Navy_CLEAN_PFAS_FOIA_request_covers_Nov2019.indd

NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Data Validation Report, and the Sample Location Report, SDG 18-0620

Naval Facilities Expeditionary Logistics Center Port Hueneme
Port Hueneme, California

November 2019

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15

AQ, GW

Batch 18-0620

Package DP-18-0318

Submitted to:
CH2M
1100 NE Circle Blvd Suite 300
Corvallis, OR 97330 USA

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

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CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15

AQ, GW

Batch 18-0620

Package DP-18-0318

Submitted to:
CH2M
1100 NE Circle Blvd Suite 300
Corvallis, OR 97330 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: Lauren Griffith 2018.11.02 14:23:10 -04'00'

QC Chemist Approval: fitche@battelle.org 2018.11.06 13:18:50 -05'00'

Project Manager Approval: Digitally signed by Jonathan Thorn Date: 2018.11.07 11:32:30 -05'00'

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CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15

SD

Batch 18-0620

Package DP-18-0318

1	***Miscellaneous Documentation*** Case Narrative, Laboratory Accreditations.	1
2	***Chain of Custody Records*** Sample Receipt Records	10
3	***Tables*** Analytical Data Tables, Qualifier Definitions.	26

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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			4-4-2018
Carla Devine		CRD	4/4/18
Denise Schumitz		DMS	4/4/18
Candice Penn McCoy		CPM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mears			4/4/2018
Christie Usher		cu	4/4/18
Kevin McInerney			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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Signature Page

Battelle 2018 (2 of 2)
Signature Page

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

Sample Summary

Client: CH2M
SDG: 18-0620
Project/Site: Naval Base Ventura County
CTO: 4164

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CS009PB-FS	Procedural Blank	WATER	10/18/2018	10/18/2018
CS010LCS-FS	Laboratory Control Sample	WATER	10/18/2018	10/18/2018
J8801-FS	VC-SD-FB12-10092018	AQ	10/9/2018	10/12/2018
J8802-FS	VC-SD-EB12-10092018	AQ	10/9/2018	10/12/2018
J8803-FS	VC-SD-EB13-10092018	AQ	10/9/2018	10/12/2018
J8804-FS	VC-S14GW02-1018	GW	10/9/2018	10/12/2018
J8805-FS	VC-S14GW02P-1018	GW	10/9/2018	10/12/2018
J8806-FS	VC-S14GW19-1018	GW	10/9/2018	10/12/2018
J8807MS-FS	VC-S14GW02-1018-MS	GW	10/9/2018	10/12/2018
J8808MSD-FS	VC-S14GW02-1018-MSD	GW	10/9/2018	10/12/2018

Miscellaneous Documentation

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QA/QC Summary
Batch 18-0620

Project:	CTO-4164 Naval Base Ventura County, California
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW and AQ
Data Set:	DP-18-0318
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
10/8-9/2018	10/12/2018	1.3 and 0.7
Corrective Actions	On COC#7 (page 5 of 8 on the hand written COC forms from the field), all samples on this page, except for the SD01 set of samples, do not match collection times from the COC to the sample label. Client verified that COC records are correct.	
Sample Storage	The 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	All samples were pre-screened prior to initial extraction. Samples J8804-FS (VC-S14GW02-1018), J8805-FS (VC-S14GW02P-1018), J8806-FS (VC-S14GW19-1018), J8807MS-FS (VC-S14GW02-1018-MS), and J8808MSD-FS (VC-S14GW02-1018-MSD) all contained floating particulate matter in the sample container prior to fortification and extraction. A small volume of sample J8802-FS (VC-SD-EB12-10092018) was spilled (~3 mL) during transfer to SPE cartridge.
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. When detected, PFHxS and PFOS contain both linear and branched isomers.

QA/QC Summary
Batch 18-0620

	In cases were native PFAS compounds were reported from dilutions (above calibration in non-diluted extracts), the extracted internal standard (surrogate) used to quantify the native compound was also reported from the dilution. The calibration curve for result table 18-0620_18-0621_18-0622_BASE is used for both 18-0620_18-0621_18-0622_BASE and 18-0620_18-0622_BASE_A, the calibration curve 18-0620_18-0621_18-0622_SIS is used for both 18-0620_18-0621_18-0622_SIS and 18-0620_18-0622_SIS_A.

Holding Times	Extraction Date(s)	Analysis Date(s)
	10/18/2018	10/17,24,25/2018

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	Two exceedances noted.
	PFOA was detected in the LCS and field sample J8806-FS (VC-S14GW19-1018), at less than 10 times the amount detected in the PB, and are B qualified in these samples. Note that the concentration of PFAS in the blank passes the criteria of ≤ ½ the LOQ at 1.29 ng/L. PB was re-run to verify concentrations in the PB (data is in 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 not 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	2 recovery and 1 RPD exceedances noted.
	The recovery of PFHxS in the MSD sample was below criteria, this also caused the RPD to be outside of criteria. PFHxS was detected in the native sample at concentrations above the fortification amount. PFNA was over-recovered at 125% in the MSD (upper control limit is 122%). The MSD was re-run to confirm the recovery and PFNA was not detected in any field samples.

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	1 exceedance noted.
	The extracted internal standard (EIS), d5-EtFOSAA, was over-recovered in J8803-FS (VC-SD-EB13-10092018) at 166%. The extract was re-aliquoted and re-run to verify the recovery (included in unused data section)

QA/QC Summary
Batch 18-0620

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.

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

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Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project Number: 100110125-01
Preparation Batch: 18-0620
Data Set: DP-18-0318
Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	2	PFOA was detected in the LCS and in sample J8806 at less than 10 times the amount detected in the PB, and is B qualified in these samples. Results were confirmed by realiquoting and reanalyzing the PB. LMG 11/02/18
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	2	PFNA exhibited a high recovery in the MSD. Results were confirmed by realiquoting and reanalyzing the extract. PFHxS exhibited a low recovery in the MSD. This analyte required a dilution in the MSD and was present in the native sample at a higher concentration than the MSD spike amount. LMG 11/02/18
Matrix Spike / Matrix Spike Duplicate Precision	1	PFHxS exhibited a high RPD for the MS/MSD. This analyte required a dilution in both the MS and the MSD and was under-recovered in the MSD. LMG 11/02/18
Extracted Internal Standard Analytes (Surrogates)	1	d5-EtFOSAA was recovered high in sample J8803. Results were confirmed by realiquoting and reanalyzing the extract. LMG 11/02/18
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None

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MISCELLANEOUS DOCUMENTATION FORM

Project Title:	CTO-4164 Naval Base Ventura County,	**Data Set Number:**	DP-18-0318
Project Number:	100110125-01	**Prep Batch Number:**	18-0620
Entered By:	Lauren Griffith	**Entered On:**	11/02/2018
Test Code (Matrix Type):	Master_369(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
LMG 11/02/18

In cases were native PFAS compounds were reported from dilutions (above calibration in non-diluted extracts), the extracted internal standard (surrogate) used to quantify the native compound was also reported from the dilution.
LMG 11/02/18

The calibration curve for result table 18-0620_18-0621_18-0622_BASE is used for both 18-0620_18-0621_18-0622_BASE and 18-0620_18-0622_BASE_A, the calibration curve 18-0620_18-0621_18-0622_SIS is used for both 18-0620_18-0621_18-0622_SIS and 18-0620_18-0622_SIS_A.
LMG 11/5/2018

KB79 was not utilized for the SIS method for d3-MeFOSAA. There is no impact on the data once this point is removed.
LMG 11/6/18

Task Leader Approval:

SupervisorApproval:

PM Approval:

Digitally signed by Jonathan Thorn
Date: 2018.11.05 10:37:43 -05'00'

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Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01
Preparation Batch: 18-0620
Data Set: DP-18-0318

		CS009PB-FS (Procedural Blank)	CS010LCS-FS (Laboratory Control Sample)	J8807MS-FS (VC-S14GW02-1018-MS)	J8808MSD-FS (VC-S14GW02-1018-MSD)	J8801-FS (VC-SD-FB12-10092018)	J8802-FS (VC-SD-EB12-10092018)	J8803-FS (VC-SD-EB13-10092018)	J8804-FS (VC-S14GW02-1018)
PFHxA	307-24-4	-	L	L	L	-	-	-	L
PFHpA	375-85-9	-	L	L	L	-	-	-	L
PFOA	335-67-1	-	L	L	L	-	-	-	L
PFNA	375-95-1	-	L	L	L	-	-	-	-
PFDA	335-76-2	-	L	L	L	-	-	-	-
PFUnA	2058-94-8	-	L	L	L	-	-	-	-
PFDoA	307-55-1	-	L	L	L	-	-	-	-
PFTrDA	72629-94-8	-	L	L	L	-	-	-	-
PFTeDA	376-06-7	-	L	L	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	L	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	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: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01
Preparation Batch
Data Set: DP-18-

	J8805-FS (VC-S14GW02P-1018)	J8806-FS (VC-S14GW19-1018)
PFHxA	L	L
PFHpA	L	-
PFOA	L	-
PFNA	-	-
PFDA	-	-
PFUnA	-	-
PFDoA	-	-
PFTrDA	-	-
PFTeDA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
PFBS	L	L
PFHxS	L/Br	-
PFOS	L/Br	-

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

ACCREDITATIONS

Accrediting Authority	Laboratory ID
U.S. Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP)	91667
State of Florida Department of Health	E87856
State of New York Department of Health	12105
Commonwealth of Pennsylvania Department of Environmental Protection	68-05687
State of Washington Department of Ecology	C1050
State of California	3045
Commonwealth of Massachusetts	E87856

Current certificates and lists of accredited parameters are available upon request.

Custody Records

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ShpNo SHP-181012-02

Battelle Project No:

Sample Receipt Form

Approved: ☐ Authorized ☐

Project Number: 695803 **Client:** CH2M

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 12, 2018 10:30 AM

No. of Shipping Containers: 2

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** Fed Ex

COC Forms: ☑ Shipped with samples ☐ No Forms

Cooler(s)/Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 2	Cooler	7832 0156 6760	Custody Seals	Intact	Intact	Therm_1	1.3	19
2 of 2	Cooler	7832 0156 6770	Custody Seals	Intact	Intact	Therm_1	0.7	21

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): 1.3 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:** J8777 - J8816

Samples logged in by: Schumitz, Matt **Date/Time:** 10/12/2018 10:30 AM

Approved By: **Approved On:**

Authorized By: **Authorized On:**

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ShpNo: SHP-181012-02

Battelle Project No: 0110125-01

Report Corrective Actions

Corrective Action No: 1 **of** 1

Authorized ☐ Approved: ☐

COC Client: CH2M
COC Project: NBVC Basewide SI
COC Date: 10/12/2018 11:5

	Description of Problem:	Explanation:
Custody	Jars and C-O-C do not match for time/date	On COC page 5 of 8 all samples except the SD01 set do not match collection times from COC to sample label.

Documentation of project manager notification

Sample Custodian Schumitz, Matt **Date:** 10/12/2018 12:55:00 P
Laboratory Manager: Thorn, Jonathan **Date:** 10/31/2018 1:12:00 P
Project Manager: Thorn, Jonathan **Date:** 10/31/2018 1:12:00 P

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

On 30-Oct-18 **I contacted** Hill, Tiffany **at** CH2M

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

Client verified that the COC was correct for times, see attached email.

Date this form was received back to the custodian:
Reference Number:

Thorn, Jonathan R

From: Hill, Tiffany/CVO <Tiffany.Hill@jacobs.com>
Sent: Wednesday, October 31, 2018 12:15 PM
To: Thorn, Jonathan R
Cc: Schumitz, Matthew; Schultz, Stephanie A
Subject: RE: Sample custody records

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

Please use the CoC.

Thanks,

Tiffany Hill | Jacobs | Chemist, Global Environmental Solutions | 541.768.3109 direct | 541.908.3794 mobile | Tiffany.Hill@jacobs.com | www.jacobs.com

---

From: Thorn, Jonathan R [mailto:thorn@battelle.org]
Sent: Wednesday, October 31, 2018 5:45 AM
To: Hill, Tiffany/CVO <Tiffany.Hill@jacobs.com>
Cc: Schumitz, Matthew <SCHUMITZM@battelle.org>; Schultz, Stephanie A <schultzs@battelle.org>
Subject: [EXTERNAL] RE: Sample custody records

Hi Tiffany,
We pulled the sample, the issue was actually on custody page 5 of 8, not 8 of 8. The table below shows the samples with the times from the COC vs. the times on the jars… it looks like it was transposed on one, but not sure which (times match on both, but not to the same samples). If you can let us know which time is correct for these samples, we can get the corrective action closed.
Thank you,
Jon

BDO Id	Client Sample ID	Matrix	Collection Date	Time on Bottle
J8789	VC-CS11-SD02-000H	SD	10/9/2018 7:30	7:14
J8790	VC-CS11-SD02-0102	SD	10/9/2018 7:31	7:16
J8791	VC-CS11-SD03-000H	SD	10/9/2018 8:03	7:30
J8792	VC-CS11-SD03-0102	SD	10/9/2018 8:05	7:31
J8793	VC-CS11-SD04-000H	SD	10/9/2018 8:00	8:03
J8794	VC-CS11-SD04-0102	SD	10/9/2018 8:02	8:05
J8795	VC-CS11-SD05-000H	SD	10/9/2018 8:26	8:00
J8796	VC-CS11-SD05-0102	SD	10/9/2018 8:28	8:02
J8797	VC-CS11-SD06-000H	SD	10/9/2018 7:14	8:26
J8798	VC-CS11-SD06-0102	SD	10/9/2018 7:16	8:28

From: Thorn, Jonathan R
Sent: Tuesday, October 30, 2018 5:44 PM
To: 'Hill, Tiffany/CVO' <Tiffany.Hill@jacobs.com>
Cc: Schumitz, Matthew <SCHUMITZM@battelle.org>; Schultz, Stephanie A <schultzs@battelle.org>
Subject: Sample custody records

Hi Tiffany,
I think I totally forgot to send you these custody records for the shipment we received on 10/12, sorry about that! There was one corrective action regarding the SD samples on page 12 of the attached file.

Specifically samples:
VC-STP-SD0-000H (Lab ID J8809) 10/9/2018 16:05
VC-STP-SD01-0102 (Lab ID J8810) 10/9/2018 16:07

The collection times on the COC do not match what was on the sample container. I am going to ask Steph to pull these two samples in the morning to verify the time on the jar so you have both times and can make the decision on which is correct.
Thank you,
Jon

Jonathan Thorn
Laboratory Director
Analytical Chemistry Services
Office: 781.681.5565 | Mobile: 781.710.9664 | Fax: 614.458.6917
thorn@battelle.org

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Norwell, MA 02061
http://www.battelle.org

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ShpNo SHP-181012-02

Battelle Project No:

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: 695803 **Client:** CH2M

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 12, 2018 10:30 AM

No. of Shipping Containers: 2

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8777	VC-PM323-324-SD01-000H	10/08/18 10:22	10/12/18 11:56	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8778	VC-PM323-324-SD01-0102	10/08/18 10:23	10/12/18 11:56	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8779	VC-PM553-SD01-000H	10/08/18 10:54	10/12/18 11:57	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8780	VC-PM553-SD01-0102	10/08/18 10:55	10/12/18 11:57	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8781	VC-PM553-SD01-0102-MS	10/08/18 10:55	10/12/18 11:57	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8782	VC-PM553-SD01-0102-MSD	10/08/18 10:55	10/12/18 11:58	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8783	VC-PM3009-SD01-000H	10/08/18 11:13	10/12/18 11:58	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8784	VC-PM3009-SD01-0102	10/08/18 11:14	10/12/18 11:58	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8785	VC-PM372-SD01-000H	10/08/18 11:25	10/12/18 11:59	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8786	VC-PM372-SD01-0102	10/08/18 11:26	10/12/18 11:59	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8787	VC-CS11-SD01-000H	10/09/18 8:35	10/12/18 11:59	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8788	VC-CS11-SD01-0102	10/09/18 8:37	10/12/18 12:00	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8789	VC-CS11-SD02-000H	10/09/18 7:30	10/12/18 12:00	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8790	VC-CS11-SD02-0102	10/09/18 7:31	10/12/18 12:00	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8791	VC-CS11-SD03-000H	10/09/18 8:03	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8792	VC-CS11-SD03-0102	10/09/18 8:05	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8793	VC-CS11-SD04-000H	10/09/18 8:00	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8794	VC-CS11-SD04-0102	10/09/18 8:02	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8795	VC-CS11-SD05-000H	10/09/18 8:26	10/12/18 12:02	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8796	VC-CS11-SD05-0102	10/09/18 8:28	10/12/18 12:02	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8797	VC-CS11-SD06-000H	10/09/18 7:14	10/12/18 12:02	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8798	VC-CS11-SD06-0102	10/09/18 7:16	10/12/18 12:02	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8799	VC-CS11-SD02-000H-MS	10/09/18 7:14	10/12/18 12:03	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8800	VC-CS11-SD02-000H-MSD	10/09/18 7:14	10/12/18 12:03	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8801	VC-SD-FB12-10092018	10/09/18 17:00	10/12/18 12:03	2	AQ	1.3	NA	NA	NA	R0119 (NA)			
J8802	VC-SD-EB12-10092018	10/09/18 17:05	10/12/18 12:04	2	AQ	1.3	NA	NA	NA	R0119 (NA)			
J8803	VC-SD-EB13-10092018	10/09/18 17:10	10/12/18 12:04	2	AQ	1.3	NA	NA	NA	R0119 (NA)			
J8804	VC-S14GW02-1018	10/09/18 12:20	10/12/18 12:05	2	GW	1.3	NA	NA	NA	R0119 (NA)			

BATTELLE
It can be done

ShpNo SHP-181012-02

Battelle Project No:

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: 695803 **Client:** CH2M

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 12, 2018 10:30 AM

No. of Shipping Containers: 2

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8805	VC-S14GW02P-1018	10/09/18 12:24	10/12/18 12:05	2	GW	0.7	NA	NA	NA	R0119 (NA)			
J8806	VC-S14GW19-1018	10/09/18 14:46	10/12/18 12:06	2	GW	1.3	NA	NA	NA	R0119 (NA)			
J8807	VC-S14GW02-1018-MS	10/09/18 12:28	10/12/18 12:06	2	GW	1.3	NA	NA	NA	R0119 (NA)			
J8808	VC-S14GW02-1018-MSD	10/09/18 12:32	10/12/18 12:06	2	GW	1.3	NA	NA	NA	R0119 (NA)			
J8809	VC-STP-SD01-000H	10/09/18 16:05	10/12/18 12:07	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8810	VC-STP-SD01-0102	10/09/18 16:07	10/12/18 12:07	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8811	VC-STP-SD02-000H	10/09/18 15:56	10/12/18 12:07	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8812	VC-STP-SD02-0102	10/09/18 15:58	10/12/18 12:08	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8813	VC-STP-SD03-000H	10/09/18 15:12	10/12/18 12:08	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8814	VC-STP-SD03-0102	10/09/18 15:14	10/12/18 12:08	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8815	VC-STP-SD04-000H	10/09/18 15:38	10/12/18 12:08	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8816	VC-STP-SD04-0102	10/09/18 15:40	10/12/18 12:09	1	SD	1.3	NA	NA	NA	R0119 (NA)			

Total Samples: 40

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM323-324	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	~~Sampler Information (print name):~~ V. Kilbert Phone: 724.977-3628 Email: victoria.kilbert@jacobs.com Turnaround Time (TAT) Requested:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI Project No.: 695803	Normal X Priority ☐ RUSH ☐ Time Zone: PST	Analysis: PFAS by Method 537 Mod	Page# 1 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.		
~~VC-PM323-324-SS01-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM323-324-SB01-~~			~~Grab~~	~~SB~~		X	
~~VC-PM323-324-SB01-~~			~~Grab~~	~~SB~~		X	
~~VC-PM323-324-SS02-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM323-324-SB02-~~			~~Grab~~	~~SB~~		X	
~~VC-PM323-324-SB02-~~			~~Grab~~	~~SB~~		X	
~~VC-PM323-324-SS03-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM323-324-SB03-~~			~~Grab~~	~~SB~~		X	
~~VC-PM323-324-SB03-~~			~~Grab~~	~~SB~~		X	
VC-PM323-324-SD01-000H	10/8/18	1022	Grab	SD	1	X	J8777
VC-PM323-324-SD01-0102	10/8/18	1023	Grab	SD	1	X	J8778
~~VC-PM323-324-S~~ -MS			~~Grab~~			X	

Receipt Temperature:(°C)	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:
V. Kilbert	10/10/18 1130	Jacobs		1	10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM553	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI Project No.: 695503	Turnaround Time (TAT) Requested: Normal ☒ Priority ☐ RUSH ☐ Time Zone: (ET) PST	Analysis: PFAS by Method 537 Mod	Page# 2 of 8

Sample Identification	Sample Date	Sample Time (1054 (ET))	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
VC-PM553-SD01-000H	10/8/18	~~10/8/18~~	Grab	SD	1	X	J8779
VC-PM553-SD01-0102	10/8/18	1055	Grab	SD	1	X	J8780
VC-PM553-SD01-0102-MS	10/8/18	1055	Grab	SD	1	X	J8781
VC-PM553-SD01-0102-MSD	10/8/18	1055	Grab	SD	1	X	J8782
~~FDT-SO-FB~~			Grab	AQ		X	
~~FDT-SO-FB~~			Grab	AQ		X	

VK

Receipt Temperature:(°C)	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
V. Kilbert	Jacobs	10/10/18 1100			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information
Tiffany Hill
1100 NE Circle Blvd, Suite 300
Corvallis, OR
97330

Project Manager: Eric Davis
Sampler Information (print name): V. Kilgo
Phone: 724-977-3629
Email:
Turnaround Time (TAT) Requested:
Normal X
Priority
RUSH
Time Zone: PST

Project Name: NBVC Basewide SI
Project No.: 695803

Sampling Site: PM3039
Site Information:

COC # 7
Page# 3 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative: NA	Analysis: PFAS by Method 537 Mod
~~VC-PM3009-SS01-000H~~			~~Grab~~	~~SS~~			X
~~VC-PM3009-SB01-___~~			~~Grab~~	~~SB~~			X
~~VC-PM3009-SB01-___~~			~~Grab~~	~~SB~~			X
~~VC-PM3009-SS02-000H~~			~~Grab~~	~~SS~~			X
~~VC-PM3009-SB02-___~~			~~Grab~~	~~SB~~			X
~~VC-PM3009-SB02-___~~			~~Grab~~	~~SB~~			X
~~VC-PM3009-SS03-000H~~			~~Grab~~	~~SS~~			X
~~VC-PM3009-SB03-___~~			~~Grab~~	~~SB~~			X
~~VC-PM3009-SB03-___~~			~~Grab~~	~~SB~~			X
VC-PM3009-SD01-000H	10/8/18	1113	Grab	SD	1		X
VC-PM3009-SD01-0102	10/8/18	1114	Grab	SD	1		X
~~VC-PM3009-S-___-MS~~			~~Grab~~				X

J8783
J8784

Receipt Temperature:(°C)
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:
V. Kilgo	Jacobs	10/10/18 1150	NB		10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM372	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbat Phone: 724-977-3625 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI	Turnaround Time (TAT) Requested: Normal X Priority ☐ RUSH ☐	Analysis: PFAS by Method 537 Mod	Page# 4 of 8
Project No.: 695803	Time Zone: PST		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis: PFAS by Method 537 Mod	
~~VC-PM372-SS01-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM372-SB01-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SB01-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SS02-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM372-SB02-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SB02-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SS03-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM372-SB03-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SB03-~~			~~Grab~~	~~SB~~		X	
VC-PM372-SD01-000H	10/8/18	1125	Grab	SD	1	X	J8785
VC-PM372-SD01-0102	10/8/18	1126	Grab	SD	1	X	J8786
~~VC-PM372-S~~ -MS			~~Grab~~			X	

Receipt Temperature:(°C)	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:
V. Kilbat	Jacobs	10/10/18 1100	[signature]		10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM-CS11	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI	Turnaround Time (TAT) Requested: Normal X Priority ☐ RUSH ☐	Analysis: PFAS by Method 537 Mod	Page# 5 of 8
Project No.: 695803	Time Zone: EST		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
VC-CS11-SD01-000H	10/9/18	0835	Grab	SD	1	X	J8787
VC-CS11-SD01-0102	10/9/18	0837	Grab	SD	1	X	88
VC-CS11-SD02-000H	10/9/18	0730	Grab	SD	1	X	89
VC-CS11-SD02-0102	10/9/18	0731	Grab	SD	1	X	90
VC-CS11-SD03-000H	10/9/18	0803	Grab	SD	1	X	91
VC-CS11-SD03-0102	10/9/18	0805	Grab	SD	1	X	92
VC-CS11-SD04-000H	10/9/18	0800	Grab	SD	1	X	93
VC-CS11-SD04-0102	10/9/18	0802	Grab	SD	1	X	94
VC-CS11-SD05-000H	10/9/18	0826	Grab	SD	1	X	95
VC-CS11-SD05-0102	10/9/18	0828	Grab	SD	1	X	96
VC-CS11-SD06-000H	10/9/18	0714	Grab	SD	1	X	97
VC-CS11-SD06-0102	10/9/18	0716	Grab	SD	1	X	J8798

Receipt Temperature:(°C)	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
V. Kilbert	Jacobs	10/10/18 1100			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information
Tiffany Hill
1100 NE Circle Blvd, Suite 300
Corvallis, OR
97330

Project Manager: Eric Davis
Sampler Information (print name): V. Kilb
Phone: 724-977-3628
Email:
Turnaround Time (TAT) Requested:
Normal X
Priority
RUSH
Time Zone: PST

Sampling Site: PM_CS11
Site Information:

Project Name: NBVC Basewide SI
Project No.: 695803

COC # 7
Page# 6 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative NA	Analysis PFAS by Method 537 Mod	
VC-CS11-SD-02-000H-MS	10/9/18	0714	Grab	SD	1 ~~2~~		X	J8799
VC-CS11-SD-02-000H-SD	10/9/18	0714	Grab	SD	1 ~~2~~		X	J8800
VC ~~FDT-SD~~-FB12-10092018	10/9/18	1700	Grab	AQ	2		X	J8801
VC ~~FDT-SD~~-EB12-10092018	10/9/18	1705	Grab	AQ	2		X	J8802
VC-SD-EB13-10092018	10/9/18	1710	Grab	AQ	2		X	J8803

hand auger glove

Receipt Temperature:(°C)
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:
V. Kilb	Jacobs	10/10/18 1100			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PIT IRP S14	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email: Turnaround Time (TAT) Requested:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI Project No.: 695803	Normal X Priority ☐ RUSH ☐ Time Zone: PST	Analysis: PFAS by Method 537 Mod	Page# 7 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
~~VC-S14GW01-~~			Grab	GW		X	
VC-S14GW02-1018	10/9/18	1220	Grab	GW	2	X	J8804
VC-S14GW02P-1018	10/9/18	1224	Grab	GW	2	X	J8805
~~VC-S14GW03-~~			Grab	GW		X	
VC-S14GW19-1018	10/9/18	1446	Grab	GW	2	X	J8806
~~EDT-AQ-FB~~			Grab	AQ		X	
~~EDT-AQ-EB~~			Grab	AQ		X	
VC-S14GW02-1018-MS	10/9/18	1228	Gr	GW	2	X	J8807
VC-S14GW02-1018-MSD	10/9/18	1232	Gr	GW	2	X	J8808
							VH

Receipt Temperature:(°C)	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:
V. Kilbert	Jacobs	10/10/18 1150	NVB		10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE
It can be done

Chain-of-Custody

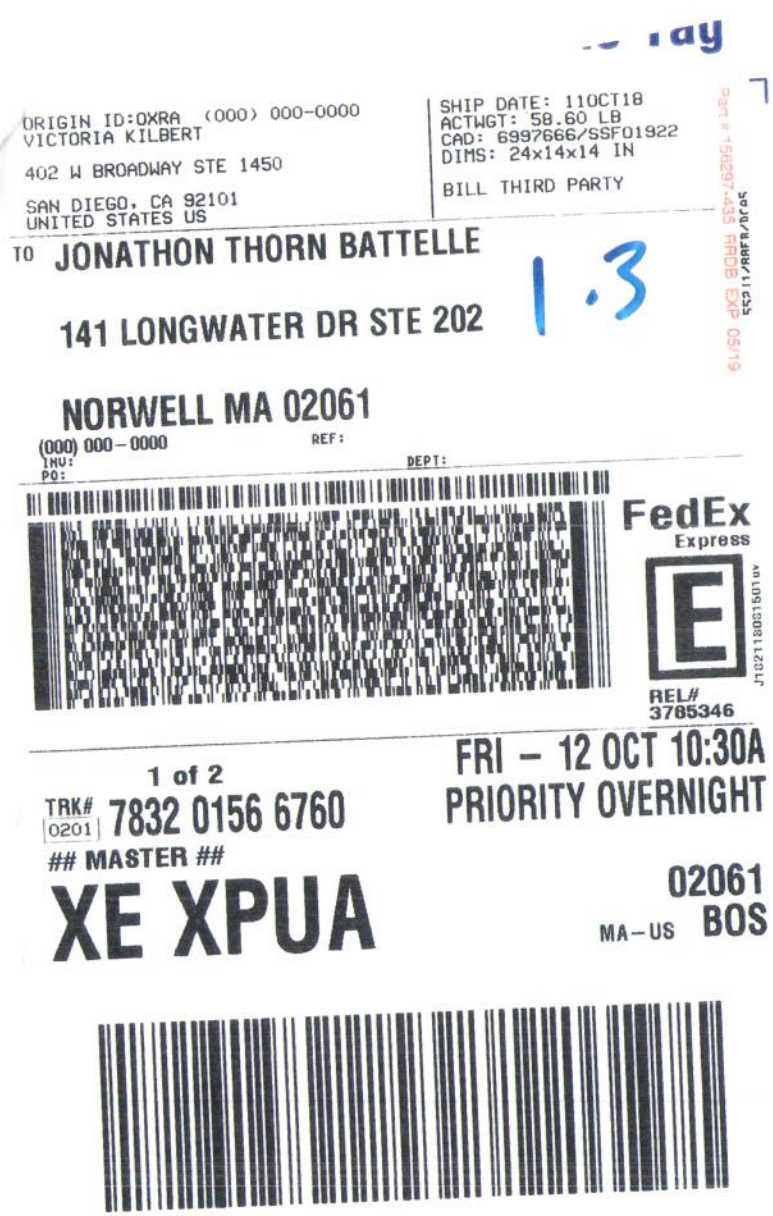
Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM STP	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI	Turnaround Time (TAT) Requested: Normal X Priority ☐ RUSH ☐	Analysis: PFAS by Method 537 Mod	Page# 8 of 8
Project No.: 695803	Time Zone: PST		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis: PFAS by Method 537 Mod	
VC-STP-SD01-000H	10/9/18	1605	Grab	SD	1	X	J8809
VC-STP-SD01-0102	10/9/18	1607	Grab	SD	1	X	J8810
VC-STP-SD02-000H	10/9/18	1556	Grab	SD	1	X	J8811
VC-STP-SD02-0102	10/9/18	1558	Grab	SD	1	X	J8812
VC-STP-SD03-000H	10/9/18	1512	Grab	SD	1	X	J8813
VC-STP-SD03-0102	10/9/18	1514	Grab	SD	1	X	J8814
VC-STP-SD04-000H	10/9/18	1538	Grab	SD	1	X	J8815
VC-STP-SD04-0102	10/9/18	1548	Grab	SD	1	X	J8816
~~VC-STP-SD-MS~~			Grab	SD		X	
~~VC-STP-SD-SD~~			Grab	SD		X	
~~FDT-SO-FB~~			Grab	AQ		X	
~~FDT-SO-EB~~			Grab	AQ		X	

Receipt Temperature:(°C)	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:
V. Kilbert	Tetra Tech	10/10/18 1130			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:



ORIGIN ID:OXRA (000) 000-0000
VICTORIA KILBERT
402 W BROADWAY STE 1450
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 11OCT18
ACTWGT: 58.60 LB
CAD: 6997666/SSF01922
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO JONATHON THORN BATTELLE
141 LONGWATER DR STE 202
NORWELL MA 02061
(000) 000-0000

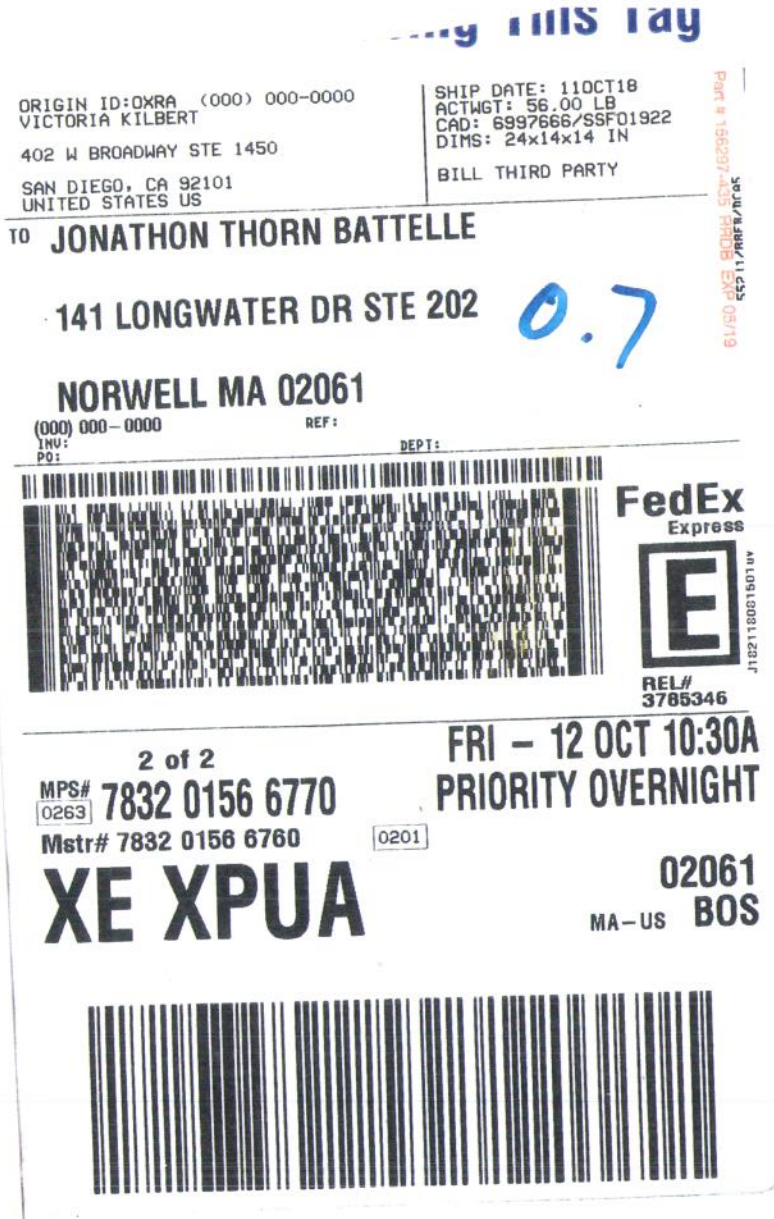
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REF:
INV:
PO:
DEPT:

FedEx Express
REL# 3785346

1 of 2
TRK# 0201 7832 0156 6760
MASTER
XE XPUA

FRI - 12 OCT 10:30A
PRIORITY OVERNIGHT
02061
MA-US BOS



ORIGIN ID:OXRA (000) 000-0000
VICTORIA KILBERT
402 W BROADWAY STE 1450
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 11OCT18
ACTWGT: 56.00 LB
CAD: 6997666/SSF01922
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO JONATHON THORN BATTELLE
141 LONGWATER DR STE 202
NORWELL MA 02061
(000) 000-0000

0.7

REF:
INV:
PO:
DEPT:

FedEx Express
REL# 3785346

2 of 2
MPS# 0263 7832 0156 6770
Mstr# 7832 0156 6760
0201
XE XPUA

FRI - 12 OCT 10:30A
PRIORITY OVERNIGHT
02061
MA-US BOS

Data Tables

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-FB12-10092018				
Battelle ID		J8801-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		AQ				
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	1.41	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	0.44	U	0.11	0.44	4.39
PFHxS	355-46-4	0.35	U	0.10	0.35	4.39
PFOS	1763-23-1	0.44	U	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	101
13C8-PFOA	93
13C9-PFNA	98
13C6-PFDA	91
13C7-PFUnA	87
13C2-PFDoA	98
13C2-PFTeDA	95
d3-MeFOSAA	93
d5-EtFOSAA	87
13C3-PFBS	102
13C3-PFHxS	85
13C8-PFOS	92

BATTELLE
It can be done

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-EB12-10092018				
Battelle ID		J8802-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		AQ				
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	0.46	U	0.15	0.46	4.63
PFOA	335-67-1	1.44	J	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	0.46	U	0.12	0.46	4.63
PFHxS	355-46-4	0.37	U	0.10	0.37	4.63
PFOS	1763-23-1	0.46	U	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	90
13C4-PFHpA	91
13C8-PFOA	88
13C9-PFNA	79
13C6-PFDA	88
13C7-PFUnA	92
13C2-PFDoA	100
13C2-PFTeDA	93
d3-MeFOSAA	101
d5-EtFOSAA	109
13C3-PFBS	104
13C3-PFHxS	90
13C8-PFOS	96

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-EB13-10092018				
Battelle ID		J8803-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		AQ				
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	1.34	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	0.44	U	0.11	0.44	4.39
PFHxS	355-46-4	0.35	U	0.10	0.35	4.39
PFOS	1763-23-1	0.44	U	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	84		
13C4-PFHpA	88		
13C8-PFOA	84		
13C9-PFNA	82		
13C6-PFDA	88		
13C7-PFUnA	122		
13C2-PFDoA	105		
13C2-PFTeDA	101		
d3-MeFOSAA	125		
d5-EtFOSAA	166	N	
13C3-PFBS	103		
13C3-PFHxS	86		
13C8-PFOS	94		

BATTELLE
It can be done

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02-1018			
Battelle ID		J8804-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
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	31.98	0.17	0.44	4.39
PFHpA	375-85-9	6.57	0.14	0.44	4.39
PFOA	335-67-1	25.58	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	2.69 J	0.43	0.88	4.39
PFBS	375-73-5	13.56	0.11	0.44	4.39
PFHxS	355-46-4	54.25	0.10	0.35	4.39
PFOS	1763-23-1	24.92	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	106
13C4-PFHpA	116
13C8-PFOA	91
13C9-PFNA	73
13C6-PFDA	84
13C7-PFUnA	89
13C2-PFDoA	80
13C2-PFTeDA	76
d3-MeFOSAA	111
d5-EtFOSAA	104
13C3-PFBS	107
13C3-PFHxS	115
13C8-PFOS	100

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02P-1018				
Battelle ID		J8805-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
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	35.60		0.17	0.44	4.39
PFHpA	375-85-9	6.56		0.14	0.44	4.39
PFOA	335-67-1	27.91		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	2.39	J	0.43	0.88	4.39
PFBS	375-73-5	13.35		0.11	0.44	4.39
PFHxS	355-46-4	50.67		0.10	0.35	4.39
PFOS	1763-23-1	29.90		0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	112
13C8-PFOA	86
13C9-PFNA	69
13C6-PFDA	93
13C7-PFUnA	92
13C2-PFDoA	85
13C2-PFTeDA	85
d3-MeFOSAA	115
d5-EtFOSAA	99
13C3-PFBS	108
13C3-PFHxS	123
13C8-PFOS	84

BATTELLE
It can be done

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW19-1018				
Battelle ID		J8806-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
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	9.08		0.17	0.45	4.46
PFHpA	375-85-9	2.31	J	0.14	0.45	4.46
PFOA	335-67-1	5.22	B	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	9.65		0.12	0.45	4.46
PFHxS	355-46-4	3.21	J	0.10	0.36	4.46
PFOS	1763-23-1	0.90	J	0.17	0.45	4.46

Surrogate Recoveries (%)

13C5-PFHxA	118
13C4-PFHpA	136
13C8-PFOA	98
13C9-PFNA	83
13C6-PFDA	102
13C7-PFUnA	110
13C2-PFDoA	92
13C2-PFTeDA	99
d3-MeFOSAA	130
d5-EtFOSAA	111
13C3-PFBS	99
13C3-PFHxS	102
13C8-PFOS	89

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		KB80 IB			
Battelle ID		KB80 IB_10/17/2018			
Sample Type		IB			
Collection Date		NA			
Extraction Date		NA			
Analysis Date		10/17/2018			
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	0.50 U	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	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	98
13C8-PFOA	101
13C9-PFNA	100
13C6-PFDA	103
13C7-PFUnA	102
13C2-PFDoA	98
13C2-PFTeDA	93
d3-MeFOSAA	104
d5-EtFOSAA	96
13C3-PFBS	95
13C3-PFHxS	103
13C8-PFOS	96

BATTELLE
It can be done

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		KB80 IB				
Battelle ID		KB80 IB_10/24/2018				
Sample Type		IB				
Collection Date		NA				
Extraction Date		NA				
Analysis Date		10/24/2018				
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	0.50	U	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	0.40	U	0.11	0.40	5.00
PFOS	1763-23-1	0.50	U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	92
13C8-PFOA	92
13C9-PFNA	87
13C6-PFDA	104
13C7-PFUnA	117
13C2-PFDoA	120
13C2-PFTeDA	122
d3-MeFOSAA	91
d5-EtFOSAA	86
13C3-PFBS	107
13C3-PFHxS	90
13C8-PFOS	94

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		KB80 IB			
Battelle ID		KB80 IB_10/25/2018			
Sample Type		IB			
Collection Date		NA			
Extraction Date		NA			
Analysis Date		10/25/2018			
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	0.50 U	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	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	110
13C8-PFOA	97
13C9-PFNA	88
13C6-PFDA	98
13C7-PFUnA	106
13C2-PFDoA	103
13C2-PFTeDA	102
d3-MeFOSAA	132
d5-EtFOSAA	120
13C3-PFBS	113
13C3-PFHxS	105
13C8-PFOS	120

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		Procedural Blank			
Battelle ID		CS009PB-FS			
Sample Type		PB			
Collection Date		10/18/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
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	1.29 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	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	100
13C4-PFHpA	100
13C8-PFOA	93
13C9-PFNA	86
13C6-PFDA	81
13C7-PFUnA	86
13C2-PFDoA	86
13C2-PFTeDA	91
d3-MeFOSAA	100
d5-EtFOSAA	82
13C3-PFBS	104
13C3-PFHxS	103
13C8-PFOS	107

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		Laboratory Control Sample					
Battelle ID		CS010LCS-FS					
Sample Type		LCS					
Collection Date		10/18/2018					
Extraction Date		10/18/2018					
Analysis Date		10/24/2018					
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	10.34	10.10	102		51	137
PFHpA	375-85-9	9.79	10.00	98		48	136
PFOA	335-67-1	11.51 B	10.00	115		49	141
PFNA	375-95-1	11.89	10.00	119		58	122
PFDA	335-76-2	10.73	10.00	107		59	135
PFUnA	2058-94-8	10.51	10.00	105		64	134
PFDoA	307-55-1	11.29	10.00	113		75	131
PFTrDA	72629-94-8	10.89	10.00	109		42	148
PFTeDA	376-06-7	11.22	10.00	112		42	158
NMeFOSAA	2355-31-9	13.42	10.00	134		50	146
NEtFOSAA	2991-50-6	10.98	10.00	110		51	131
PFBS	375-73-5	11.37	10.10	113		56	134
PFHxS	355-46-4	12.06	10.10	119		52	128
PFOS	1763-23-1	9.10	10.00	91		40	144
Surrogate Recoveries (%)							
13C5-PFHxA		105					
13C4-PFHpA		105					
13C8-PFOA		96					
13C9-PFNA		88					
13C6-PFDA		95					
13C7-PFUnA		101					
13C2-PFDoA		102					
13C2-PFTeDA		113					
d3-MeFOSAA		84					
d5-EtFOSAA		83					
13C3-PFBS		92					
13C3-PFHxS		82					
13C8-PFOS		94					

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02-1018	VC-S14GW02-1018-MS					
Battelle ID		J8804-FS	J8807MS-FS					
Sample Type		SA	MS					
Collection Date		10/09/2018	10/09/2018					
Extraction Date		10/18/2018	10/18/2018					
Analysis Date		10/24/2018	10/24/2018					
Analytical Instrument		Sciex 5500 LC/MS/MS	Sciex 5500 LC/MS/MS					
% Moisture		NA	NA					
Matrix		GW	GW					
Sample Size		0.285	0.280					
Size Unit-Basis		L	L				Control Limits	
Units		ng/L	ng/L	Target	Recovery	Qual	Lower	Upper
PFHxA	307-24-4	31.98	61.20	27.05	108		51	137
PFHpA	375-85-9	6.57	32.35	26.79	96		48	136
PFOA	335-67-1	25.58	55.95	26.79	113		49	141
PFNA	375-95-1	0.88 U	32.00	26.79	119		58	122
PFDA	335-76-2	0.44 U	27.90	26.79	104		59	135
PFUnA	2058-94-8	0.88 U	27.92	26.79	104		64	134
PFDoA	307-55-1	0.44 U	29.85	26.79	111		75	131
PFTrDA	72629-94-8	0.44 U	28.76	26.79	107		42	148
PFTeDA	376-06-7	0.88 U	28.63	26.79	107		42	158
NMeFOSAA	2355-31-9	1.75 U	31.31	26.79	117		50	146
NEtFOSAA	2991-50-6	2.69 J	28.82	26.79	98		51	131
PFBS	375-73-5	13.56	38.31	27.05	91		56	134
PFHxS	355-46-4	54.25	78.18 D	27.05	88		52	128
PFOS	1763-23-1	24.92	48.80	26.79	89		40	144
Surrogate Recoveries (%)								
13C5-PFHxA		106	113					
13C4-PFHpA		116	119					
13C8-PFOA		91	88					
13C9-PFNA		73	78					
13C6-PFDA		84	90					
13C7-PFUnA		89	96					
13C2-PFDoA		80	100					
13C2-PFTeDA		76	109					
d3-MeFOSAA		111	126					
d5-EtFOSAA		104	116					
13C3-PFBS		107	108					
13C3-PFHxS		115	108 D					
13C8-PFOS		100	103					

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02-1018-MSD								
Battelle ID		J8808MSD-FS								
Sample Type		MSD								
Collection Date		10/09/2018								
Extraction Date		10/18/2018								
Analysis Date		10/24/2018								
Analytical Instrument		Sciex 5500 LC/MS/MS								
% Moisture		NA								
Matrix		GW								
Sample Size		0.275								
Size Unit-Basis		L				Control Limits				RPD
Units		ng/L	Target	Recovery	Qual	Lower	Upper	RPD	Qual	Limit
PFHxA	307-24-4	67.23	27.55	128		51	137	16.9		≤ 30
PFHpA	375-85-9	32.97	27.27	97		48	136	1.0		≤ 30
PFOA	335-67-1	56.74	27.27	114		49	141	0.9		≤ 30
PFNA	375-95-1	34.10	27.27	125	N	58	122	4.9		≤ 30
PFDA	335-76-2	26.87	27.27	99		59	135	4.9		≤ 30
PFUnA	2058-94-8	28.43	27.27	104		64	134	0.0		≤ 30
PFDoA	307-55-1	29.27	27.27	107		75	131	3.7		≤ 30
PFTrDA	72629-94-8	26.05	27.27	96		42	148	10.8		≤ 30
PFTeDA	376-06-7	28.59	27.27	105		42	158	1.9		≤ 30
NMeFOSAA	2355-31-9	33.34	27.27	122		50	146	4.2		≤ 30
NEtFOSAA	2991-50-6	37.24	27.27	127		51	131	25.8		≤ 30
PFBS	375-73-5	37.80	27.55	88		56	134	3.4		≤ 30
PFHxS	355-46-4	66.94 D	27.55	46	N	52	128	62.7	N	≤ 30
PFOS	1763-23-1	56.23	27.27	115		40	144	25.5		≤ 30

Surrogate Recoveries (%)

13C5-PFHxA	107
13C4-PFHpA	117
13C8-PFOA	85
13C9-PFNA	72
13C6-PFDA	86
13C7-PFUnA	88
13C2-PFDoA	94
13C2-PFTeDA	105
d3-MeFOSAA	110
d5-EtFOSAA	86
13C3-PFBS	117
13C3-PFHxS	138 D
13C8-PFOS	92

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Glossary of Data Qualifiers

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

CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15

AQ, GW

Batch 18-0620

Package DP-18-0318

Submitted to:
CH2M
1100 NE Circle Blvd Suite 300
Corvallis, OR 97330 USA

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

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CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15

AQ, GW

Batch 18-0620

Package DP-18-0318

Submitted to:
CH2M
1100 NE Circle Blvd Suite 300
Corvallis, OR 97330 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: Lauren Griffith 2018.11.02 14:23:10 -04'00'

QC Chemist Approval: fitche@battelle.org 2018.11.06 13:18:50 -05'00'

Project Manager Approval: Digitally signed by Jonathan Thorn Date: 2018.11.07 11:32:30 -05'00'

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CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15

AQ, GW

Batch 18-0620

Package DP-18-0318

1	***Work Plan*** Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	1
2	***Tables*** Analytical Data Tables, Qualifier Definitions.	31
3	***Miscellaneous Documentation*** Case Narrative, Miscellaneous Documentation Form, Quality Control Summary, Example Calculations, Internal Standard Recovery Report, Retention Time Window Report.	46
4	***Sample Preparation Records*** Sample Preparation Records, Dilution Worksheets, Standard Preparation Records, Certificates Of Analysis, GPC Check Report.	187
5	***Analytical Calibrations*** Analytical Sequence, Analytical Method, Tune Report, Initial Calibration, Pesticide Degradation Report, RF Summary, Calibration Verifications, Independent Calibration Verification Check.	202
6	***Analytical Data*** Raw Data Quantification Reports.	326
7	***Chromatograms*** Sample And Standard Chromatograms.	401
8	***Unused Data***	542

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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			4-4-2018
Carla Devine		CRD	4/4/18
Denise Schumitz		DMS	4/4/18
Candice Penn McCoy		CPM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mears			4/4/2018
Christie Usher		cu	4/4/18
Kevin McInerney			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 Stenner		TWS	04/04/18
Ellyn M Fitch		EMF	12-April-2018
Gail DeRuzzo		GD	4/18/18
Zachary Willenberg		ZJW	4/20/18

Sample Summary

Client: CH2M
SDG: 18-0620
Project/Site: Naval Base Ventura County
CTO: 4164

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CS009PB-FS	Procedural Blank	WATER	10/18/2018	10/18/2018
CS010LCS-FS	Laboratory Control Sample	WATER	10/18/2018	10/18/2018
J8801-FS	VC-SD-FB12-10092018	AQ	10/9/2018	10/12/2018
J8802-FS	VC-SD-EB12-10092018	AQ	10/9/2018	10/12/2018
J8803-FS	VC-SD-EB13-10092018	AQ	10/9/2018	10/12/2018
J8804-FS	VC-S14GW02-1018	GW	10/9/2018	10/12/2018
J8805-FS	VC-S14GW02P-1018	GW	10/9/2018	10/12/2018
J8806-FS	VC-S14GW19-1018	GW	10/9/2018	10/12/2018
J8807MS-FS	VC-S14GW02-1018-MS	GW	10/9/2018	10/12/2018
J8808MSD-FS	VC-S14GW02-1018-MSD	GW	10/9/2018	10/12/2018

Work Plan

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WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title:	CTO-4164: Analysis of Non-Potable Waters
Project Number:	100110125-01
Client:	CH2M 1100 NE Circle Blvd Suite 300 Corvallis, OR 97330 USA
Client Contact Information:	Tiffany Hill Project Chemist (541) 768-3109(V) NA tiffany.hill@jacobs.com
Effective Date of QAPP:	9/11/2018
Version Number:	100110125-01(L)-02
Project Manager:	Thorn, Jonathan
Laboratory Task Manager:	Thorn, Jonathan
Deliverable Due Date:	10/19/2018

2.0 SCOPE OF WORK

Overview:	Analysis of non-potable water samples for PFAS.
Matrix:	Water

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

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

Storage Directions:	Store refrigerated.
Sub_Sampling:	None
Procedures:	NA
Contact:	NA
Comment:	None
Archiving:	Store remaining samples for six months after submission of final reports. Notify client prior to sample disposal.
Disposal:	Dispose of any remaining samples in the appropriate waste stream.

2.1.2 Sample Preparation

Samples will be batched as they arrive, with a 28-day TAT from receipt of samples.

Samples Expected:	Samples Per Batch:	Batches Expected:
150	20	8

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

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

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev: **5-370-06**

SOP Title: *Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices*

Sample Size: 250 ml

SIS and LCS/MS Compounds: Defined in Table 2.

Deviations:
- Do not split samples post extract, PIV adjusted to compensate for removal of split.

Comments:
- All waters will be pre-screened per draft SOP 5-370-07.

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)	JY28 SIS	~ 0.250 ng	50 uL	NA

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Second Source LCS/MS Solution	JZ88	LCS/MS	~ 7.5 ng	150 uL	MS/MSD only - vary spike by batch 100, 150, 200, 250, 300 µL (pre-screening data will indicate if background sample is high level and needs a higher level fortification).
PFAS - DoD Second Source LCS/MS Solution	JZ88	LCS/MS	~ 2.50 ng	50 uL	LCS sample only - vary spike for each batch 50, 100, and 150 µL.

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 1000

Table 3: RIS Spiking Level

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	JY26	RIS	~ 0.250 ng	50 uL	NA

2.1.4 Instrumental Analysis

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

1) SOP_No-Rev: **5-369-06**

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

Deviations: None

Comments: None

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WORK/QUALITY ASSURANCE PROJECT PLAN

2.2. DELIVERABLES

Deliverables Due:	10/19/2018
LIMS Reports:	*No*
Histograms:	*No*
Excel Tables:	*Yes*
EICs:	*No*
Chromatograms:	*No*
EDDs:	*Yes*
Comments:	• Individual data sets will be due 28 days after receipt of each sample set. • Full Level 4 data package (QSM 5.1 Table B-15 compliant) required. • SEDD file required. • weekly updates to client on status required.

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

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

Table 4: Project Team and Roles

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

4.2 COMMUNICATION

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

5.0 SCHEDULE

The project schedule is presented in Table 5.

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	09/21/2018	09/21/2018	0	Timeline provided is an example based on samples arriving on 9/21. Schedule will shift for each delivery.
Sample Preparation	09/21/2018	09/25/2018	4	NA
Instrument Analysis	09/25/2018	10/05/2018	10	NA
Quality Control Review	10/05/2018	10/10/2018	5	NA
Quality Assurance Review	10/10/2018	10/15/2018	5	NA

6.0 BUDGET

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

Table 6. Labor Budget (Laboratory Analytical Task)

Labor Activity:	Hours/ Batch:	Batches:	Total Hours:	Comment:
Sample Receipt	2	10	20	Hours are based on batches of 20 samples.
Sample Preparation	8	10	80	NA
Instrument Analysis	8	10	80	NA
Quality Control Review	3	10	30	NA
Quality Assurance Review	1	10	10	NA

7.0 STAFF DEVELOPMENT

None anticipated

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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: **SHP-180921-01**

Status: Pending

Description: NBVC Basewide SI

Range: J8210-J8277

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J8210	VC-PM3009-DW01-0918	09/17/2018 3:10 pm	GW	R0119 (NA)		
2	J8211	VC-PM3009-DW02-0918	09/17/2018 4:23 pm	GW	R0119 (NA)		
3	J8212	VC-PM3009-DW02P-0918	09/17/2018 4:27 pm	GW	R0119 (NA)		
4	J8213	VC-PM3009-DW03-0918	09/17/2018 4:38 pm	GW	R0119 (NA)		
5	J8214	VC-PM372-DW01-0918	09/18/2018 10:07 am	GW	R0119 (NA)		
6	J8215	VC-PM372-DW02-0918	09/18/2018 9:25 am	GW	R0119 (NA)		
7	J8216	VC-PM372-DW02P-0918	09/18/2018 9:27 am	GW	R0119 (NA)		
8	J8217	VC-PM372-DW03-0918	09/18/2018 11:49 am	GW	R0119 (NA)		
9	J8241	VC-PM649-DW01-0918	09/18/2018 12:50 pm	GW	R0119 (NA)		
10	J8242	VC-PM649-DW01P-0918	09/18/2018 12:55 pm	GW	R0119 (NA)		
11	J8243	VC-PM649-DW02-0918	09/18/2018 3:35 pm	GW	R0119 (NA)		
12	J8244	VC-PM649-DW03-0918	09/18/2018 2:02 pm	GW	R0119 (NA)		
13	J8245	VC-PM649-DW04-0918	09/18/2018 2:02 pm	GW	R0119 (NA)		
14	J8246	VC-AQ-FB01-0918	09/18/2018 1:30 pm	AQ	R0119 (NA)		
15	J8247	VC-AQ-EB01-0918	09/18/2018 1:40 pm	AQ	R0119 (NA)		
16	J8259	VC-PM365-DW01-0918	09/19/2018 11:10 am	GW	R0119 (NA)		
17	J8260	VC-PM365-DW02-0918	09/19/2018 12:10 pm	GW	R0119 (NA)		
18	J8261	VC-PM365-DW02P-0918	09/19/2018 12:18 pm	GW	R0119 (NA)		
19	J8262	VC-PM365-DW03-0918	09/19/2018 11:10 am	GW	R0119 (NA)		
20	J8272	VC-PM553-DW01-0918	09/19/2018 2:30 pm	GW	R0119 (NA)		
21	J8273	VC-PM553-DW01P-0918	09/19/2018 2:45 pm	GW	R0119 (NA)		
22	J8274	VC-PM553-DW02-0918	09/19/2018 3:15 pm	GW	R0119 (NA)		
23	J8275	VC-PM553-DW03-0918	09/19/2018 12:06 pm	GW	R0119 (NA)		
24	J8276	VC-SO-FB02-0918	09/19/2018 2:35 pm	AQ	R0119 (NA)		
25	J8277	VC-SO-EB02-0918	09/19/2018 2:30 pm	AQ	R0119 (NA)		

Shipment: **SHP-180925-02**

Status: Approved

Description: NBVC Basewide SI

Range: J8285-J8337

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J8285	VC-CS94-DW01-0918	09/21/2018 10:54 am	GW	R0119 (NA)		
2	J8286	VC-CS94-DW01P-0918	09/21/2018 10:58 am	GW	R0119 (NA)		
3	J8287	VC-CS94-DW02-0918	09/21/2018 11:50 am	GW	R0119 (NA)		
4	J8288	VC-CS94-DW03-0918	09/21/2018 11:08 am	GW	R0119 (NA)		
5	J8289	VC-CS94-DW04-0918	09/21/2018 12:14 pm	GW	R0119 (NA)		
6	J8290	VC-CS94-DW05-0918	09/21/2018 12:23 pm	GW	R0119 (NA)		
7	J8308	VC-SO-FB04-092118	09/21/2018 2:20 pm	AQ	R0119 (NA)		

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WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: **SHP-180925-02**

Status: Approved

Description: NBVC Basewide SI

Range: J8285-J8337

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
8	J8309	VC-SO-EB04-092118	09/21/2018 2:20 pm	AQ	R0119 (NA)			
9	J8319	VC-PM323-324-DW01-0918	09/20/2018 2:38 pm	GW	R0119 (NA)			
10	J8320	VC-PM323-324-DW01P-0918	09/20/2018 2:45 pm	GW	R0119 (NA)			
11	J8321	VC-PM323-324-DW02-0918	09/20/2018 11:41 am	GW	R0119 (NA)			
12	J8322	VC-PM323-324-DW03-0918	09/20/2018 10:35 am	GW	R0119 (NA)			
13	J8323	VC-AQ-FB03-092018	09/20/2018 8:00 am	AQ	R0119 (NA)			
14	J8324	VC-AQ-EB03-092018	09/20/2018 8:00 am	AQ	R0119 (NA)			
15	J8330	VC-PM323-DW02-0918	09/20/2018 3:13 pm	GW	R0119 (NA)			
16	J8331	VC-PM323-DW02P-0918	09/20/2018 4:02 pm	GW	R0119 (NA)			
17	J8337	VC-PM324-DW02-0918	09/20/2018 2:00 pm	GW	R0119 (NA)			

Shipment: **SHP-180927-02**

Status: Approved

Description: NBVC Basewide SI

Range: J8358-J8400

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8358	VC-PM323-DW01-0918	09/24/2018 10:21 am	GW	R0119 (NA)			
2	J8359	VC-PM323-DW03-0918	09/24/2018 11:10 am	GW	R0119 (NA)			
3	J8368	VC-SO-FB05-092418	09/24/2018 1:30 pm	AQ	R0119 (NA)			
4	J8369	VC-SO-EB05-092418	09/24/2018 1:30 pm	AQ	R0119 (NA)			
5	J8370	VC-PM324-DW01-0918	09/24/2018 1:45 pm	GW	R0119 (NA)			
6	J8371	VC-PM324-DW01P-0918	09/24/2018 2:02 pm	GW	R0119 (NA)			
7	J8372	VC-PM324-DW03-0918	09/24/2018 11:15 am	GW	R0119 (NA)			
8	J8382	VC-PM64B-DW01-0918	09/24/2018 3:00 pm	GW	R0119 (NA)			
9	J8383	VC-PM64B-DW02-0918	09/24/2018 3:31 pm	GW	R0119 (NA)			
10	J8384	VC-PM64B-DW03-0918	09/24/2018 2:28 pm	GW	R0119 (NA)			
11	J8385	VC-PM64B-DW03P-0918	09/24/2018 2:35 pm	GW	R0119 (NA)			
12	J8395	VC-HS09-DW01-0918	09/25/2018 2:25 pm	GW	R0119 (NA)			
13	J8396	VC-HS09-DW02-0918	09/25/2018 3:03 pm	GW	R0119 (NA)			
14	J8397	VC-HS09-DW03-0918	09/25/2018 1:19 pm	GW	R0119 (NA)			
15	J8398	VC-AQ-FB-092518	09/25/2018 2:35 pm	AQ	R0119 (NA)			
16	J8399	VC-AQ-EB-092518	09/25/2018 2:30 pm	AQ	R0119 (NA)			
17	J8400	VC-HS09-DW03P-0918	09/25/2018 1:56 pm	GW	R0119 (NA)			

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WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: **SHP-180928-03**

Status: Pending

Description: NBVC Basewide SI

Range: J8455-J8483

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8455	VC-SO-FB07-09262018	09/26/2018 11:43 am	AQ	R0118 (NA)			
2	J8456	VC-SO-EB07-09262018	09/26/2018 11:45 am	AQ	R0118 (NA)			
3	J8457	VC-MS09-DW01-0918	09/26/2018 10:16 am	GW	R0118 (NA)			
4	J8458	VC-MS09-DW02-0918	09/26/2018 10:05 am	GW	R0118 (NA)			
5	J8459	VC-MS09-DW03-0918	09/26/2018 11:10 am	GW	R0118 (NA)			
6	J8460	VC-MS09-DW04-0918	09/26/2018 12:22 pm	GW	R0118 (NA)			
7	J8461	VC-MS09-DW04P-0918	09/26/2018 12:20 pm	GW	R0118 (NA)			
8	J8462	VC-MS09-DW05-0918	09/26/2018 11:35 am	GW	R0118 (NA)			
9	J8477	VC-PM367-DW01-0918	09/27/2018 10:36 am	GW	R0119 (NA)			
10	J8478	VC-PM367-DW02-0918	09/27/2018 9:50 am	GW	R0119 (NA)			
11	J8479	VC-PM367-DW03-0918	09/27/2018 10:43 am	GW	R0119 (NA)			
12	J8480	VC-PM367-DW03P-0918	09/27/2018 10:46 am	GW	R0119 (NA)			
13	J8481	VC-PM367-DW04-0918	09/27/2018 10:04 am	GW	R0119 (NA)			
14	J8482	VC-AQ-FB08-09272018	09/27/2018 10:00 am	AQ	R0119 (NA)			
15	J8483	VC-AQ-EB08-09272018	09/27/2018 12:00 pm	AQ	R0119 (NA)			

Shipment: **SHP-181005-03**

Status: Approved

Description: NBVC Basewide SI

Range: J8613-J8628

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8613	VC-PM553-GW0601A-1018	10/01/2018 11:47 am	GW	R0119 (NA)			
2	J8614	VC-AQ-FB09-10012018	10/01/2018 3:57 pm	AQ	R0119 (NA)			
3	J8615	VC-AQ-EB09-10012018	10/01/2018 4:00 pm	AQ	R0119 (NA)			
4	J8616	VC-PM13-GW21-1018	10/01/2018 2:33 pm	GW	R0119 (NA)			
5	J8617	VC-KCHA16-GW01-1018	10/02/2018 11:50 am	GW	R0119 (NA)			
6	J8618	VC-KCHA16-GW01P-1018	10/02/2018 11:54 am	GW	R0119 (NA)			
7	J8619	VC-KCHA16-GW02-1018	10/02/2018 10:15 am	GW	R0119 (NA)			
8	J8620	VC-KCHA16-GW03-1018	10/02/2018 1:18 pm	GW	R0119 (NA)			
9	J8621	VC-AQ-FB10-10022018	10/02/2018 4:00 pm	AQ	R0119 (NA)			
10	J8622	VC-AQ-EB10-10022018	10/02/2018 4:10 pm	AQ	R0119 (NA)			
11	J8623	VC-S09GW01-1018	10/03/2018 12:22 pm	GW	R0119 (NA)			
12	J8624	VC-S09GW04-1018	10/02/2018 4:25 pm	GW	R0119 (NA)			
13	J8625	VC-S09GW04P-1018	10/02/2018 4:29 pm	GW	R0119 (NA)			
14	J8626	VC-S09GW06-1018	10/03/2018 11:22 am	GW	R0119 (NA)			
15	J8627	VC-S14GW01-1018	10/03/2018 2:39 pm	GW	R0119 (NA)			
16	J8628	VC-S14GW03-1018	10/03/2018 3:35 pm	GW	R0119 (NA)			

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WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: **SHP-181009-01**

Status: Pending

Description: NBVC Basewide SI

Range: J8667-J8722

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8667	VC-CS12-DW01-1018	10/06/2018 8:44 am	GW	R0119 (NA)			
2	J8668	VC-CS12-DW01P-1018	10/06/2018 8:48 am	GW	R0119 (NA)			
3	J8669	VC-CS12-DW02-1018	10/06/2018 11:22 am	GW	R0119 (NA)			
4	J8670	VC-CS12-DW03-1018	10/06/2018 10:30 am	GW	R0119 (NA)			
5	J8683	VC-CS10-DW01-1018	10/06/2018 1:38 pm	GW	R0119 (NA)			
6	J8684	VC-CS10-DW02-1018	10/06/2018 10:30 am	GW	R0119 (NA)			
7	J8685	VC-CS10-DW02P-1018	10/06/2018 10:40 am	GW	R0119 (NA)			
8	J8686	VC-CS10-DW03-1018	10/06/2018 12:07 pm	GW	R0119 (NA)			
9	J8687	VC-CS10-DW04-1018	10/06/2018 10:55 am	GW	R0119 (NA)			
10	J8688	VC-CS18-DW01-1018	10/06/2018 3:18 pm	GW	R0119 (NA)			
11	J8714	VC-FB11-10062018	10/06/2018 6:34 pm	AQ	R0119 (NA)			
12	J8715	VC-EB11-10062018	10/06/2018 6:36 pm	AQ	R0119 (NA)			
13	J8716	VC-CS00-DW01-1018	10/06/2018 2:32 pm	GW	R0119 (NA)			
14	J8717	VC-CS00-DW02-1018	10/06/2018 4:25 pm	GW	R0119 (NA)			
15	J8718	VC-CS00-DW02P-1018	10/06/2018 4:27 pm	GW	R0119 (NA)			
16	J8719	VC-CS00-DW03-1018	10/06/2018 5:05 pm	GW	R0119 (NA)			
17	J8720	VC-CS00-DW04-1018	10/06/2018 1:30 pm	GW	R0119 (NA)			
18	J8721	VC-CS00-DW05-1018	10/06/2018 6:02 pm	GW	R0119 (NA)			
19	J8722	VC-CS00-DW06-1018	10/06/2018 5:40 pm	GW	R0119 (NA)			

Shipment: **SHP-181012-02**

Status: Pending

Description: NBVC Basewide SI

Range: J8801-J8806

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8801	VC-SD-FB12-10092018	10/09/2018 5:00 pm	AQ	R0119 (NA)			
2	J8802	VC-SD-EB12-10092018	10/09/2018 5:05 pm	AQ	R0119 (NA)			
3	J8803	VC-SD-EB13-10092018	10/09/2018 5:10 pm	AQ	R0119 (NA)			
4	J8804	VC-S14GW02-1018	10/09/2018 12:20 pm	GW	R0119 (NA)			
5	J8805	VC-S14GW02P-1018	10/09/2018 12:24 pm	GW	R0119 (NA)			
6	J8806	VC-S14GW19-1018	10/09/2018 2:46 pm	GW	R0119 (NA)			

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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name:	Master_369
SOP Reference:	5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)
Description:	PFAS by DoD QSM 5.1 Table B-15
Matrix:	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:***	14	***RL_Flag:***	J
Standard Basis:	SIS	***# of Figures/Digits:***	2	***Extract:***	28	***PB_Flag:***	B
Oil Weight Basis:	No	***Oil Weight Source:***	Oil Weight			***DIL_Flag:***	D
U-Value Substition:	U-Flag=MD	***Histograms:***	No			***HT_Flag:***	T
ECD_Reporting:	No						

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T		13C5-PFHxA	No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T		13C4-PFHpA	No	No
3	Perfluoro-n-octanoic Acid	PFOA	T		13C8-PFOA	No	No
4	Perfluorononanoic Acid	PFNA	T		13C9-PFNA	No	No
5	Perfluoro-n-decanoic Acid	PFDA	T		13C6-PFDA	No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T		13C7-PFUnA	No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T		13C2-PFDoA	No	No
8	Perfluoro-n-tridecanoic acid	PFTrDA	T		13C2-PFTeDA	No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T		13C2-PFTeDA	No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T		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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WORK/QUALITY ASSURANCE PROJECT PLAN

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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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application	***Universal_LC***		
MQO:	**Acceptance Criteria**	**Qual:**	**Corrective Action:**
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-6: R-squared greater than or equal to 0.990		Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-369-6: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-369-6: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.

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ShpNo SHP-181012-02

Battelle Project No:

Sample Receipt Form

Approved: ☐ Authorized ☐

Project Number: 695803 **Client:** CH2M

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 12, 2018 10:30 AM

No. of Shipping Containers: 2

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** Fed Ex

COC Forms: ☑ Shipped with samples ☐ No Forms

Cooler(s)/Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 2	Cooler	7832 0156 6760	Custody Seals	Intact	Intact	Therm_1	1.3	19
2 of 2	Cooler	7832 0156 6770	Custody Seals	Intact	Intact	Therm_1	0.7	21

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): 1.3 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:** J8777 - J8816

Samples logged in by: Schumitz, Matt **Date/Time:** 10/12/2018 10:30 AM

Approved By: **Approved On:**

Authorized By: **Authorized On:**

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ShpNo: SHP-181012-02

Battelle Project No: 0110125-01

Report Corrective Actions

Corrective Action No: 1 **of** 1

Authorized ☐ Approved: ☐

COC Client: CH2M
COC Project: NBVC Basewide SI
COC Date: 10/12/2018 11:5

	Description of Problem:	Explanation:
Custody	Jars and C-O-C do not match for time/date	On COC page 5 of 8 all samples except the SD01 set do not match collection times from COC to sample label.

Documentation of project manager notification

Sample Custodian Schumitz, Matt **Date:** 10/12/2018 12:55:00 P
Laboratory Manager: Thorn, Jonathan **Date:** 10/31/2018 1:12:00 P
Project Manager: Thorn, Jonathan **Date:** 10/31/2018 1:12:00 P

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

On 30-Oct-18 **I contacted** Hill, Tiffany **at** CH2M

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

Client verified that the COC was correct for times, see attached email.

Date this form was received back to the custodian:
Reference Number:

Thorn, Jonathan R

From: Hill, Tiffany/CVO <Tiffany.Hill@jacobs.com>
Sent: Wednesday, October 31, 2018 12:15 PM
To: Thorn, Jonathan R
Cc: Schumitz, Matthew; Schultz, Stephanie A
Subject: RE: Sample custody records

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

Please use the CoC.

Thanks,

Tiffany Hill | Jacobs | Chemist, Global Environmental Solutions | 541.768.3109 direct | 541.908.3794 mobile | Tiffany.Hill@jacobs.com | www.jacobs.com

---

From: Thorn, Jonathan R [mailto:thorn@battelle.org]
Sent: Wednesday, October 31, 2018 5:45 AM
To: Hill, Tiffany/CVO <Tiffany.Hill@jacobs.com>
Cc: Schumitz, Matthew <SCHUMITZM@battelle.org>; Schultz, Stephanie A <schultzs@battelle.org>
Subject: [EXTERNAL] RE: Sample custody records

Hi Tiffany,
We pulled the sample, the issue was actually on custody page 5 of 8, not 8 of 8. The table below shows the samples with the times from the COC vs. the times on the jars… it looks like it was transposed on one, but not sure which (times match on both, but not to the same samples). If you can let us know which time is correct for these samples, we can get the corrective action closed.
Thank you,
Jon

BDO Id	Client Sample ID	Matrix	Collection Date	Time on Bottle
J8789	VC-CS11-SD02-000H	SD	10/9/2018 7:30	7:14
J8790	VC-CS11-SD02-0102	SD	10/9/2018 7:31	7:16
J8791	VC-CS11-SD03-000H	SD	10/9/2018 8:03	7:30
J8792	VC-CS11-SD03-0102	SD	10/9/2018 8:05	7:31
J8793	VC-CS11-SD04-000H	SD	10/9/2018 8:00	8:03
J8794	VC-CS11-SD04-0102	SD	10/9/2018 8:02	8:05
J8795	VC-CS11-SD05-000H	SD	10/9/2018 8:26	8:00
J8796	VC-CS11-SD05-0102	SD	10/9/2018 8:28	8:02
J8797	VC-CS11-SD06-000H	SD	10/9/2018 7:14	8:26
J8798	VC-CS11-SD06-0102	SD	10/9/2018 7:16	8:28

From: Thorn, Jonathan R
Sent: Tuesday, October 30, 2018 5:44 PM
To: 'Hill, Tiffany/CVO' <Tiffany.Hill@jacobs.com>
Cc: Schumitz, Matthew <SCHUMITZM@battelle.org>; Schultz, Stephanie A <schultzs@battelle.org>
Subject: Sample custody records

Hi Tiffany,
I think I totally forgot to send you these custody records for the shipment we received on 10/12, sorry about that! There was one corrective action regarding the SD samples on page 12 of the attached file.

Specifically samples:
VC-STP-SD0-000H (Lab ID J8809) 10/9/2018 16:05
VC-STP-SD01-0102 (Lab ID J8810) 10/9/2018 16:07

The collection times on the COC do not match what was on the sample container. I am going to ask Steph to pull these two samples in the morning to verify the time on the jar so you have both times and can make the decision on which is correct.
Thank you,
Jon

Jonathan Thorn
Laboratory Director
Analytical Chemistry Services
Office: 781.681.5565 | Mobile: 781.710.9664 | Fax: 614.458.6917
thorn@battelle.org

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ShpNo SHP-181012-02

Battelle Project No:

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: 695803 **Client:** CH2M

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 12, 2018 10:30 AM

No. of Shipping Containers: 2

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8777	VC-PM323-324-SD01-000H	10/08/18 10:22	10/12/18 11:56	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8778	VC-PM323-324-SD01-0102	10/08/18 10:23	10/12/18 11:56	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8779	VC-PM553-SD01-000H	10/08/18 10:54	10/12/18 11:57	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8780	VC-PM553-SD01-0102	10/08/18 10:55	10/12/18 11:57	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8781	VC-PM553-SD01-0102-MS	10/08/18 10:55	10/12/18 11:57	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8782	VC-PM553-SD01-0102-MSD	10/08/18 10:55	10/12/18 11:58	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8783	VC-PM3009-SD01-000H	10/08/18 11:13	10/12/18 11:58	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8784	VC-PM3009-SD01-0102	10/08/18 11:14	10/12/18 11:58	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8785	VC-PM372-SD01-000H	10/08/18 11:25	10/12/18 11:59	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8786	VC-PM372-SD01-0102	10/08/18 11:26	10/12/18 11:59	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8787	VC-CS11-SD01-000H	10/09/18 8:35	10/12/18 11:59	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8788	VC-CS11-SD01-0102	10/09/18 8:37	10/12/18 12:00	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8789	VC-CS11-SD02-000H	10/09/18 7:30	10/12/18 12:00	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8790	VC-CS11-SD02-0102	10/09/18 7:31	10/12/18 12:00	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8791	VC-CS11-SD03-000H	10/09/18 8:03	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8792	VC-CS11-SD03-0102	10/09/18 8:05	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8793	VC-CS11-SD04-000H	10/09/18 8:00	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8794	VC-CS11-SD04-0102	10/09/18 8:02	10/12/18 12:01	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8795	VC-CS11-SD05-000H	10/09/18 8:26	10/12/18 12:02	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8796	VC-CS11-SD05-0102	10/09/18 8:28	10/12/18 12:02	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8797	VC-CS11-SD06-000H	10/09/18 7:14	10/12/18 12:02	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8798	VC-CS11-SD06-0102	10/09/18 7:16	10/12/18 12:02	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8799	VC-CS11-SD02-000H-MS	10/09/18 7:14	10/12/18 12:03	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8800	VC-CS11-SD02-000H-MSD	10/09/18 7:14	10/12/18 12:03	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8801	VC-SD-FB12-10092018	10/09/18 17:00	10/12/18 12:03	2	AQ	1.3	NA	NA	NA	R0119 (NA)			
J8802	VC-SD-EB12-10092018	10/09/18 17:05	10/12/18 12:04	2	AQ	1.3	NA	NA	NA	R0119 (NA)			
J8803	VC-SD-EB13-10092018	10/09/18 17:10	10/12/18 12:04	2	AQ	1.3	NA	NA	NA	R0119 (NA)			
J8804	VC-S14GW02-1018	10/09/18 12:20	10/12/18 12:05	2	GW	1.3	NA	NA	NA	R0119 (NA)			

BATTELLE
It can be done

ShpNo SHP-181012-02

Battelle Project No:

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: 695803 **Client:** CH2M

Received by: Schumitz, Matt **Date/Time Received:** Friday, October 12, 2018 10:30 AM

No. of Shipping Containers: 2

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8805	VC-S14GW02P-1018	10/09/18 12:24	10/12/18 12:05	2	GW	0.7	NA	NA	NA	R0119 (NA)			
J8806	VC-S14GW19-1018	10/09/18 14:46	10/12/18 12:06	2	GW	1.3	NA	NA	NA	R0119 (NA)			
J8807	VC-S14GW02-1018-MS	10/09/18 12:28	10/12/18 12:06	2	GW	1.3	NA	NA	NA	R0119 (NA)			
J8808	VC-S14GW02-1018-MSD	10/09/18 12:32	10/12/18 12:06	2	GW	1.3	NA	NA	NA	R0119 (NA)			
J8809	VC-STP-SD01-000H	10/09/18 16:05	10/12/18 12:07	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8810	VC-STP-SD01-0102	10/09/18 16:07	10/12/18 12:07	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8811	VC-STP-SD02-000H	10/09/18 15:56	10/12/18 12:07	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8812	VC-STP-SD02-0102	10/09/18 15:58	10/12/18 12:08	1	SD	0.7	NA	NA	NA	R0119 (NA)			
J8813	VC-STP-SD03-000H	10/09/18 15:12	10/12/18 12:08	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8814	VC-STP-SD03-0102	10/09/18 15:14	10/12/18 12:08	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8815	VC-STP-SD04-000H	10/09/18 15:38	10/12/18 12:08	1	SD	1.3	NA	NA	NA	R0119 (NA)			
J8816	VC-STP-SD04-0102	10/09/18 15:40	10/12/18 12:09	1	SD	1.3	NA	NA	NA	R0119 (NA)			

Total Samples: 40

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM323-324	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	~~Sampler Information (print name):~~ V. Kilbert Phone: 724.977-3628 Email: victoria.kilbert@jacobs.com Turnaround Time (TAT) Requested:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI Project No.: 695803	Normal X Priority ☐ RUSH ☐ Time Zone: PST	Analysis: PFAS by Method 537 Mod	Page# 1 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.		
~~VC-PM323-324-SS01-000H~~			Grab	SS		X	
~~VC-PM323-324-SB01-~~			Grab	SB		X	
~~VC-PM323-324-SB01-~~			Grab	SB		X	
~~VC-PM323-324-SS02-000H~~			Grab	SS		X	
~~VC-PM323-324-SB02-~~			Grab	SB		X	
~~VC-PM323-324-SB02-~~			Grab	SB		X	
~~VC-PM323-324-SS03-000H~~			Grab	SS		X	
~~VC-PM323-324-SB03-~~			Grab	SB		X	
~~VC-PM323-324-SB03-~~			Grab	SB		X	
VC-PM323-324-SD01-000H	10/8/18	1022	Grab	SD	1	X	J8777
VC-PM323-324-SD01-0102	10/8/18	1023	Grab	SD	1	X	J8778
~~VC-PM323-324-S-MS~~			Grab			X	

Receipt Temperature:(°C)	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:
V. Kilbert	10/12/18 1135	Jacobs		1	10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM553	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI Project No.: 695503	Turnaround Time (TAT) Requested: Normal ☒ Priority ☐ RUSH ☐ Time Zone: (PST) PST	Analysis: PFAS by Method 537 Mod	Page# 2 of 8

Sample Identification	Sample Date	Sample Time (1054)	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
VC-PM553-SD01-000H	10/8/18	~~10/8/18~~	Grab	SD	1	X	J8779
VC-PM553-SD01-0102	10/8/18	1055	Grab	SD	1	X	J8780
VC-PM553-SD01-0102-MS	10/8/18	1055	Grab	SD	1	X	J8781
VC-PM553-SD01-0102-MSD	10/8/18	1055	Grab	SD	1	X	J8782
~~FDT-SO-FB~~			Grab	AQ		X	
~~FDT-SO-EB~~			Grab	AQ		X	

VK

Receipt Temperature:(°C)	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
V. Kilbert	Jacobs	10/10/18 1100			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information
Tiffany Hill
1100 NE Circle Blvd, Suite 300
Corvallis, OR
97330

Project Manager: Eric Davis
Sampler Information (print name): V. Kilgo
Phone: 724-977-3629
Email:
Turnaround Time (TAT) Requested:
Normal X
Priority
RUSH
Time Zone: PST

Project Name: NBVC Basewide SI
Project No.: 695803

Sampling Site: PM3039
Site Information:

COC # 7
Page# 3 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative: NA	Analysis: PFAS by Method 537 Mod	
~~VC-PM3009-SS01-000H~~			~~Grab~~	~~SS~~			X	
~~VC-PM3009-SB01-___~~			~~Grab~~	~~SB~~			X	
~~VC-PM3009-SB01-___~~			~~Grab~~	~~SB~~			X	
~~VC-PM3009-SS02-000H~~			~~Grab~~	~~SS~~			X	
~~VC-PM3009-SB02-___~~			~~Grab~~	~~SB~~			X	
~~VC-PM3009-SB02-___~~			~~Grab~~	~~SB~~			X	
~~VC-PM3009-SS03-000H~~			~~Grab~~	~~SS~~			X	
~~VC-PM3009-SB03-___~~			~~Grab~~	~~SB~~			X	
~~VC-PM3009-SB03-___~~			~~Grab~~	~~SB~~			X	
VC-PM3009-SD01-000H	10/3/18	1113	Grab	SD	1		X	J8783
VC-PM3009-SD01-0102	10/3/18	1114	Grab	SD	1		X	J8784
~~VC-PM3009-S-___-MS~~			~~Grab~~				X	

Receipt Temperature:(°C)
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:
V. Kilgo	Jacobs	10/3/18 1150	NB		10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM372	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbat Phone: 724-977-3625 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI	Turnaround Time (TAT) Requested: Normal ☒ Priority ☐ RUSH ☐	Analysis: PFAS by Method 537 Mod	Page# 4 of 8
Project No.: 695803	Time Zone: PST		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
~~VC-PM372-SS01-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM372-SB01-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SB01-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SS02-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM372-SB02-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SB02-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SS03-000H~~			~~Grab~~	~~SS~~		X	
~~VC-PM372-SB03-~~			~~Grab~~	~~SB~~		X	
~~VC-PM372-SB03-~~			~~Grab~~	~~SB~~		X	
VC-PM372-SD01-000H	10/8/18	1125	Grab	SD	1	X	J8785
VC-PM372-SD01-0102	10/8/18	1126	Grab	SD	1	X	J8786
~~VC-PM372-S~~ -MS			~~Grab~~			X	

Receipt Temperature:(°C)	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:
V. Kilbat	Jacobs	10/10/18 1100	[signature]		10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM-CS11	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI	Turnaround Time (TAT) Requested: Normal X Priority ☐ RUSH ☐	Analysis: PFAS by Method 537 Mod	Page# 5 of 8
Project No.: 695803	Time Zone: PST		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
VC-CS11-SD01-000H	10/9/18	0835	Grab	SD	1	X	J8787
VC-CS11-SD01-0102	10/9/18	0837	Grab	SD	1	X	88
VC-CS11-SD02-000H	10/9/18	0730	Grab	SD	1	X	89
VC-CS11-SD02-0102	10/9/18	0731	Grab	SD	1	X	90
VC-CS11-SD03-000H	10/9/18	0803	Grab	SD	1	X	91
VC-CS11-SD03-0102	10/9/18	0805	Grab	SD	1	X	92
VC-CS11-SD04-000H	10/9/18	0800	Grab	SD	1	X	93
VC-CS11-SD04-0102	10/9/18	0802	Grab	SD	1	X	94
VC-CS11-SD05-000H	10/9/18	0826	Grab	SD	1	X	95
VC-CS11-SD05-0102	10/9/18	0828	Grab	SD	1	X	96
VC-CS11-SD06-000H	10/9/18	0714	Grab	SD	1	X	97
VC-CS11-SD06-0102	10/9/18	0716	Grab	SD	1	X	J8798

Receipt Temperature:(°C)	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
V. Kilbert	Jacobs	10/10/18 1100			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information
Tiffany Hill
1100 NE Circle Blvd, Suite 300
Corvallis, OR
97330

Project Manager: Eric Davis
Sampler Information (print name): V. Kilbert
Phone: 724-977-3628
Email:
Turnaround Time (TAT) Requested:

Sampling Site: PM_CS11

Site Information:

Project Name: NBVC Basewide SI
Project No.: 695803

Normal X
Priority
RUSH
Time Zone: PST

COC # 7

Page# 6 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative: NA	Analysis: PFAS by Method 537 Mod	
VC-CS11-SD-02-000H-MS	10/9/18	0714	Grab	SD	1 ~~2~~		X	J8799
VC-CS11-SD-02-000H-SD	10/9/18	0714	Grab	SD	1 ~~2~~		X	J8800
VC ~~FDT-SD~~-FB12-10092018	10/9/18	1700	Grab	AQ	2		X	J8801
VC ~~FDT-SD~~-EB12-10092018	10/9/18	1705	Grab	AQ	2		X	J8802
VC-SD-EB13-10092018	10/9/18	1710	Grab	AQ	2		X	J8803

hand auger glove

Receipt Temperature:(°C)

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:
V. Kilbert	Jacobs	10/10/18 1100			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Eric Davis	Sampling Site: PIT IRP S14	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email: Turnaround Time (TAT) Requested:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI Project No.: 695803	Normal X Priority ☐ RUSH ☐ Time Zone: PST	Analysis: PFAS by Method 537 Mod	Page# 7 of 8

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	PFAS by Method 537 Mod	
~~VC-S14GW01-~~			Grab	GW		X	
VC-S14GW02-1018	10/9/18	1220	Grab	GW	2	X	J8804
VC-S14GW02P-1018	10/9/18	1224	Grab	GW	2	X	J8805
~~VC-S14GW03-~~			~~Grab~~	~~GW~~		X	
VC-S14GW19-1018	10/9/18	1446	Grab	GW	2	X	J8806
~~EDT-AQ-FB~~			~~Grab~~	~~AQ~~		X	
~~EDT-AQ-EB~~			~~Grab~~	~~AQ~~		X	
VC-S14GW02-1018-MS	10/9/18	1228	Gr	GW	2	X	J8807
VC-S14GW02-1018-MSD	10/9/18	1232	Gr	GW	2	X	J8808
							VH

Receipt Temperature:(°C)	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:
V. Kilbert	Jacobs	10/10/18 1150	NVB		10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:

BATTELLE
It can be done

Chain-of-Custody

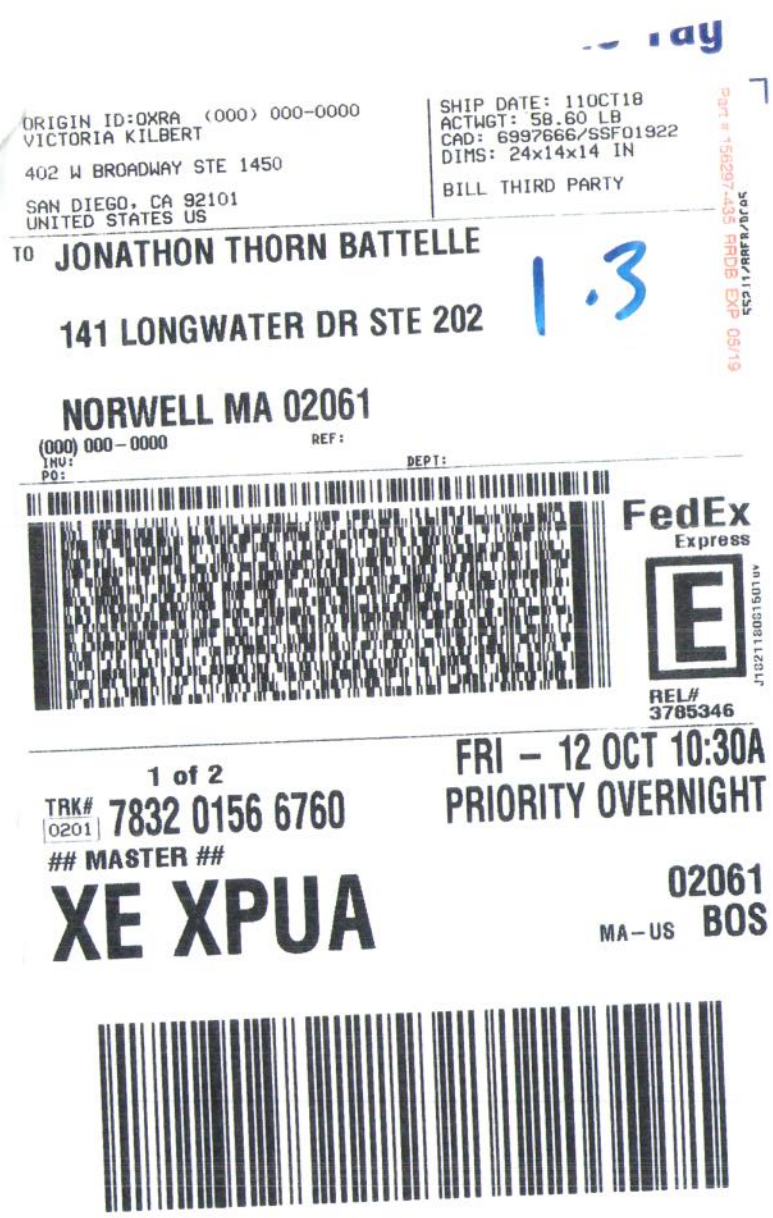
Client Contact Information	Project Manager: Eric Davis	Sampling Site: PM STP	Site Information:
Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330	Sampler Information (print name): V. Kilbert Phone: 724-977-3628 Email:	Preservative: NA	COC # 7
Project Name: NBVC Basewide SI	Turnaround Time (TAT) Requested: Normal X Priority ☐ RUSH ☐	Analysis: PFAS by Method 537 Mod	Page# 8 of 8
Project No.: 695803	Time Zone: PST		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis: PFAS by Method 537 Mod	
VC-STP-SD01-000H	10/9/18	1605	Grab	SD	1	X	J8809
VC-STP-SD01-0102	10/9/18	1607	Grab	SD	1	X	J8810
VC-STP-SD02-000H	10/9/18	1556	Grab	SD	1	X	J8811
VC-STP-SD02-0102	10/9/18	1558	Grab	SD	1	X	J8812
VC-STP-SD03-000H	10/9/18	1512	Grab	SD	1	X	J8813
VC-STP-SD03-0102	10/9/18	1514	Grab	SD	1	X	J8814
VC-STP-SD04-000H	10/9/18	1538	Grab	SD	1	X	J8815
VC-STP-SD04-0102	10/9/18	1548	Grab	SD	1	X	J8816
~~VC-STP-SD-___-MS~~			Grab	SD		X	
~~VC-STP-SD-___-SD~~			Grab	SD		X	
~~FDT-SO-FB-___~~			Grab	AQ		X	
~~FDT-SO-EB-___~~			Grab	AQ		X	

Receipt Temperature:(°C)	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:
V. Kilbert	Tetra Tech	10/10/18 1130			10-12-18 1030
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:
Relinquished by (Print/Sign):	Company:	Date/Time:	Received by (Print/Sign):	Company:	Date/Time:

Comments:



ORIGIN ID:OXRA (000) 000-0000
VICTORIA KILBERT
402 W BROADWAY STE 1450
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 11OCT18
ACTWGT: 58.60 LB
CAD: 6997666/SSFO1922
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO JONATHON THORN BATTELLE
141 LONGWATER DR STE 202
NORWELL MA 02061
(000) 000-0000

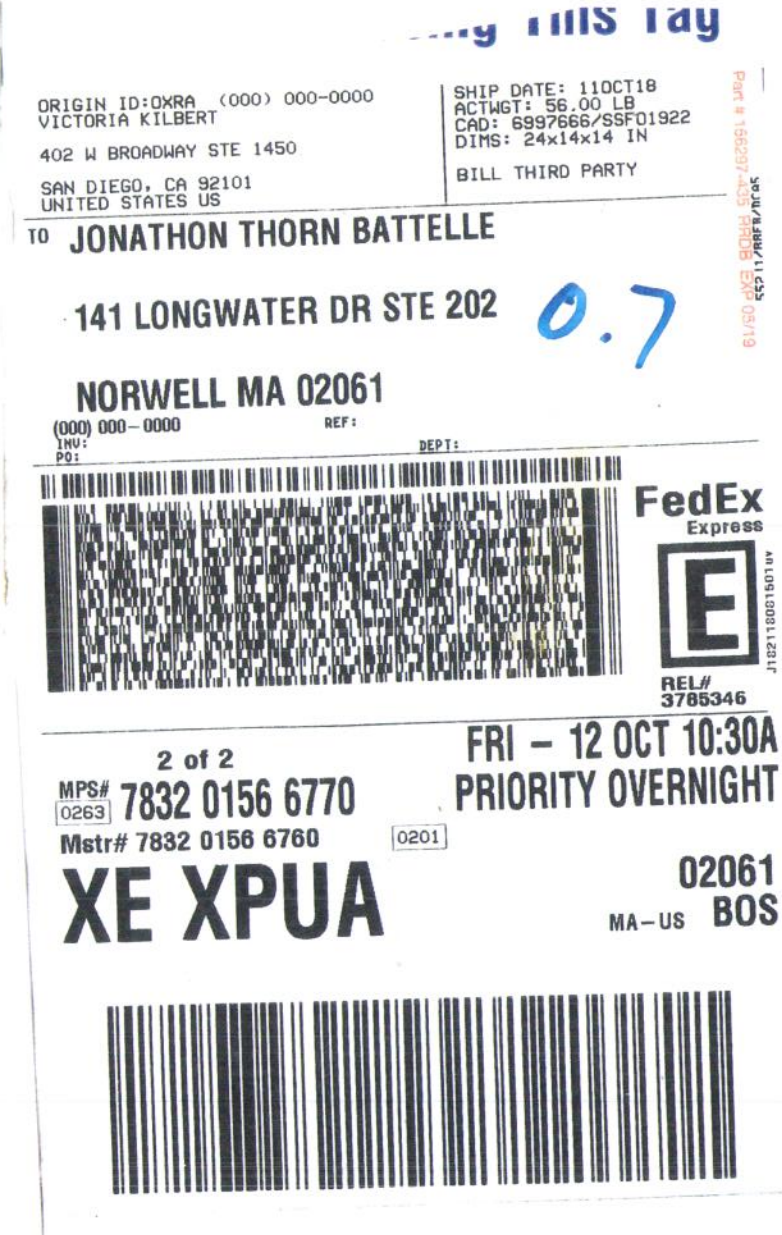
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DEPT:

1.3

FedEx Express
REL# 3785346

1 of 2
TRK# 0201 7832 0156 6760
MASTER
XE XPUA

FRI - 12 OCT 10:30A
PRIORITY OVERNIGHT
02061
MA-US BOS



ORIGIN ID:OXRA (000) 000-0000
VICTORIA KILBERT
402 W BROADWAY STE 1450
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 11OCT18
ACTWGT: 56.00 LB
CAD: 6997666/SSFO1922
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO JONATHON THORN BATTELLE
141 LONGWATER DR STE 202
NORWELL MA 02061
(000) 000-0000

REF:
INV:
PO:
DEPT:

0.7

FedEx Express
REL# 3785346

2 of 2
MPS# 0263 7832 0156 6770
Mstr# 7832 0156 6760
0201
XE XPUA

FRI - 12 OCT 10:30A
PRIORITY OVERNIGHT
02061
MA-US BOS

Data Tables

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-FB12-10092018			
Battelle ID		J8801-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		AQ			
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	1.41 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	0.44 U	0.11	0.44	4.39
PFHxS	355-46-4	0.35 U	0.10	0.35	4.39
PFOS	1763-23-1	0.44 U	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	101
13C8-PFOA	93
13C9-PFNA	98
13C6-PFDA	91
13C7-PFUnA	87
13C2-PFDoA	98
13C2-PFTeDA	95
d3-MeFOSAA	93
d5-EtFOSAA	87
13C3-PFBS	102
13C3-PFHxS	85
13C8-PFOS	92

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-EB12-10092018			
Battelle ID		J8802-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		AQ			
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	0.46 U	0.15	0.46	4.63
PFOA	335-67-1	1.44 J	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	0.46 U	0.12	0.46	4.63
PFHxS	355-46-4	0.37 U	0.10	0.37	4.63
PFOS	1763-23-1	0.46 U	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	90
13C4-PFHpA	91
13C8-PFOA	88
13C9-PFNA	79
13C6-PFDA	88
13C7-PFUnA	92
13C2-PFDoA	100
13C2-PFTeDA	93
d3-MeFOSAA	101
d5-EtFOSAA	109
13C3-PFBS	104
13C3-PFHxS	90
13C8-PFOS	96

BATTELLE
It can be done

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-EB13-10092018				
Battelle ID		J8803-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		AQ				
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	1.34	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	0.44	U	0.11	0.44	4.39
PFHxS	355-46-4	0.35	U	0.10	0.35	4.39
PFOS	1763-23-1	0.44	U	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	84	
13C4-PFHpA	88	
13C8-PFOA	84	
13C9-PFNA	82	
13C6-PFDA	88	
13C7-PFUnA	122	
13C2-PFDoA	105	
13C2-PFTeDA	101	
d3-MeFOSAA	125	
d5-EtFOSAA	166	N
13C3-PFBS	103	
13C3-PFHxS	86	
13C8-PFOS	94	

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02-1018				
Battelle ID		J8804-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
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	31.98		0.17	0.44	4.39
PFHpA	375-85-9	6.57		0.14	0.44	4.39
PFOA	335-67-1	25.58		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	2.69	J	0.43	0.88	4.39
PFBS	375-73-5	13.56		0.11	0.44	4.39
PFHxS	355-46-4	54.25		0.10	0.35	4.39
PFOS	1763-23-1	24.92		0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	106
13C4-PFHpA	116
13C8-PFOA	91
13C9-PFNA	73
13C6-PFDA	84
13C7-PFUnA	89
13C2-PFDoA	80
13C2-PFTeDA	76
d3-MeFOSAA	111
d5-EtFOSAA	104
13C3-PFBS	107
13C3-PFHxS	115
13C8-PFOS	100

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02P-1018				
Battelle ID		J8805-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
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	35.60		0.17	0.44	4.39
PFHpA	375-85-9	6.56		0.14	0.44	4.39
PFOA	335-67-1	27.91		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	2.39	J	0.43	0.88	4.39
PFBS	375-73-5	13.35		0.11	0.44	4.39
PFHxS	355-46-4	50.67		0.10	0.35	4.39
PFOS	1763-23-1	29.90		0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	112
13C8-PFOA	86
13C9-PFNA	69
13C6-PFDA	93
13C7-PFUnA	92
13C2-PFDoA	85
13C2-PFTeDA	85
d3-MeFOSAA	115
d5-EtFOSAA	99
13C3-PFBS	108
13C3-PFHxS	123
13C8-PFOS	84

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW19-1018				
Battelle ID		J8806-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
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	9.08		0.17	0.45	4.46
PFHpA	375-85-9	2.31	J	0.14	0.45	4.46
PFOA	335-67-1	5.22	B	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	9.65		0.12	0.45	4.46
PFHxS	355-46-4	3.21	J	0.10	0.36	4.46
PFOS	1763-23-1	0.90	J	0.17	0.45	4.46

Surrogate Recoveries (%)

13C5-PFHxA	118
13C4-PFHpA	136
13C8-PFOA	98
13C9-PFNA	83
13C6-PFDA	102
13C7-PFUnA	110
13C2-PFDoA	92
13C2-PFTeDA	99
d3-MeFOSAA	130
d5-EtFOSAA	111
13C3-PFBS	99
13C3-PFHxS	102
13C8-PFOS	89

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		KB80 IB			
Battelle ID		KB80 IB_10/17/2018			
Sample Type		IB			
Collection Date		NA			
Extraction Date		NA			
Analysis Date		10/17/2018			
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	0.50 U	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	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	98
13C8-PFOA	101
13C9-PFNA	100
13C6-PFDA	103
13C7-PFUnA	102
13C2-PFDoA	98
13C2-PFTeDA	93
d3-MeFOSAA	104
d5-EtFOSAA	96
13C3-PFBS	95
13C3-PFHxS	103
13C8-PFOS	96

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		KB80 IB			
Battelle ID		KB80 IB_10/24/2018			
Sample Type		IB			
Collection Date		NA			
Extraction Date		NA			
Analysis Date		10/24/2018			
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	0.50 U	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	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	92
13C8-PFOA	92
13C9-PFNA	87
13C6-PFDA	104
13C7-PFUnA	117
13C2-PFDoA	120
13C2-PFTeDA	122
d3-MeFOSAA	91
d5-EtFOSAA	86
13C3-PFBS	107
13C3-PFHxS	90
13C8-PFOS	94

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		KB80 IB				
Battelle ID		KB80 IB_10/25/2018				
Sample Type		IB				
Collection Date		NA				
Extraction Date		NA				
Analysis Date		10/25/2018				
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	0.50	U	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	0.40	U	0.11	0.40	5.00
PFOS	1763-23-1	0.50	U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	110
13C8-PFOA	97
13C9-PFNA	88
13C6-PFDA	98
13C7-PFUnA	106
13C2-PFDoA	103
13C2-PFTeDA	102
d3-MeFOSAA	132
d5-EtFOSAA	120
13C3-PFBS	113
13C3-PFHxS	105
13C8-PFOS	120

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		Procedural Blank			
Battelle ID		CS009PB-FS			
Sample Type		PB			
Collection Date		10/18/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
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	1.29 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	0.40 U	0.11	0.40	5.00
PFOS	1763-23-1	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	100
13C4-PFHpA	100
13C8-PFOA	93
13C9-PFNA	86
13C6-PFDA	81
13C7-PFUnA	86
13C2-PFDoA	86
13C2-PFTeDA	91
d3-MeFOSAA	100
d5-EtFOSAA	82
13C3-PFBS	104
13C3-PFHxS	103
13C8-PFOS	107

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		Laboratory Control Sample					
Battelle ID		CS010LCS-FS					
Sample Type		LCS					
Collection Date		10/18/2018					
Extraction Date		10/18/2018					
Analysis Date		10/24/2018					
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	10.34	10.10	102		51	137
PFHpA	375-85-9	9.79	10.00	98		48	136
PFOA	335-67-1	11.51 B	10.00	115		49	141
PFNA	375-95-1	11.89	10.00	119		58	122
PFDA	335-76-2	10.73	10.00	107		59	135
PFUnA	2058-94-8	10.51	10.00	105		64	134
PFDoA	307-55-1	11.29	10.00	113		75	131
PFTrDA	72629-94-8	10.89	10.00	109		42	148
PFTeDA	376-06-7	11.22	10.00	112		42	158
NMeFOSAA	2355-31-9	13.42	10.00	134		50	146
NEtFOSAA	2991-50-6	10.98	10.00	110		51	131
PFBS	375-73-5	11.37	10.10	113		56	134
PFHxS	355-46-4	12.06	10.10	119		52	128
PFOS	1763-23-1	9.10	10.00	91		40	144
Surrogate Recoveries (%)							
13C5-PFHxA		105					
13C4-PFHpA		105					
13C8-PFOA		96					
13C9-PFNA		88					
13C6-PFDA		95					
13C7-PFUnA		101					
13C2-PFDoA		102					
13C2-PFTeDA		113					
d3-MeFOSAA		84					
d5-EtFOSAA		83					
13C3-PFBS		92					
13C3-PFHxS		82					
13C8-PFOS		94					

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02-1018	VC-S14GW02-1018-MS					
Battelle ID		J8804-FS	J8807MS-FS					
Sample Type		SA	MS					
Collection Date		10/09/2018	10/09/2018					
Extraction Date		10/18/2018	10/18/2018					
Analysis Date		10/24/2018	10/24/2018					
Analytical Instrument		Sciex 5500 LC/MS/MS	Sciex 5500 LC/MS/MS					
% Moisture		NA	NA					
Matrix		GW	GW					
Sample Size		0.285	0.280					
Size Unit-Basis		L	L				Control Limits	
Units		ng/L	ng/L	Target	Recovery	Qual	Lower	Upper
PFHxA	307-24-4	31.98	61.20	27.05	108		51	137
PFHpA	375-85-9	6.57	32.35	26.79	96		48	136
PFOA	335-67-1	25.58	55.95	26.79	113		49	141
PFNA	375-95-1	0.88 U	32.00	26.79	119		58	122
PFDA	335-76-2	0.44 U	27.90	26.79	104		59	135
PFUnA	2058-94-8	0.88 U	27.92	26.79	104		64	134
PFDoA	307-55-1	0.44 U	29.85	26.79	111		75	131
PFTrDA	72629-94-8	0.44 U	28.76	26.79	107		42	148
PFTeDA	376-06-7	0.88 U	28.63	26.79	107		42	158
NMeFOSAA	2355-31-9	1.75 U	31.31	26.79	117		50	146
NEtFOSAA	2991-50-6	2.69 J	28.82	26.79	98		51	131
PFBS	375-73-5	13.56	38.31	27.05	91		56	134
PFHxS	355-46-4	54.25	78.18 D	27.05	88		52	128
PFOS	1763-23-1	24.92	48.80	26.79	89		40	144
Surrogate Recoveries (%)								
13C5-PFHxA		106	113					
13C4-PFHpA		116	119					
13C8-PFOA		91	88					
13C9-PFNA		73	78					
13C6-PFDA		84	90					
13C7-PFUnA		89	96					
13C2-PFDoA		80	100					
13C2-PFTeDA		76	109					
d3-MeFOSAA		111	126					
d5-EtFOSAA		104	116					
13C3-PFBS		107	108					
13C3-PFHxS		115	108 D					
13C8-PFOS		100	103					

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID	VC-S14GW02-1018-MSD
Battelle ID	J8808MSD-FS
Sample Type	MSD
Collection Date	10/09/2018
Extraction Date	10/18/2018
Analysis Date	10/24/2018
Analytical Instrument	Sciex 5500 LC/MS/MS
% Moisture	NA
Matrix	GW
Sample Size	0.275
Size Unit-Basis	L

						Control Limits				RPD
Units		ng/L	Target	Recovery	Qual	Lower	Upper	RPD	Qual	Limit
PFHxA	307-24-4	67.23	27.55	128		51	137	16.9		≤ 30
PFHpA	375-85-9	32.97	27.27	97		48	136	1.0		≤ 30
PFOA	335-67-1	56.74	27.27	114		49	141	0.9		≤ 30
PFNA	375-95-1	34.10	27.27	125	N	58	122	4.9		≤ 30
PFDA	335-76-2	26.87	27.27	99		59	135	4.9		≤ 30
PFUnA	2058-94-8	28.43	27.27	104		64	134	0.0		≤ 30
PFDoA	307-55-1	29.27	27.27	107		75	131	3.7		≤ 30
PFTrDA	72629-94-8	26.05	27.27	96		42	148	10.8		≤ 30
PFTeDA	376-06-7	28.59	27.27	105		42	158	1.9		≤ 30
NMeFOSAA	2355-31-9	33.34	27.27	122		50	146	4.2		≤ 30
NEtFOSAA	2991-50-6	37.24	27.27	127		51	131	25.8		≤ 30
PFBS	375-73-5	37.80	27.55	88		56	134	3.4		≤ 30
PFHxS	355-46-4	66.94 D	27.55	46	N	52	128	62.7	N	≤ 30
PFOS	1763-23-1	56.23	27.27	115		40	144	25.5		≤ 30

Surrogate Recoveries (%)

13C5-PFHxA	107
13C4-PFHpA	117
13C8-PFOA	85
13C9-PFNA	72
13C6-PFDA	86
13C7-PFUnA	88
13C2-PFDoA	94
13C2-PFTeDA	105
d3-MeFOSAA	110
d5-EtFOSAA	86
13C3-PFBS	117
13C3-PFHxS	138 D
13C8-PFOS	92

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Glossary of Data Qualifiers

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

Miscellaneous Documentation

QA/QC Summary
Batch 18-0620

Project:	CTO-4164 Naval Base Ventura County, California
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW and AQ
Data Set:	DP-18-0318
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
10/8-9/2018	10/12/2018	1.3 and 0.7
Corrective Actions	On COC#7 (page 5 of 8 on the hand written COC forms from the field), all samples on this page, except for the SD01 set of samples, do not match collection times from the COC to the sample label. Client verified that COC records are correct.	
Sample Storage	The 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	All samples were pre-screened prior to initial extraction. Samples J8804-FS (VC-S14GW02-1018), J8805-FS (VC-S14GW02P-1018), J8806-FS (VC-S14GW19-1018), J8807MS-FS (VC-S14GW02-1018-MS), and J8808MSD-FS (VC-S14GW02-1018-MSD) all contained floating particulate matter in the sample container prior to fortification and extraction. A small volume of sample J8802-FS (VC-SD-EB12-10092018) was spilled (~3 mL) during transfer to SPE cartridge.
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. When detected, PFHxS and PFOS contain both linear and branched isomers.

QA/QC Summary
Batch 18-0620

	In cases were native PFAS compounds were reported from dilutions (above calibration in non-diluted extracts), the extracted internal standard (surrogate) used to quantify the native compound was also reported from the dilution. The calibration curve for result table 18-0620_18-0621_18-0622_BASE is used for both 18-0620_18-0621_18-0622_BASE and 18-0620_18-0622_BASE_A, the calibration curve 18-0620_18-0621_18-0622_SIS is used for both 18-0620_18-0621_18-0622_SIS and 18-0620_18-0622_SIS_A.

Holding Times	Extraction Date(s)	Analysis Date(s)
	10/18/2018	10/17,24,25/2018

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	Two exceedances noted.
	PFOA was detected in the LCS and field sample J8806-FS (VC-S14GW19-1018), at less than 10 times the amount detected in the PB, and are B qualified in these samples. Note that the concentration of PFAS in the blank passes the criteria of ≤ ½ the LOQ at 1.29 ng/L. PB was re-run to verify concentrations in the PB (data is in 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 not 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	2 recovery and 1 RPD exceedances noted.
	The recovery of PFHxS in the MSD sample was below criteria, this also caused the RPD to be outside of criteria. PFHxS was detected in the native sample at concentrations above the fortification amount. PFNA was over-recovered at 125% in the MSD (upper control limit is 122%). The MSD was re-run to confirm the recovery and PFNA was not detected in any field samples.

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	1 exceedance noted.
	The extracted internal standard (EIS), d5-EtFOSAA, was over-recovered in J8803-FS (VC-SD-EB13-10092018) at 166%. The extract was re-aliquoted and re-run to verify the recovery (included in unused data section)

QA/QC Summary
Batch 18-0620

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.

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

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Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project Number: 100110125-01
Preparation Batch: 18-0620
Data Set: DP-18-0318
Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	2	PFOA was detected in the LCS and in sample J8806 at less than 10 times the amount detected in the PB, and is B qualified in these samples. Results were confirmed by realiquoting and reanalyzing the PB. LMG 11/02/18
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	2	PFNA exhibited a high recovery in the MSD. Results were confirmed by realiquoting and reanalyzing the extract. PFHxS exhibited a low recovery in the MSD. This analyte required a dilution in the MSD and was present in the native sample at a higher concentration than the MSD spike amount. LMG 11/02/18
Matrix Spike / Matrix Spike Duplicate Precision	1	PFHxS exhibited a high RPD for the MS/MSD. This analyte required a dilution in both the MS and the MSD and was under-recovered in the MSD. LMG 11/02/18
Extracted Internal Standard Analytes (Surrogates)	1	d5-EtFOSAA was recovered high in sample J8803. Results were confirmed by realiquoting and reanalyzing the extract. LMG 11/02/18
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None

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BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title:	CTO-4164 Naval Base Ventura County,	**Data Set Number:**	DP-18-0318
Project Number:	100110125-01	**Prep Batch Number:**	18-0620
Entered By:	Lauren Griffith	**Entered On:**	11/02/2018
Test Code (Matrix Type):	Master_369(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
LMG 11/02/18

In cases were native PFAS compounds were reported from dilutions (above calibration in non-diluted extracts), the extracted internal standard (surrogate) used to quantify the native compound was also reported from the dilution.
LMG 11/02/18

The calibration curve for result table 18-0620_18-0621_18-0622_BASE is used for both 18-0620_18-0621_18-0622_BASE and 18-0620_18-0622_BASE_A, the calibration curve 18-0620_18-0621_18-0622_SIS is used for both 18-0620_18-0621_18-0622_SIS and 18-0620_18-0622_SIS_A.
LMG 11/5/2018

KB79 was not utilized for the SIS method for d3-MeFOSAA. There is no impact on the data once this point is removed.
LMG 11/6/18

Task Leader Approval:

SupervisorApproval:

PM Approval:

Digitally signed by Jonathan Thorn
Date: 2018.11.05 10:37:43 -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:	J8805-FS(0)
Client Sample ID:	VC-S14GW02P-1018
Sample Size:	0.285
Units:	L
Dilution Factor:	1.000
PIV (L):	0.001
Target Analyte:	PFHxS
MRM Transition:	399.0 / 80.0
Data file:	5500_10242018_05-0369.wiff
Result table:	18-0620_18-0621_18-0622_BASE
Area:	4,891,865.60
IS Name:	13C3-PFHxS
IS Area:	23,499.98
IS Amount (ng/L):	236.5
y-intercept:	0.28942
slope:	3.40443

$$\text{Concentration} = \frac{[(4891865.6/23499.98) - 0.28942]}{3.40443} * 236.5 * 0.001 * 1 / 0.285$$

ng/L = 50.67

*Final concentration may vary based on rounding.

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Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01
Preparation Batch: 18-0620
Data Set: DP-18-0318

		CS009PB-FS (Procedural Blank)	CS010LCS-FS (Laboratory Control Sample)	J8807MS-FS (VC-S14GW02-1018-MS)	J8808MSD-FS (VC-S14GW02-1018-MSD)	J8801-FS (VC-SD-FB12-10092018)	J8802-FS (VC-SD-EB12-10092018)	J8803-FS (VC-SD-EB13-10092018)	J8804-FS (VC-S14GW02-1018)
PFHxA	307-24-4	-	L	L	L	-	-	-	L
PFHpA	375-85-9	-	L	L	L	-	-	-	L
PFOA	335-67-1	-	L	L	L	-	-	-	L
PFNA	375-95-1	-	L	L	L	-	-	-	-
PFDA	335-76-2	-	L	L	L	-	-	-	-
PFUnA	2058-94-8	-	L	L	L	-	-	-	-
PFDoA	307-55-1	-	L	L	L	-	-	-	-
PFTrDA	72629-94-8	-	L	L	L	-	-	-	-
PFTeDA	376-06-7	-	L	L	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	L	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	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: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01
Preparation Batch
Data Set: DP-18-

	J8805-FS (VC-S14GW02P-1018)	J8806-FS (VC-S14GW19-1018)
PFHxA	L	L
PFHpA	L	-
PFOA	L	-
PFNA	-	-
PFDA	-	-
PFUnA	-	-
PFDoA	-	-
PFTrDA	-	-
PFTeDA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
PFBS	L	L
PFHxS	L/Br	-
PFOS	L/Br	-

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

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

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Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	10/17/18 20:30	13C2-PFOA	80,369.12	40,184.56	120,553.68

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	10/17/18 19:46	13C2-PFOA	79,095.63	40,184.56	120,553.68	
KB74	L2	10/17/18 19:57	13C2-PFOA	89,971.31	40,184.56	120,553.68	
KB75	L3	10/17/18 20:08	13C2-PFOA	87,799.30	40,184.56	120,553.68	
KB76	L4	10/17/18 20:19	13C2-PFOA	84,567.91	40,184.56	120,553.68	
KB77	L5	10/17/18 20:30	13C2-PFOA	80,369.12	40,184.56	120,553.68	
KB78	L6	10/17/18 20:41	13C2-PFOA	85,964.25	40,184.56	120,553.68	
KB79	L7	10/17/18 20:52	13C2-PFOA	86,636.81	40,184.56	120,553.68	
KB80 IB	IB	10/17/18 21:02	13C2-PFOA	85,730.94	40,184.56	120,553.68	
KB81 ICC	ICC	10/17/18 21:13	13C2-PFOA	85,242.44	40,184.56	120,553.68	
KB75 ISC	ISC	10/24/18 17:30	13C2-PFOA	78,275.39	40,184.56	120,553.68	
KB80 IB	IB	10/24/18 17:41	13C2-PFOA	76,306.33	40,184.56	120,553.68	
CS009PB-FS(0)	Procedural Blank	10/24/18 18:02	13C2-PFOA	76,857.01	40,184.56	120,553.68	
CS010LCS-FS(0)	Laboratory Control Sample	10/24/18 18:13	13C2-PFOA	84,916.98	40,184.56	120,553.68	
J8801-FS(0)	VC-SD-FB12-10092018	10/24/18 18:24	13C2-PFOA	80,467.62	40,184.56	120,553.68	
J8802-FS(0)	VC-SD-EB12-10092018	10/24/18 18:35	13C2-PFOA	89,696.72	40,184.56	120,553.68	
J8803-FS(0)	VC-SD-EB13-10092018	10/24/18 18:46	13C2-PFOA	84,881.24	40,184.56	120,553.68	
J8804-FS(0)	VC-S14GW02-1018	10/24/18 18:57	13C2-PFOA	89,632.60	40,184.56	120,553.68	
J8805-FS(0)	VC-S14GW02P-1018	10/24/18 19:08	13C2-PFOA	84,697.69	40,184.56	120,553.68	
J8806-FS(0)	VC-S14GW19-1018	10/24/18 19:18	13C2-PFOA	67,690.43	40,184.56	120,553.68	
J8807MS-FS(0)	VC-S14GW02-1018-MS	10/24/18 19:29	13C2-PFOA	86,455.14	40,184.56	120,553.68	
J6808MSD-FS(0)	VC-S14GW02-1018-MSD	10/24/18 19:40	13C2-PFOA	77,761.86	40,184.56	120,553.68	
KB76 CCV	CCV	10/24/18 19:51	13C2-PFOA	88,842.83	40,184.56	120,553.68	
KB75 ISC	ISC	10/25/18 16:26	13C2-PFOA	74,227.28	40,184.56	120,553.68	
KB80 IB	IB	10/25/18 16:37	13C2-PFOA	82,086.71	40,184.56	120,553.68	
KB77 CCV	CCV	10/25/18 17:10	13C2-PFOA	85,552.76	40,184.56	120,553.68	
~~CS009PB-FS(0)~~	~~Procedural Blank~~	~~10/25/18 17:32~~	~~13C2-PFOA~~	~~88,916.14~~	~~40,184.56~~	~~120,553.68~~	
~~J8803-FS(0)~~	~~VC-SD-EB13-10092018~~	~~10/25/18 17:43~~	~~13C2-PFOA~~	~~10,628.10~~	~~40,184.56~~	~~120,553.68~~	~~N~~
~~J8800MSD-FS(3)~~	~~VC-CS11-SD02-000H-MSD~~	~~10/25/18 17:54~~	~~13C2-PFOA~~	~~76,320.68~~	~~40,184.56~~	~~120,553.68~~	
J8807MS-FS-D(3)	VC-S14GW02-1018-MS	10/25/18 18:05	13C2-PFOA	87,185.05	40,184.56	120,553.68	
J8808MSD-FS-D(3)	VC-S14GW02-1018-MSD	10/25/18 18:16	13C2-PFOA	77,706.89	40,184.56	120,553.68	
KB76	L4	10/25/18 18:27	13C2-PFOA	83,095.99	40,184.56	120,553.68	

For crossed out samples, see the sequence file for details.

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

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Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	10/17/18 20:30	13C2-PFDA	90,129.70	45,064.85	135,194.55

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	10/17/18 19:46	13C2-PFDA	100,139.46	45,064.85	135,194.55	
KB74	L2	10/17/18 19:57	13C2-PFDA	103,883.83	45,064.85	135,194.55	
KB75	L3	10/17/18 20:08	13C2-PFDA	98,052.33	45,064.85	135,194.55	
KB76	L4	10/17/18 20:19	13C2-PFDA	99,978.99	45,064.85	135,194.55	
KB77	L5	10/17/18 20:30	13C2-PFDA	90,129.70	45,064.85	135,194.55	
KB78	L6	10/17/18 20:41	13C2-PFDA	104,169.70	45,064.85	135,194.55	
KB79	L7	10/17/18 20:52	13C2-PFDA	100,765.46	45,064.85	135,194.55	
KB80 IB	IB	10/17/18 21:02	13C2-PFDA	96,280.28	45,064.85	135,194.55	
KB81 ICC	ICC	10/17/18 21:13	13C2-PFDA	103,402.36	45,064.85	135,194.55	
KB75 ISC	ISC	10/24/18 17:30	13C2-PFDA	88,361.09	45,064.85	135,194.55	
KB80 IB	IB	10/24/18 17:41	13C2-PFDA	78,942.69	45,064.85	135,194.55	
CS009PB-FS(0)	Procedural Blank	10/24/18 18:02	13C2-PFDA	97,546.67	45,064.85	135,194.55	
CS010LCS-FS(0)	Laboratory Control Sample	10/24/18 18:13	13C2-PFDA	93,295.49	45,064.85	135,194.55	
J8801-FS(0)	VC-SD-FB12-10092018	10/24/18 18:24	13C2-PFDA	98,320.33	45,064.85	135,194.55	
J8802-FS(0)	VC-SD-EB12-10092018	10/24/18 18:35	13C2-PFDA	103,102.18	45,064.85	135,194.55	
J8803-FS(0)	VC-SD-EB13-10092018	10/24/18 18:46	13C2-PFDA	99,602.20	45,064.85	135,194.55	
J8804-FS(0)	VC-S14GW02-1018	10/24/18 18:57	13C2-PFDA	106,695.90	45,064.85	135,194.55	
J8805-FS(0)	VC-S14GW02P-1018	10/24/18 19:08	13C2-PFDA	93,797.31	45,064.85	135,194.55	
J8806-FS(0)	VC-S14GW19-1018	10/24/18 19:18	13C2-PFDA	74,677.46	45,064.85	135,194.55	
J8807MS-FS(0)	VC-S14GW02-1018-MS	10/24/18 19:29	13C2-PFDA	94,844.61	45,064.85	135,194.55	
J6808MSD-FS(0)	VC-S14GW02-1018-MSD	10/24/18 19:40	13C2-PFDA	88,862.34	45,064.85	135,194.55	
KB76 CCV	CCV	10/24/18 19:51	13C2-PFDA	104,742.48	45,064.85	135,194.55	
KB75 ISC	ISC	10/25/18 16:26	13C2-PFDA	96,318.27	45,064.85	135,194.55	
KB80 IB	IB	10/25/18 16:37	13C2-PFDA	98,812.53	45,064.85	135,194.55	
KB77 CCV	CCV	10/25/18 17:10	13C2-PFDA	101,606.89	45,064.85	135,194.55	
~~CS009PB-FS(0)~~	~~Procedural Blank~~	~~10/25/18 17:32~~	~~13C2-PFDA~~	~~99,782.63~~	~~45,064.85~~	~~135,194.55~~	
~~J8803-FS(0)~~	~~VC-SD-EB13-10092018~~	~~10/25/18 17:43~~	~~13C2-PFDA~~	~~13,743.29~~	~~45,064.85~~	~~135,194.55~~	~~N~~
~~J8800MSD-FS(3)~~	~~VC-CS11-SD02-000H-MSD~~	~~10/25/18 17:54~~	~~13C2-PFDA~~	~~91,352.68~~	~~45,064.85~~	~~135,194.55~~	
J8807MS-FS-D(3)	VC-S14GW02-1018-MS	10/25/18 18:05	13C2-PFDA	95,584.26	45,064.85	135,194.55	
J8808MSD-FS-D(3)	VC-S14GW02-1018-MSD	10/25/18 18:16	13C2-PFDA	101,003.81	45,064.85	135,194.55	
KB76	L4	10/25/18 18:27	13C2-PFDA	97,126.87	45,064.85	135,194.55	

For crossed out samples, see the sequence file for details.

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

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Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KB77	L5	10/17/18 20:30	13C4-PFOS	31,518.26	15,759.13	47,277.39

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KB73	L1	10/17/18 19:46	13C4-PFOS	29,846.55	15,759.13	47,277.39	
KB74	L2	10/17/18 19:57	13C4-PFOS	34,856.85	15,759.13	47,277.39	
KB75	L3	10/17/18 20:08	13C4-PFOS	30,684.77	15,759.13	47,277.39	
KB76	L4	10/17/18 20:19	13C4-PFOS	30,962.75	15,759.13	47,277.39	
KB77	L5	10/17/18 20:30	13C4-PFOS	31,518.26	15,759.13	47,277.39	
KB78	L6	10/17/18 20:41	13C4-PFOS	29,589.19	15,759.13	47,277.39	
KB79	L7	10/17/18 20:52	13C4-PFOS	26,984.04	15,759.13	47,277.39	
KB80 IB	IB	10/17/18 21:02	13C4-PFOS	29,371.12	15,759.13	47,277.39	
KB81 ICC	ICC	10/17/18 21:13	13C4-PFOS	33,690.55	15,759.13	47,277.39	
KB75 ISC	ISC	10/24/18 17:30	13C4-PFOS	28,379.24	15,759.13	47,277.39	
KB80 IB	IB	10/24/18 17:41	13C4-PFOS	27,128.85	15,759.13	47,277.39	
CS009PB-FS(0)	Procedural Blank	10/24/18 18:02	13C4-PFOS	25,042.87	15,759.13	47,277.39	
CS010LCS-FS(0)	Laboratory Control Sample	10/24/18 18:13	13C4-PFOS	31,598.17	15,759.13	47,277.39	
J8801-FS(0)	VC-SD-FB12-10092018	10/24/18 18:24	13C4-PFOS	29,462.35	15,759.13	47,277.39	
J8802-FS(0)	VC-SD-EB12-10092018	10/24/18 18:35	13C4-PFOS	28,152.80	15,759.13	47,277.39	
J8803-FS(0)	VC-SD-EB13-10092018	10/24/18 18:46	13C4-PFOS	29,826.13	15,759.13	47,277.39	
J8804-FS(0)	VC-S14GW02-1018	10/24/18 18:57	13C4-PFOS	25,657.42	15,759.13	47,277.39	
J8805-FS(0)	VC-S14GW02P-1018	10/24/18 19:08	13C4-PFOS	23,778.98	15,759.13	47,277.39	
J8806-FS(0)	VC-S14GW19-1018	10/24/18 19:18	13C4-PFOS	21,054.71	15,759.13	47,277.39	
J8807MS-FS(0)	VC-S14GW02-1018-MS	10/24/18 19:29	13C4-PFOS	24,544.05	15,759.13	47,277.39	
J6808MSD-FS(0)	VC-S14GW02-1018-MSD	10/24/18 19:40	13C4-PFOS	22,376.25	15,759.13	47,277.39	
KB76 CCV	CCV	10/24/18 19:51	13C4-PFOS	31,832.31	15,759.13	47,277.39	
KB75 ISC	ISC	10/25/18 16:26	13C4-PFOS	28,184.95	15,759.13	47,277.39	
KB80 IB	IB	10/25/18 16:37	13C4-PFOS	24,821.18	15,759.13	47,277.39	
KB77 CCV	CCV	10/25/18 17:10	13C4-PFOS	35,131.92	15,759.13	47,277.39	
~~CS009PB-FS(0)~~	~~Procedural Blank~~	~~10/25/18 17:32~~	~~13C4-PFOS~~	~~31,799.38~~	~~15,759.13~~	~~47,277.39~~	
~~J8803-FS(0)~~	~~VC-SD-EB13-10092018~~	~~10/25/18 17:43~~	~~13C4-PFOS~~	~~3,512.42~~	~~15,759.13~~	~~47,277.39~~	~~N~~
~~J8800MSD-FS(3)~~	~~VC-CS11-SD02-000H-MSD~~	~~10/25/18 17:54~~	~~13C4-PFOS~~	~~27,959.40~~	~~15,759.13~~	~~47,277.39~~	
J8807MS-FS-D(3)	VC-S14GW02-1018-MS	10/25/18 18:05	13C4-PFOS	26,544.91	15,759.13	47,277.39	
J8808MSD-FS-D(3)	VC-S14GW02-1018-MSD	10/25/18 18:16	13C4-PFOS	24,062.72	15,759.13	47,277.39	
KB76	L4	10/25/18 18:27	13C4-PFOS	30,895.81	15,759.13	47,277.39	

For crossed out samples, see the sequence file for details.

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 8:52:06 PM	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.56	22	>10
PFBS_2	298.9 / 99.0	1.56	22	>10
PFHxA_1	313.0 / 269.0	1.89	21	>10
PFHxA_2	313.0 / 119.0	1.88	22	>10
PFHpA_1	363.0 / 319.0	2.29	30	>10
PFHpA_2	363.0 / 169.0	2.30	23	>10
PFHxS_1	399.0 / 80.0	2.32	33	>10
PFHxS_2	399.0 / 99.0	2.32	35	>10
PFOA_1	413.0 / 369.0	2.71	32	>10
PFOA_2	413.0 / 169.0	2.71	30	>10
PFNA_1	463.0 / 419.0	3.11	29	>10
PFNA_2	463.0 / 219.0	3.11	27	>10
PFOS_1	499.0 / 80.0	3.10	43	>10
PFOS_2	499.0 / 99.0	3.10	45	>10
PFDA_1	513.0 / 469.0	3.47	31	>10
PFDA_2	513.0 / 219.0	3.47	34	>10
PFUnA_1	563.0 / 519.0	3.79	30	>10
PFUnA_2	563.0 / 269.0	3.79	43	>10
PFDoA_1	613.0 / 569.0	4.07	39	>10
PFDoA_2	613.0 / 319.0	4.07	46	>10
PFTrDA_1	663.0 / 619.0	4.32	56	>10
PFTrDA_2	663.0 / 169.0	4.32	40	>10
PFTeDA_1	713.0 / 669.0	4.54	59	>10
PFTeDA_2	713.0 / 169.0	4.54	64	>10
NMeFOSAA_1	570.0 / 419.0	3.62	29	>10
NMeFOSAA_2	570.0 / 512.0	3.62	39	>10
NEtFOSAA_1	584.0 / 419.0	3.78	31	>10
NEtFOSAA_2	584.0 / 483.0	3.78	19	>10

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 30/10/2018 3:36:12 PM

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 8:52:06 PM	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	4.07	23	>10
d3-MeFOSAA	573.0 / 419.0	3.62	18	>10
d5-EtFOSAA	589.0 / 419.0	3.78	27	>10
13C5-PFHxA	318.0 / 273.0	1.87	23	>10
13C4-PFHpA	367.0 / 322.0	2.28	26	>10
13C8-PFOA	421.0 / 376.0	2.70	47	>10
13C9-PFNA	472.0 / 427.0	3.09	24	>10
13C6-PFDA	519.0 / 474.0	3.45	29	>10
13C7-PFUnA	570.0 / 525.0	3.78	36	>10
13C2-PFTeDA	715.0 / 670.0	4.54	38	>10
13C3-PFBS	302.0 / 99.0	1.54	24	>10
13C3-PFHxS	402.0 / 99.0	2.31	27	>10
13C8-PFOS	507.0 / 99.0	3.09	33	>10

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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	9.94	1.29	2.58	40
PFHpA	375-85-9	9.43	1.55	3.10	40
PFOA	335-67-1	10.19	1.46	2.92	42
PFNA	375-95-1	9.70	1.19	2.38	40
PFDA	335-76-2	9.91	1.31	2.62	40
PFUnA	2058-94-8	9.87	1.30	2.60	40
PFDoA	307-55-1	10.76	1.28	2.56	40
PFTrDA	72629-94-8	11.17	1.52	3.04	40
PFTeDA	376-06-7	10.71	1.88	3.76	40
NMeFOSAA	2355-31-9	10.34	1.91	3.82	40
NEtFOSAA	2991-50-6	9.67	1.54	3.08	40
PFOSA	754-91-6	9.74	1.14	2.28	4
PFBS	375-73-5	10.08	1.44	2.88	41
PFPeS	2706-91-4	9.80	0.96	1.92	5
PFHxS	355-46-4	9.82	1.43	2.86	40
PFHpS	375-92-8	10.96	0.96	1.92	10
PFOS	1763-23-1	10.03	1.35	2.70	40
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

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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

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:

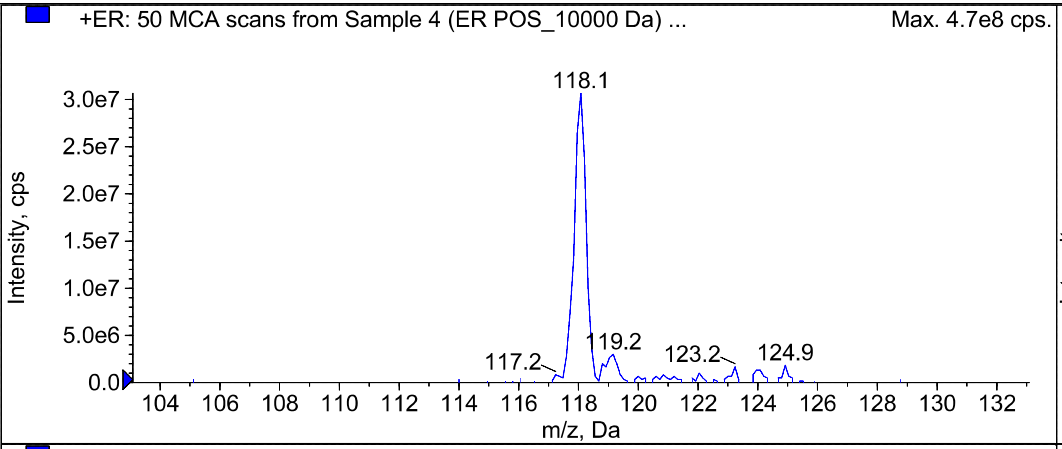
☑ Attach all spectrums printouts to this procedure.
☑ If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
☐ Empty tuning cache folder, if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

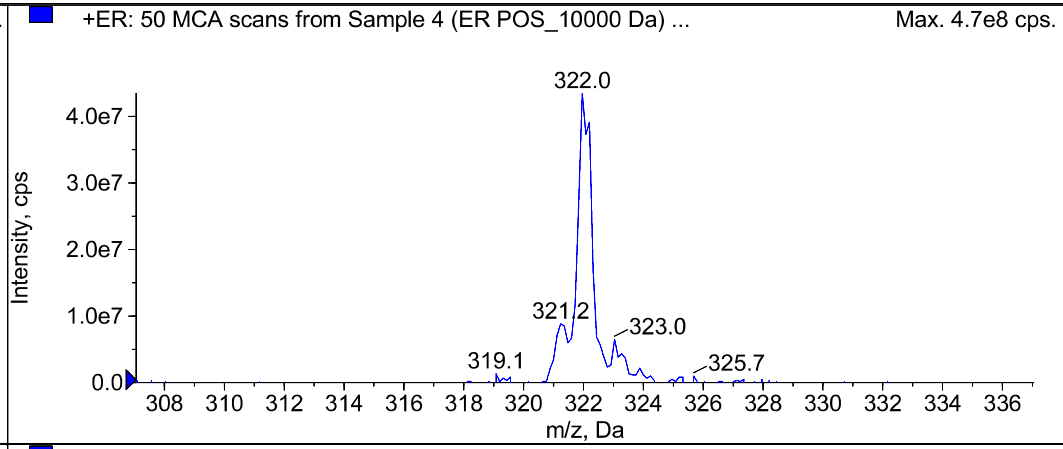
END OF PREVENTIVE MAINTENANCE CHECKLIST

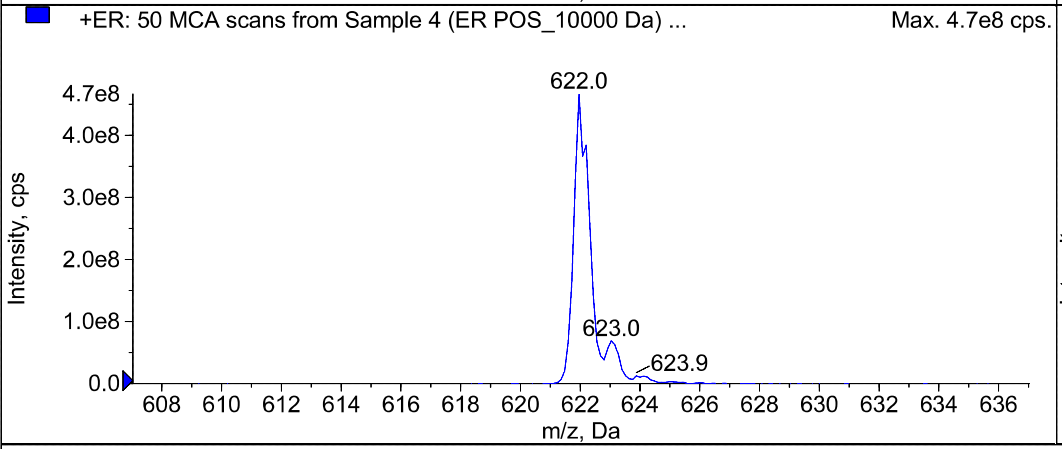
Document history:

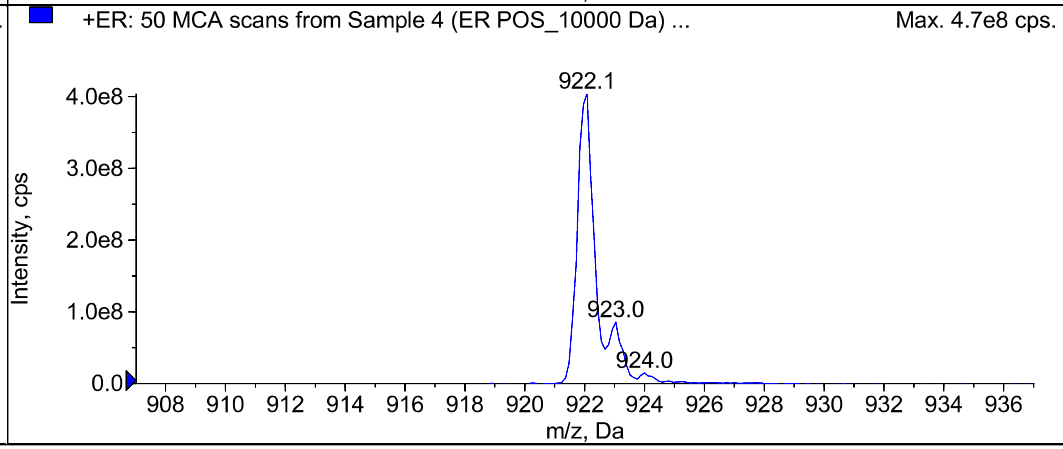
06 OCT 2016: Appendix ZEFPM003-2L: Removed requirements to fit Manufacturer's testing criteria.

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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
KB80	PFAS - DoD Instrument Blank	KB71	180726-05
KB80	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: **KB80**

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:**	10/1/2018	**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: KB80

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:** 10/1/2018 **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: **KB80**

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:** 10/1/2018 **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: **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:** _____

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
0.007 Flask Uncertainty

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

Paul Barron 032217
Formulated By: Paul Barron DATE

Pedro Rentas 032217
Reviewed By: Pedro L. Rentas DATE

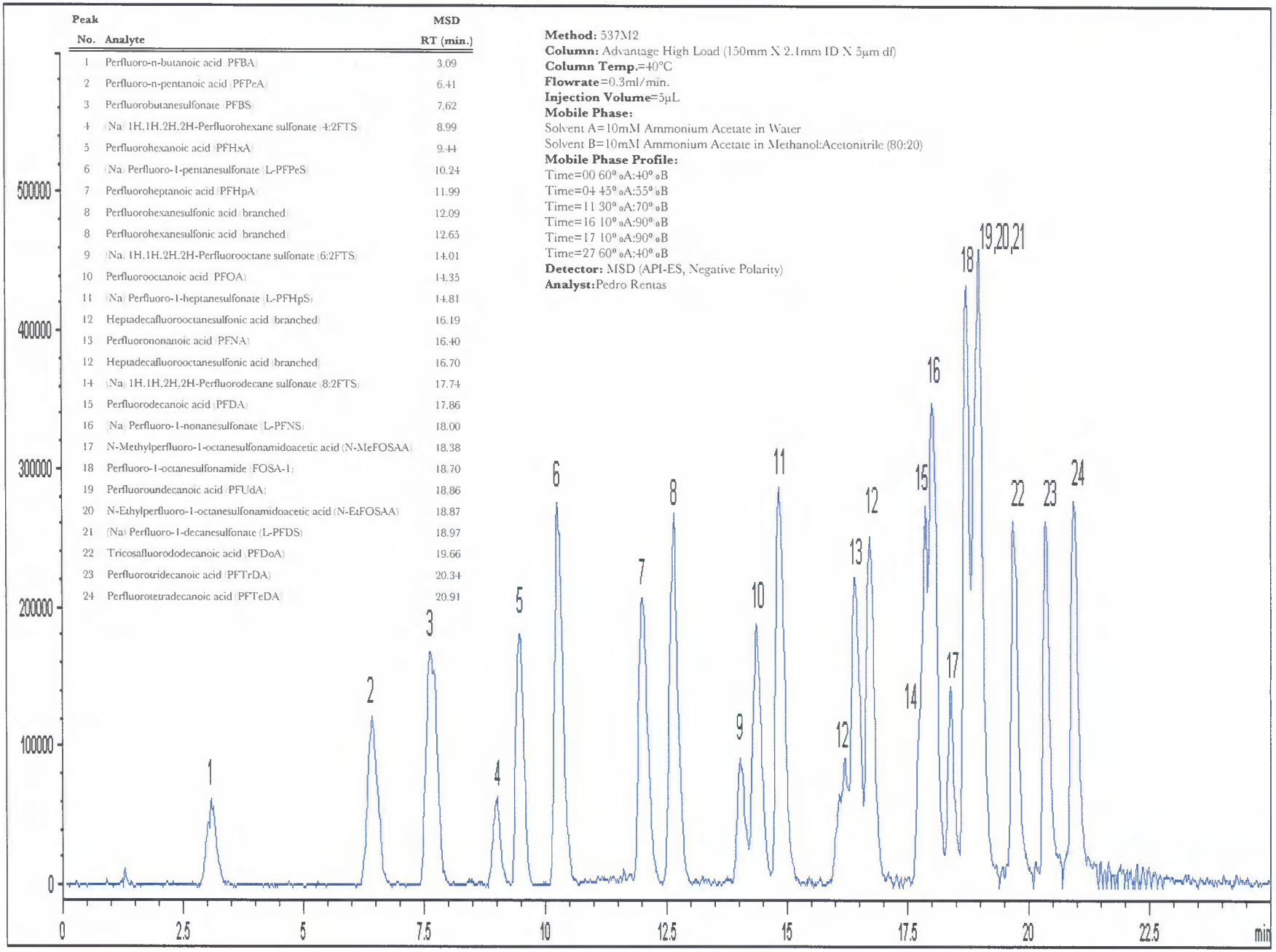
Note: All assigned values are anion concentrations.

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

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

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,...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)***

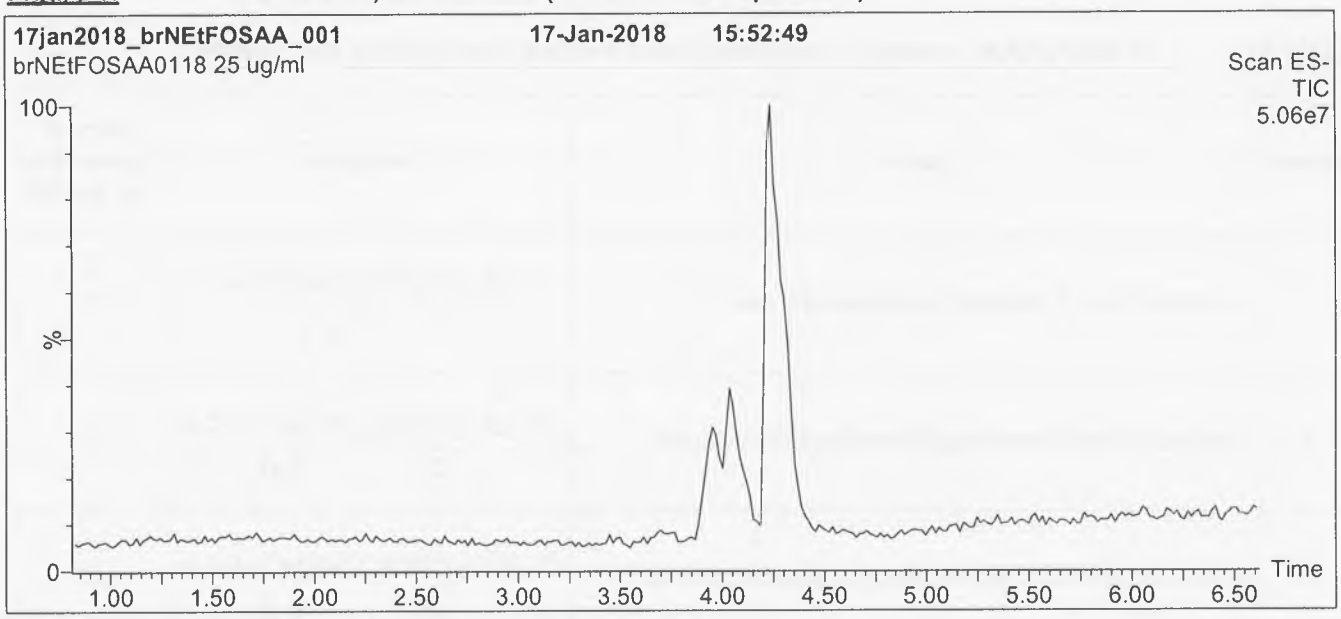
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(C_2H_5)CH_2CO_2H$	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	2.3
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic 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

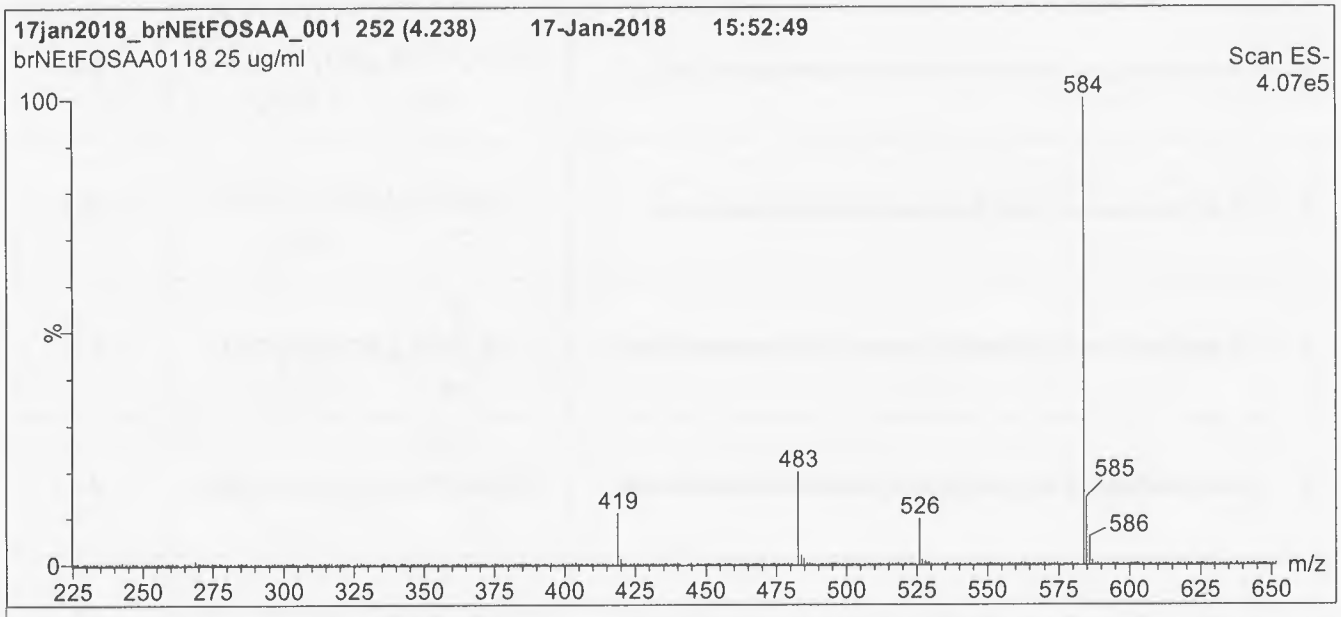
* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

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

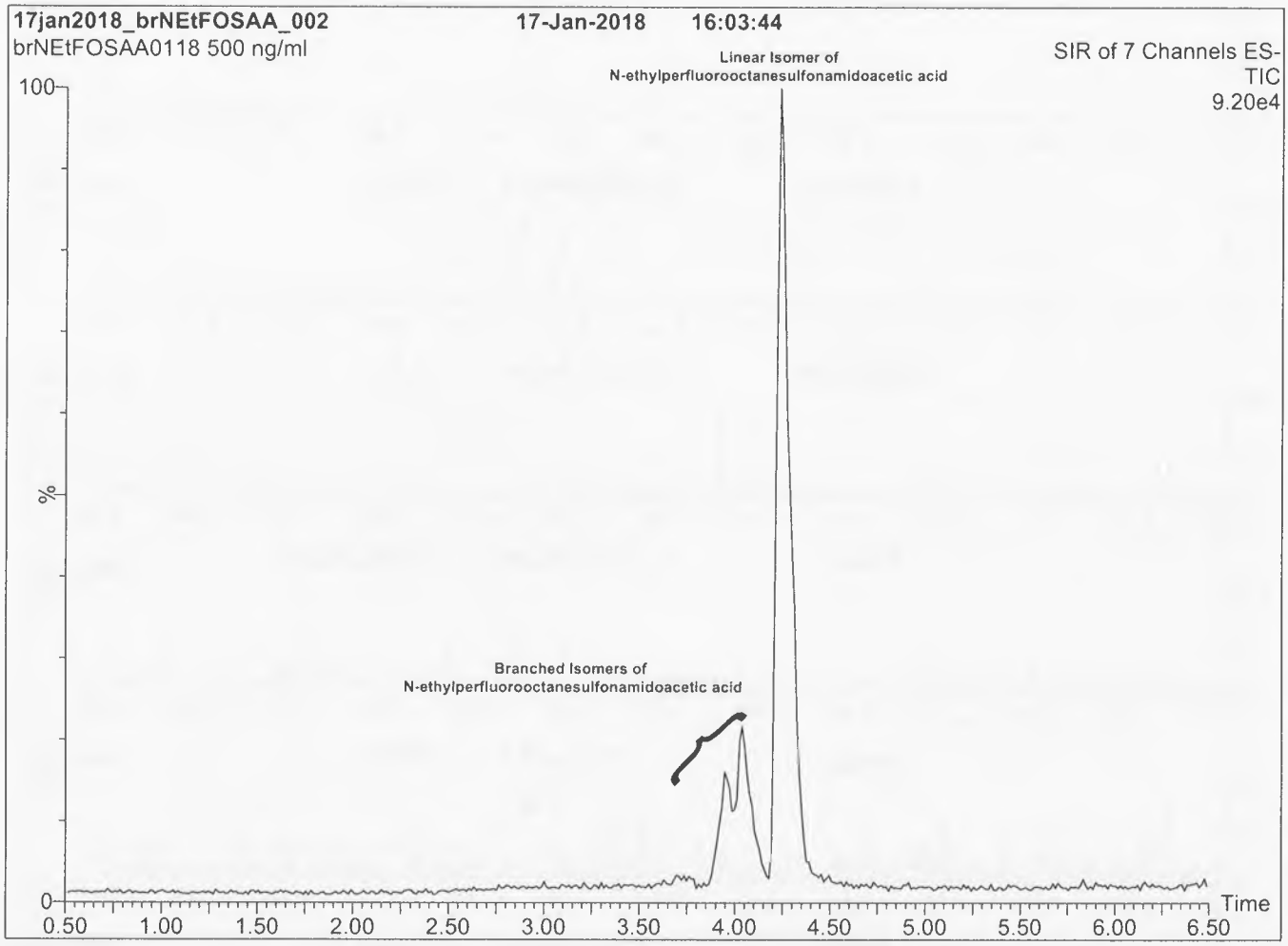
Flow: 300 µl/min

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

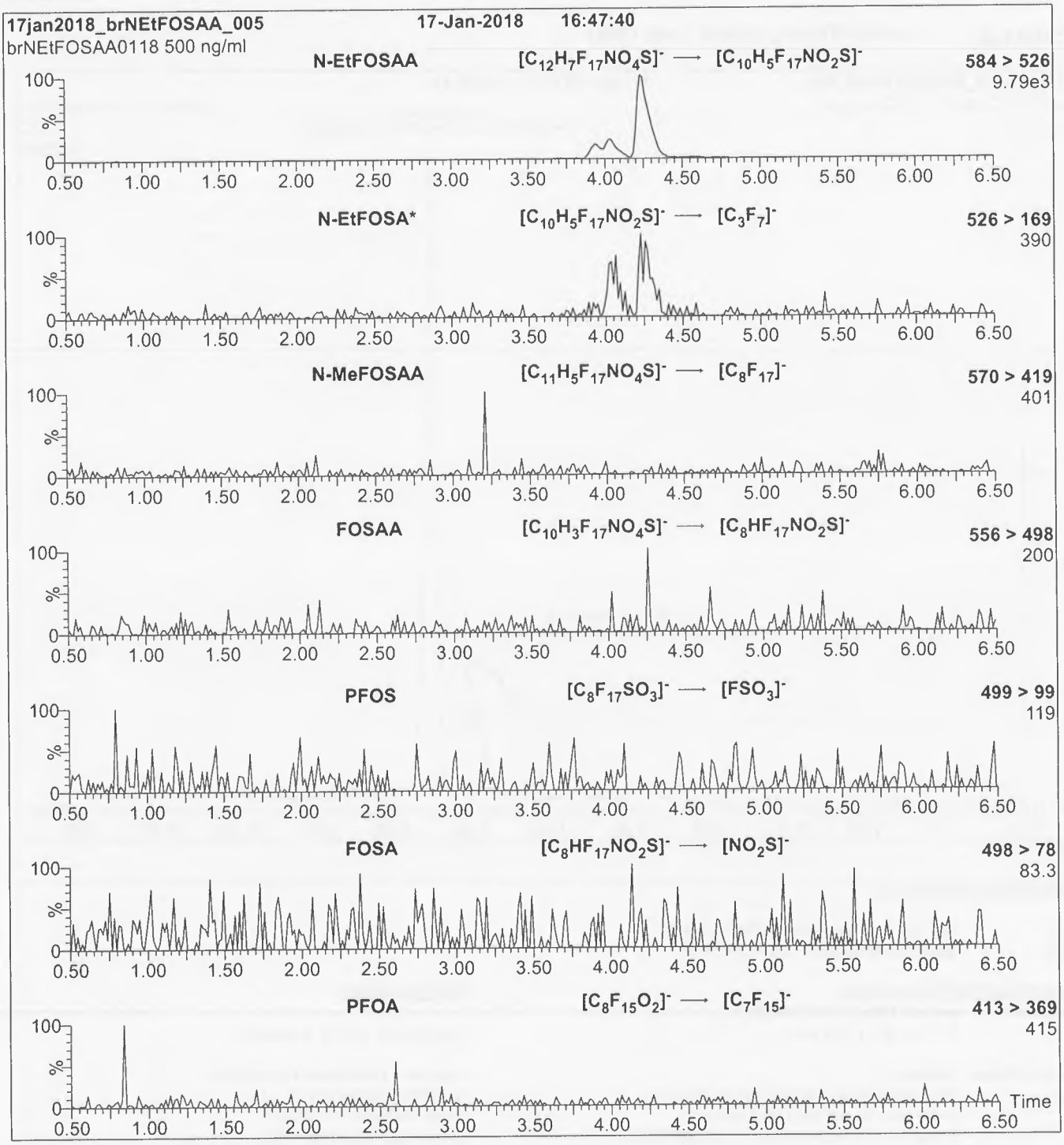
Flow: 300 µl/min

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,...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 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 ISO17034 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)***

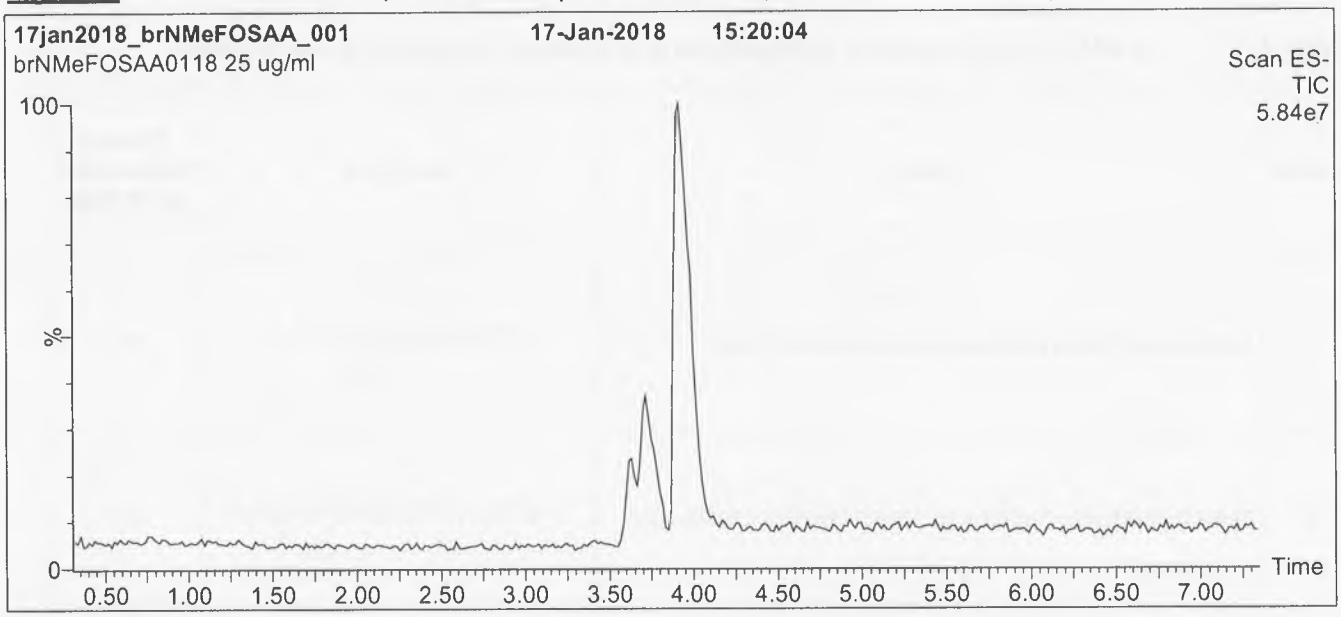
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic 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

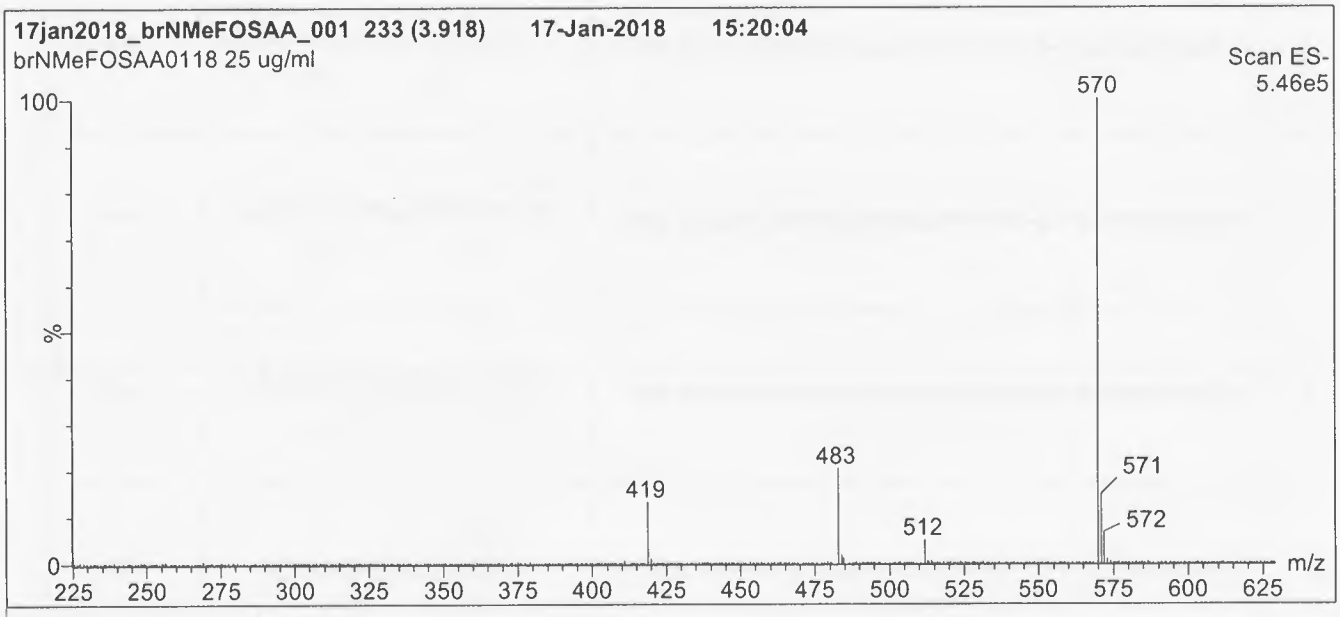
* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

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

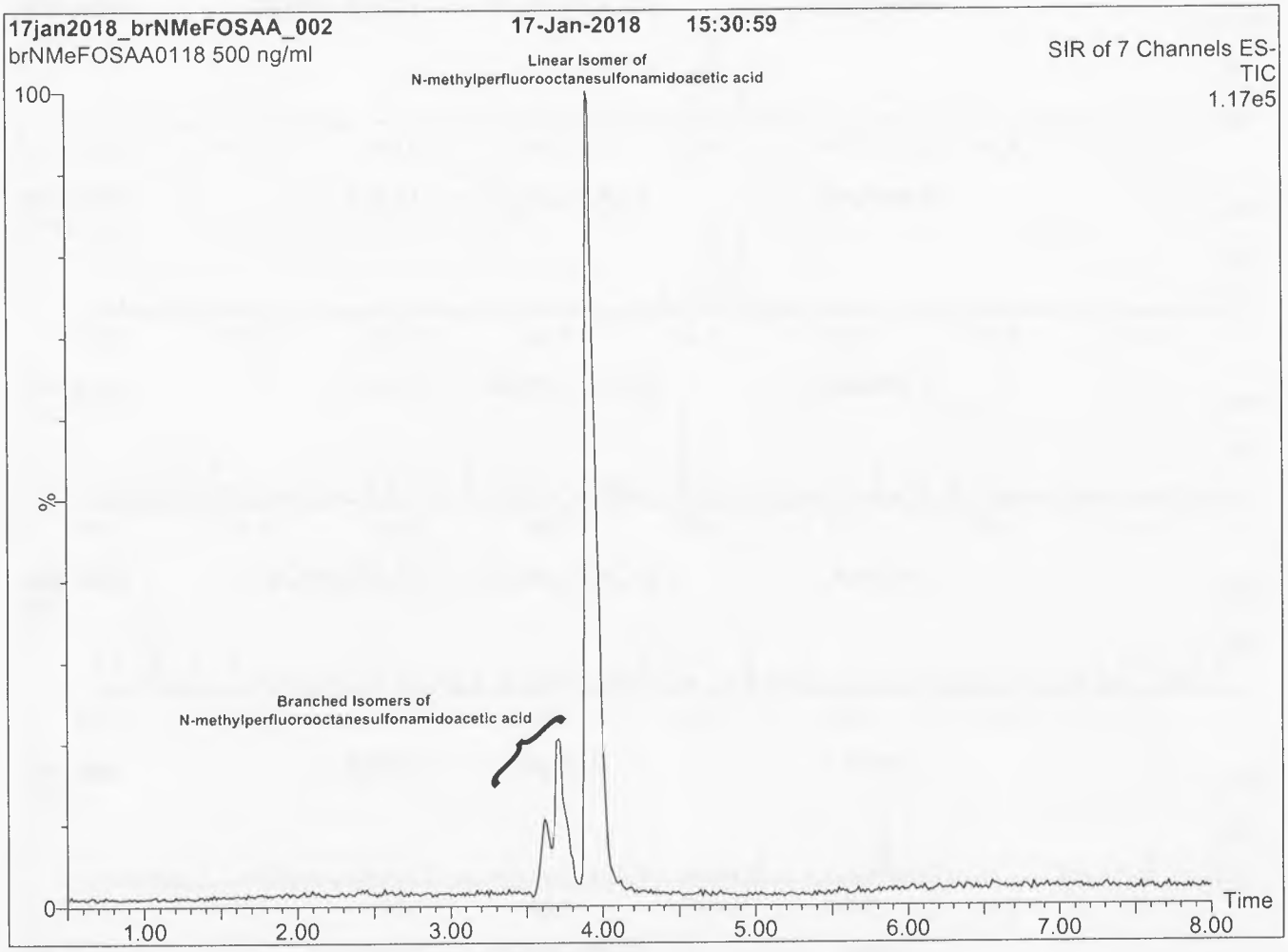
Flow: 300 µl/min

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

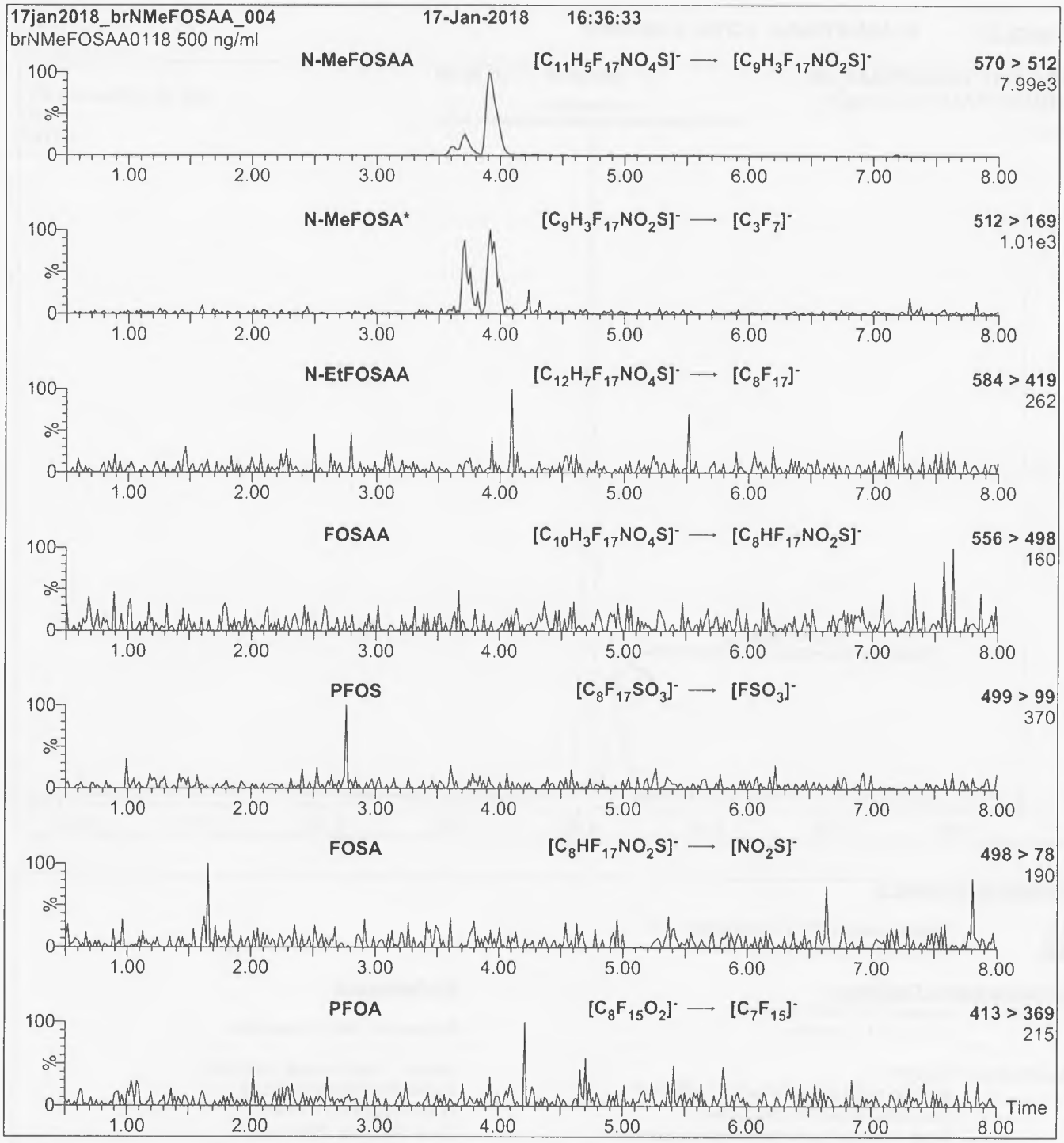
Flow: 300 µl/min

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:

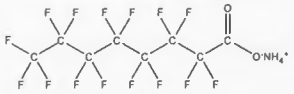
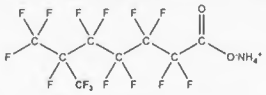
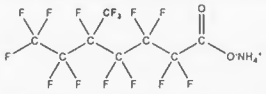
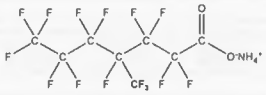
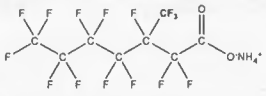
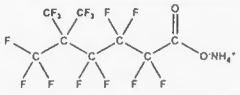
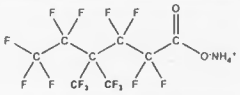
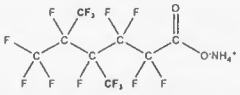
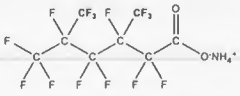
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

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

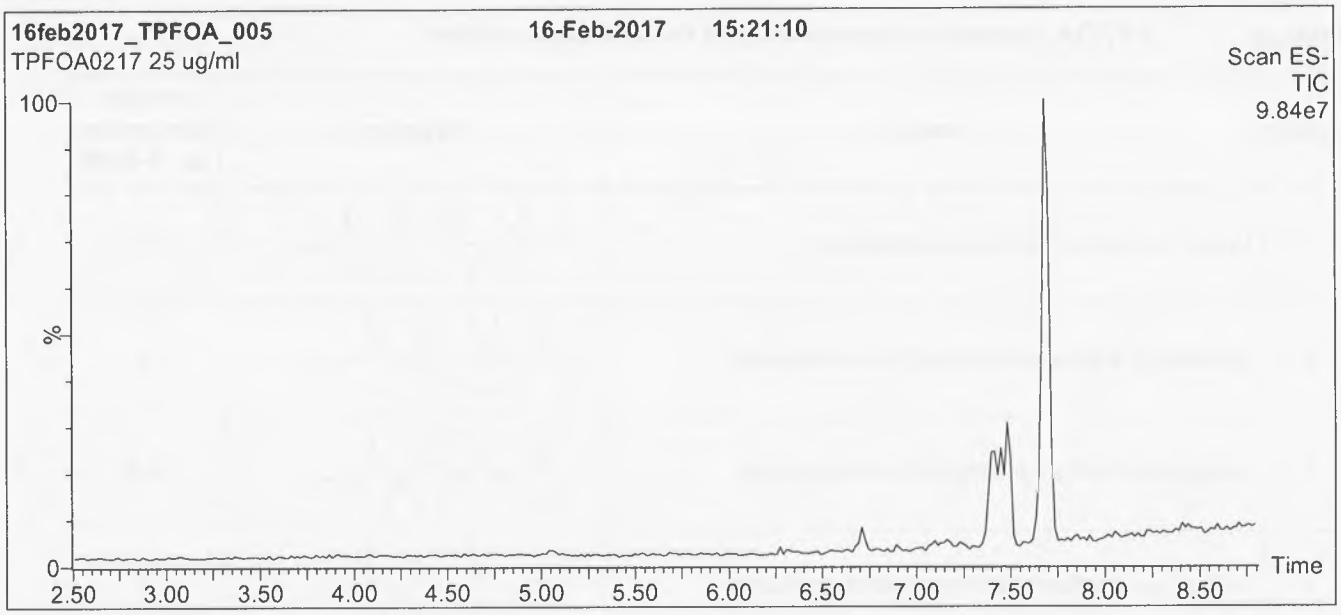
Table A: **T-PFOA; Isomeric Components and Percent Composition***

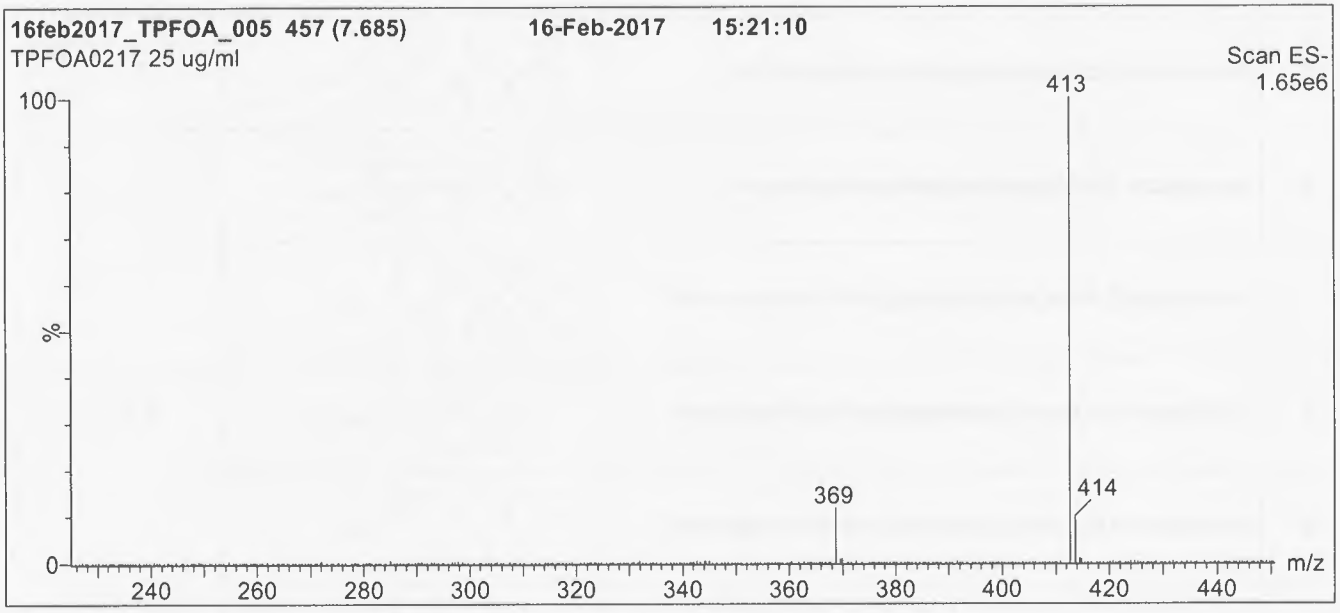
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Linear ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4
5	Ammonium 3-trifluoromethylperfluoroheptanoate		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

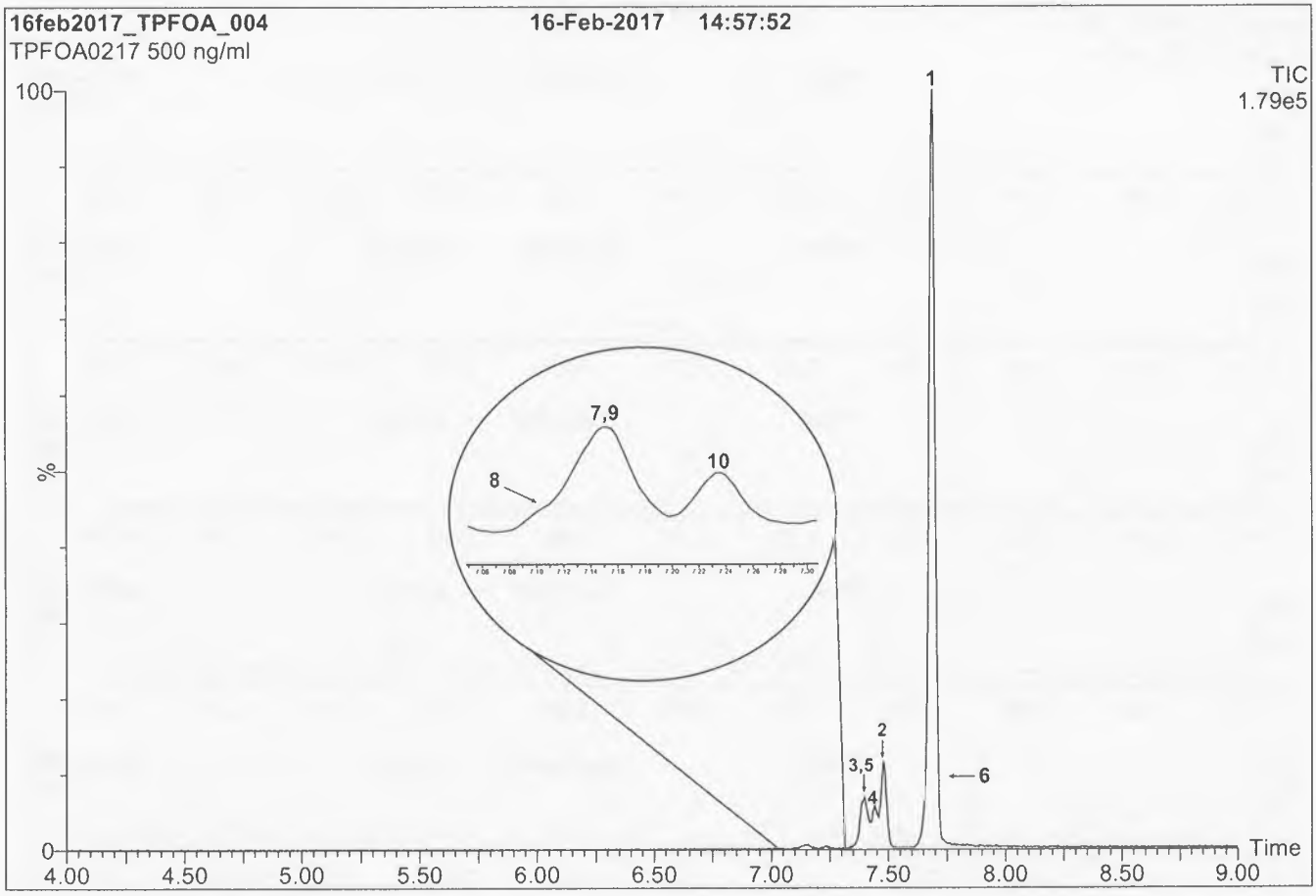
Flow: 1.0 ml/min

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

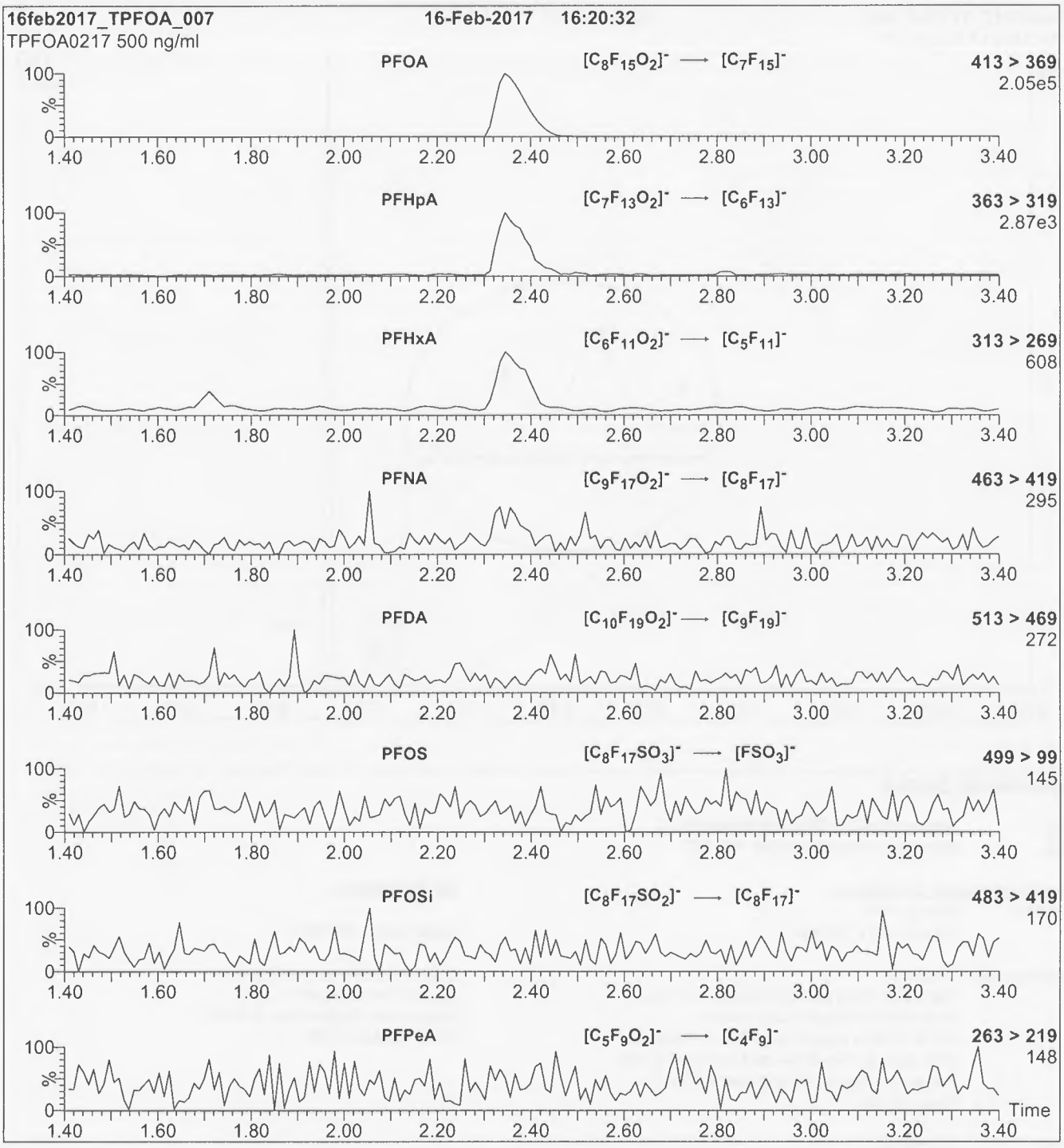
Flow: 1.0 ml/min

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)

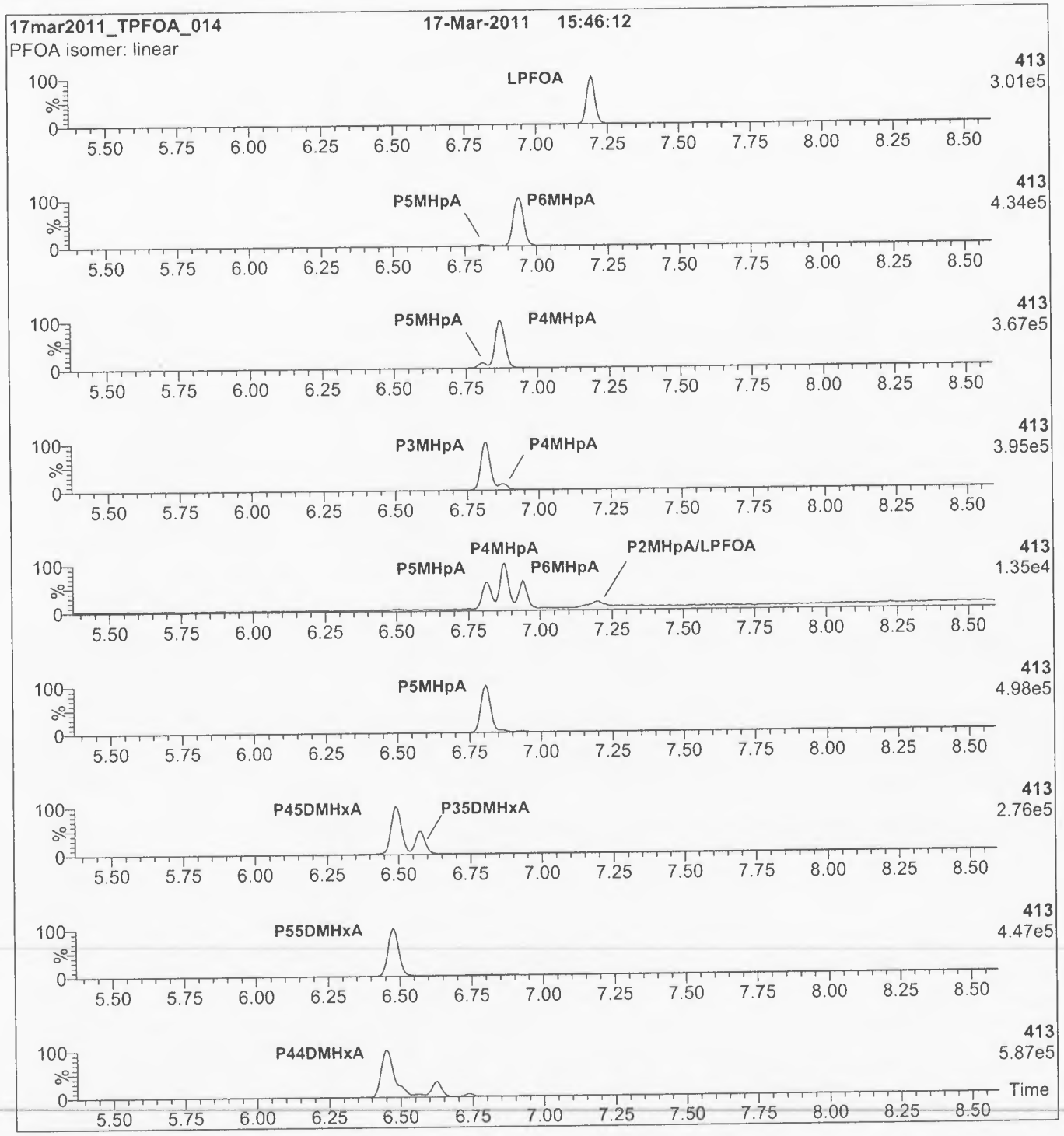
Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

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

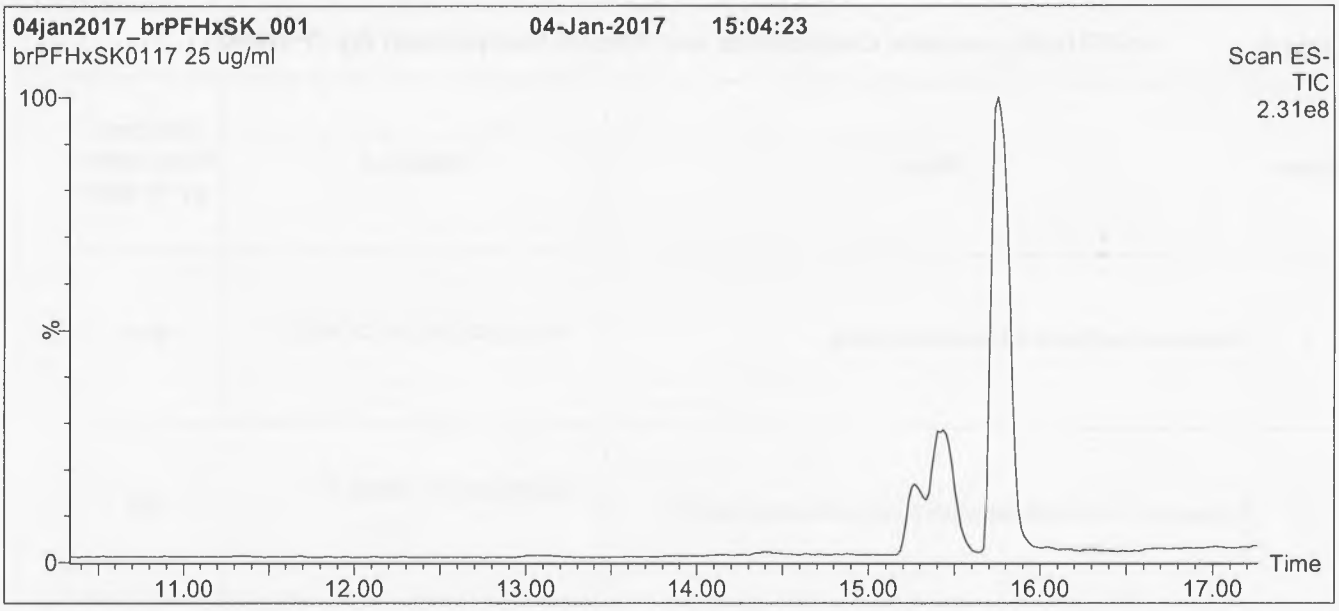
Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

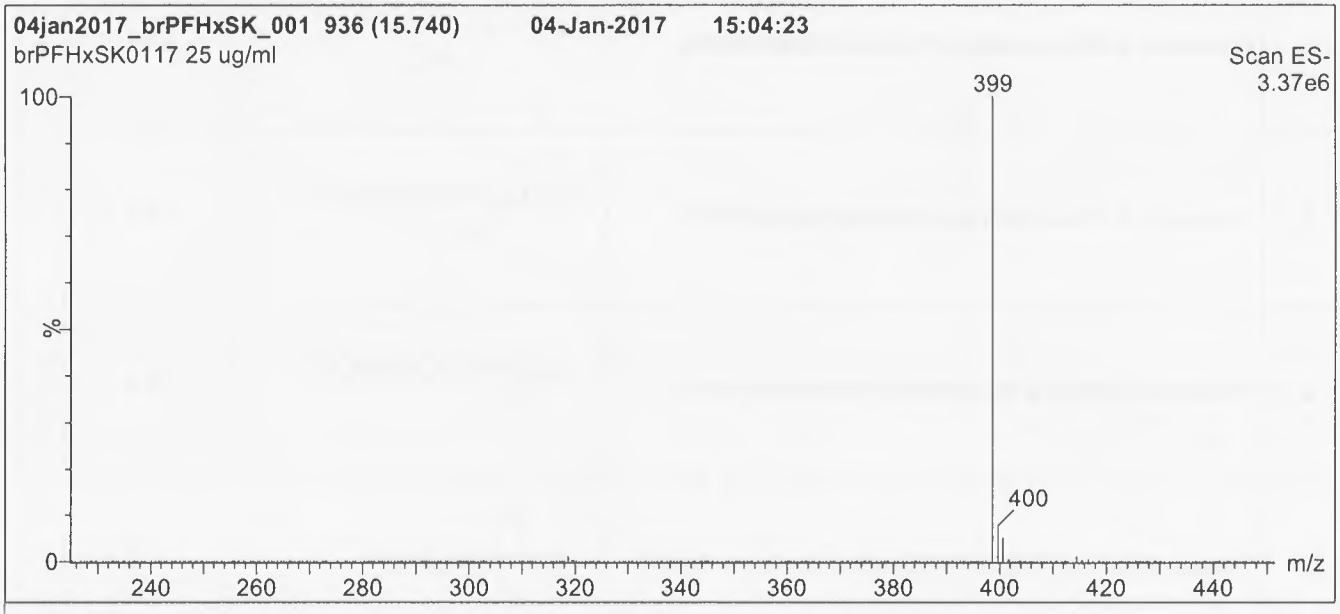
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	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

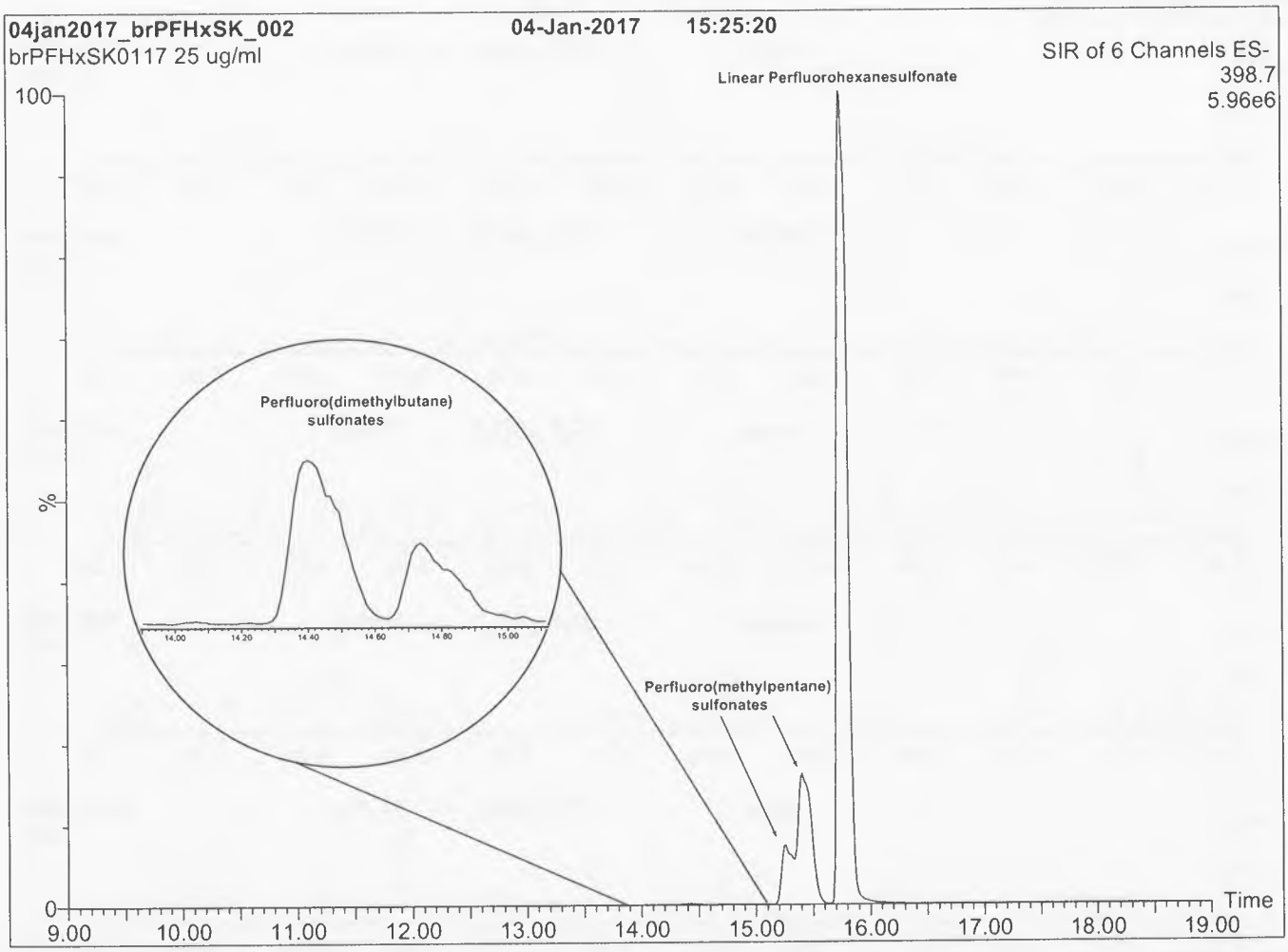
Flow: 300 µl/min

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

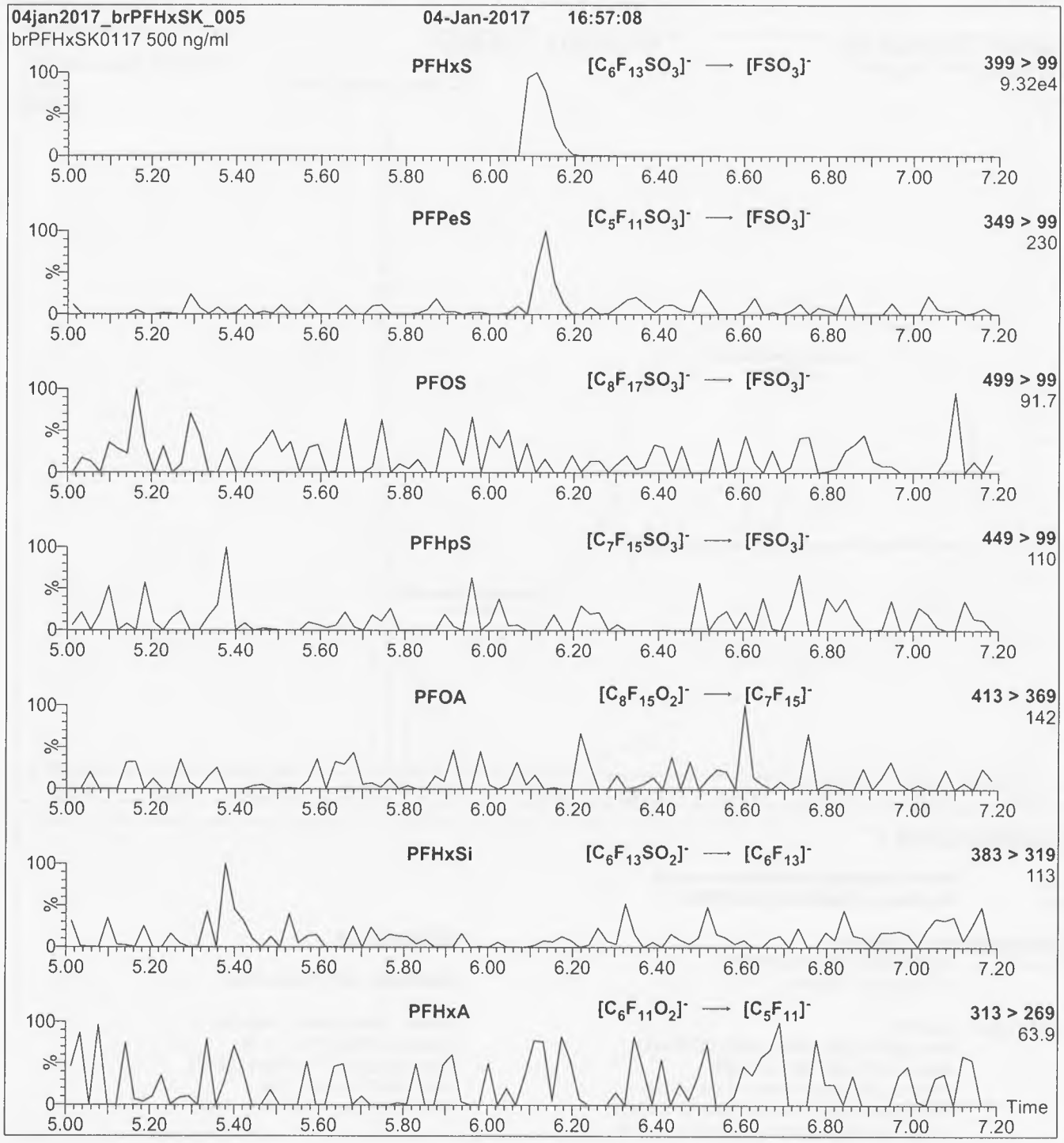
Flow: 300 µl/min

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

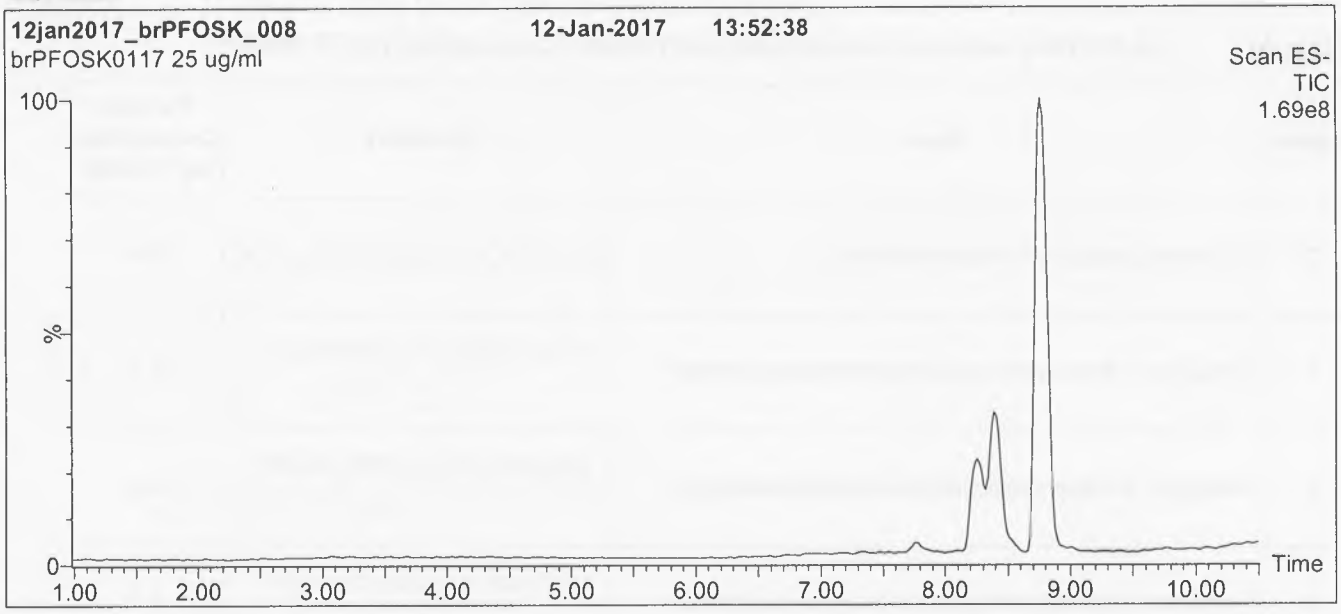
Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

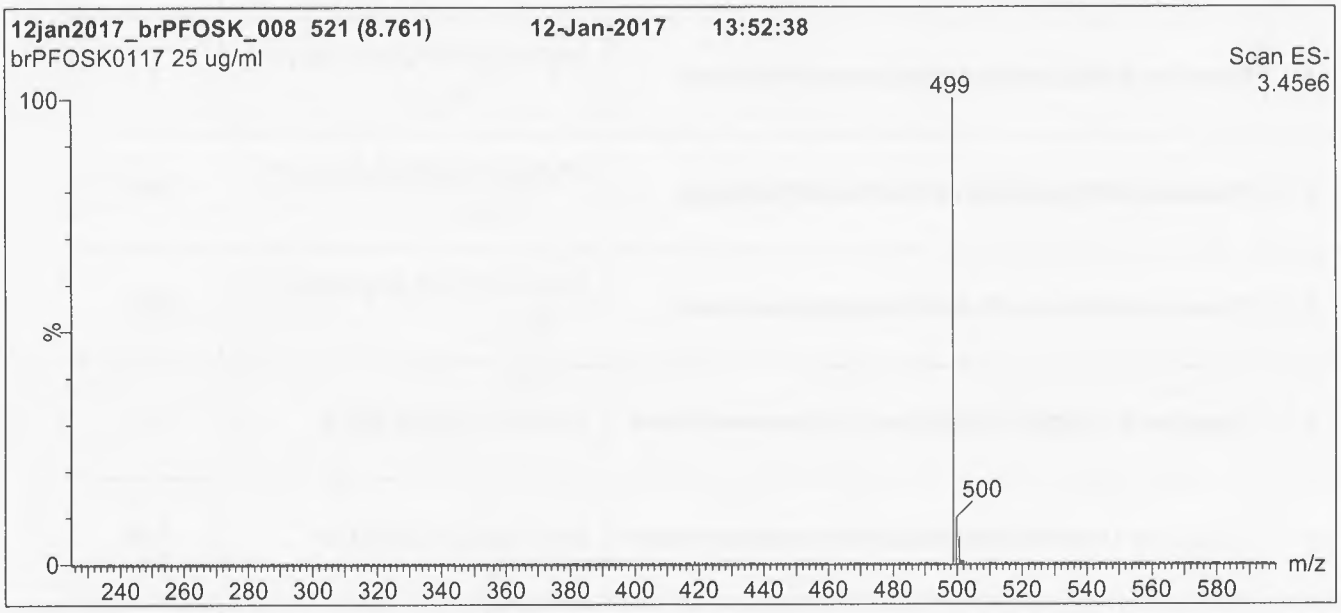
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	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

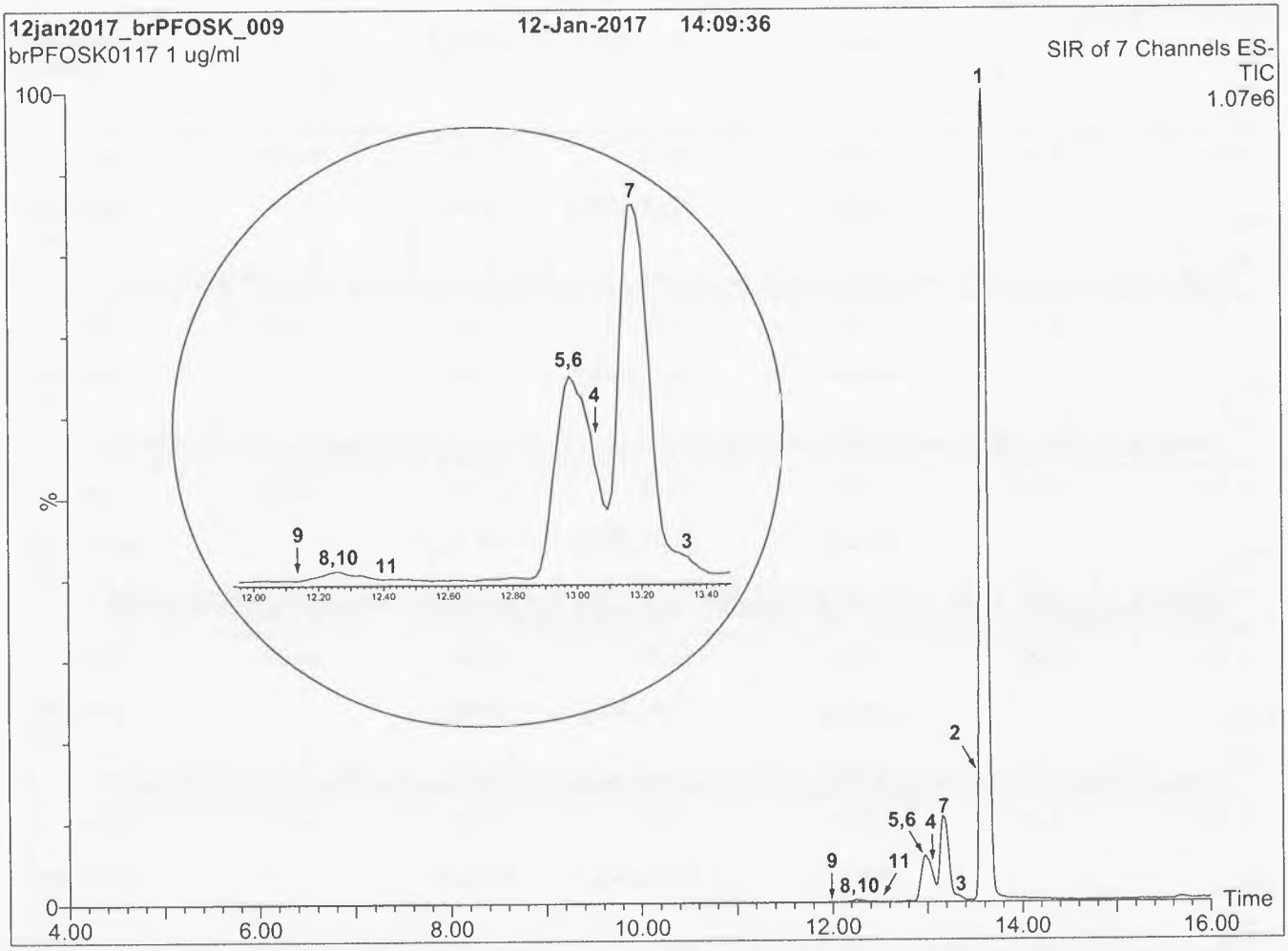
Flow: 300 µl/min

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**

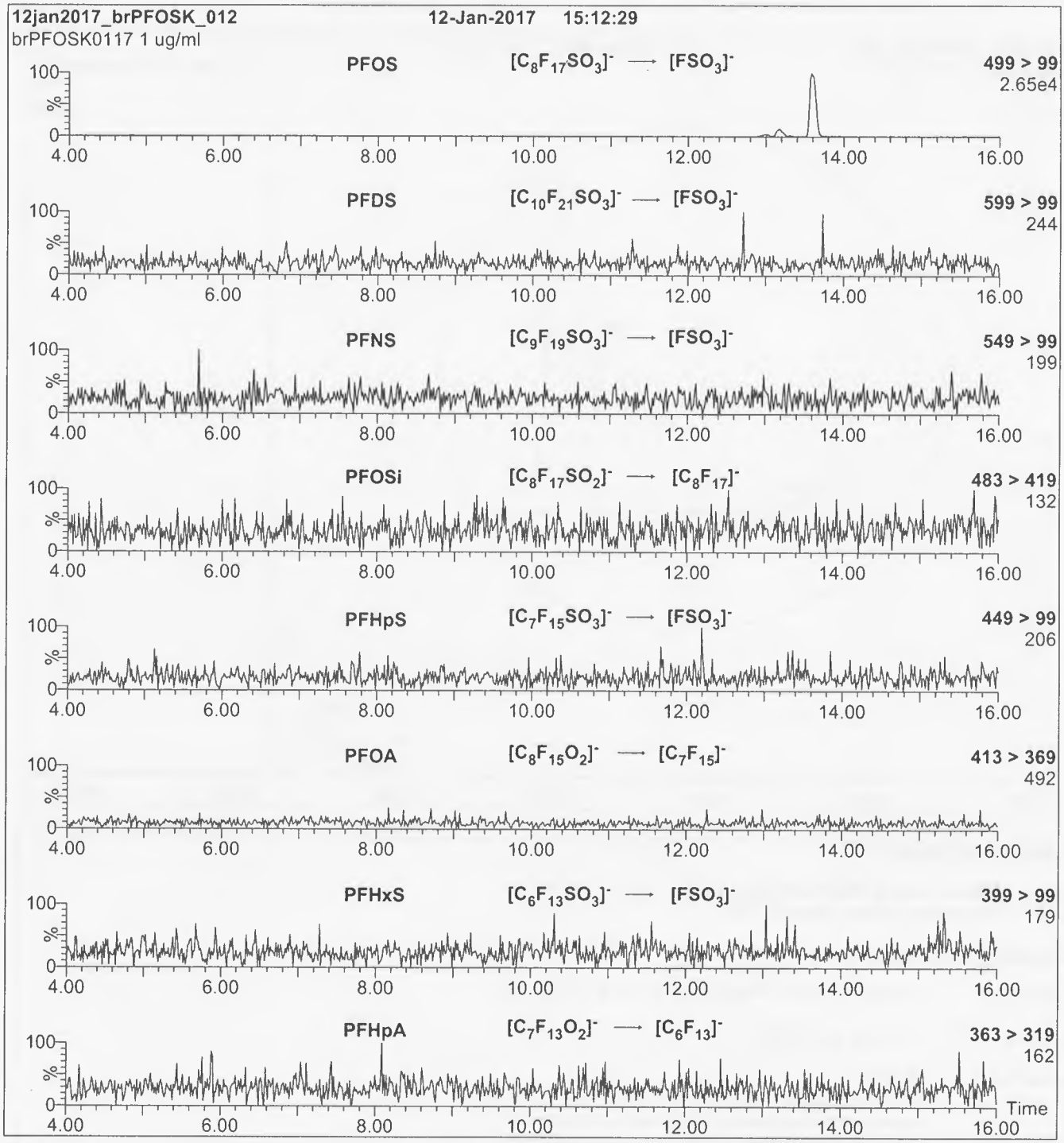
Chromatographic Conditions:

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

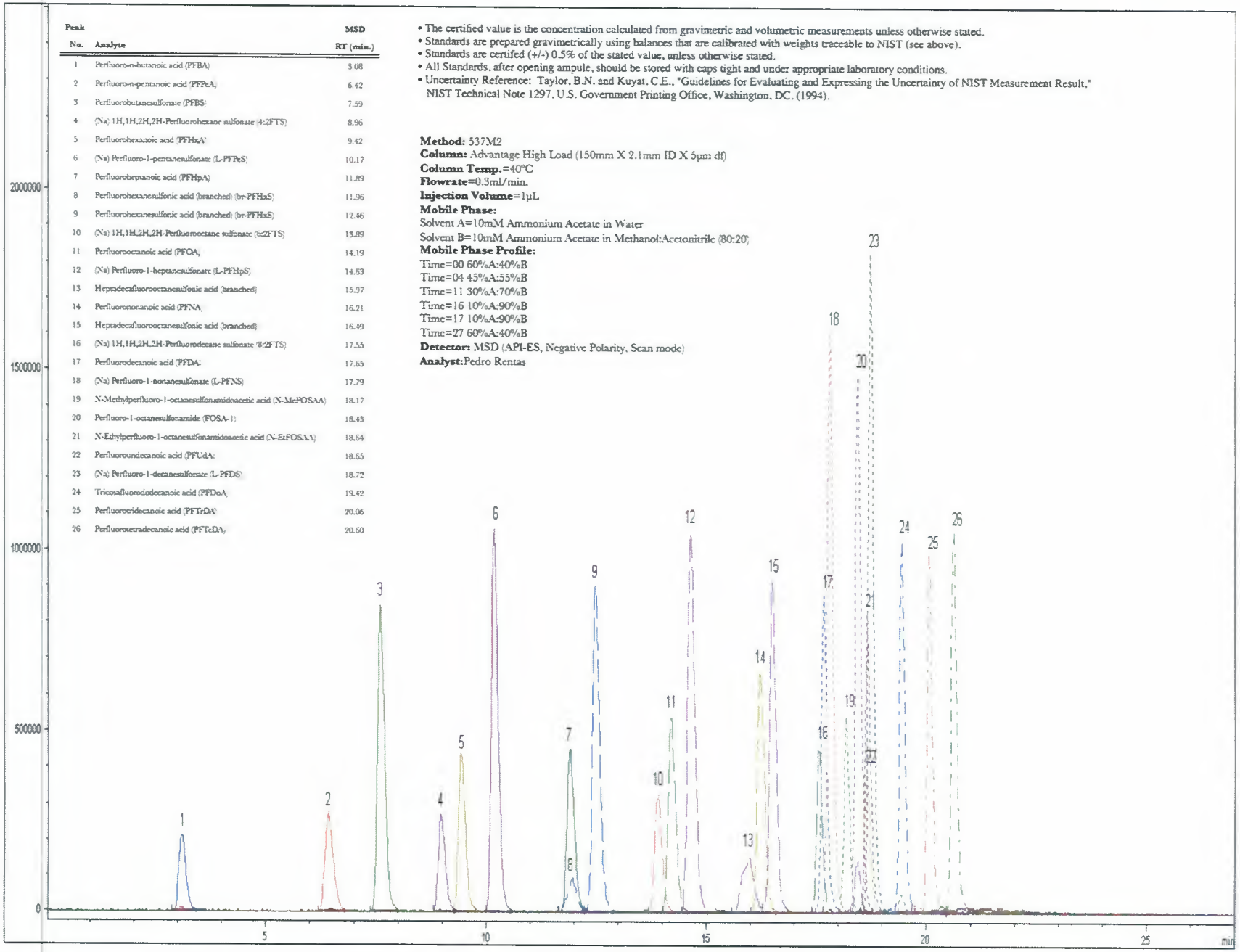
Note: All assigned values are anion concentrations.

	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)	5.08
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-MePOSAA)	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

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

INTENDED USE:

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

HAZARDS:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17025 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

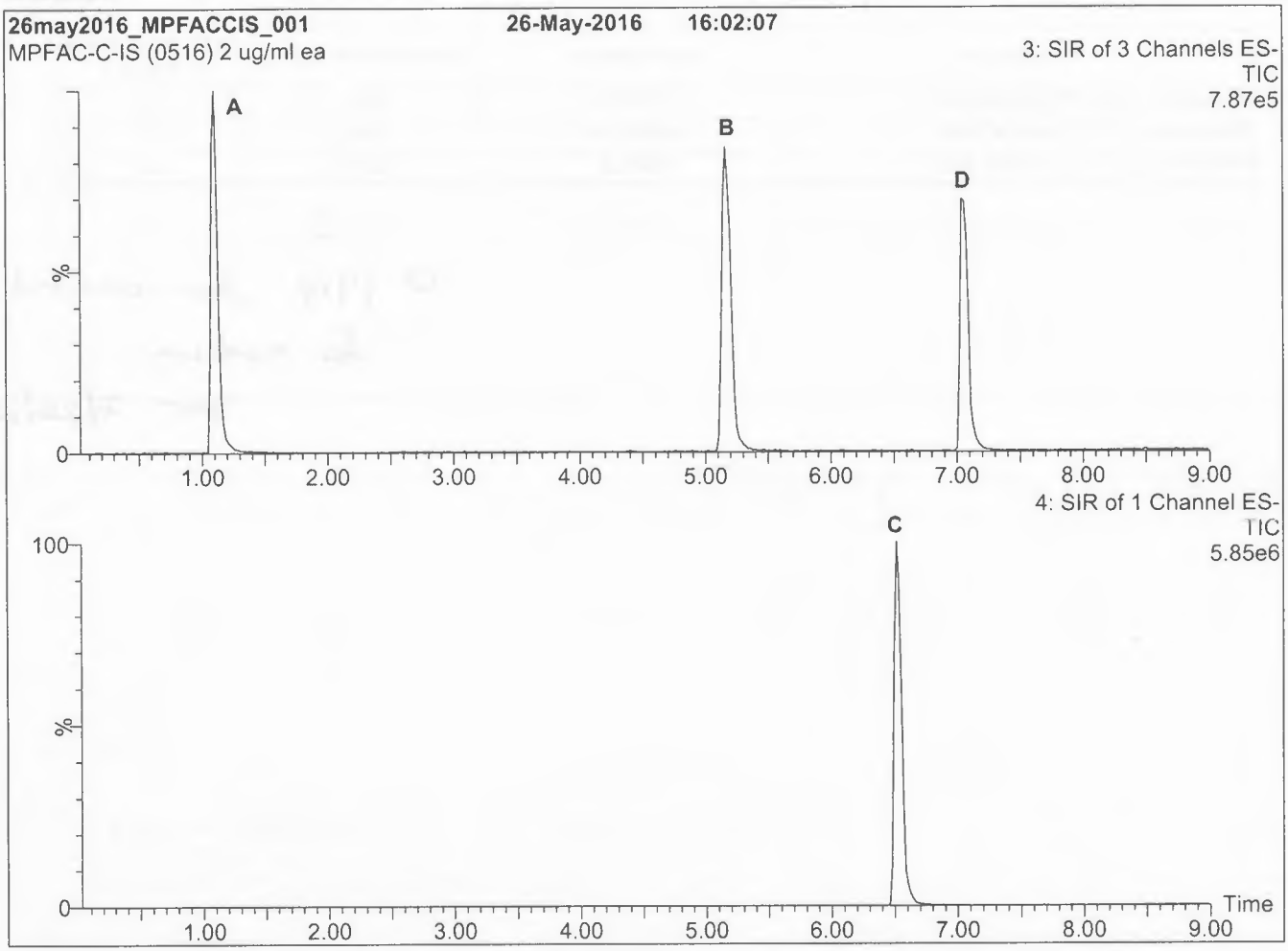
Table A: **MPFAC-C-IS; Components and Concentrations (ng/ml; ± 5% in Methanol / Water (<1%))**

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
JMT 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

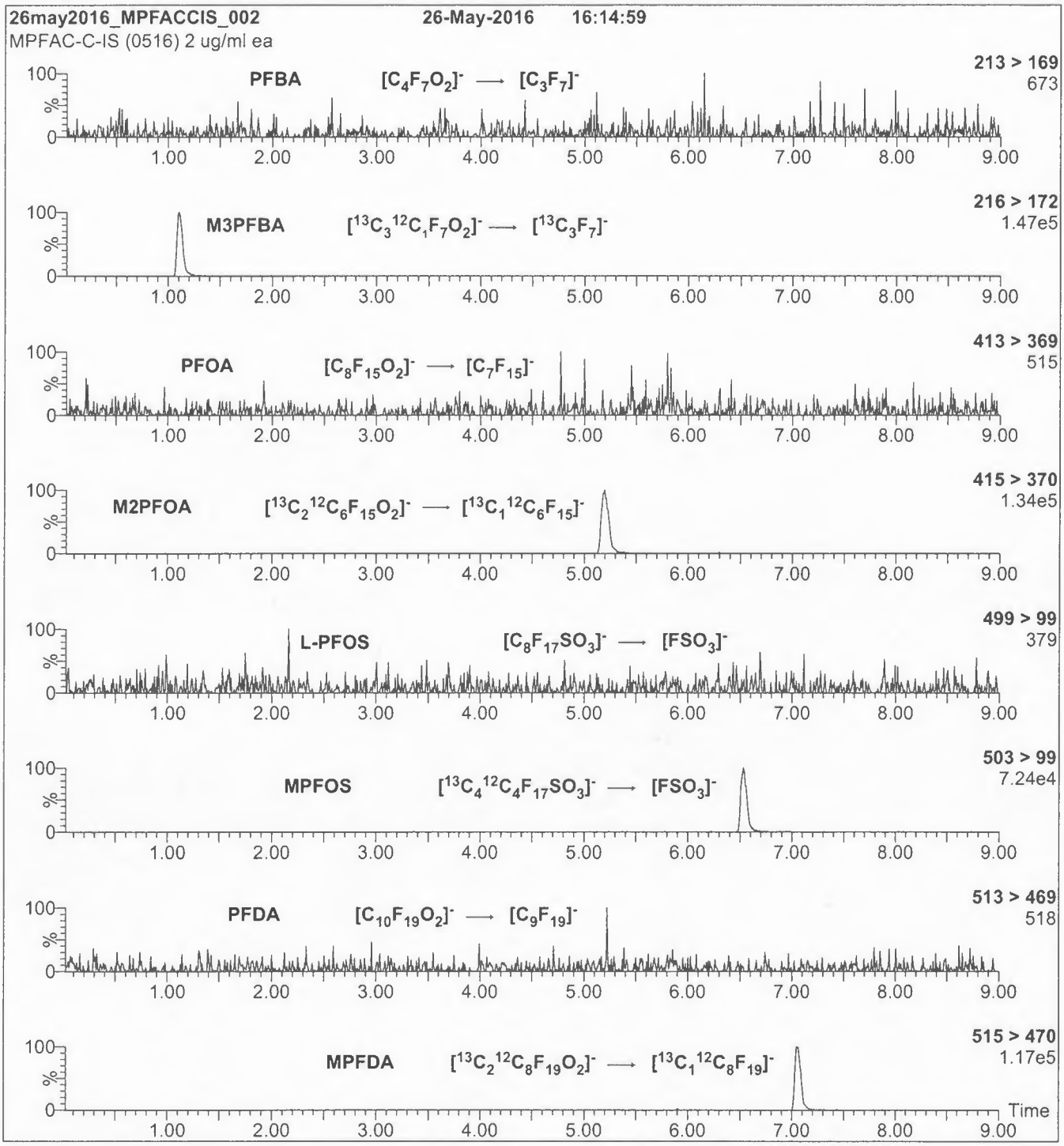
Flow: 300 µl/min

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 9017034 REFERENCE MATERIAL PRODUCER

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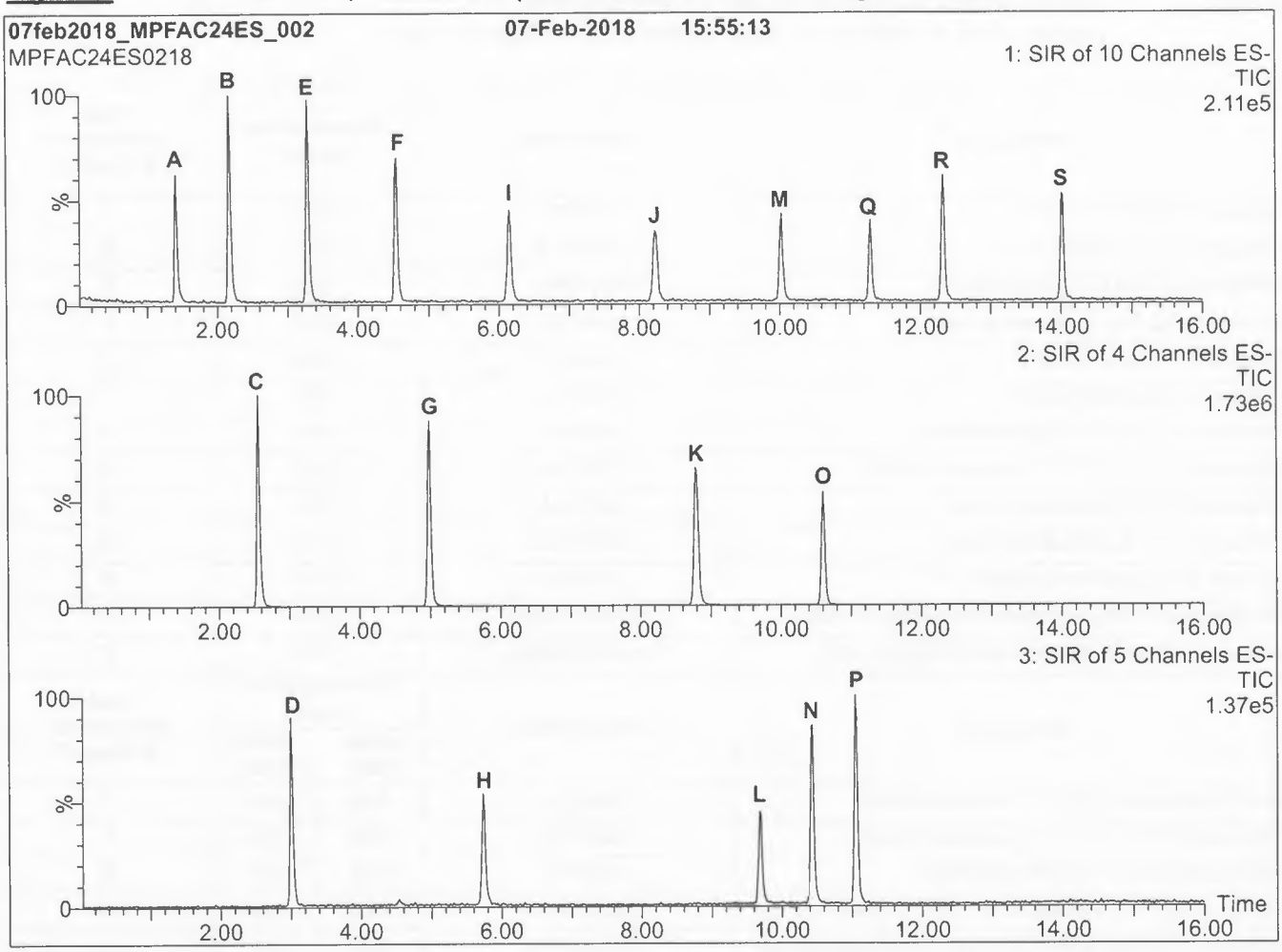
Table A: **MPFAC-24ES; Components and Concentrations (ng/ml, ± 5% in Methanol / Isopropanol (2%) / Water (<1%))**

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)**

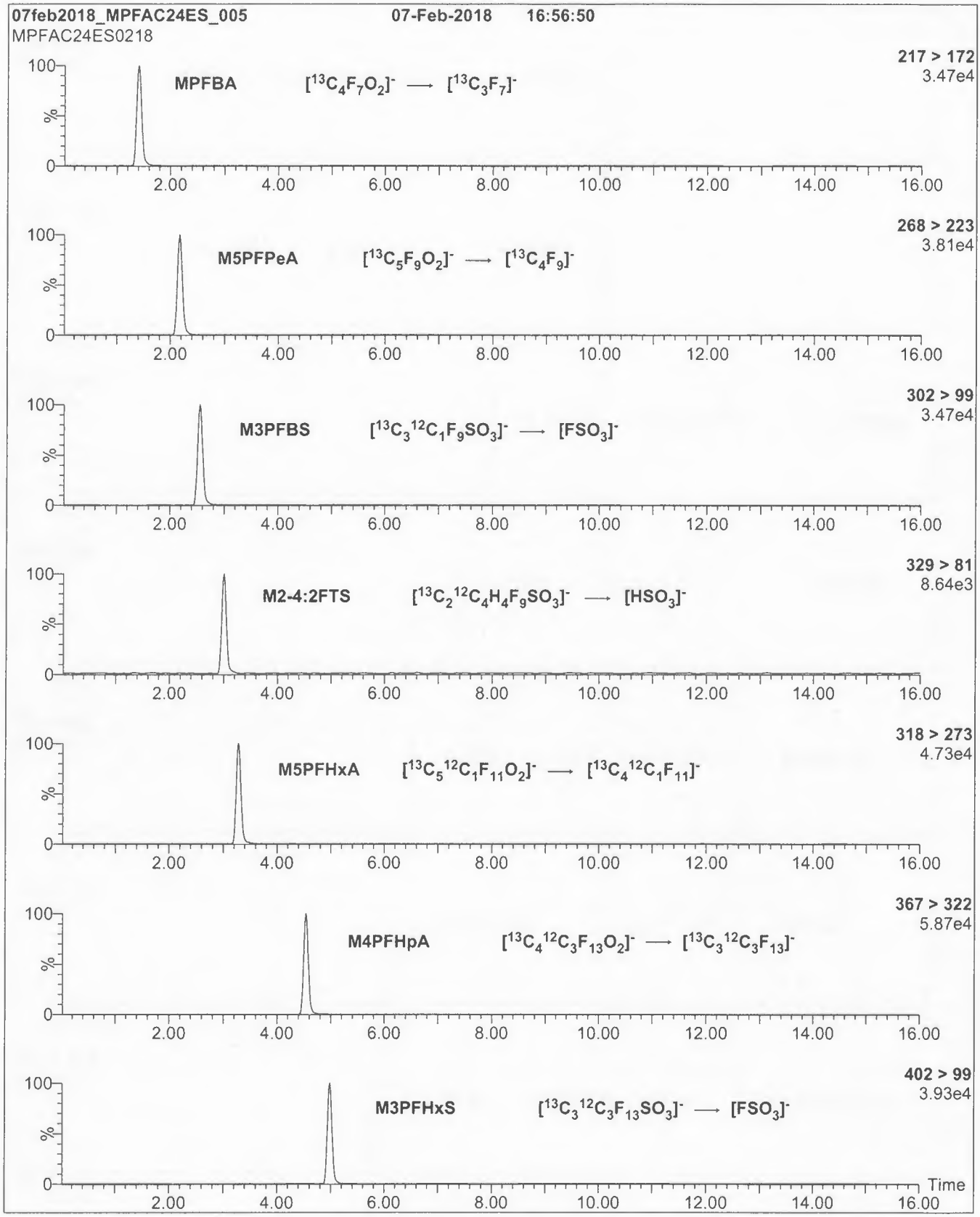


Figure 2: **MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**

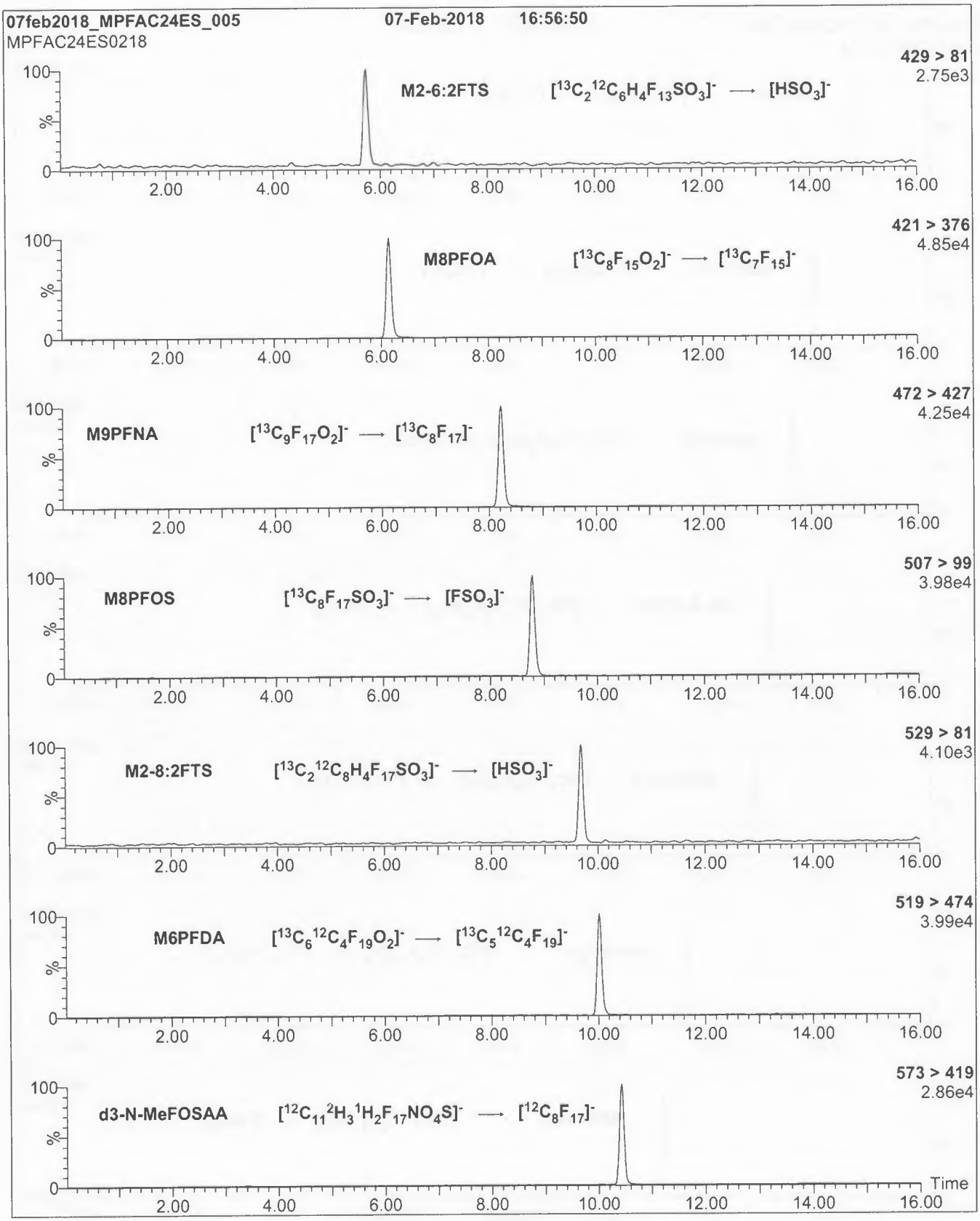
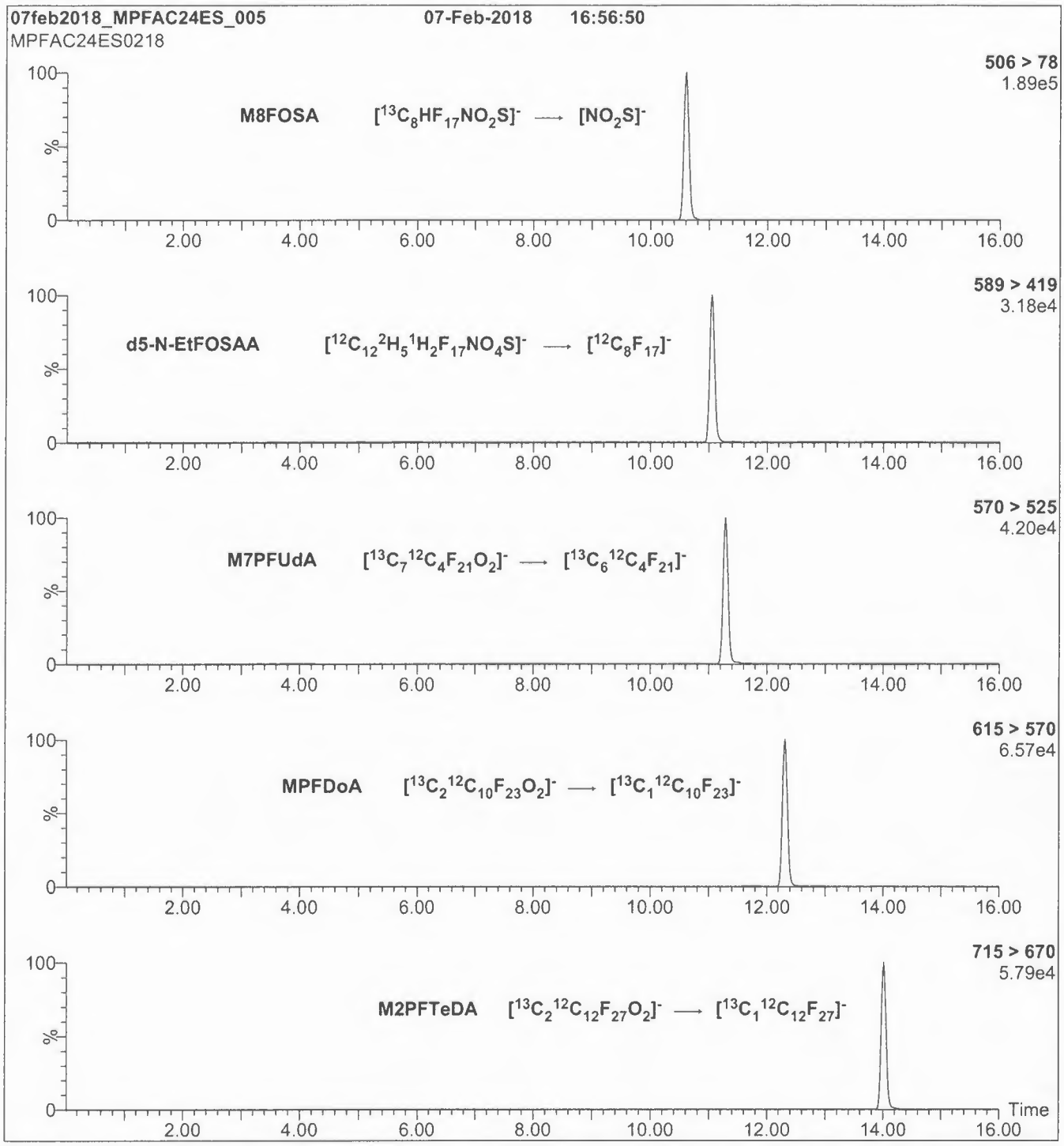


Figure 2: **MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**



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)**
CTO-4164 Naval Base Ventura County, California	100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:	
CS009PB-FS	J8805-FS
CS010LCS-FS	J8806-FS
J8801-FS	J8807MS-FS
J8802-FS	J8808MSD-FS
J8803-FS	
J8804-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)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Sample ID	Description
CS009PB-FS	Procedural Blank
CS010LCS-FS	Laboratory Control Sample
J8801-FS	VC-SD-FB12-10092018
J8802-FS	VC-SD-EB12-10092018
J8803-FS	VC-SD-EB13-10092018
J8804-FS	VC-S14GW02-1018
J8805-FS	VC-S14GW02P-1018
J8806-FS	VC-S14GW19-1018
J8807MS-FS	Matrix Spike of VC-S14GW02-1018-MS
J8808MSD-FS	Matrix Spike Duplicate of VC-S14GW02-1018-MSD

Samples Assigned By: Jonathan Thorn Date : October 12, 2018

Comments:

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It can be done

BATTELLE - NORWELL OPERATIONS
SAMPLE CUSTODY LOG

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Requested On/By:	10/18/2018 SAS	**Purpose:**	Sample Preparation
Relinquished On/By:	10/18/2018 MDS	**Last Activity:**	Transfer

Accepted On/By:	10/18/2018 SAS	**Returned On/To:**	
Stored In Facility:	Sample Preparation	**Returned To Facility:**	
Stored Until	10/18/2018		
Stored Comment:	NA	**Returned Comment:**	NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J8801	1	C	Consumed	NA
2	J8802	1	C	Consumed	NA
3	J8803	1	C	Consumed	NA
4	J8804	1	C	Consumed	NA
5	J8805	1	C	Consumed	NA
6	J8806	1	C	Consumed	NA

Total Samples 6 * "C" = Consumed Container

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
LIQUID SAMPLE ID FORM

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CS009PB-FS	Procedural Blank	250.0	NA	--	10/18/18 SAS
CS010LCS-FS	Laboratory Control Sample	250.0	NA	--	10/18/18 SAS
J8801-FS	VC-SD-FB12-10092018	285.0	1	C	10/19/18 SAS
J8802-FS	VC-SD-EB12-10092018	270.0	1	C	10/19/18 SAS
J8803-FS	VC-SD-EB13-10092018	285.0	1	C	10/19/18 SAS
J8804-FS	VC-S14GW02-1018	285.0	1	C	10/19/18 SAS
J8805-FS	VC-S14GW02P-1018	285.0	1	C	10/19/18 SAS
J8806-FS	VC-S14GW19-1018	280.0	1	C	10/19/18 SAS
J8807MS-FS	Matrix Spike	280.0	1	C	10/19/18 SAS
J8808MSD-FS	Matrix Spike Duplicate	275.0	1	C	10/19/18 SAS

Comments:

Samples Assigned By Jonathan Thorn Date : October 12, 2018

* - "C" = Sample is Consumed

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
SURROGATE SPIKE FORM

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CS009PB-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
CS010LCS-FS	KB82	LCS/MS	1	50	10/18/18 SAS	DMS	NA
CS010LCS-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8801-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8802-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8803-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8804-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8805-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8806-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8807MS-FS	KB82	LCS/MS	1	150	10/18/18 SAS	DMS	NA
J8807MS-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	NA
J8808MSD-FS	KB82	LCS/MS	1	150	10/18/18 SAS	DMS	NA
J8808MSD-FS	KC19	SIS	1	50	10/18/18 SAS	DMS	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)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CS009PB-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
CS010LCS-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8801-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8802-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8803-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8804-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8805-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8806-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8807MS-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA
J8808MSD-FS	10/18/18 SAS	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH3 in Methanol	RP-181018-8	10/18/18	183857	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
0.4% NH3 in Methanol	RP-181018-8	10/18/18	SHBJ0412	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
Pre-packed SPE Column	RP-181018-9	10/18/18	003537220A/ 0035	Pre-packed SPE Column	

Solvents/Reagents:

BATTELLE
It can be done

BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

(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
CS009PB-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
CS010LCS-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8801-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8802-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8803-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8804-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8805-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8806-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8807MS-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8807MS-FS-D(3)	960	40	KC52	50	1	1000	5.000	10/25/18 LMG	RDL
J8808MSD-FS(0)	950	50	KC52	50	1	1000	1.000	10/23/18 SAS	KB
J8808MSD-FS-D(3)	960	40	KC52	50	1	1000	5.000	11/05/18 LMG	RDL

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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BATTELLE - NORWELL OPERATIONS
EXTRACT SPIKE FORM

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
J8807MS-FS-D(3)	5	KC19	SIS	1	40	0	0	10/25/18 LMG	RDL
J8808MSD-FS-D(3)	5	KC19	SIS	1	40	0	0	10/25/18 LMG	RDL

Syringes/Pipettes Used:

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

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BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CS009PB-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
CS010LCS-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8801-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8802-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8803-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8804-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8805-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8806-FS	0	--	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8807MS-FS	0	C	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8807MS-FS	2	--	10/25/2018 4:30:00 PM	J8807MS-FS	0	1000	800	1.250	1.250	10/25/18 LMG
J8807MS-FS-D	3	--	10/25/2018 4:30:00 PM	J8807MS-FS	0	1000	200	5.000	5.000	10/25/18 LMG
J8808MSD-FS	0	C	10/18/2018 3:32:00 PM	NA		NA	NA	1.000	1.000	10/18/18 SAS
J8808MSD-FS	2	--	10/25/2018 4:30:00 PM	J8808MSD-FS	0	1000	800	1.250	1.250	10/25/18 LMG
J8808MSD-FS-D	3	--	10/25/2018 4:30:00 PM	J8808MSD-FS	0	1000	200	5.000	5.000	10/25/18 LMG

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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PREPARATION EXTRACT SPLIT FORM

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					

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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EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	Oct 24 2018 5:33PM SAS	**Received On/By:**	Oct 24 2018 6:00PM DMS
Relinquished From:	Sample Preparation: NA	**Received Location:**	LC Laboratory: NA
Relinquish Comment:	NA	**Received Comment:**	NA

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CS009PB-FS(0)	1000	1	Intact	NA
2	CS010LCS-FS(0)	1000	1	Intact	NA
3	J8801-FS(0)	1000	1	Intact	NA
4	J8802-FS(0)	1000	1	Intact	NA
5	J8803-FS(0)	1000	1	Intact	NA
6	J8804-FS(0)	1000	1	Intact	NA
7	J8805-FS(0)	1000	1	Intact	NA
8	J8806-FS(0)	1000	1	Intact	NA
9	J8807MS-FS(0)	1000	1	Intact	NA
10	J8808MSD-FS(0)	1000	1	Intact	NA

Total Extracts: 10

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	Oct 25 2018 4:32PM LMG	**Received On/By:**	Oct 25 2018 4:32PM 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	J8807MS-FS-D(3)	1000	5	Intact	NA
2	J8808MSD-FS-D(3)	1000	5	Intact	NA

Total Extracts: 2

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BATTELLE - NORWELL OPERATIONS
SAMPLE SPECIFIC COMMENTS

Project Title(s)
CTO-4164 Naval Base Ventura County, California

Project No.(s)
100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Sample ID:	Comment:	Date/Initials:
CS009PB-FS	Extraction started 3:32pm, extraction block 1, ended at 4:37pm	10/18/18 SAS
CS010LCS-FS	Extraction started 3:32pm, extraction block 1, ended at 4:30pm	10/18/18 SAS
J8801-FS	Extraction started 3:32pm, extraction block 1, ended at 4:34pm	10/18/18 SAS
J8802-FS	Extraction started 3:32pm, extraction block 1, ended at 4:38pm	10/18/18 SAS
J8802-FS	Approximately 3 mL spilled while pouring sample through extraction.	10/18/18 SAS
J8803-FS	Extraction started 3:32pm, extraction block 1, ended at 4:43pm	10/18/18 SAS
J8804-FS	Extraction started 3:32pm, extraction block 1, ended at 5:10pm	10/18/18 SAS
J8804-FS	Sample contained floating particulates	10/18/18 SAS
J8805-FS	Extraction started 3:32pm, extraction block 1, ended at 5:17pm	10/18/18 SAS
J8805-FS	Sample contained floating particulates	10/18/18 SAS
J8806-FS	Extraction started 3:32pm, extraction block 1, ended at 4:46pm	10/18/18 SAS
J8806-FS	Sample contained floating particulates	10/18/18 SAS
J8807MS-FS	Extraction started 3:32pm, extraction block 1, ended at 5:14pm	10/18/18 SAS
J8807MS-FS	Sample contained floating particulates	10/18/18 SAS
J8808MSD-FS	Extraction started 3:32pm, extraction block 1, ended at 5:12pm	10/18/18 SAS
J8808MSD-FS	Sample contained floating particulates	10/18/18 SAS

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BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title(s)	**Project No.(s)**
CTO-4164 Naval Base Ventura County, California	100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

Entered By:	**On:**

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

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It can be done

BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title(s)	**Project No.(s)**
CTO-4164 Naval Base Ventura County, California	100110125-01

18-0620

CTO-4164: Analysis of Non-Potable Waters

AQ, GW

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

Analytical Calibrations

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 31/10/2018 8:12:09 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		10/17/2018 7:36:00 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
2	KB73	L1	10/17/2018 7:46:52 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
3	KB74	L2	10/17/2018 7:57:45 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
4	KB75	L3	10/17/2018 8:08:39 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
5	KB76	L4	10/17/2018 8:19:32 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
6	KB77	L5	10/17/2018 8:30:23 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
7	KB78	L6	10/17/2018 8:41:14 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
8	KB79	L7	10/17/2018 8:52:06 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
9	KB80 IB	IB	10/17/2018 9:02:57 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
10	KB81 ICC	ICC	10/17/2018 9:13:49 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff
11	KB89 Branch	BRANCH	10/17/2018 9:24:41 PM	5-0369.dam	Data18-0590_18-01588_18-0589.wiff

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 30/10/2018 3:42:45 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	KB75 ISC	ISC	10/24/2018 5:30:17 PM	5-0369.dam	5500_10242018_05-0369.wiff
2	KB80 IB	IB	10/24/2018 5:41:09 PM	5-0369.dam	5500_10242018_05-0369.wiff
3	MeOH		10/24/2018 5:52:02 PM	5-0369.dam	5500_10242018_05-0369.wiff
4	CS009PB-FS(0)	Procedural Blank	10/24/2018 6:02:54 PM	5-0369.dam	5500_10242018_05-0369.wiff
5	CS010LCS-FS(0)	Laboratory Control Sample	10/24/2018 6:13:45 PM	5-0369.dam	5500_10242018_05-0369.wiff
6	J8801-FS(0)	VC-SD-FB12-10092018	10/24/2018 6:24:36 PM	5-0369.dam	5500_10242018_05-0369.wiff
7	J8802-FS(0)	VC-SD-EB12-10092018	10/24/2018 6:35:29 PM	5-0369.dam	5500_10242018_05-0369.wiff
8	J8803-FS(0)	VC-SD-EB13-10092018	10/24/2018 6:46:20 PM	5-0369.dam	5500_10242018_05-0369.wiff
9	J8804-FS(0)	VC-S14GW02-1018	10/24/2018 6:57:10 PM	5-0369.dam	5500_10242018_05-0369.wiff
10	J8805-FS(0)	VC-S14GW02P-1018	10/24/2018 7:08:00 PM	5-0369.dam	5500_10242018_05-0369.wiff
11	J8806-FS(0)	VC-S14GW19-1018	10/24/2018 7:18:52 PM	5-0369.dam	5500_10242018_05-0369.wiff
12	J8807MS-FS(0)	VC-S14GW02-1018-MS	10/24/2018 7:29:44 PM	5-0369.dam	5500_10242018_05-0369.wiff
13	J8808MSD-FS(0)	VC-S14GW02-1018-MSD	10/24/2018 7:40:36 PM	5-0369.dam	5500_10242018_05-0369.wiff
14	KB76 CCV	CCV	10/24/2018 7:51:29 PM	5-0369.dam	5500_10242018_05-0369.wiff
15	MeOH		10/24/2018 8:02:21 PM	5-0369.dam	5500_10242018_05-0369.wiff
16	CS011PB-FS(3)	Procedural Blank	10/24/2018 8:13:12 PM	5-0369.dam	5500_10242018_05-0369.wiff
17	CS012LCS-FS(3)	Laboratory Control Sample	10/24/2018 8:24:04 PM	5-0369.dam	5500_10242018_05-0369.wiff
18	J8777-FS(3)	VC-PM323-324-SD01-000H	10/24/2018 8:34:55 PM	5-0369.dam	5500_10242018_05-0369.wiff
19	J8778-FS(3)	VC-PM323-324-SD01-0102	10/24/2018 8:45:47 PM	5-0369.dam	5500_10242018_05-0369.wiff
20	J8779-FS(3)	VC-PM553-SD01-000H	10/24/2018 8:56:39 PM	5-0369.dam	5500_10242018_05-0369.wiff
21	J8780-FS(3)	VC-PM553-SD01-0102	10/24/2018 9:07:31 PM	5-0369.dam	5500_10242018_05-0369.wiff (1)
22	J8781MS-FS(3)	VC-PM553-SD01-0102-MS	10/24/2018 9:18:23 PM	5-0369.dam	5500_10242018_05-0369.wiff
23	J8782MSD-FS(3)	VC-PM553-SD01-0102-MSD	10/24/2018 9:29:15 PM	5-0369.dam	5500_10242018_05-0369.wiff
24	J8783-FS(3)	VC-PM3009-SD01-000H	10/24/2018 9:40:07 PM	5-0369.dam	5500_10242018_05-0369.wiff
25	J8784-FS(3)	VC-PM3009-SD01-0102	10/24/2018 9:50:59 PM	5-0369.dam	5500_10242018_05-0369.wiff
26	KB77 CCV	CCV	10/24/2018 10:01:50 PM	5-0369.dam	5500_10242018_05-0369.wiff
27	MeOH		10/24/2018 10:12:41	5-0369.dam	5500_10242018_05-

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Sequence Report

Created with Analyst Reporter
Printed: 30/10/2018 3:42:45 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
			PM		0369.wiff
28	J8785-FS(3)	VC-PM372-SD01-000H	10/24/2018 10:23:33 PM	5-0369.dam	5500_10242018_05-0369.wiff
29	J8786-FS(3)	VC-PM372-SD01-0102	10/24/2018 10:34:26 PM	5-0369.dam	5500_10242018_05-0369.wiff
30	J8787-FS(3)	VC-CS11-SD01-000H	10/24/2018 10:45:17 PM	5-0369.dam	5500_10242018_05-0369.wiff
31	J8788-FS(3)	VC-CS11-SD01-0102	10/24/2018 10:56:09 PM	5-0369.dam	5500_10242018_05-0369.wiff
32	J8809-FS(3)	VC-STP-SD01-000H	10/24/2018 11:07:00 PM	5-0369.dam	5500_10242018_05-0369.wiff
33	J8810-FS(3)	VC-STP-SD01-0102	10/24/2018 11:17:52 PM	5-0369.dam	5500_10242018_05-0369.wiff
34	J8811-FS(3)	VC-STP-SD02-000H	10/24/2018 11:28:43 PM	5-0369.dam	5500_10242018_05-0369.wiff
35	J8812-FS(3)	VC-STP-SD02-0102	10/24/2018 11:39:36 PM	5-0369.dam	5500_10242018_05-0369.wiff
36	J8813-FS(3)	VC-STP-SD03-000H	10/24/2018 11:50:27 PM	5-0369.dam	5500_10242018_05-0369.wiff
37	J8814-FS(3)	VC-STP-SD03-0102	10/25/2018 12:01:19 AM	5-0369.dam	5500_10242018_05-0369.wiff
38	KB76 CCV	CCV	10/25/2018 12:12:12 AM	5-0369.dam	5500_10242018_05-0369.wiff
39	MeOH		10/25/2018 12:23:05 AM	5-0369.dam	5500_10242018_05-0369.wiff
40	J8815-FS(3)	VC-STP-SD04-000H	10/25/2018 12:33:58 AM	5-0369.dam	5500_10242018_05-0369.wiff
41	J8816-FS(3)	VC-STP-SD04-0102	10/25/2018 12:44:50 AM	5-0369.dam	5500_10242018_05-0369.wiff
42	KB77 CCV	CCV	10/25/2018 12:55:41 AM	5-0369.dam	5500_10242018_05-0369.wiff

(1)

(1) Samples do not apply to this batch. LMG 10/30/18

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Sequence Report

Created with Analyst Reporter
Printed: 02/11/2018 9:55:35 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File	
1	KB75 ISC	ISC	10/25/2018 4:26:43 PM	5-0369.dam	AC_10252018_05-0369.wiff	
2	KB80 IB	IB	10/25/2018 4:37:35 PM	5-0369.dam	AC_10252018_05-0369.wiff	
5	KB77 CCV	CCV	10/25/2018 5:10:14 PM	5-0369.dam	AC_10252018_05-0369.wiff	
~~6~~	~~CS009PB-FS(0)~~	~~Procedural Blank~~	10/25/2018 5:32:50 PM	~~5-0369.dam~~	AC_10252018_05-0369.wiff	(1)
~~7~~	~~J8803-FS(0)~~	VC-SD-EB13-10092018	10/25/2018 5:43:42 PM	~~5-0369.dam~~	AC_10252018_05-0369.wiff	(2)
~~8~~	~~J8800MSD-FS(3)~~	VC-CS11-SD02-000H-MSD	10/25/2018 5:54:33 PM	~~5-0369.dam~~	AC_10252018_05-0369.wiff	(3)
9	J8807MS-FS-D(3)	VC-S14GW02-1018-MS	10/25/2018 6:05:24 PM	5-0369.dam	AC_10252018_05-0369.wiff	
10	J8808MSD-FS-D(3)	VC-S14GW02-1018-MSD	10/25/2018 6:16:16 PM	5-0369.dam	AC_10252018_05-0369.wiff	
11	KB76	CCV	10/25/2018 6:27:08 PM	5-0369.dam	AC_10252018_05-0369.wiff	

(1) Confirmation only, no data reported. LMG 11/2/18

(2) Bad injection, sample was re-aliquoted and re-run on sequence AC_10262018_369.wiff (run for confirmation only of data reported from sequence 5500_10242018_05-0369.wiff). LMG 11/02/18

(3) Sample does not apply to this batch. LMG 11/06/18

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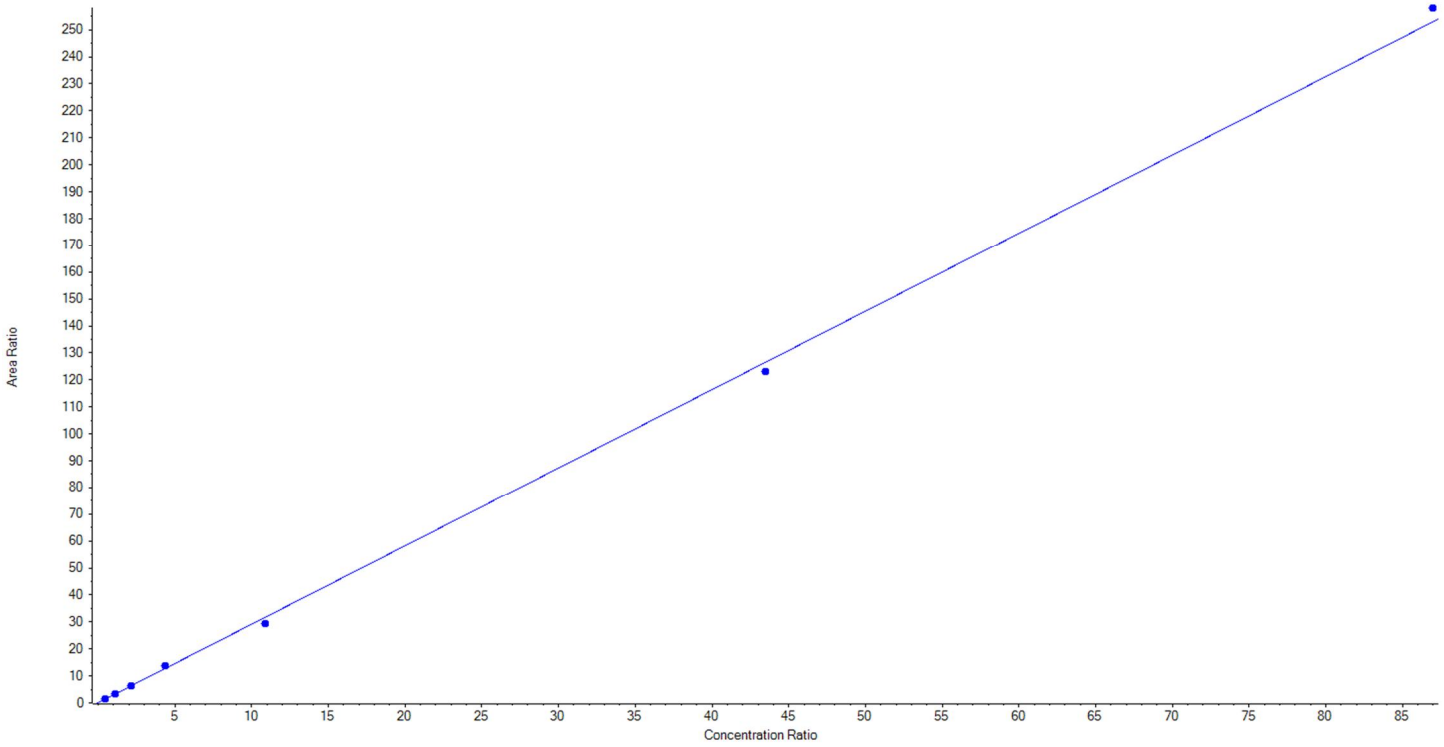
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:50:36 PM

Analyte Name	PFBS_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	298.9 / 80.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.90746 x + 0.06970 (r = 0.99940) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	101.00	104.635578	103.6
3	KB74	L2	True	252.50	249.370464	98.8
4	KB75	L3	True	505.00	495.098560	98.0
5	KB76	L4	True	1010.00	1091.288759	108.1
6	KB77	L5	True	2525.00	2332.691625	92.4
7	KB78	L6	True	10100.00	9811.581725	97.1
8	KB79	L7	True	20200.00	20608.833290	102.0



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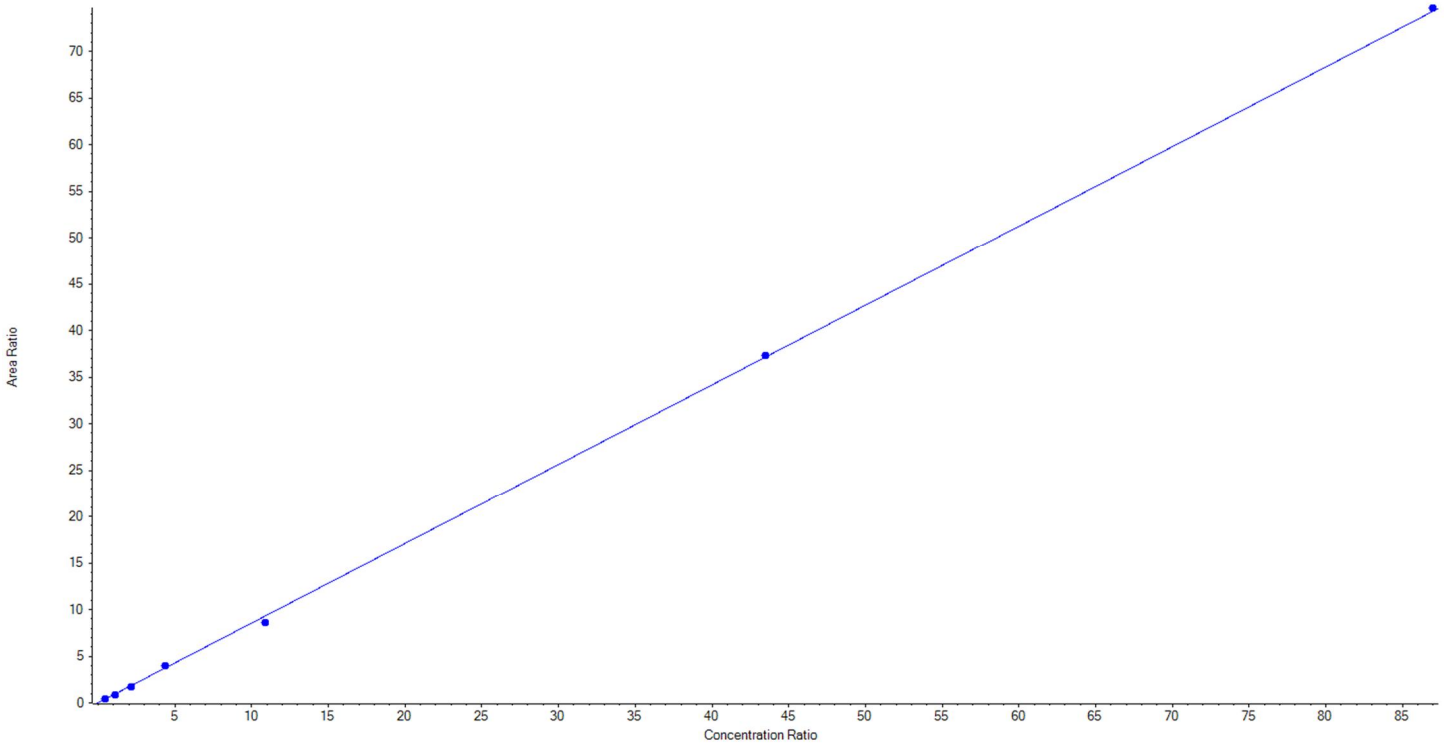
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:50:36 PM

Analyte Name	PFBS_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	298.9 / 99.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.85386 x + 0.01367 (r = 0.99964) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	101.00	109.976962	108.9
3	KB74	L2	True	252.50	242.180085	95.9
4	KB75	L3	True	505.00	475.121472	94.1
5	KB76	L4	True	1010.00	1086.381545	107.6
6	KB77	L5	True	2525.00	2339.199841	92.6
7	KB78	L6	True	10100.00	10143.472130	100.4
8	KB79	L7	True	20200.00	20297.167965	100.5



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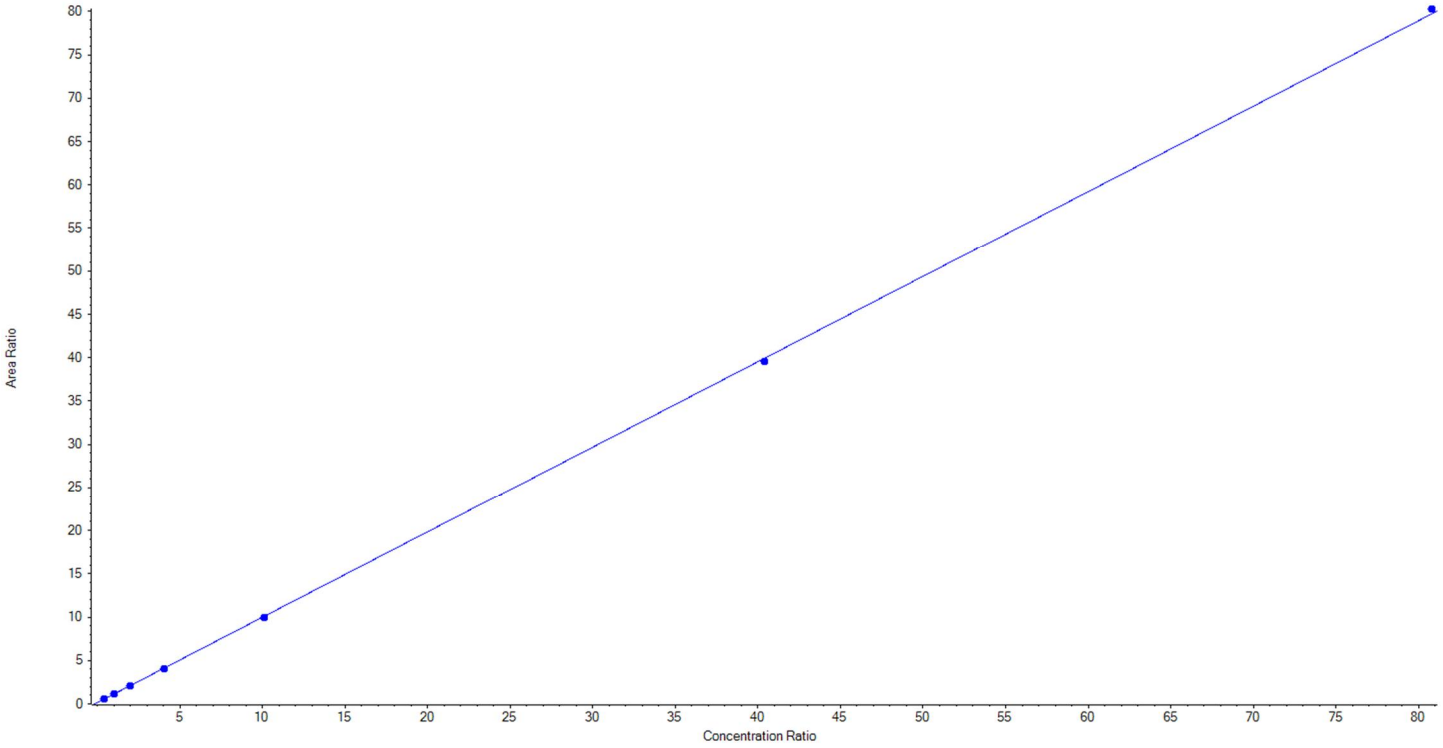
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Analyte Name	PFHxA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98501 x + 0.13333 (r = 0.99994) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	101.00	98.968181	98.0
3	KB74	L2	True	252.50	269.910942	106.9
4	KB75	L3	True	505.00	490.752146	97.2
5	KB76	L4	True	1010.00	1004.472242	99.5
6	KB77	L5	True	2525.00	2495.865956	98.9
7	KB78	L6	True	10100.00	9993.499522	99.0
8	KB79	L7	True	20200.00	20340.031011	100.7



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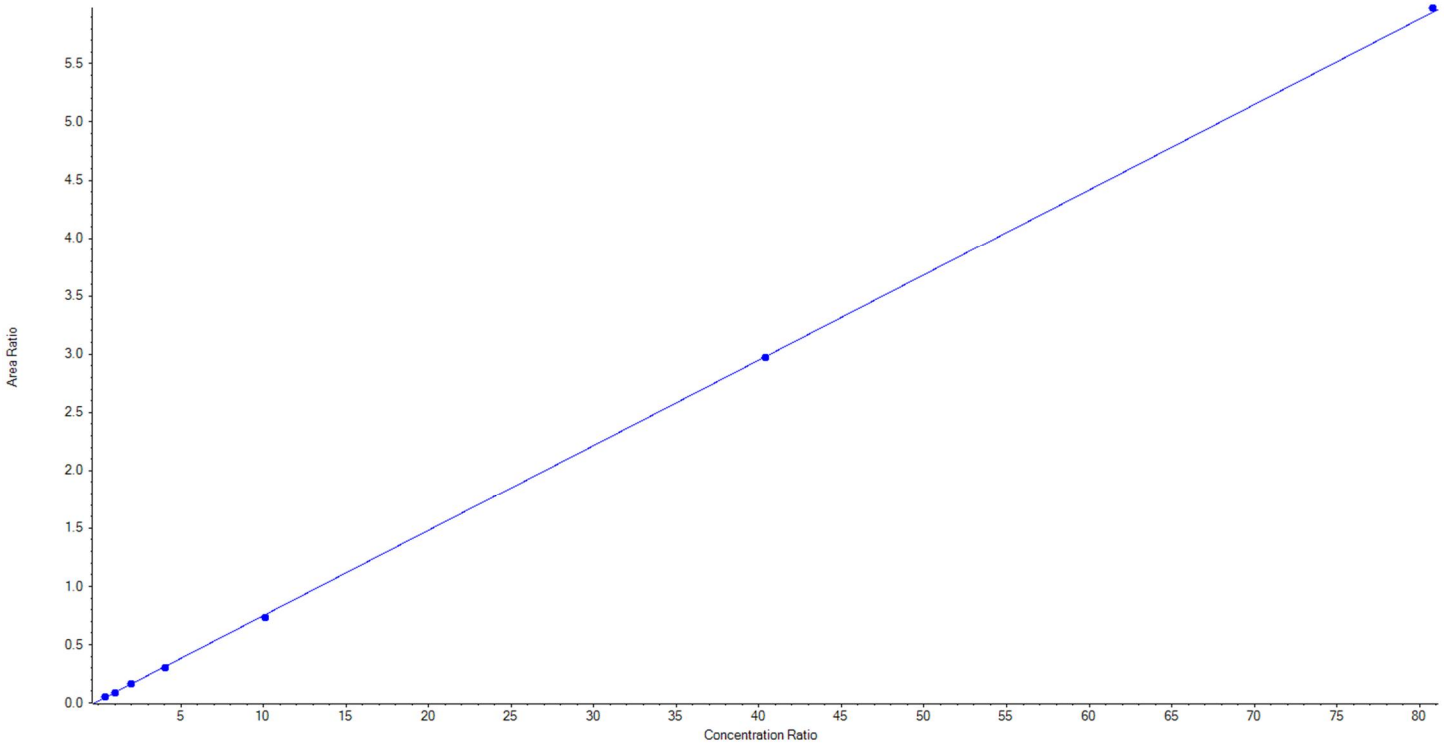
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Analyte Name	PFHxA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.07336 x + 0.01493 (r = 0.99989) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	101.00	113.183087	112.1
3	KB74	L2	True	252.50	230.645561	91.3
4	KB75	L3	True	505.00	514.901118	102.0
5	KB76	L4	True	1010.00	980.952621	97.1
6	KB77	L5	True	2525.00	2451.366061	97.1
7	KB78	L6	True	10100.00	10083.260482	99.8
8	KB79	L7	True	20200.00	20319.191070	100.6



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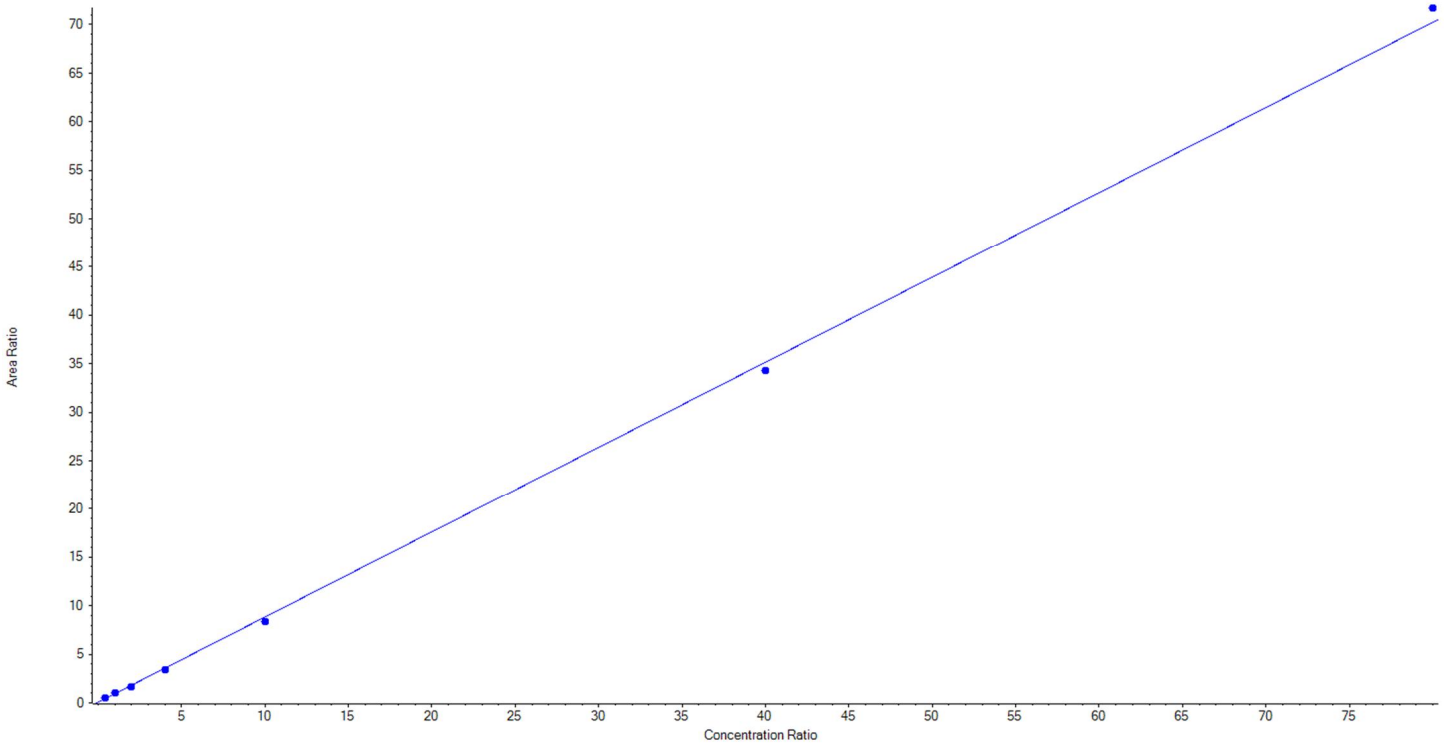
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Analyte Name	PFHpA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	363.0 / 319.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.87722 x + 0.06760 (r = 0.99955) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	113.465532	113.5
3	KB74	L2	True	250.00	261.922885	104.8
4	KB75	L3	True	500.00	452.888167	90.6
5	KB76	L4	True	1000.00	963.772233	96.4
6	KB77	L5	True	2500.00	2376.996854	95.1
7	KB78	L6	True	10000.00	9765.162244	97.7
8	KB79	L7	True	20000.00	20415.792084	102.1



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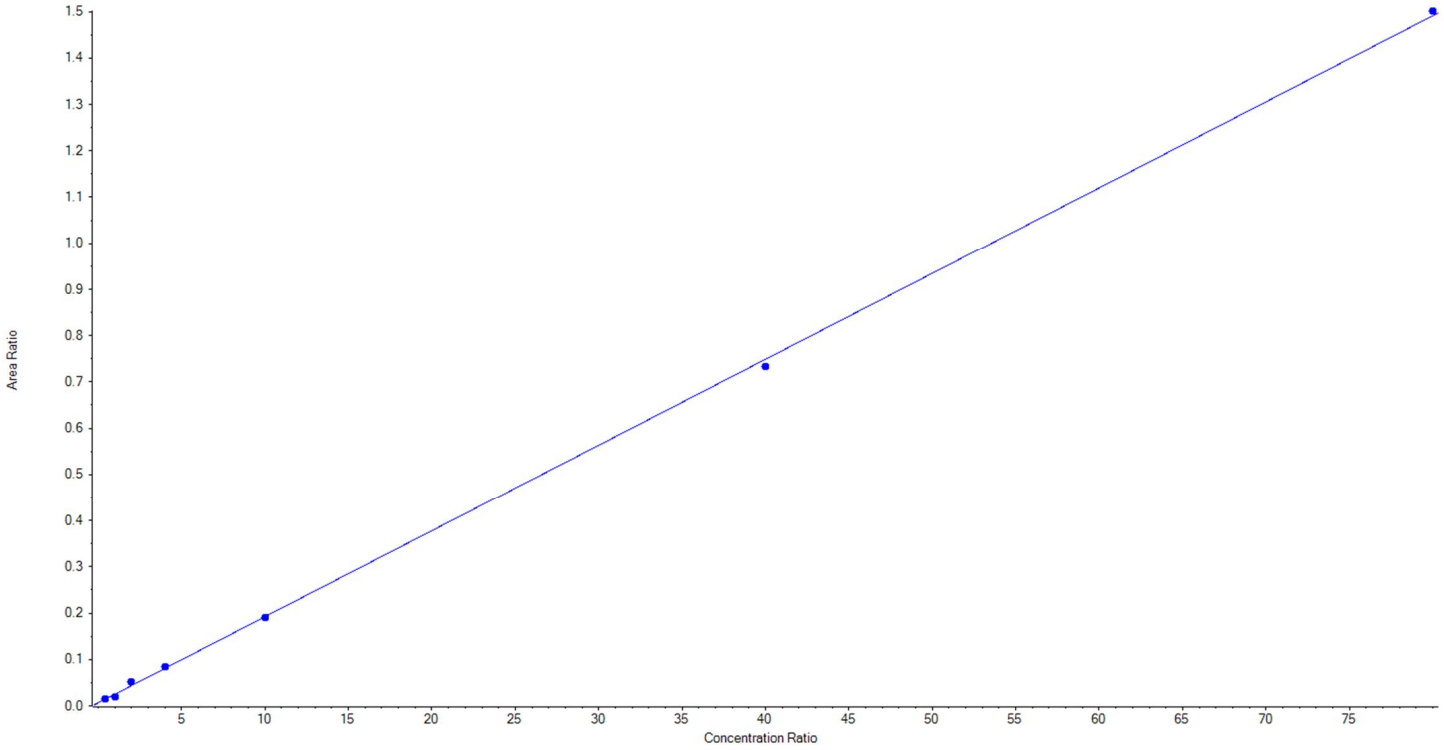
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Analyte Name	PFHpA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	363.0 / 169.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.01856 x + 0.00664 (r = 0.99907) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	103.311634	103.3
3	KB74	L2	True	250.00	175.823351	70.3
4	KB75	L3	True	500.00	618.850678	123.8
5	KB76	L4	True	1000.00	1051.701356	105.2
6	KB77	L5	True	2500.00	2469.602759	98.8
7	KB78	L6	True	10000.00	9796.218447	98.0
8	KB79	L7	True	20000.00	20134.491774	100.7



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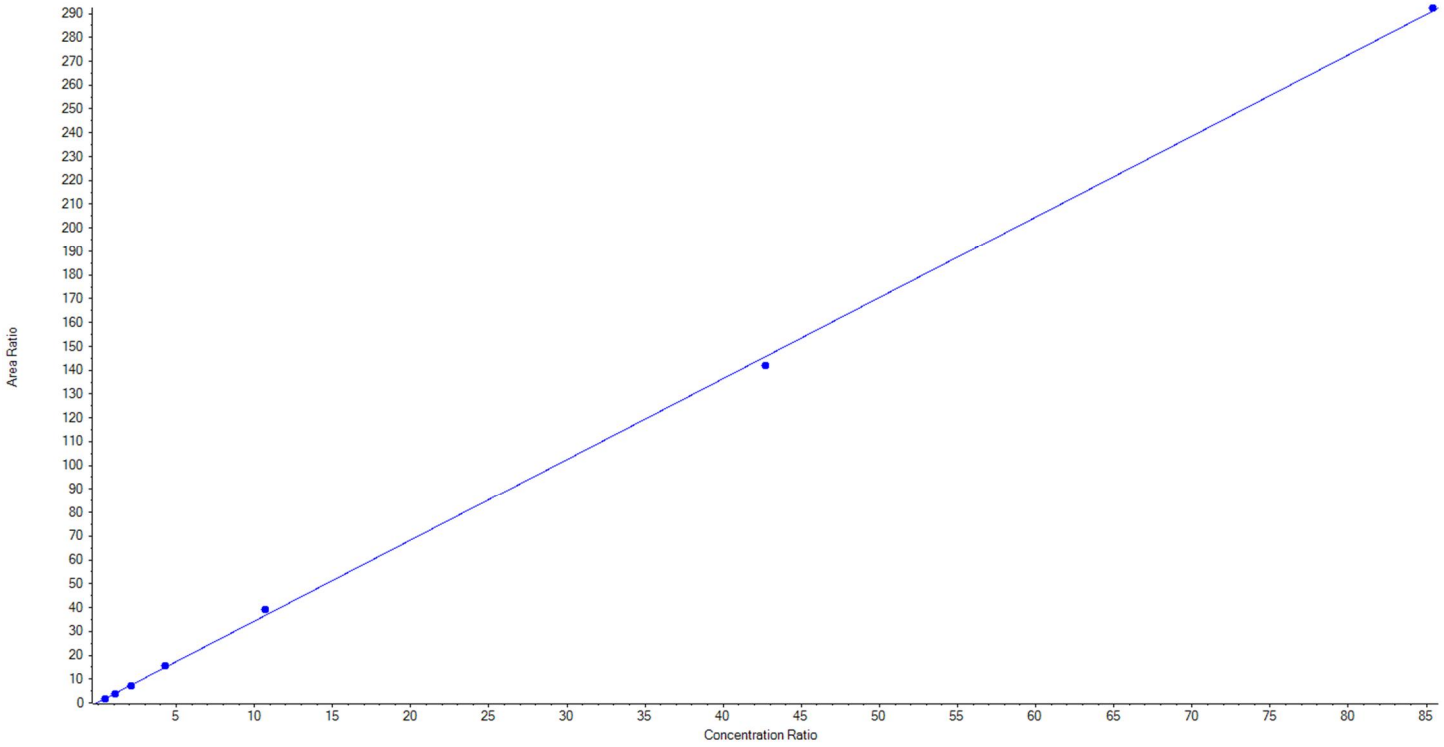
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Analyte Name	PFHxS_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 3.40443 x + 0.28942 (r = 0.99956) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	101.00	105.225987	104.2
3	KB74	L2	True	252.50	232.865372	92.2
4	KB75	L3	True	505.00	467.824000	92.6
5	KB76	L4	True	1010.00	1074.776448	106.4
6	KB77	L5	True	2525.00	2696.493262	106.8
7	KB78	L6	True	10100.00	9828.822898	97.3
8	KB79	L7	True	20200.00	20287.492034	100.4



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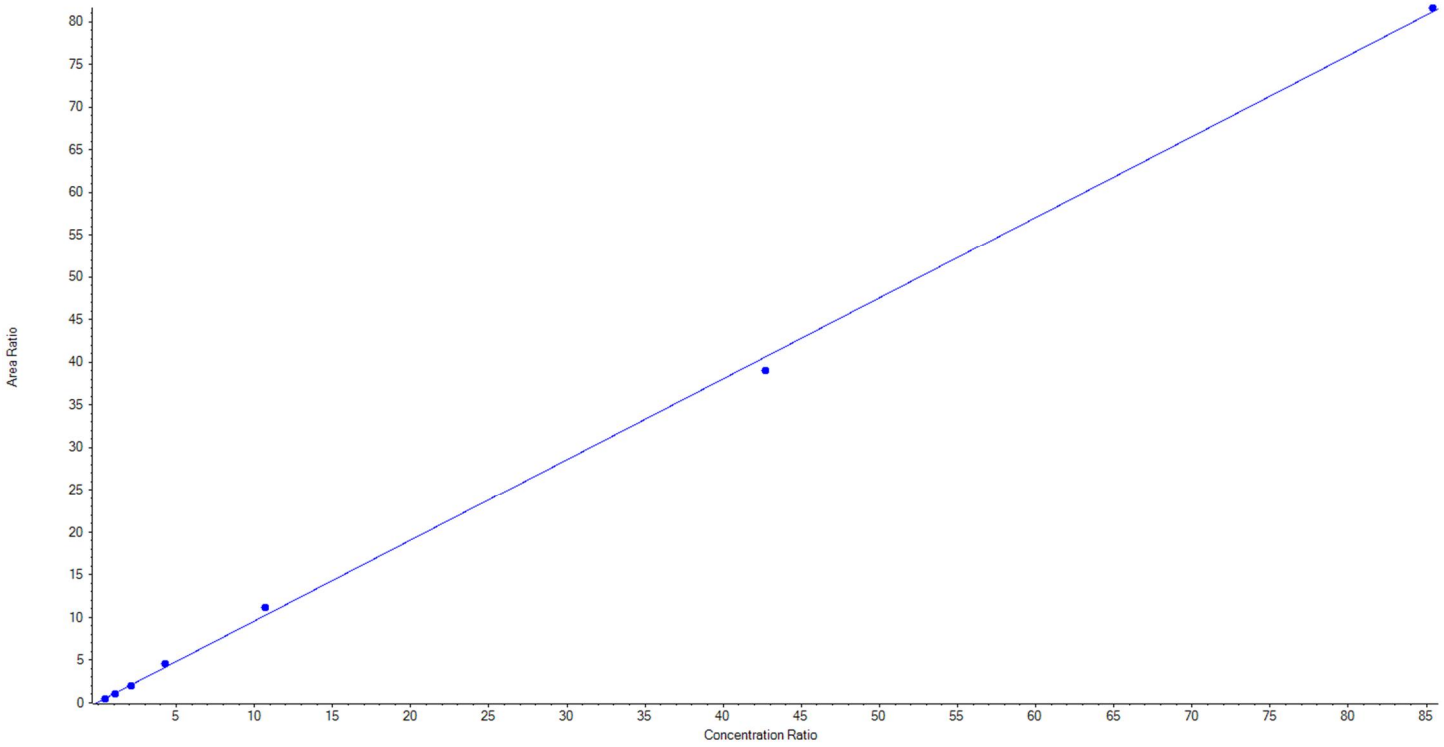
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Analyte Name	PFHxS_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.94916 x + 0.10161 (r = 0.99926) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	101.00	98.139274	97.2
3	KB74	L2	True	252.50	231.314187	91.6
4	KB75	L3	True	505.00	484.563583	96.0
5	KB76	L4	True	1010.00	1107.476178	109.7
6	KB77	L5	True	2525.00	2749.725828	108.9
7	KB78	L6	True	10100.00	9714.855919	96.2
8	KB79	L7	True	20200.00	20307.425032	100.5



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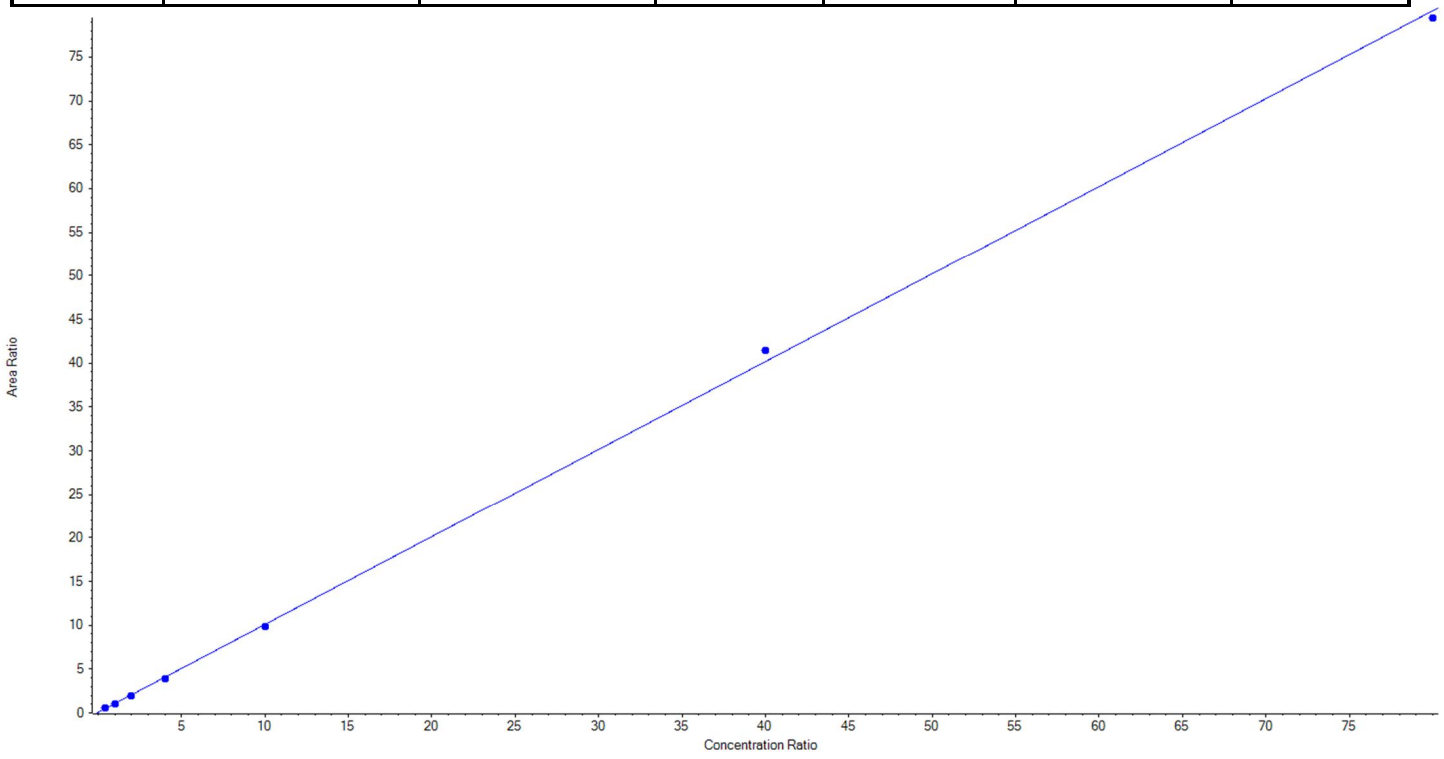
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Analyte Name	PFOA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	413.0 / 369.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.00279 x + 0.06080 (r = 0.99969) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	113.608497	113.6
3	KB74	L2	True	250.00	242.259718	96.9
4	KB75	L3	True	500.00	467.456638	93.5
5	KB76	L4	True	1000.00	956.844142	95.7
6	KB77	L5	True	2500.00	2452.232813	98.1
7	KB78	L6	True	10000.00	10326.914009	103.3
8	KB79	L7	True	20000.00	19790.684183	99.0



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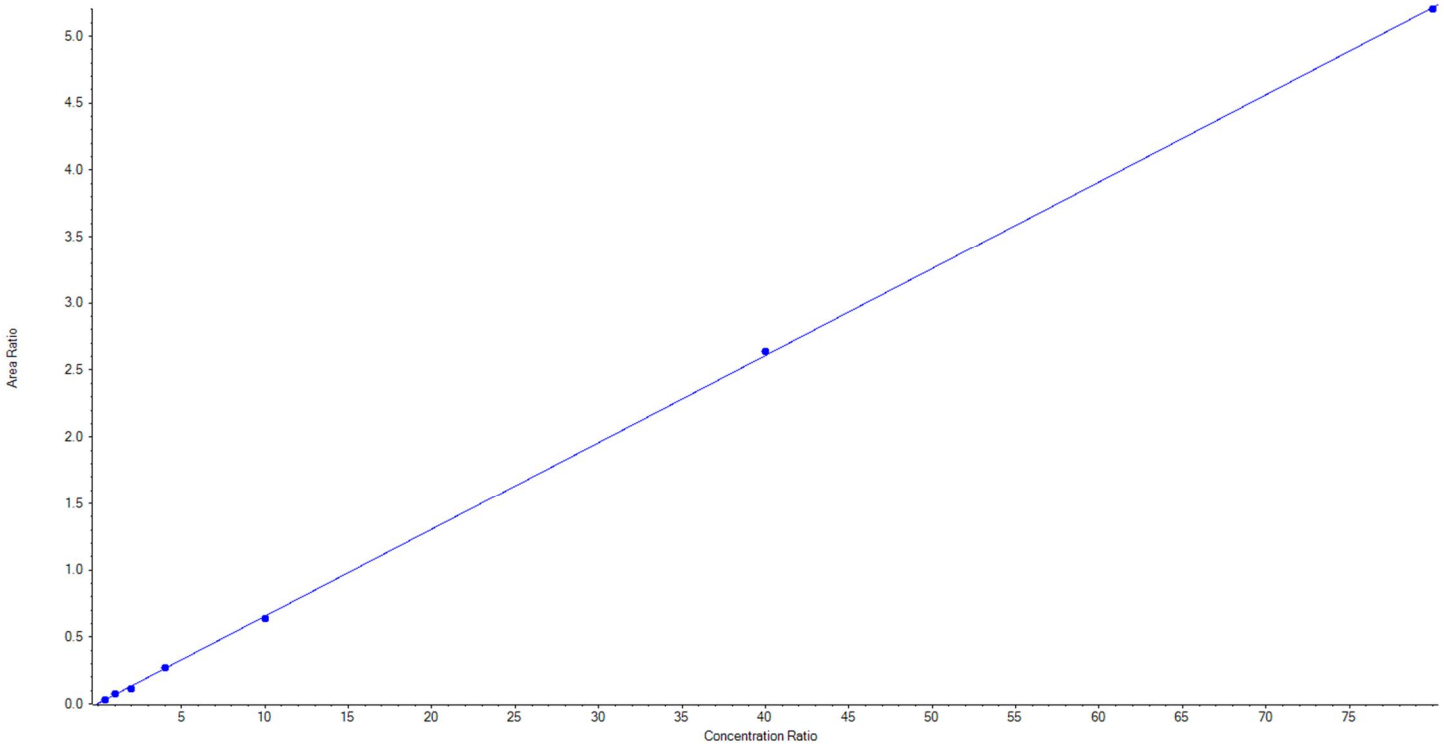
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Analyte Name	PFOA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	413.0 / 169.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.06512 x + 0.00376 (r = 0.99971) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	104.849376	104.9
3	KB74	L2	True	250.00	273.238913	109.3
4	KB75	L3	True	500.00	421.303706	84.3
5	KB76	L4	True	1000.00	1028.034772	102.8
6	KB77	L5	True	2500.00	2444.883328	97.8
7	KB78	L6	True	10000.00	10121.411629	101.2
8	KB79	L7	True	20000.00	19956.278277	99.8



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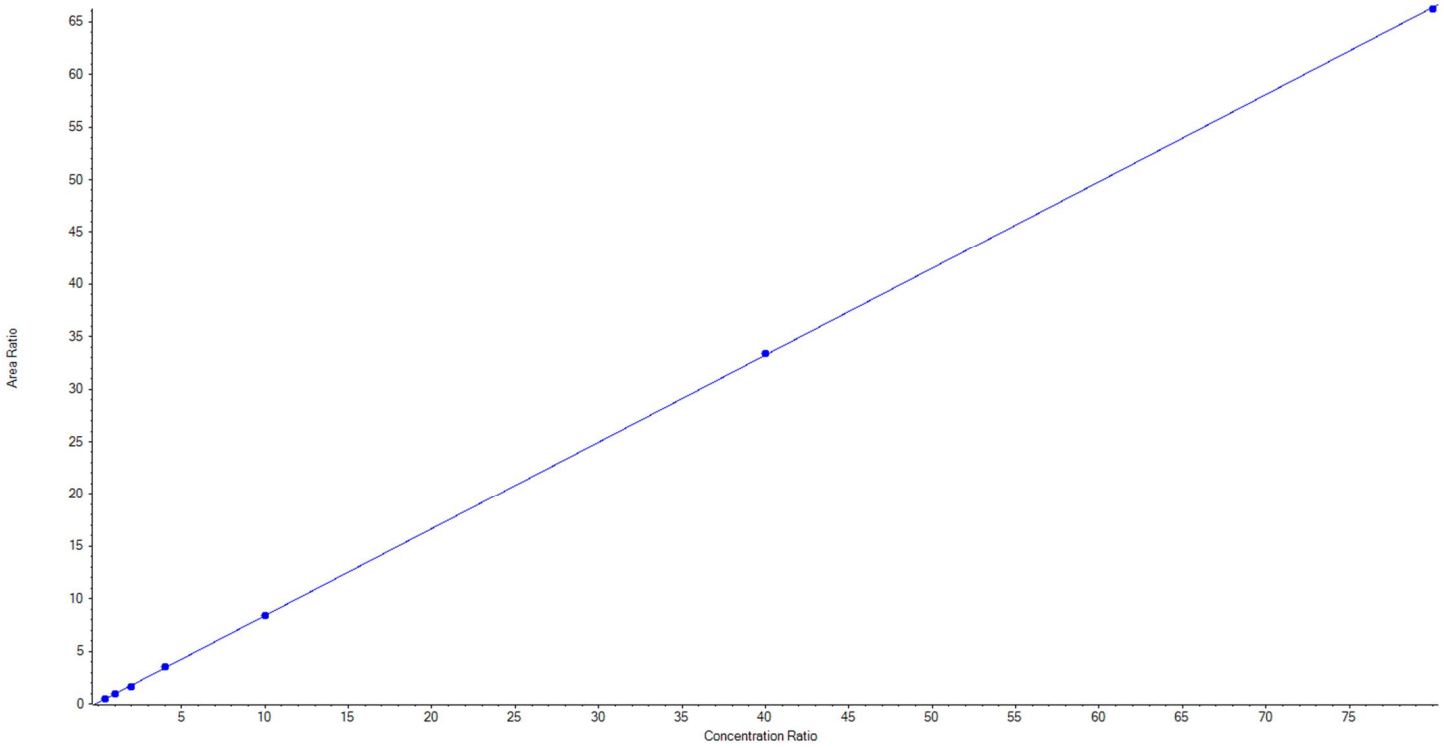
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Analyte Name	PFNA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	463.0 / 419.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.82839 x + 0.10849 (r = 0.99987) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	100.132667	100.1
3	KB74	L2	True	250.00	263.216231	105.3
4	KB75	L3	True	500.00	450.336433	90.1
5	KB76	L4	True	1000.00	1046.243999	104.6
6	KB77	L5	True	2500.00	2491.510736	99.7
7	KB78	L6	True	10000.00	10047.185055	100.5
8	KB79	L7	True	20000.00	19951.374879	99.8



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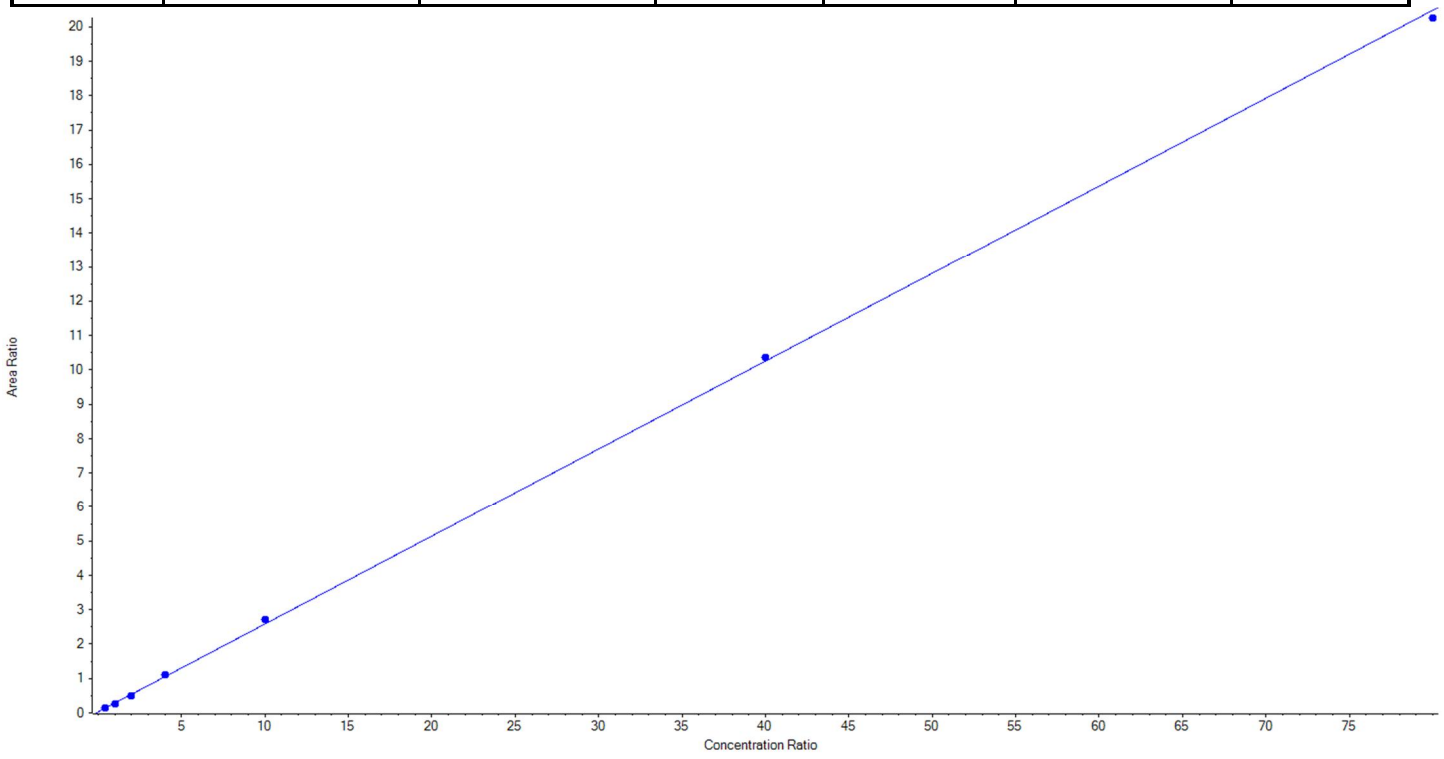
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Analyte Name	PFNA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	463.0 / 219.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.25566 x + 0.02957 (r = 0.99963) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	111.702594	111.7
3	KB74	L2	True	250.00	220.916460	88.4
4	KB75	L3	True	500.00	448.287193	89.7
5	KB76	L4	True	1000.00	1050.052047	105.0
6	KB77	L5	True	2500.00	2632.290752	105.3
7	KB78	L6	True	10000.00	10108.558837	101.1
8	KB79	L7	True	20000.00	19778.192118	98.9



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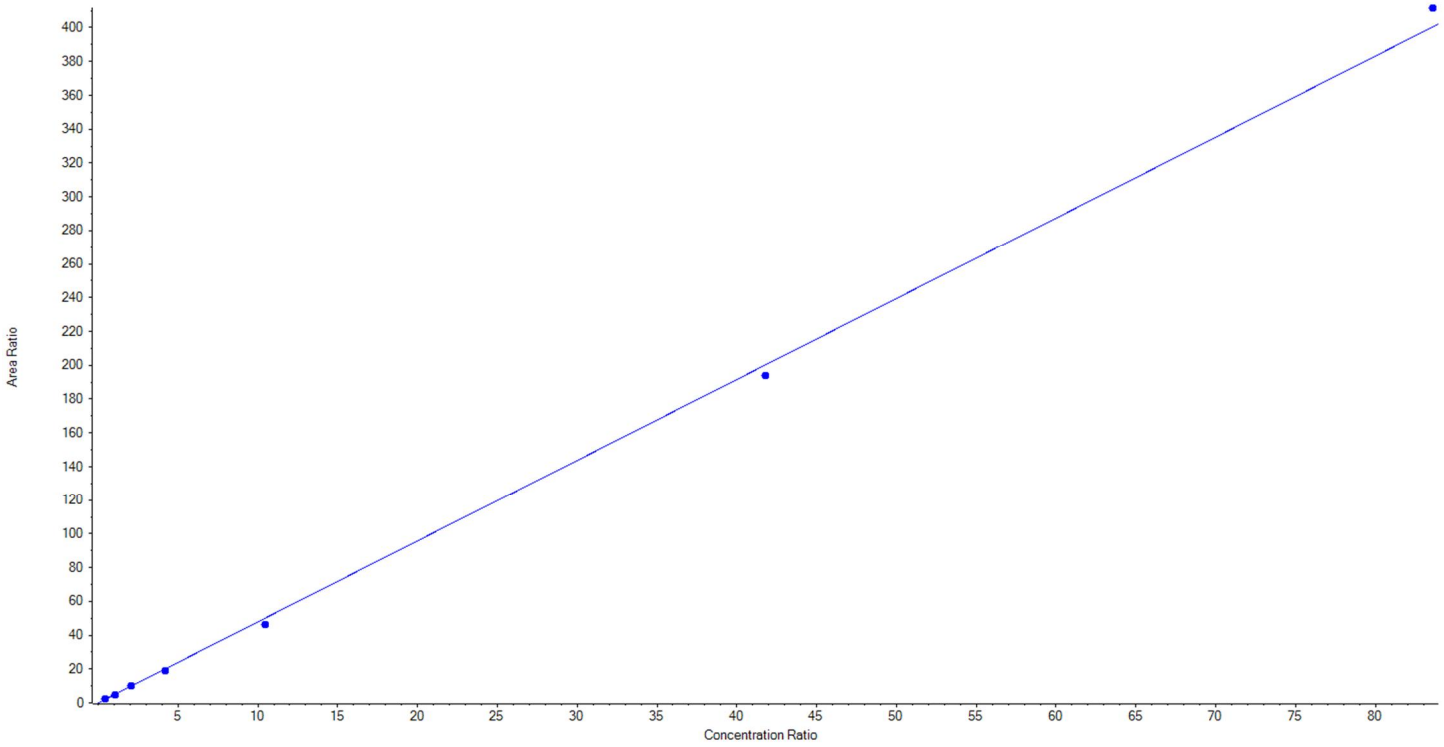
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Analyte Name	PFOS_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 4.79098 x + -0.03583 (r = 0.99927) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	112.998705	113.0
3	KB74	L2	True	250.00	245.807613	98.3
4	KB75	L3	True	500.00	508.954098	101.8
5	KB76	L4	True	1000.00	953.422687	95.3
6	KB77	L5	True	2500.00	2300.880982	92.0
7	KB78	L6	True	10000.00	9674.048541	96.7
8	KB79	L7	True	20000.00	20553.887374	102.8



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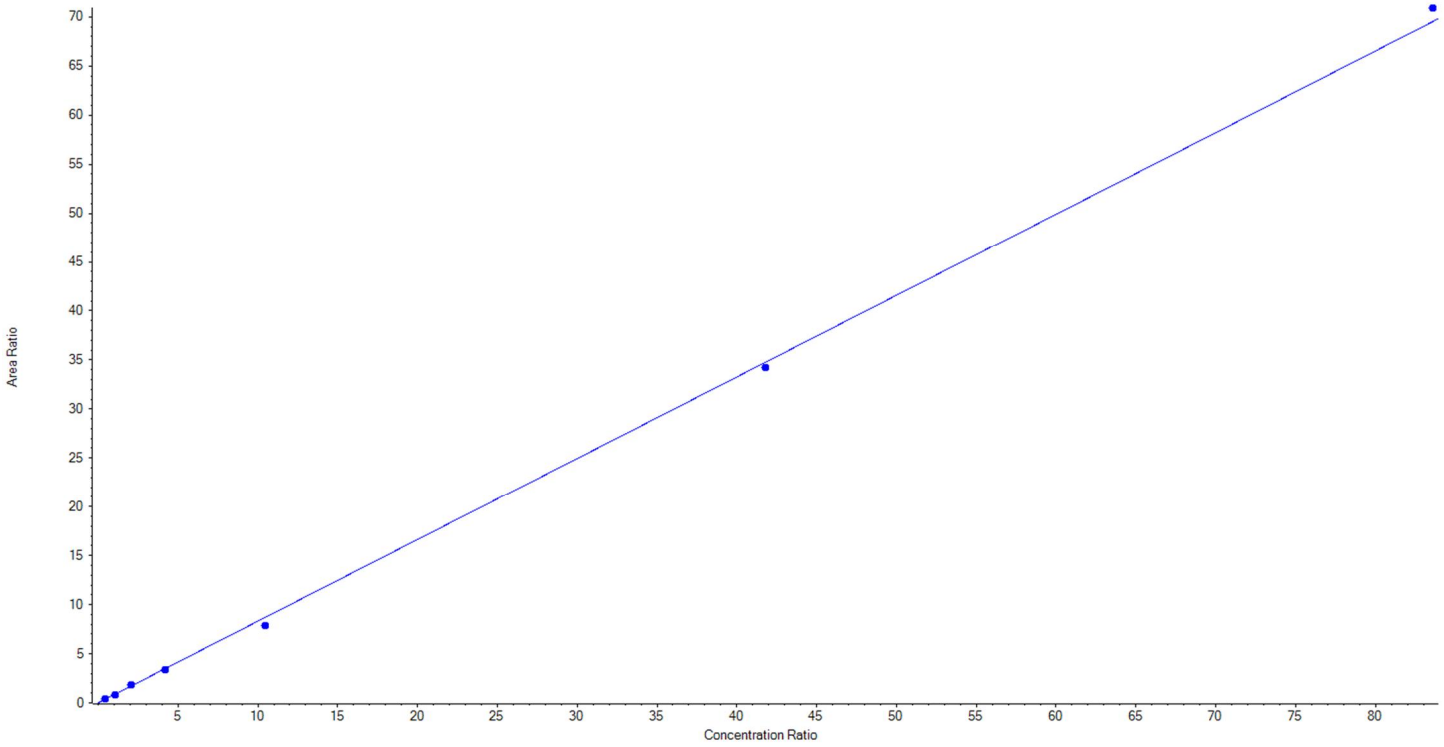
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Analyte Name	PFOS_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.83172 x + -0.00135 (r = 0.99945) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	110.962710	111.0
3	KB74	L2	True	250.00	244.538081	97.8
4	KB75	L3	True	500.00	520.238814	104.1
5	KB76	L4	True	1000.00	958.547975	95.9
6	KB77	L5	True	2500.00	2271.299000	90.9
7	KB78	L6	True	10000.00	9849.093945	98.5
8	KB79	L7	True	20000.00	20395.319474	102.0



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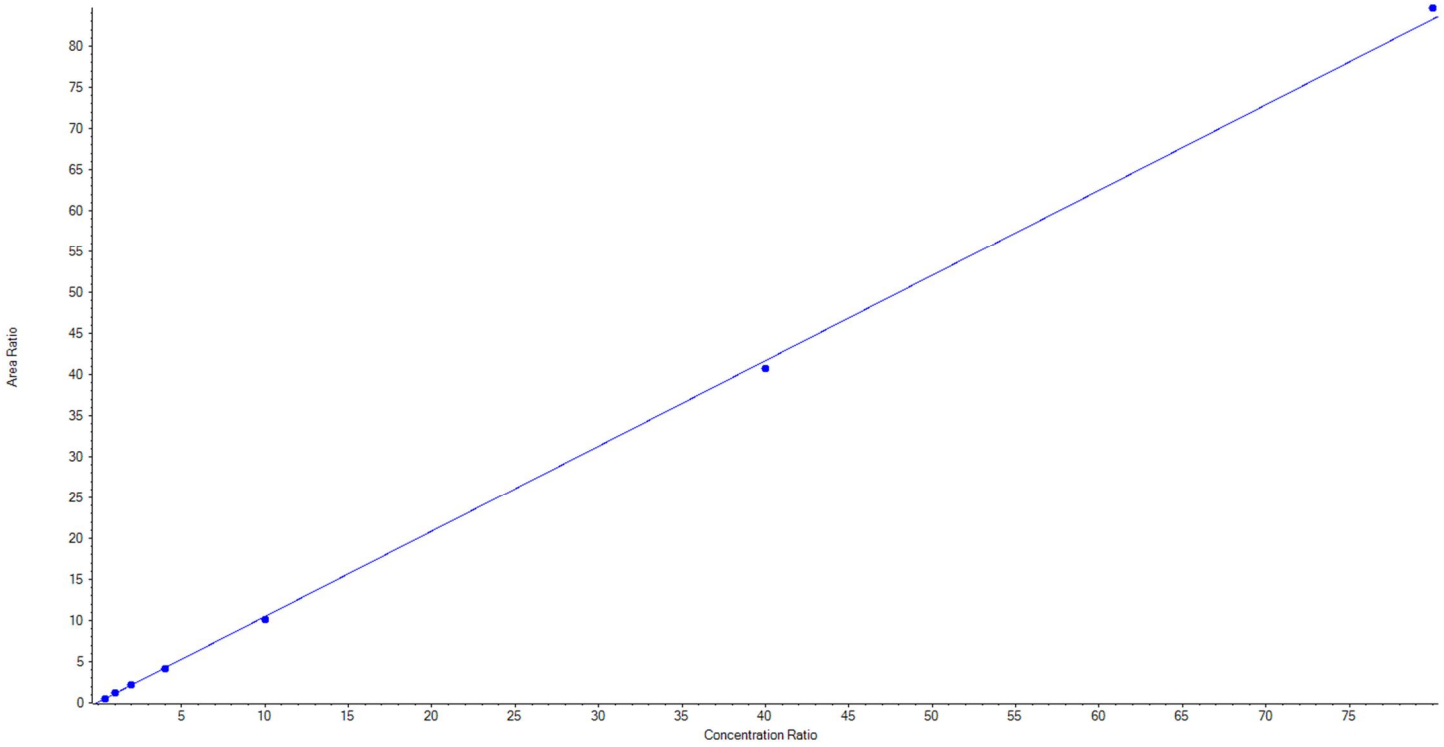
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Analyte Name	PFDA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	513.0 / 469.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.03992 x + 0.08967 (r = 0.99977) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	100.375074	100.4
3	KB74	L2	True	250.00	264.467518	105.8
4	KB75	L3	True	500.00	495.556524	99.1
5	KB76	L4	True	1000.00	987.592944	98.8
6	KB77	L5	True	2500.00	2418.646707	96.8
7	KB78	L6	True	10000.00	9760.929085	97.6
8	KB79	L7	True	20000.00	20322.432148	101.6



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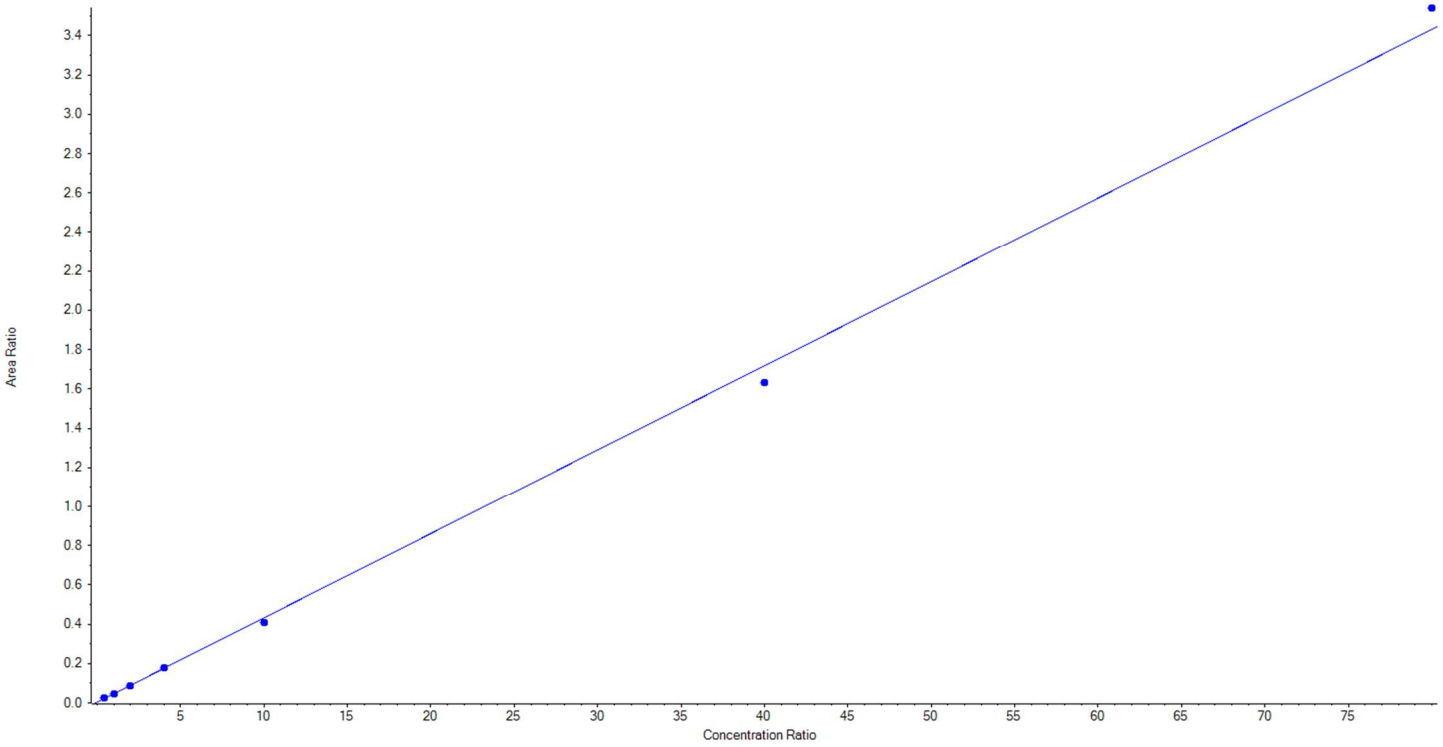
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Analyte Name	PFDA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	513.0 / 219.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04284 x + 0.00408 (r = 0.99914) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	112.406023	112.4
3	KB74	L2	True	250.00	245.500787	98.2
4	KB75	L3	True	500.00	479.073328	95.8
5	KB76	L4	True	1000.00	1010.924950	101.1
6	KB77	L5	True	2500.00	2354.317167	94.2
7	KB78	L6	True	10000.00	9514.985150	95.2
8	KB79	L7	True	20000.00	20632.792594	103.2



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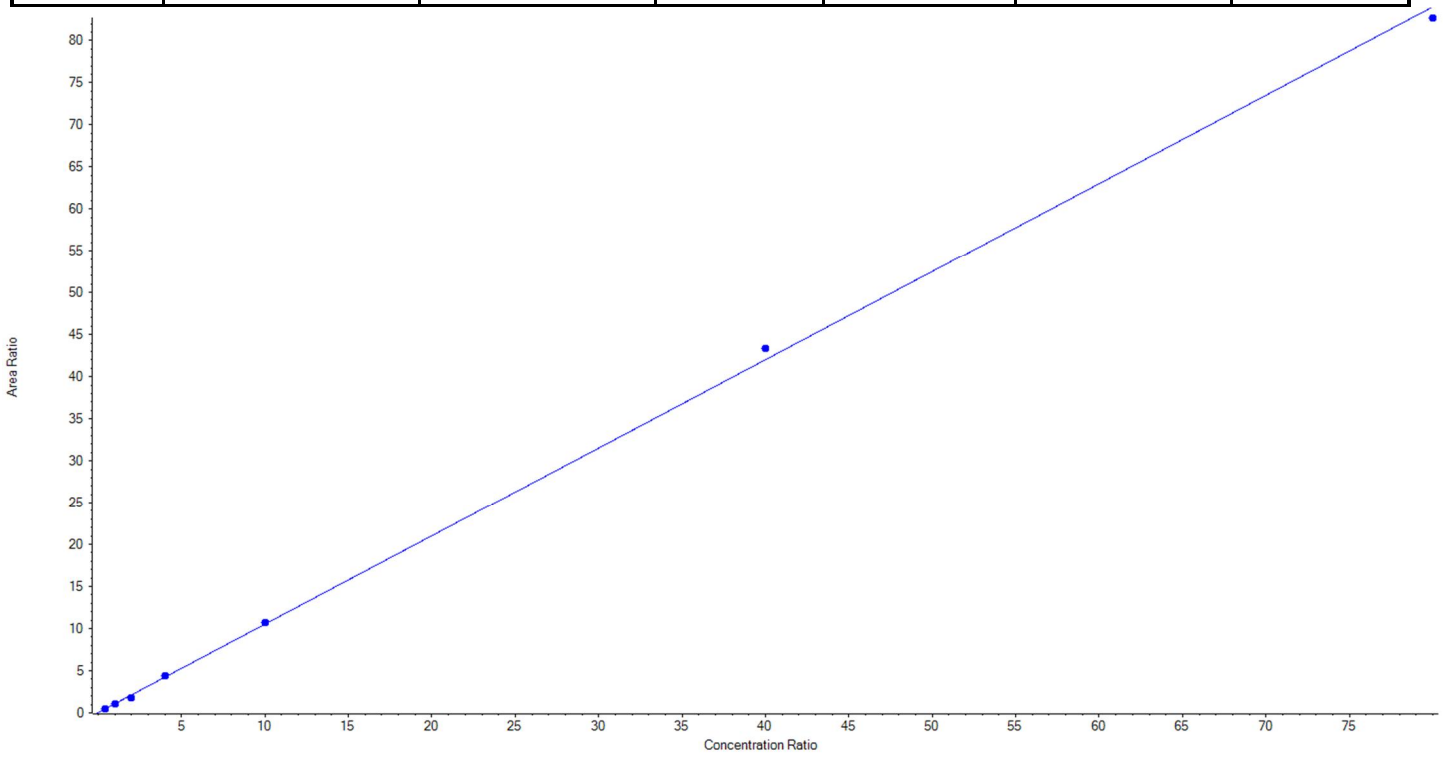
Calibration Summary Report

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Analyte Name	PFUnA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.04939 x + 0.04151 (r = 0.99953) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	111.527231	111.5
3	KB74	L2	True	250.00	244.824605	97.9
4	KB75	L3	True	500.00	423.690587	84.7
5	KB76	L4	True	1000.00	1026.343861	102.6
6	KB77	L5	True	2500.00	2538.187940	101.5
7	KB78	L6	True	10000.00	10323.155375	103.2
8	KB79	L7	True	20000.00	19682.270401	98.4



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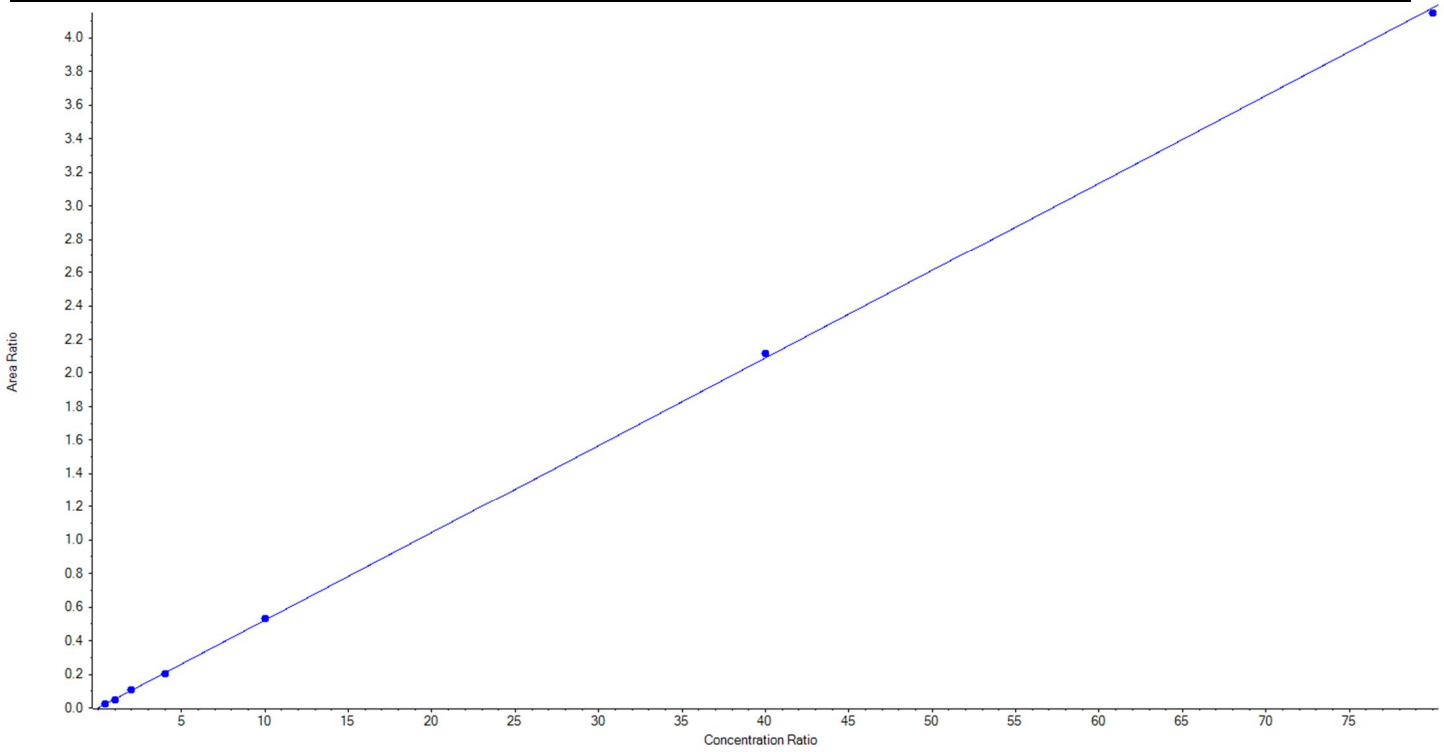
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Analyte Name	PFUnA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05225 x + -5.79528e-5 (r = 0.99994) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	102.220892	102.2
3	KB74	L2	True	250.00	242.442598	97.0
4	KB75	L3	True	500.00	501.608235	100.3
5	KB76	L4	True	1000.00	981.918474	98.2
6	KB77	L5	True	2500.00	2544.385755	101.8
7	KB78	L6	True	10000.00	10125.204796	101.3
8	KB79	L7	True	20000.00	19852.219250	99.3



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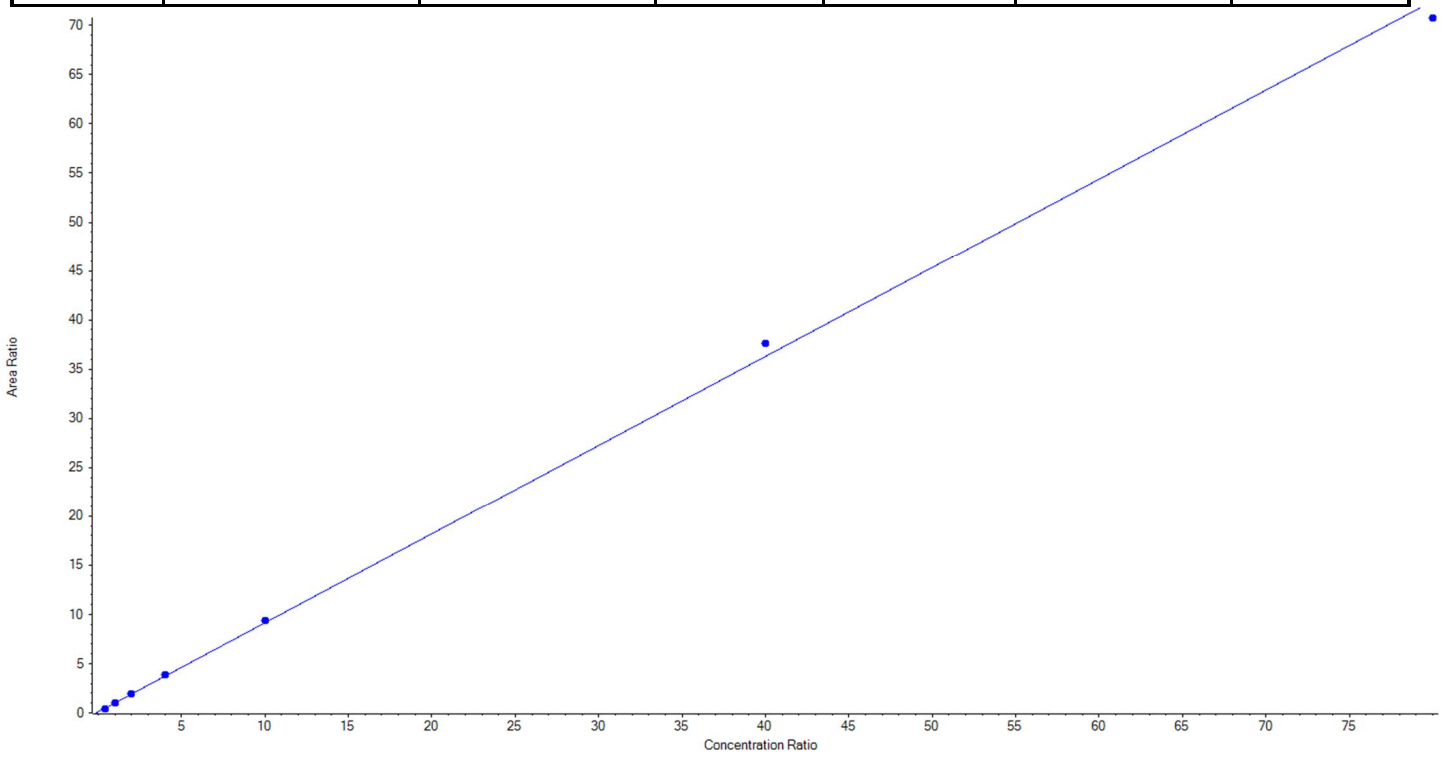
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Analyte Name	PFDoA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	613.0 / 569.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.90471 x + 0.10550 (r = 0.99952) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	90.939755	90.9
3	KB74	L2	True	250.00	247.072023	98.8
4	KB75	L3	True	500.00	506.360909	101.3
5	KB76	L4	True	1000.00	1050.478389	105.1
6	KB77	L5	True	2500.00	2565.539851	102.6
7	KB78	L6	True	10000.00	10368.355085	103.7
8	KB79	L7	True	20000.00	19521.253987	97.6



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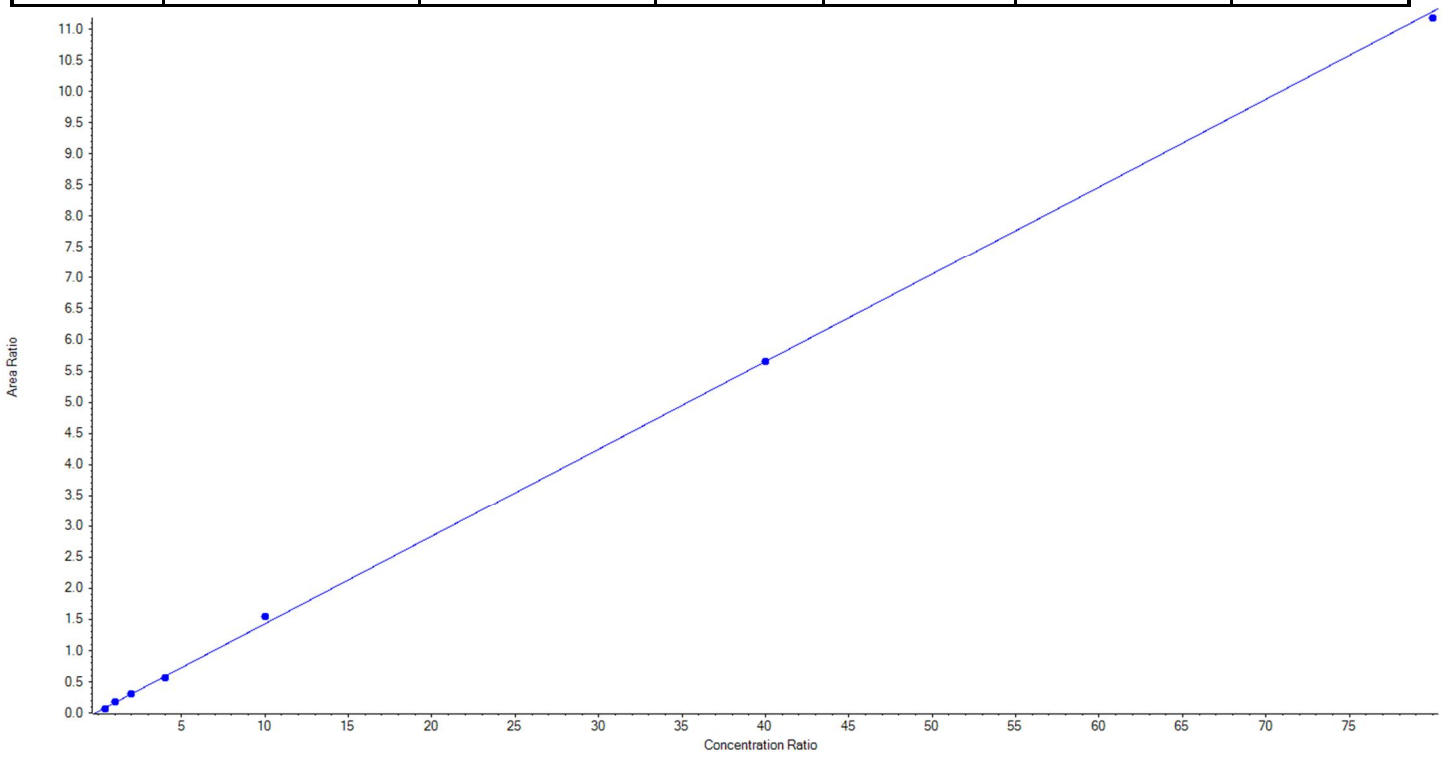
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Analyte Name	PFDoA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	613.0 / 319.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.14074 x + 0.02292 (r = 0.99961) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	86.545687	86.6
3	KB74	L2	True	250.00	274.615048	109.9
4	KB75	L3	True	500.00	494.661881	98.9
5	KB76	L4	True	1000.00	971.395687	97.1
6	KB77	L5	True	2500.00	2712.576260	108.5
7	KB78	L6	True	10000.00	9996.454238	100.0
8	KB79	L7	True	20000.00	19813.751199	99.1



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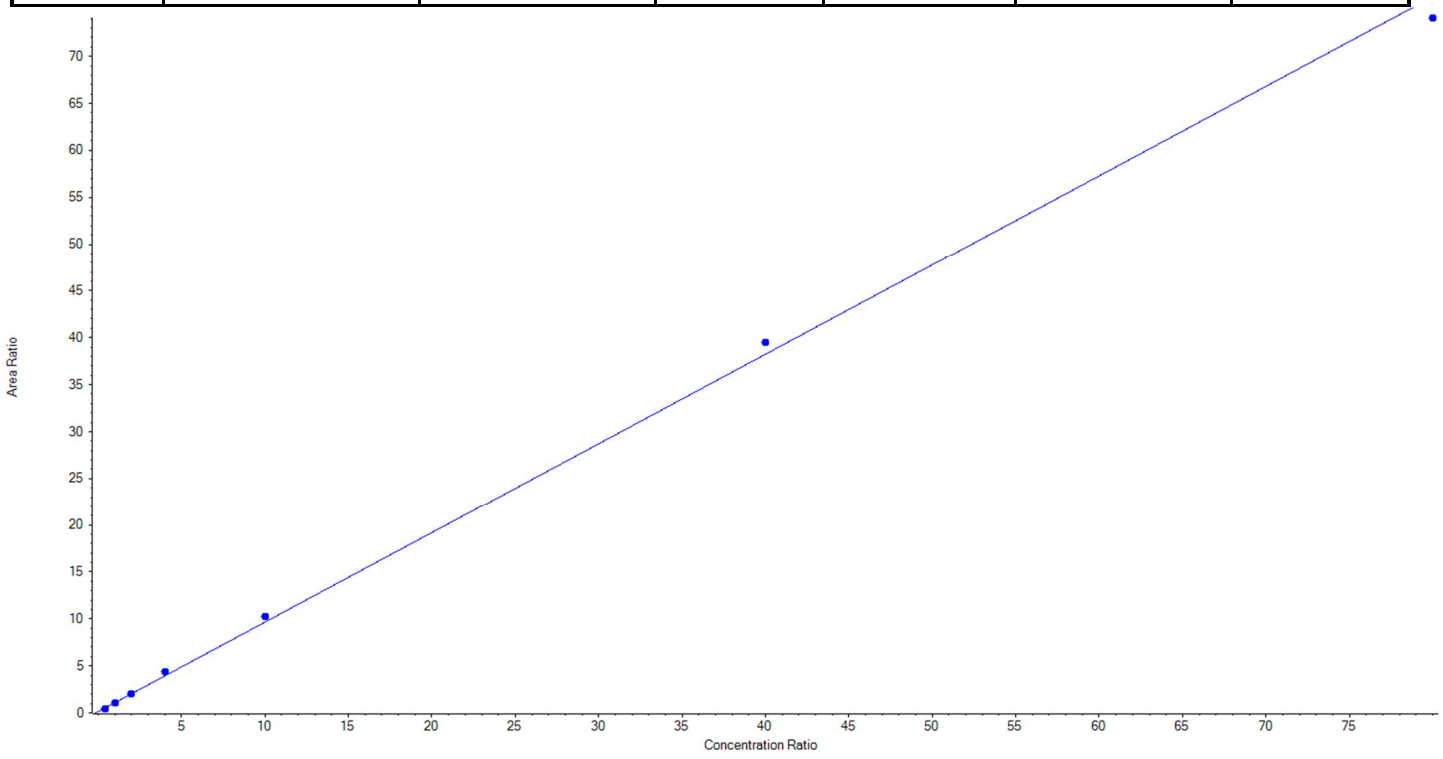
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Analyte Name	PFTrDA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.95260 x + 0.12887 (r = 0.99908) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	85.967911	86.0
3	KB74	L2	True	250.00	241.563939	96.6
4	KB75	L3	True	500.00	488.700899	97.7
5	KB76	L4	True	1000.00	1126.764608	112.7
6	KB77	L5	True	2500.00	2664.921530	106.6
7	KB78	L6	True	10000.00	10336.521146	103.4
8	KB79	L7	True	20000.00	19405.559967	97.0



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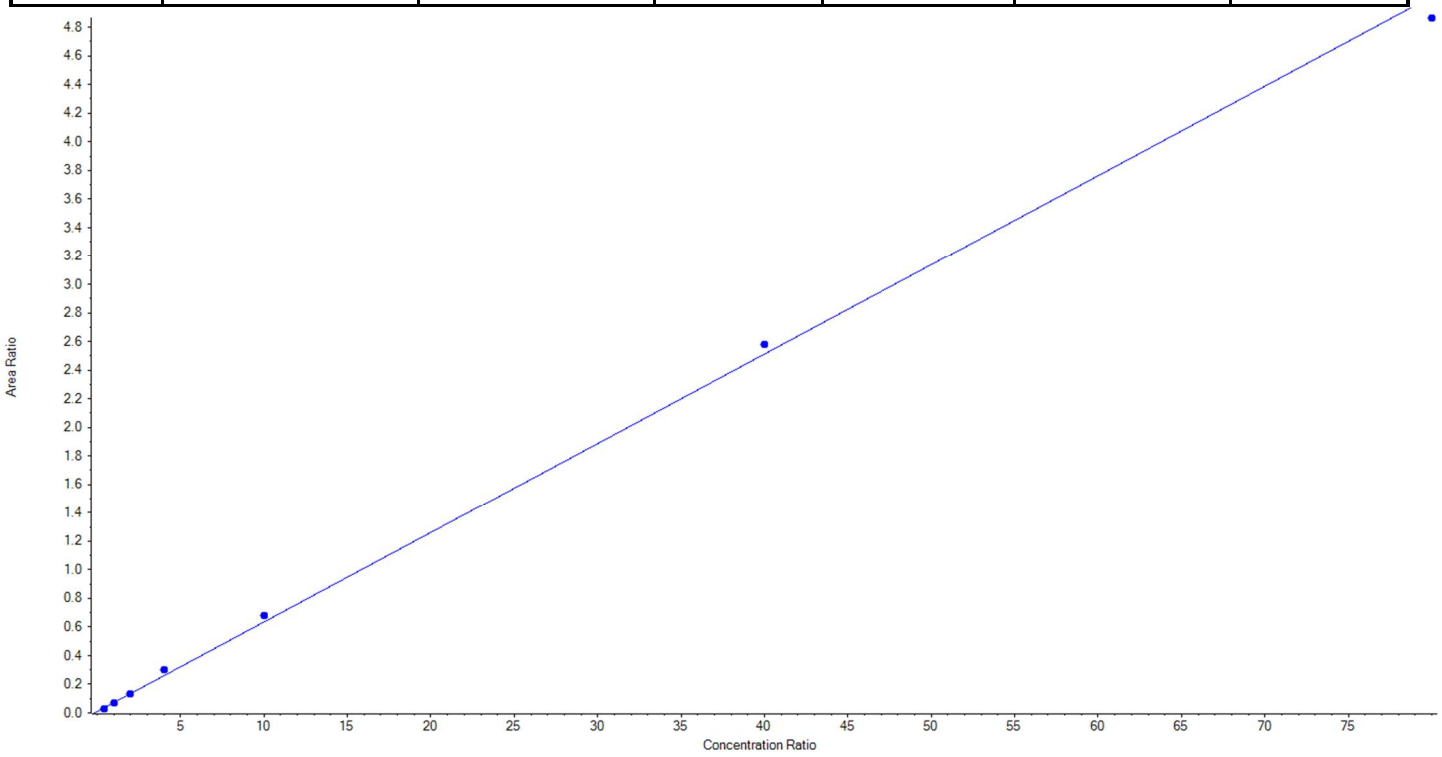
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Analyte Name	PFTrDA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.06256 x + 0.00941 (r = 0.99887) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	78.198175	78.2
3	KB74	L2	True	250.00	247.986856	99.2
4	KB75	L3	True	500.00	495.036348	99.0
5	KB76	L4	True	1000.00	1164.067670	116.4
6	KB77	L5	True	2500.00	2684.712399	107.4
7	KB78	L6	True	10000.00	10280.911529	102.8
8	KB79	L7	True	20000.00	19399.087023	97.0



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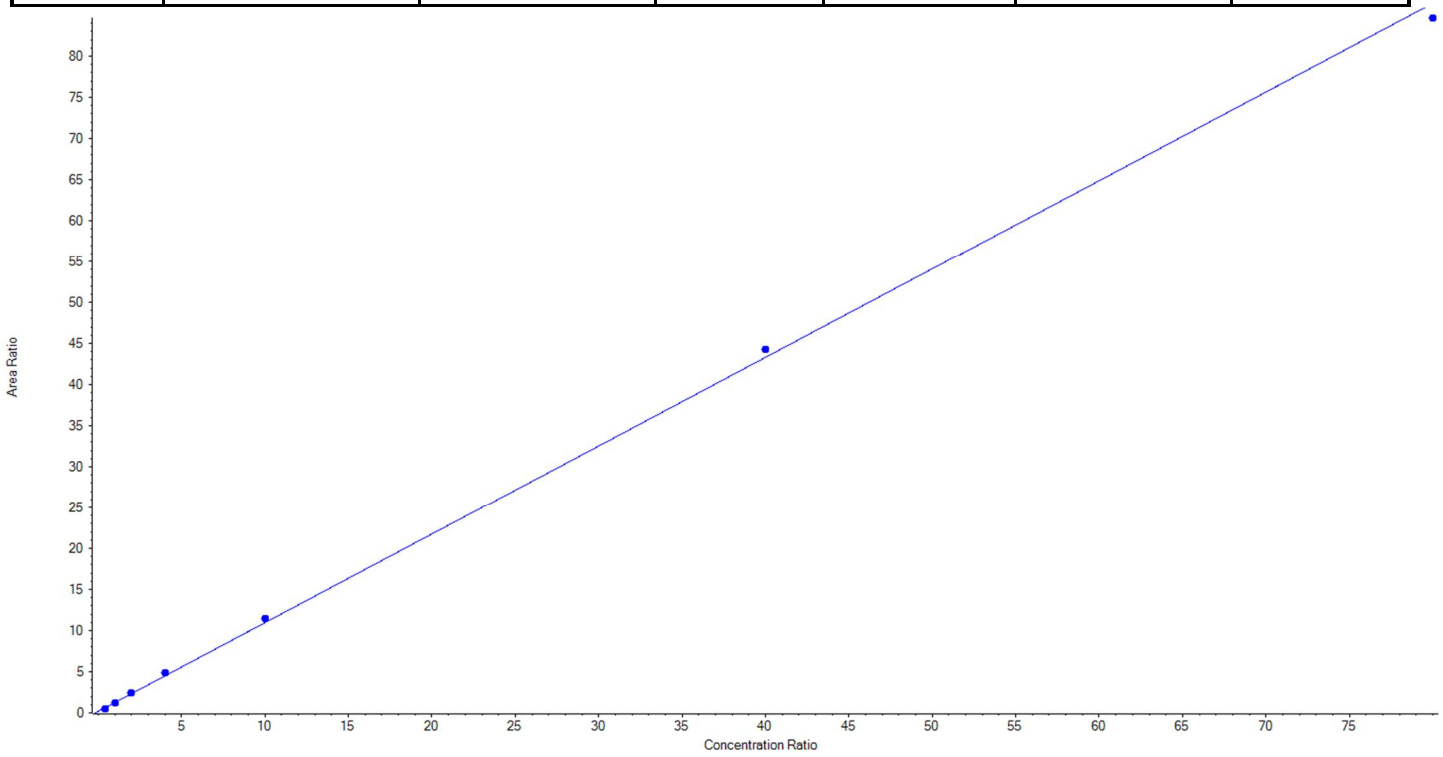
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Analyte Name	PFTeDA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	713.0 / 669.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.07817 x + 0.18334 (r = 0.99951) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	81.728327	81.7
3	KB74	L2	True	250.00	253.645310	101.5
4	KB75	L3	True	500.00	515.154084	103.0
5	KB76	L4	True	1000.00	1095.645152	109.6
6	KB77	L5	True	2500.00	2603.218162	104.1
7	KB78	L6	True	10000.00	10217.289136	102.2
8	KB79	L7	True	20000.00	19583.319829	97.9



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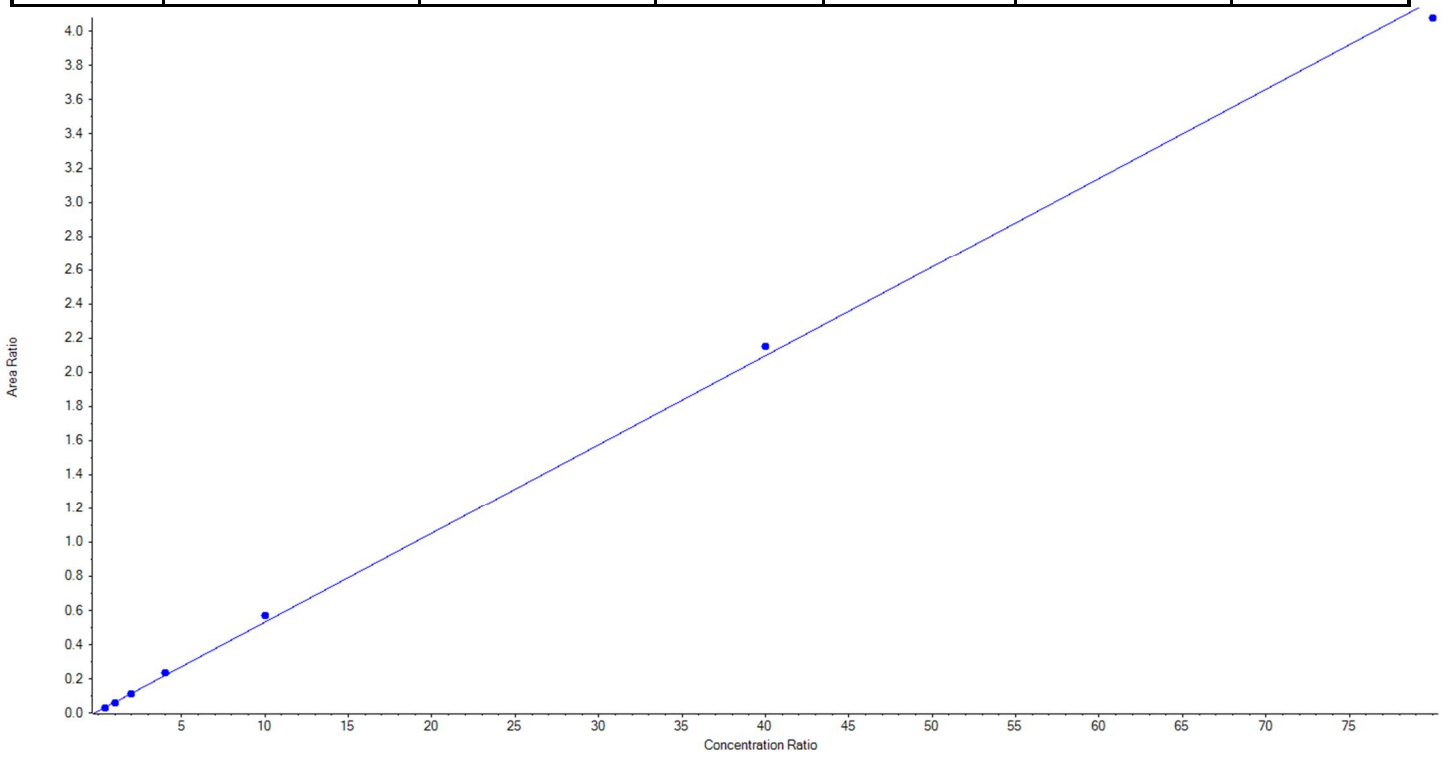
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Analyte Name	PFTeDA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	713.0 / 169.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05216 x + 0.01003 (r = 0.99933) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	89.886117	89.9
3	KB74	L2	True	250.00	238.937138	95.6
4	KB75	L3	True	500.00	490.005825	98.0
5	KB76	L4	True	1000.00	1092.239213	109.2
6	KB77	L5	True	2500.00	2680.771848	107.2
7	KB78	L6	True	10000.00	10258.453725	102.6
8	KB79	L7	True	20000.00	19499.706134	97.5



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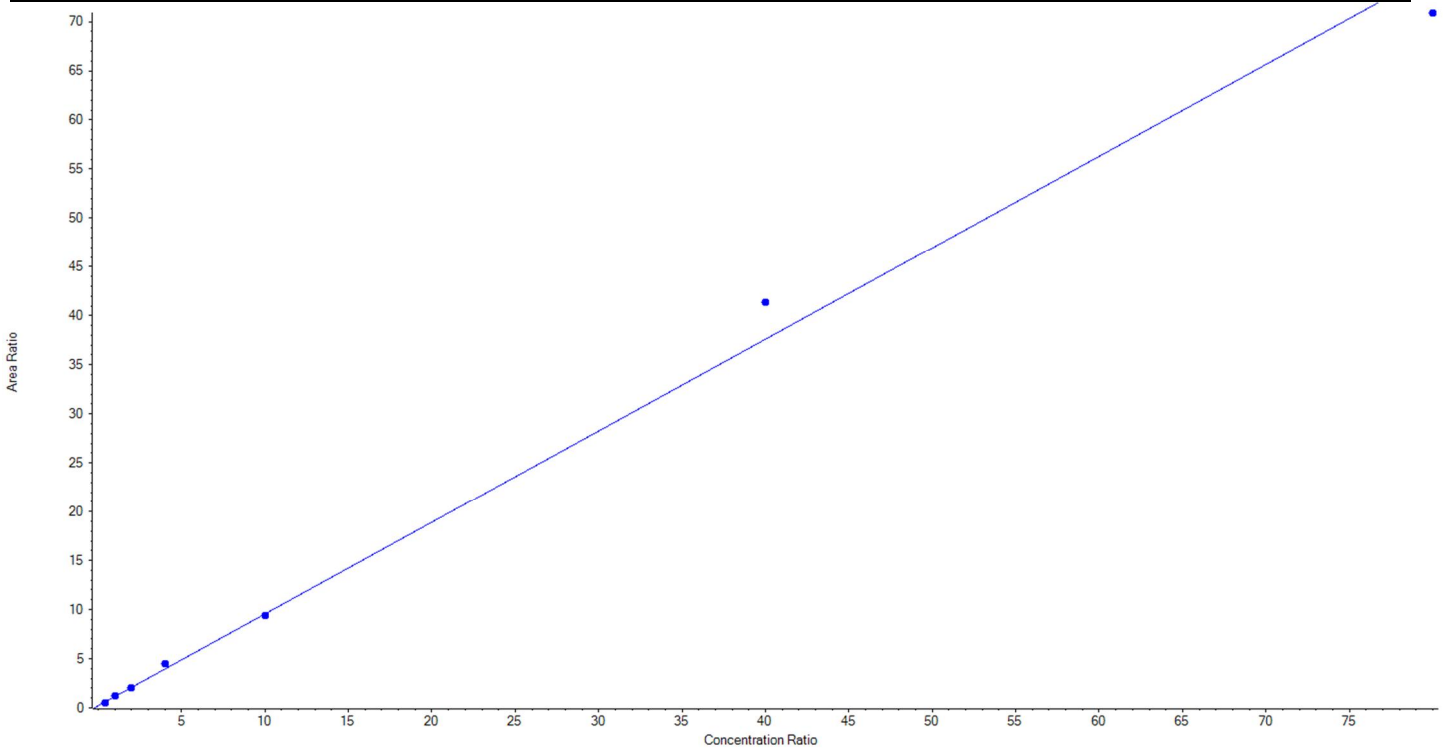
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Analyte Name	NMeFOSAA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	570.0 / 419.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.93472 x + 0.21431 (r = 0.99704) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	75.824991	75.8
3	KB74	L2	True	250.00	268.876365	107.6
4	KB75	L3	True	500.00	500.524214	100.1
5	KB76	L4	True	1000.00	1133.404189	113.3
6	KB77	L5	True	2500.00	2465.257046	98.6
7	KB78	L6	True	10000.00	11007.670601	110.1
8	KB79	L7	True	20000.00	18898.442593	94.5



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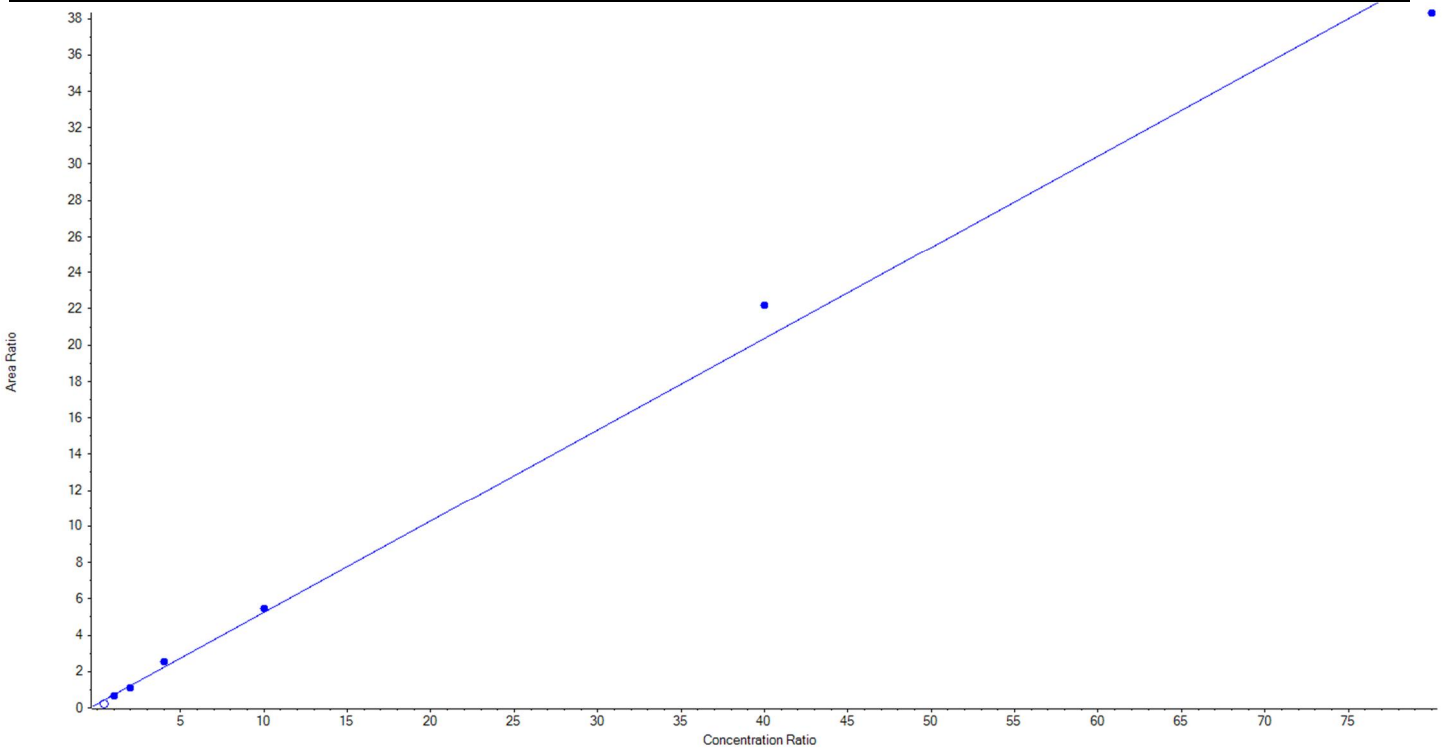
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Analyte Name	NMeFOSAA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	570.0 / 512.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.50367 x + 0.21759 (r = 0.99687) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	False	100.00	3.453918	3.5
3	KB74	L2	True	250.00	218.419800	87.4
4	KB75	L3	True	500.00	439.990383	88.0
5	KB76	L4	True	1000.00	1163.925478	116.4
6	KB77	L5	True	2500.00	2616.439396	104.7
7	KB78	L6	True	10000.00	10905.550987	109.1
8	KB79	L7	True	20000.00	18905.673956	94.5



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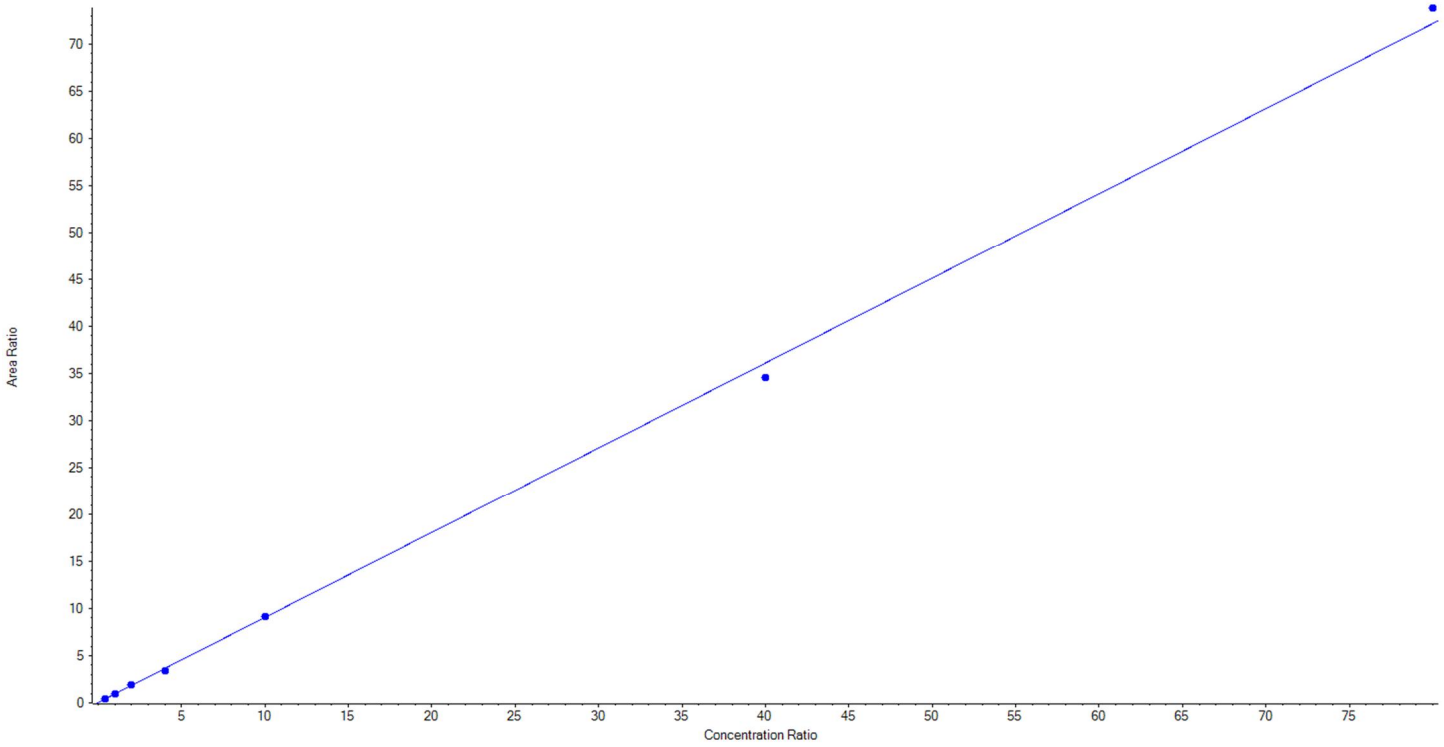
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Analyte Name	NEtFOSAA_1	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	584.0 / 419.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.90168 x + 0.04836 (r = 0.99948) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	100.00	104.771450	104.8
3	KB74	L2	True	250.00	251.018896	100.4
4	KB75	L3	True	500.00	508.056535	101.6
5	KB76	L4	True	1000.00	943.782521	94.4
6	KB77	L5	True	2500.00	2522.760733	100.9
7	KB78	L6	True	10000.00	9564.590700	95.7
8	KB79	L7	True	20000.00	20455.019164	102.3



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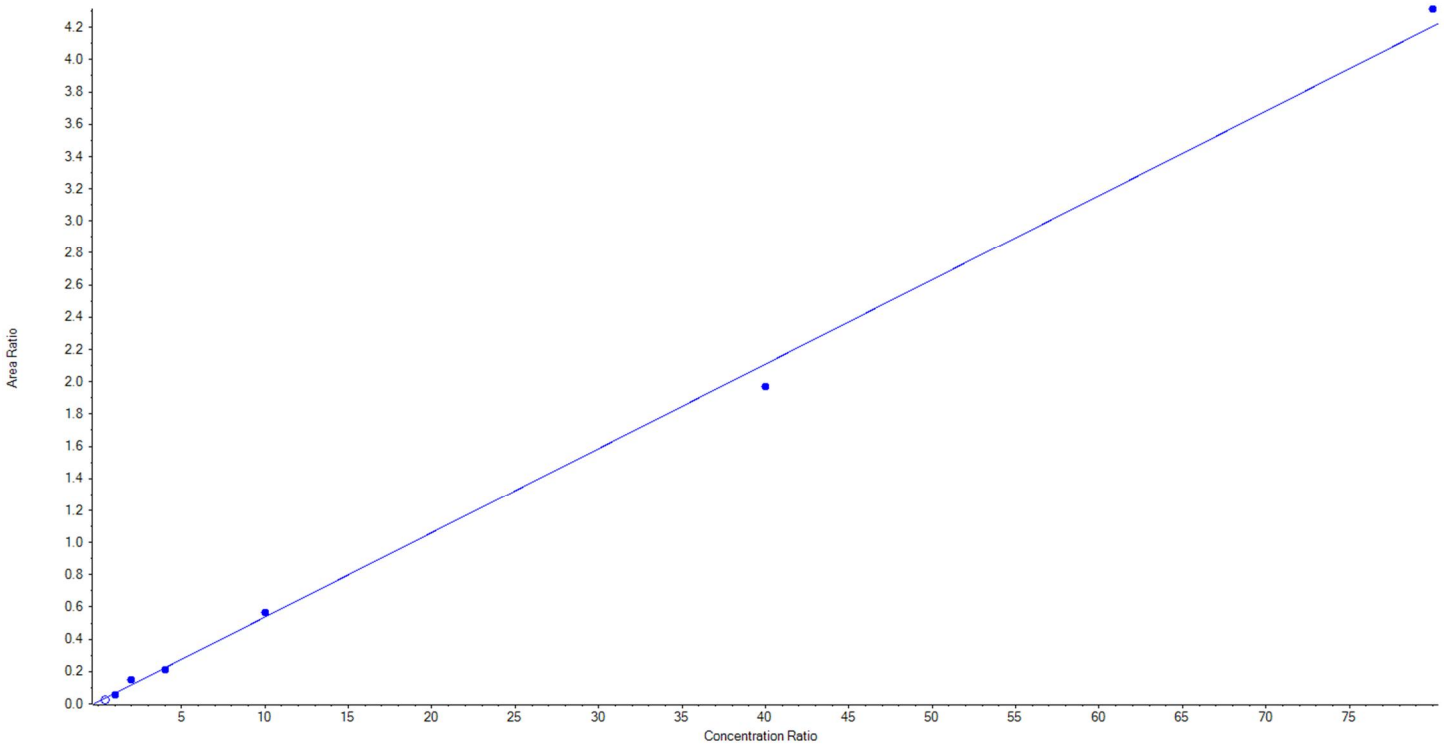
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Analyte Name	NEtFOSAA_2	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	584.0 / 483.0	**Result Table**	18-0620_18-0621_18-0622_BASE
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.05241 x + 0.01326 (r = 0.99796) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	False	100.00	41.412646	41.4
3	KB74	L2	True	250.00	191.667209	76.7
4	KB75	L3	True	500.00	637.470069	127.5
5	KB76	L4	True	1000.00	945.207707	94.5
6	KB77	L5	True	2500.00	2637.389496	105.5
7	KB78	L6	True	10000.00	9326.284871	93.3
8	KB79	L7	True	20000.00	20511.980648	102.6



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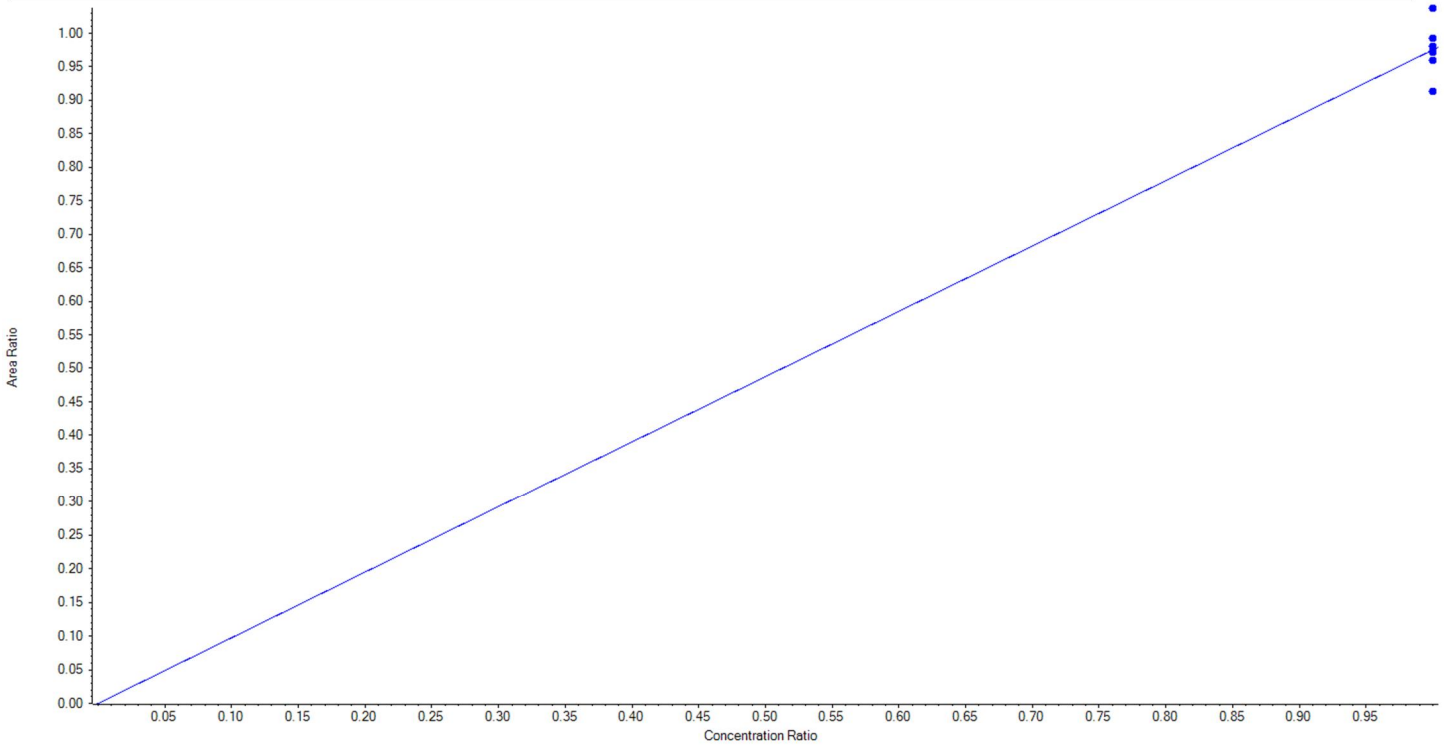
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Analyte Name	13C2-PFDoA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	615.0 / 570.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.97505 x (std. dev. = 0.03727) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	234.027671	93.6
3	KB74	L2	True	250.00	265.932266	106.4
4	KB75	L3	True	250.00	249.447374	99.8
5	KB76	L4	True	250.00	245.945631	98.4
6	KB77	L5	True	250.00	248.975274	99.6
7	KB78	L6	True	250.00	251.235272	100.5
8	KB79	L7	True	250.00	254.436513	101.8



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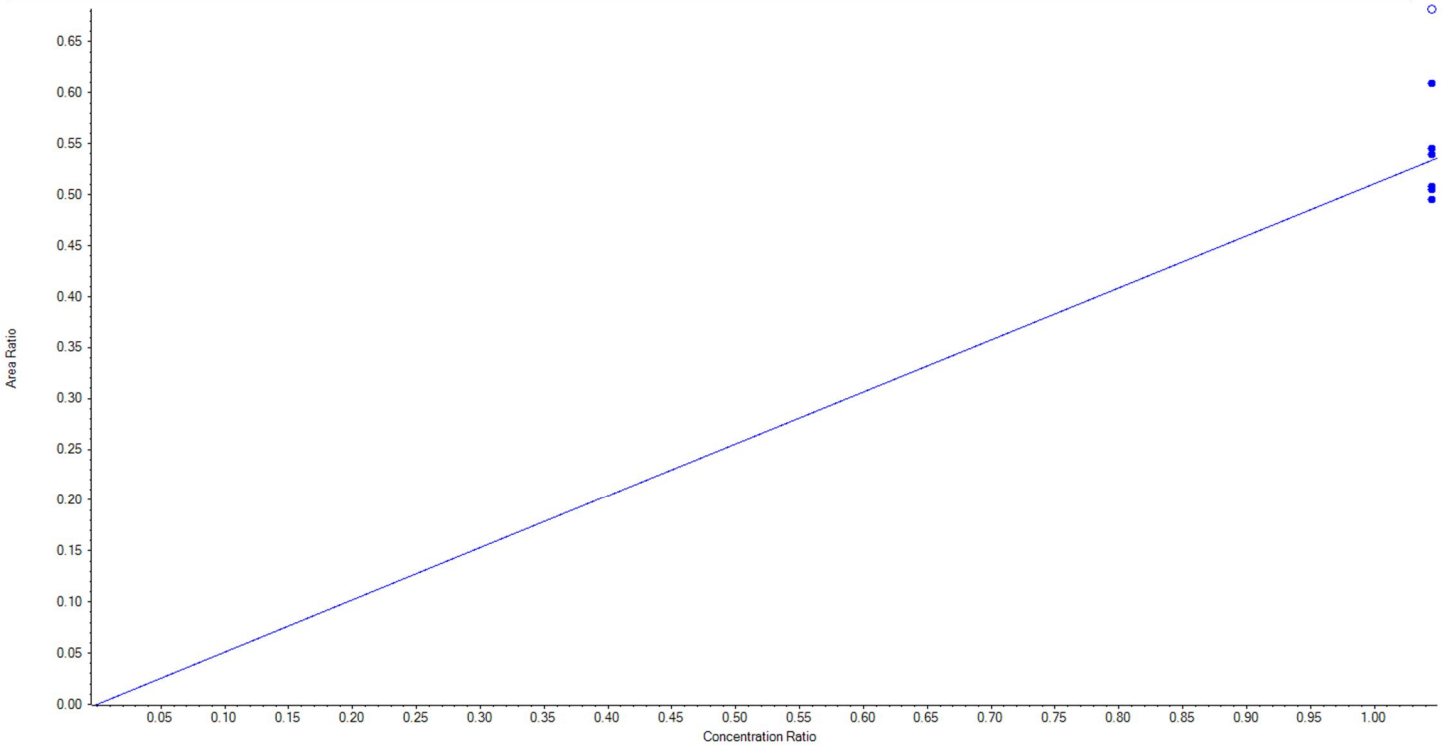
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Analyte Name	d3-MeFOSAA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	573.0 / 419.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.51076 x (std. dev. = 0.04023) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	252.745204	101.1
3	KB74	L2	True	250.00	237.867686	95.2
4	KB75	L3	True	250.00	255.434971	102.2
5	KB76	L4	True	250.00	232.186572	92.9
6	KB77	L5	True	250.00	236.383719	94.6
7	KB78	L6	True	250.00	285.381847	114.2
8	KB79	L7	False	250.00	319.413436	127.8



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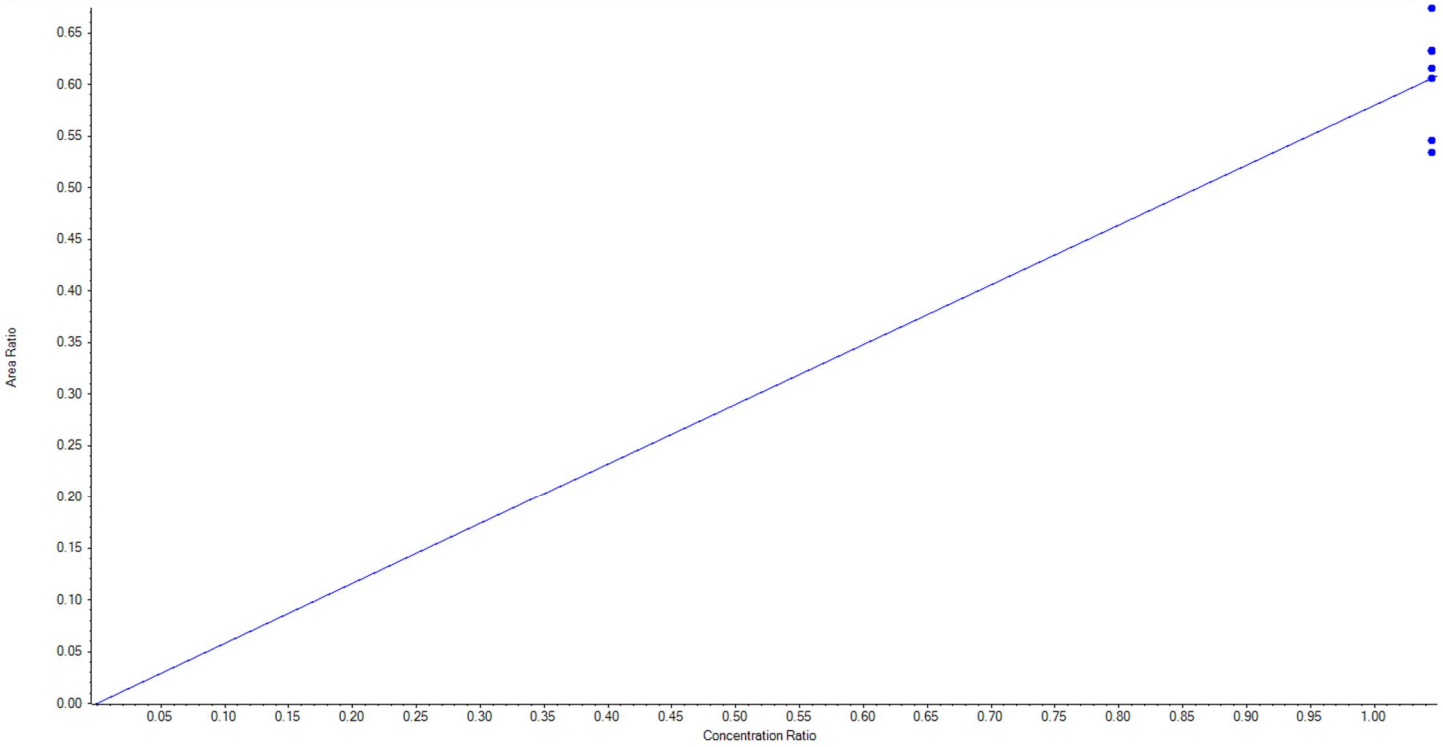
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Analyte Name	d5-EtFOSAA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	589.0 / 419.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.57975 x (std. dev. = 0.04771) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	261.116785	104.5
3	KB74	L2	True	250.00	260.842878	104.3
4	KB75	L3	True	250.00	225.192349	90.1
5	KB76	L4	True	250.00	254.251713	101.7
6	KB77	L5	True	250.00	220.425706	88.2
7	KB78	L6	True	250.00	278.106701	111.2
8	KB79	L7	True	250.00	250.063868	100.0



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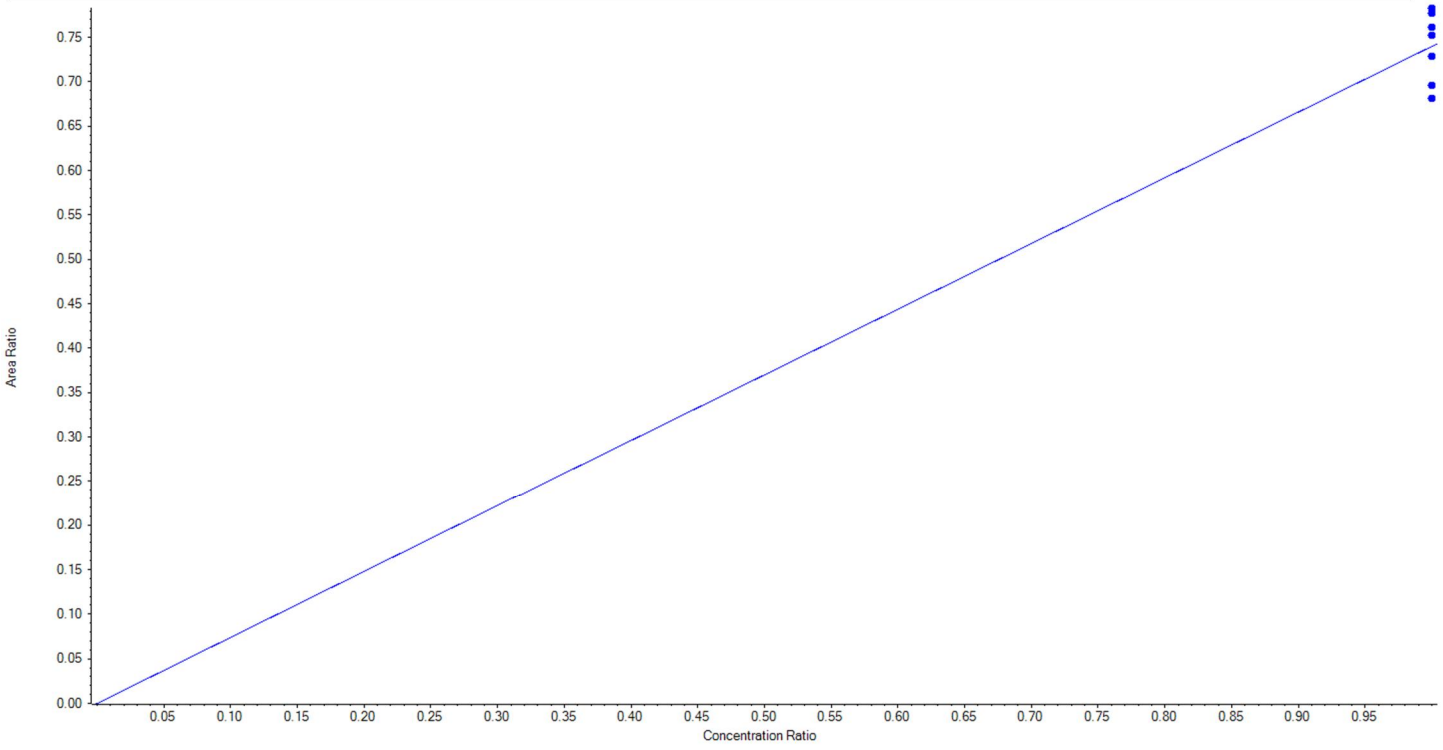
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Analyte Name	13C5-PFHxA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	318.0 / 273.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.73994 x (std. dev. = 0.03937) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	262.567314	105.0
3	KB74	L2	True	250.00	254.187234	101.7
4	KB75	L3	True	250.00	230.325952	92.1
5	KB76	L4	True	250.00	235.058052	94.0
6	KB77	L5	True	250.00	257.145365	102.9
7	KB78	L6	True	250.00	264.503275	105.8
8	KB79	L7	True	250.00	246.212808	98.5



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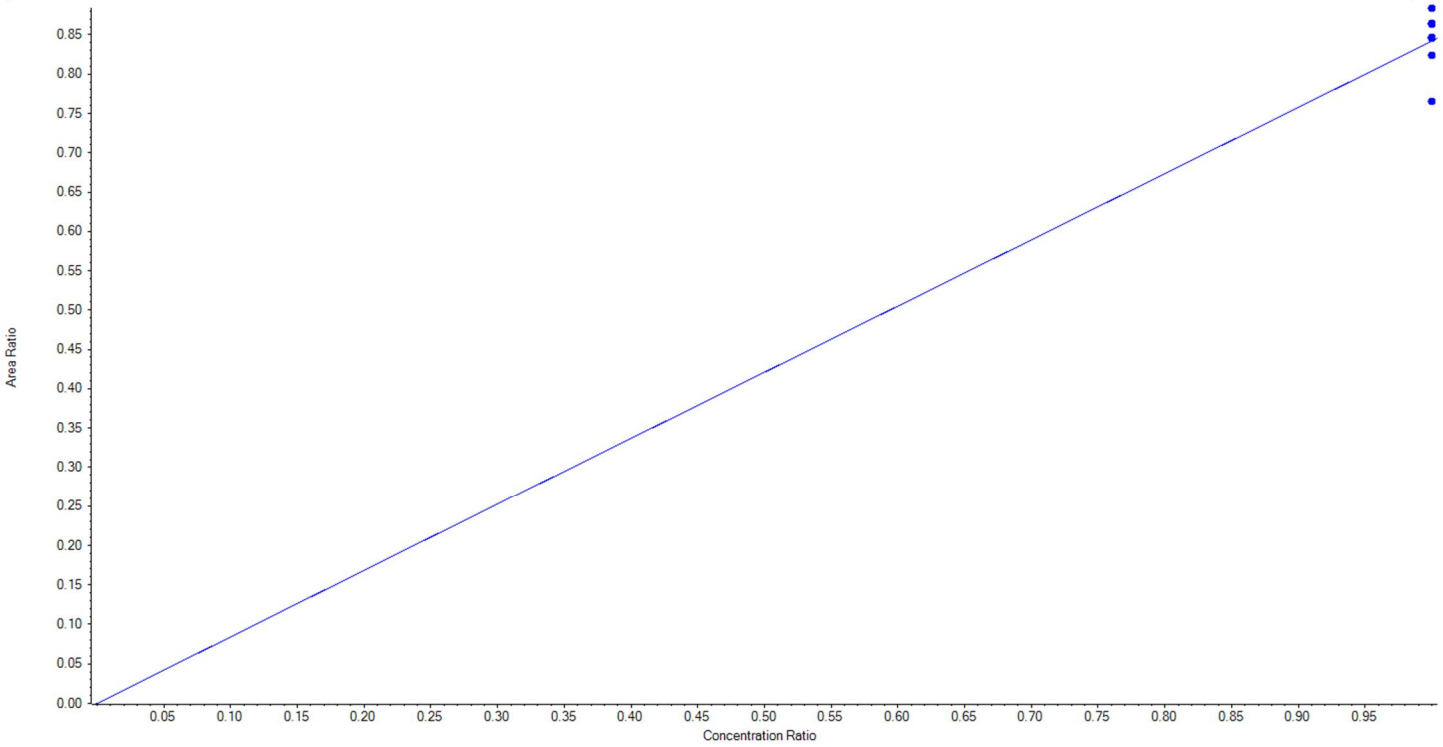
Calibration Summary Report

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Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C4-PFHpA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	367.0 / 322.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.84182 x (std. dev. = 0.03866) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	262.427043	105.0
3	KB74	L2	True	250.00	251.075240	100.4
4	KB75	L3	True	250.00	244.763156	97.9
5	KB76	L4	True	250.00	256.507439	102.6
6	KB77	L5	True	250.00	256.669677	102.7
7	KB78	L6	True	250.00	251.342992	100.5
8	KB79	L7	True	250.00	227.214453	90.9



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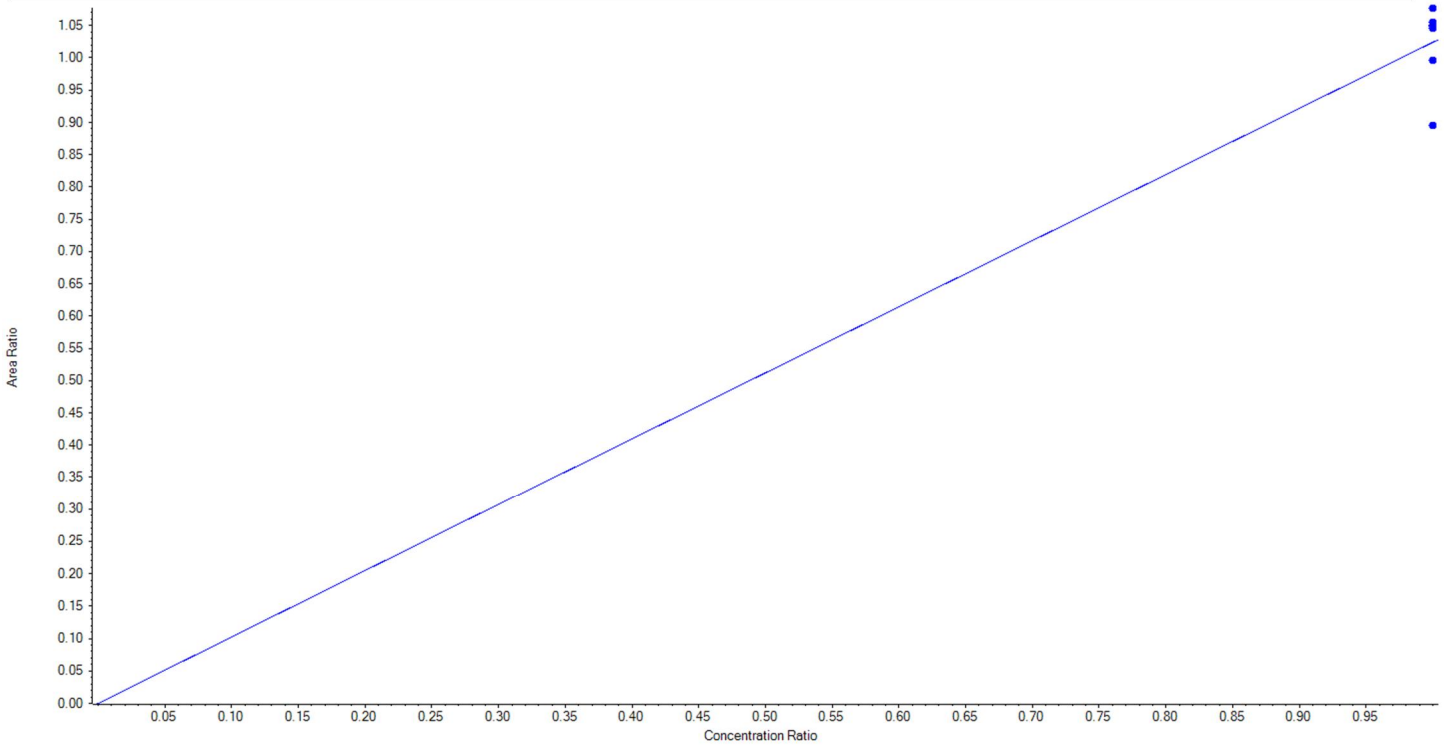
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C8-PFOA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	421.0 / 376.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.02405 x (std. dev. = 0.06175) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	255.212785	102.1
3	KB74	L2	True	250.00	262.875155	105.2
4	KB75	L3	True	250.00	256.482263	102.6
5	KB76	L4	True	250.00	257.662297	103.1
6	KB77	L5	True	250.00	256.019871	102.4
7	KB78	L6	True	250.00	243.157749	97.3
8	KB79	L7	True	250.00	218.589880	87.4



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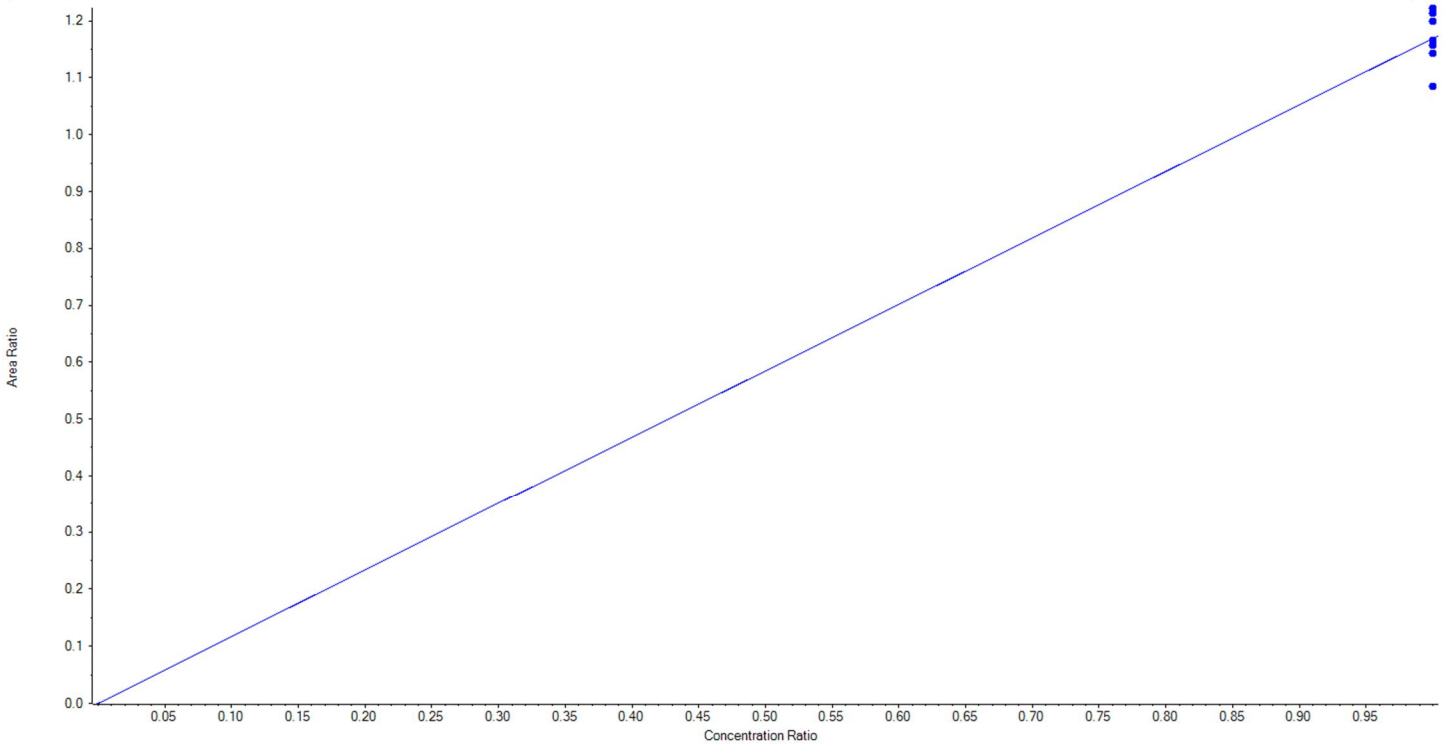
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C9-PFNA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	472.0 / 427.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.16930 x (std. dev. = 0.04759) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	247.430463	99.0
3	KB74	L2	True	250.00	261.328420	104.5
4	KB75	L3	True	250.00	259.384215	103.8
5	KB76	L4	True	250.00	244.372857	97.8
6	KB77	L5	True	250.00	249.179395	99.7
7	KB78	L6	True	250.00	256.344825	102.5
8	KB79	L7	True	250.00	231.959824	92.8



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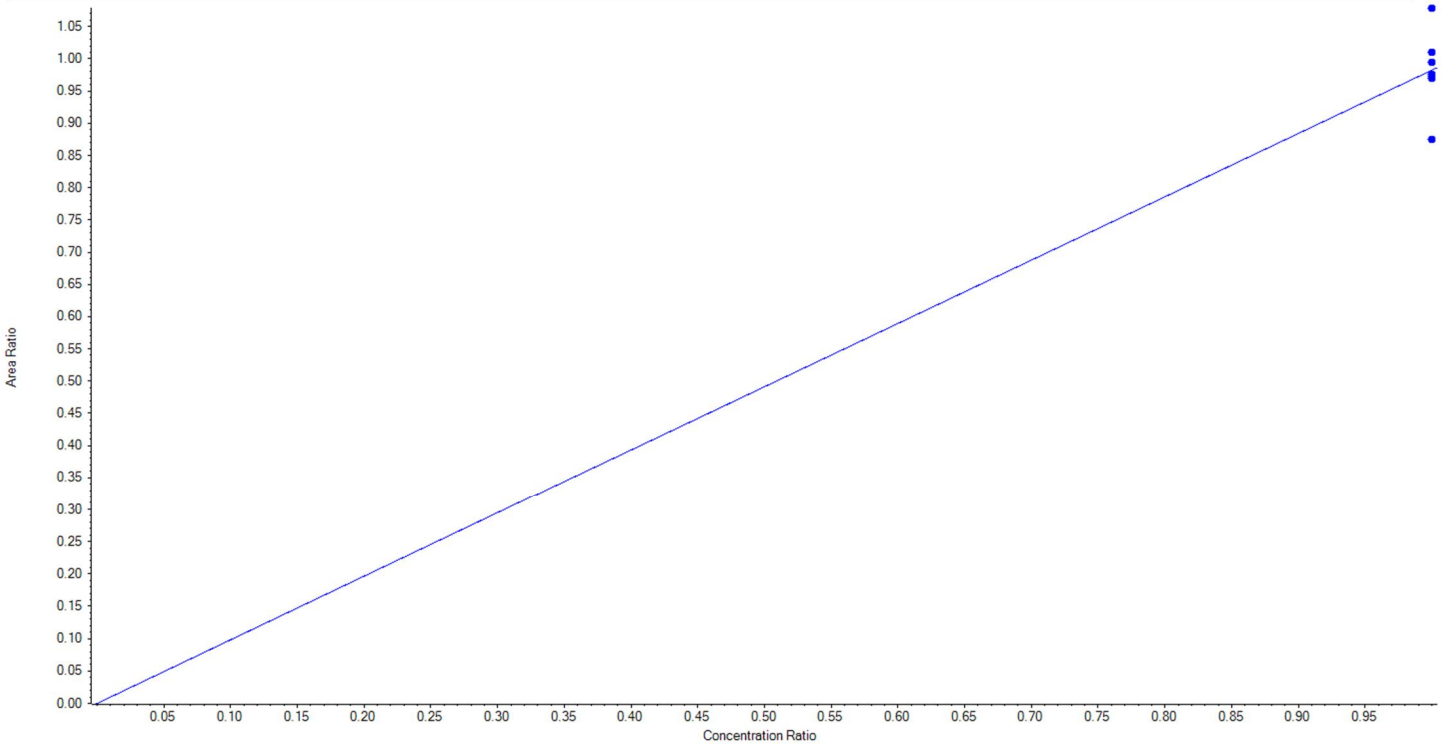
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C6-PFDA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	519.0 / 474.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.98235 x (std. dev. = 0.06079) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	246.733475	98.7
3	KB74	L2	True	250.00	253.248818	101.3
4	KB75	L3	True	250.00	257.192135	102.9
5	KB76	L4	True	250.00	248.450649	99.4
6	KB77	L5	True	250.00	274.445566	109.8
7	KB78	L6	True	250.00	247.435316	99.0
8	KB79	L7	True	250.00	222.494042	89.0



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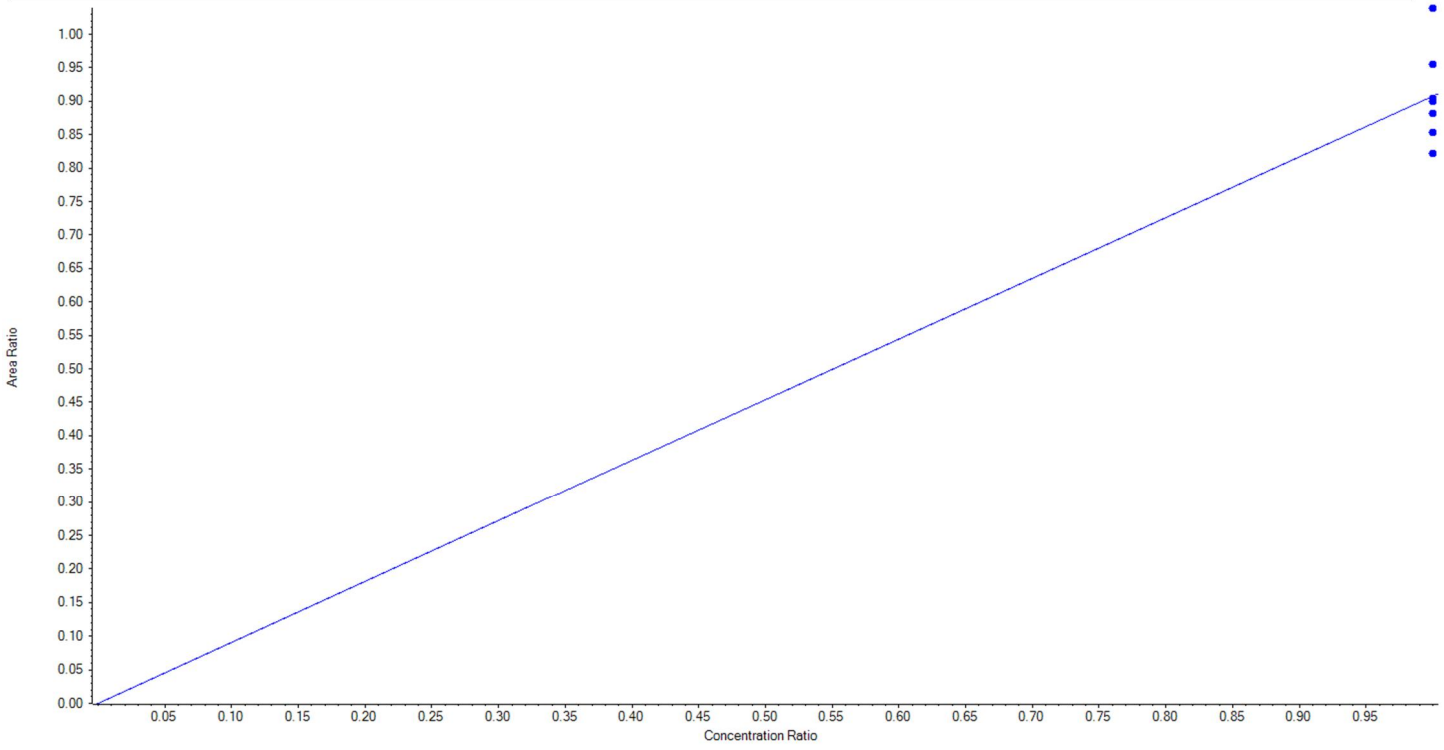
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C7-PFUnA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	570.0 / 525.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.90743 x (std. dev. = 0.07148) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	247.760751	99.1
3	KB74	L2	True	250.00	262.960755	105.2
4	KB75	L3	True	250.00	286.201660	114.5
5	KB76	L4	True	250.00	234.954208	94.0
6	KB77	L5	True	250.00	249.135582	99.7
7	KB78	L6	True	250.00	242.726450	97.1
8	KB79	L7	True	250.00	226.260594	90.5



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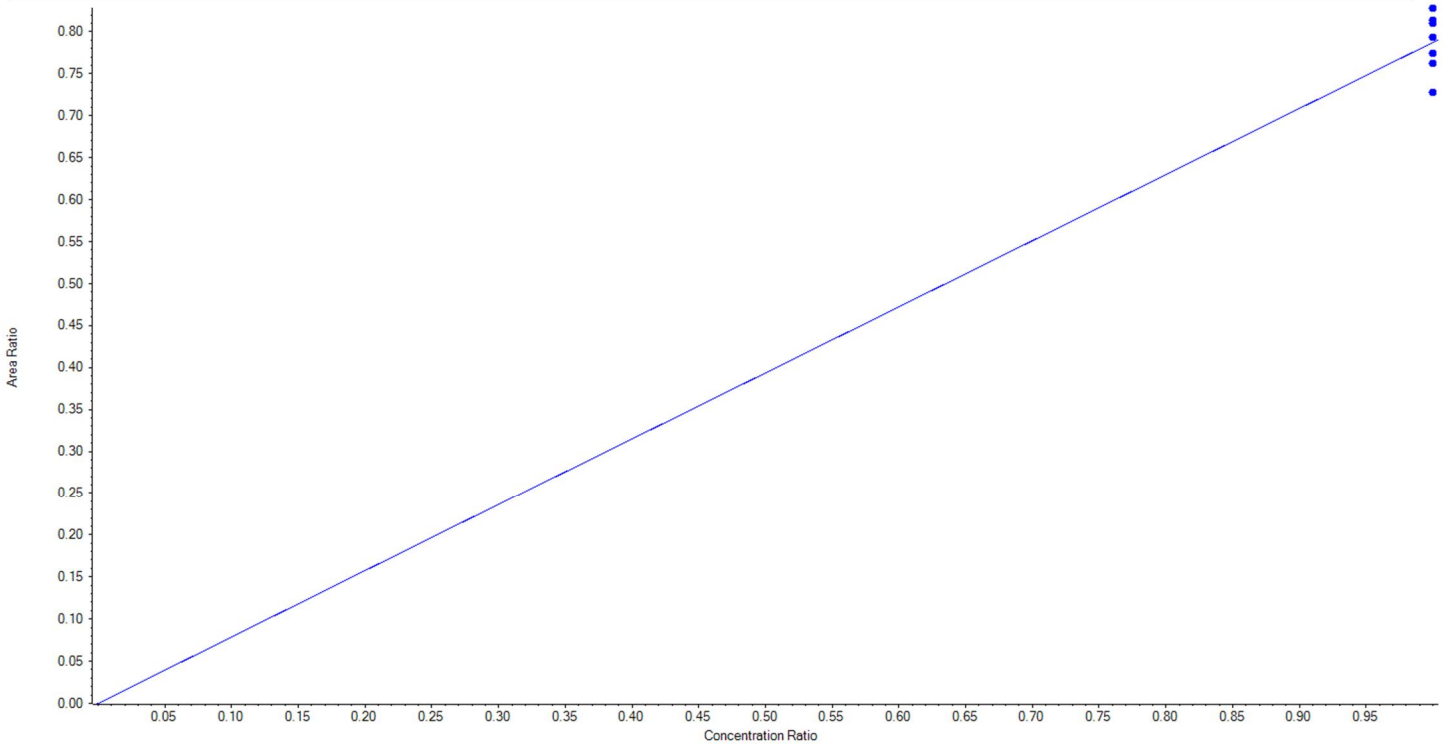
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C2-PFTeDA	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	715.0 / 670.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.78723 x (std. dev. = 0.03476) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	250.00	242.249601	96.9
3	KB74	L2	True	250.00	262.922814	105.2
4	KB75	L3	True	250.00	245.975733	98.4
5	KB76	L4	True	250.00	231.048930	92.4
6	KB77	L5	True	250.00	252.097071	100.8
7	KB78	L6	True	250.00	258.482884	103.4
8	KB79	L7	True	250.00	257.222966	102.9



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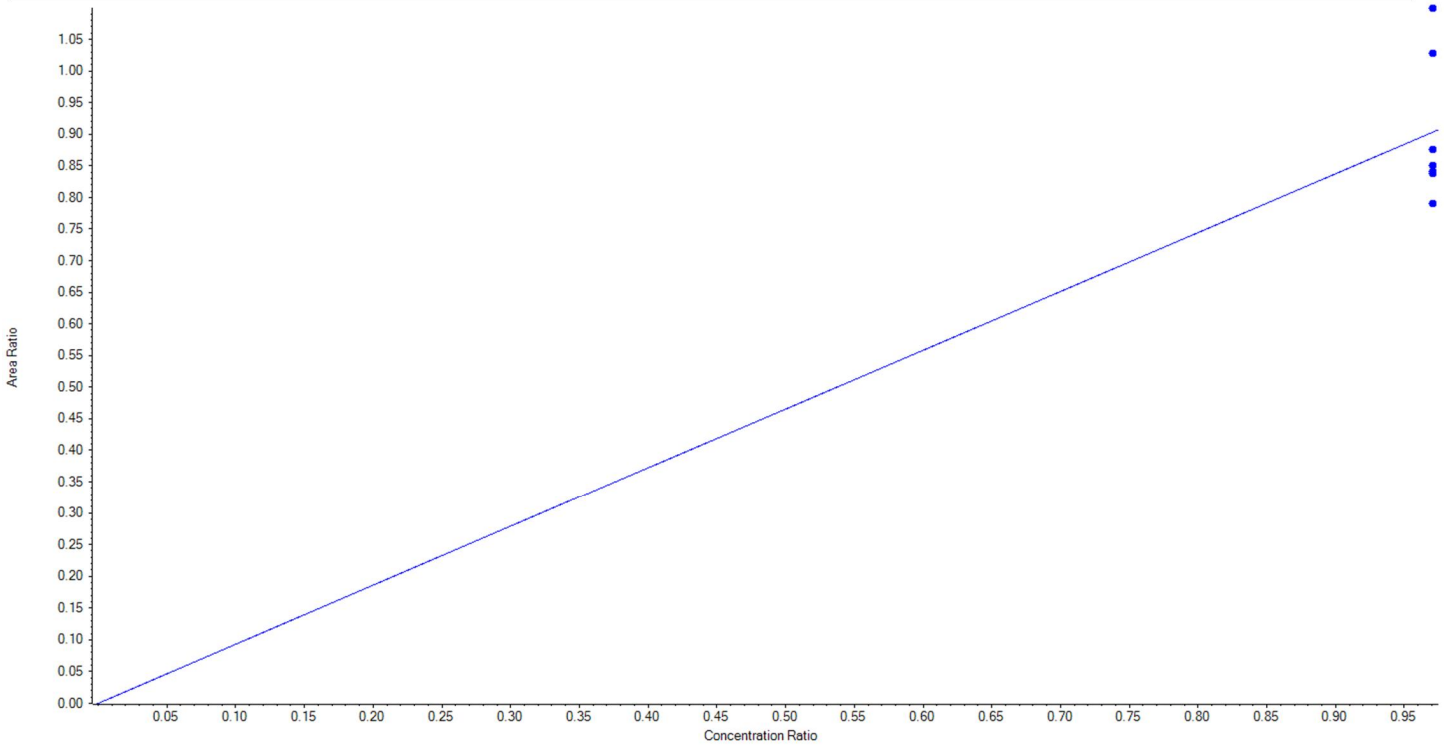
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C3-PFBS	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	302.0 / 99.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.93048 x (std. dev. = 0.11752) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	232.25	225.022462	96.9
3	KB74	L2	True	232.25	215.609121	92.8
4	KB75	L3	True	232.25	218.748838	94.2
5	KB76	L4	True	232.25	203.233433	87.5
6	KB77	L5	True	232.25	216.348971	93.2
7	KB78	L6	True	232.25	264.163371	113.7
8	KB79	L7	True	232.25	282.623804	121.7



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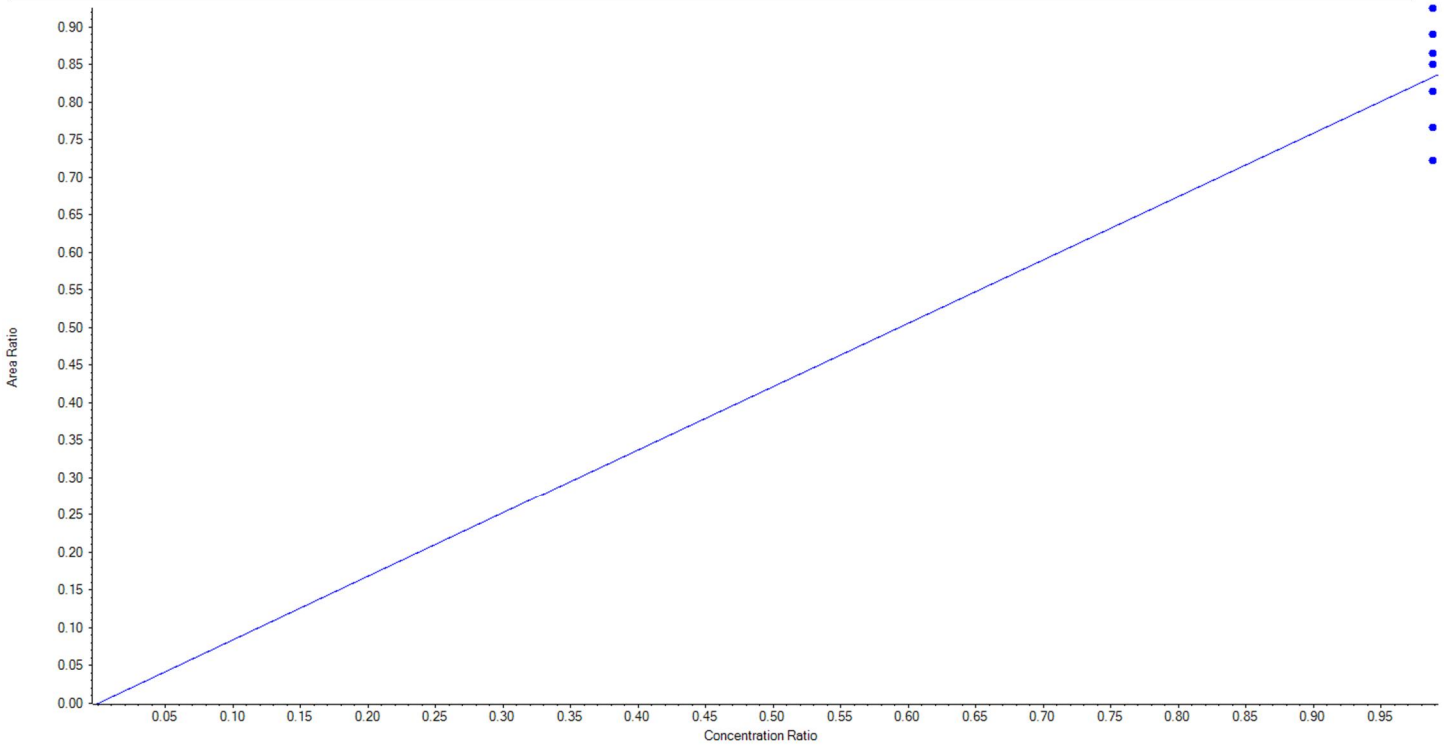
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C3-PFHxS	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	402.0 / 99.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.84316 x (std. dev. = 0.07172) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	236.50	231.144826	97.7
3	KB74	L2	True	236.50	241.172849	102.0
4	KB75	L3	True	236.50	245.474666	103.8
5	KB76	L4	True	236.50	217.481590	92.0
6	KB77	L5	True	236.50	204.966129	86.7
7	KB78	L6	True	236.50	262.529838	111.0
8	KB79	L7	True	236.50	252.730102	106.9



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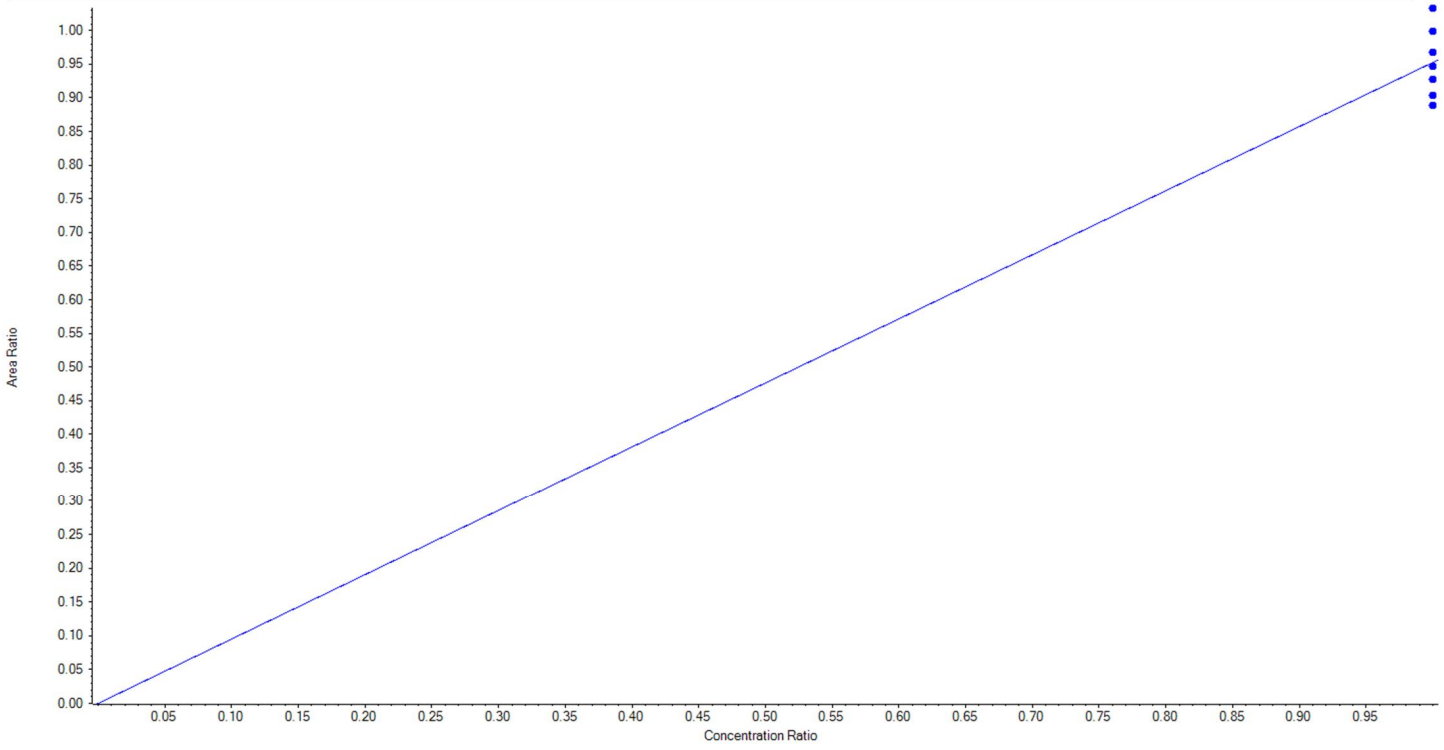
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/10/2018 3:47:52 PM

Analyte Name	13C8-PFOS	**Data File**	Data18-0590_18-01588_18-0589.wiff
MRM Transition	507.0 / 99.0	**Result Table**	18-0620_18-0621_18-0622_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	10/17/2018 7:36:00 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.95250 x (std. dev. = 0.05159) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KB73	L1	True	239.25	250.871078	104.9
3	KB74	L2	True	239.25	243.225761	101.7
4	KB75	L3	True	239.25	223.367998	93.4
5	KB76	L4	True	239.25	233.089271	97.4
6	KB77	L5	True	239.25	226.800752	94.8
7	KB78	L6	True	239.25	259.494294	108.5
8	KB79	L7	True	239.25	237.900846	99.4



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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**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	36035.22	104.635578	126.2	true
PFBS_2	298.9 / 99.0	1.57	10918.15	109.976962	78.2	true
PFHxA_1	313.0 / 269.0	1.90	32164.19	98.968181	3.3	false
PFHxA_2	313.0 / 119.0	1.91	2959.44	113.183087	3.5	false
PFHpA_1	363.0 / 319.0	2.32	32551.91	113.465532	39.8	false
PFHpA_2	363.0 / 169.0	2.32	1000.19	103.311634	29.1	false
PFHxS_1	399.0 / 80.0	2.34	44418.07	105.225987	134.5	false
PFHxS_2	399.0 / 99.0	2.34	12198.64	98.139274	86.9	false
PFOA_1	413.0 / 369.0	2.73	42708.15	113.608497	67.5	false
PFOA_2	413.0 / 169.0	2.73	2568.95	104.849376	46.6	false
PFNA_1	463.0 / 419.0	3.14	40302.36	100.132667	94.3	false
PFNA_2	463.0 / 219.0	3.14	13162.53	111.702594	118.3	false
PFOS_1	499.0 / 80.0	3.13	65728.52	112.998705	102.9	false
PFOS_2	499.0 / 99.0	3.13	11345.50	110.962710	100.1	false
PFDA_1	513.0 / 469.0	3.50	49242.60	100.375074	136.7	false
PFDA_2	513.0 / 219.0	3.49	2266.31	112.406023	88.7	false
PFUnA_1	563.0 / 519.0	3.83	45897.49	111.527231	163.3	false
PFUnA_2	563.0 / 269.0	3.82	1918.57	102.220892	42.6	true
PFDoA_1	613.0 / 569.0	4.11	39723.04	90.939755	179.1	false
PFDoA_2	613.0 / 319.0	4.11	6547.85	86.545687	145.5	false
PFTrDA_1	663.0 / 619.0	4.37	34866.78	85.967911	309.6	false
PFTrDA_2	663.0 / 169.0	4.36	2214.00	78.198175	110.2	false
PFTeDA_1	713.0 / 669.0	4.59	40930.04	81.728327	685.4	false
PFTeDA_2	713.0 / 169.0	4.58	2198.76	89.886117	212.0	false
NMeFOSAA_1	570.0 / 419.0	3.65	8081.03	75.824991	298.4	false
NMeFOSAA_2	570.0 / 512.0	3.65	3645.21	3.453918	224.2	false
NEtFOSAA_1	584.0 / 419.0	3.82	8180.80	104.771450	524.6	false
NEtFOSAA_2	584.0 / 483.0	3.82	421.19	41.412646	48.5	false

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Summary Quant Report

Sample Name	KB74	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	93283.23	249.370464	246.3	false
PFBS_2	298.9 / 99.0	1.57	26423.99	242.180085	146.1	false
PFHxA_1	313.0 / 269.0	1.90	81008.49	269.910942	7.1	false
PFHxA_2	313.0 / 119.0	1.89	5592.03	230.645561	6.5	false
PFHpA_1	363.0 / 319.0	2.31	75049.99	261.922885	57.6	false
PFHpA_2	363.0 / 169.0	2.31	1497.90	175.823351	28.9	true
PFHxS_1	399.0 / 80.0	2.33	108184.43	232.865372	188.9	false
PFHxS_2	399.0 / 99.0	2.33	30598.50	231.314187	310.4	false
PFOA_1	413.0 / 369.0	2.73	100033.19	242.259718	128.9	false
PFOA_2	413.0 / 169.0	2.73	7259.40	273.238913	110.3	false
PFNA_1	463.0 / 419.0	3.13	107846.09	263.216231	192.5	false
PFNA_2	463.0 / 219.0	3.12	28095.55	220.916460	213.9	false
PFOS_1	499.0 / 80.0	3.12	165271.40	245.807613	161.0	false
PFOS_2	499.0 / 99.0	3.12	28706.92	244.538081	211.7	true
PFDA_1	513.0 / 469.0	3.49	122994.62	264.467518	236.7	false
PFDA_2	513.0 / 219.0	3.48	4770.77	245.500787	791.7	false
PFUnA_1	563.0 / 519.0	3.82	106014.14	244.824605	237.3	false
PFUnA_2	563.0 / 269.0	3.81	5018.00	242.442598	81.5	false
PFDoA_1	613.0 / 569.0	4.10	107705.01	247.072023	318.6	false
PFDoA_2	613.0 / 319.0	4.10	19126.54	274.615048	276.9	false
PFTrDA_1	663.0 / 619.0	4.35	90249.73	241.563939	481.4	false
PFTrDA_2	663.0 / 169.0	4.35	6147.30	247.986856	208.6	false
PFTeDA_1	713.0 / 669.0	4.58	109852.37	253.645310	931.4	false
PFTeDA_2	713.0 / 169.0	4.58	5150.42	238.937138	369.4	false
NMeFOSAA_1	570.0 / 419.0	3.65	21539.90	268.876365	843.1	false
NMeFOSAA_2	570.0 / 512.0	3.65	11614.86	218.419800	528.2	false
NEtFOSAA_1	584.0 / 419.0	3.81	21525.62	251.018896	397.7	false
NEtFOSAA_2	584.0 / 483.0	3.80	1206.24	191.667209	290.9	false

Sample Name	KB75	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	163617.84	495.098560	296.3	false
PFBS_2	298.9 / 99.0	1.57	45956.46	475.121472	212.6	false
PFHxA_1	313.0 / 269.0	1.89	123711.77	490.752146	10.9	false
PFHxA_2	313.0 / 119.0	1.89	9937.29	514.901118	10.8	false
PFHpA_1	363.0 / 319.0	2.31	119885.50	452.888167	85.7	false
PFHpA_2	363.0 / 169.0	2.31	3804.54	618.850678	67.0	false
PFHxS_1	399.0 / 80.0	2.33	185842.71	467.824000	256.2	false
PFHxS_2	399.0 / 99.0	2.33	54144.25	484.563583	238.2	false
PFOA_1	413.0 / 369.0	2.72	178566.76	467.456638	160.8	false
PFOA_2	413.0 / 169.0	2.72	10469.56	421.303706	138.9	false
PFNA_1	463.0 / 419.0	3.12	170504.46	450.336433	203.9	false
PFNA_2	463.0 / 219.0	3.12	51980.47	448.287193	301.6	false
PFOS_1	499.0 / 80.0	3.12	275067.90	508.954098	204.8	false
PFOS_2	499.0 / 99.0	3.12	48946.70	520.238814	287.5	false
PFDA_1	513.0 / 469.0	3.48	213151.42	495.556524	301.2	false
PFDA_2	513.0 / 219.0	3.48	8539.13	479.073328	239.1	false
PFUnA_1	563.0 / 519.0	3.81	185383.49	423.690587	269.5	false
PFUnA_2	563.0 / 269.0	3.81	10671.72	501.608235	165.4	false
PFDoA_1	613.0 / 569.0	4.09	184868.00	506.360909	343.9	false
PFDoA_2	613.0 / 319.0	4.09	28751.08	494.661881	331.3	false
PFTrDA_1	663.0 / 619.0	4.35	151211.59	488.700899	597.4	false
PFTrDA_2	663.0 / 169.0	4.34	10123.70	495.036348	322.3	false
PFTeDA_1	713.0 / 669.0	4.57	182656.44	515.154084	1232.8	false
PFTeDA_2	713.0 / 169.0	4.56	8526.49	490.005825	501.7	false
NMeFOSAA_1	570.0 / 419.0	3.63	34656.73	500.524214	2338.0	false
NMeFOSAA_2	570.0 / 512.0	3.64	18345.00	439.990383	658.5	false
NEtFOSAA_1	584.0 / 419.0	3.80	31971.45	508.056535	633.3	false
NEtFOSAA_2	584.0 / 483.0	3.80	2497.16	637.470069	8056.1	true

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Summary Quant Report

Sample Name	KB76	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:19:32	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	336045.72	1091.288759	552.2	false
PFBS_2	298.9 / 99.0	1.56	98081.89	1086.381545	407.4	false
PFHxA_1	313.0 / 269.0	1.89	240693.36	1004.472242	18.1	false
PFHxA_2	313.0 / 119.0	1.89	17814.42	980.952621	16.5	false
PFHpA_1	363.0 / 319.0	2.30	251954.77	963.772233	144.8	false
PFHpA_2	363.0 / 169.0	2.30	6187.13	1051.701356	84.1	false
PFHxS_1	399.0 / 80.0	2.32	369801.30	1074.776448	333.3	false
PFHxS_2	399.0 / 99.0	2.32	106671.06	1107.476178	416.8	false
PFOA_1	413.0 / 369.0	2.71	347996.75	956.844142	237.9	false
PFOA_2	413.0 / 169.0	2.71	24237.17	1028.034772	244.5	false
PFNA_1	463.0 / 419.0	3.11	345587.51	1046.243999	410.7	false
PFNA_2	463.0 / 219.0	3.11	106652.75	1050.052047	427.7	false
PFOS_1	499.0 / 80.0	3.11	549475.41	953.422687	298.0	false
PFOS_2	499.0 / 99.0	3.11	96044.01	958.547975	432.6	false
PFDA_1	513.0 / 469.0	3.47	409723.46	987.592944	454.6	false
PFDA_2	513.0 / 219.0	3.47	17306.29	1010.924950	319.9	false
PFUnA_1	563.0 / 519.0	3.80	370869.35	1026.343861	315.7	false
PFUnA_2	563.0 / 269.0	3.80	17491.40	981.918474	206.5	false
PFDoA_1	613.0 / 569.0	4.09	374694.74	1050.478389	498.6	false
PFDoA_2	613.0 / 319.0	4.09	54643.36	971.395687	458.0	false
PFTrDA_1	663.0 / 619.0	4.34	321677.62	1126.764608	812.9	false
PFTrDA_2	663.0 / 169.0	4.34	21874.98	1164.067670	449.0	false
PFTeDA_1	713.0 / 669.0	4.56	357047.01	1095.645152	1545.8	false
PFTeDA_2	713.0 / 169.0	4.56	17306.66	1092.239213	701.8	false
NMeFOSAA_1	570.0 / 419.0	3.63	68030.30	1133.404189	751.5	false
NMeFOSAA_2	570.0 / 512.0	3.63	39158.03	1163.925478	709.7	false
NEtFOSAA_1	584.0 / 419.0	3.80	66289.88	943.782521	754.6	false
NEtFOSAA_2	584.0 / 483.0	3.80	4059.44	945.207707	43600.8	false

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Summary Quant Report

Sample Name	KB77	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	776289.58	2332.691625	927.0	false
PFBS_2	298.9 / 99.0	1.56	228434.75	2339.199841	734.2	false
PFHxA_1	313.0 / 269.0	1.89	609668.03	2495.865956	39.8	false
PFHxA_2	313.0 / 119.0	1.89	44913.51	2451.366061	32.3	false
PFHpA_1	363.0 / 319.0	2.30	584043.68	2376.996854	232.0	false
PFHpA_2	363.0 / 169.0	2.30	13193.99	2469.602759	211.4	false
PFHxS_1	399.0 / 80.0	2.32	886495.01	2696.493262	388.0	false
PFHxS_2	399.0 / 99.0	2.32	252473.06	2749.725828	571.1	false
PFOA_1	413.0 / 369.0	2.71	834165.44	2452.232813	357.8	false
PFOA_2	413.0 / 169.0	2.71	53993.69	2444.883328	444.0	false
PFNA_1	463.0 / 419.0	3.11	783461.97	2491.510736	552.9	false
PFNA_2	463.0 / 219.0	3.11	254909.55	2632.290752	603.7	false
PFOS_1	499.0 / 80.0	3.11	1306443.89	2300.880982	452.4	false
PFOS_2	499.0 / 99.0	3.11	224020.69	2271.299000	545.6	false
PFDA_1	513.0 / 469.0	3.47	986588.88	2418.646707	564.2	false
PFDA_2	513.0 / 219.0	3.47	39607.95	2354.317167	415.6	false
PFUnA_1	563.0 / 519.0	3.80	871741.30	2538.187940	460.9	false
PFUnA_2	563.0 / 269.0	3.80	43333.05	2544.385755	300.0	false
PFDoA_1	613.0 / 569.0	4.09	821796.76	2565.539851	662.4	false
PFDoA_2	613.0 / 319.0	4.09	135656.47	2712.576260	522.0	false
PFTrDA_1	663.0 / 619.0	4.33	735746.86	2664.921530	986.7	false
PFTrDA_2	663.0 / 169.0	4.33	48743.98	2684.712399	618.7	false
PFTeDA_1	713.0 / 669.0	4.56	816378.76	2603.218162	1929.9	false
PFTeDA_2	713.0 / 169.0	4.55	40737.36	2680.771848	1193.3	false
NMeFOSAA_1	570.0 / 419.0	3.63	151508.36	2465.257046	2245.1	false
NMeFOSAA_2	570.0 / 512.0	3.63	88173.15	2616.439396	615.9	false
NEtFOSAA_1	584.0 / 419.0	3.79	155433.42	2522.760733	648.0	false
NEtFOSAA_2	584.0 / 483.0	3.79	9620.27	2637.389496	1231310.6	false

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Summary Quant Report

Sample Name	KB78	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	3735985.71	9811.581725	1503.9	false
PFBS_2	298.9 / 99.0	1.56	1134069.29	10143.472130	1449.0	false
PFHxA_1	313.0 / 269.0	1.88	2658827.36	9993.499522	90.8	false
PFHxA_2	313.0 / 119.0	1.88	200130.60	10083.260482	76.5	false
PFHpA_1	363.0 / 319.0	2.30	2497856.31	9765.162244	436.5	false
PFHpA_2	363.0 / 169.0	2.30	53385.07	9796.218447	441.5	false
PFHxS_1	399.0 / 80.0	2.32	3854430.51	9828.822898	984.2	false
PFHxS_2	399.0 / 99.0	2.32	1062752.95	9714.855919	1104.6	false
PFOA_1	413.0 / 369.0	2.71	3551933.53	10326.914009	921.2	false
PFOA_2	413.0 / 169.0	2.71	226064.95	10121.411629	875.1	false
PFNA_1	463.0 / 419.0	3.11	3442576.47	10047.185055	870.1	false
PFNA_2	463.0 / 219.0	3.11	1068510.97	10108.558837	1018.0	false
PFOS_1	499.0 / 80.0	3.10	5888305.73	9674.048541	719.2	false
PFOS_2	499.0 / 99.0	3.10	1040866.54	9849.093945	1187.7	false
PFDA_1	513.0 / 469.0	3.47	4121337.28	9760.929085	867.9	false
PFDA_2	513.0 / 219.0	3.46	165545.81	9514.985150	1080.3	false
PFUnA_1	563.0 / 519.0	3.79	3980687.38	10323.155375	894.2	false
PFUnA_2	563.0 / 269.0	3.79	194191.57	10125.204796	674.2	false
PFDoA_1	613.0 / 569.0	4.08	3840657.97	10368.355085	1057.4	false
PFDoA_2	613.0 / 319.0	4.08	576764.61	9996.454238	1020.7	false
PFTrDA_1	663.0 / 619.0	4.33	3350407.66	10336.521146	1444.2	false
PFTrDA_2	663.0 / 169.0	4.33	218945.29	10280.911529	1007.9	false
PFTeDA_1	713.0 / 669.0	4.55	3751651.69	10217.289136	2725.0	false
PFTeDA_2	713.0 / 169.0	4.54	182332.73	10258.453725	1759.6	false
NMeFOSAA_1	570.0 / 419.0	3.62	753927.92	11007.670601	2278.1	false
NMeFOSAA_2	570.0 / 512.0	3.62	404364.11	10905.550987	1426.8	false
NEtFOSAA_1	584.0 / 419.0	3.79	707833.72	9564.590700	1144.3	false
NEtFOSAA_2	584.0 / 483.0	3.79	40332.26	9326.284871	2770.2	false

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	7654212.63	20608.833290	2863.5	false
PFBS_2	298.9 / 99.0	1.56	2213700.05	20297.167965	1861.8	false
PFHxA_1	313.0 / 269.0	1.89	5068064.70	20340.031011	123.0	false
PFHxA_2	313.0 / 119.0	1.88	377383.63	20319.191070	98.6	false
PFHpA_1	363.0 / 319.0	2.29	4752932.81	20415.792084	545.6	false
PFHpA_2	363.0 / 169.0	2.30	99502.18	20134.491774	637.6	false
PFHxS_1	399.0 / 80.0	2.32	6929917.90	20287.492034	1348.5	false
PFHxS_2	399.0 / 99.0	2.32	1934460.53	20307.425032	1153.9	false
PFOA_1	413.0 / 369.0	2.71	6162786.15	19790.684183	1174.3	false
PFOA_2	413.0 / 169.0	2.71	403546.52	19956.278277	1429.0	false
PFNA_1	463.0 / 419.0	3.11	6224206.25	19951.374879	1314.8	false
PFNA_2	463.0 / 219.0	3.11	1903895.81	19778.192118	1655.3	false
PFOS_1	499.0 / 80.0	3.10	10402856.43	20553.887374	904.0	true
PFOS_2	499.0 / 99.0	3.10	1792140.82	20395.319474	1641.5	false
PFDA_1	513.0 / 469.0	3.47	7455074.70	20322.432148	1181.3	false
PFDA_2	513.0 / 219.0	3.47	311824.53	20632.792594	1380.7	false
PFUnA_1	563.0 / 519.0	3.79	6840458.50	19682.270401	830.9	false
PFUnA_2	563.0 / 269.0	3.79	343323.53	19852.219250	642.0	false
PFDoA_1	613.0 / 569.0	4.07	7074590.20	19521.253987	1036.7	false
PFDoA_2	613.0 / 319.0	4.07	1117673.36	19813.751199	984.9	false
PFTrDA_1	663.0 / 619.0	4.32	6045542.29	19405.559967	1420.4	false
PFTrDA_2	663.0 / 169.0	4.32	396998.36	19399.087023	1127.9	false
PFTeDA_1	713.0 / 669.0	4.54	6908120.06	19583.319829	2951.8	false
PFTeDA_2	713.0 / 169.0	4.54	332887.97	19499.706134	2522.7	false
NMeFOSAA_1	570.0 / 419.0	3.62	1331189.45	18898.442593	2363.5	false
NMeFOSAA_2	570.0 / 512.0	3.62	719500.36	18905.673956	1612.0	false
NEtFOSAA_1	584.0 / 419.0	3.78	1231583.02	20455.019164	1168.4	false
NEtFOSAA_2	584.0 / 483.0	3.78	71957.40	20511.980648	877.0	false

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Summary Quant Report

Sample Name	KB73	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.10	91402.83	234.027671	1231.7	false
d3-MeFOSAA	573.0 / 419.0	3.65	16104.22	252.745204	203.5	false
d5-EtFOSAA	589.0 / 419.0	3.81	18885.04	261.116785	197.5	false
13C5-PFHxA	318.0 / 273.0	1.89	61468.01	262.567314	846.3	false
13C4-PFHpA	367.0 / 322.0	2.30	69894.37	262.427043	1233.4	false
13C8-PFOA	421.0 / 376.0	2.72	82686.75	255.212785	7328.7	false
13C9-PFNA	472.0 / 427.0	3.12	91536.04	247.430463	984.5	false
13C6-PFDA	519.0 / 474.0	3.48	97086.56	246.733475	862.5	false
13C7-PFUnA	570.0 / 525.0	3.81	90055.69	247.760751	681.9	false
13C2-PFTeDA	715.0 / 670.0	4.58	76389.03	242.249601	2670.6	false
13C3-PFBS	302.0 / 99.0	1.55	26120.14	225.022462	521.2	false
13C3-PFHxS	402.0 / 99.0	2.33	24312.83	231.144826	504.5	false
13C8-PFOS	507.0 / 99.0	3.12	29809.56	250.871078	289.5	false

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Summary Quant Report

Sample Name	KB74	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.09	107747.25	265.932266	1391.1	false
d3-MeFOSAA	573.0 / 419.0	3.64	17700.53	237.867686	243.9	false
d5-EtFOSAA	589.0 / 419.0	3.80	22032.11	260.842878	257.9	false
13C5-PFHxA	318.0 / 273.0	1.89	67688.32	254.187234	641.8	false
13C4-PFHpA	367.0 / 322.0	2.30	76065.72	251.075240	798.7	false
13C8-PFOA	421.0 / 376.0	2.72	96880.10	262.875155	404.7	false
13C9-PFNA	472.0 / 427.0	3.11	109970.74	261.328420	1372.3	false
13C6-PFDA	519.0 / 474.0	3.48	103376.35	253.248818	1556.3	false
13C7-PFUnA	570.0 / 525.0	3.80	99154.47	262.960755	932.2	false
13C2-PFTeDA	715.0 / 670.0	4.57	86008.02	262.922814	1938.6	false
13C3-PFBS	302.0 / 99.0	1.55	29228.78	215.609121	465.4	false
13C3-PFHxS	402.0 / 99.0	2.32	29626.05	241.172849	441.9	false
13C8-PFOS	507.0 / 99.0	3.11	33752.70	243.225761	275.4	false

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Summary Quant Report

Sample Name	KB75	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	95394.66	249.447374	1919.0	false
d3-MeFOSAA	573.0 / 419.0	3.63	16732.69	255.434971	259.5	false
d5-EtFOSAA	589.0 / 419.0	3.79	16744.24	225.192349	304.7	false
13C5-PFHxA	318.0 / 273.0	1.88	59853.55	230.325952	495.7	false
13C4-PFHpA	367.0 / 322.0	2.29	72363.27	244.763156	5134.6	false
13C8-PFOA	421.0 / 376.0	2.71	92242.14	256.482263	3147.3	false
13C9-PFNA	472.0 / 427.0	3.10	106517.52	259.384215	1506.1	false
13C6-PFDA	519.0 / 474.0	3.47	99092.64	257.192135	1016.5	false
13C7-PFUnA	570.0 / 525.0	3.79	101859.96	286.201660	947.8	false
13C2-PFTeDA	715.0 / 670.0	4.56	75947.40	245.975733	2310.8	false
13C3-PFBS	302.0 / 99.0	1.55	26105.02	218.748838	604.7	false
13C3-PFHxS	402.0 / 99.0	2.32	26545.24	245.474666	396.8	false
13C8-PFOS	507.0 / 99.0	3.10	27286.93	223.367998	263.5	false

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Summary Quant Report

Sample Name	KB76	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:19:32	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	95903.63	245.945631	1244.5	false
d3-MeFOSAA	573.0 / 419.0	3.62	15347.55	232.186572	188.7	false
d5-EtFOSAA	589.0 / 419.0	3.79	19076.22	254.251713	210.8	false
13C5-PFHxA	318.0 / 273.0	1.88	58835.13	235.058052	1009.1	false
13C4-PFHpA	367.0 / 322.0	2.29	73044.35	256.507439	778.8	false
13C8-PFOA	421.0 / 376.0	2.70	89256.01	257.662297	1337.8	false
13C9-PFNA	472.0 / 427.0	3.10	96659.60	244.372857	1496.3	false
13C6-PFDA	519.0 / 474.0	3.46	97605.58	248.450649	1104.6	false
13C7-PFUnA	570.0 / 525.0	3.78	85263.94	234.954208	671.4	false
13C2-PFTeDA	715.0 / 670.0	4.55	72740.35	231.048930	2036.8	false
13C3-PFBS	302.0 / 99.0	1.55	24473.16	203.233433	669.1	false
13C3-PFHxS	402.0 / 99.0	2.32	23731.17	217.481590	485.7	false
13C8-PFOS	507.0 / 99.0	3.10	28732.45	233.089271	315.7	false

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Summary Quant Report

Sample Name	KB77	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	87520.82	248.975274	984.0	false
d3-MeFOSAA	573.0 / 419.0	3.62	15905.32	236.383719	163.7	false
d5-EtFOSAA	589.0 / 419.0	3.78	16835.01	220.425706	271.8	false
13C5-PFHxA	318.0 / 273.0	1.88	61167.94	257.145365	677.6	false
13C4-PFHpA	367.0 / 322.0	2.29	69461.61	256.669677	849.4	false
13C8-PFOA	421.0 / 376.0	2.70	84283.75	256.019871	1295.1	false
13C9-PFNA	472.0 / 427.0	3.10	93667.25	249.179395	1439.8	false
13C6-PFDA	519.0 / 474.0	3.46	97196.35	274.445566	2304.2	false
13C7-PFUnA	570.0 / 525.0	3.78	81503.66	249.135582	792.6	false
13C2-PFTeDA	715.0 / 670.0	4.55	71548.15	252.097071	2268.3	false
13C3-PFBS	302.0 / 99.0	1.55	26519.94	216.348971	787.4	false
13C3-PFHxS	402.0 / 99.0	2.31	22766.78	204.966129	549.1	false
13C8-PFOS	507.0 / 99.0	3.10	28458.87	226.800752	280.5	false

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Summary Quant Report

Sample Name	KB78	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	102072.61	251.235272	905.7	false
d3-MeFOSAA	573.0 / 419.0	3.61	18026.94	285.381847	140.7	false
d5-EtFOSAA	589.0 / 419.0	3.78	19940.39	278.106701	245.9	false
13C5-PFHxA	318.0 / 273.0	1.87	67298.42	264.503275	733.1	false
13C4-PFHpA	367.0 / 322.0	2.28	72755.48	251.342992	508.8	false
13C8-PFOA	421.0 / 376.0	2.70	85622.31	243.157749	1201.3	false
13C9-PFNA	472.0 / 427.0	3.09	103069.19	256.344825	1142.1	false
13C6-PFDA	519.0 / 474.0	3.45	101281.21	247.435316	1442.1	false
13C7-PFUnA	570.0 / 525.0	3.78	91776.59	242.726450	856.9	false
13C2-PFTeDA	715.0 / 670.0	4.54	84788.29	258.482884	1567.2	false
13C3-PFBS	302.0 / 99.0	1.54	30399.13	264.163371	680.5	false
13C3-PFHxS	402.0 / 99.0	2.31	27375.94	262.529838	495.9	false
13C8-PFOS	507.0 / 99.0	3.09	30568.34	259.494294	315.3	false

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Summary Quant Report

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	99995.01	254.436513	1141.6	false
d3-MeFOSAA	573.0 / 419.0	3.62	18400.21	319.413436	102.1	false
d5-EtFOSAA	589.0 / 419.0	3.78	16351.10	250.063868	251.7	false
13C5-PFHxA	318.0 / 273.0	1.87	63134.84	246.212808	622.1	false
13C4-PFHpA	367.0 / 322.0	2.28	66285.64	227.214453	928.8	false
13C8-PFOA	421.0 / 376.0	2.70	77573.52	218.589880	452635.8	false
13C9-PFNA	472.0 / 427.0	3.09	93994.33	231.959824	113653.9	false
13C6-PFDA	519.0 / 474.0	3.45	88095.93	222.494042	731.4	false
13C7-PFUnA	570.0 / 525.0	3.78	82754.96	226.260594	1283.3	false
13C2-PFTeDA	715.0 / 670.0	4.54	81617.66	257.222966	1991.1	false
13C3-PFBS	302.0 / 99.0	1.54	29660.00	282.623804	815.0	false
13C3-PFHxS	402.0 / 99.0	2.31	24033.73	252.730102	656.4	false
13C8-PFOS	507.0 / 99.0	3.09	25557.23	237.900846	289.4	false

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Summary Ion Ratio Report

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Sample Name	KB73	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.57	PFBS	0.300	0.292	ü
PFHxA_1	313.0 / 269.0	1.90	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	PFHxA	0.090	0.077	ü
PFHpA_1	363.0 / 319.0	2.32	PFHpA			
PFHpA_2	363.0 / 169.0	2.32	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.34	PFHxS			
PFHxS_2	399.0 / 99.0	2.34	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.73	PFOA			
PFOA_2	413.0 / 169.0	2.73	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.14	PFNA			
PFNA_2	463.0 / 219.0	3.14	PFNA	0.330	0.306	ü
PFOS_1	499.0 / 80.0	3.13	PFOS			
PFOS_2	499.0 / 99.0	3.13	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.50	PFDA			
PFDA_2	513.0 / 219.0	3.49	PFDA	0.050	0.041	ü
PFUnA_1	563.0 / 519.0	3.83	PFUnA			
PFUnA_2	563.0 / 269.0	3.82	PFUnA	0.040	0.049	ü
PFDoA_1	613.0 / 569.0	4.11	PFDoA			
PFDoA_2	613.0 / 319.0	4.11	PFDoA	0.160	0.160	ü
PFTrDA_1	663.0 / 619.0	4.37	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.36	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.59	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.58	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.65	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.65	NMeFOSAA	0.450	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.82	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.82	NEtFOSAA	0.050	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB74	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.57	PFBS	0.280	0.292	ü
PFHxA_1	313.0 / 269.0	1.90	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.070	0.077	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.73	PFOA			
PFOA_2	413.0 / 169.0	2.73	PFOA	0.070	0.065	ü
PFNA_1	463.0 / 419.0	3.13	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.260	0.306	ü
PFOS_1	499.0 / 80.0	3.12	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.49	PFDA			
PFDA_2	513.0 / 219.0	3.48	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.82	PFUnA			
PFUnA_2	563.0 / 269.0	3.81	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.10	PFDoA			
PFDoA_2	613.0 / 319.0	4.10	PFDoA	0.180	0.160	ü
PFTrDA_1	663.0 / 619.0	4.35	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.35	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.58	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.58	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.65	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.65	NMeFOSAA	0.540	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.81	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.80	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB75	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.57	PFBS	0.280	0.292	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.080	0.077	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	PFHxS	0.290	0.282	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.72	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.12	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.300	0.306	ü
PFOS_1	499.0 / 80.0	3.12	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.180	0.174	ü
PFDA_1	513.0 / 469.0	3.48	PFDA			
PFDA_2	513.0 / 219.0	3.48	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.81	PFUnA			
PFUnA_2	563.0 / 269.0	3.81	PFUnA	0.060	0.049	ü
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.09	PFDoA	0.160	0.160	ü
PFTrDA_1	663.0 / 619.0	4.35	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.34	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.57	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.56	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.64	NMeFOSAA	0.530	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.80	NEtFOSAA	0.080	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB76	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:19:32	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.292	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.070	0.077	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.070	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.310	0.306	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.09	PFDoA	0.150	0.160	ü
PFTrDA_1	663.0 / 619.0	4.34	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.34	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.56	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.56	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	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.80	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB77	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.292	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.070	0.077	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.330	0.306	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.09	PFDoA	0.170	0.160	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	4.56	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	3.63	NMeFOSAA	0.580	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB78	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.300	0.292	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.080	0.077	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.310	0.306	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.174	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.150	0.160	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	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.540	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 30/10/2018 3:54:10 PM

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.292	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.077	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.070	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.310	0.306	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.160	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	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.540	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.062	ü

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Summary Internal Standard Report

Sample Name	KB73	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	26120.14	232.25
PFBS_2	298.9 / 99.0	1.57	13C3-PFBS	302.0 / 99.0	26120.14	232.25
PFHxA_1	313.0 / 269.0	1.90	13C5-PFHxA	318.0 / 273.0	61468.01	250.00
PFHxA_2	313.0 / 119.0	1.91	13C5-PFHxA	318.0 / 273.0	61468.01	250.00
PFHpA_1	363.0 / 319.0	2.32	13C4-PFHpA	367.0 / 322.0	69894.37	250.00
PFHpA_2	363.0 / 169.0	2.32	13C4-PFHpA	367.0 / 322.0	69894.37	250.00
PFHxS_1	399.0 / 80.0	2.34	13C3-PFHxS	402.0 / 99.0	24619.85	236.50
PFHxS_2	399.0 / 99.0	2.34	13C3-PFHxS	402.0 / 99.0	24619.85	236.50
PFOA_1	413.0 / 369.0	2.73	13C8-PFOA	421.0 / 376.0	82686.75	250.00
PFOA_2	413.0 / 169.0	2.73	13C8-PFOA	421.0 / 376.0	82686.75	250.00
PFNA_1	463.0 / 419.0	3.14	13C9-PFNA	472.0 / 427.0	91536.04	250.00
PFNA_2	463.0 / 219.0	3.14	13C9-PFNA	472.0 / 427.0	91536.04	250.00
PFOS_1	499.0 / 80.0	3.13	13C8-PFOS	507.0 / 99.0	29514.87	239.25
PFOS_2	499.0 / 99.0	3.13	13C8-PFOS	507.0 / 99.0	29514.87	239.25
PFDA_1	513.0 / 469.0	3.50	13C6-PFDA	519.0 / 474.0	97086.56	250.00
PFDA_2	513.0 / 219.0	3.49	13C6-PFDA	519.0 / 474.0	97086.56	250.00
PFUnA_1	563.0 / 519.0	3.83	13C7-PFUnA	570.0 / 525.0	90055.69	250.00
PFUnA_2	563.0 / 269.0	3.82	13C7-PFUnA	570.0 / 525.0	90055.69	250.00
PFDoA_1	613.0 / 569.0	4.11	13C2-PFDoA	615.0 / 570.0	91402.83	250.00
PFDoA_2	613.0 / 319.0	4.11	13C2-PFDoA	615.0 / 570.0	91402.83	250.00
PFTrDA_1	663.0 / 619.0	4.37	13C2-PFTeDA	715.0 / 670.0	76389.03	250.00
PFTrDA_2	663.0 / 169.0	4.36	13C2-PFTeDA	715.0 / 670.0	76389.03	250.00
PFTeDA_1	713.0 / 669.0	4.59	13C2-PFTeDA	715.0 / 670.0	76389.03	250.00
PFTeDA_2	713.0 / 169.0	4.58	13C2-PFTeDA	715.0 / 670.0	76389.03	250.00
NMeFOSAA_1	570.0 / 419.0	3.65	d3-MeFOSAA	573.0 / 419.0	16233.26	250.00
NMeFOSAA_2	570.0 / 512.0	3.65	d3-MeFOSAA	573.0 / 419.0	16233.26	250.00
NEtFOSAA_1	584.0 / 419.0	3.82	d5-EtFOSAA	589.0 / 419.0	19192.99	250.00
NEtFOSAA_2	584.0 / 483.0	3.82	d5-EtFOSAA	589.0 / 419.0	19192.99	250.00

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Summary Internal Standard Report

Sample Name	KB74	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	29228.78	232.25
PFBS_2	298.9 / 99.0	1.57	13C3-PFBS	302.0 / 99.0	29228.78	232.25
PFHxA_1	313.0 / 269.0	1.90	13C5-PFHxA	318.0 / 273.0	67688.32	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	67688.32	250.00
PFHpA_1	363.0 / 319.0	2.31	13C4-PFHpA	367.0 / 322.0	76065.72	250.00
PFHpA_2	363.0 / 169.0	2.31	13C4-PFHpA	367.0 / 322.0	76065.72	250.00
PFHxS_1	399.0 / 80.0	2.33	13C3-PFHxS	402.0 / 99.0	29708.48	236.50
PFHxS_2	399.0 / 99.0	2.33	13C3-PFHxS	402.0 / 99.0	29708.48	236.50
PFOA_1	413.0 / 369.0	2.73	13C8-PFOA	421.0 / 376.0	96880.10	250.00
PFOA_2	413.0 / 169.0	2.73	13C8-PFOA	421.0 / 376.0	96880.10	250.00
PFNA_1	463.0 / 419.0	3.13	13C9-PFNA	472.0 / 427.0	109970.74	250.00
PFNA_2	463.0 / 219.0	3.12	13C9-PFNA	472.0 / 427.0	109970.74	250.00
PFOS_1	499.0 / 80.0	3.12	13C8-PFOS	507.0 / 99.0	33822.33	239.25
PFOS_2	499.0 / 99.0	3.12	13C8-PFOS	507.0 / 99.0	33822.33	239.25
PFDA_1	513.0 / 469.0	3.49	13C6-PFDA	519.0 / 474.0	103376.35	250.00
PFDA_2	513.0 / 219.0	3.48	13C6-PFDA	519.0 / 474.0	103376.35	250.00
PFUnA_1	563.0 / 519.0	3.82	13C7-PFUnA	570.0 / 525.0	99154.47	250.00
PFUnA_2	563.0 / 269.0	3.81	13C7-PFUnA	570.0 / 525.0	99154.47	250.00
PFDoA_1	613.0 / 569.0	4.10	13C2-PFDoA	615.0 / 570.0	107747.25	250.00
PFDoA_2	613.0 / 319.0	4.10	13C2-PFDoA	615.0 / 570.0	107747.25	250.00
PFTrDA_1	663.0 / 619.0	4.35	13C2-PFTeDA	715.0 / 670.0	86008.02	250.00
PFTrDA_2	663.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	86008.02	250.00
PFTeDA_1	713.0 / 669.0	4.58	13C2-PFTeDA	715.0 / 670.0	86008.02	250.00
PFTeDA_2	713.0 / 169.0	4.58	13C2-PFTeDA	715.0 / 670.0	86008.02	250.00
NMeFOSAA_1	570.0 / 419.0	3.65	d3-MeFOSAA	573.0 / 419.0	17661.42	250.00
NMeFOSAA_2	570.0 / 512.0	3.65	d3-MeFOSAA	573.0 / 419.0	17661.42	250.00
NEtFOSAA_1	584.0 / 419.0	3.81	d5-EtFOSAA	589.0 / 419.0	22570.27	250.00
NEtFOSAA_2	584.0 / 483.0	3.80	d5-EtFOSAA	589.0 / 419.0	22570.27	250.00

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Summary Internal Standard Report

Sample Name	KB75	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	26105.02	232.25
PFBS_2	298.9 / 99.0	1.57	13C3-PFBS	302.0 / 99.0	26105.02	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	59853.55	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	59853.55	250.00
PFHpA_1	363.0 / 319.0	2.31	13C4-PFHpA	367.0 / 322.0	72363.27	250.00
PFHpA_2	363.0 / 169.0	2.31	13C4-PFHpA	367.0 / 322.0	72363.27	250.00
PFHxS_1	399.0 / 80.0	2.33	13C3-PFHxS	402.0 / 99.0	26459.07	236.50
PFHxS_2	399.0 / 99.0	2.33	13C3-PFHxS	402.0 / 99.0	26459.07	236.50
PFOA_1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	92242.14	250.00
PFOA_2	413.0 / 169.0	2.72	13C8-PFOA	421.0 / 376.0	92242.14	250.00
PFNA_1	463.0 / 419.0	3.12	13C9-PFNA	472.0 / 427.0	106517.52	250.00
PFNA_2	463.0 / 219.0	3.12	13C9-PFNA	472.0 / 427.0	106517.52	250.00
PFOS_1	499.0 / 80.0	3.12	13C8-PFOS	507.0 / 99.0	27084.38	239.25
PFOS_2	499.0 / 99.0	3.12	13C8-PFOS	507.0 / 99.0	27084.38	239.25
PFDA_1	513.0 / 469.0	3.48	13C6-PFDA	519.0 / 474.0	99092.64	250.00
PFDA_2	513.0 / 219.0	3.48	13C6-PFDA	519.0 / 474.0	99092.64	250.00
PFUnA_1	563.0 / 519.0	3.81	13C7-PFUnA	570.0 / 525.0	101859.96	250.00
PFUnA_2	563.0 / 269.0	3.81	13C7-PFUnA	570.0 / 525.0	101859.96	250.00
PFDoA_1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	95394.66	250.00
PFDoA_2	613.0 / 319.0	4.09	13C2-PFDoA	615.0 / 570.0	95394.66	250.00
PFTrDA_1	663.0 / 619.0	4.35	13C2-PFTeDA	715.0 / 670.0	75947.40	250.00
PFTrDA_2	663.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	75947.40	250.00
PFTeDA_1	713.0 / 669.0	4.57	13C2-PFTeDA	715.0 / 670.0	75947.40	250.00
PFTeDA_2	713.0 / 169.0	4.56	13C2-PFTeDA	715.0 / 670.0	75947.40	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	16616.33	250.00
NMeFOSAA_2	570.0 / 512.0	3.64	d3-MeFOSAA	573.0 / 419.0	16616.33	250.00
NEtFOSAA_1	584.0 / 419.0	3.80	d5-EtFOSAA	589.0 / 419.0	16999.01	250.00
NEtFOSAA_2	584.0 / 483.0	3.80	d5-EtFOSAA	589.0 / 419.0	16999.01	250.00

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Summary Internal Standard Report

Sample Name	KB76	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:19:32	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	24473.16	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	24473.16	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	58835.13	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	58835.13	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	73044.35	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	73044.35	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	23463.21	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	23463.21	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	89256.01	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	89256.01	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	96659.60	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	96659.60	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	28834.11	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	28834.11	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	97605.58	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	97605.58	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	85263.94	250.00
PFUnA_2	563.0 / 269.0	3.80	13C7-PFUnA	570.0 / 525.0	85263.94	250.00
PFDoA_1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	95903.63	250.00
PFDoA_2	613.0 / 319.0	4.09	13C2-PFDoA	615.0 / 570.0	95903.63	250.00
PFTrDA_1	663.0 / 619.0	4.34	13C2-PFTeDA	715.0 / 670.0	72740.35	250.00
PFTrDA_2	663.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	72740.35	250.00
PFTeDA_1	713.0 / 669.0	4.56	13C2-PFTeDA	715.0 / 670.0	72740.35	250.00
PFTeDA_2	713.0 / 169.0	4.56	13C2-PFTeDA	715.0 / 670.0	72740.35	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	15280.98	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	15280.98	250.00
NEtFOSAA_1	584.0 / 419.0	3.80	d5-EtFOSAA	589.0 / 419.0	19201.47	250.00
NEtFOSAA_2	584.0 / 483.0	3.80	d5-EtFOSAA	589.0 / 419.0	19201.47	250.00

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Summary Internal Standard Report

Sample Name	KB77	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	26519.94	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	26519.94	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	61167.94	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	61167.94	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	69461.61	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	69461.61	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	22669.25	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	22669.25	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	84283.75	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	84283.75	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	93667.25	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	93667.25	250.00
PFOS_1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	28376.74	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	28376.74	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	97196.35	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	97196.35	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	81503.66	250.00
PFUnA_2	563.0 / 269.0	3.80	13C7-PFUnA	570.0 / 525.0	81503.66	250.00
PFDoA_1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	87520.82	250.00
PFDoA_2	613.0 / 319.0	4.09	13C2-PFDoA	615.0 / 570.0	87520.82	250.00
PFTrDA_1	663.0 / 619.0	4.33	13C2-PFTeDA	715.0 / 670.0	71548.15	250.00
PFTrDA_2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	71548.15	250.00
PFTeDA_1	713.0 / 669.0	4.56	13C2-PFTeDA	715.0 / 670.0	71548.15	250.00
PFTeDA_2	713.0 / 169.0	4.55	13C2-PFTeDA	715.0 / 670.0	71548.15	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	16063.93	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	16063.93	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	16992.28	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	16992.28	250.00

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Summary Internal Standard Report

Sample Name	KB78	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	30399.13	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	30399.13	232.25
PFHxA_1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	67298.42	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	67298.42	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	72755.48	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	72755.48	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	27186.76	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	27186.76	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	85622.31	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	85622.31	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	103069.19	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	103069.19	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	30401.17	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	30401.17	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	101281.21	250.00
PFDA_2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	101281.21	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	91776.59	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	91776.59	250.00
PFDoA_1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	102072.61	250.00
PFDoA_2	613.0 / 319.0	4.08	13C2-PFDoA	615.0 / 570.0	102072.61	250.00
PFTrDA_1	663.0 / 619.0	4.33	13C2-PFTeDA	715.0 / 670.0	84788.29	250.00
PFTrDA_2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	84788.29	250.00
PFTeDA_1	713.0 / 669.0	4.55	13C2-PFTeDA	715.0 / 670.0	84788.29	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	84788.29	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	18223.77	250.00
NMeFOSAA_2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	18223.77	250.00
NEtFOSAA_1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	20489.99	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	20489.99	250.00

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Summary Internal Standard Report

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	29660.00	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	29660.00	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	63134.84	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	63134.84	250.00
PFHpA_1	363.0 / 319.0	2.29	13C4-PFHpA	367.0 / 322.0	66285.64	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	66285.64	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	23705.87	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	23705.87	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	77573.52	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	77573.52	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	93994.33	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	93994.33	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	25276.93	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	25276.93	239.25
PFDA_1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	88095.93	250.00
PFDA_2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	88095.93	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	82754.96	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	82754.96	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	99995.01	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	99995.01	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	81617.66	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	81617.66	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	81617.66	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	81617.66	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	18782.71	250.00
NMeFOSAA_2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	18782.71	250.00
NEtFOSAA_1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	16682.63	250.00
NEtFOSAA_2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	16682.63	250.00

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Summary Internal Standard Report

Sample Name	KB73	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	4.10	13C2-PFDA	515.0 / 470.0	100139.46	250.00
d3-MeFOSAA	573.0 / 419.0	3.65	13C4-PFOS	503.0 / 99.0	29846.55	239.25
d5-EtFOSAA	589.0 / 419.0	3.81	13C4-PFOS	503.0 / 99.0	29846.55	239.25
13C5-PFHxA	318.0 / 273.0	1.89	13C2-PFOA	415.0 / 370.0	79095.63	250.00
13C4-PFHpA	367.0 / 322.0	2.30	13C2-PFOA	415.0 / 370.0	79095.63	250.00
13C8-PFOA	421.0 / 376.0	2.72	13C2-PFOA	415.0 / 370.0	79095.63	250.00
13C9-PFNA	472.0 / 427.0	3.12	13C2-PFOA	415.0 / 370.0	79095.63	250.00
13C6-PFDA	519.0 / 474.0	3.48	13C2-PFDA	515.0 / 470.0	100139.46	250.00
13C7-PFUnA	570.0 / 525.0	3.81	13C2-PFDA	515.0 / 470.0	100139.46	250.00
13C2-PFTeDA	715.0 / 670.0	4.58	13C2-PFDA	515.0 / 470.0	100139.46	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	29846.55	239.25
13C3-PFHxS	402.0 / 99.0	2.33	13C4-PFOS	503.0 / 99.0	29846.55	239.25
13C8-PFOS	507.0 / 99.0	3.12	13C4-PFOS	503.0 / 99.0	29846.55	239.25

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Summary Internal Standard Report

Sample Name	KB74	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	4.09	13C2-PFDA	515.0 / 470.0	103883.83	250.00
d3-MeFOSAA	573.0 / 419.0	3.64	13C4-PFOS	503.0 / 99.0	34856.85	239.25
d5-EtFOSAA	589.0 / 419.0	3.80	13C4-PFOS	503.0 / 99.0	34856.85	239.25
13C5-PFHxA	318.0 / 273.0	1.89	13C2-PFOA	415.0 / 370.0	89971.31	250.00
13C4-PFHpA	367.0 / 322.0	2.30	13C2-PFOA	415.0 / 370.0	89971.31	250.00
13C8-PFOA	421.0 / 376.0	2.72	13C2-PFOA	415.0 / 370.0	89971.31	250.00
13C9-PFNA	472.0 / 427.0	3.11	13C2-PFOA	415.0 / 370.0	89971.31	250.00
13C6-PFDA	519.0 / 474.0	3.48	13C2-PFDA	515.0 / 470.0	103883.83	250.00
13C7-PFUnA	570.0 / 525.0	3.80	13C2-PFDA	515.0 / 470.0	103883.83	250.00
13C2-PFTeDA	715.0 / 670.0	4.57	13C2-PFDA	515.0 / 470.0	103883.83	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	34856.85	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	34856.85	239.25
13C8-PFOS	507.0 / 99.0	3.11	13C4-PFOS	503.0 / 99.0	34856.85	239.25

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Summary Internal Standard Report

Sample Name	KB75	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	98052.33	250.00
d3-MeFOSAA	573.0 / 419.0	3.63	13C4-PFOS	503.0 / 99.0	30684.77	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	30684.77	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	87799.30	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	87799.30	250.00
13C8-PFOA	421.0 / 376.0	2.71	13C2-PFOA	415.0 / 370.0	87799.30	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	87799.30	250.00
13C6-PFDA	519.0 / 474.0	3.47	13C2-PFDA	515.0 / 470.0	98052.33	250.00
13C7-PFUnA	570.0 / 525.0	3.79	13C2-PFDA	515.0 / 470.0	98052.33	250.00
13C2-PFTeDA	715.0 / 670.0	4.56	13C2-PFDA	515.0 / 470.0	98052.33	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	30684.77	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	30684.77	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	30684.77	239.25

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Summary Internal Standard Report

Sample Name	KB76	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:19:32	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	99978.99	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	30962.75	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	30962.75	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	84567.91	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	84567.91	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	84567.91	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	84567.91	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	99978.99	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	99978.99	250.00
13C2-PFTeDA	715.0 / 670.0	4.55	13C2-PFDA	515.0 / 470.0	99978.99	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	30962.75	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	30962.75	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	30962.75	239.25

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Summary Internal Standard Report

Sample Name	KB77	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	90129.70	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	31518.26	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	31518.26	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	80369.12	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	80369.12	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	80369.12	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	80369.12	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	90129.70	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	90129.70	250.00
13C2-PFTeDA	715.0 / 670.0	4.55	13C2-PFDA	515.0 / 470.0	90129.70	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	31518.26	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	31518.26	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	31518.26	239.25

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Summary Internal Standard Report

Sample Name	KB78	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	104169.70	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	29589.19	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	29589.19	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	85964.25	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	85964.25	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	85964.25	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	85964.25	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	104169.70	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	104169.70	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	104169.70	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	29589.19	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	29589.19	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	29589.19	239.25

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Summary Internal Standard Report

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	100765.46	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	26984.04	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	26984.04	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	86636.81	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	86636.81	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	86636.81	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	86636.81	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	100765.46	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	100765.46	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	100765.46	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	26984.04	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	26984.04	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	26984.04	239.25

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	877.420602	1010.00	86.87
PFBS_2	298.9 / 99.0	1.56	838.659062	1010.00	83.04
PFHxA_1	313.0 / 269.0	1.89	1006.652936	1010.00	99.67
PFHxA_2	313.0 / 119.0	1.89	896.376115	1010.00	88.75
PFHpA_1	363.0 / 319.0	2.30	856.292979	1000.00	85.63
PFHpA_2	363.0 / 169.0	2.29	976.724688	1000.00	97.67
PFHxS_1	399.0 / 80.0	2.32	998.233289	1010.00	98.83
PFHxS_2	399.0 / 99.0	2.32	992.688608	1010.00	98.29
PFOA_1	413.0 / 369.0	2.71	930.879127	1000.00	93.09
PFOA_2	413.0 / 169.0	2.71	872.168076	1000.00	87.22
PFNA_1	463.0 / 419.0	3.11	1034.052055	1000.00	103.41
PFNA_2	463.0 / 219.0	3.10	1037.625087	1000.00	103.76
PFOS_1	499.0 / 80.0	3.10	906.626239	1000.00	90.66
PFOS_2	499.0 / 99.0	3.10	919.881718	1000.00	91.99
PFDA_1	513.0 / 469.0	3.46	983.979238	1000.00	98.40
PFDA_2	513.0 / 219.0	3.46	976.593938	1000.00	97.66
PFUnA_1	563.0 / 519.0	3.79	923.159866	1000.00	92.32
PFUnA_2	563.0 / 269.0	3.79	975.741234	1000.00	97.57
PFDoA_1	613.0 / 569.0	4.07	980.552902	1000.00	98.06
PFDoA_2	613.0 / 319.0	4.07	934.947666	1000.00	93.49
PFTrDA_1	663.0 / 619.0	4.32	1073.075185	1000.00	107.31
PFTrDA_2	663.0 / 169.0	4.32	1041.820014	1000.00	104.18
PFTeDA_1	713.0 / 669.0	4.54	1020.055697	1000.00	102.01
PFTeDA_2	713.0 / 169.0	4.54	1079.815842	1000.00	107.98
NMeFOSAA_1	570.0 / 419.0	3.62	945.129517	1000.00	94.51
NMeFOSAA_2	570.0 / 512.0	3.62	965.108458	1000.00	96.51
NEtFOSAA_1	584.0 / 419.0	3.78	1244.646852	1000.00	124.46
NEtFOSAA_2	584.0 / 483.0	3.78	1233.660110	1000.00	123.37

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	489.952850	505.00	97.02
PFBS_2	298.9 / 99.0	1.56	527.034370	505.00	104.36
PFHxA_1	313.0 / 269.0	1.88	464.527034	505.00	91.99
PFHxA_2	313.0 / 119.0	1.88	458.651056	505.00	90.82
PFHpA_1	363.0 / 319.0	2.30	440.394900	500.00	88.08
PFHpA_2	363.0 / 169.0	2.30	361.675495	500.00	72.34
PFHxS_1	399.0 / 80.0	2.32	510.828078	505.00	101.15
PFHxS_2	399.0 / 99.0	2.32	520.283374	505.00	103.03
PFOA_1	413.0 / 369.0	2.72	477.786913	500.00	95.56
PFOA_2	413.0 / 169.0	2.72	539.891735	500.00	107.98
PFNA_1	463.0 / 419.0	3.12	519.496976	500.00	103.90
PFNA_2	463.0 / 219.0	3.12	498.474275	500.00	99.69
PFOS_1	499.0 / 80.0	3.12	515.101381	500.00	103.02
PFOS_2	499.0 / 99.0	3.12	495.393011	500.00	99.08
PFDA_1	513.0 / 469.0	3.48	513.573733	500.00	102.71
PFDA_2	513.0 / 219.0	3.48	478.534634	500.00	95.71
PFUnA_1	563.0 / 519.0	3.80	514.895534	500.00	102.98
PFUnA_2	563.0 / 269.0	3.80	480.805561	500.00	96.16
PFDoA_1	613.0 / 569.0	4.09	519.973990	500.00	103.99
PFDoA_2	613.0 / 319.0	4.08	493.775307	500.00	98.76
PFTrDA_1	663.0 / 619.0	4.33	519.060343	500.00	103.81
PFTrDA_2	663.0 / 169.0	4.33	538.983521	500.00	107.80
PFTeDA_1	713.0 / 669.0	4.55	525.554424	500.00	105.11
PFTeDA_2	713.0 / 169.0	4.55	505.833690	500.00	101.17
NMeFOSAA_1	570.0 / 419.0	3.63	508.727954	500.00	101.75
NMeFOSAA_2	570.0 / 512.0	3.63	433.992876	500.00	86.80
NEtFOSAA_1	584.0 / 419.0	3.80	500.869553	500.00	100.17
NEtFOSAA_2	584.0 / 483.0	3.79	489.174879	500.00	97.83

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	991.437798	1010.00	98.16
PFBS_2	298.9 / 99.0	1.54	987.194127	1010.00	97.74
PFHxA_1	313.0 / 269.0	1.87	1016.629894	1010.00	100.66
PFHxA_2	313.0 / 119.0	1.87	1016.812687	1010.00	100.67
PFHpA_1	363.0 / 319.0	2.28	971.360652	1000.00	97.14
PFHpA_2	363.0 / 169.0	2.28	817.356325	1000.00	81.74
PFHxS_1	399.0 / 80.0	2.30	1144.828496	1010.00	113.35
PFHxS_2	399.0 / 99.0	2.30	1114.475454	1010.00	110.34
PFOA_1	413.0 / 369.0	2.69	1049.668109	1000.00	104.97
PFOA_2	413.0 / 169.0	2.69	1015.955557	1000.00	101.60
PFNA_1	463.0 / 419.0	3.09	1036.354311	1000.00	103.64
PFNA_2	463.0 / 219.0	3.09	1063.814346	1000.00	106.38
PFOS_1	499.0 / 80.0	3.08	1014.503600	1000.00	101.45
PFOS_2	499.0 / 99.0	3.08	1008.353396	1000.00	100.84
PFDA_1	513.0 / 469.0	3.44	1013.485124	1000.00	101.35
PFDA_2	513.0 / 219.0	3.44	1099.789775	1000.00	109.98
PFUnA_1	563.0 / 519.0	3.76	1035.527631	1000.00	103.55
PFUnA_2	563.0 / 269.0	3.76	1164.145883	1000.00	116.41
PFDoA_1	613.0 / 569.0	4.04	969.112622	1000.00	96.91
PFDoA_2	613.0 / 319.0	4.03	994.068305	1000.00	99.41
PFTrDA_1	663.0 / 619.0	4.28	1039.808952	1000.00	103.98
PFTrDA_2	663.0 / 169.0	4.28	990.526101	1000.00	99.05
PFTeDA_1	713.0 / 669.0	4.49	1056.135138	1000.00	105.61
PFTeDA_2	713.0 / 169.0	4.49	1110.780601	1000.00	111.08
NMeFOSAA_1	570.0 / 419.0	3.59	937.271482	1000.00	93.73
NMeFOSAA_2	570.0 / 512.0	3.59	1044.482177	1000.00	104.45
NEtFOSAA_1	584.0 / 419.0	3.75	1056.330693	1000.00	105.63
NEtFOSAA_2	584.0 / 483.0	3.75	1033.405997	1000.00	103.34

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.57	484.754015	505.00	95.99
PFBS_2	298.9 / 99.0	1.57	460.129667	505.00	91.11
PFHxA_1	313.0 / 269.0	1.90	499.859458	505.00	98.98
PFHxA_2	313.0 / 119.0	1.90	576.477169	505.00	114.15
PFHpA_1	363.0 / 319.0	2.31	471.017380	500.00	94.20
PFHpA_2	363.0 / 169.0	2.31	436.165761	500.00	87.23
PFHxS_1	399.0 / 80.0	2.34	513.112977	505.00	101.61
PFHxS_2	399.0 / 99.0	2.33	489.788084	505.00	96.99
PFOA_1	413.0 / 369.0	2.73	515.841656	500.00	103.17
PFOA_2	413.0 / 169.0	2.73	514.415457	500.00	102.88
PFNA_1	463.0 / 419.0	3.13	520.080727	500.00	104.02
PFNA_2	463.0 / 219.0	3.13	556.083264	500.00	111.22
PFOS_1	499.0 / 80.0	3.13	436.705182	500.00	87.34
PFOS_2	499.0 / 99.0	3.12	453.370724	500.00	90.67
PFDA_1	513.0 / 469.0	3.49	476.762125	500.00	95.35
PFDA_2	513.0 / 219.0	3.49	450.324500	500.00	90.06
PFUnA_1	563.0 / 519.0	3.82	491.199250	500.00	98.24
PFUnA_2	563.0 / 269.0	3.82	460.483278	500.00	92.10
PFDoA_1	613.0 / 569.0	4.10	501.048127	500.00	100.21
PFDoA_2	613.0 / 319.0	4.10	559.603662	500.00	111.92
PFTrDA_1	663.0 / 619.0	4.35	482.323681	500.00	96.46
PFTrDA_2	663.0 / 169.0	4.35	495.196388	500.00	99.04
PFTeDA_1	713.0 / 669.0	4.57	504.774637	500.00	100.95
PFTeDA_2	713.0 / 169.0	4.57	502.172391	500.00	100.43
NMeFOSAA_1	570.0 / 419.0	3.65	532.487486	500.00	106.50
NMeFOSAA_2	570.0 / 512.0	3.65	388.465632	500.00	77.69
NEtFOSAA_1	584.0 / 419.0	3.81	553.294527	500.00	110.66
NEtFOSAA_2	584.0 / 483.0	3.81	589.430119	500.00	117.89

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	2580.741452	2525.00	102.21
PFBS_2	298.9 / 99.0	1.56	2475.370383	2525.00	98.03
PFHxA_1	313.0 / 269.0	1.88	2535.301054	2525.00	100.41
PFHxA_2	313.0 / 119.0	1.88	2534.834138	2525.00	100.39
PFHpA_1	363.0 / 319.0	2.29	2327.940844	2500.00	93.12
PFHpA_2	363.0 / 169.0	2.30	2112.392909	2500.00	84.50
PFHxS_1	399.0 / 80.0	2.32	2458.885644	2525.00	97.38
PFHxS_2	399.0 / 99.0	2.32	2421.099647	2525.00	95.89
PFOA_1	413.0 / 369.0	2.71	2474.628909	2500.00	98.99
PFOA_2	413.0 / 169.0	2.71	2445.684821	2500.00	97.83
PFNA_1	463.0 / 419.0	3.11	2391.184413	2500.00	95.65
PFNA_2	463.0 / 219.0	3.10	2484.130663	2500.00	99.37
PFOS_1	499.0 / 80.0	3.10	2135.039001	2500.00	85.40
PFOS_2	499.0 / 99.0	3.10	2243.154541	2500.00	89.73
PFDA_1	513.0 / 469.0	3.46	2207.313705	2500.00	88.29
PFDA_2	513.0 / 219.0	3.46	2054.979734	2500.00	82.20
PFUnA_1	563.0 / 519.0	3.79	2339.152164	2500.00	93.57
PFUnA_2	563.0 / 269.0	3.78	2535.177537	2500.00	101.41
PFDoA_1	613.0 / 569.0	4.07	2526.110756	2500.00	101.04
PFDoA_2	613.0 / 319.0	4.07	2609.357813	2500.00	104.37
PFTrDA_1	663.0 / 619.0	4.32	2710.380433	2500.00	108.42
PFTrDA_2	663.0 / 169.0	4.31	2614.868135	2500.00	104.59
PFTeDA_1	713.0 / 669.0	4.53	2724.320311	2500.00	108.97
PFTeDA_2	713.0 / 169.0	4.53	2619.822125	2500.00	104.79
NMeFOSAA_1	570.0 / 419.0	3.61	2562.672994	2500.00	102.51
NMeFOSAA_2	570.0 / 512.0	3.61	2559.422983	2500.00	102.38
NEtFOSAA_1	584.0 / 419.0	3.78	3039.747245	2500.00	121.59
NEtFOSAA_2	584.0 / 483.0	3.78	3069.784410	2500.00	122.79

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QC Summary Report

Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	1048.321748	1010.00	103.79
PFBS_2	298.9 / 99.0	1.55	1024.409959	1010.00	101.43
PFHxA_1	313.0 / 269.0	1.87	1022.567378	1010.00	101.24
PFHxA_2	313.0 / 119.0	1.88	1197.578194	1010.00	118.57
PFHpA_1	363.0 / 319.0	2.28	934.075677	1000.00	93.41
PFHpA_2	363.0 / 169.0	2.28	817.388429	1000.00	81.74
PFHxS_1	399.0 / 80.0	2.31	1084.891607	1010.00	107.42
PFHxS_2	399.0 / 99.0	2.31	1082.429708	1010.00	107.17
PFOA_1	413.0 / 369.0	2.70	938.657255	1000.00	93.87
PFOA_2	413.0 / 169.0	2.69	892.695819	1000.00	89.27
PFNA_1	463.0 / 419.0	3.10	1048.340706	1000.00	104.83
PFNA_2	463.0 / 219.0	3.09	1126.491410	1000.00	112.65
PFOS_1	499.0 / 80.0	3.09	966.951370	1000.00	96.70
PFOS_2	499.0 / 99.0	3.09	936.478922	1000.00	93.65
PFDA_1	513.0 / 469.0	3.45	1010.730940	1000.00	101.07
PFDA_2	513.0 / 219.0	3.45	834.839957	1000.00	83.48
PFUnA_1	563.0 / 519.0	3.77	1006.996895	1000.00	100.70
PFUnA_2	563.0 / 269.0	3.77	1014.507162	1000.00	101.45
PFDoA_1	613.0 / 569.0	4.05	988.089208	1000.00	98.81
PFDoA_2	613.0 / 319.0	4.05	978.390371	1000.00	97.84
PFTrDA_1	663.0 / 619.0	4.29	1012.392995	1000.00	101.24
PFTrDA_2	663.0 / 169.0	4.29	1044.843221	1000.00	104.48
PFTeDA_1	713.0 / 669.0	4.50	1046.919582	1000.00	104.69
PFTeDA_2	713.0 / 169.0	4.50	1077.241305	1000.00	107.72
NMeFOSAA_1	570.0 / 419.0	3.60	1049.852049	1000.00	104.99
NMeFOSAA_2	570.0 / 512.0	3.60	1030.316997	1000.00	103.03
NEtFOSAA_1	584.0 / 419.0	3.76	1083.421759	1000.00	108.34
NEtFOSAA_2	584.0 / 483.0	3.76	1253.844564	1000.00	125.38

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	231.611603	250.00	92.64
d3-MeFOSAA	573.0 / 419.0	3.61	244.423694	250.00	97.77
d5-EtFOSAA	589.0 / 419.0	3.78	176.181506	250.00	70.47
13C5-PFHxA	318.0 / 273.0	1.88	233.905404	250.00	93.56
13C4-PFHpA	367.0 / 322.0	2.29	244.843738	250.00	97.94
13C8-PFOA	421.0 / 376.0	2.70	255.222211	250.00	102.09
13C9-PFNA	472.0 / 427.0	3.09	253.115276	250.00	101.25
13C6-PFDA	519.0 / 474.0	3.45	223.796875	250.00	89.52
13C7-PFUnA	570.0 / 525.0	3.77	237.910809	250.00	95.16
13C2-PFTeDA	715.0 / 670.0	4.54	218.862217	250.00	87.54
13C3-PFBS	302.0 / 99.0	1.55	206.860264	232.25	89.07
13C3-PFHxS	402.0 / 99.0	2.31	210.154754	236.50	88.86
13C8-PFOS	507.0 / 99.0	3.09	222.736043	239.25	93.10

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.07	282.311575	250.00	112.92
d3-MeFOSAA	573.0 / 419.0	3.63	260.739109	250.00	104.30
d5-EtFOSAA	589.0 / 419.0	3.79	233.419386	250.00	93.37
13C5-PFHxA	318.0 / 273.0	1.87	278.724605	250.00	111.49
13C4-PFHpA	367.0 / 322.0	2.29	286.311436	250.00	114.52
13C8-PFOA	421.0 / 376.0	2.71	253.044922	250.00	101.22
13C9-PFNA	472.0 / 427.0	3.10	230.948912	250.00	92.38
13C6-PFDA	519.0 / 474.0	3.46	251.665808	250.00	100.67
13C7-PFUnA	570.0 / 525.0	3.79	250.698048	250.00	100.28
13C2-PFTeDA	715.0 / 670.0	4.54	301.014991	250.00	120.41
13C3-PFBS	302.0 / 99.0	1.54	234.372196	232.25	100.91
13C3-PFHxS	402.0 / 99.0	2.31	242.181253	236.50	102.40
13C8-PFOS	507.0 / 99.0	3.10	210.787062	239.25	88.10

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	287.835912	250.00	115.13
d3-MeFOSAA	573.0 / 419.0	3.59	288.345139	250.00	115.34
d5-EtFOSAA	589.0 / 419.0	3.74	247.467780	250.00	98.99
13C5-PFHxA	318.0 / 273.0	1.85	285.512057	250.00	114.20
13C4-PFHpA	367.0 / 322.0	2.27	286.600385	250.00	114.64
13C8-PFOA	421.0 / 376.0	2.68	260.622004	250.00	104.25
13C9-PFNA	472.0 / 427.0	3.07	240.051682	250.00	96.02
13C6-PFDA	519.0 / 474.0	3.42	263.850020	250.00	105.54
13C7-PFUnA	570.0 / 525.0	3.74	268.933527	250.00	107.57
13C2-PFTeDA	715.0 / 670.0	4.49	309.127464	250.00	123.65
13C3-PFBS	302.0 / 99.0	1.53	279.721383	232.25	120.44
13C3-PFHxS	402.0 / 99.0	2.29	232.189379	236.50	98.18
13C8-PFOS	507.0 / 99.0	3.07	237.189105	239.25	99.14

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.09	251.127463	250.00	100.45
d3-MeFOSAA	573.0 / 419.0	3.64	274.156186	250.00	109.66
d5-EtFOSAA	589.0 / 419.0	3.80	241.528333	250.00	96.61
13C5-PFHxA	318.0 / 273.0	1.89	281.490799	250.00	112.60
13C4-PFHpA	367.0 / 322.0	2.30	281.687014	250.00	112.67
13C8-PFOA	421.0 / 376.0	2.72	257.597627	250.00	103.04
13C9-PFNA	472.0 / 427.0	3.12	235.101963	250.00	94.04
13C6-PFDA	519.0 / 474.0	3.48	244.921857	250.00	97.97
13C7-PFUnA	570.0 / 525.0	3.80	241.728100	250.00	96.69
13C2-PFTeDA	715.0 / 670.0	4.57	288.553002	250.00	115.42
13C3-PFBS	302.0 / 99.0	1.55	232.800259	232.25	100.24
13C3-PFHxS	402.0 / 99.0	2.32	234.237542	236.50	99.04
13C8-PFOS	507.0 / 99.0	3.11	243.421728	239.25	101.74

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.06	275.677639	250.00	110.27
d3-MeFOSAA	573.0 / 419.0	3.61	275.293447	250.00	110.12
d5-EtFOSAA	589.0 / 419.0	3.77	210.814390	250.00	84.33
13C5-PFHxA	318.0 / 273.0	1.87	280.109533	250.00	112.04
13C4-PFHpA	367.0 / 322.0	2.28	288.718445	250.00	115.49
13C8-PFOA	421.0 / 376.0	2.70	266.405056	250.00	106.56
13C9-PFNA	472.0 / 427.0	3.09	268.923530	250.00	107.57
13C6-PFDA	519.0 / 474.0	3.45	275.846621	250.00	110.34
13C7-PFUnA	570.0 / 525.0	3.77	262.275129	250.00	104.91
13C2-PFTeDA	715.0 / 670.0	4.53	296.105909	250.00	118.44
13C3-PFBS	302.0 / 99.0	1.54	222.091712	232.25	95.63
13C3-PFHxS	402.0 / 99.0	2.31	221.073888	236.50	93.48
13C8-PFOS	507.0 / 99.0	3.09	238.116290	239.25	99.53

Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.03	273.547303	250.00	109.42
d3-MeFOSAA	573.0 / 419.0	3.59	286.209324	250.00	114.48
d5-EtFOSAA	589.0 / 419.0	3.75	236.872751	250.00	94.75
13C5-PFHxA	318.0 / 273.0	1.86	254.430661	250.00	101.77
13C4-PFHpA	367.0 / 322.0	2.27	280.939123	250.00	112.38
13C8-PFOA	421.0 / 376.0	2.68	272.226307	250.00	108.89
13C9-PFNA	472.0 / 427.0	3.08	232.554387	250.00	93.02
13C6-PFDA	519.0 / 474.0	3.43	251.393093	250.00	100.56
13C7-PFUnA	570.0 / 525.0	3.75	261.744698	250.00	104.70
13C2-PFTeDA	715.0 / 670.0	4.50	299.914437	250.00	119.97
13C3-PFBS	302.0 / 99.0	1.53	232.227133	232.25	99.99
13C3-PFHxS	402.0 / 99.0	2.30	208.064057	236.50	87.98
13C8-PFOS	507.0 / 99.0	3.08	220.321228	239.25	92.09

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Summary Quant Report

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	299608.43	877.420602	544.9	false
PFBS_2	298.9 / 99.0	1.56	83942.08	838.659062	365.9	false
PFHxA_1	313.0 / 269.0	1.89	241930.51	1006.652936	19.8	false
PFHxA_2	313.0 / 119.0	1.89	16403.84	896.376115	16.0	false
PFHpA_1	363.0 / 319.0	2.30	215911.99	856.292979	126.4	false
PFHpA_2	363.0 / 169.0	2.29	5561.78	976.724688	99.7	false
PFHxS_1	399.0 / 80.0	2.32	361966.55	998.233289	454.9	false
PFHxS_2	399.0 / 99.0	2.32	100883.75	992.688608	416.4	false
PFOA_1	413.0 / 369.0	2.71	338169.16	930.879127	304.4	false
PFOA_2	413.0 / 169.0	2.71	20580.91	872.168076	223.7	false
PFNA_1	463.0 / 419.0	3.11	356729.03	1034.052055	304.0	false
PFNA_2	463.0 / 219.0	3.10	110066.88	1037.625087	466.5	false
PFOS_1	499.0 / 80.0	3.10	539708.03	906.626239	343.1	false
PFOS_2	499.0 / 99.0	3.10	95211.86	919.881718	450.1	false
PFDA_1	513.0 / 469.0	3.46	380336.88	983.979238	327.0	false
PFDA_2	513.0 / 219.0	3.46	15587.84	976.593938	361.3	false
PFUnA_1	563.0 / 519.0	3.79	349720.15	923.159866	376.6	false
PFUnA_2	563.0 / 269.0	3.79	18202.70	975.741234	188.3	false
PFDoA_1	613.0 / 569.0	4.07	341302.82	980.552902	460.6	false
PFDoA_2	613.0 / 319.0	4.07	51304.06	934.947666	412.2	false
PFTrDA_1	663.0 / 619.0	4.32	300565.45	1073.075185	751.7	false
PFTrDA_2	663.0 / 169.0	4.32	19250.55	1041.820014	533.2	false
PFTeDA_1	713.0 / 669.0	4.54	326564.00	1020.055697	1259.1	false
PFTeDA_2	713.0 / 169.0	4.54	16770.44	1079.815842	804.1	false
NMeFOSAA_1	570.0 / 419.0	3.62	66944.31	945.129517	505.3	false
NMeFOSAA_2	570.0 / 512.0	3.62	38615.63	965.108458	1105.4	false
NEtFOSAA_1	584.0 / 419.0	3.78	66942.43	1244.646852	673.7	true
NEtFOSAA_2	584.0 / 483.0	3.78	4011.16	1233.660110	1226.3	false

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Summary Quant Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	160465.72	489.952850	240.2	false
PFBS_2	298.9 / 99.0	1.56	50476.22	527.034370	253.1	false
PFHxA_1	313.0 / 269.0	1.88	126795.88	464.527034	50.7	false
PFHxA_2	313.0 / 119.0	1.88	9655.12	458.651056	40.4	false
PFHpA_1	363.0 / 319.0	2.30	121715.86	440.394900	115.9	false
PFHpA_2	363.0 / 169.0	2.30	2527.09	361.675495	46.3	true
PFHxS_1	399.0 / 80.0	2.32	183913.41	510.828078	209.4	false
PFHxS_2	399.0 / 99.0	2.32	52691.82	520.283374	373.3	false
PFOA_1	413.0 / 369.0	2.72	160425.34	477.786913	167.9	false
PFOA_2	413.0 / 169.0	2.72	11715.09	539.891735	144.6	false
PFNA_1	463.0 / 419.0	3.12	154721.89	519.496976	187.4	false
PFNA_2	463.0 / 219.0	3.12	45601.17	498.474275	201.4	false
PFOS_1	499.0 / 80.0	3.12	245092.56	515.101381	130.4	false
PFOS_2	499.0 / 99.0	3.12	41031.01	495.393011	258.6	false
PFDA_1	513.0 / 469.0	3.48	194505.48	513.573733	339.6	false
PFDA_2	513.0 / 219.0	3.48	7521.74	478.534634	126.5	false
PFUnA_1	563.0 / 519.0	3.80	177118.95	514.895534	219.5	false
PFUnA_2	563.0 / 269.0	3.80	8074.41	480.805561	117.0	false
PFDoA_1	613.0 / 569.0	4.09	193337.75	519.973990	353.4	false
PFDoA_2	613.0 / 319.0	4.08	29274.35	493.775307	218.5	false
PFTrDA_1	663.0 / 619.0	4.33	176445.90	519.060343	407.6	false
PFTrDA_2	663.0 / 169.0	4.33	12085.61	538.983521	226.6	false
PFTeDA_1	713.0 / 669.0	4.55	205191.27	525.554424	935.4	false
PFTeDA_2	713.0 / 169.0	4.55	9679.66	505.833690	441.9	false
NMeFOSAA_1	570.0 / 419.0	3.63	33452.18	508.727954	728.2	false
NMeFOSAA_2	570.0 / 512.0	3.63	17259.77	433.992876	236.2	false
NEtFOSAA_1	584.0 / 419.0	3.80	31090.74	500.869553	471.5	false
NEtFOSAA_2	584.0 / 483.0	3.79	1941.22	489.174879	140.5	false

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Summary Quant Report

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	432220.47	991.437798	369.7	false
PFBS_2	298.9 / 99.0	1.54	126158.65	987.194127	409.1	false
PFHxA_1	313.0 / 269.0	1.87	310731.89	1016.629894	79.2	false
PFHxA_2	313.0 / 119.0	1.87	23522.02	1016.812687	57.7	false
PFHpA_1	363.0 / 319.0	2.28	298027.11	971.360652	175.2	false
PFHpA_2	363.0 / 169.0	2.28	5771.08	817.356325	123.5	false
PFHxS_1	399.0 / 80.0	2.30	426945.20	1144.828496	364.3	false
PFHxS_2	399.0 / 99.0	2.30	116463.93	1114.475454	693.1	false
PFOA_1	413.0 / 369.0	2.69	405101.29	1049.668109	311.7	false
PFOA_2	413.0 / 169.0	2.69	25456.41	1015.955557	233.0	false
PFNA_1	463.0 / 419.0	3.09	353368.33	1036.354311	300.5	false
PFNA_2	463.0 / 219.0	3.09	111466.68	1063.814346	401.5	false
PFOS_1	499.0 / 80.0	3.08	610389.37	1014.503600	207.0	false
PFOS_2	499.0 / 99.0	3.08	105467.66	1008.353396	521.8	false
PFDA_1	513.0 / 469.0	3.44	467545.92	1013.485124	360.1	false
PFDA_2	513.0 / 219.0	3.44	20908.22	1099.789775	214.7	false
PFUnA_1	563.0 / 519.0	3.76	448671.86	1035.527631	307.2	false
PFUnA_2	563.0 / 269.0	3.76	24868.62	1164.145883	221.1	false
PFDoA_1	613.0 / 569.0	4.04	424784.04	969.112622	430.4	false
PFDoA_2	613.0 / 319.0	4.03	68498.15	994.068305	344.2	false
PFTrDA_1	663.0 / 619.0	4.28	417105.58	1039.808952	636.1	false
PFTrDA_2	663.0 / 169.0	4.28	26233.64	990.526101	289.3	false
PFTeDA_1	713.0 / 669.0	4.49	483091.23	1056.135138	1169.0	false
PFTeDA_2	713.0 / 169.0	4.49	24652.78	1110.780601	583.4	false
NMeFOSAA_1	570.0 / 419.0	3.59	76443.45	937.271482	453.1	false
NMeFOSAA_2	570.0 / 512.0	3.59	47730.72	1044.482177	332.4	false
NEtFOSAA_1	584.0 / 419.0	3.75	74261.12	1056.330693	580.5	false
NEtFOSAA_2	584.0 / 483.0	3.75	4425.00	1033.405997	188.4	false

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Summary Quant Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	1.57e5	484.754015	262.8	false
PFBS_2	298.9 / 99.0	1.57	4.35e4	460.129667	214.7	false
PFHxA_1	313.0 / 269.0	1.90	1.30e5	499.859458	56.8	false
PFHxA_2	313.0 / 119.0	1.90	1.14e4	576.477169	44.8	false
PFHpA_1	363.0 / 319.0	2.31	1.21e5	471.017380	111.3	false
PFHpA_2	363.0 / 169.0	2.31	2.75e3	436.165761	75.6	false
PFHxS_1	399.0 / 80.0	2.34	1.74e5	513.112977	288.8	false
PFHxS_2	399.0 / 99.0	2.33	4.69e4	489.788084	366.8	false
PFOA_1	413.0 / 369.0	2.73	1.67e5	515.841656	181.2	false
PFOA_2	413.0 / 169.0	2.73	1.08e4	514.415457	139.3	false
PFNA_1	463.0 / 419.0	3.13	1.50e5	520.080727	196.1	false
PFNA_2	463.0 / 219.0	3.13	4.88e4	556.083264	252.5	false
PFOS_1	499.0 / 80.0	3.13	2.40e5	436.705182	142.7	false
PFOS_2	499.0 / 99.0	3.12	4.33e4	453.370724	258.7	false
PFDA_1	513.0 / 469.0	3.49	1.92e5	476.762125	286.1	false
PFDA_2	513.0 / 219.0	3.49	7.53e3	450.324500	124.9	false
PFUnA_1	563.0 / 519.0	3.82	1.78e5	491.199250	276.9	false
PFUnA_2	563.0 / 269.0	3.82	8.13e3	460.483278	95.7	false
PFDoA_1	613.0 / 569.0	4.10	1.81e5	501.048127	387.8	false
PFDoA_2	613.0 / 319.0	4.10	3.19e4	559.603662	217.7	false
PFTrDA_1	663.0 / 619.0	4.35	1.72e5	482.323681	471.0	false
PFTrDA_2	663.0 / 169.0	4.35	1.17e4	495.196388	242.9	false
PFTeDA_1	713.0 / 669.0	4.57	2.07e5	504.774637	972.2	false
PFTeDA_2	713.0 / 169.0	4.57	1.00e4	502.172391	417.6	false
NMeFOSAA_1	570.0 / 419.0	3.65	3.67e4	532.487486	986.8	false
NMeFOSAA_2	570.0 / 512.0	3.65	1.67e4	388.465632	243.1	false
NEtFOSAA_1	584.0 / 419.0	3.81	3.35e4	553.294527	428.3	false
NEtFOSAA_2	584.0 / 483.0	3.81	2.24e3	589.430119	477.9	false

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Summary Quant Report

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	9.82e5	2580.741452	604.3	false
PFBS_2	298.9 / 99.0	1.56	2.77e5	2475.370383	601.6	false
PFHxA_1	313.0 / 269.0	1.88	7.18e5	2535.301054	144.8	false
PFHxA_2	313.0 / 119.0	1.88	5.38e4	2534.834138	112.1	false
PFHpA_1	363.0 / 319.0	2.29	6.85e5	2327.940844	307.2	false
PFHpA_2	363.0 / 169.0	2.30	1.36e4	2112.392909	143.8	false
PFHxS_1	399.0 / 80.0	2.32	9.76e5	2458.885644	654.9	false
PFHxS_2	399.0 / 99.0	2.32	2.68e5	2421.099647	891.2	false
PFOA_1	413.0 / 369.0	2.71	9.32e5	2474.628909	530.2	false
PFOA_2	413.0 / 169.0	2.71	5.98e4	2445.684821	530.7	false
PFNA_1	463.0 / 419.0	3.11	8.64e5	2391.184413	496.7	false
PFNA_2	463.0 / 219.0	3.10	2.77e5	2484.130663	603.3	false
PFOS_1	499.0 / 80.0	3.10	1.42e6	2135.039001	306.2	false
PFOS_2	499.0 / 99.0	3.10	2.59e5	2243.154541	715.9	false
PFDA_1	513.0 / 469.0	3.46	1.02e6	2207.313705	593.8	false
PFDA_2	513.0 / 219.0	3.46	3.92e4	2054.979734	247.9	false
PFUnA_1	563.0 / 519.0	3.79	9.54e5	2339.152164	429.3	false
PFUnA_2	563.0 / 269.0	3.78	5.12e4	2535.177537	299.4	false
PFDoA_1	613.0 / 569.0	4.07	1.01e6	2526.110756	582.9	false
PFDoA_2	613.0 / 319.0	4.07	1.63e5	2609.357813	494.0	false
PFTrDA_1	663.0 / 619.0	4.32	9.91e5	2710.380433	799.0	false
PFTrDA_2	663.0 / 169.0	4.31	6.29e4	2614.868135	550.1	false
PFTeDA_1	713.0 / 669.0	4.53	1.13e6	2724.320311	1688.1	false
PFTeDA_2	713.0 / 169.0	4.53	5.27e4	2619.822125	716.2	false
NMeFOSAA_1	570.0 / 419.0	3.61	2.04e5	2562.672994	787.9	false
NMeFOSAA_2	570.0 / 512.0	3.61	1.12e5	2559.422983	452.6	false
NEtFOSAA_1	584.0 / 419.0	3.78	2.06e5	3039.747245	1016.4	false
NEtFOSAA_2	584.0 / 483.0	3.78	1.23e4	3069.784410	463.8	false

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Summary Quant Report

Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	3.68e5	1048.321748	409.1	false
PFBS_2	298.9 / 99.0	1.55	1.05e5	1024.409959	307.6	false
PFHxA_1	313.0 / 269.0	1.87	2.60e5	1022.567378	79.1	false
PFHxA_2	313.0 / 119.0	1.88	2.29e4	1197.578194	69.2	false
PFHpA_1	363.0 / 319.0	2.28	2.63e5	934.075677	184.0	false
PFHpA_2	363.0 / 169.0	2.28	5.29e3	817.388429	86.0	false
PFHxS_1	399.0 / 80.0	2.31	3.56e5	1084.891607	287.4	false
PFHxS_2	399.0 / 99.0	2.31	9.95e4	1082.429708	370.0	false
PFOA_1	413.0 / 369.0	2.70	3.55e5	938.657255	231.6	false
PFOA_2	413.0 / 169.0	2.69	2.19e4	892.695819	249.6	false
PFNA_1	463.0 / 419.0	3.10	3.24e5	1048.340706	357.7	false
PFNA_2	463.0 / 219.0	3.09	1.07e5	1126.491410	432.7	false
PFOS_1	499.0 / 80.0	3.09	5.29e5	966.951370	202.6	false
PFOS_2	499.0 / 99.0	3.09	8.91e4	936.478922	381.2	false
PFDA_1	513.0 / 469.0	3.45	4.12e5	1010.730940	389.1	false
PFDA_2	513.0 / 219.0	3.45	1.41e4	834.839957	182.4	false
PFUnA_1	563.0 / 519.0	3.77	3.94e5	1006.996895	286.6	false
PFUnA_2	563.0 / 269.0	3.77	1.96e4	1014.507162	157.7	false
PFDoA_1	613.0 / 569.0	4.05	3.81e5	988.089208	445.0	false
PFDoA_2	613.0 / 319.0	4.05	5.95e4	978.390371	288.6	false
PFTrDA_1	663.0 / 619.0	4.29	3.66e5	1012.392995	584.0	false
PFTrDA_2	663.0 / 169.0	4.29	2.48e4	1044.843221	298.2	false
PFTeDA_1	713.0 / 669.0	4.50	4.31e5	1046.919582	1144.9	false
PFTeDA_2	713.0 / 169.0	4.50	2.15e4	1077.241305	481.2	false
NMeFOSAA_1	570.0 / 419.0	3.60	8.05e4	1049.852049	607.5	false
NMeFOSAA_2	570.0 / 512.0	3.60	4.46e4	1030.316997	551.5	false
NEtFOSAA_1	584.0 / 419.0	3.76	7.19e4	1083.421759	579.6	false
NEtFOSAA_2	584.0 / 483.0	3.76	5.02e3	1253.844564	313.3	false

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Summary Quant Report

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	93406.68	231.611603	1689.5	false
d3-MeFOSAA	573.0 / 419.0	3.61	17579.80	244.423694	175.3	false
d5-EtFOSAA	589.0 / 419.0	3.78	14383.26	176.181506	200.6	false
13C5-PFHxA	318.0 / 273.0	1.88	59013.59	233.905404	685.2	false
13C4-PFHpA	367.0 / 322.0	2.29	70279.06	244.843738	1118.6	false
13C8-PFOA	421.0 / 376.0	2.70	89115.92	255.222211	9011.3	false
13C9-PFNA	472.0 / 427.0	3.09	100916.15	253.115276	1888.1	false
13C6-PFDA	519.0 / 474.0	3.45	90930.64	223.796875	1073.3	false
13C7-PFUnA	570.0 / 525.0	3.77	89293.12	237.910809	829.4	false
13C2-PFTeDA	715.0 / 670.0	4.54	71262.97	218.862217	1767.1	false
13C3-PFBS	302.0 / 99.0	1.55	27104.45	206.860264	624.1	false
13C3-PFHxS	402.0 / 99.0	2.31	24951.95	210.154754	577.2	false
13C8-PFOS	507.0 / 99.0	3.09	29875.11	222.736043	244.5	false

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Summary Quant Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	97291.96	282.311575	944.6	false
d3-MeFOSAA	573.0 / 419.0	3.63	15796.81	260.739109	188.1	false
d5-EtFOSAA	589.0 / 419.0	3.79	16051.91	233.419386	153.3	false
13C5-PFHxA	318.0 / 273.0	1.87	64573.83	278.724605	751.0	false
13C4-PFHpA	367.0 / 322.0	2.29	75464.90	286.311436	829.3	false
13C8-PFOA	421.0 / 376.0	2.71	81134.18	253.044922	1399.8	false
13C9-PFNA	472.0 / 427.0	3.10	84552.73	230.948912	1423.6	false
13C6-PFDA	519.0 / 474.0	3.46	87379.81	251.665808	1473953.9	false
13C7-PFUnA	570.0 / 525.0	3.79	80405.44	250.698048	1905.7	false
13C2-PFTeDA	715.0 / 670.0	4.54	83755.22	301.014991	1376.0	false
13C3-PFBS	302.0 / 99.0	1.54	25867.97	234.372196	318.5	false
13C3-PFHxS	402.0 / 99.0	2.31	24221.36	242.181253	330.4	false
13C8-PFOS	507.0 / 99.0	3.10	23815.27	210.787062	180.6	false

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Summary Quant Report

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	117585.85	287.835912	914.4	false
d3-MeFOSAA	573.0 / 419.0	3.59	19594.92	288.345139	204.0	false
d5-EtFOSAA	589.0 / 419.0	3.74	19088.68	247.467780	211.6	false
13C5-PFHxA	318.0 / 273.0	1.85	75076.29	285.512057	622.1	false
13C4-PFHpA	367.0 / 322.0	2.27	85739.36	286.600385	714.4	false
13C8-PFOA	421.0 / 376.0	2.68	94845.00	260.622004	884.9	false
13C9-PFNA	472.0 / 427.0	3.07	99750.15	240.051682	1130.9	false
13C6-PFDA	519.0 / 474.0	3.42	108593.99	263.850020	1499.8	false
13C7-PFUnA	570.0 / 525.0	3.74	102244.80	268.933527	973.2	false
13C2-PFTeDA	715.0 / 670.0	4.49	101958.43	309.127464	1614.5	false
13C3-PFBS	302.0 / 99.0	1.53	34629.75	279.721383	469.7	false
13C3-PFHxS	402.0 / 99.0	2.29	26047.60	232.189379	450.5	false
13C8-PFOS	507.0 / 99.0	3.07	30058.95	237.189105	260.2	false

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Summary Quant Report

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Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.09	94338.75	251.127463	1365.2	false
d3-MeFOSAA	573.0 / 419.0	3.64	16495.97	274.156186	183.9	false
d5-EtFOSAA	589.0 / 419.0	3.80	16495.84	241.528333	209.2	false
13C5-PFHxA	318.0 / 273.0	1.89	61842.02	281.490799	535.3	false
13C4-PFHpA	367.0 / 322.0	2.30	70406.28	281.687014	906.0	false
13C8-PFOA	421.0 / 376.0	2.72	78322.47	257.597627	350.9	false
13C9-PFNA	472.0 / 427.0	3.12	81621.81	235.101963	2597.8	false
13C6-PFDA	519.0 / 474.0	3.48	92696.22	244.921857	1436.4	false
13C7-PFUnA	570.0 / 525.0	3.80	84510.22	241.728100	8760.5	false
13C2-PFTeDA	715.0 / 670.0	4.57	87517.92	288.553002	2379.7	false
13C3-PFBS	302.0 / 99.0	1.55	25518.56	232.800259	357.2	false
13C3-PFHxS	402.0 / 99.0	2.32	23266.50	234.237542	363.5	false
13C8-PFOS	507.0 / 99.0	3.11	27314.14	243.421728	277.9	false

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Summary Quant Report

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.06	109247.60	275.677639	1305.2	false
d3-MeFOSAA	573.0 / 419.0	3.61	20647.16	275.293447	214.3	false
d5-EtFOSAA	589.0 / 419.0	3.77	17946.97	210.814390	205.2	false
13C5-PFHxA	318.0 / 273.0	1.87	70928.02	280.109533	627.4	false
13C4-PFHpA	367.0 / 322.0	2.28	83174.39	288.718445	583.1	false
13C8-PFOA	421.0 / 376.0	2.70	93359.27	266.405056	1716.9	false
13C9-PFNA	472.0 / 427.0	3.09	107609.17	268.923530	352246.7	false
13C6-PFDA	519.0 / 474.0	3.45	110132.78	275.846621	1601.8	false
13C7-PFUnA	570.0 / 525.0	3.77	96728.33	262.275129	929.5	false
13C2-PFTeDA	715.0 / 670.0	4.53	94739.90	296.105909	1569.1	false
13C3-PFBS	302.0 / 99.0	1.54	30345.18	222.091712	458.0	false
13C3-PFHxS	402.0 / 99.0	2.31	27371.37	221.073888	318.0	false
13C8-PFOS	507.0 / 99.0	3.09	33304.42	238.116290	293.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:25:40 AM

Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.03	103623.69	273.547303	923.6	false
d3-MeFOSAA	573.0 / 419.0	3.59	18877.56	286.209324	241.4	false
d5-EtFOSAA	589.0 / 419.0	3.75	17733.87	236.872751	212.3	false
13C5-PFHxA	318.0 / 273.0	1.86	62575.66	254.430661	671.8	false
13C4-PFHpA	367.0 / 322.0	2.27	78609.20	280.939123	880.0	false
13C8-PFOA	421.0 / 376.0	2.68	92659.75	272.226307	1244.0	false
13C9-PFNA	472.0 / 427.0	3.08	90383.89	232.554387	910.9	false
13C6-PFDA	519.0 / 474.0	3.43	95944.16	251.393093	2574.1	false
13C7-PFUnA	570.0 / 525.0	3.75	92276.41	261.744698	830.9	false
13C2-PFTeDA	715.0 / 670.0	4.50	91727.48	299.914437	1544.3	false
13C3-PFBS	302.0 / 99.0	1.53	27904.10	232.227133	414.5	false
13C3-PFHxS	402.0 / 99.0	2.30	22654.47	208.064057	281.1	false
13C8-PFOS	507.0 / 99.0	3.08	27099.84	220.321228	207.9	false

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 02/11/2018 10:26:45 AM

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.280	0.292	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.070	0.077	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.10	PFNA	0.310	0.306	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.174	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.150	0.160	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	0.580	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.310	0.292	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.080	0.077	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.282	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.72	PFOA	0.070	0.065	ü
PFNA_1	463.0 / 419.0	3.12	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.290	0.306	ü
PFOS_1	499.0 / 80.0	3.12	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.48	PFDA			
PFDA_2	513.0 / 219.0	3.48	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.80	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.150	0.160	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	4.55	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.520	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.292	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.077	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.320	0.306	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.060	0.049	ü
PFDoA_1	613.0 / 569.0	4.04	PFDoA			
PFDoA_2	613.0 / 319.0	4.03	PFDoA	0.160	0.160	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	4.49	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	3.59	NMeFOSAA	0.620	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.75	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.75	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	1.57	PFBS	0.280	0.292	ü
PFHxA_1	313.0 / 269.0	1.90	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	PFHxA	0.090	0.077	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.34	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.73	PFOA			
PFOA_2	413.0 / 169.0	2.73	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.13	PFNA			
PFNA_2	463.0 / 219.0	3.13	PFNA	0.330	0.306	ü
PFOS_1	499.0 / 80.0	3.13	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.180	0.174	ü
PFDA_1	513.0 / 469.0	3.49	PFDA			
PFDA_2	513.0 / 219.0	3.49	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.82	PFUnA			
PFUnA_2	563.0 / 269.0	3.82	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.10	PFDoA			
PFDoA_2	613.0 / 319.0	4.10	PFDoA	0.180	0.160	ü
PFTrDA_1	663.0 / 619.0	4.35	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.35	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.57	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.57	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.65	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.65	NMeFOSAA	0.450	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.81	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.81	NEtFOSAA	0.070	0.062	ü

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Summary Ion Ratio Report

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	0.280	0.292	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.077	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.71	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.10	PFNA	0.320	0.306	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.174	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.78	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.160	0.160	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	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.61	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.61	NMeFOSAA	0.550	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	0.292	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.090	0.077	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.330	0.306	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.030	0.041	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.05	PFDoA			
PFDoA_2	613.0 / 319.0	4.05	PFDoA	0.160	0.160	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.070	0.066	ü
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.50	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.550	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.070	0.062	ü

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Summary Internal Standard Report

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	27104.45	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	27104.45	232.25
PFHxA_1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	59013.59	250.00
PFHxA_2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	59013.59	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	70279.06	250.00
PFHpA_2	363.0 / 169.0	2.29	13C4-PFHpA	367.0 / 322.0	70279.06	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	24692.35	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	24692.35	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	89115.92	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	89115.92	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	100916.15	250.00
PFNA_2	463.0 / 219.0	3.10	13C9-PFNA	472.0 / 427.0	100916.15	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	29786.30	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	29786.30	239.25
PFDA_1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	90930.64	250.00
PFDA_2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	90930.64	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	89293.12	250.00
PFUnA_2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	89293.12	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	93406.68	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	93406.68	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	71262.97	250.00
PFTrDA_2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	71262.97	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	71262.97	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	71262.97	250.00
NMeFOSAA_1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	17861.22	250.00
NMeFOSAA_2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	17861.22	250.00
NEtFOSAA_1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	14753.24	250.00
NEtFOSAA_2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	14753.24	250.00

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Summary Internal Standard Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	25867.97	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	25867.97	232.25
PFHxA_1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	64573.83	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	64573.83	250.00
PFHpA_1	363.0 / 319.0	2.30	13C4-PFHpA	367.0 / 322.0	75464.90	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	75464.90	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	24063.53	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	24063.53	236.50
PFOA_1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	81134.18	250.00
PFOA_2	413.0 / 169.0	2.72	13C8-PFOA	421.0 / 376.0	81134.18	250.00
PFNA_1	463.0 / 419.0	3.12	13C9-PFNA	472.0 / 427.0	84552.73	250.00
PFNA_2	463.0 / 219.0	3.12	13C9-PFNA	472.0 / 427.0	84552.73	250.00
PFOS_1	499.0 / 80.0	3.12	13C8-PFOS	507.0 / 99.0	23843.87	239.25
PFOS_2	499.0 / 99.0	3.12	13C8-PFOS	507.0 / 99.0	23843.87	239.25
PFDA_1	513.0 / 469.0	3.48	13C6-PFDA	519.0 / 474.0	87379.81	250.00
PFDA_2	513.0 / 219.0	3.48	13C6-PFDA	519.0 / 474.0	87379.81	250.00
PFUnA_1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	80405.44	250.00
PFUnA_2	563.0 / 269.0	3.80	13C7-PFUnA	570.0 / 525.0	80405.44	250.00
PFDoA_1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	97291.96	250.00
PFDoA_2	613.0 / 319.0	4.08	13C2-PFDoA	615.0 / 570.0	97291.96	250.00
PFTrDA_1	663.0 / 619.0	4.33	13C2-PFTeDA	715.0 / 670.0	83755.22	250.00
PFTrDA_2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	83755.22	250.00
PFTeDA_1	713.0 / 669.0	4.55	13C2-PFTeDA	715.0 / 670.0	83755.22	250.00
PFTeDA_2	713.0 / 169.0	4.55	13C2-PFTeDA	715.0 / 670.0	83755.22	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	15806.35	250.00
NMeFOSAA_2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	15806.35	250.00
NEtFOSAA_1	584.0 / 419.0	3.80	d5-EtFOSAA	589.0 / 419.0	16761.76	250.00
NEtFOSAA_2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	16761.76	250.00

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Summary Internal Standard Report

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	34629.75	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	34629.75	232.25
PFHxA_1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	75076.29	250.00
PFHxA_2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	75076.29	250.00
PFHpA_1	363.0 / 319.0	2.28	13C4-PFHpA	367.0 / 322.0	85739.36	250.00
PFHpA_2	363.0 / 169.0	2.28	13C4-PFHpA	367.0 / 322.0	85739.36	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	25459.92	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	25459.92	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	94845.00	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	94845.00	250.00
PFNA_1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	99750.15	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	99750.15	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	30098.72	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	30098.72	239.25
PFDA_1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	108593.99	250.00
PFDA_2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	108593.99	250.00
PFUnA_1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	102244.80	250.00
PFUnA_2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	102244.80	250.00
PFDoA_1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	117585.85	250.00
PFDoA_2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	117585.85	250.00
PFTrDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	101958.43	250.00
PFTrDA_2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	101958.43	250.00
PFTeDA_1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	101958.43	250.00
PFTeDA_2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	101958.43	250.00
NMeFOSAA_1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	20556.80	250.00
NMeFOSAA_2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	20556.80	250.00
NEtFOSAA_1	584.0 / 419.0	3.75	d5-EtFOSAA	589.0 / 419.0	19247.28	250.00
NEtFOSAA_2	584.0 / 483.0	3.75	d5-EtFOSAA	589.0 / 419.0	19247.28	250.00

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Summary Internal Standard Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	25518.56	232.25
PFBS_2	298.9 / 99.0	1.57	13C3-PFBS	302.0 / 99.0	25518.56	232.25
PFHxA_1	313.0 / 269.0	1.90	13C5-PFHxA	318.0 / 273.0	61842.02	250.00
PFHxA_2	313.0 / 119.0	1.90	13C5-PFHxA	318.0 / 273.0	61842.02	250.00
PFHpA_1	363.0 / 319.0	2.31	13C4-PFHpA	367.0 / 322.0	70406.28	250.00
PFHpA_2	363.0 / 169.0	2.31	13C4-PFHpA	367.0 / 322.0	70406.28	250.00
PFHxS_1	399.0 / 80.0	2.34	13C3-PFHxS	402.0 / 99.0	22662.71	236.50
PFHxS_2	399.0 / 99.0	2.33	13C3-PFHxS	402.0 / 99.0	22662.71	236.50
PFOA_1	413.0 / 369.0	2.73	13C8-PFOA	421.0 / 376.0	78322.47	250.00
PFOA_2	413.0 / 169.0	2.73	13C8-PFOA	421.0 / 376.0	78322.47	250.00
PFNA_1	463.0 / 419.0	3.13	13C9-PFNA	472.0 / 427.0	81621.81	250.00
PFNA_2	463.0 / 219.0	3.13	13C9-PFNA	472.0 / 427.0	81621.81	250.00
PFOS_1	499.0 / 80.0	3.13	13C8-PFOS	507.0 / 99.0	27515.16	239.25
PFOS_2	499.0 / 99.0	3.12	13C8-PFOS	507.0 / 99.0	27515.16	239.25
PFDA_1	513.0 / 469.0	3.49	13C6-PFDA	519.0 / 474.0	92696.22	250.00
PFDA_2	513.0 / 219.0	3.49	13C6-PFDA	519.0 / 474.0	92696.22	250.00
PFUnA_1	563.0 / 519.0	3.82	13C7-PFUnA	570.0 / 525.0	84510.22	250.00
PFUnA_2	563.0 / 269.0	3.82	13C7-PFUnA	570.0 / 525.0	84510.22	250.00
PFDoA_1	613.0 / 569.0	4.10	13C2-PFDoA	615.0 / 570.0	94338.75	250.00
PFDoA_2	613.0 / 319.0	4.10	13C2-PFDoA	615.0 / 570.0	94338.75	250.00
PFTrDA_1	663.0 / 619.0	4.35	13C2-PFTeDA	715.0 / 670.0	87517.92	250.00
PFTrDA_2	663.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	87517.92	250.00
PFTeDA_1	713.0 / 669.0	4.57	13C2-PFTeDA	715.0 / 670.0	87517.92	250.00
PFTeDA_2	713.0 / 169.0	4.57	13C2-PFTeDA	715.0 / 670.0	87517.92	250.00
NMeFOSAA_1	570.0 / 419.0	3.65	d3-MeFOSAA	573.0 / 419.0	16648.07	250.00
NMeFOSAA_2	570.0 / 512.0	3.65	d3-MeFOSAA	573.0 / 419.0	16648.07	250.00
NEtFOSAA_1	584.0 / 419.0	3.81	d5-EtFOSAA	589.0 / 419.0	16369.23	250.00
NEtFOSAA_2	584.0 / 483.0	3.81	d5-EtFOSAA	589.0 / 419.0	16369.23	250.00

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Summary Internal Standard Report

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	30345.18	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	30345.18	232.25
PFHxA_1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	70928.02	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	70928.02	250.00
PFHpA_1	363.0 / 319.0	2.29	13C4-PFHpA	367.0 / 322.0	83174.39	250.00
PFHpA_2	363.0 / 169.0	2.30	13C4-PFHpA	367.0 / 322.0	83174.39	250.00
PFHxS_1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	27339.58	236.50
PFHxS_2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	27339.58	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	93359.27	250.00
PFOA_2	413.0 / 169.0	2.71	13C8-PFOA	421.0 / 376.0	93359.27	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	107609.17	250.00
PFNA_2	463.0 / 219.0	3.10	13C9-PFNA	472.0 / 427.0	107609.17	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	33274.52	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	33274.52	239.25
PFDA_1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	110132.78	250.00
PFDA_2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	110132.78	250.00
PFUnA_1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	96728.33	250.00
PFUnA_2	563.0 / 269.0	3.78	13C7-PFUnA	570.0 / 525.0	96728.33	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	109247.60	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	109247.60	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	94739.90	250.00
PFTrDA_2	663.0 / 169.0	4.31	13C2-PFTeDA	715.0 / 670.0	94739.90	250.00
PFTeDA_1	713.0 / 669.0	4.53	13C2-PFTeDA	715.0 / 670.0	94739.90	250.00
PFTeDA_2	713.0 / 169.0	4.53	13C2-PFTeDA	715.0 / 670.0	94739.90	250.00
NMeFOSAA_1	570.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	20851.17	250.00
NMeFOSAA_2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	20851.17	250.00
NEtFOSAA_1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	18702.21	250.00
NEtFOSAA_2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	18702.21	250.00

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Summary Internal Standard Report

Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	27904.10	232.25
PFBS_2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	27904.10	232.25
PFHxA_1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	62575.66	250.00
PFHxA_2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	62575.66	250.00
PFHpA_1	363.0 / 319.0	2.28	13C4-PFHpA	367.0 / 322.0	78609.20	250.00
PFHpA_2	363.0 / 169.0	2.28	13C4-PFHpA	367.0 / 322.0	78609.20	250.00
PFHxS_1	399.0 / 80.0	2.31	13C3-PFHxS	402.0 / 99.0	22391.60	236.50
PFHxS_2	399.0 / 99.0	2.31	13C3-PFHxS	402.0 / 99.0	22391.60	236.50
PFOA_1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	92659.75	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	92659.75	250.00
PFNA_1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	90383.89	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	90383.89	250.00
PFOS_1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	27386.51	239.25
PFOS_2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	27386.51	239.25
PFDA_1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	95944.16	250.00
PFDA_2	513.0 / 219.0	3.45	13C6-PFDA	519.0 / 474.0	95944.16	250.00
PFUnA_1	563.0 / 519.0	3.77	13C7-PFUnA	570.0 / 525.0	92276.41	250.00
PFUnA_2	563.0 / 269.0	3.77	13C7-PFUnA	570.0 / 525.0	92276.41	250.00
PFDoA_1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	103623.69	250.00
PFDoA_2	613.0 / 319.0	4.05	13C2-PFDoA	615.0 / 570.0	103623.69	250.00
PFTrDA_1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	91727.48	250.00
PFTrDA_2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	91727.48	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	91727.48	250.00
PFTeDA_2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	91727.48	250.00
NMeFOSAA_1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	19441.18	250.00
NMeFOSAA_2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	19441.18	250.00
NEtFOSAA_1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	18181.38	250.00
NEtFOSAA_2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	18181.38	250.00

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Summary Internal Standard Report

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	103402.36	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	33690.55	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	33690.55	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	85242.44	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	85242.44	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	85242.44	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	85242.44	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	103402.36	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	103402.36	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	103402.36	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	33690.55	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	33690.55	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	33690.55	239.25

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Summary Internal Standard Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	88361.09	250.00
d3-MeFOSAA	573.0 / 419.0	3.63	13C4-PFOS	503.0 / 99.0	28379.24	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	28379.24	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	78275.39	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	78275.39	250.00
13C8-PFOA	421.0 / 376.0	2.71	13C2-PFOA	415.0 / 370.0	78275.39	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	78275.39	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	88361.09	250.00
13C7-PFUnA	570.0 / 525.0	3.79	13C2-PFDA	515.0 / 470.0	88361.09	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	88361.09	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	28379.24	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	28379.24	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	28379.24	239.25

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Summary Internal Standard Report

Sample Name	KB76 CCV	**Injection Vial**	14
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	104742.48	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	31832.31	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	31832.31	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	88842.83	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	88842.83	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	88842.83	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	88842.83	250.00
13C6-PFDA	519.0 / 474.0	3.42	13C2-PFDA	515.0 / 470.0	104742.48	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	104742.48	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	104742.48	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	31832.31	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	31832.31	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	31832.31	239.25

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Summary Internal Standard Report

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.09	13C2-PFDA	515.0 / 470.0	96318.27	250.00
d3-MeFOSAA	573.0 / 419.0	3.64	13C4-PFOS	503.0 / 99.0	28184.95	239.25
d5-EtFOSAA	589.0 / 419.0	3.80	13C4-PFOS	503.0 / 99.0	28184.95	239.25
13C5-PFHxA	318.0 / 273.0	1.89	13C2-PFOA	415.0 / 370.0	74227.28	250.00
13C4-PFHpA	367.0 / 322.0	2.30	13C2-PFOA	415.0 / 370.0	74227.28	250.00
13C8-PFOA	421.0 / 376.0	2.72	13C2-PFOA	415.0 / 370.0	74227.28	250.00
13C9-PFNA	472.0 / 427.0	3.12	13C2-PFOA	415.0 / 370.0	74227.28	250.00
13C6-PFDA	519.0 / 474.0	3.48	13C2-PFDA	515.0 / 470.0	96318.27	250.00
13C7-PFUnA	570.0 / 525.0	3.80	13C2-PFDA	515.0 / 470.0	96318.27	250.00
13C2-PFTeDA	715.0 / 670.0	4.57	13C2-PFDA	515.0 / 470.0	96318.27	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	28184.95	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	28184.95	239.25
13C8-PFOS	507.0 / 99.0	3.11	13C4-PFOS	503.0 / 99.0	28184.95	239.25

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Summary Internal Standard Report

Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
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	101606.89	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	35131.92	239.25
d5-EtFOSAA	589.0 / 419.0	3.77	13C4-PFOS	503.0 / 99.0	35131.92	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	85552.76	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	85552.76	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	85552.76	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	85552.76	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	101606.89	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	101606.89	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	101606.89	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	35131.92	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	35131.92	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	35131.92	239.25

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Summary Internal Standard Report

Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
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	97126.87	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	30895.81	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	30895.81	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	83095.99	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	83095.99	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	83095.99	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	83095.99	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	97126.87	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	97126.87	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	97126.87	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	30895.81	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	30895.81	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	30895.81	239.25

Raw Analytical Data

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Summary Quant Report

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Sample Name	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	4270.08	7.967207	23.4	true
PFBS_2	298.9 / 99.0	1.57	1751.65	15.187213	22.1	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	3.11	5116.99	< 0	29.4	false
PFNA_2	463.0 / 219.0	3.11	1412.81	< 0	28.4	false
PFOS_1	499.0 / 80.0	3.10	10007.21	20.457445	28.3	false
PFOS_2	499.0 / 99.0	3.11	2107.71	23.036162	36.0	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	4.08	4132.45	< 0	50.7	false
PFDoA_2	613.0 / 319.0	4.08	648.21	< 0	25.1	false
PFTrDA_1	663.0 / 619.0	4.32	3827.82	< 0	101.8	false
PFTrDA_2	663.0 / 169.0	4.34	292.14	< 0	21.8	false
PFTeDA_1	713.0 / 669.0	4.54	4005.90	< 0	149.6	false
PFTeDA_2	713.0 / 169.0	4.54	211.66	< 0	28.3	false
NMeFOSAA_1	570.0 / 419.0	3.63	1091.61	< 0	277.3	false
NMeFOSAA_2	570.0 / 512.0	3.61	558.08	< 0	27.6	false
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	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:41:09	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	1.56	1239.82	9.122221	24.0	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.71	3556.32	< 0	14.0	false
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.46	1534.31	< 0	11.3	false
PFDA_2	513.0 / 219.0	3.50	303.79	< 0	13.9	false
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.07	898.92	< 0	14.6	false
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	4.54	822.34	< 0	47.4	false
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Sample Name	CS009PB-FS(0)	**Injection Vial**	4
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:02:54	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
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	2.29	4956.50	2.617150	11.3	false
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	2.70	99236.93	322.074525	144.5	true
PFOA_2	413.0 / 169.0	2.70	6550.80	328.374269	103.2	true
PFNA_1	463.0 / 419.0	3.10	2534.95	< 0	13.5	false
PFNA_2	463.0 / 219.0	3.09	285.43	< 0	9.8	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.46	2613.50	< 0	18.3	false
PFDA_2	513.0 / 219.0	3.49	530.32	15.906945	20.0	false
PFUnA_1	563.0 / 519.0	3.78	1774.97	< 0	16.2	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.07	1491.36	< 0	18.0	false
PFDoA_2	613.0 / 319.0	4.07	490.26	< 0	22.2	true
PFTrDA_1	663.0 / 619.0	4.31	1915.93	< 0	51.1	false
PFTrDA_2	663.0 / 169.0	4.26	260.62	< 0	7.4	false
PFTeDA_1	713.0 / 669.0	4.52	1359.81	< 0	27.0	true
PFTeDA_2	713.0 / 169.0	4.48	151.32	< 0	12.9	false
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	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	CS010LCS-FS(0)	**Injection Vial**	5
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:13:45	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	936417.16	2843.227586	573.0	false
PFBS_2	298.9 / 99.0	1.55	283329.12	2931.288490	462.8	false
PFHxA_1	313.0 / 269.0	1.87	678120.32	2585.529677	148.3	false
PFHxA_2	313.0 / 119.0	1.87	56111.09	2859.270546	104.8	false
PFHpA_1	363.0 / 319.0	2.29	647711.91	2446.889043	296.8	false
PFHpA_2	363.0 / 169.0	2.28	14067.51	2442.583303	157.6	false
PFHxS_1	399.0 / 80.0	2.31	925875.83	3013.884088	388.1	false
PFHxS_2	399.0 / 99.0	2.31	263172.02	3067.872464	504.4	false
PFOA_1	413.0 / 369.0	2.70	967148.67	2877.886138	373.6	false
PFOA_2	413.0 / 169.0	2.70	60385.54	2767.074107	325.2	false
PFNA_1	463.0 / 419.0	3.10	874495.98	2972.670103	557.5	false
PFNA_2	463.0 / 219.0	3.10	266483.36	2938.605142	663.9	false
PFOS_1	499.0 / 80.0	3.10	1312026.04	2274.551309	259.0	false
PFOS_2	499.0 / 99.0	3.10	240282.47	2398.006351	566.5	false
PFDA_1	513.0 / 469.0	3.45	978207.87	2682.293454	593.4	false
PFDA_2	513.0 / 219.0	3.45	43386.41	2887.365845	298.9	false
PFUnA_1	563.0 / 519.0	3.77	946059.72	2627.464388	542.3	false
PFUnA_2	563.0 / 269.0	3.77	47327.77	2650.346667	292.1	false
PFDoA_1	613.0 / 569.0	4.05	957053.00	2823.062905	565.2	false
PFDoA_2	613.0 / 319.0	4.05	146931.19	2774.104084	403.4	false
PFTrDA_1	663.0 / 619.0	4.30	871679.99	2723.295604	919.0	false
PFTrDA_2	663.0 / 169.0	4.30	55447.97	2632.746442	443.7	false
PFTeDA_1	713.0 / 669.0	4.51	1018757.79	2804.503465	1926.0	false
PFTeDA_2	713.0 / 169.0	4.51	49766.65	2826.605586	820.2	false
NMeFOSAA_1	570.0 / 419.0	3.60	179571.96	3355.462033	989.7	false
NMeFOSAA_2	570.0 / 512.0	3.60	98255.66	3357.458729	717.2	false
NEtFOSAA_1	584.0 / 419.0	3.77	160662.78	2745.252198	843.0	false
NEtFOSAA_2	584.0 / 483.0	3.76	9839.95	2843.592823	274.8	false

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Summary Quant Report

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Sample Name	J8801-FS(0)	**Injection Vial**	6
Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	3651.99	5.180251	18.2	true
PFBS_2	298.9 / 99.0	1.56	1214.82	8.455617	16.3	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.70	127647.76	402.098544	144.6	false
PFOA_2	413.0 / 169.0	2.70	8012.55	388.894482	134.8	false
PFNA_1	463.0 / 419.0	3.10	2382.34	< 0	12.3	false
PFNA_2	463.0 / 219.0	3.09	720.60	< 0	12.8	false
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.45	2118.39	< 0	19.3	false
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.78	1881.17	< 0	20.8	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.05	1863.01	< 0	30.2	true
PFDoA_2	613.0 / 319.0	4.04	770.84	< 0	17.9	false
PFTrDA_1	663.0 / 619.0	4.30	1392.65	< 0	39.3	false
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.50	1945.90	< 0	27.8	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	3.61	457.64	< 0	23.7	false
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	3.76	376.22	< 0	18.4	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	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
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	2.70	131796.64	389.803253	147.8	false
PFOA_2	413.0 / 169.0	2.70	6786.81	306.692595	91.3	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	3.76	1330.50	< 0	10.9	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.06	743.88	< 0	11.9	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	4.30	519.48	< 0	21.3	false
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.50	828.45	< 0	17.3	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	3.80	304.70	< 0	15.6	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	J8803-FS(0)	**Injection Vial**	8
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
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	2.69	116181.93	381.940525	174.0	false
PFOA_2	413.0 / 169.0	2.70	7258.08	367.580686	108.2	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	3.08	706.19	< 0	11.9	false
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	3.77	1732.75	< 0	14.2	false
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	4.31	758.11	< 0	24.9	false
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	J8804-FS(0)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	1208288.63	3865.413907	84.6	true
PFBS_2	298.9 / 99.0	1.54	314532.20	3427.446329	194.4	false
PFHxA_1	313.0 / 269.0	1.86	2525280.82	9114.072278	85.8	false
PFHxA_2	313.0 / 119.0	1.86	154144.04	7446.624485	126.4	false
PFHpA_1	363.0 / 319.0	2.27	582815.03	1871.644827	84.8	true
PFHpA_2	363.0 / 169.0	2.25	15319.71	2260.205826	118.1	false
PFHxS_1	399.0 / 80.0	2.30	5303182.85	15462.159201	230.1	false
PFHxS_2	399.0 / 99.0	2.30	1454436.61	15204.626589	651.9	false
PFOA_1	413.0 / 369.0	2.69	2442433.07	7289.753312	253.6	false
PFOA_2	413.0 / 169.0	2.68	130770.26	6008.188864	320.3	false
PFNA_1	463.0 / 419.0	3.08	20518.90	48.602466	34.2	false
PFNA_2	463.0 / 219.0	3.09	6539.79	55.095694	36.4	false
PFOS_1	499.0 / 80.0	3.06	3460971.56	7103.207769	157.5	false
PFOS_2	499.0 / 99.0	3.08	566700.95	6698.425176	466.5	false
PFDA_1	513.0 / 469.0	3.44	3489.95	< 0	11.4	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.77	3357.81	< 0	16.8	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.04	1127.11	< 0	16.7	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	4.28	973.40	< 0	23.2	true
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.50	630.02	< 0	16.0	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	3.76	46199.00	765.351432	304.2	true
NEtFOSAA_2	584.0 / 483.0	3.76	1661.52	418.595579	42.3	false

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Summary Quant Report

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Sample Name	J8805-FS(0)	**Injection Vial**	10
Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	1109998.23	3804.811663	75.8	true
PFBS_2	298.9 / 99.0	1.54	298410.00	3484.352740	170.3	false
PFHxA_1	313.0 / 269.0	1.86	2614850.71	10146.178688	98.7	false
PFHxA_2	313.0 / 119.0	1.86	151343.50	7860.334833	159.5	false
PFHpA_1	363.0 / 319.0	2.27	527747.24	1870.332925	79.0	false
PFHpA_2	363.0 / 169.0	2.23	14526.92	2369.392401	92.0	false
PFHxS_1	399.0 / 80.0	2.30	4891865.60	14440.726815	182.0	false
PFHxS_2	399.0 / 99.0	2.30	1368939.06	14489.397477	546.2	false
PFOA_1	413.0 / 369.0	2.69	2390052.26	7953.454374	230.3	false
PFOA_2	413.0 / 169.0	2.68	116820.70	5983.194021	307.7	true
PFNA_1	463.0 / 419.0	3.09	19683.16	53.639843	26.9	false
PFNA_2	463.0 / 219.0	3.08	5903.32	55.034973	31.6	false
PFOS_1	499.0 / 80.0	3.07	3285869.24	8520.664026	159.6	false
PFOS_2	499.0 / 99.0	3.09	532147.68	7947.524476	510.0	false
PFDA_1	513.0 / 469.0	3.44	4143.60	< 0	14.8	false
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.05	761.15	< 0	12.5	false
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	4.26	582.27	< 0	17.8	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	3.76	35863.87	679.947542	217.7	true
NEtFOSAA_2	584.0 / 483.0	3.73	3991.34	1264.327595	74.5	false

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Summary Quant Report

Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	638171.67	2700.865915	46.9	true
PFBS_2	298.9 / 99.0	1.54	115931.83	1670.409413	146.7	false
PFHxA_1	313.0 / 269.0	1.86	598067.03	2543.746582	45.3	false
PFHxA_2	313.0 / 119.0	1.86	26436.70	1478.959740	55.5	false
PFHpA_1	363.0 / 319.0	2.27	181587.77	646.179195	43.8	true
PFHpA_2	363.0 / 169.0	2.22	5023.35	780.753991	51.6	false
PFHxS_1	399.0 / 80.0	2.29	237103.59	899.693101	37.2	true
PFHxS_2	399.0 / 99.0	2.30	63219.90	854.340066	137.1	false
PFOA_1	413.0 / 369.0	2.67	403792.98	1462.769320	98.5	false
PFOA_2	413.0 / 169.0	2.67	16700.03	926.807708	132.0	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	3.03	88608.98	251.294338	25.5	false
PFOS_2	499.0 / 99.0	3.09	14330.73	232.830482	70.3	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	4.29	673.45	< 0	21.0	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	J8807MS-FS(0)	**Injection Vial**	12
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	3232341.35	10725.819902	132.2	true
PFBS_2	298.9 / 99.0	1.54	966238.47	10919.459804	324.5	false
PFHxA_1	313.0 / 269.0	1.86	4900181.61	17135.567430	117.7	false
PFHxA_2	313.0 / 119.0	1.86	313149.50	14681.497935	193.0	false
PFHpA_1	363.0 / 319.0	2.27	2763428.96	9057.292315	201.0	false
PFHpA_2	363.0 / 169.0	2.27	51861.50	7963.144951	251.7	false
PFHxS_1	399.0 / 80.0	2.30	8234345.95	24435.263824	344.9	false
PFHxS_2	399.0 / 99.0	2.30	2231968.23	23750.680632	1018.3	false
PFOA_1	413.0 / 369.0	2.69	4895265.01	15665.685313	272.5	false
PFOA_2	413.0 / 169.0	2.68	291897.90	14383.759965	437.0	true
PFNA_1	463.0 / 419.0	3.08	2345199.62	8959.093105	282.1	false
PFNA_2	463.0 / 219.0	3.09	747248.21	9254.555990	555.4	false
PFOS_1	499.0 / 80.0	3.08	6691794.73	13662.853357	219.9	false
PFOS_2	499.0 / 99.0	3.08	1100335.58	12939.772769	744.5	false
PFDA_1	513.0 / 469.0	3.44	2737765.78	7812.113620	386.4	false
PFDA_2	513.0 / 219.0	3.44	118987.99	8241.065234	370.4	false
PFUnA_1	563.0 / 519.0	3.76	2705906.79	7818.564451	547.3	false
PFUnA_2	563.0 / 269.0	3.76	146428.78	8509.323852	348.3	false
PFDoA_1	613.0 / 569.0	4.04	2801783.63	8357.722704	764.5	false
PFDoA_2	613.0 / 319.0	4.04	432906.60	8289.359981	575.6	false
PFTrDA_1	663.0 / 619.0	4.29	2509881.30	8053.244538	1239.2	false
PFTrDA_2	663.0 / 169.0	4.28	167728.99	8191.109452	689.0	false
PFTeDA_1	713.0 / 669.0	4.50	2830418.52	8015.156913	2262.6	false
PFTeDA_2	713.0 / 169.0	4.50	139602.58	8166.472713	1143.4	false
NMeFOSAA_1	570.0 / 419.0	3.59	539460.67	8765.997679	871.7	false
NMeFOSAA_2	570.0 / 512.0	3.59	274564.75	8225.940563	482.7	false
NEtFOSAA_1	584.0 / 419.0	3.76	507911.67	8069.175396	869.7	false
NEtFOSAA_2	584.0 / 483.0	3.76	32425.22	8814.293537	479.3	false

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Summary Quant Report

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Sample Name	J8808MSD-FS(0)	**Injection Vial**	13
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	3073453.53	10395.145587	135.0	true
PFBS_2	298.9 / 99.0	1.55	915874.26	10549.826343	336.4	false
PFHxA_1	313.0 / 269.0	1.87	4486349.71	18489.262149	95.9	false
PFHxA_2	313.0 / 119.0	1.87	284734.19	15733.889508	190.6	false
PFHpA_1	363.0 / 319.0	2.28	2440894.03	9066.853853	170.5	false
PFHpA_2	363.0 / 169.0	2.28	46823.40	8150.230551	310.3	false
PFHxS_1	399.0 / 80.0	2.30	7474423.74	23825.739514	302.4	false
PFHxS_2	399.0 / 99.0	2.30	2045419.36	23380.455956	844.9	false
PFOA_1	413.0 / 369.0	2.69	4243587.68	15604.149507	296.7	false
PFOA_2	413.0 / 169.0	2.69	253481.24	14352.306959	458.2	true
PFNA_1	463.0 / 419.0	3.09	2056093.20	9378.468271	367.6	true
PFNA_2	463.0 / 219.0	3.09	604094.44	8930.600097	623.0	false
PFOS_1	499.0 / 80.0	3.09	6064272.32	15463.601216	228.7	false
PFOS_2	499.0 / 99.0	3.09	1048615.39	15401.230297	766.0	false
PFDA_1	513.0 / 469.0	3.44	2307597.66	7388.355890	346.9	false
PFDA_2	513.0 / 219.0	3.44	109835.44	8537.884069	348.3	false
PFUnA_1	563.0 / 519.0	3.76	2339414.60	7819.583618	515.7	false
PFUnA_2	563.0 / 269.0	3.76	128661.36	8649.254772	293.1	false
PFDoA_1	613.0 / 569.0	4.04	2373649.47	8049.190569	644.3	false
PFDoA_2	613.0 / 319.0	4.04	369566.84	8044.430589	477.9	false
PFTrDA_1	663.0 / 619.0	4.28	2021846.61	7164.246644	1278.5	false
PFTrDA_2	663.0 / 169.0	4.28	138273.98	7457.784183	649.2	false
PFTeDA_1	713.0 / 669.0	4.50	2513283.14	7863.001955	1881.3	false
PFTeDA_2	713.0 / 169.0	4.50	120629.90	7794.796597	1187.1	false
NMeFOSAA_1	570.0 / 419.0	3.60	447073.44	9167.864687	1001.4	false
NMeFOSAA_2	570.0 / 512.0	3.60	234407.87	8868.393664	579.2	false
NEtFOSAA_1	584.0 / 419.0	3.76	437991.13	10241.570917	849.9	true
NEtFOSAA_2	584.0 / 483.0	3.76	26028.92	10421.878086	463.3	false

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Summary Quant Report

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Printed: 02/11/2018 10:36:33 AM

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	2.58e3	2.554309	19.0	true
PFBS_2	298.9 / 99.0	1.57	1.00e3	7.043480	19.4	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.73	3.76e3	< 0	14.1	false
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.48	2.59e3	< 0	18.3	false
PFDA_2	513.0 / 219.0	3.46	3.68e2	< 0	11.1	false
PFUnA_1	563.0 / 519.0	3.81	2.10e3	< 0	18.3	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.09	1.60e3	< 0	26.6	false
PFDoA_2	613.0 / 319.0	4.07	2.24e2	< 0	12.6	true
PFTrDA_1	663.0 / 619.0	4.34	1.08e3	< 0	40.6	false
PFTrDA_2	663.0 / 169.0	4.33	3.61e2	< 0	12.8	false
PFTeDA_1	713.0 / 669.0	4.56	1.57e3	< 0	69.8	false
PFTeDA_2	713.0 / 169.0	4.57	2.37e2	< 0	16.0	false
NMeFOSAA_1	570.0 / 419.0	3.63	2.39e2	< 0	21.4	false
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Sample Name	J8807MS-FS-D(3)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:05:24	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_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	2.30	1.49e6	4377.974299	295.6	false
PFHxS_2	399.0 / 99.0	2.30	4.16e5	4389.684314	602.5	false
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
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	J8808MSD-FS-D(3)	**Injection Vial**	10
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_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	2.30	1.42e6	3681.594969	277.0	false
PFHxS_2	399.0 / 99.0	2.30	3.88e5	3606.878911	536.1	false
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
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	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	91698.47	244.195426	1281.1	false
d3-MeFOSAA	573.0 / 419.0	3.61	16302.89	260.004961	195.5	false
d5-EtFOSAA	589.0 / 419.0	3.78	17051.45	239.580705	212.6	false
13C5-PFHxA	318.0 / 273.0	1.87	61987.66	244.293373	826.7	false
13C4-PFHpA	367.0 / 322.0	2.28	70438.43	244.000657	1152.0	false
13C8-PFOA	421.0 / 376.0	2.70	88535.23	252.114367	1604.4	false
13C9-PFNA	472.0 / 427.0	3.09	100138.19	249.732890	1149.5	false
13C6-PFDA	519.0 / 474.0	3.45	97258.51	257.077741	4005.3	false
13C7-PFUnA	570.0 / 525.0	3.78	88898.52	254.380465	800.7	false
13C2-PFTeDA	715.0 / 670.0	4.54	70451.22	232.374509	2131.0	false
13C3-PFBS	302.0 / 99.0	1.55	25201.92	220.626542	798.1	false
13C3-PFHxS	402.0 / 99.0	2.31	25094.63	242.439381	606.8	false
13C8-PFOS	507.0 / 99.0	3.09	26831.98	229.467599	276.5	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:32:37 AM

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:41:09	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	92068.64	299.028519	1485.8	false
d3-MeFOSAA	573.0 / 419.0	3.62	13186.13	227.679274	165.0	false
d5-EtFOSAA	589.0 / 419.0	3.78	14087.19	214.291012	185.4	false
13C5-PFHxA	318.0 / 273.0	1.87	58955.34	261.039730	648.9	false
13C4-PFHpA	367.0 / 322.0	2.29	58825.17	228.939954	992.3	false
13C8-PFOA	421.0 / 376.0	2.70	71660.35	229.264811	1351.8	false
13C9-PFNA	472.0 / 427.0	3.10	77866.43	218.174140	907.3	false
13C6-PFDA	519.0 / 474.0	3.46	81001.26	261.128387	1244.3	false
13C7-PFUnA	570.0 / 525.0	3.78	83789.10	292.416724	913.3	false
13C2-PFTeDA	715.0 / 670.0	4.53	75524.75	303.818838	1445.5	false
13C3-PFBS	302.0 / 99.0	1.54	26263.58	248.924192	348.4	false
13C3-PFHxS	402.0 / 99.0	2.31	20416.27	213.544186	396.9	false
13C8-PFOS	507.0 / 99.0	3.09	24224.63	224.292598	252.2	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:32:42 AM

Sample Name	CS009PB-FS(0)	**Injection Vial**	4
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:02:54	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.05	81870.18	215.191978	1150.3	false
d3-MeFOSAA	573.0 / 419.0	3.61	13399.04	250.626608	194.7	false
d5-EtFOSAA	589.0 / 419.0	3.77	12471.93	205.523181	186.3	false
13C5-PFHxA	318.0 / 273.0	1.86	56675.32	249.146368	528.2	false
13C4-PFHpA	367.0 / 322.0	2.28	64555.94	249.443207	645.7	false
13C8-PFOA	421.0 / 376.0	2.69	73362.30	233.028199	1173.3	false
13C9-PFNA	472.0 / 427.0	3.09	77458.98	215.477448	8044.7	false
13C6-PFDA	519.0 / 474.0	3.44	77900.19	203.235828	1292.3	false
13C7-PFUnA	570.0 / 525.0	3.77	75990.35	214.621183	646.2	false
13C2-PFTeDA	715.0 / 670.0	4.52	69888.88	227.526985	1931.3	false
13C3-PFBS	302.0 / 99.0	1.53	23639.26	242.713707	251.6	false
13C3-PFHxS	402.0 / 99.0	2.30	21553.12	244.213009	258.1	false
13C8-PFOS	507.0 / 99.0	3.09	25418.23	254.947300	189.9	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:32:47 AM

Sample Name	CS010LCS-FS(0)	**Injection Vial**	5
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:13:45	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	92722.79	254.823002	923.5	false
d3-MeFOSAA	573.0 / 419.0	3.60	14223.09	210.848016	197.9	false
d5-EtFOSAA	589.0 / 419.0	3.76	15804.29	206.406884	215.3	false
13C5-PFHxA	318.0 / 273.0	1.86	65706.82	261.432728	487.2	false
13C4-PFHpA	367.0 / 322.0	2.28	74850.63	261.769991	915.4	false
13C8-PFOA	421.0 / 376.0	2.69	83342.75	239.603023	1758.3	false
13C9-PFNA	472.0 / 427.0	3.08	87812.53	221.093256	862.6	false
13C6-PFDA	519.0 / 474.0	3.44	86973.77	237.247627	1777.9	false
13C7-PFUnA	570.0 / 525.0	3.75	85457.91	252.358650	960.1	false
13C2-PFTeDA	715.0 / 670.0	4.51	82972.35	282.429504	1777.0	false
13C3-PFBS	302.0 / 99.0	1.53	26257.27	213.664392	317.5	false
13C3-PFHxS	402.0 / 99.0	2.30	21489.89	192.981247	248.3	false
13C8-PFOS	507.0 / 99.0	3.08	28267.63	224.706964	215.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:32:52 AM

Sample Name	J8801-FS(0)	**Injection Vial**	6
Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	93780.68	244.558553	968.4	false
d3-MeFOSAA	573.0 / 419.0	3.60	14570.66	231.659117	214.9	false
d5-EtFOSAA	589.0 / 419.0	3.76	15520.99	217.401759	187.9	false
13C5-PFHxA	318.0 / 273.0	1.86	61675.16	258.960325	483.8	false
13C4-PFHpA	367.0 / 322.0	2.28	68087.79	251.285284	1146.5	false
13C8-PFOA	421.0 / 376.0	2.69	76267.45	231.386016	953.0	false
13C9-PFNA	472.0 / 427.0	3.08	91860.21	244.073072	3622142.5	false
13C6-PFDA	519.0 / 474.0	3.44	87453.10	226.363322	1144.2	false
13C7-PFUnA	570.0 / 525.0	3.76	78020.06	218.619810	1108.2	false
13C2-PFTeDA	715.0 / 670.0	4.51	73495.80	237.386746	1369.0	false
13C3-PFBS	302.0 / 99.0	1.53	27143.06	236.884152	388.5	false
13C3-PFHxS	402.0 / 99.0	2.30	20892.19	201.214545	265.8	false
13C8-PFOS	507.0 / 99.0	3.08	25839.26	220.293619	198.3	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:00 AM

Sample Name	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	100176.30	249.120756	1152.0	false
d3-MeFOSAA	573.0 / 419.0	3.60	15226.41	253.345536	210.5	false
d5-EtFOSAA	589.0 / 419.0	3.76	18545.61	271.850731	229.0	false
13C5-PFHxA	318.0 / 273.0	1.86	59680.74	224.802791	633.3	false
13C4-PFHpA	367.0 / 322.0	2.27	68710.28	227.490920	615.1	false
13C8-PFOA	421.0 / 376.0	2.69	81137.20	220.832246	1316.8	false
13C9-PFNA	472.0 / 427.0	3.08	83292.63	198.537965	1399.8	false
13C6-PFDA	519.0 / 474.0	3.43	88859.24	219.335516	1442.8	false
13C7-PFUnA	570.0 / 525.0	3.75	86420.23	230.926691	1388.4	false
13C2-PFTeDA	715.0 / 670.0	4.50	75209.72	231.655929	1402.6	false
13C3-PFBS	302.0 / 99.0	1.53	26505.46	242.079675	304.8	false
13C3-PFHxS	402.0 / 99.0	2.30	21104.44	212.713484	278.3	false
13C8-PFOS	507.0 / 99.0	3.08	25796.51	230.159313	213.5	false

BATTELLE

Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:04 AM

Sample Name	J8803-FS(0)	**Injection Vial**	8
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	102230.26	263.162088	849.3	false
d3-MeFOSAA	573.0 / 419.0	3.59	19953.93	313.378360	231.0	false
d5-EtFOSAA	589.0 / 419.0	3.75	30041.56	415.658483	354.8	true
13C5-PFHxA	318.0 / 273.0	1.86	52462.69	208.825207	610.4	false
13C4-PFHpA	367.0 / 322.0	2.27	62964.15	220.292927	718.8	false
13C8-PFOA	421.0 / 376.0	2.68	72940.62	209.786145	1311.4	false
13C9-PFNA	472.0 / 427.0	3.08	81035.66	204.116469	1033.6	false
13C6-PFDA	519.0 / 474.0	3.43	86469.00	220.935620	1420.4	false
13C7-PFUnA	570.0 / 525.0	3.74	109904.94	304.000914	802.6	false
13C2-PFTeDA	715.0 / 670.0	4.50	78981.34	251.821543	1546.4	false
13C3-PFBS	302.0 / 99.0	1.53	27793.06	239.598467	304.0	false
13C3-PFHxS	402.0 / 99.0	2.29	21403.46	203.624441	292.0	false
13C8-PFOS	507.0 / 99.0	3.07	26621.45	224.193998	208.0	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:08 AM

Sample Name	J8804-FS(0)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	83496.78	200.647965	816.6	false
d3-MeFOSAA	573.0 / 419.0	3.59	15232.79	278.101731	138.9	false
d5-EtFOSAA	589.0 / 419.0	3.75	16154.61	259.833035	141.6	false
13C5-PFHxA	318.0 / 273.0	1.85	70062.91	264.098677	143.5	false
13C4-PFHpA	367.0 / 322.0	2.27	87840.29	291.036007	322.4	false
13C8-PFOA	421.0 / 376.0	2.68	83356.10	227.033767	458.8	false
13C9-PFNA	472.0 / 427.0	3.07	76125.58	181.584271	498.6	false
13C6-PFDA	519.0 / 474.0	3.43	87567.84	208.867613	614.4	false
13C7-PFUnA	570.0 / 525.0	3.75	86042.02	222.172051	703.4	false
13C2-PFTeDA	715.0 / 670.0	4.50	64125.00	190.860898	1994.2	false
13C3-PFBS	302.0 / 99.0	1.52	24933.95	249.874811	242.9	false
13C3-PFHxS	402.0 / 99.0	2.29	24521.10	271.187510	180.5	false
13C8-PFOS	507.0 / 99.0	3.07	24323.47	238.123118	154.8	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:12 AM

Sample Name	J8805-FS(0)	**Injection Vial**	10
Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	77810.69	212.697154	733.1	false
d3-MeFOSAA	573.0 / 419.0	3.59	14593.84	287.484154	139.9	false
d5-EtFOSAA	589.0 / 419.0	3.75	14232.14	246.994896	136.5	false
13C5-PFHxA	318.0 / 273.0	1.85	65192.67	260.058625	121.0	false
13C4-PFHpA	367.0 / 322.0	2.27	79595.85	279.085817	380.2	false
13C8-PFOA	421.0 / 376.0	2.68	74774.65	215.527075	433.7	false
13C9-PFNA	472.0 / 427.0	3.07	68766.47	173.587611	417.7	false
13C6-PFDA	519.0 / 474.0	3.43	85658.51	232.409761	802.9	false
13C7-PFUnA	570.0 / 525.0	3.75	78166.48	229.592011	509.4	false
13C2-PFTeDA	715.0 / 670.0	4.49	62666.86	212.170443	889.0	false
13C3-PFBS	302.0 / 99.0	1.52	23269.95	251.621000	213.0	false
13C3-PFHxS	402.0 / 99.0	2.29	24313.07	290.127807	159.1	false
13C8-PFOS	507.0 / 99.0	3.07	18987.34	200.567286	146.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:17 AM

Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	66794.37	229.331198	667.9	false
d3-MeFOSAA	573.0 / 419.0	3.59	14598.64	324.788381	167.7	false
d5-EtFOSAA	589.0 / 419.0	3.75	14109.03	276.540511	140.0	false
13C5-PFHxA	318.0 / 273.0	1.85	58889.40	293.936725	123.1	false
13C4-PFHpA	367.0 / 322.0	2.27	77769.47	341.193535	293.4	false
13C8-PFOA	421.0 / 376.0	2.68	68113.82	245.655776	419.5	false
13C9-PFNA	472.0 / 427.0	3.07	65943.09	208.283821	471.5	false
13C6-PFDA	519.0 / 474.0	3.43	75181.44	256.209567	792.3	false
13C7-PFUnA	570.0 / 525.0	3.75	74482.16	274.782670	780.8	false
13C2-PFTeDA	715.0 / 670.0	4.50	58181.66	247.419477	1248.5	false
13C3-PFBS	302.0 / 99.0	1.52	18835.69	230.025940	203.9	false
13C3-PFHxS	402.0 / 99.0	2.29	17877.36	240.933301	183.5	false
13C8-PFOS	507.0 / 99.0	3.07	17759.31	211.868236	138.1	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:21 AM

Sample Name	J8807MS-FS(0)	**Injection Vial**	12
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	92313.93	249.555641	649.1	false
d3-MeFOSAA	573.0 / 419.0	3.59	16494.06	314.788431	145.1	false
d5-EtFOSAA	589.0 / 419.0	3.74	17268.30	290.345112	147.1	false
13C5-PFHxA	318.0 / 273.0	1.85	72436.48	283.080881	140.0	false
13C4-PFHpA	367.0 / 322.0	2.26	86768.25	298.049866	295.2	false
13C8-PFOA	421.0 / 376.0	2.68	77828.11	219.768114	452.7	false
13C9-PFNA	472.0 / 427.0	3.07	78710.77	194.651103	461.8	false
13C6-PFDA	519.0 / 474.0	3.43	84017.73	225.440788	622.7	false
13C7-PFUnA	570.0 / 525.0	3.74	82345.33	239.195458	712.2	false
13C2-PFTeDA	715.0 / 670.0	4.49	81450.46	272.720769	1586.3	false
13C3-PFBS	302.0 / 99.0	1.52	24060.39	252.058374	220.2	false
13C3-PFHxS	402.0 / 99.0	2.29	23897.74	276.282579	178.7	false
13C8-PFOS	507.0 / 99.0	3.07	23949.32	245.095934	148.0	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:33:25 AM

Sample Name	J8808MSD-FS(0)	**Injection Vial**	13
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	81194.59	234.272948	666.1	false
d3-MeFOSAA	573.0 / 419.0	3.59	13157.63	275.440507	145.9	false
d5-EtFOSAA	589.0 / 419.0	3.75	11706.85	215.905636	130.1	false
13C5-PFHxA	318.0 / 273.0	1.86	61472.36	267.089779	184.9	false
13C4-PFHpA	367.0 / 322.0	2.27	76560.40	292.385943	326.2	false
13C8-PFOA	421.0 / 376.0	2.68	67733.12	212.644175	404.2	false
13C9-PFNA	472.0 / 427.0	3.08	65701.04	180.642188	401.1	false
13C6-PFDA	519.0 / 474.0	3.43	74866.40	214.409175	629.4	false
13C7-PFUnA	570.0 / 525.0	3.75	71183.09	220.691511	455.2	false
13C2-PFTeDA	715.0 / 670.0	4.49	73716.31	263.440872	1257.4	false
13C3-PFBS	302.0 / 99.0	1.53	23605.05	271.245289	206.0	false
13C3-PFHxS	402.0 / 99.0	2.29	22091.01	280.137419	200.2	false
13C8-PFOS	507.0 / 99.0	3.07	19668.90	220.791291	137.4	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:35:14 AM

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.08	99465.87	258.092197	965.4	false
d3-MeFOSAA	573.0 / 419.0	3.63	17478.19	329.846157	168.6	false
d5-EtFOSAA	589.0 / 419.0	3.79	17992.71	299.147377	210.0	false
13C5-PFHxA	318.0 / 273.0	1.88	59578.92	245.224501	533.3	false
13C4-PFHpA	367.0 / 322.0	2.30	76310.16	276.075863	877.0	false
13C8-PFOA	421.0 / 376.0	2.71	81619.66	242.739792	1414.7	false
13C9-PFNA	472.0 / 427.0	3.10	84686.59	220.574541	1007.0	false
13C6-PFDA	519.0 / 474.0	3.47	94947.53	244.537713	1028.6	false
13C7-PFUnA	570.0 / 525.0	3.79	94745.29	264.163124	1138.0	false
13C2-PFTeDA	715.0 / 670.0	4.55	79263.46	254.740674	1411.3	false
13C3-PFBS	302.0 / 99.0	1.55	25368.46	262.794432	439.0	false
13C3-PFHxS	402.0 / 99.0	2.32	21696.12	248.028928	292.0	false
13C8-PFOS	507.0 / 99.0	3.10	28466.87	288.075497	217.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:59:32 AM

Sample Name	J8807MS-FS-D(3)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:05:24	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	105835.54	283.895140	1069.4	false
d3-MeFOSAA	573.0 / 419.0	3.59	21618.99	381.497367	186.0	false
d5-EtFOSAA	589.0 / 419.0	3.76	19221.19	298.820329	187.8	false
13C5-PFHxA	318.0 / 273.0	1.86	76210.81	295.337523	299.7	false
13C4-PFHpA	367.0 / 322.0	2.27	92558.88	315.278970	543.9	false
13C8-PFOA	421.0 / 376.0	2.68	89081.47	249.439036	741.6	false
13C9-PFNA	472.0 / 427.0	3.08	87366.05	214.246746	1145.1	false
13C6-PFDA	519.0 / 474.0	3.43	94538.36	251.707344	788.8	false
13C7-PFUnA	570.0 / 525.0	3.75	90514.95	260.891848	920.7	false
13C2-PFTeDA	715.0 / 670.0	4.50	89579.94	297.619720	1567.3	false
13C3-PFBS	302.0 / 99.0	1.53	36538.34	353.925645	379.6	true
13C3-PFHxS	402.0 / 99.0	2.29	23849.26	254.939041	283.9	false
13C8-PFOS	507.0 / 99.0	3.07	27442.43	259.675215	204.8	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:35:36 AM

Sample Name	J8808MSD-FS-D(3)	**Injection Vial**	10
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	96846.80	245.844389	1253.8	false
d3-MeFOSAA	573.0 / 419.0	3.60	15480.44	301.353243	166.1	false
d5-EtFOSAA	589.0 / 419.0	3.76	18327.23	314.313526	196.6	false
13C5-PFHxA	318.0 / 273.0	1.86	75811.23	329.623413	217.6	false
13C4-PFHpA	367.0 / 322.0	2.27	92661.48	354.126647	645.8	false
13C8-PFOA	421.0 / 376.0	2.68	78467.27	246.517673	705.3	false
13C9-PFNA	472.0 / 427.0	3.08	90095.23	247.888192	780.4	false
13C6-PFDA	519.0 / 474.0	3.43	95878.95	241.579290	2311.7	false
13C7-PFUnA	570.0 / 525.0	3.75	86601.24	236.217960	679.6	false
13C2-PFTeDA	715.0 / 670.0	4.50	89892.16	282.632032	1710.7	false
13C3-PFBS	302.0 / 99.0	1.53	34268.03	366.175221	285.9	true
13C3-PFHxS	402.0 / 99.0	2.29	27581.58	325.249965	309.4	false
13C8-PFOS	507.0 / 99.0	3.08	26593.08	277.595872	267.8	false

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Summary Ion Ratio Report

Sample Name	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.57	PFBS	0.410	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.065	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.280	0.306	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.210	0.174	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	ü
PFDoA_1	613.0 / 569.0	4.08	PFDoA			
PFDoA_2	613.0 / 319.0	4.08	PFDoA	0.160	0.160	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.34	PFTrDA	0.080	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	3.61	NMeFOSAA	0.510	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:41:09	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	N/A	0.292	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.065	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.306	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.50	PFDA	0.200	0.041	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	ü
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	
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	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 02/11/2018 10:37:58 AM

Sample Name	CS009PB-FS(0)	**Injection Vial**	4
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:02:54	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.070	0.065	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.110	0.306	
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.49	PFDA	0.200	0.041	
PFUnA_1	563.0 / 519.0	3.78	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	
PFDoA_1	613.0 / 569.0	4.07	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.330	0.160	
PFTrDA_1	663.0 / 619.0	4.31	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.140	0.066	
PFTeDA_1	713.0 / 669.0	4.52	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.48	PFTeDA	0.110	0.049	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

Sample Name	CS010LCS-FS(0)	**Injection Vial**	5
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:13:45	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.292	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.077	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.10	PFNA	0.300	0.306	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.174	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.05	PFDoA			
PFDoA_2	613.0 / 319.0	4.05	PFDoA	0.150	0.160	ü
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.30	PFTrDA	0.060	0.066	ü
PFTeDA_1	713.0 / 669.0	4.51	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.51	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.550	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.77	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

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Sample Name	J8801-FS(0)	**Injection Vial**	6
Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.330	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.300	0.306	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	
PFUnA_1	563.0 / 519.0	3.78	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	
PFDoA_1	613.0 / 569.0	4.05	PFDoA			
PFDoA_2	613.0 / 319.0	4.04	PFDoA	0.410	0.160	
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	
NMeFOSAA_1	570.0 / 419.0	3.61	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.551	
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	

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Summary Ion Ratio Report

Sample Name	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.050	0.065	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.306	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	
PFDoA_1	613.0 / 569.0	4.06	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	

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Summary Ion Ratio Report

Sample Name	J8803-FS(0)	**Injection Vial**	8
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	N/A	0.306	
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	ü
PFTrDA_1	663.0 / 619.0	4.31	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	
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	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

Sample Name	J8804-FS(0)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.260	0.292	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.060	0.077	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.050	0.065	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.320	0.306	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.160	0.174	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	
PFDoA_1	613.0 / 569.0	4.04	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	
PFTeDA_1	713.0 / 669.0	4.50	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.040	0.062	ü

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Summary Ion Ratio Report

Sample Name	J8805-FS(0)	**Injection Vial**	10
Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.270	0.292	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.060	0.077	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.23	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.050	0.065	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.08	PFNA	0.300	0.306	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.160	0.174	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	ü
PFDoA_1	613.0 / 569.0	4.05	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	
PFTrDA_1	663.0 / 619.0	4.26	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	
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	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.110	0.062	

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Summary Ion Ratio Report

Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.180	0.292	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.040	0.077	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.040	0.065	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.306	ü
PFOS_1	499.0 / 80.0	3.03	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.160	0.174	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	ü
PFTrDA_1	663.0 / 619.0	4.29	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.066	
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	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

Sample Name	J8807MS-FS(0)	**Injection Vial**	12
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.292	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.060	0.077	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.320	0.306	ü
PFOS_1	499.0 / 80.0	3.08	PFOS			
PFOS_2	499.0 / 99.0	3.08	PFOS	0.160	0.174	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.040	0.041	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.04	PFDoA			
PFDoA_2	613.0 / 319.0	4.04	PFDoA	0.150	0.160	ü
PFTrDA_1	663.0 / 619.0	4.29	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	4.50	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.59	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.59	NMeFOSAA	0.510	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

Sample Name	J8808MSD-FS(0)	**Injection Vial**	13
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.292	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.060	0.077	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.060	0.065	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.290	0.306	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.170	0.174	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.041	ü
PFUnA_1	563.0 / 519.0	3.76	PFUnA			
PFUnA_2	563.0 / 269.0	3.76	PFUnA	0.050	0.049	ü
PFDoA_1	613.0 / 569.0	4.04	PFDoA			
PFDoA_2	613.0 / 319.0	4.04	PFDoA	0.160	0.160	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	4.50	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.520	0.551	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.060	0.062	ü

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Summary Ion Ratio Report

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	1.57	PFBS	0.390	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.282	ü
PFOA_1	413.0 / 369.0	2.73	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.065	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.306	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	3.48	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.140	0.041	
PFUnA_1	563.0 / 519.0	3.81	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	
PFDoA_1	613.0 / 569.0	4.09	PFDoA			
PFDoA_2	613.0 / 319.0	4.07	PFDoA	0.140	0.160	ü
PFTrDA_1	663.0 / 619.0	4.34	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.33	PFTrDA	0.330	0.066	
PFTeDA_1	713.0 / 669.0	4.56	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.57	PFTeDA	0.150	0.049	
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.551	
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

Sample Name	J8807MS-FS-D(3)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:05:24	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.282	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.065	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.306	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	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	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Ion Ratio Report

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Sample Name	J8808MSD-FS-D(3)	**Injection Vial**	10
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	0.292	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.077	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.270	0.282	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.065	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.306	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.174	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.041	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.049	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.160	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	0.551	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.062	ü

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Summary Internal Standard Report

Sample Name	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	25201.92	232.25
PFBS_2	298.9 / 99.0	1.57	13C3-PFBS	302.0 / 99.0	25201.92	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	61987.66	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	61987.66	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	70438.43	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	70438.43	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	24683.15	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	24683.15	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	88535.23	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	88535.23	250.00
PFNA_1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	100138.19	250.00
PFNA_2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	100138.19	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	26769.68	239.25
PFOS_2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	26769.68	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	97258.51	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	97258.51	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	88898.52	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	88898.52	250.00
PFDoA_1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	91698.47	250.00
PFDoA_2	613.0 / 319.0	4.08	13C2-PFDoA	615.0 / 570.0	91698.47	250.00
PFTrDA_1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	70451.22	250.00
PFTrDA_2	663.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	70451.22	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	70451.22	250.00
PFTeDA_2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	70451.22	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	16454.46	250.00
NMeFOSAA_2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	16454.46	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	17612.55	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	17612.55	250.00

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Summary Internal Standard Report

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:41:09	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	26263.58	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	26263.58	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	58955.34	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	58955.34	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	58825.17	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	58825.17	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	20506.67	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	20506.67	236.50
PFOA_1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	71660.35	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	71660.35	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	77866.43	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	77866.43	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	23828.73	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	23828.73	239.25
PFDA_1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	81001.26	250.00
PFDA_2	513.0 / 219.0	3.50	13C6-PFDA	519.0 / 474.0	81001.26	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	83789.10	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	83789.10	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	92068.64	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	92068.64	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	75524.75	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	75524.75	250.00
PFTeDA_1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	75524.75	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	75524.75	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13382.48	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13382.48	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	14616.31	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	14616.31	250.00

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Summary Internal Standard Report

Sample Name	CS009PB-FS(0)	**Injection Vial**	4
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:02:54	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	23639.26	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	23639.26	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	56675.32	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	56675.32	250.00
PFHpA_1	363.0 / 319.0	2.29	13C4-PFHpA	367.0 / 322.0	64555.94	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	64555.94	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	21286.88	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	21286.88	236.50
PFOA_1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	73362.30	250.00
PFOA_2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	73362.30	250.00
PFNA_1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	77458.98	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	77458.98	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	25499.85	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	25499.85	239.25
PFDA_1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	77900.19	250.00
PFDA_2	513.0 / 219.0	3.49	13C6-PFDA	519.0 / 474.0	77900.19	250.00
PFUnA_1	563.0 / 519.0	3.78	13C7-PFUnA	570.0 / 525.0	75990.35	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	75990.35	250.00
PFDoA_1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	81870.18	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	81870.18	250.00
PFTrDA_1	663.0 / 619.0	4.31	13C2-PFTeDA	715.0 / 670.0	69888.88	250.00
PFTrDA_2	663.0 / 169.0	4.26	13C2-PFTeDA	715.0 / 670.0	69888.88	250.00
PFTeDA_1	713.0 / 669.0	4.52	13C2-PFTeDA	715.0 / 670.0	69888.88	250.00
PFTeDA_2	713.0 / 169.0	4.48	13C2-PFTeDA	715.0 / 670.0	69888.88	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13494.11	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13494.11	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	12854.02	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	12854.02	250.00

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Summary Internal Standard Report

Sample Name	CS010LCS-FS(0)	**Injection Vial**	5
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:13:45	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	26257.27	232.25
PFBS_2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	26257.27	232.25
PFHxA_1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	65706.82	250.00
PFHxA_2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	65706.82	250.00
PFHpA_1	363.0 / 319.0	2.29	13C4-PFHpA	367.0 / 322.0	74850.63	250.00
PFHpA_2	363.0 / 169.0	2.28	13C4-PFHpA	367.0 / 322.0	74850.63	250.00
PFHxS_1	399.0 / 80.0	2.31	13C3-PFHxS	402.0 / 99.0	21199.47	236.50
PFHxS_2	399.0 / 99.0	2.31	13C3-PFHxS	402.0 / 99.0	21199.47	236.50
PFOA_1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	83342.75	250.00
PFOA_2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	83342.75	250.00
PFNA_1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	87812.53	250.00
PFNA_2	463.0 / 219.0	3.10	13C9-PFNA	472.0 / 427.0	87812.53	250.00
PFOS_1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	28828.13	239.25
PFOS_2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	28828.13	239.25
PFDA_1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	86973.77	250.00
PFDA_2	513.0 / 219.0	3.45	13C6-PFDA	519.0 / 474.0	86973.77	250.00
PFUnA_1	563.0 / 519.0	3.77	13C7-PFUnA	570.0 / 525.0	85457.91	250.00
PFUnA_2	563.0 / 269.0	3.77	13C7-PFUnA	570.0 / 525.0	85457.91	250.00
PFDoA_1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	92722.79	250.00
PFDoA_2	613.0 / 319.0	4.05	13C2-PFDoA	615.0 / 570.0	92722.79	250.00
PFTrDA_1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	82972.35	250.00
PFTrDA_2	663.0 / 169.0	4.30	13C2-PFTeDA	715.0 / 670.0	82972.35	250.00
PFTeDA_1	713.0 / 669.0	4.51	13C2-PFTeDA	715.0 / 670.0	82972.35	250.00
PFTeDA_2	713.0 / 169.0	4.51	13C2-PFTeDA	715.0 / 670.0	82972.35	250.00
NMeFOSAA_1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	14073.10	250.00
NMeFOSAA_2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	14073.10	250.00
NEtFOSAA_1	584.0 / 419.0	3.77	d5-EtFOSAA	589.0 / 419.0	16147.39	250.00
NEtFOSAA_2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	16147.39	250.00

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Summary Internal Standard Report

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Sample Name	J8801-FS(0)	**Injection Vial**	6
Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	27143.06	232.25
PFBS_2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	27143.06	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	61675.16	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	61675.16	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	68087.79	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	68087.79	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	20766.78	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	20766.78	236.50
PFOA_1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	76267.45	250.00
PFOA_2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	76267.45	250.00
PFNA_1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	91860.21	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	91860.21	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	26083.47	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	26083.47	239.25
PFDA_1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	87453.10	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	87453.10	250.00
PFUnA_1	563.0 / 519.0	3.78	13C7-PFUnA	570.0 / 525.0	78020.06	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	78020.06	250.00
PFDoA_1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	93780.68	250.00
PFDoA_2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	93780.68	250.00
PFTrDA_1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	73495.80	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	73495.80	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	73495.80	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	73495.80	250.00
NMeFOSAA_1	570.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	14924.86	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	14924.86	250.00
NEtFOSAA_1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	16092.33	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16092.33	250.00

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Summary Internal Standard Report

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Sample Name	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	26505.46	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	26505.46	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	59680.74	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	59680.74	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	68710.28	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	68710.28	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	21115.89	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	21115.89	236.50
PFOA_1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	81137.20	250.00
PFOA_2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	81137.20	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	83292.63	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	83292.63	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	26246.97	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	26246.97	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	88859.24	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	88859.24	250.00
PFUnA_1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	86420.23	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	86420.23	250.00
PFDoA_1	613.0 / 569.0	4.06	13C2-PFDoA	615.0 / 570.0	100176.30	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	100176.30	250.00
PFTrDA_1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	75209.72	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	75209.72	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	75209.72	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	75209.72	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	15523.56	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	15523.56	250.00
NEtFOSAA_1	584.0 / 419.0	3.80	d5-EtFOSAA	589.0 / 419.0	18985.95	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	18985.95	250.00

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Summary Internal Standard Report

Sample Name	J8803-FS(0)	**Injection Vial**	8
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	27793.06	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	27793.06	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	52462.69	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	52462.69	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	62964.15	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	62964.15	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	21446.76	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	21446.76	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	72940.62	250.00
PFOA_2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	72940.62	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	81035.66	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	81035.66	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	26824.65	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	26824.65	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	86469.00	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	86469.00	250.00
PFUnA_1	563.0 / 519.0	3.77	13C7-PFUnA	570.0 / 525.0	109904.94	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	109904.94	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	102230.26	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	102230.26	250.00
PFTrDA_1	663.0 / 619.0	4.31	13C2-PFTeDA	715.0 / 670.0	78981.34	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	78981.34	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	78981.34	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	78981.34	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	19828.54	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	19828.54	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	30860.03	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	30860.03	250.00

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Summary Internal Standard Report

Sample Name	J8804-FS(0)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	24933.95	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	24933.95	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	70062.91	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	70062.91	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	87840.29	250.00
PFHpA_2	363.0 / 169.0	2.25	13C4-PFHpA	367.0 / 322.0	87840.29	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	23795.15	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	23795.15	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	83356.10	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	83356.10	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	76125.58	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	76125.58	250.00
PFOS_1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	24337.77	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	24337.77	239.25
PFDA_1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	87567.84	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	87567.84	250.00
PFUnA_1	563.0 / 519.0	3.77	13C7-PFUnA	570.0 / 525.0	86042.02	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	86042.02	250.00
PFDoA_1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	83496.78	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	83496.78	250.00
PFTrDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	64125.00	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	64125.00	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	64125.00	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	64125.00	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	14825.66	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	14825.66	250.00
NEtFOSAA_1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	16448.07	250.00
NEtFOSAA_2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	16448.07	250.00

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Summary Internal Standard Report

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Sample Name	J8805-FS(0)	**Injection Vial**	10
Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	23269.95	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	23269.95	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	65192.67	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	65192.67	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	79595.85	250.00
PFHpA_2	363.0 / 169.0	2.23	13C4-PFHpA	367.0 / 322.0	79595.85	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	23499.98	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	23499.98	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	74774.65	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	74774.65	250.00
PFNA_1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	68766.47	250.00
PFNA_2	463.0 / 219.0	3.08	13C9-PFNA	472.0 / 427.0	68766.47	250.00
PFOS_1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	19261.76	239.25
PFOS_2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	19261.76	239.25
PFDA_1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	85658.51	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	85658.51	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	78166.48	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	78166.48	250.00
PFDoA_1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	77810.69	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	77810.69	250.00
PFTrDA_1	663.0 / 619.0	4.26	13C2-PFTeDA	715.0 / 670.0	62666.86	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	62666.86	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	62666.86	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	62666.86	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	15075.19	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	15075.19	250.00
NEtFOSAA_1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	14341.25	250.00
NEtFOSAA_2	584.0 / 483.0	3.73	d5-EtFOSAA	589.0 / 419.0	14341.25	250.00

Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	18835.69	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	18835.69	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	58889.40	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	58889.40	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	77769.47	250.00
PFHpA_2	363.0 / 169.0	2.22	13C4-PFHpA	367.0 / 322.0	77769.47	250.00
PFHxS_1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	17907.36	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	17907.36	236.50
PFOA_1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	68113.82	250.00
PFOA_2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	68113.82	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	65943.09	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	65943.09	250.00
PFOS_1	499.0 / 80.0	3.03	13C8-PFOS	507.0 / 99.0	17734.81	239.25
PFOS_2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	17734.81	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	75181.44	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	75181.44	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	74482.16	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	74482.16	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	66794.37	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	66794.37	250.00
PFTrDA_1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	58181.66	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	58181.66	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	58181.66	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	58181.66	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	14781.86	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	14781.86	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	14223.43	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	14223.43	250.00

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Summary Internal Standard Report

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Sample Name	J8807MS-FS(0)	**Injection Vial**	12
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	24060.39	232.25
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	24060.39	232.25
PFHxA_1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	72436.48	250.00
PFHxA_2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	72436.48	250.00
PFHpA_1	363.0 / 319.0	2.27	13C4-PFHpA	367.0 / 322.0	86768.25	250.00
PFHpA_2	363.0 / 169.0	2.27	13C4-PFHpA	367.0 / 322.0	86768.25	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	23390.59	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	23390.59	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	77828.11	250.00
PFOA_2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	77828.11	250.00
PFNA_1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	78710.77	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	78710.77	250.00
PFOS_1	499.0 / 80.0	3.08	13C8-PFOS	507.0 / 99.0	24461.67	239.25
PFOS_2	499.0 / 99.0	3.08	13C8-PFOS	507.0 / 99.0	24461.67	239.25
PFDA_1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	84017.73	250.00
PFDA_2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	84017.73	250.00
PFUnA_1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	82345.33	250.00
PFUnA_2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	82345.33	250.00
PFDoA_1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	92313.93	250.00
PFDoA_2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	92313.93	250.00
PFTrDA_1	663.0 / 619.0	4.29	13C2-PFTeDA	715.0 / 670.0	81450.46	250.00
PFTrDA_2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	81450.46	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	81450.46	250.00
PFTeDA_2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	81450.46	250.00
NMeFOSAA_1	570.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	16352.62	250.00
NMeFOSAA_2	570.0 / 512.0	3.59	d3-MeFOSAA	573.0 / 419.0	16352.62	250.00
NEtFOSAA_1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	17423.01	250.00
NEtFOSAA_2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	17423.01	250.00

Sample Name	J8808MSD-FS(0)	**Injection Vial**	13
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	23605.05	232.25
PFBS_2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	23605.05	232.25
PFHxA_1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	61472.36	250.00
PFHxA_2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	61472.36	250.00
PFHpA_1	363.0 / 319.0	2.28	13C4-PFHpA	367.0 / 322.0	76560.40	250.00
PFHpA_2	363.0 / 169.0	2.28	13C4-PFHpA	367.0 / 322.0	76560.40	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	21774.65	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	21774.65	236.50
PFOA_1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	67733.12	250.00
PFOA_2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	67733.12	250.00
PFNA_1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	65932.57	250.00
PFNA_2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	65932.57	250.00
PFOS_1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	19586.02	239.25
PFOS_2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	19586.02	239.25
PFDA_1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	74866.40	250.00
PFDA_2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	74866.40	250.00
PFUnA_1	563.0 / 519.0	3.76	13C7-PFUnA	570.0 / 525.0	71183.09	250.00
PFUnA_2	563.0 / 269.0	3.76	13C7-PFUnA	570.0 / 525.0	71183.09	250.00
PFDoA_1	613.0 / 569.0	4.04	13C2-PFDoA	615.0 / 570.0	81194.59	250.00
PFDoA_2	613.0 / 319.0	4.04	13C2-PFDoA	615.0 / 570.0	81194.59	250.00
PFTrDA_1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	73716.31	250.00
PFTrDA_2	663.0 / 169.0	4.28	13C2-PFTeDA	715.0 / 670.0	73716.31	250.00
PFTeDA_1	713.0 / 669.0	4.50	13C2-PFTeDA	715.0 / 670.0	73716.31	250.00
PFTeDA_2	713.0 / 169.0	4.50	13C2-PFTeDA	715.0 / 670.0	73716.31	250.00
NMeFOSAA_1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	12961.74	250.00
NMeFOSAA_2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	12961.74	250.00
NEtFOSAA_1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	11841.75	250.00
NEtFOSAA_2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	11841.75	250.00

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Summary Internal Standard Report

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	25368.46	232.25
PFBS_2	298.9 / 99.0	1.57	13C3-PFBS	302.0 / 99.0	25368.46	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	59578.92	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	59578.92	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	76310.16	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	76310.16	250.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	21643.45	236.50
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	21643.45	236.50
PFOA_1	413.0 / 369.0	2.73	13C8-PFOA	421.0 / 376.0	81619.66	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	81619.66	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	84686.59	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	84686.59	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	28500.89	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	28500.89	239.25
PFDA_1	513.0 / 469.0	3.48	13C6-PFDA	519.0 / 474.0	94947.53	250.00
PFDA_2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	94947.53	250.00
PFUnA_1	563.0 / 519.0	3.81	13C7-PFUnA	570.0 / 525.0	94745.29	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	94745.29	250.00
PFDoA_1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	99465.87	250.00
PFDoA_2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	99465.87	250.00
PFTrDA_1	663.0 / 619.0	4.34	13C2-PFTeDA	715.0 / 670.0	79263.46	250.00
PFTrDA_2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	79263.46	250.00
PFTeDA_1	713.0 / 669.0	4.56	13C2-PFTeDA	715.0 / 670.0	79263.46	250.00
PFTeDA_2	713.0 / 169.0	4.57	13C2-PFTeDA	715.0 / 670.0	79263.46	250.00
NMeFOSAA_1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	17385.14	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	17385.14	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	18626.54	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	18626.54	250.00

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Summary Internal Standard Report

Sample Name	J8808MSD-FS-D(3)	**Injection Vial**	10
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
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	35187.12	232.25
PFBS_2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	35187.12	232.25
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	75811.23	250.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	75811.23	250.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	92661.48	250.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	92661.48	250.00
PFHxS_1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	26585.58	236.50
PFHxS_2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	26585.58	236.50
PFOA_1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	78467.27	250.00
PFOA_2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	78467.27	250.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	90095.23	250.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	90095.23	250.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	27013.83	239.25
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	27013.83	239.25
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	95878.95	250.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	95878.95	250.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	86601.24	250.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	86601.24	250.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	96846.80	250.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	96846.80	250.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	89892.16	250.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	89892.16	250.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	89892.16	250.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	89892.16	250.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	15781.32	250.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	15781.32	250.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	18627.85	250.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	18627.85	250.00

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Summary Internal Standard Report

Sample Name	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	96280.28	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	29371.12	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	29371.12	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	85730.94	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	85730.94	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	85730.94	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	85730.94	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	96280.28	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	96280.28	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	96280.28	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	29371.12	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	29371.12	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	29371.12	239.25

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Summary Internal Standard Report

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:41:09	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	78942.69	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	27128.85	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	27128.85	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	76306.33	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	76306.33	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	76306.33	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	76306.33	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	78942.69	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	78942.69	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	78942.69	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	27128.85	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	27128.85	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	27128.85	239.25

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Summary Internal Standard Report

Sample Name	CS009PB-FS(0)	**Injection Vial**	4
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:02:54	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	4.05	13C2-PFDA	515.0 / 470.0	97546.67	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	25042.87	239.25
d5-EtFOSAA	589.0 / 419.0	3.77	13C4-PFOS	503.0 / 99.0	25042.87	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	76857.01	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	76857.01	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	76857.01	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	76857.01	250.00
13C6-PFDA	519.0 / 474.0	3.44	13C2-PFDA	515.0 / 470.0	97546.67	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	97546.67	250.00
13C2-PFTeDA	715.0 / 670.0	4.52	13C2-PFDA	515.0 / 470.0	97546.67	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	25042.87	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	25042.87	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	25042.87	239.25

Sample Name	CS010LCS-FS(0)	**Injection Vial**	5
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:13:45	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	4.04	13C2-PFDA	515.0 / 470.0	93295.49	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	31598.17	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	31598.17	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	84916.98	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	84916.98	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	84916.98	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	84916.98	250.00
13C6-PFDA	519.0 / 474.0	3.44	13C2-PFDA	515.0 / 470.0	93295.49	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	93295.49	250.00
13C2-PFTeDA	715.0 / 670.0	4.51	13C2-PFDA	515.0 / 470.0	93295.49	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	31598.17	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	31598.17	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	31598.17	239.25

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Summary Internal Standard Report

Sample Name	J8801-FS(0)	**Injection Vial**	6
Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	4.04	13C2-PFDA	515.0 / 470.0	98320.33	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	29462.35	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	29462.35	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	80467.62	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	80467.62	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	80467.62	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	80467.62	250.00
13C6-PFDA	519.0 / 474.0	3.44	13C2-PFDA	515.0 / 470.0	98320.33	250.00
13C7-PFUnA	570.0 / 525.0	3.76	13C2-PFDA	515.0 / 470.0	98320.33	250.00
13C2-PFTeDA	715.0 / 670.0	4.51	13C2-PFDA	515.0 / 470.0	98320.33	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	29462.35	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	29462.35	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	29462.35	239.25

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Summary Internal Standard Report

Sample Name	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	4.04	13C2-PFDA	515.0 / 470.0	103102.18	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	28152.80	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	28152.80	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	89696.72	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	89696.72	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	89696.72	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	89696.72	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	103102.18	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	103102.18	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	103102.18	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	28152.80	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	28152.80	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	28152.80	239.25

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Summary Internal Standard Report

Sample Name	J8803-FS(0)	**Injection Vial**	8
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	99602.20	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	29826.13	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	29826.13	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	84881.24	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	84881.24	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	84881.24	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	84881.24	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	99602.20	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	99602.20	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	99602.20	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	29826.13	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	29826.13	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	29826.13	239.25

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Summary Internal Standard Report

Sample Name	J8804-FS(0)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	106695.90	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	25657.42	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	25657.42	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	89632.60	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	89632.60	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	89632.60	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	89632.60	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	106695.90	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	106695.90	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	106695.90	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	25657.42	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	25657.42	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	25657.42	239.25

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Summary Internal Standard Report

Sample Name	J8805-FS(0)	**Injection Vial**	10
Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	93797.31	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	23778.98	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	23778.98	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	84697.69	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	84697.69	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	84697.69	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	84697.69	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	93797.31	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	93797.31	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	93797.31	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	23778.98	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	23778.98	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	23778.98	239.25

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Summary Internal Standard Report

Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	74677.46	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	21054.71	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	21054.71	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	67690.43	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	67690.43	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	67690.43	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	67690.43	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	74677.46	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	74677.46	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	74677.46	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	21054.71	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	21054.71	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	21054.71	239.25

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Summary Internal Standard Report

Sample Name	J8807MS-FS(0)	**Injection Vial**	12
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	94844.61	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	24544.05	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	24544.05	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	86455.14	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	86455.14	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	86455.14	250.00
13C9-PFNA	472.0 / 427.0	3.07	13C2-PFOA	415.0 / 370.0	86455.14	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	94844.61	250.00
13C7-PFUnA	570.0 / 525.0	3.74	13C2-PFDA	515.0 / 470.0	94844.61	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	94844.61	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	24544.05	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	24544.05	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	24544.05	239.25

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Summary Internal Standard Report

Sample Name	J8808MSD-FS(0)	**Injection Vial**	13
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_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	88862.34	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	22376.25	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	22376.25	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	77761.86	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	77761.86	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	77761.86	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	77761.86	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	88862.34	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	88862.34	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	88862.34	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	22376.25	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	22376.25	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	22376.25	239.25

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Summary Internal Standard Report

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
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	98812.53	250.00
d3-MeFOSAA	573.0 / 419.0	3.63	13C4-PFOS	503.0 / 99.0	24821.18	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	24821.18	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	82086.71	250.00
13C4-PFHpA	367.0 / 322.0	2.30	13C2-PFOA	415.0 / 370.0	82086.71	250.00
13C8-PFOA	421.0 / 376.0	2.71	13C2-PFOA	415.0 / 370.0	82086.71	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	82086.71	250.00
13C6-PFDA	519.0 / 474.0	3.47	13C2-PFDA	515.0 / 470.0	98812.53	250.00
13C7-PFUnA	570.0 / 525.0	3.79	13C2-PFDA	515.0 / 470.0	98812.53	250.00
13C2-PFTeDA	715.0 / 670.0	4.55	13C2-PFDA	515.0 / 470.0	98812.53	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	24821.18	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	24821.18	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	24821.18	239.25

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Summary Internal Standard Report

Sample Name	J8807MS-FS-D(3)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:05:24	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.04	13C2-PFDA	515.0 / 470.0	95584.26	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	26544.91	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	26544.91	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	87185.05	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	87185.05	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	87185.05	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	87185.05	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	95584.26	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	95584.26	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	95584.26	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	26544.91	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	26544.91	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	26544.91	239.25

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Summary Internal Standard Report

Sample Name	J8808MSD-FS-D(3)	**Injection Vial**	10
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.04	13C2-PFDA	515.0 / 470.0	101003.81	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	24062.72	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	24062.72	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	77706.89	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	77706.89	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	77706.89	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	77706.89	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	101003.81	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	101003.81	250.00
13C2-PFTeDA	715.0 / 670.0	4.50	13C2-PFDA	515.0 / 470.0	101003.81	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	24062.72	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	24062.72	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	24062.72	239.25

Chromatograms

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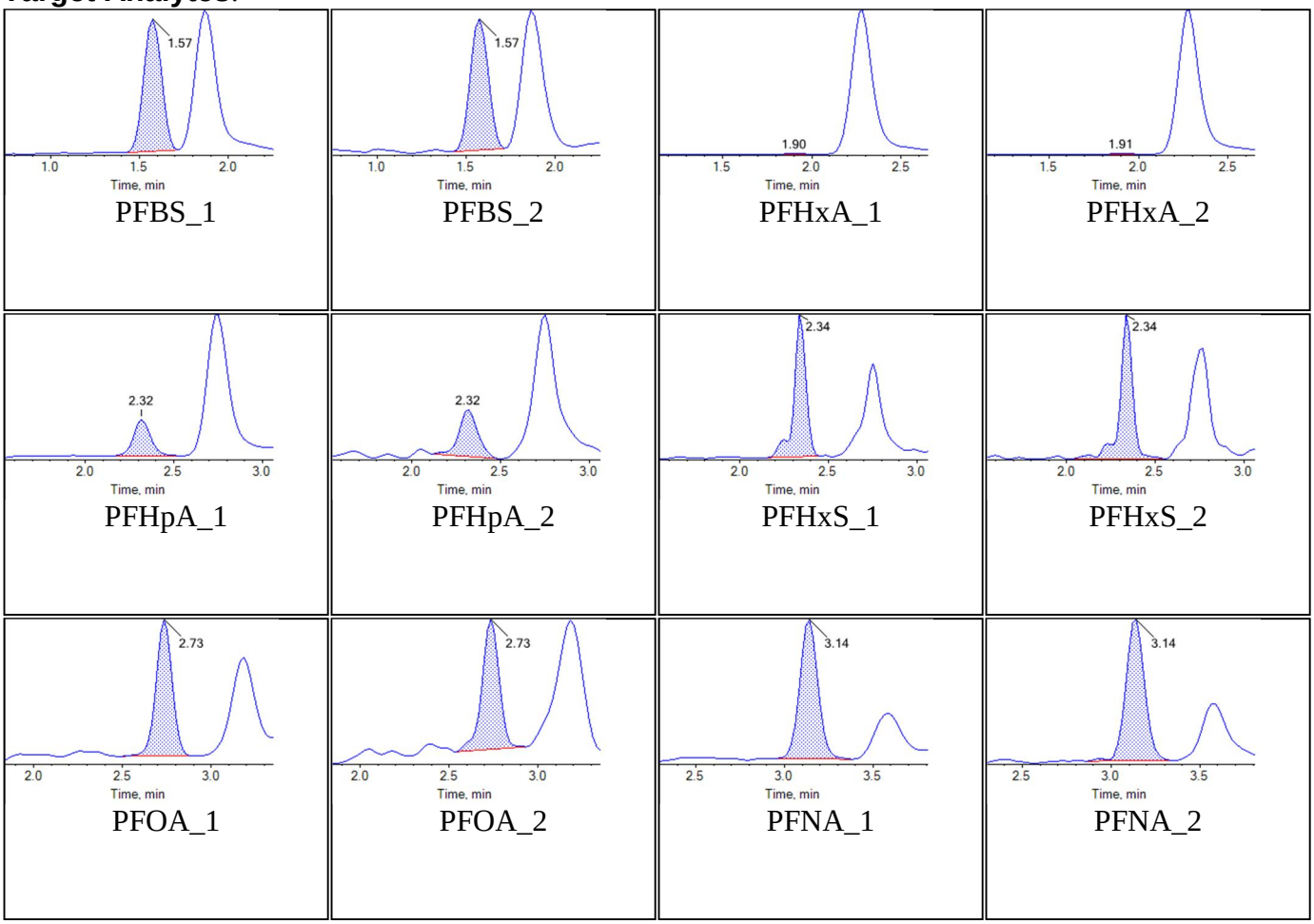
Chromatogram Report

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Sample Name	KB73	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

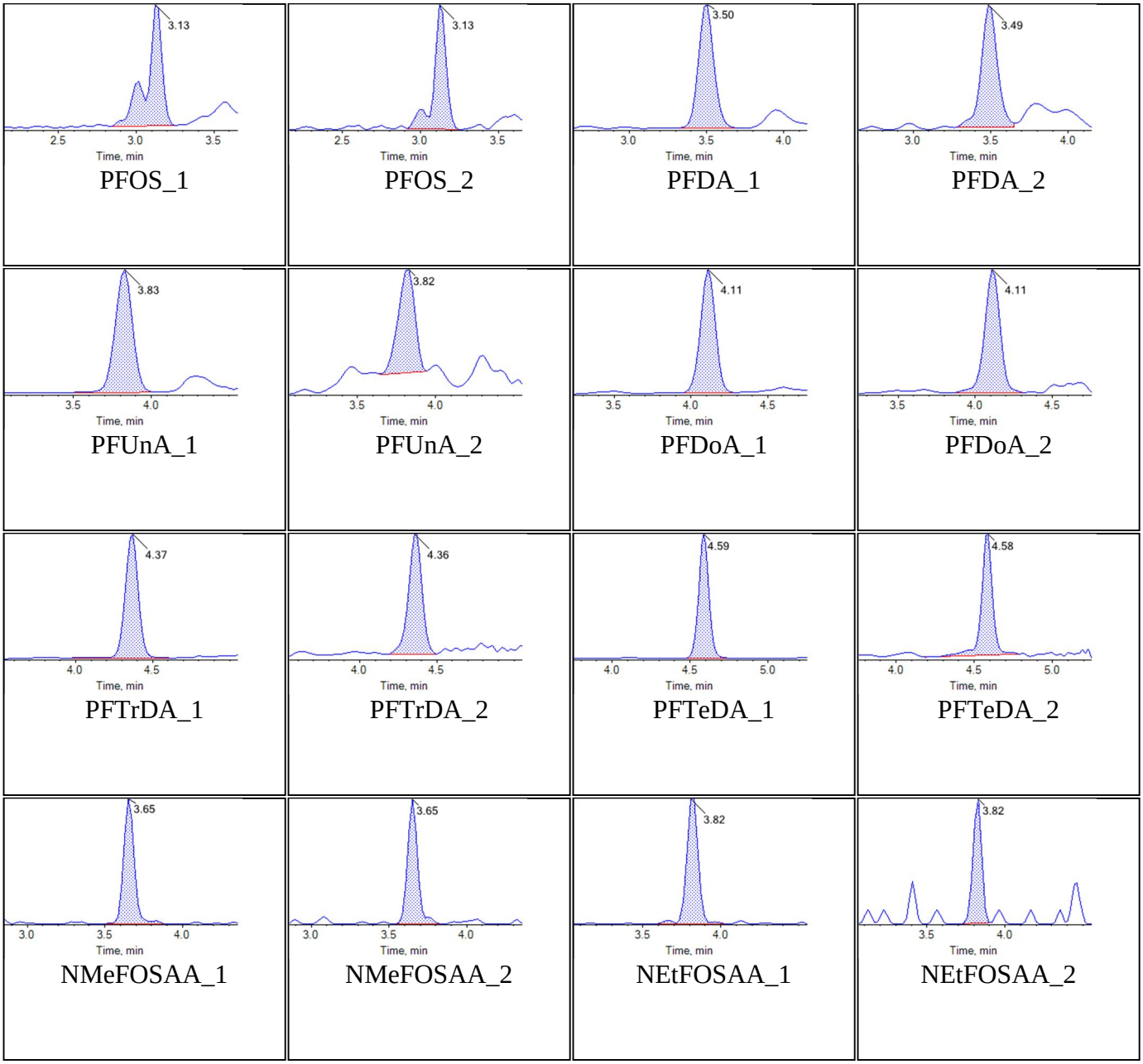
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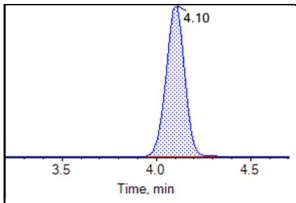


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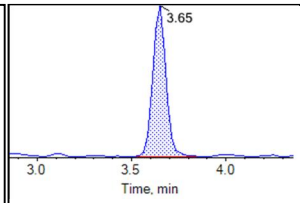
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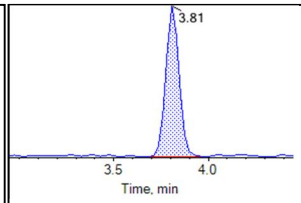
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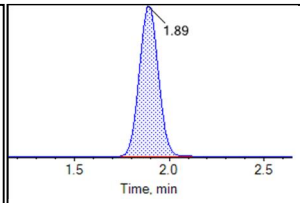
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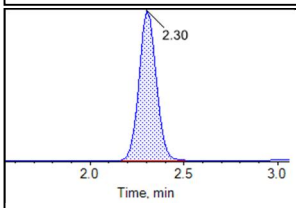
d3-MeFOSAA



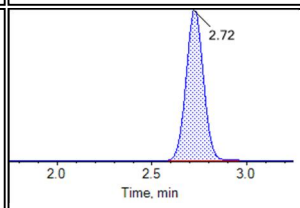
d5-EtFOSAA



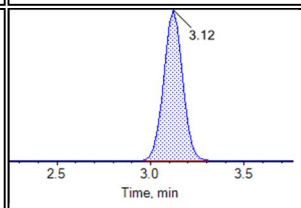
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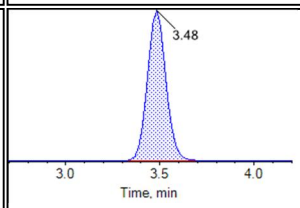
13C4-PFHpA



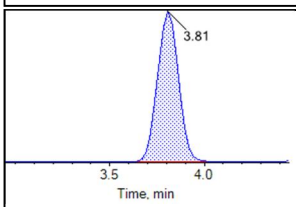
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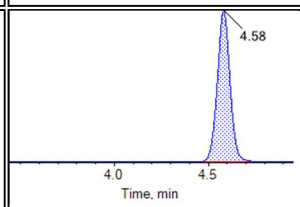
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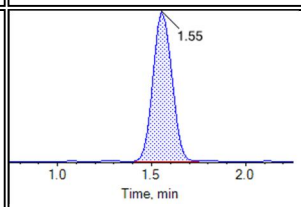
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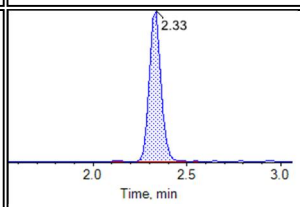
13C7-PFUnA



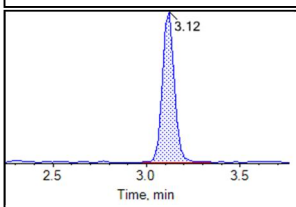
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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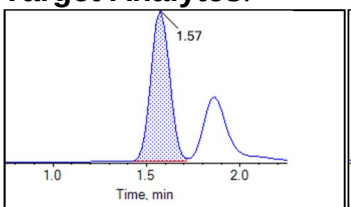
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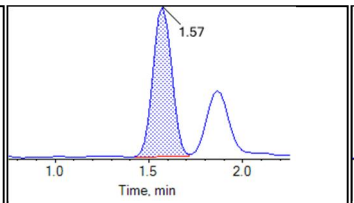
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Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

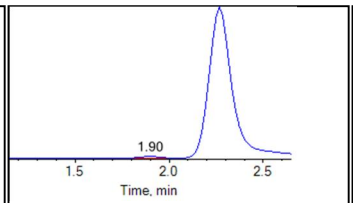
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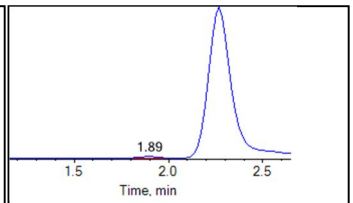
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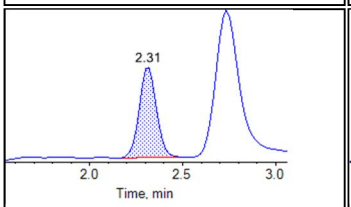
PFBS_2



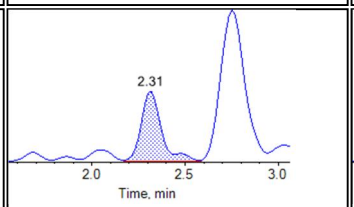
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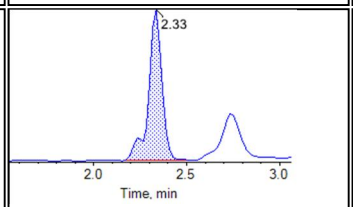
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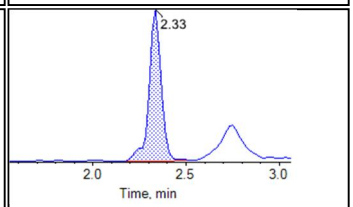
PFHpA_1



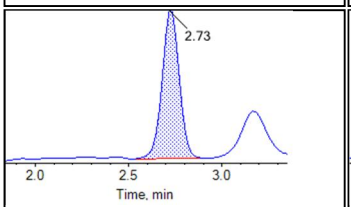
PFHpA_2



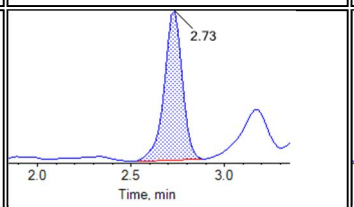
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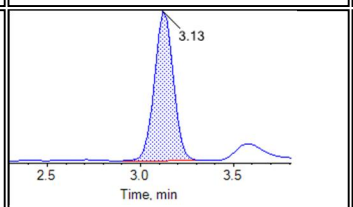
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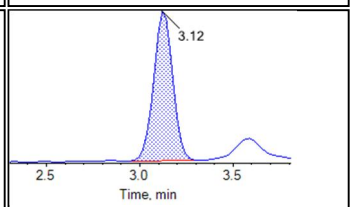
PFOA_1



PFOA_2



PFNA_1

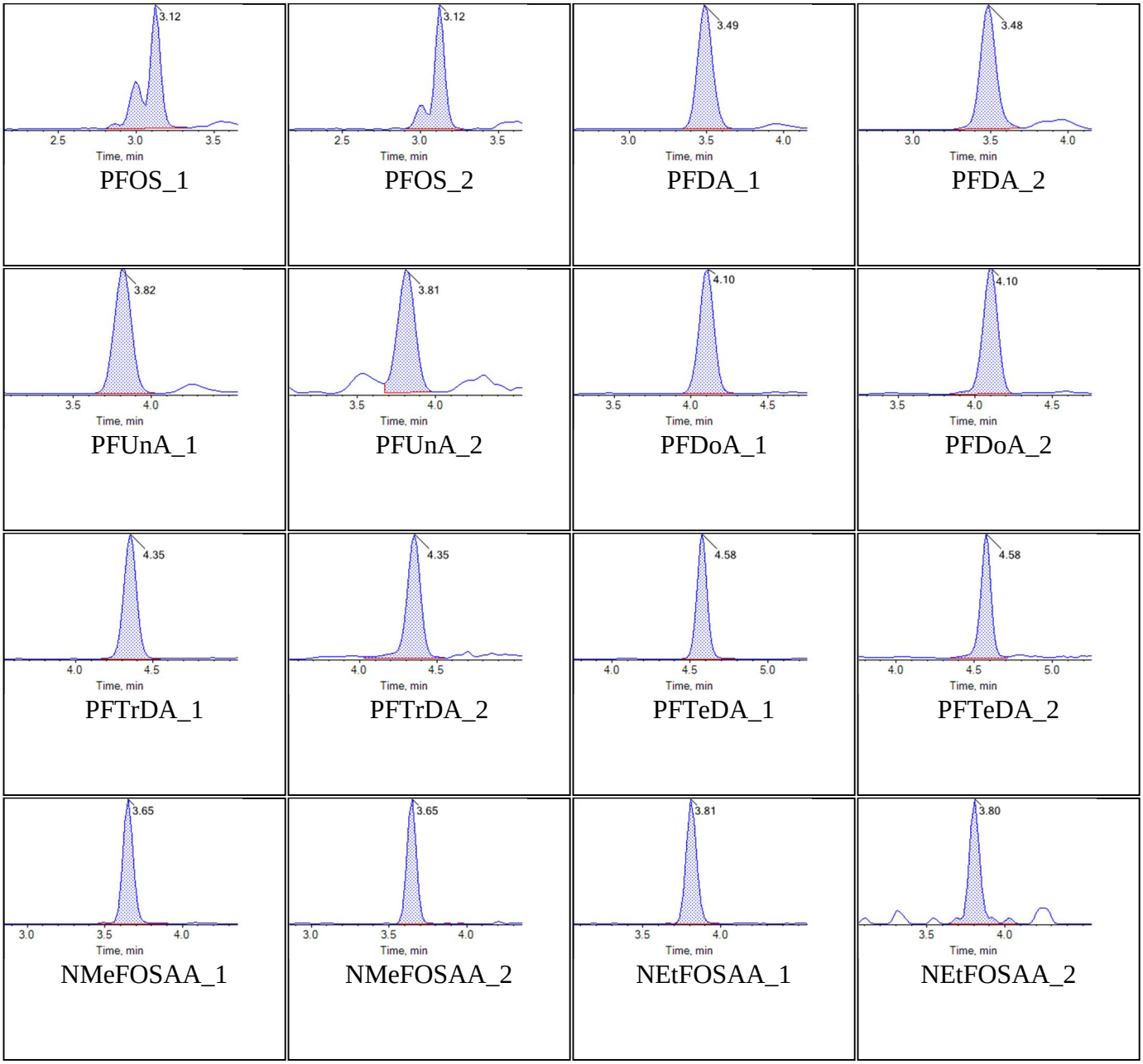


PFNA_2

BATTELLE

Chromatogram Report

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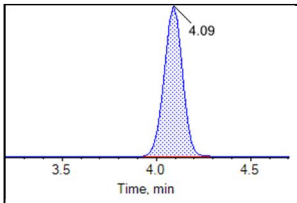


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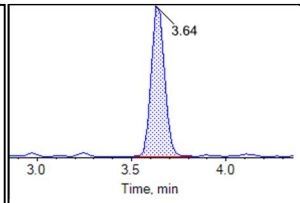
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Chromatogram Report

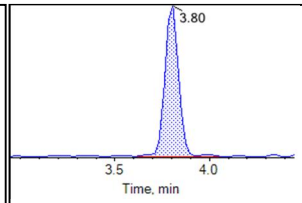
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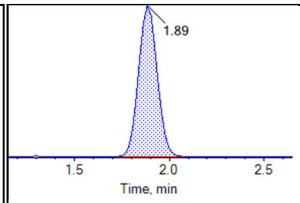
13C2-PFDoA



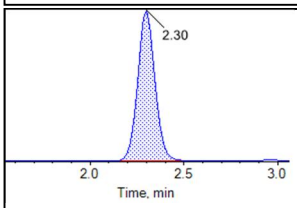
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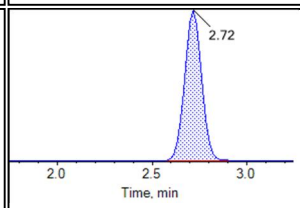
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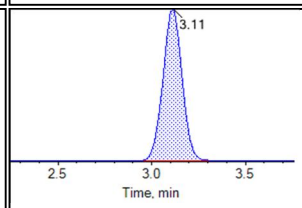
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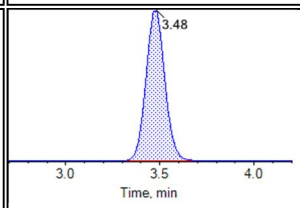
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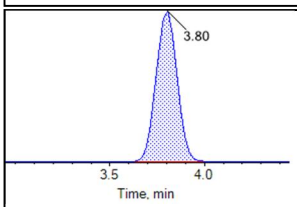
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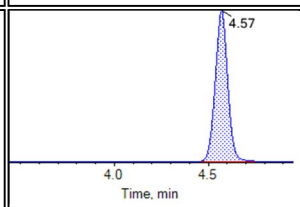
13C9-PFNA



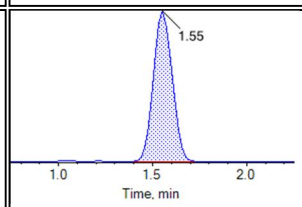
13C6-PFDA



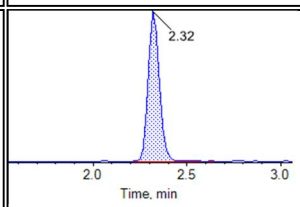
13C7-PFUnA



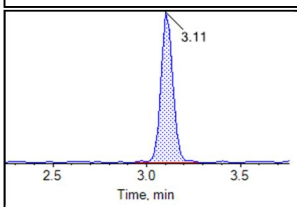
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

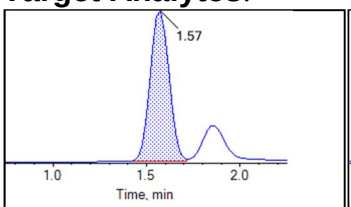
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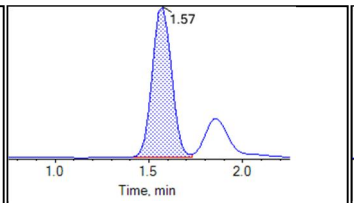
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Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

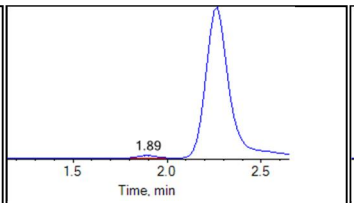
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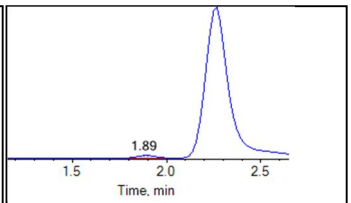
PFBS_1



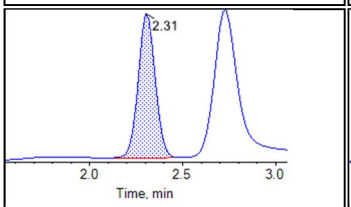
PFBS_2



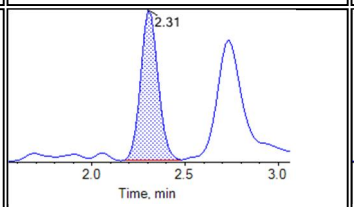
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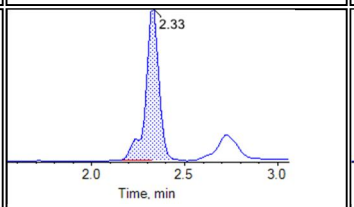
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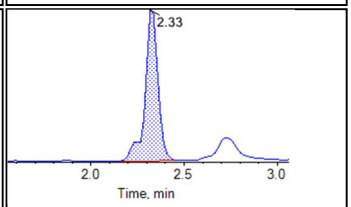
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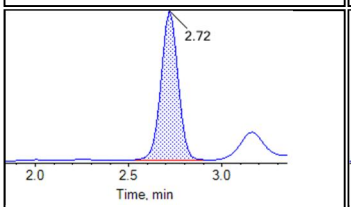
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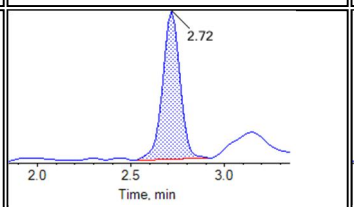
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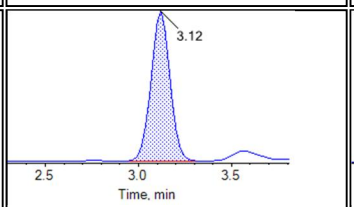
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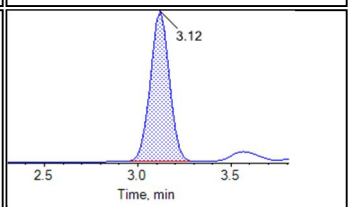
PFOA_1



PFOA_2



PFNA_1

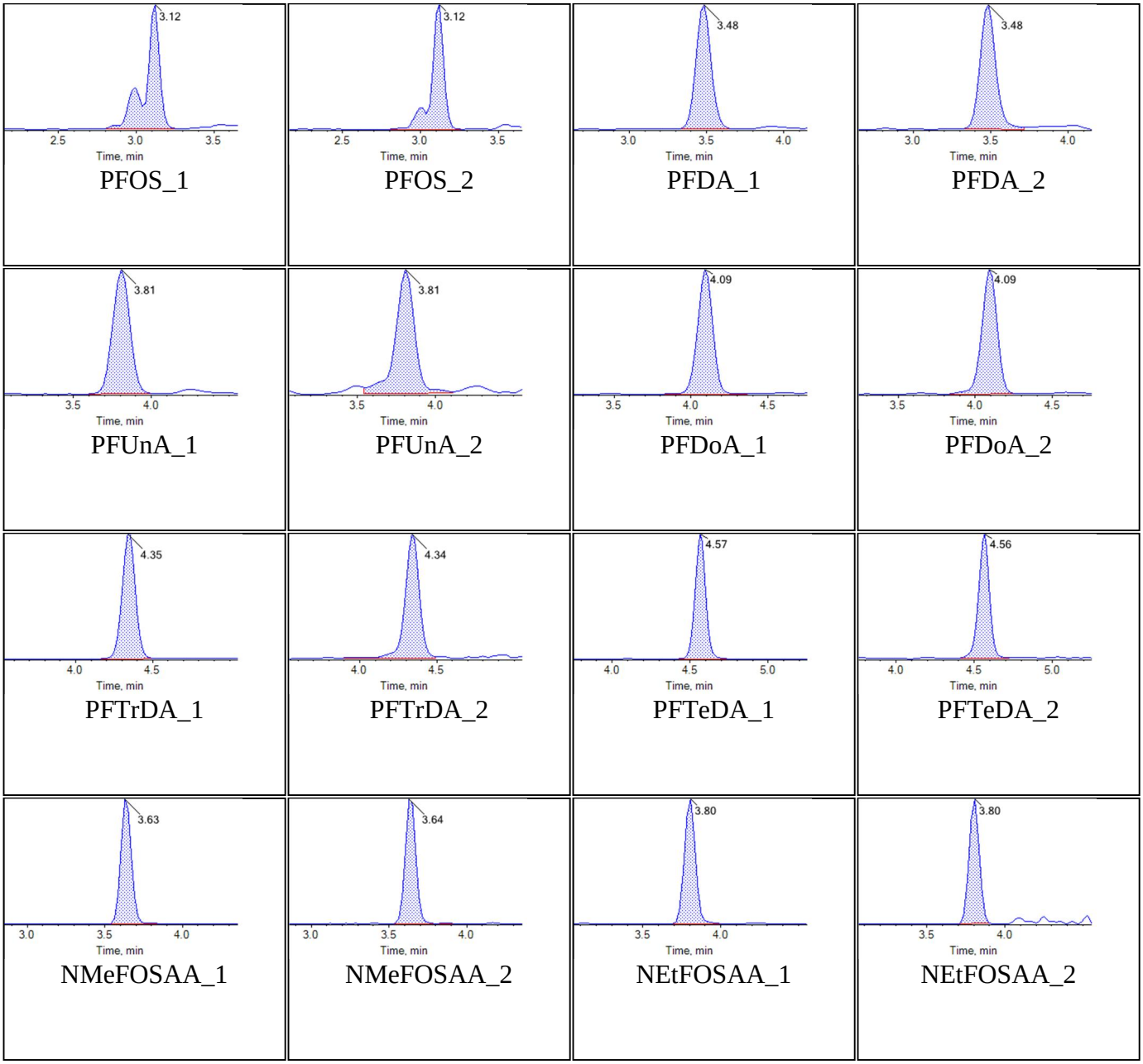


PFNA_2

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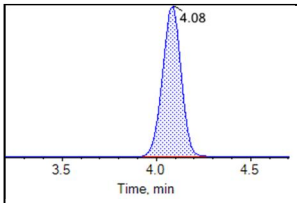


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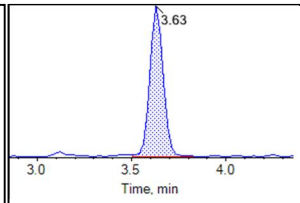
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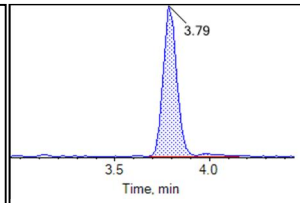
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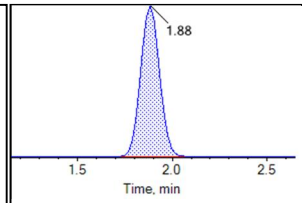
13C2-PFDoA



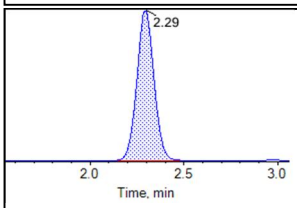
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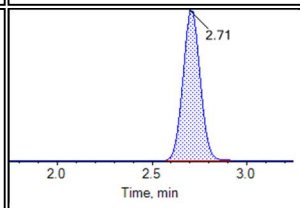
d5-EtFOSAA



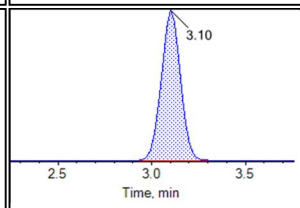
13C5-PFHxA



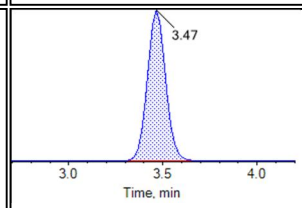
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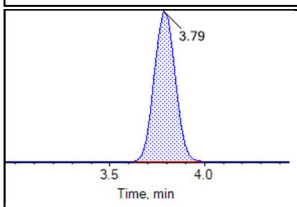
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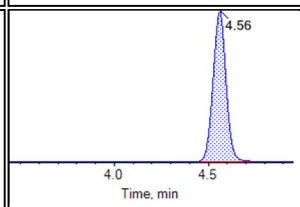
13C9-PFNA



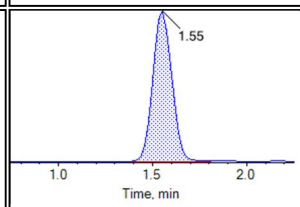
13C6-PFDA



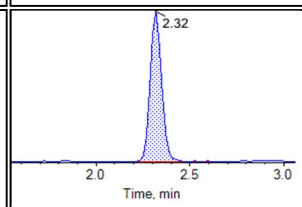
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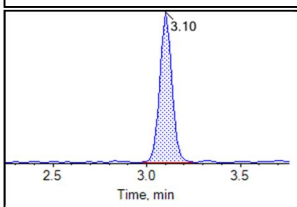
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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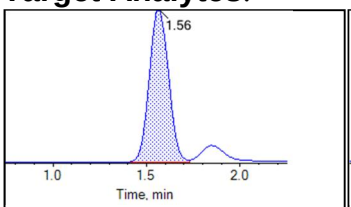
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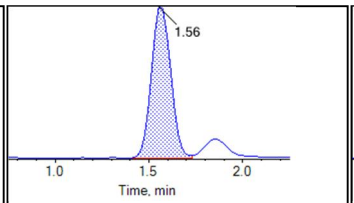
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Sample ID	L4	**Injection Volume**	10.00
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Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

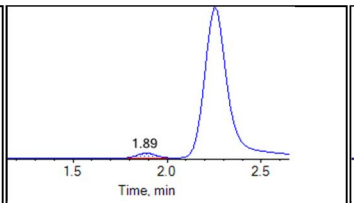
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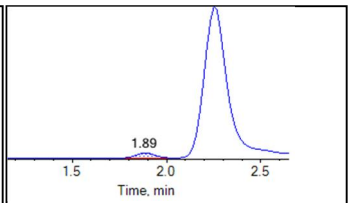
PFBS_1



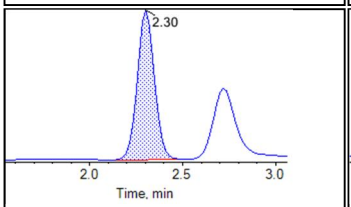
PFBS_2



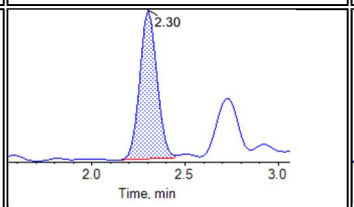
PFHxA_1



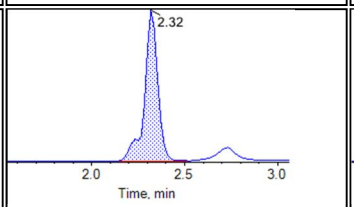
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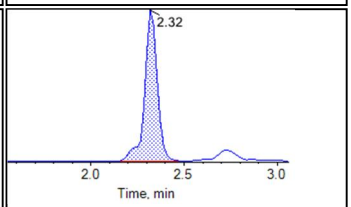
PFHpA_1



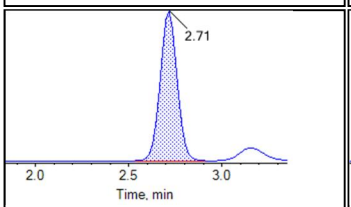
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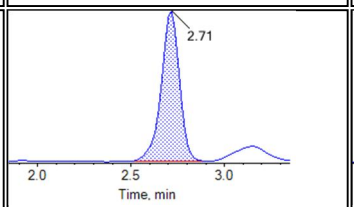
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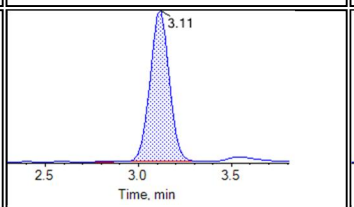
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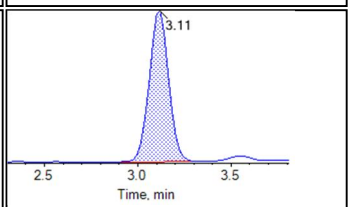
PFOA_1



PFOA_2



PFNA_1

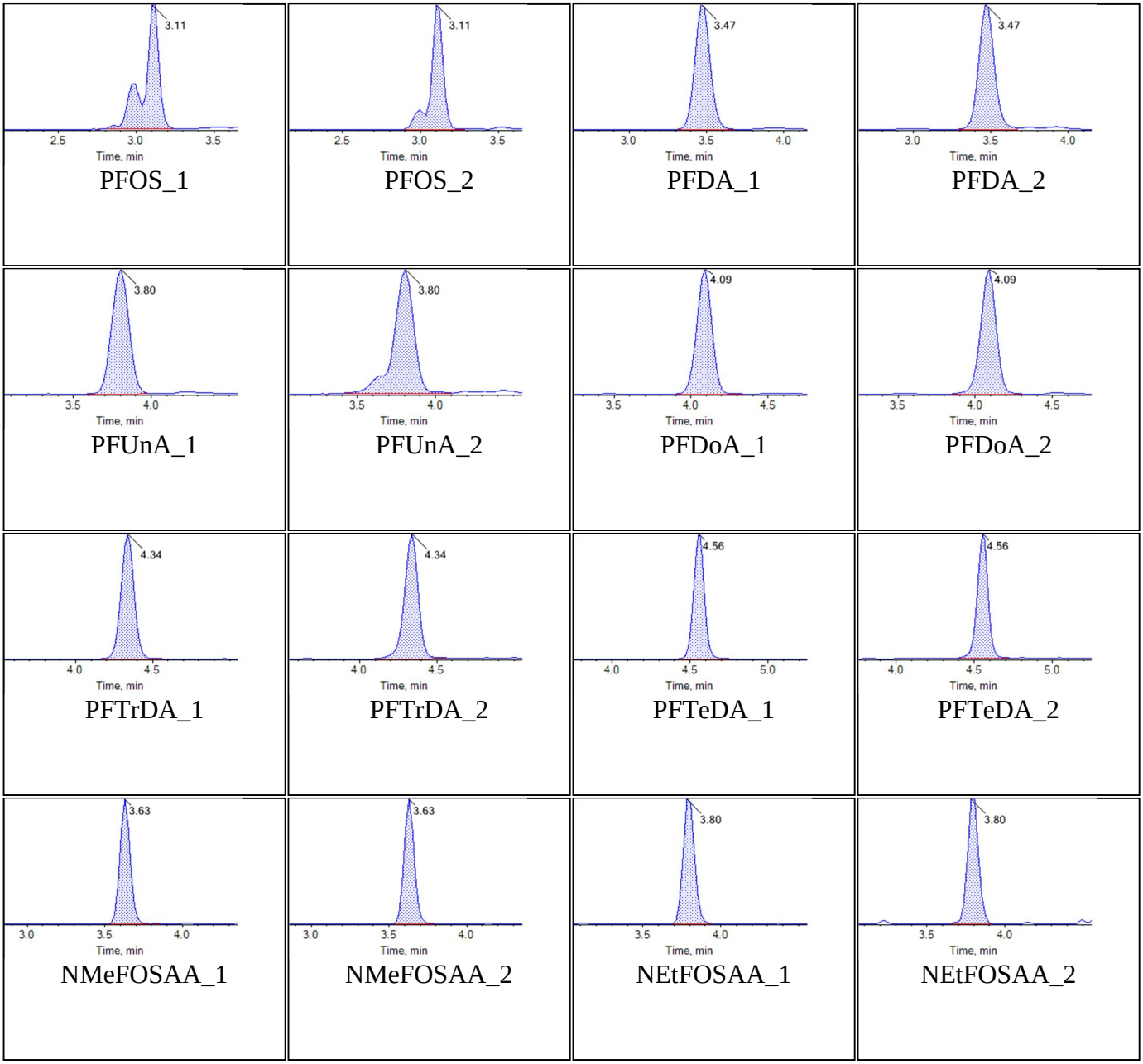


PFNA_2

BATTELLE

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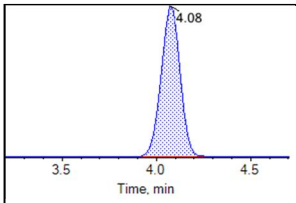


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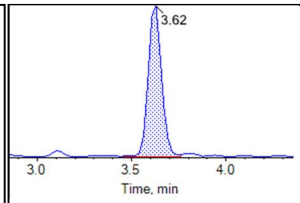
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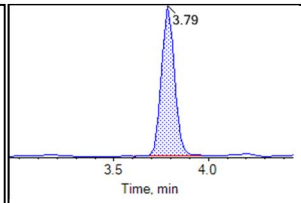
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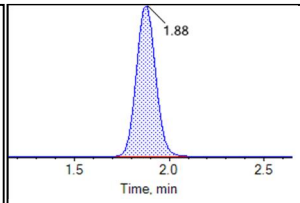
13C2-PFDoA



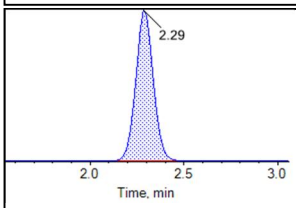
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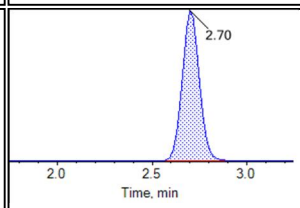
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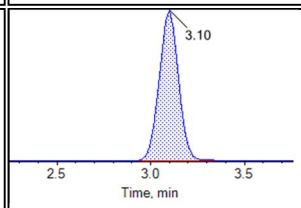
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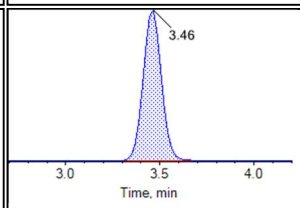
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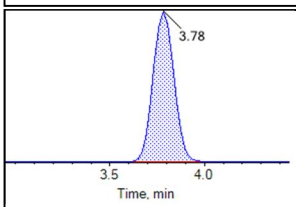
13C8-PFOA



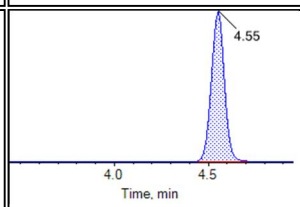
13C9-PFNA



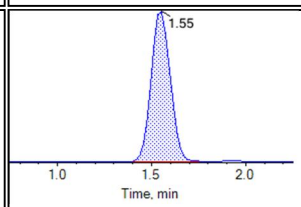
13C6-PFDA



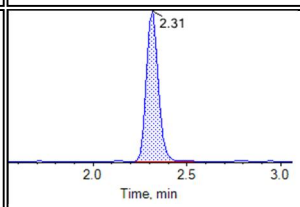
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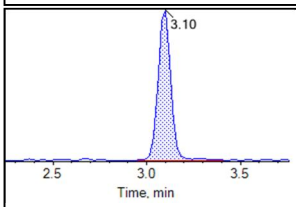
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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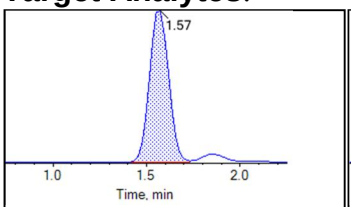
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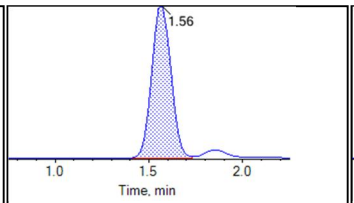
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Sample ID	L5	**Injection Volume**	10.00
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Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

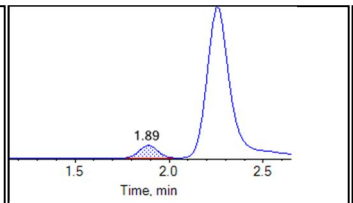
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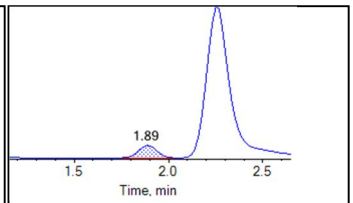
PFBS_1



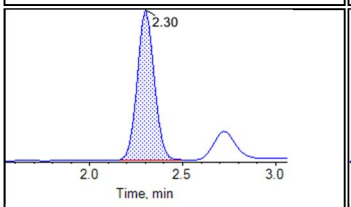
PFBS_2



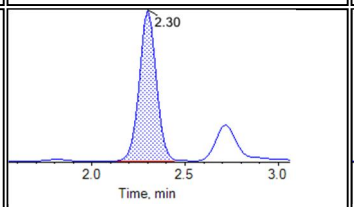
PFHxA_1



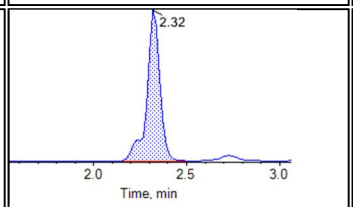
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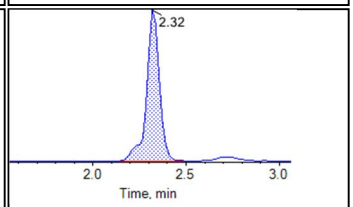
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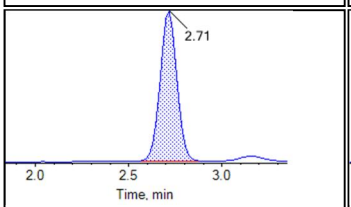
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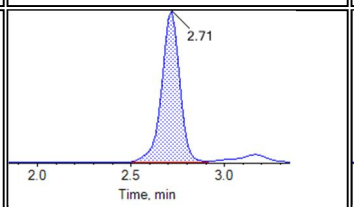
PFHxS_1



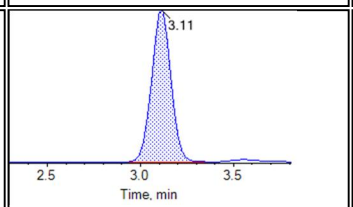
PFHxS_2



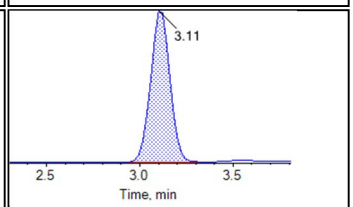
PFOA_1



PFOA_2



PFNA_1

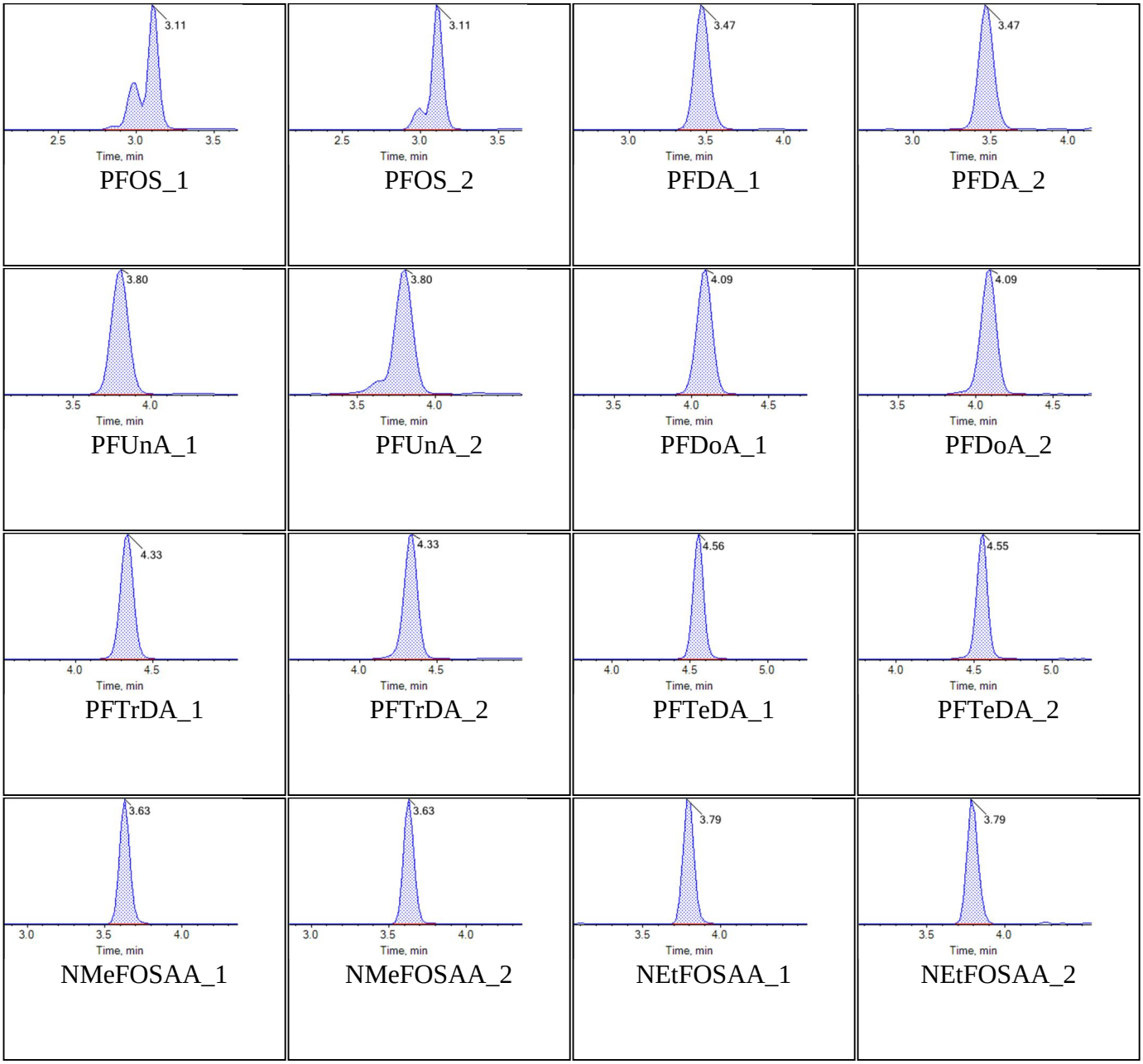


PFNA_2

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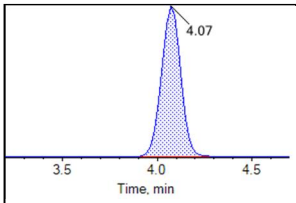


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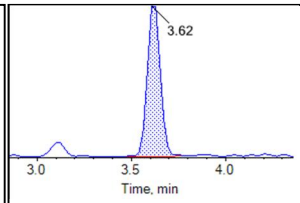
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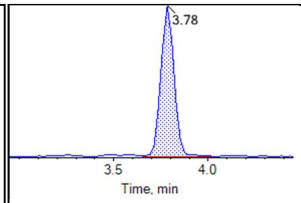
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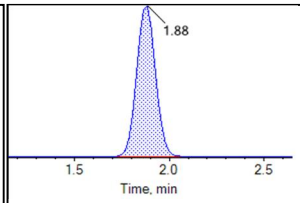
13C2-PFDoA



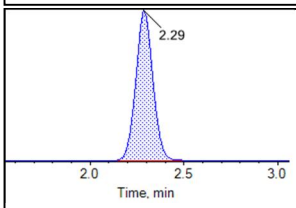
d3-MeFOSAA



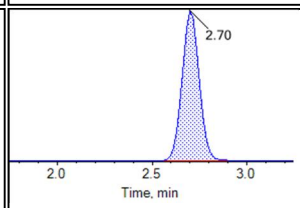
d5-EtFOSAA



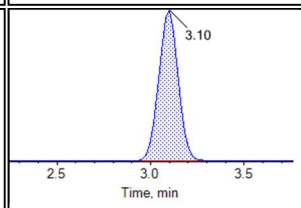
13C5-PFHxA



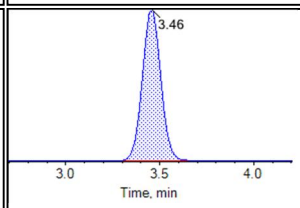
13C4-PFHpA



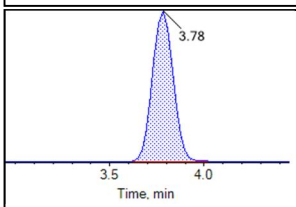
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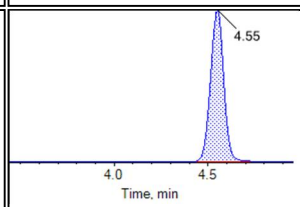
13C9-PFNA



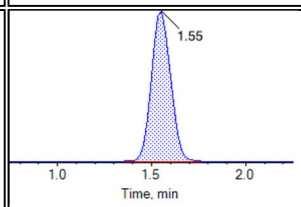
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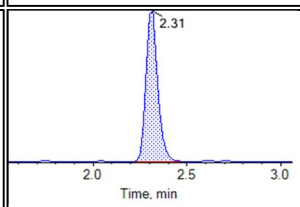
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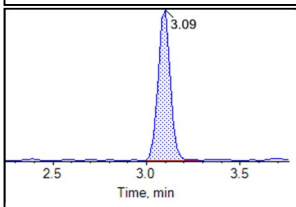
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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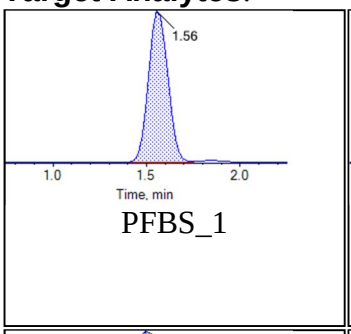
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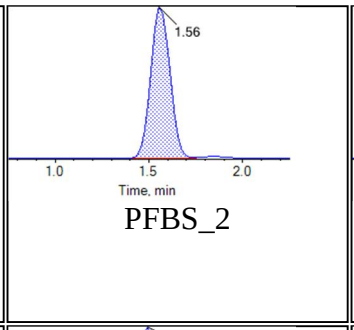
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Sample ID	L6	**Injection Volume**	10.00
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Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

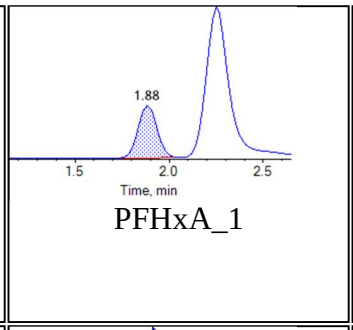
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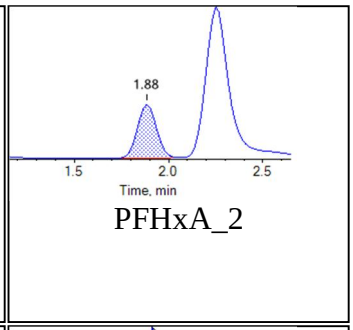
PFBS_1



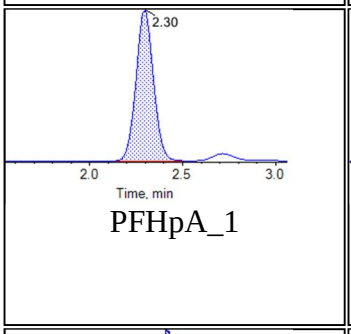
PFBS_2



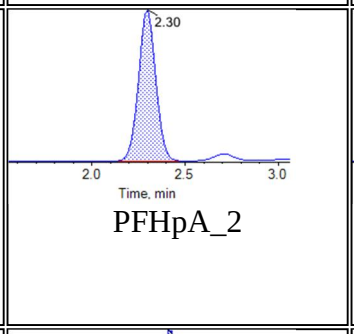
PFHxA_1



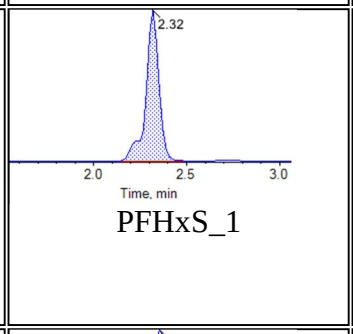
PFHxA_2



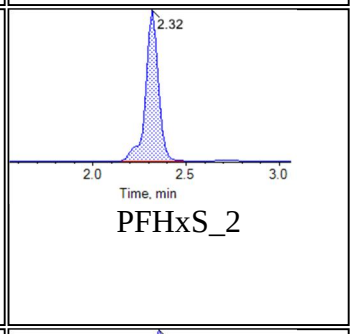
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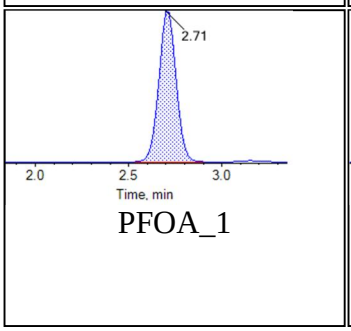
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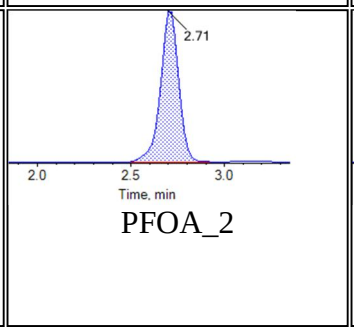
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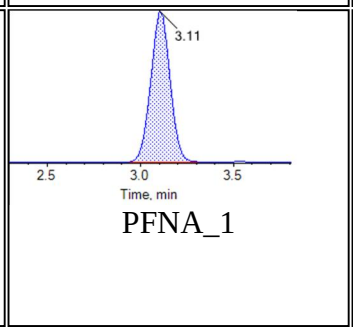
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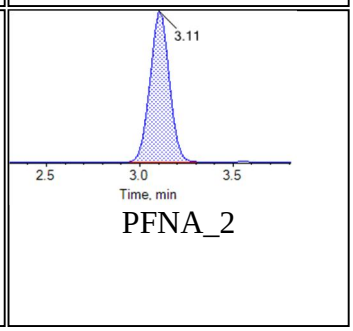
PFOA_1



PFOA_2



PFNA_1

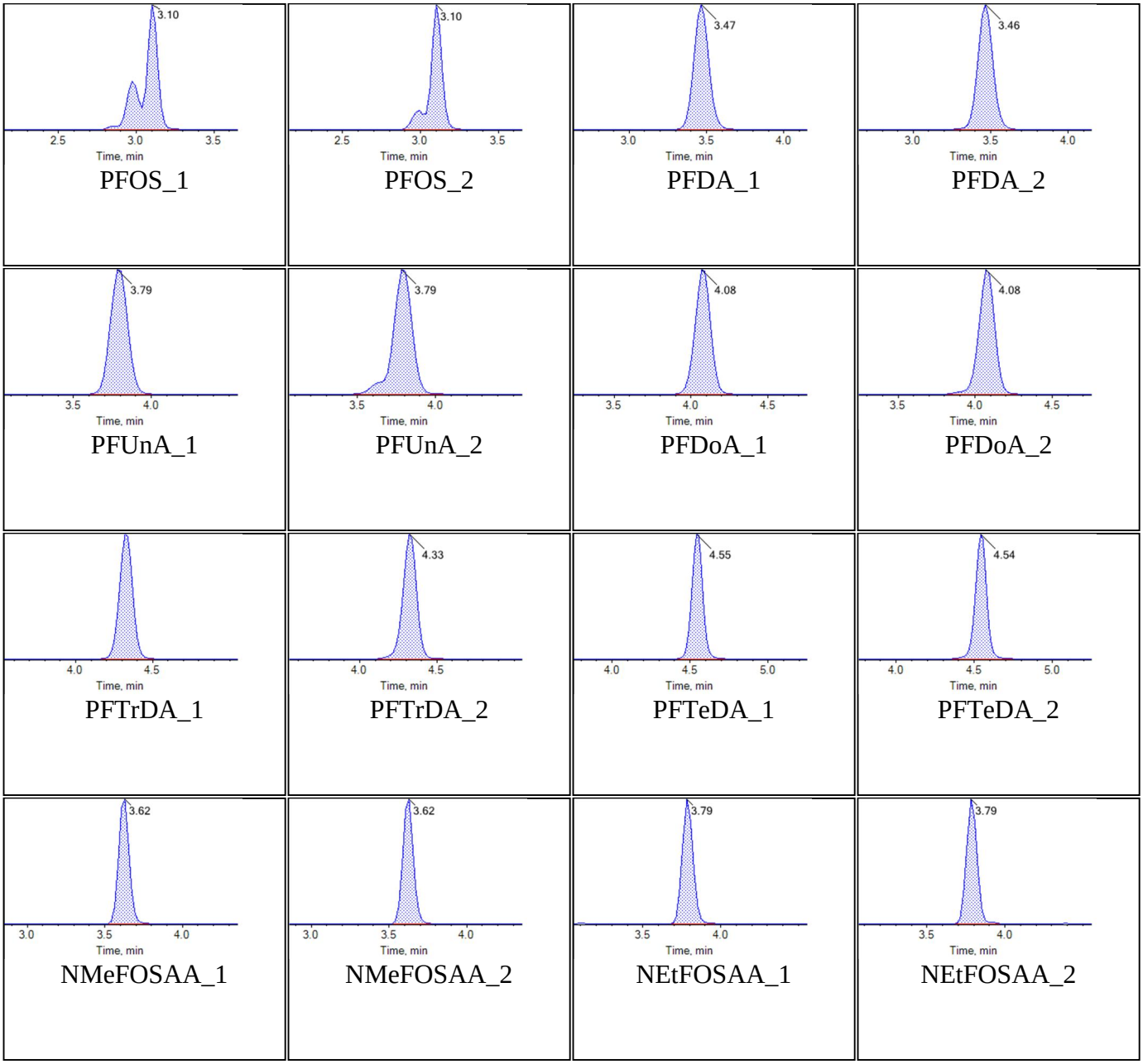


PFNA_2

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Chromatogram Report

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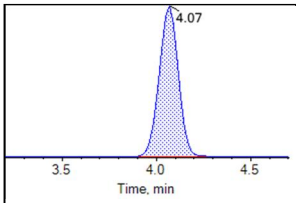


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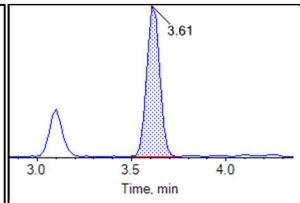
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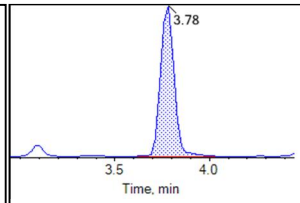
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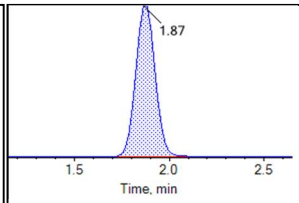
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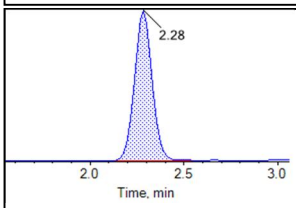
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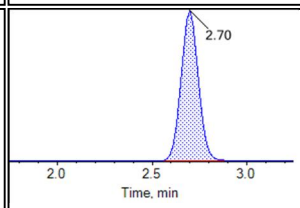
d5-EtFOSAA



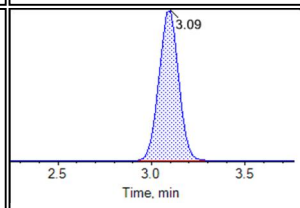
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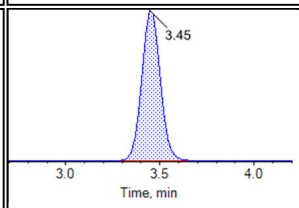
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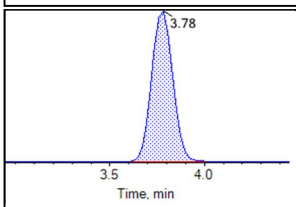
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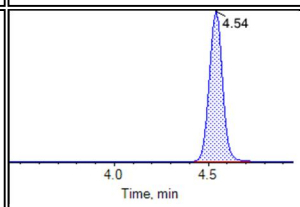
13C9-PFNA



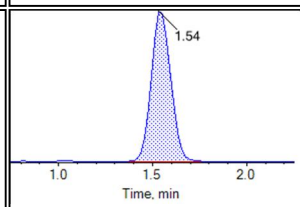
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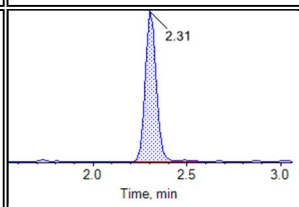
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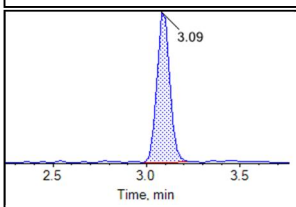
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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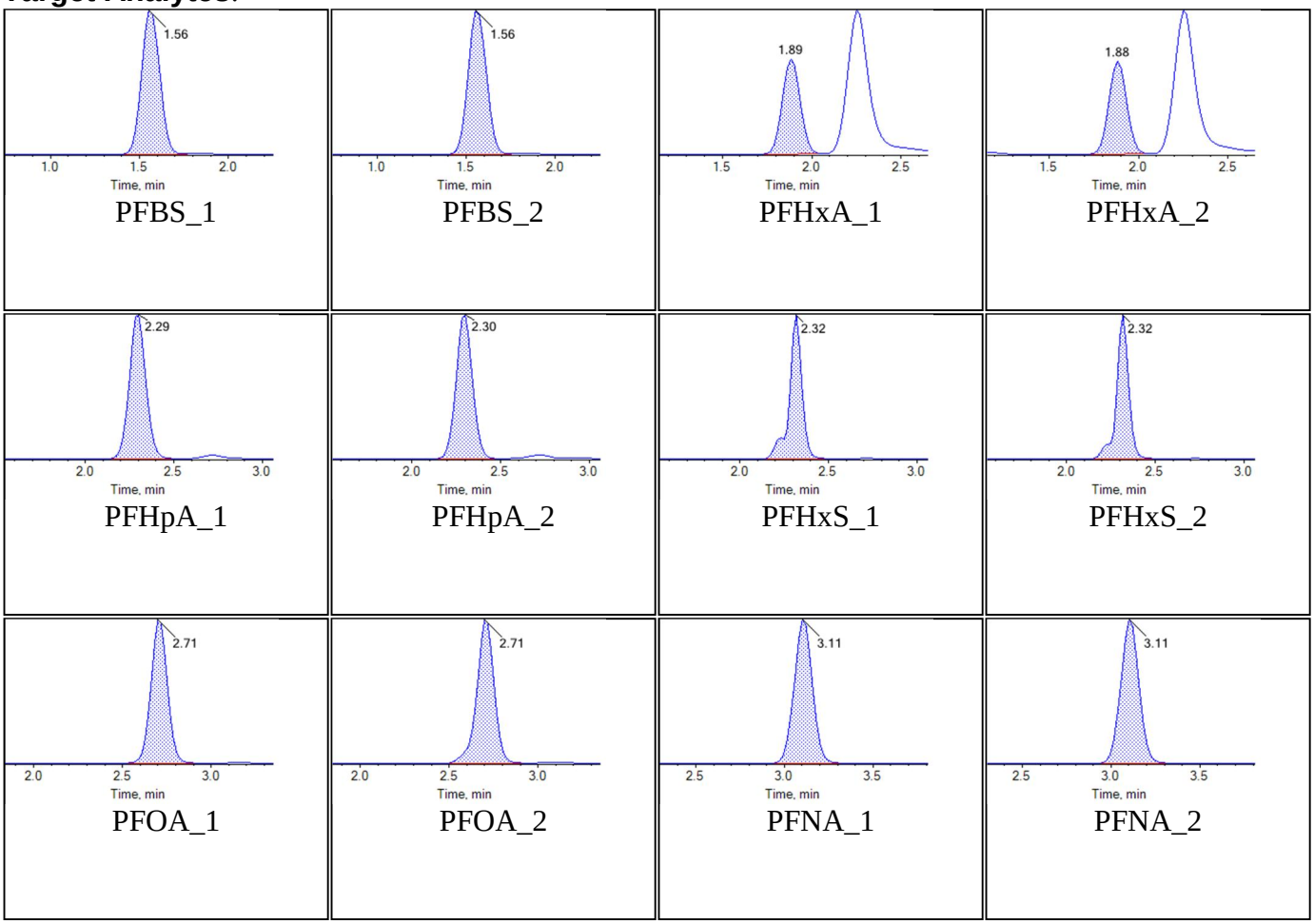
Chromatogram Report

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Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

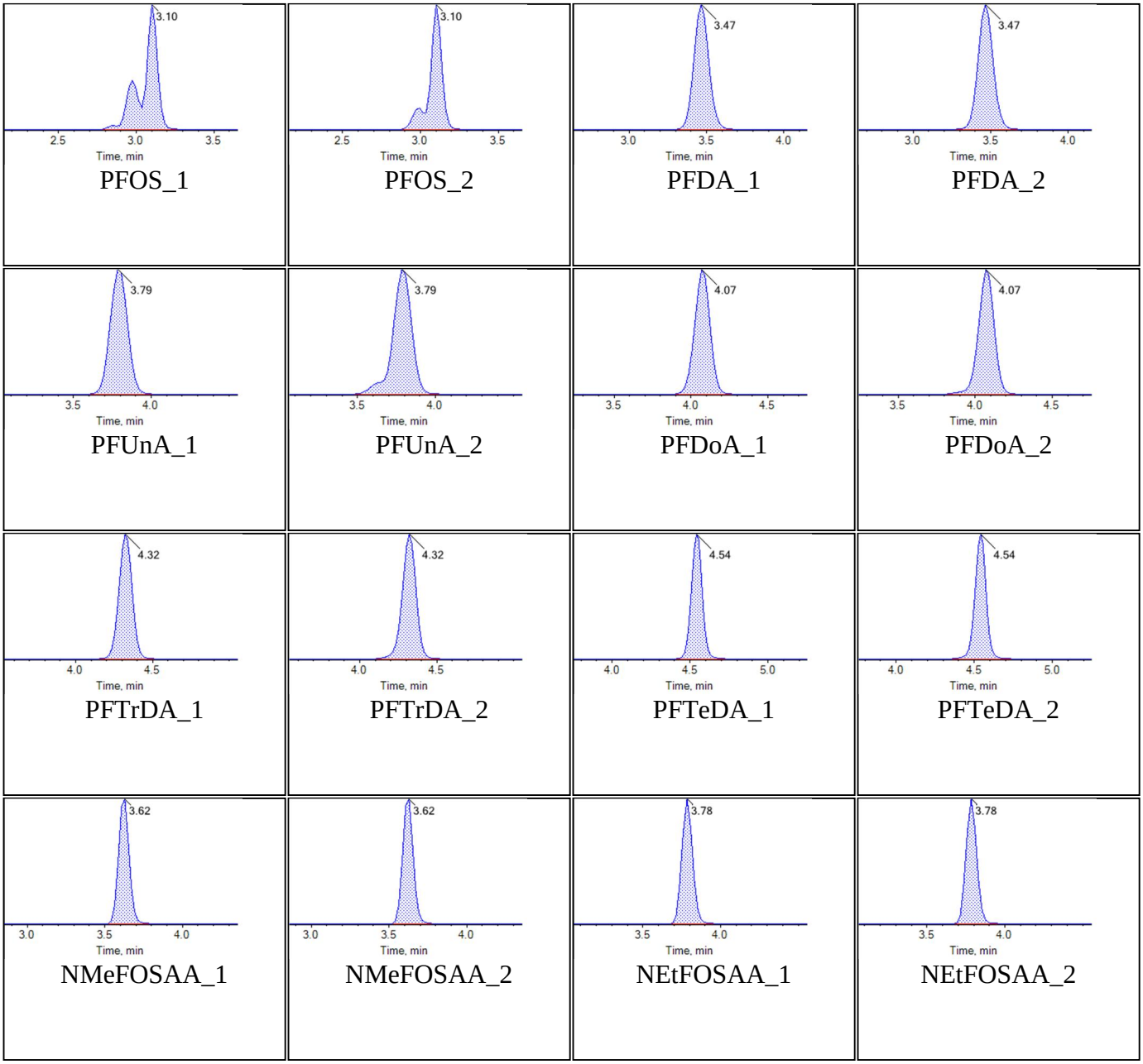
Target Analytes:



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Chromatogram Report

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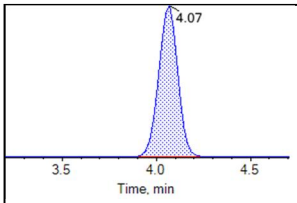


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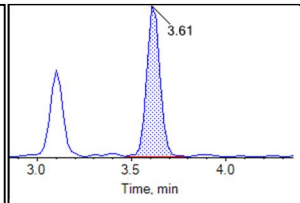
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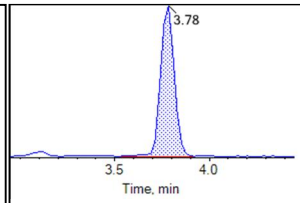
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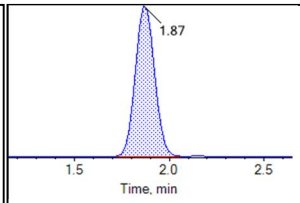
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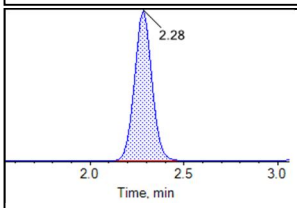
d3-MeFOSAA



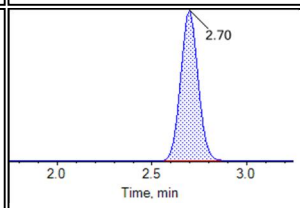
d5-EtFOSAA



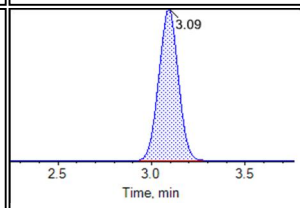
13C5-PFHxA



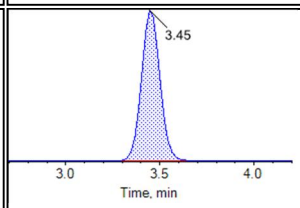
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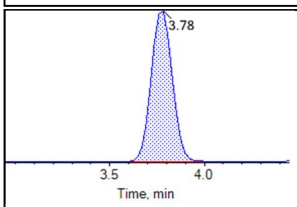
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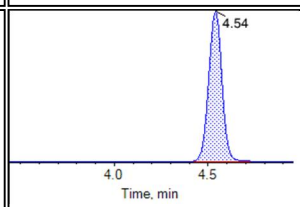
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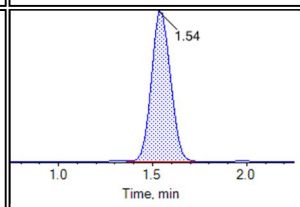
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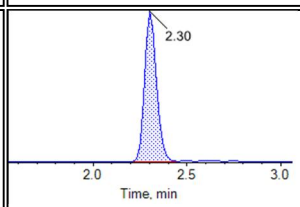
13C7-PFUnA



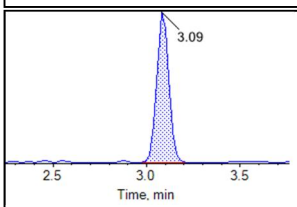
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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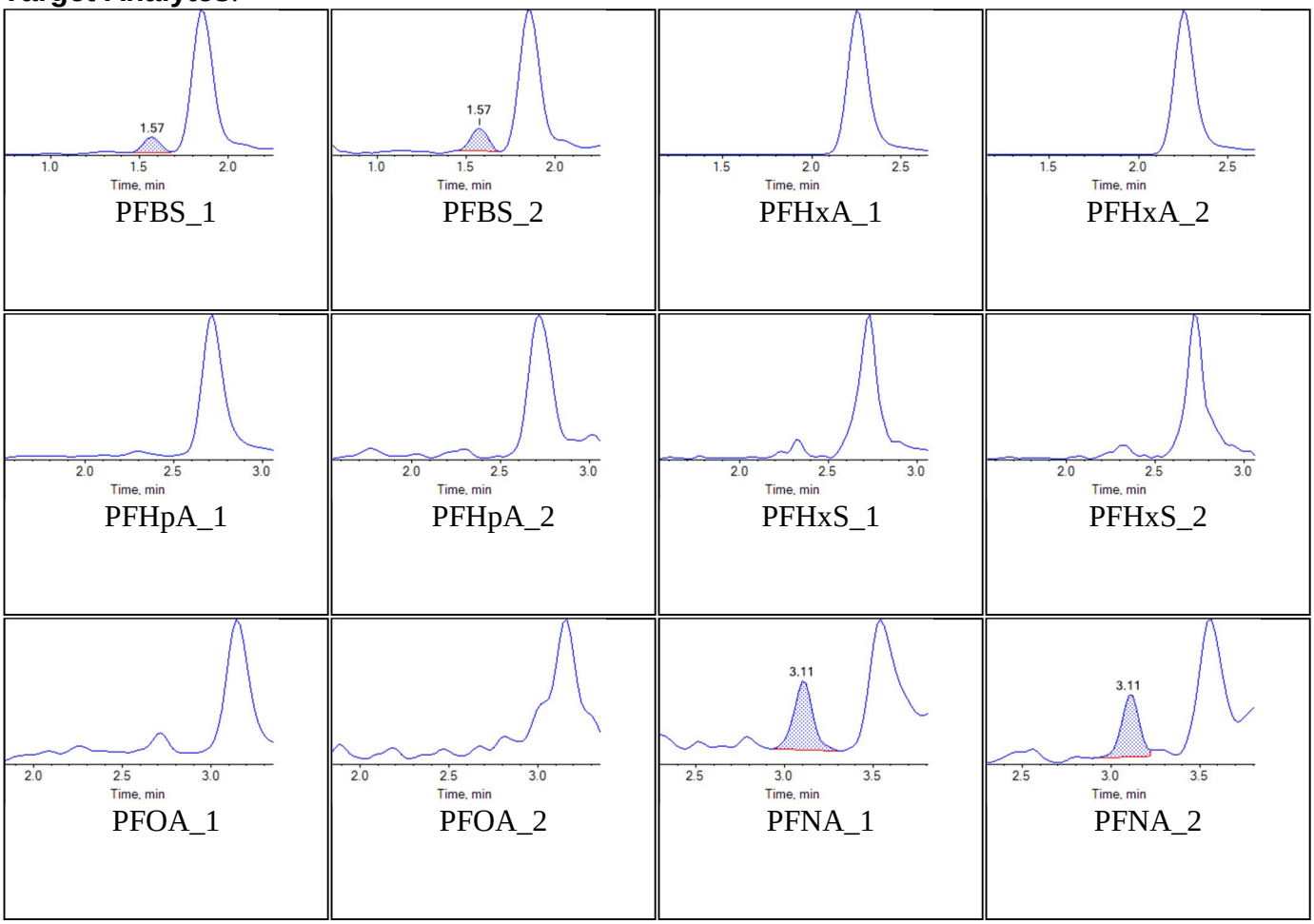
Chromatogram Report

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Sample Name	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

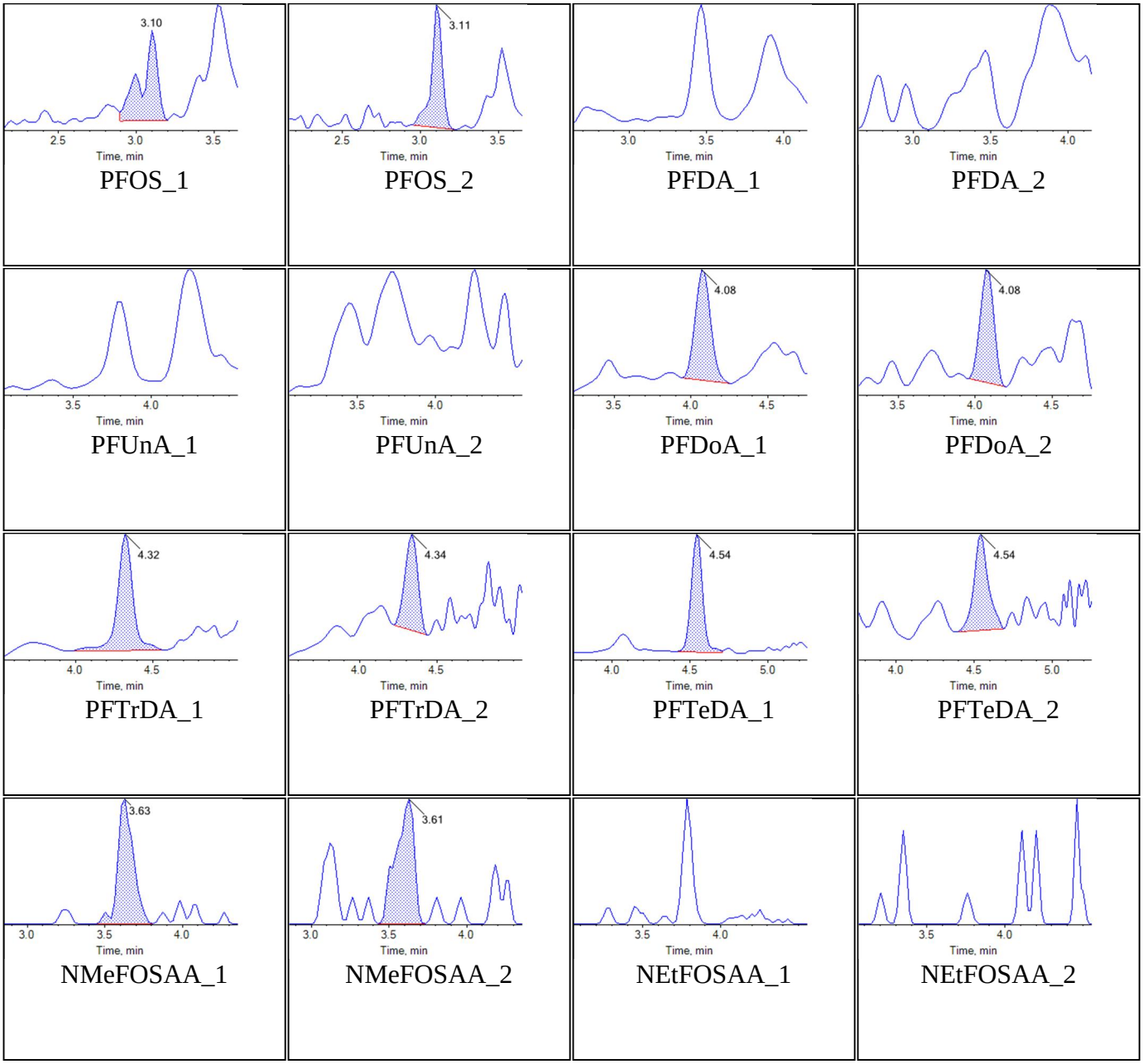
Target Analytes:



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Chromatogram Report

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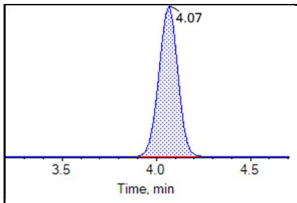


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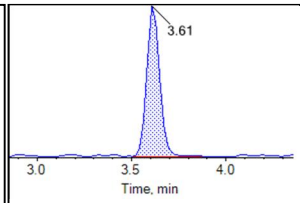
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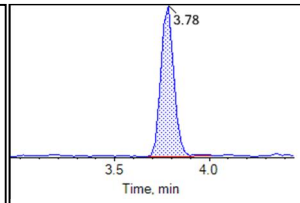
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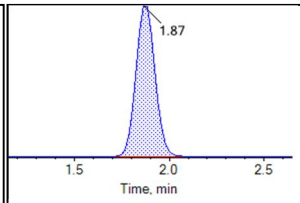
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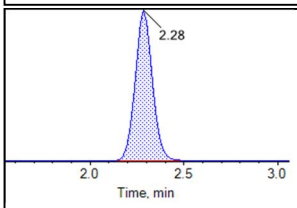
d3-MeFOSAA



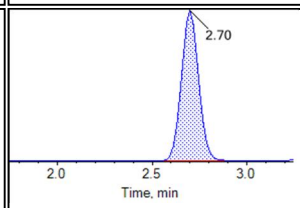
d5-EtFOSAA



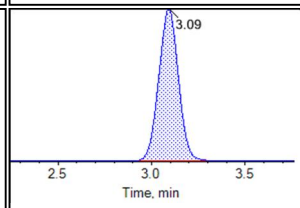
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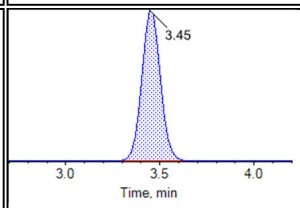
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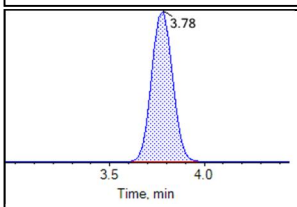
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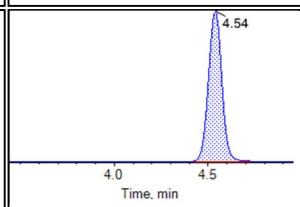
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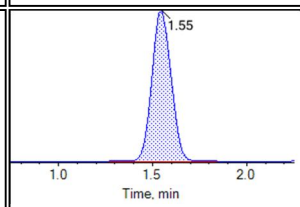
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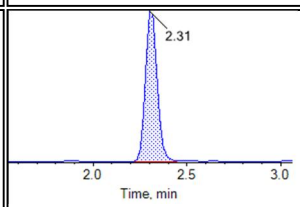
13C7-PFUnA



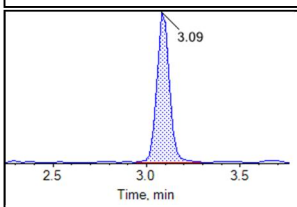
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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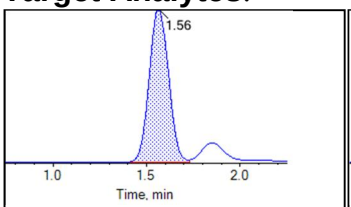
Chromatogram Report

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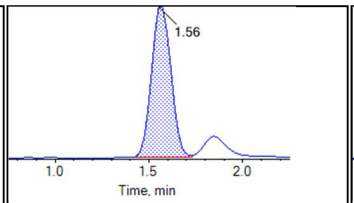
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Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

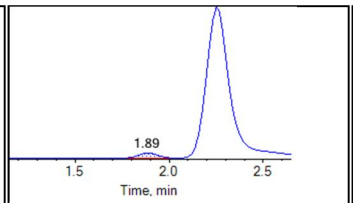
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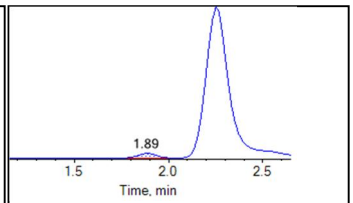
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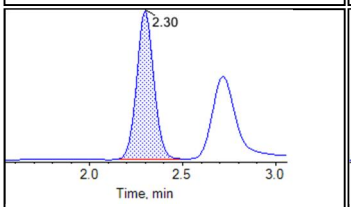
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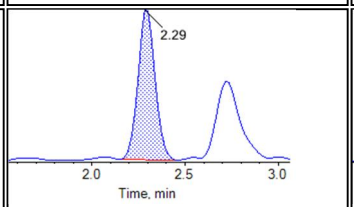
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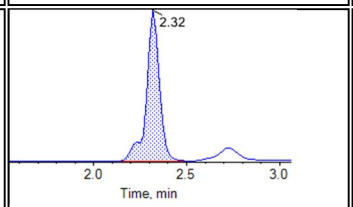
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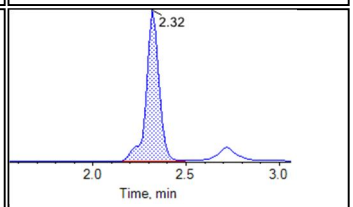
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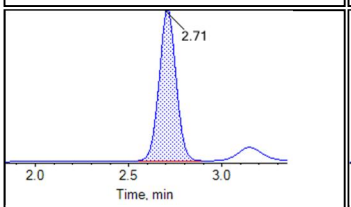
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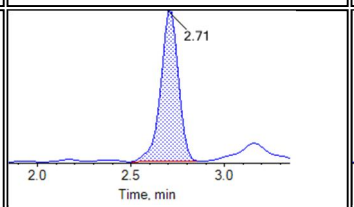
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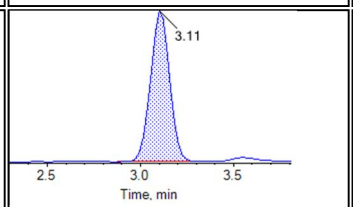
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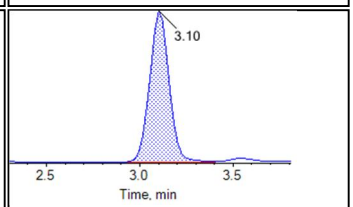
PFOA_1



PFOA_2



PFNA_1

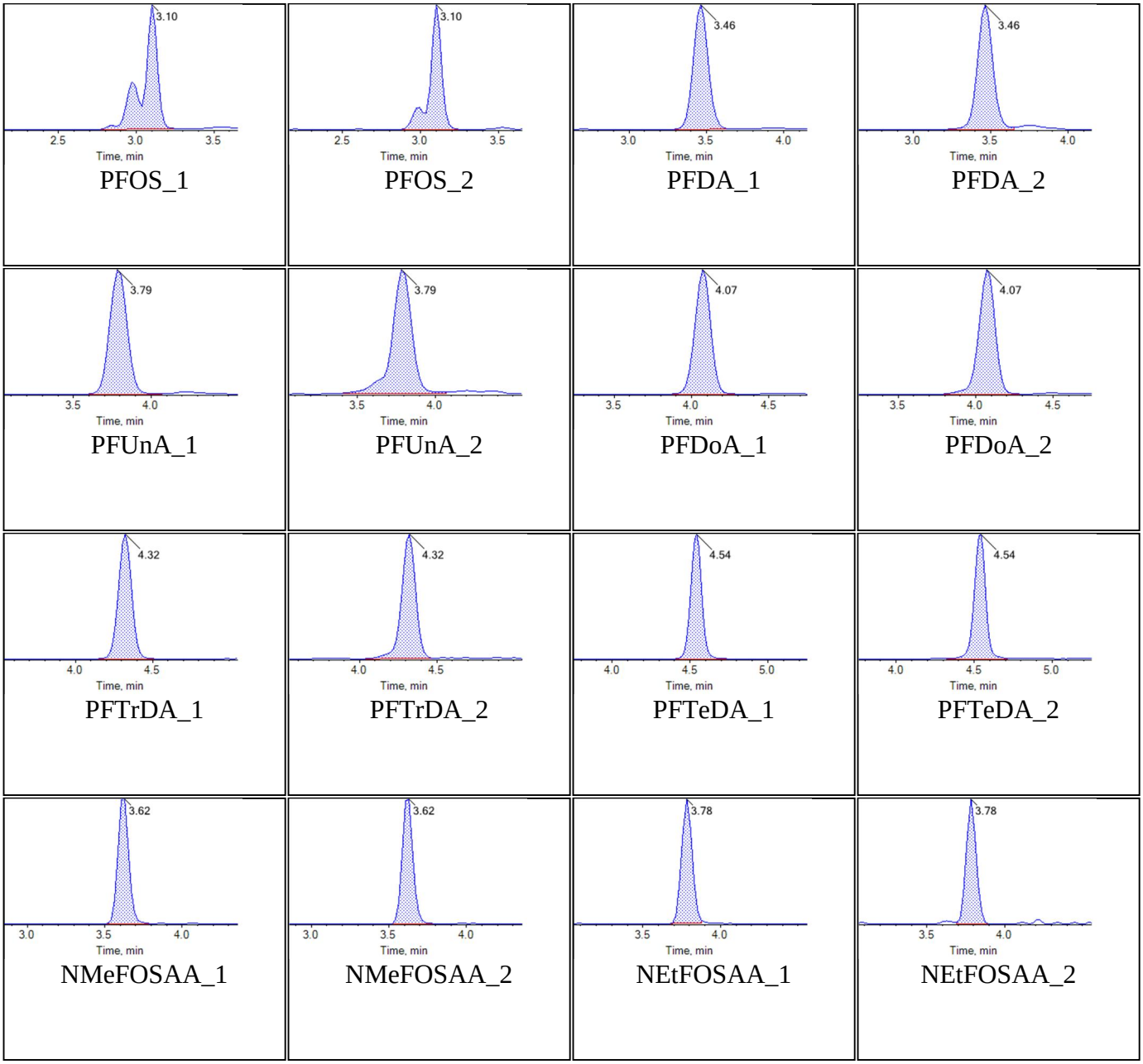


PFNA_2

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Chromatogram Report

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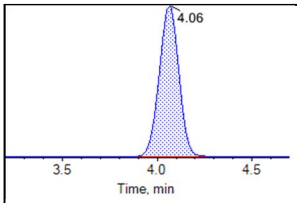


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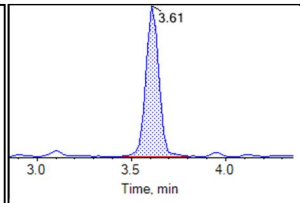
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Chromatogram Report

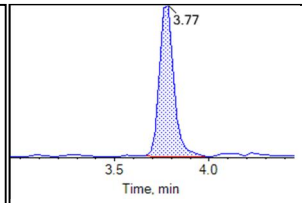
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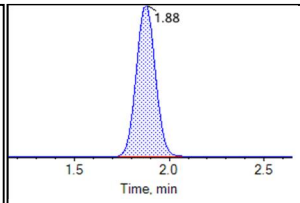
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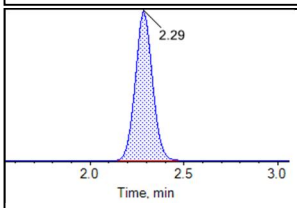
d3-MeFOSAA



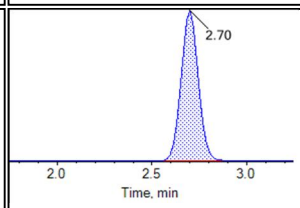
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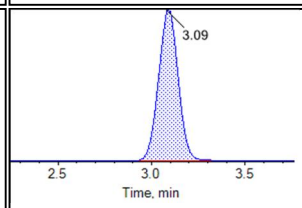
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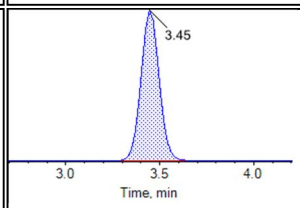
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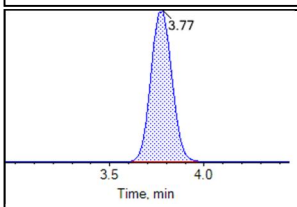
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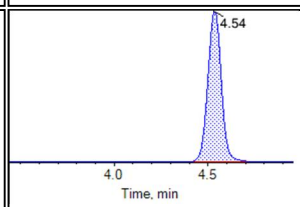
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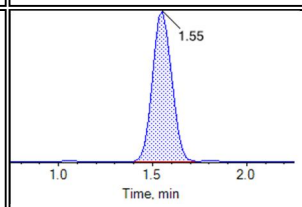
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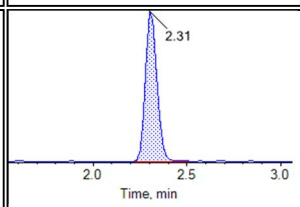
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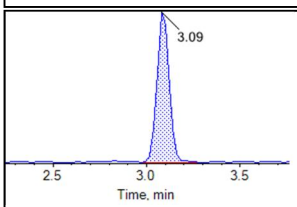
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13C3-PFBS



13C3-PFHxS



13C8-PFOS

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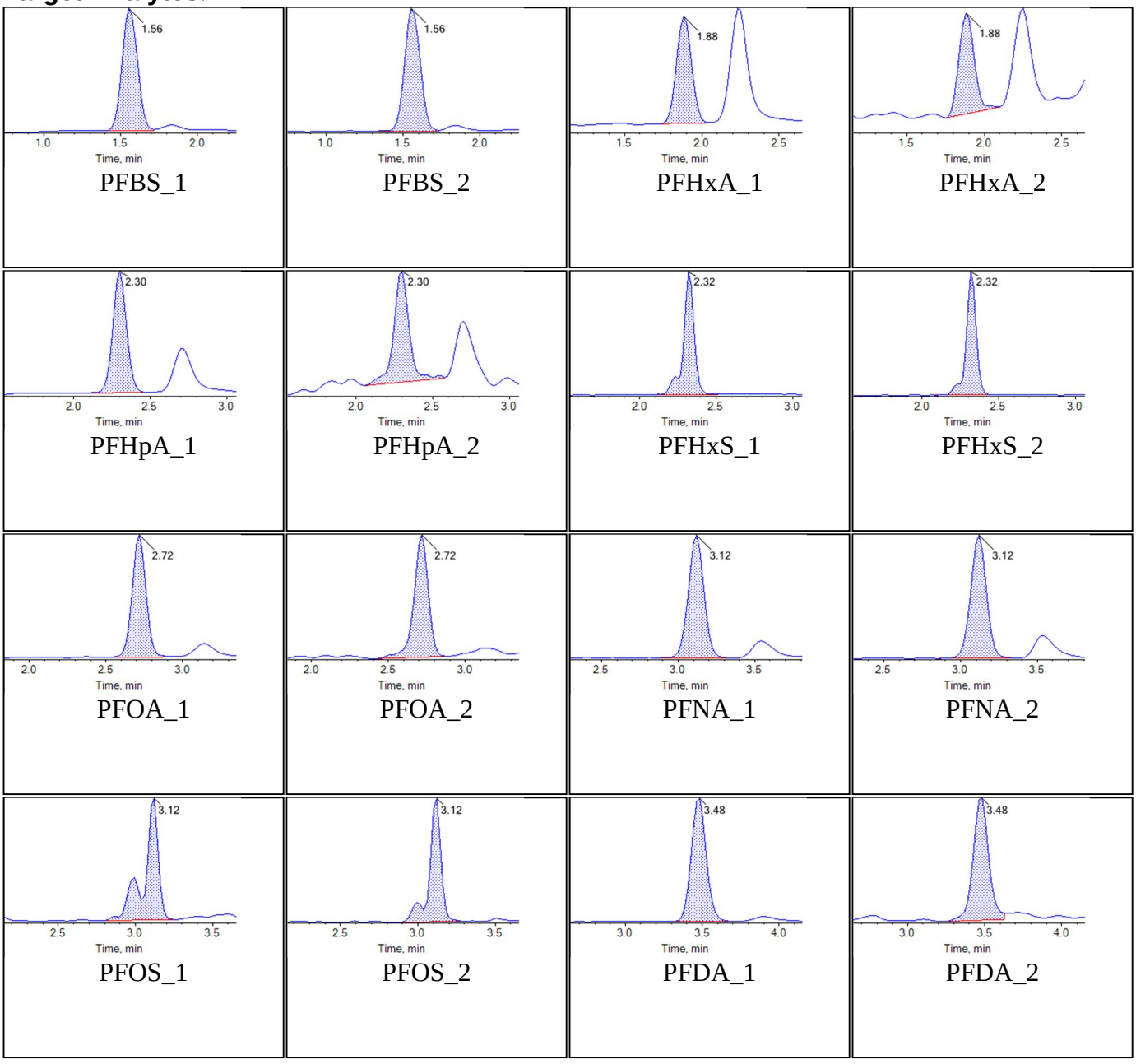
Chromatogram Report

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Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

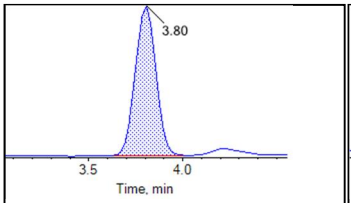
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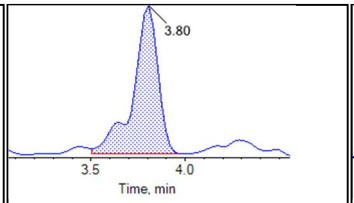
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Chromatogram Report

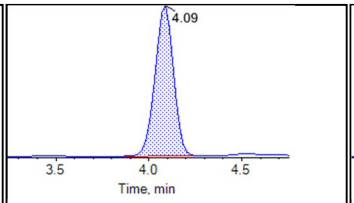
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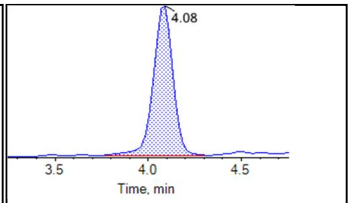
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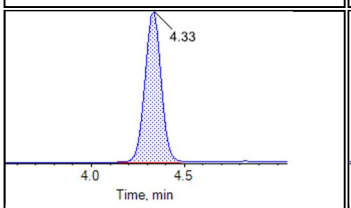
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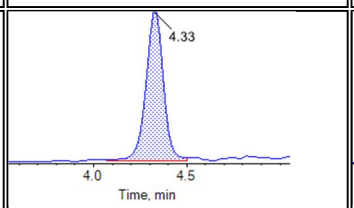
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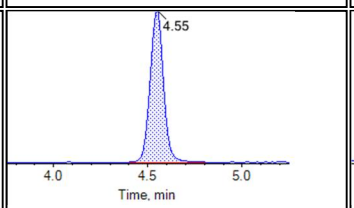
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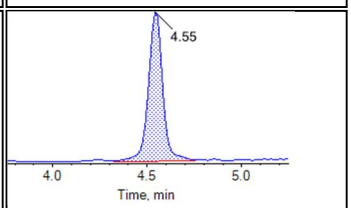
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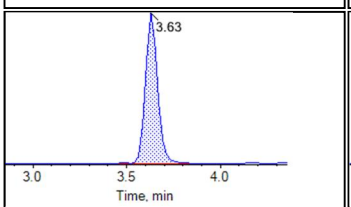
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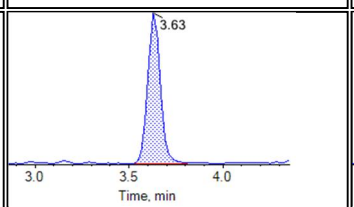
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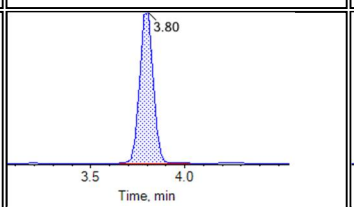
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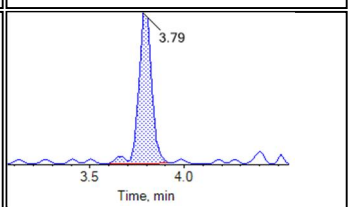
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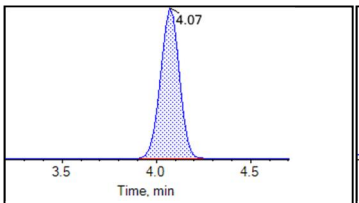


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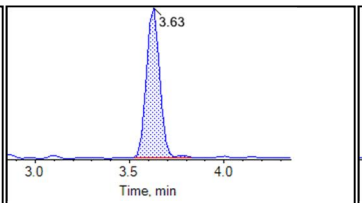


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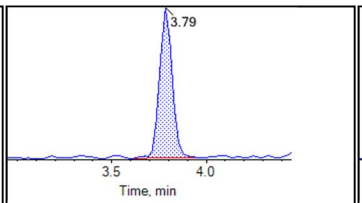
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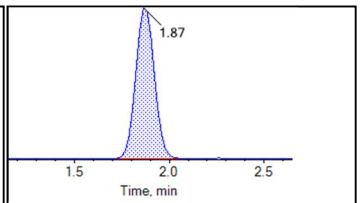
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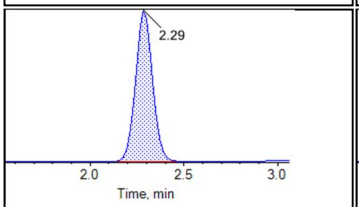
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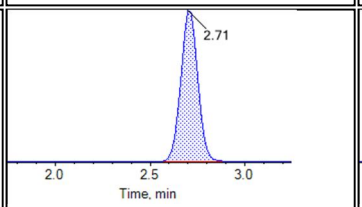
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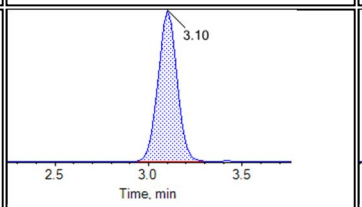
13C5-PFHxA



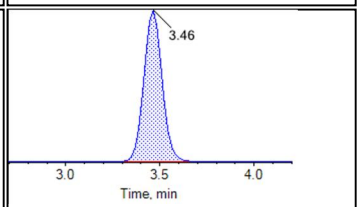
13C4-PFHpA



13C8-PFOA



13C9-PFNA

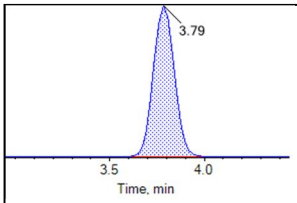


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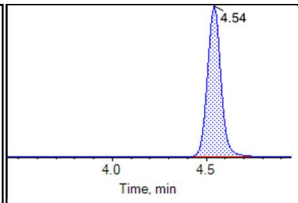
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Chromatogram Report

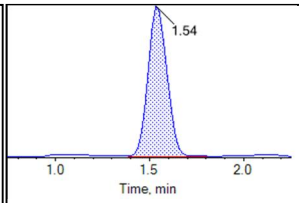
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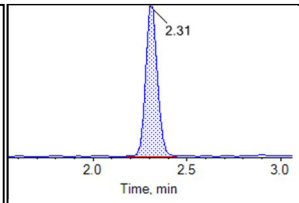
13C7-PFUnA



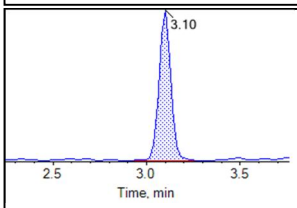
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

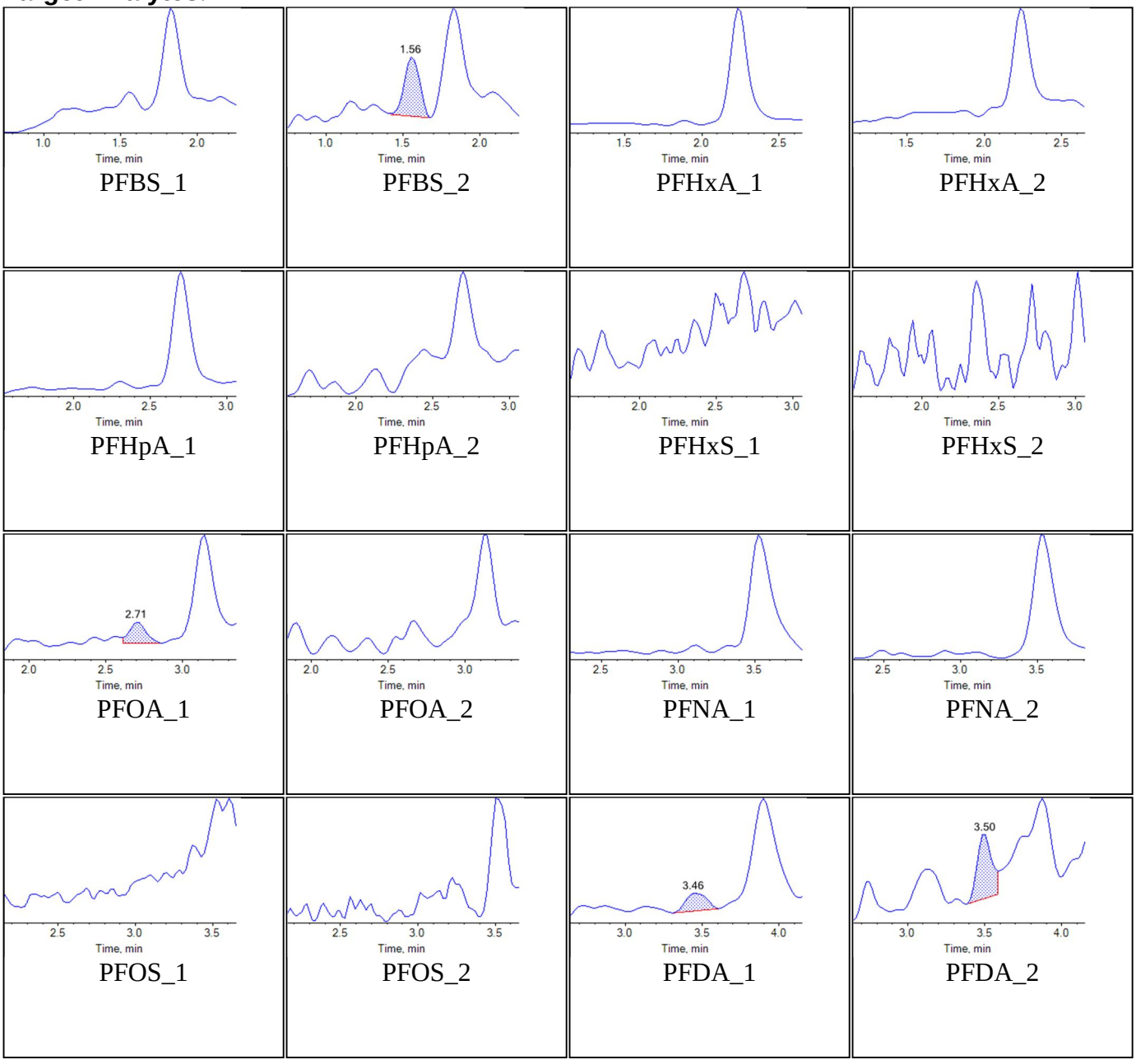
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:48:24 AM

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
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Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

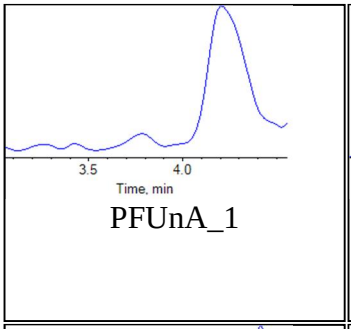
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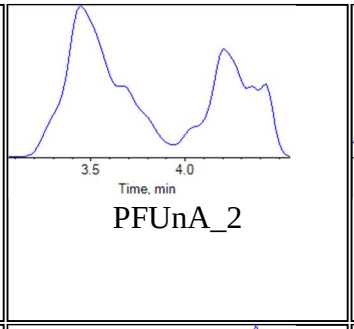
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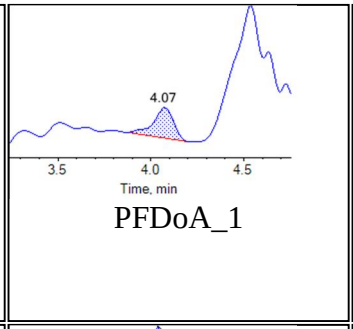
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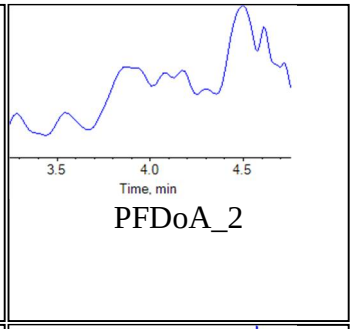
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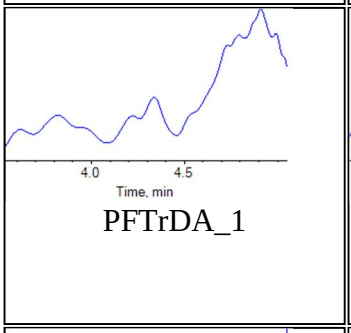
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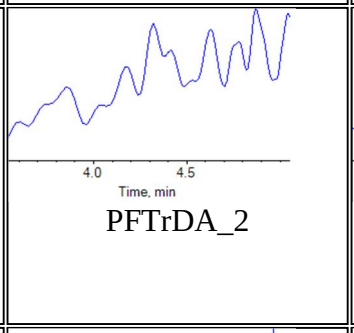
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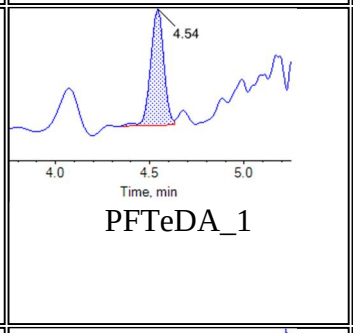
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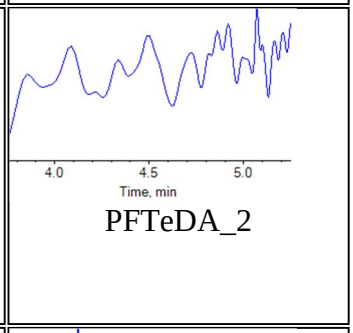
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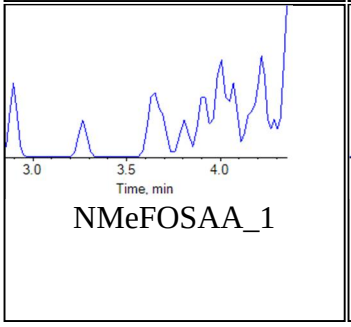
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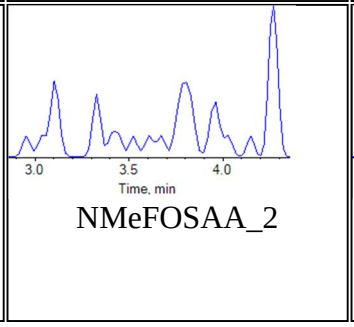
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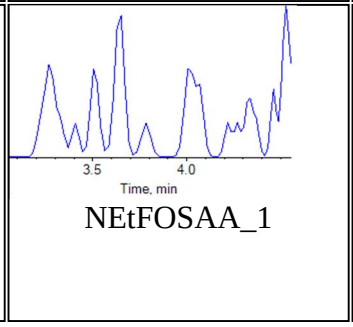
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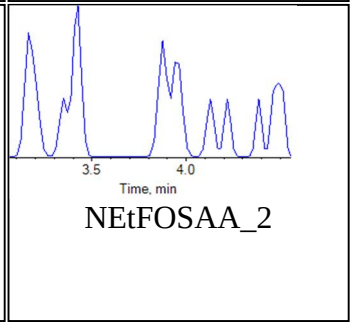
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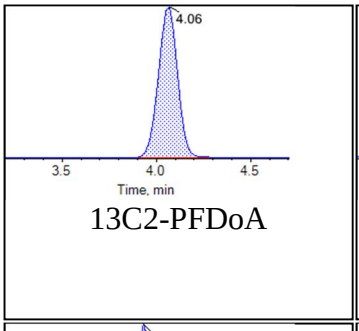


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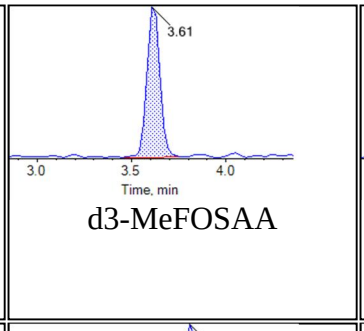


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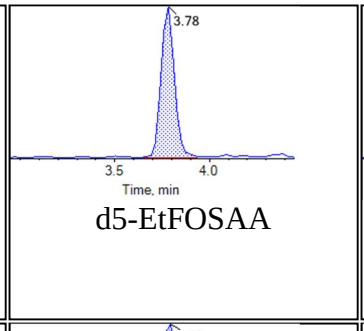
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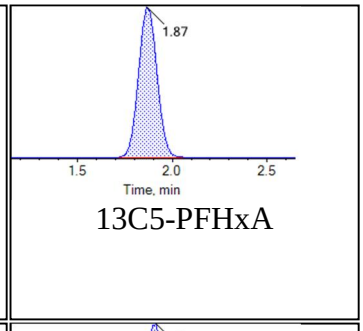
13C2-PFDoA



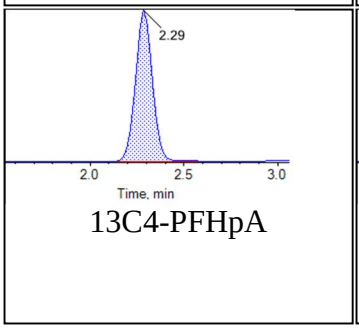
d3-MeFOSAA



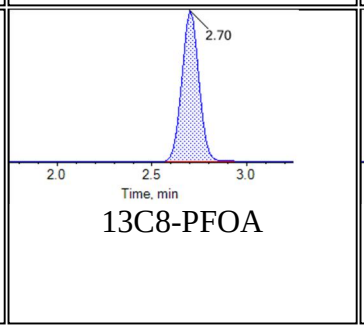
d5-EtFOSAA



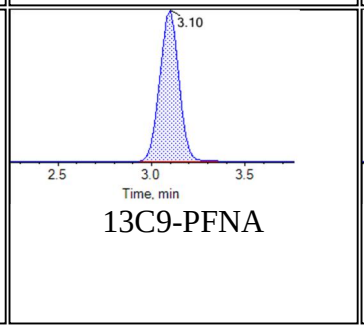
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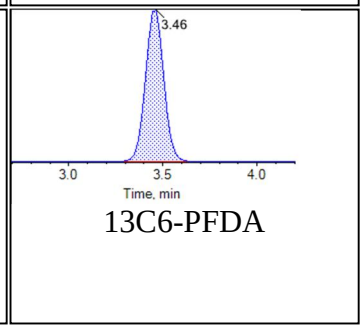
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13C8-PFOA



13C9-PFNA

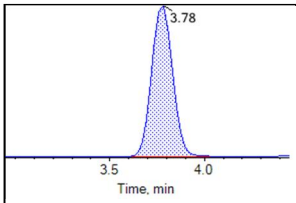


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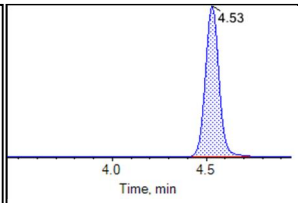
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Chromatogram Report

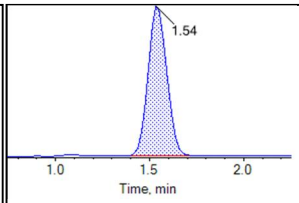
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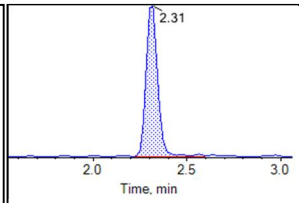
13C7-PFUnA



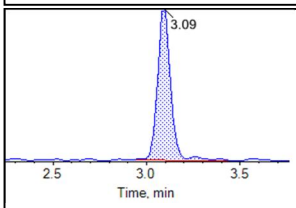
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13C3-PFBS



13C3-PFHxS



13C8-PFOS

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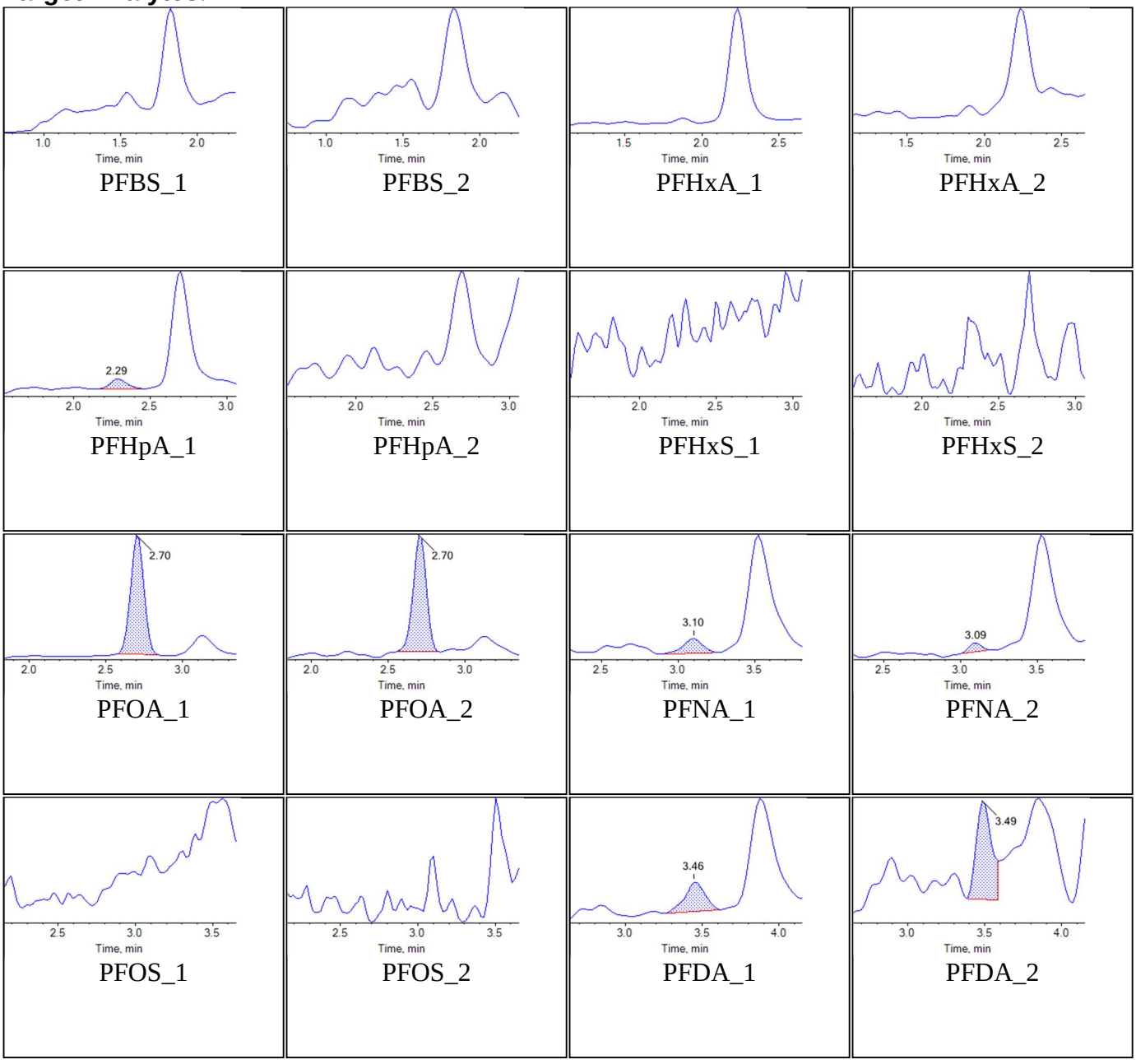
Chromatogram Report

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Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:02:54	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

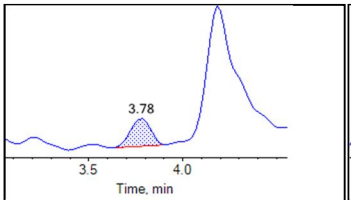
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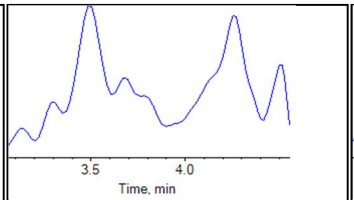
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Chromatogram Report

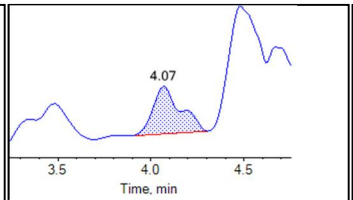
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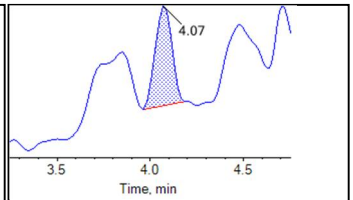
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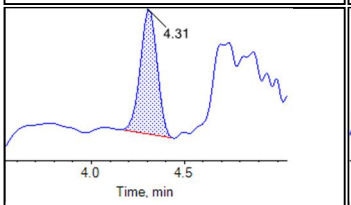
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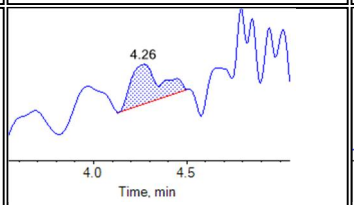
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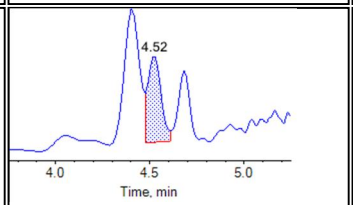
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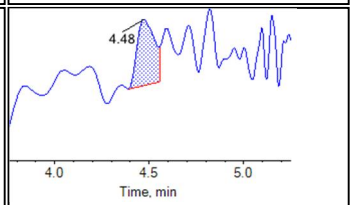
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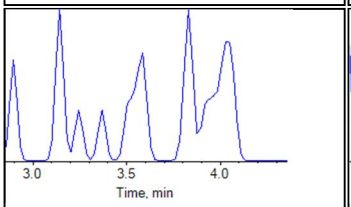
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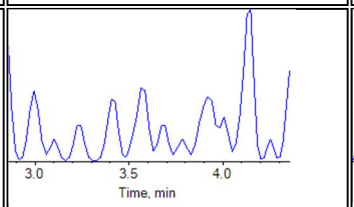
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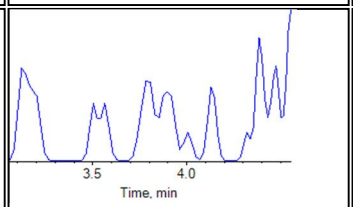
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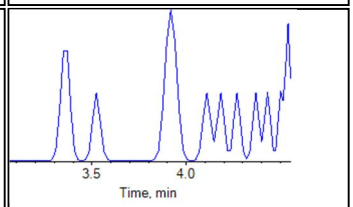
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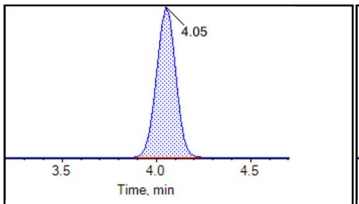


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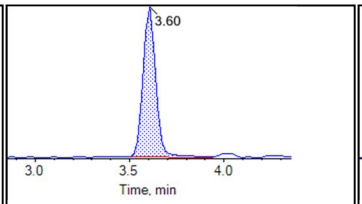


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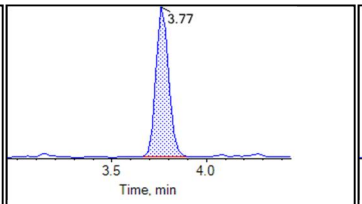
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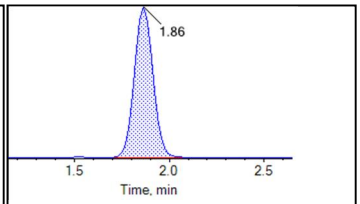
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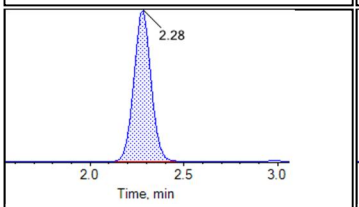
d3-MeFOSAA



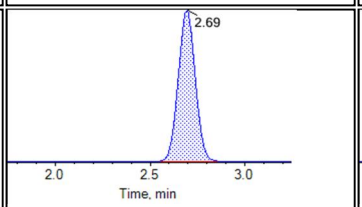
d5-EtFOSAA



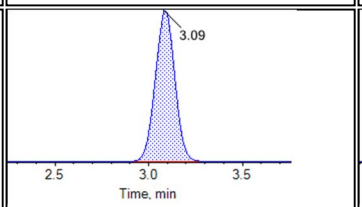
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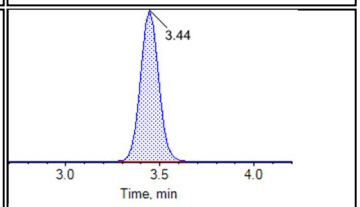
13C4-PFHpA



13C8-PFOA



13C9-PFNA

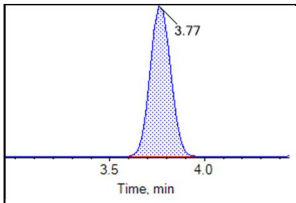


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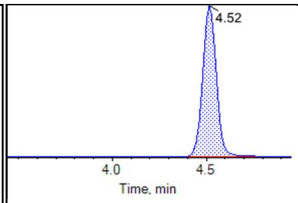
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Chromatogram Report

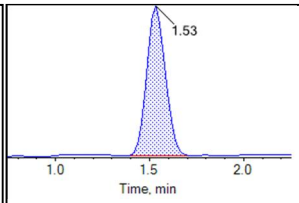
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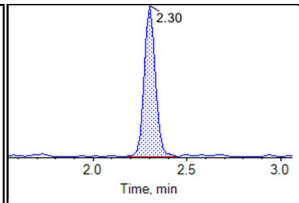
13C7-PFUnA



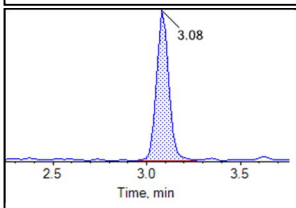
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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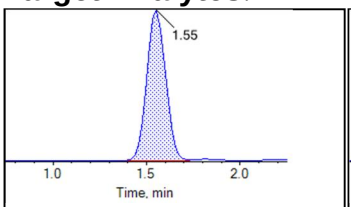
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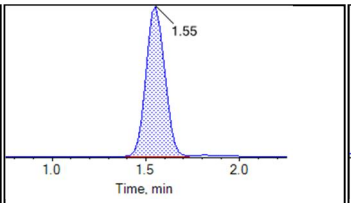
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Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:13:45	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

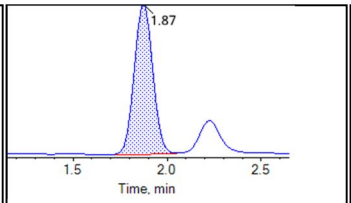
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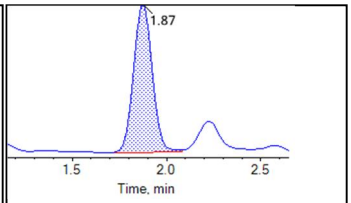
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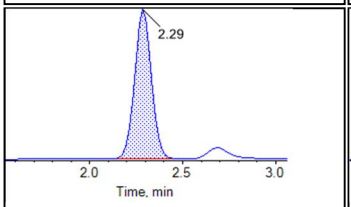
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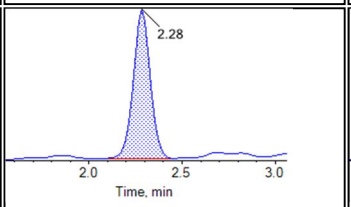
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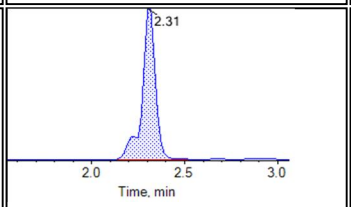
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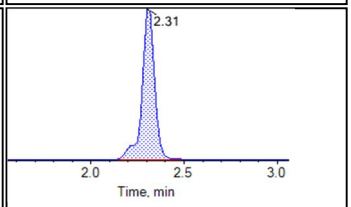
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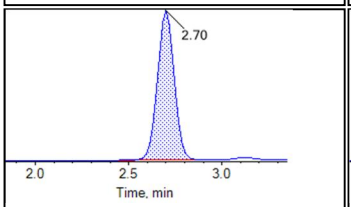
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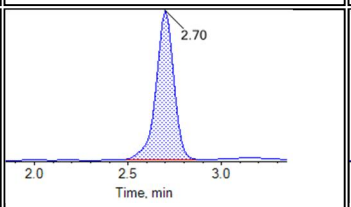
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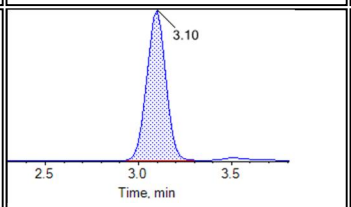
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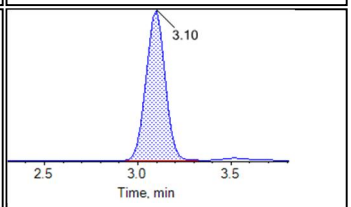
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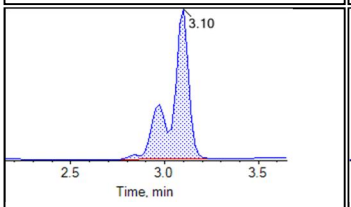
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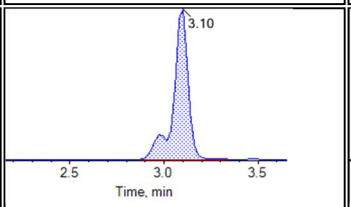
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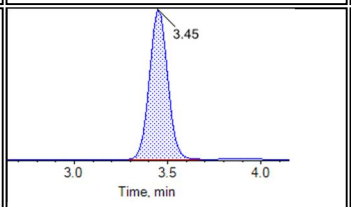
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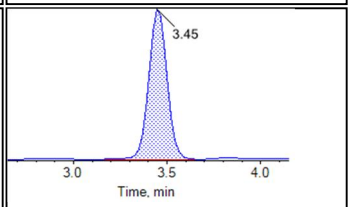
PFOS_1



PFOS_2



PFDA_1

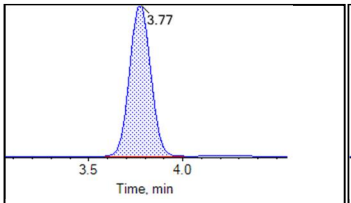


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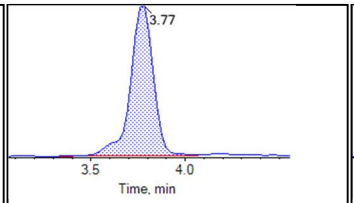
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Chromatogram Report

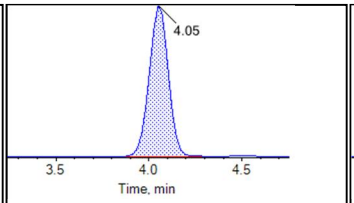
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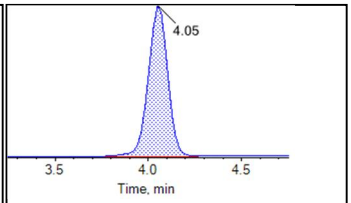
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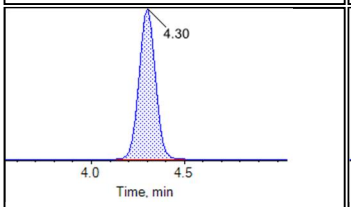
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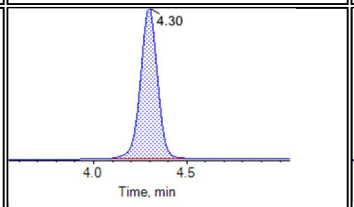
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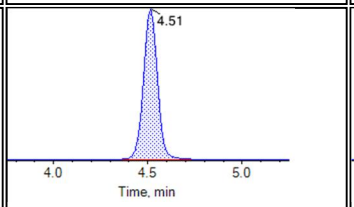
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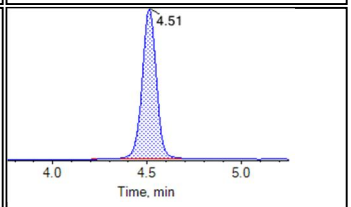
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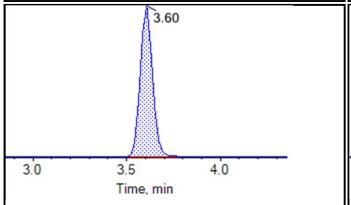
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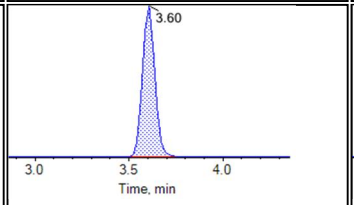
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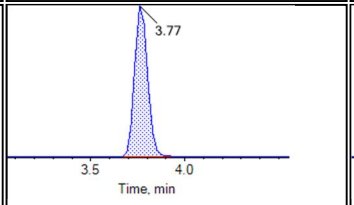
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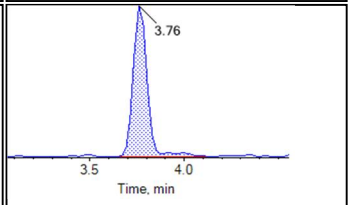
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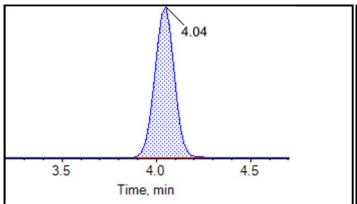


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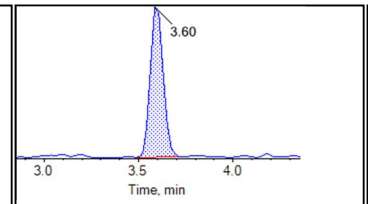


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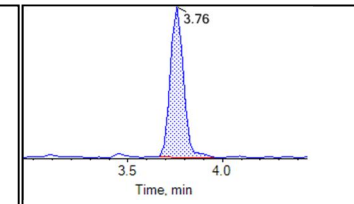
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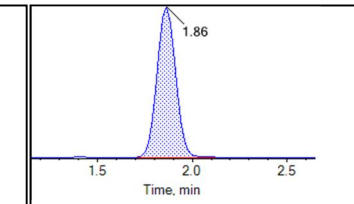
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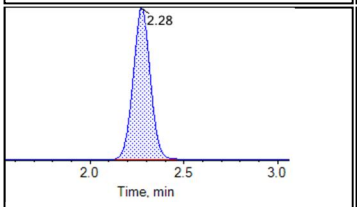
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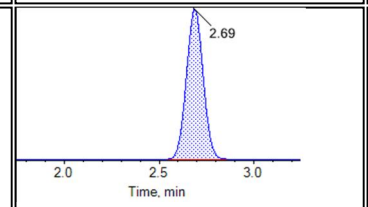
d5-EtFOSAA



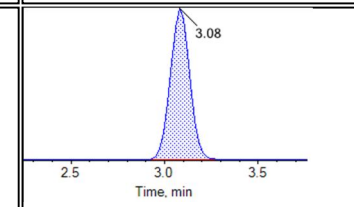
13C5-PFHxA



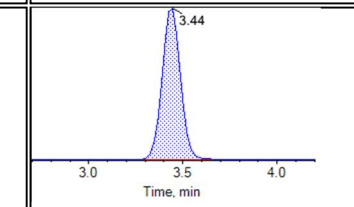
13C4-PFHpA



13C8-PFOA



13C9-PFNA

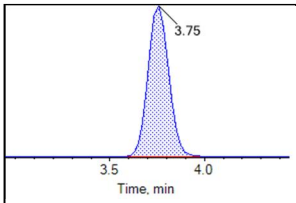


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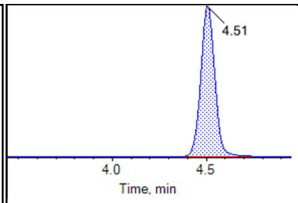
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Chromatogram Report

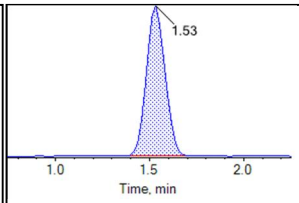
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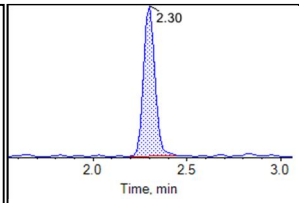
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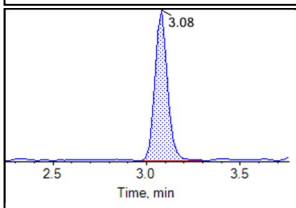
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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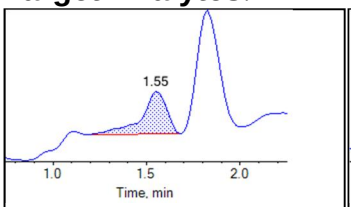
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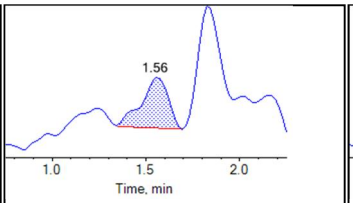
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Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

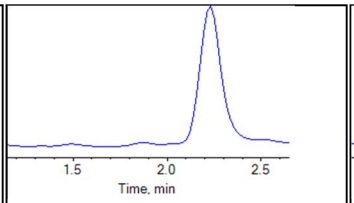
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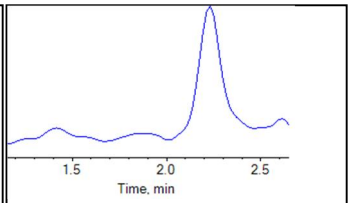
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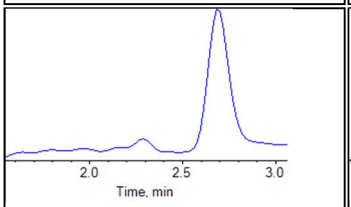
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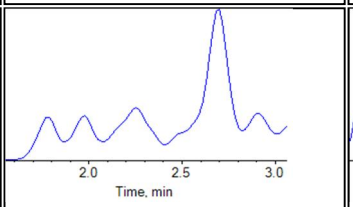
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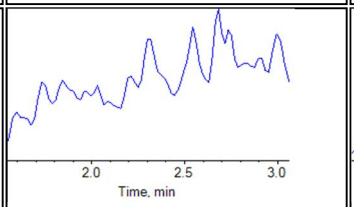
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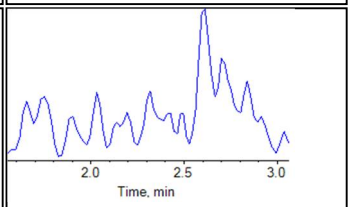
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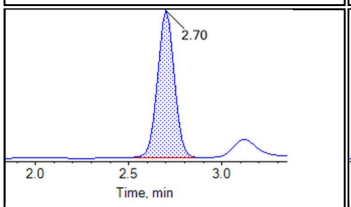
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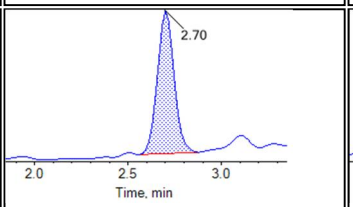
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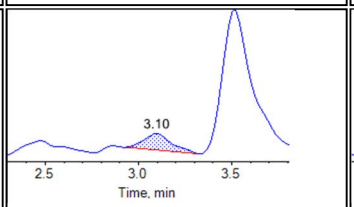
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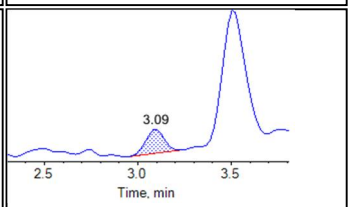
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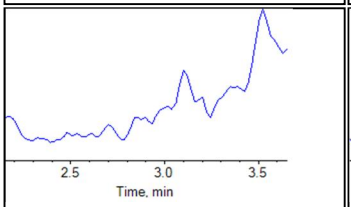
PFOA_2



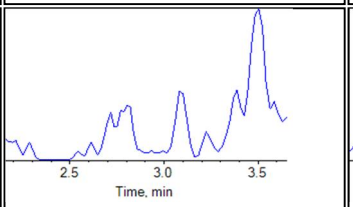
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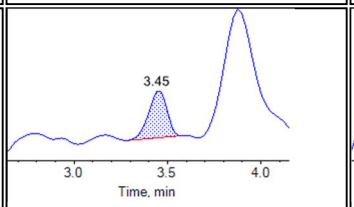
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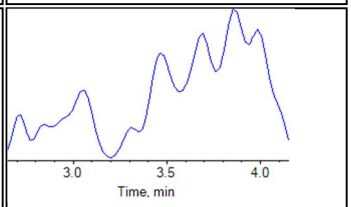
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PFOS_2



PFDA_1

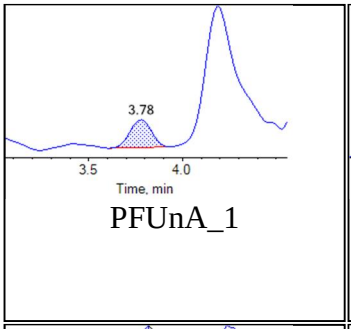


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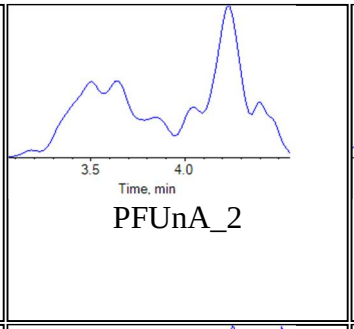
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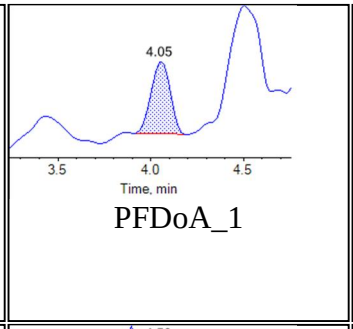
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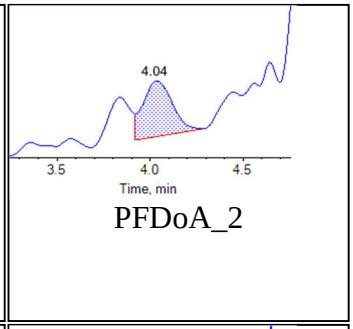
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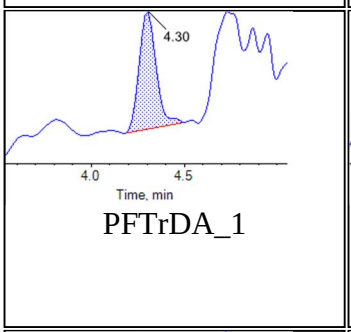
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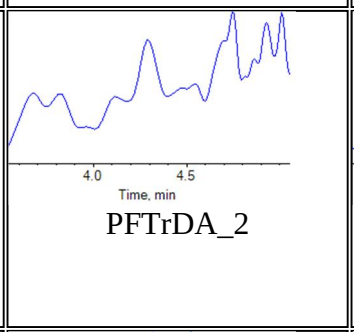
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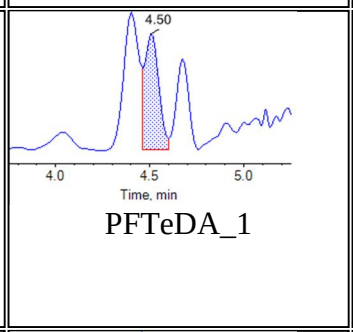
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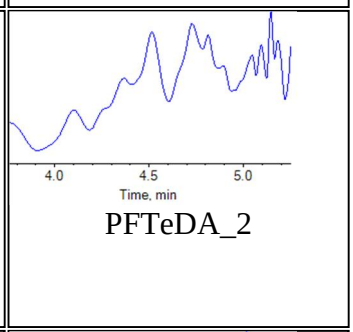
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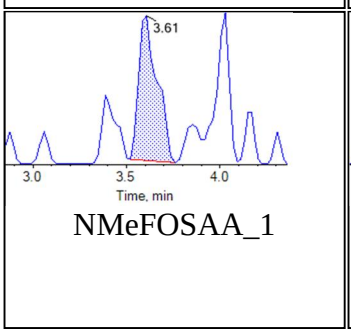
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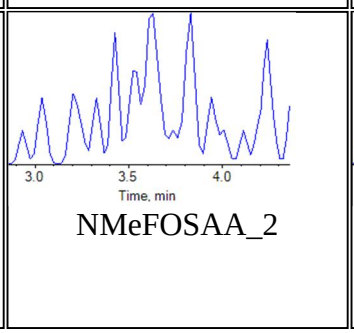
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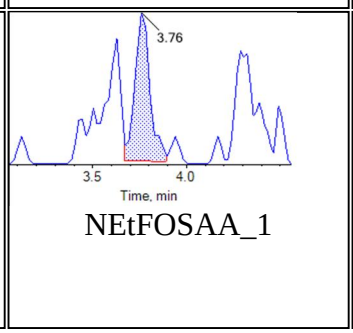
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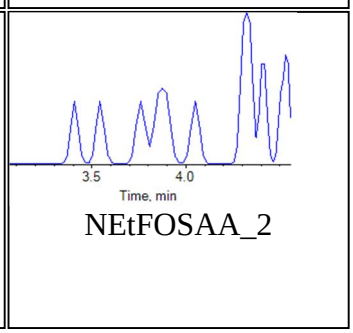
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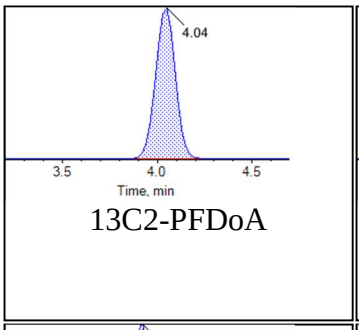


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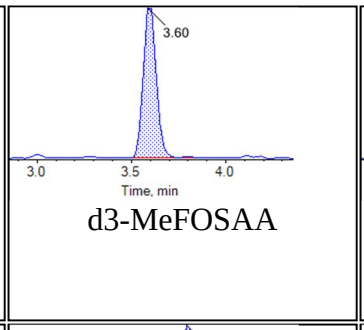


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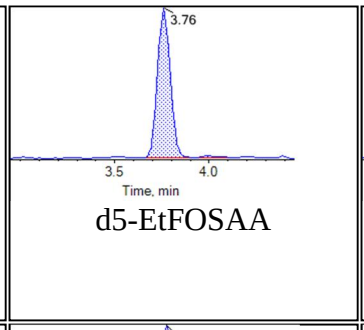
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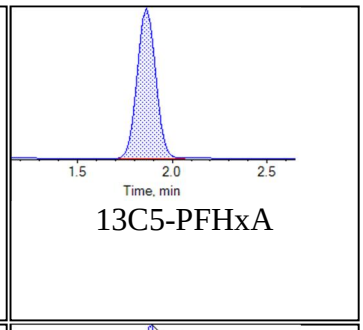
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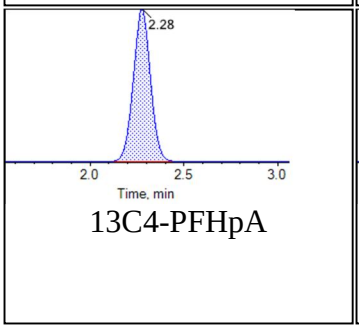
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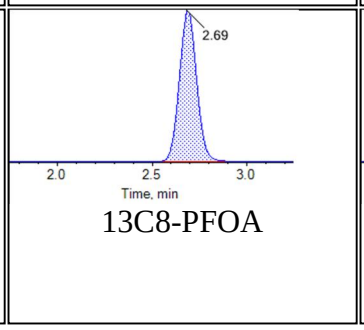
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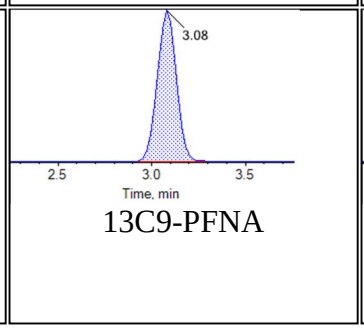
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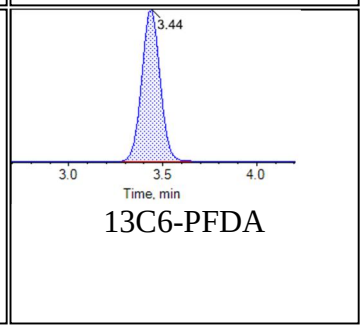
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13C8-PFOA



13C9-PFNA

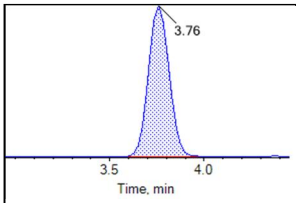


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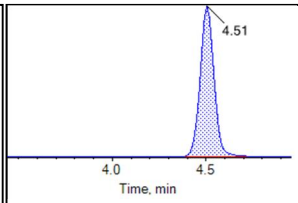
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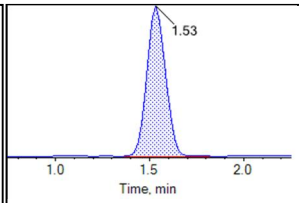
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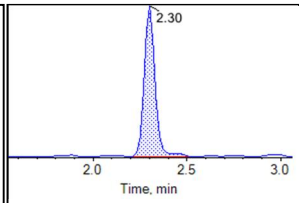
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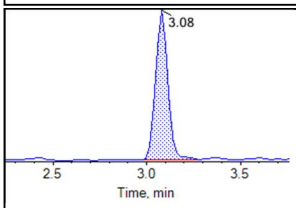
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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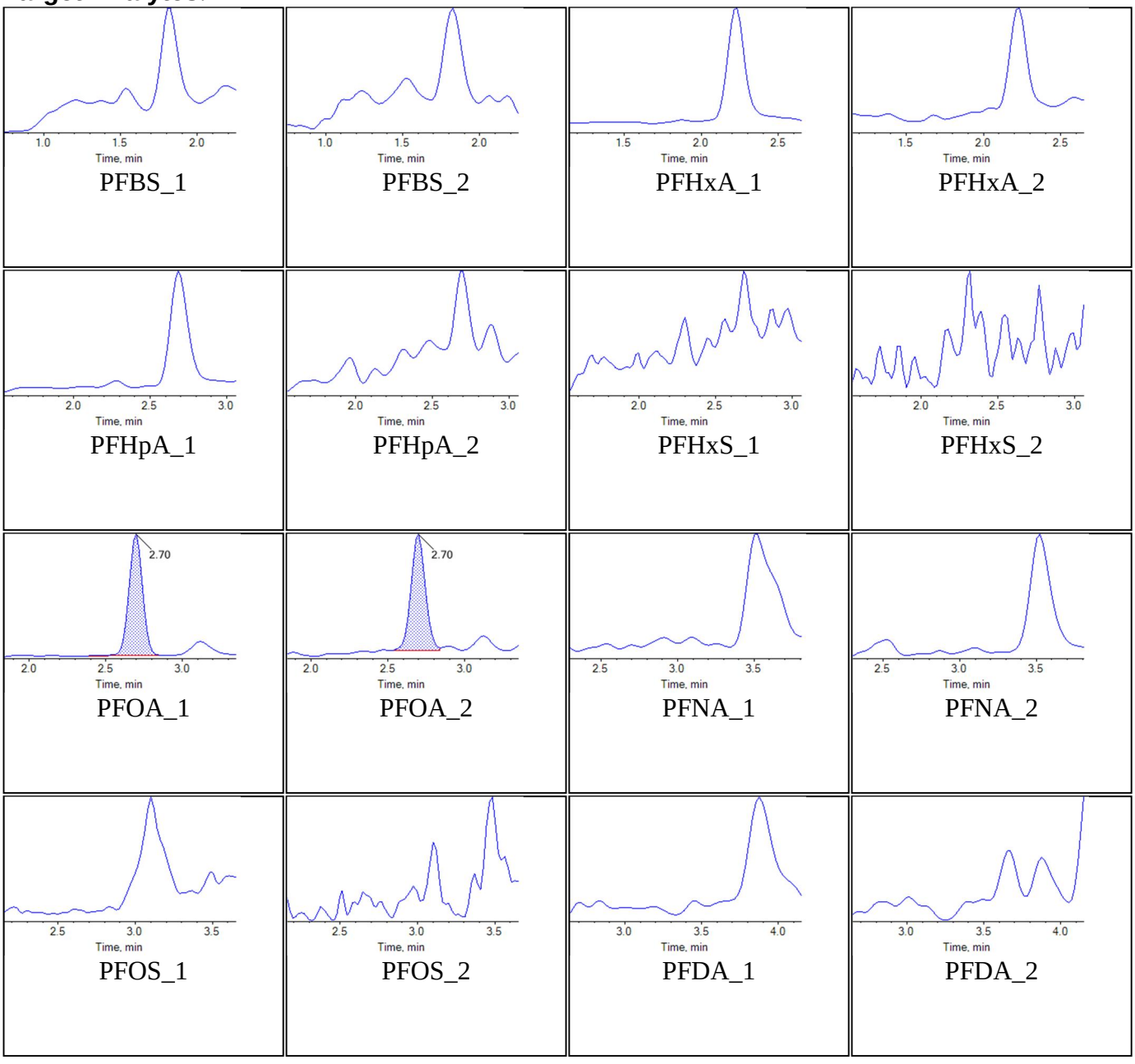
Chromatogram Report

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Sample Name	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

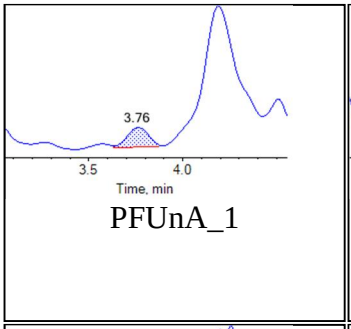
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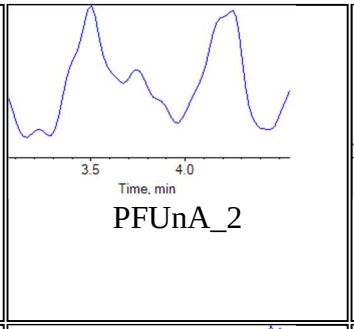
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Chromatogram Report

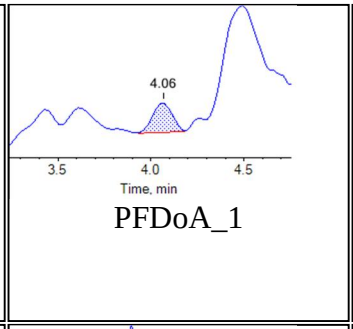
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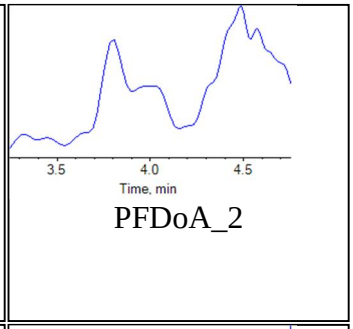
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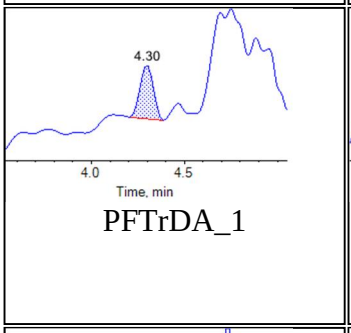
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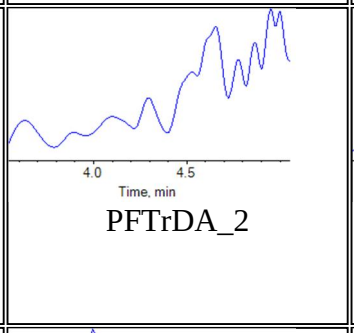
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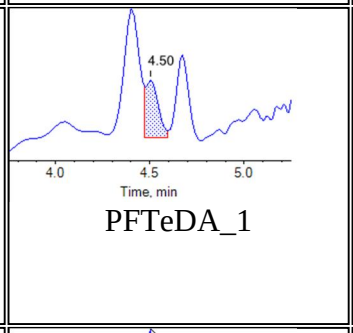
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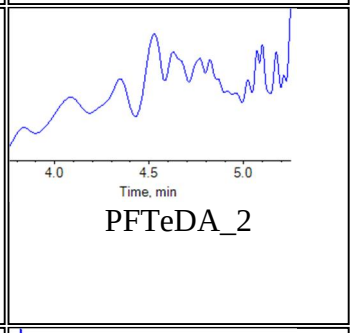
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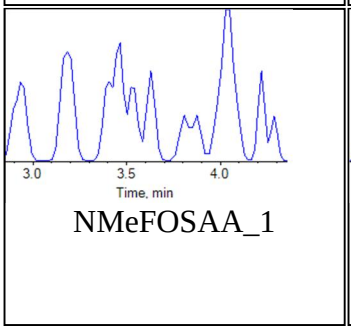
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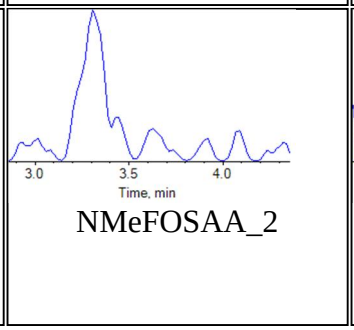
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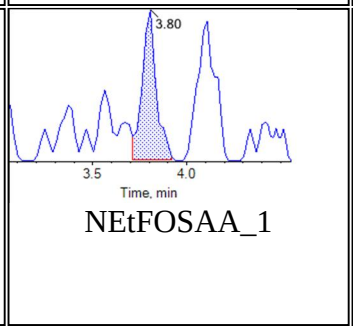
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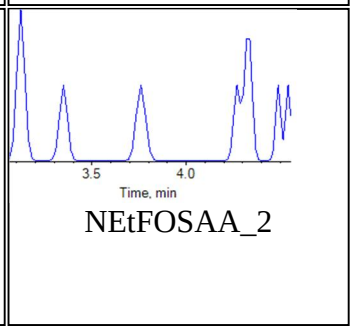
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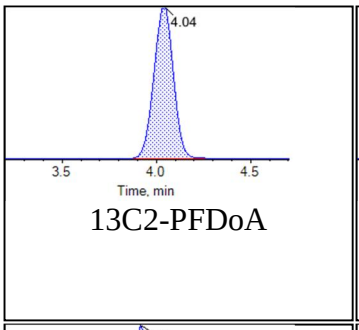


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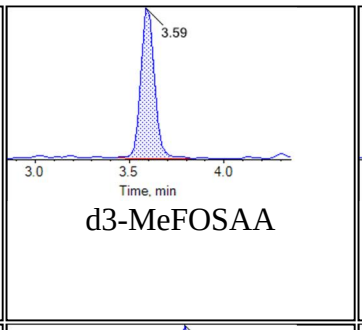


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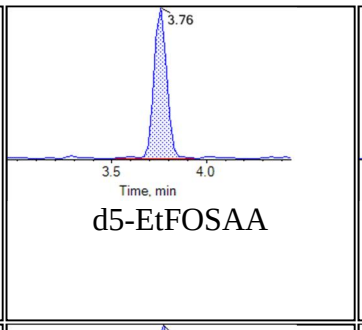
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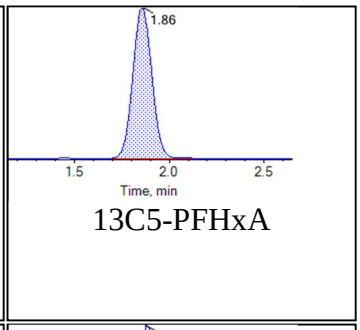
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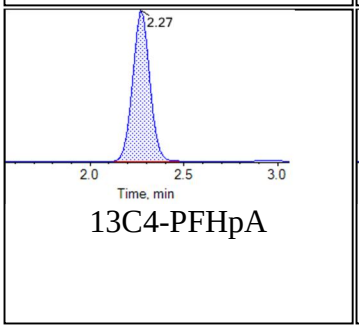
d3-MeFOSAA



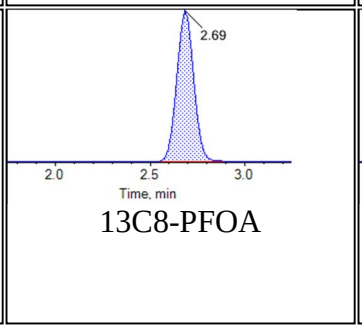
d5-EtFOSAA



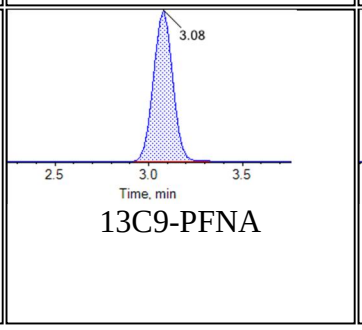
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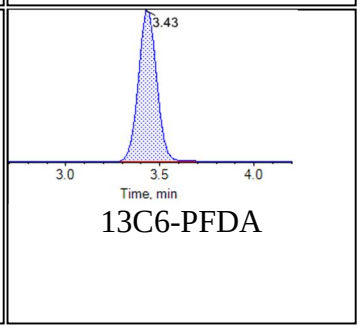
13C4-PFHpA



13C8-PFOA



13C9-PFNA

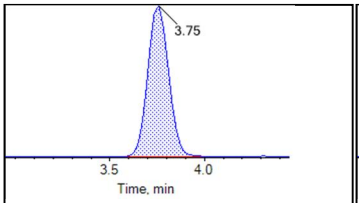


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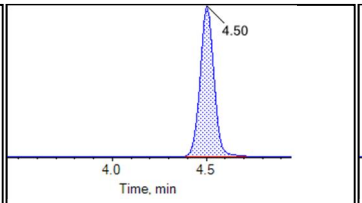
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Chromatogram Report

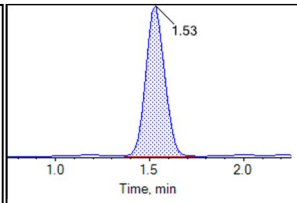
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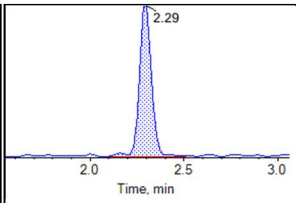
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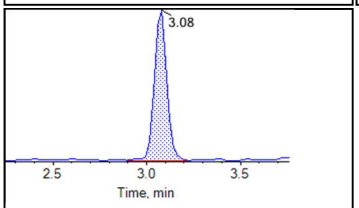
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13C3-PFBS



13C3-PFHxS



13C8-PFOS

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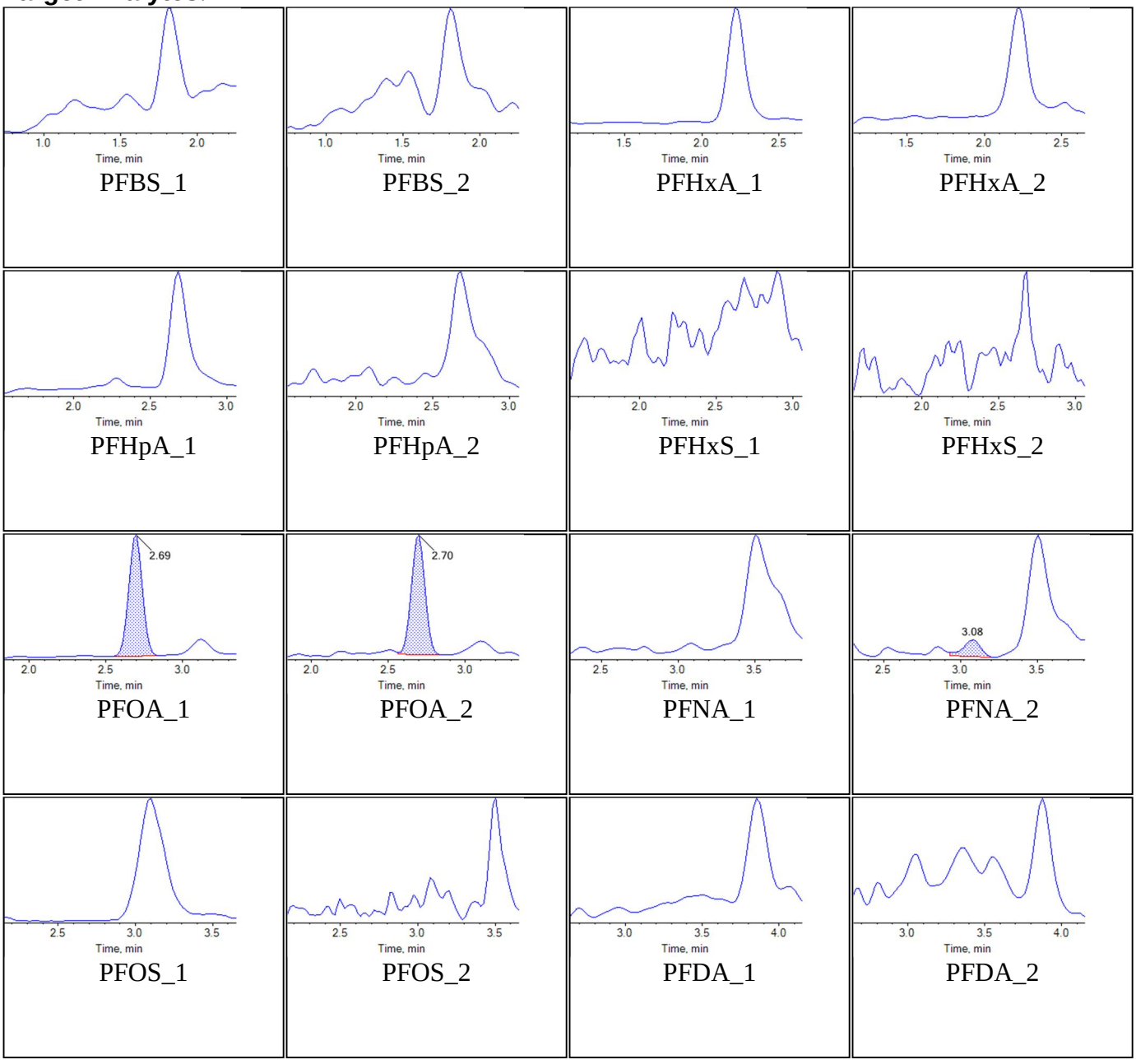
Chromatogram Report

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Sample Name	J8803-FS(0)	**Injection Vial**	8
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

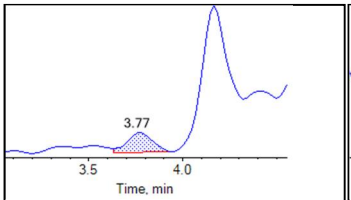
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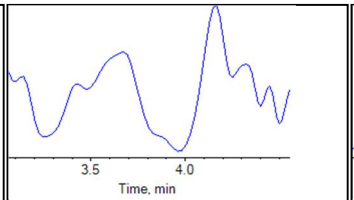
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Chromatogram Report

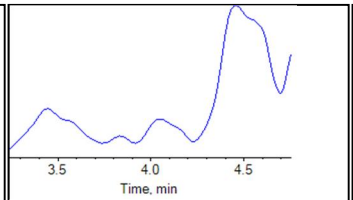
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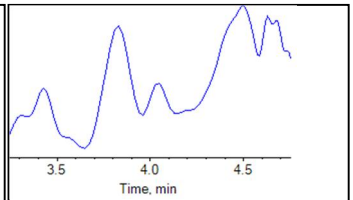
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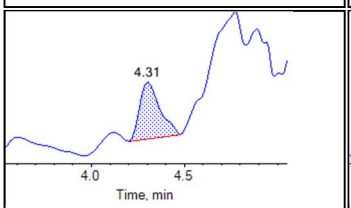
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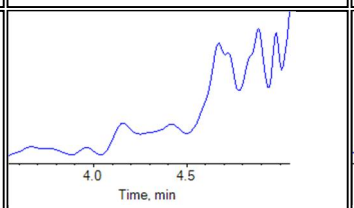
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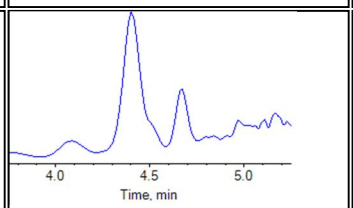
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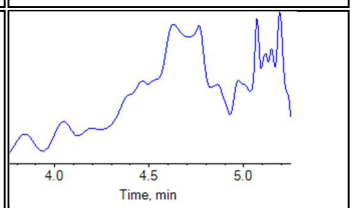
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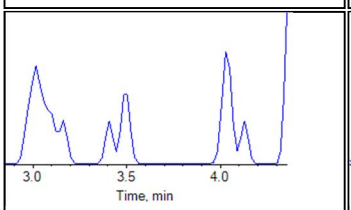
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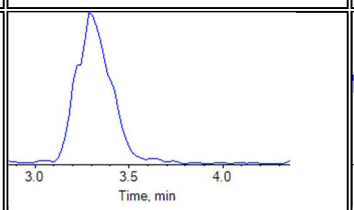
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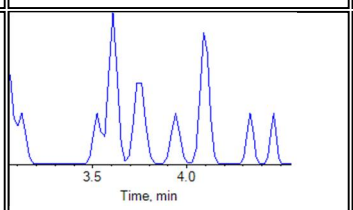
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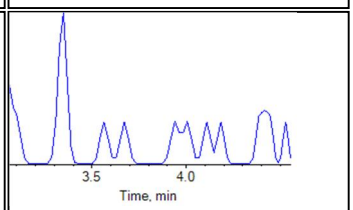
NMeFOSAA_1



NMeFOSAA_2

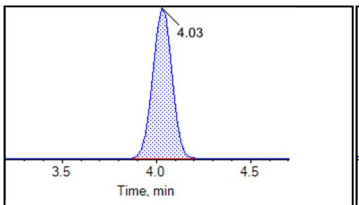


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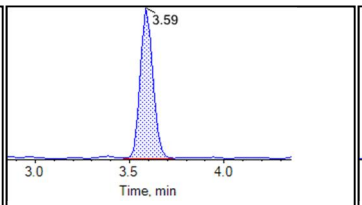


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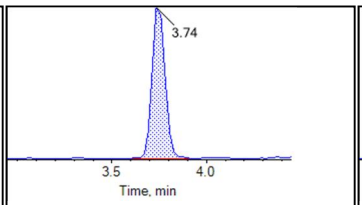
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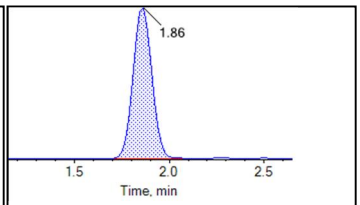
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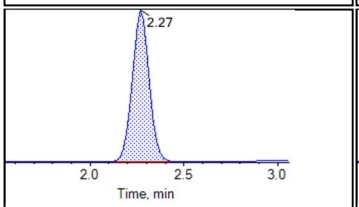
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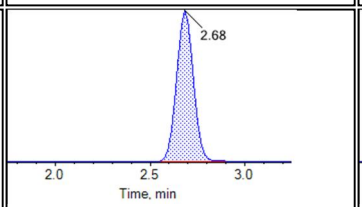
d5-EtFOSAA



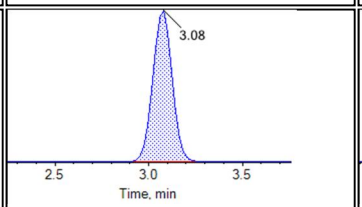
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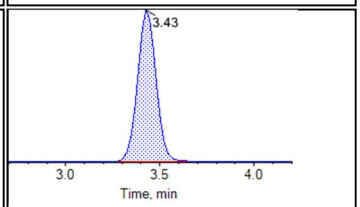
13C4-PFHpA



13C8-PFOA



13C9-PFNA

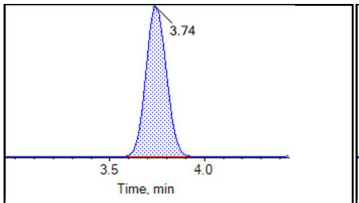


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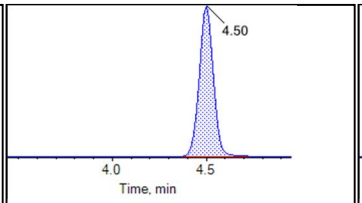
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Chromatogram Report

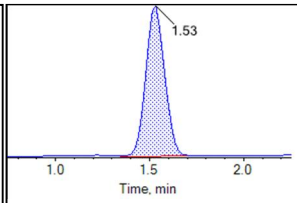
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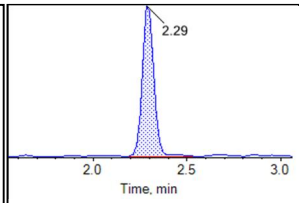
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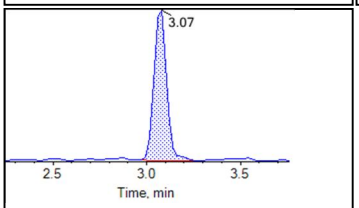
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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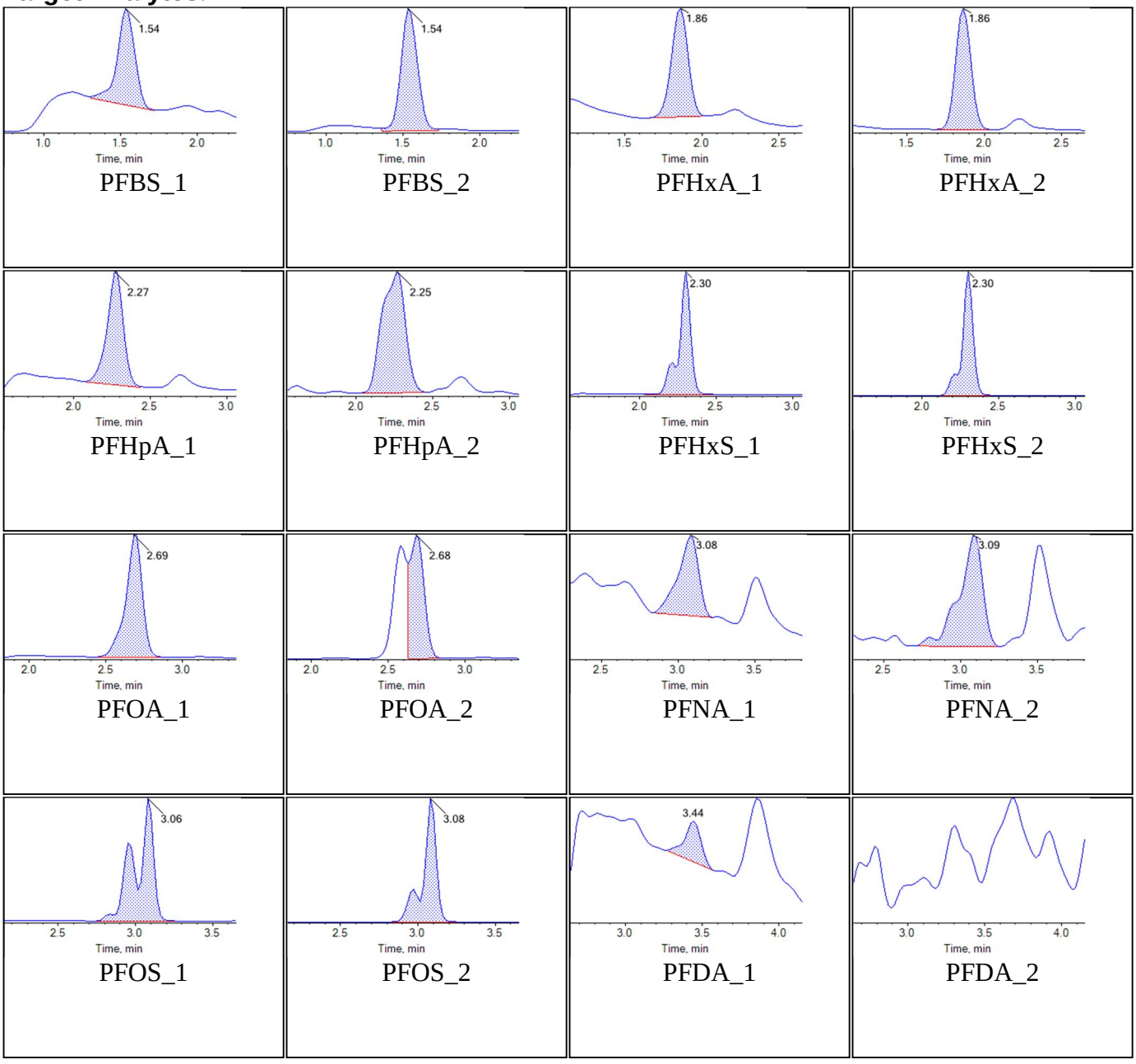
Chromatogram Report

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Sample Name	J8804-FS(0)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

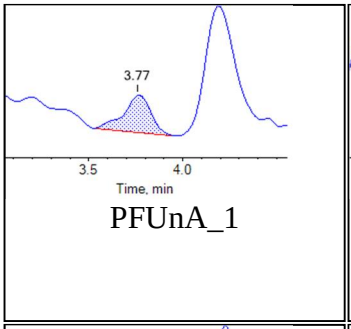
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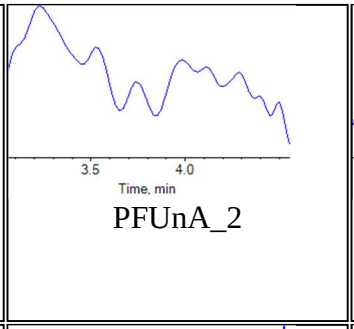
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Chromatogram Report

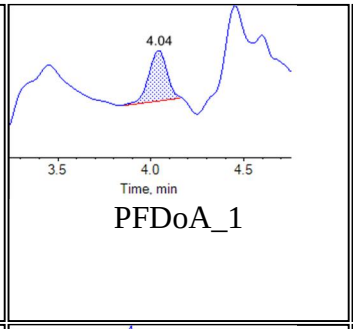
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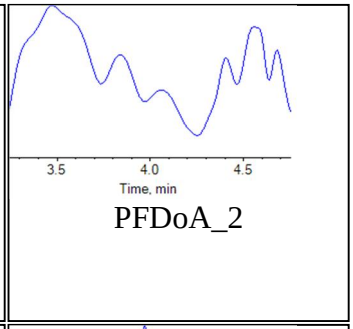
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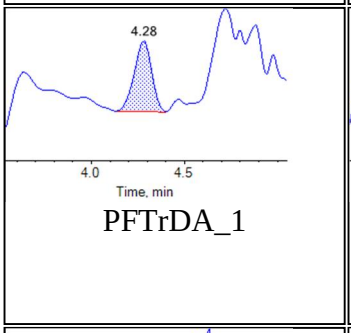
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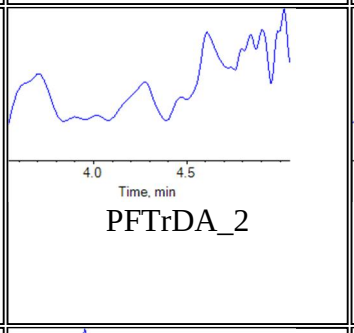
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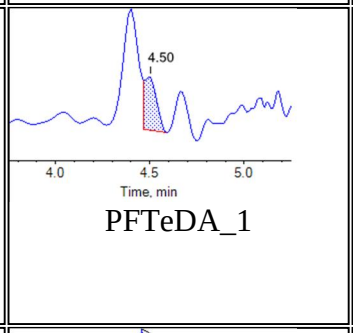
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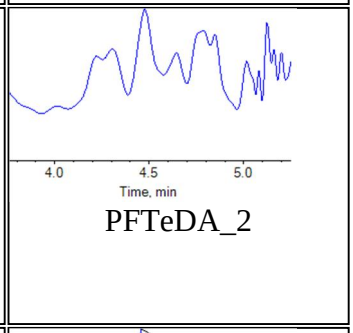
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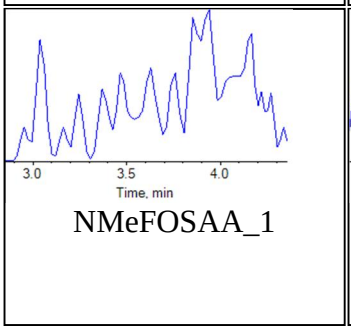
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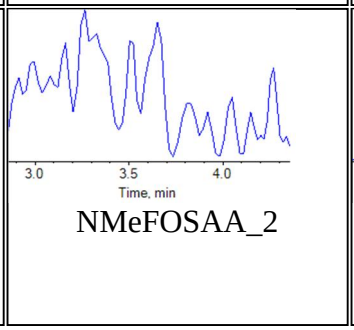
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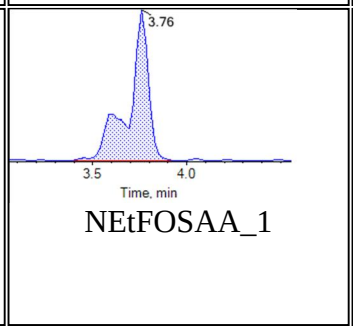
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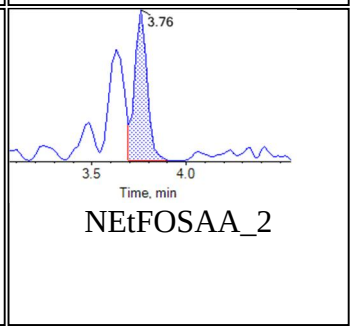
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NMeFOSAA_2

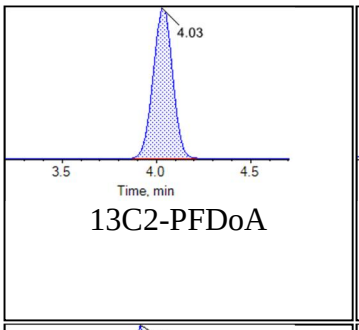


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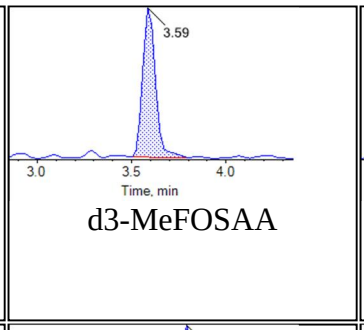


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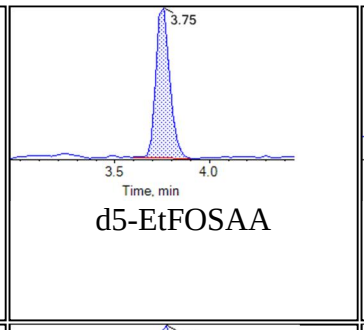
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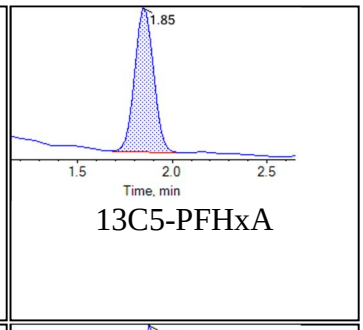
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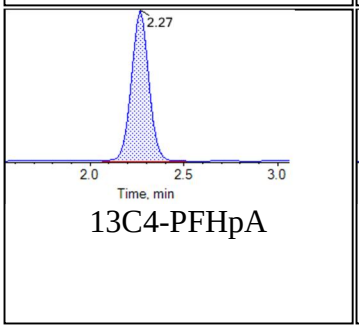
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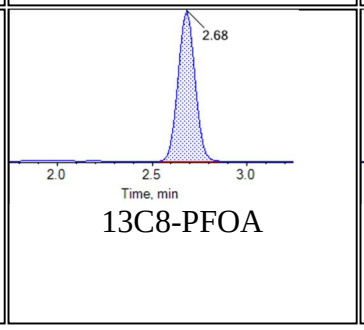
d5-EtFOSAA



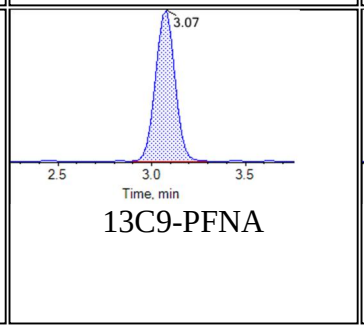
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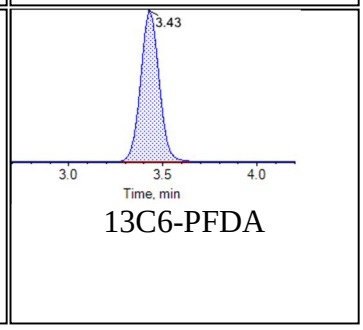
13C4-PFHpA



13C8-PFOA



13C9-PFNA

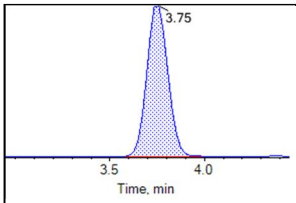


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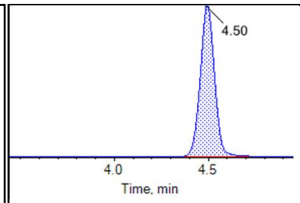
BATTELLE

Chromatogram Report

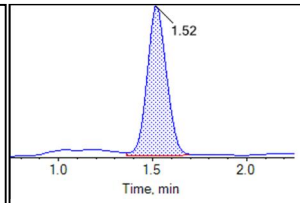
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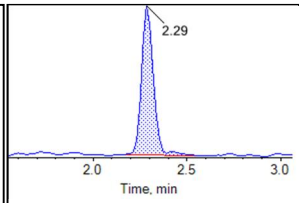
13C7-PFUnA



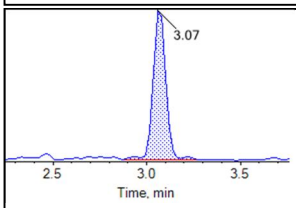
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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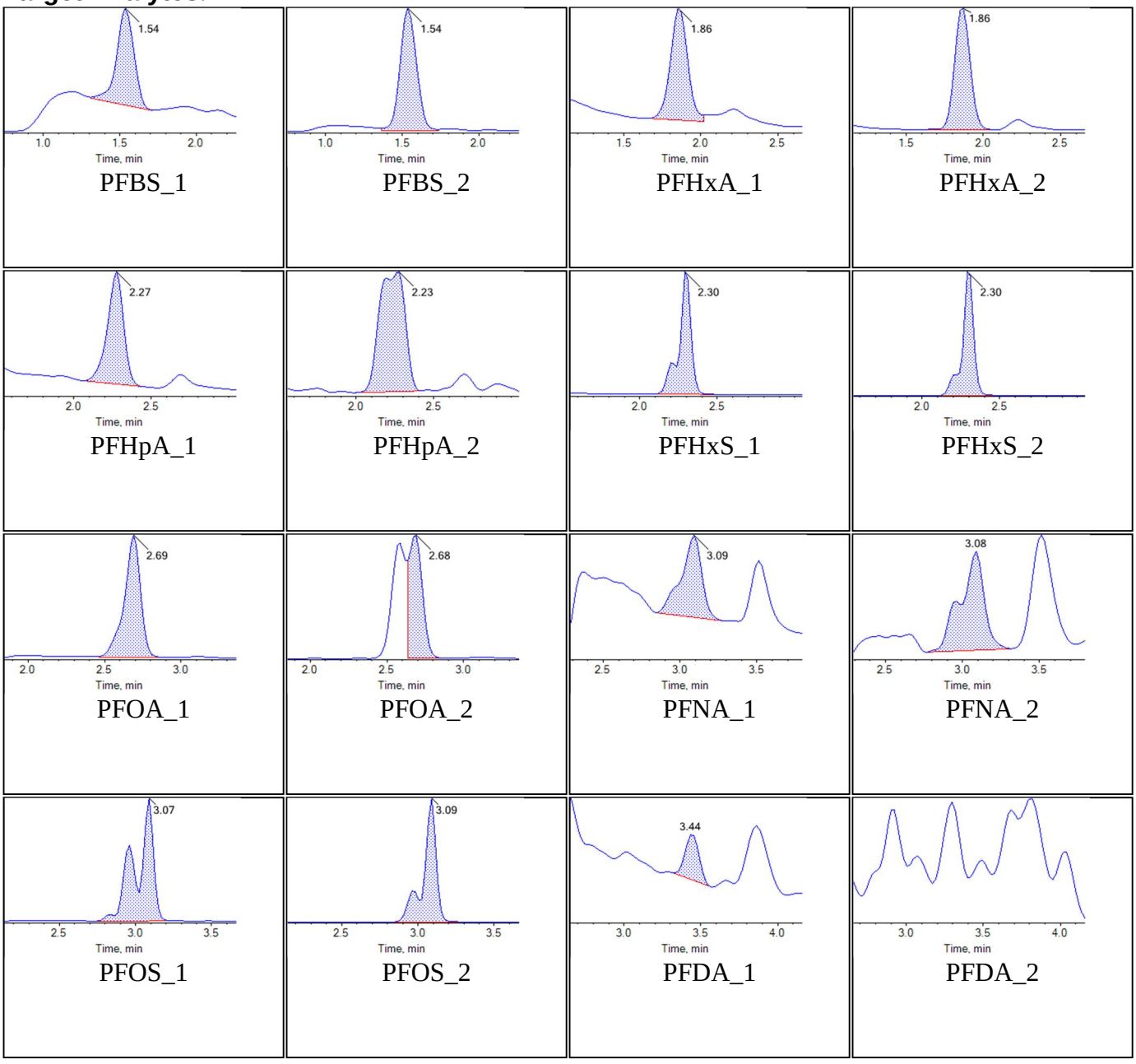
Chromatogram Report

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Sample Name	J8805-FS(0)	**Injection Vial**	10
Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

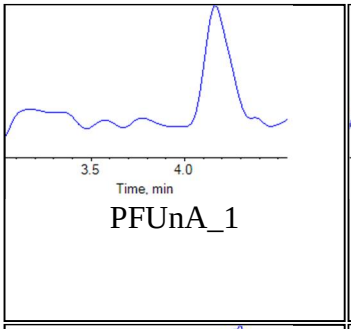
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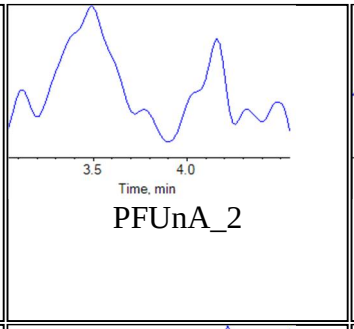
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Chromatogram Report

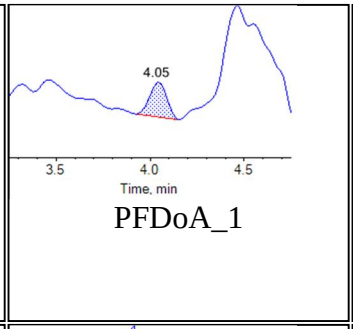
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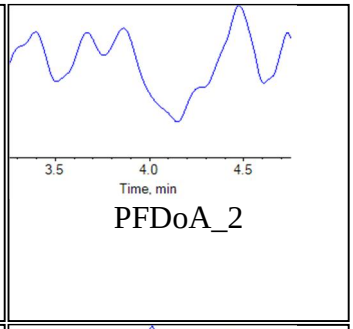
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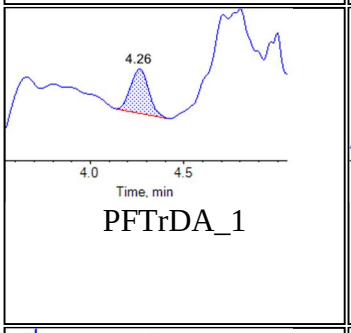
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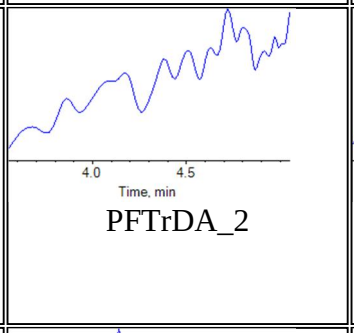
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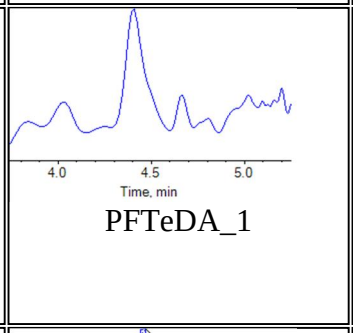
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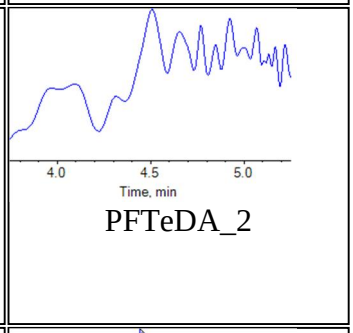
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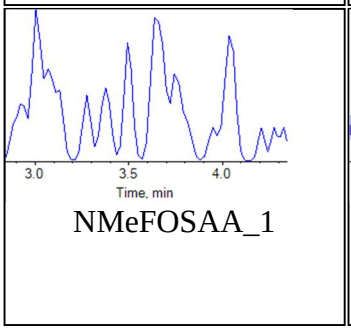
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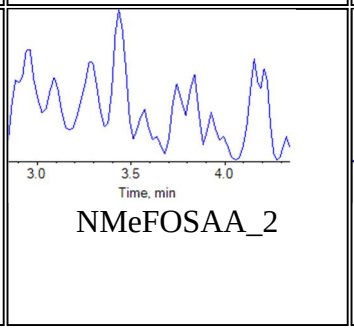
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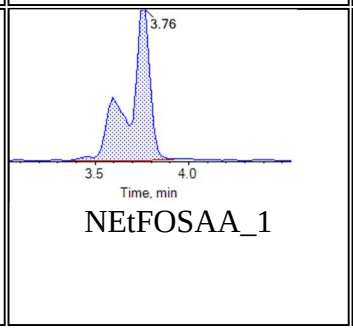
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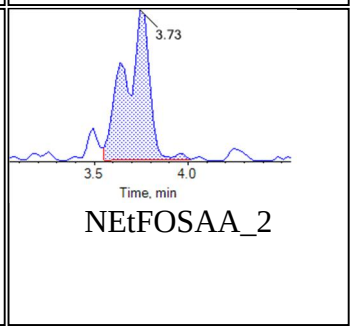
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NMeFOSAA_2

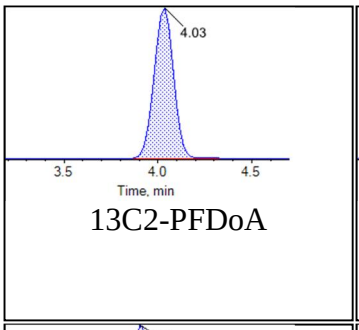


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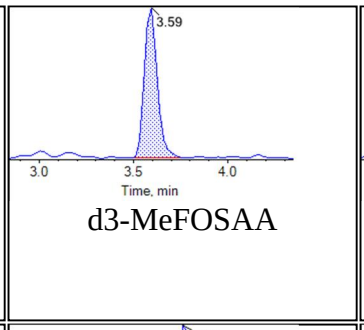


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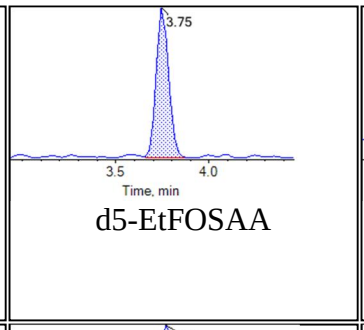
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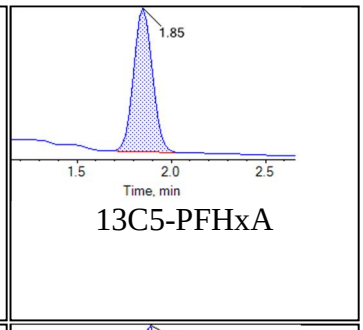
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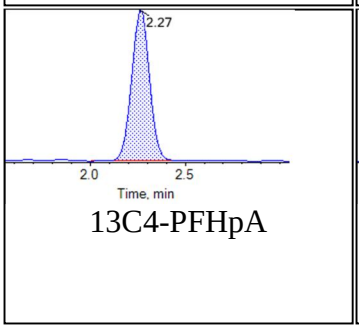
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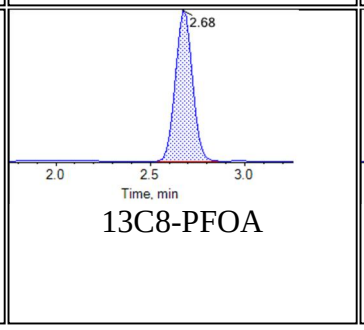
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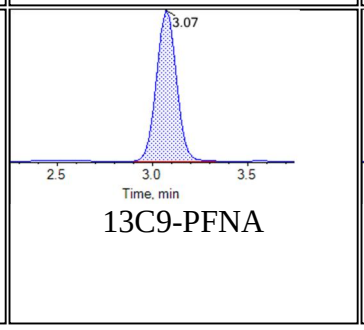
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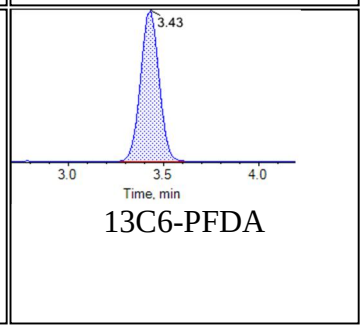
13C4-PFHpA



13C8-PFOA



13C9-PFNA

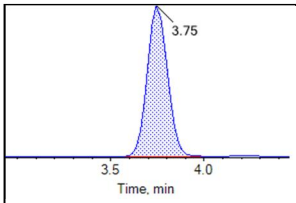


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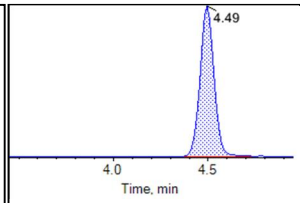
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Chromatogram Report

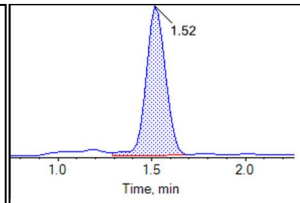
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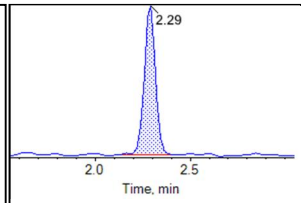
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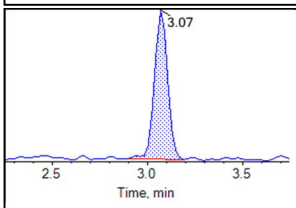
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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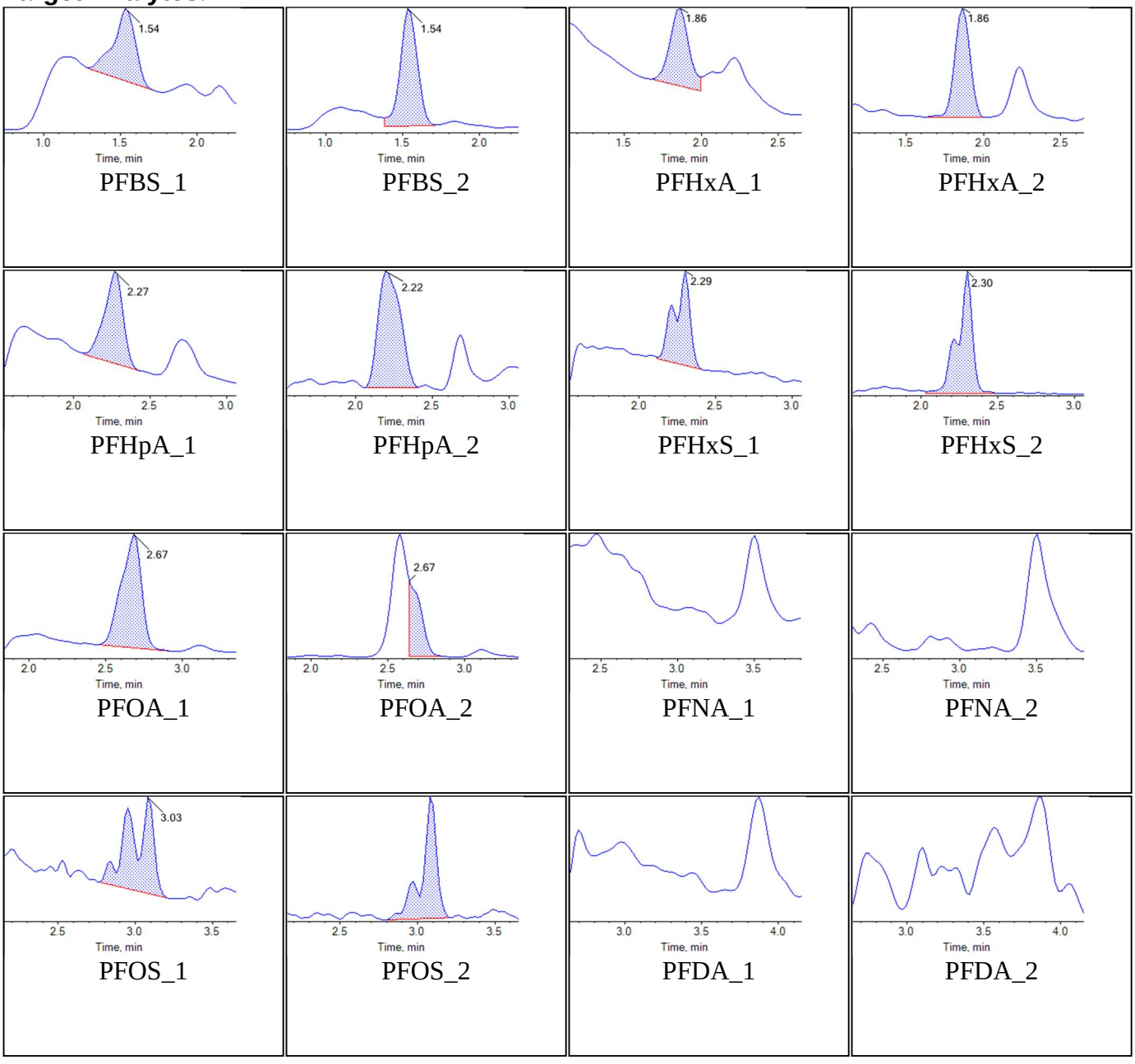
Chromatogram Report

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Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

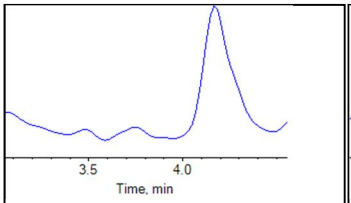
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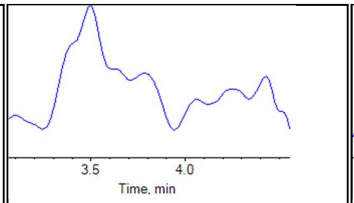
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Chromatogram Report

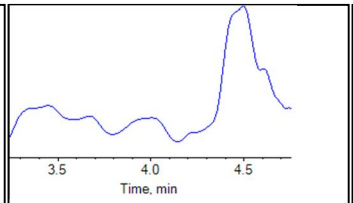
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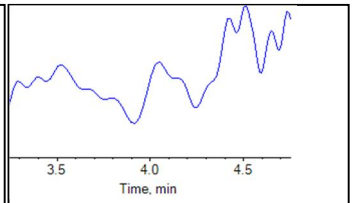
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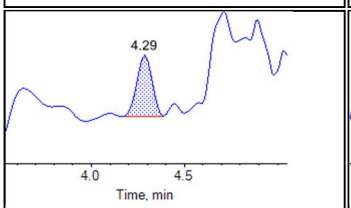
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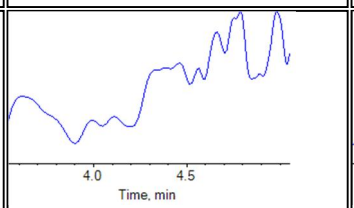
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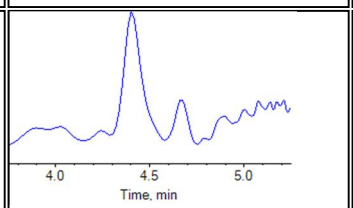
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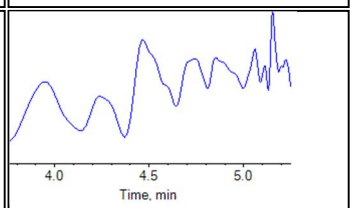
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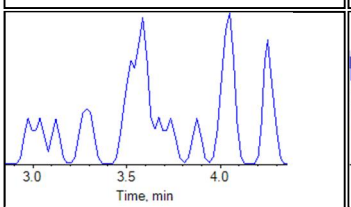
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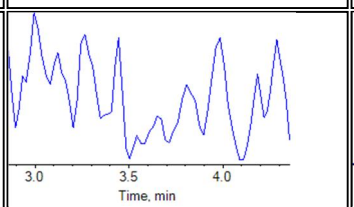
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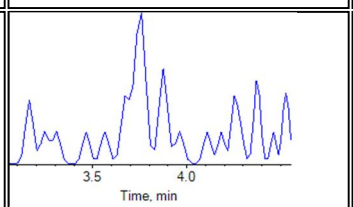
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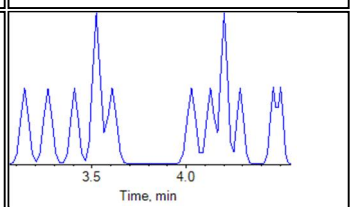
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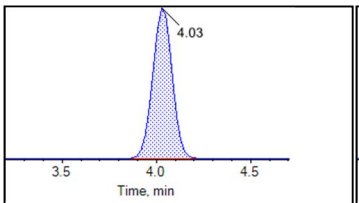


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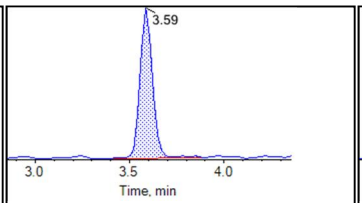


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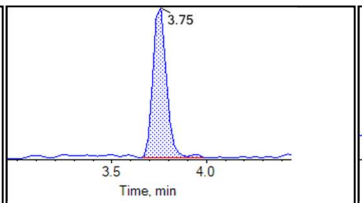
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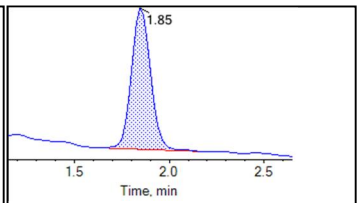
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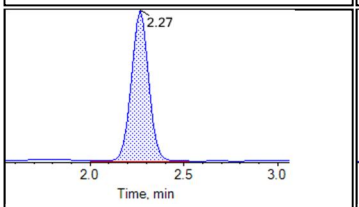
d3-MeFOSAA



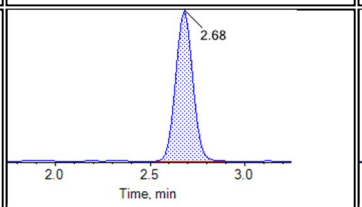
d5-EtFOSAA



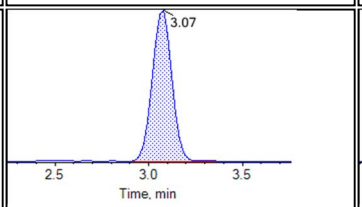
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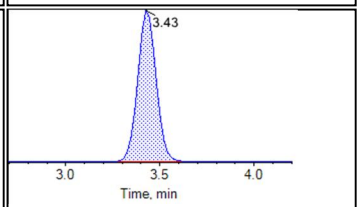
13C4-PFHpA



13C8-PFOA



13C9-PFNA

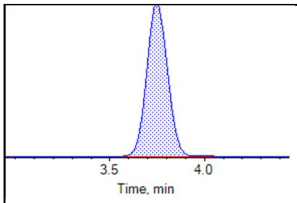


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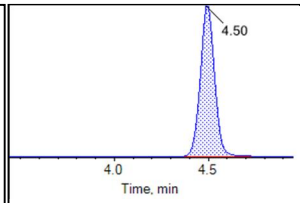
BATTELLE

Chromatogram Report

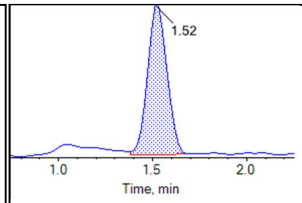
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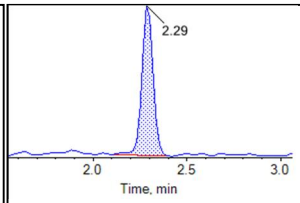
13C7-PFUnA



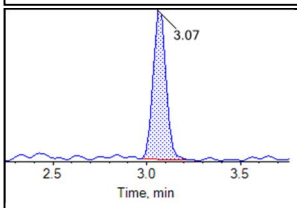
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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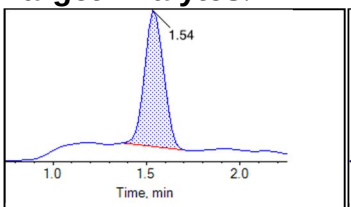
Chromatogram Report

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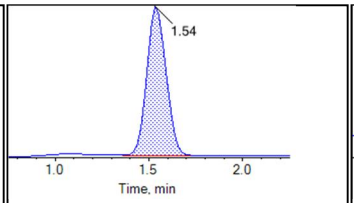
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Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

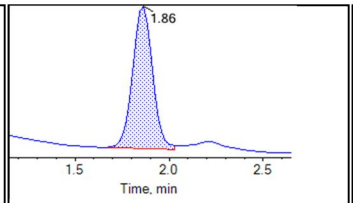
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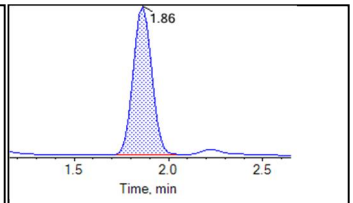
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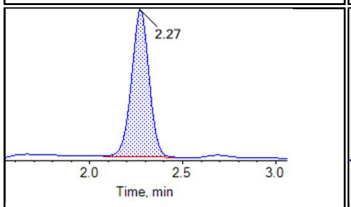
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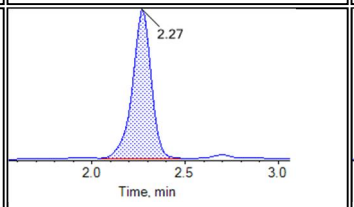
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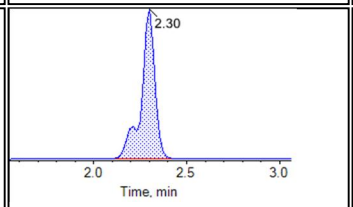
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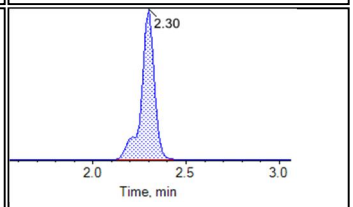
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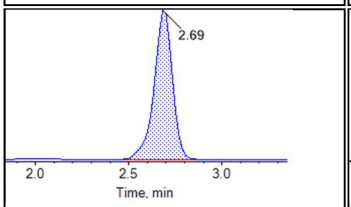
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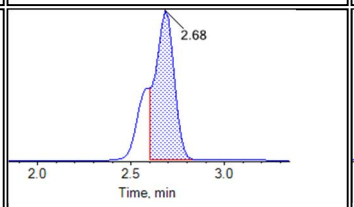
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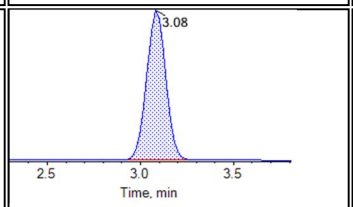
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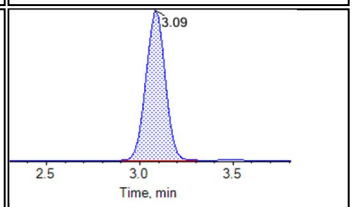
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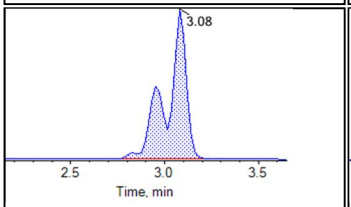
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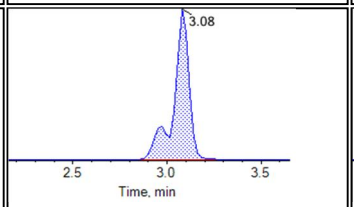
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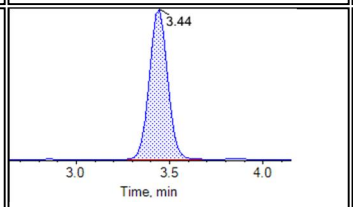
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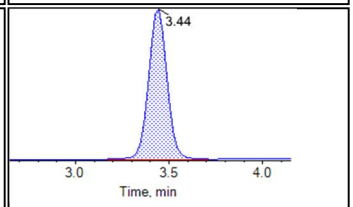
PFOS_1



PFOS_2



PFDA_1

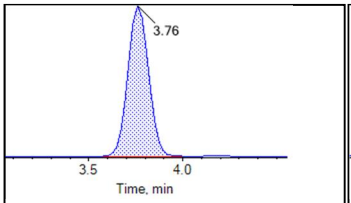


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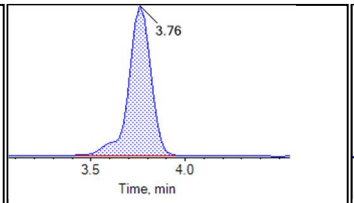
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Chromatogram Report

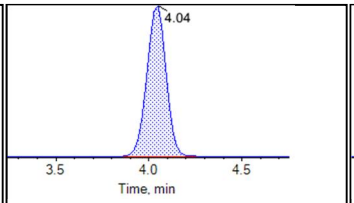
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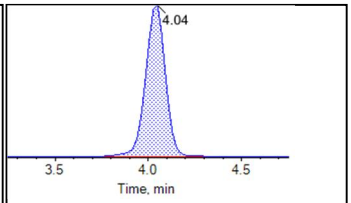
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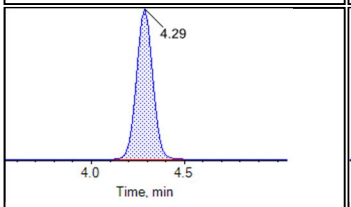
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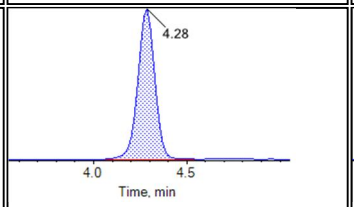
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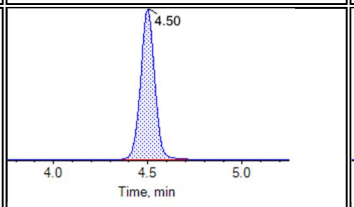
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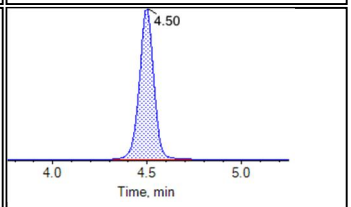
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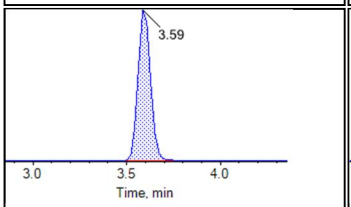
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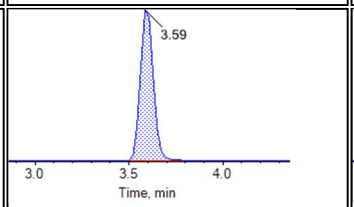
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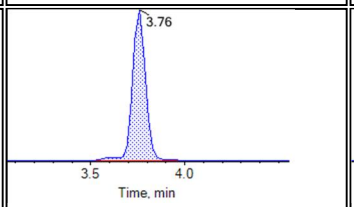
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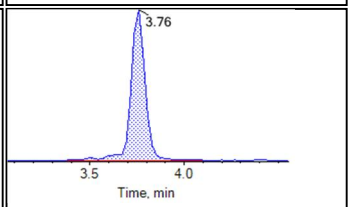
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NMeFOSAA_2

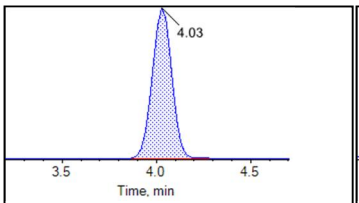


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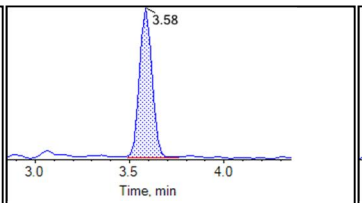


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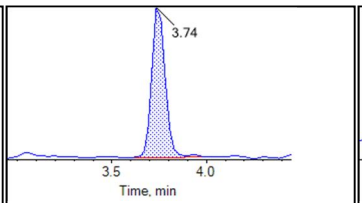
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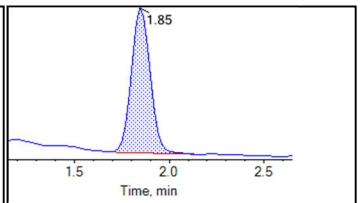
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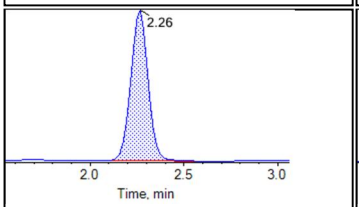
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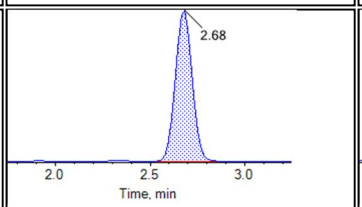
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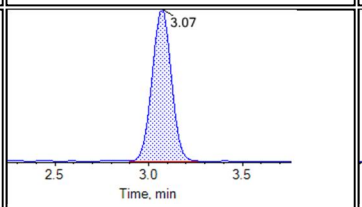
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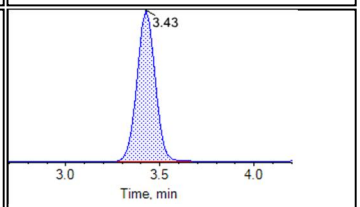
13C4-PFHpA



13C8-PFOA



13C9-PFNA

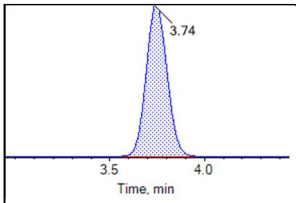


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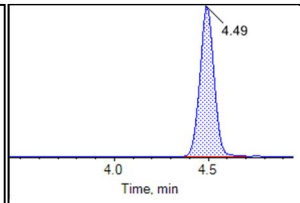
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Chromatogram Report

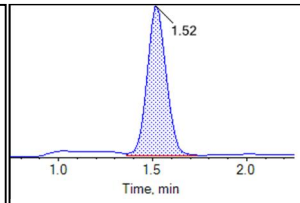
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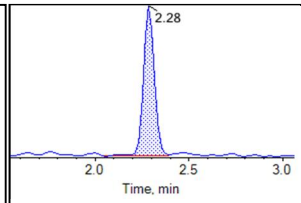
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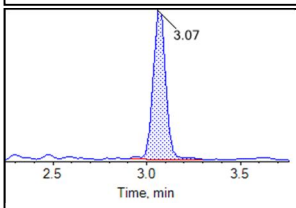
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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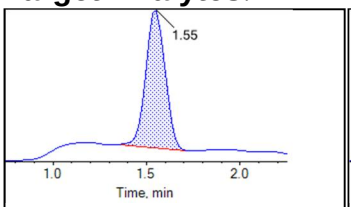
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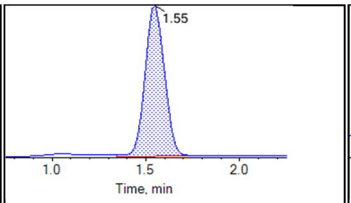
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Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

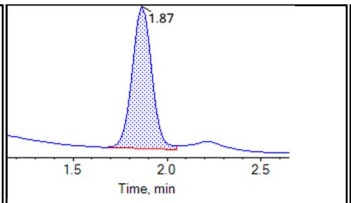
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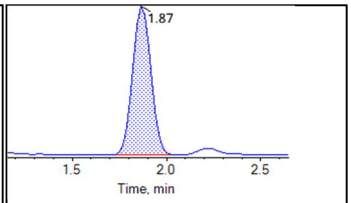
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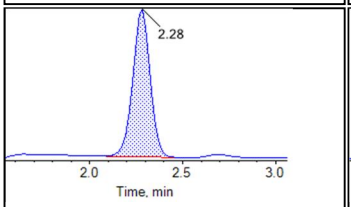
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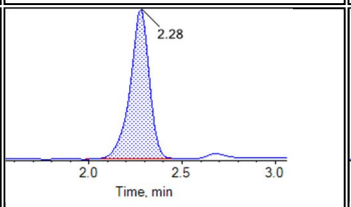
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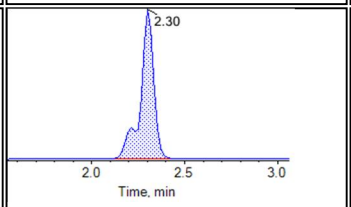
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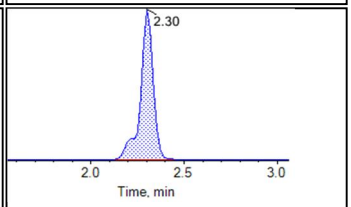
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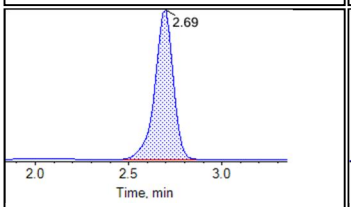
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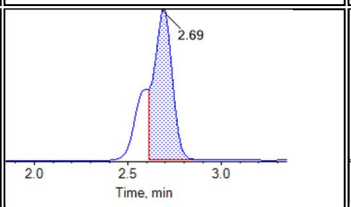
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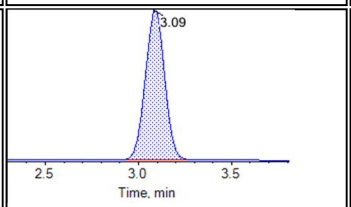
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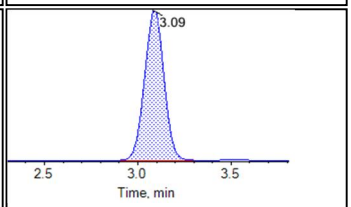
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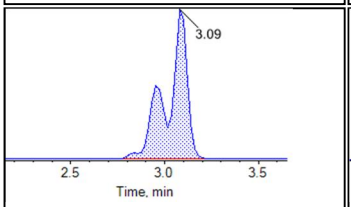
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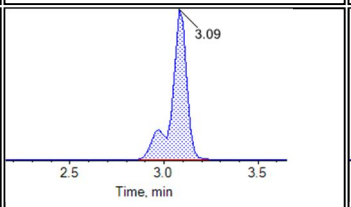
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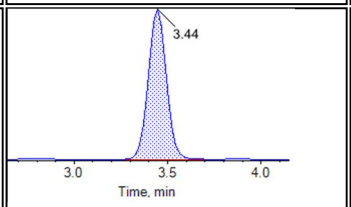
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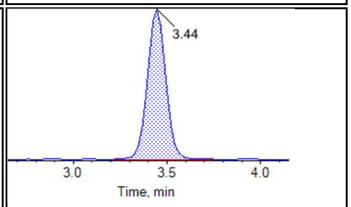
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PFOS_2



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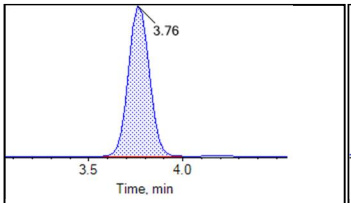


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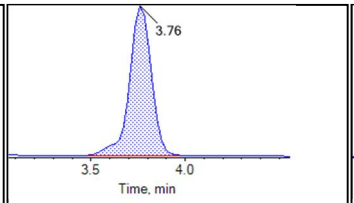
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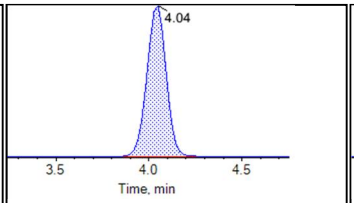
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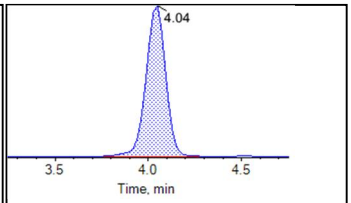
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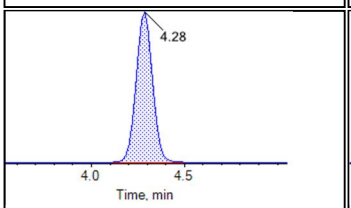
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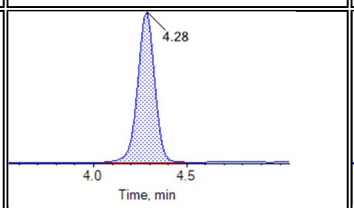
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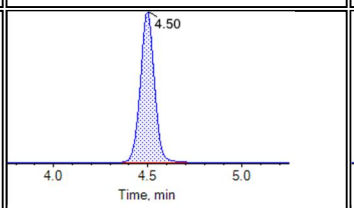
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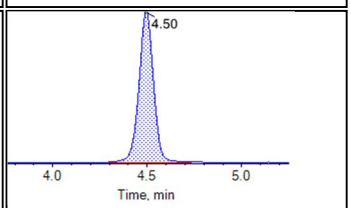
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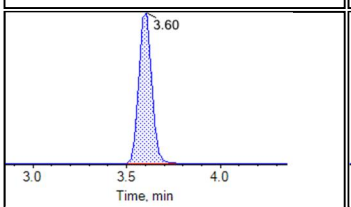
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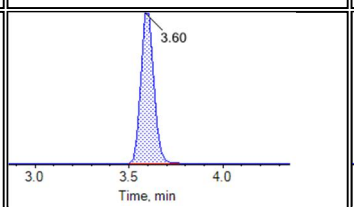
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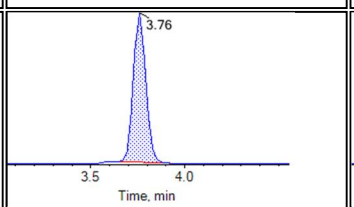
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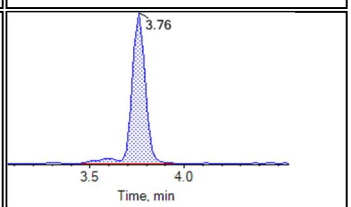
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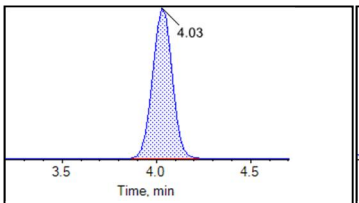


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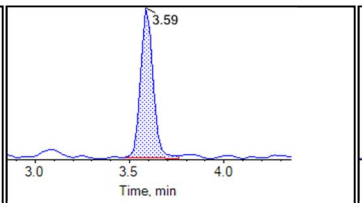


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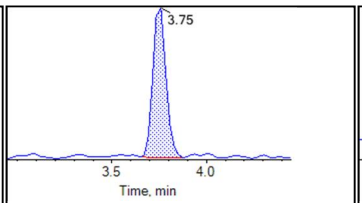
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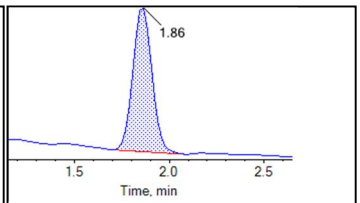
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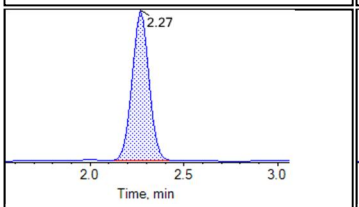
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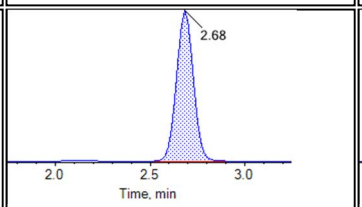
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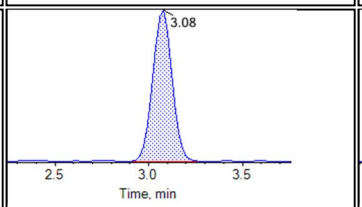
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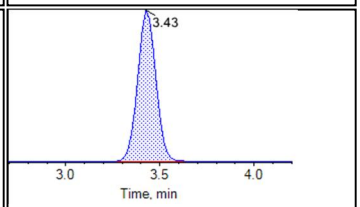
13C4-PFHpA



13C8-PFOA



13C9-PFNA

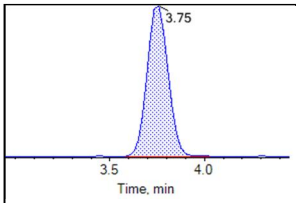


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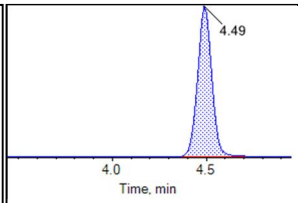
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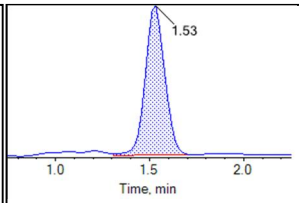
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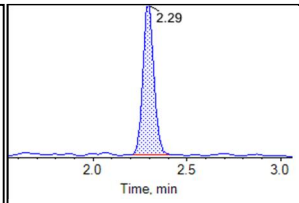
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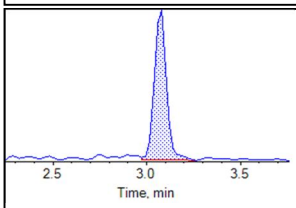
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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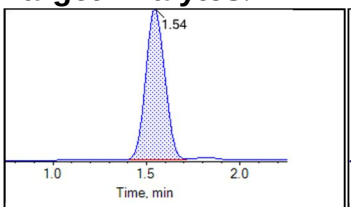
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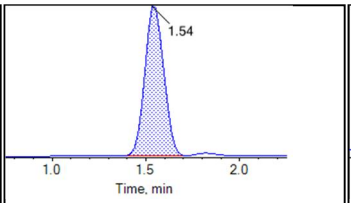
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Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_BASE
Sample Comment			

Chromatograms

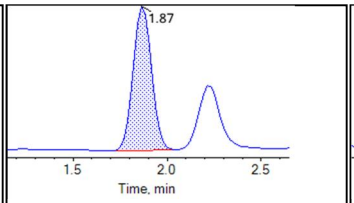
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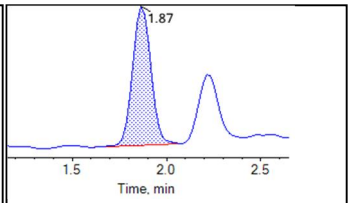
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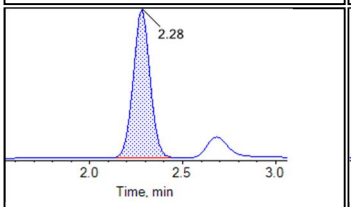
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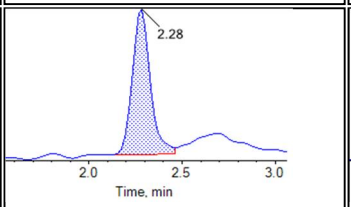
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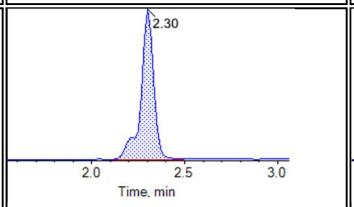
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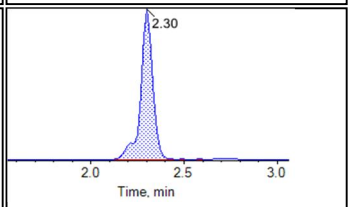
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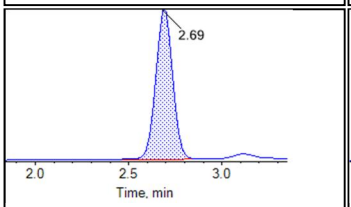
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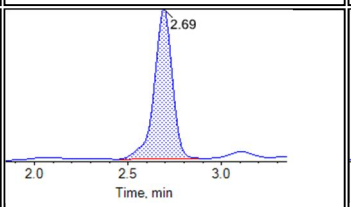
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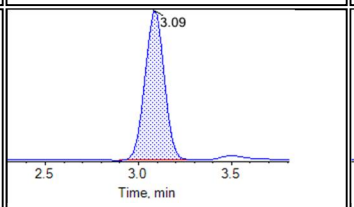
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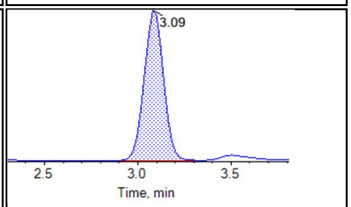
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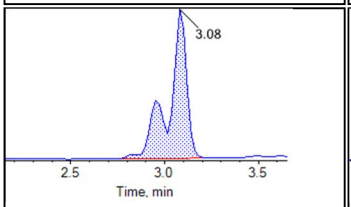
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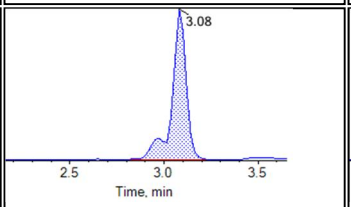
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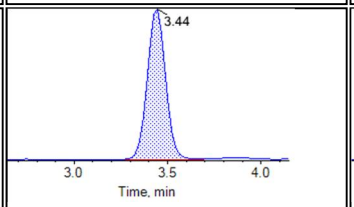
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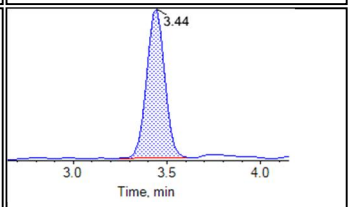
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PFOS_2



PFDA_1

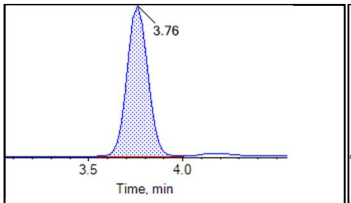


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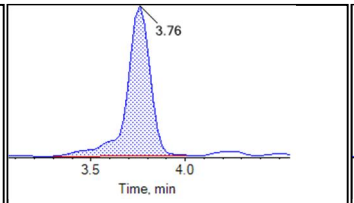
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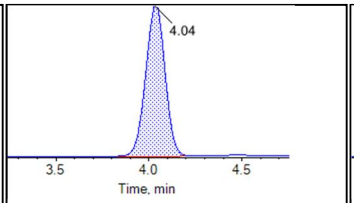
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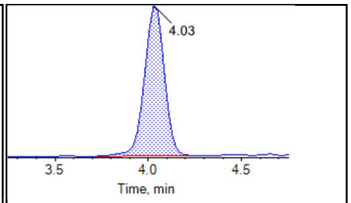
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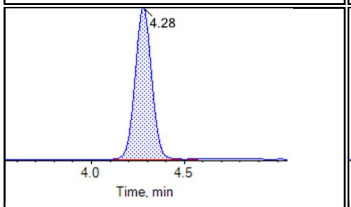
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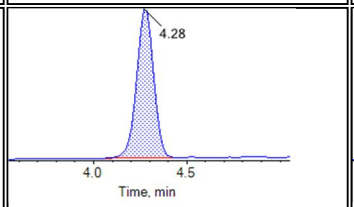
PFDoA_1



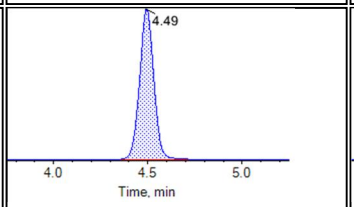
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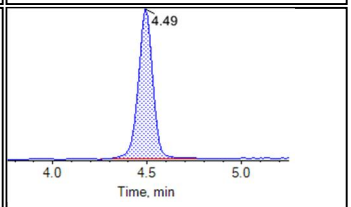
PFTrDA_1



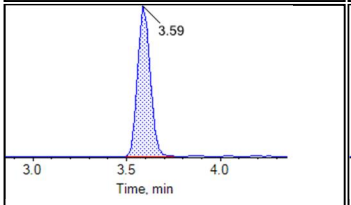
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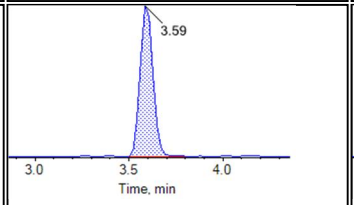
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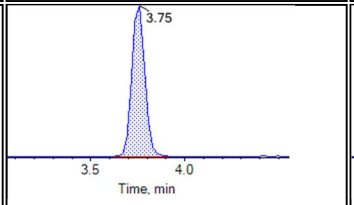
PFTeDA_2



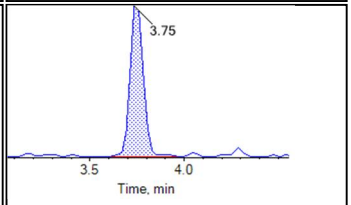
NMeFOSAA_1



NMeFOSAA_2

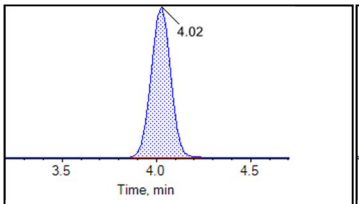


NEtFOSAA_1

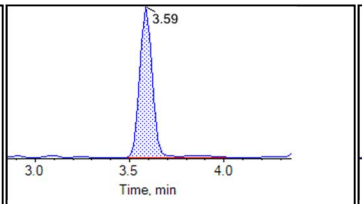


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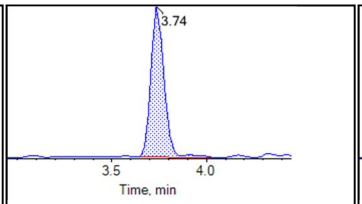
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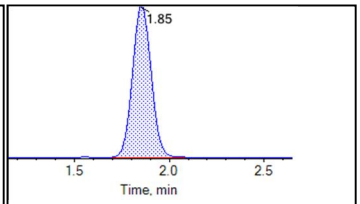
13C2-PFDoA



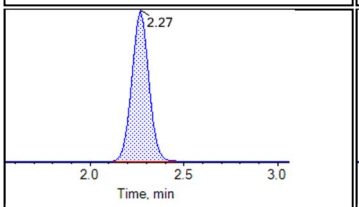
d3-MeFOSAA



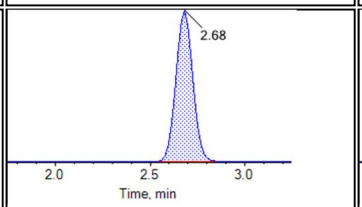
d5-EtFOSAA



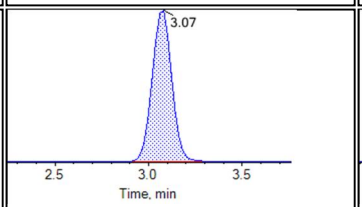
13C5-PFHxA



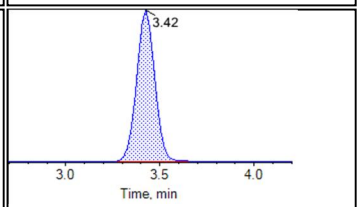
13C4-PFHpA



13C8-PFOA



13C9-PFNA

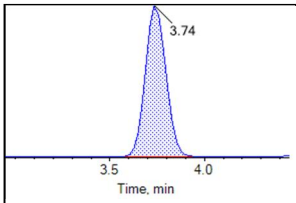


13C6-PFDA

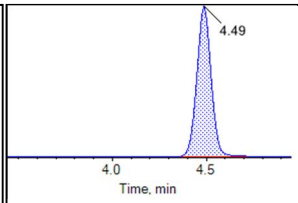
BATTELLE

Chromatogram Report

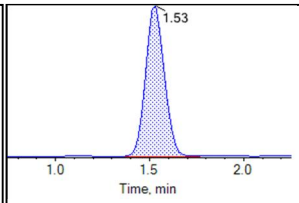
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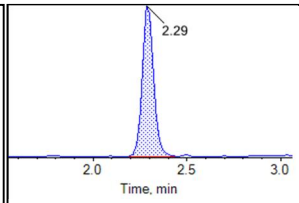
13C7-PFUnA



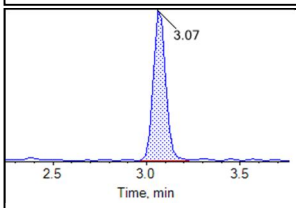
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

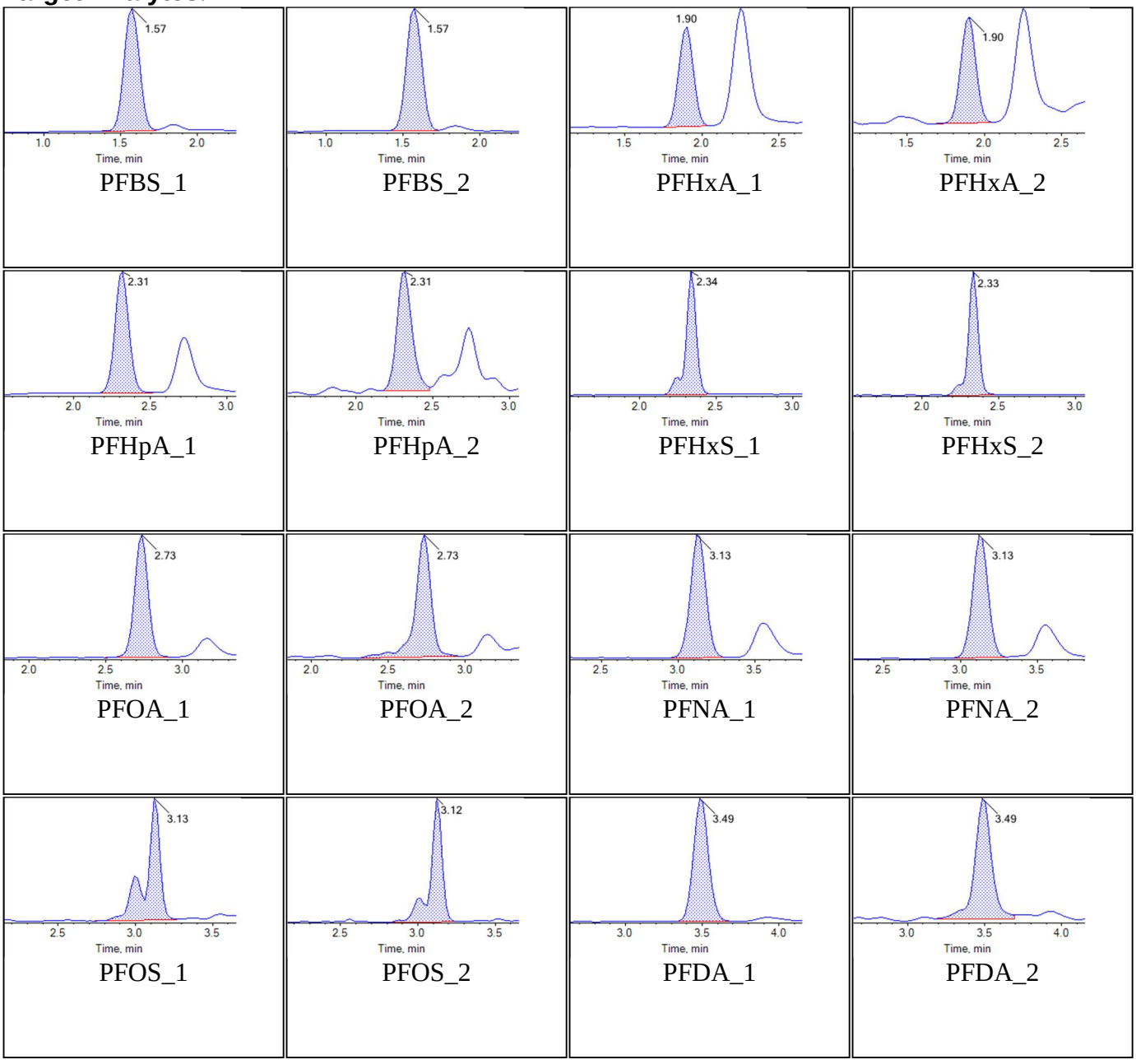
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:53:19 AM

Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Chromatograms

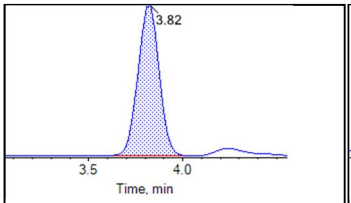
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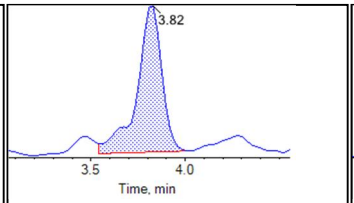
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Chromatogram Report

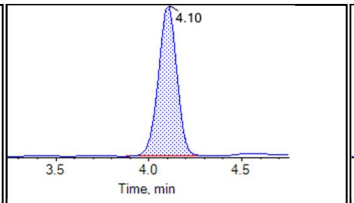
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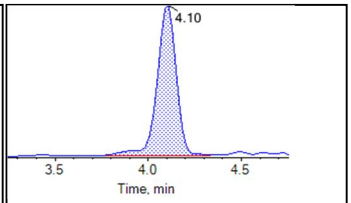
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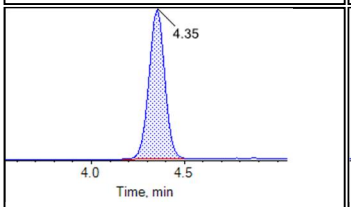
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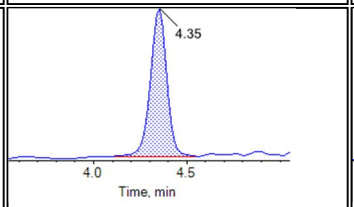
PFDoA_1



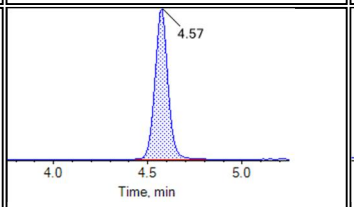
PFDoA_2



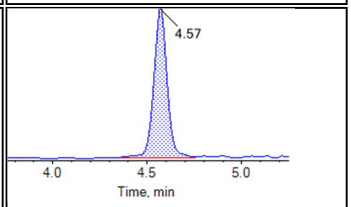
PFTrDA_1



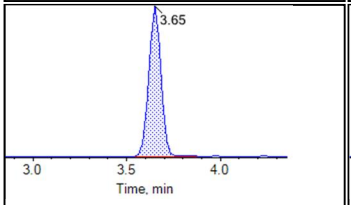
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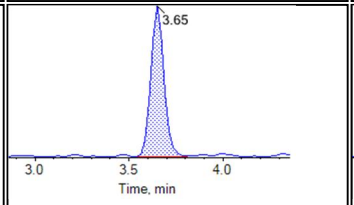
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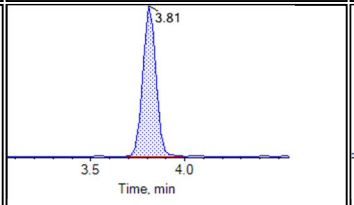
PFTeDA_2



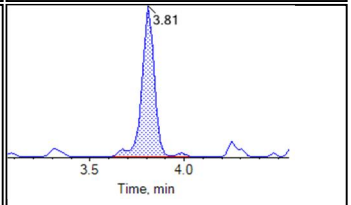
NMeFOSAA_1



NMeFOSAA_2

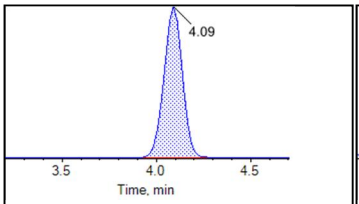


NEtFOSAA_1

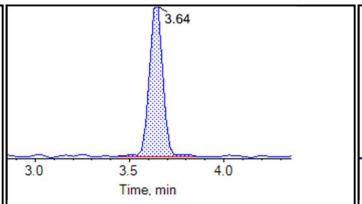


NEtFOSAA_2

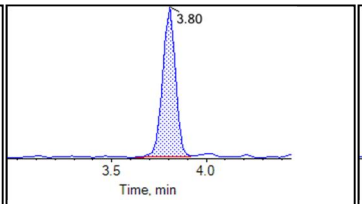
Internal Standards:



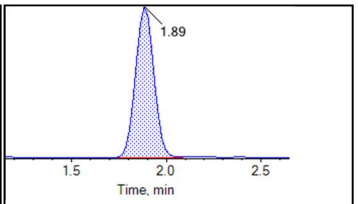
13C2-PFDoA



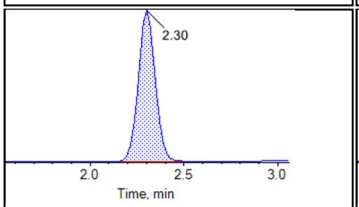
d3-MeFOSAA



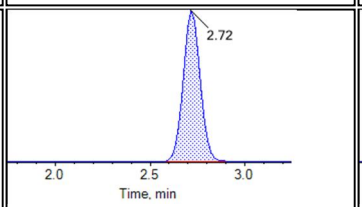
d5-EtFOSAA



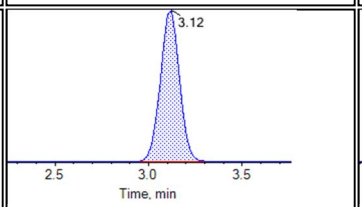
13C5-PFHxA



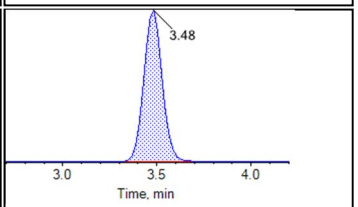
13C4-PFHpA



13C8-PFOA



13C9-PFNA

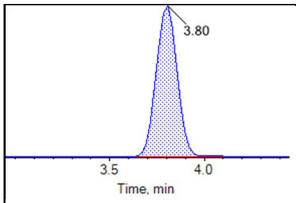


13C6-PFDA

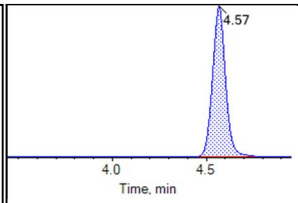
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Chromatogram Report

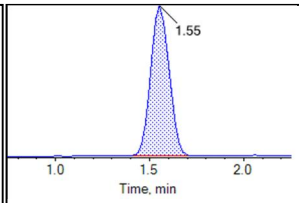
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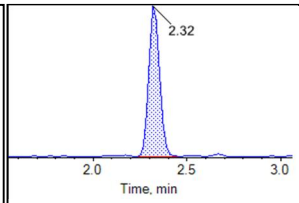
13C7-PFUnA



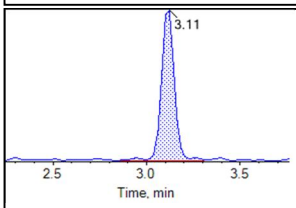
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

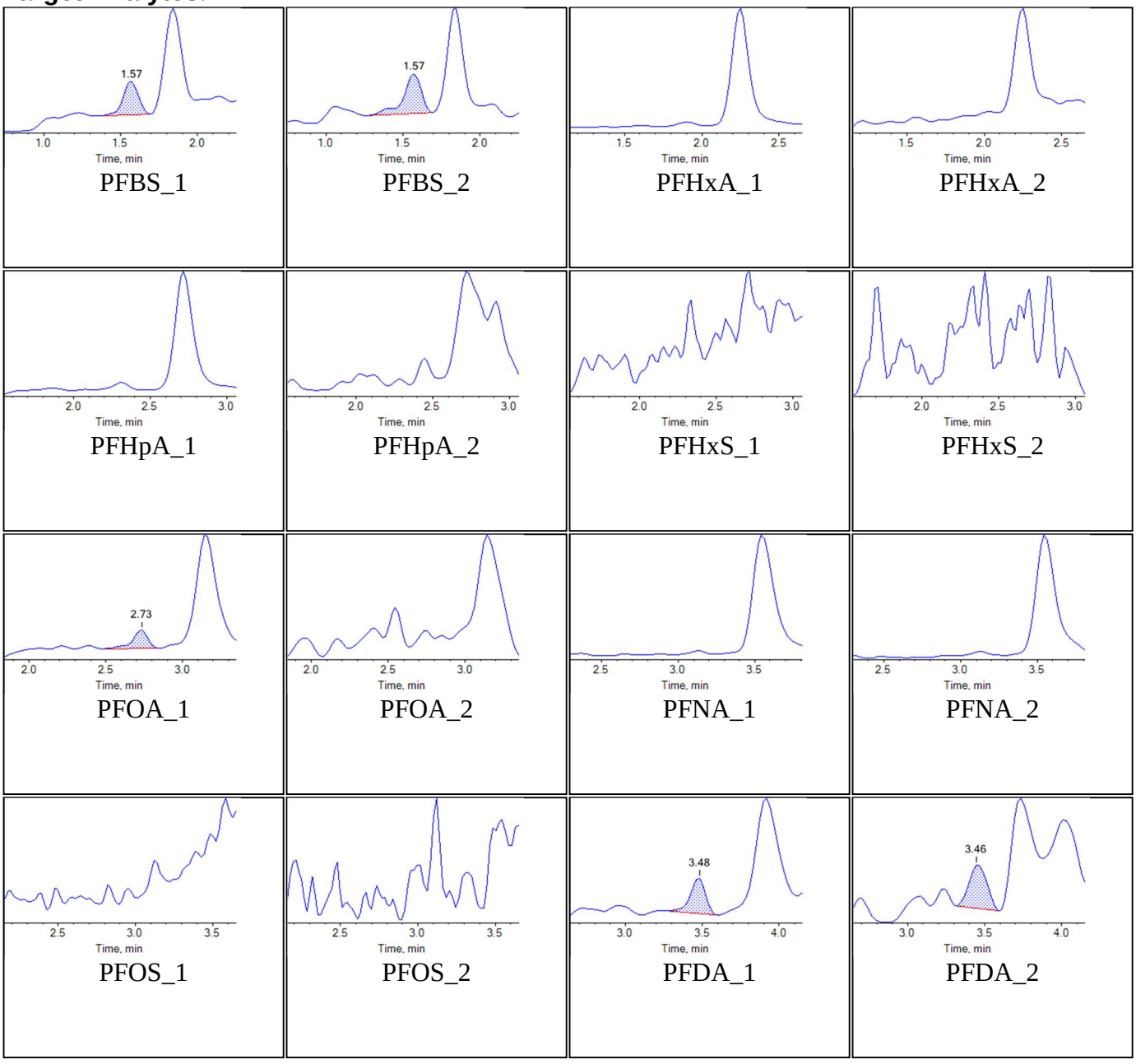
Chromatogram Report

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Printed: 02/11/2018 10:53:25 AM

Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Chromatograms

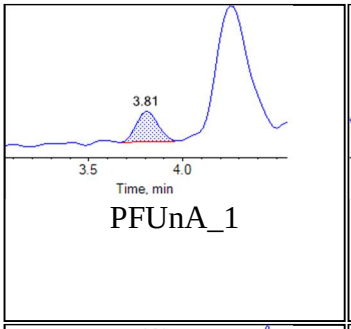
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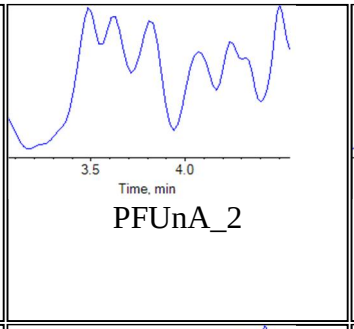
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Chromatogram Report

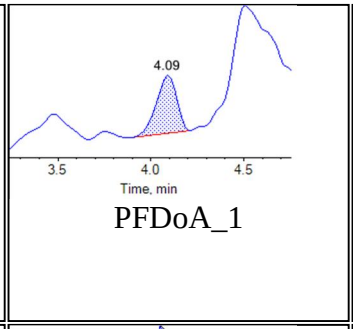
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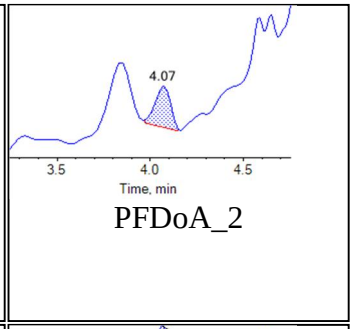
PFUnA_1



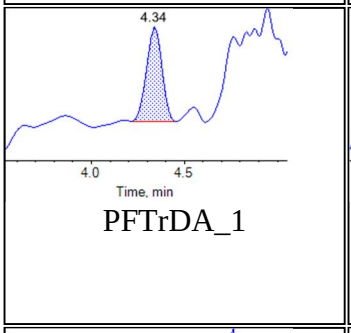
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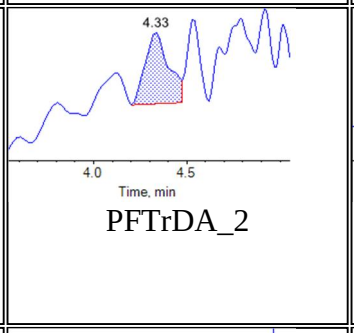
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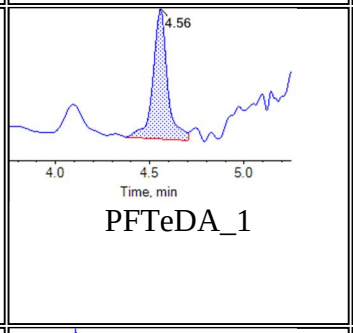
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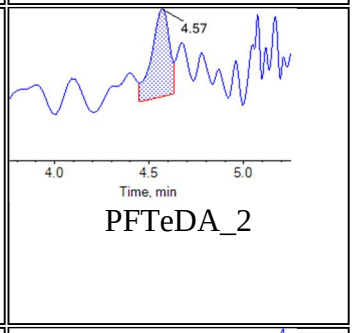
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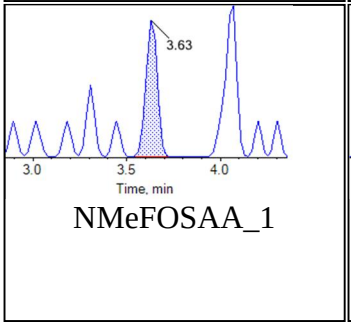
PFTrDA_2



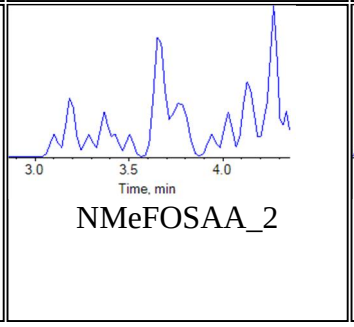
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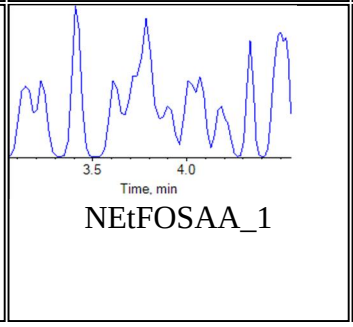
PFTeDA_2



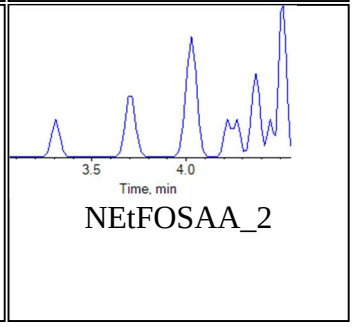
NMeFOSAA_1



NMeFOSAA_2

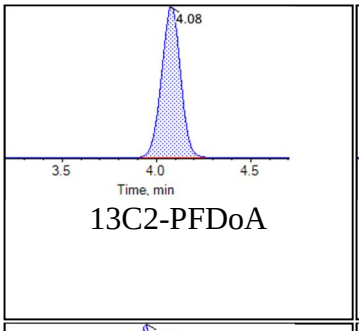


NEtFOSAA_1

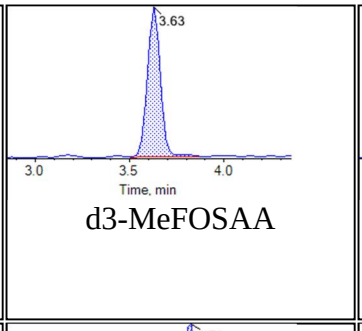


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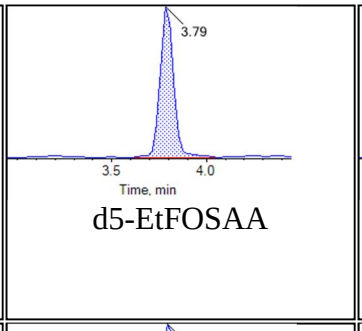
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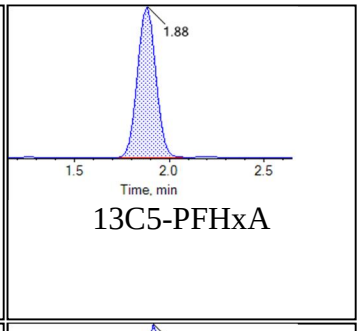
13C2-PFDoA



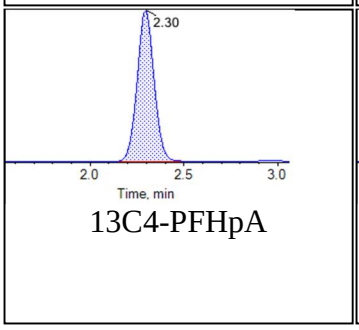
d3-MeFOSAA



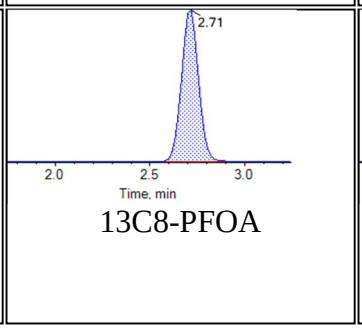
d5-EtFOSAA



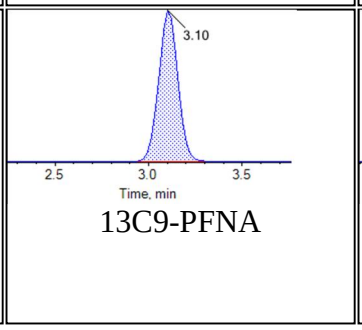
13C5-PFHxA



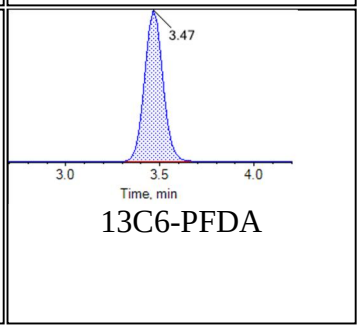
13C4-PFHpA



13C8-PFOA



13C9-PFNA

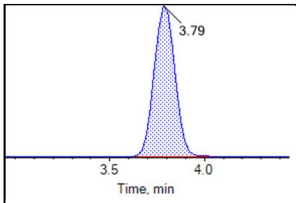


13C6-PFDA

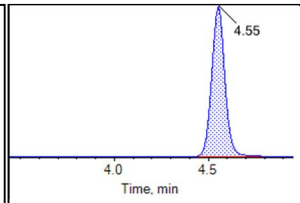
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Chromatogram Report

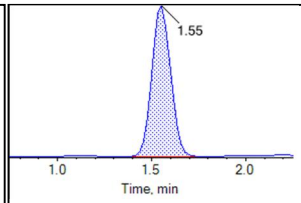
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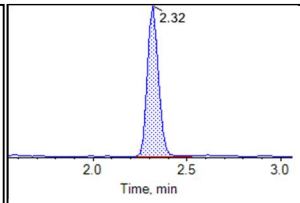
13C7-PFUnA



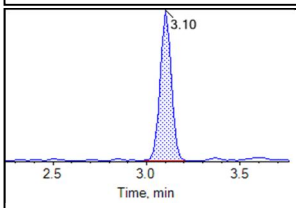
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

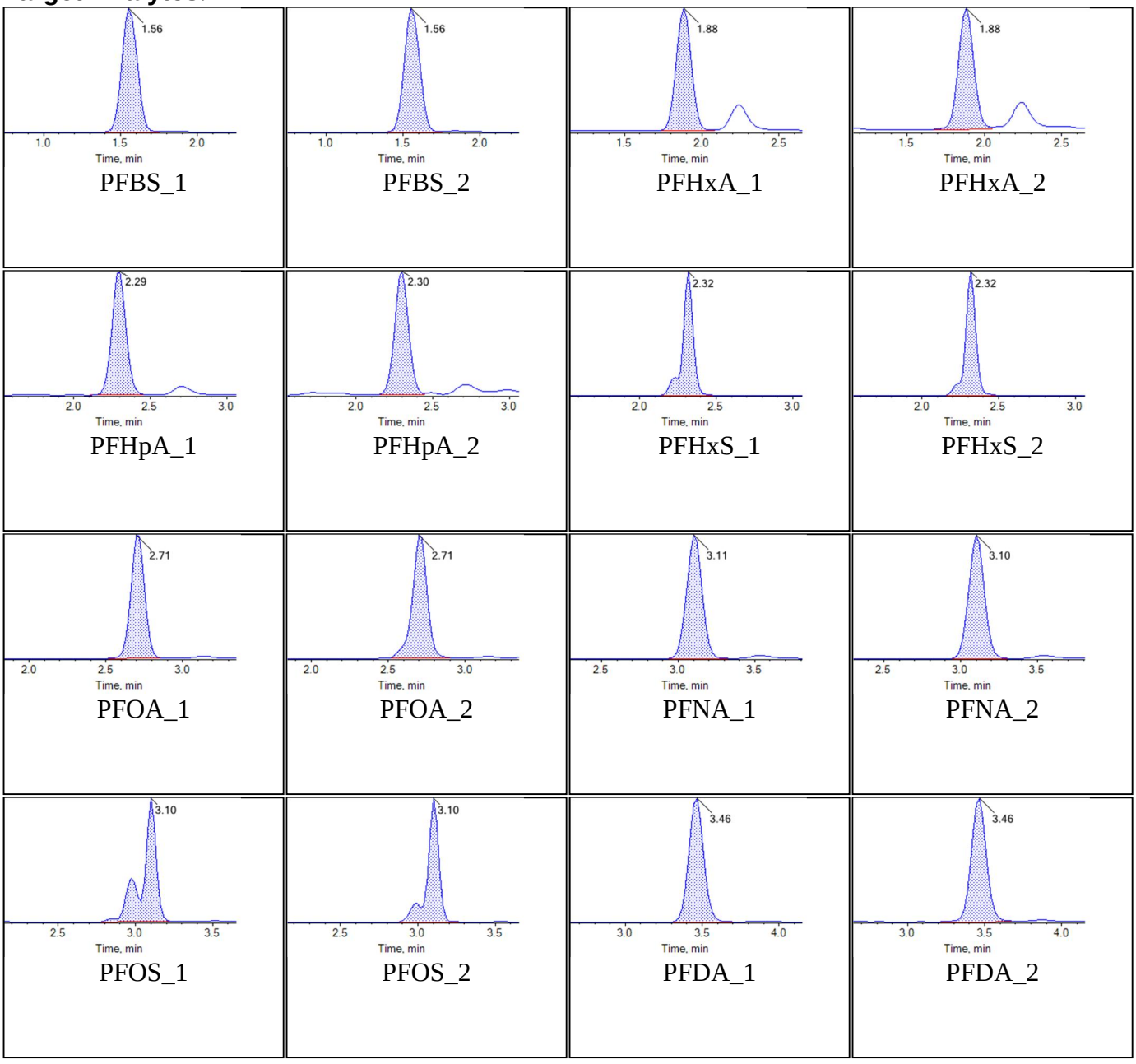
Chromatogram Report

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Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Chromatograms

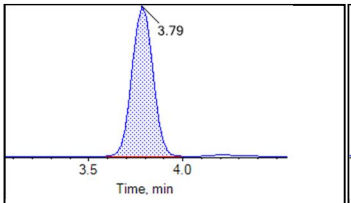
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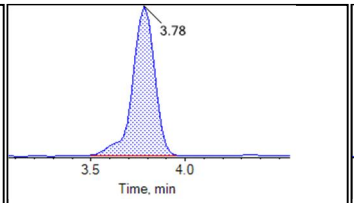
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Chromatogram Report

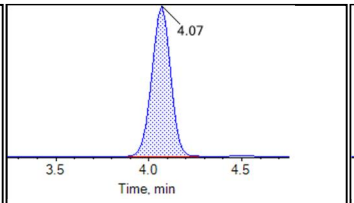
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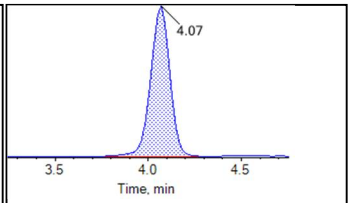
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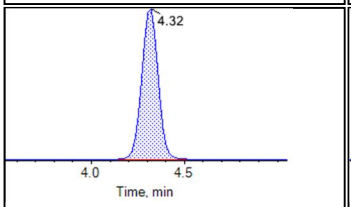
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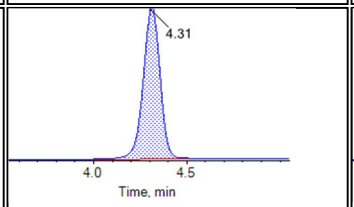
PFDoA_1



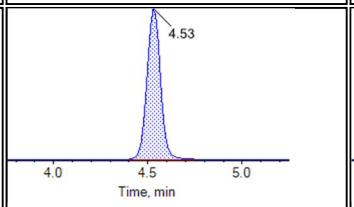
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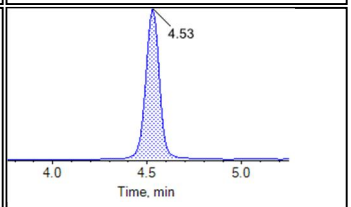
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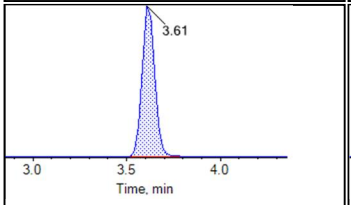
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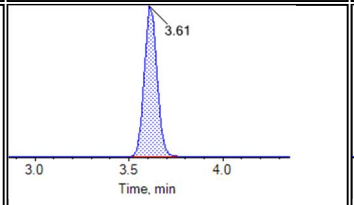
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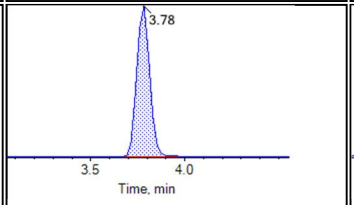
PFTeDA_2



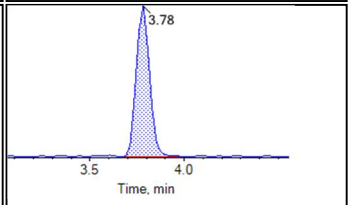
NMeFOSAA_1



NMeFOSAA_2

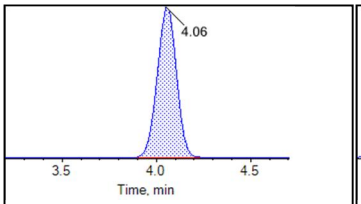


NEtFOSAA_1

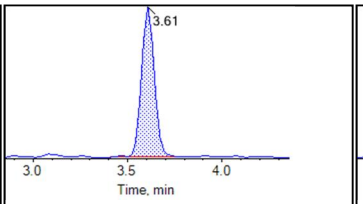


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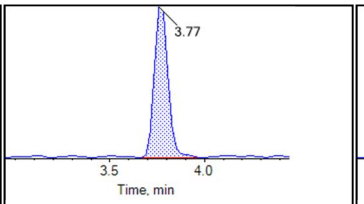
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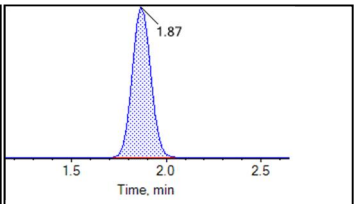
13C2-PFDoA



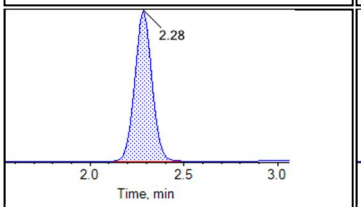
d3-MeFOSAA



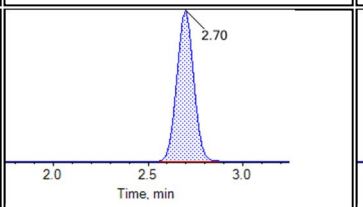
d5-EtFOSAA



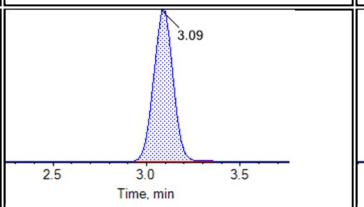
13C5-PFHxA



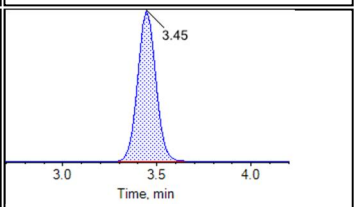
13C4-PFHpA



13C8-PFOA



13C9-PFNA

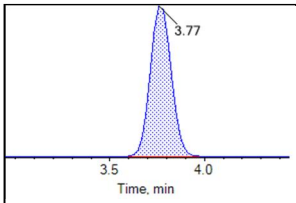


13C6-PFDA

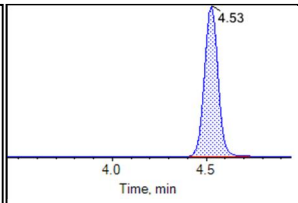
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Chromatogram Report

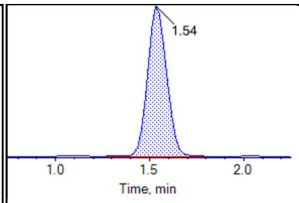
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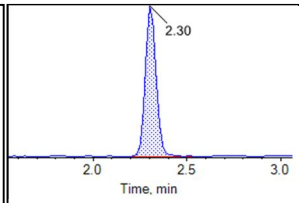
13C7-PFUnA



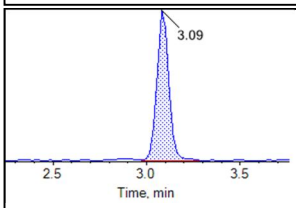
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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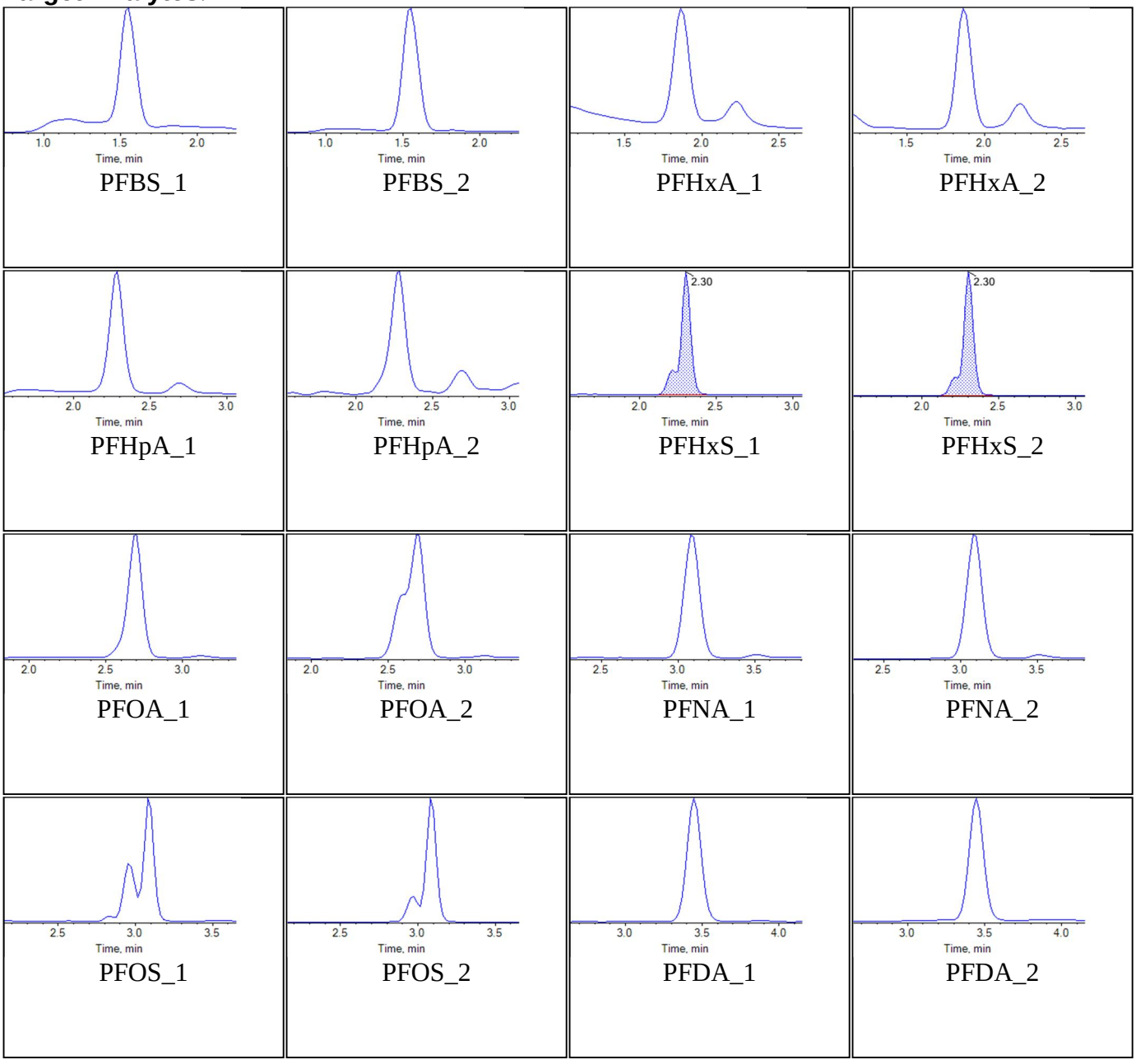
Chromatogram Report

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Sample Name	J8807MS-FS-D(3)	**Injection Vial**	9
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Solvent	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:05:24	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Chromatograms

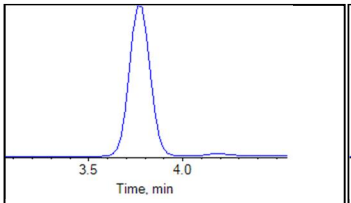
Target Analytes:



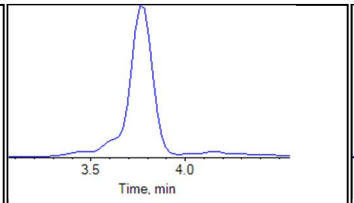
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Chromatogram Report

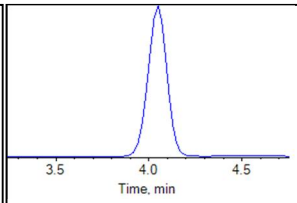
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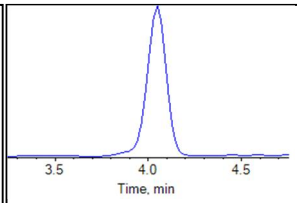
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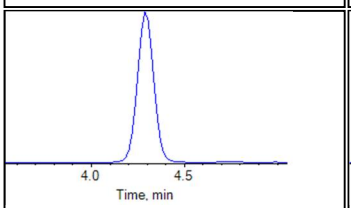
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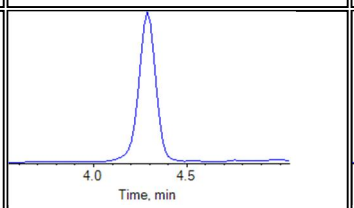
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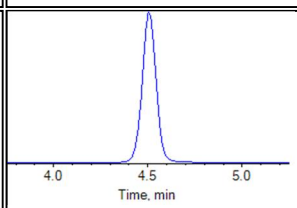
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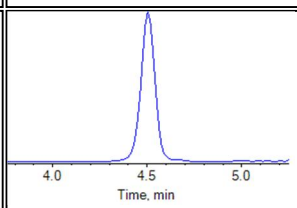
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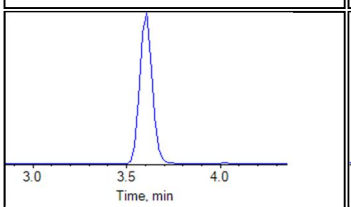
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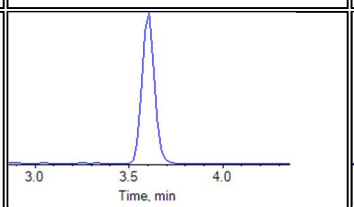
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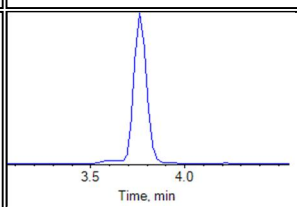
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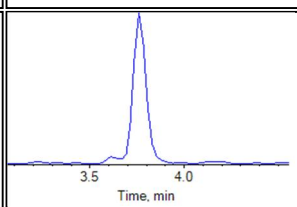
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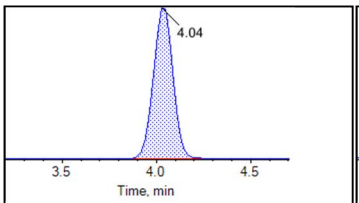


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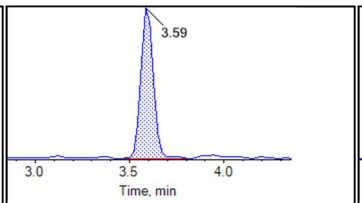


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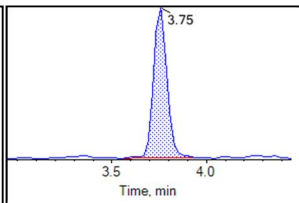
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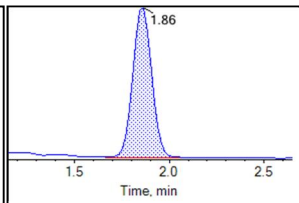
13C2-PFDoA



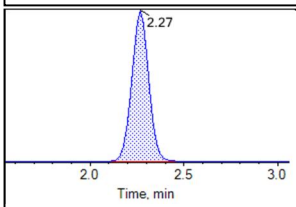
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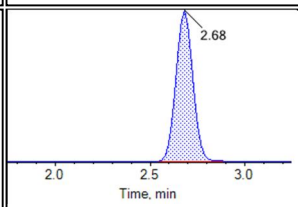
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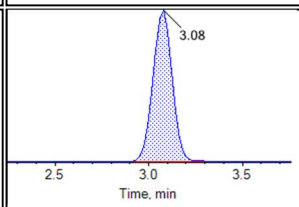
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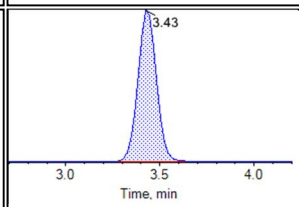
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13C8-PFOA



13C9-PFNA

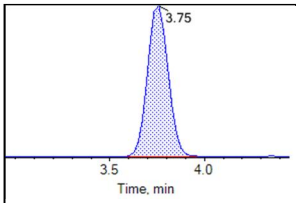


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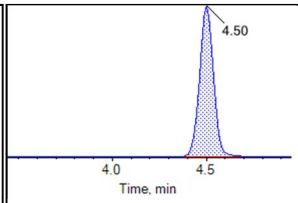
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Chromatogram Report

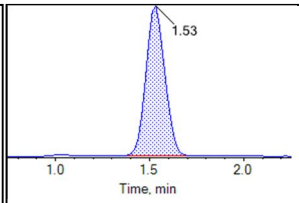
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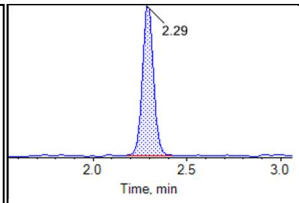
13C7-PFUnA



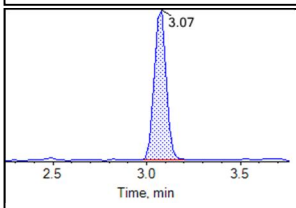
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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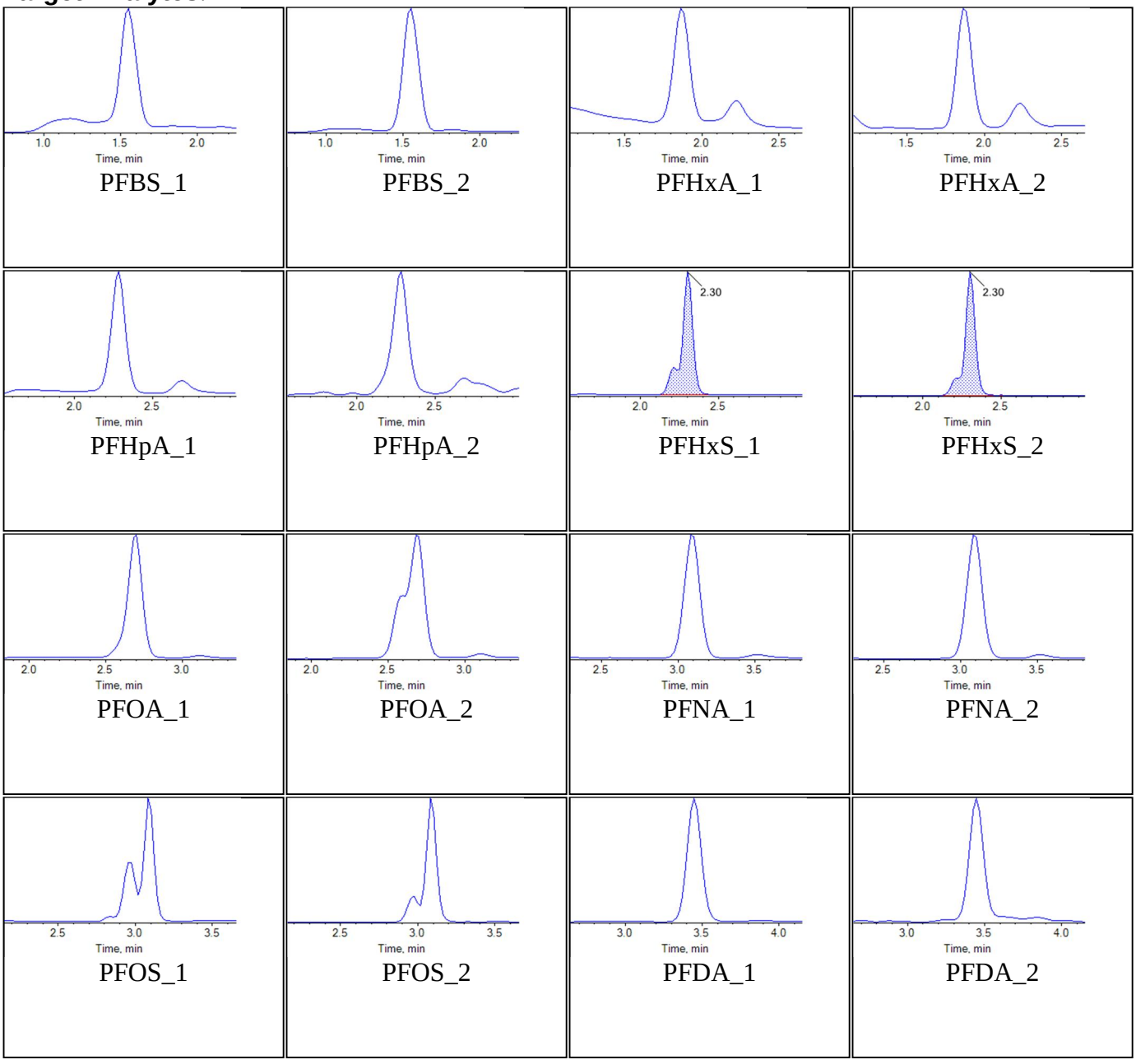
Chromatogram Report

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Sample Name	J8808MSD-FS-D(3)	**Injection Vial**	10
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Chromatograms

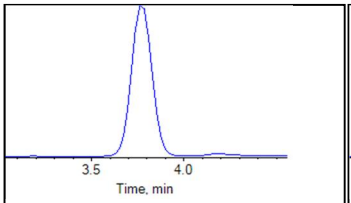
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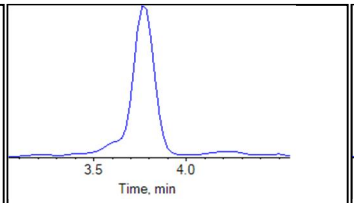
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Chromatogram Report

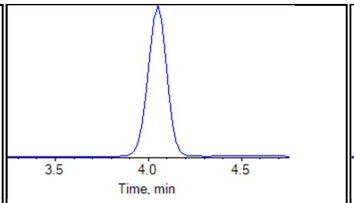
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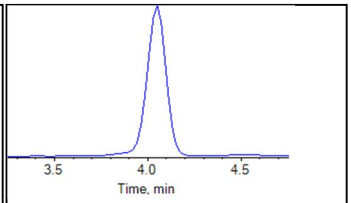
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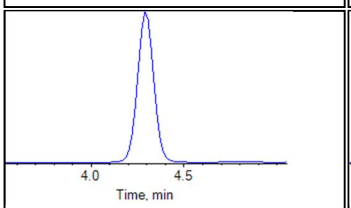
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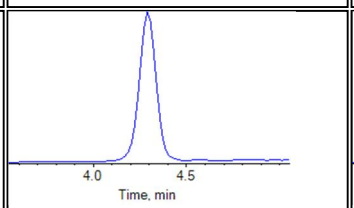
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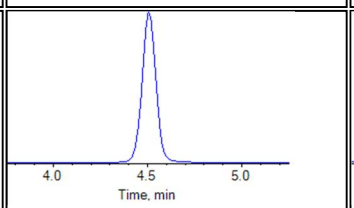
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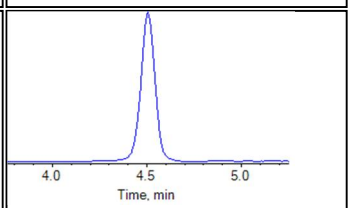
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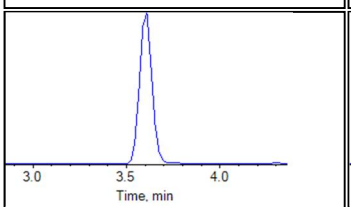
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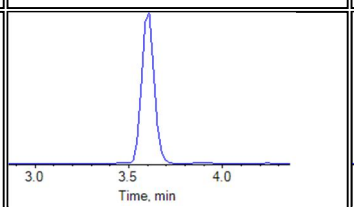
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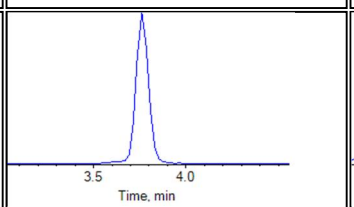
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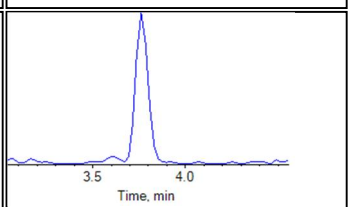
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NMeFOSAA_2

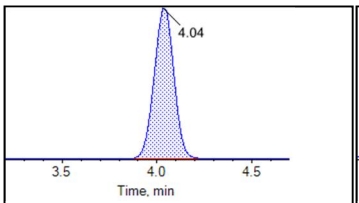


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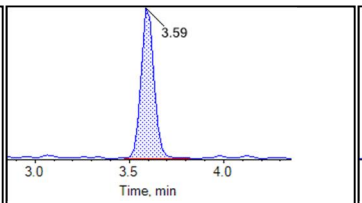


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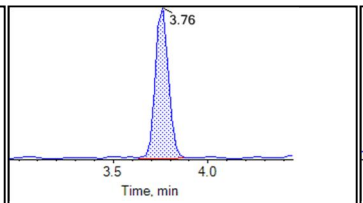
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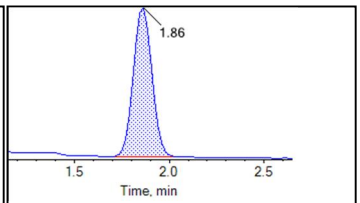
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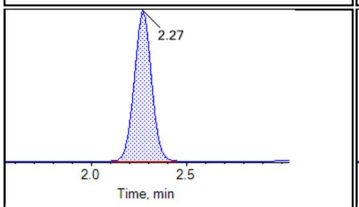
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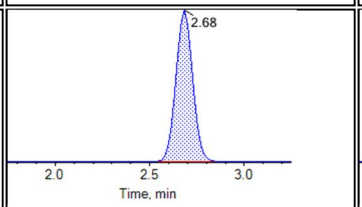
d5-EtFOSAA



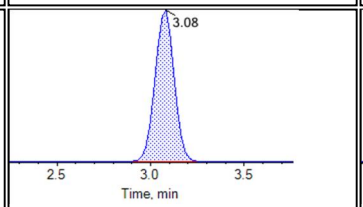
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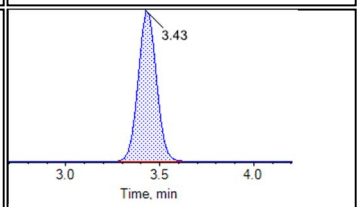
13C4-PFHpA



13C8-PFOA



13C9-PFNA

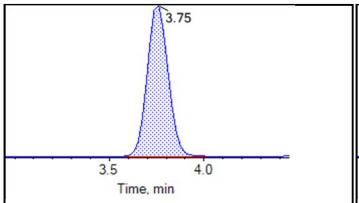


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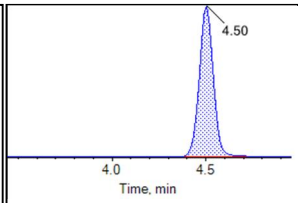
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Chromatogram Report

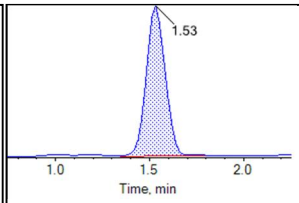
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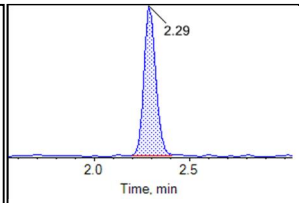
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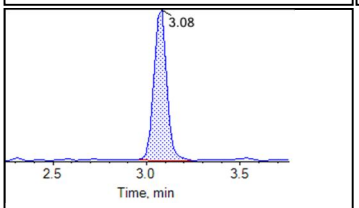
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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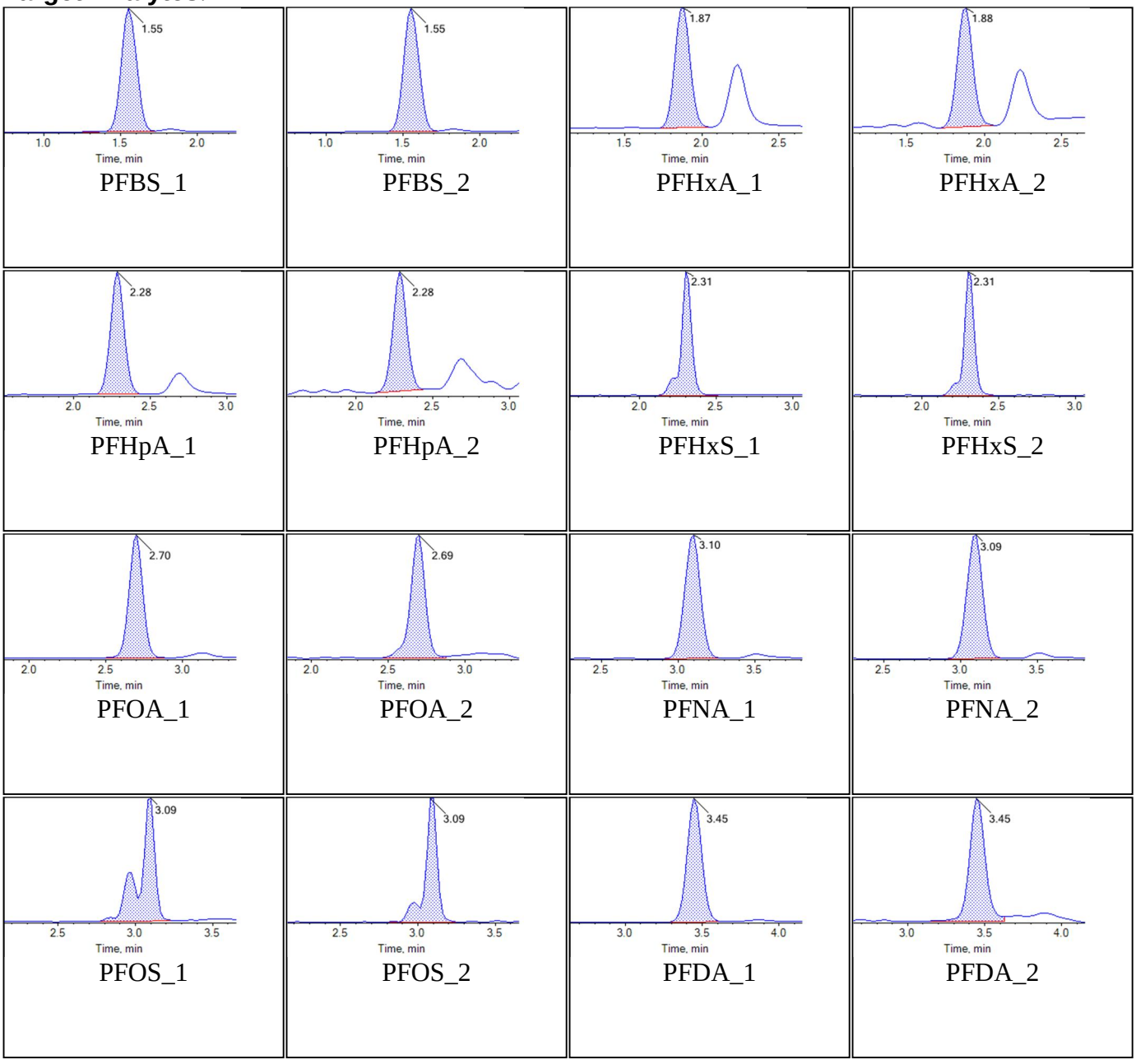
Chromatogram Report

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Sample Name	KB76	**Injection Vial**	11
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Chromatograms

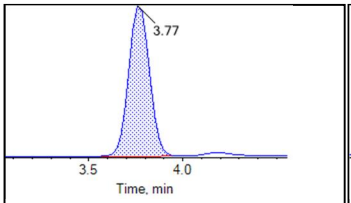
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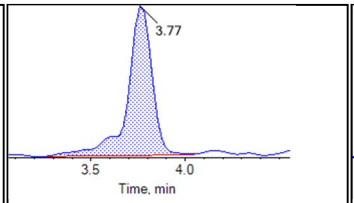
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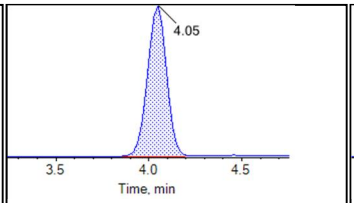
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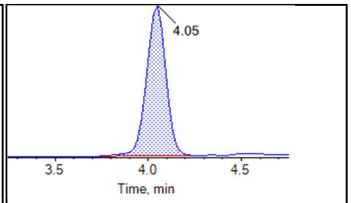
PFUnA_1



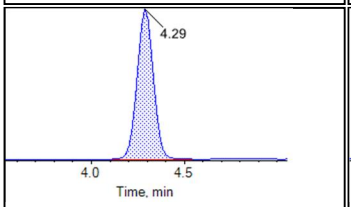
PFUnA_2



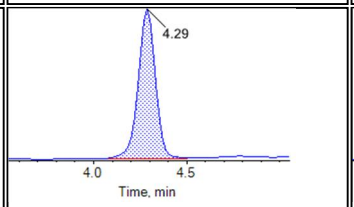
PFDoA_1



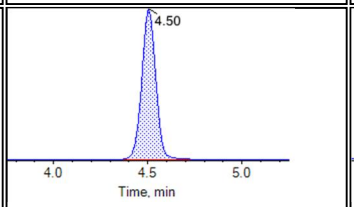
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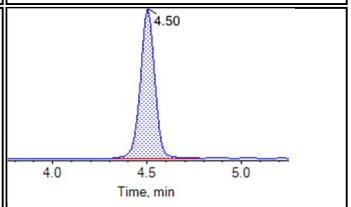
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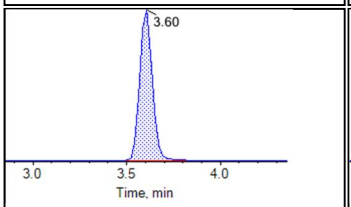
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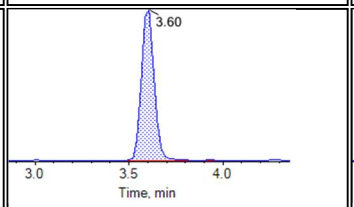
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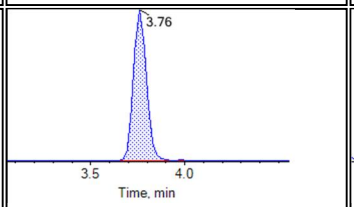
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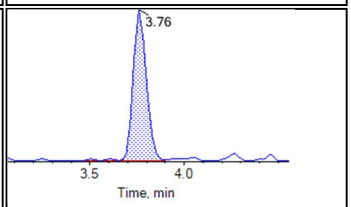
NMeFOSAA_1



NMeFOSAA_2

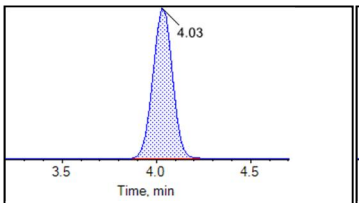


NEtFOSAA_1

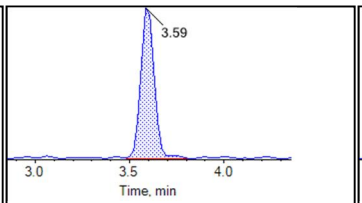


NEtFOSAA_2

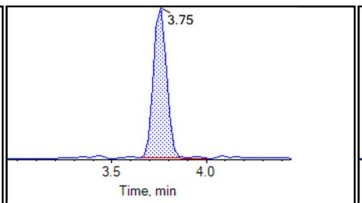
Internal Standards:



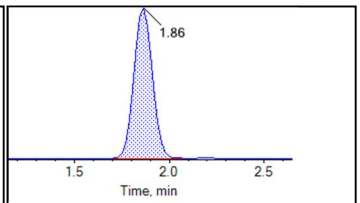
13C2-PFDoA



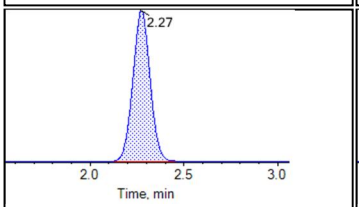
d3-MeFOSAA



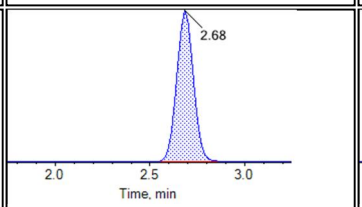
d5-EtFOSAA



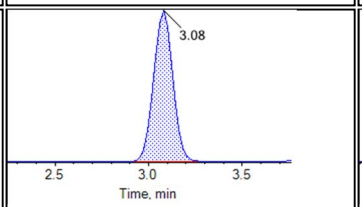
13C5-PFHxA



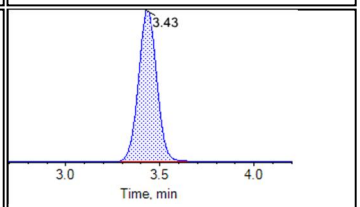
13C4-PFHpA



13C8-PFOA



13C9-PFNA

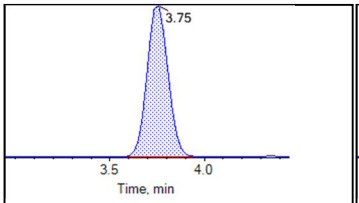


13C6-PFDA

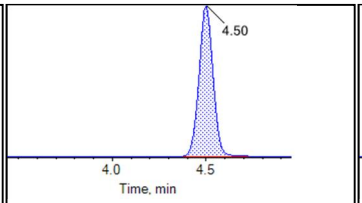
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Chromatogram Report

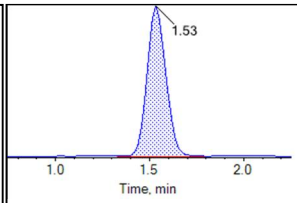
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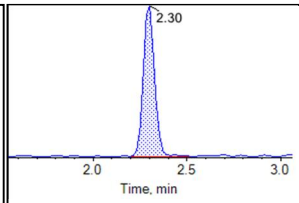
13C7-PFUnA



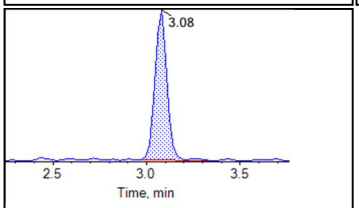
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

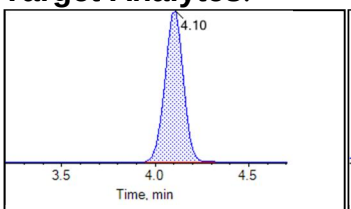
Chromatogram Report

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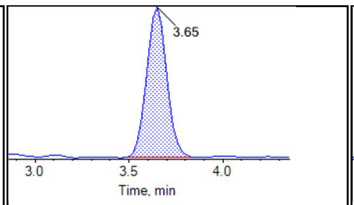
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Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:46:52	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

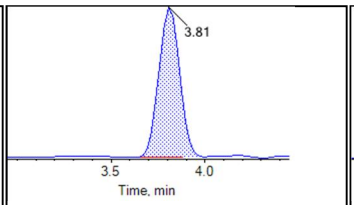
Target Analytes:



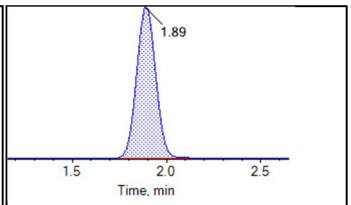
13C2-PFDoA



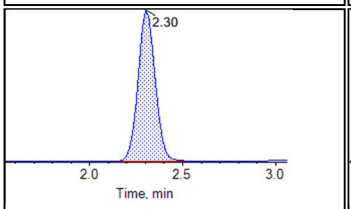
d3-MeFOSAA



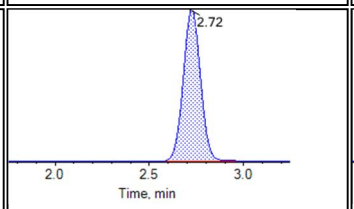
d5-EtFOSAA



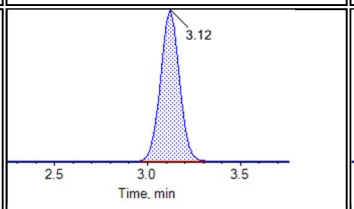
13C5-PFHxA



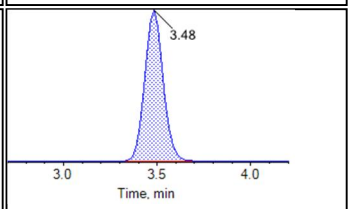
13C4-PFHpA



13C8-PFOA



13C9-PFNA

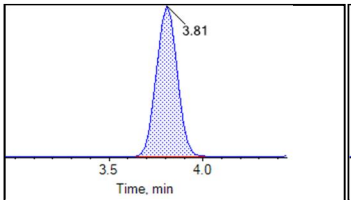


13C6-PFDA

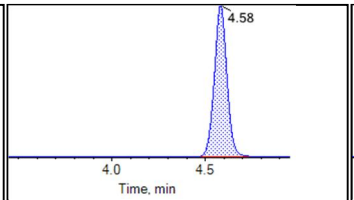
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Chromatogram Report

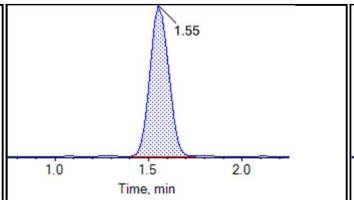
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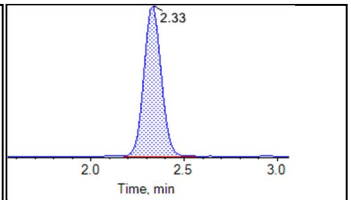
13C7-PFUnA



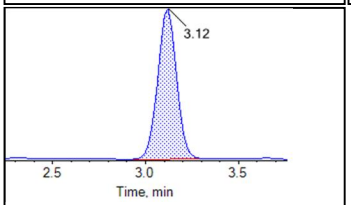
13C2-PFTeDA



13C3-PFBS

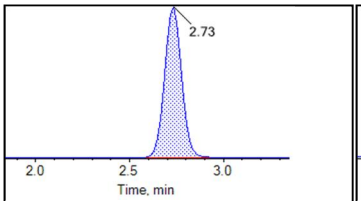


13C3-PFHxS

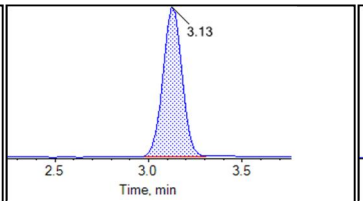


13C8-PFOS

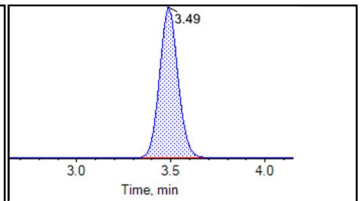
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

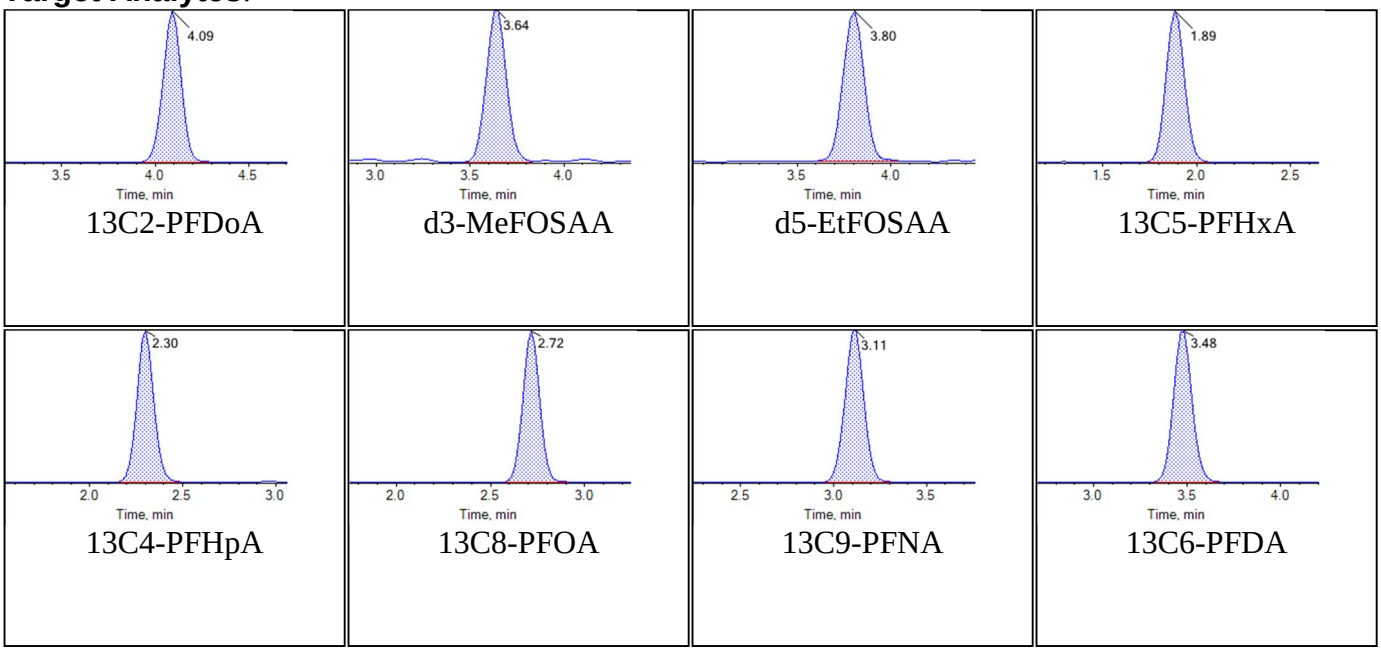
Chromatogram Report

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Sample Name	KB74	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T19:57:45	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

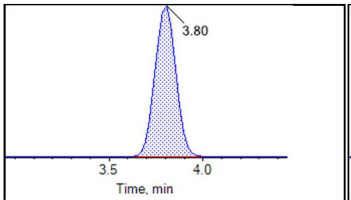
Target Analytes:



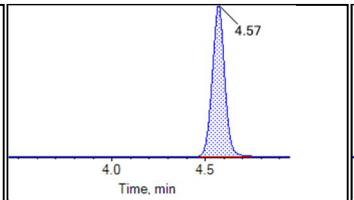
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Chromatogram Report

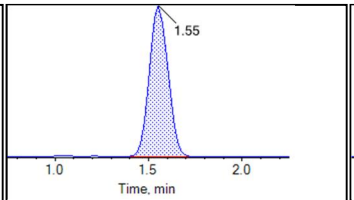
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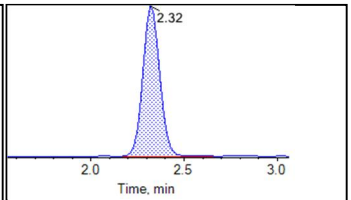
13C7-PFUnA



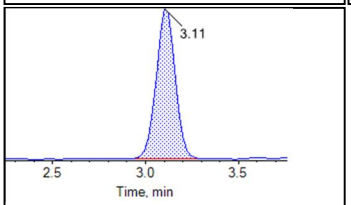
13C2-PFTeDA



13C3-PFBS

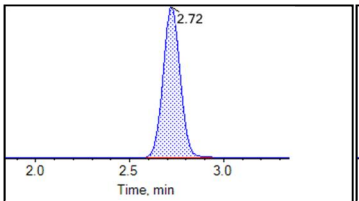


13C3-PFHxS

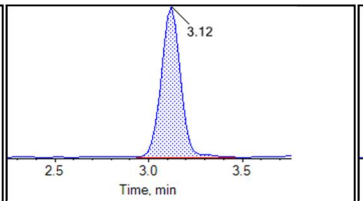


13C8-PFOS

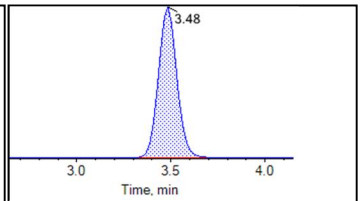
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

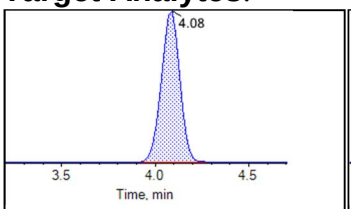
Chromatogram Report

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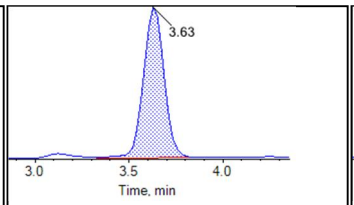
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Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:08:39	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

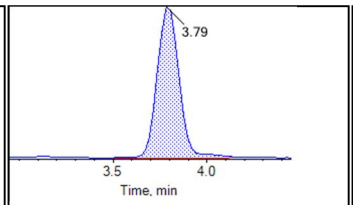
Target Analytes:



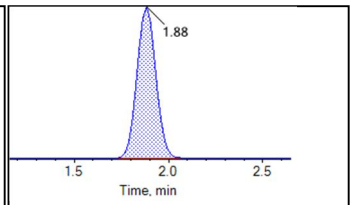
13C2-PFDoA



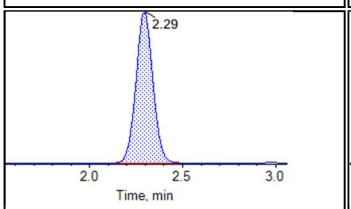
d3-MeFOSAA



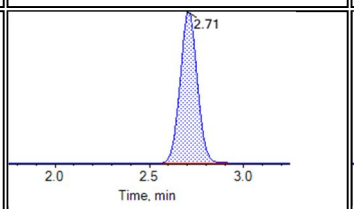
d5-EtFOSAA



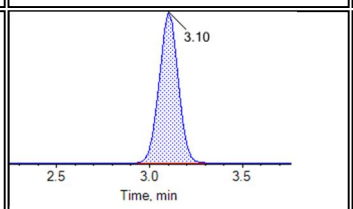
13C5-PFHxA



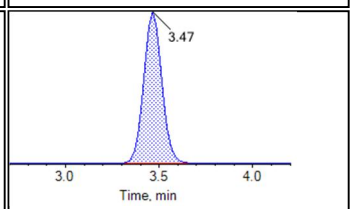
13C4-PFHpA



13C8-PFOA



13C9-PFNA

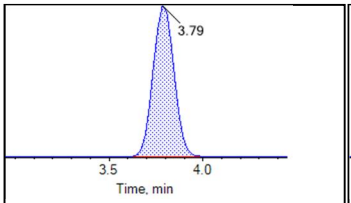


13C6-PFDA

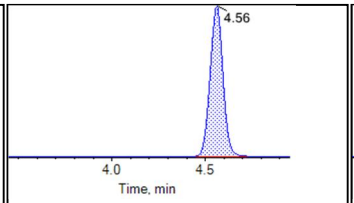
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Chromatogram Report

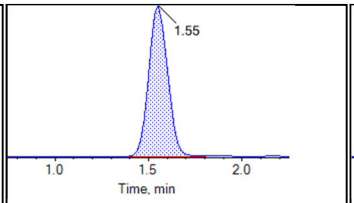
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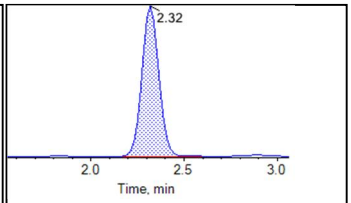
13C7-PFUnA



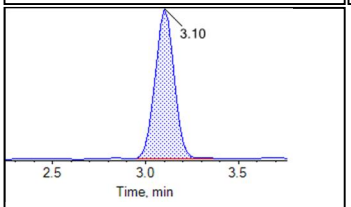
13C2-PFTeDA



13C3-PFBS

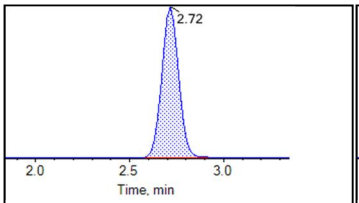


13C3-PFHxS

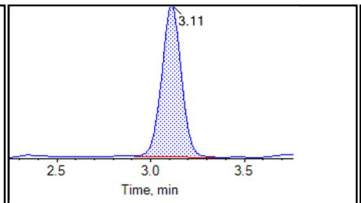


13C8-PFOS

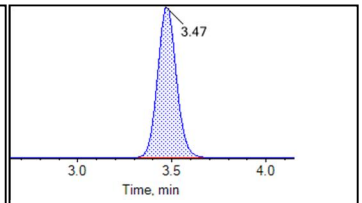
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

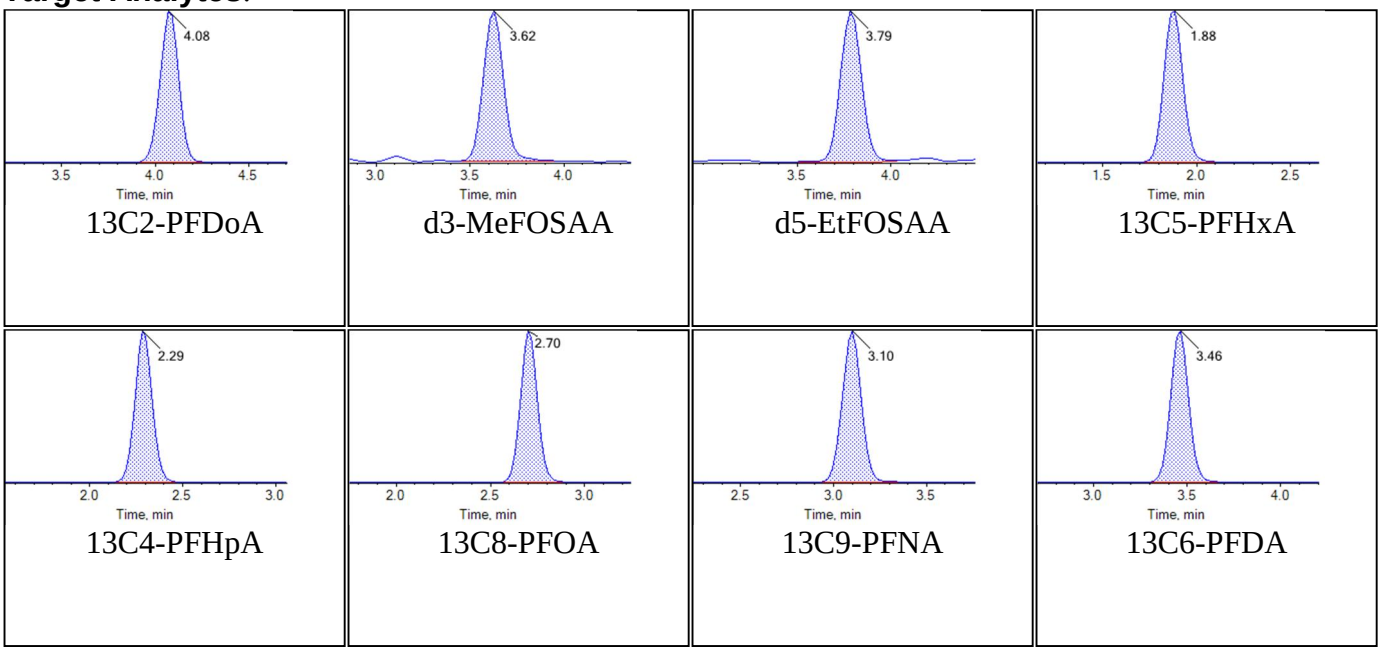
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:44:56 AM

Sample Name	KB76	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:19:32	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

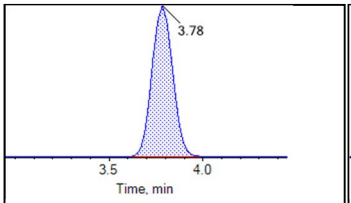
Target Analytes:



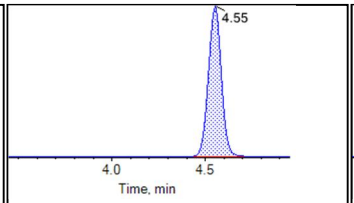
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Chromatogram Report

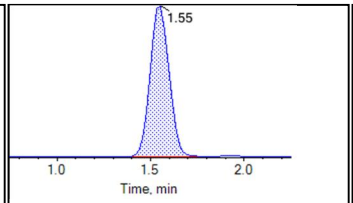
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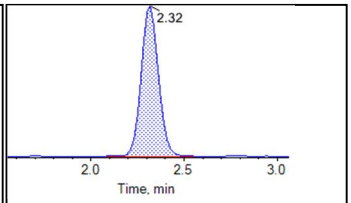
13C7-PFUnA



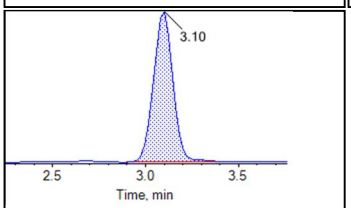
13C2-PFTeDA



13C3-PFBS

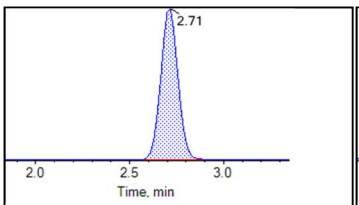


13C3-PFHxS

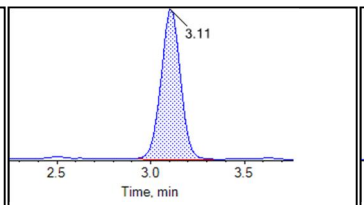


13C8-PFOS

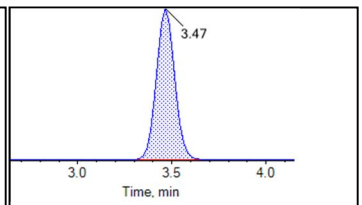
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

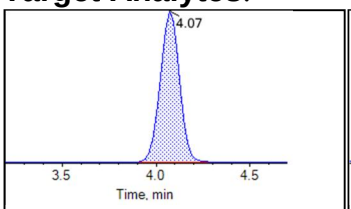
Chromatogram Report

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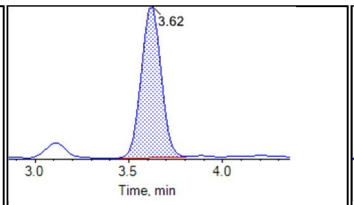
Sample Name	KB77	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:30:23	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

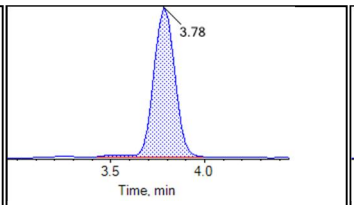
Target Analytes:



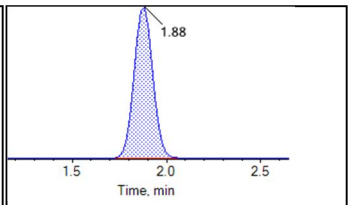
13C2-PFDoA



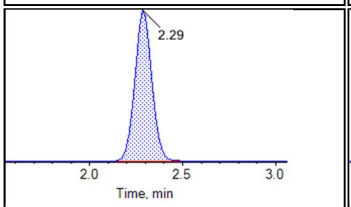
d3-MeFOSAA



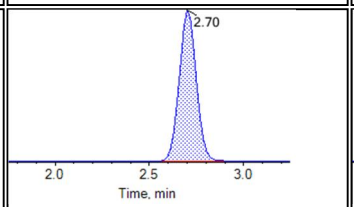
d5-EtFOSAA



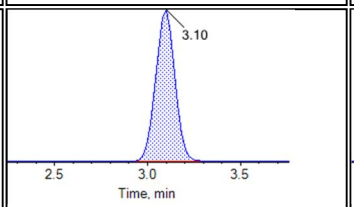
13C5-PFHxA



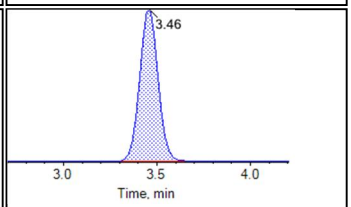
13C4-PFHpA



13C8-PFOA



13C9-PFNA

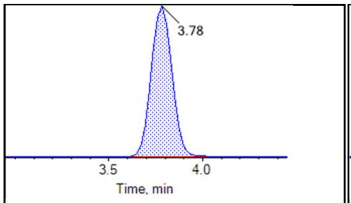


13C6-PFDA

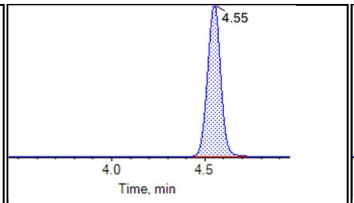
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Chromatogram Report

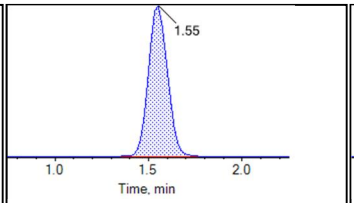
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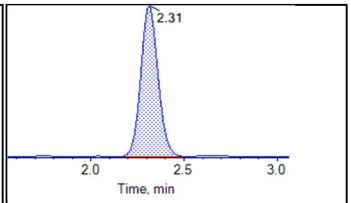
13C7-PFUnA



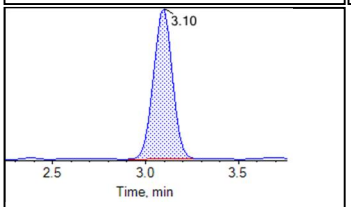
13C2-PFTeDA



13C3-PFBS

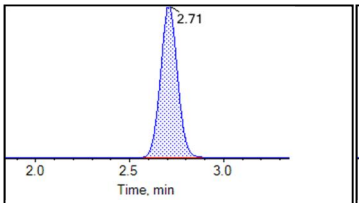


13C3-PFHxS

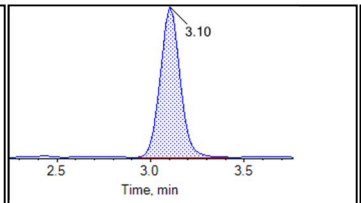


13C8-PFOS

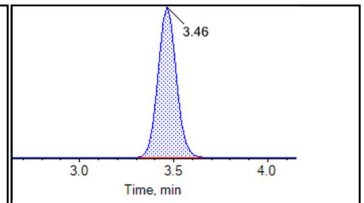
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

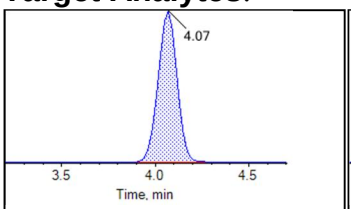
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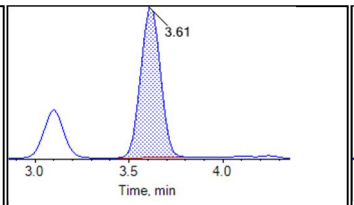
Sample Name	KB78	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:41:14	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

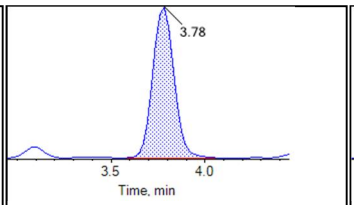
Target Analytes:



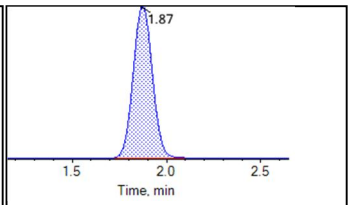
13C2-PFDoA



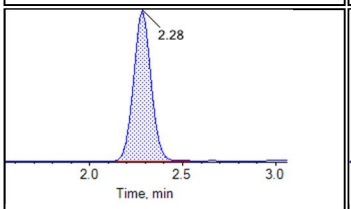
d3-MeFOSAA



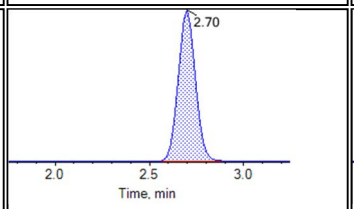
d5-EtFOSAA



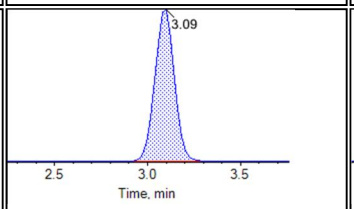
13C5-PFHxA



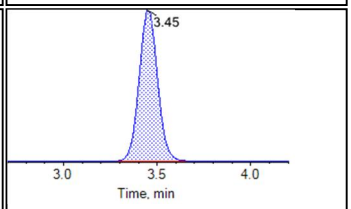
13C4-PFHpA



13C8-PFOA



13C9-PFNA

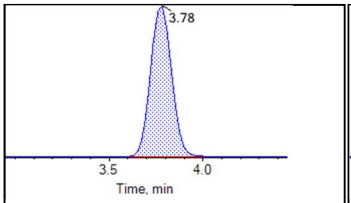


13C6-PFDA

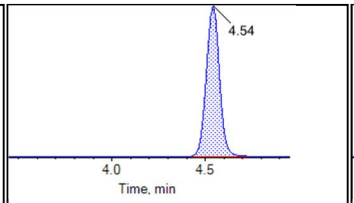
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Chromatogram Report

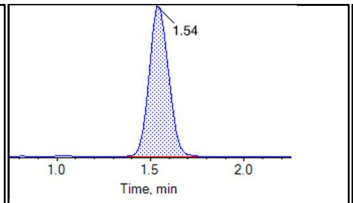
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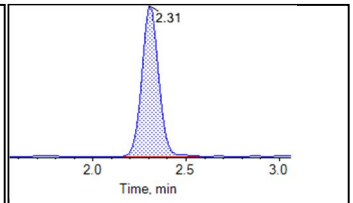
13C7-PFUnA



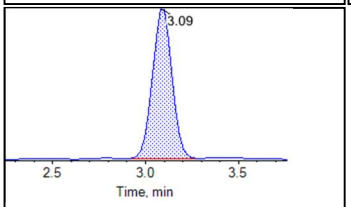
13C2-PFTeDA



13C3-PFBS

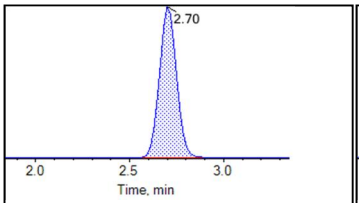


13C3-PFHxS

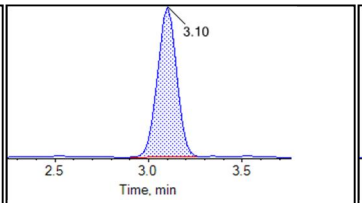


13C8-PFOS

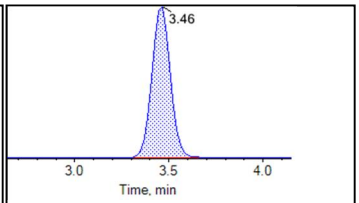
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

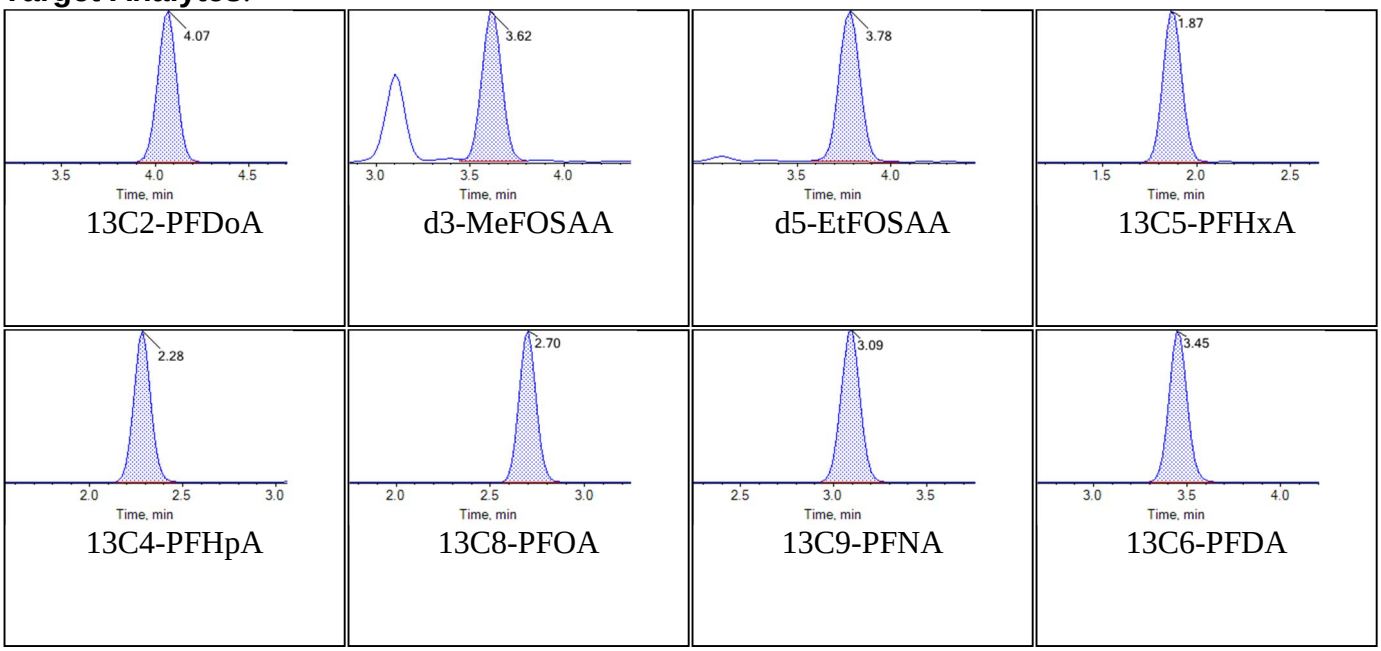
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:45:11 AM

Sample Name	KB79	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T20:52:06	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

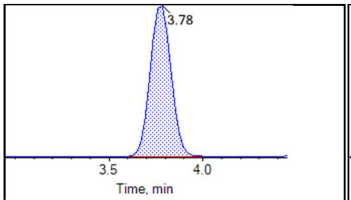
Target Analytes:



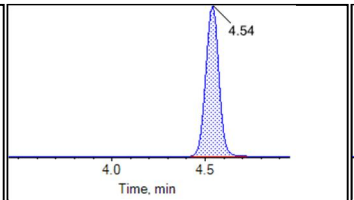
BATTELLE

Chromatogram Report

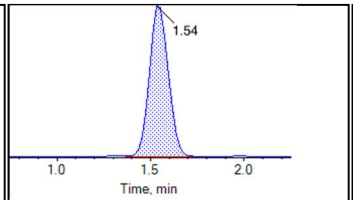
Created with Analyst Reporter
Printed: 02/11/2018 10:45:11 AM



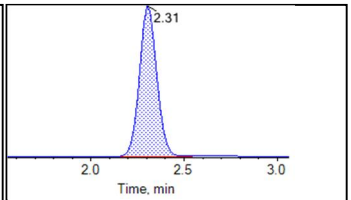
13C7-PFUnA



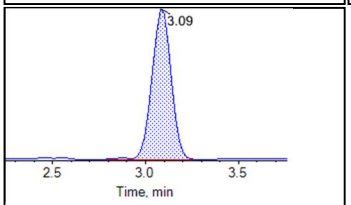
13C2-PFTeDA



13C3-PFBS

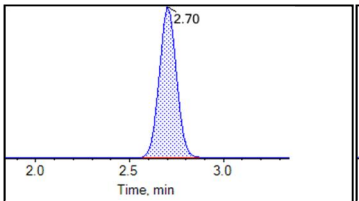


13C3-PFHxS

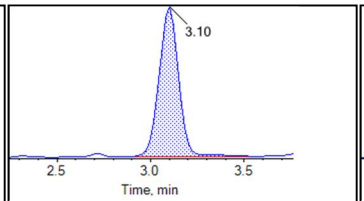


13C8-PFOS

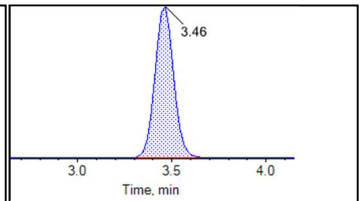
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

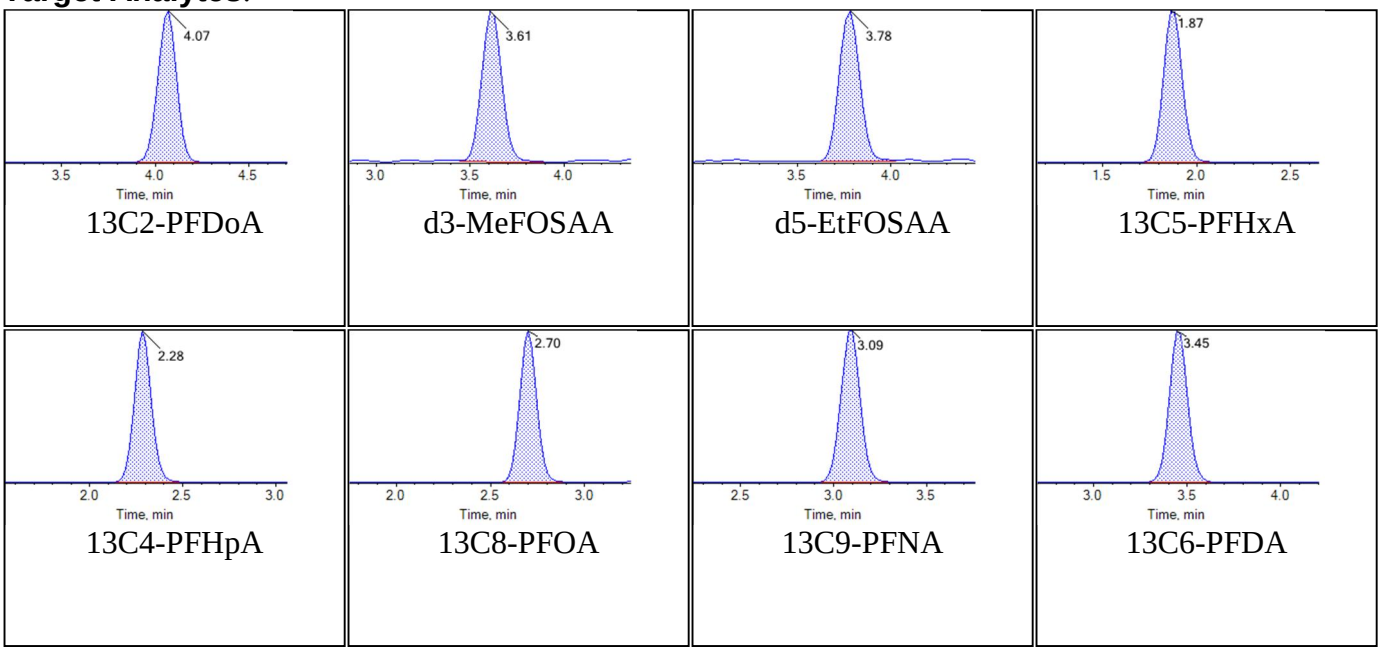
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:45:16 AM

Sample Name	KB80 IB	**Injection Vial**	9
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:02:57	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

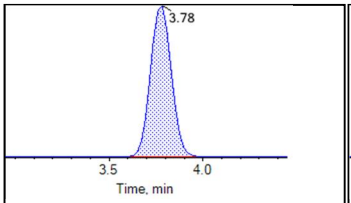
Target Analytes:



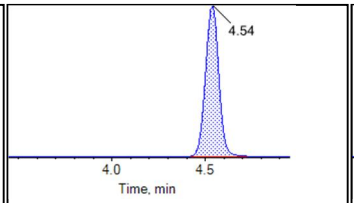
BATTELLE

Chromatogram Report

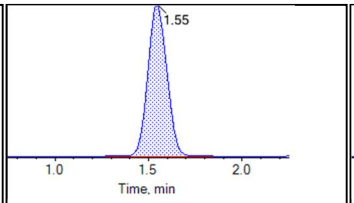
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Printed: 02/11/2018 10:45:16 AM



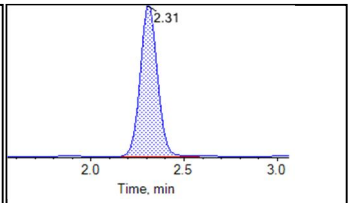
13C7-PFUnA



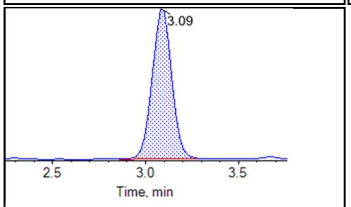
13C2-PFTeDA



13C3-PFBS

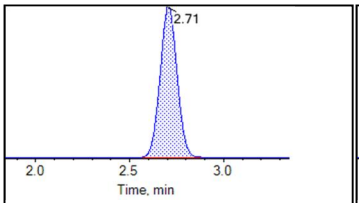


13C3-PFHxS

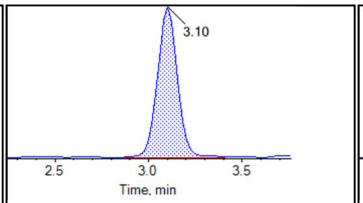


13C8-PFOS

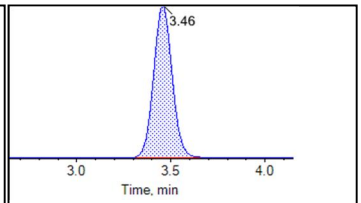
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

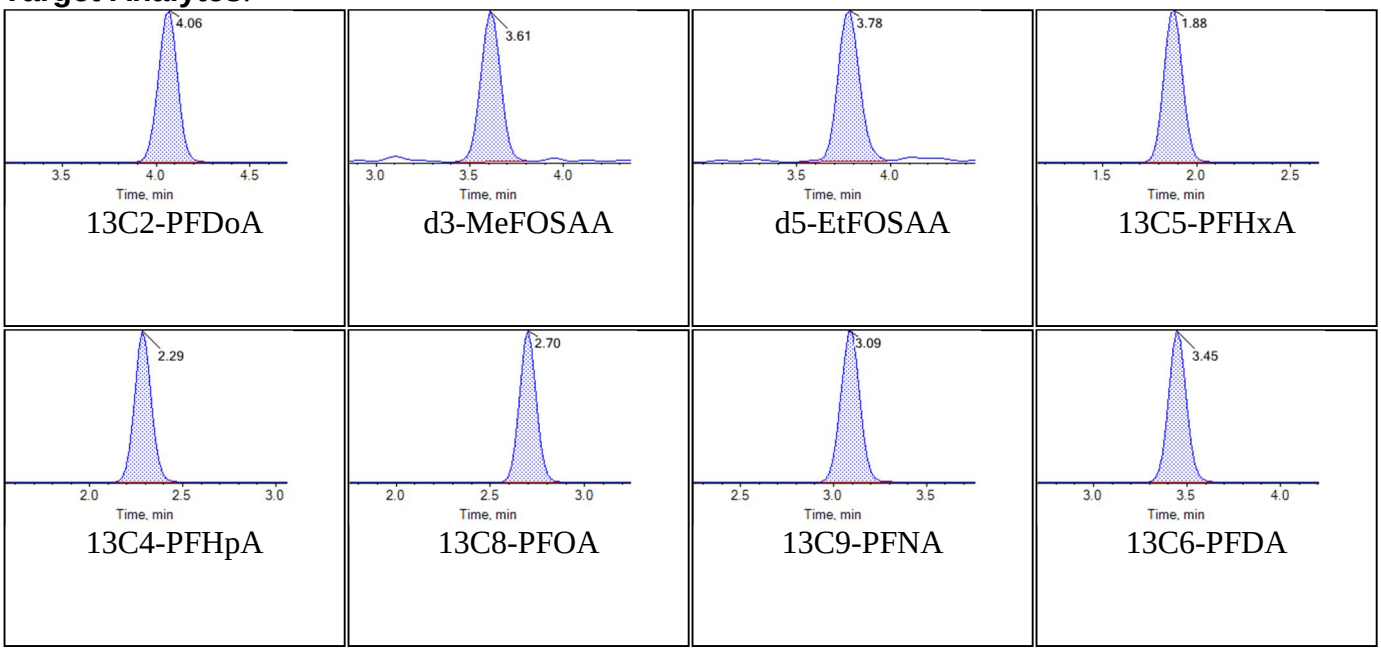
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:45:23 AM

Sample Name	KB81 ICC	**Injection Vial**	10
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-17T21:13:49	**Data File**	Data18-0590_18-01588_18-0589.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

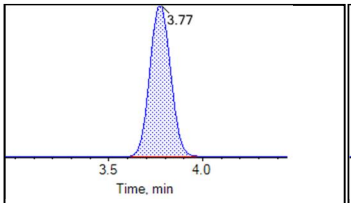
Target Analytes:



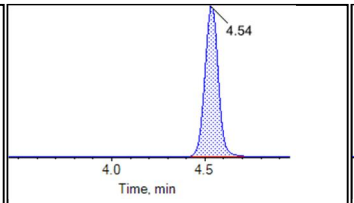
BATTELLE

Chromatogram Report

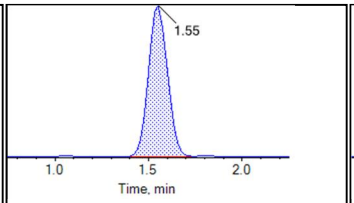
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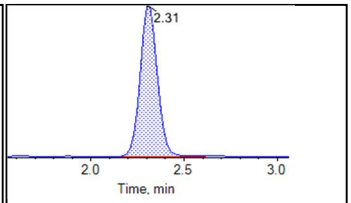
13C7-PFUnA



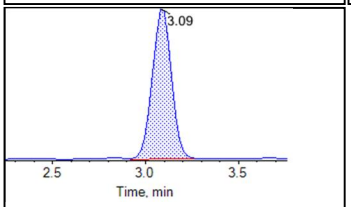
13C2-PFTeDA



13C3-PFBS

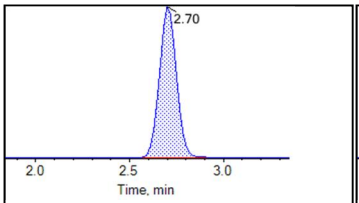


13C3-PFHxS

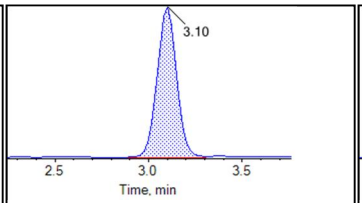


13C8-PFOS

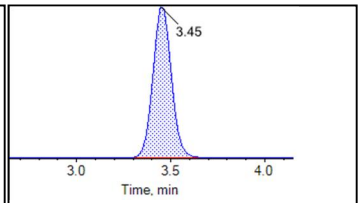
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

BATTELLE

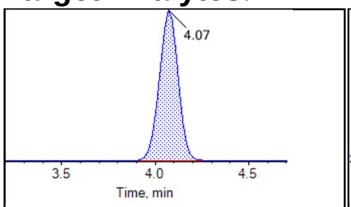
Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:45:40 AM

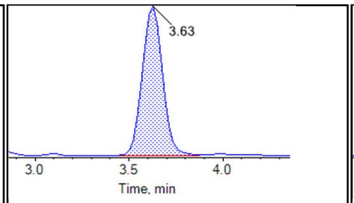
Sample Name	KB75 ISC	**Injection Vial**	1
Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:30:17	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

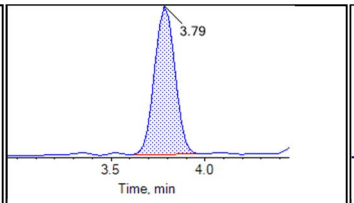
Target Analytes:



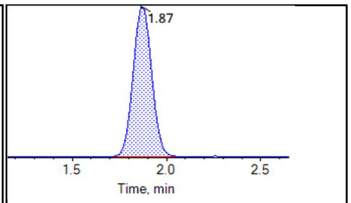
13C2-PFDoA



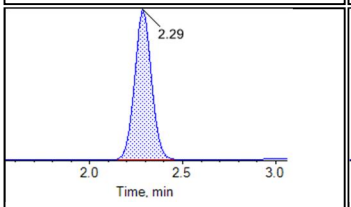
d3-MeFOSAA



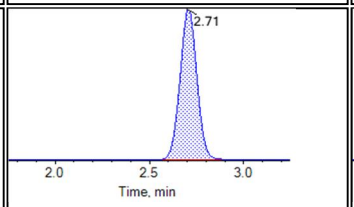
d5-EtFOSAA



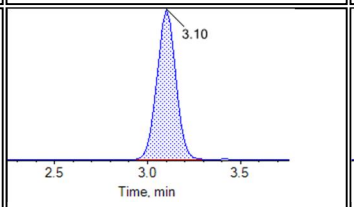
13C5-PFHxA



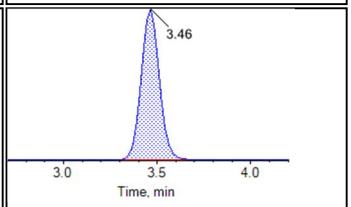
13C4-PFHpA



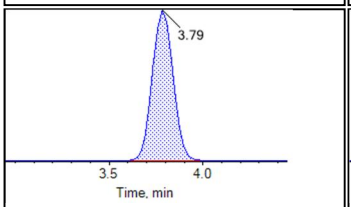
13C8-PFOA



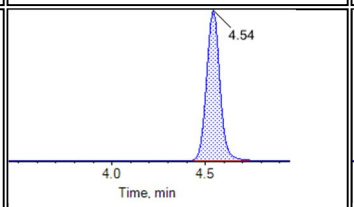
13C9-PFNA



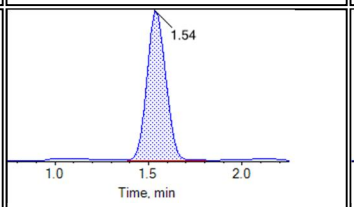
13C6-PFDA



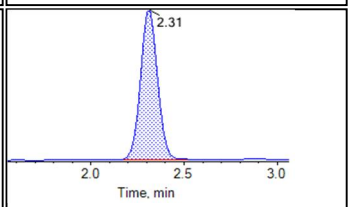
13C7-PFUnA



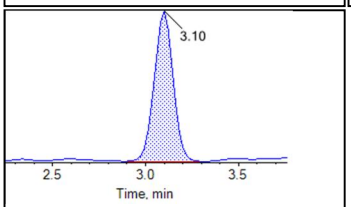
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



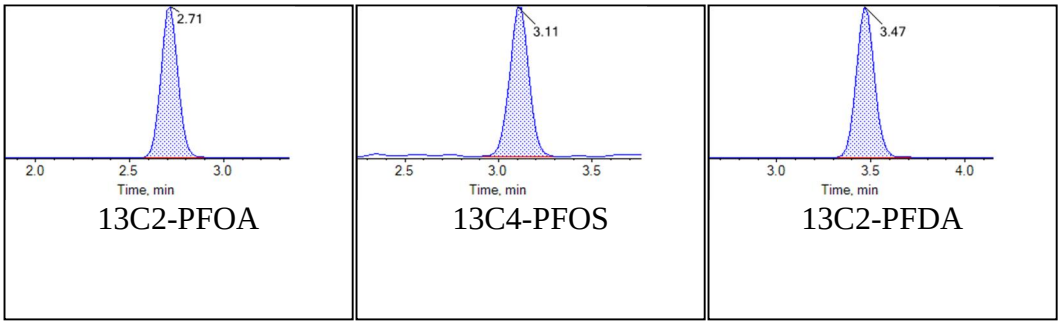
13C8-PFOS

BATTELLE

Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:45:40 AM

Internal Standards:



BATTELLE

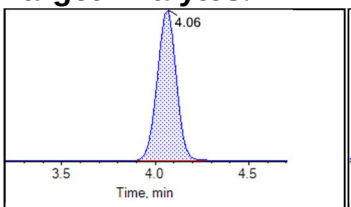
Chromatogram Report

Created with Analyst Reporter
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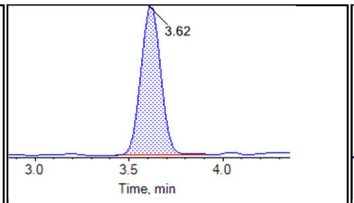
Sample Name	KB80 IB	**Injection Vial**	2
Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T17:41:09	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

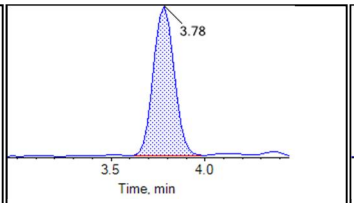
Target Analytes:



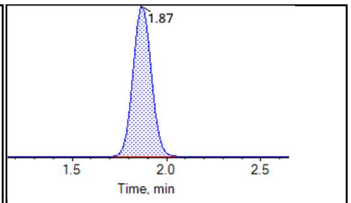
13C2-PFDoA



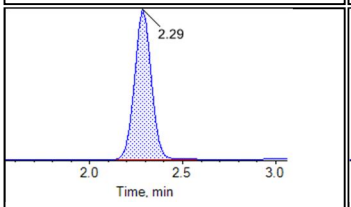
d3-MeFOSAA



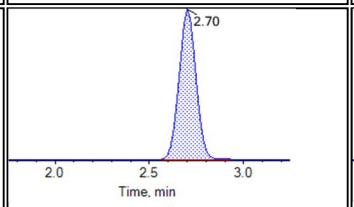
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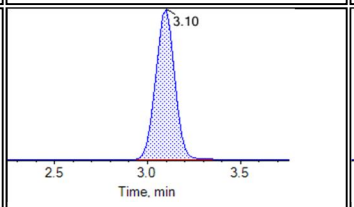
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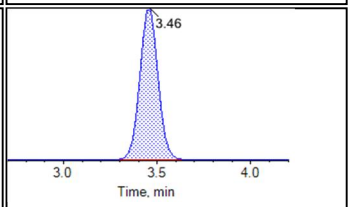
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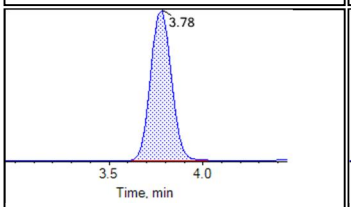
13C8-PFOA



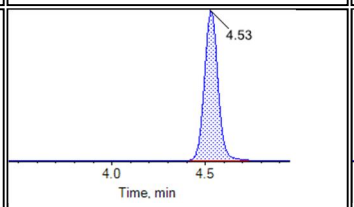
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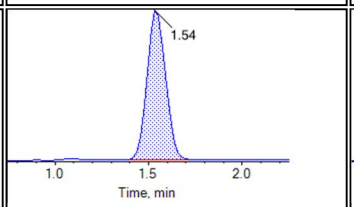
13C6-PFDA



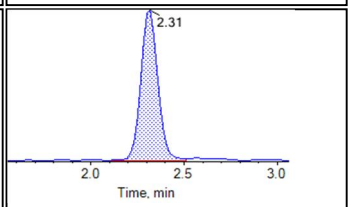
13C7-PFUnA



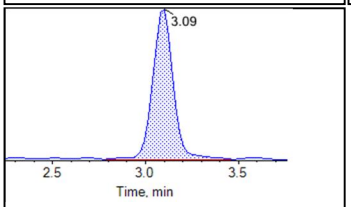
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



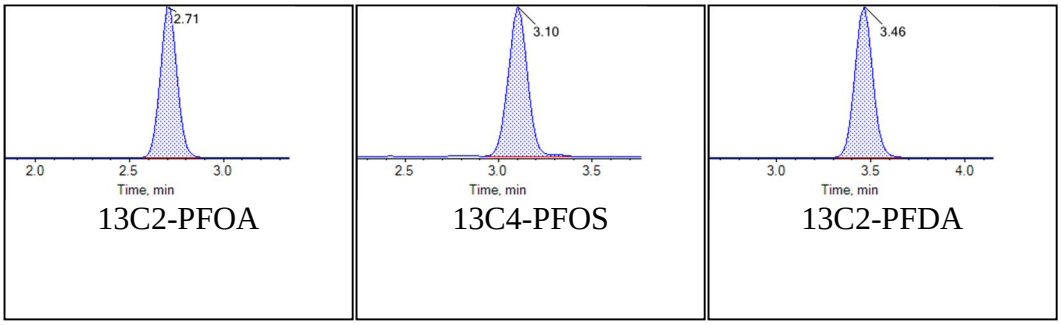
13C8-PFOS

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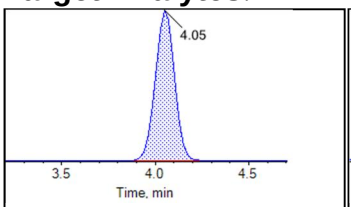
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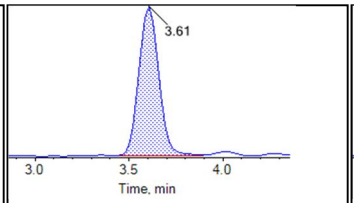
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Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
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Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

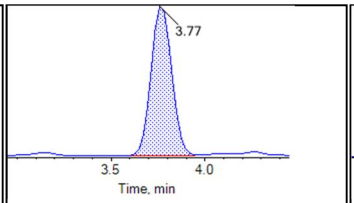
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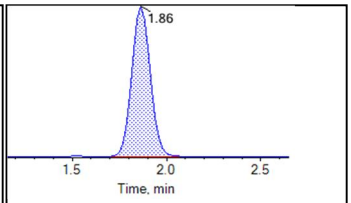
13C2-PFDoA



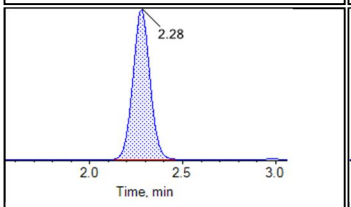
d3-MeFOSAA



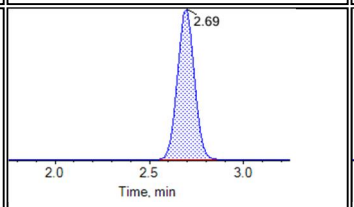
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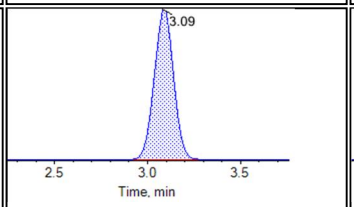
13C5-PFHxA



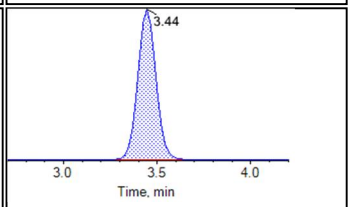
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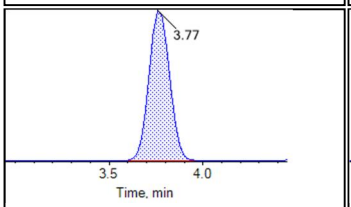
13C8-PFOA



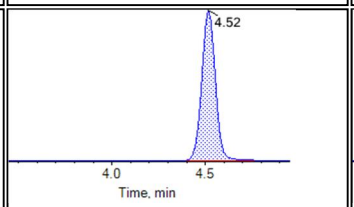
13C9-PFNA



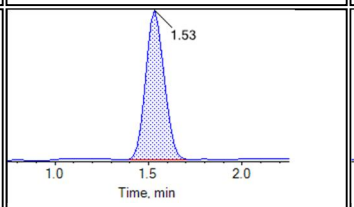
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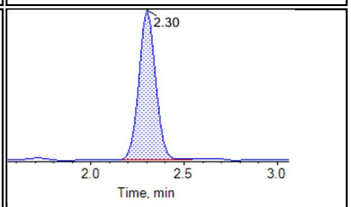
13C7-PFUnA



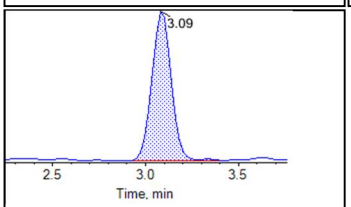
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS

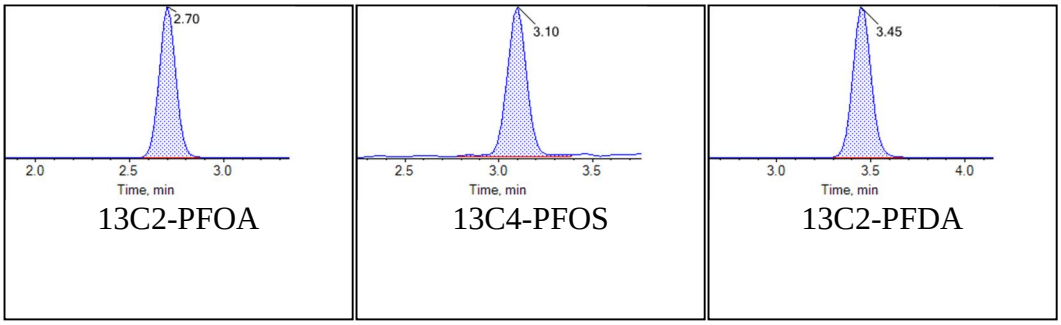


13C8-PFOS

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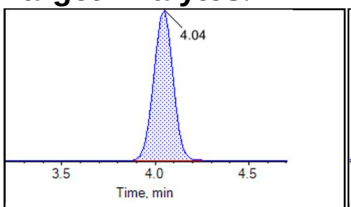
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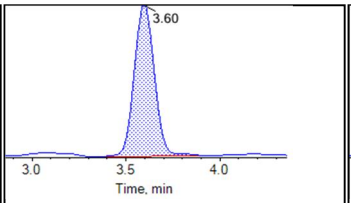
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Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
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Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

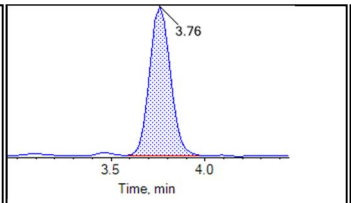
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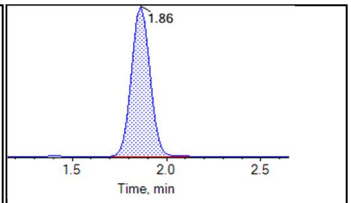
13C2-PFDoA



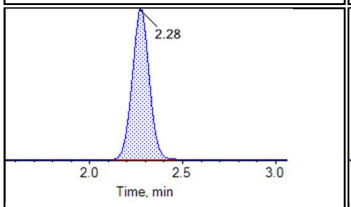
d3-MeFOSAA



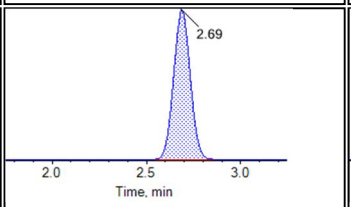
d5-EtFOSAA



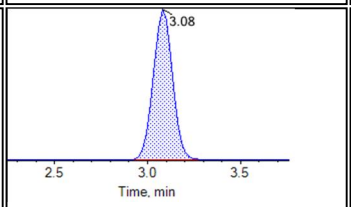
13C5-PFHxA



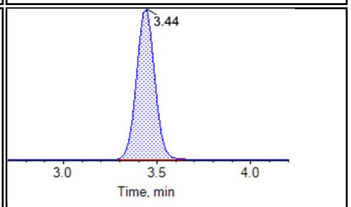
13C4-PFHpA



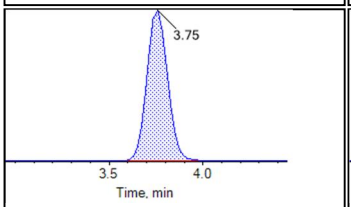
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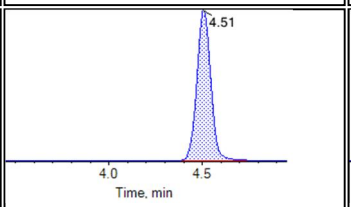
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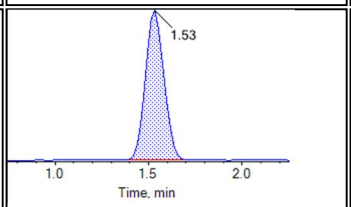
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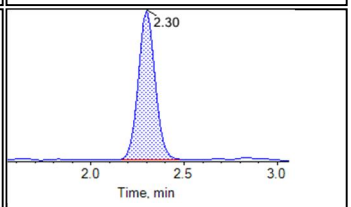
13C7-PFUnA



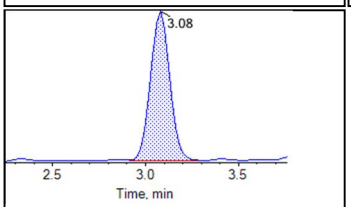
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



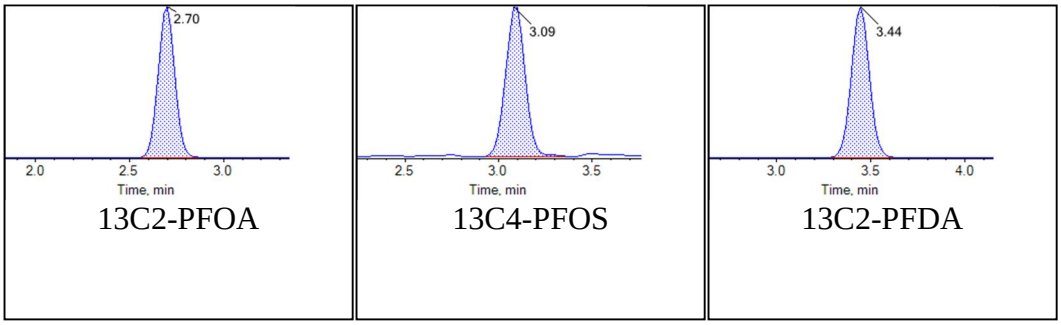
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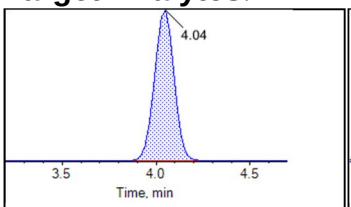
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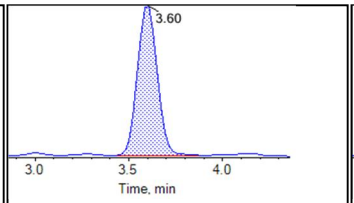
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Sample ID	VC-SD-FB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:24:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

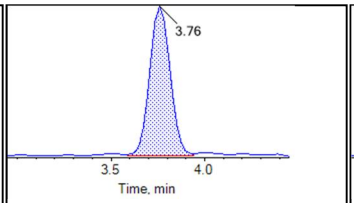
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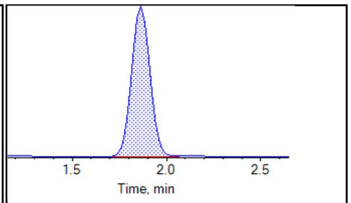
13C2-PFDoA



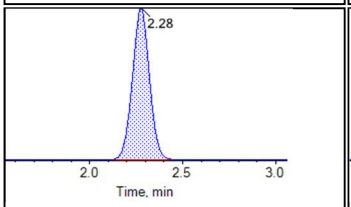
d3-MeFOSAA



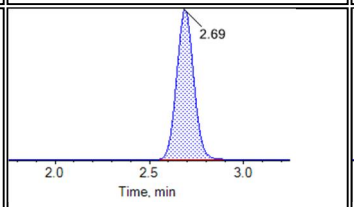
d5-EtFOSAA



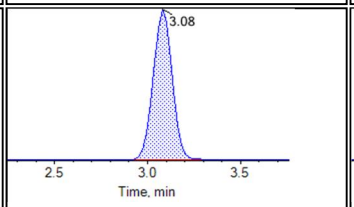
13C5-PFHxA



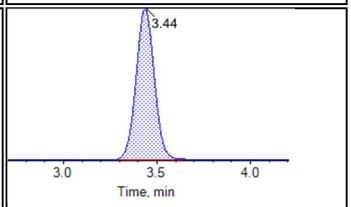
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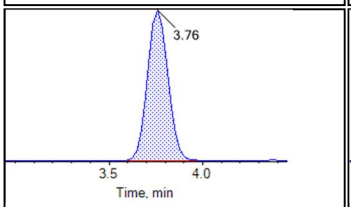
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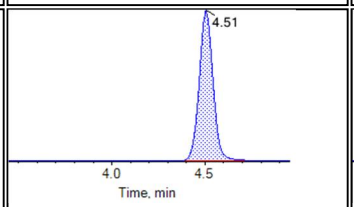
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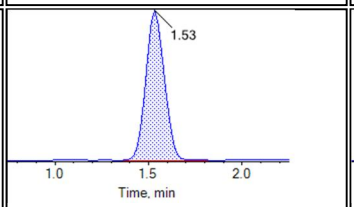
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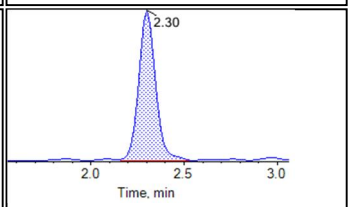
13C7-PFUnA



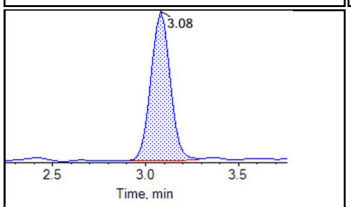
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



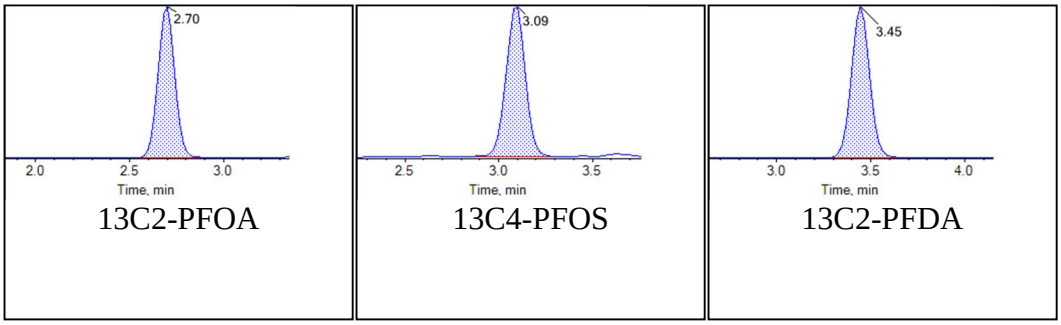
13C8-PFOS

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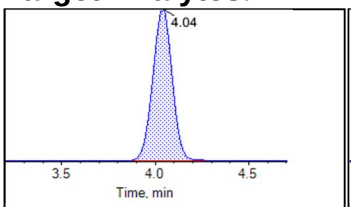
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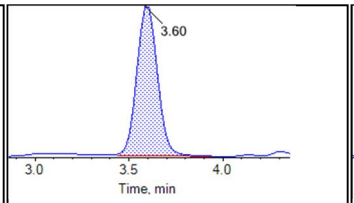
Sample Name	J8802-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB12-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:35:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

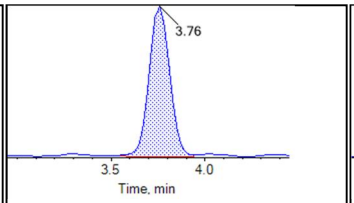
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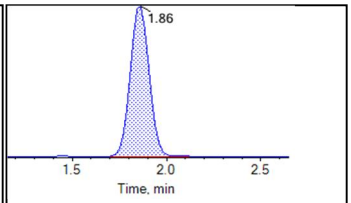
13C2-PFDoA



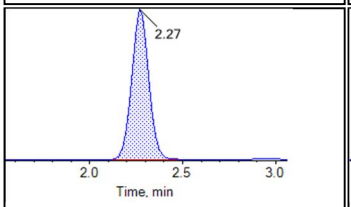
d3-MeFOSAA



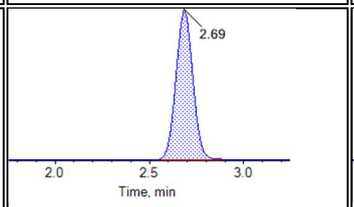
d5-EtFOSAA



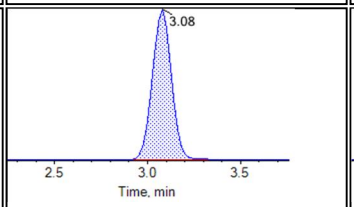
13C5-PFHxA



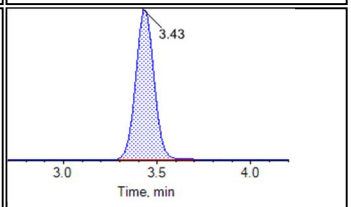
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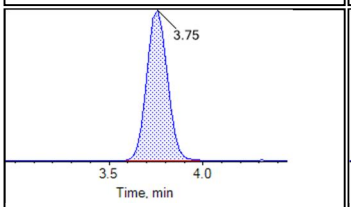
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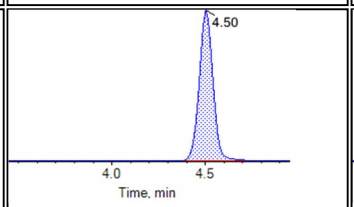
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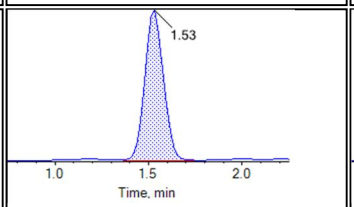
13C6-PFDA



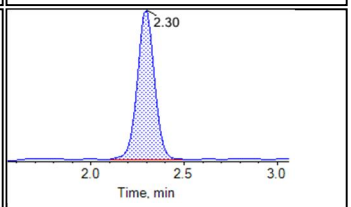
13C7-PFUnA



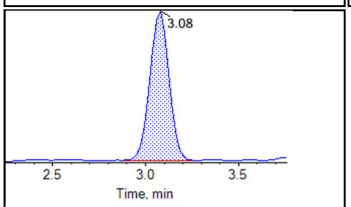
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



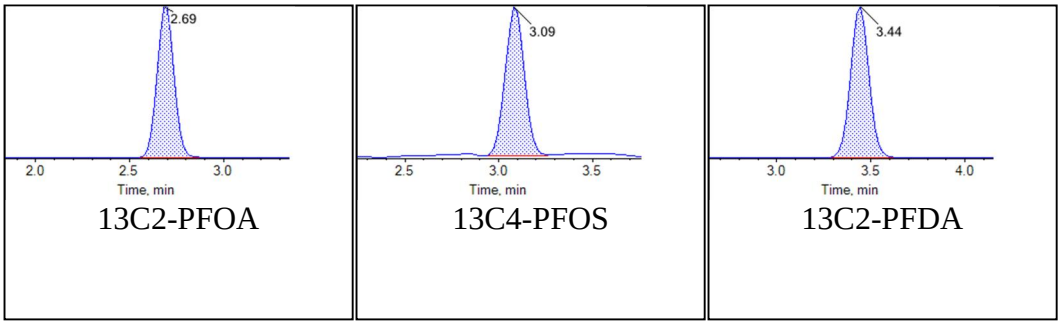
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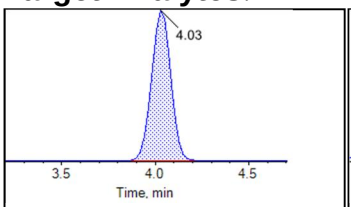
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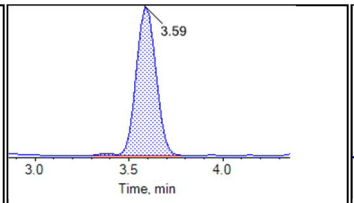
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Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:46:20	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

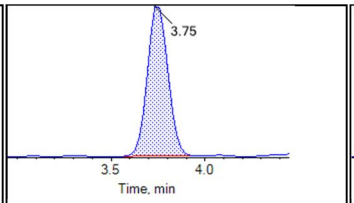
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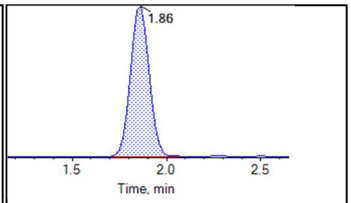
13C2-PFDoA



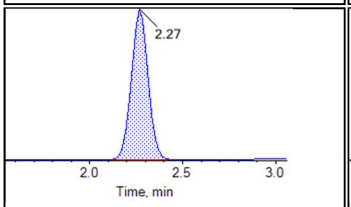
d3-MeFOSAA



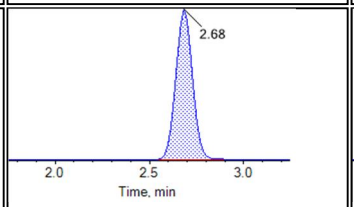
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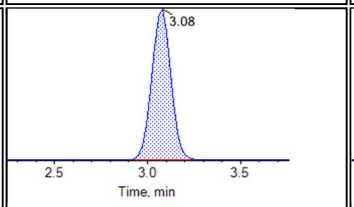
13C5-PFHxA



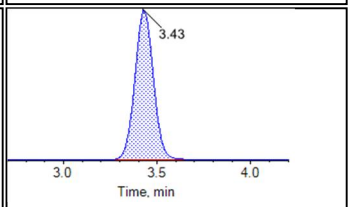
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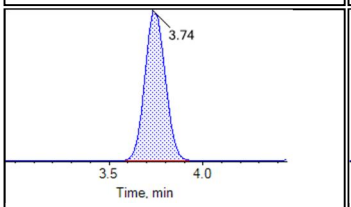
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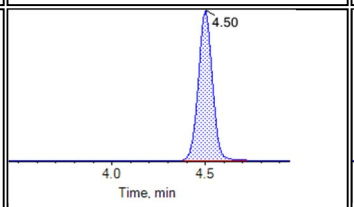
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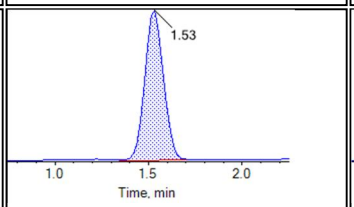
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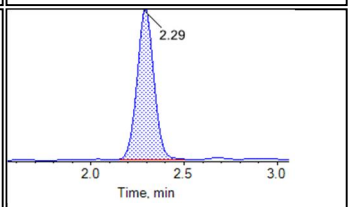
13C7-PFUnA



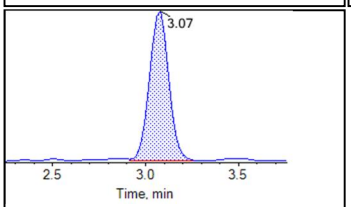
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



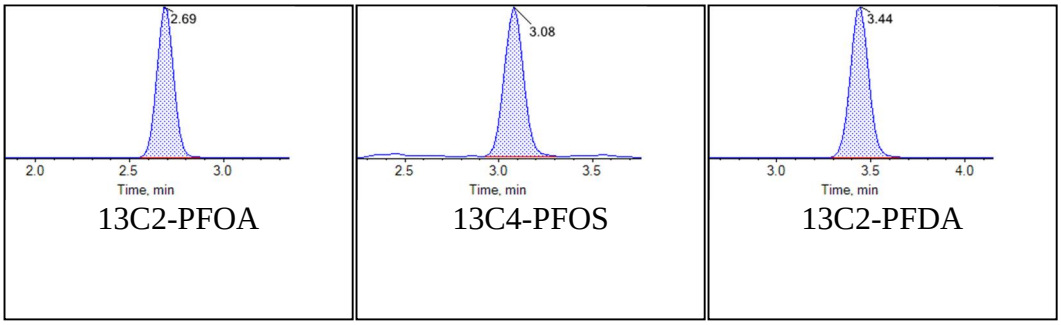
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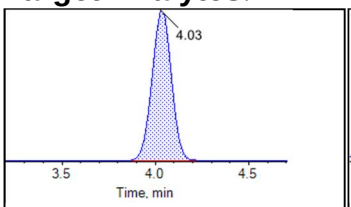
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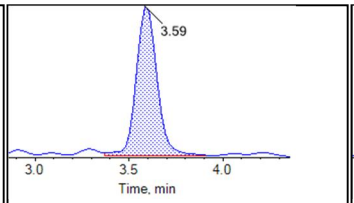
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Sample ID	VC-S14GW02-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T18:57:10	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

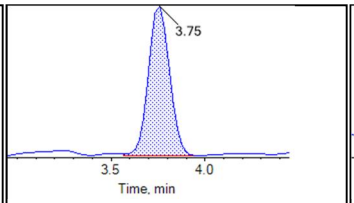
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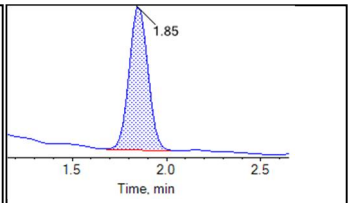
13C2-PFDoA



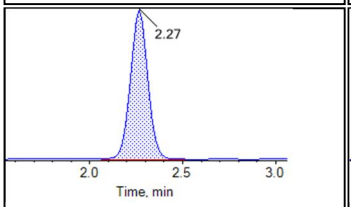
d3-MeFOSAA



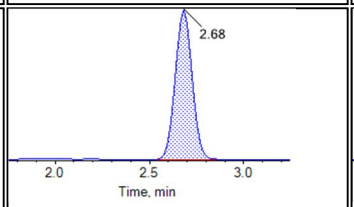
d5-EtFOSAA



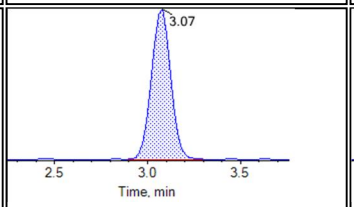
13C5-PFHxA



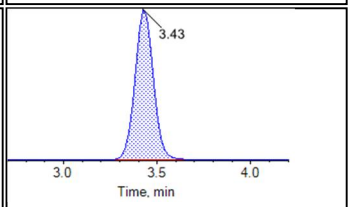
13C4-PFHpA



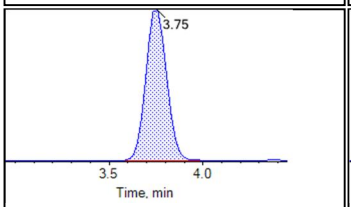
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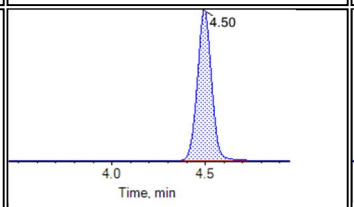
13C9-PFNA



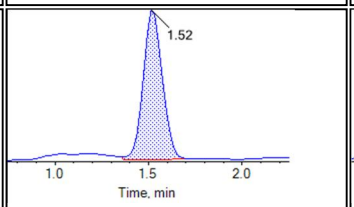
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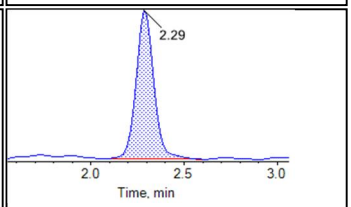
13C7-PFUnA



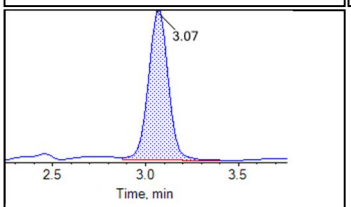
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



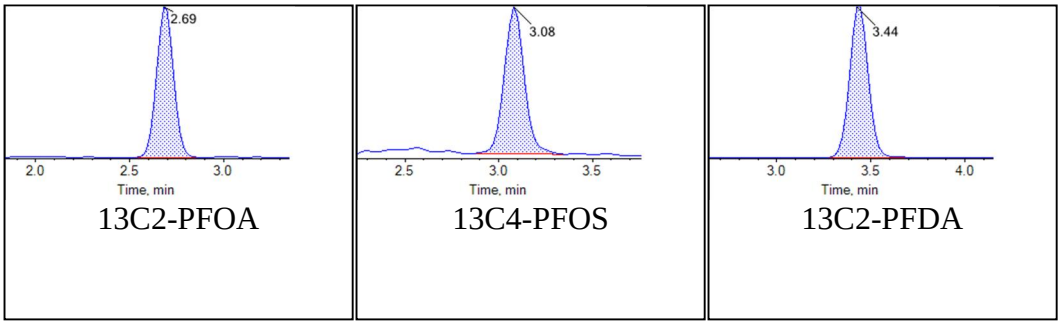
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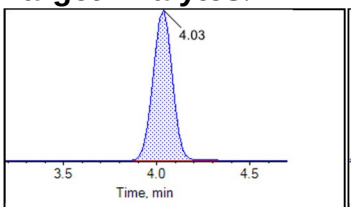
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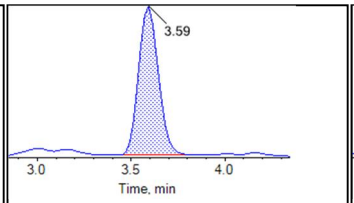
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Sample ID	VC-S14GW02P-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:08:00	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

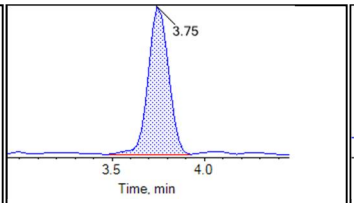
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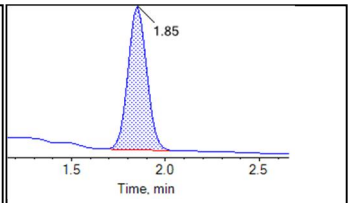
13C2-PFDoA



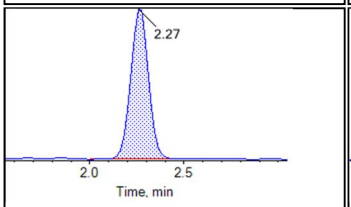
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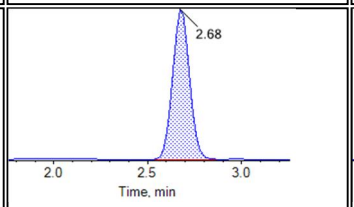
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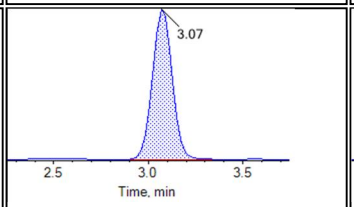
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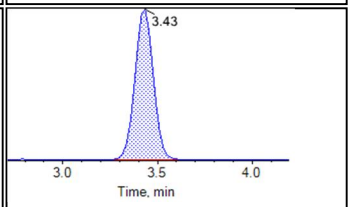
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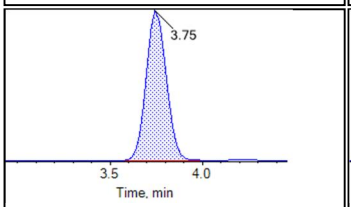
13C8-PFOA



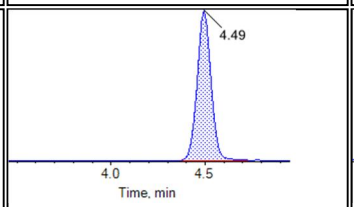
13C9-PFNA



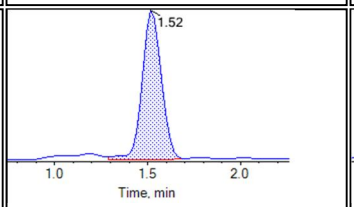
13C6-PFDA



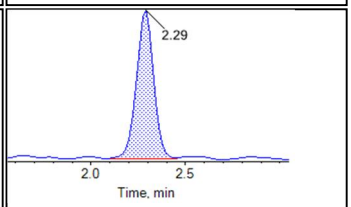
13C7-PFUnA



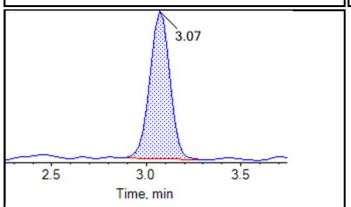
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



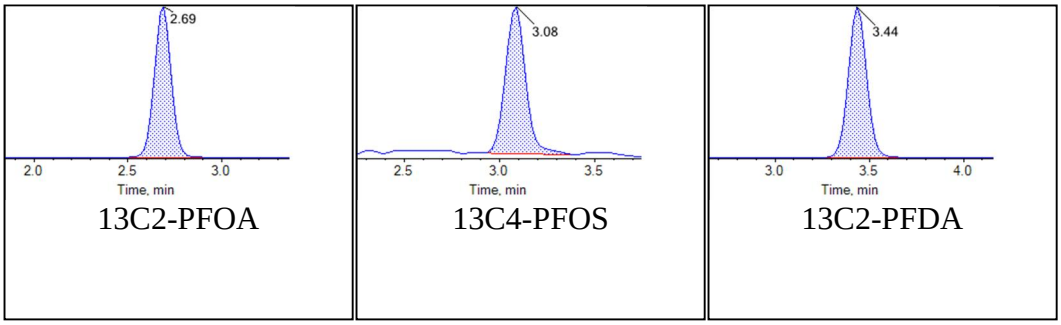
13C8-PFOS

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Chromatogram Report

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Internal Standards:



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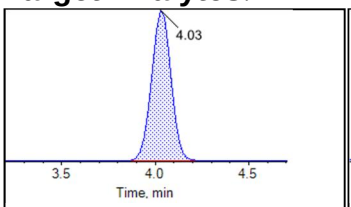
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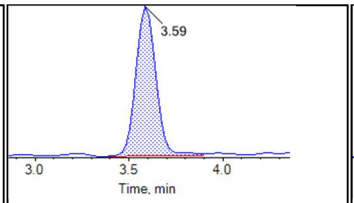
Sample Name	J8806-FS(0)	**Injection Vial**	11
Sample ID	VC-S14GW19-1018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:18:52	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

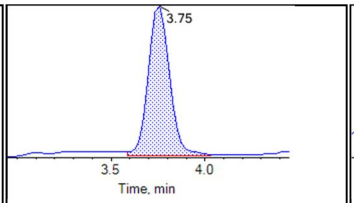
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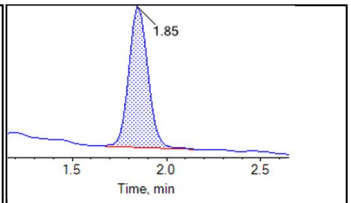
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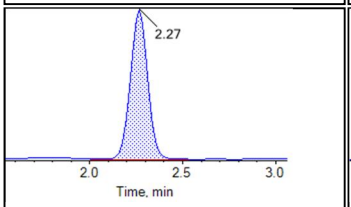
d3-MeFOSAA



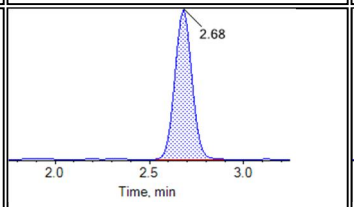
d5-EtFOSAA



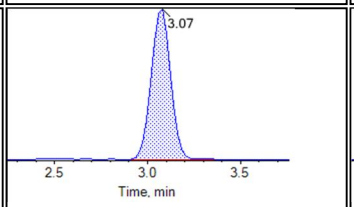
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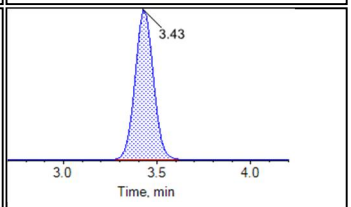
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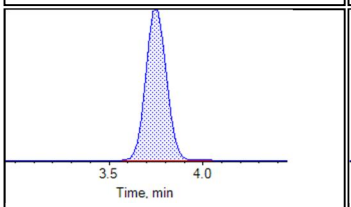
13C8-PFOA



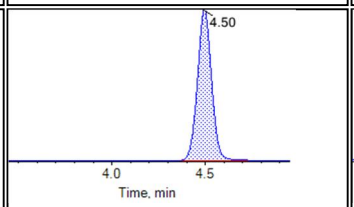
13C9-PFNA



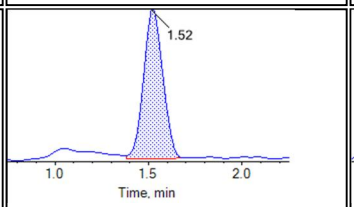
13C6-PFDA



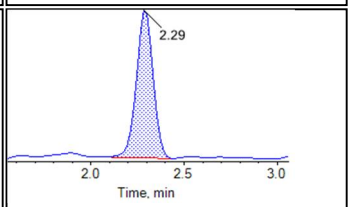
13C7-PFUnA



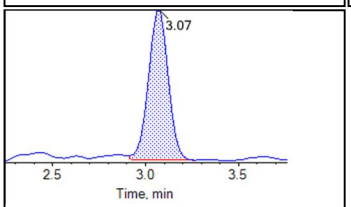
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



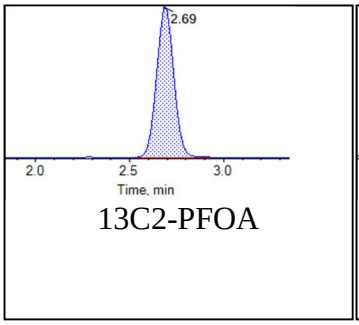
13C8-PFOS

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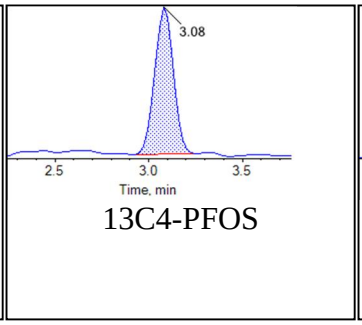
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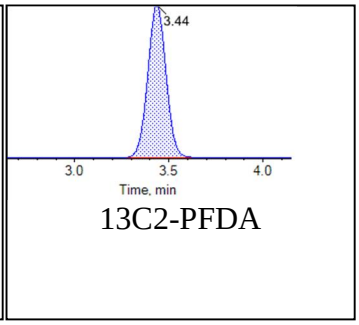
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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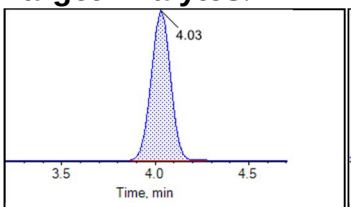
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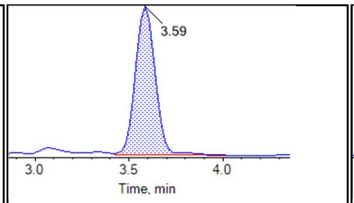
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Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:29:44	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

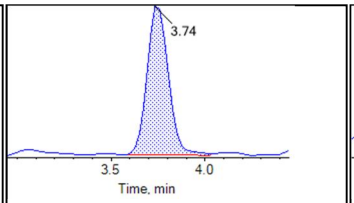
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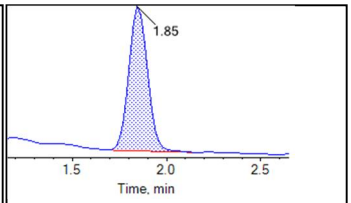
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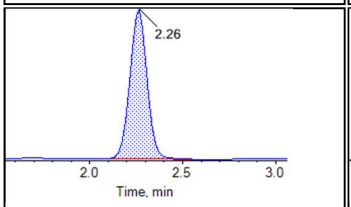
d3-MeFOSAA



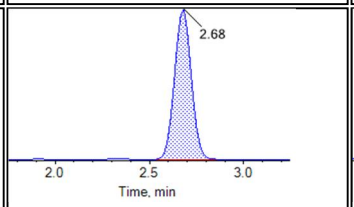
d5-EtFOSAA



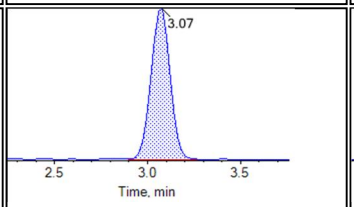
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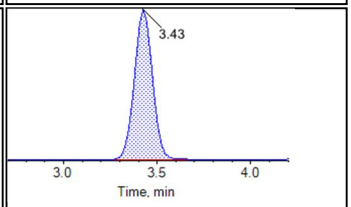
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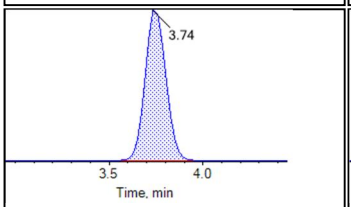
13C8-PFOA



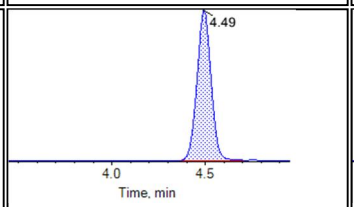
13C9-PFNA



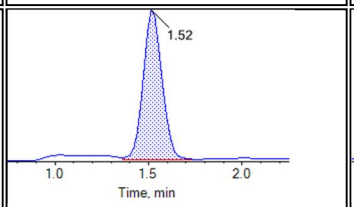
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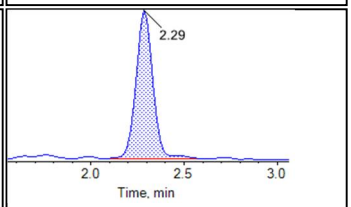
13C7-PFUnA



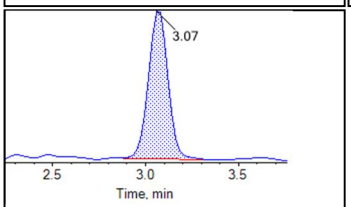
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



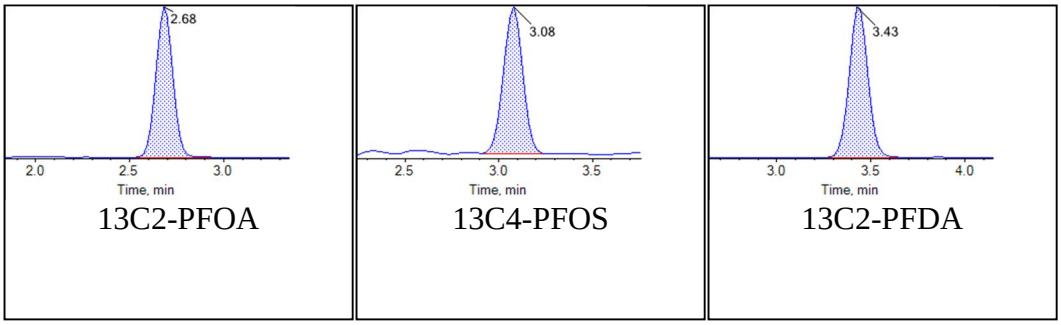
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Internal Standards:



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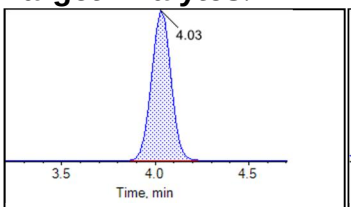
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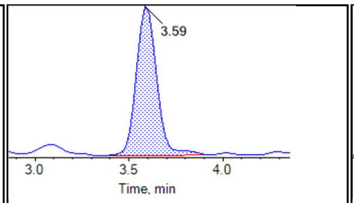
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Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:40:36	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

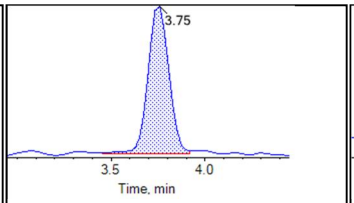
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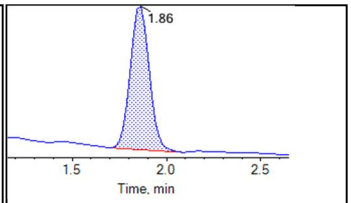
13C2-PFDoA



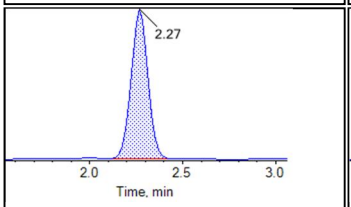
d3-MeFOSAA



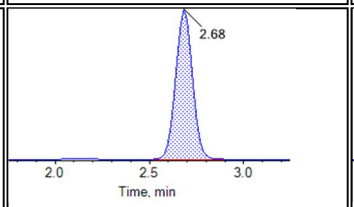
d5-EtFOSAA



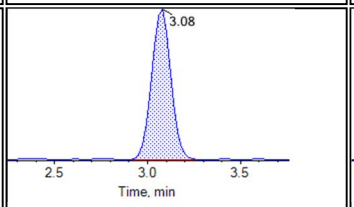
13C5-PFHxA



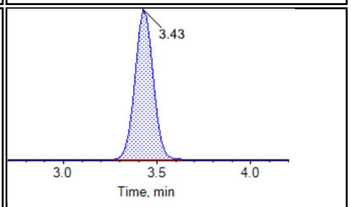
13C4-PFHpA



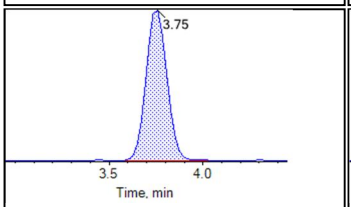
13C8-PFOA



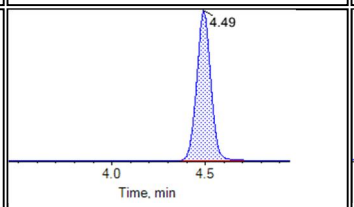
13C9-PFNA



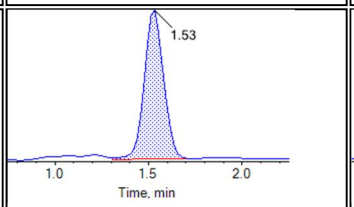
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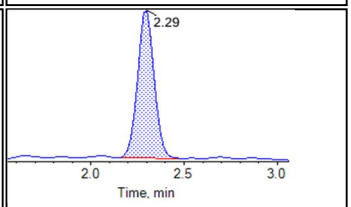
13C7-PFUnA



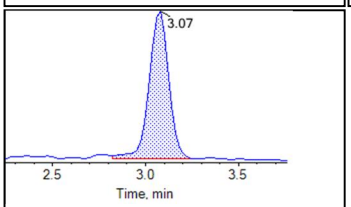
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS

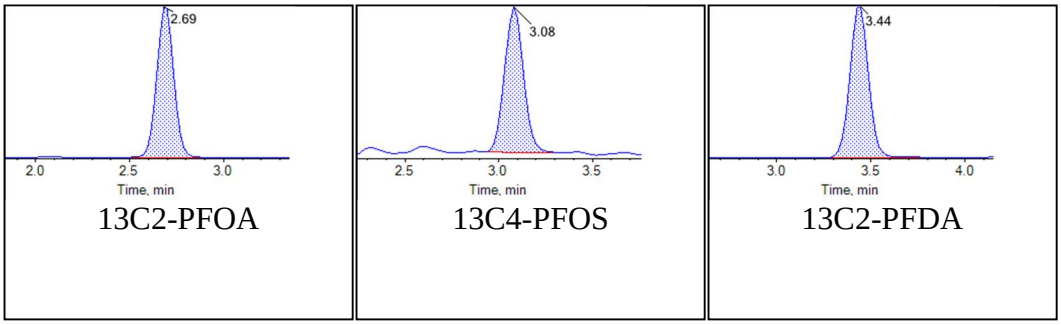


13C8-PFOS

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Internal Standards:



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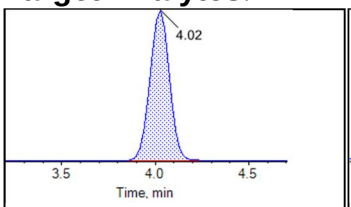
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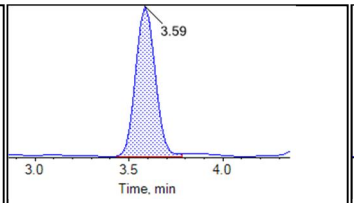
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Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-24T19:51:29	**Data File**	5500_10242018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0621_18-0622_SIS
Sample Comment			

Chromatograms

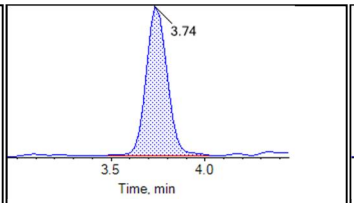
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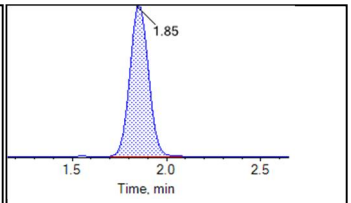
13C2-PFDoA



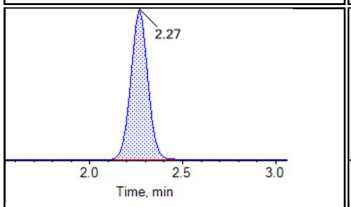
d3-MeFOSAA



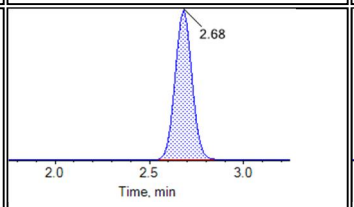
d5-EtFOSAA



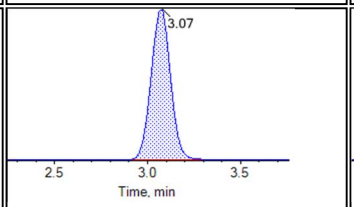
13C5-PFHxA



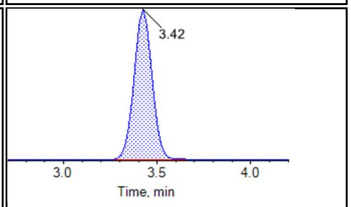
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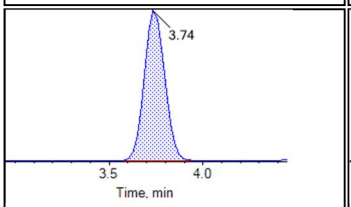
13C8-PFOA



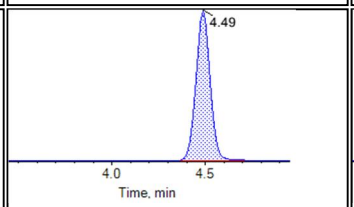
13C9-PFNA



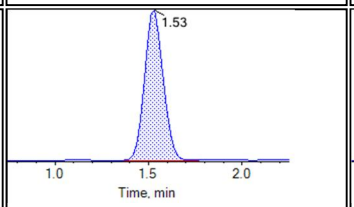
13C6-PFDA



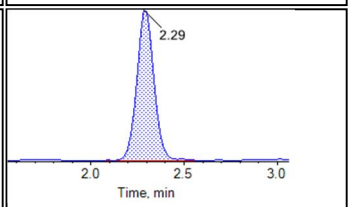
13C7-PFUnA



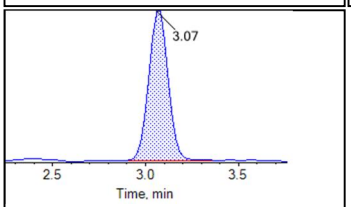
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



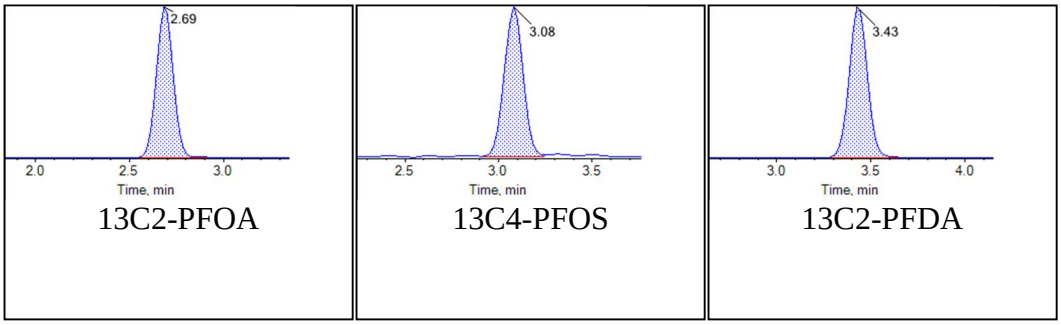
13C8-PFOS

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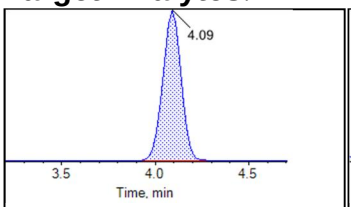
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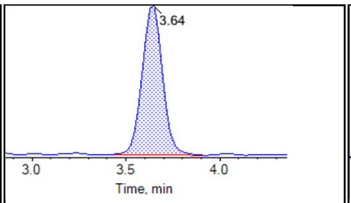
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Sample ID	ISC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:26:43	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Chromatograms

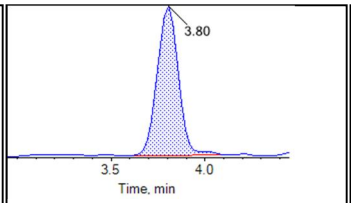
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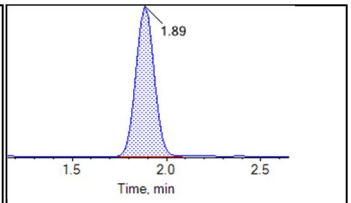
13C2-PFDoA



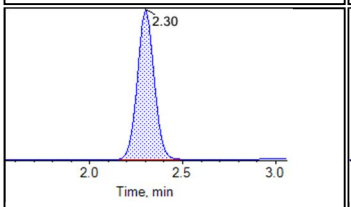
d3-MeFOSAA



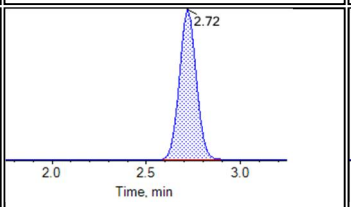
d5-EtFOSAA



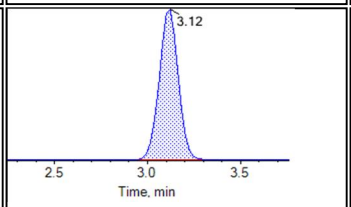
13C5-PFHxA



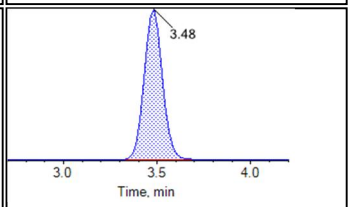
13C4-PFHpA



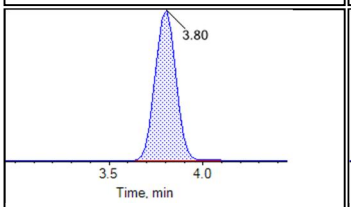
13C8-PFOA



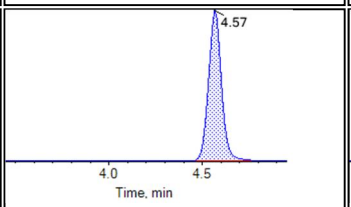
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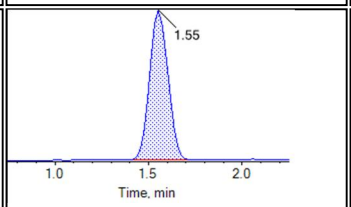
13C6-PFDA



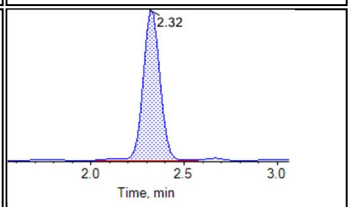
13C7-PFUnA



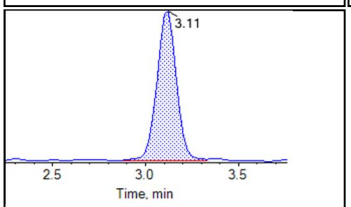
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS

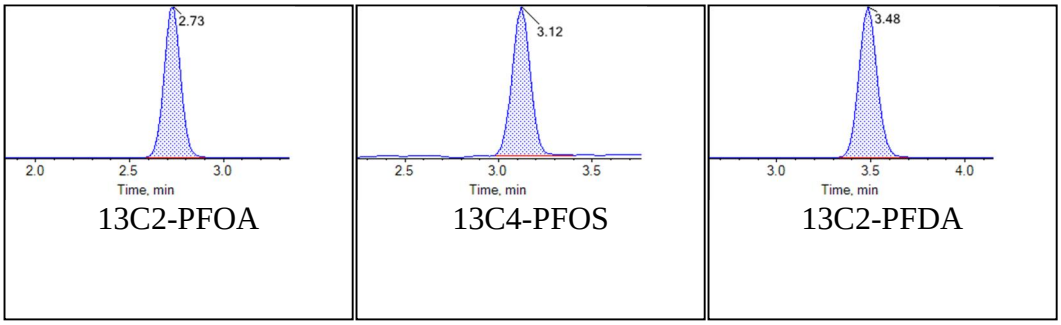


13C8-PFOS

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Internal Standards:



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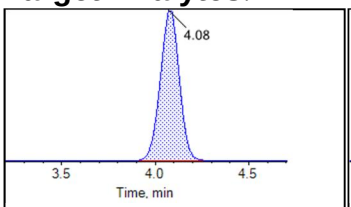
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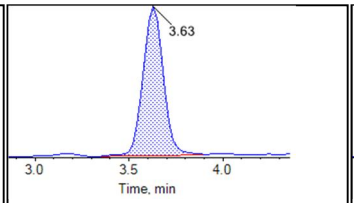
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Sample ID	IB	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T16:37:35	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Chromatograms

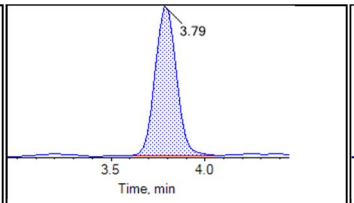
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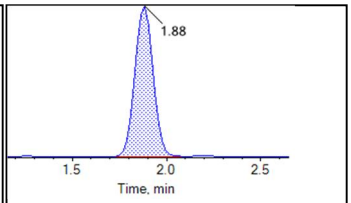
13C2-PFDoA



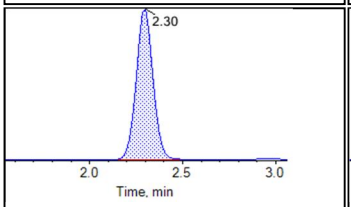
d3-MeFOSAA



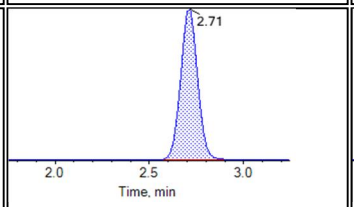
d5-EtFOSAA



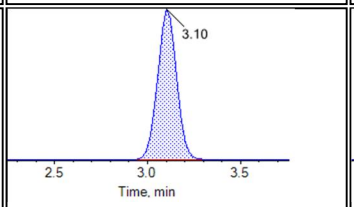
13C5-PFHxA



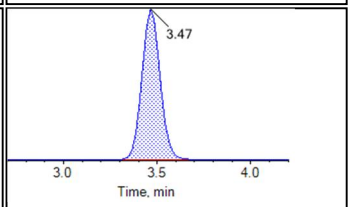
13C4-PFHpA



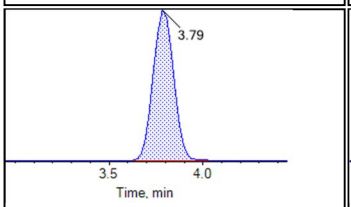
13C8-PFOA



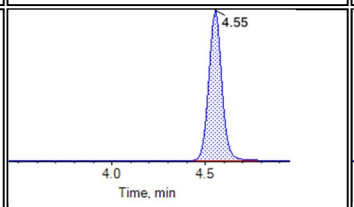
13C9-PFNA



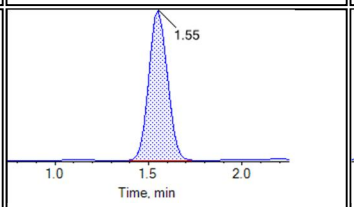
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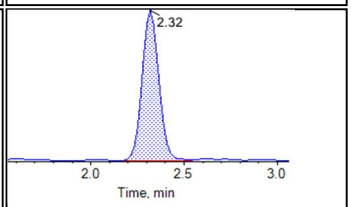
13C7-PFUnA



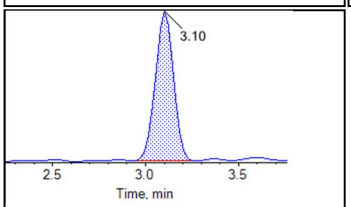
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



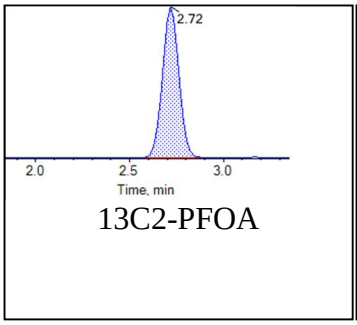
13C8-PFOS

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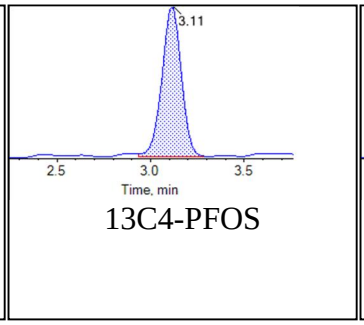
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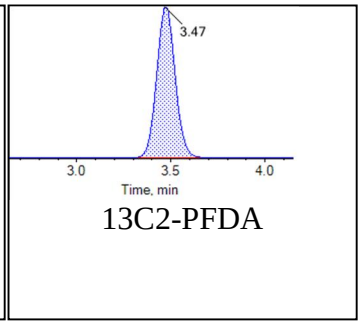
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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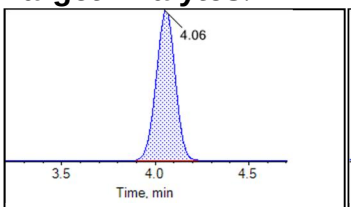
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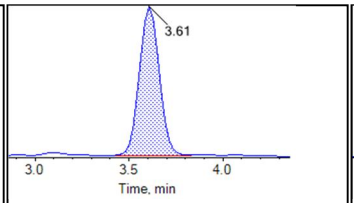
Sample Name	KB77 CCV	**Injection Vial**	5
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:10:14	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Chromatograms

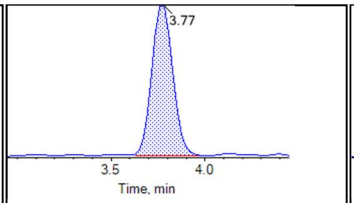
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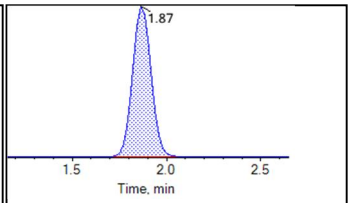
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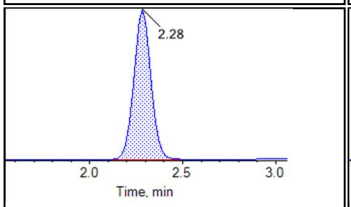
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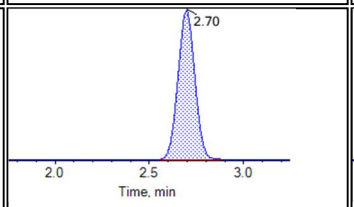
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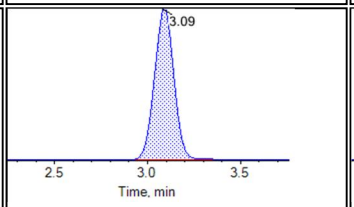
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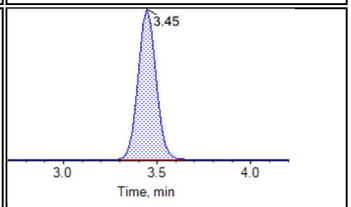
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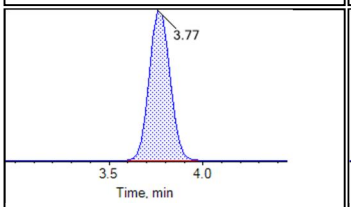
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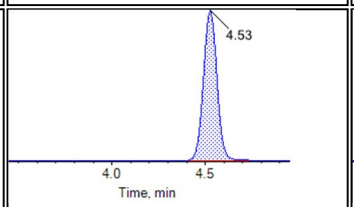
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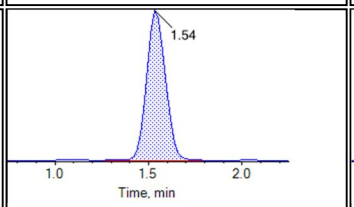
13C6-PFDA



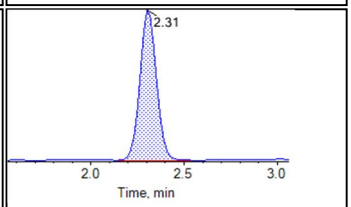
13C7-PFUnA



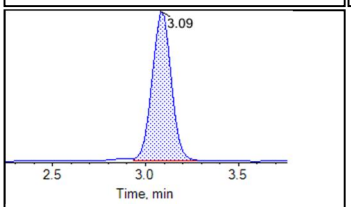
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



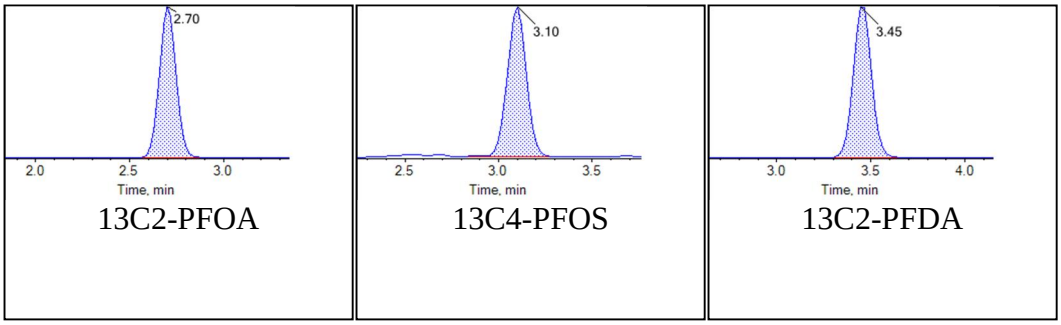
13C8-PFOS

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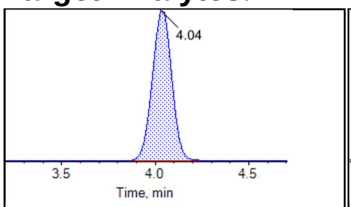
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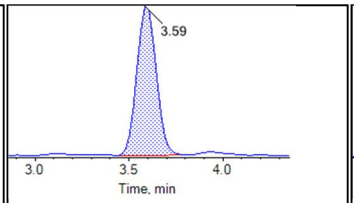
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Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Solvent	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:05:24	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Chromatograms

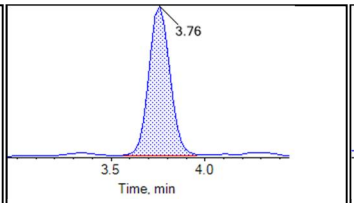
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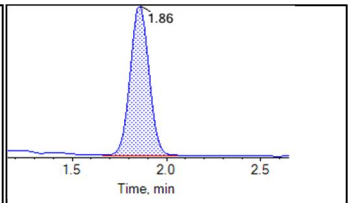
13C2-PFDoA



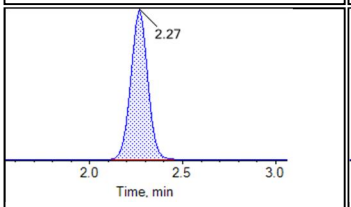
d3-MeFOSAA



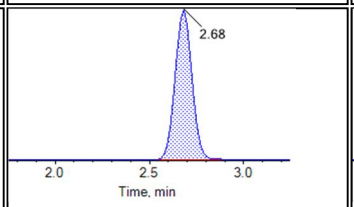
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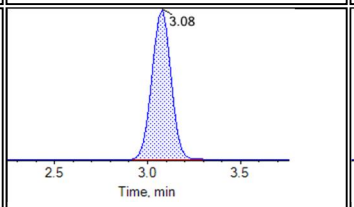
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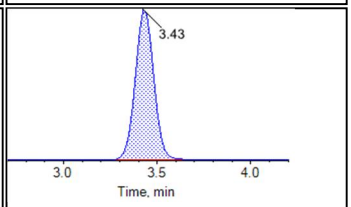
13C4-PFHpA



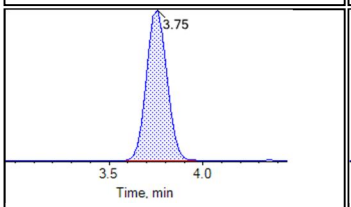
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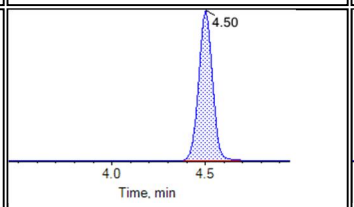
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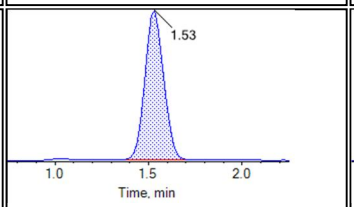
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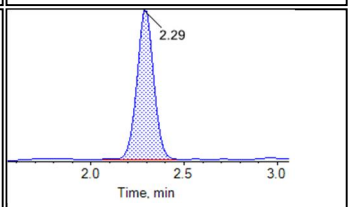
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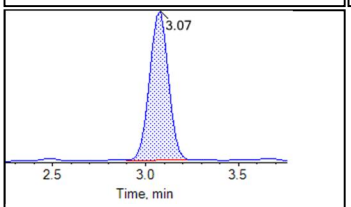
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



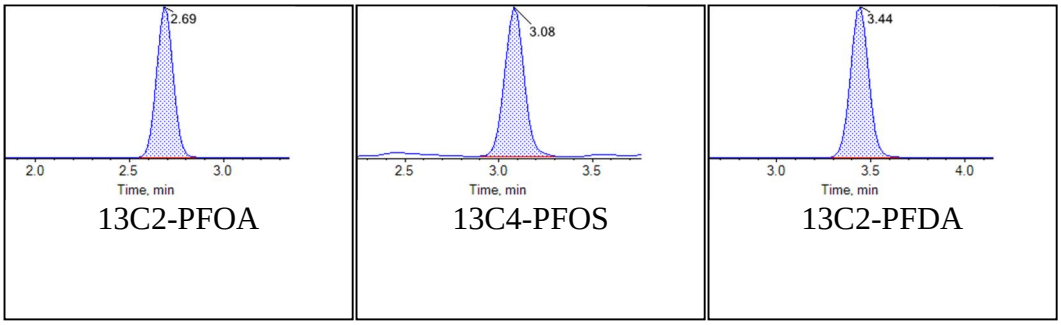
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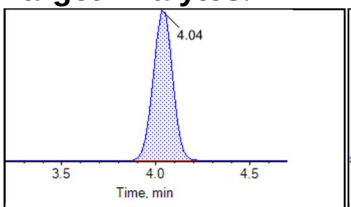
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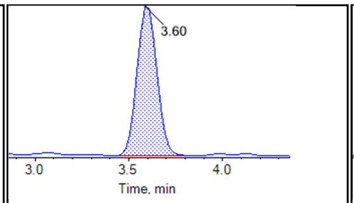
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Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:16:16	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Chromatograms

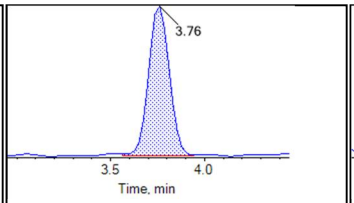
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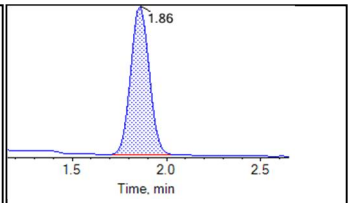
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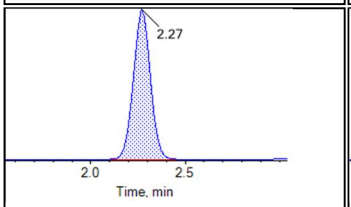
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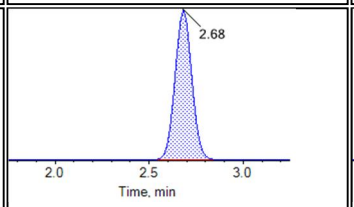
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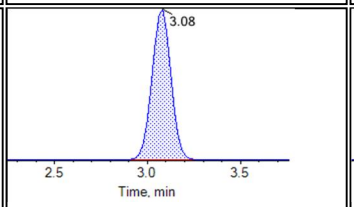
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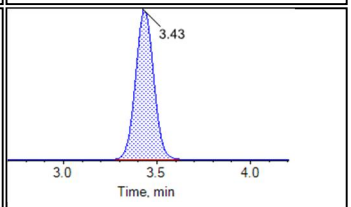
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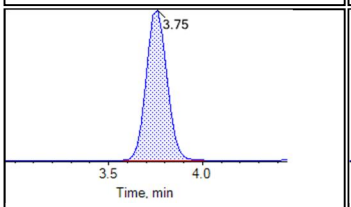
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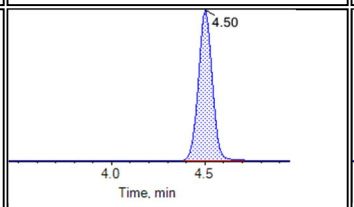
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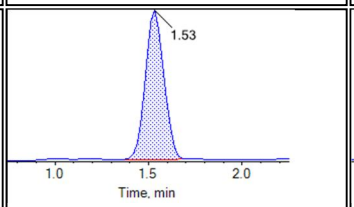
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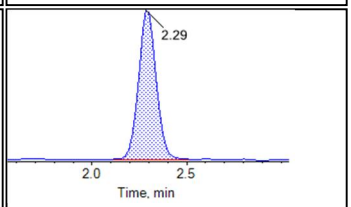
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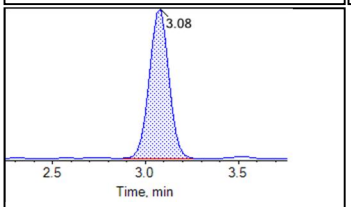
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



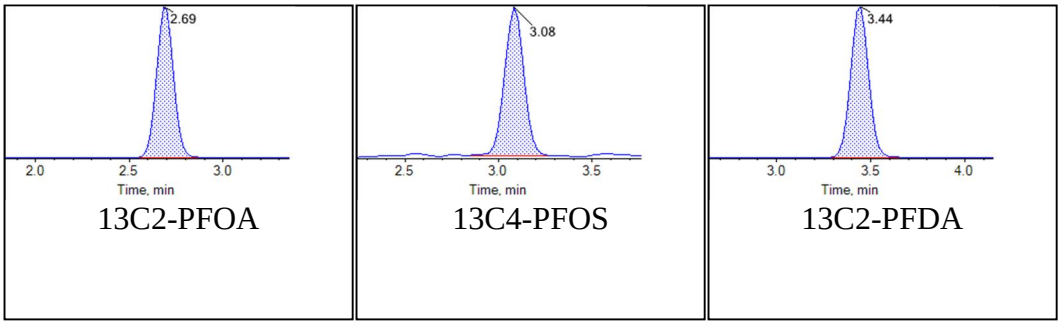
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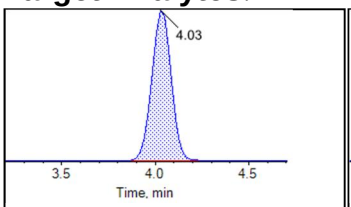
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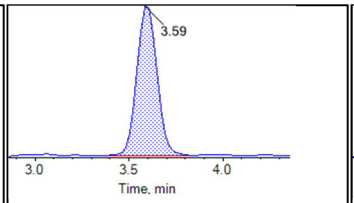
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Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T18:27:08	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_SIS_A
Sample Comment			

Chromatograms

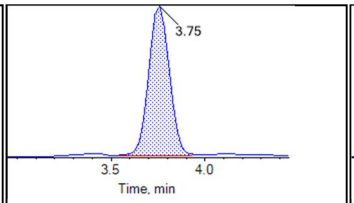
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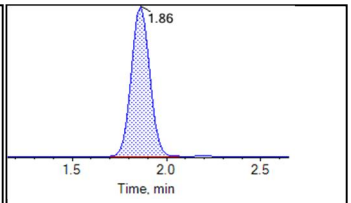
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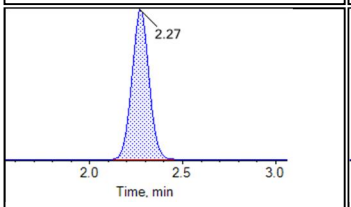
d3-MeFOSAA



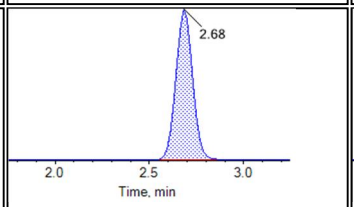
d5-EtFOSAA



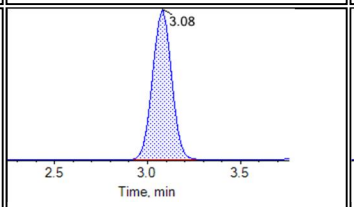
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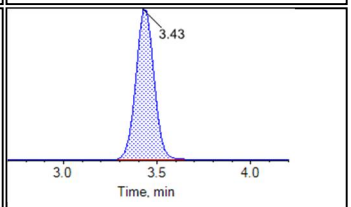
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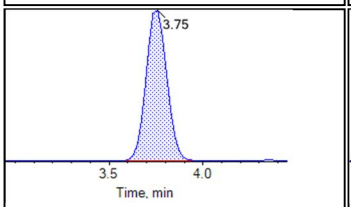
13C8-PFOA



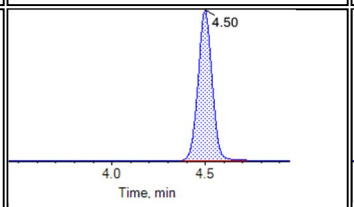
13C9-PFNA



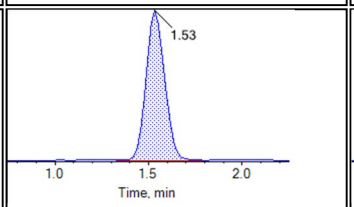
13C6-PFDA



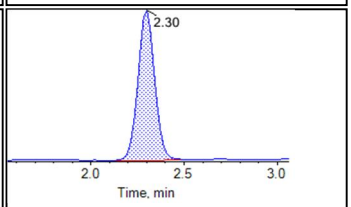
13C7-PFUnA



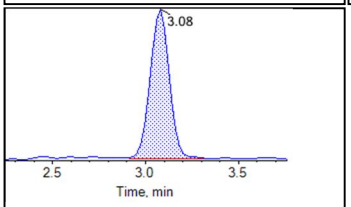
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



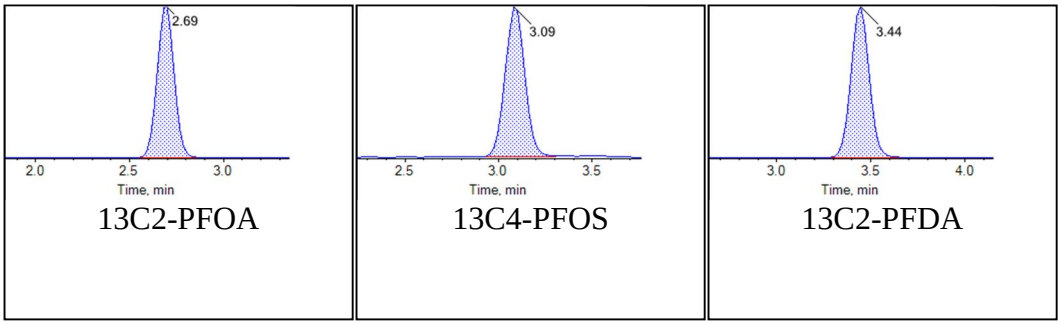
13C8-PFOS

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Chromatogram Report

Created with Analyst Reporter
Printed: 02/11/2018 10:51:35 AM

Internal Standards:



Unused Data

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Sequence Report

Created with Analyst Reporter
Printed: 02/11/2018 9:23:32 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File	
2	KB75 ISC	ISC	10/26/2018 11:41:21 AM	5-0369.dam	AC_10262018_369.wiff	
3	KB80 IB	IB	10/26/2018 11:52:13 AM	5-0369.dam	AC_10262018_369.wiff	
~~4~~	~~J8803-FS(0)~~	VC-SD-EB13-10092018	10/26/2018 12:03:07 PM	~~5-0369.dam~~	~~AC_10262018_369.wiff~~	(1)
~~5~~	~~J8807MS-FS(0)~~	VC-S14GW02-1018-MS	10/26/2018 12:14:00 PM	~~5-0369.dam~~	~~AC_10262018_369.wiff~~	(2)
~~6~~	~~J8808MSD-FS(0)~~	VC-S14GW02-1018-MSD	10/26/2018 12:24:52 PM	~~5-0369.dam~~	~~AC_10262018_369.wiff~~	(1)
7	J8722-FS-D(3)	VC-CS00-DW06-1018	10/26/2018 12:35:44 PM	5-0369.dam	AC_10262018_369.wiff	
8	J8720-FS-D(7)	VC-CS00-DW04-1018	10/26/2018 12:46:35 PM	5-0369.dam	AC_10262018_369.wiff	
9	J8716-FS-D(5)	VC-CS00-DW01-1018	10/26/2018 12:57:26 PM	5-0369.dam	AC_10262018_369.wiff	
10	J8688-FS-D(3)	VC-CS18-DW01-1018	10/26/2018 1:08:19 PM	5-0369.dam	AC_10262018_369.wiff	
11	J8687-FS-D(7)	VC-CS10-DW04-1018	10/26/2018 1:19:10 PM	5-0369.dam	AC_10262018_369.wiff	
13	KB76	CCV	10/26/2018 1:40:54 PM	5-0369.dam	AC_10262018_369.wiff	
14	CR987LCS-FS(0)	Laboratory Control Sample	10/26/2018 1:51:45 PM	5-0369.dam	AC_10262018_369.wiff	
15	J8667-FS-D(3)	VC-CS12-DW01-1018	10/26/2018 2:02:37 PM	5-0369.dam	AC_10262018_369.wiff	
16	J8717-FS(0)	VC-CS00-DW02-1018	10/26/2018 2:13:28 PM	5-0369.dam	AC_10262018_369.wiff	
17	J8718-FS(0)	VC-CS00-DW02P-1018	10/26/2018 2:24:20 PM	5-0369.dam	AC_10262018_369.wiff	
18	J8719-FS(0)	VC-CS00-DW03-1018	10/26/2018 2:35:12 PM	5-0369.dam	AC_10262018_369.wiff	
19	J8721-FS(0)	VC-CS00-DW05-1018	10/26/2018 2:46:02 PM	5-0369.dam	AC_10262018_369.wiff	
20	J8722-FS(0)	VC-CS00-DW06-1018	10/26/2018 2:56:55 PM	5-0369.dam	AC_10262018_369.wiff	
21	KB77	CCV	10/26/2018 3:07:47 PM	5-0369.dam	AC_10262018_369.wiff	

(1) Reanalysis was for confirmation only, data was not reported. LMG 11/2/18

(2) Sample was reanalyzed inadvertently. Data was not needed and not reported. LMG 11/2/18

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 10:36:38 AM

Sample Name	J8800MSD-FS(3)	**Injection Vial**	8
Sample ID	VC-CS11-SD02-000H-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:54:33	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	2.33e6	4950.562067	882.8	false
PFBS_2	298.9 / 99.0	1.55	6.90e5	4993.639253	811.2	false
PFHxA_1	313.0 / 269.0	1.87	1.45e6	5226.287186	254.5	false
PFHxA_2	313.0 / 119.0	1.87	1.09e5	5281.594054	156.5	false
PFHpA_1	363.0 / 319.0	2.28	1.51e6	5176.593845	387.1	false
PFHpA_2	363.0 / 169.0	2.28	2.75e4	4374.522301	218.4	false
PFHxS_1	399.0 / 80.0	2.31	2.24e6	5580.794046	667.0	false
PFHxS_2	399.0 / 99.0	2.30	6.22e5	5553.141393	1074.0	false
PFOA_1	413.0 / 369.0	2.70	2.03e6	5260.445579	605.8	false
PFOA_2	413.0 / 169.0	2.70	1.22e5	4869.840687	438.1	false
PFNA_1	463.0 / 419.0	3.09	1.86e6	4905.924372	794.2	false
PFNA_2	463.0 / 219.0	3.09	5.77e5	4944.613752	1128.5	false
PFOS_1	499.0 / 80.0	3.09	3.34e6	5240.527676	395.8	false
PFOS_2	499.0 / 99.0	3.09	5.88e5	5310.212155	660.4	false
PFDA_1	513.0 / 469.0	3.45	2.38e6	4977.182308	751.2	false
PFDA_2	513.0 / 219.0	3.44	9.97e4	5059.739605	355.6	false
PFUnA_1	563.0 / 519.0	3.76	2.38e6	5395.594403	599.4	false
PFUnA_2	563.0 / 269.0	3.76	1.22e5	5584.506105	408.8	false
PFDoA_1	613.0 / 569.0	4.04	2.47e6	5250.193858	690.7	false
PFDoA_2	613.0 / 319.0	4.05	4.08e5	5566.867671	587.1	false
PFTrDA_1	663.0 / 619.0	4.29	2.38e6	5412.974437	1185.3	false
PFTrDA_2	663.0 / 169.0	4.28	1.48e5	5135.499017	705.1	false
PFTeDA_1	713.0 / 669.0	4.50	2.74e6	5508.494481	2014.5	false
PFTeDA_2	713.0 / 169.0	4.50	1.33e5	5513.546583	1206.8	false
NMeFOSAA_1	570.0 / 419.0	3.60	4.81e5	5805.909687	1303.2	false
NMeFOSAA_2	570.0 / 512.0	3.60	2.45e5	5444.164117	1187.8	false
NEtFOSAA_1	584.0 / 419.0	3.76	4.42e5	5972.598419	979.6	false
NEtFOSAA_2	584.0 / 483.0	3.76	2.61e4	6021.696260	547.0	false

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Summary Quant Report

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Printed: 02/11/2018 10:00:51 AM

Sample Name	CS009PB-FS(0)	**Injection Vial**	6
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:32:50	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	1.86e3	0.605298	11.3	true
PFBS_2	298.9 / 99.0	1.53	1.06e3	8.333880	21.6	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	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	2.70	1.02e5	300.263666	141.7	false
PFOA_2	413.0 / 169.0	2.70	6.53e3	297.113779	99.7	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	3.09	4.24e3	10.376966	11.8	true
PFOS_2	499.0 / 99.0	3.10	6.67e2	8.171057	8.1	false
PFDA_1	513.0 / 469.0	3.45	1.33e3	< 0	12.9	false
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.78	2.03e3	< 0	15.3	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.06	1.52e3	< 0	22.4	false
PFDoA_2	613.0 / 319.0	4.08	2.97e2	< 0	12.1	true
PFTrDA_1	663.0 / 619.0	4.30	1.31e3	< 0	45.2	false
PFTrDA_2	663.0 / 169.0	4.29	2.02e2	< 0	13.1	false
PFTeDA_1	713.0 / 669.0	4.51	1.15e3	< 0	20.8	true
PFTeDA_2	713.0 / 169.0	4.54	2.38e2	< 0	15.0	false
NMeFOSAA_1	570.0 / 419.0	3.60	6.92e2	< 0	31.7	false
NMeFOSAA_2	570.0 / 512.0	3.38	2.74e2	< 0	5.3	false
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

Created with Analyst Reporter
Printed: 02/11/2018 10:00:56 AM

Sample Name	J8803-FS(0)	**Injection Vial**	7
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-25T17:43:42	**Data File**	AC_10252018_05-0369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0620_18-0622_BASE_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	2.70	1.81e4	442.635495	47.7	false
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	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	4.30	3.94e2	< 0	12.0	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	J8803-FS(0)	**Injection Vial**	4
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-26T12:03:07	**Data File**	AC_10262018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0609A
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	2.70	1.19e5	388.533636	172.9	false
PFOA_2	413.0 / 169.0	2.69	7.36e3	369.075690	101.1	false
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	3.10	9.99e2	< 0	16.0	false
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	3.76	1.45e3	< 0	15.4	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	4.05	9.31e2	< 0	17.8	true
PFDoA_2	613.0 / 319.0	4.06	9.53e1	< 0	2.8	true
PFTrDA_1	663.0 / 619.0	4.29	8.00e2	< 0	20.0	false
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

Created with Analyst Reporter
Printed: 02/11/2018 9:27:34 AM

Sample Name	J8807MS-FS(0)	**Injection Vial**	5
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-26T12:14:00	**Data File**	AC_10262018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0609A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	3.39e6	11827.288742	133.0	true
PFBS_2	298.9 / 99.0	1.54	9.86e5	11705.860933	320.2	false
PFHxA_1	313.0 / 269.0	1.86	5.02e6	16739.346976	98.0	false
PFHxA_2	313.0 / 119.0	1.86	3.31e5	14820.773013	194.1	false
PFHpA_1	363.0 / 319.0	2.27	2.82e6	9227.715988	196.1	false
PFHpA_2	363.0 / 169.0	2.27	5.50e4	8428.828125	298.8	false
PFHxS_1	399.0 / 80.0	2.30	7.91e6	22118.417389	336.2	false
PFHxS_2	399.0 / 99.0	2.30	2.24e6	22413.526044	951.6	false
PFOA_1	413.0 / 369.0	2.69	4.87e6	16462.474543	268.7	false
PFOA_2	413.0 / 169.0	2.68	3.98e5	20714.293372	475.9	false
PFNA_1	463.0 / 419.0	3.08	2.29e6	8698.095448	286.8	false
PFNA_2	463.0 / 219.0	3.09	7.12e5	8757.609258	565.3	false
PFOS_1	499.0 / 80.0	3.08	6.59e6	14107.719712	219.4	false
PFOS_2	499.0 / 99.0	3.08	1.14e6	14072.329155	789.1	false
PFDA_1	513.0 / 469.0	3.44	2.70e6	7248.166654	361.8	false
PFDA_2	513.0 / 219.0	3.44	1.16e5	7552.229542	338.8	false
PFUnA_1	563.0 / 519.0	3.76	2.76e6	7758.494348	564.1	false
PFUnA_2	563.0 / 269.0	3.76	1.45e5	8224.301180	319.3	false
PFDoA_1	613.0 / 569.0	4.04	2.69e6	7647.563692	684.2	false
PFDoA_2	613.0 / 319.0	4.04	4.41e5	8061.697438	559.8	false
PFTrDA_1	663.0 / 619.0	4.29	2.42e6	7581.215264	1273.4	false
PFTrDA_2	663.0 / 169.0	4.29	1.57e5	7499.888925	715.7	false
PFTeDA_1	713.0 / 669.0	4.50	2.84e6	7862.621516	1853.3	false
PFTeDA_2	713.0 / 169.0	4.50	1.42e5	8100.430978	1364.9	false
NMeFOSAA_1	570.0 / 419.0	3.60	5.75e5	8311.197673	855.2	false
NMeFOSAA_2	570.0 / 512.0	3.60	3.06e5	8161.509502	561.0	false
NEtFOSAA_1	584.0 / 419.0	3.76	5.97e5	10030.728595	1013.7	false
NEtFOSAA_2	584.0 / 483.0	3.76	3.58e4	10308.079343	533.3	false

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Summary Quant Report

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Printed: 02/11/2018 9:27:38 AM

Sample Name	J8808MSD-FS(0)	**Injection Vial**	6
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-26T12:24:52	**Data File**	AC_10262018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0609A
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	3.25e6	11039.438363	104.7	true
PFBS_2	298.9 / 99.0	1.54	9.67e5	11176.737142	296.9	false
PFHxA_1	313.0 / 269.0	1.86	5.14e6	17791.073229	137.1	false
PFHxA_2	313.0 / 119.0	1.86	3.09e5	14312.734036	228.7	false
PFHpA_1	363.0 / 319.0	2.27	2.58e6	8124.578799	142.8	false
PFHpA_2	363.0 / 169.0	2.27	5.05e4	7432.437621	301.2	false
PFHxS_1	399.0 / 80.0	2.29	8.05e6	25225.814252	264.4	false
PFHxS_2	399.0 / 99.0	2.29	2.22e6	24959.722239	762.2	false
PFOA_1	413.0 / 369.0	2.69	4.49e6	15000.400227	286.6	false
PFOA_2	413.0 / 169.0	2.68	3.67e5	18883.387676	484.1	false
PFNA_1	463.0 / 419.0	3.08	2.31e6	9282.597463	313.4	false
PFNA_2	463.0 / 219.0	3.08	6.98e5	9091.913059	582.1	false
PFOS_1	499.0 / 80.0	3.08	6.62e6	14400.984053	212.0	false
PFOS_2	499.0 / 99.0	3.08	1.13e6	14107.625315	764.5	false
PFDA_1	513.0 / 469.0	3.44	2.60e6	7143.796844	385.5	false
PFDA_2	513.0 / 219.0	3.44	1.12e5	7484.390661	367.2	false
PFUnA_1	563.0 / 519.0	3.76	2.71e6	7710.121849	529.2	false
PFUnA_2	563.0 / 269.0	3.76	1.42e5	8127.683751	307.4	false
PFDoA_1	613.0 / 569.0	4.04	2.53e6	8460.460679	710.0	false
PFDoA_2	613.0 / 319.0	4.04	4.02e5	8649.124071	529.5	false
PFTrDA_1	663.0 / 619.0	4.29	2.20e6	7480.216841	1149.2	false
PFTrDA_2	663.0 / 169.0	4.28	1.51e5	7825.911159	638.8	false
PFTeDA_1	713.0 / 669.0	4.50	2.69e6	8073.986818	2302.0	false
PFTeDA_2	713.0 / 169.0	4.50	1.38e5	8549.821500	1132.3	false
NMeFOSAA_1	570.0 / 419.0	3.59	5.47e5	8288.429216	1123.4	false
NMeFOSAA_2	570.0 / 512.0	3.59	3.02e5	8451.402114	678.3	false
NEtFOSAA_1	584.0 / 419.0	3.76	5.44e5	8640.528215	888.5	false
NEtFOSAA_2	584.0 / 483.0	3.75	3.57e4	9703.036001	545.0	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 9:28:59 AM

Sample Name	J8803-FS(0)	**Injection Vial**	4
Sample ID	VC-SD-EB13-10092018	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-26T12:03:07	**Data File**	AC_10262018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0609A_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	102732.95	249.594593	1162.1	false
d3-MeFOSAA	573.0 / 419.0	3.59	22321.19	373.166245	351.8	false
d5-EtFOSAA	589.0 / 419.0	3.75	35356.03	520.741424	370.1	false
13C5-PFHxA	318.0 / 273.0	1.86	49219.68	193.914105	539.4	false
13C4-PFHpA	367.0 / 322.0	2.27	64390.14	222.979456	627.9	false
13C8-PFOA	421.0 / 376.0	2.68	73638.19	209.627688	1060.2	false
13C9-PFNA	472.0 / 427.0	3.08	77940.29	194.313103	684.1	false
13C6-PFDA	519.0 / 474.0	3.43	86708.48	209.097288	1028.3	false
13C7-PFUnA	570.0 / 525.0	3.74	104989.41	274.084639	865.9	false
13C2-PFTeDA	715.0 / 670.0	4.50	75322.41	226.659603	1547.3	false
13C3-PFBS	302.0 / 99.0	1.53	27246.51	250.036266	357.3	false
13C3-PFHxS	402.0 / 99.0	2.30	18938.32	191.792541	340.0	false
13C8-PFOS	507.0 / 99.0	3.07	21644.62	194.037928	217.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 9:29:03 AM

Sample Name	J8807MS-FS(0)	**Injection Vial**	5
Sample ID	VC-S14GW02-1018-MS	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-26T12:14:00	**Data File**	AC_10262018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0609A_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	96675.06	234.417865	1005.2	false
d3-MeFOSAA	573.0 / 419.0	3.59	18421.22	328.309092	164.2	false
d5-EtFOSAA	589.0 / 419.0	3.75	16492.24	258.951230	156.8	false
13C5-PFHxA	318.0 / 273.0	1.85	75905.10	305.613463	155.3	false
13C4-PFHpA	367.0 / 322.0	2.26	87024.59	307.977085	318.8	false
13C8-PFOA	421.0 / 376.0	2.68	73736.09	214.514489	378.3	false
13C9-PFNA	472.0 / 427.0	3.07	79273.00	201.974399	572.7	false
13C6-PFDA	519.0 / 474.0	3.43	89326.09	214.988865	859.4	false
13C7-PFUnA	570.0 / 525.0	3.75	84491.11	220.141047	670.6	false
13C2-PFTeDA	715.0 / 670.0	4.50	83408.95	250.503277	1496.4	false
13C3-PFBS	302.0 / 99.0	1.52	22900.48	224.035233	206.9	false
13C3-PFHxS	402.0 / 99.0	2.28	24684.81	266.501625	177.3	false
13C8-PFOS	507.0 / 99.0	3.07	23455.30	224.159592	164.0	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 02/11/2018 9:29:10 AM

Sample Name	J8808MSD-FS(0)	**Injection Vial**	6
Sample ID	VC-S14GW02-1018-MSD	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-10-26T12:24:52	**Data File**	AC_10262018_369.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0609A_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	82238.04	216.000803	991.3	false
d3-MeFOSAA	573.0 / 419.0	3.59	16899.45	310.212861	137.1	false
d5-EtFOSAA	589.0 / 419.0	3.75	17125.99	276.959608	175.8	false
13C5-PFHxA	318.0 / 273.0	1.85	73234.47	290.048537	121.3	false
13C4-PFHpA	367.0 / 322.0	2.26	90396.89	314.690407	280.6	false
13C8-PFOA	421.0 / 376.0	2.68	74622.99	213.551564	391.2	false
13C9-PFNA	472.0 / 427.0	3.07	74860.30	187.618737	387.9	false
13C6-PFDA	519.0 / 474.0	3.43	87309.40	227.617172	863.9	false
13C7-PFUnA	570.0 / 525.0	3.75	83506.59	235.676958	649.1	false
13C2-PFTeDA	715.0 / 670.0	4.49	76944.50	250.313725	1179.6	false
13C3-PFBS	302.0 / 99.0	1.52	23528.47	237.076190	199.6	false
13C3-PFHxS	402.0 / 99.0	2.28	23050.88	256.318560	204.4	false
13C8-PFOS	507.0 / 99.0	3.07	23183.58	228.201915	130.6	false

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
NAVAL BASE VENTURA COUNTY, CALIFORNIA

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 18-0620
Laboratory: Battelle Norwell Operations, Norwell, Massachusetts
Site: Naval Base Ventura County, CTO-4164, California
Date: January 11, 2019

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	VC-SD-FB12-10092018	J8801-FS	Water
2	VC-SD-EB12-10092018	J8802-FS	Water
3	VC-SD-EB13-10092018	J8803-FS	Water
4	VC-S14GW02-1018	J8804-FS	Water
4MS	VC-S14GW02-1018MS	J8807-FSMS	Water
4MSD	VC-S14GW02-1018MSD	J8808-FSMSD	Water
5	VC-S14GW02P-1018	J8805-FS	Water
6	VC-S14GW19-1018	J8806-FS	Water

A full data validation was performed on the analytical data for three water samples, one aqueous field blank sample, and two aqueous equipment blank samples collected on October 9, 2018 by CH2M HILL at the Naval Base Ventura County site in California. The samples were analyzed under the Battelle SOP Method for "Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)".

Specific method references are as follows:

Analysis	*Method References*
PFCs	SOP 5-369

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, the DoD Quality Systems Manual for Environmental Laboratories, Version 5.1, February 2018, the Final Sampling and Analysis Plan Basewide Preliminary Assessments/Site Inspections of Per- and Polyfluoroalkyl Substances, August 2018, and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Data Usability Assessment

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

- The case narrative and chain-of-custody documentation were included in the data package as required. All criteria were met.

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients criteria were met.

Continuing Calibration

- All percent recovery (%R) criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CS009PB-FS	PFOA	1.29	U	1-3, 6

Field QC Blank

- Field QC samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
VC-SD-FB12-10092018	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values except for the following.

EDS Sample ID	Surrogate	%R	Qualifier
3	d5-EtFOSAA	166%	None - Associated Compound ND

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values except for the following.

MS/MSD ID	Compound	MS %R/MSD %R/RPD	Qualifier	Affected Samples
4	PFNA	OK/125%/OK	None	Sample non-detect
	PFHxS	OK/46%/63	J	4

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	VC-S14GW02-1018 ng/L	VC-S14GW02P-1018 ng/L	RPD	Qualifier
PFHxA	31.98	35.60	11%	None
PFHpA	6.57	6.56	0%	
PFOA	25.88	27.91	8%	
NEtFOSAA	2.69	2.39	12%	
PFBS	13.56	13.35	2%	
PFHxS	54.25	50.67	7%	
PFOS	24.92	29.90	18%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 1/11/19

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
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.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

BATTELLE
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Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-FB12-10092018			
Battelle ID		J8801-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		AQ			
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	1.41 J U	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	0.44 U	0.11	0.44	4.39
PFHxS	355-46-4	0.35 U	0.10	0.35	4.39
PFOS	1763-23-1	0.44 U	0.17	0.44	4.39

MBL

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	101
13C8-PFOA	93
13C9-PFNA	98
13C6-PFDA	91
13C7-PFUnA	87
13C2-PFDoA	98
13C2-PFTeDA	95
d3-MeFOSAA	93
d5-EtFOSAA	87
13C3-PFBS	102
13C3-PFHxS	85
13C8-PFOS	92

11/29/18
Analyzed by: Griffith, Lauren
Printed: 11/7/2018

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2

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-EB12-10092018				
Battelle ID		J8802-FS				
Sample Type		SA				
Collection Date		10/09/2018				
Extraction Date		10/18/2018				
Analysis Date		10/24/2018				
Analytical Instrument		Sciex 5500 LC/MS/MS				
% Moisture		NA				
Matrix		AQ				
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	0.46	U	0.15	0.46	4.63
PFOA	335-67-1	1.44	J U	0.17	0.46	4.63 MBL
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	0.46	U	0.12	0.46	4.63
PFHxS	355-46-4	0.37	U	0.10	0.37	4.63
PFOS	1763-23-1	0.46	U	0.18	0.46	4.63

Surrogate Recoveries (%)

13C5-PFHxA	90
13C4-PFHpA	91
13C8-PFOA	88
13C9-PFNA	79
13C6-PFDA	88
13C7-PFUnA	92
13C2-PFDoA	100
13C2-PFTeDA	93
d3-MeFOSAA	101
d5-EtFOSAA	109
13C3-PFBS	104
13C3-PFHxS	90
13C8-PFOS	96

MW12/29/18

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3

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-SD-EB13-10092018			
Battelle ID		J8803-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
Analytical Instrument		Sciex 5500 LC/MS/MS			
% Moisture		NA			
Matrix		AQ			
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	1.34 Ju	0.16	0.44	4.39 MBL
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	0.44 U	0.11	0.44	4.39
PFHxS	355-46-4	0.35 U	0.10	0.35	4.39
PFOS	1763-23-1	0.44 U	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	84
13C4-PFHpA	88
13C8-PFOA	84
13C9-PFNA	82
13C6-PFDA	88
13C7-PFUnA	122
13C2-PFDoA	105
13C2-PFTeDA	101
d3-MeFOSAA	125
d5-EtFOSAA	166
13C3-PFBS	103
13C3-PFHxS	86
13C8-PFOS	94

NW 12/29/18

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4

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02-1018			
Battelle ID		J8804-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
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	31.98	0.17	0.44	4.39
PFHpA	375-85-9	6.57	0.14	0.44	4.39
PFOA	335-67-1	25.58	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	2.69 J	0.43	0.88	4.39
PFBS	375-73-5	13.56	0.11	0.44	4.39
PFHxS	355-46-4	54.25 J	0.10	0.35	4.39 MSL
PFOS	1763-23-1	24.92	0.17	0.44	4.39
Surrogate Recoveries (%)					
13C5-PFHxA		106			
13C4-PFHpA		116			
13C8-PFOA		91			
13C9-PFNA		73			
13C6-PFDA		84			
13C7-PFUnA		89			
13C2-PFDoA		80			
13C2-PFTeDA		76			
d3-MeFOSAA		111			
d5-EtFOSAA		104			
13C3-PFBS		107			
13C3-PFHxS		115			
13C8-PFOS		100			

MW 12/29/18

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5

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW02P-1018			
Battelle ID		J8805-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
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	35.60	0.17	0.44	4.39
PFHpA	375-85-9	6.56	0.14	0.44	4.39
PFOA	335-67-1	27.91	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	2.39 J	0.43	0.88	4.39
PFBS	375-73-5	13.35	0.11	0.44	4.39
PFHxS	355-46-4	50.67	0.10	0.35	4.39
PFOS	1763-23-1	29.90	0.17	0.44	4.39
Surrogate Recoveries (%)					
13C5-PFHxA		104			
13C4-PFHpA		112			
13C8-PFOA		86			
13C9-PFNA		69			
13C6-PFDA		93			
13C7-PFUnA		92			
13C2-PFDoA		85			
13C2-PFTeDA		85			
d3-MeFOSAA		115			
d5-EtFOSAA		99			
13C3-PFBS		108			
13C3-PFHxS		123			
13C8-PFOS		84			

MW 12/29/18

BATTELLE
It can be done

6

Project Client: CH2M
Project Name: CTO-4164 Naval Base Ventura County, California
Project No.: 100110125-01

Client ID		VC-S14GW19-1018			
Battelle ID		J8806-FS			
Sample Type		SA			
Collection Date		10/09/2018			
Extraction Date		10/18/2018			
Analysis Date		10/24/2018			
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	9.08	0.17	0.45	4.46
PFHpA	375-85-9	2.31 J	0.14	0.45	4.46
PFOA	335-67-1	5.22 J U	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	9.65	0.12	0.45	4.46
PFHxS	355-46-4	3.21 J	0.10	0.36	4.46
PFOS	1763-23-1	0.90 J	0.17	0.45	4.46
Surrogate Recoveries (%)					
13C5-PFHxA		118			
13C4-PFHpA		136			
13C8-PFOA		98			
13C9-PFNA		83			
13C6-PFDA		102			
13C7-PFUnA		110			
13C2-PFDoA		92			
13C2-PFTeDA		99			
d3-MeFOSAA		130			
d5-EtFOSAA		111			
13C3-PFBS		99			
13C3-PFHxS		102			
13C8-PFOS		89			

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NW 12/29/18

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
S14MW19	SITE 00014	PORT_HUENEME_NB	WLM	Monitoring well	18-0620	6192667	1885947.7	Perfluoroalkyl Compounds	VC-S14GW19-1018	WG	Ground water	10/9/2018
S14MW19	SITE 00014	PORT_HUENEME_NB	WLM	Monitoring well	18-0620	6192667	1885947.7	Perfluoroalkyl Compounds	VC-S14GW19-1018	WG	Ground water	10/9/2018
S14MW19	SITE 00014	PORT_HUENEME_NB	WLM	Monitoring well	18-0620	6192667	1885947.7	Perfluoroalkyl Compounds	VC-S14GW19-1018	WG	Ground water	10/9/2018
S14MW19	SITE 00014	PORT_HUENEME_NB	WLM	Monitoring well	18-0620	6192667	1885947.7	Perfluoroalkyl Compounds	VC-S14GW19-1018	WG	Ground water	10/9/2018
S14PZ02	SITE 00014	PORT_HUENEME_NB	PZ	Piezometer	18-0620	6193259	1885303.9	Perfluoroalkyl Compounds	VC-S14GW02-1018	WG	Ground water	10/9/2018
S14PZ02	SITE 00014	PORT_HUENEME_NB	PZ	Piezometer	18-0620	6193259	1885303.9	Perfluoroalkyl Compounds	VC-S14GW02-1018	WG	Ground water	10/9/2018
S14PZ02	SITE 00014	PORT_HUENEME_NB	PZ	Piezometer	18-0620	6193259	1885303.9	Perfluoroalkyl Compounds	VC-S14GW02-1018	WG	Ground water	10/9/2018
S14PZ02	SITE 00014	PORT_HUENEME_NB	PZ	Piezometer	18-0620	6193259	1885303.9	Perfluoroalkyl Compounds	VC-S14GW02P-1018	WG	Ground water	10/9/2018
S14PZ02	SITE 00014	PORT_HUENEME_NB	PZ	Piezometer	18-0620	6193259	1885303.9	Perfluoroalkyl Compounds	VC-S14GW02P-1018	WG	Ground water	10/9/2018
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