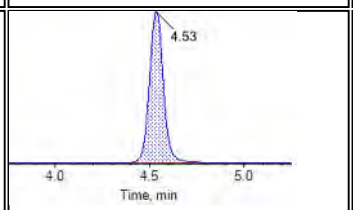

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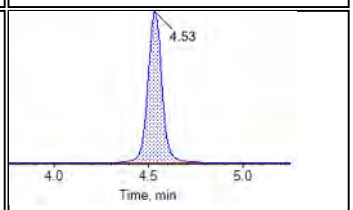

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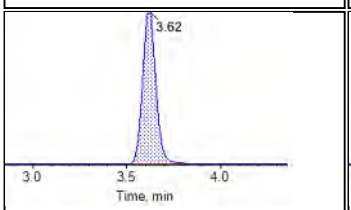

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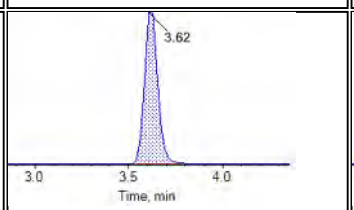

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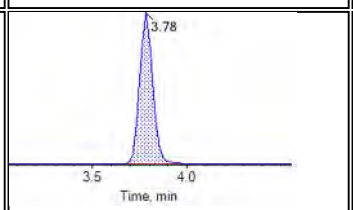

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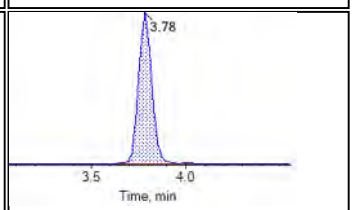

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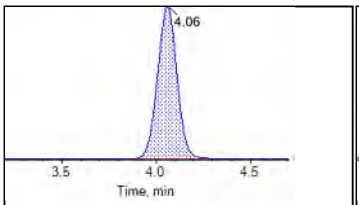

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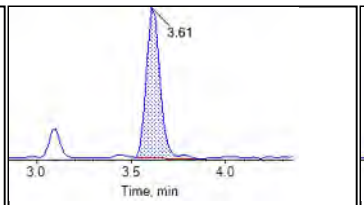

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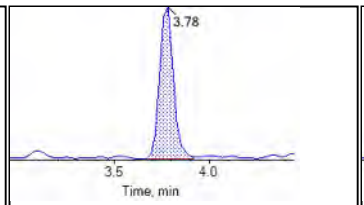

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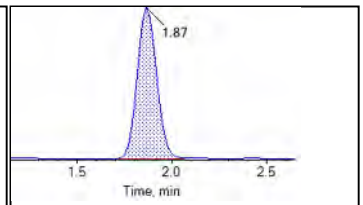

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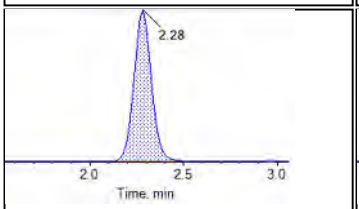

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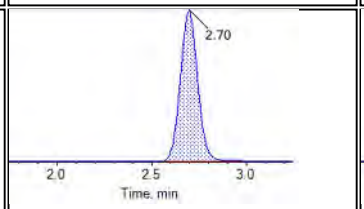

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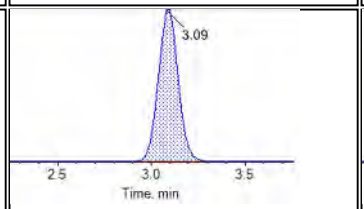
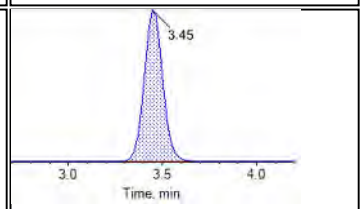


13C9-PFNA



13C6-PFDA

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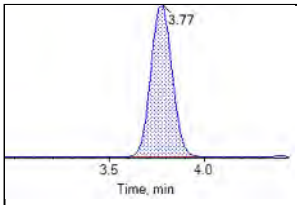

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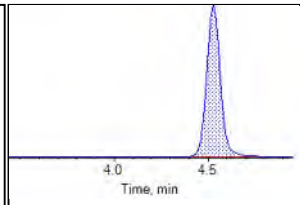

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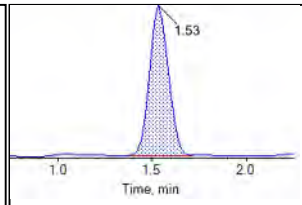
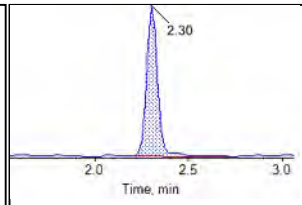


13C3-PFBS



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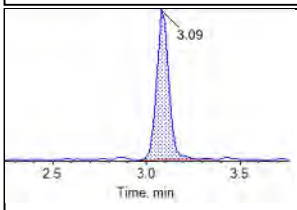

13C8-PFOS

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Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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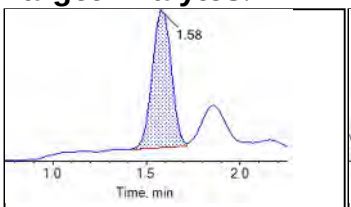

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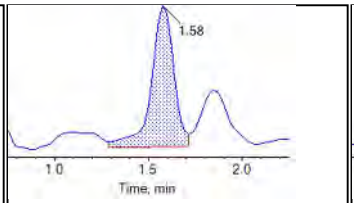

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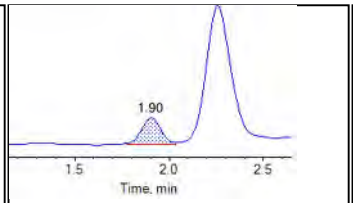

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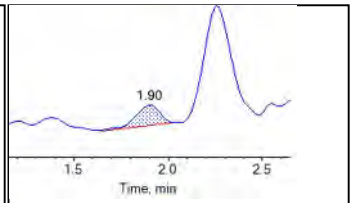

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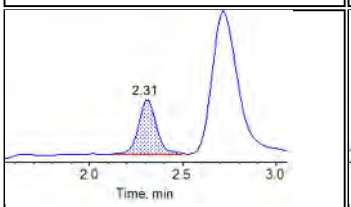

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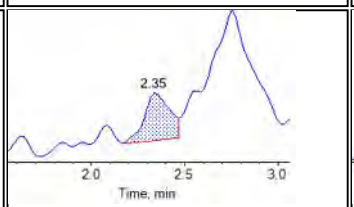

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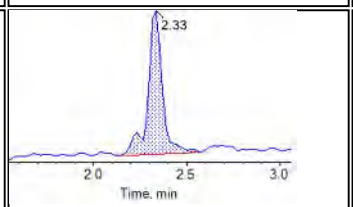

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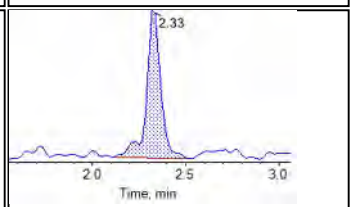

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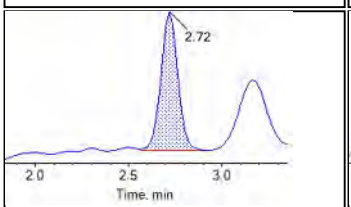

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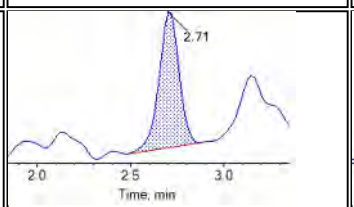

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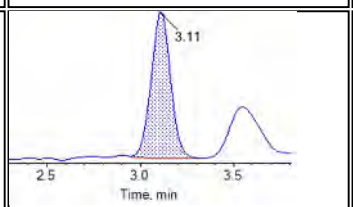

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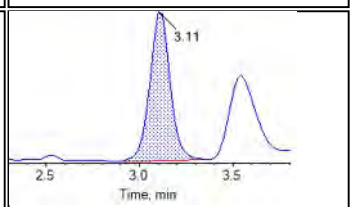

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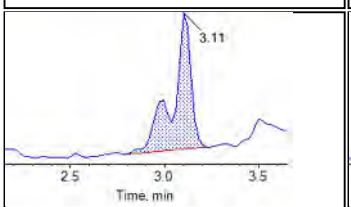

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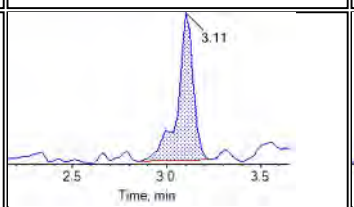

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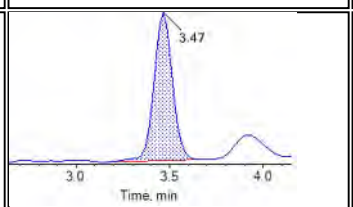

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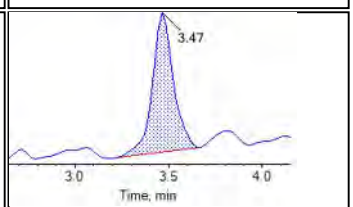

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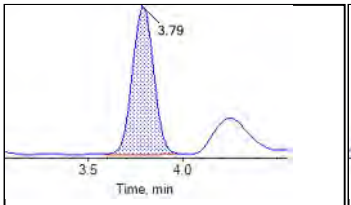

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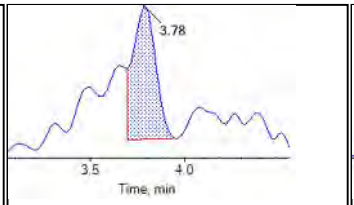

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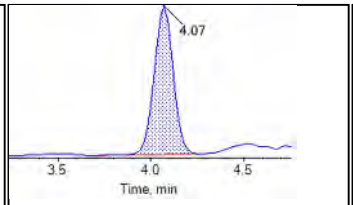

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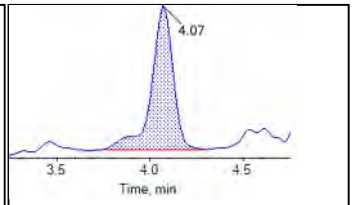

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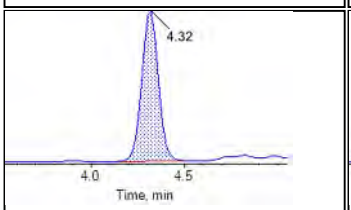

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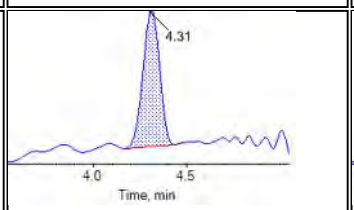

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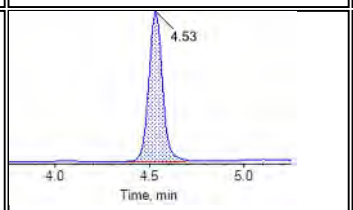

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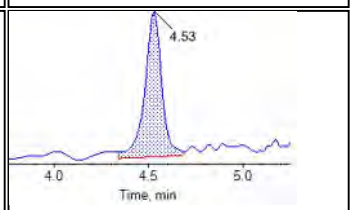

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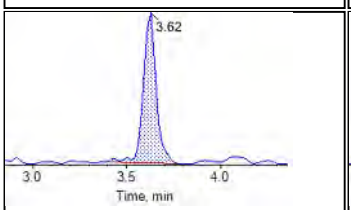

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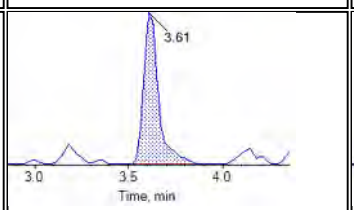

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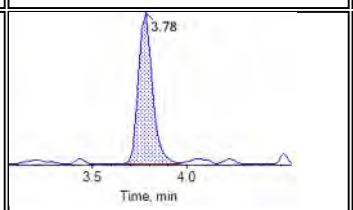

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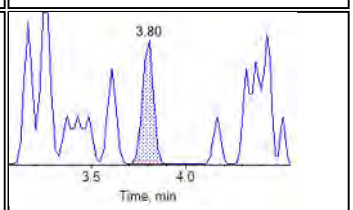

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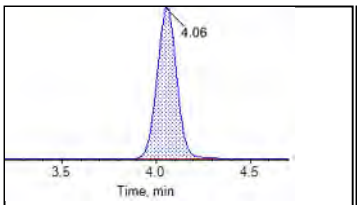

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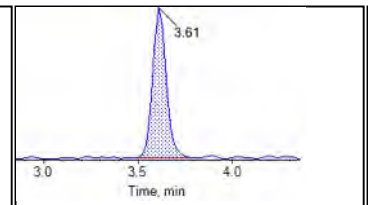

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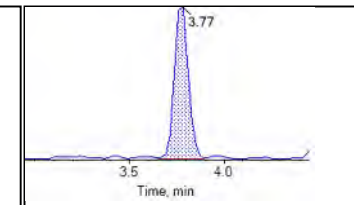

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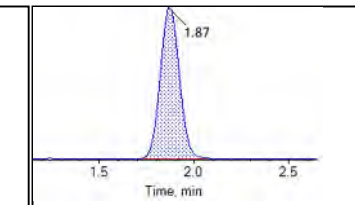
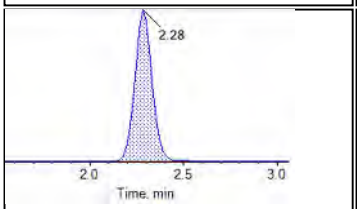
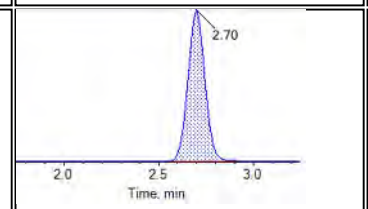


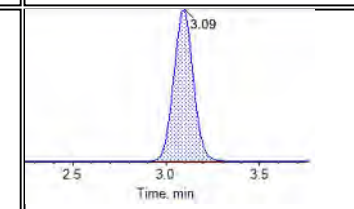
13C5-PFHxA



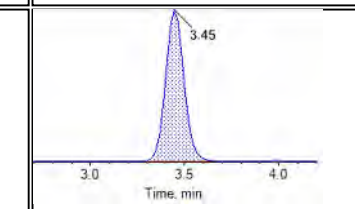
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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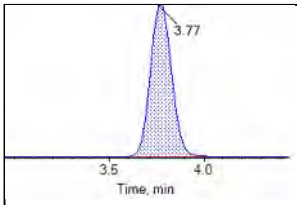
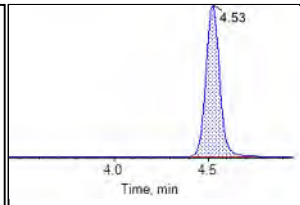
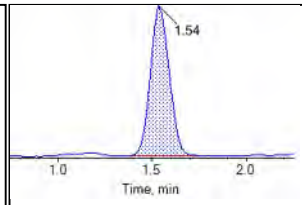


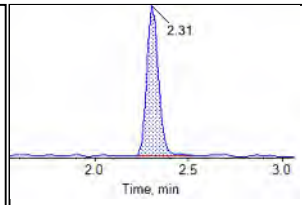
13C7-PFUnA



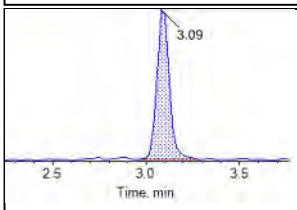
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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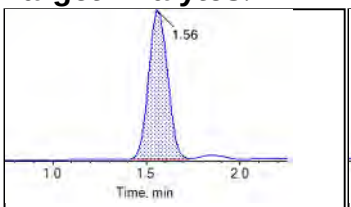
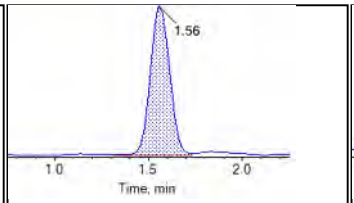
Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

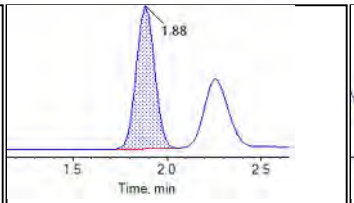
Target Analytes:



PFBS_1



PFBS_2



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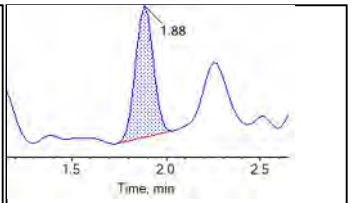

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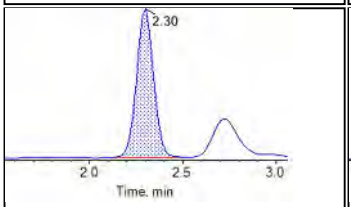

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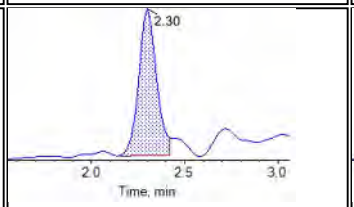

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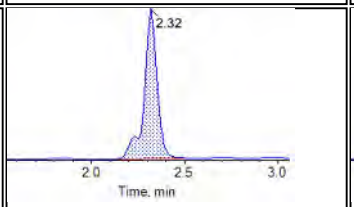

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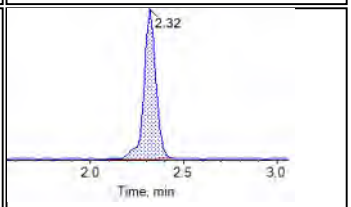

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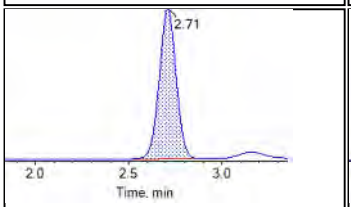
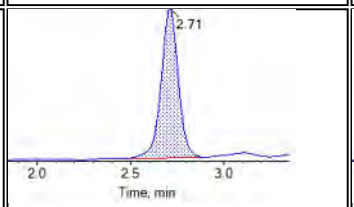


PFOA_1



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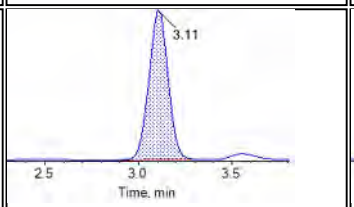

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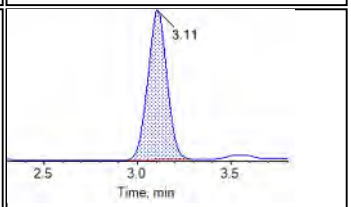

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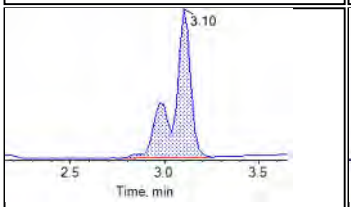
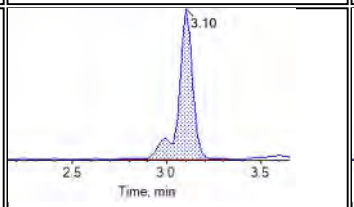


PFOS_1



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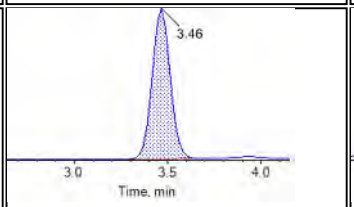

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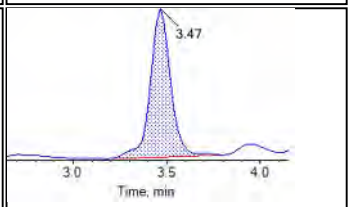

PFDA_2

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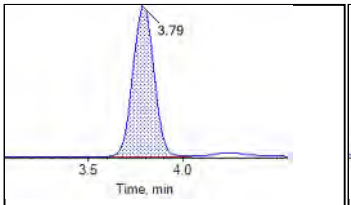
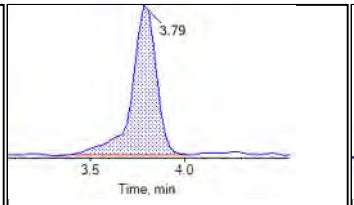


PFUnA_1



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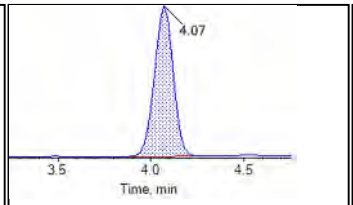

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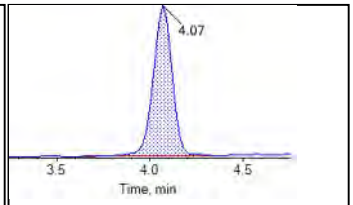

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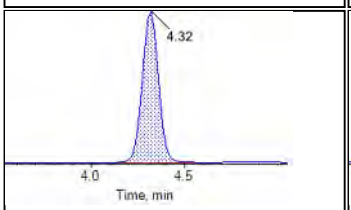

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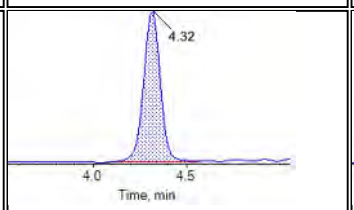

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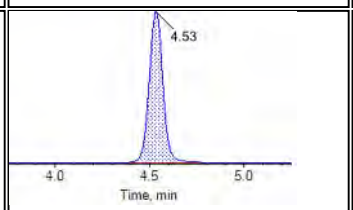

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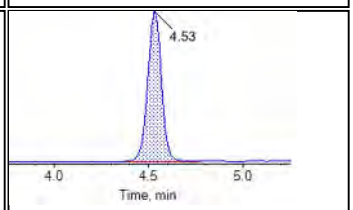

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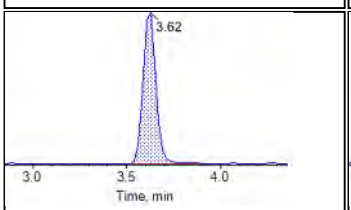

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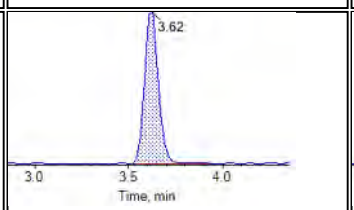

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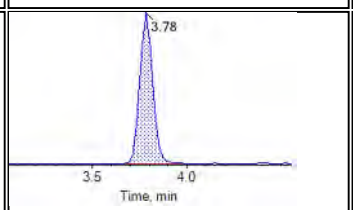

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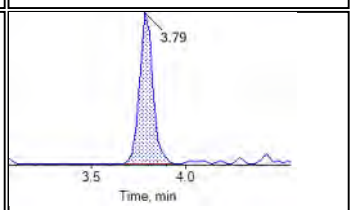

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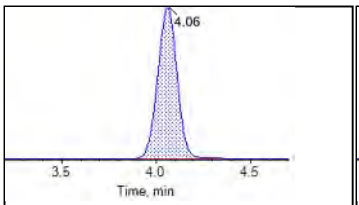
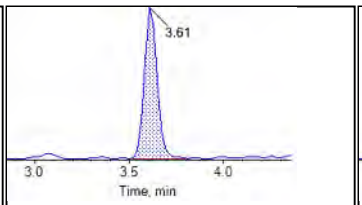
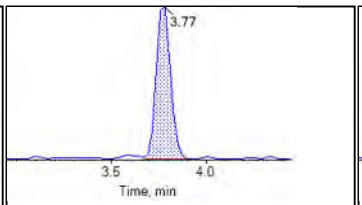
Internal Standards:



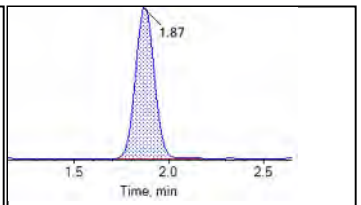
13C2-PFDoA



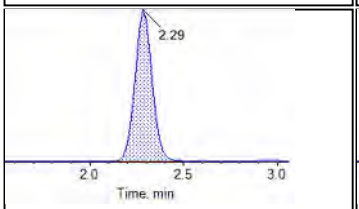
d3-MeFOSAA



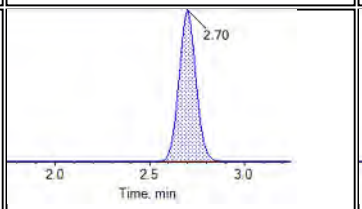
d5-EtFOSAA



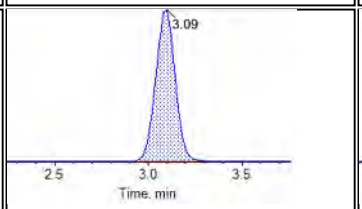
13C5-PFHxA



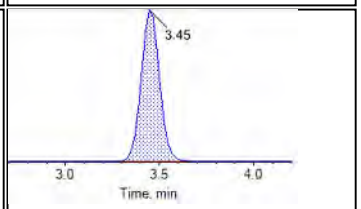
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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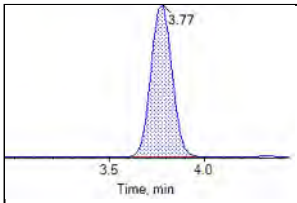
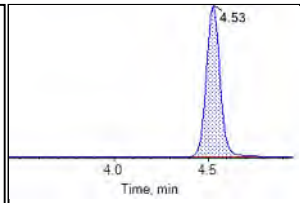
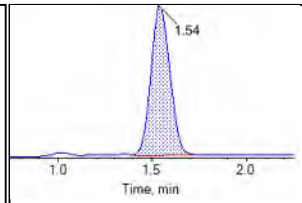


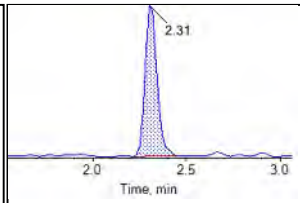
13C7-PFUnA



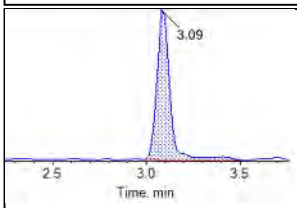
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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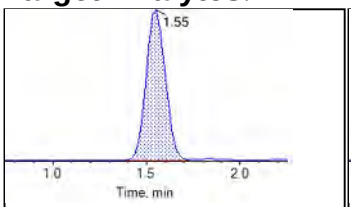
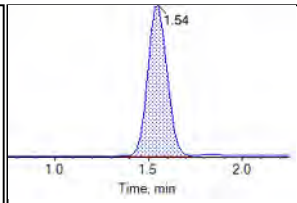
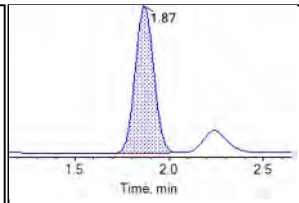


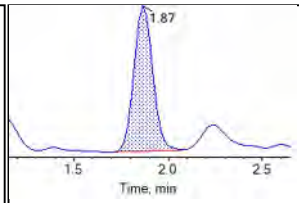
PFBS_1



PFBS_2



PFHxA_1



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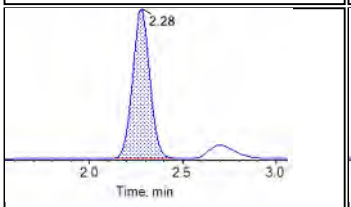

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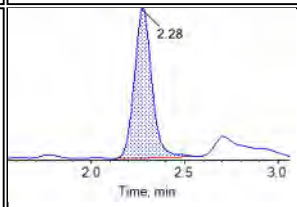

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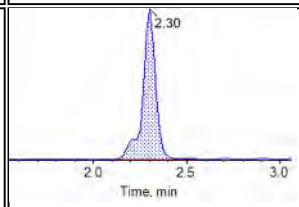

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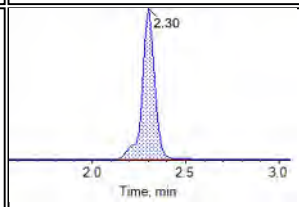

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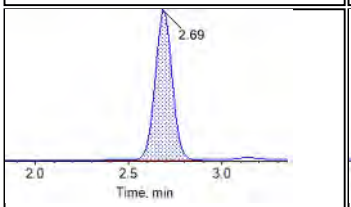

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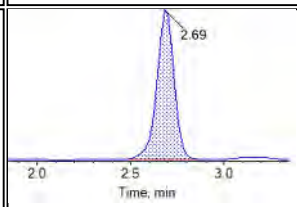

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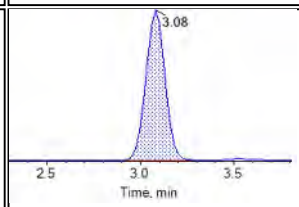

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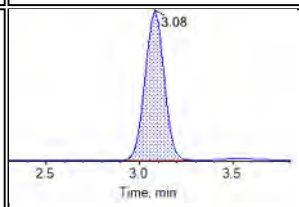

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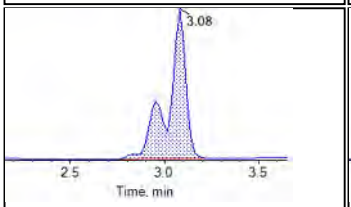

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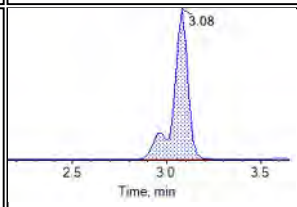

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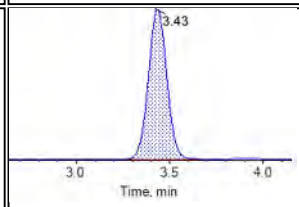

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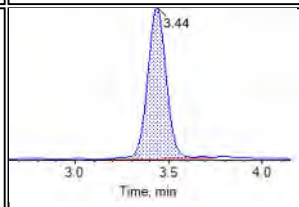

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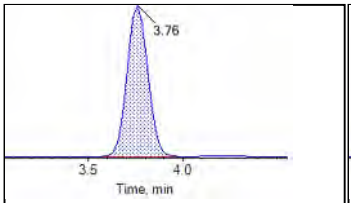

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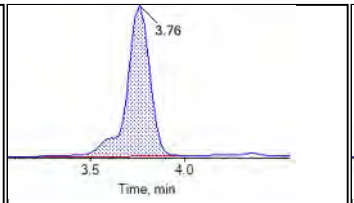

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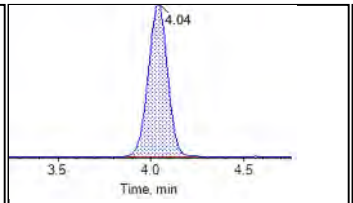

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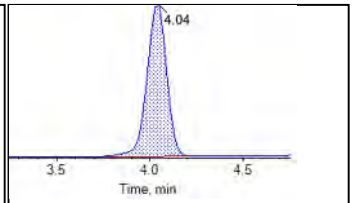

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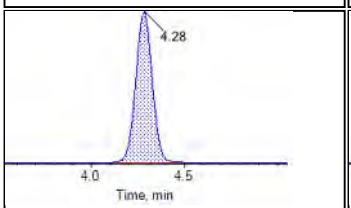

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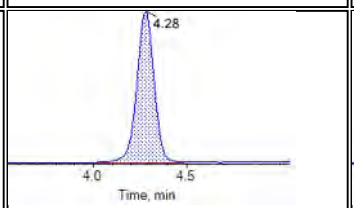

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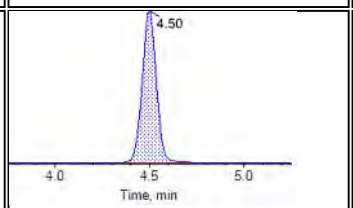

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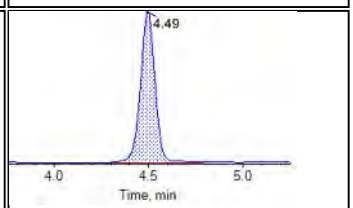

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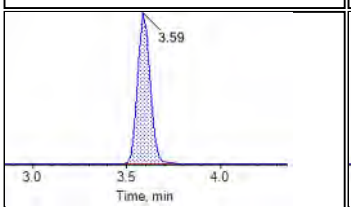

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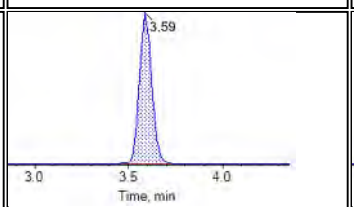

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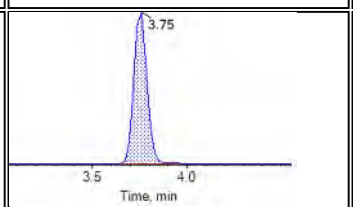

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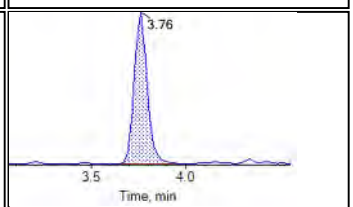

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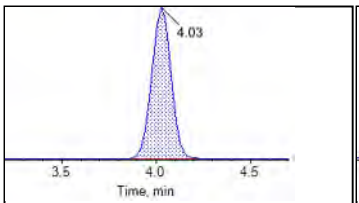

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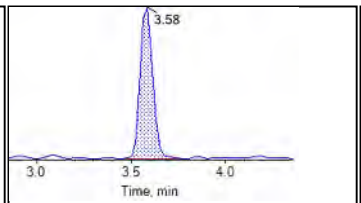

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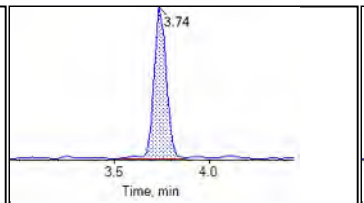

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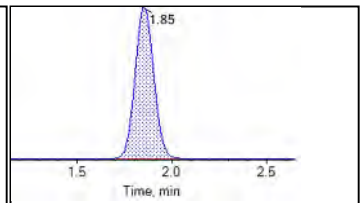

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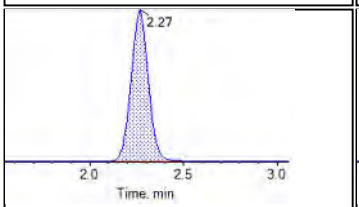

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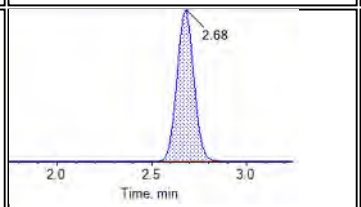

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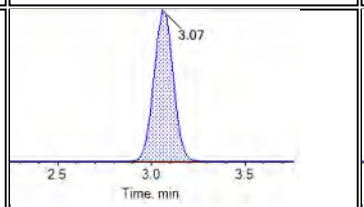

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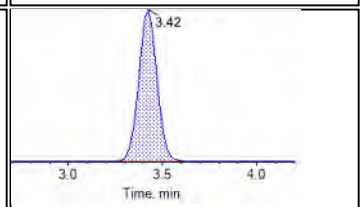

13C6-PFDA

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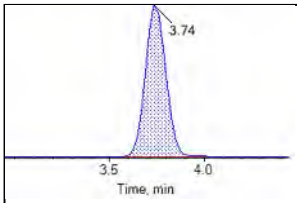

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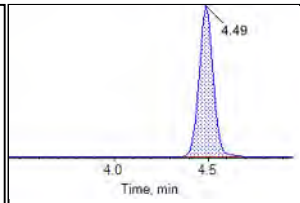

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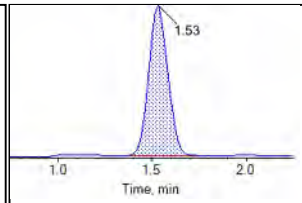
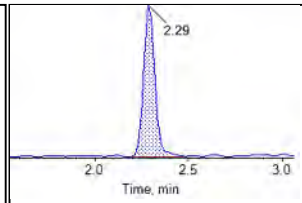


13C3-PFBS



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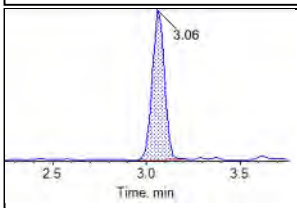

13C8-PFOS

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Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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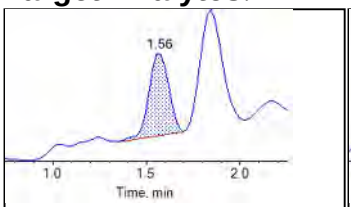

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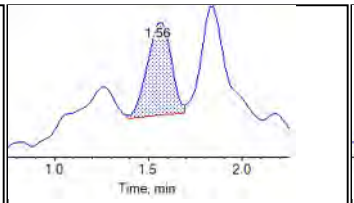

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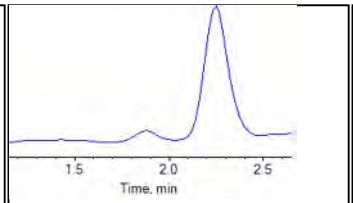

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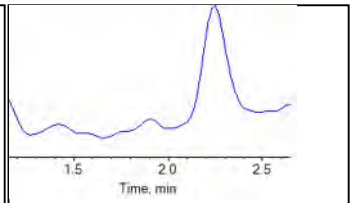

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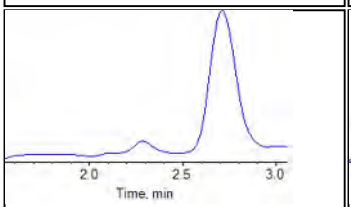

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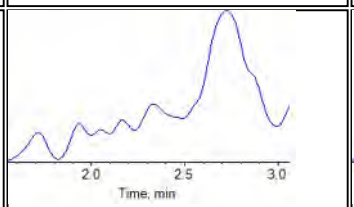

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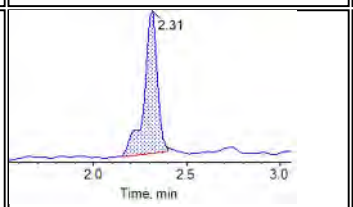

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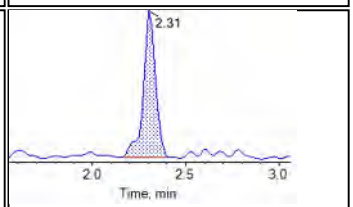

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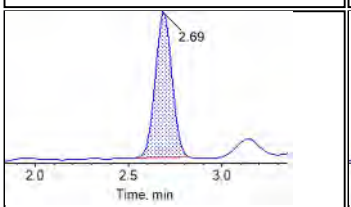

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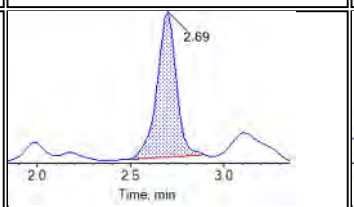

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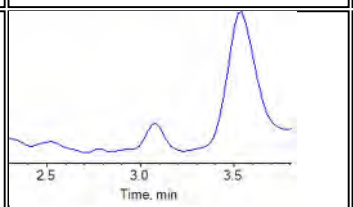

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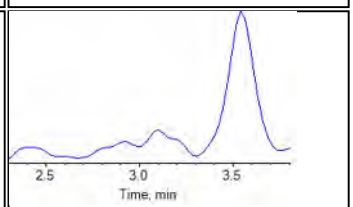

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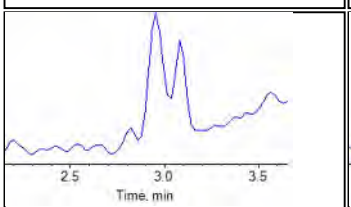

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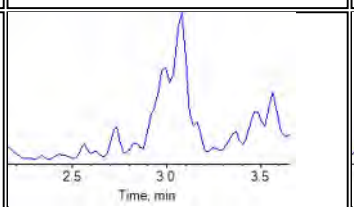

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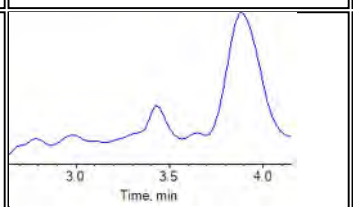

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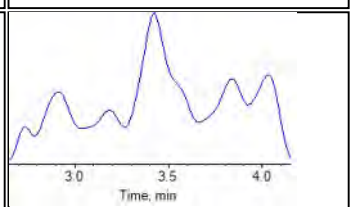

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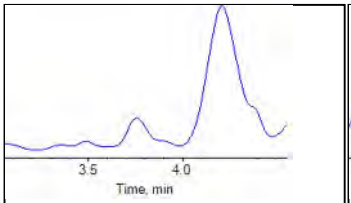

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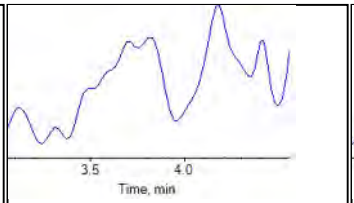

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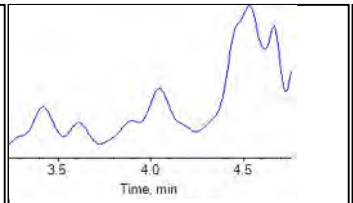

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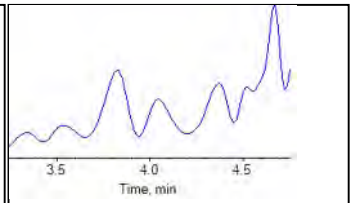

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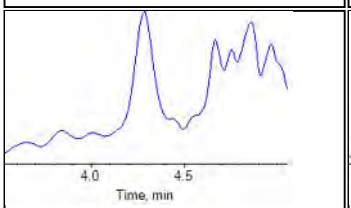

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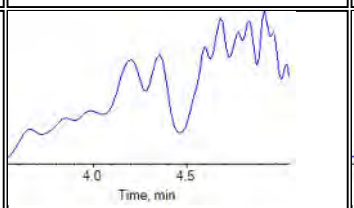

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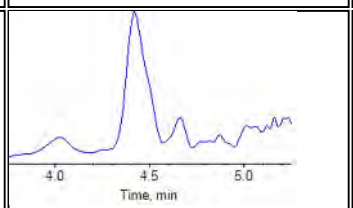

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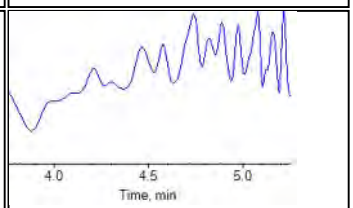

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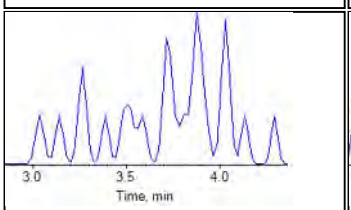

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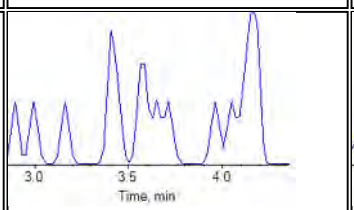

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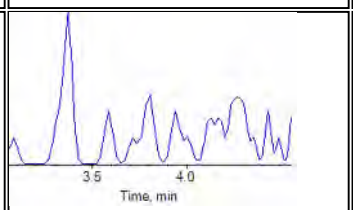

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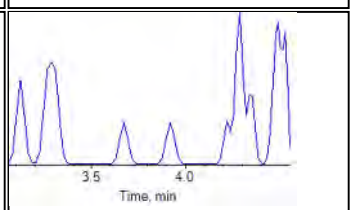

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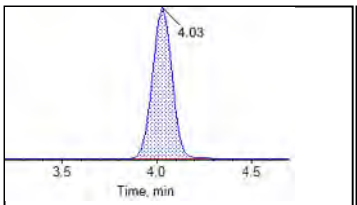

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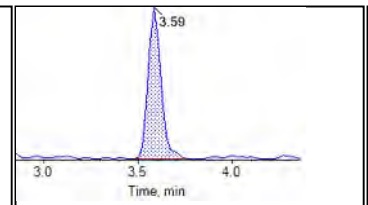

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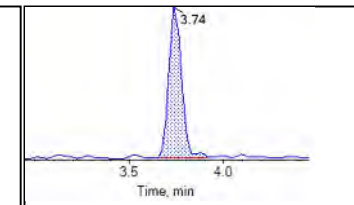

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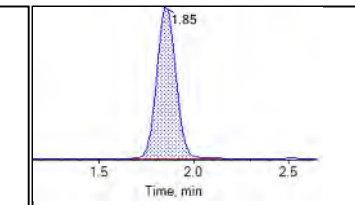

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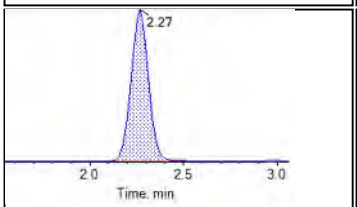

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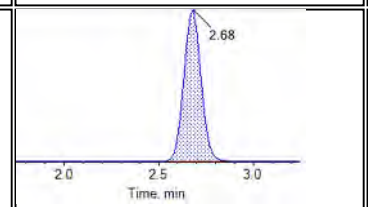
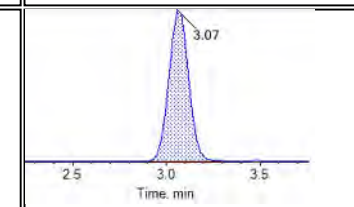
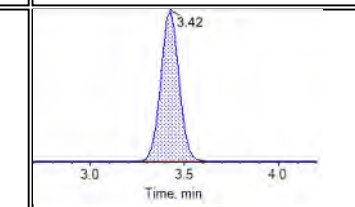


13C8-PFOA



13C9-PFNA



13C6-PFDA

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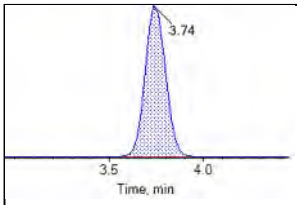

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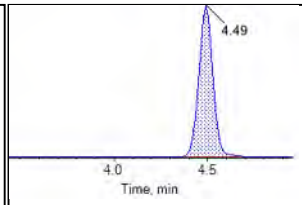

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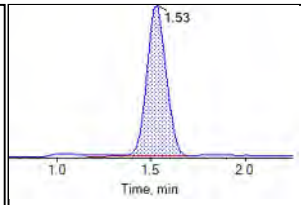
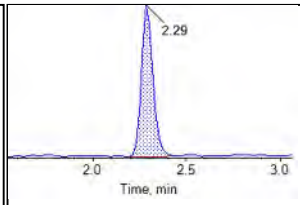


13C3-PFBS



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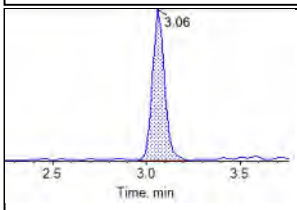

13C8-PFOS

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Chromatogram Report

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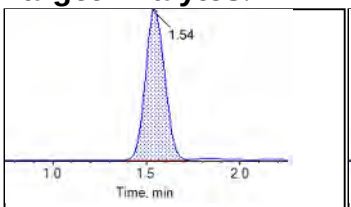
Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

Target Analytes:



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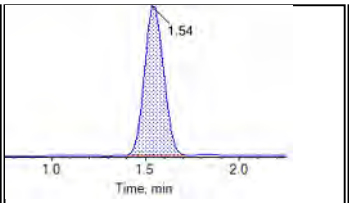

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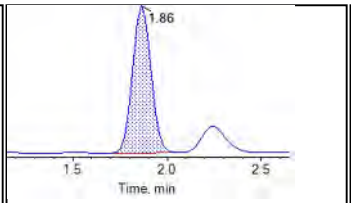

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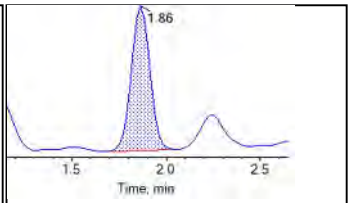

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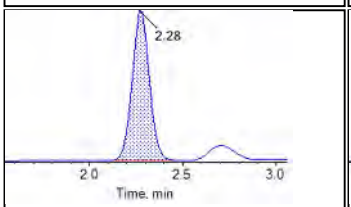

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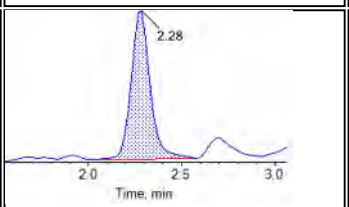

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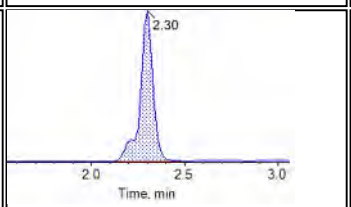

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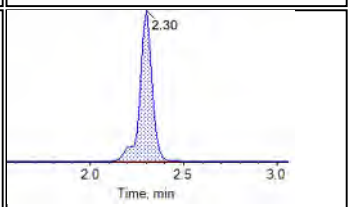

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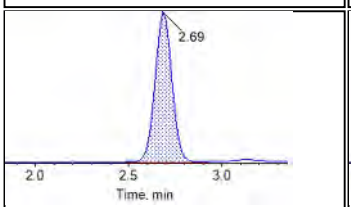

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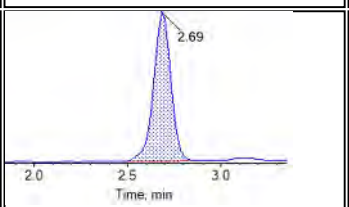

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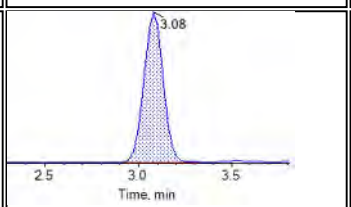

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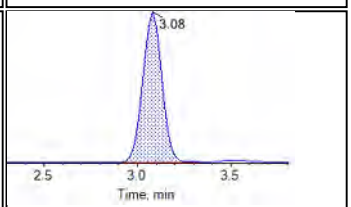

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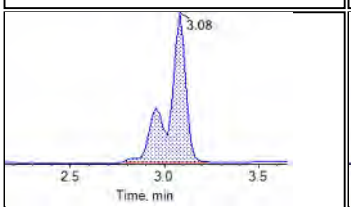

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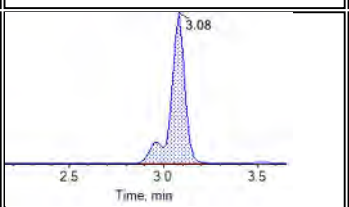

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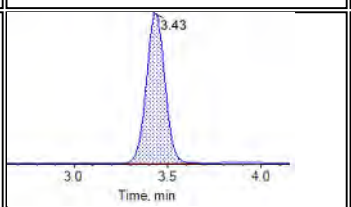

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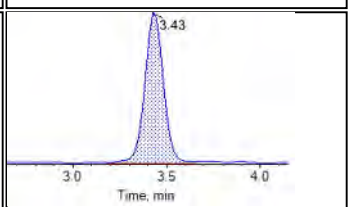

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Chromatogram Report

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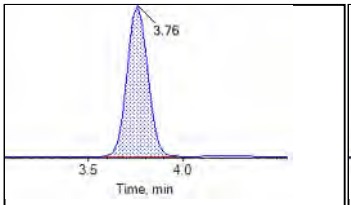

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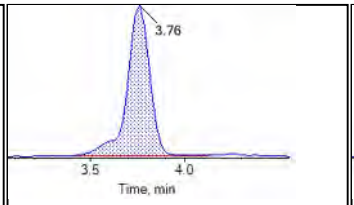

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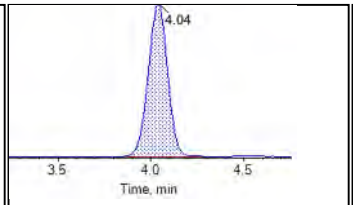

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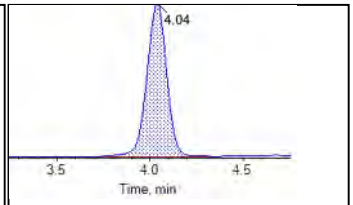

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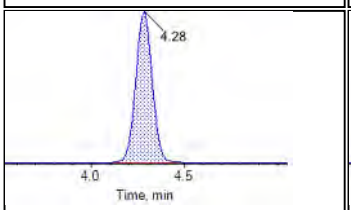

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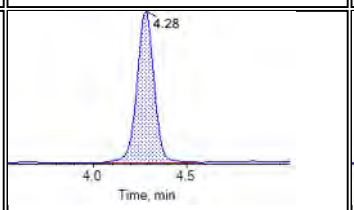

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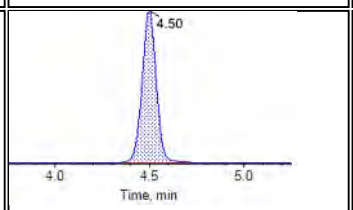

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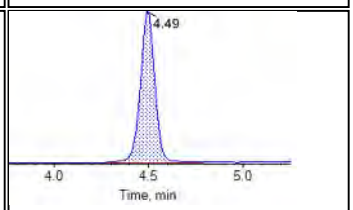

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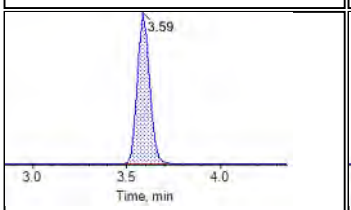

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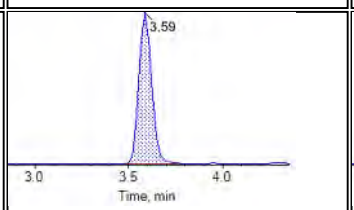

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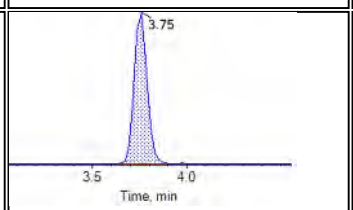

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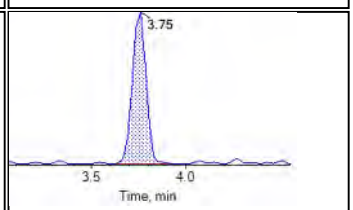

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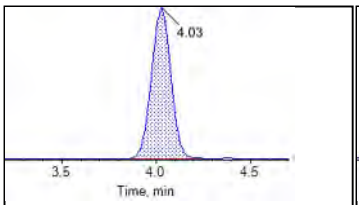

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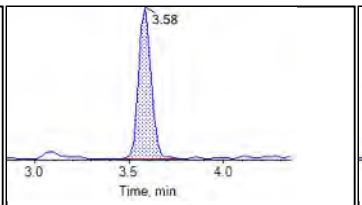

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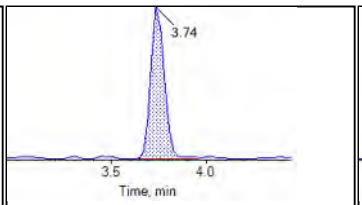

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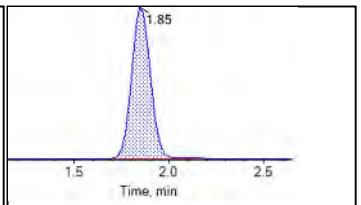

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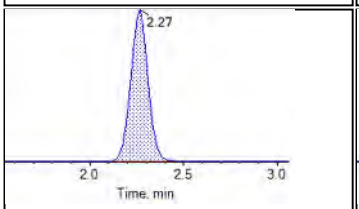

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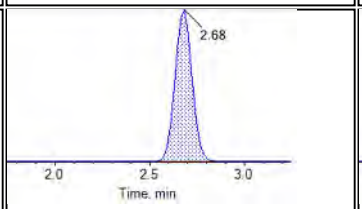

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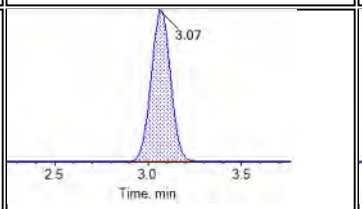
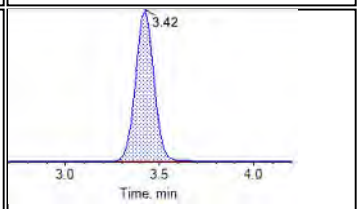


13C9-PFNA



13C6-PFDA

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Chromatogram Report

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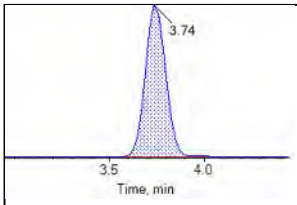
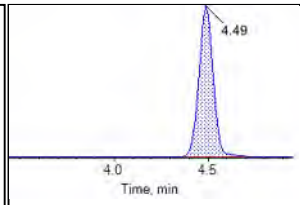
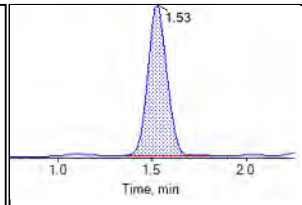


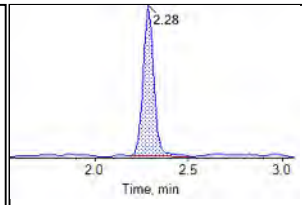
13C7-PFUnA



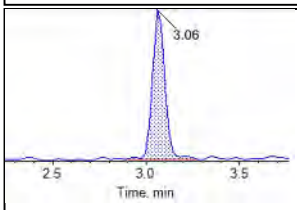
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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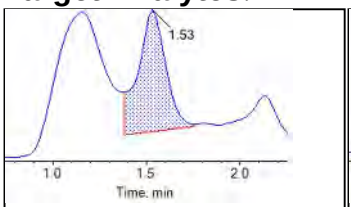
Printed: 06/11/2018 1:32:09 PM

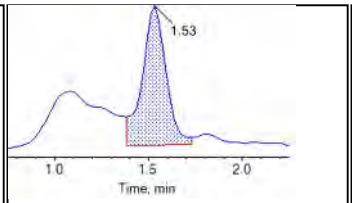
Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

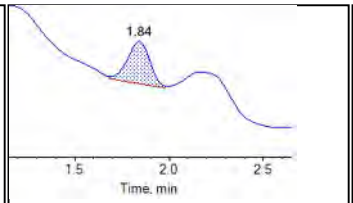
Target Analytes:



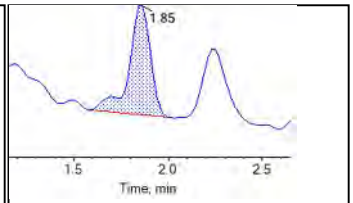
PFBS_1



PFBS_2



PFHxA_1



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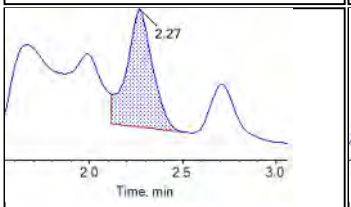

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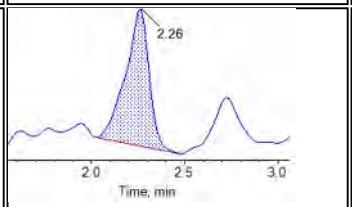

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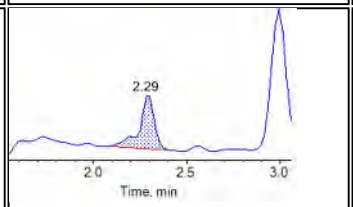

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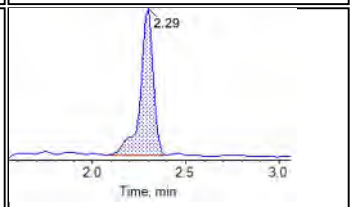

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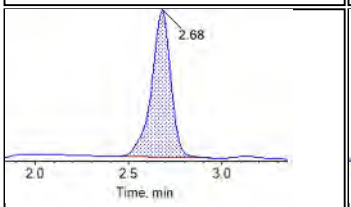
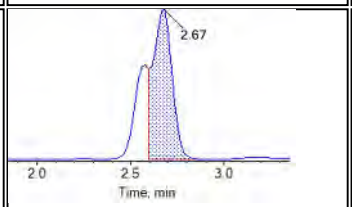


PFOA_1



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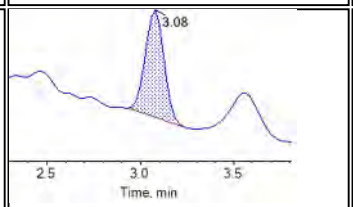

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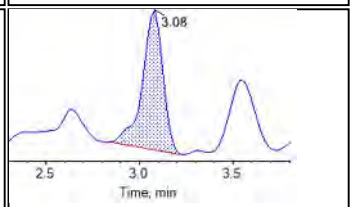

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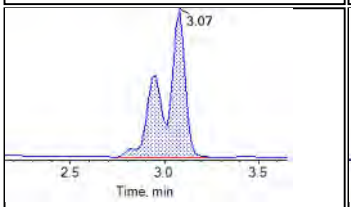
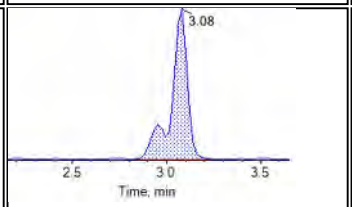


PFOS_1



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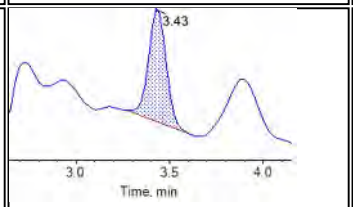
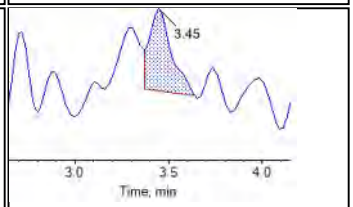


PFDA_1



PFDA_2

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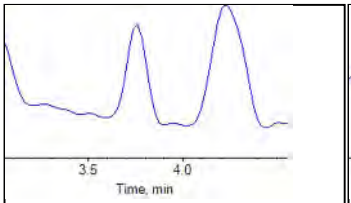
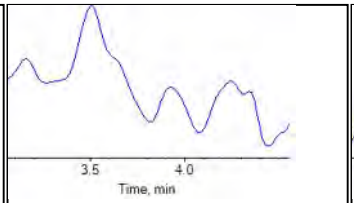


PFUnA_1



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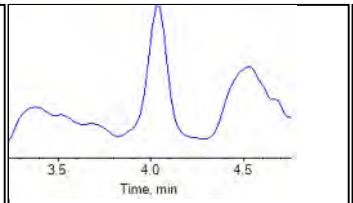

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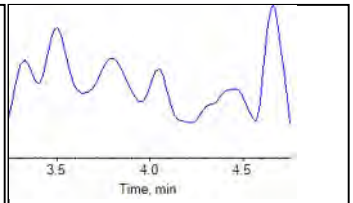

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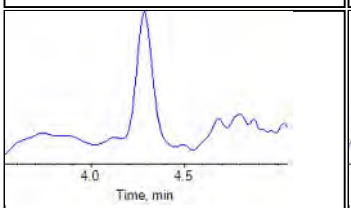
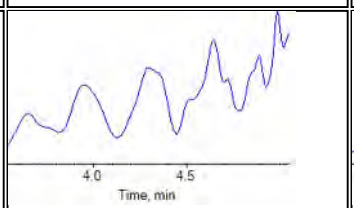


PFTrDA_1



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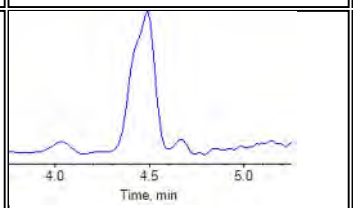

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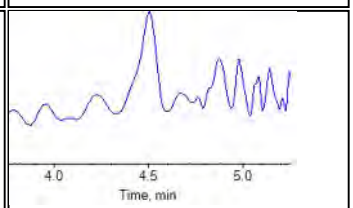
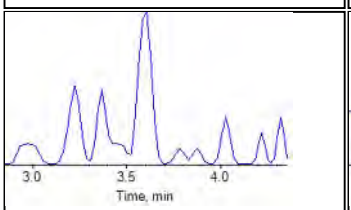


PFTeDA_2



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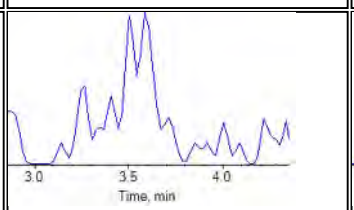

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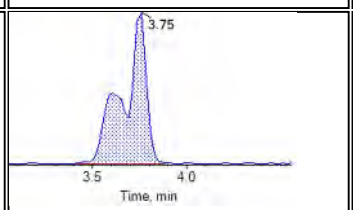

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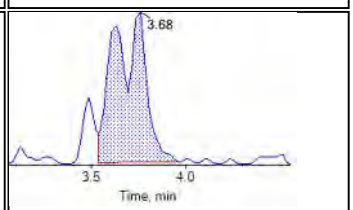

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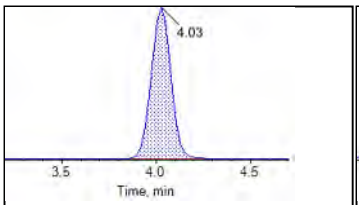
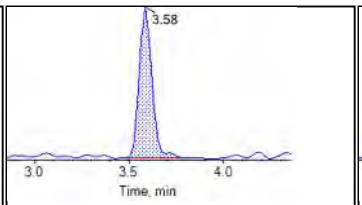
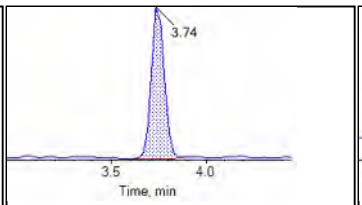
Internal Standards:



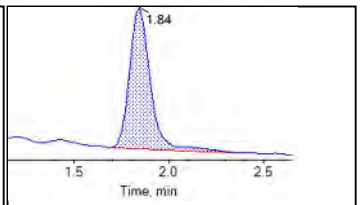
13C2-PFDoA



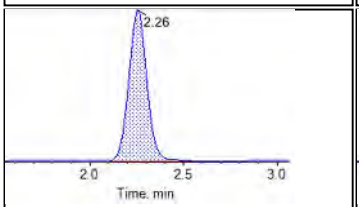
d3-MeFOSAA



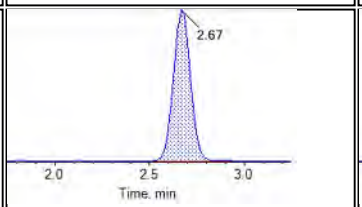
d5-EtFOSAA



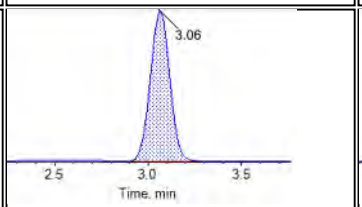
13C5-PFHxA



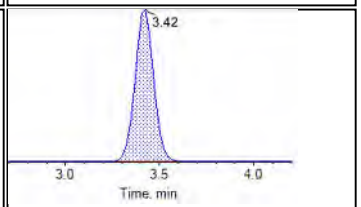
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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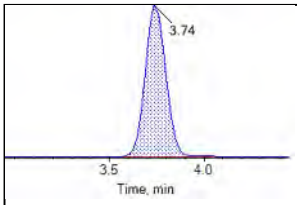
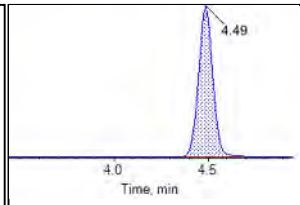
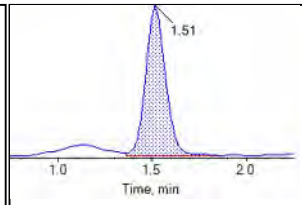


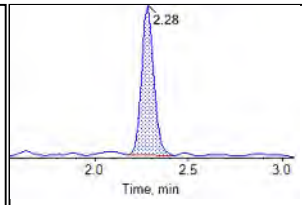
13C7-PFUnA



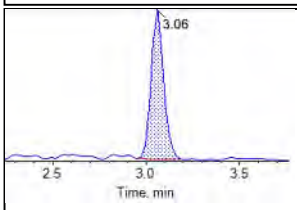
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

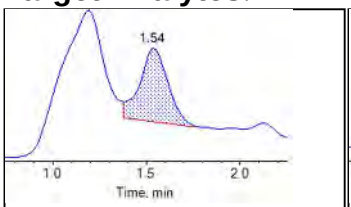
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:32:26 PM

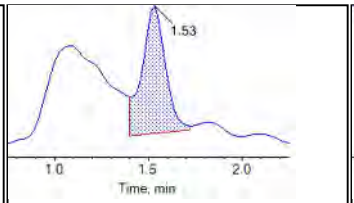
Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

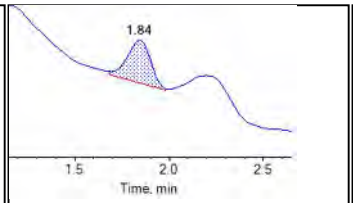
Target Analytes:



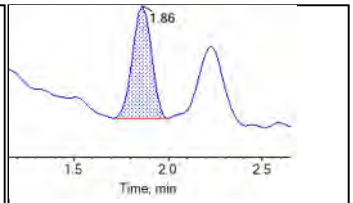
PFBS_1



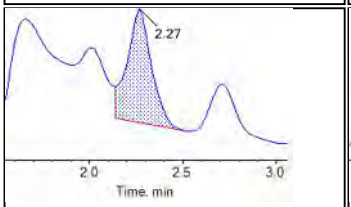
PFBS_2



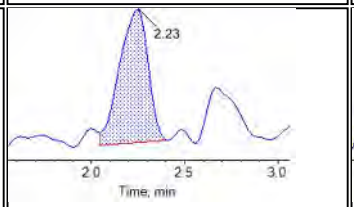
PFHxA_1



PFHxA_2



PFHpA_1



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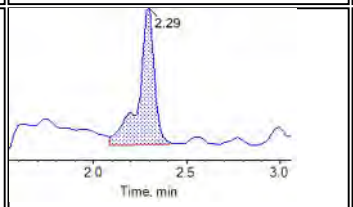

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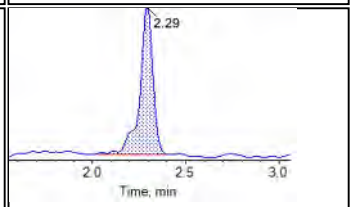

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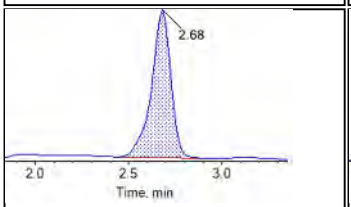

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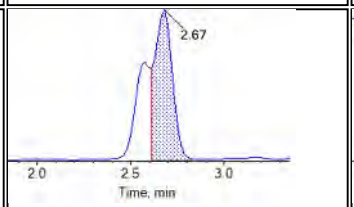

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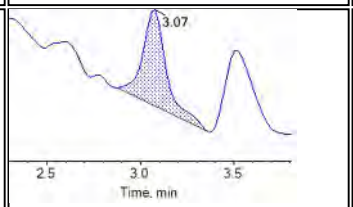

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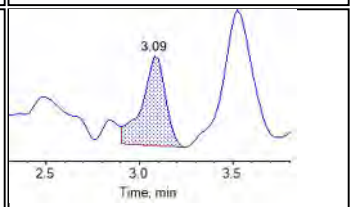

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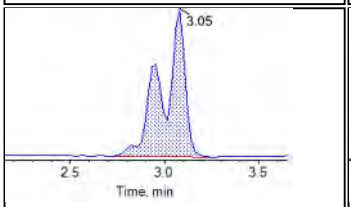

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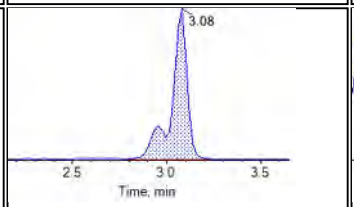

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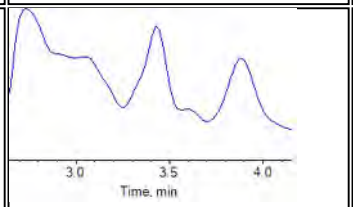

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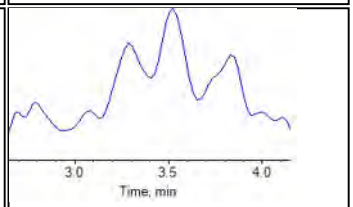

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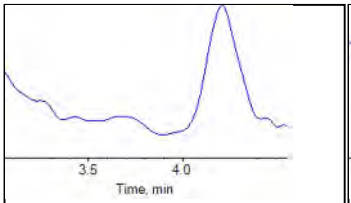

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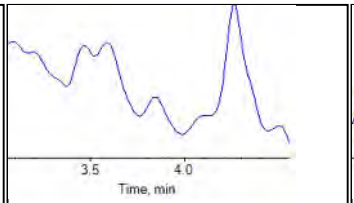

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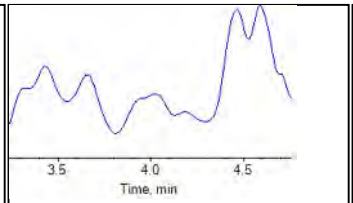

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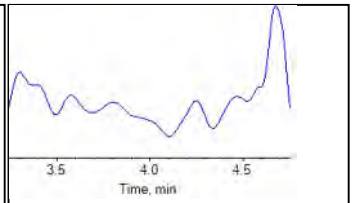

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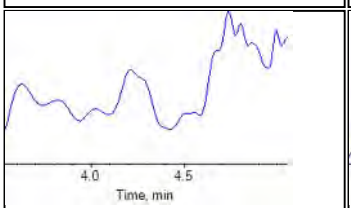

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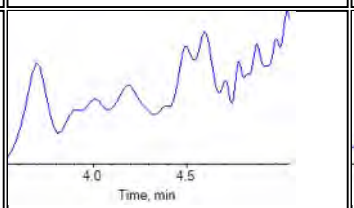

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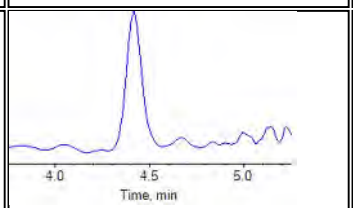

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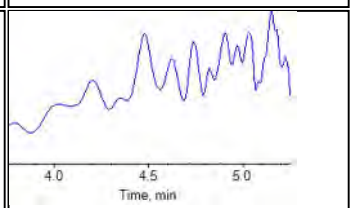

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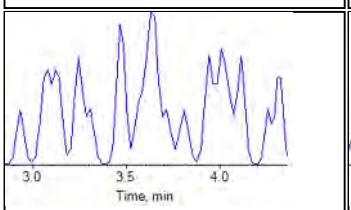

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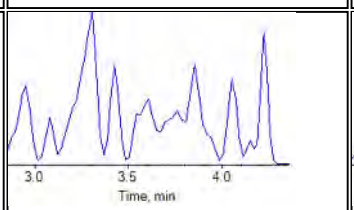

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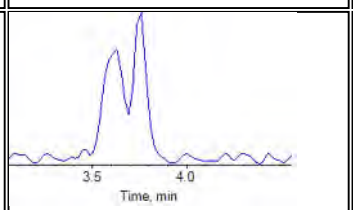

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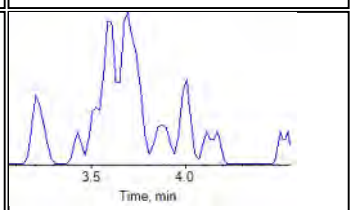

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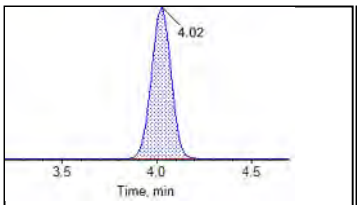

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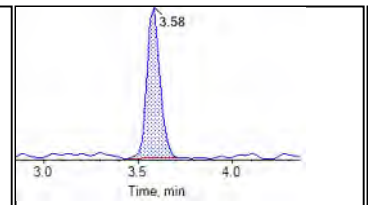

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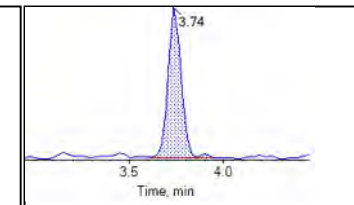

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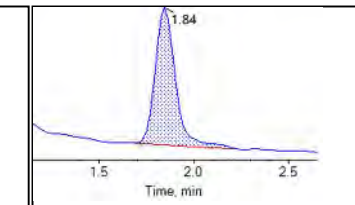

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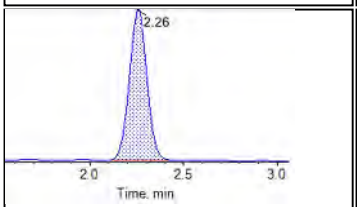

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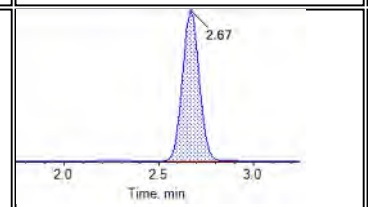

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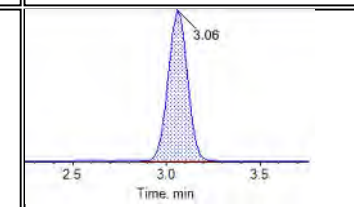

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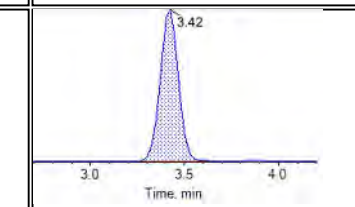

13C6-PFDA

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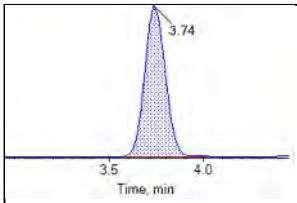

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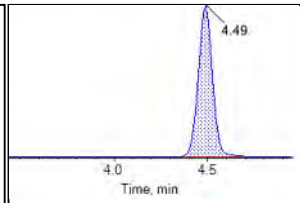

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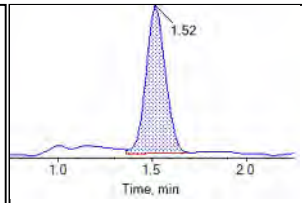

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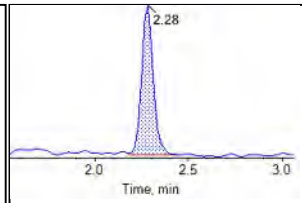

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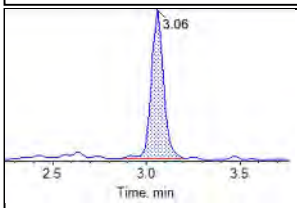

13C8-PFOS

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Chromatogram Report

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Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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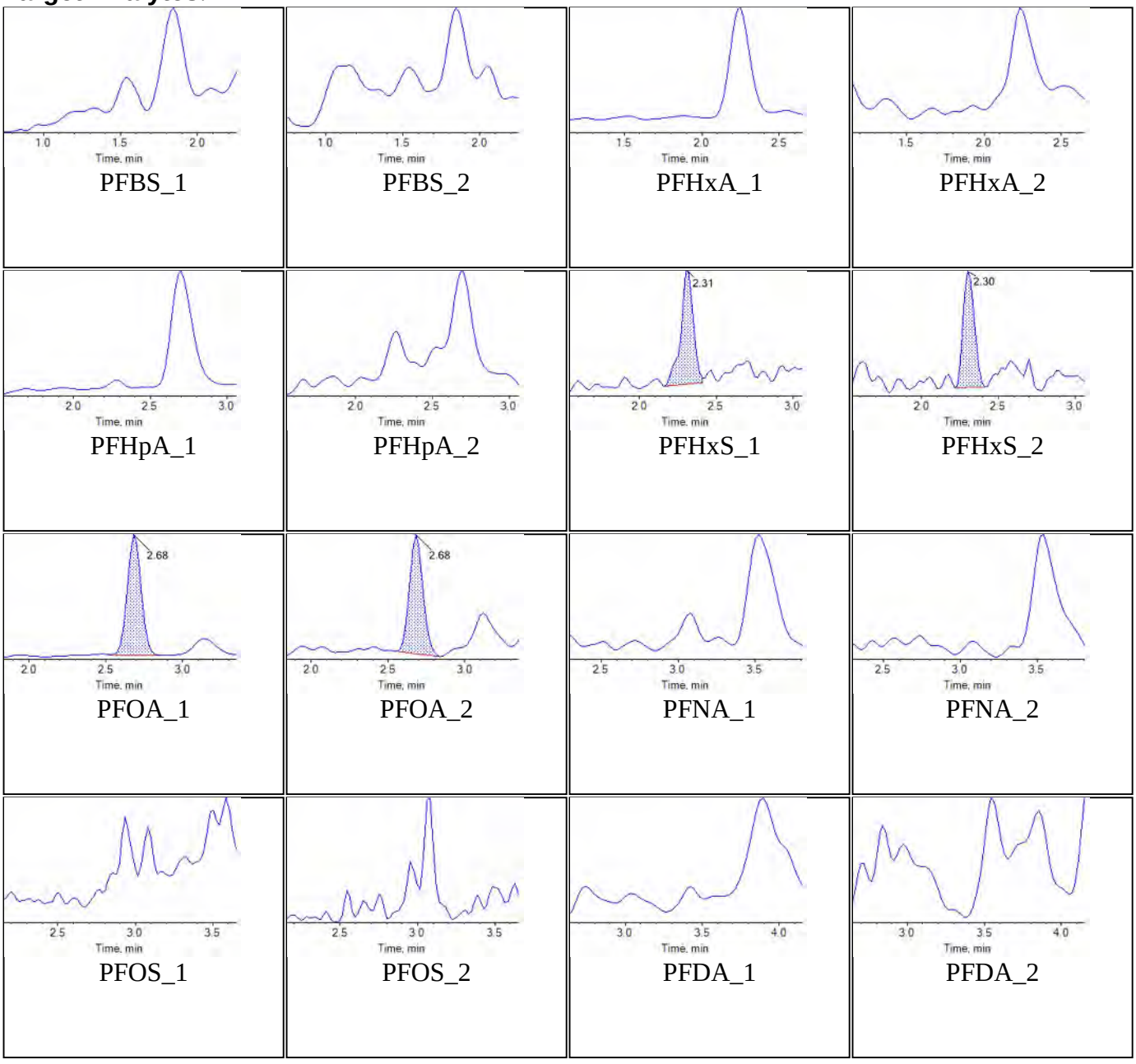

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Chromatogram Report

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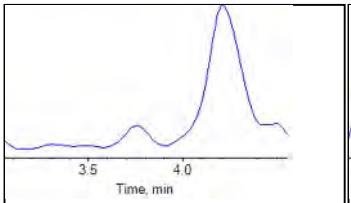

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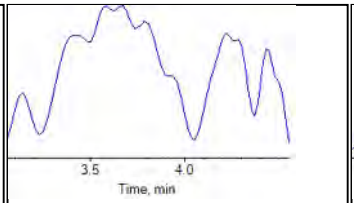

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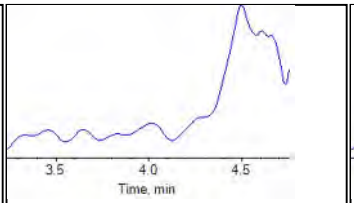

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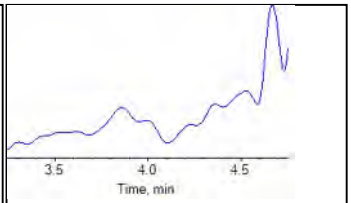

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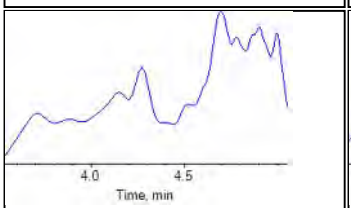

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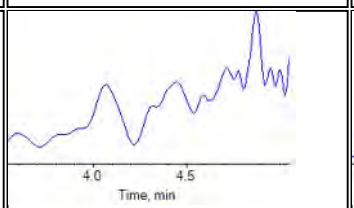

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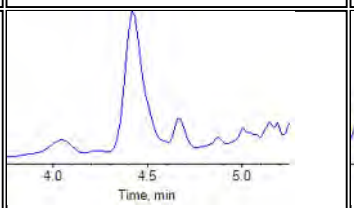

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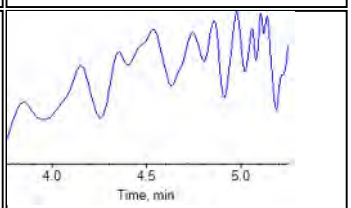

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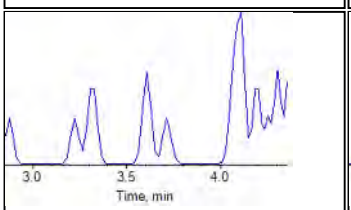

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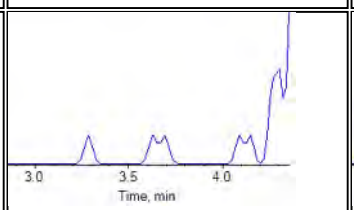

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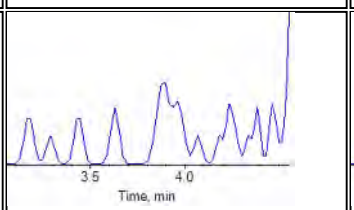

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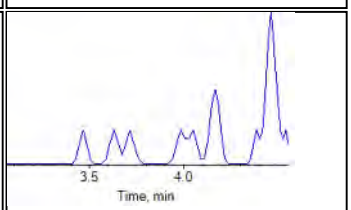

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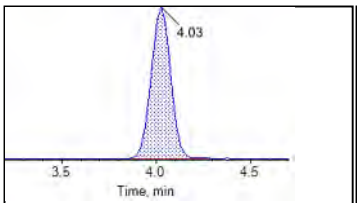

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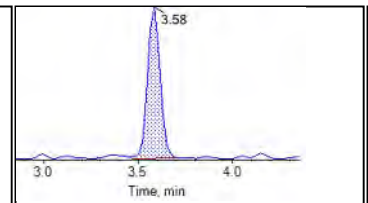
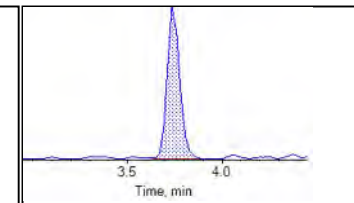


d3-MeFOSAA



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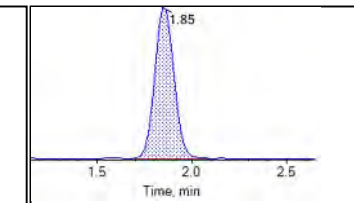

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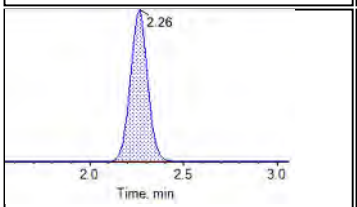

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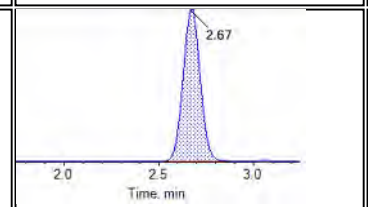

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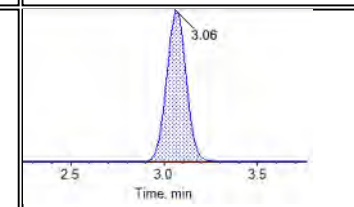

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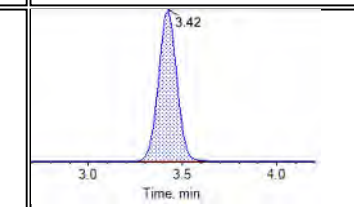

13C6-PFDA

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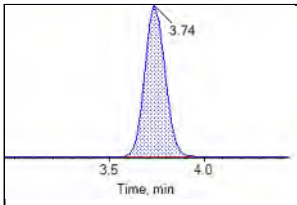
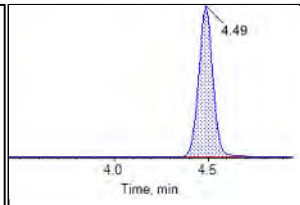
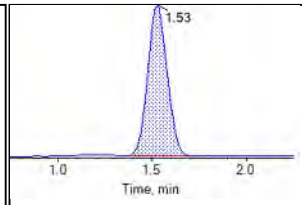


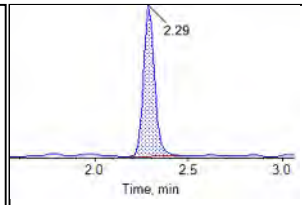
13C7-PFUnA



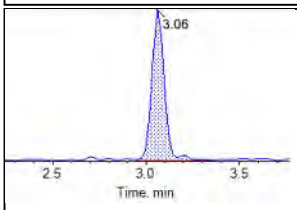
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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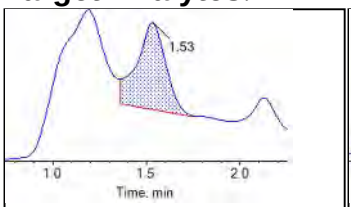
Printed: 06/11/2018 1:32:44 PM

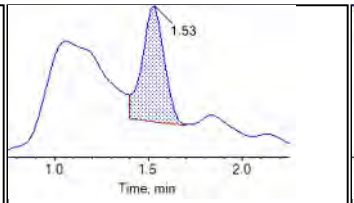
Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

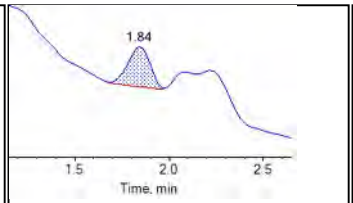
Target Analytes:



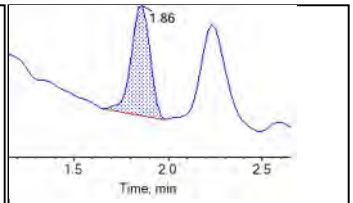
PFBS_1



PFBS_2



PFHxA_1



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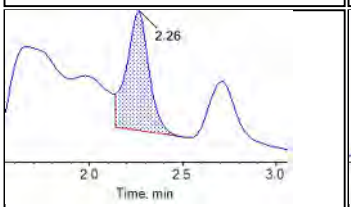
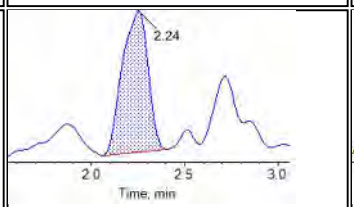


PFHpA_1



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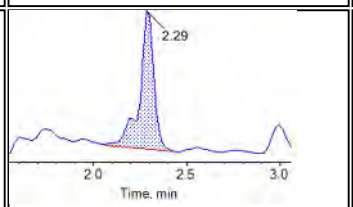

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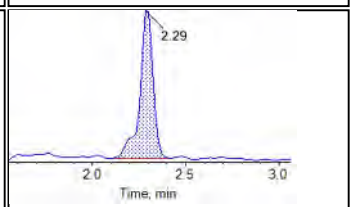

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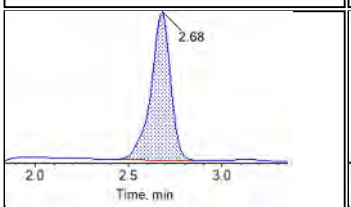
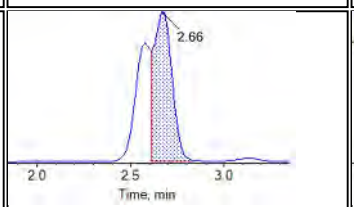


PFOA_1



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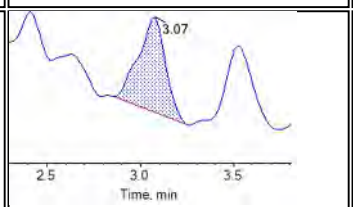

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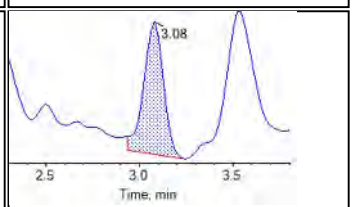

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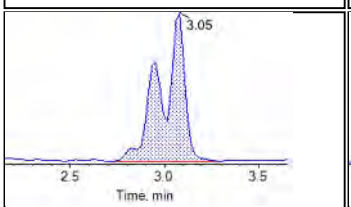

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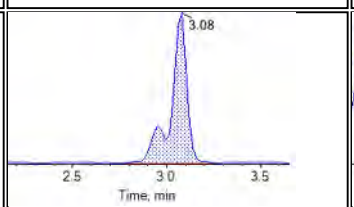
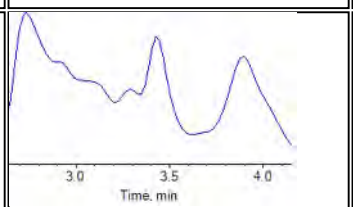


PFOS_2



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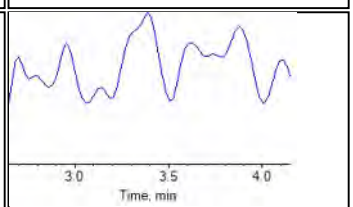

PFDA_2

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Chromatogram Report

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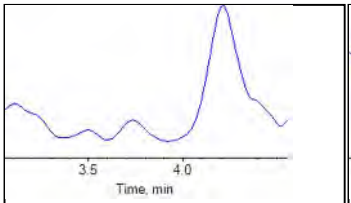
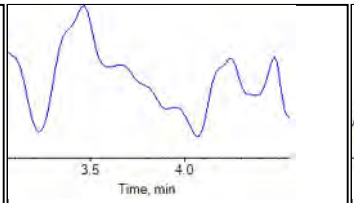
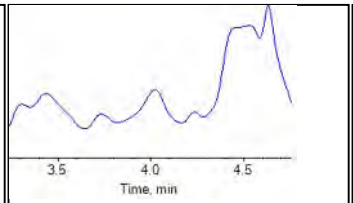


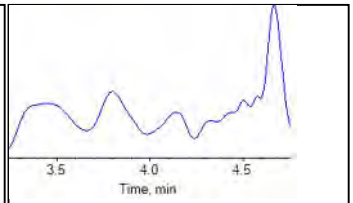
PFUnA_1



PFUnA_2



PFDoA_1



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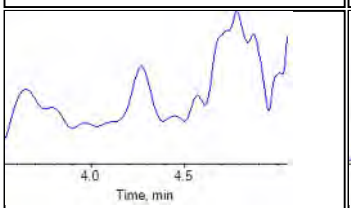

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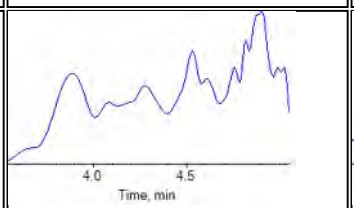

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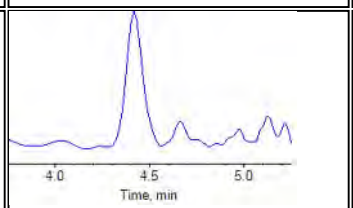

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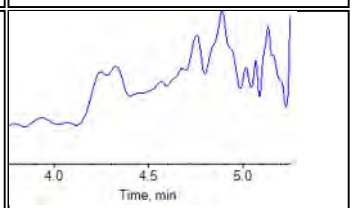

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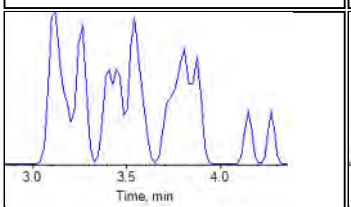

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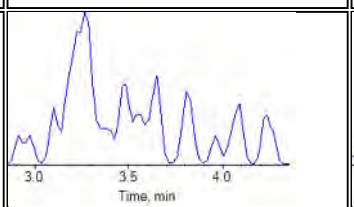

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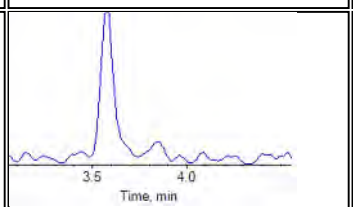

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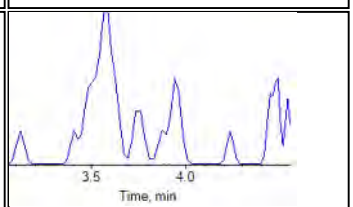
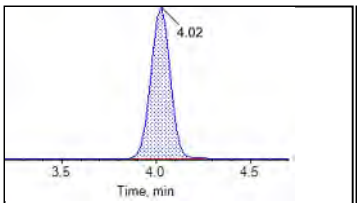
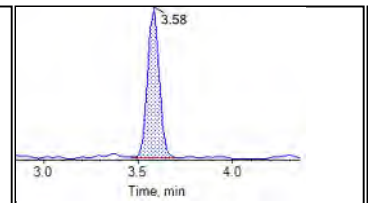


NEtFOSAA_2

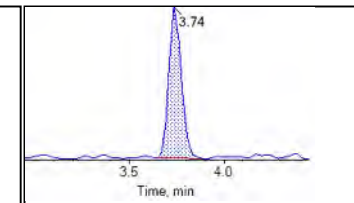
Internal Standards:



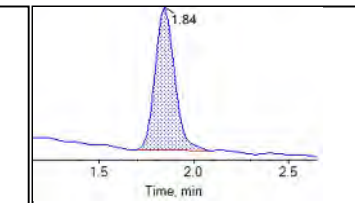
13C2-PFDoA



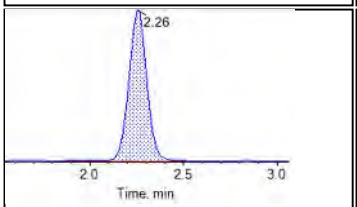
d3-MeFOSAA



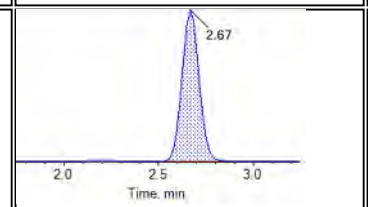
d5-EtFOSAA



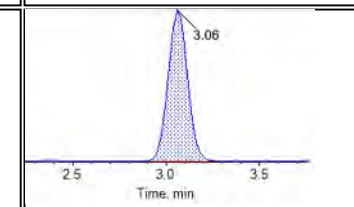
13C5-PFHxA



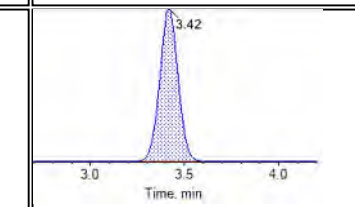
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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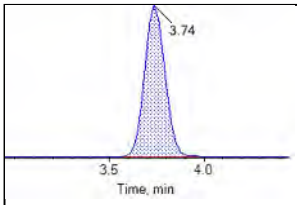
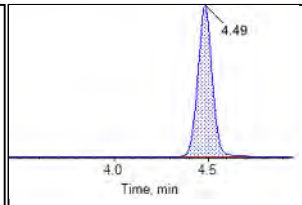
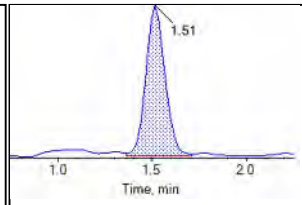


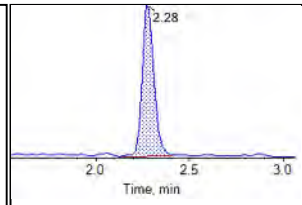
13C7-PFUnA



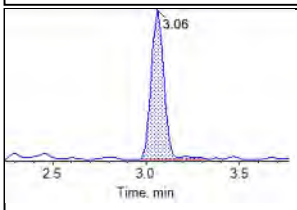
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

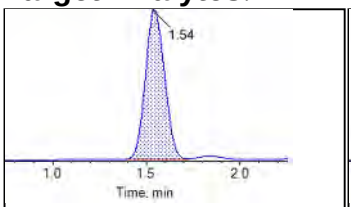
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:32:49 PM

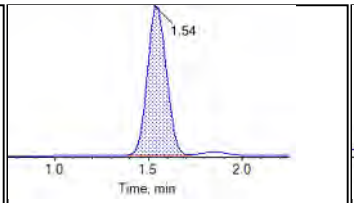
Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

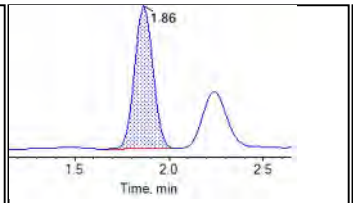
Target Analytes:



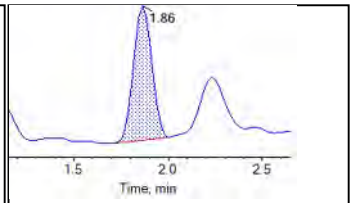
PFBS_1



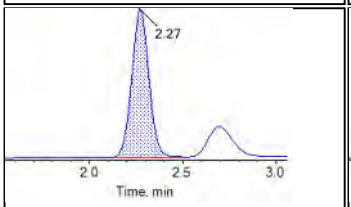
PFBS_2



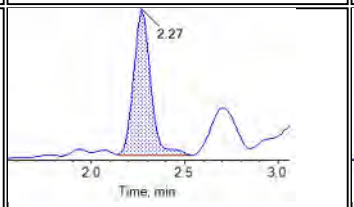
PFHxA_1



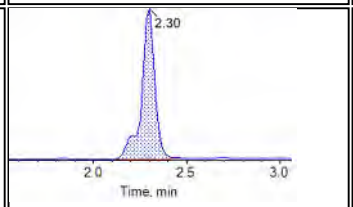
PFHxA_2



PFHpA_1



PFHpA_2



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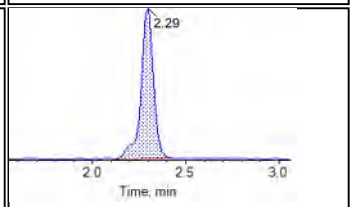

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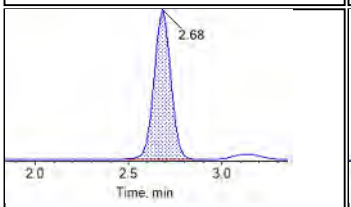
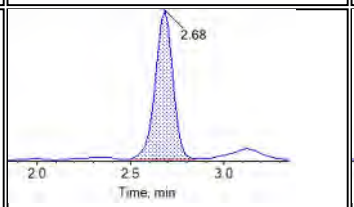
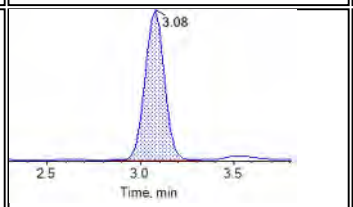


PFOA_1



PFOA_2



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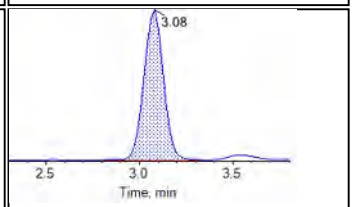

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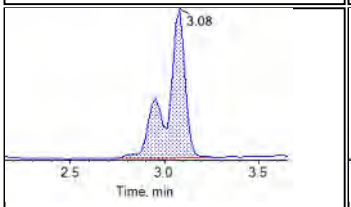

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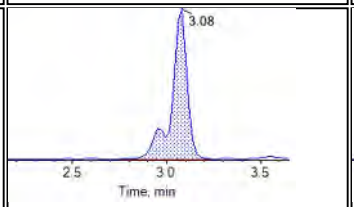

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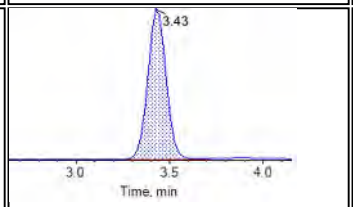

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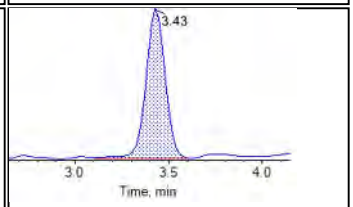

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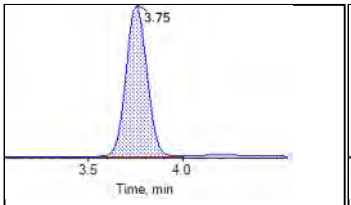

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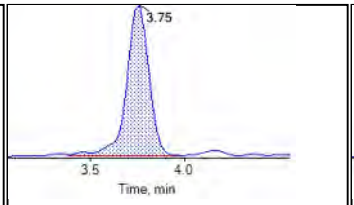

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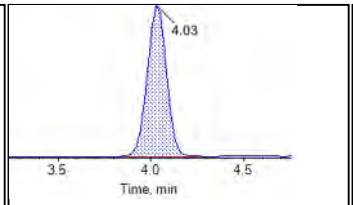

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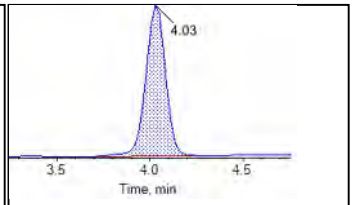

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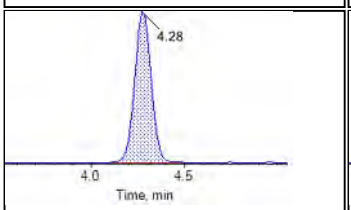

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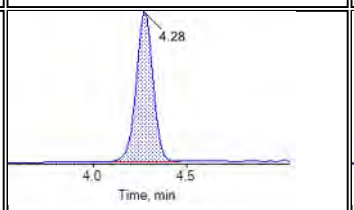

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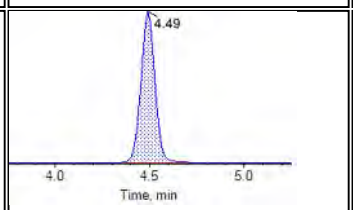

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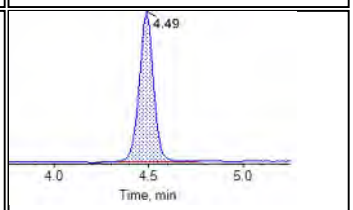

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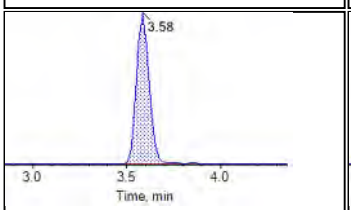

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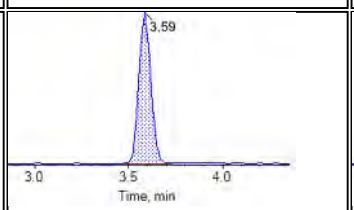

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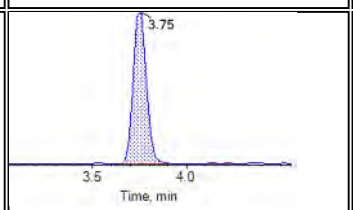

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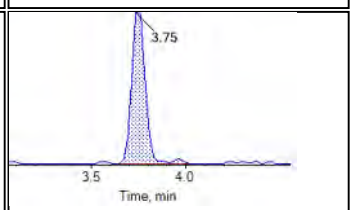

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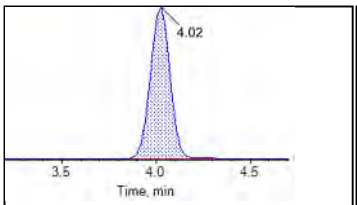

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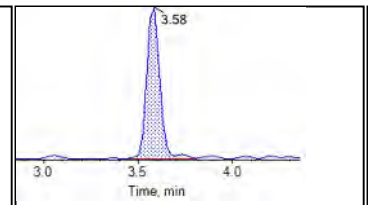

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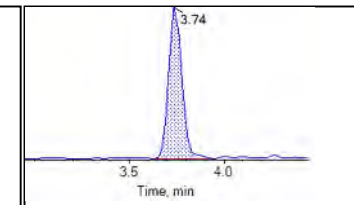

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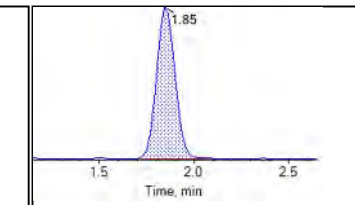

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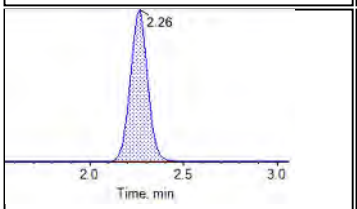

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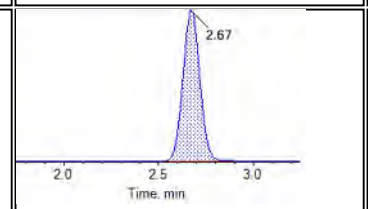

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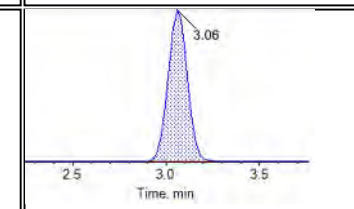

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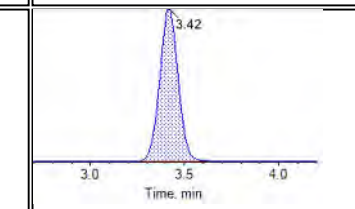

13C6-PFDA

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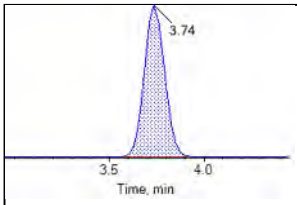

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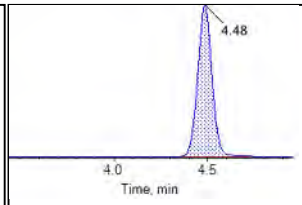

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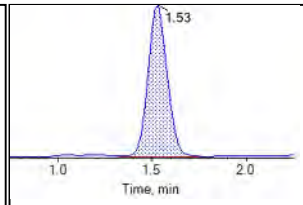

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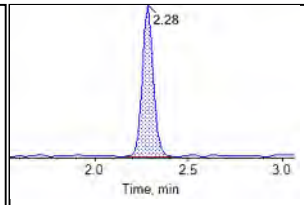

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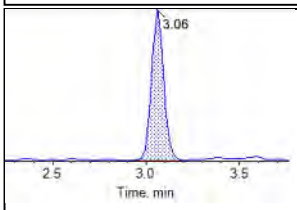

13C8-PFOS

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Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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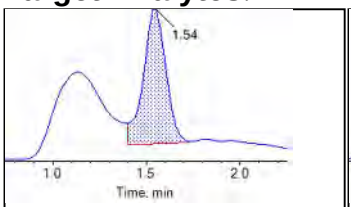

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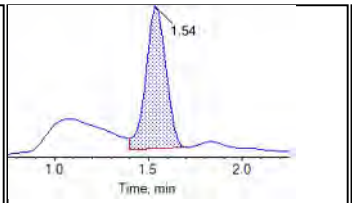

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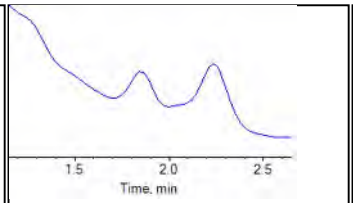

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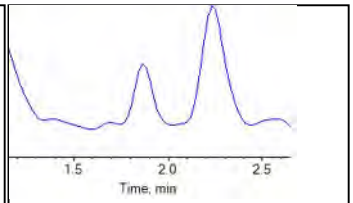

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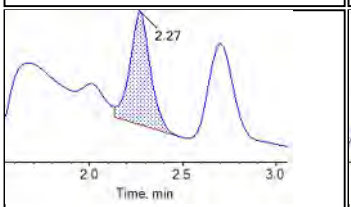

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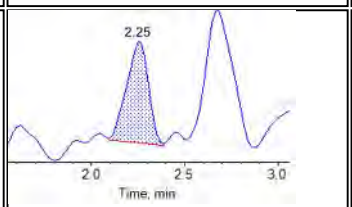

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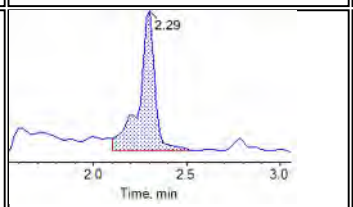

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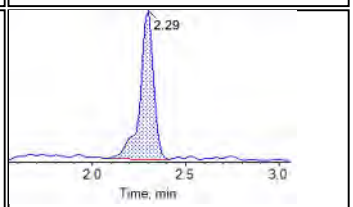

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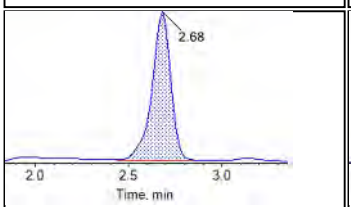

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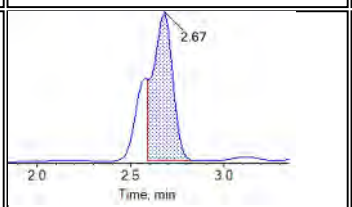

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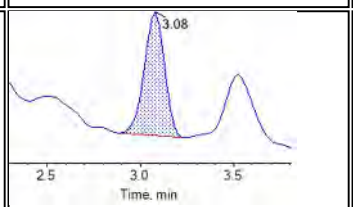

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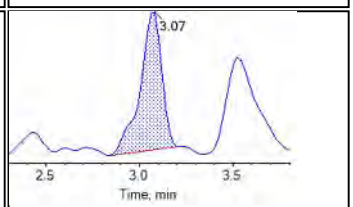

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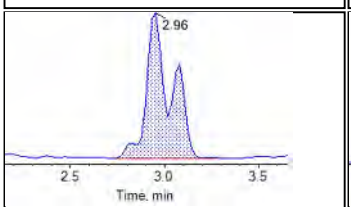

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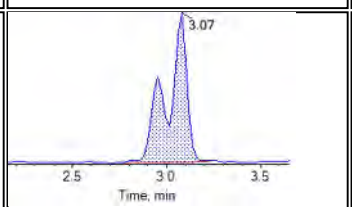

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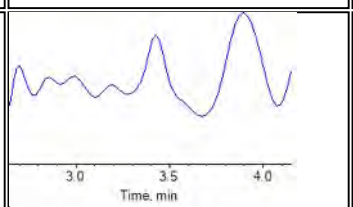

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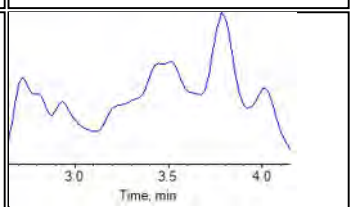

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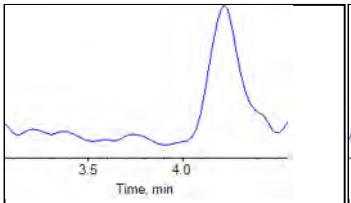

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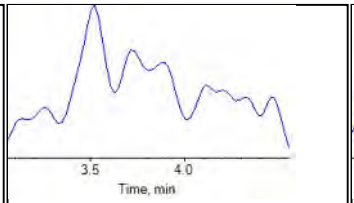

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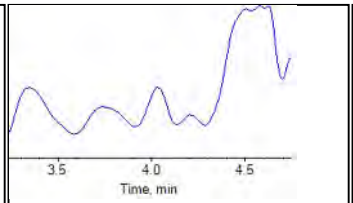

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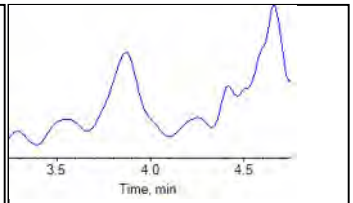

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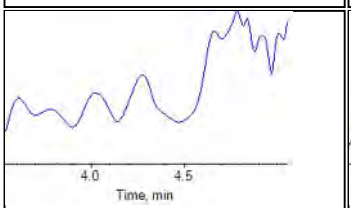

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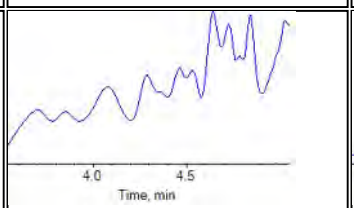

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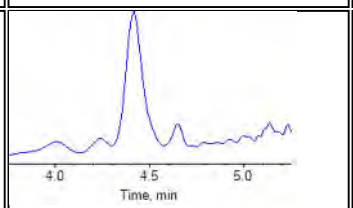

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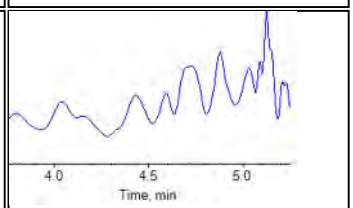

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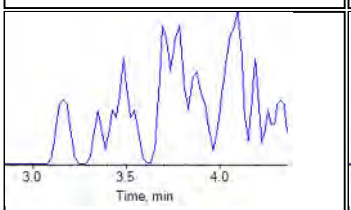

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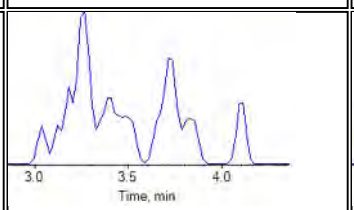

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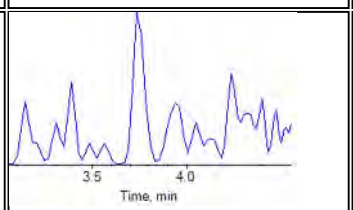

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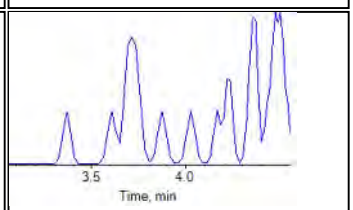

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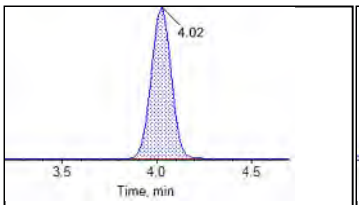

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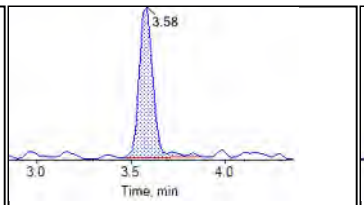

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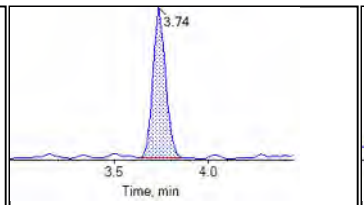

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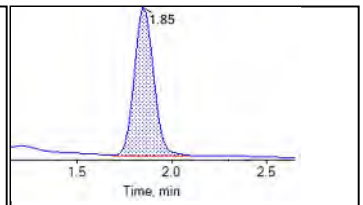

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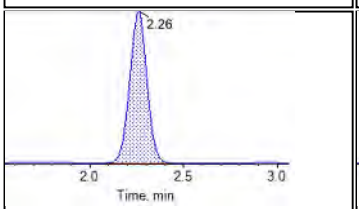

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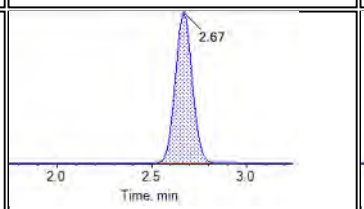
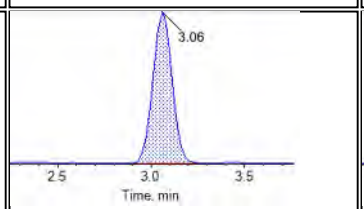
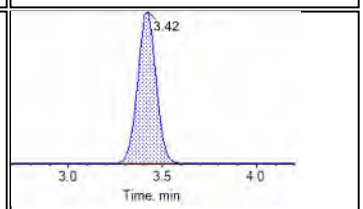


13C8-PFOA



13C9-PFNA



13C6-PFDA

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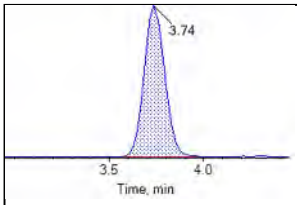
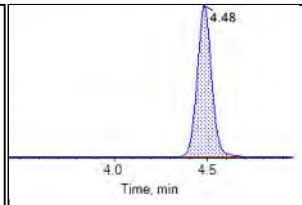


13C7-PFUnA



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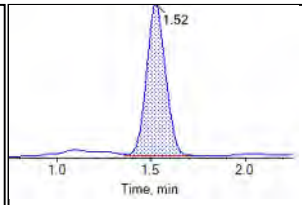
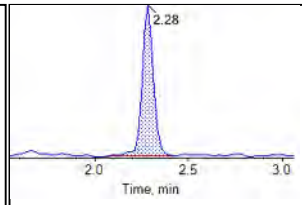


13C3-PFBS



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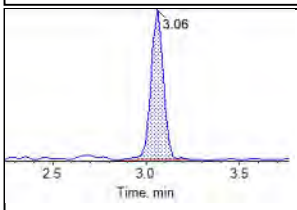

13C8-PFOS

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Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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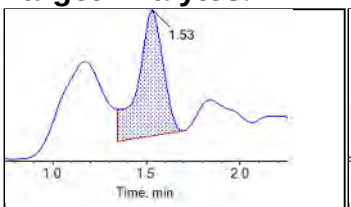

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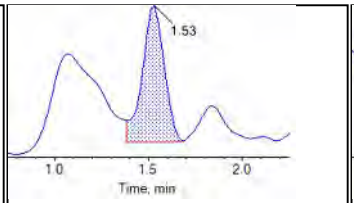

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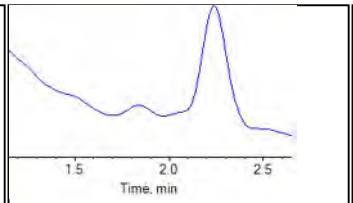

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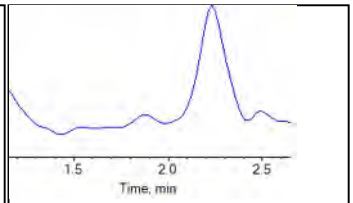

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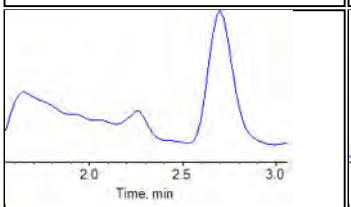

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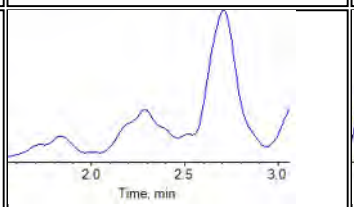

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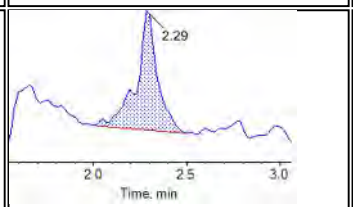

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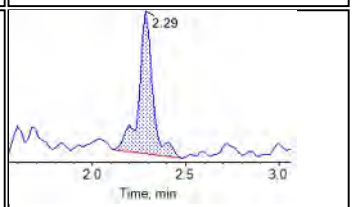

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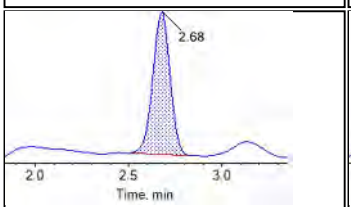

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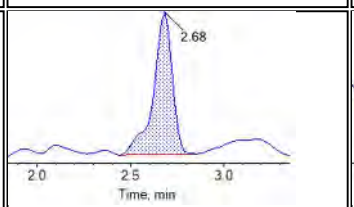

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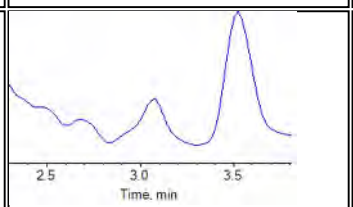

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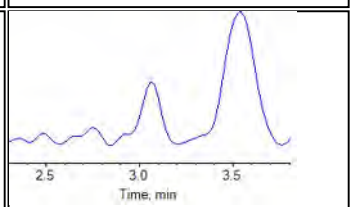

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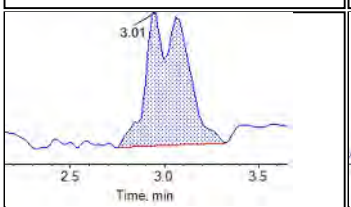

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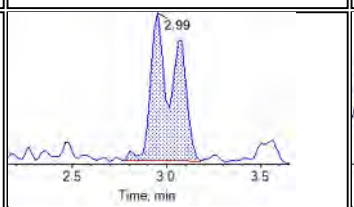

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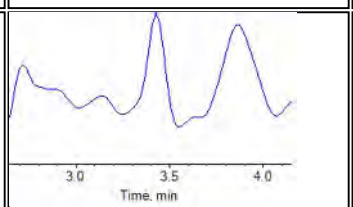

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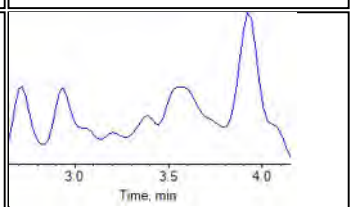

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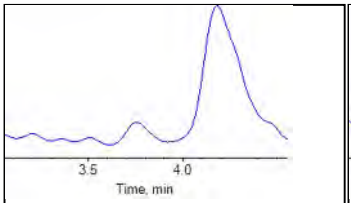

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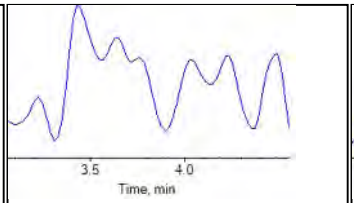

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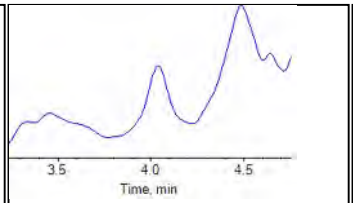

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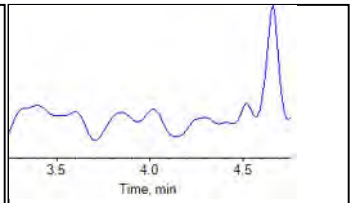

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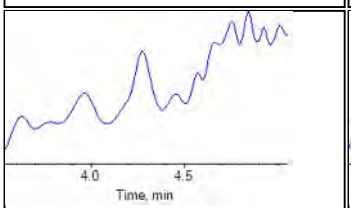

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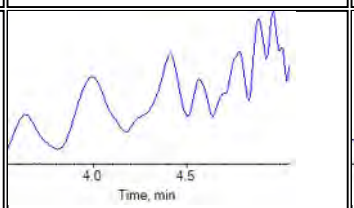

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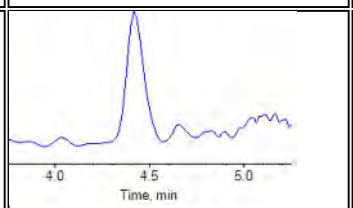

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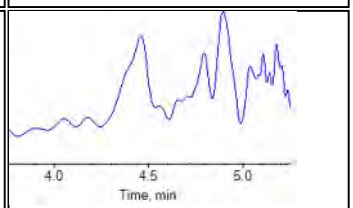

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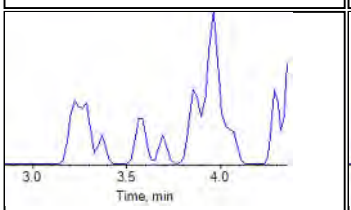

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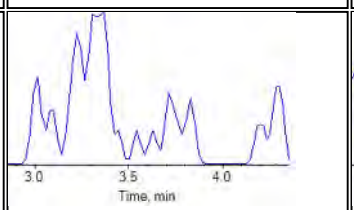

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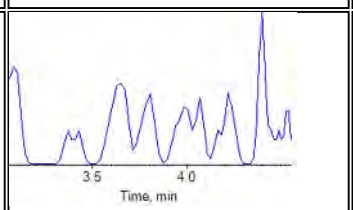

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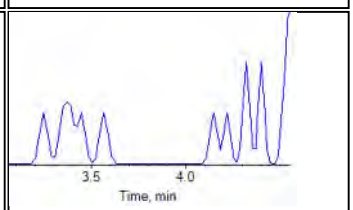

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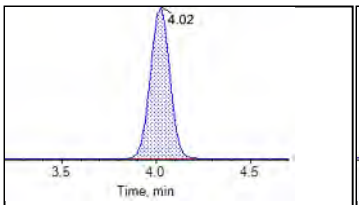

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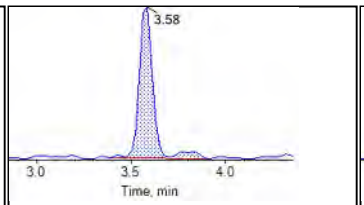

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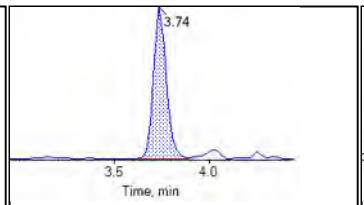

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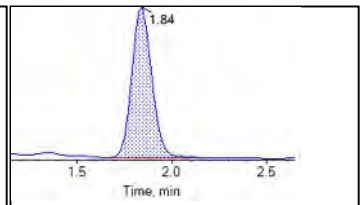

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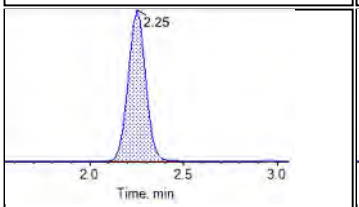

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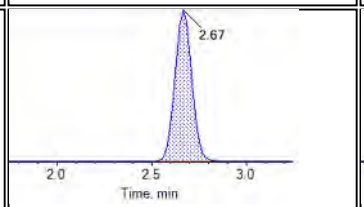

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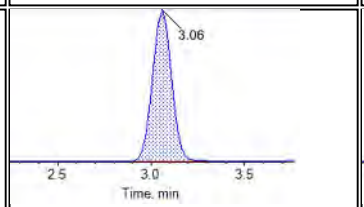

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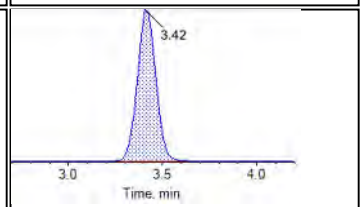

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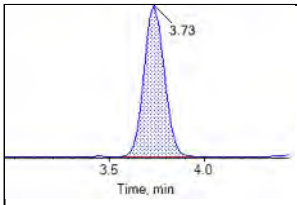

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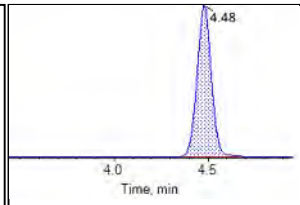

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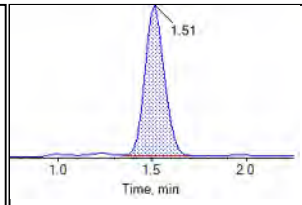
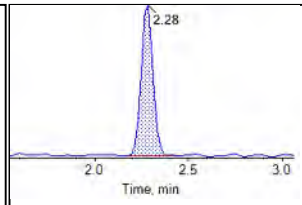
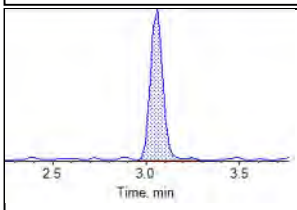


13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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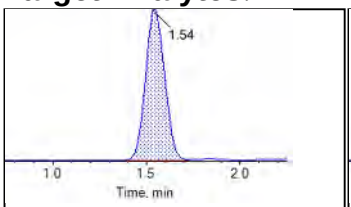
Printed: 06/11/2018 1:33:35 PM

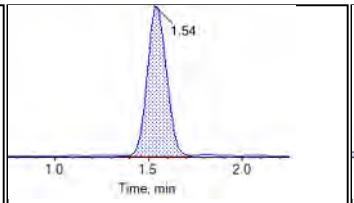
Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

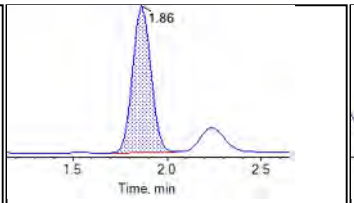
Target Analytes:



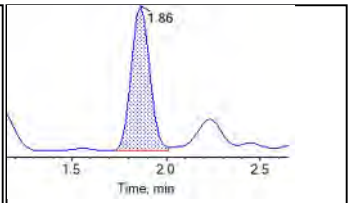
PFBS_1



PFBS_2



PFHxA_1



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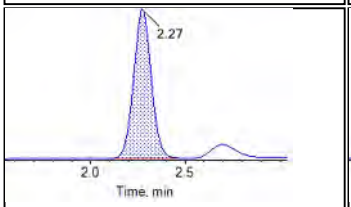
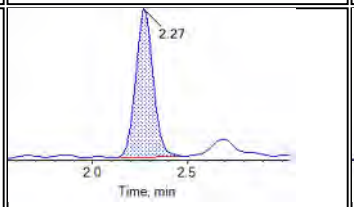
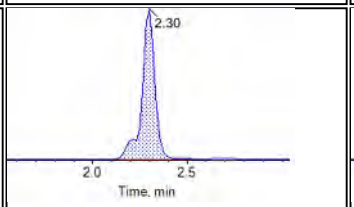


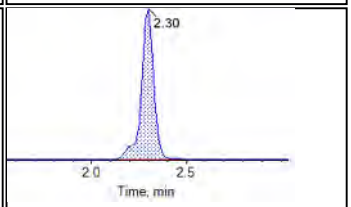
PFHpA_1



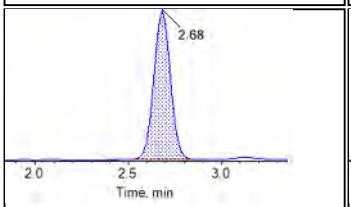
PFHpA_2



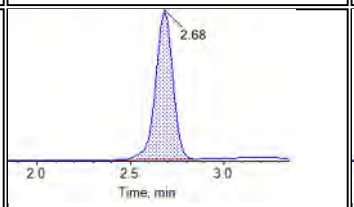
PFHxS_1



PFHxS_2



PFOA_1



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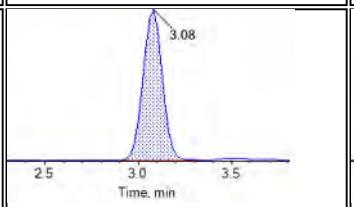

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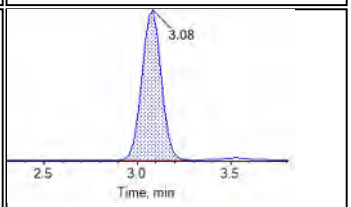

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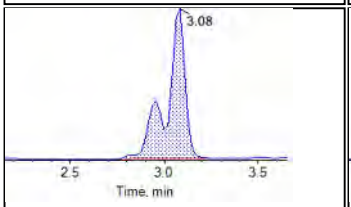
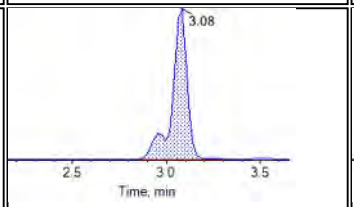
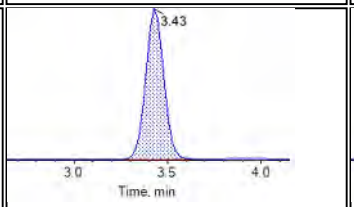


PFOS_1



PFOS_2



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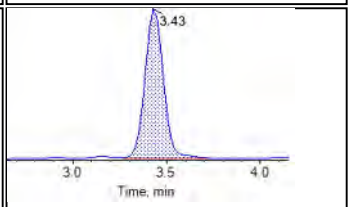

PFDA_2

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Chromatogram Report

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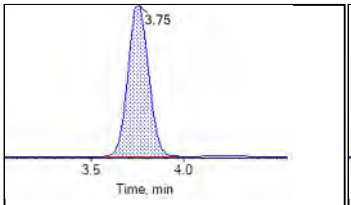
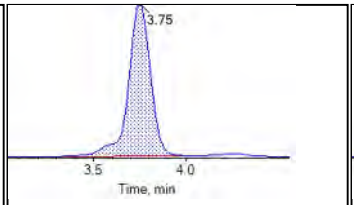
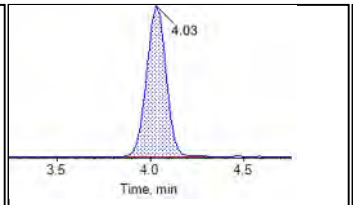


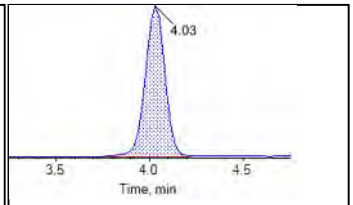
PFUnA_1



PFUnA_2



PFDoA_1



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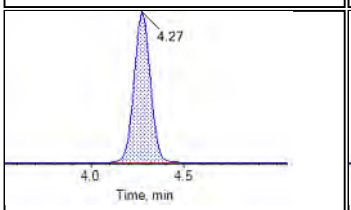

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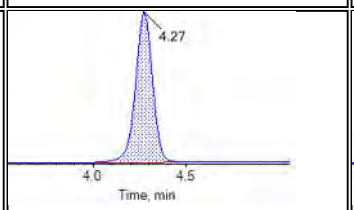

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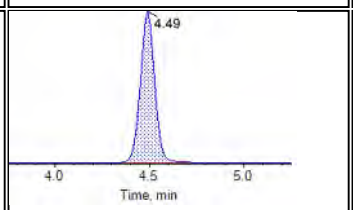

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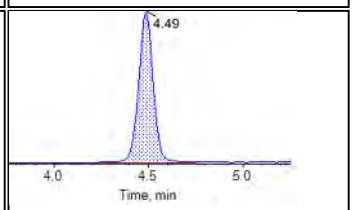
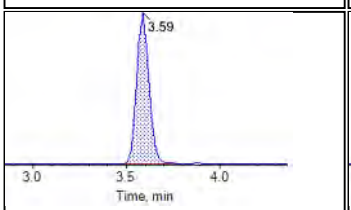


PFTeDA_2



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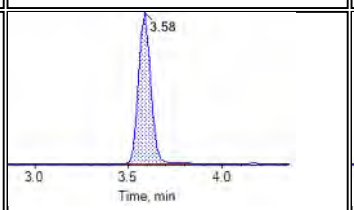

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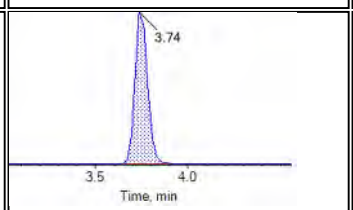

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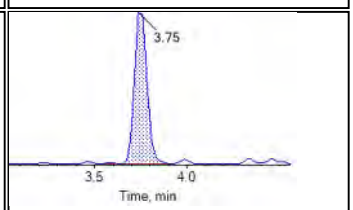

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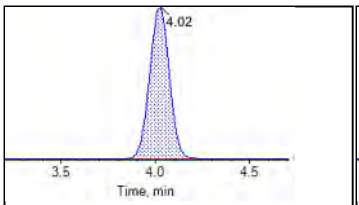
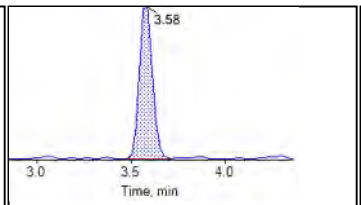
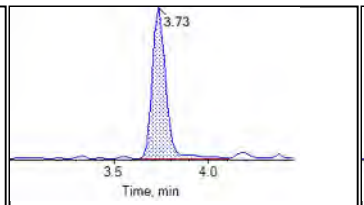
Internal Standards:



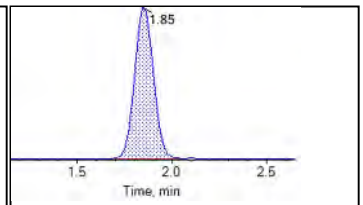
13C2-PFDoA



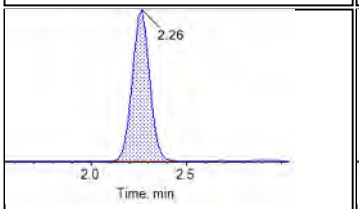
d3-MeFOSAA



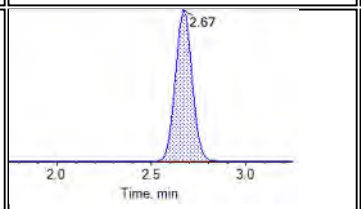
d5-EtFOSAA



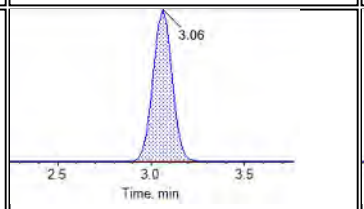
13C5-PFHxA



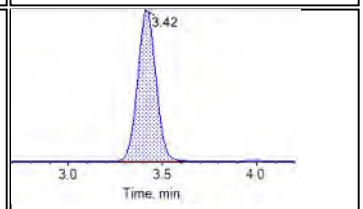
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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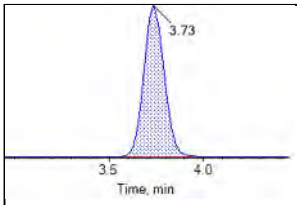
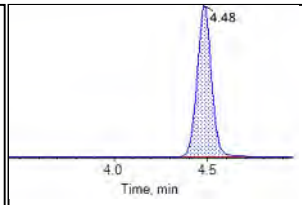
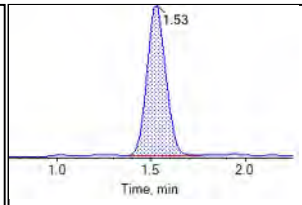


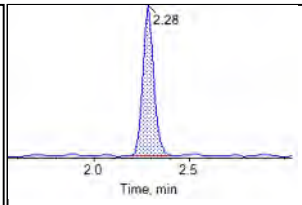
13C7-PFUnA



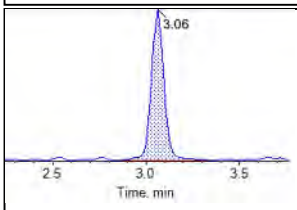
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

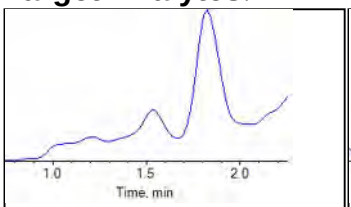
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:33:54 PM

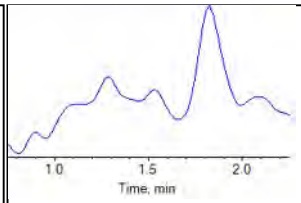
Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

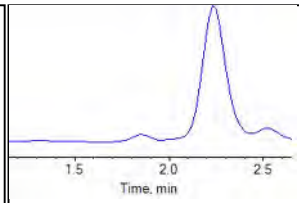
Target Analytes:



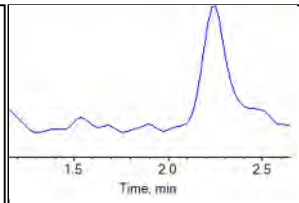
PFBS_1



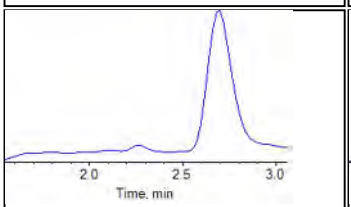
PFBS_2



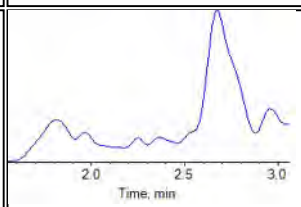
PFHxA_1



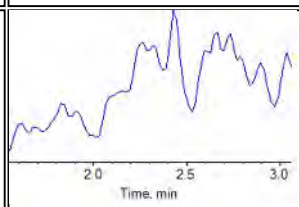
PFHxA_2



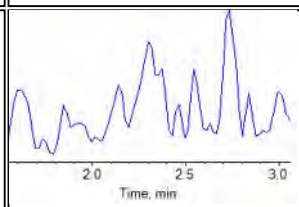
PFHpA_1



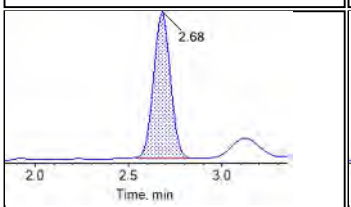
PFHpA_2



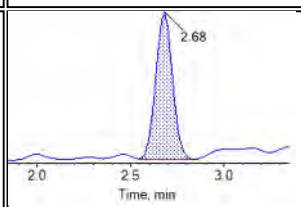
PFHxS_1



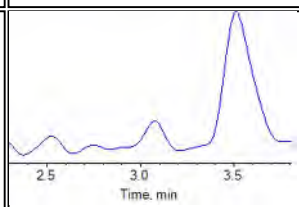
PFHxS_2



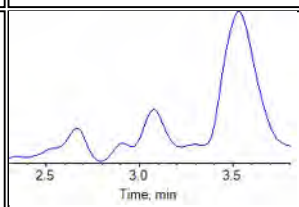
PFOA_1



PFOA_2



PFNA_1



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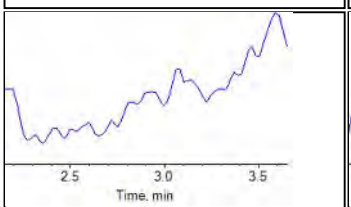

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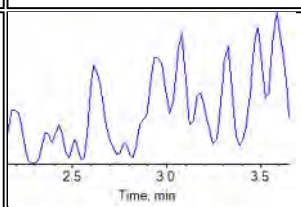

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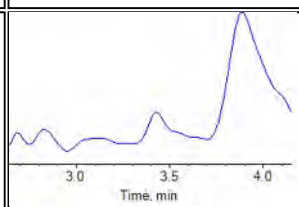

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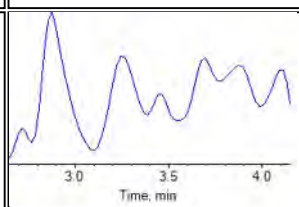

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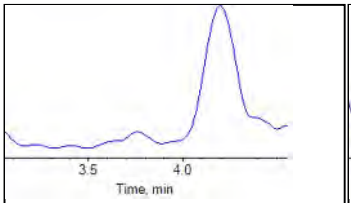

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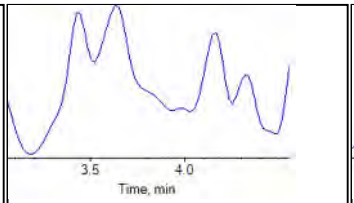

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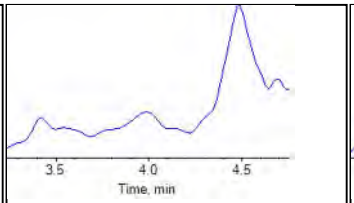

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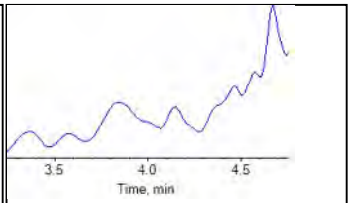

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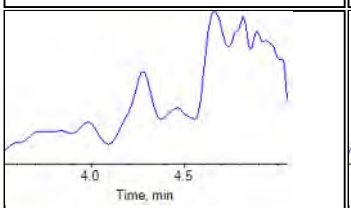

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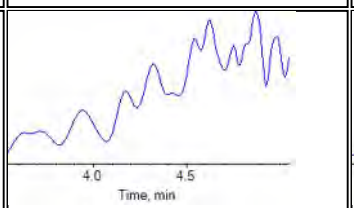

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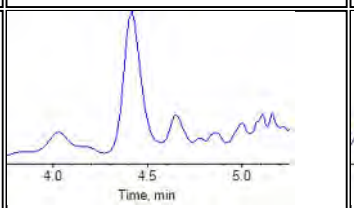

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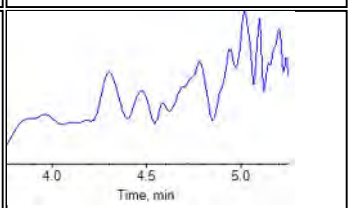

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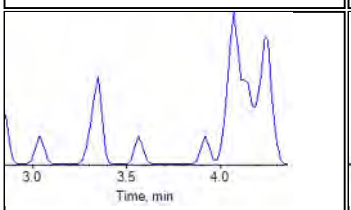

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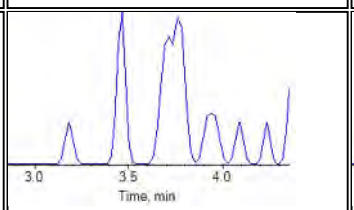

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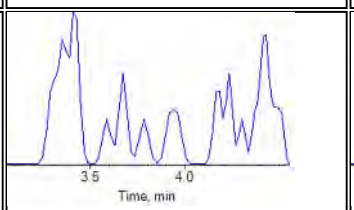

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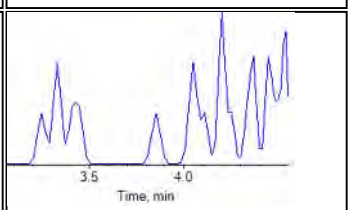

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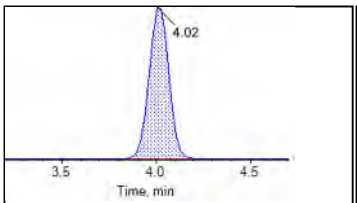

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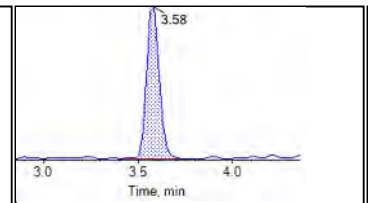

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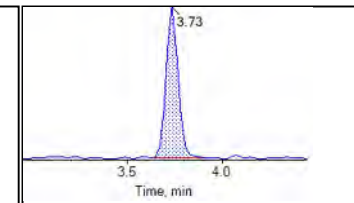

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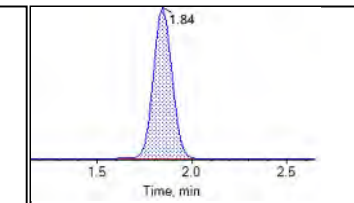

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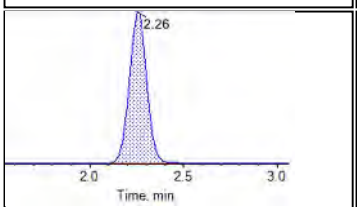

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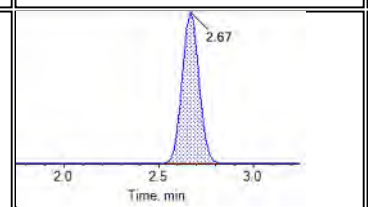

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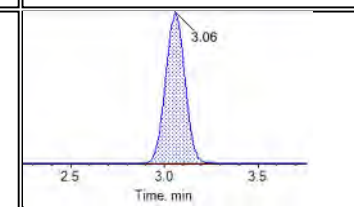

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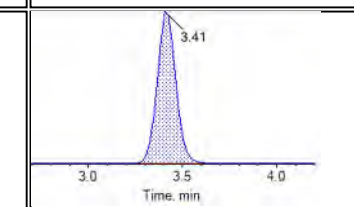

13C6-PFDA

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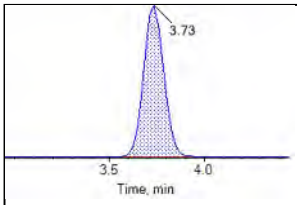
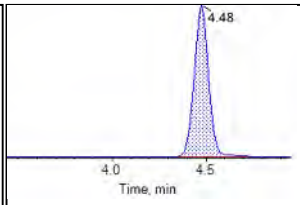


13C7-PFUnA



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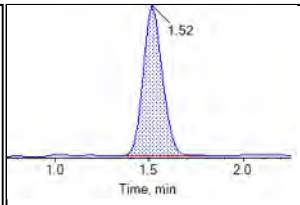

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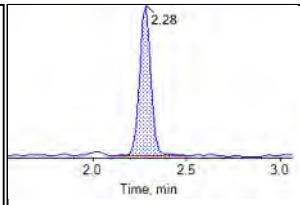

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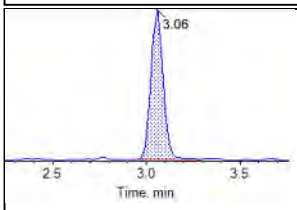

13C8-PFOS

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Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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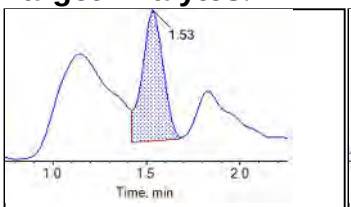

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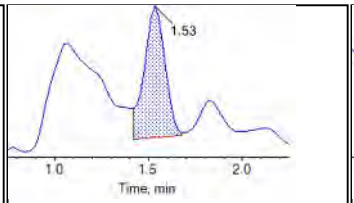

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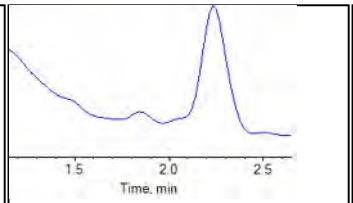

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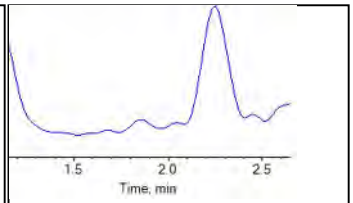

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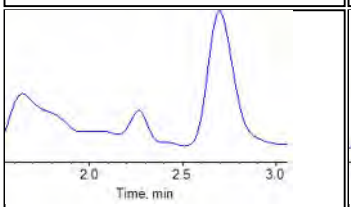

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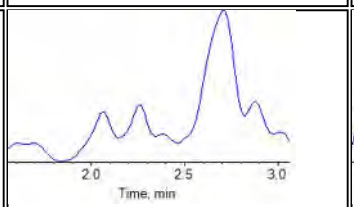

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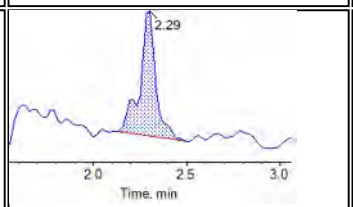

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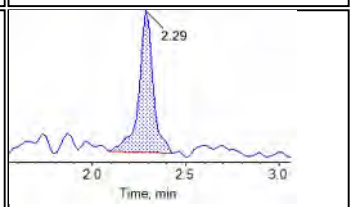

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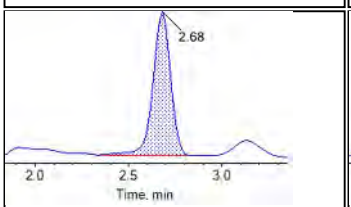

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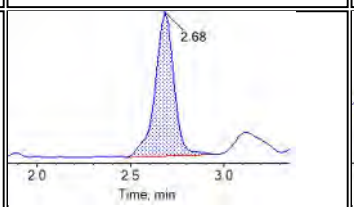

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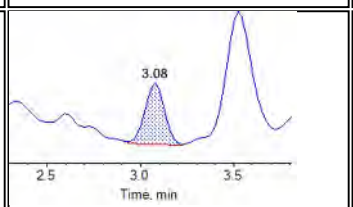

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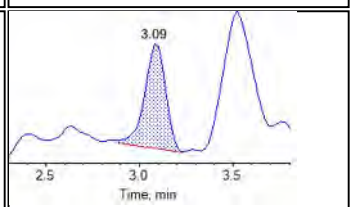

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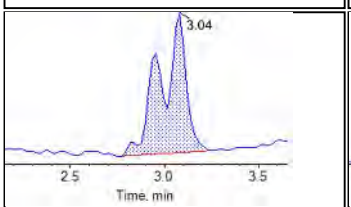

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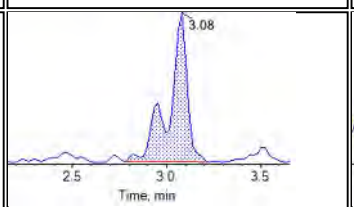

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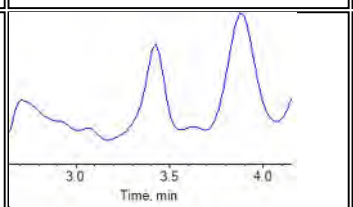

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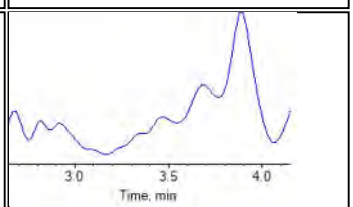

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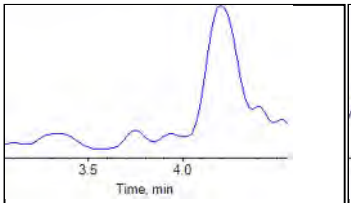

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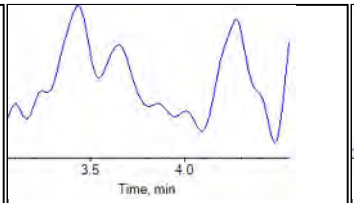

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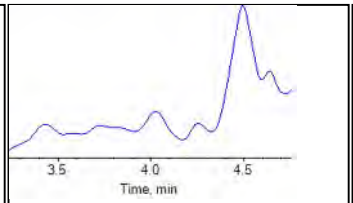

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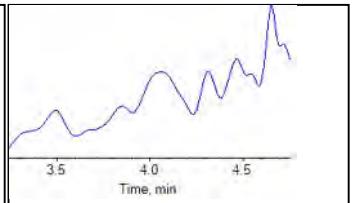

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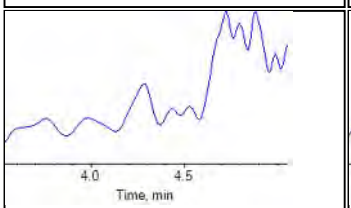

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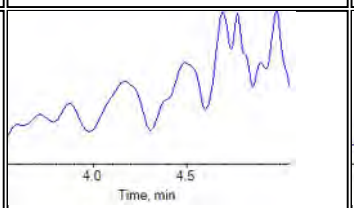

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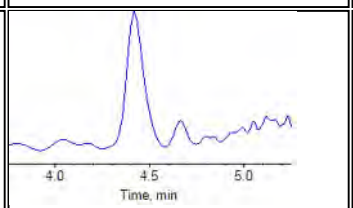

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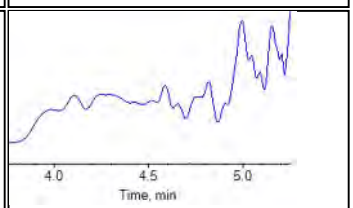

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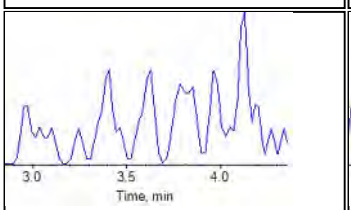

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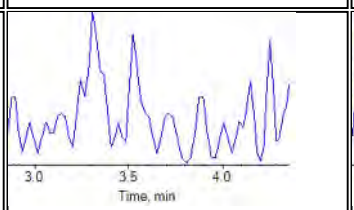

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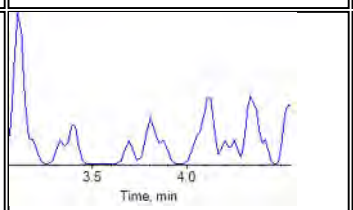

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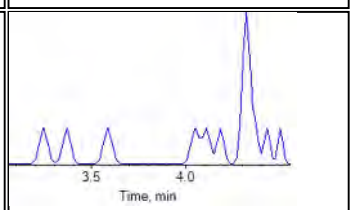

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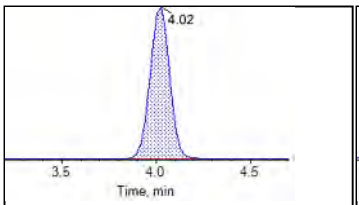
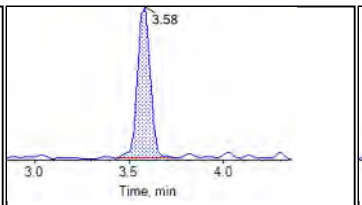


13C2-PFDoA



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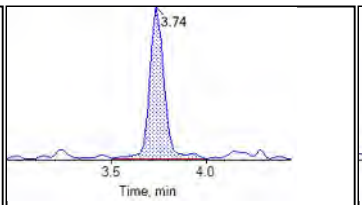

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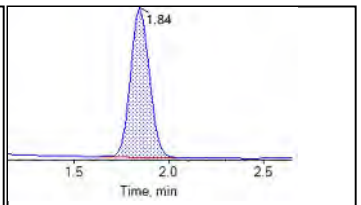

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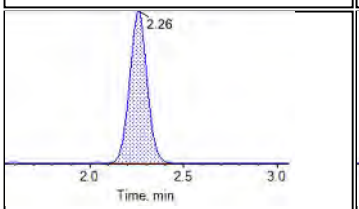
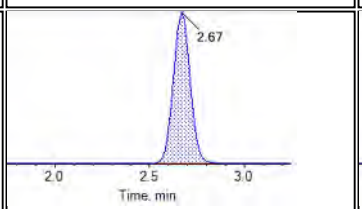
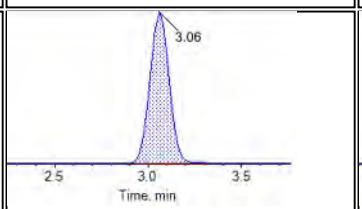


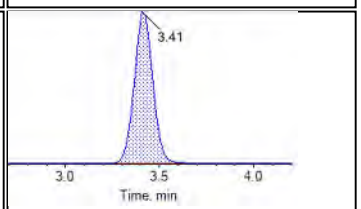
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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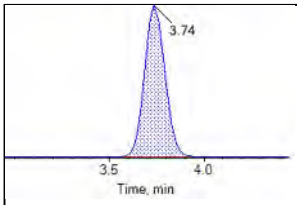
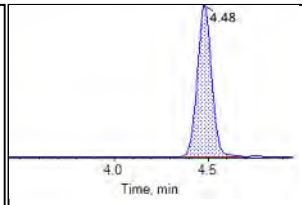
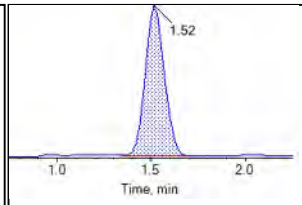


13C7-PFUnA



13C2-PFTeDA



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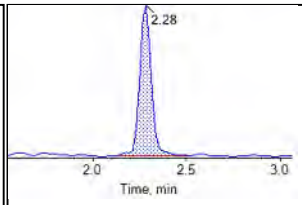
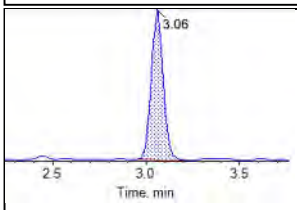


13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Chromatograms

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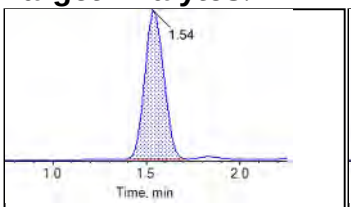

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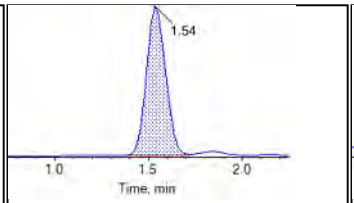

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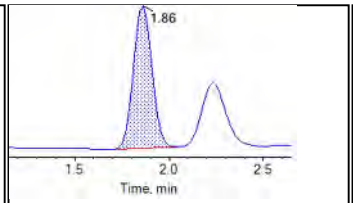

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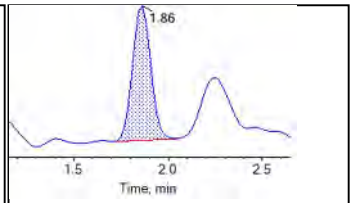

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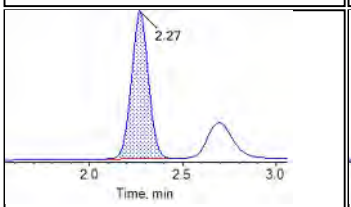

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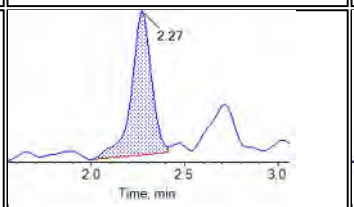

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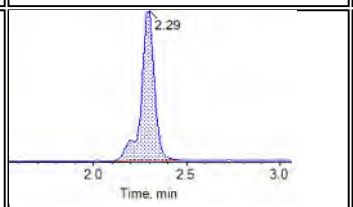

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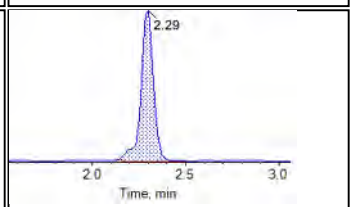

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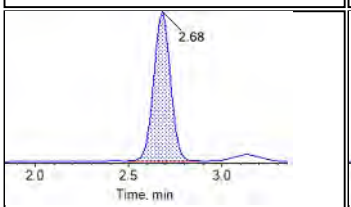

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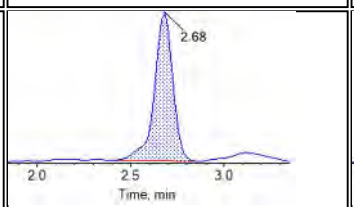

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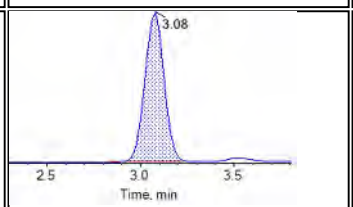

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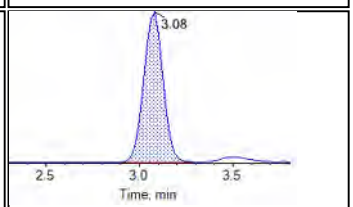

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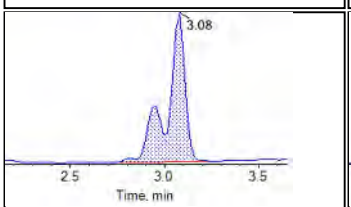

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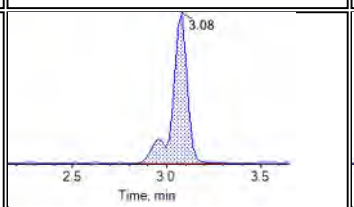

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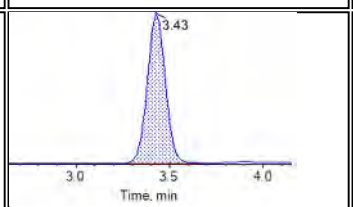

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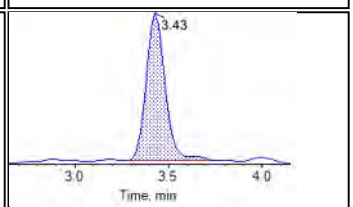

PFDA_2

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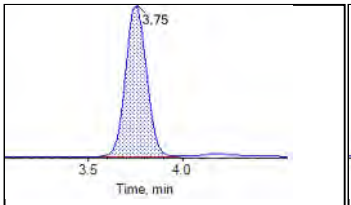

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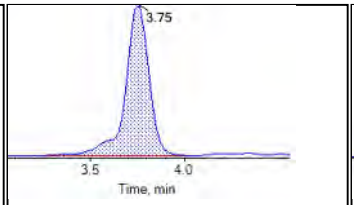

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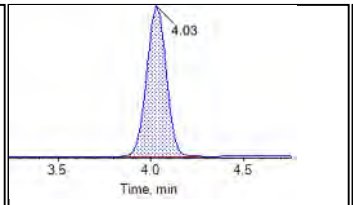

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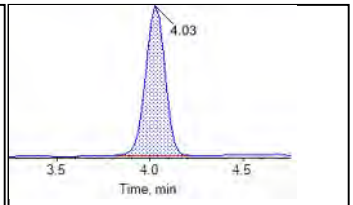

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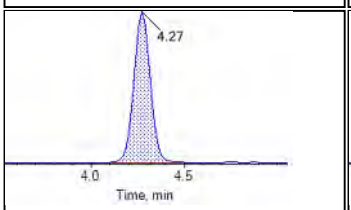

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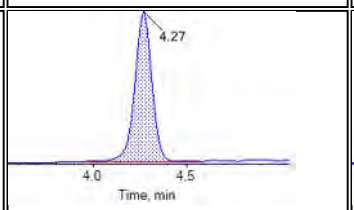

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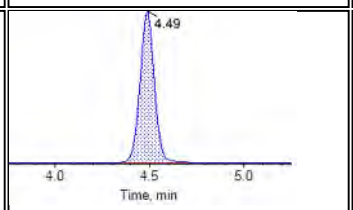

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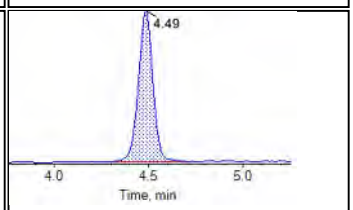

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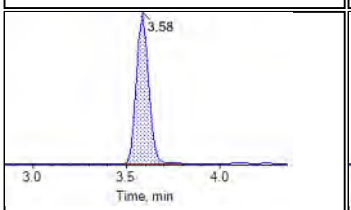

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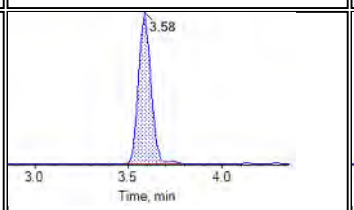

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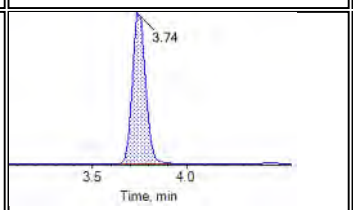

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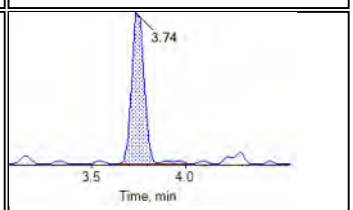

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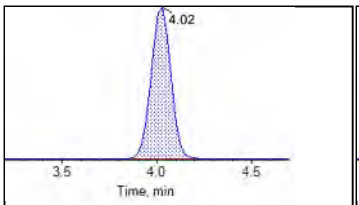

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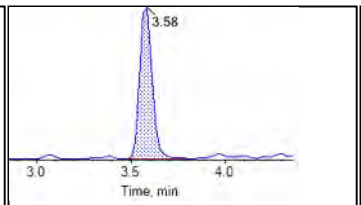
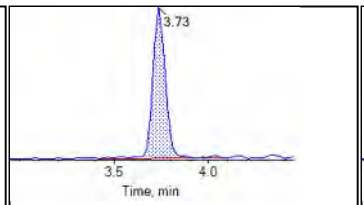
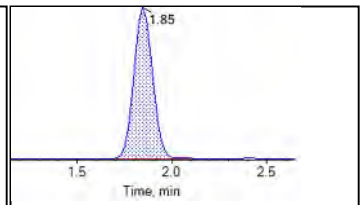


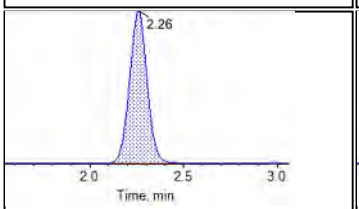
d3-MeFOSAA



d5-EtFOSAA



13C5-PFHxA



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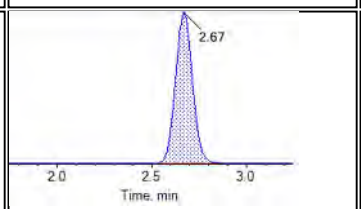
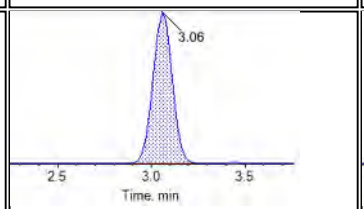
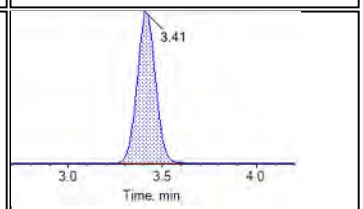


13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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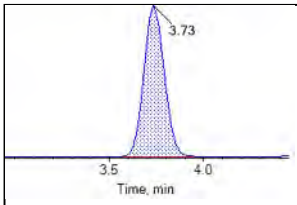

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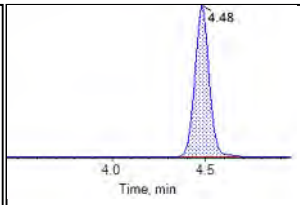

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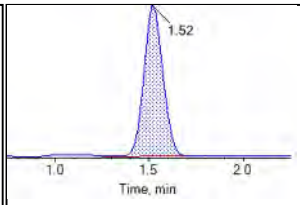
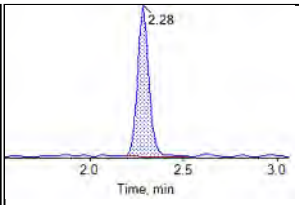


13C3-PFBS



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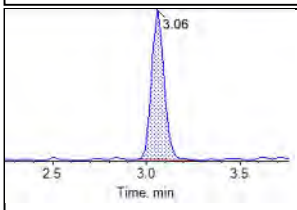

13C8-PFOS

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Chromatogram Report

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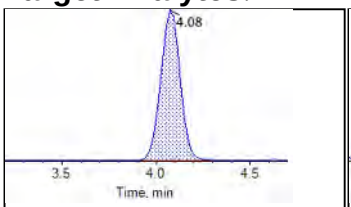
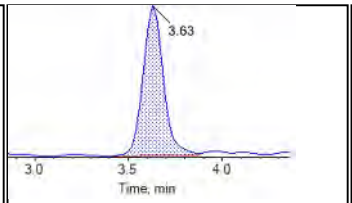
Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

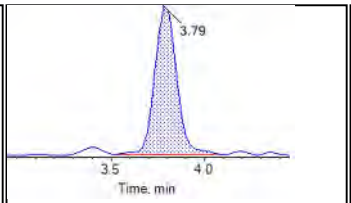
Target Analytes:



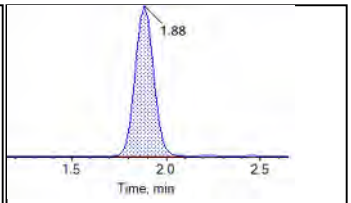
13C2-PFDoA



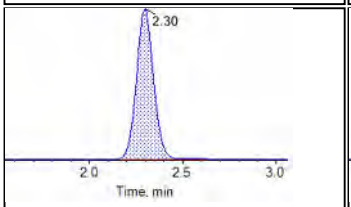
d3-MeFOSAA



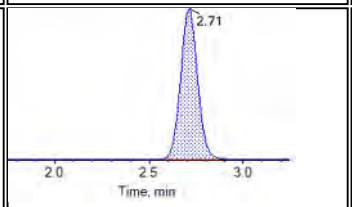
d5-EtFOSAA



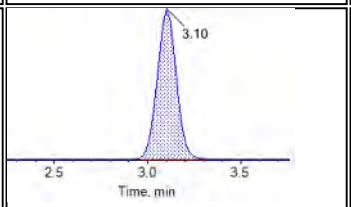
13C5-PFHxA



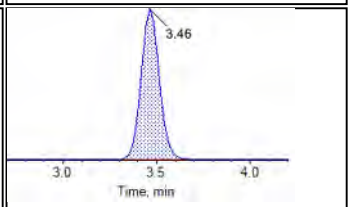
13C4-PFHpA



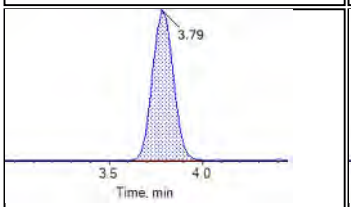
13C8-PFOA



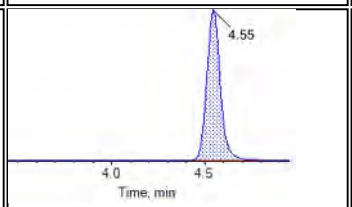
13C9-PFNA



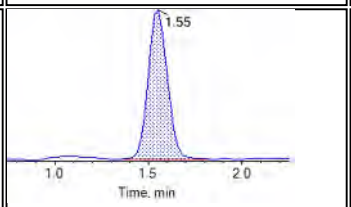
13C6-PFDA



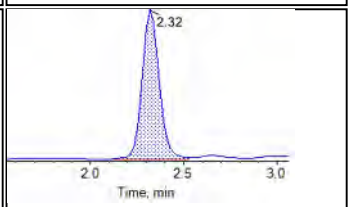
13C7-PFUnA



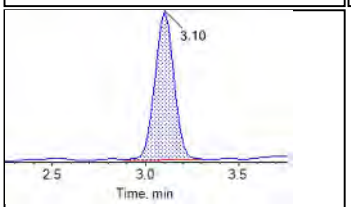
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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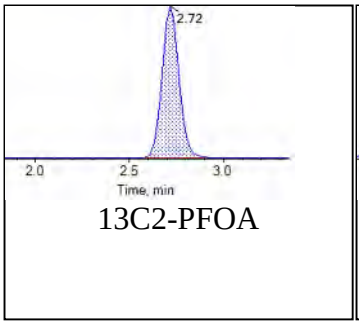
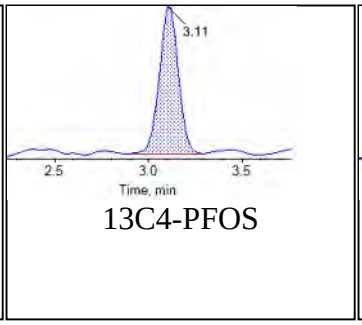
Printed: 06/11/2018 1:50:10 PM

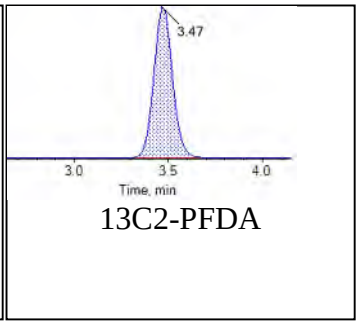
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:50:14 PM

Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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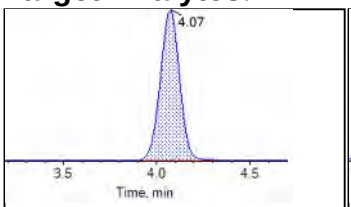
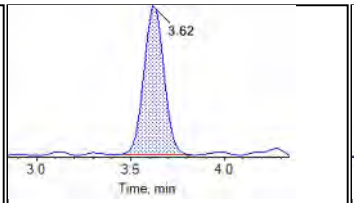
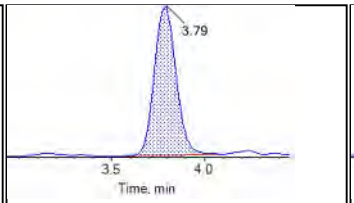


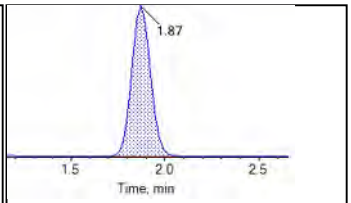
13C2-PFDoA



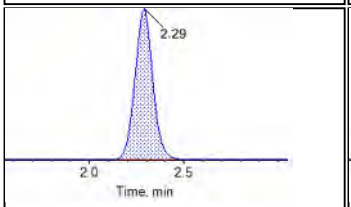
d3-MeFOSAA



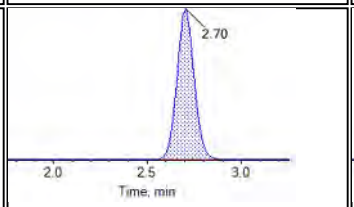
d5-EtFOSAA



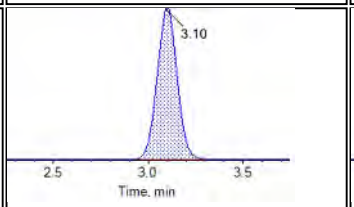
13C5-PFHxA



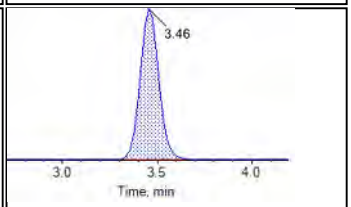
13C4-PFHpA



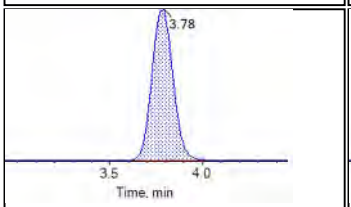
13C8-PFOA



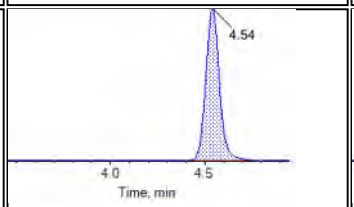
13C9-PFNA



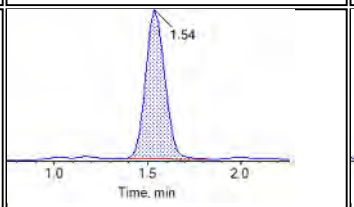
13C6-PFDA



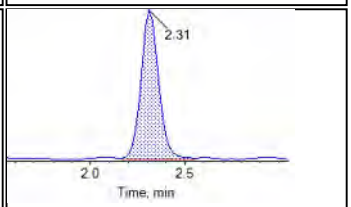
13C7-PFUnA



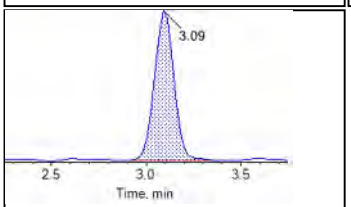
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

Created with Analyst Reporter
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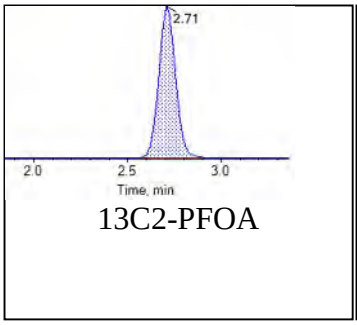
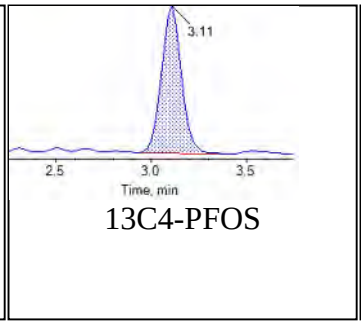
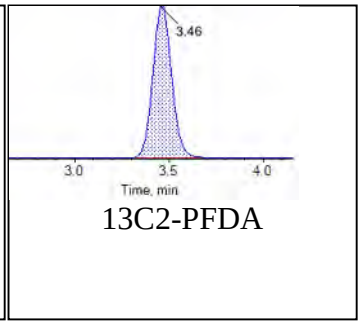
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:50:18 PM

Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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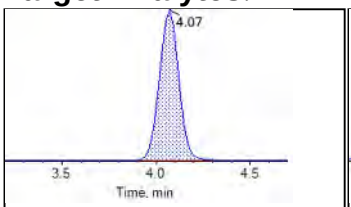
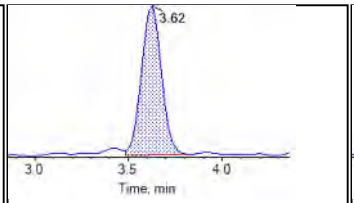
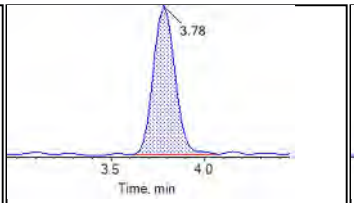


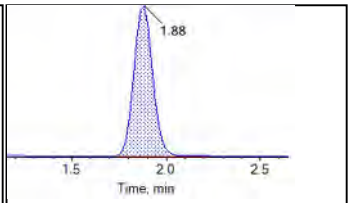
13C2-PFDoA



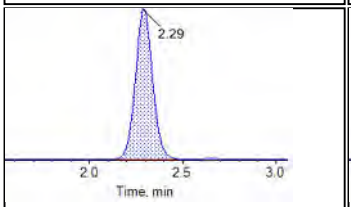
d3-MeFOSAA



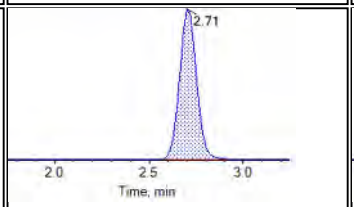
d5-EtFOSAA



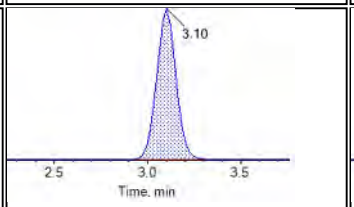
13C5-PFHxA



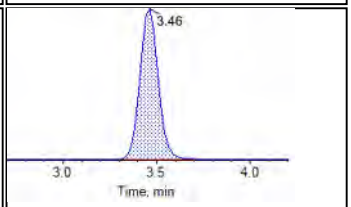
13C4-PFHpA



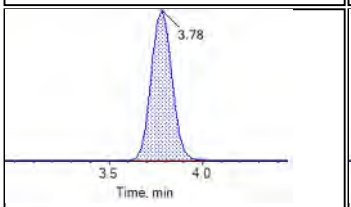
13C8-PFOA



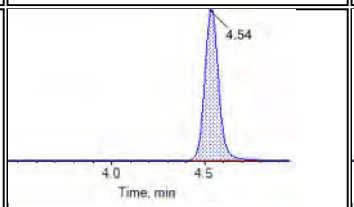
13C9-PFNA



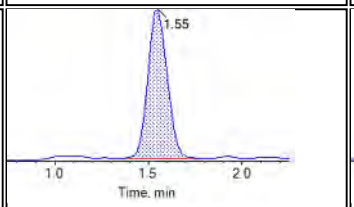
13C6-PFDA



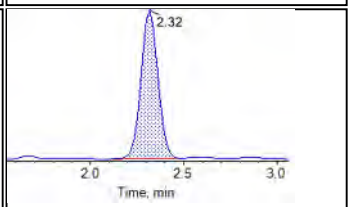
13C7-PFUnA



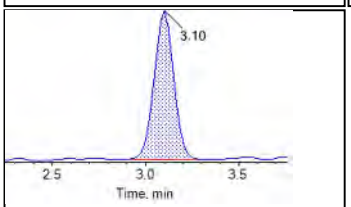
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS

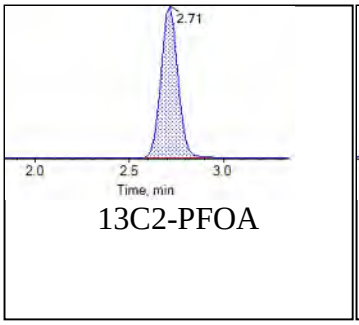


13C8-PFOS

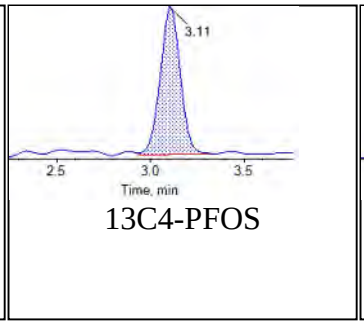
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:50:18 PM

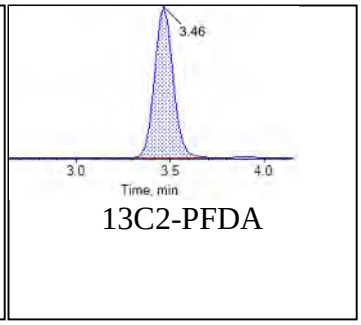
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:50:22 PM

Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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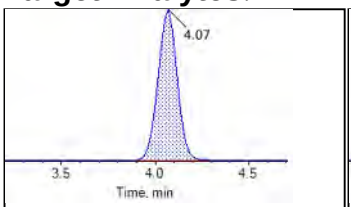
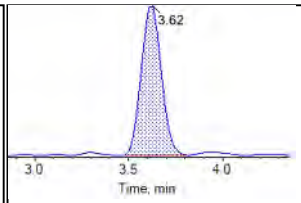
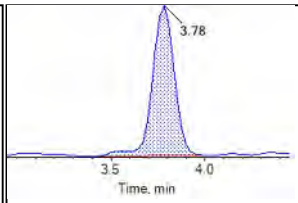


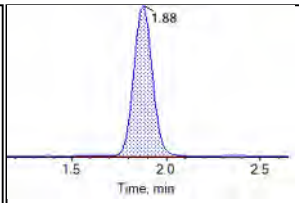
13C2-PFDoA



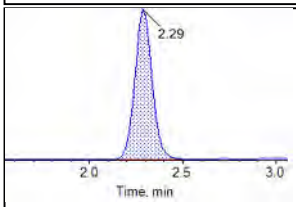
d3-MeFOSAA



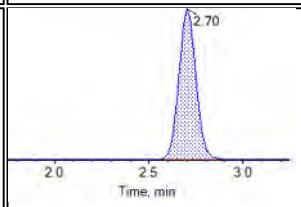
d5-EtFOSAA



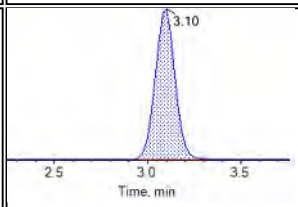
13C5-PFHxA



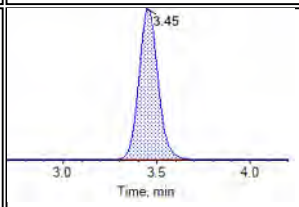
13C4-PFHpA



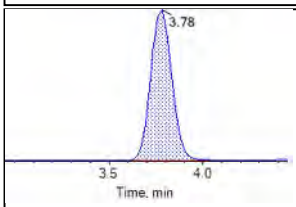
13C8-PFOA



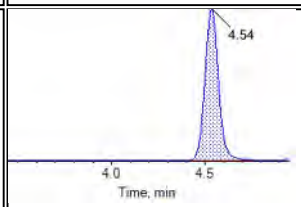
13C9-PFNA



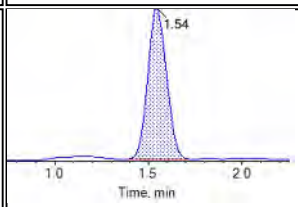
13C6-PFDA



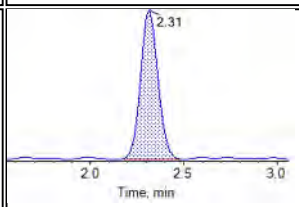
13C7-PFUnA



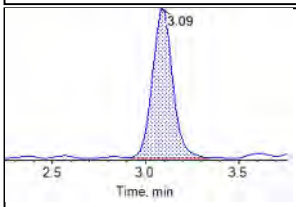
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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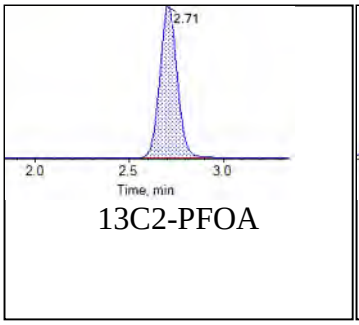
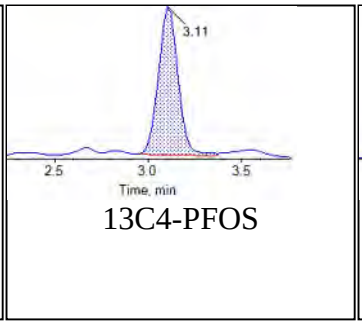
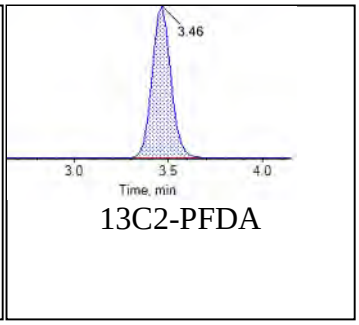


13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

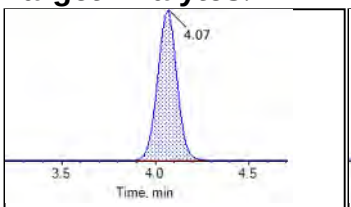
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:50:26 PM

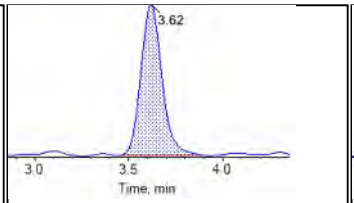
Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

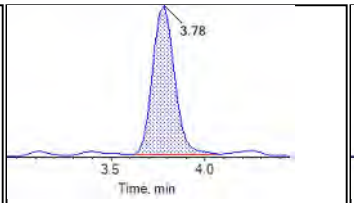
Target Analytes:



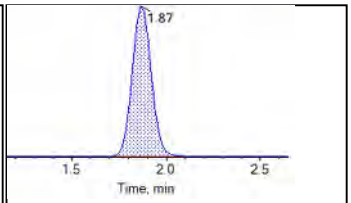
13C2-PFDoA



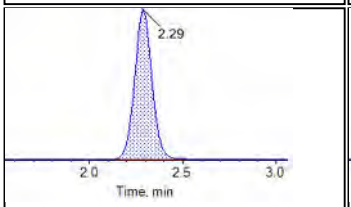
d3-MeFOSAA



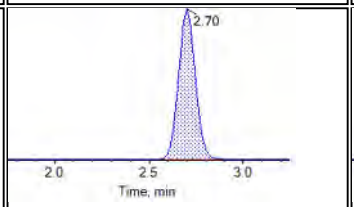
d5-EtFOSAA



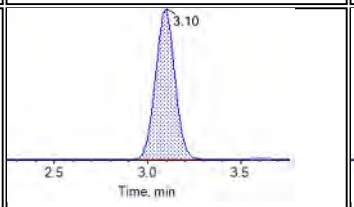
13C5-PFHxA



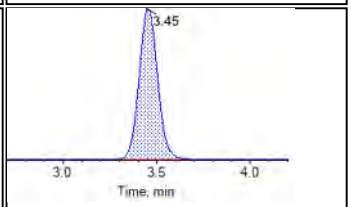
13C4-PFHpA



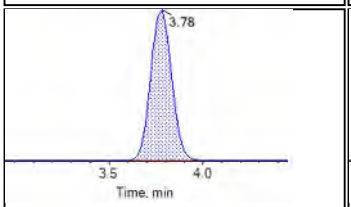
13C8-PFOA



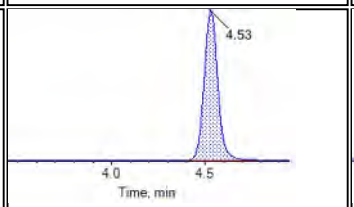
13C9-PFNA



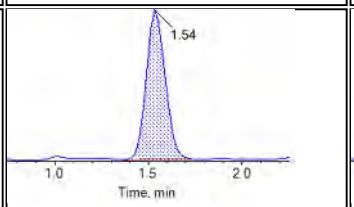
13C6-PFDA



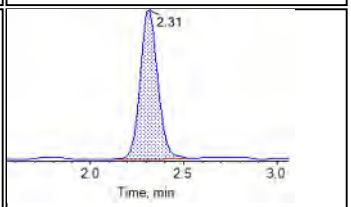
13C7-PFUnA



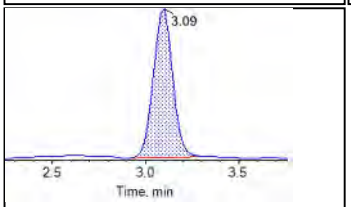
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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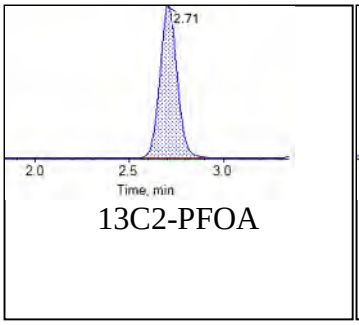
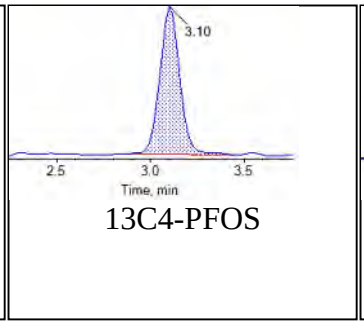
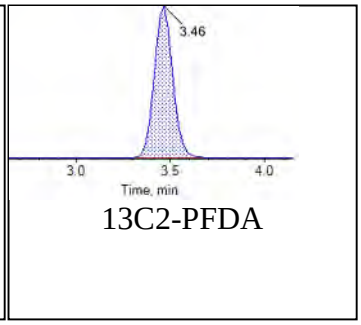


13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

Chromatogram Report

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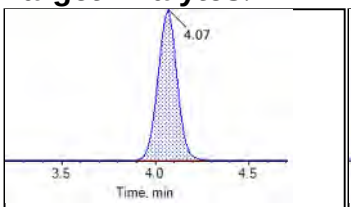
Printed: 06/11/2018 1:50:31 PM

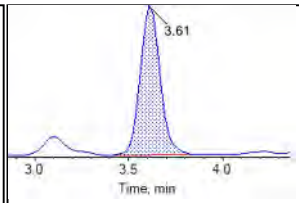
Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

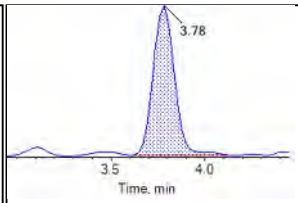
Target Analytes:



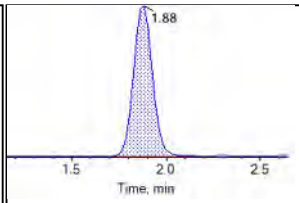
13C2-PFDoA



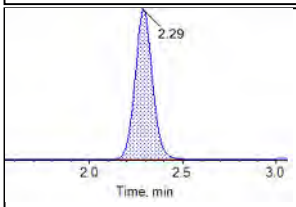
d3-MeFOSAA



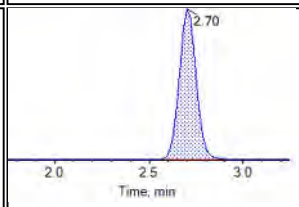
d5-EtFOSAA



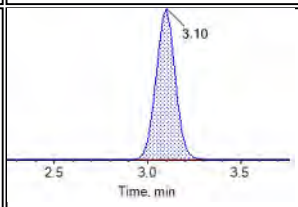
13C5-PFHxA



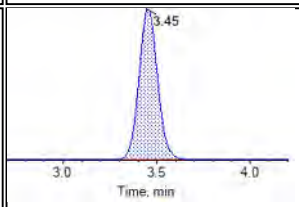
13C4-PFHpA



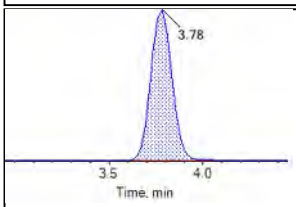
13C8-PFOA



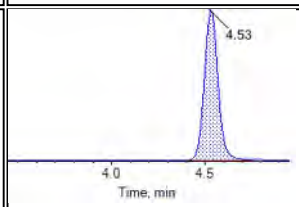
13C9-PFNA



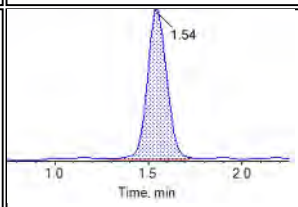
13C6-PFDA



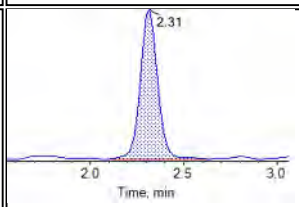
13C7-PFUnA



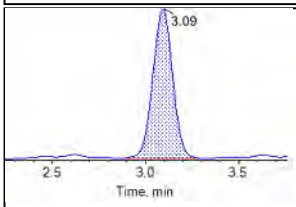
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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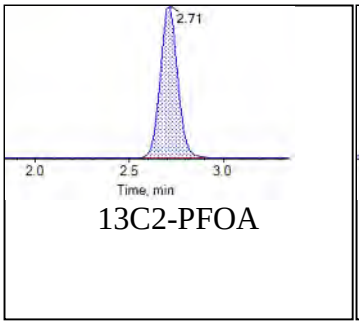
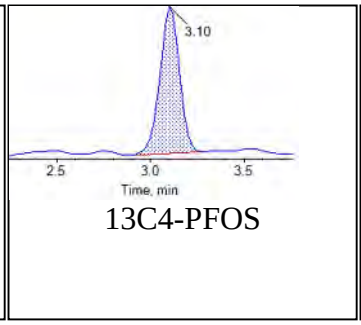
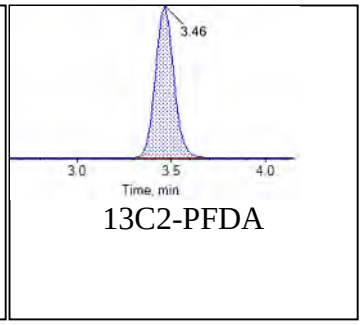


13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

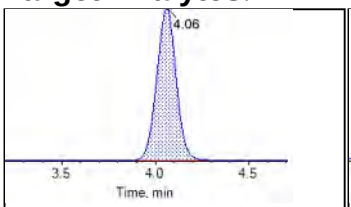
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:50:35 PM

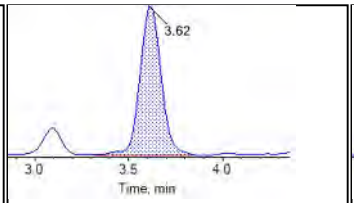
Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

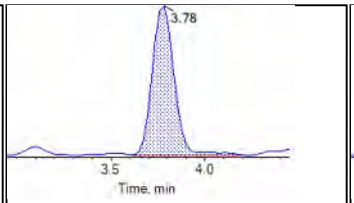
Target Analytes:



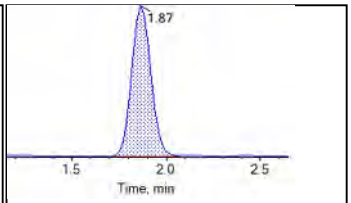
13C2-PFDoA



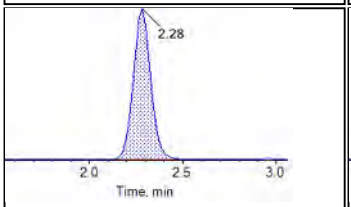
d3-MeFOSAA



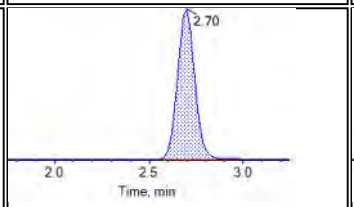
d5-EtFOSAA



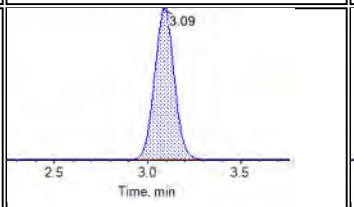
13C5-PFHxA



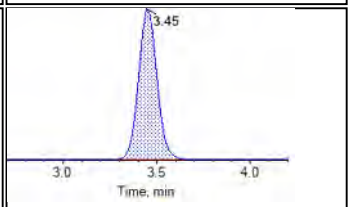
13C4-PFHpA



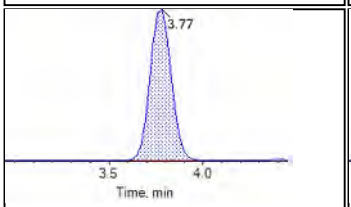
13C8-PFOA



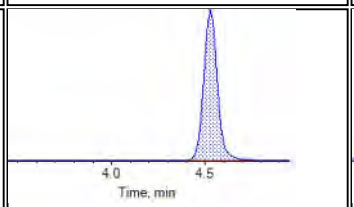
13C9-PFNA



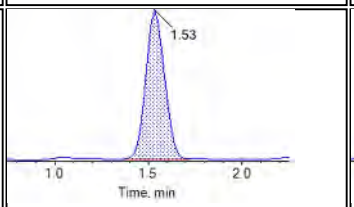
13C6-PFDA



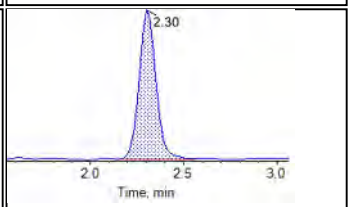
13C7-PFUnA



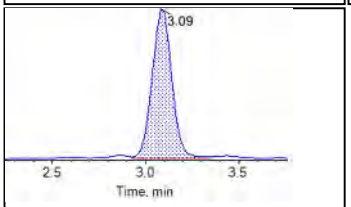
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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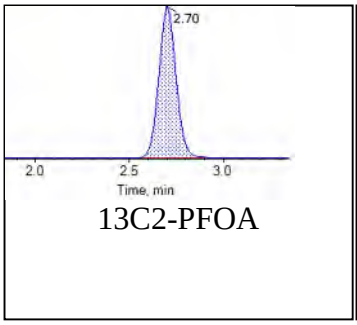
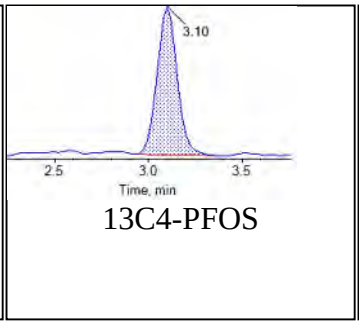
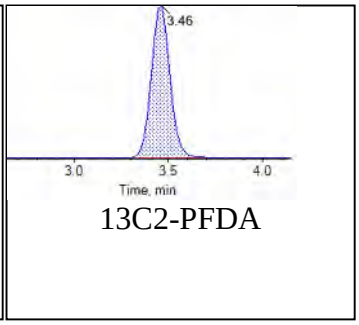


13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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Sample Name	KC73 IB	**Injection Vial**	12
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:30:52	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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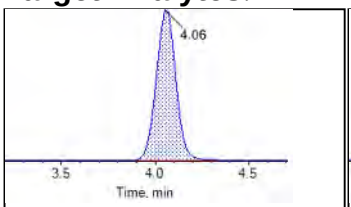
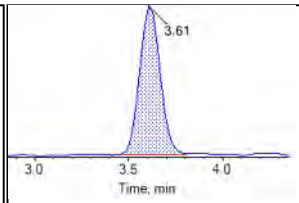
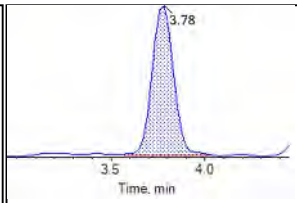


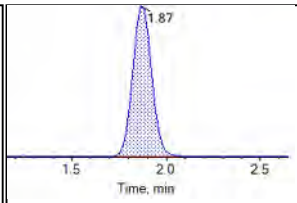
13C2-PFDoA



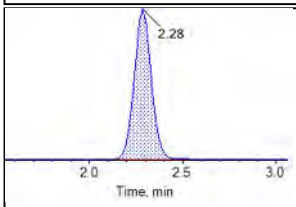
d3-MeFOSAA



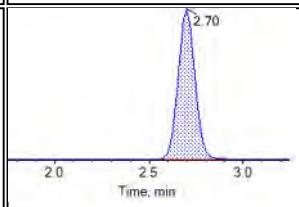
d5-EtFOSAA



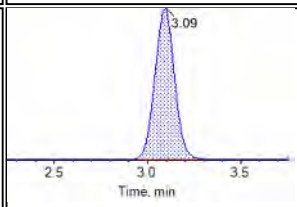
13C5-PFHxA



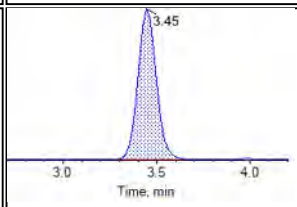
13C4-PFHpA



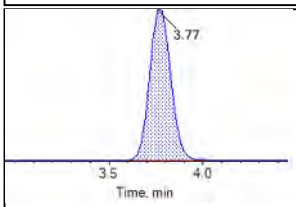
13C8-PFOA



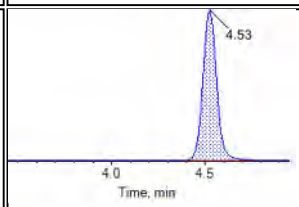
13C9-PFNA



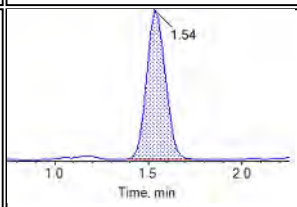
13C6-PFDA



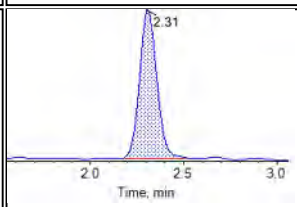
13C7-PFUnA



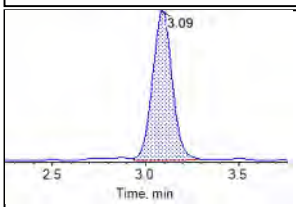
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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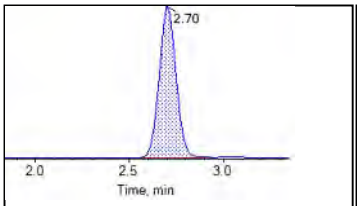
Internal Standards:



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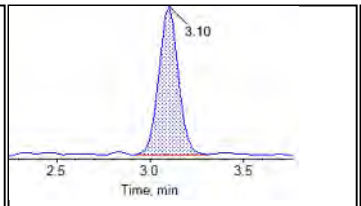
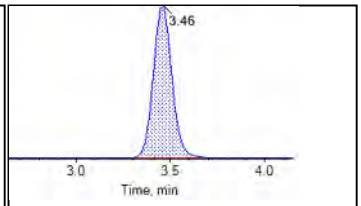


13C4-PFOS



13C2-PFDA

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Chromatogram Report

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Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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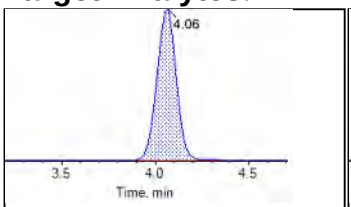
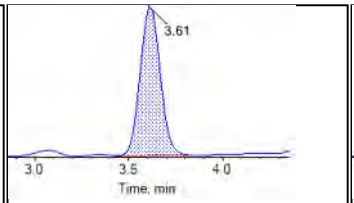
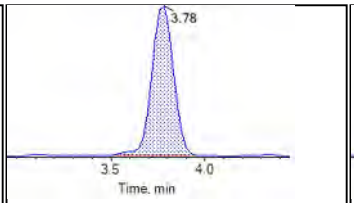


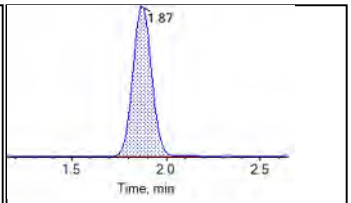
13C2-PFDoA



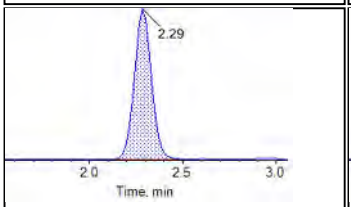
d3-MeFOSAA



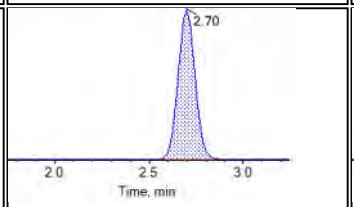
d5-EtFOSAA



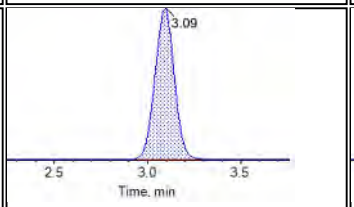
13C5-PFHxA



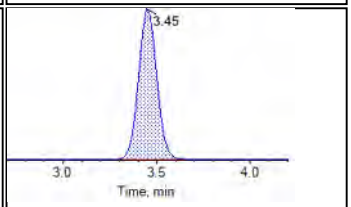
13C4-PFHpA



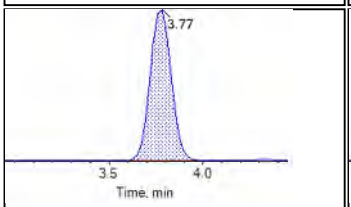
13C8-PFOA



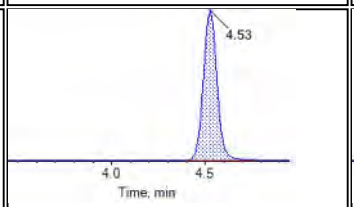
13C9-PFNA



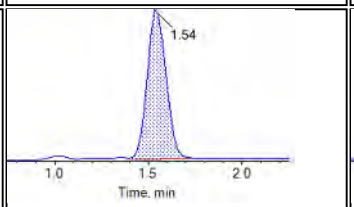
13C6-PFDA



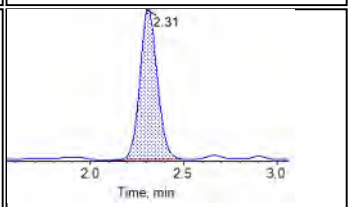
13C7-PFUnA



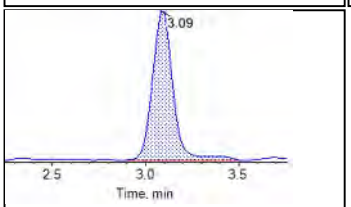
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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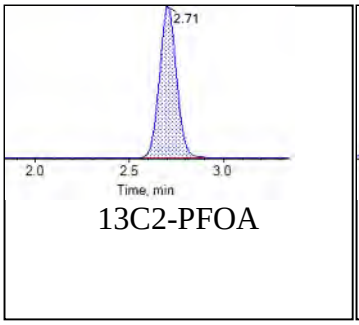
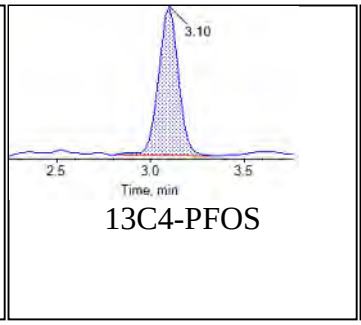
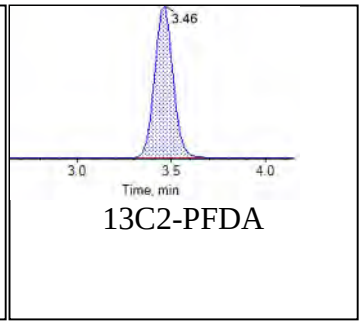


13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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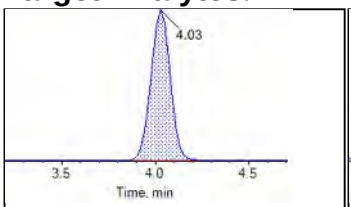
Printed: 06/11/2018 1:50:53 PM

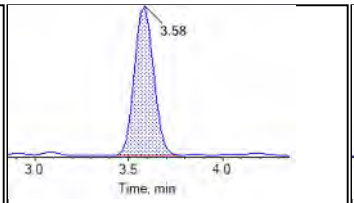
Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

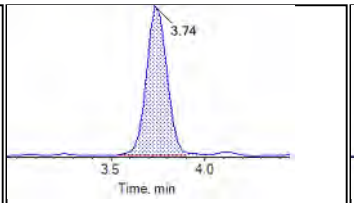
Target Analytes:



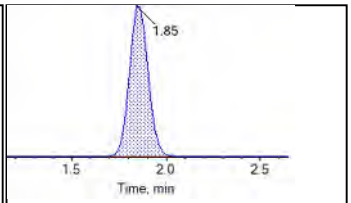
13C2-PFDoA



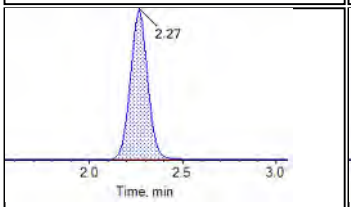
d3-MeFOSAA



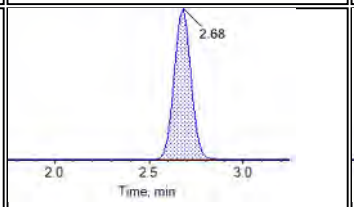
d5-EtFOSAA



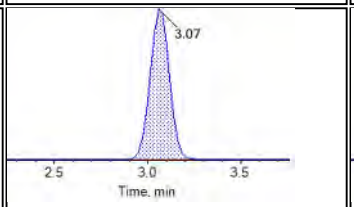
13C5-PFHxA



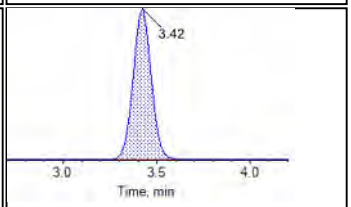
13C4-PFHpA



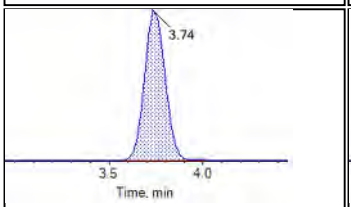
13C8-PFOA



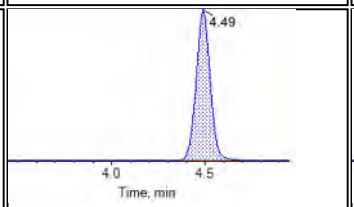
13C9-PFNA



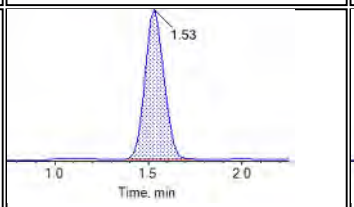
13C6-PFDA



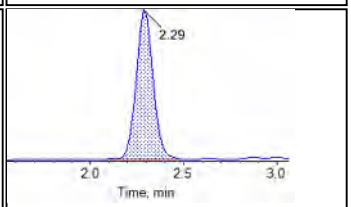
13C7-PFUnA



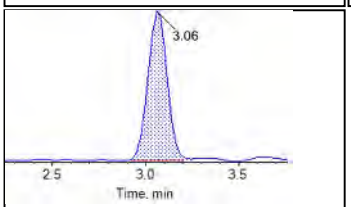
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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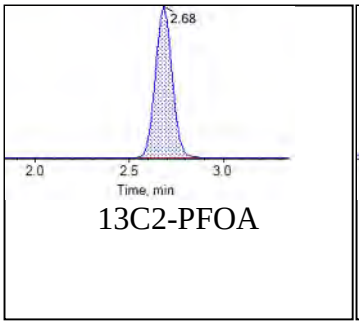
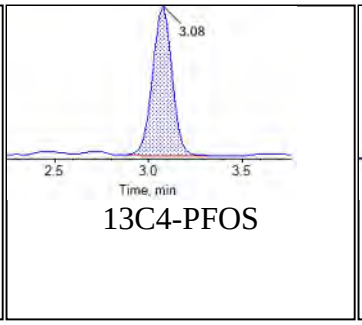
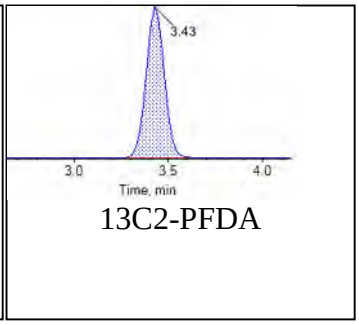


13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

Chromatogram Report

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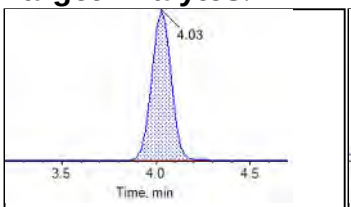
Printed: 06/11/2018 1:51:02 PM

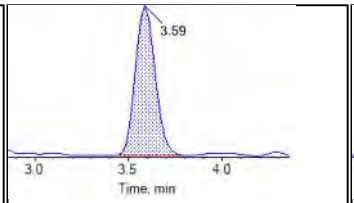
Sample Name	CS035PB-FS(0)	**Injection Vial**	1
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:23:38	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

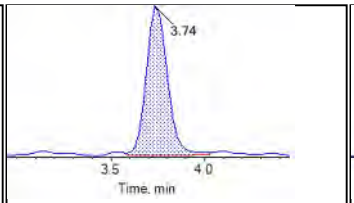
Target Analytes:



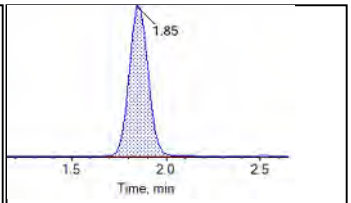
13C2-PFDoA



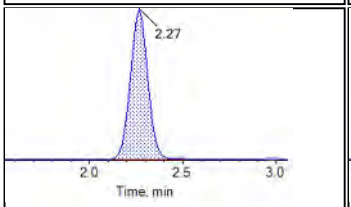
d3-MeFOSAA



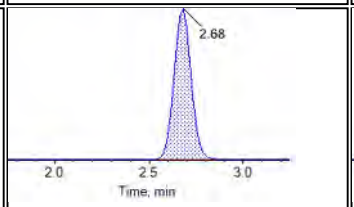
d5-EtFOSAA



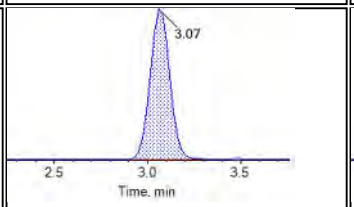
13C5-PFHxA



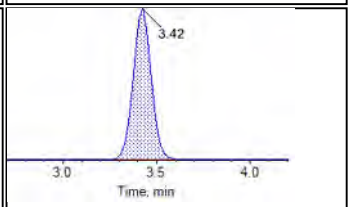
13C4-PFHpA



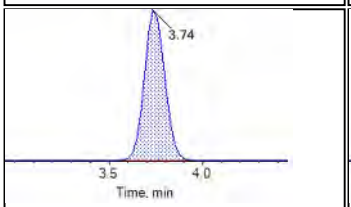
13C8-PFOA



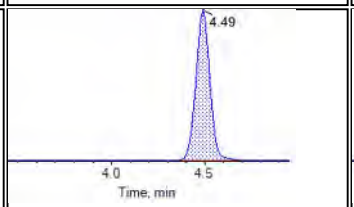
13C9-PFNA



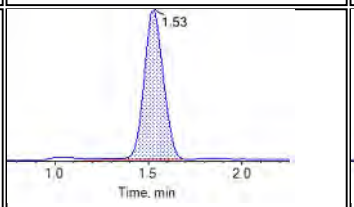
13C6-PFDA



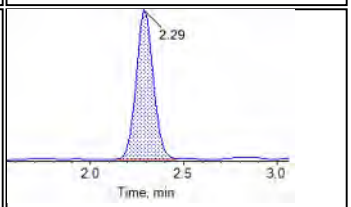
13C7-PFUnA



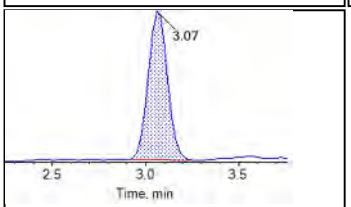
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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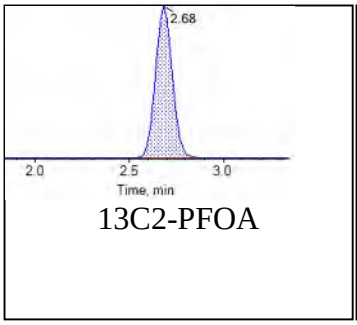
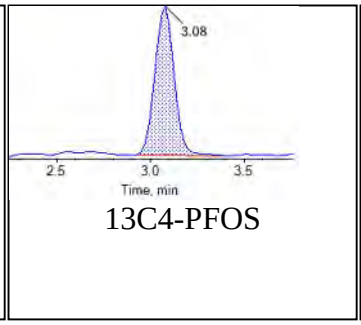
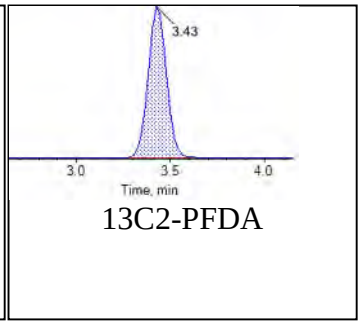
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

Chromatogram Report

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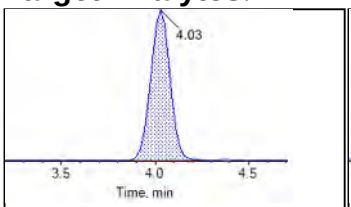
Printed: 06/11/2018 1:51:07 PM

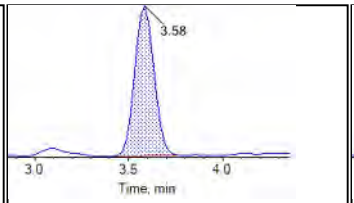
Sample Name	CS036LCS-FS(0)	**Injection Vial**	2
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:34:32	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

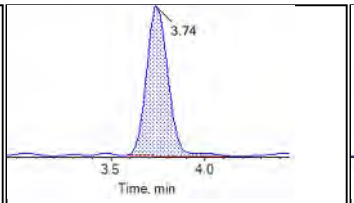
Target Analytes:



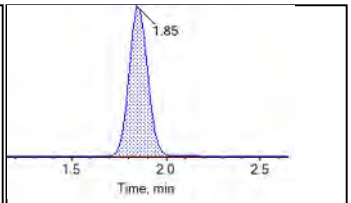
13C2-PFDoA



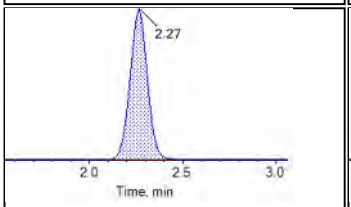
d3-MeFOSAA



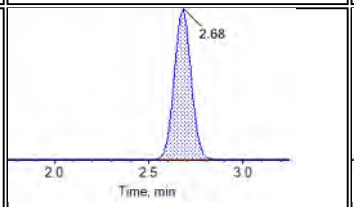
d5-EtFOSAA



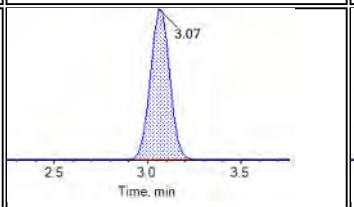
13C5-PFHxA



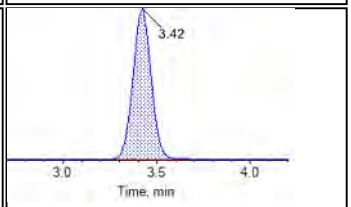
13C4-PFHpA



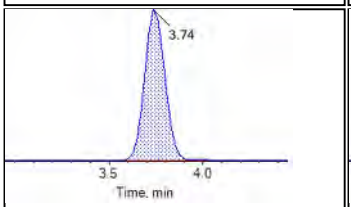
13C8-PFOA



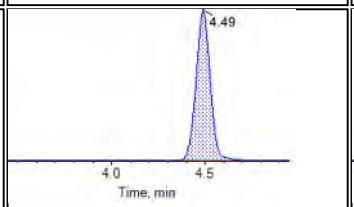
13C9-PFNA



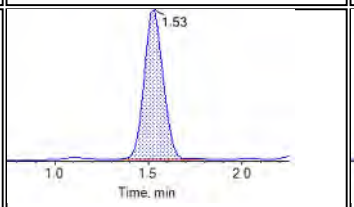
13C6-PFDA



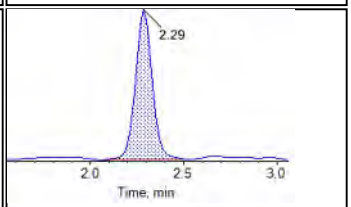
13C7-PFUnA



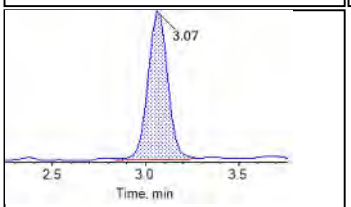
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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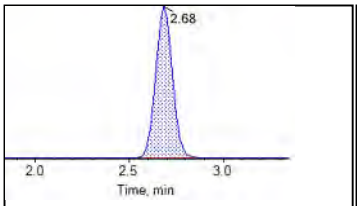
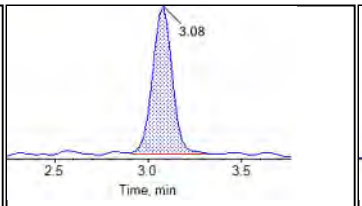
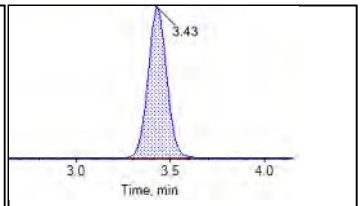
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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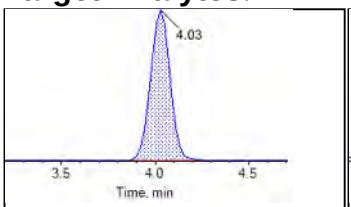
Printed: 06/11/2018 1:51:11 PM

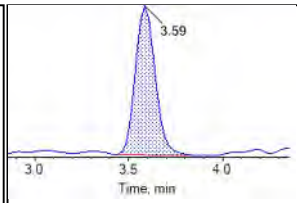
Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

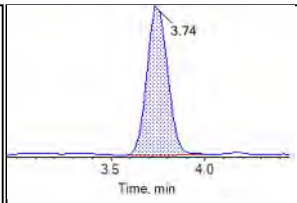
Target Analytes:



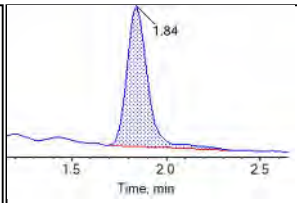
13C2-PFDoA



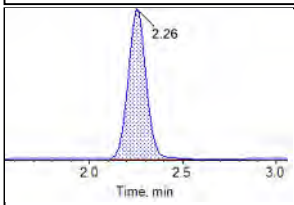
d3-MeFOSAA



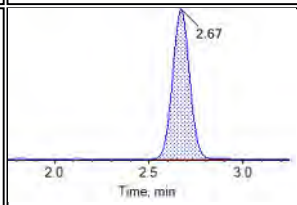
d5-EtFOSAA



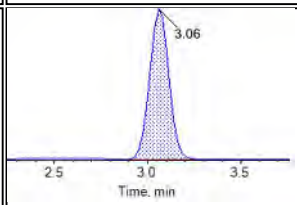
13C5-PFHxA



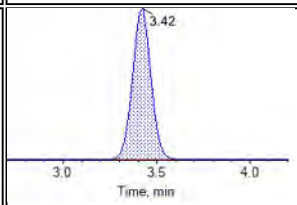
13C4-PFHpA



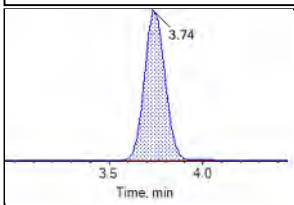
13C8-PFOA



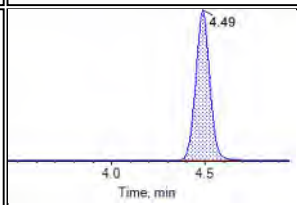
13C9-PFNA



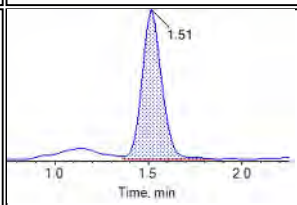
13C6-PFDA



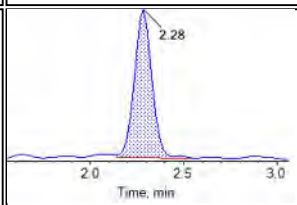
13C7-PFUnA



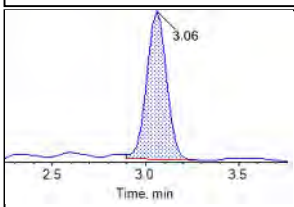
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



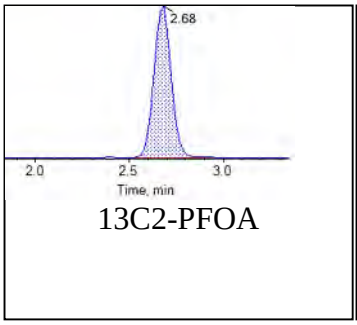
13C8-PFOS

BATTELLE

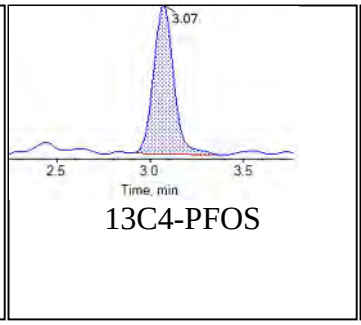
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:51:11 PM

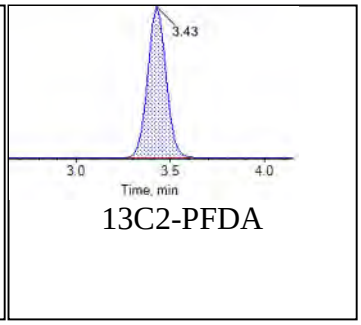
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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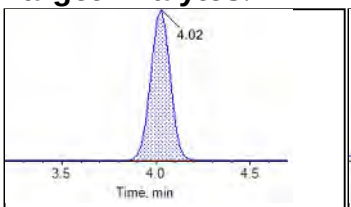
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:51:26 PM

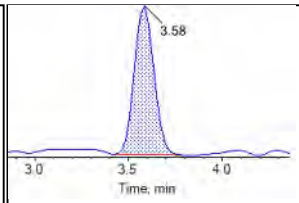
Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

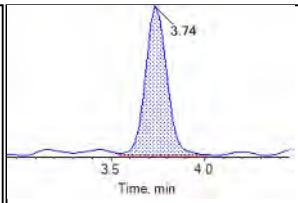
Target Analytes:



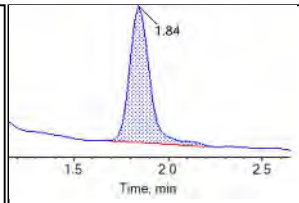
13C2-PFDoA



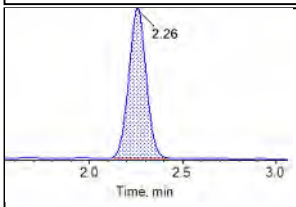
d3-MeFOSAA



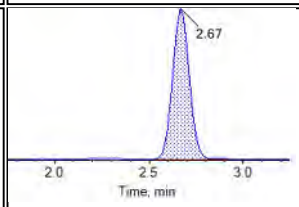
d5-EtFOSAA



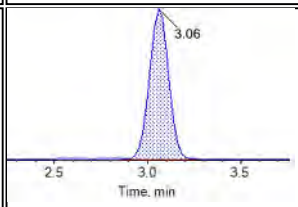
13C5-PFHxA



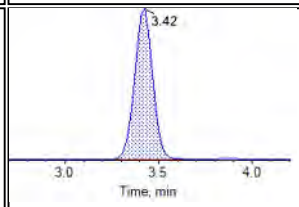
13C4-PFHpA



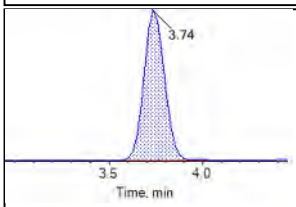
13C8-PFOA



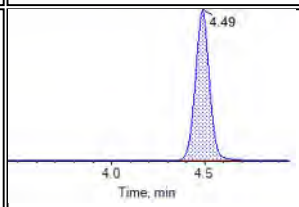
13C9-PFNA



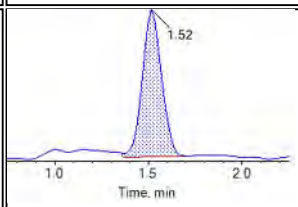
13C6-PFDA



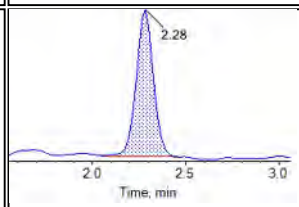
13C7-PFUnA



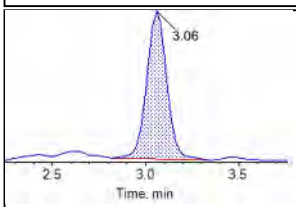
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

Chromatogram Report

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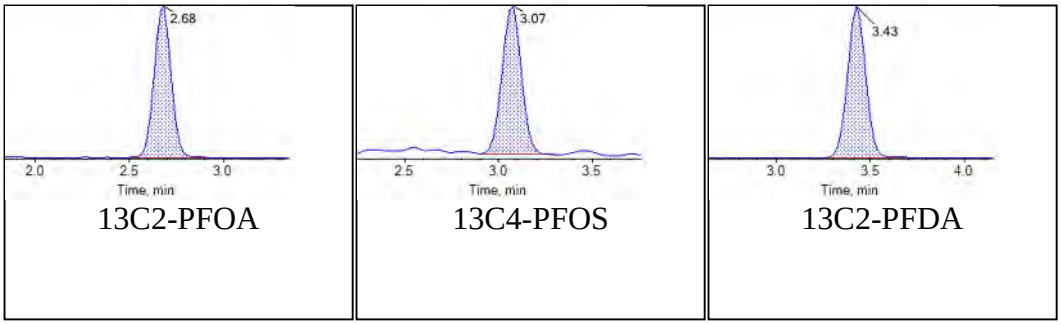
Internal Standards:



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Chromatogram Report

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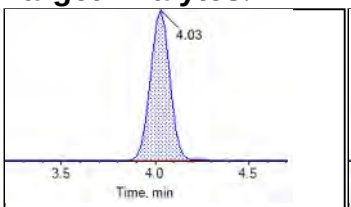
Printed: 06/11/2018 1:51:42 PM

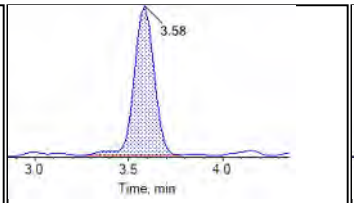
Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

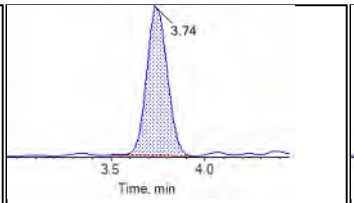
Target Analytes:



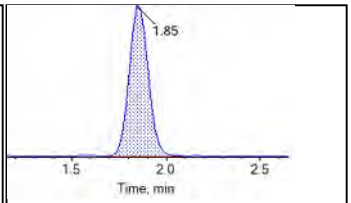
13C2-PFDoA



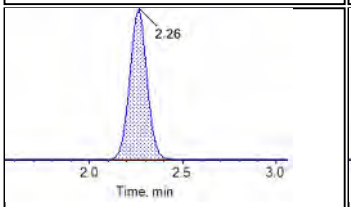
d3-MeFOSAA



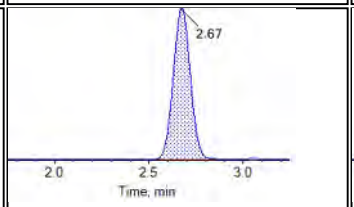
d5-EtFOSAA



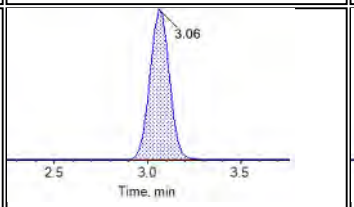
13C5-PFHxA



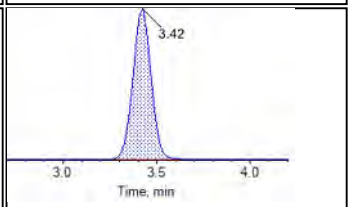
13C4-PFHpA



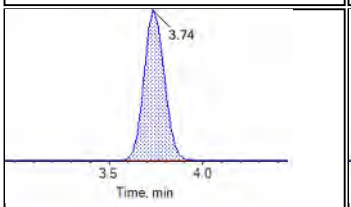
13C8-PFOA



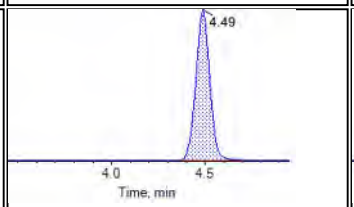
13C9-PFNA



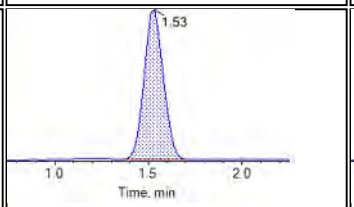
13C6-PFDA



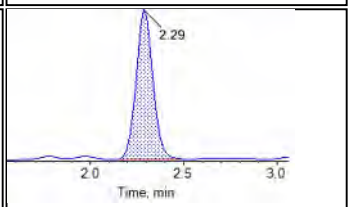
13C7-PFUnA



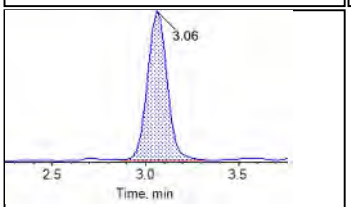
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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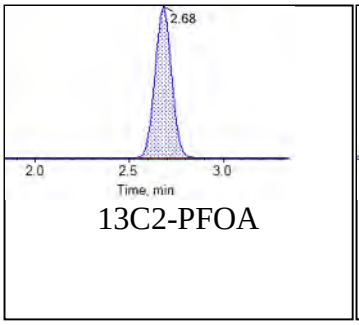
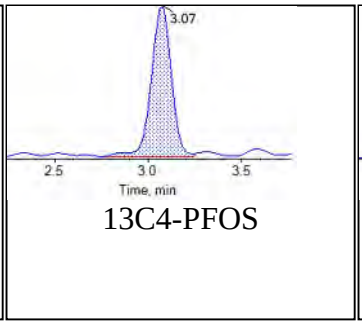
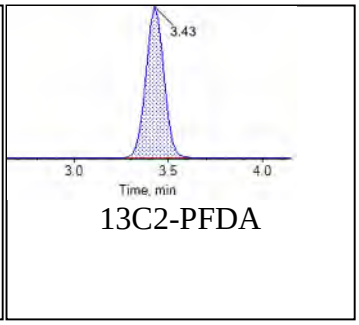
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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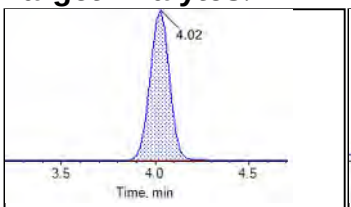
Printed: 06/11/2018 1:51:47 PM

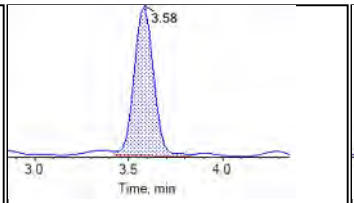
Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

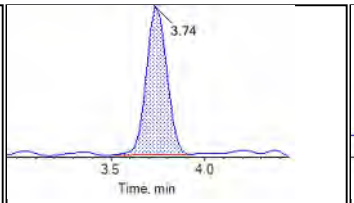
Target Analytes:



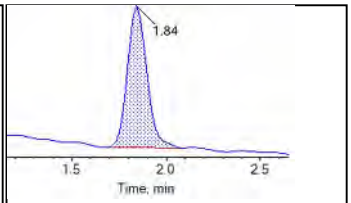
13C2-PFDoA



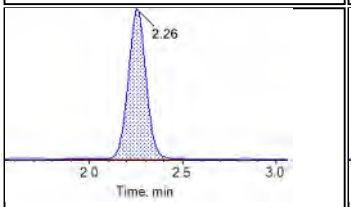
d3-MeFOSAA



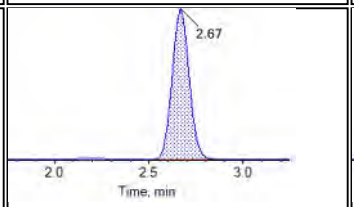
d5-EtFOSAA



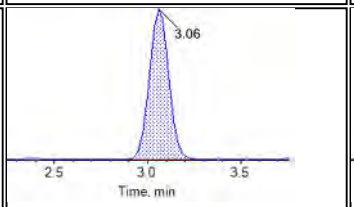
13C5-PFHxA



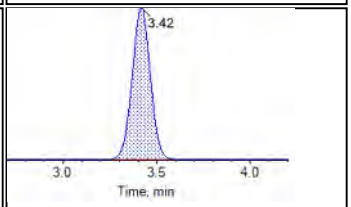
13C4-PFHpA



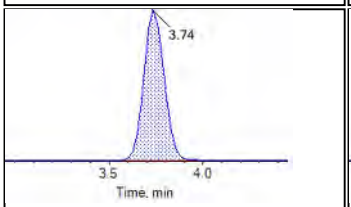
13C8-PFOA



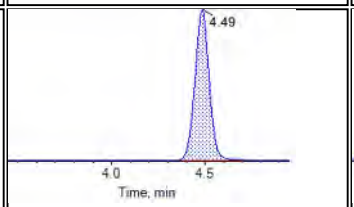
13C9-PFNA



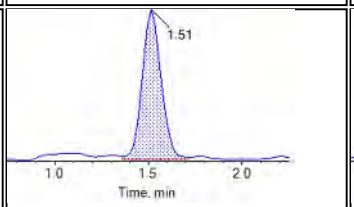
13C6-PFDA



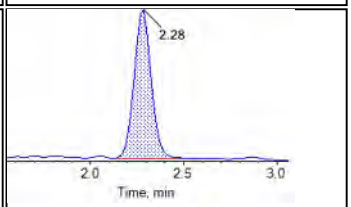
13C7-PFUnA



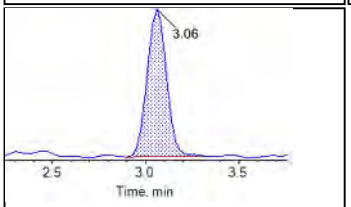
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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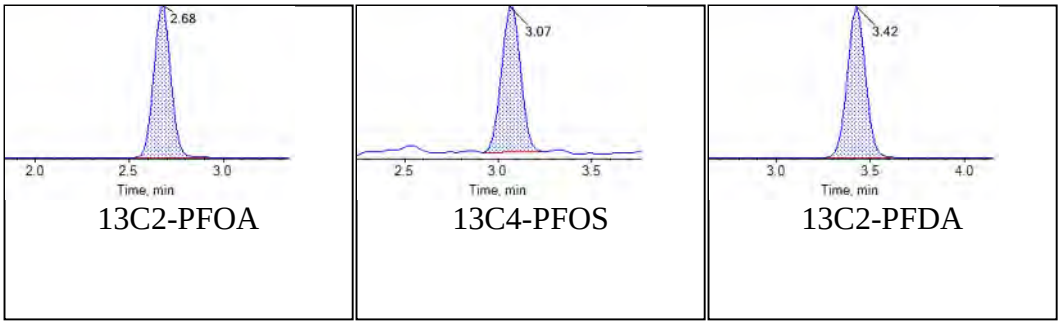
Printed: 06/11/2018 1:51:47 PM

Internal Standards:



BATTELLE

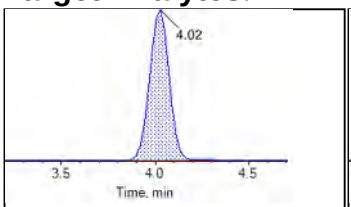
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:51:51 PM

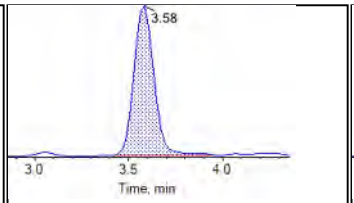
Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

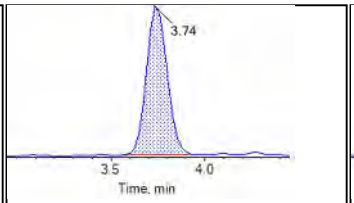
Target Analytes:



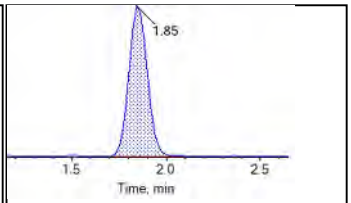
13C2-PFDoA



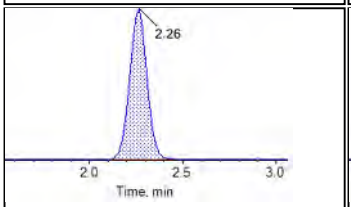
d3-MeFOSAA



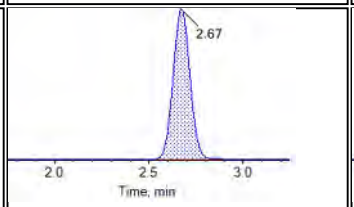
d5-EtFOSAA



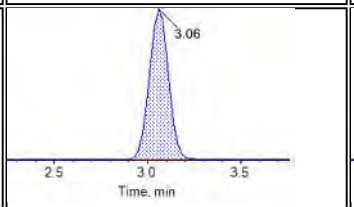
13C5-PFHxA



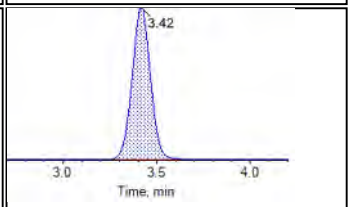
13C4-PFHpA



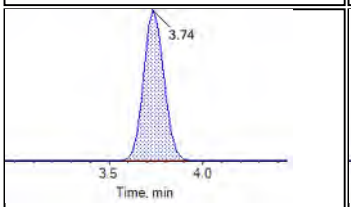
13C8-PFOA



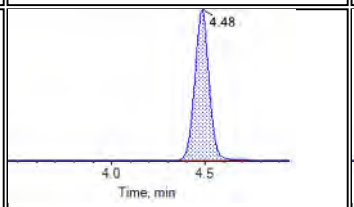
13C9-PFNA



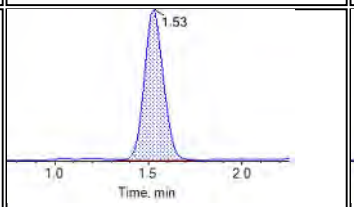
13C6-PFDA



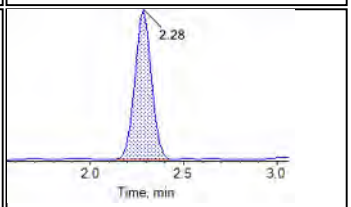
13C7-PFUnA



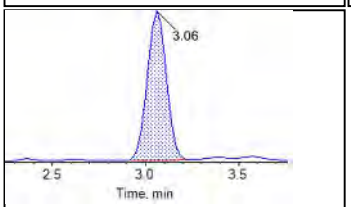
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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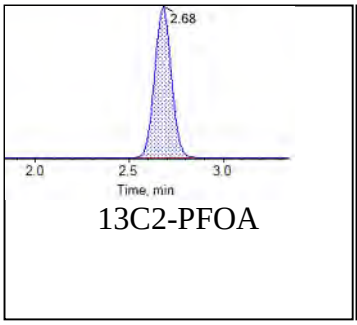
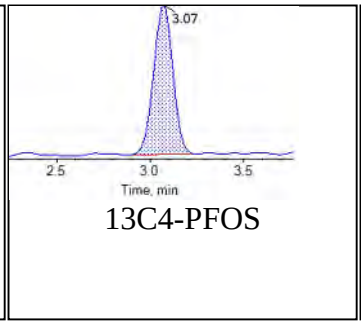
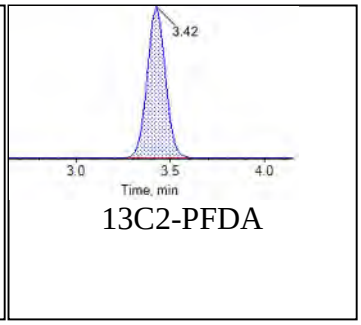


13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

Chromatogram Report

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Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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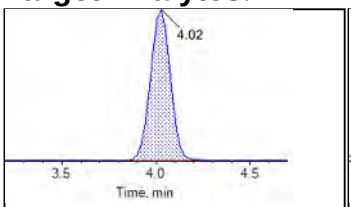
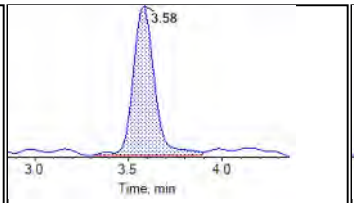
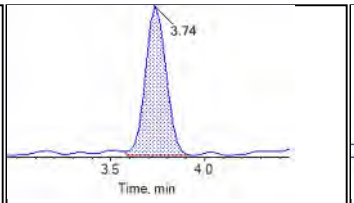


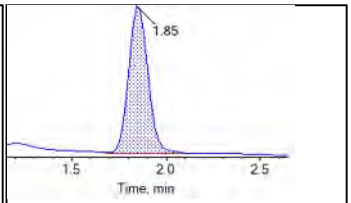
13C2-PFDoA



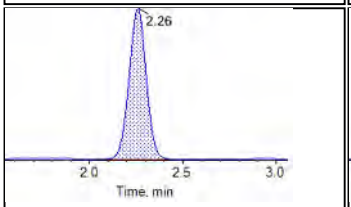
d3-MeFOSAA



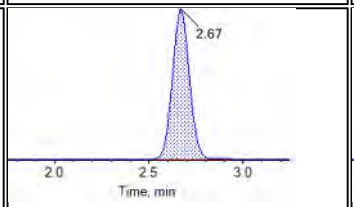
d5-EtFOSAA



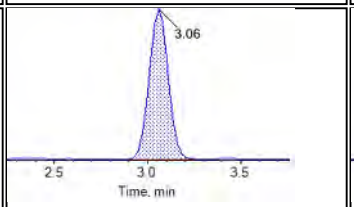
13C5-PFHxA



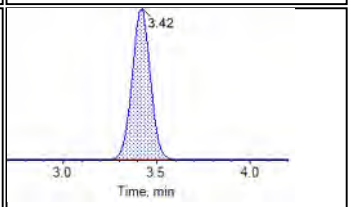
13C4-PFHpA



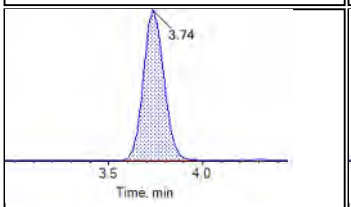
13C8-PFOA



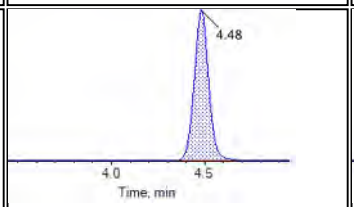
13C9-PFNA



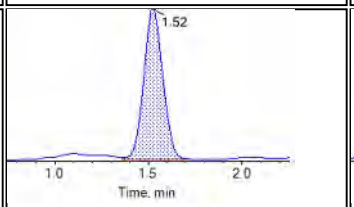
13C6-PFDA



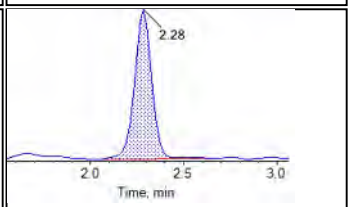
13C7-PFUnA



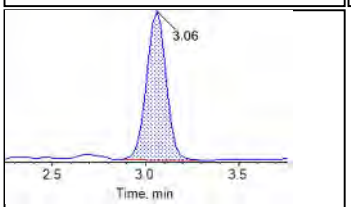
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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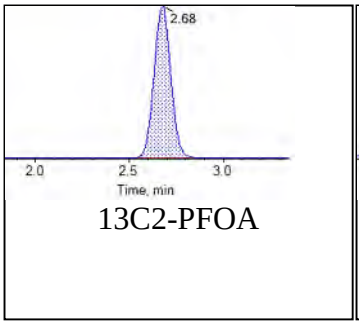
Internal Standards:



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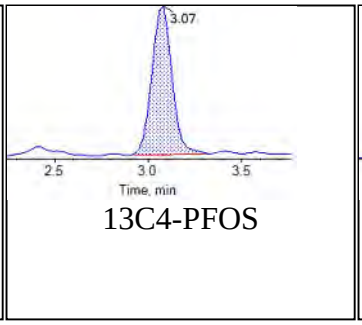
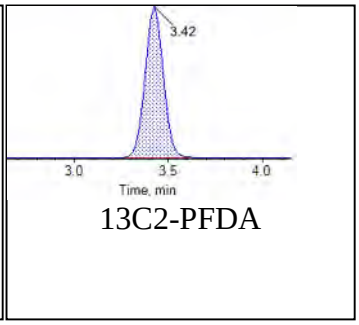


13C4-PFOS



13C2-PFDA

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Chromatogram Report

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Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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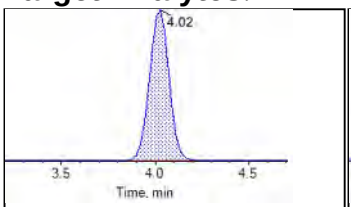
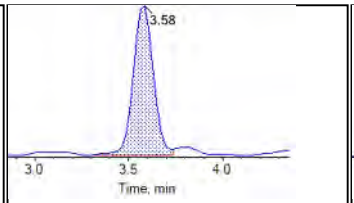
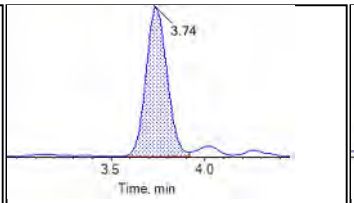


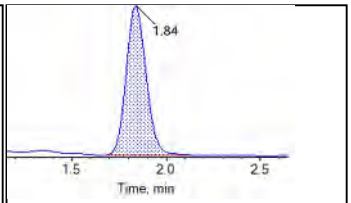
13C2-PFDoA



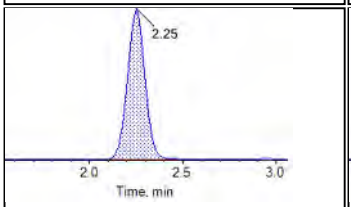
d3-MeFOSAA



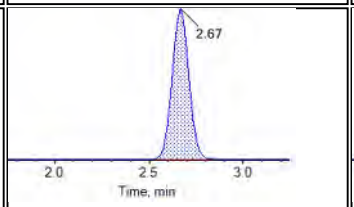
d5-EtFOSAA



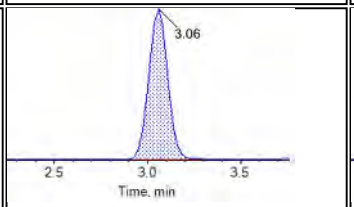
13C5-PFHxA



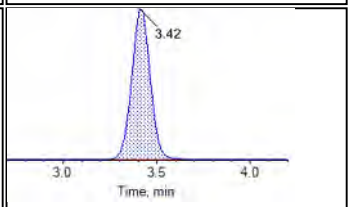
13C4-PFHpA



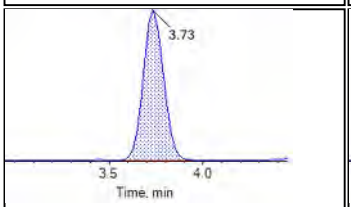
13C8-PFOA



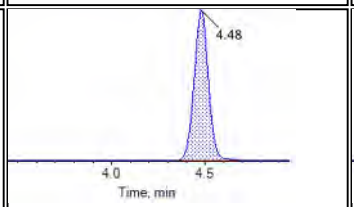
13C9-PFNA



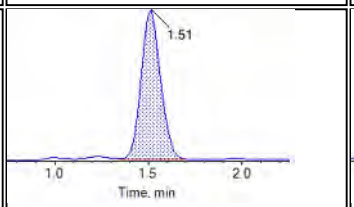
13C6-PFDA



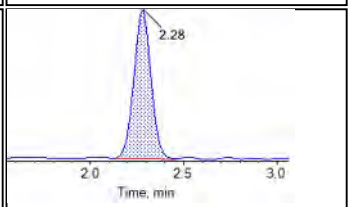
13C7-PFUnA



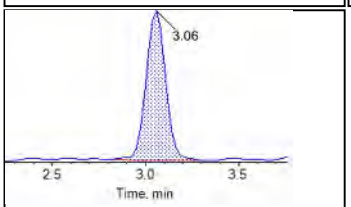
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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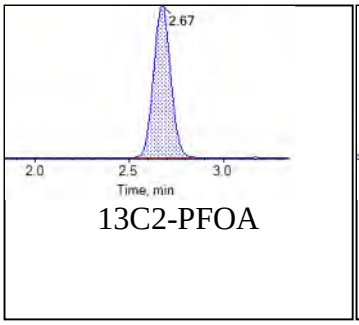
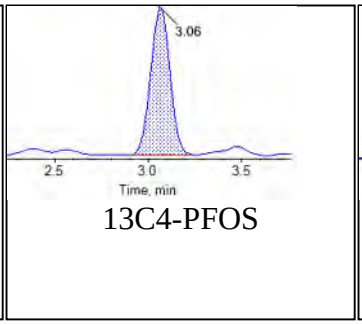
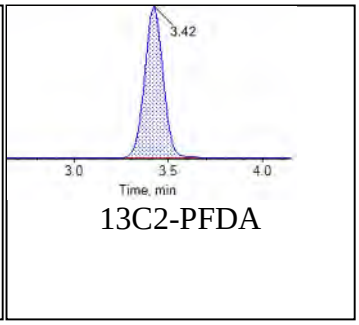


13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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Printed: 06/11/2018 1:52:36 PM

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

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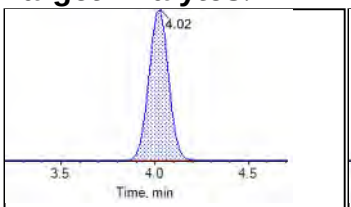
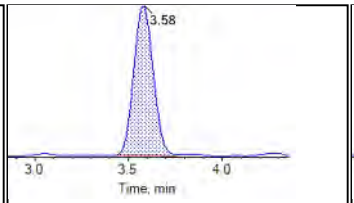
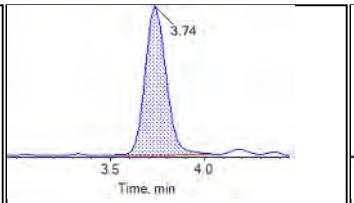


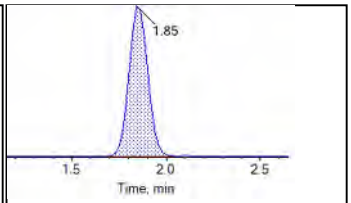
13C2-PFDoA



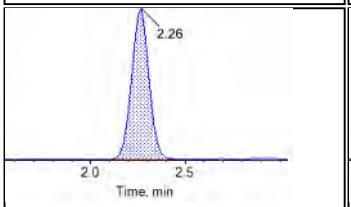
d3-MeFOSAA



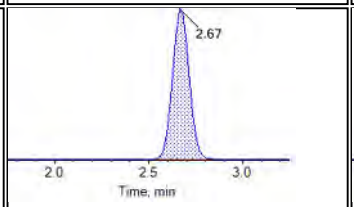
d5-EtFOSAA



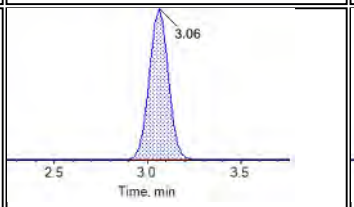
13C5-PFHxA



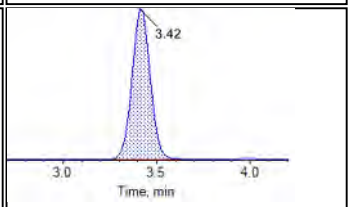
13C4-PFHpA



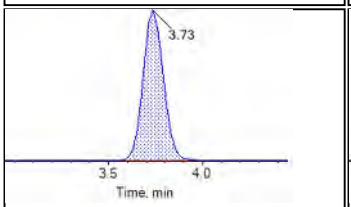
13C8-PFOA



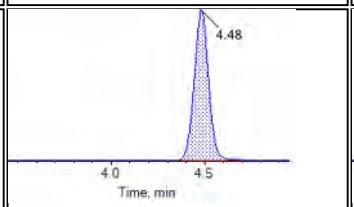
13C9-PFNA



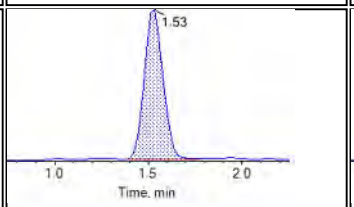
13C6-PFDA



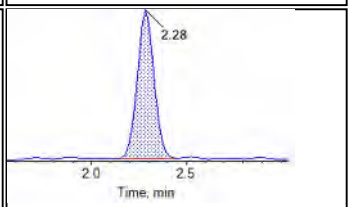
13C7-PFUnA



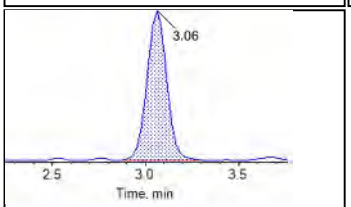
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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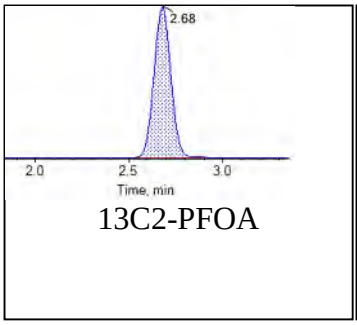
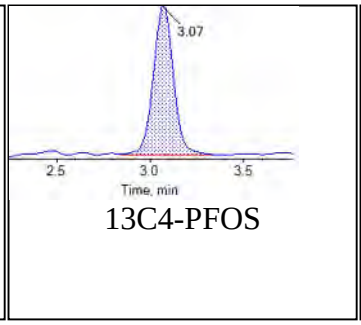
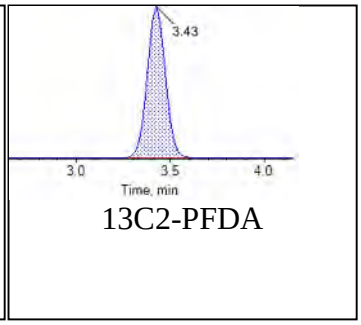


13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

Chromatogram Report

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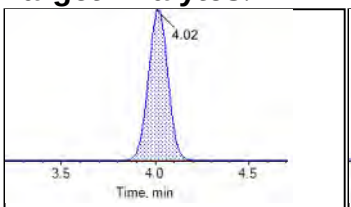
Printed: 06/11/2018 1:52:52 PM

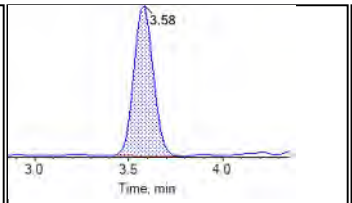
Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

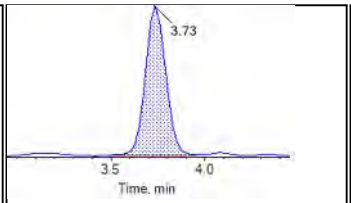
Target Analytes:



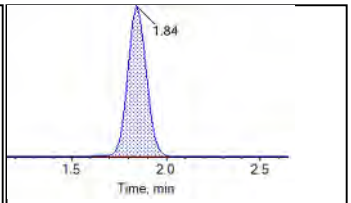
13C2-PFDoA



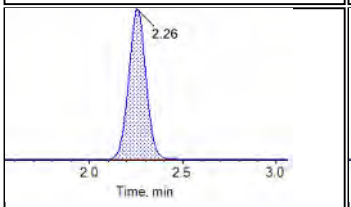
d3-MeFOSAA



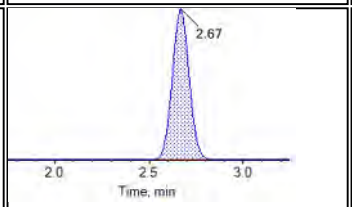
d5-EtFOSAA



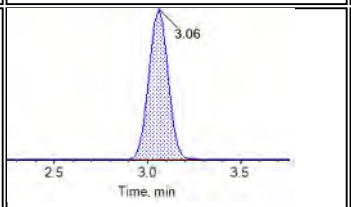
13C5-PFHxA



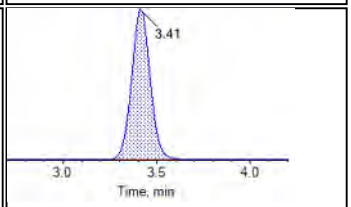
13C4-PFHpA



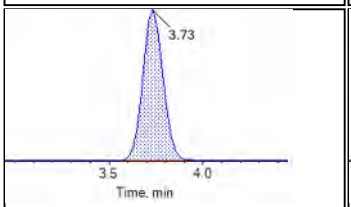
13C8-PFOA



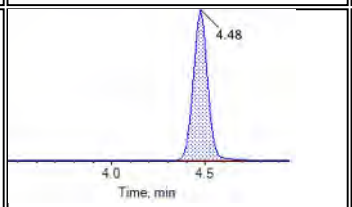
13C9-PFNA



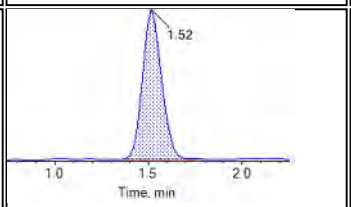
13C6-PFDA



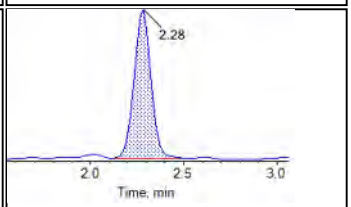
13C7-PFUnA



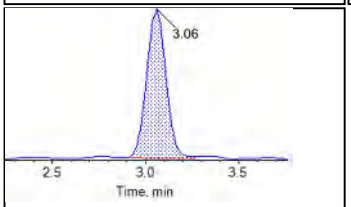
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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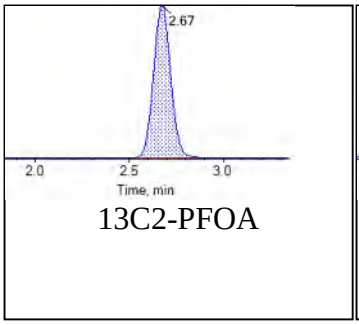
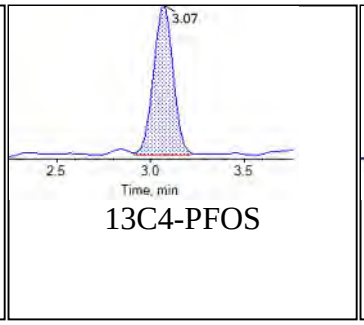
Printed: 06/11/2018 1:52:52 PM

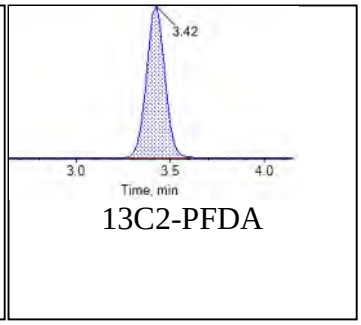
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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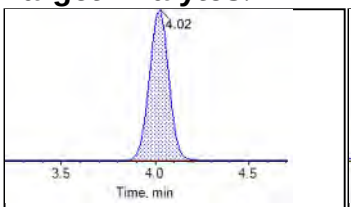
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:52:59 PM

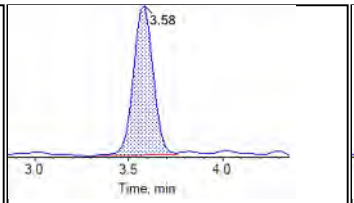
Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

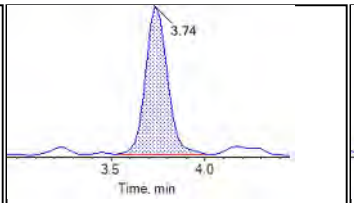
Target Analytes:



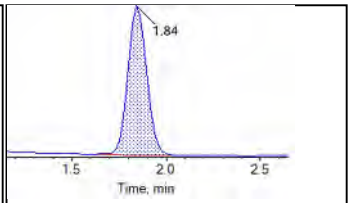
13C2-PFDoA



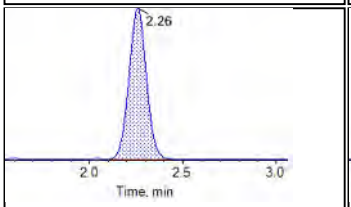
d3-MeFOSAA



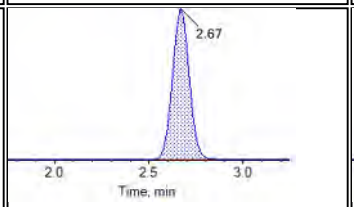
d5-EtFOSAA



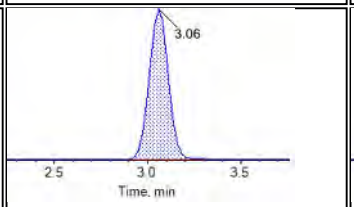
13C5-PFHxA



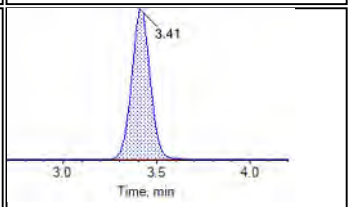
13C4-PFHpA



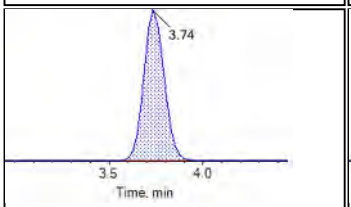
13C8-PFOA



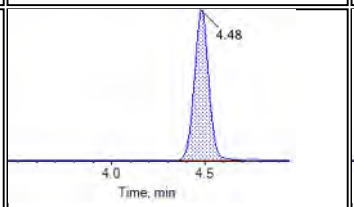
13C9-PFNA



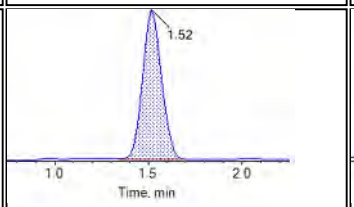
13C6-PFDA



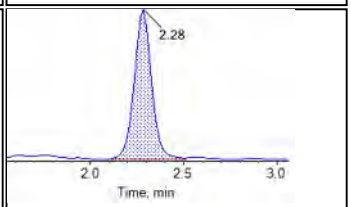
13C7-PFUnA



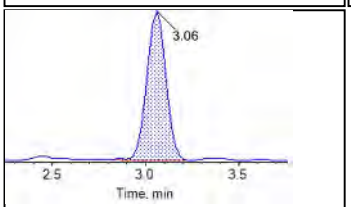
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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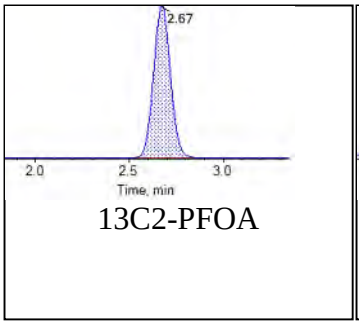
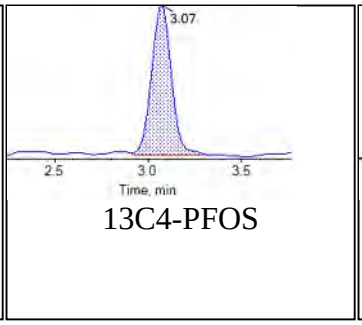
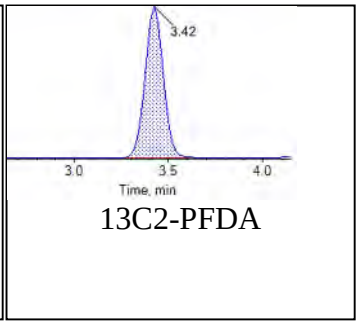
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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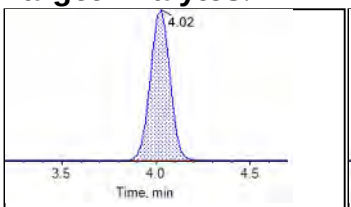
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:53:11 PM

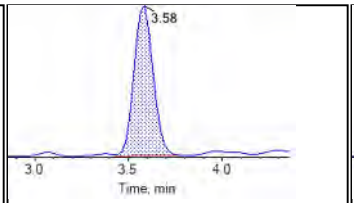
Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Chromatograms

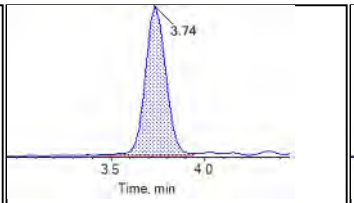
Target Analytes:



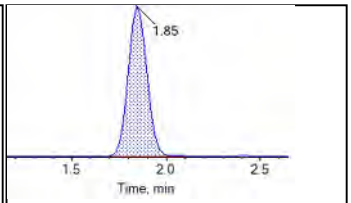
13C2-PFDoA



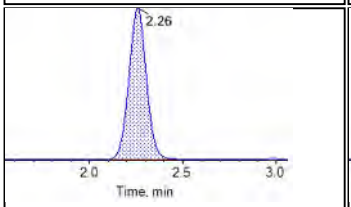
d3-MeFOSAA



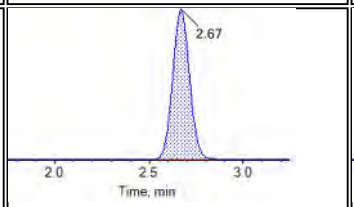
d5-EtFOSAA



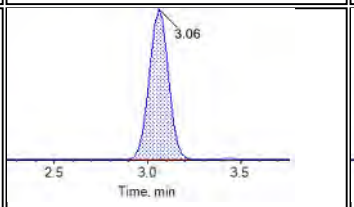
13C5-PFHxA



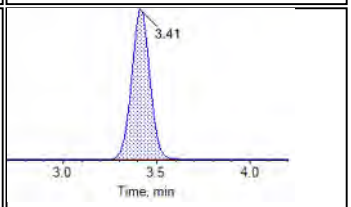
13C4-PFHpA



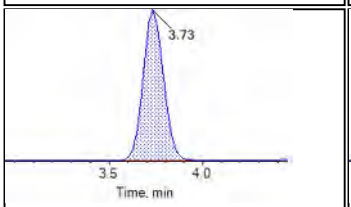
13C8-PFOA



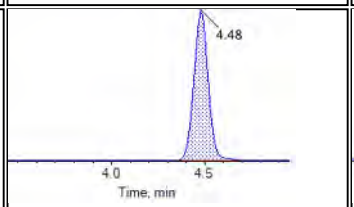
13C9-PFNA



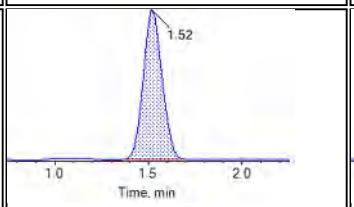
13C6-PFDA



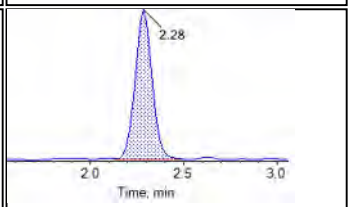
13C7-PFUnA



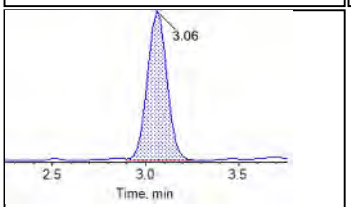
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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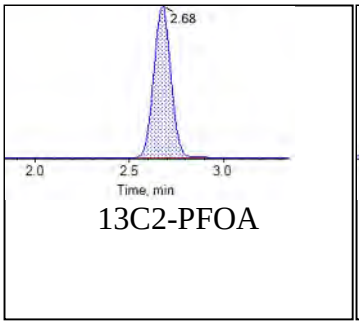
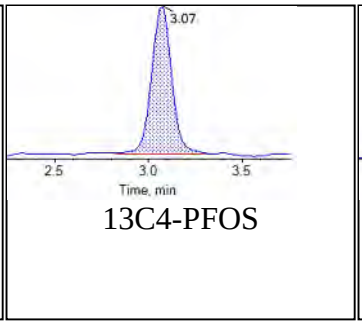
Chromatogram Report

Created with Analyst Reporter
Printed: 06/11/2018 1:53:11 PM

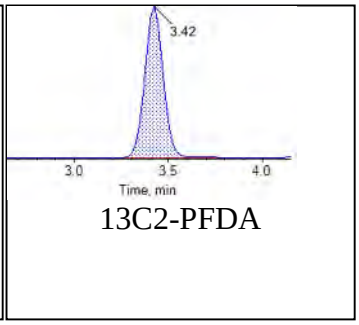
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

Unused Data

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:36:26 PM

Sample Name	CS035PB-FS(0)	**Injection Vial**	4
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	11/5/2018 2:24:02 PM	**Data File**	AC_11052018_5-369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	True
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	True
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	True
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	True
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	True
PFOA_1	413.0 / 369.0	2.75	86613.86	316.711089	118.8	False
PFOA_2	413.0 / 169.0	2.75	6038.45	359.515596	87.2	False
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	True
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	True
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	True
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	True
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True

"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","307-24-4","PFHxA",".500000","ng/L","U",".19","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","375-85-9","PFHpA",".500000","ng/L","U",".16","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","335-67-1","PFOA","1.170000","ng/L","J",".18","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","375-95-1","PFNA","1.000000","ng/L","U",".26","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500","1.00",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","335-76-2","PFDA",".500000","ng/L","U",".16","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","2058-94-8","PFUnA","1.000000","ng/L","U",".29","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500","1.00",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","307-55-1","PFDoA",".500000","ng/L","U",".18","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","72629-94-8","PFTrDA",".500000","ng/L","U",".15","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","376-06-7","PFTeDA","1.000000","ng/L","U",".25","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500","1.00",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","2355-31-9","NMeFOSAA","2.000000","ng/L","U",".56","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500","2.00",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","2991-50-6","NEtFOSAA","1.000000","ng/L","U",".49","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500","1.00",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","375-73-5","PFBS",".500000","ng/L","U",".13","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","355-46-4","PFHxS",".410000","ng/L","J",".11","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".40",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","1763-23-1","PFOS",".500000","ng/L","U",".19","MDL","","T","","","5.00","LOQ","YES","-99.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2217","13C5-PFHxA",".840000","ng/L","","-99.00","NA","","SIS","84.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2218","13C4-PFHpA",".880000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2219","13C8-PFOA",".970000","ng/L","","-99.00","NA","","SIS","97.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2221","13C9-PFNA",".860000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES","1.000000","",".250000",".00050

0",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2222","13C6-PFDA",".960000","ng/L","","-99.00","NA","","SIS","96.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2223","13C7-PFUnA",".920000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2112","13C2-PFDoA",".860000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2224","13C2-PFTeDA",".840000","ng/L","","-99.00","NA","","SIS","84.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-1838","d3-MeFOSAA",".850000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-1839","d5-EtFOSAA",".760000","ng/L","","-99.00","NA","","SIS","76.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2226","13C3-PFBS",".760000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".930000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2227","13C3-PFHxS",".770000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".950000","",".250000",".000500",".50",""
"CS035PB-FS","SOP 5-369","Initial","CS035PB-FS","BNO","BDO-2228","13C8-PFOS",".770000","ng/L","","-99.00","NA","","SIS","80.00","","-99.00","NA","YES",".960000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","307-24-4","PFHxA","9.490000","ng/L","",".19","MDL","","T","94.00","","5.00","LOQ","YES","10.100000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","375-85-9","PFHpA","9.950000","ng/L","",".16","MDL","","T","100.00","","5.00","LOQ","YES","10.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","335-67-1","PFOA","11.860000","ng/L","",".18","MDL","","T","119.00","","5.00","LOQ","YES","10.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","375-95-1","PFNA","11.090000","ng/L","",".26","MDL","","T","111.00","","5.00","LOQ","YES","10.000000","",".250000",".000500","1.00",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","335-76-2","PFDA","10.320000","ng/L","",".16","MDL","","T","103.00","","5.00","LOQ","YES","10.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","2058-94-8","PFUnA","10.060000","ng/L","",".29","MDL","","T","101.00","","5.00","LOQ","YES","10.000000","",".250000",".000500","1.00",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","307-55-1","PFDoA","10.640000","ng/L","",".18","MDL","","T","106.00","","5.00","LOQ","YES","10.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","72629-94-8","PFTrDA","11.200000","ng/L","",".15","MDL","","T","112.00","","5.00","LOQ","YES","10.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","376-06-7","PFTeDA","10.840000","ng/L","",".25","MDL","","T","108.00","","5.00","LOQ","YES","10.000000","",".250000",

".000500","1.00",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","2355-31-9","NMeFOSAA","10.800000","ng/L","",".56","MDL","","T","108.00","","5.00","LOQ","YES","10.000000","",".250000",".000500","2.00",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","2991-50-6","NEtFOSAA","10.050000","ng/L","",".49","MDL","","T","101.00","","5.00","LOQ","YES","10.000000","",".250000",".000500","1.00",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","375-73-5","PFBS","9.840000","ng/L","",".13","MDL","","T","97.00","","5.00","LOQ","YES","10.100000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","355-46-4","PFHxS","11.440000","ng/L","",".11","MDL","","T","113.00","","5.00","LOQ","YES","10.100000","",".250000",".000500",".40",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","1763-23-1","PFOS","10.690000","ng/L","",".19","MDL","","T","107.00","","5.00","LOQ","YES","10.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2217","13C5-PFHxA",".860000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2218","13C4-PFHpA",".830000","ng/L","","-99.00","NA","","SIS","83.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2219","13C8-PFOA",".910000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2221","13C9-PFNA",".860000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2222","13C6-PFDA",".880000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2223","13C7-PFUnA",".870000","ng/L","","-99.00","NA","","SIS","87.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2112","13C2-PFDoA",".780000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2224","13C2-PFTeDA",".780000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-1838","d3-MeFOSAA",".920000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-1839","d5-EtFOSAA",".880000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES","1.000000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2226","13C3-PFBS",".850000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".930000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2227","13C3-PFHxS",".800000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".950000","",".250000",".000500",".50",""
"CS036LCS-FS","SOP 5-369","Initial","CS036LCS-FS","BNO","BDO-2228","13C8-PFOS",".840000","ng/L","","-99.00","NA","","SIS","88.00","","-99.00","NA","YES",".960000","",".250000",".000500

",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","307-24-
4","PFHxA","2.420000","ng/L","J",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","375-85-
9","PFHpA","2.510000","ng/L","J",".14","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","335-67-
1","PFOA","15.000000","ng/L","",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500
",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","375-95-
1","PFNA",".860000","ng/L","U",".22","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500
",".86",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","335-76-
2","PFDA",".430000","ng/L","U",".14","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500
",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","2058-94-
8","PFUnA",".860000","ng/L","U",".25","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".86",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","307-55-
1","PFDoA",".430000","ng/L","U",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","72629-94-
8","PFTrDA",".430000","ng/L","U",".13","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".0005
00",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","376-06-
7","PFTeDA",".860000","ng/L","U",".22","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".0005
00",".86",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","2355-31-
9","NMeFOSAA","1.720000","ng/L","U",".48","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".
000500","1.72",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","2991-50-
6","NEtFOSAA","4.460000","ng/L","",".42","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00
0500",".86",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","375-73-
5","PFBS","4.800000","ng/L","",".11","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",
".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","355-46-
4","PFHxS","1.810000","ng/L","J",".09","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".34",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","1763-23-
1","PFOS","11.100000","ng/L","",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500
",".43",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2217","13C5-
PFHxA",".980000","ng/L","","-99.00","NA","","SIS","113.00","","-99.00","NA","YES",".860000","",".290000",".0005
00",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2218","13C4-
PFHpA","1.010000","ng/L","","-99.00","NA","","SIS","117.00","","-99.00","NA","YES",".860000","",".290000",".000
500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2219","13C8-
PFOA",".780000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2221","13C9-
PFNA",".810000","ng/L","","-99.00","NA","","SIS","93.00","","-99.00","NA","YES",".860000","",".290000",".000500

",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2222","13C6-PFDA",".830000","ng/L","","-99.00","NA","","SIS","97.00","","-99.00","NA","YES",".860000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2223","13C7-PFUnA",".740000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES",".860000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2112","13C2-PFDoA",".630000","ng/L","","-99.00","NA","","SIS","73.00","","-99.00","NA","YES",".860000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2224","13C2-PFTeDA",".670000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES",".860000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-1838","d3-MeFOSAA",".940000","ng/L","","-99.00","NA","","SIS","109.00","","-99.00","NA","YES",".860000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-1839","d5-EtFOSAA","1.050000","ng/L","","-99.00","NA","","SIS","122.00","","-99.00","NA","YES",".860000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2226","13C3-PFBS",".780000","ng/L","","-99.00","NA","","SIS","97.00","","-99.00","NA","YES",".800000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2227","13C3-PFHxS","1.080000","ng/L","","-99.00","NA","","SIS","133.00","","-99.00","NA","YES",".820000","",".290000",".000500",".50",""
"04GW10R101818","SOP 5-369","Initial","J9041-FS","BNO","BDO-2228","13C8-PFOS",".900000","ng/L","","-99.00","NA","","SIS","109.00","","-99.00","NA","YES",".820000","",".290000",".000500",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","307-24-4","PFHxA","3.530000","ng/L","J",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","375-85-9","PFHpA","2.910000","ng/L","J",".14","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","335-67-1","PFOA","19.250000","ng/L","",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","375-95-1","PFNA",".860000","ng/L","U",".22","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".86",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","335-76-2","PFDA",".430000","ng/L","U",".14","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","2058-94-8","PFUnA",".860000","ng/L","U",".25","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".86",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","307-55-1","PFDoA",".430000","ng/L","U",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","72629-94-8","PFTrDA",".430000","ng/L","U",".13","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","376-06-7","PFTeDA",".860000","ng/L","U",".22","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".0005

00",".86",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","2355-31-
9","NMeFOSAA","1.720000","ng/L","U",".48","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".
000500","1.72",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","2991-50-
6","NEtFOSAA",".860000","ng/L","U",".42","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00
0500",".86",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","375-73-
5","PFBS","3.850000","ng/L","J",".11","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500"
,".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","355-46-
4","PFHxS","3.090000","ng/L","J",".09","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".34",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","1763-23-
1","PFOS","9.400000","ng/L","",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",
".43",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2217","13C5-
PFHxA",".880000","ng/L","","-99.00","NA","","SIS","102.00","","-99.00","NA","YES",".860000","",".290000",".0005
00",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2218","13C4-
PFHpA",".870000","ng/L","","-99.00","NA","","SIS","100.00","","-99.00","NA","YES",".860000","",".290000",".0005
00",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2219","13C8-
PFOA",".770000","ng/L","","-99.00","NA","","SIS","90.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2221","13C9-
PFNA",".700000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2222","13C6-
PFDA",".730000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2223","13C7-
PFUnA",".730000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".860000","",".290000",".00050
0",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2112","13C2-
PFDoA",".570000","ng/L","","-99.00","NA","","SIS","66.00","","-99.00","NA","YES",".860000","",".290000",".00050
0",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2224","13C2-
PFTeDA",".480000","ng/L","","-99.00","NA","","SIS","56.00","","-99.00","NA","YES",".860000","",".290000",".0005
00",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-1838","d3-
MeFOSAA",".590000","ng/L","","-99.00","NA","","SIS","68.00","","-99.00","NA","YES",".860000","",".290000",".00
0500",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-1839","d5-
EtFOSAA",".710000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".860000","",".290000",".000
500",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2226","13C3-
PFBS",".570000","ng/L","","-99.00","NA","","SIS","71.00","","-99.00","NA","YES",".800000","",".290000",".000500
",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2227","13C3-
PFHxS",".720000","ng/L","","-99.00","NA","","SIS","89.00","","-99.00","NA","YES",".820000","",".290000",".00050
0",".50",""
"04GW15101818","SOP 5-369","Initial","J9042-FS","BNO","BDO-2228","13C8-
PFOS",".720000","ng/L","","-99.00","NA","","SIS","87.00","","-99.00","NA","YES",".820000","",".290000",".000500

",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","307-24-
4","PFHxA",".480000","ng/L","U",".18","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","375-85-
9","PFHpA",".480000","ng/L","U",".15","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","335-67-
1","PFOA","1.210000","ng/L","J",".17","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","375-95-
1","PFNA",".960000","ng/L","U",".25","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".96",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","335-76-
2","PFDA",".480000","ng/L","U",".15","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","2058-94-
8","PFUnA",".960000","ng/L","U",".28","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".96",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","307-55-
1","PFDoA",".480000","ng/L","U",".17","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","72629-94-
8","PFTrDA",".480000","ng/L","U",".14","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".0005
00",".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","376-06-
7","PFTeDA",".960000","ng/L","U",".24","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".0005
00",".96",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","2355-31-
9","NMeFOSAA","1.920000","ng/L","U",".54","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".
000500","1.92",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","2991-50-
6","NEtFOSAA",".960000","ng/L","U",".47","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00
0500",".96",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","375-73-
5","PFBS",".480000","ng/L","U",".13","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500"
,".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","355-46-
4","PFHxS",".380000","ng/L","U",".11","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".38",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","1763-23-
1","PFOS",".480000","ng/L","U",".18","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500"
,".48",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2217","13C5-
PFHxA",".830000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES",".960000","",".260000",".00050
0",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2218","13C4-
PFHpA",".890000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".960000","",".260000",".00050
0",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2219","13C8-
PFOA",".980000","ng/L","","-99.00","NA","","SIS","102.00","","-99.00","NA","YES",".960000","",".260000",".00050
0",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2221","13C9-
PFNA",".950000","ng/L","","-99.00","NA","","SIS","99.00","","-99.00","NA","YES",".960000","",".260000",".000500

",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2222","13C6-PFDA",".870000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2223","13C7-PFUnA",".880000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2112","13C2-PFDoA",".760000","ng/L","","-99.00","NA","","SIS","79.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2224","13C2-PFTeDA",".780000","ng/L","","-99.00","NA","","SIS","81.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-1838","d3-MeFOSAA",".790000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-1839","d5-EtFOSAA",".810000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2226","13C3-PFBS",".750000","ng/L","","-99.00","NA","","SIS","83.00","","-99.00","NA","YES",".890000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2227","13C3-PFHxS",".910000","ng/L","","-99.00","NA","","SIS","99.00","","-99.00","NA","YES",".910000","",".260000",".000500",".50",""
"04FRB101818","SOP 5-369","Initial","J9043-FS","BNO","BDO-2228","13C8-PFOS",".760000","ng/L","","-99.00","NA","","SIS","83.00","","-99.00","NA","YES",".920000","",".260000",".000500",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","307-24-4","PFHxA","2.320000","ng/L","J",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","375-85-9","PFHpA","1.770000","ng/L","J",".14","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","335-67-1","PFOA","15.520000","ng/L","",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","375-95-1","PFNA",".860000","ng/L","U",".22","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".86",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","335-76-2","PFDA",".430000","ng/L","U",".14","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","2058-94-8","PFUnA",".860000","ng/L","U",".25","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".86",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","307-55-1","PFDoA",".430000","ng/L","U",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","72629-94-8","PFTrDA",".430000","ng/L","U",".13","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","376-06-7","PFTeDA",".860000","ng/L","U",".22","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".0005

00",".86",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","2355-31-
9","NMeFOSAA","1.720000","ng/L","U",".48","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".
000500","1.72",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","2991-50-
6","NEtFOSAA",".860000","ng/L","U",".42","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00
0500",".86",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","375-73-
5","PFBS","2.390000","ng/L","J",".11","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500"
,".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","355-46-
4","PFHxS","2.210000","ng/L","J",".09","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".00050
0",".34",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","1763-23-
1","PFOS","8.260000","ng/L","",".16","MDL","","T","","","4.31","LOQ","YES","-99.000000","",".290000",".000500",
".43",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2217","13C5-
PFHxA",".940000","ng/L","","-99.00","NA","","SIS","110.00","","-99.00","NA","YES",".860000","",".290000",".0005
00",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2218","13C4-
PFHpA","1.070000","ng/L","","-99.00","NA","","SIS","124.00","","-99.00","NA","YES",".860000","",".290000",".000
500",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2219","13C8-
PFOA",".840000","ng/L","","-99.00","NA","","SIS","97.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2221","13C9-
PFNA",".720000","ng/L","","-99.00","NA","","SIS","83.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2222","13C6-
PFDA",".700000","ng/L","","-99.00","NA","","SIS","81.00","","-99.00","NA","YES",".860000","",".290000",".000500
",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2223","13C7-
PFUnA",".720000","ng/L","","-99.00","NA","","SIS","84.00","","-99.00","NA","YES",".860000","",".290000",".00050
0",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2112","13C2-
PFDoA",".560000","ng/L","","-99.00","NA","","SIS","65.00","","-99.00","NA","YES",".860000","",".290000",".00050
0",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2224","13C2-
PFTeDA",".550000","ng/L","","-99.00","NA","","SIS","63.00","","-99.00","NA","YES",".860000","",".290000",".0005
00",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-1838","d3-
MeFOSAA",".900000","ng/L","","-99.00","NA","","SIS","104.00","","-99.00","NA","YES",".860000","",".290000",".0
00500",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-1839","d5-
EtFOSAA",".780000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".860000","",".290000",".000
500",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2226","13C3-
PFBS",".780000","ng/L","","-99.00","NA","","SIS","97.00","","-99.00","NA","YES",".800000","",".290000",".000500
",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2227","13C3-
PFHxS","1.000000","ng/L","","-99.00","NA","","SIS","122.00","","-99.00","NA","YES",".820000","",".290000",".000
500",".50",""
"04GW28101818","SOP 5-369","Initial","J9044-FS","BNO","BDO-2228","13C8-
PFOS",".760000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".820000","",".290000",".000500

",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","307-24-
4","PFHxA",".460000","ng/L","U",".18","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00050
0",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","375-85-
9","PFHpA","1.010000","ng/L","J",".15","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00050
0",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","335-67-
1","PFOA","9.330000","ng/L","B",".17","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00050
0",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","375-95-
1","PFNA",".930000","ng/L","U",".24","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".000500
",".93",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","335-76-
2","PFDA",".460000","ng/L","U",".15","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".000500
",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","2058-94-
8","PFUnA",".930000","ng/L","U",".27","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00050
0",".93",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","307-55-
1","PFDoA",".460000","ng/L","U",".17","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00050
0",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","72629-94-
8","PFTrDA",".460000","ng/L","U",".14","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".0005
00",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","376-06-
7","PFTeDA",".930000","ng/L","U",".23","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".0005
00",".93",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","2355-31-
9","NMeFOSAA","1.850000","ng/L","U",".52","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".
000500","1.85",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","2991-50-
6","NEtFOSAA",".930000","ng/L","U",".45","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00
0500",".93",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","375-73-
5","PFBS","3.200000","ng/L","J",".12","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".000500"
,".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","355-46-
4","PFHxS","1.730000","ng/L","J",".10","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".00050
0",".37",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","1763-23-
1","PFOS","3.720000","ng/L","J",".18","MDL","","T","","","4.63","LOQ","YES","-99.000000","",".270000",".000500
",".46",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2217","13C5-
PFHxA","1.110000","ng/L","","-99.00","NA","","SIS","120.00","","-99.00","NA","YES",".930000","",".270000",".000
500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2218","13C4-
PFHpA","1.050000","ng/L","","-99.00","NA","","SIS","113.00","","-99.00","NA","YES",".930000","",".270000",".000
500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2219","13C8-
PFOA",".890000","ng/L","","-99.00","NA","","SIS","96.00","","-99.00","NA","YES",".930000","",".270000",".000500
",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2221","13C9-
PFNA",".790000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".930000","",".270000",".000500

",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2222","13C6-PFDA",".720000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2223","13C7-PFUnA",".690000","ng/L","","-99.00","NA","","SIS","75.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2112","13C2-PFDoA",".580000","ng/L","","-99.00","NA","","SIS","63.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2224","13C2-PFTeDA",".560000","ng/L","","-99.00","NA","","SIS","61.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-1838","d3-MeFOSAA",".480000","ng/L","","-99.00","NA","","SIS","52.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-1839","d5-EtFOSAA",".580000","ng/L","","-99.00","NA","","SIS","63.00","","-99.00","NA","YES",".930000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2226","13C3-PFBS",".820000","ng/L","","-99.00","NA","","SIS","95.00","","-99.00","NA","YES",".860000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2227","13C3-PFHxS",".880000","ng/L","","-99.00","NA","","SIS","101.00","","-99.00","NA","YES",".880000","",".270000",".000500",".50",""
"04GWGP1101818","SOP 5-369","Initial","J9045-FS","BNO","BDO-2228","13C8-PFOS",".880000","ng/L","","-99.00","NA","","SIS","99.00","","-99.00","NA","YES",".890000","",".270000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","307-24-4","PFHxA",".450000","ng/L","U",".17","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","375-85-9","PFHpA",".450000","ng/L","U",".14","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","335-67-1","PFOA","1.880000","ng/L","J",".16","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","375-95-1","PFNA",".890000","ng/L","U",".23","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".89",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","335-76-2","PFDA",".450000","ng/L","U",".14","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","2058-94-8","PFUnA",".890000","ng/L","U",".26","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".89",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","307-55-1","PFDoA",".450000","ng/L","U",".16","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","72629-94-8","PFTrDA",".450000","ng/L","U",".13","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","376-06-7","PFTeDA",".890000","ng/L","U",".22","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".0005

00",".89",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","2355-31-9","NMeFOSAA","1.790000","ng/L","U",".50","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500","1.79",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","2991-50-6","NEtFOSAA",".890000","ng/L","U",".44","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".89",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","375-73-5","PFBS",".660000","ng/L","J",".12","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","355-46-4","PFHxS",".410000","ng/L","J",".10","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".36",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","1763-23-1","PFOS",".770000","ng/L","J",".17","MDL","","T","","","4.46","LOQ","YES","-99.000000","",".280000",".000500",".45",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2217","13C5-PFHxA",".830000","ng/L","","-99.00","NA","","SIS","93.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2218","13C4-PFHpA",".840000","ng/L","","-99.00","NA","","SIS","94.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2219","13C8-PFOA",".700000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2221","13C9-PFNA",".610000","ng/L","","-99.00","NA","","SIS","69.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2222","13C6-PFDA",".510000","ng/L","","-99.00","NA","","SIS","57.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2223","13C7-PFUnA",".600000","ng/L","","-99.00","NA","","SIS","67.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2112","13C2-PFDoA",".620000","ng/L","","-99.00","NA","","SIS","70.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2224","13C2-PFTeDA",".580000","ng/L","","-99.00","NA","","SIS","65.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-1838","d3-MeFOSAA",".660000","ng/L","","-99.00","NA","","SIS","74.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-1839","d5-EtFOSAA",".910000","ng/L","","-99.00","NA","","SIS","102.00","","-99.00","NA","YES",".890000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2226","13C3-PFBS",".890000","ng/L","","-99.00","NA","","SIS","108.00","","-99.00","NA","YES",".830000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2227","13C3-PFHxS",".860000","ng/L","","-99.00","NA","","SIS","102.00","","-99.00","NA","YES",".840000","",".280000",".000500",".50",""
"03GW34101818","SOP 5-369","Initial","J9046-FS","BNO","BDO-2228","13C8-PFOS",".880000","ng/L","","-99.00","NA","","SIS","103.00","","-99.00","NA","YES",".850000","",".280000",".00050

0",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","307-24-
4","PFHxA",".480000","ng/L","U",".18","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","375-85-
9","PFHpA",".480000","ng/L","U",".15","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","335-67-
1","PFOA","1.150000","ng/L","J",".17","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","375-95-
1","PFNA",".960000","ng/L","U",".25","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".96",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","335-76-
2","PFDA",".480000","ng/L","U",".15","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","2058-94-
8","PFUnA",".960000","ng/L","U",".28","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".96",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","307-55-
1","PFDoA",".480000","ng/L","U",".17","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00050
0",".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","72629-94-
8","PFTrDA",".480000","ng/L","U",".14","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".0005
00",".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","376-06-
7","PFTeDA",".960000","ng/L","U",".24","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".0005
00",".96",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","2355-31-
9","NMeFOSAA","1.920000","ng/L","U",".54","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".
000500","1.92",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","2991-50-
6","NEtFOSAA",".960000","ng/L","U",".47","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".00
0500",".96",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","375-73-
5","PFBS",".480000","ng/L","U",".13","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500"
,".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","355-46-
4","PFHxS",".380000","ng/L","U",".11","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500
",".38",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","1763-23-
1","PFOS",".480000","ng/L","U",".18","MDL","","T","","","4.81","LOQ","YES","-99.000000","",".260000",".000500"
,".48",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2217","13C5-
PFHxA",".750000","ng/L","","-99.00","NA","","SIS","78.00","","-99.00","NA","YES",".960000","",".260000",".00050
0",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2218","13C4-
PFHpA",".780000","ng/L","","-99.00","NA","","SIS","81.00","","-99.00","NA","YES",".960000","",".260000",".00050
0",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2219","13C8-
PFOA",".940000","ng/L","","-99.00","NA","","SIS","97.00","","-99.00","NA","YES",".960000","",".260000",".000500
",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2221","13C9-
PFNA",".820000","ng/L","","-99.00","NA","","SIS","85.00","","-99.00","NA","YES",".960000","",".260000",".000500

",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2222","13C6-PFDA",".880000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2223","13C7-PFUnA",".920000","ng/L","","-99.00","NA","","SIS","95.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2112","13C2-PFDoA",".790000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2224","13C2-PFTeDA",".830000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-1838","d3-MeFOSAA",".960000","ng/L","","-99.00","NA","","SIS","100.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-1839","d5-EtFOSAA",".950000","ng/L","","-99.00","NA","","SIS","98.00","","-99.00","NA","YES",".960000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2226","13C3-PFBS",".820000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".890000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2227","13C3-PFHxS",".830000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".910000","",".260000",".000500",".50",""
"03FRB101818","SOP 5-369","Initial","J9047-FS","BNO","BDO-2228","13C8-PFOS",".970000","ng/L","","-99.00","NA","","SIS","106.00","","-99.00","NA","YES",".920000","",".260000",".000500",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","307-24-4","PFHxA",".440000","ng/L","U",".17","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","375-85-9","PFHpA",".440000","ng/L","U",".14","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","335-67-1","PFOA","1.700000","ng/L","J",".16","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","375-95-1","PFNA",".880000","ng/L","U",".23","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".88",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","335-76-2","PFDA",".440000","ng/L","U",".14","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","2058-94-8","PFUnA",".880000","ng/L","U",".25","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".88",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","307-55-1","PFDoA",".440000","ng/L","U",".16","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","72629-94-8","PFTrDA",".440000","ng/L","U",".13","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","376-06-7","PFTeDA",".880000","ng/L","U",".22","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".0005

00",".88",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","2355-31-
9","NMeFOSAA","1.750000","ng/L","U",".49","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".
000500","1.75",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","2991-50-
6","NEtFOSAA",".880000","ng/L","U",".43","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".00
0500",".88",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","375-73-
5","PFBS",".230000","ng/L","J",".11","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",
".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","355-46-
4","PFHxS",".240000","ng/L","J",".10","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500
",".35",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","1763-23-
1","PFOS",".820000","ng/L","J",".17","MDL","","T","","","4.39","LOQ","YES","-99.000000","",".285000",".000500",
".44",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2217","13C5-
PFHxA",".760000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES",".880000","",".285000",".00050
0",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2218","13C4-
PFHpA",".790000","ng/L","","-99.00","NA","","SIS","90.00","","-99.00","NA","YES",".880000","",".285000",".00050
0",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2219","13C8-
PFOA",".630000","ng/L","","-99.00","NA","","SIS","72.00","","-99.00","NA","YES",".880000","",".285000",".000500
",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2221","13C9-
PFNA",".620000","ng/L","","-99.00","NA","","SIS","70.00","","-99.00","NA","YES",".880000","",".285000",".000500
",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2222","13C6-
PFDA",".640000","ng/L","","-99.00","NA","","SIS","73.00","","-99.00","NA","YES",".880000","",".285000",".000500
",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2223","13C7-
PFUnA",".580000","ng/L","","-99.00","NA","","SIS","67.00","","-99.00","NA","YES",".880000","",".285000",".00050
0",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2112","13C2-
PFDoA",".580000","ng/L","","-99.00","NA","","SIS","67.00","","-99.00","NA","YES",".880000","",".285000",".00050
0",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2224","13C2-
PFTeDA",".650000","ng/L","","-99.00","NA","","SIS","75.00","","-99.00","NA","YES",".880000","",".285000",".0005
00",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-1838","d3-
MeFOSAA",".540000","ng/L","","-99.00","NA","","SIS","62.00","","-99.00","NA","YES",".880000","",".285000",".00
0500",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-1839","d5-
EtFOSAA",".470000","ng/L","","-99.00","NA","","SIS","54.00","","-99.00","NA","YES",".880000","",".285000",".000
500",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2226","13C3-
PFBS",".850000","ng/L","","-99.00","NA","","SIS","104.00","","-99.00","NA","YES",".820000","",".285000",".00050
0",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2227","13C3-
PFHxS",".760000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".830000","",".285000",".00050
0",".50",""
"03GW19101818","SOP 5-369","Initial","J9048-FS","BNO","BDO-2228","13C8-
PFOS",".760000","ng/L","","-99.00","NA","","SIS","91.00","","-99.00","NA","YES",".840000","",".285000",".000500

",".50",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","CS035PB-FS","","WATER","CS035PB-FS","MB","","-99.000000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 03:23","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/24/2018 10:05","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","CS036LCS-FS","","WATER","CS036LCS-FS","LCS","","-99.000000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 03:34","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/24/2018 10:05","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","04GW10R101818","10/18/2018 09:18","GW","J9041-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 03:45","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","04GW15101818","10/18/2018 10:15","GW","J9042-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 04:18","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","04FRB101818","10/18/2018 10:20","QC","J9043-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 04:50","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","04GW28101818","10/18/2018 11:05","GW","J9044-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 05:01","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","04GWGP1101818","10/18/2018 12:15","GW","J9045-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 05:56","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","03GW34101818","10/18/2018 14:00","GW","J9046-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 06:39","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","03FRB101818","10/18/2018 15:05","QC","J9047-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 07:44","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""
"112g08005-JM08","JM08 NCBC Gulfport Site 6 TS","03GW19101818","10/18/2018 15:30","GW","J9048-FS","NM","SHP-181019-02","1.100000","SOP 5-369","Gen Prep","Initial","10/24/2018 10:05","11/02/2018 07:55","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0633","18-0633","DP-18-0331","DP-18-0331","18-0633","10/19/2018 10:00","11/08/2018 13:00",""

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **G. ROOF** **DATE:** **NOVEMBER 29, 2018**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)**
NAVAL CONSTRUCTION BATALLION CENTER (NCBC) GULFPORT, GULFPORT, MISSISSIPPI
CTO JM08
SAMPLE DELIVERY GROUP (SDG) 18-0633

SAMPLES: 6/Groundwater

03GW19101818	03GW34101818
04GW10R101818	04GW15101818
04GW28101818	04GWGP1101818

2/Field Reagent Blank (FRB)

03FRB101818	04FRB101818

Overview

The sample set for NCBC Gulfport, SDG 18-0633, consisted of six (6) aqueous environmental samples and two (2) FRB samples. All samples were analyzed for Polyfluoroalkyl Substances (PFAS). No field duplicate samples were included in this SDG.

The samples were collected by Tetra Tech, Inc. on October 18, 2018 and analyzed by Battelle Norwell Operations. The analyses were conducted in compliance with the Department of Defense (DoD)/Department of Energy (DOE) Quality Systems Manual (QSM) for Environmental Laboratories version 5.1 PFAS using LC/MS/MS Appendix B Table B-15 (July 2017). The data was evaluated at Stage 4 based on the following parameters:

* • Data Completeness
* • Holding Times/Sample Preservation
* • Mass Calibration
* • Mass Spectral Acquisition Rate
* • Tune Check
* • Instrument Sensitivity Check
* • Initial and Continuing Calibration Results
* • Ion Transition Check
• Laboratory Method/ FRB/ Instrument Blank Results
* • Surrogate Spike Recoveries (Extracted Internal Standard Recoveries)
* • Injected Internal Standard Areas and Recoveries
* • Laboratory Control Sample Results
* • Chromatographic Resolution
* • Detection Limits
* • Analyte Identification and Quantification

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

PFAS

The following compounds were detected in the laboratory method/instrument/field reagent blanks at a concentration less than one-half the limit of quantitation (LOQ):

Analyte	Maximum Concentration (ng/L)	Action Level LOQ (> or <)
Perfluoroheptanoic acid (PFHpA)(1)	0.20	< LOQ
Perfluorononanoic acid (PFNA)(1)	0.27	< LOQ
Perfluorodecanoic acid (PFDA)(1)	0.27	< LOQ
Perfluoroundecanoic acid (PFUnA)(1)	0.32	< LOQ
Perfluorododecanoic acid (PFDoA)(1)	0.23	< LOQ
Perfluorotridecanoic acid (PFTrDA)(1)	0.22	< LOQ
Perfluorobutanesulfonic acid(PFBS)(1)	0.21	< LOQ
Perfluorooctanesulfonic acid (PFOS)(1)	0.29	< LOQ
Perfluorohexanesulfonic acid (PFHxS)(2)	0.41	< LOQ
Pentadecafluorooctanoic acid (PFOA)(2)	1.17	< LOQ
Pentadecafluorooctanoic acid (PFOA)(3)	1.21	< LOQ

(1) Maximum concentration in an instrument blank affecting all samples.
(2) Maximum concentration present in a preparation blank affecting all samples.
(3) Maximum concentration present in FRB sample 04FRB101818 affecting 04GW10R101818, 04GW15101818, 04GW28101818 and 04GWGP1101818.

The detected results reported for these compounds below the LOQ but above the Limit of Detection (LOD) were qualified as non-detected, (U). Detected results reported below the LOD were raised to the LOD and qualified as non-detected, (U). Field blanks are not qualified for blank contamination.

NOTES

The laboratory uses a primary transition (_1) for the quantitation of a compound and a secondary transition (_2) for confirmation.

Samples with detections and their associated FRBs are summarized below.

Sample	Associated FRB
03GW19101818	03FRB101818
03GW34101818	03FRB101818
04GW10R101818	04FRB101818
04GW15101818	04FRB101818
04GW28101818	04FRB101818
04GWGP1101818	04FRB101818

Detected results reported below the LOQ but above the Detection Limit (DL) were qualified as estimated, (J). Non-detected results are reported to the Limit of Detection (LOD).

EXECUTIVE SUMMARY

Laboratory Performance: Contaminants were detected in the method/instrument/field reagent blanks.

Other Factors Affecting Data Quality: Detected results below the LOQ 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
Environmental Chemist

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:

Appendix A - Qualified Analytical Results
Appendix B - Results as reported by the Laboratory
Appendix C - Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's r < 0.995
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-JM08	NSAMPLE	03FRB101818			03GW19101818			03GW34101818			04FRB101818		
SDG: 18-0633	LAB_ID	J9047-FS			J9048-FS			J9046-FS			J9043-FS		
FRACTION: PFAS	SAMP_DATE	10/18/2018			10/18/2018			10/18/2018			10/18/2018		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		0.96	U		0.88	U		0.89	U		0.96	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		1.92	U		1.75	U		1.79	U		1.92	U	
PENTADECAFLUOROOCTANOIC ACID (PFOA)		1.15	J	P	1.7	U	A	1.88	U	A	1.21	J	P
PERFLUOROBUTANESULFONIC ACID (PFBS)		0.48	U		0.44	U	A	0.66	U	A	0.48	U	
PERFLUORODECANOIC ACID (PFDA)		0.48	U		0.44	U		0.45	U		0.48	U	
PERFLUORODODECANOIC ACID (PFDOA)		0.48	U		0.44	U		0.45	U		0.48	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		0.48	U		0.44	U		0.45	U		0.48	U	
PERFLUOROHEXANESULFONIC ACID (PFHXS)		0.38	U		0.35	U	A	0.41	U	A	0.38	U	
PERFLUOROHEXANOIC ACID (PFHXA)		0.48	U		0.44	U		0.45	U		0.48	U	
PERFLUORONONANOIC ACID (PFNA)		0.96	U		0.88	U		0.89	U		0.96	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		0.48	U		0.82	U	A	0.77	U	A	0.48	U	
PERFLUOROTETRADECANOIC ACID (PFTEA)		0.96	U		0.88	U		0.89	U		0.96	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		0.48	U		0.44	U		0.45	U		0.48	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		0.96	U		0.88	U		0.89	U		0.96	U	

PROJ_NO: 08005-JM08	NSAMPLE	04GW10R101818			04GW15101818			04GW28101818			04GWGP1101818		
SDG: 18-0633	LAB_ID	J9041-FS			J9042-FS			J9044-FS			J9045-FS		
FRACTION: PFAS	SAMP_DATE	10/18/2018			10/18/2018			10/18/2018			10/18/2018		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		4.46			0.86	U		0.86	U		0.93	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		1.72	U		1.72	U		1.72	U		1.85	U	
PENTADECAFLUOROOCTANOIC ACID (PFOA)		15			19.25			15.52			9.33		
PERFLUOROBUTANESULFONIC ACID (PFBS)		4.8			3.85	U	A	2.39	U	A	3.2	U	A
PERFLUORODECANOIC ACID (PFDA)		0.43	U		0.43	U		0.43	U		0.46	U	
PERFLUORODODECANOIC ACID (PFDOA)		0.43	U		0.43	U		0.43	U		0.46	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		2.51	U	A	2.91	U	A	1.77	U	A	1.01	U	A
PERFLUOROHEXANESULFONIC ACID (PFHXS)		1.81	U	A	3.09	U	A	2.21	U	A	1.73	U	A
PERFLUOROHEXANOIC ACID (PFHXA)		2.42	J	P	3.53	J	P	2.32	J	P	0.46	U	
PERFLUORONONANOIC ACID (PFNA)		0.86	U		0.86	U		0.86	U		0.93	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		11.1			9.4			8.26			3.72	U	A
PERFLUOROTETRADECANOIC ACID (PFTEA)		0.86	U		0.86	U		0.86	U		0.93	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		0.43	U		0.43	U		0.43	U		0.46	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		0.86	U		0.86	U		0.86	U		0.93	U	

Appendix B

Results as Reported by the Laboratory

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GW10R101818				
Battelle ID		J9041-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.290				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	2.42	J	0.16	0.43	4.31
PFHpA	375-85-9	2.51	J	0.14	0.43	4.31
PFOA	335-67-1	15.00		0.16	0.43	4.31
PFNA	375-95-1	0.86	U	0.22	0.86	4.31
PFDA	335-76-2	0.43	U	0.14	0.43	4.31
PFUnA	2058-94-8	0.86	U	0.25	0.86	4.31
PFDoA	307-55-1	0.43	U	0.16	0.43	4.31
PFTrDA	72629-94-8	0.43	U	0.13	0.43	4.31
PFTeDA	376-06-7	0.86	U	0.22	0.86	4.31
NMeFOSAA	2355-31-9	1.72	U	0.48	1.72	4.31
NEtFOSAA	2991-50-6	4.46		0.42	0.86	4.31
PFBS	375-73-5	4.80		0.11	0.43	4.31
PFHxS	355-46-4	1.81	J	0.09	0.34	4.31
PFOS	1763-23-1	11.10		0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	113
13C4-PFHpA	117
13C8-PFOA	91
13C9-PFNA	93
13C6-PFDA	97
13C7-PFUnA	86
13C2-PFDoA	73
13C2-PFTeDA	78
d3-MeFOSAA	109
d5-EtFOSAA	122
13C3-PFBS	97
13C3-PFHxS	133
13C8-PFOS	109

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GW15101818			
Battelle ID		J9042-FS			
Sample Type		SA			
Collection Date		10/18/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		GW			
Sample Size		0.290			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	3.53 J	0.16	0.43	4.31
PFHpA	375-85-9	2.91 J	0.14	0.43	4.31
PFOA	335-67-1	19.25	0.16	0.43	4.31
PFNA	375-95-1	0.86 U	0.22	0.86	4.31
PFDA	335-76-2	0.43 U	0.14	0.43	4.31
PFUnA	2058-94-8	0.86 U	0.25	0.86	4.31
PFDoA	307-55-1	0.43 U	0.16	0.43	4.31
PFTrDA	72629-94-8	0.43 U	0.13	0.43	4.31
PFTeDA	376-06-7	0.86 U	0.22	0.86	4.31
NMeFOSAA	2355-31-9	1.72 U	0.48	1.72	4.31
NEtFOSAA	2991-50-6	0.86 U	0.42	0.86	4.31
PFBS	375-73-5	3.85 J	0.11	0.43	4.31
PFHxS	355-46-4	3.09 J	0.09	0.34	4.31
PFOS	1763-23-1	9.40	0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	102
13C4-PFHpA	100
13C8-PFOA	90
13C9-PFNA	82
13C6-PFDA	85
13C7-PFUnA	85
13C2-PFDoA	66
13C2-PFTeDA	56
d3-MeFOSAA	68
d5-EtFOSAA	82
13C3-PFBS	71
13C3-PFHxS	89
13C8-PFOS	87

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04FRB101818			
Battelle ID		J9043-FS			
Sample Type		SA			
Collection Date		10/18/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		QC			
Sample Size		0.260			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	0.48 U	0.18	0.48	4.81
PFHpA	375-85-9	0.48 U	0.15	0.48	4.81
PFOA	335-67-1	1.21 J	0.17	0.48	4.81
PFNA	375-95-1	0.96 U	0.25	0.96	4.81
PFDA	335-76-2	0.48 U	0.15	0.48	4.81
PFUnA	2058-94-8	0.96 U	0.28	0.96	4.81
PFDoA	307-55-1	0.48 U	0.17	0.48	4.81
PFTrDA	72629-94-8	0.48 U	0.14	0.48	4.81
PFTeDA	376-06-7	0.96 U	0.24	0.96	4.81
NMeFOSAA	2355-31-9	1.92 U	0.54	1.92	4.81
NEtFOSAA	2991-50-6	0.96 U	0.47	0.96	4.81
PFBS	375-73-5	0.48 U	0.13	0.48	4.81
PFHxS	355-46-4	0.38 U	0.11	0.38	4.81
PFOS	1763-23-1	0.48 U	0.18	0.48	4.81

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	92
13C8-PFOA	102
13C9-PFNA	99
13C6-PFDA	91
13C7-PFUnA	92
13C2-PFDoA	79
13C2-PFTeDA	81
d3-MeFOSAA	82
d5-EtFOSAA	85
13C3-PFBS	83
13C3-PFHxS	99
13C8-PFOS	83

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GW28101818				
Battelle ID		J9044-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.290				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	2.32	J	0.16	0.43	4.31
PFHpA	375-85-9	1.77	J	0.14	0.43	4.31
PFOA	335-67-1	15.52		0.16	0.43	4.31
PFNA	375-95-1	0.86	U	0.22	0.86	4.31
PFDA	335-76-2	0.43	U	0.14	0.43	4.31
PFUnA	2058-94-8	0.86	U	0.25	0.86	4.31
PFDoA	307-55-1	0.43	U	0.16	0.43	4.31
PFTrDA	72629-94-8	0.43	U	0.13	0.43	4.31
PFTeDA	376-06-7	0.86	U	0.22	0.86	4.31
NMeFOSAA	2355-31-9	1.72	U	0.48	1.72	4.31
NEtFOSAA	2991-50-6	0.86	U	0.42	0.86	4.31
PFBS	375-73-5	2.39	J	0.11	0.43	4.31
PFHxS	355-46-4	2.21	J	0.09	0.34	4.31
PFOS	1763-23-1	8.26		0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	110
13C4-PFHpA	124
13C8-PFOA	97
13C9-PFNA	83
13C6-PFDA	81
13C7-PFUnA	84
13C2-PFDoA	65
13C2-PFTeDA	63
d3-MeFOSAA	104
d5-EtFOSAA	91
13C3-PFBS	97
13C3-PFHxS	122
13C8-PFOS	92

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		04GWGP1101818			
Battelle ID		J9045-FS			
Sample Type		SA			
Collection Date		10/18/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		GW			
Sample Size		0.270			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	0.46 U	0.18	0.46	4.63
PFHpA	375-85-9	1.01 J	0.15	0.46	4.63
PFOA	335-67-1	9.33 B	0.17	0.46	4.63
PFNA	375-95-1	0.93 U	0.24	0.93	4.63
PFDA	335-76-2	0.46 U	0.15	0.46	4.63
PFUnA	2058-94-8	0.93 U	0.27	0.93	4.63
PFDoA	307-55-1	0.46 U	0.17	0.46	4.63
PFTrDA	72629-94-8	0.46 U	0.14	0.46	4.63
PFTeDA	376-06-7	0.93 U	0.23	0.93	4.63
NMeFOSAA	2355-31-9	1.85 U	0.52	1.85	4.63
NEtFOSAA	2991-50-6	0.93 U	0.45	0.93	4.63
PFBS	375-73-5	3.20 J	0.12	0.46	4.63
PFHxS	355-46-4	1.73 J	0.10	0.37	4.63
PFOS	1763-23-1	3.72 J	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	120
13C4-PFHpA	113
13C8-PFOA	96
13C9-PFNA	85
13C6-PFDA	78
13C7-PFUnA	75
13C2-PFDoA	63
13C2-PFTeDA	61
d3-MeFOSAA	52
d5-EtFOSAA	63
13C3-PFBS	95
13C3-PFHxS	101
13C8-PFOS	99

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		03GW34101818				
Battelle ID		J9046-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.280				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	0.45	U	0.17	0.45	4.46
PFHpA	375-85-9	0.45	U	0.14	0.45	4.46
PFOA	335-67-1	1.88	J	0.16	0.45	4.46
PFNA	375-95-1	0.89	U	0.23	0.89	4.46
PFDA	335-76-2	0.45	U	0.14	0.45	4.46
PFUnA	2058-94-8	0.89	U	0.26	0.89	4.46
PFDoA	307-55-1	0.45	U	0.16	0.45	4.46
PFTrDA	72629-94-8	0.45	U	0.13	0.45	4.46
PFTeDA	376-06-7	0.89	U	0.22	0.89	4.46
NMeFOSAA	2355-31-9	1.79	U	0.50	1.79	4.46
NEtFOSAA	2991-50-6	0.89	U	0.44	0.89	4.46
PFBS	375-73-5	0.66	J	0.12	0.45	4.46
PFHxS	355-46-4	0.41	J	0.10	0.36	4.46
PFOS	1763-23-1	0.77	J	0.17	0.45	4.46

Surrogate Recoveries (%)

13C5-PFHxA	93
13C4-PFHpA	94
13C8-PFOA	78
13C9-PFNA	69
13C6-PFDA	57
13C7-PFUnA	67
13C2-PFDoA	70
13C2-PFTeDA	65
d3-MeFOSAA	74
d5-EtFOSAA	102
13C3-PFBS	108
13C3-PFHxS	102
13C8-PFOS	103

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		03FRB101818			
Battelle ID		J9047-FS			
Sample Type		SA			
Collection Date		10/18/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		QC			
Sample Size		0.260			
Size Unit-Basis		L			
Units		ng/L	MDL	LOD	LOQ
PFHxA	307-24-4	0.48 U	0.18	0.48	4.81
PFHpA	375-85-9	0.48 U	0.15	0.48	4.81
PFOA	335-67-1	1.15 J	0.17	0.48	4.81
PFNA	375-95-1	0.96 U	0.25	0.96	4.81
PFDA	335-76-2	0.48 U	0.15	0.48	4.81
PFUnA	2058-94-8	0.96 U	0.28	0.96	4.81
PFDoA	307-55-1	0.48 U	0.17	0.48	4.81
PFTrDA	72629-94-8	0.48 U	0.14	0.48	4.81
PFTeDA	376-06-7	0.96 U	0.24	0.96	4.81
NMeFOSAA	2355-31-9	1.92 U	0.54	1.92	4.81
NEtFOSAA	2991-50-6	0.96 U	0.47	0.96	4.81
PFBS	375-73-5	0.48 U	0.13	0.48	4.81
PFHxS	355-46-4	0.38 U	0.11	0.38	4.81
PFOS	1763-23-1	0.48 U	0.18	0.48	4.81

Surrogate Recoveries (%)

13C5-PFHxA	78
13C4-PFHpA	81
13C8-PFOA	97
13C9-PFNA	85
13C6-PFDA	91
13C7-PFUnA	95
13C2-PFDoA	82
13C2-PFTeDA	86
d3-MeFOSAA	100
d5-EtFOSAA	98
13C3-PFBS	92
13C3-PFHxS	91
13C8-PFOS	106

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		03GW19101818				
Battelle ID		J9048-FS				
Sample Type		SA				
Collection Date		10/18/2018				
Extraction Date		10/24/2018				
Analysis Date		11/02/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		GW				
Sample Size		0.285				
Size Unit-Basis		L				
Units		ng/L		MDL	LOD	LOQ
PFHxA	307-24-4	0.44	U	0.17	0.44	4.39
PFHpA	375-85-9	0.44	U	0.14	0.44	4.39
PFOA	335-67-1	1.70	J	0.16	0.44	4.39
PFNA	375-95-1	0.88	U	0.23	0.88	4.39
PFDA	335-76-2	0.44	U	0.14	0.44	4.39
PFUnA	2058-94-8	0.88	U	0.25	0.88	4.39
PFDoA	307-55-1	0.44	U	0.16	0.44	4.39
PFTrDA	72629-94-8	0.44	U	0.13	0.44	4.39
PFTeDA	376-06-7	0.88	U	0.22	0.88	4.39
NMeFOSAA	2355-31-9	1.75	U	0.49	1.75	4.39
NEtFOSAA	2991-50-6	0.88	U	0.43	0.88	4.39
PFBS	375-73-5	0.23	J	0.11	0.44	4.39
PFHxS	355-46-4	0.24	J	0.10	0.35	4.39
PFOS	1763-23-1	0.82	J	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	90
13C8-PFOA	72
13C9-PFNA	70
13C6-PFDA	73
13C7-PFUnA	67
13C2-PFDoA	67
13C2-PFTeDA	75
d3-MeFOSAA	62
d5-EtFOSAA	54
13C3-PFBS	104
13C3-PFHxS	92
13C8-PFOS	91

Appendix C

Support Documentation

BATTELLE
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Chain-of-Custody

Client Contact Information	Project Manager: G. Roof Sampler Information (print name): WADickson Phone: 850 443 6855 Email: William.Dickson@tetratech.com Turnaround Time (TAT) Requested:	Sampling Site: NCBC GAT	Site Information: sites 3/4
Project Name: NCBC Gulfport Project No.: 126408005 - JMod	Normal ☒ Priority ☐ RUSH ☐ Time Zone:	Preservative: HNO3 Analysis: PFAS	COC # Page#

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis: PFAS	Page#
04GW10R10181B	10-18-18	0918	G	GW	2	2	J9041
04GW15 10181B	10-18-18	1015	G	GW	2	2	J9042
04FRB10181B	10-18-18	1020	QC	QC	1	1	J9043
04GW28 10181B	10-18-18	1105	G	GW	2	2	J9044
04GW GP1 10181B	10-18-18	1215	G	GW	2	2	J9045
03GW34 10181B	10-18-18	1400	G	GW	2	2	J9046
03FRB10181B	10-18-18	1505	QC	QC	1	1	J9047
03GW19 10181B	10-18-18	1530	G	GW	2	2	J9048

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

Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
WADickson	Tetra Tech	10-18-18 1645		Battelle	10-19-18 1000

Comments: FedEx 8085 1759 8678

BATTELLE
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ShpNo SHP-181019-02

Battelle Project No:

Sample Receipt Form

Approved: ☐ Authorized ☐

Project Number: 112G08005-JM08 **Client:** Tetra Tech

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 19, 2018 10:00 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** 8085 1759 8678

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	8085 1759 8678	Custody Seals	Intact	Intact	Therm_1	1.1	8

Samples

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

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

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

Temperature upon receipt (°C): 1.1 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:** J9041 - J9048

Samples logged in by: Schumitz, Matt **Date/Time:** 10/19/2018 10:00 AM

Approved By: _____ **Approved On:** _____

Authorized By: _____ **Authorized On:** _____

QA/QC Summary
Batch 18-0633

Project:	CTO-JM08: Naval Construction Battalion Center (NCBC) Gulfport, Mississippi
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW, QC
Data Set:	DP-18-0331
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
10/18/2018	10/19/2018	1.1
Corrective Actions	None	
Sample Storage	The water samples were stored refrigerated until extraction.	
Related samples	NA	

	METHOD SUMMARIES
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with 0.4% NH_3 in methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	Sample J9041-FS (04GW10R101818) had a sulfur odor.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. PFHxS and PFOS are reported in all samples as a combination of linear and branched isomers.

Holding Times	Extraction Date(s)	Analysis Date(s)
	10/24/2018	11/1-2/2018

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ Samples >10x PB	One exceedance noted.
	Sample J9045-FS (04GWGP1101818) has a B qualifier for PFOA as the detected concentration in the sample is less than 10x the concentration found in the PB (1.17 ng/L, less than ½ the LOQ). PB was re-run to verify, the quant report can

QA/QC Summary
Batch 18-0633

	be found in the unused data section of the full data package.

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

Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery and <30% RPD	An MS/MSD set was not prepared with this SDG.
	No comments.

Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted.
	No comments.

Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted.
	No comments.

Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadradic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted.
	No comments.

Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.

Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.

QA/QC Summary
Batch 18-0633

Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
≤ ½ the LOQ	No exceedances noted.
	No comments.

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project Number: 100112541
Preparation Batch: 18-0633
Data Set: DP-18-0331
Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	1	PFOA was detected in one authentic sample at less than 10 times the amount detected in the PB, and is B qualified in these samples. The PB was rerun for confirmation and the quant report can be found in the unused
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	NA	None
Matrix Spike / Matrix Spike Duplicate Precision	NA	None
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		KC73 IB			
Battelle ID		KC73 IB_11/01/2018			
Sample Type		IB			
Collection Date		NA			
Extraction Date		NA			
Analysis Date		11/01/2018			
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	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.20 J	0.16	0.50	5.00
PFOA	335-67-1	0.26 J	0.18	0.50	5.00
PFNA	375-95-1	0.27 J	0.26	1.00	5.00
PFDA	335-76-2	0.27 J	0.16	0.50	5.00
PFUnA	2058-94-8	0.32 J	0.29	1.00	5.00
PFDoA	307-55-1	0.23 J	0.18	0.50	5.00
PFTrDA	72629-94-8	0.22 J	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.21 J	0.13	0.50	5.00
PFHxS	355-46-4	0.30 J	0.11	0.40	5.00
PFOS	1763-23-1	0.29 J	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	98
13C8-PFOA	103
13C9-PFNA	97
13C6-PFDA	97
13C7-PFUnA	97
13C2-PFDoA	93
13C2-PFTeDA	93
d3-MeFOSAA	90
d5-EtFOSAA	80
13C3-PFBS	87
13C3-PFHxS	84
13C8-PFOS	93

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		Procedural Blank			
Battelle ID		CS035PB-FS			
Sample Type		PB			
Collection Date		10/24/2018			
Extraction Date		10/24/2018			
Analysis Date		11/02/2018			
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	307-24-4	0.50 U	0.19	0.50	5.00
PFHpA	375-85-9	0.50 U	0.16	0.50	5.00
PFOA	335-67-1	1.17 J	0.18	0.50	5.00
PFNA	375-95-1	1.00 U	0.26	1.00	5.00
PFDA	335-76-2	0.50 U	0.16	0.50	5.00
PFUnA	2058-94-8	1.00 U	0.29	1.00	5.00
PFDoA	307-55-1	0.50 U	0.18	0.50	5.00
PFTrDA	72629-94-8	0.50 U	0.15	0.50	5.00
PFTeDA	376-06-7	1.00 U	0.25	1.00	5.00
NMeFOSAA	2355-31-9	2.00 U	0.56	2.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.49	1.00	5.00
PFBS	375-73-5	0.50 U	0.13	0.50	5.00
PFHxS	355-46-4	0.41 J	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	84
13C4-PFHpA	88
13C8-PFOA	97
13C9-PFNA	86
13C6-PFDA	96
13C7-PFUnA	92
13C2-PFDoA	86
13C2-PFTeDA	84
d3-MeFOSAA	85
d5-EtFOSAA	76
13C3-PFBS	82
13C3-PFHxS	82
13C8-PFOS	80

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

Client ID		Laboratory Control Sample					
Battelle ID		CS036LCS-FS					
Sample Type		LCS					
Collection Date		10/24/2018					
Extraction Date		10/24/2018					
Analysis Date		11/02/2018					
Analytical Instrument		Sciex 5500 LC/MS/MS					
% Moisture		NA					
Matrix		WATER					
Sample Size		0.250					
Size Unit-Basis		L				Control Limits	
Units		ng/L	Target	Recovery	Qual	Lower	Upper
PFHxA	307-24-4	9.49	10.10	94		51	137
PFHpA	375-85-9	9.95	10.00	100		48	136
PFOA	335-67-1	11.86	10.00	119		49	141
PFNA	375-95-1	11.09	10.00	111		58	122
PFDA	335-76-2	10.32	10.00	103		59	135
PFUnA	2058-94-8	10.06	10.00	101		64	134
PFDoA	307-55-1	10.64	10.00	106		75	131
PFTrDA	72629-94-8	11.20	10.00	112		42	148
PFTeDA	376-06-7	10.84	10.00	108		42	158
NMeFOSAA	2355-31-9	10.80	10.00	108		50	146
NEtFOSAA	2991-50-6	10.05	10.00	101		51	131
PFBS	375-73-5	9.84	10.10	97		56	134
PFHxS	355-46-4	11.44	10.10	113		52	128
PFOS	1763-23-1	10.69	10.00	107		40	144
Surrogate Recoveries (%)							
13C5-PFHxA		86					
13C4-PFHpA		83					
13C8-PFOA		91					
13C9-PFNA		86					
13C6-PFDA		88					
13C7-PFUnA		87					
13C2-PFDoA		78					
13C2-PFTeDA		78					
d3-MeFOSAA		92					
d5-EtFOSAA		88					
13C3-PFBS		91					
13C3-PFHxS		85					
13C8-PFOS		88					

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

BATTELLE
It can be done

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	11/1/18 19:58	13C2-PFOA	72,221.32	36,110.66	108,331.98

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	11/1/18 19:14	13C2-PFOA	61,864.97	36,110.66	108,331.98	
KB74	L2	11/1/18 19:25	13C2-PFOA	65,242.38	36,110.66	108,331.98	
KB75	L3	11/1/18 19:36	13C2-PFOA	58,925.63	36,110.66	108,331.98	
KB76	L4	11/1/18 19:47	13C2-PFOA	62,875.72	36,110.66	108,331.98	
KB77	L5	11/1/18 19:58	13C2-PFOA	72,221.32	36,110.66	108,331.98	
KB78	L6	11/1/18 20:09	13C2-PFOA	61,222.46	36,110.66	108,331.98	
KB79	L7	11/1/18 20:20	13C2-PFOA	74,147.58	36,110.66	108,331.98	
KC73 IB	Instrument Blank	11/1/18 20:30	13C2-PFOA	76,070.00	36,110.66	108,331.98	
KB81 ICC	ICC	11/1/18 20:41	13C2-PFOA	66,442.19	36,110.66	108,331.98	
KB77 CCV	CCV	11/2/18 3:01	13C2-PFOA	78,211.92	36,110.66	108,331.98	
CS035PB-FS(0)	Procedural Blank	11/2/18 3:23	13C2-PFOA	70,486.06	36,110.66	108,331.98	
CS036LCS-FS(0)	Laboratory Control Sample	11/2/18 3:34	13C2-PFOA	69,780.92	36,110.66	108,331.98	
J9041-FS(0)	04GW10R101818	11/2/18 3:45	13C2-PFOA	73,501.94	36,110.66	108,331.98	
~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/18 3:56~~	~~13C2-PFOA~~	~~77,854.13~~	~~36,110.66~~	~~108,331.98~~	1
~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/18 4:07~~	~~13C2-PFOA~~	~~84,420.61~~	~~36,110.66~~	~~108,331.98~~	1
J9042-FS(0)	04GW15101818	11/2/18 4:18	13C2-PFOA	65,693.98	36,110.66	108,331.98	
~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/18 4:28~~	~~13C2-PFOA~~	~~72,141.98~~	~~36,110.66~~	~~108,331.98~~	1
~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/18 4:39~~	~~13C2-PFOA~~	~~80,382.91~~	~~36,110.66~~	~~108,331.98~~	1
J9043-FS(0)	04FRB101818	11/2/18 4:50	13C2-PFOA	65,945.07	36,110.66	108,331.98	
J9044-FS(0)	04GW28101818	11/2/18 5:01	13C2-PFOA	66,762.95	36,110.66	108,331.98	
KB76 CCV	CCV	11/2/18 5:12	13C2-PFOA	80,490.02	36,110.66	108,331.98	
J9044-FS(0)	04GW28101818	11/2/18 5:34	13C2-PFOA	78,576.06	36,110.66	108,331.98	
~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/18 5:45~~	~~13C2-PFOA~~	~~73,467.59~~	~~36,110.66~~	~~108,331.98~~	1
J9045-FS(0)	04GWGP1101818	11/2/18 5:56	13C2-PFOA	68,442.40	36,110.66	108,331.98	
~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/18 6:06~~	~~13C2-PFOA~~	~~73,702.17~~	~~36,110.66~~	~~108,331.98~~	1
~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/18 6:17~~	~~13C2-PFOA~~	~~83,428.48~~	~~36,110.66~~	~~108,331.98~~	1
~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/18 6:28~~	~~13C2-PFOA~~	~~68,898.47~~	~~36,110.66~~	~~108,331.98~~	1
J9046-FS(0)	03GW34101818	11/2/18 6:39	13C2-PFOA	65,364.28	36,110.66	108,331.98	
~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/18 6:50~~	~~13C2-PFOA~~	~~78,243.77~~	~~36,110.66~~	~~108,331.98~~	1
KB77 CCV	CCV	11/2/18 7:01	13C2-PFOA	70,029.09	36,110.66	108,331.98	
~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/18 7:23~~	~~13C2-PFOA~~	~~80,112.15~~	~~36,110.66~~	~~108,331.98~~	1
~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/18 7:33~~	~~13C2-PFOA~~	~~73,214.22~~	~~36,110.66~~	~~108,331.98~~	1
J9047-FS(0)	03FRB101818	11/2/18 7:44	13C2-PFOA	73,468.34	36,110.66	108,331.98	
J9048-FS(0)	03GW19101818	11/2/18 7:55	13C2-PFOA	75,855.19	36,110.66	108,331.98	
~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/18 8:06~~	~~13C2-PFOA~~	~~83,576.27~~	~~36,110.66~~	~~108,331.98~~	1
~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/18 8:17~~	~~13C2-PFOA~~	~~73,556.88~~	~~36,110.66~~	~~108,331.98~~	1
KB76 CCV	CCV	11/2/18 8:28	13C2-PFOA	69,447.83	36,110.66	108,331.98	
1 Dilutions made and run but not needed so they are not being reported. DMS 11/8/2018							

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

BATTELLE
It can be done

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	11/1/18 19:58	13C2-PFDA	87,557.63	43,778.82	131,336.45

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	11/1/18 19:14	13C2-PFDA	78,626.59	43,778.82	131,336.45	
KB74	L2	11/1/18 19:25	13C2-PFDA	72,340.64	43,778.82	131,336.45	
KB75	L3	11/1/18 19:36	13C2-PFDA	69,287.70	43,778.82	131,336.45	
KB76	L4	11/1/18 19:47	13C2-PFDA	76,754.58	43,778.82	131,336.45	
KB77	L5	11/1/18 19:58	13C2-PFDA	87,557.63	43,778.82	131,336.45	
KB78	L6	11/1/18 20:09	13C2-PFDA	67,693.37	43,778.82	131,336.45	
KB79	L7	11/1/18 20:20	13C2-PFDA	88,557.55	43,778.82	131,336.45	
KC73 IB	Instrument Blank	11/1/18 20:30	13C2-PFDA	91,089.89	43,778.82	131,336.45	
KB81 ICC	ICC	11/1/18 20:41	13C2-PFDA	78,279.79	43,778.82	131,336.45	
KB77 CCV	CCV	11/2/18 3:01	13C2-PFDA	85,925.54	43,778.82	131,336.45	
CS035PB-FS(0)	Procedural Blank	11/2/18 3:23	13C2-PFDA	84,623.13	43,778.82	131,336.45	
CS036LCS-FS(0)	Laboratory Control Sample	11/2/18 3:34	13C2-PFDA	84,589.81	43,778.82	131,336.45	
J9041-FS(0)	04GW10R101818	11/2/18 3:45	13C2-PFDA	98,231.50	43,778.82	131,336.45	
~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/18 3:56~~	~~13C2-PFDA~~	~~96,243.54~~	~~43,778.82~~	~~131,336.45~~	1
~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/18 4:07~~	~~13C2-PFDA~~	~~102,249.74~~	~~43,778.82~~	~~131,336.45~~	1
J9042-FS(0)	04GW15101818	11/2/18 4:18	13C2-PFDA	83,077.38	43,778.82	131,336.45	
~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/18 4:28~~	~~13C2-PFDA~~	~~90,163.35~~	~~43,778.82~~	~~131,336.45~~	1
~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/18 4:39~~	~~13C2-PFDA~~	~~90,622.92~~	~~43,778.82~~	~~131,336.45~~	1
J9043-FS(0)	04FRB101818	11/2/18 4:50	13C2-PFDA	88,343.88	43,778.82	131,336.45	
J9044-FS(0)	04GW28101818	11/2/18 5:01	13C2-PFDA	88,880.39	43,778.82	131,336.45	
KB76 CCV	CCV	11/2/18 5:12	13C2-PFDA	96,581.35	43,778.82	131,336.45	
J9044-FS(0)	04GW28101818	11/2/18 5:34	13C2-PFDA	86,245.79	43,778.82	131,336.45	
~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/18 5:45~~	~~13C2-PFDA~~	~~85,872.04~~	~~43,778.82~~	~~131,336.45~~	1
J9045-FS(0)	04GWGP1101818	11/2/18 5:56	13C2-PFDA	91,139.12	43,778.82	131,336.45	
~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/18 6:06~~	~~13C2-PFDA~~	~~82,487.06~~	~~43,778.82~~	~~131,336.45~~	1
~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/18 6:17~~	~~13C2-PFDA~~	~~93,326.75~~	~~43,778.82~~	~~131,336.45~~	1
~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/18 6:28~~	~~13C2-PFDA~~	~~76,691.80~~	~~43,778.82~~	~~131,336.45~~	1
J9046-FS(0)	03GW34101818	11/2/18 6:39	13C2-PFDA	86,026.85	43,778.82	131,336.45	
~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/18 6:50~~	~~13C2-PFDA~~	~~94,395.91~~	~~43,778.82~~	~~131,336.45~~	1
KB77 CCV	CCV	11/2/18 7:01	13C2-PFDA	84,544.48	43,778.82	131,336.45	
~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/18 7:23~~	~~13C2-PFDA~~	~~96,283.97~~	~~43,778.82~~	~~131,336.45~~	1
~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/18 7:33~~	~~13C2-PFDA~~	~~82,091.35~~	~~43,778.82~~	~~131,336.45~~	1
J9047-FS(0)	03FRB101818	11/2/18 7:44	13C2-PFDA	85,031.02	43,778.82	131,336.45	
J9048-FS(0)	03GW19101818	11/2/18 7:55	13C2-PFDA	85,331.10	43,778.82	131,336.45	
~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/18 8:06~~	~~13C2-PFDA~~	~~96,580.55~~	~~43,778.82~~	~~131,336.45~~	1
~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/18 8:17~~	~~13C2-PFDA~~	~~81,631.38~~	~~43,778.82~~	~~131,336.45~~	1
KB76 CCV	CCV	11/2/18 8:28	13C2-PFDA	81,217.79	43,778.82	131,336.45	

1 Dilutions made and run but not needed so they are not being reported. DMS 11/8/2018

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541

BATTELLE
It can be done

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	11/1/18 19:58	13C4-PFOS	26,711.29	13,355.65	40,066.94

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	11/1/18 19:14	13C4-PFOS	21,870.93	13,355.65	40,066.94	
KB74	L2	11/1/18 19:25	13C4-PFOS	22,247.01	13,355.65	40,066.94	
KB75	L3	11/1/18 19:36	13C4-PFOS	20,915.41	13,355.65	40,066.94	
KB76	L4	11/1/18 19:47	13C4-PFOS	23,455.31	13,355.65	40,066.94	
KB77	L5	11/1/18 19:58	13C4-PFOS	26,711.29	13,355.65	40,066.94	
KB78	L6	11/1/18 20:09	13C4-PFOS	22,177.86	13,355.65	40,066.94	
KB79	L7	11/1/18 20:20	13C4-PFOS	25,818.86	13,355.65	40,066.94	
KC73 IB	Instrument Blank	11/1/18 20:30	13C4-PFOS	30,410.03	13,355.65	40,066.94	
KB81 ICC	ICC	11/1/18 20:41	13C4-PFOS	28,256.64	13,355.65	40,066.94	
KB77 CCV	CCV	11/2/18 3:01	13C4-PFOS	25,682.98	13,355.65	40,066.94	
CS035PB-FS(0)	Procedural Blank	11/2/18 3:23	13C4-PFOS	27,377.21	13,355.65	40,066.94	
CS036LCS-FS(0)	Laboratory Control Sample	11/2/18 3:34	13C4-PFOS	23,852.12	13,355.65	40,066.94	
J9041-FS(0)	04GW10R101818	11/2/18 3:45	13C4-PFOS	21,467.43	13,355.65	40,066.94	
~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/18 3:56~~	~~13C4-PFOS~~	~~24,721.28~~	~~13,355.65~~	~~40,066.94~~	1
~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/18 4:07~~	~~13C4-PFOS~~	~~30,237.05~~	~~13,355.65~~	~~40,066.94~~	1
J9042-FS(0)	04GW15101818	11/2/18 4:18	13C4-PFOS	22,836.16	13,355.65	40,066.94	
~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/18 4:28~~	~~13C4-PFOS~~	~~21,379.26~~	~~13,355.65~~	~~40,066.94~~	1
~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/18 4:39~~	~~13C4-PFOS~~	~~25,481.71~~	~~13,355.65~~	~~40,066.94~~	1
J9043-FS(0)	04FRB101818	11/2/18 4:50	13C4-PFOS	24,958.61	13,355.65	40,066.94	
J9044-FS(0)	04GW28101818	11/2/18 5:01	13C4-PFOS	20,222.03	13,355.65	40,066.94	
KB76 CCV	CCV	11/2/18 5:12	13C4-PFOS	25,760.79	13,355.65	40,066.94	
J9044-FS(0)	04GW28101818	11/2/18 5:34	13C4-PFOS	23,146.54	13,355.65	40,066.94	
~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/18 5:45~~	~~13C4-PFOS~~	~~24,627.69~~	~~13,355.65~~	~~40,066.94~~	1
J9045-FS(0)	04GWGP1101818	11/2/18 5:56	13C4-PFOS	24,019.71	13,355.65	40,066.94	
~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/18 6:06~~	~~13C4-PFOS~~	~~24,795.95~~	~~13,355.65~~	~~40,066.94~~	1
~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/18 6:17~~	~~13C4-PFOS~~	~~32,109.66~~	~~13,355.65~~	~~40,066.94~~	1
~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/18 6:28~~	~~13C4-PFOS~~	~~24,886.64~~	~~13,355.65~~	~~40,066.94~~	1
J9046-FS(0)	03GW34101818	11/2/18 6:39	13C4-PFOS	20,944.85	13,355.65	40,066.94	
~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/18 6:50~~	~~13C4-PFOS~~	~~28,590.75~~	~~13,355.65~~	~~40,066.94~~	1
KB77 CCV	CCV	11/2/18 7:01	13C4-PFOS	24,826.32	13,355.65	40,066.94	
~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/18 7:23~~	~~13C4-PFOS~~	~~27,144.99~~	~~13,355.65~~	~~40,066.94~~	1
~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/18 7:33~~	~~13C4-PFOS~~	~~22,215.33~~	~~13,355.65~~	~~40,066.94~~	1
J9047-FS(0)	03FRB101818	11/2/18 7:44	13C4-PFOS	22,757.58	13,355.65	40,066.94	
J9048-FS(0)	03GW19101818	11/2/18 7:55	13C4-PFOS	24,482.74	13,355.65	40,066.94	
~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/18 8:06~~	~~13C4-PFOS~~	~~28,315.02~~	~~13,355.65~~	~~40,066.94~~	1
~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/18 8:17~~	~~13C4-PFOS~~	~~27,921.19~~	~~13,355.65~~	~~40,066.94~~	1
KB76 CCV	CCV	11/2/18 8:28	13C4-PFOS	25,138.09	13,355.65	40,066.94	
1 Dilutions made and run but not needed so they are not being reported. DMS 11/8/2018							

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541
Preparation Batch: 18-0633
Data Set: DP-18-0331

		CS035PB-FS (Procedural Blank)	CS036LCS-FS (Laboratory Control Sample)	J9041-FS (04GW10R101818)	J9042-FS (04GW15101818)	J9043-FS (04FRB101818)	J9044-FS (04GW28101818)
PFHxA	307-24-4	-	L	L	L	-	L
PFHpA	375-85-9	-	L	L	L	-	L
PFOA	335-67-1	L	L	L	L	L	L
PFNA	375-95-1	-	L	-	-	-	-
PFDA	335-76-2	-	L	-	-	-	-
PFUnA	2058-94-8	-	L	-	-	-	-
PFDoA	307-55-1	-	L	-	-	-	-
PFTrDA	72629-94-8	-	L	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	L	-	-	-
PFBS	375-73-5	-	L	L	L	-	L
PFHxS	355-46-4	-	L/Br	L/Br	L/Br	-	L/Br
PFOS	1763-23-1	-	L/Br	L/Br	L/Br	-	L/Br

"L" :Linear
"Br": branched
"L/Br": Linear/Branched
"-": Not detected

BATTE
It can

Project Client: Tetra Tech
Project Name: PFAS Analytical work
Project No.: 100112541
Preparation Batcl
Data Set: DP-18-

	J9045-FS (04GWGP1101818)	J9046-FS (03GW34101818)	J9047-FS (03FRB101818)	J9048-FS (03GW19101818)
PFHxA	L	L	-	L
PFHpA	L	L	-	L
PFOA	L	L	L	L
PFNA	-	-	-	-
PFDA	-	-	-	-
PFUnA	-	-	-	-
PFDoA	-	-	-	-
PFTrDA	-	-	-	-
PFTeDA	-	-	-	-
NMeFOSAA	-	-	-	-
NEtFOSAA	-	L	-	L
PFBS	L	L	-	L
PFHxS	L/Br	L/Br	-	L/Br
PFOS	L/Br	L/Br	-	L/Br

"L" :Linear
"Br": branched
"L/Br": Linear/Bra
"-": Not detected

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 8:20:00 PM	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.55	39	>10
PFBS_2	298.9 / 99.0	1.55	35	>10
PFHxA_1	313.0 / 269.0	1.88	25	>10
PFHxA_2	313.0 / 119.0	1.88	25	>10
PFHpA_1	363.0 / 319.0	2.29	28	>10
PFHpA_2	363.0 / 169.0	2.29	31	>10
PFHxS_1	399.0 / 80.0	2.32	42	>10
PFHxS_2	399.0 / 99.0	2.32	43	>10
PFOA_1	413.0 / 369.0	2.71	36	>10
PFOA_2	413.0 / 169.0	2.71	41	>10
PFNA_1	463.0 / 419.0	3.11	32	>10
PFNA_2	463.0 / 219.0	3.11	29	>10
PFOS_1	499.0 / 80.0	3.10	37	>10
PFOS_2	499.0 / 99.0	3.10	34	>10
PFDA_1	513.0 / 469.0	3.46	34	>10
PFDA_2	513.0 / 219.0	3.46	41	>10
PFUnA_1	563.0 / 519.0	3.79	33	>10
PFUnA_2	563.0 / 269.0	3.79	51	>10
PFDoA_1	613.0 / 569.0	4.07	39	>10
PFDoA_2	613.0 / 319.0	4.07	40	>10
PFTrDA_1	663.0 / 619.0	4.32	54	>10
PFTrDA_2	663.0 / 169.0	4.32	47	>10
PFTeDA_1	713.0 / 669.0	4.53	66	>10
PFTeDA_2	713.0 / 169.0	4.53	76	>10
NMeFOSAA_1	570.0 / 419.0	3.62	29	>10
NMeFOSAA_2	570.0 / 512.0	3.62	27	>10
NEtFOSAA_1	584.0 / 419.0	3.78	29	>10
NEtFOSAA_2	584.0 / 483.0	3.78	33	>10

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Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 06/11/2018 1:39:40 PM

Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 8:20:00 PM	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	4.06	46	>10
d3-MeFOSAA	573.0 / 419.0	3.62	29	>10
d5-EtFOSAA	589.0 / 419.0	3.78	31	>10
13C5-PFHxA	318.0 / 273.0	1.87	24	>10
13C4-PFHpA	367.0 / 322.0	2.28	37	>10
13C8-PFOA	421.0 / 376.0	2.70	32	>10
13C9-PFNA	472.0 / 427.0	3.09	26	>10
13C6-PFDA	519.0 / 474.0	3.45	30	>10
13C7-PFUnA	570.0 / 525.0	3.77	26	>10
13C2-PFTeDA	715.0 / 670.0	4.53	57	>10
13C3-PFBS	302.0 / 99.0	1.53	21	>10
13C3-PFHxS	402.0 / 99.0	2.30	25	>10
13C8-PFOS	507.0 / 99.0	3.09	21	>10

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

Analytical SOP 5-369
Extraction SOP 5-370

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

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

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

ID 596 04/18

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

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

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS[1]	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS[1]	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS[1]	318.0 / 273.0	NA

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

[1] – extracted internal standard (surrogate)
[2] – injection internal standard

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Non-Potable 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
10,000	1	1	0.250	40.0
20,000	1	1	0.250	80.0

[1] - base level dilution as part of the extraction procedure

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

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

MASS CALIBRATION AND TUNE CHECK

QTRAP 5500
Preventive Maintenance Checklist

Preventive Maintenance Date:	12-June-2018

Request ID:	9749
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: Suspected issue with pulse gas manifold. TRAP testing in POSITIVE mode couldn't be finished because of pulse gas issue. The same issue will be taken care in separate service call.

Performed By: Kaustubh Dhayagude **Date:** 12-June-2018

Approved By :_____ **Date:** _____

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QTRAP 5500

LC/MS/MS Detector System
Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

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

CAD Settings	Vacuum Reading (x 10^{-5} Torr)	Acceptance Criteria
☑ CAD 0	0.6	0.4 to 1.1 x10^{-5} Torr
☑ CAD Low	1.3	Read Only
☑ CAD Medium	2.7	Read Only
☑ CAD High	3.7	Read Only
☑ CAD 12	3.7	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	4.01 e6	Read Only	0.6998	Read Only
Q1 500.380	2.81 e7	Read Only	0.7038	Read Only
Q1 906.673	4.21 e7	Read Only	0.7071	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	5.45 e6	Read Only	0.6873	Read Only
Q3 500.380	2.69 e7	Read Only	0.7591	Read Only
Q3 906.673	4.50 e7	Read Only	0.7843	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: :__28.87%__ (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	4.26 e7	Read Only	0.7011	Read Only
MS/MS 195.1	1.23 e7	Read Only	0.7069	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	1.42 e7	Read Only	0.7686	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	2.24 e7	Read Only	0.7243	Read Only

☑ Perform Product Ion scan using NEG PPG 3e-5M. Record10mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.31 e6	Read Only	0.6746	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	0.7	0.4 to 1.1 x10^{-5} Torr
☑ CAD Low	1.3	Read Only
☑ CAD Medium	2.7	Read Only
☑ CAD High	3.7	Read Only
☑ CAD 12	3.7	2.4 to 4.5 x10^{-5} Torr

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

Mass	Q1 Intensity		Q1 Width	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.04 e6	≥1.2^{e}6	0.6737	0.6 to 0.8
Q1 500.380	1.60 e7	≥9.0^{e}6	0.6961	0.6 to 0.8
Q1 906.673	2.84 e7	≥1.4^{e}7	0.7179	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8^{e}7	0.7465	0.6 to 0.8

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

Mass	Q3 Intensity		Q3 Width	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	5.02 e6	≥1.2^{e}6	0.6719	0.6 to 0.8
Q3 500.380	1.72 e7	≥9.0^{e}6	0.7443	0.6 to 0.8
Q3 906.673	3.00 e7	≥1.4^{e}7	0.7504	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.46 e8	≥6.8^{e}7	0.7202	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: 21.10% (≥ 10.0%)

Mass	MSMS Intensity		Width	Width Specs
	Value	Spec	Value	
Q1 609.3	5.78 e7	N/A	0.6888	Read Only
MS/MS 195.1	1.22 e7	N/A	0.7003	Read Only

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

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

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.35 e7	≥1.0^{e}7	0.7486	0.6 to 0.8
Q1 933.636	1000	50	7.52 e7	≥4.0^{e}7	0.7206	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	2.15 e7	≥8.0^{e}6	0.7492	0.6 to 0.8
Q3 933.636	1000	50	8.33 e7	≥4.0^{e}7	0.7299	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	8.54 e6	≥7.2 ^{e}6	0.1473	<0.35
ER 922.010	0.05	4.96 e7	≥2.8 ^{e}6	0.2434	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		≥2.4 ^{e}7		<0.65
ER 922.010	0.05		≥6.8 ^{e}7		<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	1.81 e8	≥4.4 ^{e}7	0.1862	<0.35
ER 601.978	0.05	1.70 e8	≥5.6 ^{e}7	0.1809	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	5.72 e8	≥1.2 ^{e}8	0.5102	<0.65
ER 601.978	0.05	4.52 e8	≥1.6 ^{e}8	0.6187	<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	> 3.0 e6	≥2.0 e6	> 7.0 e6	≥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	Yes	Contains only 397.2	N/A	N/A
☐ 236 OR ☑ 365	1000	Yes	Fragment Intensity	> 2.0 e6	≥1.6x $10^{e}6$

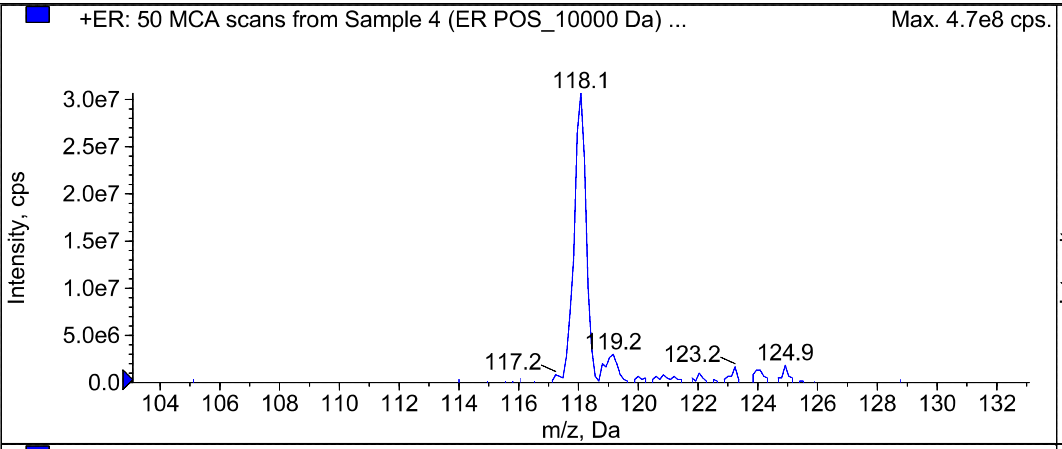
REVIEW:

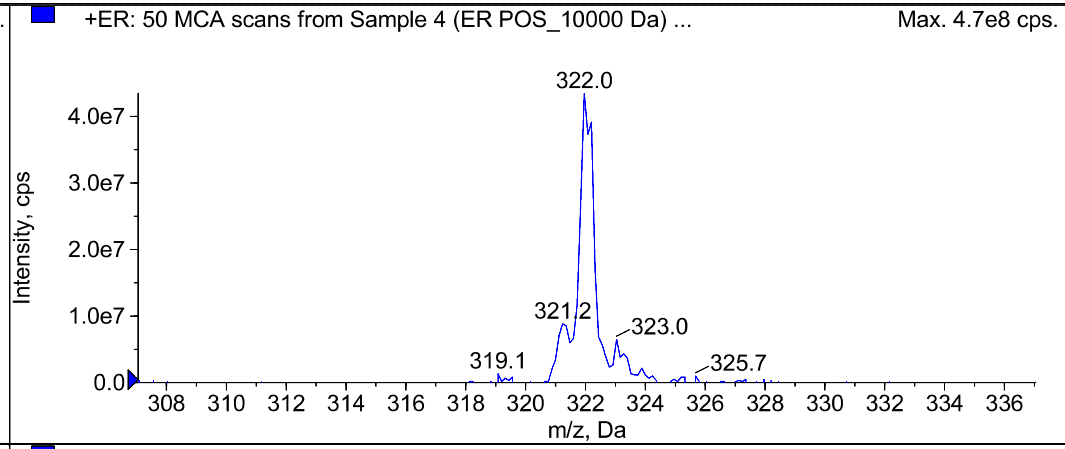
☑ Attach all spectrums printouts to this procedure.
☑ If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
☐ Empty tuning cache folder, if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

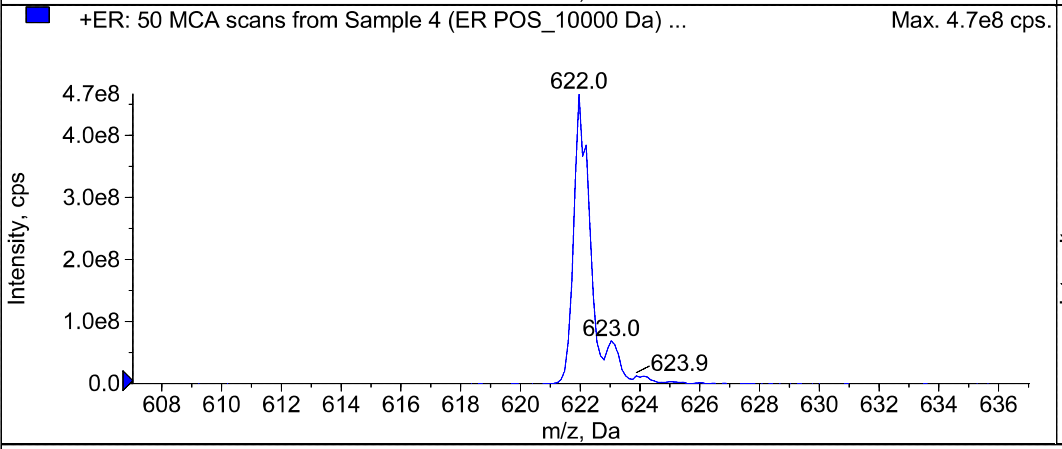
END OF PREVENTIVE MAINTENANCE CHECKLIST

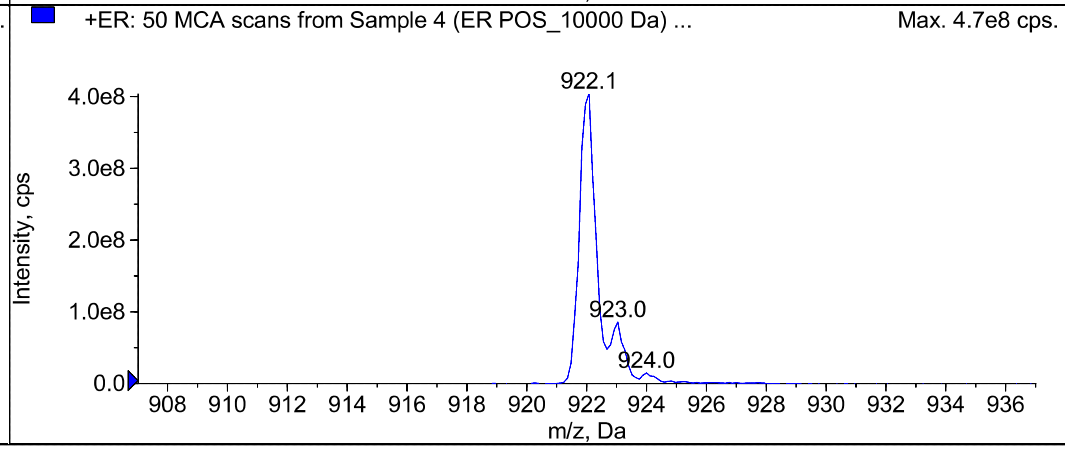
Document history:

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









Peak List for " +ER: 50 MCA scans from Sample 4 (ER POS_10000 Da) of TRAP ER with NEW Pulse Manifold.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	118.0870	118.0702	3.0667e7	0.4146	0.0168
2	322.0490	322.0509	4.3500e7	0.4945	-1.9159e-3
3	622.0290	622.0370	4.6717e8	0.5757	-8.0044e-3
4	922.0100	922.0101	4.0400e8	0.5732	-1.4148e-4

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS

Project Title(s)	**Project No.(s)**
PFAS Analytical work	100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:	
CS035PB-FS	J9045-FS
CS036LCS-FS	J9046-FS
J9041-FS	J9047-FS
J9042-FS	J9048-FS
J9043-FS	
J9044-FS	

Laboratory Preparation Records

COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

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

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BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID	Description
CS035PB-FS	Procedural Blank
CS036LCS-FS	Laboratory Control Sample
J9041-FS	04GW10R101818
J9042-FS	04GW15101818
J9043-FS	04FRB101818
J9044-FS	04GW28101818
J9045-FS	04GWGP101818
J9046-FS	03GW34101818
J9047-FS	03FRB101818
J9048-FS	03GW19101818

Samples Assigned By: Jonathan Thorn Date : October 19, 2018

Comments:

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BATTELLE - NORWELL OPERATIONS
LIQUID SAMPLE ID FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CS035PB-FS	Procedural Blank	250.0	NA	--	10/24/18 SAS
CS036LCS-FS	Laboratory Control Sample	250.0	NA	--	10/24/18 SAS
J9041-FS	04GW10R101818	290.0	1	C	10/24/18 AEK
J9042-FS	04GW15101818	290.0	1	C	10/24/18 AEK
J9043-FS	04FRB101818	260.0	1	C	10/24/18 AEK
J9044-FS	04GW28101818	290.0	1	C	10/24/18 AEK
J9045-FS	04GWGP101818	270.0	1	C	10/24/18 AEK
J9046-FS	03GW34101818	280.0	1	C	10/24/18 AEK
J9047-FS	03FRB101818	260.0	1	C	10/24/18 AEK
J9048-FS	03GW19101818	285.0	1	C	10/24/18 AEK

Comments:

Samples Assigned By Jonathan Thorn Date : October 19, 2018

* - "C" = Sample is Consumed

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BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

(N/A Fraction)

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution *	Date Spiked/ Spiked By	Witn'd By
CS035PB-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
CS036LCS-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9041-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9041-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9041-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB
J9042-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9042-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9042-FS-D(5)	954	46	KC52	50	1	1000	62.500	10/30/18 SAS	KB
J9043-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9044-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9044-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9044-FS-D(5)	954	46	KC52	50	1	1000	62.500	10/30/18 SAS	KB
J9045-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9045-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9045-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB
J9045-FS-D(7)	955	45	KC52	50	1	1000	500.000	10/30/18 SAS	KB
J9046-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9046-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9046-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB

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

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

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BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

(N/A Fraction)

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution *	Date Spiked/ Spiked By	Witn'd By
J9046-FS-D(7)	965	35	KC52	50	1	1000	166.667	10/30/18 SAS	KB
J9047-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9048-FS(0)	950	50	KC52	50	1	1000	1.000	10/30/18 SAS	KB
J9048-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/30/18 SAS	KB
J9048-FS-D(5)	955	45	KC52	50	1	1000	50.000	10/30/18 SAS	KB

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KC19	Pipette	B814659662
KC52	Pipette	B814659662

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

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

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It can be done

BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CS035PB-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
CS036LCS-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9041-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9041-FS	2	--	10/30/2018 9:26:00 AM	J9041-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9041-FS-D	3	C	10/30/2018 9:26:00 AM	J9041-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9041-FS-D	4	--	10/30/2018 9:31:00 AM	J9041-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9041-FS-D	5	--	10/30/2018 9:31:00 AM	J9041-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS
J9042-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9042-FS	2	--	10/30/2018 9:26:00 AM	J9042-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9042-FS-D	3	C	10/30/2018 9:26:00 AM	J9042-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9042-FS-D	4	--	10/30/2018 9:33:00 AM	J9042-FS-D	3	1000	920	1.087	5.435	10/30/18 SAS
J9042-FS-D	5	--	10/30/2018 9:33:00 AM	J9042-FS-D	3	1000	80	12.500	62.500	10/30/18 SAS
J9043-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9044-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J9044-FS	2	--	10/30/2018 9:26:00 AM	J9044-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9044-FS-D	3	C	10/30/2018 9:26:00 AM	J9044-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9044-FS-D	4	--	10/30/2018 9:34:00 AM	J9044-FS-D	3	1000	920	1.087	5.435	10/30/18 SAS
J9044-FS-D	5	--	10/30/2018 9:34:00 AM	J9044-FS-D	3	1000	80	12.500	62.500	10/30/18 SAS
J9045-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9045-FS	2	--	10/30/2018 9:26:00 AM	J9045-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9045-FS-D	3	C	10/30/2018 9:26:00 AM	J9045-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9045-FS-D	4	--	10/30/2018 9:37:00 AM	J9045-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9045-FS-D	5	C	10/30/2018 9:37:00 AM	J9045-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS
J9045-FS-D	6	--	10/30/2018 9:38:00 AM	J9045-FS-D	5	1000	900	1.111	55.556	10/30/18 SAS
J9045-FS-D	7	--	10/30/2018 9:38:00 AM	J9045-FS-D	5	1000	100	10.000	500.000	10/30/18 SAS
J9046-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9046-FS	2	--	10/30/2018 9:26:00 AM	J9046-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9046-FS-D	3	C	10/30/2018 9:26:00 AM	J9046-FS	0	1000	200	5.000	5.000	10/30/18 SAS

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J9046-FS-D	4	--	10/30/2018 9:39:00 AM	J9046-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9046-FS-D	5	C	10/30/2018 9:39:00 AM	J9046-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS
J9046-FS-D	6	--	10/30/2018 9:40:00 AM	J9046-FS-D	5	1000	700	1.429	71.429	10/30/18 SAS
J9046-FS-D	7	--	10/30/2018 9:40:00 AM	J9046-FS-D	5	1000	300	3.333	166.667	10/30/18 SAS
J9047-FS	0	--	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9048-FS	0	C	10/24/2018 10:05:00 AM	NA		NA	NA	1.000	1.000	10/24/18 SAS
J9048-FS	2	--	10/30/2018 9:26:00 AM	J9048-FS	0	1000	800	1.250	1.250	10/30/18 SAS
J9048-FS-D	3	C	10/30/2018 9:26:00 AM	J9048-FS	0	1000	200	5.000	5.000	10/30/18 SAS
J9048-FS-D	4	--	10/30/2018 9:42:00 AM	J9048-FS-D	3	1000	900	1.111	5.556	10/30/18 SAS
J9048-FS-D	5	--	10/30/2018 9:42:00 AM	J9048-FS-D	3	1000	100	10.000	50.000	10/30/18 SAS

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

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)
PFAS Analytical work

Project No.(s)
100112541

18-0633

CTO-JM08 - Naval Construction Batallion Center (NCBC)

GW, QC

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	Nov 1 2018 5:00PM KB	**Received On/By:**	Nov 1 2018 5:03PM 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	CS035PB-FS(0)	1000	1	Intact	NA
2	CS036LCS-FS(0)	1000	1	Intact	NA
3	J9041-FS(0)	1000	1	Intact	NA
4	J9041-FS-D(3)	1000	5	Intact	NA
5	J9041-FS-D(5)	1000	50	Intact	NA
6	J9042-FS(0)	1000	1	Intact	NA
7	J9042-FS-D(3)	1000	5	Intact	NA
8	J9042-FS-D(5)	1000	62.5	Intact	NA
9	J9043-FS(0)	1000	1	Intact	NA
10	J9044-FS(0)	1000	1	Intact	NA
11	J9044-FS-D(3)	1000	5	Intact	NA
12	J9044-FS-D(5)	1000	62.5	Intact	NA
13	J9045-FS(0)	1000	1	Intact	NA
14	J9045-FS-D(3)	1000	5	Intact	NA
15	J9045-FS-D(5)	1000	50	Intact	NA
16	J9045-FS-D(7)	1000	500	Intact	NA
17	J9046-FS(0)	1000	1	Intact	NA
18	J9046-FS-D(3)	1000	5	Intact	NA
19	J9046-FS-D(5)	1000	50	Intact	NA
20	J9046-FS-D(7)	1000	166.667	Intact	NA
21	J9047-FS(0)	1000	1	Intact	NA
22	J9048-FS(0)	1000	1	Intact	NA
23	J9048-FS-D(3)	1000	5	Intact	NA
24	J9048-FS-D(5)	1000	50	Intact	NA

Total Extracts: 24

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/11/2018 10:00:23 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
~~1~~	~~MeOH~~		~~11/1/2018 6:31:25 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~2~~	~~KB77~~		~~11/1/2018 6:42:18 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~3~~	~~KA30~~	~~L1a~~	~~11/1/2018 6:53:10 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~4~~	~~KA31~~	~~L2b~~	~~11/1/2018 7:04:01 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
5	KB73	L1	11/1/2018 7:14:53 PM	5-0369.dam	AC_11012018_369.wiff
6	KB74	L2	11/1/2018 7:25:45 PM	5-0369.dam	AC_11012018_369.wiff
7	KB75	L3	11/1/2018 7:36:36 PM	5-0369.dam	AC_11012018_369.wiff
8	KB76	L4	11/1/2018 7:47:28 PM	5-0369.dam	AC_11012018_369.wiff
9	KB77	L5	11/1/2018 7:58:18 PM	5-0369.dam	AC_11012018_369.wiff
10	KB78	L6	11/1/2018 8:09:09 PM	5-0369.dam	AC_11012018_369.wiff
11	KB79	L7	11/1/2018 8:20:00 PM	5-0369.dam	AC_11012018_369.wiff
12	KC73 IB	Instrument Blank	11/1/2018 8:30:52 PM	5-0369.dam	AC_11012018_369.wiff
13	KB81 ICC	ICC	11/1/2018 8:41:44 PM	5-0369.dam	AC_11012018_369.wiff
14	KB89 Branched	Branch Standard	11/1/2018 8:52:35 PM	5-0369.dam	AC_11012018_369.wiff
~~15~~	~~CS084PB-FS(0)~~		~~11/1/2018 9:03:27 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~16~~	~~CS085LCS-FS(0)~~		~~11/1/2018 9:14:18 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~17~~	~~J9133-FS(0)~~		~~11/1/2018 9:25:10 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~18~~	~~J9133-FS-D(3)~~		~~11/1/2018 9:36:03 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~19~~	~~J9134-FS(0)~~		~~11/1/2018 9:46:54 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~20~~	~~J9134-FS-D(3)~~		~~11/1/2018 9:57:46 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~21~~	~~J9135-FS(0)~~		~~11/1/2018 10:08:38 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~22~~	~~J9135-FS-D(3)~~		~~11/1/2018 10:19:30 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~23~~	~~J9136-FS(0)~~		~~11/1/2018 10:30:22 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~24~~	~~J9136-FS-D(3)~~		~~11/1/2018 10:41:15 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~25~~	~~KB77 CCV~~	~~CCV~~	~~11/1/2018 10:52:07 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~26~~	~~MeOH~~		~~11/1/2018 11:02:57 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~
~~27~~	~~J9137-FS(0)~~		~~11/1/2018 11:13:49~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~

1

2

1 Standards are not part of the calibration curve. DMS 11/6/2018

2 Samples from another batch not reported with this one. DMS 11/6/2018

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/11/2018 10:00:23 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File	
			PM			
~~28~~	~~J9137-FS-D(3)~~		~~11/1/2018 11:24:41 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~29~~	~~J9138-FS(0)~~		~~11/1/2018 11:35:34 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~30~~	~~J9138-FS-D(3)~~		~~11/1/2018 11:46:25 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~31~~	~~J9140-FS(0)~~		~~11/1/2018 11:57:18 PM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~32~~	~~J9140-FS-D(3)~~		~~11/2/2018 12:08:10 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~33~~	~~J9141-FS(0)~~		~~11/2/2018 12:19:02 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~34~~	~~J9141-FS-D(3)~~		~~11/2/2018 12:29:53 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~35~~	~~J9142-FS(0)~~		~~11/2/2018 12:40:44 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~36~~	~~J9142-FS-D(3)~~		~~11/2/2018 12:51:35 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~37~~	~~KB76 CCV~~	~~CCV~~	~~11/2/2018 1:02:26 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~38~~	~~MeOH~~		~~11/2/2018 1:13:18 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~39~~	~~J9139-FS-D(9)~~		~~11/2/2018 1:24:10 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~40~~	~~J9139-FS-D(7)~~		~~11/2/2018 1:35:01 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~41~~	~~J9139-FS-D(5)~~		~~11/2/2018 1:45:53 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~42~~	~~J9139-FS-D(3)~~		~~11/2/2018 1:56:45 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~43~~	~~MeOH~~		~~11/2/2018 2:07:36 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~44~~	~~MeOH~~		~~11/2/2018 2:18:28 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~45~~	~~J9139-FS(0)~~		~~11/2/2018 2:29:20 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~46~~	~~MeOH~~		~~11/2/2018 2:40:12 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
~~47~~	~~MeOH~~		~~11/2/2018 2:51:03 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
48	KB77 CCV	CCV	11/2/2018 3:01:54 AM	5-0369.dam	AC_11012018_369.wiff	
49	MeOH		11/2/2018 3:12:46 AM	5-0369.dam	AC_11012018_369.wiff	
1	CS035PB-FS(0)	Procedural Blank	11/2/2018 3:23:38 AM	5-0369.dam	AC_11012018_369.wiff	
2	CS036LCS-FS(0)	Laboratory Control Sample	11/2/2018 3:34:32 AM	5-0369.dam	AC_11012018_369.wiff	
3	J9041-FS(0)	04GW10R101818	11/2/2018 3:45:26 AM	5-0369.dam	AC_11012018_369.wiff	
~~4~~	~~J9041-FS-D(3)~~	~~04GW10R101818~~	~~11/2/2018 3:56:19 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	2

1 Samples from another batch not reported with this one. DMS 11/6/2018

2 Dilution run but not needed. DMS 11/6/2018

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/11/2018 10:00:23 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File	
~~5~~	~~J9041-FS-D(5)~~	~~04GW10R101818~~	~~11/2/2018 4:07:12 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
6	J9042-FS(0)	04GW15101818	11/2/2018 4:18:06 AM	5-0369.dam	AC_11012018_369.wiff	
~~7~~	~~J9042-FS-D(3)~~	~~04GW15101818~~	~~11/2/2018 4:28:58 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~8~~	~~J9042-FS-D(5)~~	~~04GW15101818~~	~~11/2/2018 4:39:51 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
9	J9043-FS(0)	04FRB101818	11/2/2018 4:50:43 AM	5-0369.dam	AC_11012018_369.wiff	
10	J9044-FS(0)	04GW28101818	11/2/2018 5:01:35 AM	5-0369.dam	AC_11012018_369.wiff	
11	KB76 CCV	CCV	11/2/2018 5:12:28 AM	5-0369.dam	AC_11012018_369.wiff	
12	MeOH		11/2/2018 5:23:21 AM	5-0369.dam	AC_11012018_369.wiff	
~~13~~	~~J9044-FS-D(3)~~	~~04GW28101818~~	~~11/2/2018 5:34:14 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~14~~	~~J9044-FS-D(5)~~	~~04GW28101818~~	~~11/2/2018 5:45:07 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
15	J9045-FS(0)	04GWGP1101818	11/2/2018 5:56:00 AM	5-0369.dam	AC_11012018_369.wiff	
~~16~~	~~J9045-FS-D(3)~~	~~04GWGP1101818~~	~~11/2/2018 6:06:53 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~17~~	~~J9045-FS-D(5)~~	~~04GWGP1101818~~	~~11/2/2018 6:17:45 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
~~18~~	~~J9045-FS-D(7)~~	~~04GWGP1101818~~	~~11/2/2018 6:28:38 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	
19	J9046-FS(0)	03GW34101818	11/2/2018 6:39:30 AM	5-0369.dam	AC_11012018_369.wiff	
~~20~~	~~J9046-FS-D(3)~~	~~03GW34101818~~	~~11/2/2018 6:50:23 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
21	KB77 CCV	CCV	11/2/2018 7:01:16 AM	5-0369.dam	AC_11012018_369.wiff	
22	MeOH		11/2/2018 7:12:09 AM	5-0369.dam	AC_11012018_369.wiff	
~~23~~	~~J9046-FS-D(5)~~	~~03GW34101818~~	~~11/2/2018 7:23:02 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~24~~	~~J9046-FS-D(7)~~	~~03GW34101818~~	~~11/2/2018 7:33:55 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
25	J9047-FS(0)	03FRB101818	11/2/2018 7:44:47 AM	5-0369.dam	AC_11012018_369.wiff	
26	J9048-FS(0)	03GW19101818	11/2/2018 7:55:41 AM	5-0369.dam	AC_11012018_369.wiff	
~~27~~	~~J9048-FS-D(3)~~	~~03GW19101818~~	~~11/2/2018 8:06:34 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	1
~~28~~	~~J9048-FS-D(5)~~	~~03GW19101818~~	~~11/2/2018 8:17:27 AM~~	~~5-0369.dam~~	~~AC_11012018_369.wiff~~	↓
29	KB76 CCV	CCV	11/2/2018 8:28:21 AM	5-0369.dam	AC_11012018_369.wiff	

1 Dilution run but not needed DMS 11/6/2018

BATTELLE

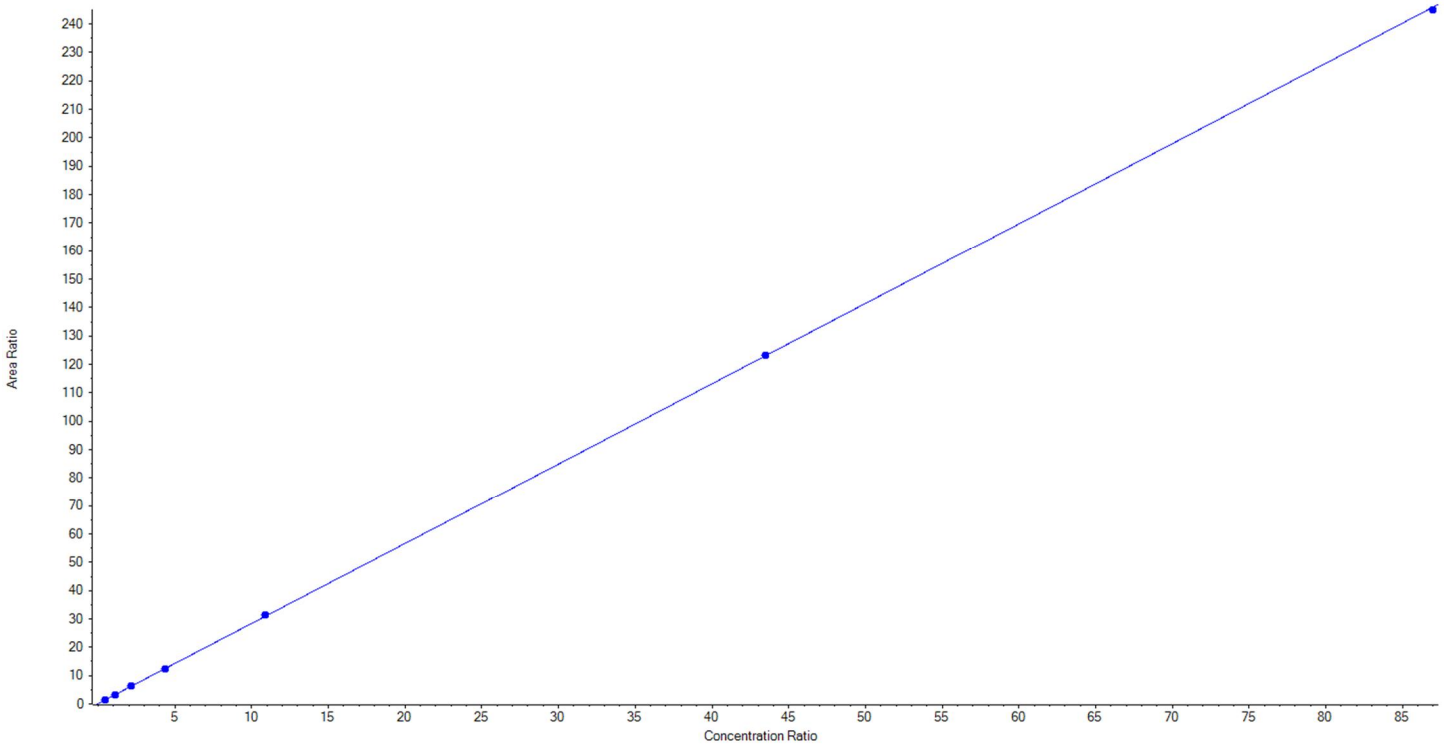
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFBS_1	**Data File**	AC_11012018_369.wiff
MRM Transition	298.9 / 80.0	**Result Table**	18-0633
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.82516 x + 0.15865 (r = 0.99996) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	96.415230	95.5
6	KB74	L2	True	252.50	250.691097	99.3
7	KB75	L3	True	505.00	519.290801	102.8
8	KB76	L4	True	1010.00	1014.494476	100.4
9	KB77	L5	True	2525.00	2583.095707	102.3
10	KB78	L6	True	10100.00	10105.866254	100.1
11	KB79	L7	True	20200.00	20123.646435	99.6



BATTELLE

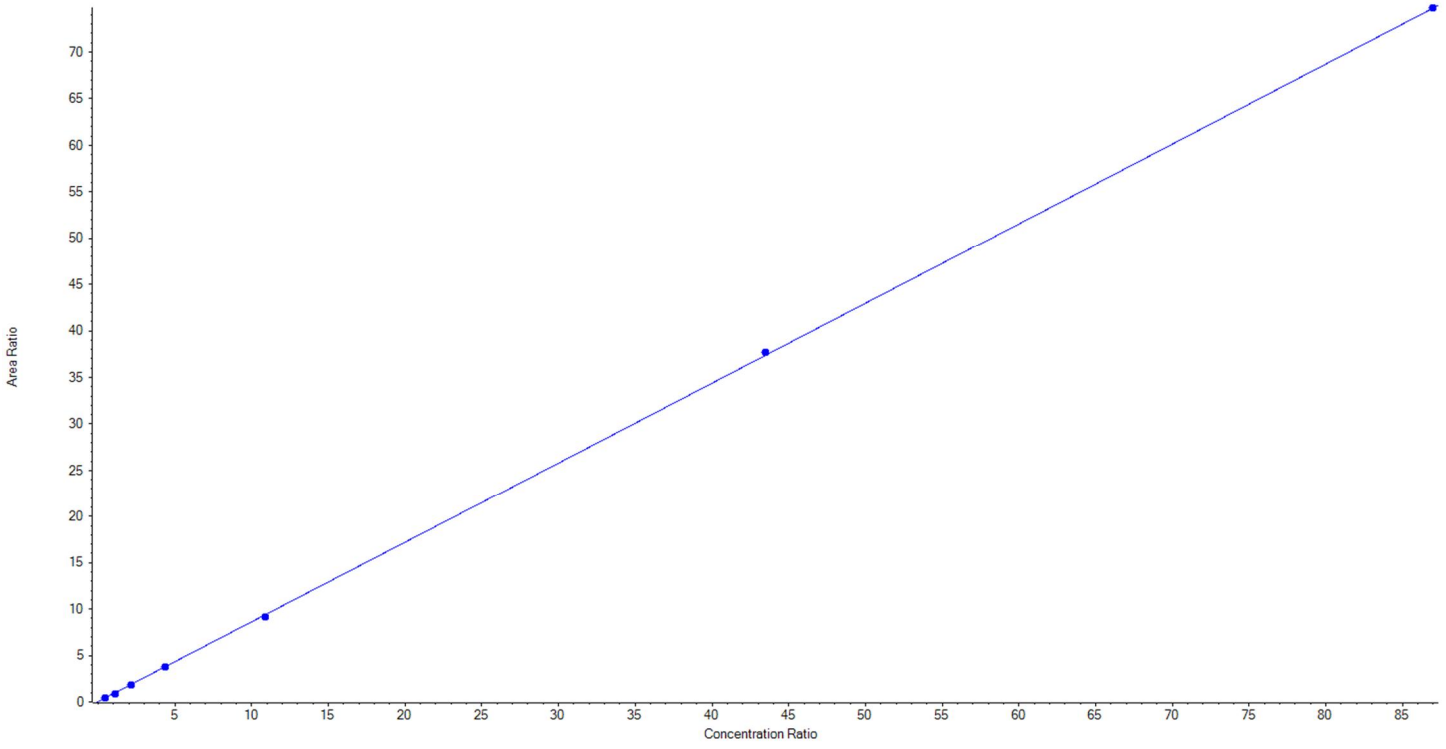
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFBS_2	**Data File**	AC_11012018_369.wiff
MRM Transition	298.9 / 99.0	**Result Table**	18-0633
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.85841 x + 0.04423 (r = 0.99988) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	116.773135	115.6
6	KB74	L2	True	252.50	225.927568	89.5
7	KB75	L3	True	505.00	493.777211	97.8
8	KB76	L4	True	1010.00	994.728137	98.5
9	KB77	L5	True	2525.00	2468.668836	97.8
10	KB78	L6	True	10100.00	10182.540545	100.8
11	KB79	L7	True	20200.00	20211.084568	100.1



BATTELLE

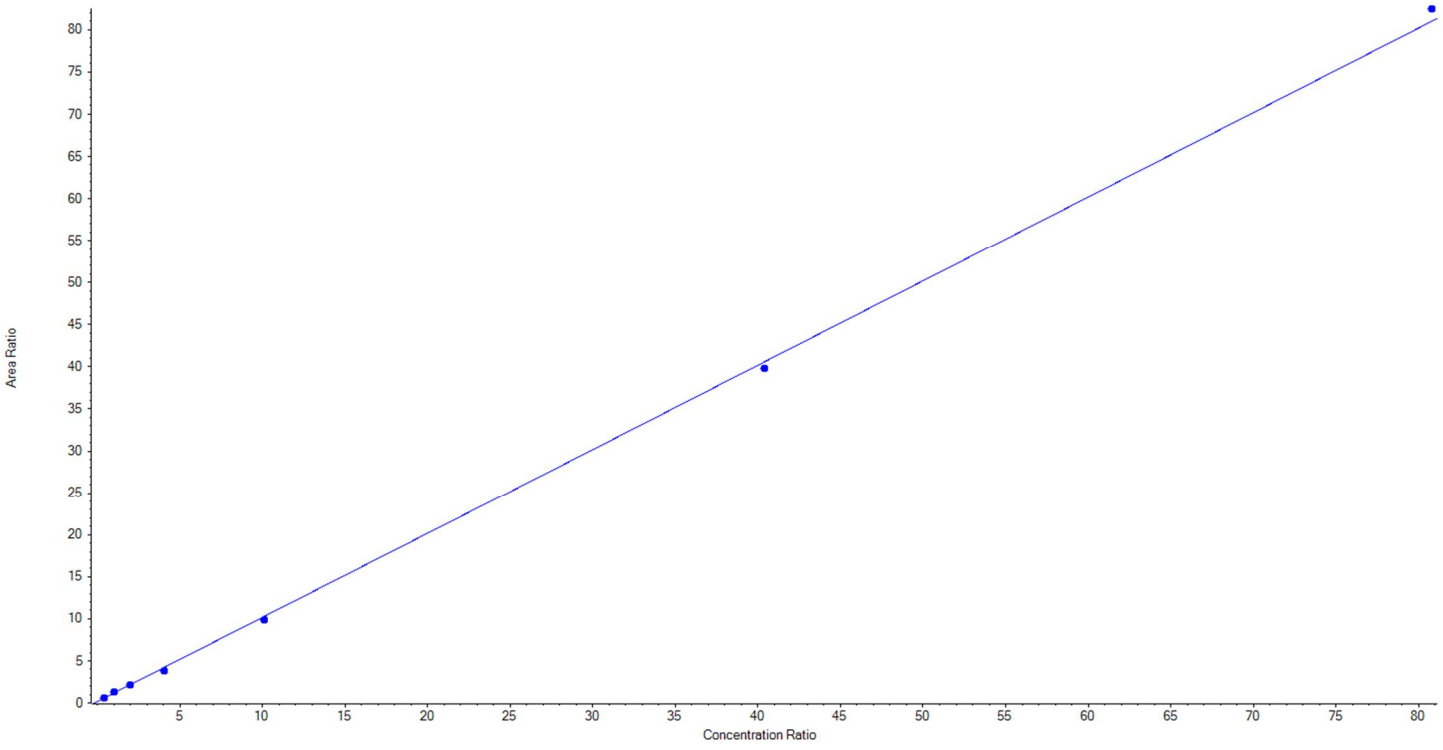
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0633
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.00047 x + 0.16149 (r = 0.99953) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	103.106050	102.1
6	KB74	L2	True	252.50	291.941278	115.6
7	KB75	L3	True	505.00	481.935864	95.4
8	KB76	L4	True	1010.00	915.475323	90.6
9	KB77	L5	True	2525.00	2433.455260	96.4
10	KB78	L6	True	10100.00	9901.318374	98.0
11	KB79	L7	True	20200.00	20566.267850	101.8



BATTELLE

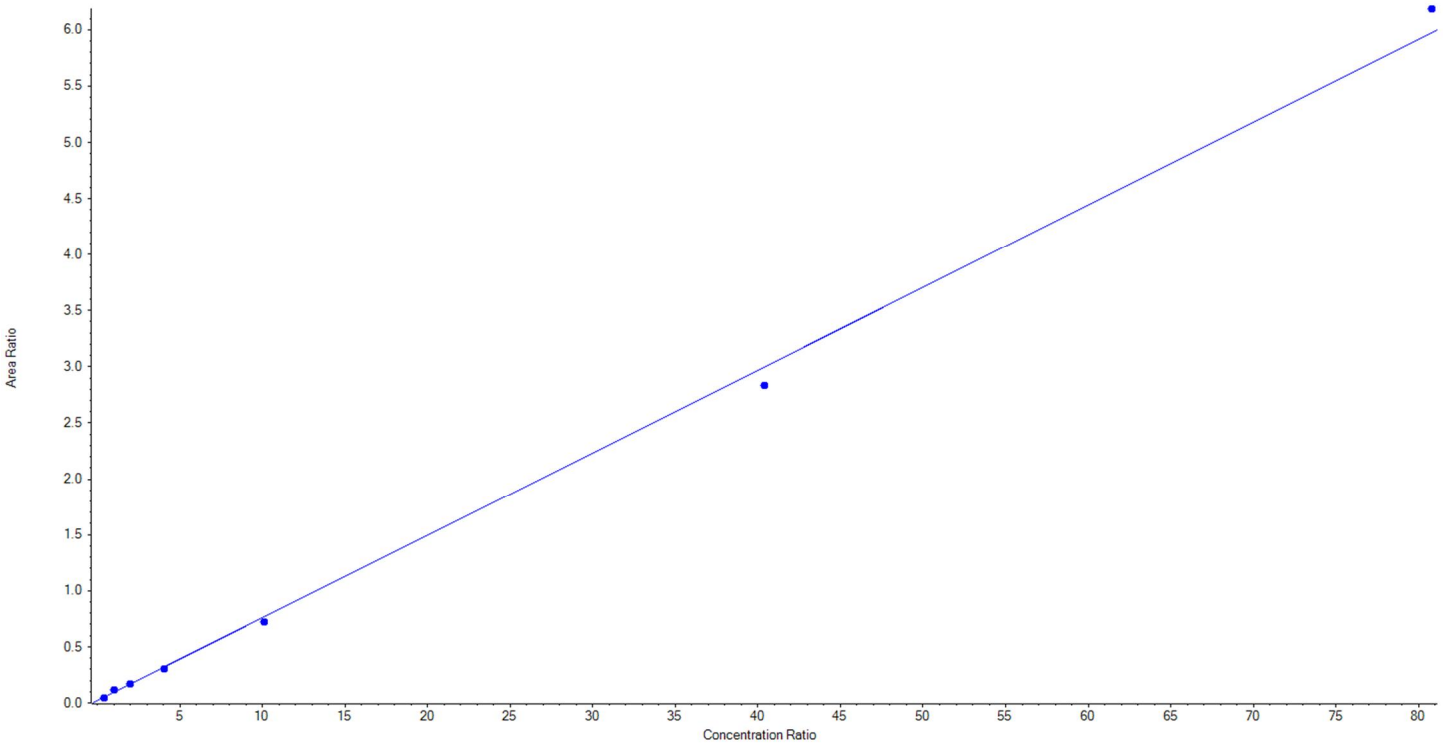
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0633
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.07368 x + 0.02177 (r = 0.99864) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	89.958075	89.1
6	KB74	L2	True	252.50	320.291277	126.9
7	KB75	L3	True	505.00	491.099156	97.3
8	KB76	L4	True	1010.00	957.543855	94.8
9	KB77	L5	True	2525.00	2371.976831	93.9
10	KB78	L6	True	10100.00	9551.793940	94.6
11	KB79	L7	True	20200.00	20910.836865	103.5



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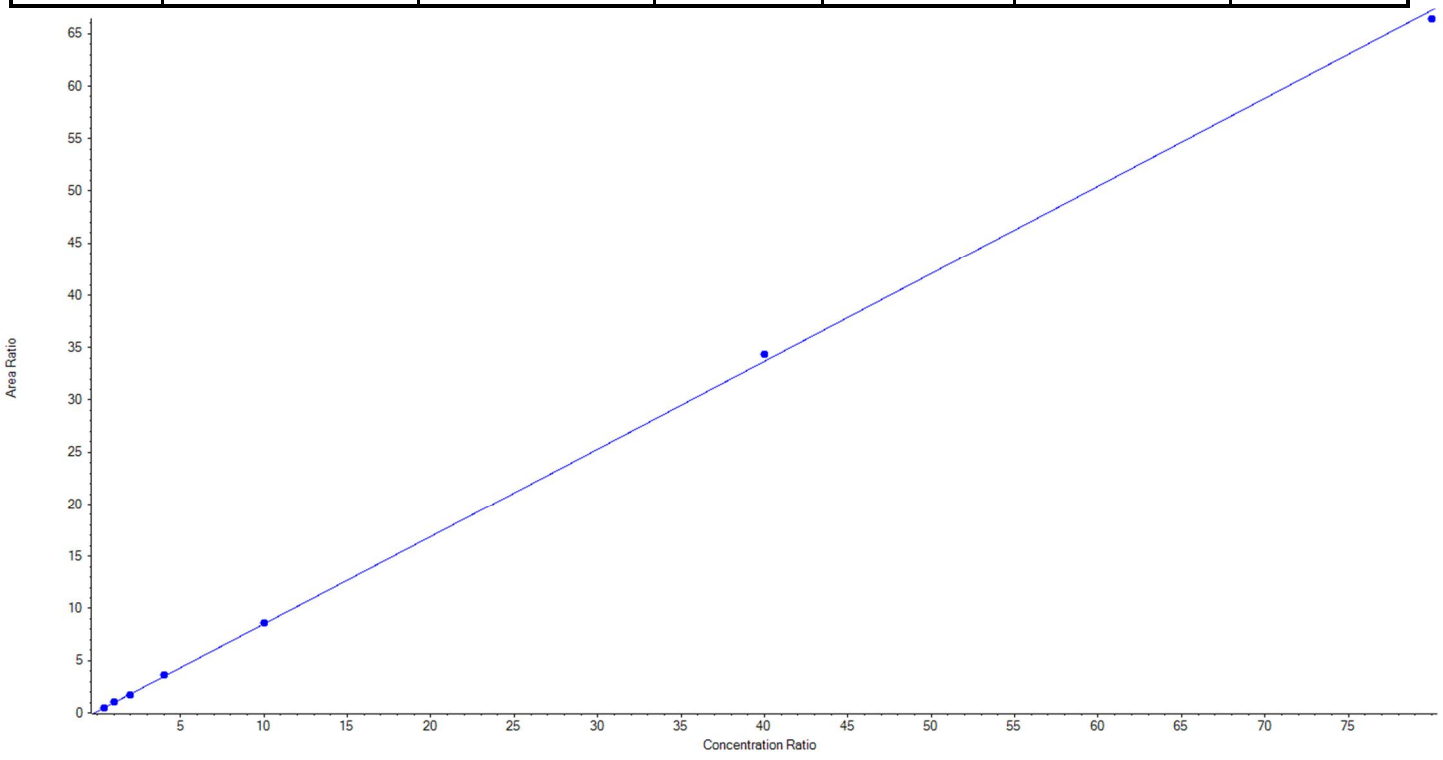
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHpA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	363.0 / 319.0	**Result Table**	18-0633
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.83884 x + 0.13021 (r = 0.99983) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	91.478218	91.5
6	KB74	L2	True	250.00	264.085955	105.6
7	KB75	L3	True	500.00	483.824047	96.8
8	KB76	L4	True	1000.00	1044.110201	104.4
9	KB77	L5	True	2500.00	2527.117254	101.1
10	KB78	L6	True	10000.00	10185.991641	101.9
11	KB79	L7	True	20000.00	19753.392683	98.8



BATTELLE

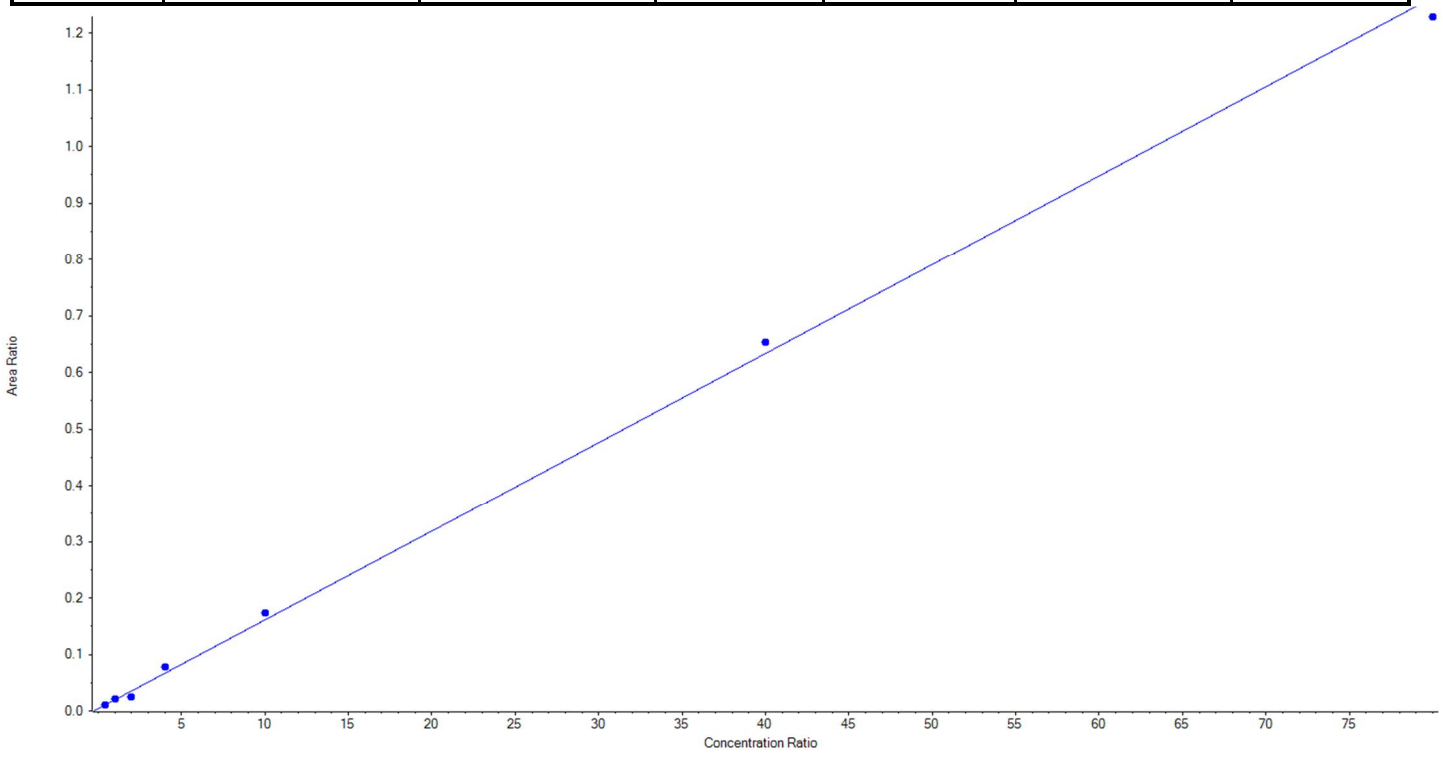
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHpA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	363.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.01574 x + 0.00383 (r = 0.99802) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	96.516947	96.5
6	KB74	L2	True	250.00	271.995222	108.8
7	KB75	L3	True	500.00	341.377446	68.3
8	KB76	L4	True	1000.00	1183.825995	118.4
9	KB77	L5	True	2500.00	2691.386469	107.7
10	KB78	L6	True	10000.00	10309.385436	103.1
11	KB79	L7	True	20000.00	19455.512486	97.3



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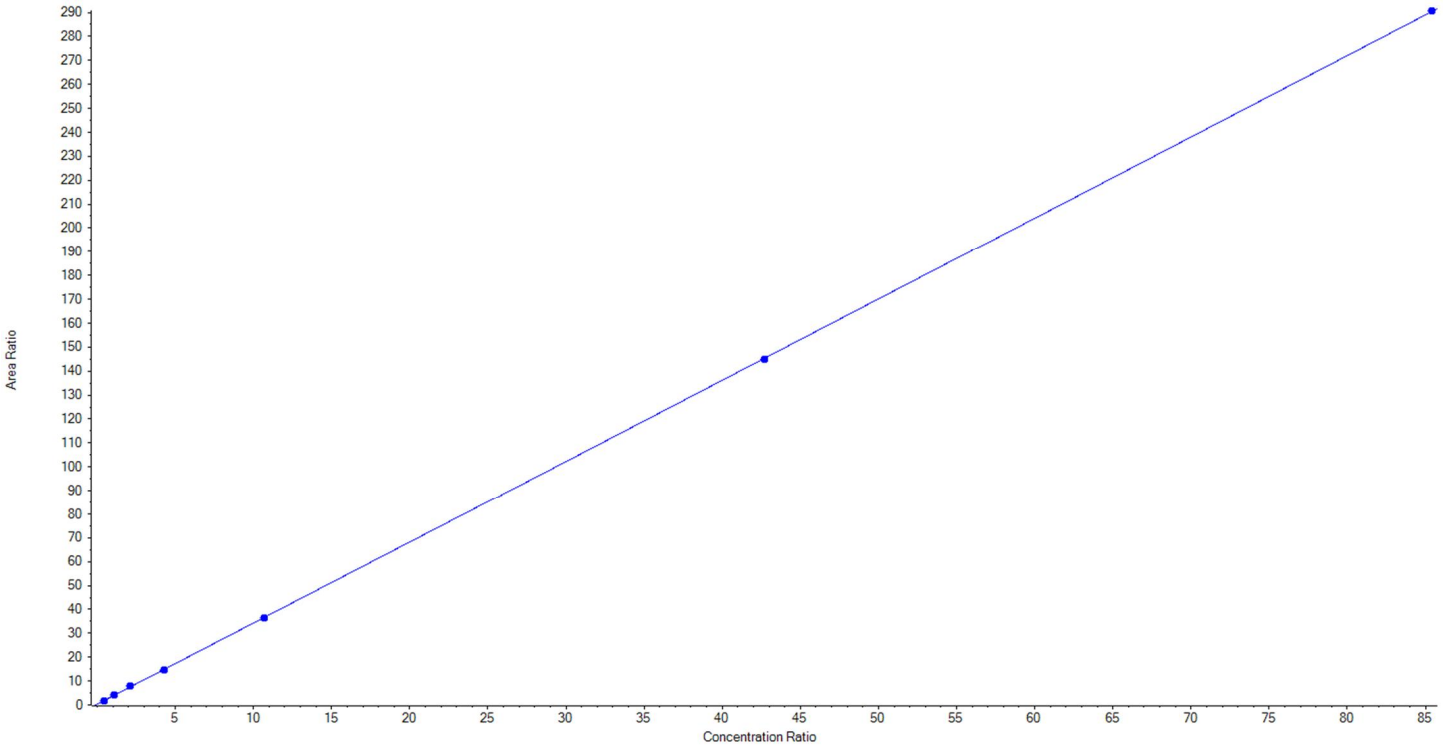
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxS_1	**Data File**	AC_11012018_369.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0633
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 3.39552 x + 0.33286 (r = 0.99992) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	88.127346	87.3
6	KB74	L2	True	252.50	277.914633	110.1
7	KB75	L3	True	505.00	524.068284	103.8
8	KB76	L4	True	1010.00	1002.721710	99.3
9	KB77	L5	True	2525.00	2523.710501	100.0
10	KB78	L6	True	10100.00	10057.553060	99.6
11	KB79	L7	True	20200.00	20219.404466	100.1



BATTELLE

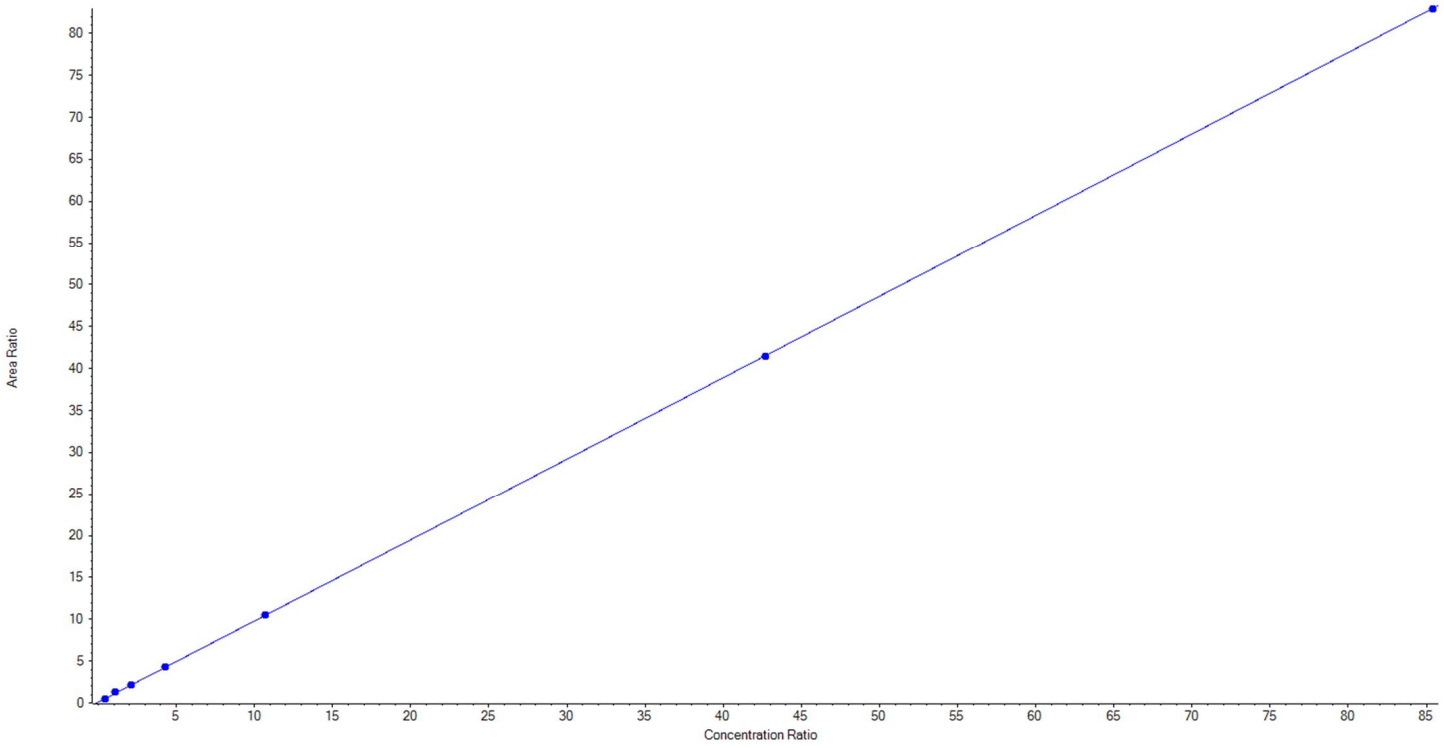
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFHxS_2	**Data File**	AC_11012018_369.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0633
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.97032 x + 0.08695 (r = 0.99985) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	101.00	85.634821	84.8
6	KB74	L2	True	252.50	294.723772	116.7
7	KB75	L3	True	505.00	493.362281	97.7
8	KB76	L4	True	1010.00	1015.701521	100.6
9	KB77	L5	True	2525.00	2536.972999	100.5
10	KB78	L6	True	10100.00	10083.723760	99.8
11	KB79	L7	True	20200.00	20183.380846	99.9



BATTELLE

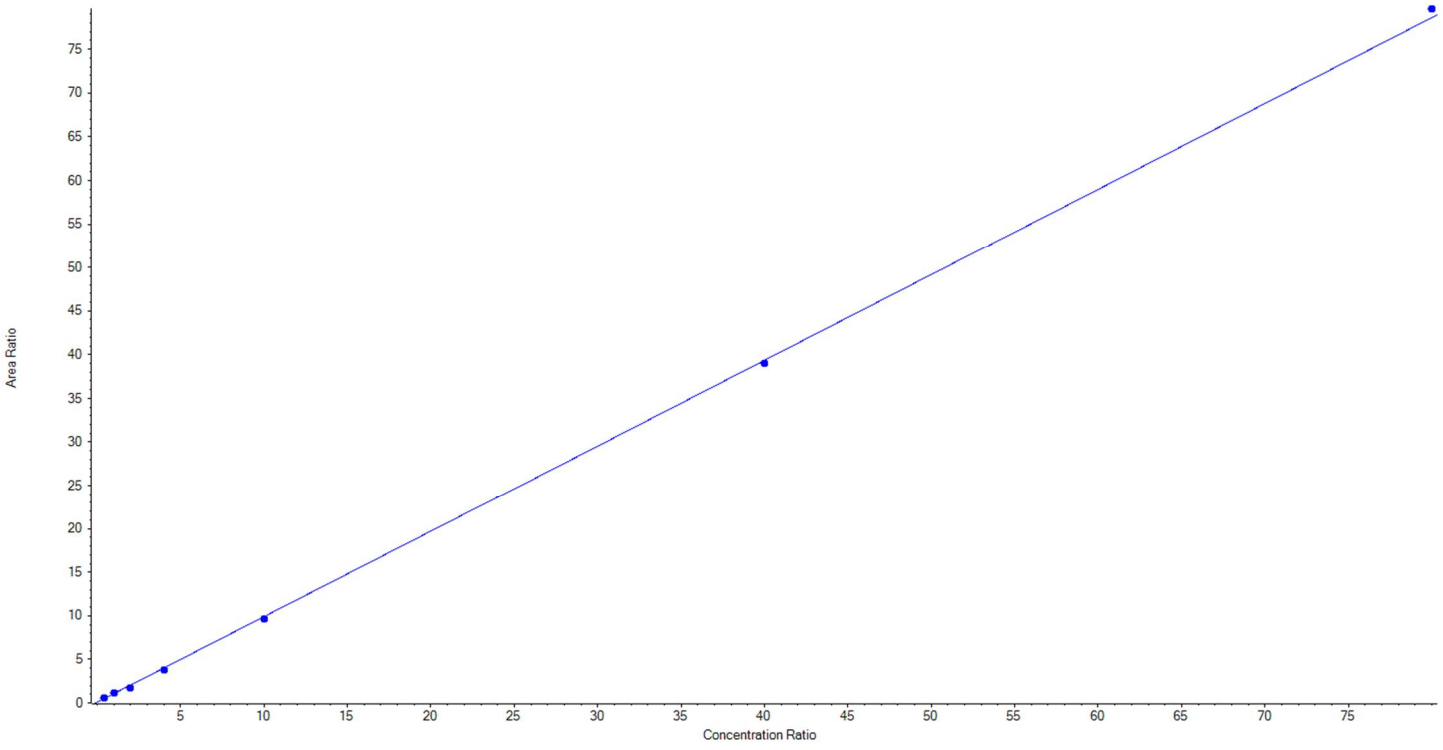
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	413.0 / 369.0	**Result Table**	18-0633
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98169 x + 0.08360 (r = 0.99961) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	117.664660	117.7
6	KB74	L2	True	250.00	264.546778	105.8
7	KB75	L3	True	500.00	425.764411	85.2
8	KB76	L4	True	1000.00	934.770463	93.5
9	KB77	L5	True	2500.00	2435.905069	97.4
10	KB78	L6	True	10000.00	9918.750801	99.2
11	KB79	L7	True	20000.00	20252.597816	101.3



BATTELLE

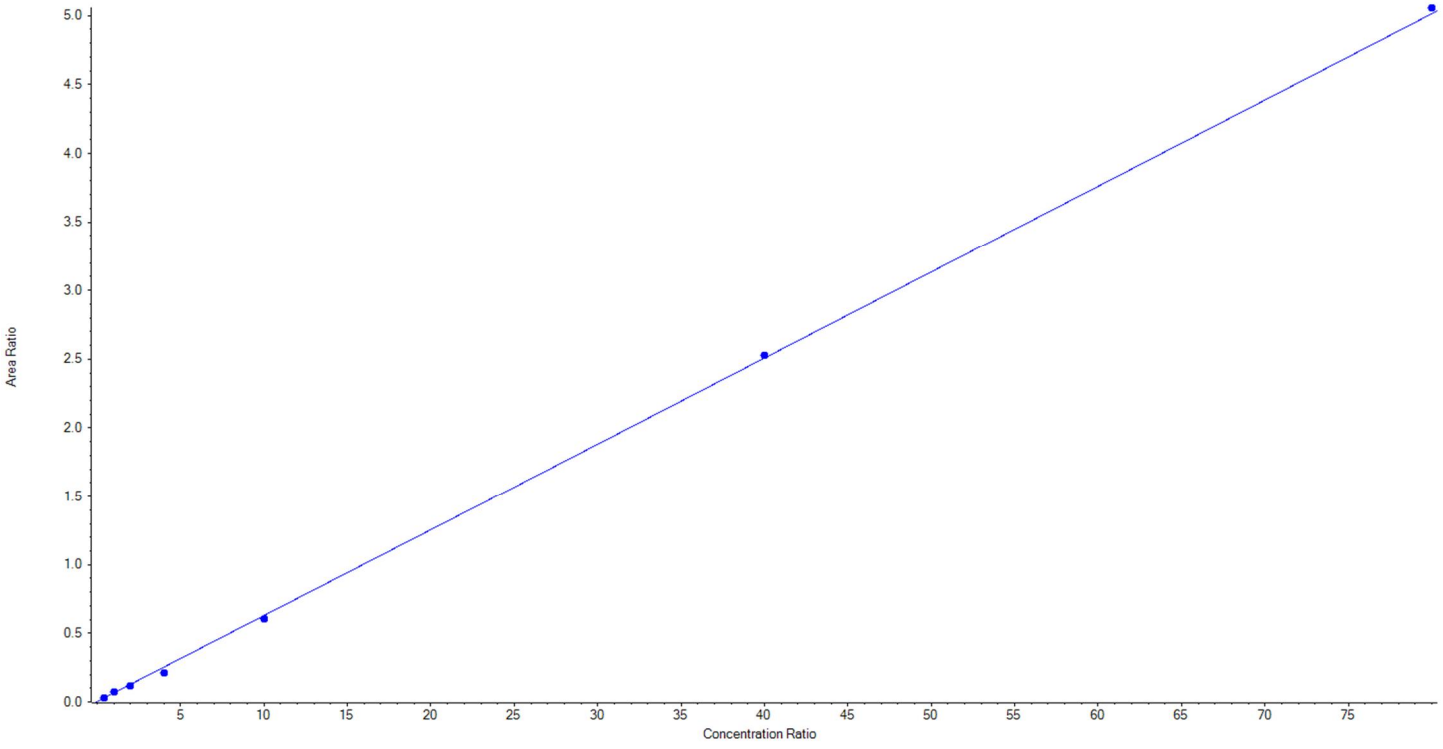
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	413.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.06263 x + 0.00301 (r = 0.99938) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	112.880833	112.9
6	KB74	L2	True	250.00	280.665995	112.3
7	KB75	L3	True	500.00	465.588777	93.1
8	KB76	L4	True	1000.00	844.897561	84.5
9	KB77	L5	True	2500.00	2387.587124	95.5
10	KB78	L6	True	10000.00	10089.974859	100.9
11	KB79	L7	True	20000.00	20168.404851	100.8



BATTELLE

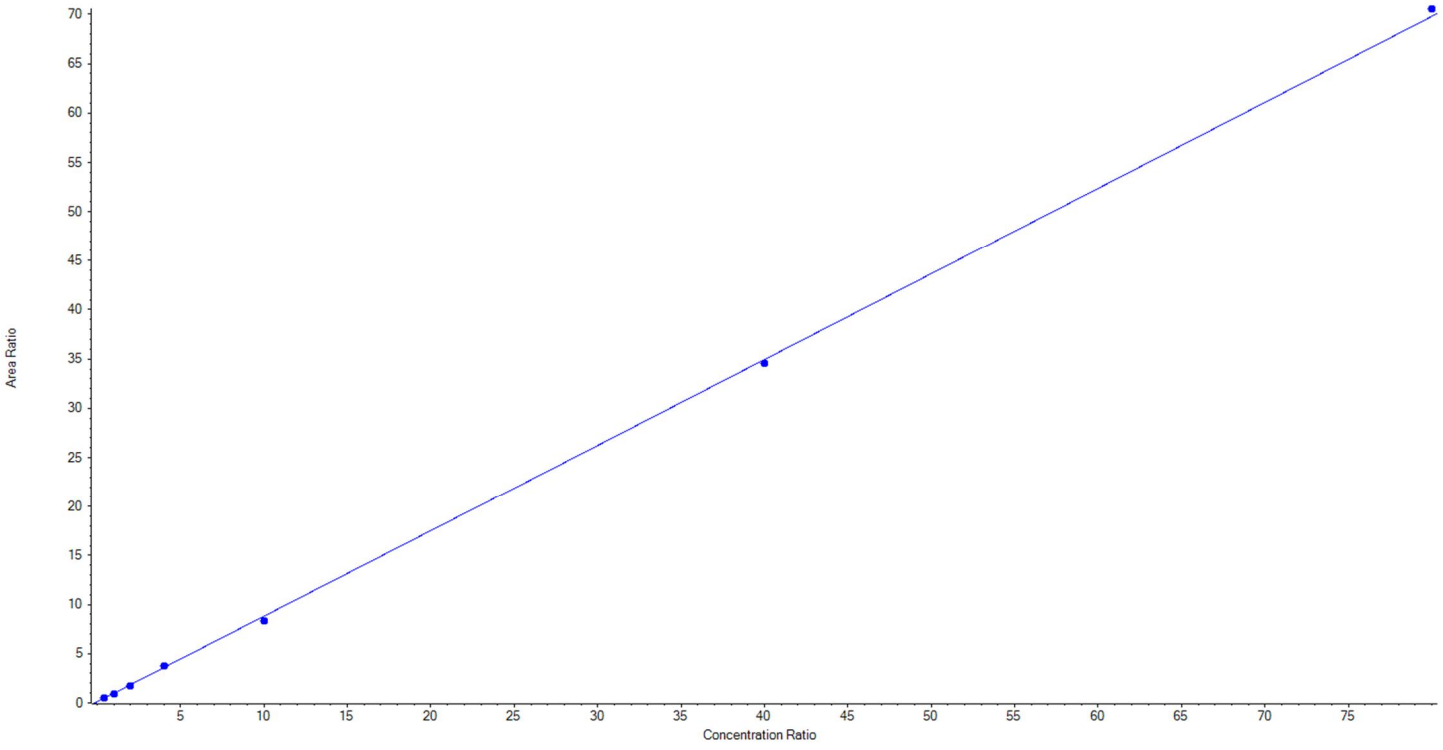
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFNA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	463.0 / 419.0	**Result Table**	18-0633
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.87104 x + 0.10665 (r = 0.99972) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	108.008345	108.0
6	KB74	L2	True	250.00	246.451412	98.6
7	KB75	L3	True	500.00	468.474574	93.7
8	KB76	L4	True	1000.00	1055.147814	105.5
9	KB77	L5	True	2500.00	2352.218404	94.1
10	KB78	L6	True	10000.00	9902.832185	99.0
11	KB79	L7	True	20000.00	20216.867267	101.1



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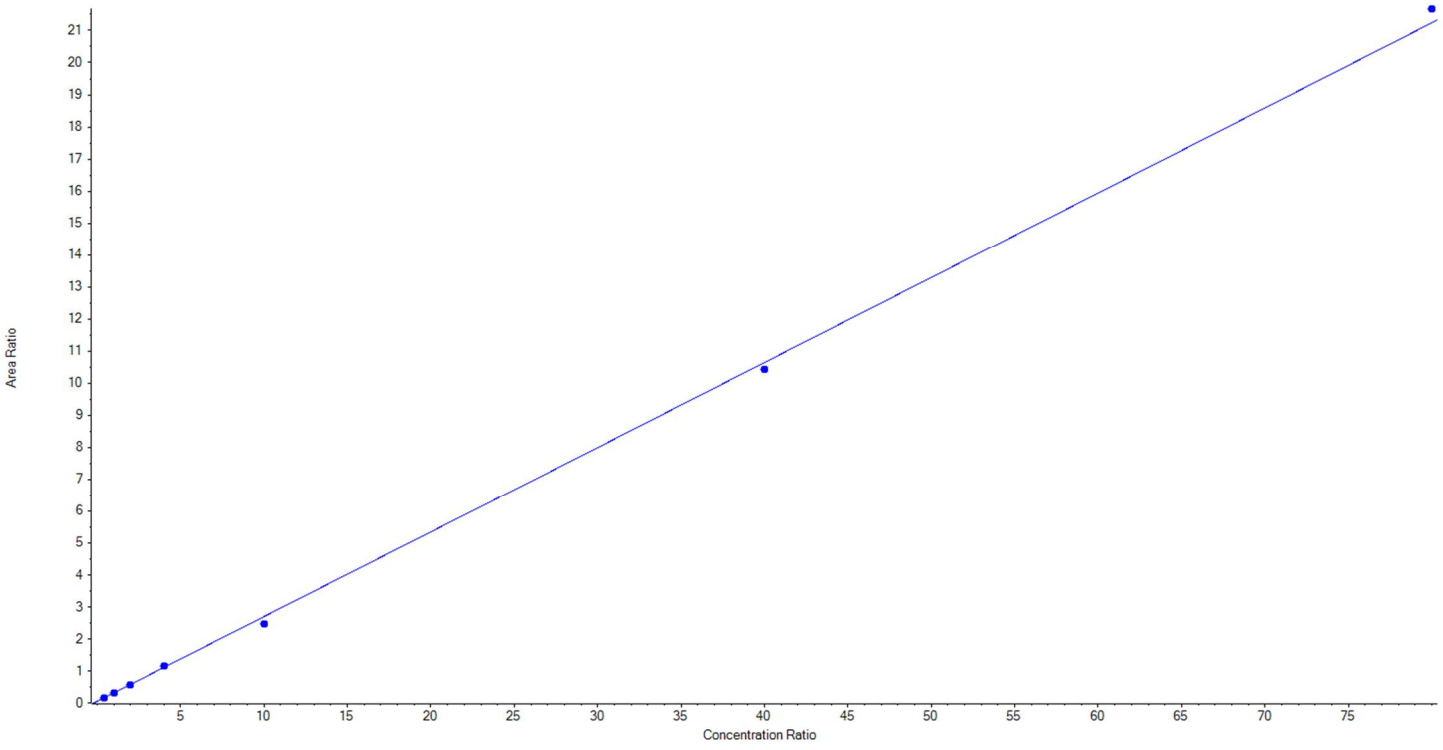
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFNA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	463.0 / 219.0	**Result Table**	18-0633
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.26488 x + 0.04833 (r = 0.99944) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	104.808083	104.8
6	KB74	L2	True	250.00	263.032748	105.2
7	KB75	L3	True	500.00	478.709473	95.7
8	KB76	L4	True	1000.00	1032.474748	103.3
9	KB77	L5	True	2500.00	2277.170555	91.1
10	KB78	L6	True	10000.00	9786.720902	97.9
11	KB79	L7	True	20000.00	20407.083491	102.0



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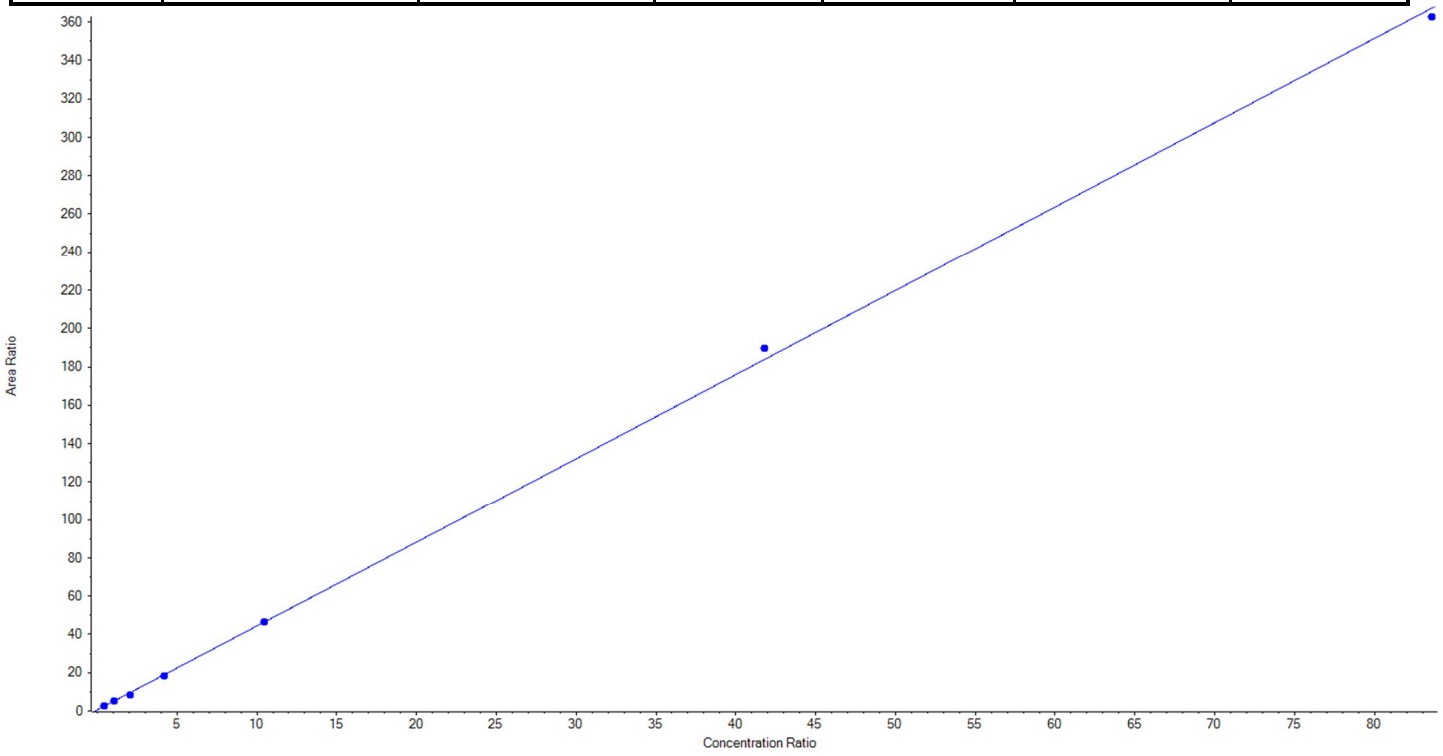
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOS_1	**Data File**	AC_11012018_369.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0633
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 4.38681 x + 0.51340 (r = 0.99962) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	113.289330	113.3
6	KB74	L2	True	250.00	250.458550	100.2
7	KB75	L3	True	500.00	441.639440	88.3
8	KB76	L4	True	1000.00	961.462485	96.2
9	KB77	L5	True	2500.00	2499.398693	100.0
10	KB78	L6	True	10000.00	10331.681673	103.3
11	KB79	L7	True	20000.00	19752.069830	98.8



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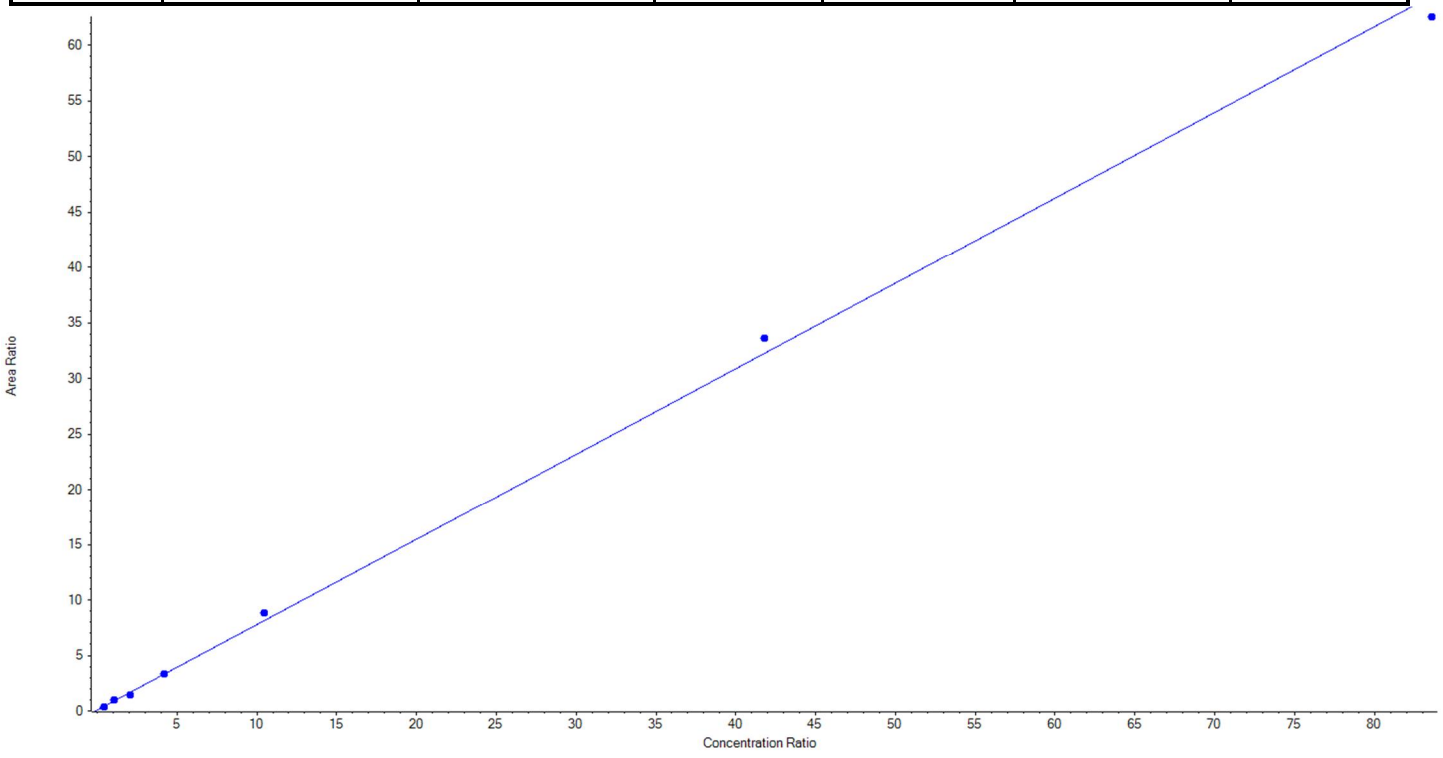
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFOS_2	**Data File**	AC_11012018_369.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0633
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.76969 x + 0.08239 (r = 0.99887) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	94.731026	94.7
6	KB74	L2	True	250.00	279.096820	111.6
7	KB75	L3	True	500.00	416.357129	83.3
8	KB76	L4	True	1000.00	1005.018936	100.5
9	KB77	L5	True	2500.00	2712.527480	108.5
10	KB78	L6	True	10000.00	10428.896908	104.3
11	KB79	L7	True	20000.00	19413.371701	97.1



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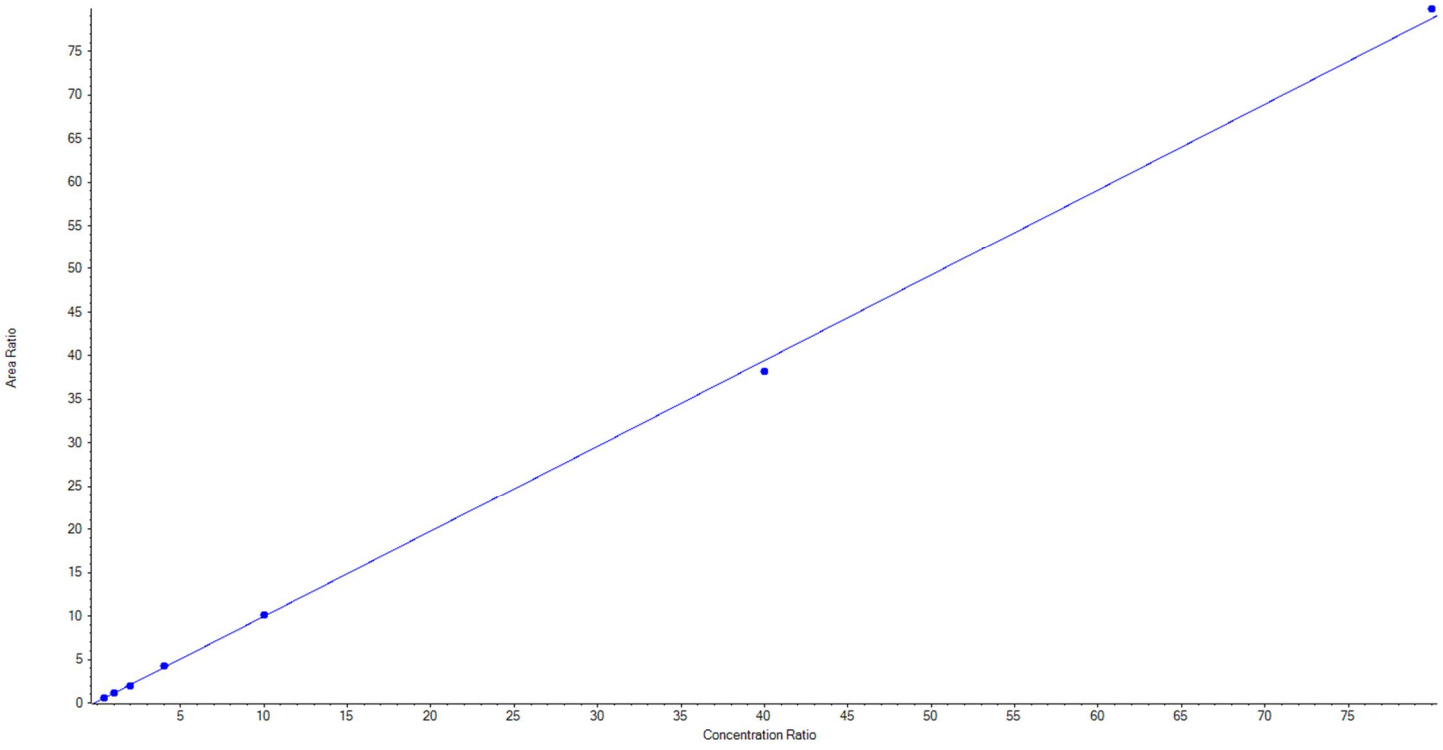
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	513.0 / 469.0	**Result Table**	18-0633
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98282 x + 0.13557 (r = 0.99969) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	100.158075	100.2
6	KB74	L2	True	250.00	257.113066	102.9
7	KB75	L3	True	500.00	465.079740	93.0
8	KB76	L4	True	1000.00	1047.059860	104.7
9	KB77	L5	True	2500.00	2528.689044	101.2
10	KB78	L6	True	10000.00	9673.540293	96.7
11	KB79	L7	True	20000.00	20278.359921	101.4



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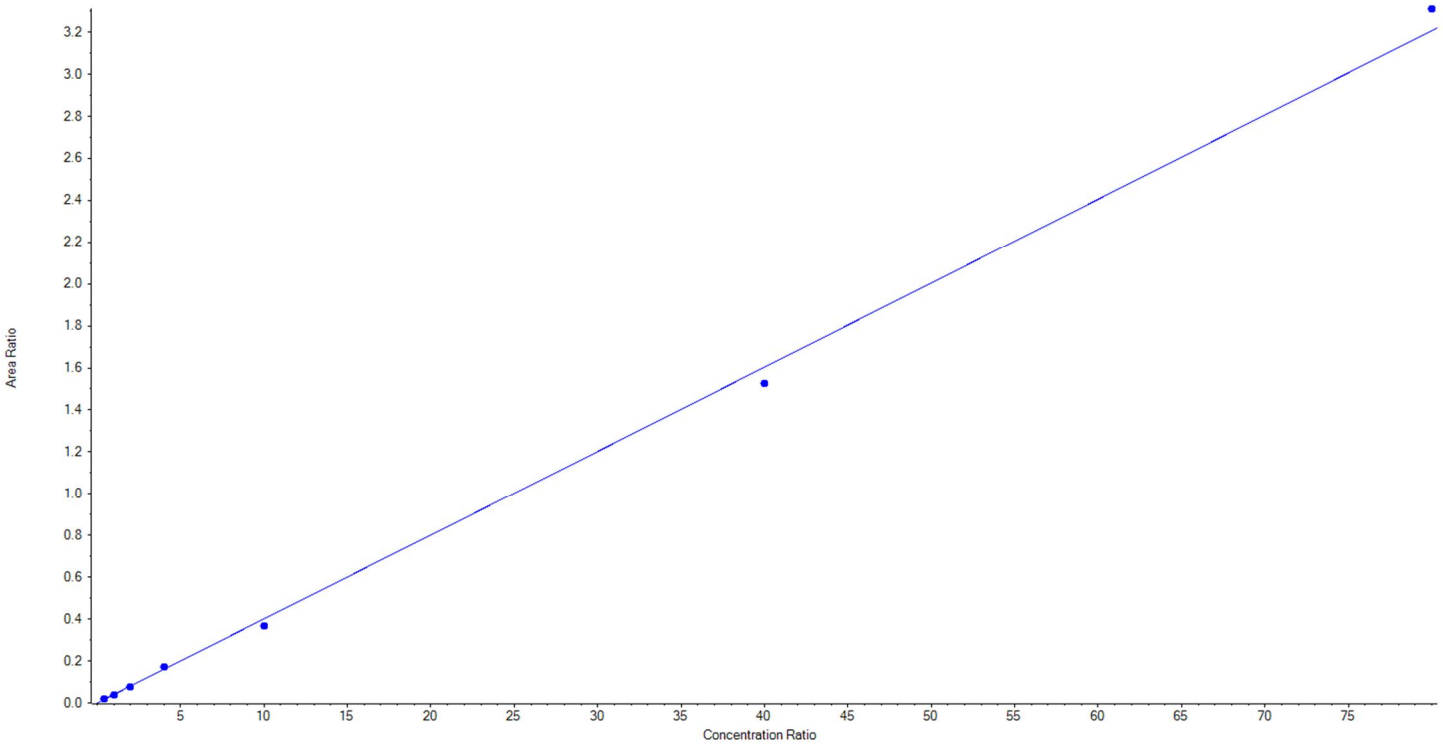
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	513.0 / 219.0	**Result Table**	18-0633
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04009 x + -2.12729e-4 (r = 0.99892) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	116.896891	116.9
6	KB74	L2	True	250.00	228.013862	91.2
7	KB75	L3	True	500.00	478.070887	95.6
8	KB76	L4	True	1000.00	1058.798060	105.9
9	KB77	L5	True	2500.00	2297.792098	91.9
10	KB78	L6	True	10000.00	9527.951083	95.3
11	KB79	L7	True	20000.00	20642.477118	103.2



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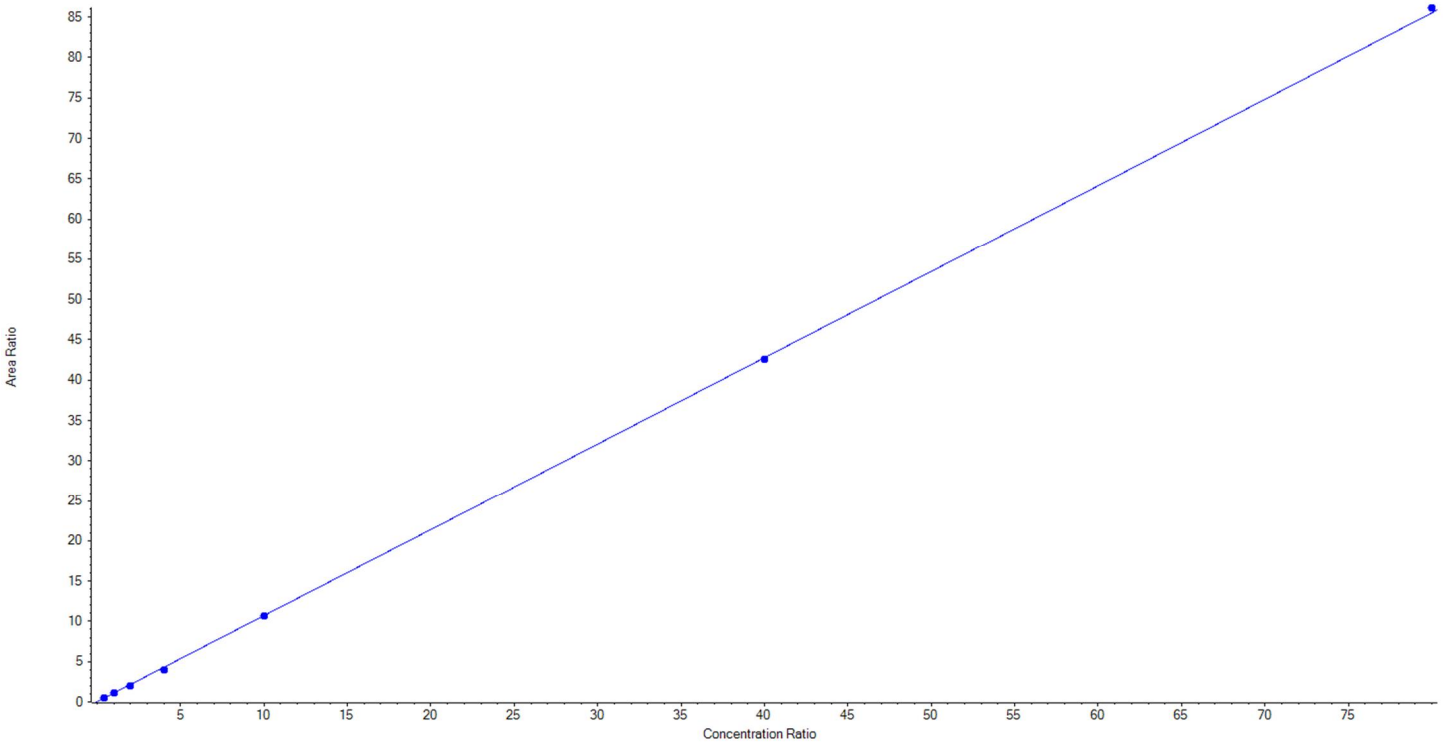
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFUnA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0633
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.06854 x + 0.03112 (r = 0.99983) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	112.180341	112.2
6	KB74	L2	True	250.00	257.599590	103.0
7	KB75	L3	True	500.00	457.954181	91.6
8	KB76	L4	True	1000.00	933.004902	93.3
9	KB77	L5	True	2500.00	2490.527932	99.6
10	KB78	L6	True	10000.00	9954.742824	99.6
11	KB79	L7	True	20000.00	20143.990230	100.7



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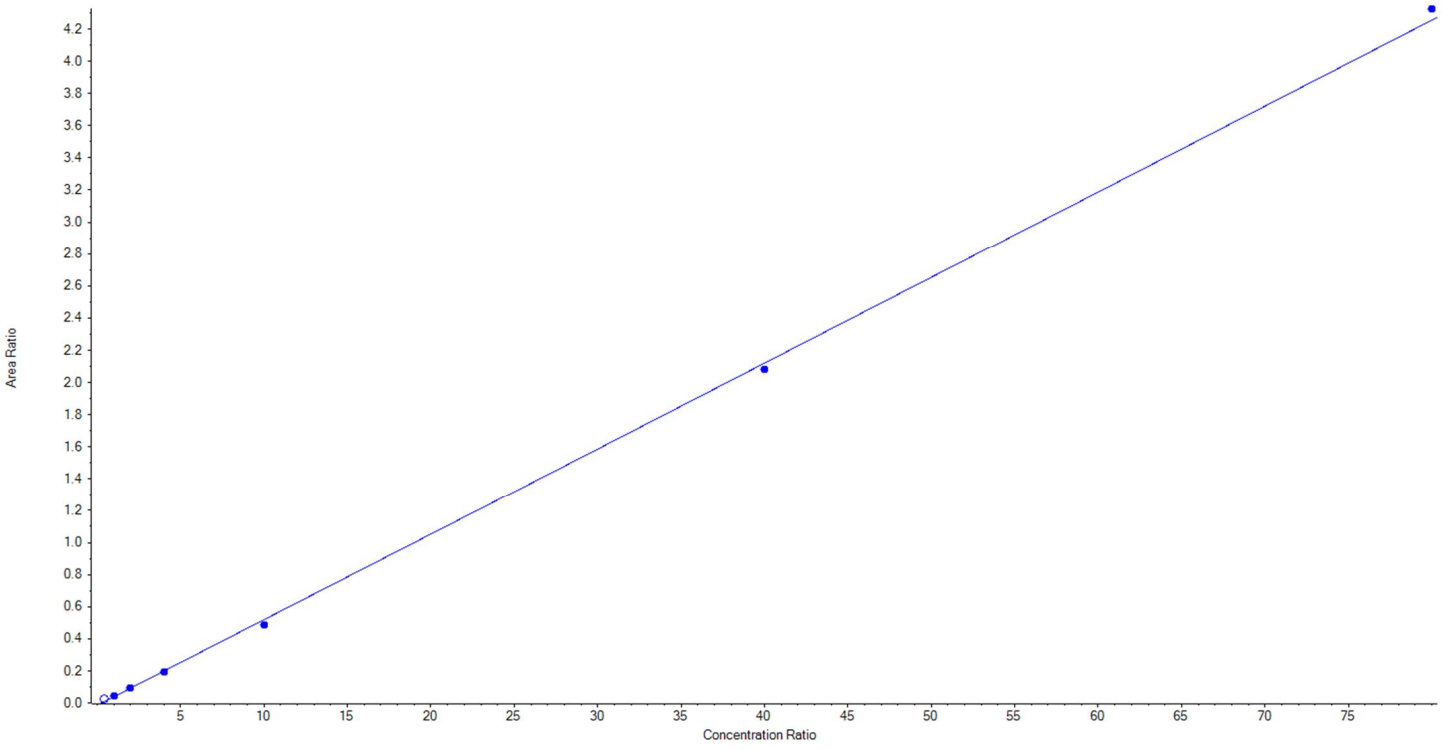
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFUnA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0633
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05337 x + -0.01489 (r = 0.99966) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	False	100.00	189.532698	189.5
6	KB74	L2	True	250.00	273.166005	109.3
7	KB75	L3	True	500.00	501.113618	100.2
8	KB76	L4	True	1000.00	963.325414	96.3
9	KB77	L5	True	2500.00	2356.267381	94.3
10	KB78	L6	True	10000.00	9829.399972	98.3
11	KB79	L7	True	20000.00	20326.727610	101.6



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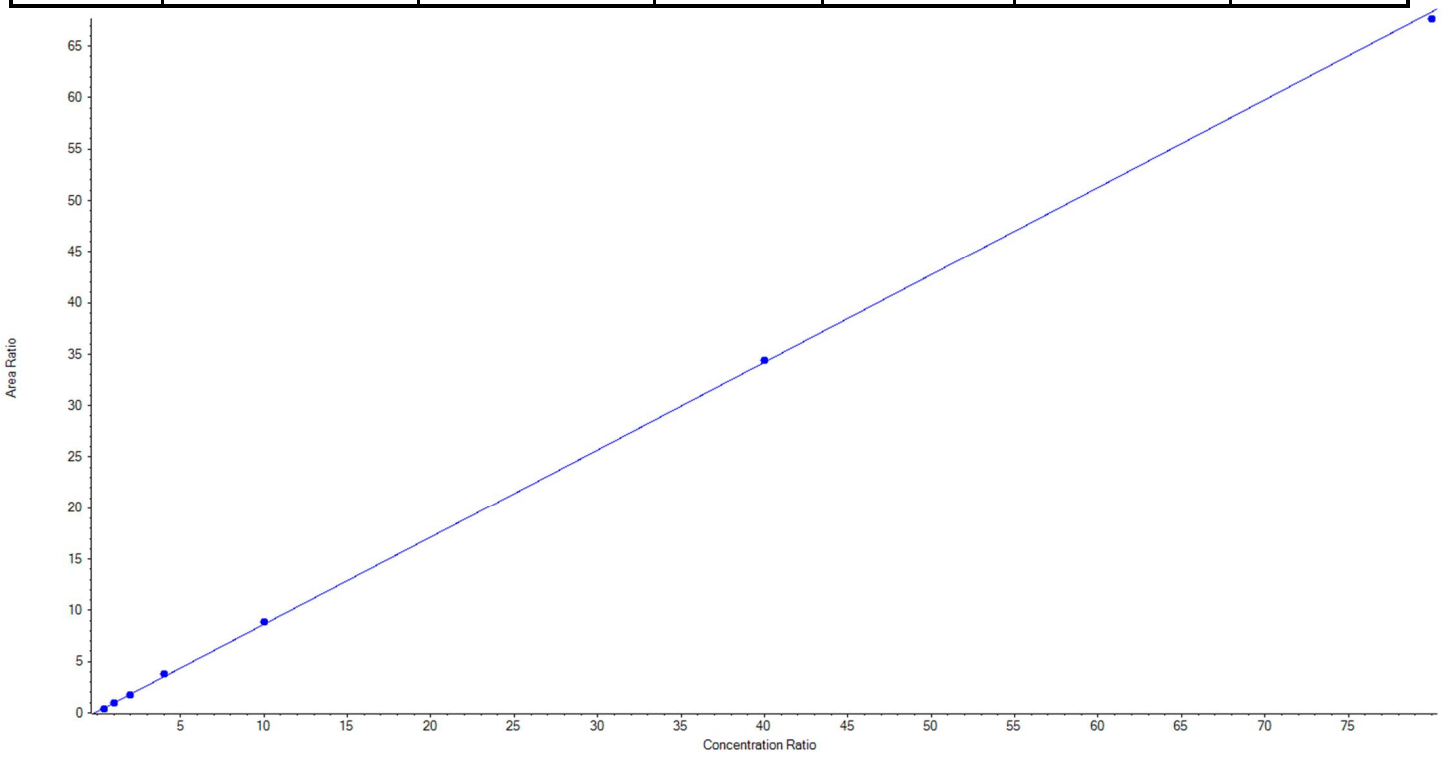
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDoA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	613.0 / 569.0	**Result Table**	18-0633
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.85265 x + 0.11297 (r = 0.99981) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	90.478478	90.5
6	KB74	L2	True	250.00	254.661144	101.9
7	KB75	L3	True	500.00	486.549987	97.3
8	KB76	L4	True	1000.00	1076.151440	107.6
9	KB77	L5	True	2500.00	2576.953698	103.1
10	KB78	L6	True	10000.00	10065.549839	100.7
11	KB79	L7	True	20000.00	19799.655415	99.0



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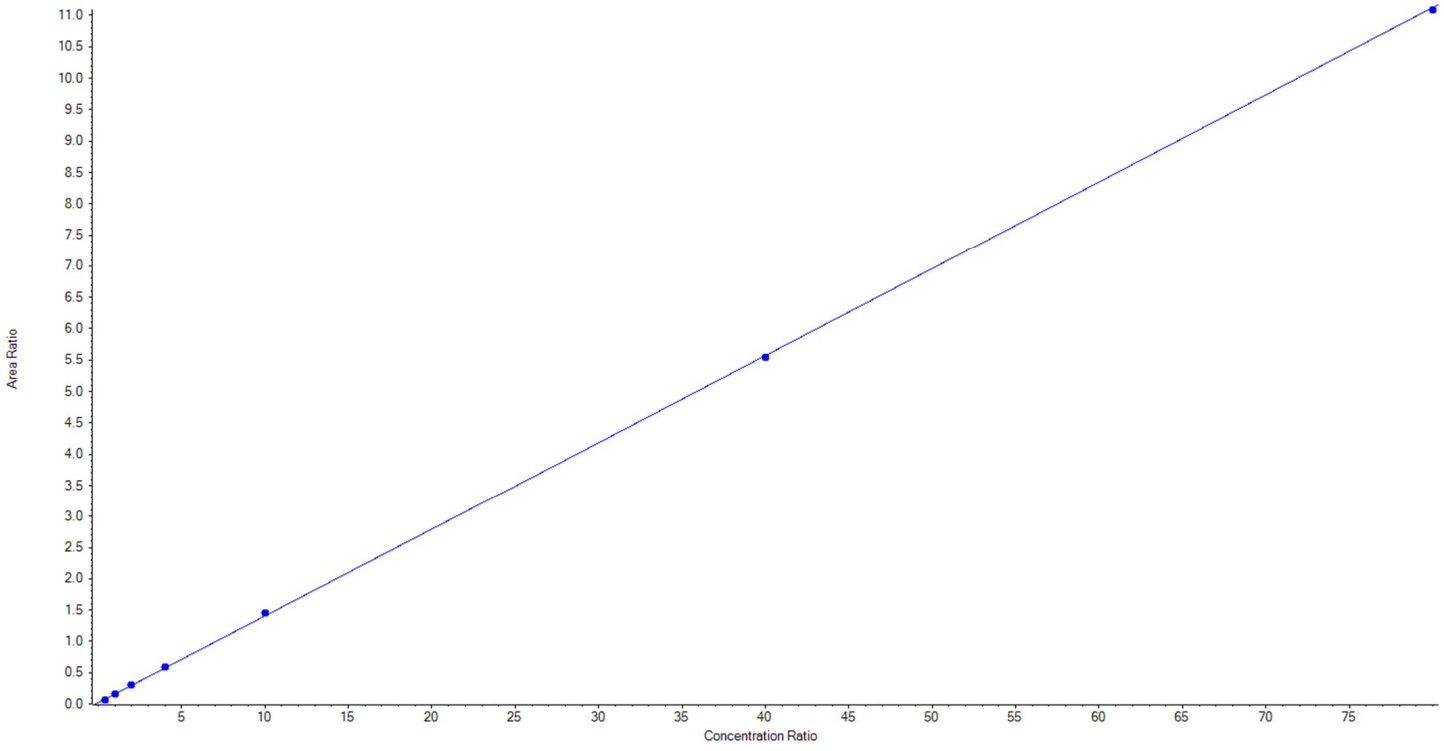
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFDoA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	613.0 / 319.0	**Result Table**	18-0633
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.13884 x + 0.01826 (r = 0.99992) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	92.536523	92.5
6	KB74	L2	True	250.00	249.459599	99.8
7	KB75	L3	True	500.00	506.159531	101.2
8	KB76	L4	True	1000.00	1043.720829	104.4
9	KB77	L5	True	2500.00	2571.621427	102.9
10	KB78	L6	True	10000.00	9955.656099	99.6
11	KB79	L7	True	20000.00	19930.845991	99.7



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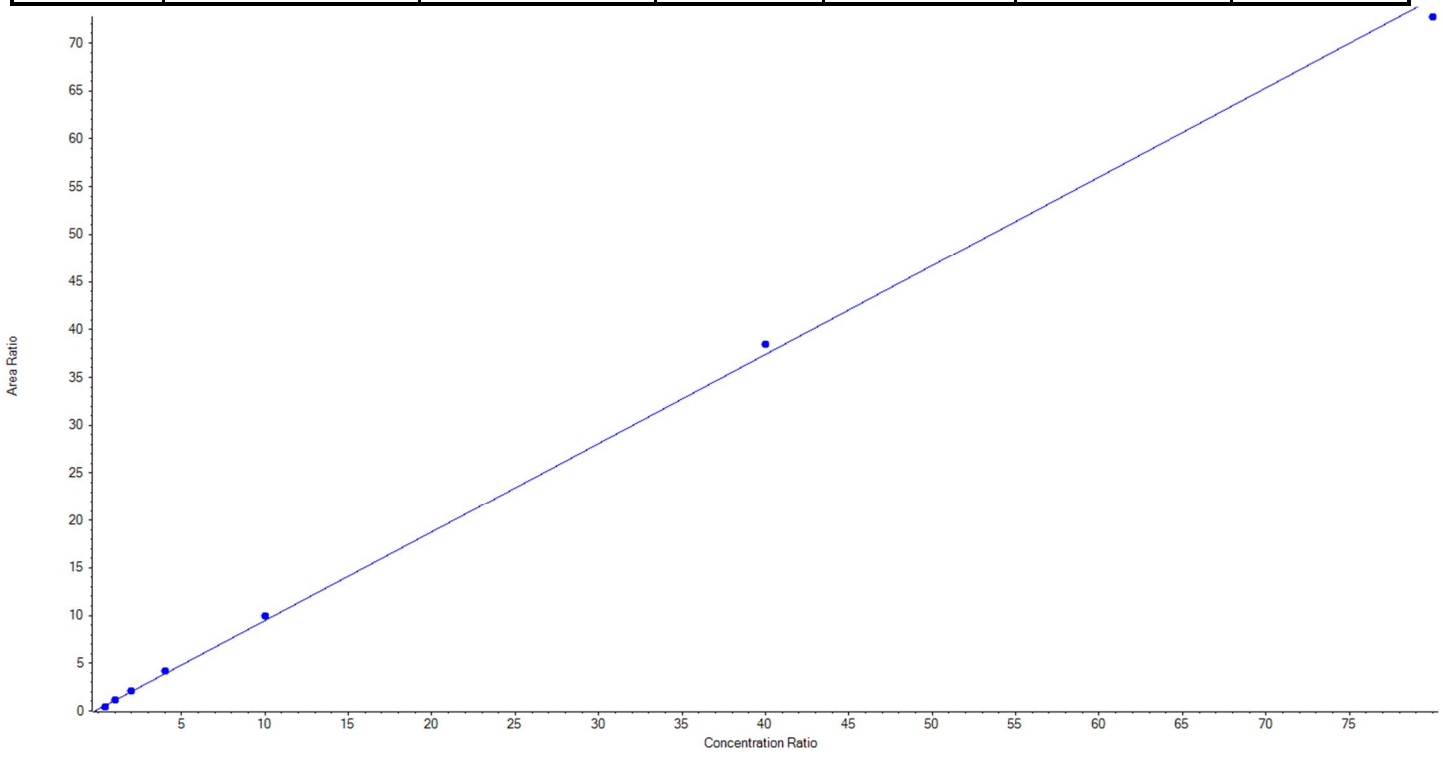
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTrDA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.93064 x + 0.16869 (r = 0.99934) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	77.725128	77.7
6	KB74	L2	True	250.00	255.764827	102.3
7	KB75	L3	True	500.00	531.405785	106.3
8	KB76	L4	True	1000.00	1078.009373	107.8
9	KB77	L5	True	2500.00	2642.246108	105.7
10	KB78	L6	True	10000.00	10274.551778	102.8
11	KB79	L7	True	20000.00	19490.297001	97.5



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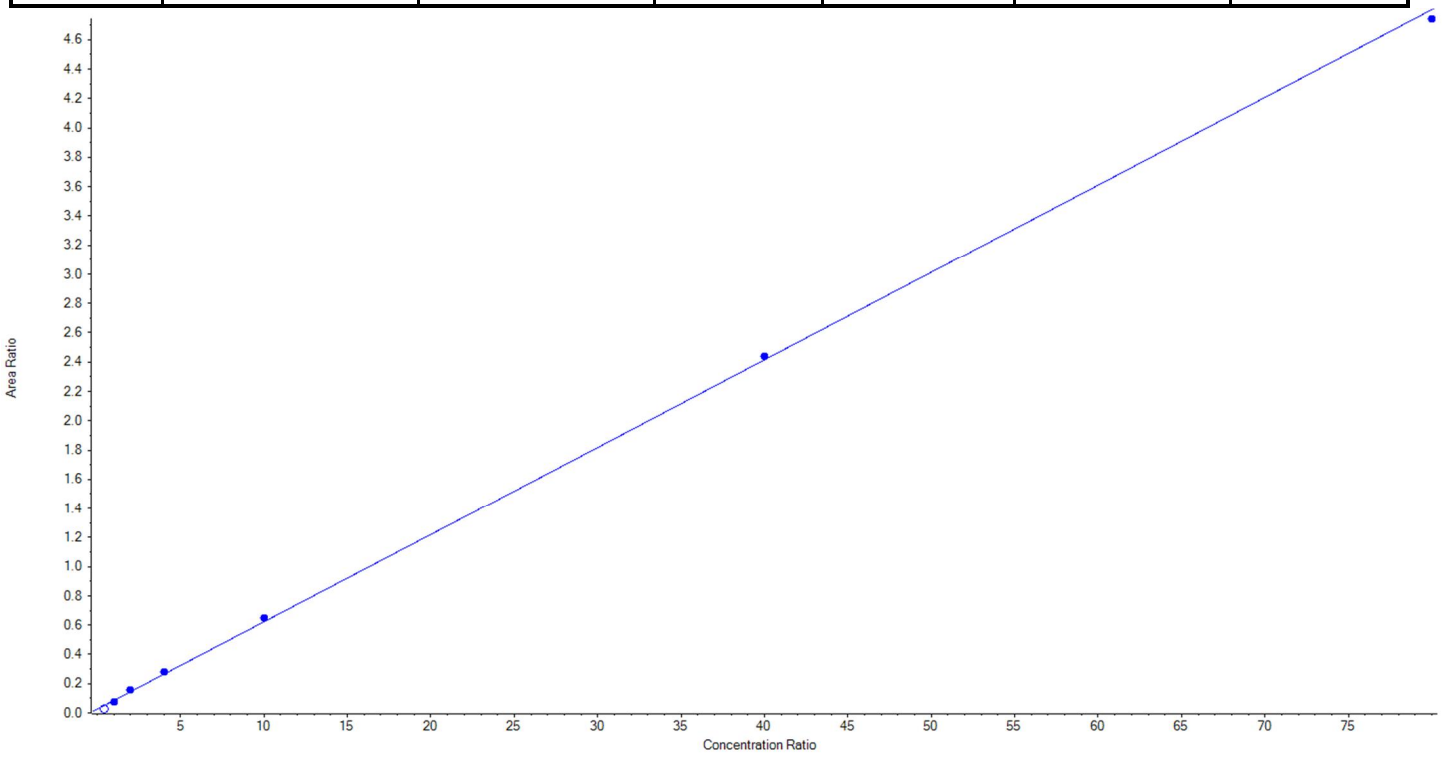
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTrDA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05974 x + 0.02550 (r = 0.99957) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	False	100.00	6.709205	6.7
6	KB74	L2	True	250.00	202.815274	81.1
7	KB75	L3	True	500.00	545.875721	109.2
8	KB76	L4	True	1000.00	1055.834717	105.6
9	KB77	L5	True	2500.00	2611.247297	104.5
10	KB78	L6	True	10000.00	10098.849508	101.0
11	KB79	L7	True	20000.00	19735.377482	98.7



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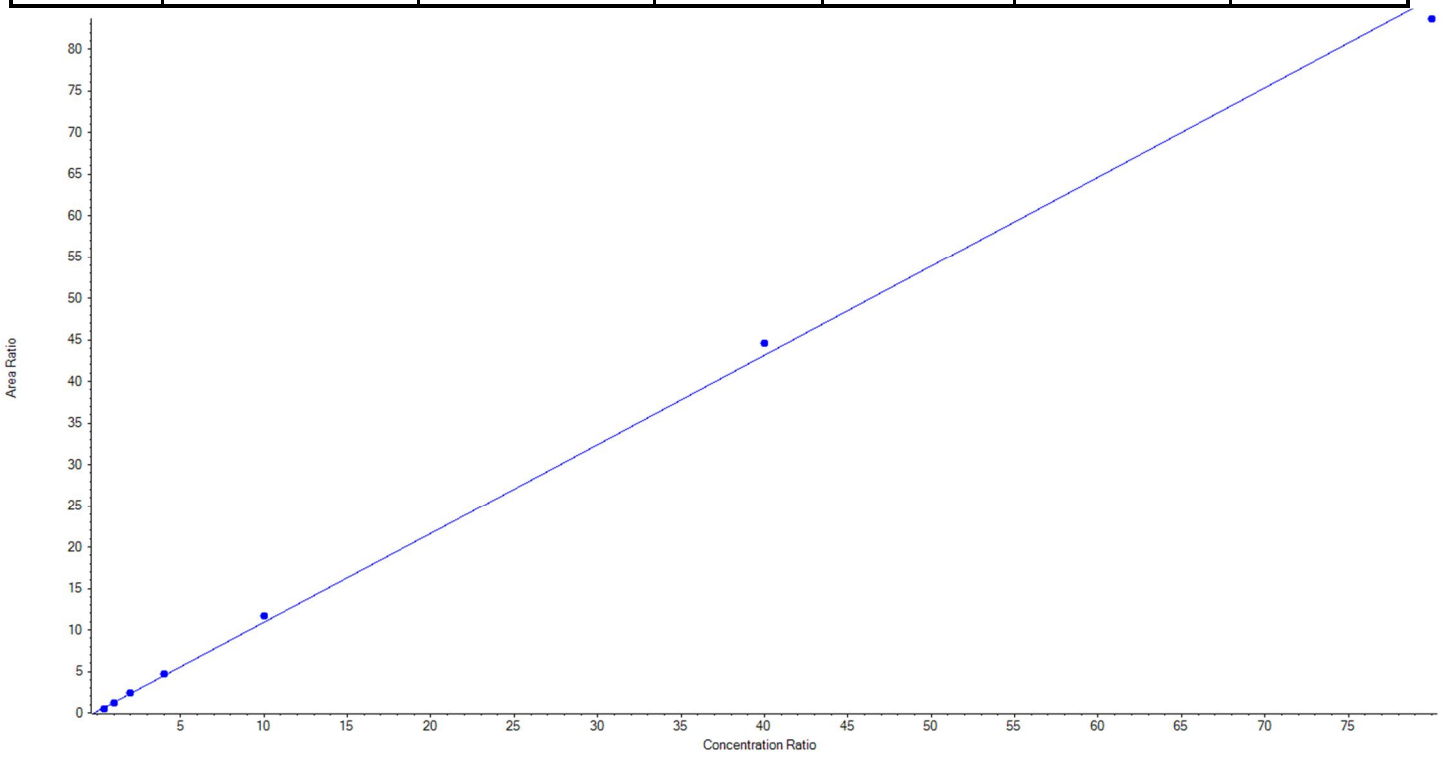
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTeDA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	713.0 / 669.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.07412 x + 0.18531 (r = 0.99925) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	82.176947	82.2
6	KB74	L2	True	250.00	248.817171	99.5
7	KB75	L3	True	500.00	524.214982	104.8
8	KB76	L4	True	1000.00	1062.825606	106.3
9	KB77	L5	True	2500.00	2665.532399	106.6
10	KB78	L6	True	10000.00	10343.433386	103.4
11	KB79	L7	True	20000.00	19422.999508	97.1



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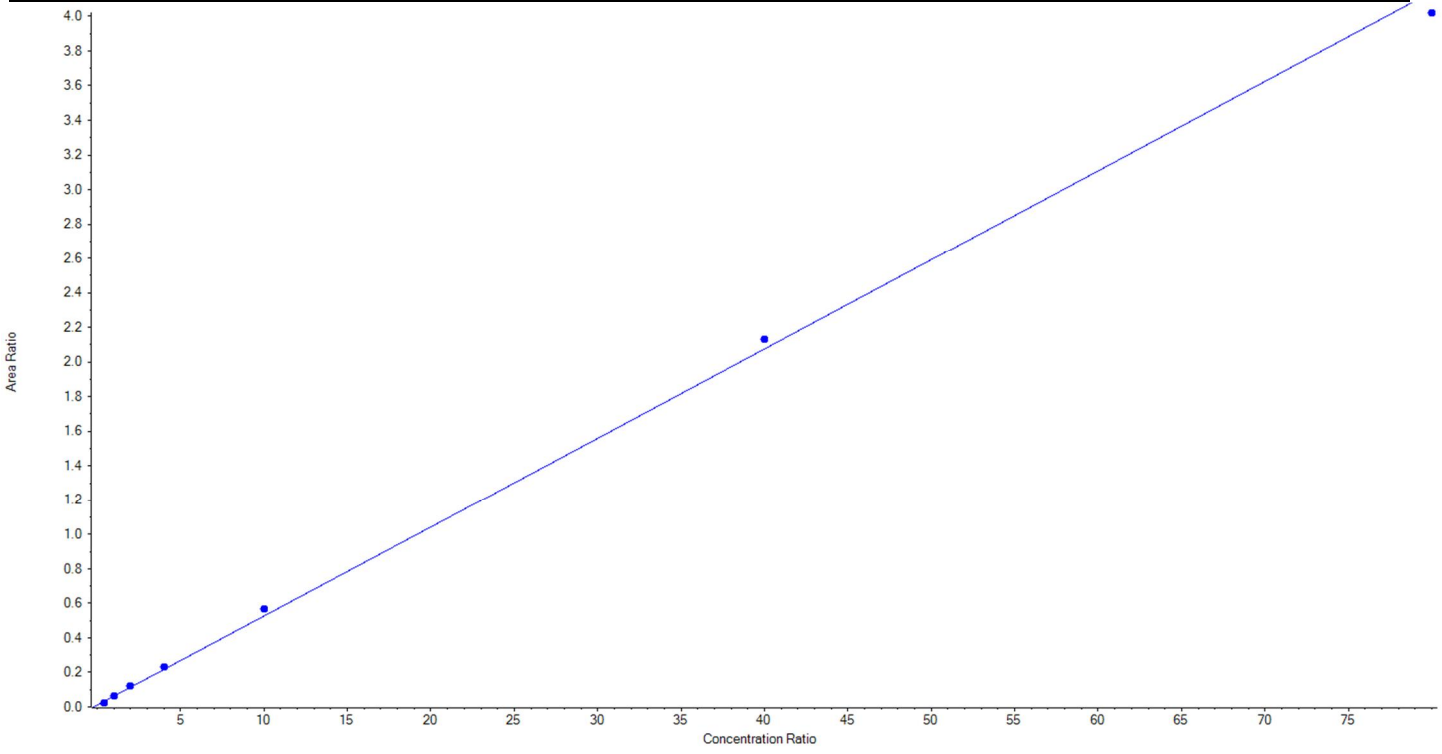
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	PFTeDA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	713.0 / 169.0	**Result Table**	18-0633
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05163 x + 0.01046 (r = 0.99907) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	72.738185	72.7
6	KB74	L2	True	250.00	261.375790	104.6
7	KB75	L3	True	500.00	531.482702	106.3
8	KB76	L4	True	1000.00	1082.201825	108.2
9	KB77	L5	True	2500.00	2708.177653	108.3
10	KB78	L6	True	10000.00	10279.510237	102.8
11	KB79	L7	True	20000.00	19414.513608	97.1



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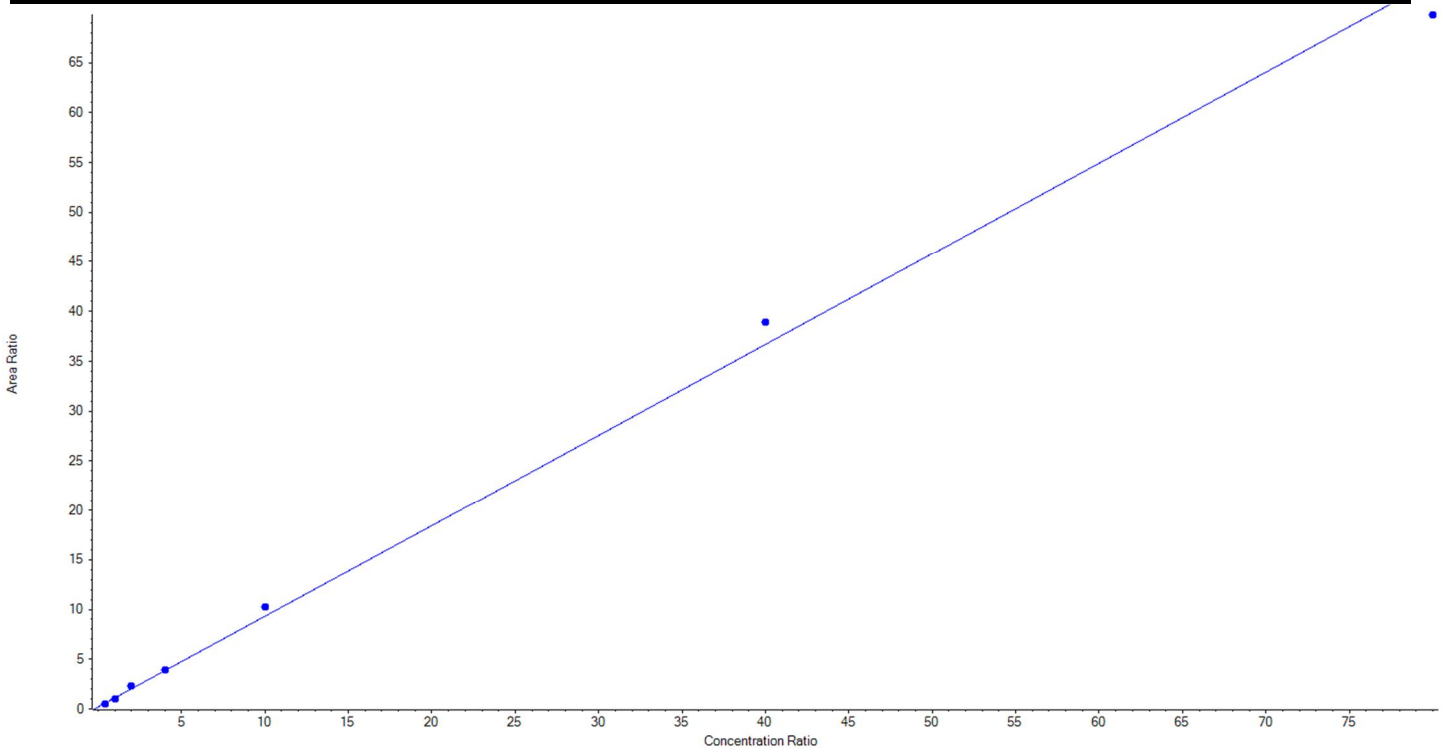
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NMeFOSAA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	570.0 / 419.0	**Result Table**	18-0633
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.91208 x + 0.20251 (r = 0.99798) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	78.781525	78.8
6	KB74	L2	True	250.00	225.408997	90.2
7	KB75	L3	True	500.00	581.297920	116.3
8	KB76	L4	True	1000.00	1028.523797	102.9
9	KB77	L5	True	2500.00	2764.635102	110.6
10	KB78	L6	True	10000.00	10600.148972	106.0
11	KB79	L7	True	20000.00	19071.203685	95.4



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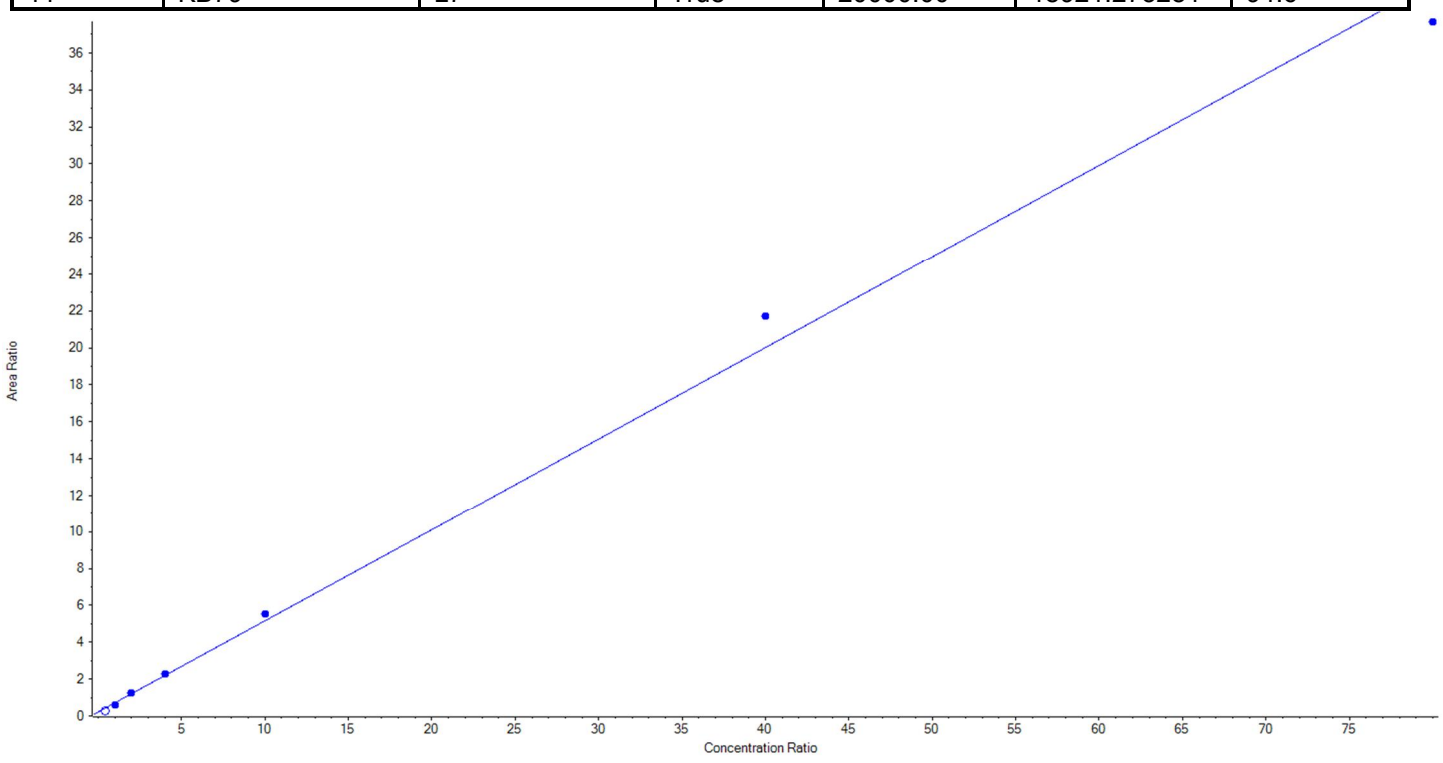
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NMeFOSAA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	570.0 / 512.0	**Result Table**	18-0633
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.49494 x + 0.21748 (r = 0.99726) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	False	100.00	22.241229	22.2
6	KB74	L2	True	250.00	198.243521	79.3
7	KB75	L3	True	500.00	525.118686	105.0
8	KB76	L4	True	1000.00	1047.871826	104.8
9	KB77	L5	True	2500.00	2690.345954	107.6
10	KB78	L6	True	10000.00	10867.146732	108.7
11	KB79	L7	True	20000.00	18921.273281	94.6



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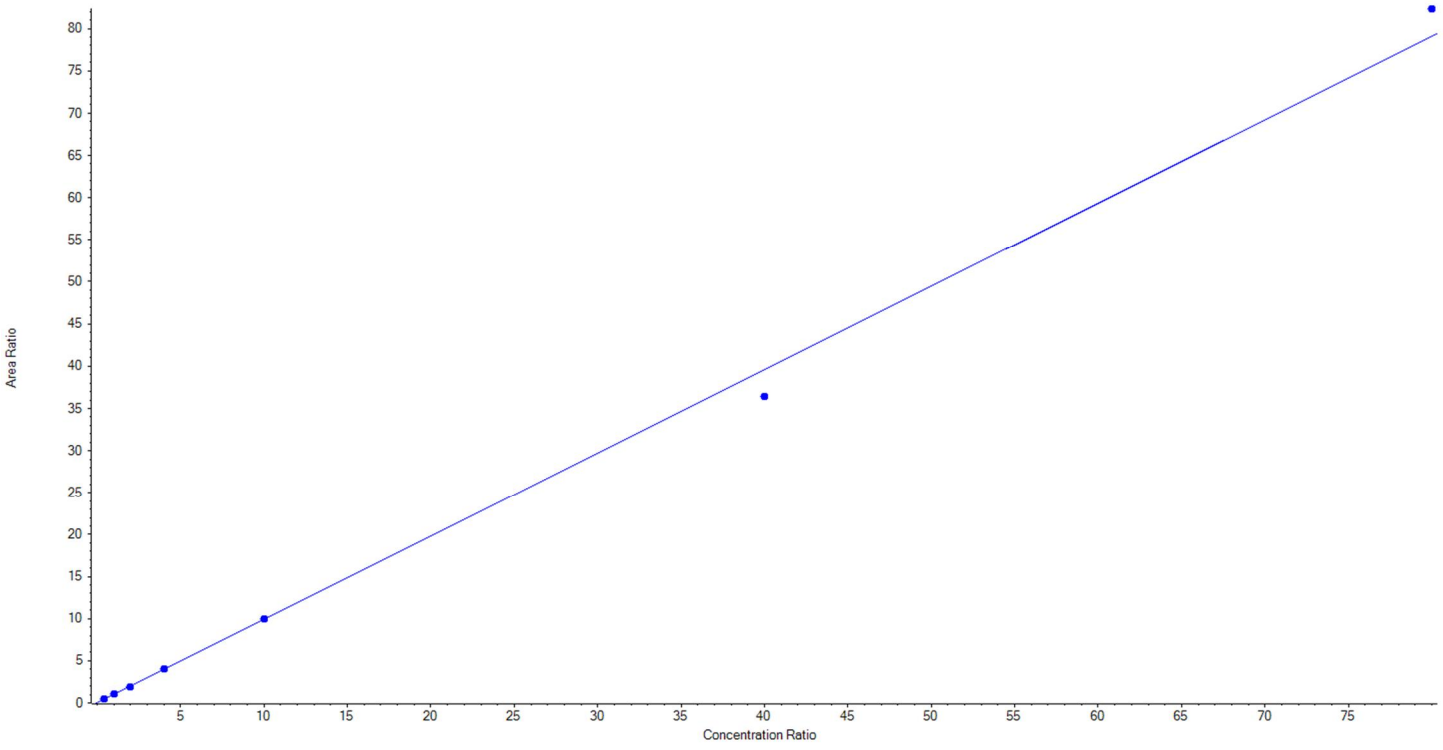
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NEtFOSAA_1	**Data File**	AC_11012018_369.wiff
MRM Transition	584.0 / 419.0	**Result Table**	18-0633
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98847 x + 0.03764 (r = 0.99843) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	108.521375	108.5
6	KB74	L2	True	250.00	248.063284	99.2
7	KB75	L3	True	500.00	477.356918	95.5
8	KB76	L4	True	1000.00	1007.298310	100.7
9	KB77	L5	True	2500.00	2500.787468	100.0
10	KB78	L6	True	10000.00	9196.146996	92.0
11	KB79	L7	True	20000.00	20811.825649	104.1



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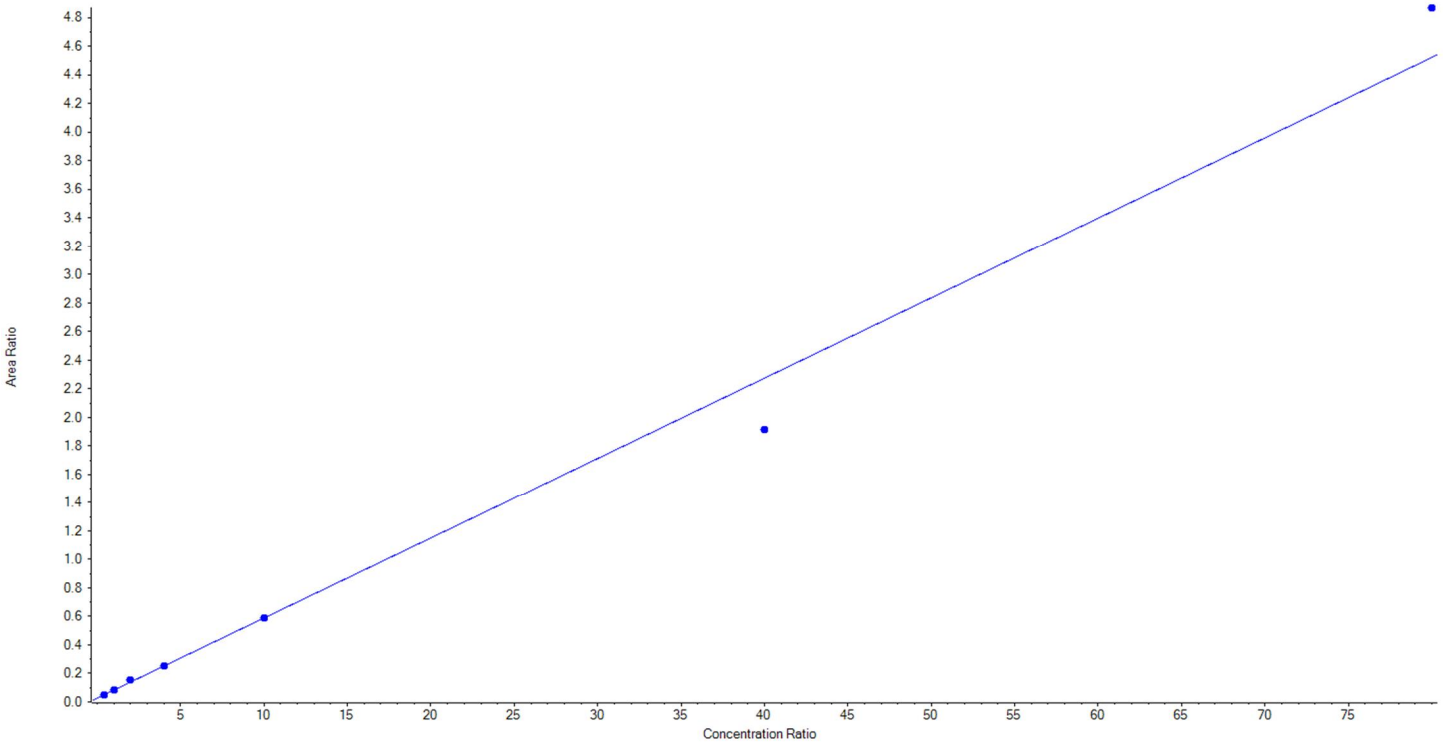
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:09:13 PM

Analyte Name	NEtFOSAA_2	**Data File**	AC_11012018_369.wiff
MRM Transition	584.0 / 483.0	**Result Table**	18-0633
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05620 x + 0.02698 (r = 0.99389) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	100.00	90.415626	90.4
6	KB74	L2	True	250.00	257.616448	103.1
7	KB75	L3	True	500.00	578.787877	115.8
8	KB76	L4	True	1000.00	994.488523	99.5
9	KB77	L5	True	2500.00	2491.455585	99.7
10	KB78	L6	True	10000.00	8397.392759	84.0
11	KB79	L7	True	20000.00	21539.843182	107.7



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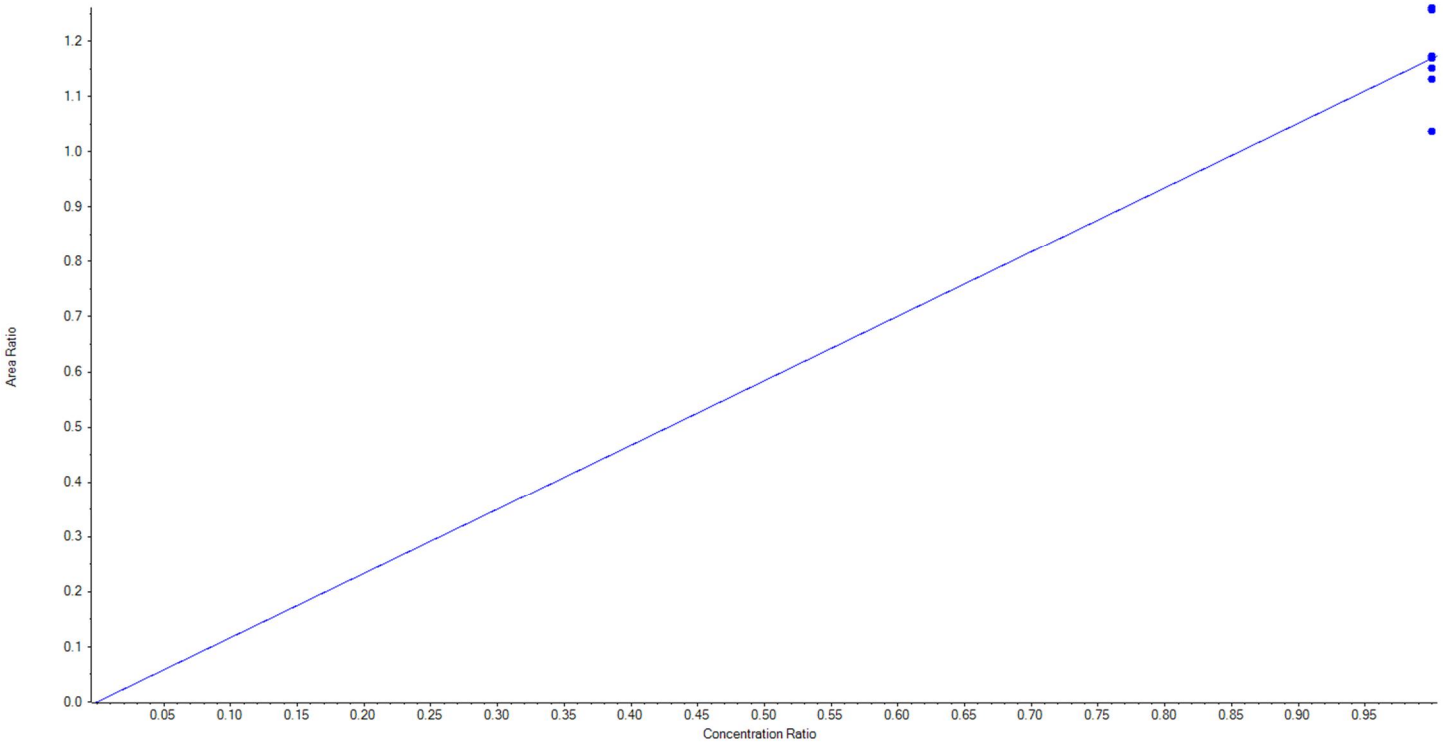
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C2-PFDoA	**Data File**	AC_11012018_369.wiff
MRM Transition	615.0 / 570.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.16832 x (std. dev. = 0.07657) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	221.874200	88.8
6	KB74	L2	True	250.00	269.618167	107.9
7	KB75	L3	True	250.00	246.392376	98.6
8	KB76	L4	True	250.00	241.891146	96.8
9	KB77	L5	True	250.00	251.107095	100.4
10	KB78	L6	True	250.00	268.834411	107.5
11	KB79	L7	True	250.00	250.282606	100.1



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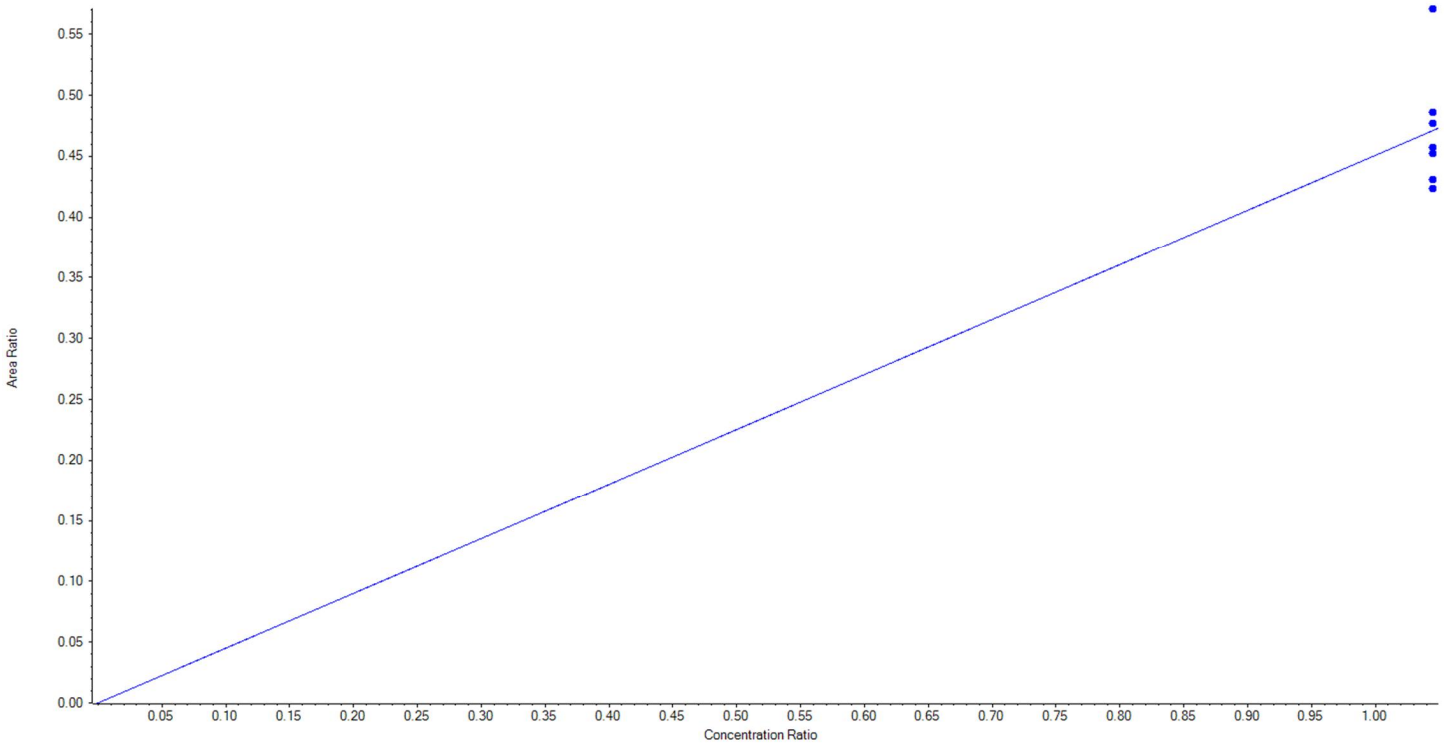
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	d3-MeFOSAA	**Data File**	AC_11012018_369.wiff
MRM Transition	573.0 / 419.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.45085 x (std. dev. = 0.04732) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	253.289490	101.3
6	KB74	L2	True	250.00	257.992554	103.2
7	KB75	L3	True	250.00	224.600617	89.8
8	KB76	L4	True	250.00	228.649055	91.5
9	KB77	L5	True	250.00	239.841865	95.9
10	KB78	L6	True	250.00	242.723352	97.1
11	KB79	L7	True	250.00	302.903067	121.2



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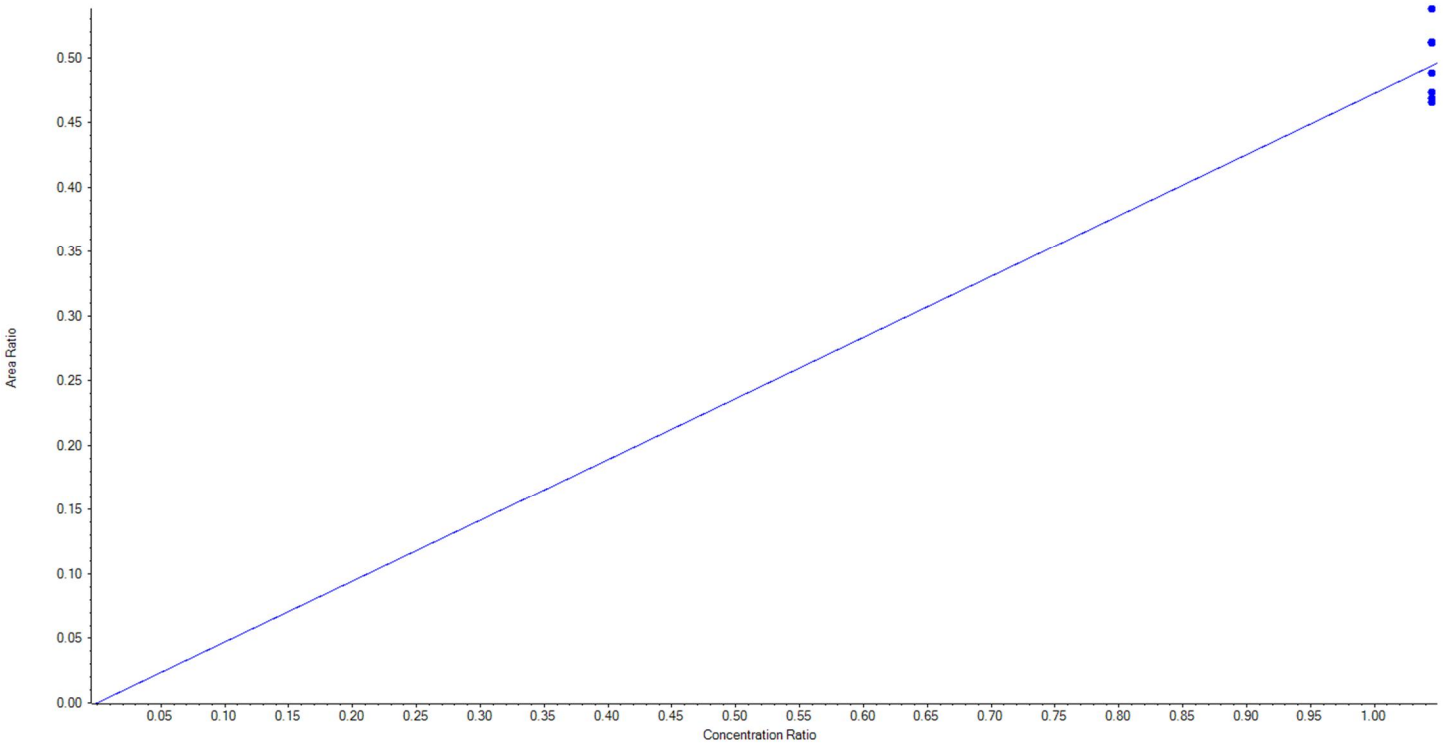
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	d5-EtFOSAA	**Data File**	AC_11012018_369.wiff
MRM Transition	589.0 / 419.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.47276 x (std. dev. = 0.02615) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	235.606368	94.2
6	KB74	L2	True	250.00	259.107745	103.6
7	KB75	L3	True	250.00	272.247701	108.9
8	KB76	L4	True	250.00	247.254486	98.9
9	KB77	L5	True	250.00	239.506569	95.8
10	KB78	L6	True	250.00	259.030750	103.6
11	KB79	L7	True	250.00	237.246382	94.9



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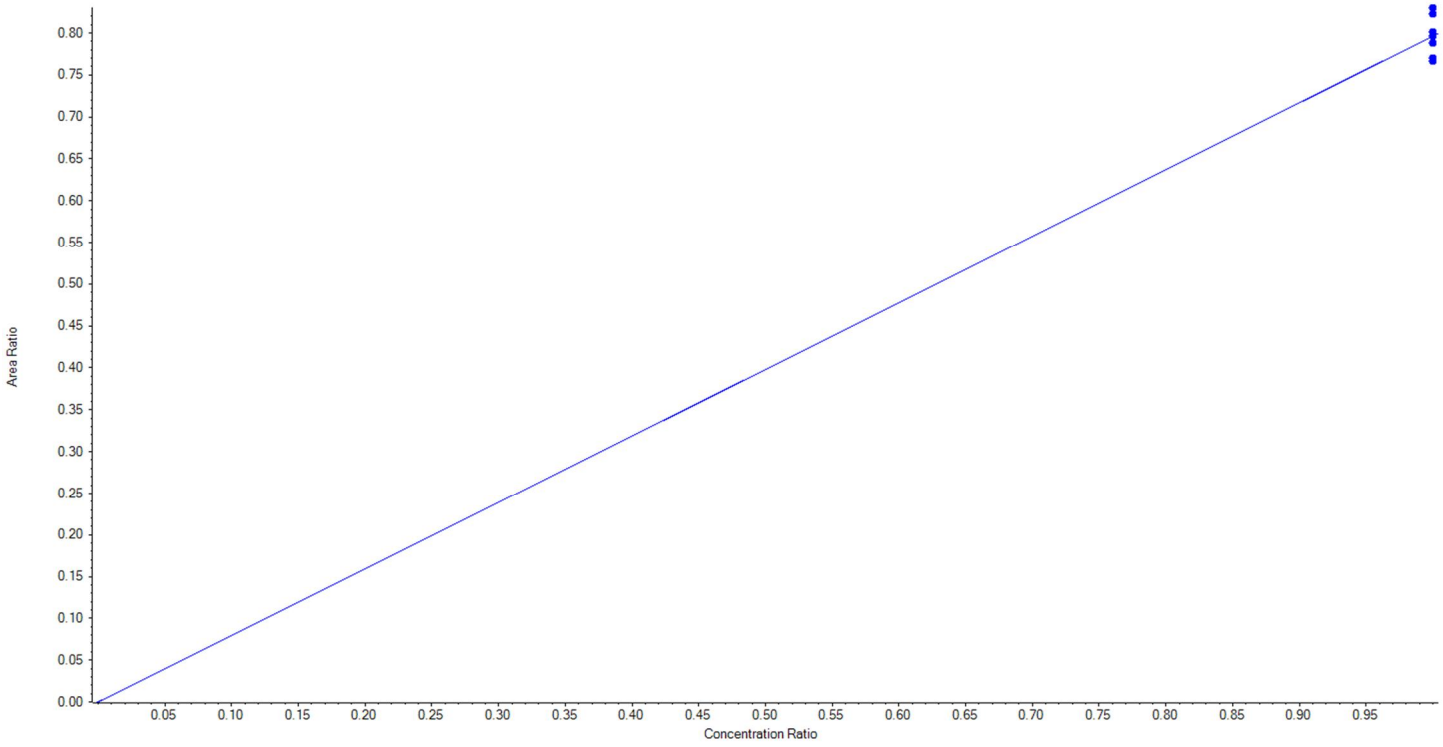
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C5-PFHxA	**Data File**	AC_11012018_369.wiff
MRM Transition	318.0 / 273.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.79637 x (std. dev. = 0.02439) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	251.522965	100.6
6	KB74	L2	True	250.00	247.380056	99.0
7	KB75	L3	True	250.00	240.451138	96.2
8	KB76	L4	True	250.00	260.525562	104.2
9	KB77	L5	True	250.00	258.360456	103.3
10	KB78	L6	True	250.00	241.599752	96.6
11	KB79	L7	True	250.00	250.160072	100.1



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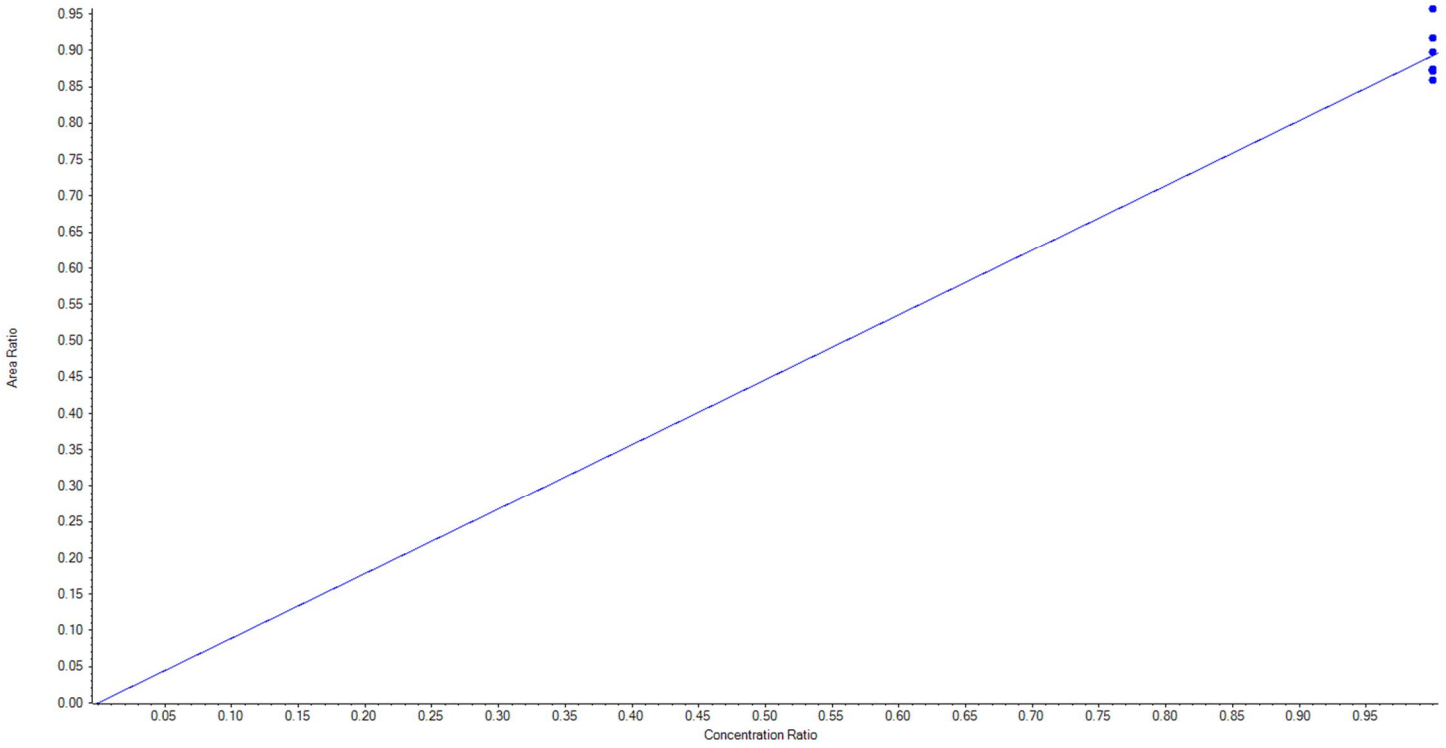
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C4-PFHpA	**Data File**	AC_11012018_369.wiff
MRM Transition	367.0 / 322.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.89282 x (std. dev. = 0.03418) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	240.671319	96.3
6	KB74	L2	True	250.00	244.933611	98.0
7	KB75	L3	True	250.00	251.274094	100.5
8	KB76	L4	True	250.00	243.933176	97.6
9	KB77	L5	True	250.00	256.733560	102.7
10	KB78	L6	True	250.00	244.487947	97.8
11	KB79	L7	True	250.00	267.966293	107.2



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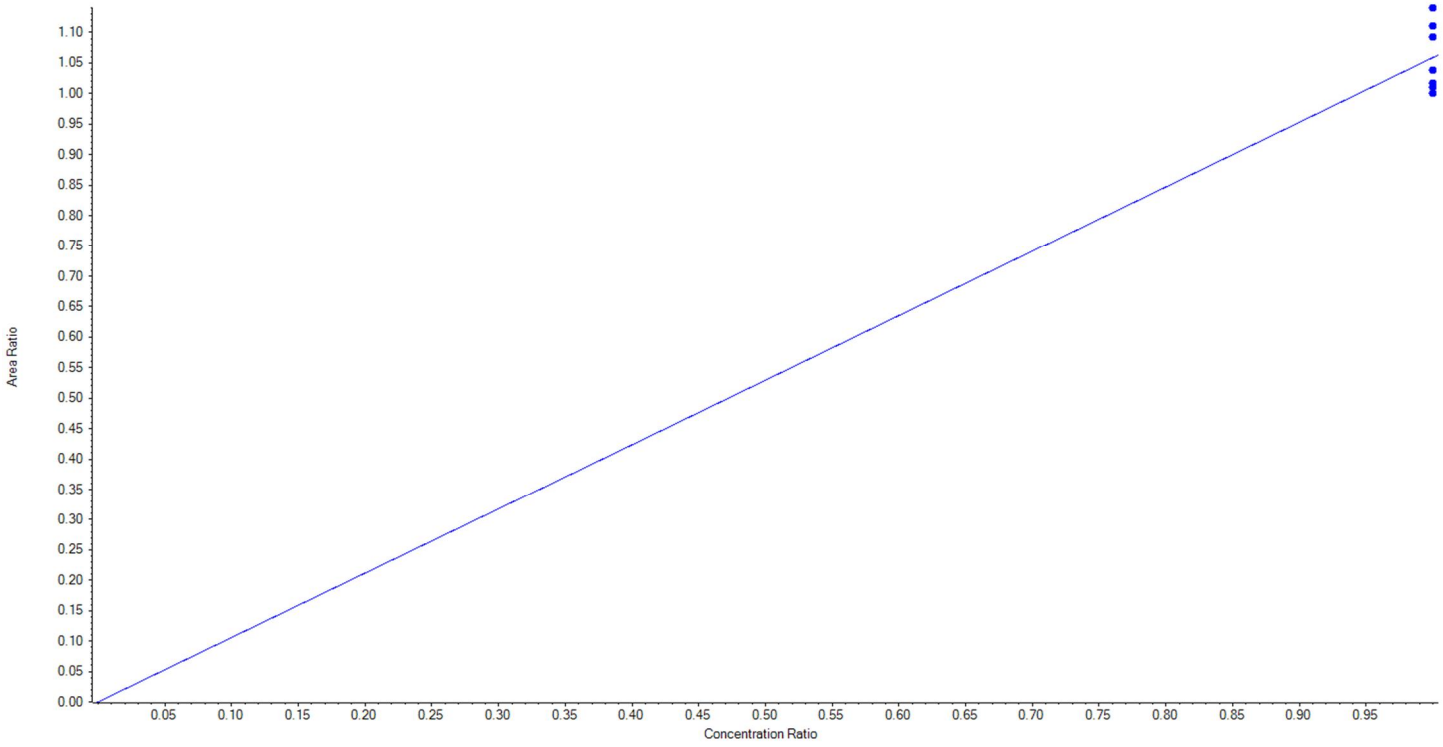
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C8-PFOA	**Data File**	AC_11012018_369.wiff
MRM Transition	421.0 / 376.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.05882 x (std. dev. = 0.05530) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	236.382004	94.6
6	KB74	L2	True	250.00	245.338082	98.1
7	KB75	L3	True	250.00	269.194968	107.7
8	KB76	L4	True	250.00	262.314402	104.9
9	KB77	L5	True	250.00	258.139882	103.3
10	KB78	L6	True	250.00	238.552806	95.4
11	KB79	L7	True	250.00	240.077856	96.0



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Calibration Summary Report

Created with Analyst Reporter
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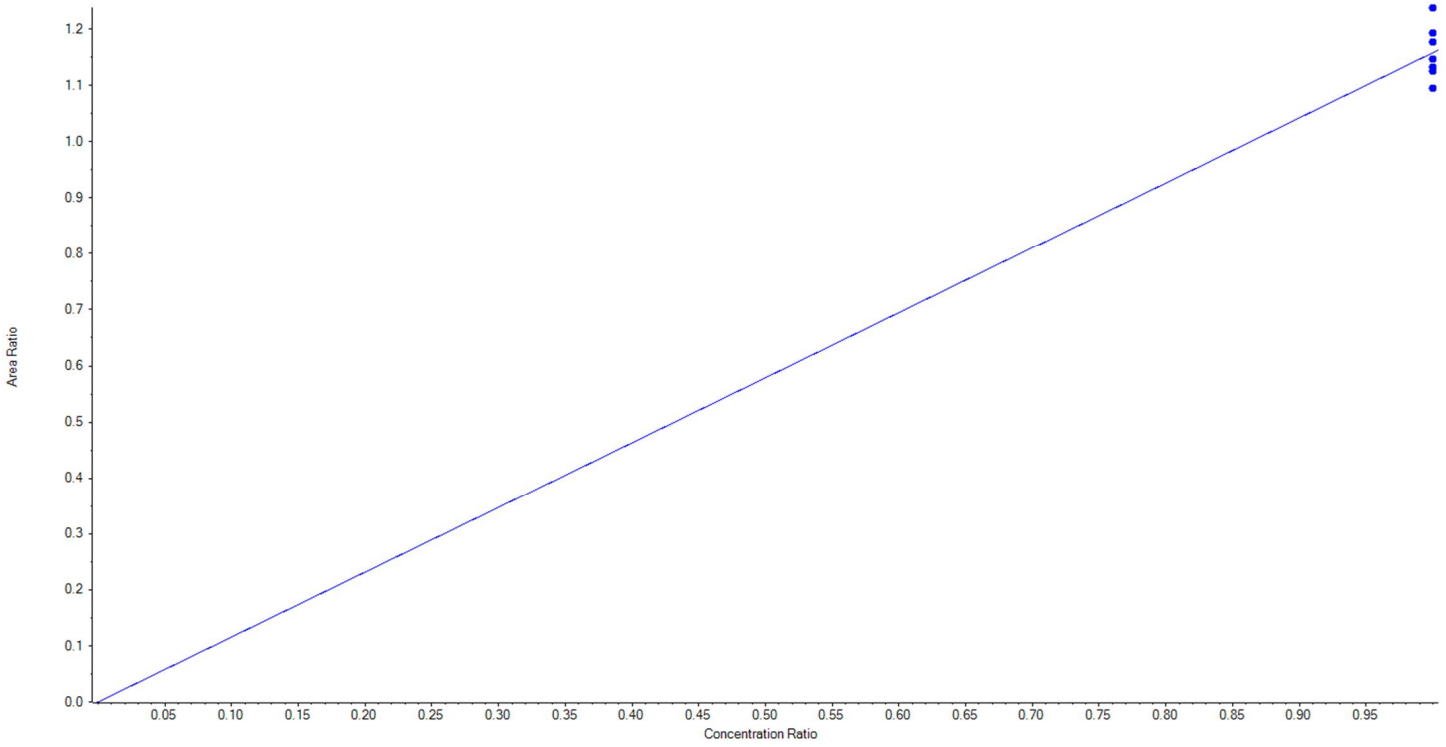
Analyte Name	13C9-PFNA	**Data File**	AC_11012018_369.wiff
MRM Transition	472.0 / 427.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.15801 x (std. dev. = 0.04807) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	257.638879	103.1
6	KB74	L2	True	250.00	244.508084	97.8
7	KB75	L3	True	250.00	253.946550	101.6
8	KB76	L4	True	250.00	242.867338	97.2
9	KB77	L5	True	250.00	267.178569	106.9
10	KB78	L6	True	250.00	247.664656	99.1
11	KB79	L7	True	250.00	236.195924	94.5



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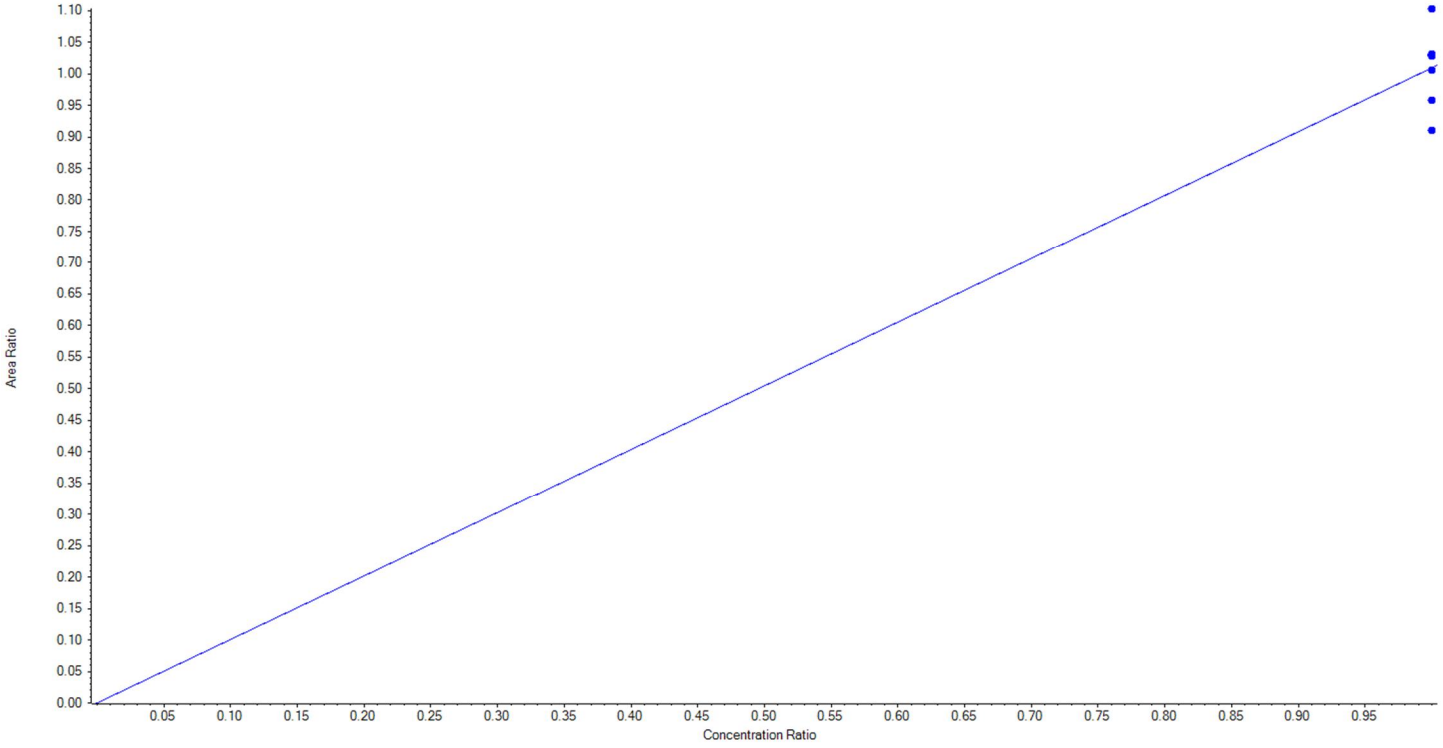
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C6-PFDA	**Data File**	AC_11012018_369.wiff
MRM Transition	519.0 / 474.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.00921 x (std. dev. = 0.06109) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	225.368194	90.2
6	KB74	L2	True	250.00	255.566340	102.2
7	KB75	L3	True	250.00	254.500167	101.8
8	KB76	L4	True	250.00	249.061324	99.6
9	KB77	L5	True	250.00	254.883384	102.0
10	KB78	L6	True	250.00	273.131659	109.3
11	KB79	L7	True	250.00	237.488931	95.0



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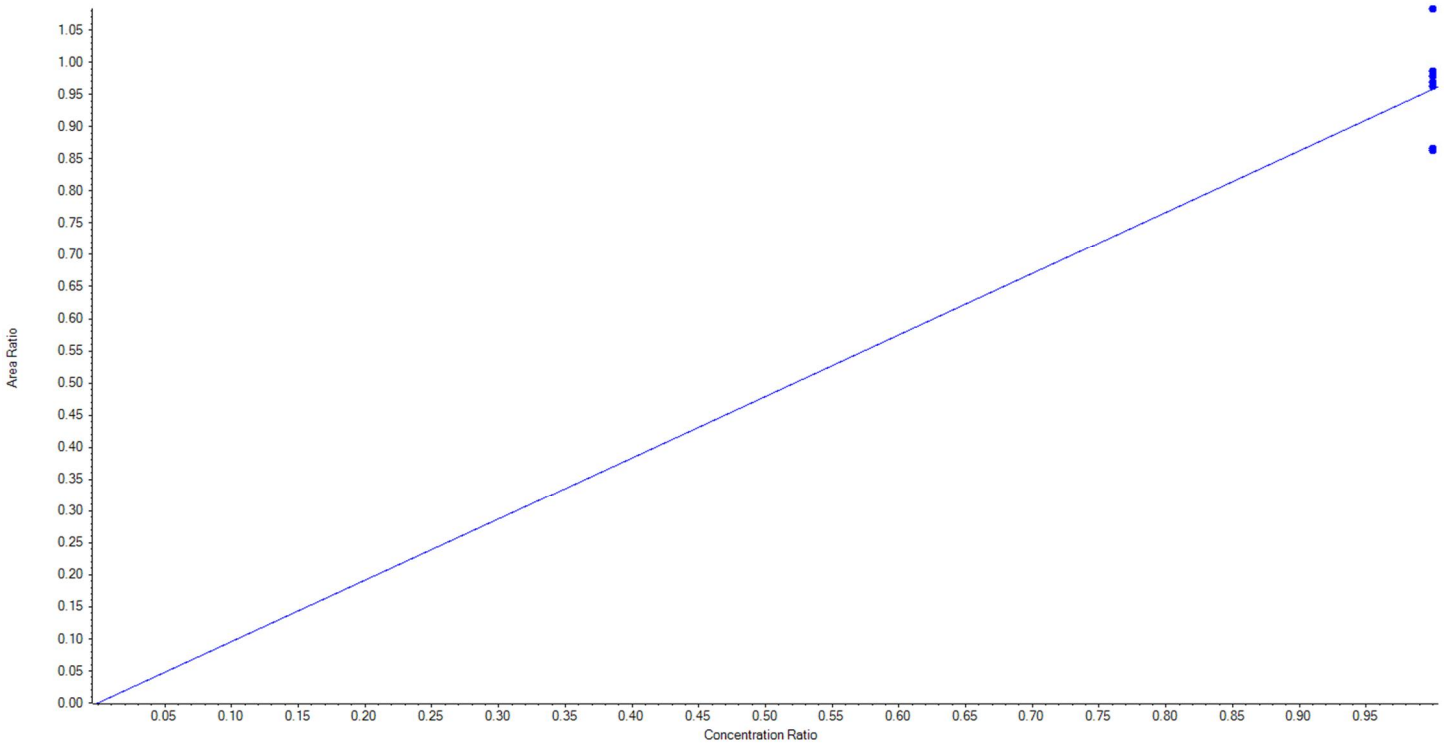
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C7-PFUnA	**Data File**	AC_11012018_369.wiff
MRM Transition	570.0 / 525.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.95813 x (std. dev. = 0.07587) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	225.849026	90.3
6	KB74	L2	True	250.00	282.577309	113.0
7	KB75	L3	True	250.00	255.150846	102.1
8	KB76	L4	True	250.00	257.246177	102.9
9	KB77	L5	True	250.00	252.732731	101.1
10	KB78	L6	True	250.00	251.317123	100.5
11	KB79	L7	True	250.00	225.126787	90.1



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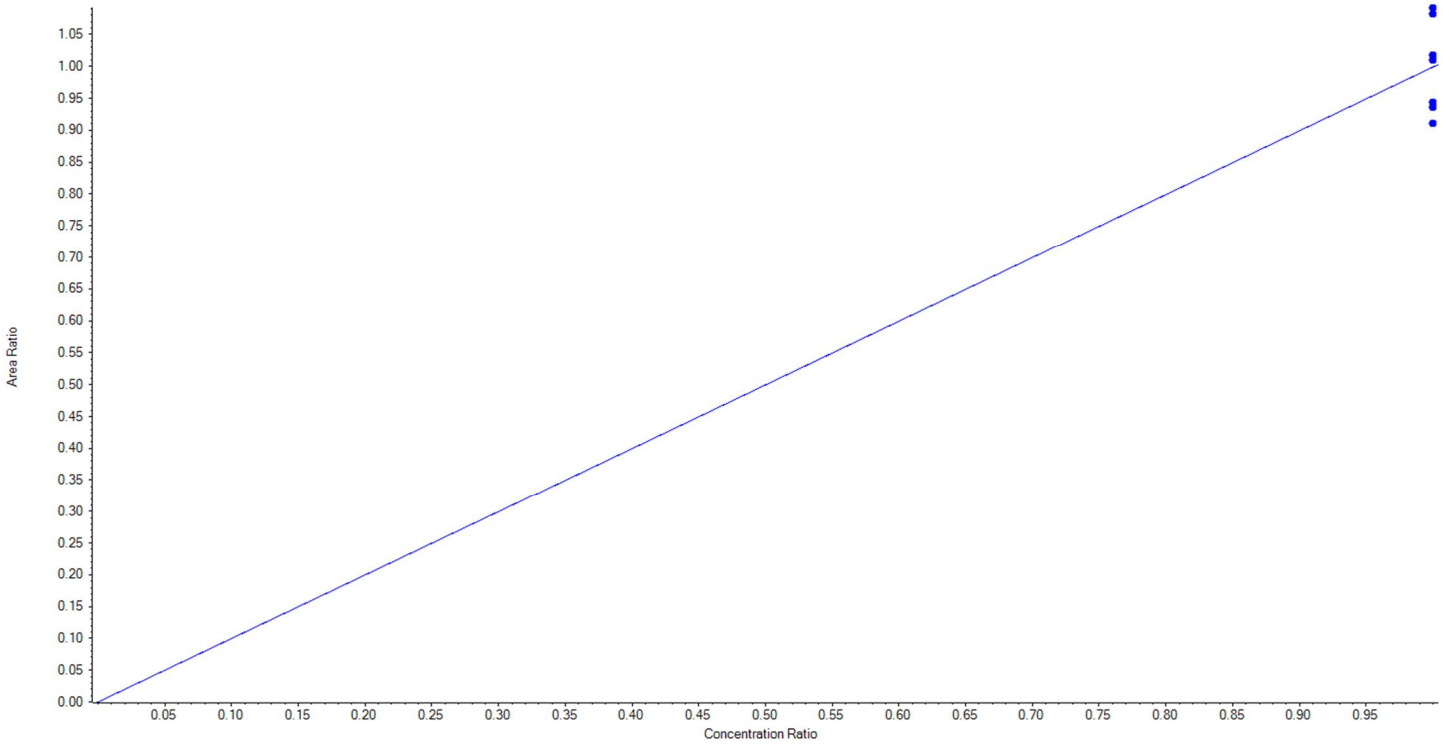
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C2-PFTeDA	**Data File**	AC_11012018_369.wiff
MRM Transition	715.0 / 670.0	**Result Table**	18-0633_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.99883 x (std. dev. = 0.07165) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	250.00	227.875803	91.2
6	KB74	L2	True	250.00	254.680189	101.9
7	KB75	L3	True	250.00	234.193645	93.7
8	KB76	L4	True	250.00	236.294888	94.5
9	KB77	L5	True	250.00	252.929882	101.2
10	KB78	L6	True	250.00	270.812090	108.3
11	KB79	L7	True	250.00	273.213503	109.3



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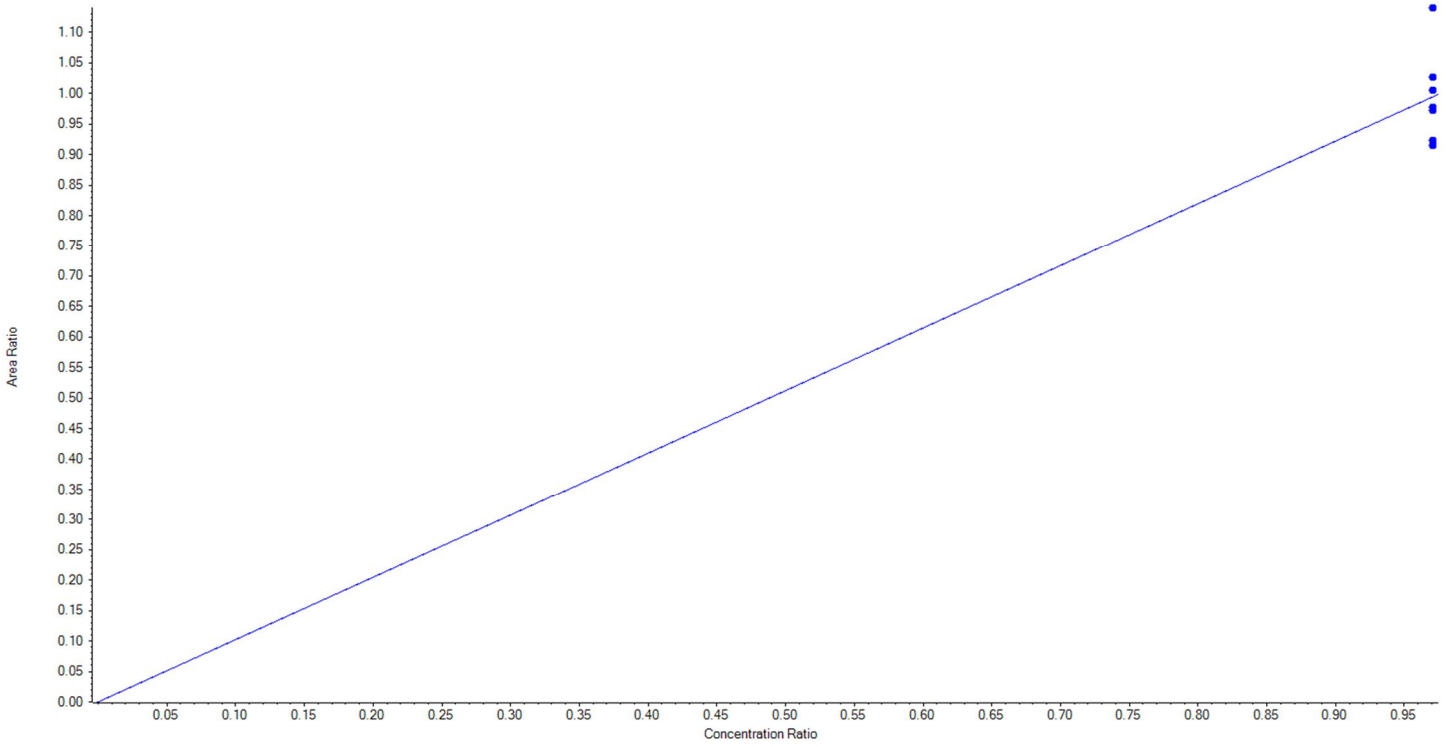
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C3-PFBS	**Data File**	AC_11012018_369.wiff
MRM Transition	302.0 / 99.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.02449 x (std. dev. = 0.07806) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	232.25	234.832007	101.1
6	KB74	L2	True	232.25	239.865304	103.3
7	KB75	L3	True	232.25	213.718538	92.0
8	KB76	L4	True	232.25	215.637782	92.9
9	KB77	L5	True	232.25	227.194054	97.8
10	KB78	L6	True	232.25	228.284895	98.3
11	KB79	L7	True	232.25	266.217418	114.6



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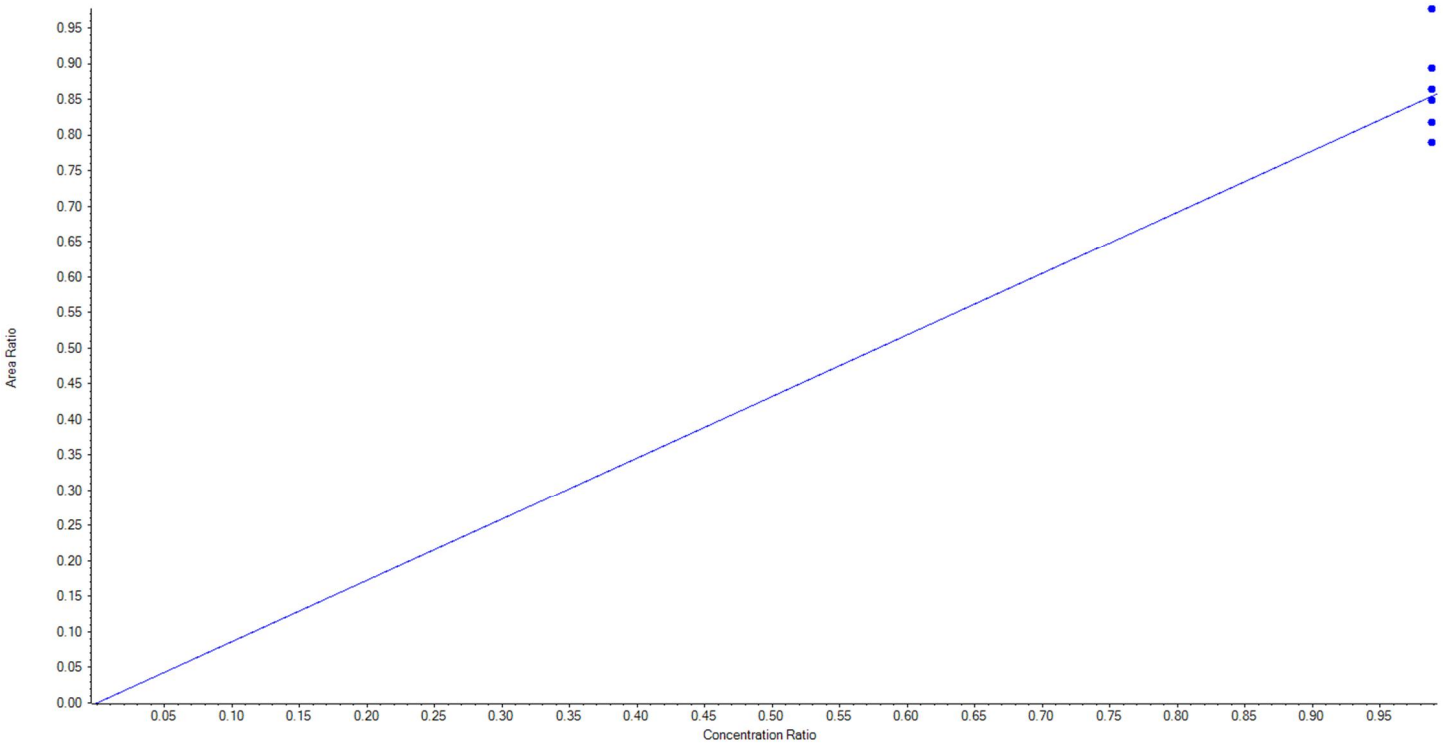
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C3-PFHxS	**Data File**	AC_11012018_369.wiff
MRM Transition	402.0 / 99.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.86466 x (std. dev. = 0.06719) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	236.50	270.400845	114.3
6	KB74	L2	True	236.50	247.449917	104.6
7	KB75	L3	True	236.50	218.552556	92.4
8	KB76	L4	True	236.50	226.208890	95.7
9	KB77	L5	True	236.50	235.081371	99.4
10	KB78	L6	True	236.50	218.617271	92.4
11	KB79	L7	True	236.50	239.189151	101.1



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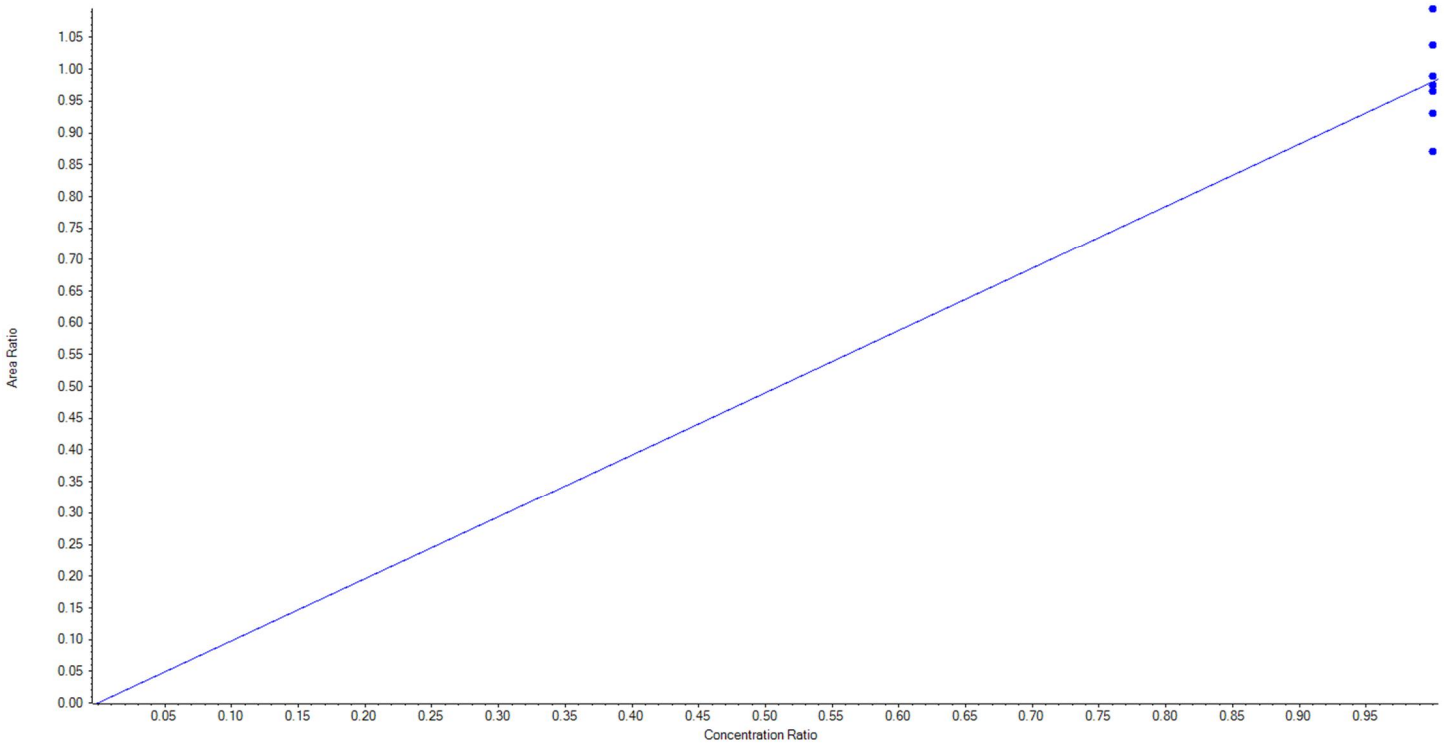
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/11/2018 1:41:28 PM

Analyte Name	13C8-PFOS	**Data File**	AC_11012018_369.wiff
MRM Transition	507.0 / 99.0	**Result Table**	18-0633_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	11/1/2018 6:31:25 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98043 x (std. dev. = 0.07220) (weighting: None)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
5	KB73	L1	True	239.25	212.336733	88.8
6	KB74	L2	True	239.25	253.220934	105.8
7	KB75	L3	True	239.25	267.170580	111.7
8	KB76	L4	True	239.25	237.794439	99.4
9	KB77	L5	True	239.25	235.481205	98.4
10	KB78	L6	True	239.25	227.313182	95.0
11	KB79	L7	True	239.25	241.432927	100.9



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	Isotope Dilution Calibration Curve Concentrations (ng/L)						
	KB73	KB74	KB75	KB76	KB77	KB78	KB79
PFBA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFPeA	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHxA	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFNA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFUnA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDoA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTrDA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTeDA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NMeFOSAA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NEtFOSAA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOSA	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFBS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFPeS	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFHxS (Branched)	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpS	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOS (Branched)	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFNS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
4:2FTS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
6:2FTS	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
8:2FTS	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
	Surrogates / Extracted Internal Standards						
13C4-PFBA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C5-PFPeA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C5-PFHxA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C4-PFHpA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C8-PFOA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C9-PFNA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C6-PFDA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C7-PFUnA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFDoA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFTeDA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
d3-MeFOSAA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
d5-EtFOSAA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C8-FOSA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C3-PFBS	232.25	232.25	232.25	232.25	232.25	232.25	232.25
13C3-PFHxS	236.50	236.50	236.50	236.50	236.50	236.50	236.50
13C8-PFOS	239.25	239.25	239.25	239.25	239.25	239.25	239.25
13C2-4:2FTS	233.75	233.75	233.75	233.75	233.75	233.75	233.75
13C2-6:2FTS	237.25	237.25	237.25	237.25	237.25	237.25	237.25
13C2-8:2FTS	239.50	239.50	239.50	239.50	239.50	239.50	239.50
	Internal Standards						
13C3-PFBA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFOA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C2-PFDA	250.00	250.00	250.00	250.00	250.00	250.00	250.00
13C4-PFOS	239.25	239.25	239.25	239.25	239.25	239.25	239.25

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Summary Ion Ratio Report

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Sample Name	KB73	**Injection Vial**	5
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:14:53	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.360	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.34	PFHxS	0.270	0.284	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.73	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.12	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.330	0.314	ü
PFOS_1	499.0 / 80.0	3.12	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.150	0.176	ü
PFDA_1	513.0 / 469.0	3.48	PFDA			
PFDA_2	513.0 / 219.0	3.50	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.81	PFUnA			
PFUnA_2	563.0 / 269.0	3.81	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.09	PFDoA	0.170	0.163	ü
PFTrDA_1	663.0 / 619.0	4.34	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.33	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.55	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.55	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.65	NMeFOSAA	0.530	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.82	NEtFOSAA	0.100	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB74	**Injection Vial**	6
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:25:45	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.270	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.090	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.300	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.340	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.190	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.030	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.040	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.33	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.33	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.55	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.600	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.080	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB75	**Injection Vial**	7
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:36:36	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	PFHpA	0.010	0.020	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.270	0.284	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.72	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.320	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.170	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.48	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.170	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.080	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB76	**Injection Vial**	8
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:47:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.300	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.580	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB77	**Injection Vial**	9
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T19:58:18	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.303	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.190	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB78	**Injection Vial**	10
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:09:09	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.314	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.180	0.176	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.560	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.050	0.071	ü

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Summary Ion Ratio Report

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Sample Name	KB79	**Injection Vial**	11
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:20:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.310	0.303	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.079	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.284	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.310	0.314	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.170	0.176	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.040	0.038	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.046	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.163	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.53	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.53	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.540	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.071	ü

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	927.603917	1010.00	91.84
PFBS_2	298.9 / 99.0	1.56	953.869743	1010.00	94.44
PFHxA_1	313.0 / 269.0	1.88	919.721775	1010.00	91.06
PFHxA_2	313.0 / 119.0	1.88	808.336049	1010.00	80.03
PFHpA_1	363.0 / 319.0	2.30	929.940806	1000.00	92.99
PFHpA_2	363.0 / 169.0	2.30	1179.825541	1000.00	117.98
PFHxS_1	399.0 / 80.0	2.32	1007.343734	1010.00	99.74
PFHxS_2	399.0 / 99.0	2.32	985.412305	1010.00	97.57
PFOA_1	413.0 / 369.0	2.71	927.985462	1000.00	92.80
PFOA_2	413.0 / 169.0	2.71	910.773165	1000.00	91.08
PFNA_1	463.0 / 419.0	3.11	1050.637074	1000.00	105.06
PFNA_2	463.0 / 219.0	3.11	1063.592757	1000.00	106.36
PFOS_1	499.0 / 80.0	3.10	860.948590	1000.00	86.09
PFOS_2	499.0 / 99.0	3.10	876.197435	1000.00	87.62
PFDA_1	513.0 / 469.0	3.46	917.920031	1000.00	91.79
PFDA_2	513.0 / 219.0	3.47	864.863568	1000.00	86.49
PFUnA_1	563.0 / 519.0	3.79	888.060148	1000.00	88.81
PFUnA_2	563.0 / 269.0	3.79	1031.107370	1000.00	103.11
PFDoA_1	613.0 / 569.0	4.07	1060.249602	1000.00	106.02
PFDoA_2	613.0 / 319.0	4.07	1024.135289	1000.00	102.41
PFTrDA_1	663.0 / 619.0	4.32	1094.267647	1000.00	109.43
PFTrDA_2	663.0 / 169.0	4.32	1003.226200	1000.00	100.32
PFTeDA_1	713.0 / 669.0	4.53	1038.723555	1000.00	103.87
PFTeDA_2	713.0 / 169.0	4.53	1045.050116	1000.00	104.51
NMeFOSAA_1	570.0 / 419.0	3.62	1084.733334	1000.00	108.47
NMeFOSAA_2	570.0 / 512.0	3.62	1033.254548	1000.00	103.33
NEtFOSAA_1	584.0 / 419.0	3.78	1063.071392	1000.00	106.31
NEtFOSAA_2	584.0 / 483.0	3.79	1018.970290	1000.00	101.90

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	2465.082815	2525.00	97.63
PFBS_2	298.9 / 99.0	1.54	2487.801096	2525.00	98.53
PFHxA_1	313.0 / 269.0	1.87	2456.639418	2525.00	97.29
PFHxA_2	313.0 / 119.0	1.87	2498.517870	2525.00	98.95
PFHpA_1	363.0 / 319.0	2.28	2519.034559	2500.00	100.76
PFHpA_2	363.0 / 169.0	2.28	2673.901342	2500.00	106.96
PFHxS_1	399.0 / 80.0	2.30	2735.427329	2525.00	108.33
PFHxS_2	399.0 / 99.0	2.30	2781.942776	2525.00	110.18
PFOA_1	413.0 / 369.0	2.69	2466.369094	2500.00	98.65
PFOA_2	413.0 / 169.0	2.69	2403.410646	2500.00	96.14
PFNA_1	463.0 / 419.0	3.08	2540.347227	2500.00	101.61
PFNA_2	463.0 / 219.0	3.08	2514.766279	2500.00	100.59
PFOS_1	499.0 / 80.0	3.08	2717.832048	2500.00	108.71
PFOS_2	499.0 / 99.0	3.08	2792.780000	2500.00	111.71
PFDA_1	513.0 / 469.0	3.43	2518.306272	2500.00	100.73
PFDA_2	513.0 / 219.0	3.44	2538.463675	2500.00	101.54
PFUnA_1	563.0 / 519.0	3.76	2653.303080	2500.00	106.13
PFUnA_2	563.0 / 269.0	3.76	2655.523198	2500.00	106.22
PFDoA_1	613.0 / 569.0	4.04	2588.735267	2500.00	103.55
PFDoA_2	613.0 / 319.0	4.04	2528.377305	2500.00	101.14
PFTrDA_1	663.0 / 619.0	4.28	2641.077968	2500.00	105.64
PFTrDA_2	663.0 / 169.0	4.28	2627.230144	2500.00	105.09
PFTeDA_1	713.0 / 669.0	4.50	2718.364504	2500.00	108.73
PFTeDA_2	713.0 / 169.0	4.49	2745.670059	2500.00	109.83
NMeFOSAA_1	570.0 / 419.0	3.59	2889.604277	2500.00	115.58
NMeFOSAA_2	570.0 / 512.0	3.59	2577.279322	2500.00	103.09
NEtFOSAA_1	584.0 / 419.0	3.75	2267.998134	2500.00	90.72
NEtFOSAA_2	584.0 / 483.0	3.76	2500.187630	2500.00	100.01

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	931.471433	1010.00	92.22
PFBS_2	298.9 / 99.0	1.54	978.667517	1010.00	96.90
PFHxA_1	313.0 / 269.0	1.86	993.831219	1010.00	98.40
PFHxA_2	313.0 / 119.0	1.86	839.268731	1010.00	83.10
PFHpA_1	363.0 / 319.0	2.27	994.873315	1000.00	99.49
PFHpA_2	363.0 / 169.0	2.27	1030.324412	1000.00	103.03
PFHxS_1	399.0 / 80.0	2.30	1032.512997	1010.00	102.23
PFHxS_2	399.0 / 99.0	2.29	1076.311398	1010.00	106.57
PFOA_1	413.0 / 369.0	2.68	981.172709	1000.00	98.12
PFOA_2	413.0 / 169.0	2.68	969.185841	1000.00	96.92
PFNA_1	463.0 / 419.0	3.08	1040.486605	1000.00	104.05
PFNA_2	463.0 / 219.0	3.08	985.229956	1000.00	98.52
PFOS_1	499.0 / 80.0	3.08	1098.735991	1000.00	109.87
PFOS_2	499.0 / 99.0	3.08	1126.297309	1000.00	112.63
PFDA_1	513.0 / 469.0	3.43	1040.282012	1000.00	104.03
PFDA_2	513.0 / 219.0	3.43	1154.466021	1000.00	115.45
PFUnA_1	563.0 / 519.0	3.75	1002.022476	1000.00	100.20
PFUnA_2	563.0 / 269.0	3.75	1113.531268	1000.00	111.35
PFDoA_1	613.0 / 569.0	4.03	1116.162862	1000.00	111.62
PFDoA_2	613.0 / 319.0	4.03	1105.313682	1000.00	110.53
PFTrDA_1	663.0 / 619.0	4.28	1067.845841	1000.00	106.78
PFTrDA_2	663.0 / 169.0	4.28	1101.649603	1000.00	110.16
PFTeDA_1	713.0 / 669.0	4.49	1050.330855	1000.00	105.03
PFTeDA_2	713.0 / 169.0	4.49	1066.328026	1000.00	106.63
NMeFOSAA_1	570.0 / 419.0	3.58	1161.249888	1000.00	116.12
NMeFOSAA_2	570.0 / 512.0	3.59	1035.921467	1000.00	103.59
NEtFOSAA_1	584.0 / 419.0	3.75	1151.555461	1000.00	115.16
NEtFOSAA_2	584.0 / 483.0	3.75	1276.929723	1000.00	127.69

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	2568.023937	2525.00	101.70
PFBS_2	298.9 / 99.0	1.54	2537.758574	2525.00	100.51
PFHxA_1	313.0 / 269.0	1.86	2305.738829	2525.00	91.32
PFHxA_2	313.0 / 119.0	1.86	2213.234130	2525.00	87.65
PFHpA_1	363.0 / 319.0	2.27	2621.541000	2500.00	104.86
PFHpA_2	363.0 / 169.0	2.27	2774.072038	2500.00	110.96
PFHxS_1	399.0 / 80.0	2.30	2410.056085	2525.00	95.45
PFHxS_2	399.0 / 99.0	2.30	2465.503304	2525.00	97.64
PFOA_1	413.0 / 369.0	2.68	2446.625259	2500.00	97.87
PFOA_2	413.0 / 169.0	2.68	2524.922896	2500.00	101.00
PFNA_1	463.0 / 419.0	3.08	2637.140693	2500.00	105.49
PFNA_2	463.0 / 219.0	3.08	2795.618235	2500.00	111.82
PFOS_1	499.0 / 80.0	3.08	2773.590854	2500.00	110.94
PFOS_2	499.0 / 99.0	3.08	2751.703408	2500.00	110.07
PFDA_1	513.0 / 469.0	3.43	2272.946584	2500.00	90.92
PFDA_2	513.0 / 219.0	3.43	2310.461426	2500.00	92.42
PFUnA_1	563.0 / 519.0	3.75	2538.409706	2500.00	101.54
PFUnA_2	563.0 / 269.0	3.75	2644.778178	2500.00	105.79
PFDoA_1	613.0 / 569.0	4.03	2605.258087	2500.00	104.21
PFDoA_2	613.0 / 319.0	4.03	2602.059581	2500.00	104.08
PFTrDA_1	663.0 / 619.0	4.27	2729.371600	2500.00	109.17
PFTrDA_2	663.0 / 169.0	4.27	2715.636078	2500.00	108.63
PFTeDA_1	713.0 / 669.0	4.49	2470.656593	2500.00	98.83
PFTeDA_2	713.0 / 169.0	4.49	2607.773161	2500.00	104.31
NMeFOSAA_1	570.0 / 419.0	3.59	2644.415721	2500.00	105.78
NMeFOSAA_2	570.0 / 512.0	3.58	2460.884911	2500.00	98.44
NEtFOSAA_1	584.0 / 419.0	3.74	2390.223881	2500.00	95.61
NEtFOSAA_2	584.0 / 483.0	3.75	2584.029446	2500.00	103.36

QC Summary Report

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	996.934374	1010.00	98.71
PFBS_2	298.9 / 99.0	1.54	1019.181085	1010.00	100.91
PFHxA_1	313.0 / 269.0	1.86	979.305092	1010.00	96.96
PFHxA_2	313.0 / 119.0	1.86	970.815444	1010.00	96.12
PFHpA_1	363.0 / 319.0	2.27	1013.605472	1000.00	101.36
PFHpA_2	363.0 / 169.0	2.27	1250.547757	1000.00	125.05
PFHxS_1	399.0 / 80.0	2.29	988.438567	1010.00	97.87
PFHxS_2	399.0 / 99.0	2.29	1032.627249	1010.00	102.24
PFOA_1	413.0 / 369.0	2.68	962.121125	1000.00	96.21
PFOA_2	413.0 / 169.0	2.68	926.420492	1000.00	92.64
PFNA_1	463.0 / 419.0	3.08	1036.500085	1000.00	103.65
PFNA_2	463.0 / 219.0	3.08	1026.754743	1000.00	102.68
PFOS_1	499.0 / 80.0	3.08	1083.117463	1000.00	108.31
PFOS_2	499.0 / 99.0	3.08	1149.758957	1000.00	114.98
PFDA_1	513.0 / 469.0	3.43	1107.827900	1000.00	110.78
PFDA_2	513.0 / 219.0	3.43	1018.038220	1000.00	101.80
PFUnA_1	563.0 / 519.0	3.75	981.562414	1000.00	98.16
PFUnA_2	563.0 / 269.0	3.75	1164.672588	1000.00	116.47
PFDoA_1	613.0 / 569.0	4.03	990.403201	1000.00	99.04
PFDoA_2	613.0 / 319.0	4.03	1006.572937	1000.00	100.66
PFTrDA_1	663.0 / 619.0	4.27	1043.207079	1000.00	104.32
PFTrDA_2	663.0 / 169.0	4.27	1022.714877	1000.00	102.27
PFTeDA_1	713.0 / 669.0	4.49	1040.577670	1000.00	104.06
PFTeDA_2	713.0 / 169.0	4.49	1102.495004	1000.00	110.25
NMeFOSAA_1	570.0 / 419.0	3.58	1276.628851	1000.00	127.66
NMeFOSAA_2	570.0 / 512.0	3.58	1076.749665	1000.00	107.67
NEtFOSAA_1	584.0 / 419.0	3.74	1017.461348	1000.00	101.75
NEtFOSAA_2	584.0 / 483.0	3.74	852.298648	1000.00	85.23

Sample Name	KB81 ICC	**Injection Vial**	13
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-01T20:41:44	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.06	226.729181	250.00	90.69
d3-MeFOSAA	573.0 / 419.0	3.61	194.909228	250.00	77.96
d5-EtFOSAA	589.0 / 419.0	3.78	196.477993	250.00	78.59
13C5-PFHxA	318.0 / 273.0	1.87	234.825052	250.00	93.93
13C4-PFHpA	367.0 / 322.0	2.29	242.310669	250.00	96.92
13C8-PFOA	421.0 / 376.0	2.70	247.051316	250.00	98.82
13C9-PFNA	472.0 / 427.0	3.09	228.305518	250.00	91.32
13C6-PFDA	519.0 / 474.0	3.45	254.507323	250.00	101.80
13C7-PFUnA	570.0 / 525.0	3.77	252.645404	250.00	101.06
13C2-PFTeDA	715.0 / 670.0	4.53	230.799062	250.00	92.32
13C3-PFBS	302.0 / 99.0	1.54	182.297239	232.25	78.49
13C3-PFHxS	402.0 / 99.0	2.31	186.101241	236.50	78.69
13C8-PFOS	507.0 / 99.0	3.09	214.371412	239.25	89.60

Sample Name	KB77 CCV	**Injection Vial**	48
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:01:54	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.03	234.467785	250.00	93.79
d3-MeFOSAA	573.0 / 419.0	3.58	239.247069	250.00	95.70
d5-EtFOSAA	589.0 / 419.0	3.74	254.608078	250.00	101.84
13C5-PFHxA	318.0 / 273.0	1.85	214.783826	250.00	85.91
13C4-PFHpA	367.0 / 322.0	2.27	213.395368	250.00	85.36
13C8-PFOA	421.0 / 376.0	2.68	242.524478	250.00	97.01
13C9-PFNA	472.0 / 427.0	3.07	226.638743	250.00	90.66
13C6-PFDA	519.0 / 474.0	3.42	246.016298	250.00	98.41
13C7-PFUnA	570.0 / 525.0	3.74	235.744655	250.00	94.30
13C2-PFTeDA	715.0 / 670.0	4.49	236.874810	250.00	94.75
13C3-PFBS	302.0 / 99.0	1.53	221.181596	232.25	95.23
13C3-PFHxS	402.0 / 99.0	2.29	231.201001	236.50	97.76
13C8-PFOS	507.0 / 99.0	3.06	225.846470	239.25	94.40

Sample Name	KB76 CCV	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:12:28	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	200.091092	250.00	80.04
d3-MeFOSAA	573.0 / 419.0	3.58	227.894031	250.00	91.16
d5-EtFOSAA	589.0 / 419.0	3.74	210.418477	250.00	84.17
13C5-PFHxA	318.0 / 273.0	1.85	201.264265	250.00	80.51
13C4-PFHpA	367.0 / 322.0	2.26	211.973377	250.00	84.79
13C8-PFOA	421.0 / 376.0	2.67	248.657877	250.00	99.46
13C9-PFNA	472.0 / 427.0	3.06	216.209266	250.00	86.48
13C6-PFDA	519.0 / 474.0	3.42	228.345486	250.00	91.34
13C7-PFUnA	570.0 / 525.0	3.74	228.855063	250.00	91.54
13C2-PFTeDA	715.0 / 670.0	4.48	209.610601	250.00	83.84
13C3-PFBS	302.0 / 99.0	1.53	229.564720	232.25	98.84
13C3-PFHxS	402.0 / 99.0	2.28	222.477669	236.50	94.07
13C8-PFOS	507.0 / 99.0	3.06	217.999021	239.25	91.12

Sample Name	KB77 CCV	**Injection Vial**	21
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:01:16	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	216.611227	250.00	86.64
d3-MeFOSAA	573.0 / 419.0	3.58	250.472991	250.00	100.19
d5-EtFOSAA	589.0 / 419.0	3.74	243.057924	250.00	97.22
13C5-PFHxA	318.0 / 273.0	1.85	223.968589	250.00	89.59
13C4-PFHpA	367.0 / 322.0	2.26	207.799920	250.00	83.12
13C8-PFOA	421.0 / 376.0	2.67	255.691008	250.00	102.28
13C9-PFNA	472.0 / 427.0	3.06	220.556143	250.00	88.22
13C6-PFDA	519.0 / 474.0	3.42	253.921095	250.00	101.57
13C7-PFUnA	570.0 / 525.0	3.73	235.007264	250.00	94.00
13C2-PFTeDA	715.0 / 670.0	4.48	229.354182	250.00	91.74
13C3-PFBS	302.0 / 99.0	1.53	201.877203	232.25	86.92
13C3-PFHxS	402.0 / 99.0	2.28	224.522007	236.50	94.94
13C8-PFOS	507.0 / 99.0	3.06	205.369286	239.25	85.84

Sample Name	KB76 CCV	**Injection Vial**	29
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T08:28:21	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	239.161633	250.00	95.66
d3-MeFOSAA	573.0 / 419.0	3.58	198.281799	250.00	79.31
d5-EtFOSAA	589.0 / 419.0	3.74	235.061485	250.00	94.02
13C5-PFHxA	318.0 / 273.0	1.85	216.142730	250.00	86.46
13C4-PFHpA	367.0 / 322.0	2.26	213.957294	250.00	85.58
13C8-PFOA	421.0 / 376.0	2.67	253.442770	250.00	101.38
13C9-PFNA	472.0 / 427.0	3.06	232.483958	250.00	92.99
13C6-PFDA	519.0 / 474.0	3.41	239.005314	250.00	95.60
13C7-PFUnA	570.0 / 525.0	3.73	256.504833	250.00	102.60
13C2-PFTeDA	715.0 / 670.0	4.48	225.571271	250.00	90.23
13C3-PFBS	302.0 / 99.0	1.52	200.301706	232.25	86.24
13C3-PFHxS	402.0 / 99.0	2.28	219.157809	236.50	92.67
13C8-PFOS	507.0 / 99.0	3.06	211.933695	239.25	88.58

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Summary Ion Ratio Report

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Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.170	0.303	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.060	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.280	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.410	0.314	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.160	0.176	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.060	0.038	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.68	NEtFOSAA	0.060	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9042-FS(0)	**Injection Vial**	6
Sample ID	04GW15101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:18:06	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.53	PFBS	0.150	0.303	
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.040	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.23	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.240	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.230	0.314	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.140	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9043-FS(0)	**Injection Vial**	9
Sample ID	04FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T04:50:43	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.230	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.050	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9044-FS(0)	**Injection Vial**	10
Sample ID	04GW28101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:01:35	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.130	0.303	
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.050	0.079	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.24	PFHpA	0.030	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.270	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.280	0.314	ü
PFOS_1	499.0 / 80.0	3.05	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.150	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9045-FS(0)	**Injection Vial**	15
Sample ID	04GWGP1101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T05:56:00	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.230	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.250	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.400	0.314	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.140	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9046-FS(0)	**Injection Vial**	19
Sample ID	03GW34101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T06:39:30	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.210	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.210	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	3.01	PFOS			
PFOS_2	499.0 / 99.0	2.99	PFOS	0.070	0.176	
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9047-FS(0)	**Injection Vial**	25
Sample ID	03FRB101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:44:47	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.080	0.063	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.314	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Ion Ratio Report

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Sample Name	J9048-FS(0)	**Injection Vial**	26
Sample ID	03GW19101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T07:55:41	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
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	1.53	PFBS	0.340	0.303	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.260	0.284	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.063	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.550	0.314	
PFOS_1	499.0 / 80.0	3.04	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.150	0.176	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.038	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.046	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.163	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.559	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.071	ü

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Summary Quant Report

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SAMPLE CALCULATION

Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	354473.06	1390.645364	46.8	true
PFBS_2	298.9 / 99.0	1.53	59623.12	765.082052	90.6	false
PFHxA_1	313.0 / 269.0	1.84	197101.03	703.181017	31.9	true
PFHxA_2	313.0 / 119.0	1.85	11074.54	493.407763	33.6	false
PFHpA_1	363.0 / 319.0	2.27	197960.49	727.727574	33.5	false
PFHpA_2	363.0 / 169.0	2.26	4076.76	780.500035	58.4	false
PFHxS_1	399.0 / 80.0	2.29	187531.83	526.172019	25.7	true
PFHxS_2	399.0 / 99.0	2.29	52228.24	514.200864	136.5	false
PFOA_1	413.0 / 369.0	2.68	1214544.96	4348.821988	160.5	false
PFOA_2	413.0 / 169.0	2.67	74376.68	4182.835620	225.0	true
PFNA_1	463.0 / 419.0	3.08	16826.69	30.104918	38.8	false
PFNA_2	463.0 / 219.0	3.08	6906.32	36.333021	39.5	false
PFOS_1	499.0 / 80.0	3.07	1367429.54	3217.942051	110.5	false
PFOS_2	499.0 / 99.0	3.08	213330.28	2860.537904	392.8	false
PFDA_1	513.0 / 469.0	3.43	9635.26	< 0	26.3	false
PFDA_2	513.0 / 219.0	3.45	605.52	40.716259	10.8	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	3.75	67710.01	1292.648747	300.2	true
NEtFOSAA_2	584.0 / 483.0	3.68	3930.28	1209.441815	53.0	true

PFOA REPORTED RESULT 15 NG/L

y = 0.98169x + 0.08360

((1214544.96 / 70776.14) + 0.08360) / 0.98169) * 250 * 0.001 / 0.290 = 15.143 NG/L

LCS PFOA REPORTED RESULT 119%

11.86 / 10.00 * 100 = 118.6 %

13C8-PFOA REPORTED PERCENT RECOVERY 91%

227.355 / 250 * 100 = 90.94%

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/11/2018 1:47:08 PM

Sample Name	J9041-FS(0)	**Injection Vial**	3
Sample ID	04GW10R101818	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-11-02T03:45:26	**Data File**	AC_11012018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0633_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	84254.30	183.534721	1059.8	false
d3-MeFOSAA	573.0 / 419.0	3.59	11058.57	273.363838	117.4	false
d5-EtFOSAA	589.0 / 419.0	3.74	12962.39	305.572921	163.1	false
13C5-PFHxA	318.0 / 273.0	1.84	66240.34	282.911452	96.9	false
13C4-PFHpA	367.0 / 322.0	2.26	76967.91	293.214902	322.8	false
13C8-PFOA	421.0 / 376.0	2.67	70776.14	227.355088	546.4	false
13C9-PFNA	472.0 / 427.0	3.06	79545.36	233.638435	451.7	false
13C6-PFDA	519.0 / 474.0	3.42	95868.33	241.758943	812.2	false
13C7-PFUnA	570.0 / 525.0	3.74	81279.89	215.897419	650.5	false
13C2-PFTeDA	715.0 / 670.0	4.49	76258.93	194.307769	1430.2	false
13C3-PFBS	302.0 / 99.0	1.51	20759.92	225.833800	214.7	false
13C3-PFHxS	402.0 / 99.0	2.28	24363.21	314.023013	160.1	false
13C8-PFOS	507.0 / 99.0	3.06	22867.37	259.939381	139.2	false

Example Calculation for PFAS

Calculation of final concentration from area:

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

Where:

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

Sample ID:	J9041-FS(0)
Client Sample ID:	04GW10R101818
Sample Size:	0.29
Units:	L
Dilution Factor:	1.000
PIV (L):	0.001
Target Analyte:	PFOA
MRM Transition:	413.0 / 369.0
Data file:	AC_11012018_369.wiff
Result table:	18-0633
Area:	1,214,544.96
IS Name:	13C8-PFOA
IS Area:	70,776.14
IS Amount (ng/L):	250
y-intercept:	0.0836
slope:	0.98169

$$\text{Concentration} = \frac{[(1214544.96/70776.14) - 0.0836]}{0.98169} * 250 * 0.001 * 1 / 0.29$$

ng/L = 15.00

*Final concentration may vary based on rounding.

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Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: KB76

Description: PFAS - DoD Calibration L4

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	250	0.05	---	---	1	50	0.00025
13C2-PFOA	250	0.05	---	---	1	50	0.00025
13C3-PFBA	250	0.05	---	---	1	50	0.00025
13C4-PFOS	250	0.05	---	---	1	50	0.00024

Stock Id: KB70

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.05	---	---	1	50	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.05	---	---	1	50	0.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.05	---	---	1	50	0.00100
(Na) Perfluoro-1-decanesulfonate	1000	0.05	---	---	1	50	0.00101
(NA) Perfluoro-1-heptanesulfonate	1000	0.05	---	---	1	50	0.00100
(Na) Perfluoro-1-nonanesulfonate	1000	0.05	---	---	1	50	0.00101
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	50	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-1-butanesulfonate	1000	0.05	---	---	1	50	0.00101
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	50	0.00101
Perfluoro-1-octanesulfonamide	1000	0.05	---	---	1	50	0.00100
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-butanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	50	0.00101
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluorononanoic Acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-pentanoic acid	1000	0.05	---	---	1	50	0.00101
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	50	0.00100
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	50	0.00100
Sodium perfluoro-1-pentanesulfonate	1000	0.05	---	---	1	50	0.00100

Stock Id: KB71

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	250	0.05	---	---	1	50	0.00023

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:40:00 AM

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Standard Solution Concentrations

Approved: ☑

Standard Laboratory ID Number: **KB76**

Description: PFAS - DoD Calibration L4

13C2-6:2FTS	250	0.05	---	---	1	50	0.00024
13C2-8:2FTS	250	0.05	---	---	1	50	0.00024
13C2-PFDoA	250	0.05	---	---	1	50	0.00025
13C2-PFTeDA	250	0.05	---	---	1	50	0.00025
13C3-PFBS	250	0.05	---	---	1	50	0.00023
13C3-PFHxS	250	0.05	---	---	1	50	0.00024
13C4-PFBA	250	0.05	---	---	1	50	0.00025
13C4-PFHpA	250	0.05	---	---	1	50	0.00025
13C5-PFHxA	250	0.05	---	---	1	50	0.00025
13C5-PFPeA	250	0.05	---	---	1	50	0.00025
13C6-PFDA	250	0.05	---	---	1	50	0.00025
13C7-PFUnA	250	0.05	---	---	1	50	0.00025
13C8-FOSA	250	0.05	---	---	1	50	0.00025
13C8-PFOA	250	0.05	---	---	1	50	0.00025
13C8-PFOS	250	0.05	---	---	1	50	0.00024
13C9-PFNA	250	0.05	---	---	1	50	0.00025
d3-MeFOSAA	250	0.05	---	---	1	50	0.00025
d5-EtFOSAA	250	0.05	---	---	1	50	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/1/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 **mL X** 2 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/9/2018 9:40:00 AM

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
SOUTHEAST	GULFPORT_NCBC	18-0633	SITE 00003	SITE 00003	GPT-03-34	Monitoring well	887924.704	320344.348	N6247016D9008	JM08	TETRA TECH, INC.	03GW34101818	Ground water	Normal (Regular)	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633	SITE 00003	SITE 00003	GPT-03-19	Monitoring well	887913	320452.6	N6247016D9008	JM08	TETRA TECH, INC.	03GW19101818	Ground water	Normal (Regular)	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633	SITE 00004	SITE 00004	GP-1	Geoprobe well	887655.06	318953.3	N6247016D9008	JM08	TETRA TECH, INC.	04GWGP1101818	Ground water	Normal (Regular)	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633	SITE 00004	SITE 00004	GPT-04-28	Monitoring well	887524.61	319031.7	N6247016D9008	JM08	TETRA TECH, INC.	04GW28101818	Ground water	Normal (Regular)	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633	SITE 00004	SITE 00004	GPT-04-15	Monitoring well	887684.26	319126.94	N6247016D9008	JM08	TETRA TECH, INC.	04GW15101818	Ground water	Normal (Regular)	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633	SITE 00004	SITE 00004	GPT-04-10R	Monitoring well	887952.96	319449.31	N6247016D9008	JM08	TETRA TECH, INC.	04GW10R101818	Ground water	Normal (Regular)	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633							N6247016D9008	JM08	TETRA TECH, INC.	04FRB101818	Water for QC samples	QC Sample	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00
SOUTHEAST	GULFPORT_NCBC	18-0633							N6247016D9008	JM08	TETRA TECH, INC.	03FRB101818	Water for QC samples	QC Sample	18-Oct-18	PFAS_QSM5.1	Perfluoroalkyl Compounds	20190409132420.00