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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG BSI23

Marine Corps Ballistics Base Barstow
Barstow, California

November 2019

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

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DoD Type I Data Package

Prepared for:

Gutierrez Canales Engineering
2655 Camino del Rio North
Suite 100
San Diego CA 92108

Project: Barstow Site Inspection
Groundwater and Water Samples
Collected on 11/29/18-11/30/18

SDG# BSI23

GROUP	SAMPLE NUMBERS
2014748	9922836-9922853

A2LA (DoD) Cert. # 0001.01
PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-18-27
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **12/26/2018**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Lyssa Longenecker at (717) 556-7321.

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Sample Reference List for SDG Number BSI23
with a Data Package Type of I-DOD

43806 - Gutierrez Canales Engineering

Project: Barstow Site Inspection

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9922836	OUI-YS15-2-01	11/29/2018 09:34	12/04/2018 10:00
9922837	OUI-YS15-2-W-01	11/29/2018 09:50	12/04/2018 10:00
9922838	OUI-YS15-2-W-02	11/29/2018 09:55	12/04/2018 10:00
9922839	OUI-YS21-3-01	11/29/2018 11:49	12/04/2018 10:00
9922840	OUI-YS21-3-02	11/29/2018 11:50	12/04/2018 10:00
9922841	OUI-PMW-6-01	11/29/2018 13:57	12/04/2018 10:00
9922842	OUI-PMW-6-01 MS	11/29/2018 13:57	12/04/2018 10:00
9922843	OUI-PMW-6-01 MSD	11/29/2018 13:57	12/04/2018 10:00
9922844	OUI-YS20-3-01	11/29/2018 16:01	12/04/2018 10:00
9922845	OUI-YS20-3-02	11/29/2018 16:02	12/04/2018 10:00
9922846	OUI-NGW01-01	11/30/2018 10:05	12/04/2018 10:00
9922847	OUI-YIMW-8-01	11/30/2018 12:23	12/04/2018 10:00
9922848	OUI-YIMW-8-01 MS	11/30/2018 12:23	12/04/2018 10:00
9922849	OUI-YIMW-8-01 MSD	11/30/2018 12:23	12/04/2018 10:00
9922850	OUI-YIMW-8-W-01	11/30/2018 12:45	12/04/2018 10:00
9922851	OUI-YIMW-8-W-02	11/30/2018 12:50	12/04/2018 10:00
9922852	OUI-YIMW-6-01	11/30/2018 14:35	12/04/2018 10:00
9922853	OUI-NNE-5-01	11/30/2018 16:05	12/04/2018 10:00

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14434 PFAS in Water by LC/MS/MS-DoD
14465 PFAS Water Prep - DoD

A 250 ml sample of water is extracted using a solid phase extraction (SPE) cartridge followed by dispersive cleanup of the extract using graphitized carbon. The resulting extract is analyzed by LC/MS/MS in negative electrospray ionization (ESI) mode.

Reference: Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LCMSMS), EPA 537 Version 1.1, September 2009, Modified. Department of Defense Quality System Manual Version 5.1, Table B-15.

Analysis Reports / Field Chain of Custody

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Gutierrez Canales Engineering
2655 Camino del Rio North
Suite 100
San Diego CA 92108

Report Date: December 13, 2018 15:21

Project: Barstow Site Inspection

Account #: 43806
Group Number: 2014748
SDG: BSI23
State of Sample Origin: CA

Electronic Copy To Gutierrez Canales Engineering Attn: Jesse MacNeill

Respectfully Submitted,

Lyssa M. Longenecker
Specialist

(717) 556-7321

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . Historical copies may be requested through your project manager.



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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
OUI-YS15-2-01 Grab Groundwater	11/29/2018 09:34	9922836
OUI-YS15-2-W-01 Grab Water	11/29/2018 09:50	9922837
OUI-YS15-2-W-02 Grab Water	11/29/2018 09:55	9922838
OUI-YS21-3-01 Grab Groundwater	11/29/2018 11:49	9922839
OUI-YS21-3-02 Grab Groundwater	11/29/2018 11:50	9922840
OUI-PMW-6-01 Grab Groundwater	11/29/2018 13:57	9922841
OUI-PMW-6-01 MS Grab Groundwater	11/29/2018 13:57	9922842
OUI-PMW-6-01 MSD Grab Groundwater	11/29/2018 13:57	9922843
OUI-YS20-3-01 Grab Groundwater	11/29/2018 16:01	9922844
OUI-YS20-3-02 Grab Groundwater	11/29/2018 16:02	9922845
OUI-NGW01-01 Grab Groundwater	11/30/2018 10:05	9922846
OUI-YIMW-8-01 Grab Groundwater	11/30/2018 12:23	9922847
OUI-YIMW-8-01 MS Grab Groundwater	11/30/2018 12:23	9922848
OUI-YIMW-8-01 MSD Grab Groundwater	11/30/2018 12:23	9922849
OUI-YIMW-8-W-01 Grab Water	11/30/2018 12:45	9922850
OUI-YIMW-8-W-02 Grab Water	11/30/2018 12:50	9922851
OUI-YIMW-6-01 Grab Groundwater	11/30/2018 14:35	9922852
OUI-NNE-5-01 Grab Groundwater	11/30/2018 16:05	9922853

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Barstow Site Inspection
ELLE Group #: 2014748

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.
Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9922836

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9922840, 9922841, 9922842, 9922844, 9922845, 9922848, 9922849

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9922843

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate, NMeFOSAA

Sample #s: 9922853

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluorohexanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9922839, 9922846, 9922847, 9922852

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluorohexanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18340014 (Sample number(s): 9922846-9922853 UNSPK: 9922847)

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The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window:
Perfluorohexanesulfonate

Sample Description: **OUI-YS15-2-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:34
SDG#: BSI23-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9922836
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.8	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	9.5	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	3.3	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	27	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	0.82 J	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:10	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YS15-2-W-01 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:50
SDG#: BSI23-02EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922837
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:19	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YS15-2-W-02 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:55
SDG#: BSI23-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922838
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.85	2.0	2.5	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.5	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.25	0.93	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.42	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.42	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.93	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.42	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.42	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:28	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YS21-3-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 11:49
SDG#: BSI23-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9922839
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.6	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.55 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.1 J	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	14	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	9.4	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:37	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YS21-3-02 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 11:50
SDG#: BSI23-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9922840
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.5	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.53 J	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.0 J	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	22	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	8.6	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:46	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-PMW-6-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 13:57
SDG#: BSI23-06BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9922841
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.3 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.83 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	7.2	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.1	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.3	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.93 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:55	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-PMW-6-01 MS Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 13:57
SDG#: BSI23-06MS

Gutierrez Canales Engineering
ELLE Sample #: GW 9922842
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	5.5	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	3.9	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6.4	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	5.6	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	5.3	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.3	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	9.3	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	5.1	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	6.6	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	6.6	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	5.4	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	5.9	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	4.8	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:32	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-PMW-6-01 MSD Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 13:57
SDG#: BSI23-06MSD

Gutierrez Canales Engineering
ELLE Sample #: GW 9922843
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	5.5	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	3.9	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6.3	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	5.1	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	5.5	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.6	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	9.9	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.9	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	7.0	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	6.3	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	5.5	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	5.7	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	4.9	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:41	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YS20-3-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 16:01
SDG#: BSI23-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9922844
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.3 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.0	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.48 J	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.2	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	1.5 J	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:05	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YS20-3-02 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 16:02
SDG#: BSI23-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9922845
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.4 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.1	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.47 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.4	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	1.5 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:23	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-NGW01-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 10:05
SDG#: BSI23-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9922846
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	1.2	3.0	3.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	1.2	3.0	3.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	21	0.37	1.4	2.5	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.62	1.5	2.5	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.62	1.5	2.5	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.50	1.5	2.5	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.50	1.4	2.5	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.62	1.5	2.5	1
14434	Perfluorononanoic acid	375-95-1	0.76 J	0.50	1.5	2.5	1
14434	Perfluoro-octanesulfonate	1763-23-1	31	0.62	1.5	2.5	1
14434	Perfluorooctanoic acid	335-67-1	5.8	0.62	1.5	2.5	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.75	1.5	2.5	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.75	1.5	2.5	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.62	1.5	2.5	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:07	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YIMW-8-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:23
SDG#: BSI23-10BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9922847
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.6 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.41 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	8.1	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.62 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	7.1	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	4.3	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:16	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YIMW-8-01 MS Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:23
SDG#: BSI23-10MS

Gutierrez Canales Engineering
ELLE Sample #: GW 9922848
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	3.9	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	3.9	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.6	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	4.8	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	4.9	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	5.1	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	11	0.34	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	5.5	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	4.2	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	11	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	8.7	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	5.0	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	5.3	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	4.2	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/11/2018 00:01	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YIMW-8-01 MSD Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:23
SDG#: BSI23-10MSD

Gutierrez Canales Engineering
ELLE Sample #: GW 9922849
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	4.5	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	4.0	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.8	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.8	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	4.8	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.0	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	5.4	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.0	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	11	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	8.9	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	4.7	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	5.2	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	4.2	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/11/2018 00:19	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YIMW-8-W-01 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:45
SDG#: BSI23-11EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922850
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:25	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YIMW-8-W-02 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:50
SDG#: BSI23-12EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922851
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:34	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-YIMW-6-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 14:35
SDG#: BSI23-13

Gutierrez Canales Engineering
ELLE Sample #: GW 9922852
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.0	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.70 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	9.4	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.7 J	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.71 J	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	12	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	7.5	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:43	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OUI-NNE-5-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 16:05
SDG#: BSI23-14

Gutierrez Canales Engineering
ELLE Sample #: GW 9922853
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	25	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.2	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	22	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	92	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	0.67 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	23	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	19	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:52	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Gutierrez Canales Engineering Group Number: 2014748
Reported: 12/13/2018 15:21

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	ng/l	ng/l	ng/l	ng/l
Batch number: 18339013	Sample number(s): 9922836-9922845			
NEtFOSAA	N.D.	1.0	2.4	3.0
NMeFOSAA	N.D.	1.0	2.4	3.0
Perfluorobutanesulfonate	N.D.	0.30	1.1	2.0
Perfluorodecanoic acid	N.D.	0.50	1.2	2.0
Perfluorododecanoic acid	N.D.	0.50	1.2	2.0
Perfluoroheptanoic acid	N.D.	0.40	1.2	2.0
Perfluorohexanesulfonate	N.D.	0.40	1.1	2.0
Perfluorohexanoic acid	N.D.	0.50	1.2	2.0
Perfluorononanoic acid	N.D.	0.40	1.2	2.0
Perfluoro-octanesulfonate	N.D.	0.50	1.2	2.0
Perfluorooctanoic acid	N.D.	0.50	1.2	2.0
Perfluorotetradecanoic acid	N.D.	0.60	1.2	2.0
Perfluorotridecanoic acid	N.D.	0.60	1.2	2.0
Perfluoroundecanoic acid	N.D.	0.50	1.2	2.0
Batch number: 18340014	Sample number(s): 9922846-9922853			
NEtFOSAA	N.D.	1.0	2.4	3.0
NMeFOSAA	N.D.	1.0	2.4	3.0
Perfluorobutanesulfonate	N.D.	0.30	1.1	2.0
Perfluorodecanoic acid	N.D.	0.50	1.2	2.0
Perfluorododecanoic acid	N.D.	0.50	1.2	2.0
Perfluoroheptanoic acid	N.D.	0.40	1.2	2.0
Perfluorohexanesulfonate	N.D.	0.40	1.1	2.0
Perfluorohexanoic acid	N.D.	0.50	1.2	2.0
Perfluorononanoic acid	N.D.	0.40	1.2	2.0
Perfluoro-octanesulfonate	N.D.	0.50	1.2	2.0
Perfluorooctanoic acid	N.D.	0.50	1.2	2.0
Perfluorotetradecanoic acid	N.D.	0.60	1.2	2.0
Perfluorotridecanoic acid	N.D.	0.60	1.2	2.0
Perfluoroundecanoic acid	N.D.	0.50	1.2	2.0

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

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Quality Control Summary

Client Name: Gutierrez Canales Engineering
Group Number: 2014748
Reported: 12/13/2018 15:21

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18339013	Sample number(s): 9922836-9922845								
NEtFOSAA	5.44	5.02			92		60-131		
NMeFOSAA	5.44	4.80			88		67-124		
Perfluorobutanesulfonate	4.81	5.40			112		72-127		
Perfluorodecanoic acid	5.44	5.93			109		67-141		
Perfluorododecanoic acid	5.44	5.69			105		72-137		
Perfluoroheptanoic acid	5.44	6.68			123		75-139		
Perfluorohexanesulfonate	5.14	5.07			99		71-130		
Perfluorohexanoic acid	5.44	6.38			117		77-132		
Perfluorononanoic acid	5.44	5.57			102		73-144		
Perfluoro-octanesulfonate	5.20	4.91			94		67-134		
Perfluorooctanoic acid	5.44	6.37			117		76-136		
Perfluorotetradecanoic acid	5.44	6.21			114		70-142		
Perfluorotridecanoic acid	5.44	6.77			124		57-137		
Perfluoroundecanoic acid	5.44	5.65			104		83-132		
Batch number: 18340014	Sample number(s): 9922846-9922853								
NEtFOSAA	5.44	5.56			102		60-131		
NMeFOSAA	5.44	4.23			78		67-124		
Perfluorobutanesulfonate	4.81	4.75			99		72-127		
Perfluorodecanoic acid	5.44	5.20			96		67-141		
Perfluorododecanoic acid	5.44	5.48			101		72-137		
Perfluoroheptanoic acid	5.44	5.59			103		75-139		
Perfluorohexanesulfonate	5.14	4.62			90		71-130		
Perfluorohexanoic acid	5.44	5.56			102		77-132		
Perfluorononanoic acid	5.44	4.68			86		73-144		
Perfluoro-octanesulfonate	5.20	3.73			72		67-134		
Perfluorooctanoic acid	5.44	5.47			101		76-136		
Perfluorotetradecanoic acid	5.44	5.11			94		70-142		
Perfluorotridecanoic acid	5.44	5.80			107		57-137		
Perfluoroundecanoic acid	5.44	4.67			86		83-132		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/l	MS Spike Added ng/l	MS Conc ng/l	MSD Spike Added ng/l	MSD Conc ng/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 18339013	Sample number(s): 9922836-9922845 UNSPK: 9922841									
NEtFOSAA	N.D.	4.83	5.49	4.97	5.47	114	110	60-131	0	30
NMeFOSAA	N.D.	4.83	3.87	4.97	3.86	80	78	67-124	0	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Group Number: 2014748
Reported: 12/13/2018 15:21

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/l	MS Spike Added ng/l	MS Conc ng/l	MSD Spike Added ng/l	MSD Conc ng/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Perfluorobutanesulfonate	1.26	4.27	6.35	4.39	6.31	119	115	72-127	1	30
Perfluorodecanoic acid	N.D.	4.83	5.57	4.97	5.13	115	103	67-141	8	30
Perfluorododecanoic acid	N.D.	4.83	5.26	4.97	5.50	109	111	72-137	4	30
Perfluoroheptanoic acid	0.834	4.83	6.27	4.97	6.59	113	116	75-139	5	30
Perfluorohexanesulfonate	7.20	4.57	12.02	4.70	11.84	105	99	71-130	2	30
Perfluorohexanoic acid	4.11	4.83	9.35	4.97	9.92	108	117	77-132	6	30
Perfluorononanoic acid	N.D.	4.83	5.08	4.97	4.93	105	99	73-144	3	30
Perfluoro-octanesulfonate	2.27	4.62	6.60	4.75	6.98	94	99	67-134	6	30
Perfluorooctanoic acid	0.930	4.83	6.63	4.97	6.34	118	109	76-136	4	30
Perfluorotetradecanoic acid	N.D.	4.83	5.43	4.97	5.46	112	110	70-142	1	30
Perfluorotridecanoic acid	N.D.	4.83	5.92	4.97	5.66	123	114	57-137	4	30
Perfluoroundecanoic acid	N.D.	4.83	4.77	4.97	4.90	99	99	83-132	3	30
Batch number: 18340014	Sample number(s): 9922846-9922853 UNSPK: 9922847									
NEtFOSAA	N.D.	4.69	3.91	4.83	4.55	83	94	60-131	15	30
NMeFOSAA	N.D.	4.69	3.86	4.83	4.04	82	84	67-124	5	30
Perfluorobutanesulfonate	1.59	4.15	5.58	4.27	5.78	96	98	72-127	3	30
Perfluorodecanoic acid	N.D.	4.69	4.80	4.83	4.77	102	99	67-141	1	30
Perfluorododecanoic acid	N.D.	4.69	4.89	4.83	4.80	104	99	72-137	2	30
Perfluoroheptanoic acid	0.405	4.69	5.12	4.83	5.01	101	95	75-139	2	30
Perfluorohexanesulfonate	8.07	4.43	11.1	4.57	11.75	68*	81	71-130	6	30
Perfluorohexanoic acid	0.616	4.69	5.53	4.83	5.45	105	100	77-132	2	30
Perfluorononanoic acid	N.D.	4.69	4.23	4.83	4.04	90	84	73-144	5	30
Perfluoro-octanesulfonate	7.08	4.48	10.53	4.62	11.1	77	87	67-134	5	30
Perfluorooctanoic acid	4.34	4.69	8.65	4.83	8.86	92	94	76-136	2	30
Perfluorotetradecanoic acid	N.D.	4.69	5.00	4.83	4.68	107	97	70-142	7	30
Perfluorotridecanoic acid	N.D.	4.69	5.33	4.83	5.25	114	109	57-137	2	30
Perfluoroundecanoic acid	N.D.	4.69	4.17	4.83	4.21	89	87	83-132	1	30

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18339013

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9922836	82	8.7	95	1.7	94	8.7	95	1.7	100	1.7	96	8.7
9922837	86	9.0	89	1.8	88	9.0	89	1.8	98	1.8	101	9.0

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 12/13/2018 15:21

Group Number: 2014748

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18339013

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9922838	86	8.5	100	1.7	94	8.5	100	1.7	103	1.7	107	8.5
9922839	92	8.7	98	1.7	98	8.7	94	1.7	100	1.7	106	8.7
9922840	74	9.2	84	1.8	80	9.2	80	1.8	89	1.8	82	9.2
9922841	95	8.9	108	1.8	107	8.9	119	1.8	116	1.8	112	8.9
9922842	87	8.9	96	1.8	93	8.9	100	1.8	101	1.8	100	8.9
9922843	87	9.1	95	1.8	96	9.1	97	1.8	100	1.8	99	9.1
9922844	88	8.9	99	1.8	98	8.9	100	1.8	106	1.8	109	8.9
9922845	94	9.0	106	1.8	105	9.0	106	1.8	112	1.8	110	9.0
Blank	87	10	104	2.0	99	10	102	2.0	107	2.0	101	10
LCS	89	10	104	2.0	106	10	98	2.0	114	2.0	104	10
MS	87	8.9	96	1.8	93	8.9	100	1.8	101	1.8	100	8.9
MSD	87	9.1	95	1.8	96	9.1	97	1.8	100	1.8	99	9.1
Limits:	50-150		50-150		50-150		50-150		50-150		50-150	

	13C9-PFNA		13C6-PFDA		d3-NMeFOSAA		13C7-PFUnDA		d5-NEtFOSAA		13C2-PFDoDA	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9922836	110	1.7	78	1.7	107	7.0	92	3.5	83	7.0	79	4.3
9922837	109	1.8	94	1.8	122	7.2	102	3.6	93	7.2	88	4.5
9922838	119	1.7	98	1.7	128	6.8	108	3.4	98	6.8	88	4.2
9922839	113	1.7	95	1.7	119	7.0	115	3.5	94	7.0	94	4.4
9922840	100	1.8	79	1.8	97	7.4	109	3.7	90	7.4	74	4.6
9922841	125	1.8	103	1.8	137	7.1	116	3.6	103	7.1	98	4.5
9922842	109	1.8	93	1.8	121	7.1	105	3.6	93	7.1	90	4.4
9922843	114	1.8	98	1.8	126	7.3	108	3.7	89	7.3	89	4.6
9922844	118	1.8	95	1.8	129	7.1	104	3.5	94	7.1	87	4.4
9922845	119	1.8	99	1.8	139	7.2	115	3.6	106	7.2	102	4.5
Blank	117	2.0	97	2.0	139	8.0	110	4.0	102	8.0	94	5.0
LCS	119	2.0	105	2.0	145	8.0	113	4.0	118	8.0	104	5.0
MS	109	1.8	93	1.8	121	7.1	105	3.6	93	7.1	90	4.4
MSD	114	1.8	98	1.8	126	7.3	108	3.7	89	7.3	89	4.6
Limits:	50-150		50-150		50-150		50-150		50-150		50-150	

	13C2-PFTeDA	
	%Rec	LOD (ng/l)
9922836	71	4.3
9922837	85	4.5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 12/13/2018 15:21

Group Number: 2014748

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18339013

	13C2-PFTeDA %Rec	LOD (ng/l)
9922838	92	4.2
9922839	97	4.4
9922840	87	4.6
9922841	91	4.5
9922842	80	4.4
9922843	90	4.6
9922844	88	4.4
9922845	98	4.5
Blank	100	5.0
LCS	107	5.0
MS	80	4.4
MSD	90	4.6
Limits:	50-150	

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18340014

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9922846	78	12	92	2.5	84	12	93	2.5	94	2.5	97	12
9922847	78	9.0	86	1.8	78	9.0	93	1.8	90	1.8	95	9.0
9922848	80	8.6	83	1.7	78	8.6	82	1.7	92	1.7	88	8.6
9922849	82	8.9	91	1.8	86	8.9	97	1.8	96	1.8	93	8.9
9922850	79	8.8	87	1.8	88	8.8	85	1.8	100	1.8	95	8.8
9922851	76	8.8	87	1.8	82	8.8	87	1.8	96	1.8	93	8.8
9922852	79	8.6	70	1.7	66	8.6	87	1.7	73	1.7	93	8.6
9922853	82	9.0	78	1.8	74	9.0	78	1.8	85	1.8	81	9.0
Blank	78	10	87	2.0	85	10	86	2.0	95	2.0	93	10
LCS	71	10	82	2.0	77	10	83	2.0	91	2.0	94	10
MS	80	8.6	83	1.7	78	8.6	82	1.7	92	1.7	88	8.6
MSD	82	8.9	91	1.8	86	8.9	97	1.8	96	1.8	93	8.9
Limits:	50-150		50-150		50-150		50-150		50-150		50-150	

	13C9-PFNA		13C6-PFDA		d3-NMeFOSAA		13C7-PFUnDA		d5-NEtFOSAA		13C2-PFDoDA	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9922846	121	2.5	86	2.5	115	10	104	5.0	85	10	100	6.2
9922847	109	1.8	89	1.8	114	7.2	95	3.6	86	7.2	79	4.5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 12/13/2018 15:21

Group Number: 2014748

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18340014

	13C9-PFNA		13C6-PFDA		d3-NMeFOSAA		13C7-PFUnDA		d5-NEtFOSAA		13C2-PFDoDA	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9922848	107	1.7	84	1.7	104	6.9	92	3.4	90	6.9	75	4.3
9922849	113	1.8	88	1.8	111	7.1	94	3.6	87	7.1	76	4.4
9922850	106	1.8	82	1.8	108	7.0	94	3.5	78	7.0	74	4.4
9922851	114	1.8	82	1.8	113	7.1	96	3.5	82	7.1	77	4.4
9922852	113	1.7	89	1.7	109	6.9	96	3.5	85	6.9	88	4.3
9922853	99	1.8	76	1.8	100	7.2	82	3.6	69	7.2	65	4.5
Blank	104	2.0	86	2.0	111	8.0	96	4.0	94	8.0	83	5.0
LCS	113	2.0	82	2.0	110	8.0	92	4.0	84	8.0	74	5.0
MS	107	1.7	84	1.7	104	6.9	92	3.4	90	6.9	75	4.3
MSD	113	1.8	88	1.8	111	7.1	94	3.6	87	7.1	76	4.4
Limits:	50-150		50-150		50-150		50-150		50-150		50-150	

	13C2-PFTeDA	
	%Rec	LOD (ng/l)
9922846	71	6.2
9922847	89	4.5
9922848	80	4.3
9922849	94	4.4
9922850	73	4.4
9922851	73	4.4
9922852	94	4.3
9922853	65	4.5
Blank	73	5.0
LCS	67	5.0
MS	80	4.3
MSD	94	4.4
Limits:	50-150	

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Environmental Analysis Request/Chain of Custody

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Acct. # 43806 Group # 2014748 Sample # 9922836-53

COC # ~~568808~~

Client Information

Client: GEE	Acct. #:
Project Name/#: BARSTOW PFAS SSR INSPECTION 146-C719-006	PWSID #:
Project Manager: ERIC RIVER	P.O. #:
Sampler: J. SANTINI	Quote #:
State where samples were collected: CA	For Compliance: Yes ☐ No ☑

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Matrix: Soil	Sediment	Tissue	Potable	Ground	Water	NPDES	Surface	Other: E. RIVER / SOURCE	Total # of Containers	Analysis Requested: PFAS EPA 537 Mod	Remarks
OU1-4S15-2-01	11/29/18	0934	✓							✓				2	✓	
OU1-4S15-2-W-01	11/29/18	0950	✓										✓	2	✓	
OU1-4S15-2-W-02	11/29/18	0955	✓										✓	2	✓	
OU1-4S21-3-01	11/29/18	1149	✓							✓				2	✓	OU1-4S21-3-01
OU1-4S21-3-02	11/29/18	1150	✓							✓				2	✓	
OU1-PMW-6-01	11/29/18	1357	✓							✓				6	✓	MS/MSD
OU1-4S20-3-01	11/29/18	1601	✓							✓				2	✓	
OU1-4S20-3-02	11/29/18	1602	✓							✓				2	✓	
OU1-NGW01-01	11/30/18	1005	✓							✓				2	✓	
OU1-4DMW-8-01	11/30/18	1773	✓							✓				6	✓	MS/MSD

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days:

E-mail address: JMACNEIL@NEIAW.COM

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/3/18	1600			
			[signature]	12-4-18	1000

EDD Required? (Yes) No
If yes, format: NEDD / EDF

Site-Specific QC (MS/MSD/Dup)? Yes (No)
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS FedEx Other

Temperature upon receipt 0.9 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 43806 Group # 2014748 Sample # 9922836-53

COC # 569912

Client Information

Client: GCE	Acct. #:
Project Name/#: 146-CHI-006 BARSTOW PFAS SITE INSPECTION	PWSID #:
Project Manager: ELLIE RIDER	P.O. #:
Sampler: J. SANTELLI	Quote #:
State where samples were collected: CA	For Compliance: Yes ☐ No ☑

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water: Potable ☐ Ground ☑ NPDES ☐ Surface ☐ | Other: Equipment R. Source

Analysis Requested

Preservation and Filtration Codes

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Remarks

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	PFAS EPA 537M
OU1-YEMW-8-W-01	11/30/18	1345	✓		2	✓
OU1-YEMW-8-W-02	11/30/18	1350	✓		2	✓
OU1-YEMW-6-01	11/30/18	1435	✓		2	✓
OU1-NNE-5-01	11/30/18	1605	✓		2	✓

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days:

E-mail address: JMACNEILL@NEIAN.COM

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	12/3/18	1600			
				12-4-18	1000

EDD Required? Yes No

If yes, format: NEDD, EDF

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.9 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 234961

Group Number(s): ~~9~~ 2014748

③CS 12-4-18 12429

Client: GCE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	12/04/2018 10:00
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Cory Jeremiah (10469) at 17:36 on 12/04/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	0.9	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

PFAS by LC/MS/MS Data

Case Narrative/Conformance Summary

PFAS by LC/MS/MS

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Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI23

PFAS Group

Fraction: PFAS by LC/MS/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9922836	OUI-YS15-2-01	X		1	
9922837	OUI-YS15-2-W-01	X		1	Equipment Blank
9922838	OUI-YS15-2-W-02	X		1	Equipment Blank
9922839	OUI-YS21-3-01	X		1	
9922840	OUI-YS21-3-02	X		1	
9922841	OUI-PMW-6-01	X		1	Unspiked
9922842	OUI-PMW-6-01 MS	X		1	Matrix Spike
9922843	OUI-PMW-6-01 MSD	X		1	Matrix Spike Duplicate
9922844	OUI-YS20-3-01	X		1	
9922845	OUI-YS20-3-02	X		1	
9922846	OUI-NGW01-01	X		1	
9922847	OUI-YIMW-8-01	X		1	
9922848	OUI-YIMW-8-01 MS	X		1	Matrix Spike
9922849	OUI-YIMW-8-01 MSD	X		1	Matrix Spike Duplicate
9922850	OUI-YIMW-8-W-01	X		1	Equipment Blank
9922851	OUI-YIMW-8-W-02	X		1	Equipment Blank
9922852	OUI-YIMW-6-01	X		1	
9922853	OUI-NNE-5-01	X		1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

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Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI23

PFAS Group

Fraction: PFAS by LC/MS/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Batch#: 18340014 (Sample number(s): 9922846-9922853, UNSPK: 9922847)
The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluorohexanesulfonate

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

PFAS by LC/MS/MS

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Quality Control Reference List
PFAS Group

CLIENT: Gutierrez Canales Engineering
SDG: BSI23

Fraction: PFAS by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
PFAS in Water by LC/MS/MS-DoD	18339013	BLK339013B	12/08/2018 11:52
		LCS339013Q	12/08/2018 12:01
		9922836	12/08/2018 12:10
		9922837	12/08/2018 12:19
		9922838	12/08/2018 12:28
		9922839	12/08/2018 12:37
		9922840	12/08/2018 12:46
		9922841 UNSPK	12/08/2018 12:55
		9922842 MS	12/08/2018 13:32
		9922843 MSD	12/08/2018 13:41
		9922844	12/08/2018 13:05
		9922845	12/08/2018 13:23
PFAS in Water by LC/MS/MS-DoD	18340014	BLK340014B	12/10/2018 22:39
		LCS340014Q	12/11/2018 14:36
		9922846	12/10/2018 23:07
		9922847 UNSPK	12/10/2018 23:16
		9922848 MS	12/11/2018 00:01
		9922849 MSD	12/11/2018 00:19
		9922850	12/10/2018 23:25
		9922851	12/10/2018 23:34
		9922852	12/10/2018 23:43
		9922853	12/10/2018 23:52

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Quality Control Summary
Method Blank
PFAS Group
SDG: BSI23
Matrix: LIQUID

Fraction: PFAS by LC/MS/MS

18339013 / BLK339013B **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**DL**	**LOD**	**LOQ**
Perfluorooctanoic acid	12/08/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorononanoic acid	12/08/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorodecanoic acid	12/08/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroundecanoic acid	12/08/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorododecanoic acid	12/08/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorotridecanoic acid	12/08/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorotetradecanoic acid	12/08/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorohexanoic acid	12/08/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroheptanoic acid	12/08/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorobutanesulfonate	12/08/18	N.D.	ng/l	0.30	1.1	2.0
Perfluorohexanesulfonate	12/08/18	N.D.	ng/l	0.40	1.1	2.0
Perfluoro-octanesulfonate	12/08/18	N.D.	ng/l	0.50	1.2	2.0
NEtFOSAA	12/08/18	N.D.	ng/l	1.0	2.4	3.0
NMeFOSAA	12/08/18	N.D.	ng/l	1.0	2.4	3.0

18340014 / BLK340014B **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**DL**	**LOD**	**LOQ**
Perfluorooctanoic acid	12/10/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorononanoic acid	12/10/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorodecanoic acid	12/10/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroundecanoic acid	12/10/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorododecanoic acid	12/10/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorotridecanoic acid	12/10/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorotetradecanoic acid	12/10/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorohexanoic acid	12/10/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroheptanoic acid	12/10/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorobutanesulfonate	12/10/18	N.D.	ng/l	0.30	1.1	2.0
Perfluorohexanesulfonate	12/10/18	N.D.	ng/l	0.40	1.1	2.0
Perfluoro-octanesulfonate	12/10/18	N.D.	ng/l	0.50	1.2	2.0
NEtFOSAA	12/10/18	N.D.	ng/l	1.0	2.4	3.0
NMeFOSAA	12/10/18	N.D.	ng/l	1.0	2.4	3.0

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

18339013		13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK339013	12/08/18 11:52	94	100	87	99	102
LCS339013	12/08/18 12:01	104	107	89	106	98
9922836	12/08/18 12:10	79	71	82	94	95
9922837	12/08/18 12:19	88	85	86	88	89
9922838	12/08/18 12:28	88	92	86	94	100
9922839	12/08/18 12:37	94	97	92	98	94
9922840	12/08/18 12:46	74	87	74	80	80
9922841	12/08/18 12:55	98	91	95	107	119
9922844	12/08/18 13:05	87	88	88	98	100
9922845	12/08/18 13:23	102	98	94	105	106
9922842MS	12/08/18 13:32	90	80	86	93	100
9922843MSD	12/08/18 13:41	89	90	87	96	97

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

18340014		13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK340014	12/10/18 22:39	83	73	78	85	86
9922846	12/10/18 23:07	100	71	78	84	93
9922847	12/10/18 23:16	79	89	78	78	93
9922850	12/10/18 23:25	74	73	79	88	85
9922851	12/10/18 23:34	77	73	76	82	87
9922852	12/10/18 23:43	88	94	79	66	87
9922853	12/10/18 23:52	65	65	82	74	78
9922848MS	12/11/18 00:01	75	80	80	78	82
9922849MSD	12/11/18 00:19	76	94	82	86	97
LCS340014	12/11/18 14:36	74	67	71	77	83

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

18339013		13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK339013	12/08/18 11:52	104	97	110	107	101
LCS339013	12/08/18 12:01	104	105	113	114	104
9922836	12/08/18 12:10	95	78	92	100	96
9922837	12/08/18 12:19	89	94	102	98	101
9922838	12/08/18 12:28	100	98	108	103	107
9922839	12/08/18 12:37	98	95	115	100	106
9922840	12/08/18 12:46	84	79	109	89	82
9922841	12/08/18 12:55	108	103	116	116	112
9922844	12/08/18 13:05	99	95	104	106	109
9922845	12/08/18 13:23	106	99	115	112	110
9922842MS	12/08/18 13:32	96	93	105	101	100
9922843MSD	12/08/18 13:41	95	98	108	100	99

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

18340014		13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK340014	12/10/18 22:39	87	86	96	95	93
9922846	12/10/18 23:07	92	86	104	94	97
9922847	12/10/18 23:16	86	89	95	90	95
9922850	12/10/18 23:25	87	82	94	100	95
9922851	12/10/18 23:34	87	82	96	96	93
9922852	12/10/18 23:43	70	89	96	73	93
9922853	12/10/18 23:52	78	76	82	85	81
9922848MS	12/11/18 00:01	83	84	92	92	88
9922849MSD	12/11/18 00:19	91	88	94	96	93
LCS340014	12/11/18 14:36	82	82	92	91	94

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

18339013		13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
	Limits	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery
BLK339013	12/08/18 11:52	117	139	102
LCS339013	12/08/18 12:01	119	145	118
9922836	12/08/18 12:10	110	107	83
9922837	12/08/18 12:19	109	122	93
9922838	12/08/18 12:28	119	128	98
9922839	12/08/18 12:37	113	119	94
9922840	12/08/18 12:46	100	97	90
9922841	12/08/18 12:55	125	137	103
9922844	12/08/18 13:05	118	129	94
9922845	12/08/18 13:23	119	139	106
9922842MS	12/08/18 13:32	109	121	93
9922843MSD	12/08/18 13:41	114	126	89

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

18340014		13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
	Limits	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery
BLK340014	12/10/18 22:39	104	111	94
9922846	12/10/18 23:07	121	115	85
9922847	12/10/18 23:16	109	114	86
9922850	12/10/18 23:25	106	108	78
9922851	12/10/18 23:34	114	113	82
9922852	12/10/18 23:43	113	109	85
9922853	12/10/18 23:52	99	100	69
9922848MS	12/11/18 00:01	107	104	90
9922849MSD	12/11/18 00:19	113	111	87
LCS340014	12/11/18 14:36	113	110	84

* Outside QC Limits

PFAS Group

Fraction: PFAS by LC/MS/MS

UNSPK: 9922841 MS: 9922842 MSD: 9922843 **Analyte**	Batch: **18339013** (Sample number(s): 9922836-9922845)								
	Spike Added ng/l MS/MSD	**Unspiked Conc ng/l**	**MS Conc ng/l**	**MSD Conc ng/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	4.83 / 4.97	0.930 J	6.63	6.34	118	109	76-136	4	30
Perfluorononanoic acid	4.83 / 4.97	N.D.	5.08	4.93	105	99	73-144	3	30
Perfluorodecanoic acid	4.83 / 4.97	N.D.	5.57	5.13	115	103	67-141	8	30
Perfluoroundecanoic acid	4.83 / 4.97	N.D.	4.77	4.90	99	99	83-132	3	30
Perfluorododecanoic acid	4.83 / 4.97	N.D.	5.26	5.50	109	111	72-137	4	30
Perfluorotridecanoic acid	4.83 / 4.97	N.D.	5.92	5.66	123	114	57-137	4	30
Perfluorotetradecanoic acid	4.83 / 4.97	N.D.	5.43	5.46	112	110	70-142	1	30
Perfluorohexanoic acid	4.83 / 4.97	4.11	9.35	9.92	108	117	77-132	6	30
Perfluoroheptanoic acid	4.83 / 4.97	0.834 J	6.27	6.59	113	116	75-139	5	30
Perfluorobutanesulfonate	4.27 / 4.39	1.26 J	6.35	6.31	119	115	72-127	1	30
Perfluorohexanesulfonate	4.57 / 4.70	7.20	12.02	11.84	105	99	71-130	2	30
Perfluoro-octanesulfonate	4.62 / 4.75	2.27	6.60	6.98	94	99	67-134	6	30
NEtFOSAA	4.83 / 4.97	N.D.	5.49	5.47	114	110	60-131	0	30
NMeFOSAA	4.83 / 4.97	N.D.	3.87	3.86	80	78	67-124	0	30

UNSPK: 9922847 MS: 9922848 MSD: 9922849 **Analyte**	Batch: **18340014** (Sample number(s): 9922846-9922853)								
	Spike Added ng/l MS/MSD	**Unspiked Conc ng/l**	**MS Conc ng/l**	**MSD Conc ng/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	4.69 / 4.83	4.34	8.65	8.86	92	94	76-136	2	30
Perfluorononanoic acid	4.69 / 4.83	N.D.	4.23	4.04	90	84	73-144	5	30
Perfluorodecanoic acid	4.69 / 4.83	N.D.	4.80	4.77	102	99	67-141	1	30
Perfluoroundecanoic acid	4.69 / 4.83	N.D.	4.17	4.21	89	87	83-132	1	30
Perfluorododecanoic acid	4.69 / 4.83	N.D.	4.89	4.80	104	99	72-137	2	30
Perfluorotridecanoic acid	4.69 / 4.83	N.D.	5.33	5.25	114	109	57-137	2	30
Perfluorotetradecanoic acid	4.69 / 4.83	N.D.	5.00	4.68	107	97	70-142	7	30
Perfluorohexanoic acid	4.69 / 4.83	0.616 J	5.53	5.45	105	100	77-132	2	30
Perfluoroheptanoic acid	4.69 / 4.83	0.405 J	5.12	5.01	101	95	75-139	2	30
Perfluorobutanesulfonate	4.15 / 4.27	1.59 J	5.58	5.78	96	98	72-127	3	30
Perfluorohexanesulfonate	4.43 / 4.57	8.07	11.1	11.75	68 *	81	71-130	6	30
Perfluoro-octanesulfonate	4.48 / 4.62	7.08	10.53	11.1	77	87	67-134	5	30
NEtFOSAA	4.69 / 4.83	N.D.	3.91	4.55	83	94	60-131	15	30
NMeFOSAA	4.69 / 4.83	N.D.	3.86	4.04	82	84	67-124	5	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: BSI23
Matrix: LIQUID

PFAS Group
Fraction: PFAS by LC/MS/MS

LCS: LCS339013Q	Batch: **18339013** (Sample number(s): 9922836-9922845)							
Analyte	**Spike Added ng/l**	**LCS Conc ng/l**	**LCSD Conc ng/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	5.44	6.37	NA	117	NA	76-136	NA	NA
Perfluorononanoic acid	5.44	5.57	NA	102	NA	73-144	NA	NA
Perfluorodecanoic acid	5.44	5.93	NA	109	NA	67-141	NA	NA
Perfluoroundecanoic acid	5.44	5.65	NA	104	NA	83-132	NA	NA
Perfluorododecanoic acid	5.44	5.69	NA	105	NA	72-137	NA	NA
Perfluorotridecanoic acid	5.44	6.77	NA	124	NA	57-137	NA	NA
Perfluorotetradecanoic acid	5.44	6.21	NA	114	NA	70-142	NA	NA
Perfluorohexanoic acid	5.44	6.38	NA	117	NA	77-132	NA	NA
Perfluoroheptanoic acid	5.44	6.68	NA	123	NA	75-139	NA	NA
Perfluorobutanesulfonate	4.81	5.40	NA	112	NA	72-127	NA	NA
Perfluorohexanesulfonate	5.14	5.07	NA	99	NA	71-130	NA	NA
Perfluoro-octanesulfonate	5.20	4.91	NA	94	NA	67-134	NA	NA
NEtFOSAA	5.44	5.02	NA	92	NA	60-131	NA	NA
NMeFOSAA	5.44	4.80	NA	88	NA	67-124	NA	NA

LCS: LCS340014Q	Batch: **18340014** (Sample number(s): 9922846-9922853)							
Analyte	**Spike Added ng/l**	**LCS Conc ng/l**	**LCSD Conc ng/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	5.44	5.47	NA	101	NA	76-136	NA	NA
Perfluorononanoic acid	5.44	4.68	NA	86	NA	73-144	NA	NA
Perfluorodecanoic acid	5.44	5.20	NA	96	NA	67-141	NA	NA
Perfluoroundecanoic acid	5.44	4.67	NA	86	NA	83-132	NA	NA
Perfluorododecanoic acid	5.44	5.48	NA	101	NA	72-137	NA	NA
Perfluorotridecanoic acid	5.44	5.80	NA	107	NA	57-137	NA	NA
Perfluorotetradecanoic acid	5.44	5.11	NA	94	NA	70-142	NA	NA
Perfluorohexanoic acid	5.44	5.56	NA	102	NA	77-132	NA	NA
Perfluoroheptanoic acid	5.44	5.59	NA	103	NA	75-139	NA	NA
Perfluorobutanesulfonate	4.81	4.75	NA	99	NA	72-127	NA	NA
Perfluorohexanesulfonate	5.14	4.62	NA	90	NA	71-130	NA	NA
Perfluoro-octanesulfonate	5.20	3.73	NA	72	NA	67-134	NA	NA
NEtFOSAA	5.44	5.56	NA	102	NA	60-131	NA	NA
NMeFOSAA	5.44	4.23	NA	78	NA	67-124	NA	NA

Fraction: PFAS by LC/MS/MS

14434: PFAS in Water by LC/MS/MS-DoD Analyte Name	Default DL	Default LOD	Default LOQ	Units
Perfluorooctanoic acid	.5	1.2	2.0	ng/l
Perfluorononanoic acid	.4	1.2	2.0	ng/l
Perfluorodecanoic acid	.5	1.2	2.0	ng/l
Perfluoroundecanoic acid	.5	1.2	2.0	ng/l
Perfluorododecanoic acid	.5	1.2	2.0	ng/l
Perfluorotridecanoic acid	.6	1.2	2.0	ng/l
Perfluorotetradecanoic acid	.6	1.2	2.0	ng/l
Perfluorohexanoic acid	.5	1.2	2.0	ng/l
Perfluoroheptanoic acid	.4	1.2	2.0	ng/l
Perfluorobutanesulfonate	.3	1.1	2.0	ng/l
Perfluorohexanesulfonate	.4	1.1	2.0	ng/l
Perfluoro-octanesulfonate	.5	1.2	2.0	ng/l
NEtFOSAA	1	2.4	3.0	ng/l
NMeFOSAA	1	2.4	3.0	ng/l

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

Perfluorobutanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.044	0.20	0.242	21.1	±30
CAL2	0.104	0.60	0.572	-4.6	±30
CAL3	0.410	2.00	2.261	13.1	±30
CAL4	1.453	8.00	8.019	0.2	±30
CAL5	3.739	20.00	20.632	3.2	±30
CAL6	8.895	50.00	49.074	-1.9	±30
CAL7	16.533	100.00	91.216	-8.8	±30

Perfluoropentanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.046	0.20	0.240	20.1	±30
CAL2	0.107	0.60	0.562	-6.3	±30
CAL3	0.422	2.00	2.219	10.9	±30
CAL4	1.520	8.00	7.998	0.0	±30
CAL5	3.953	20.00	20.794	4.0	±30
CAL6	9.312	50.00	48.987	-2.0	±30
CAL7	16.855	100.00	88.666	-11.3	±30

Perfluorobutanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.18	0.203	14.5	±30
CAL2	0.099	0.53	0.492	-7.4	±30
CAL3	0.398	1.77	1.973	11.5	±30
CAL4	1.422	7.08	7.048	-0.5	±30
CAL5	3.754	17.70	18.605	5.1	±30
CAL6	8.903	44.20	44.131	-0.2	±30
CAL7	17.634	88.40	87.407	-1.1	±30

4:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.072	0.19	0.194	3.9	±30
CAL2	0.180	0.56	0.482	-14.0	±30
CAL3	0.833	1.87	2.232	19.4	±30
CAL4	2.783	7.47	7.460	-0.1	±30
CAL5	7.632	18.70	20.457	9.4	±30
CAL6	16.663	46.70	44.662	-4.4	±30
CAL7	30.866	93.40	82.731	-11.4	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

Perfluorohexanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.057	0.20	0.246	23.1	±30
CAL2	0.144	0.60	0.625	4.2	±30
CAL3	0.542	2.00	2.360	18.0	±30
CAL4	2.047	8.00	8.920	11.5	±30
CAL5	4.764	20.00	20.758	3.8	±30
CAL6	10.990	50.00	47.890	-4.2	±30
CAL7	20.126	100.00	87.699	-12.3	±30

Perfluoropentanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.023	0.19	0.223	18.5	±30
CAL2	0.054	0.56	0.531	-5.8	±30
CAL3	0.209	1.88	2.068	10.0	±30
CAL4	0.733	7.50	7.262	-3.2	±30
CAL5	1.985	18.80	19.660	4.6	±30
CAL6	4.804	46.90	47.573	1.4	±30
CAL7	9.323	93.80	92.314	-1.6	±30

Perfluoroheptanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.074	0.20	0.244	22.2	±30
CAL2	0.185	0.60	0.610	1.6	±30
CAL3	0.665	2.00	2.190	9.5	±30
CAL4	2.473	8.00	8.142	1.8	±30
CAL5	5.957	20.00	19.614	-1.9	±30
CAL6	13.370	50.00	44.021	-12.0	±30
CAL7	26.007	100.00	85.629	-14.4	±30

Perfluorohexanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.037	0.18	0.177	-2.6	±30
CAL2	0.095	0.55	0.450	-17.8	±30
CAL3	0.392	1.82	1.856	2.0	±30
CAL4	1.513	7.30	7.170	-1.8	±30
CAL5	3.621	18.20	17.156	-5.7	±30
CAL6	9.396	45.60	44.518	-2.4	±30
CAL7	19.738	91.20	93.522	2.5	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

6:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.078	0.19	0.194	2.2	±30
CAL2	0.251	0.57	0.623	9.5	±30
CAL3	0.832	1.90	2.066	8.7	±30
CAL4	3.077	7.58	7.641	0.8	±30
CAL5	7.777	19.00	19.310	1.6	±30
CAL6	18.849	47.40	46.805	-1.3	±30
CAL7	31.327	94.80	77.787	-17.9	±30

Perfluoroheptanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.034	0.19	0.185	-2.6	±30
CAL2	0.101	0.57	0.556	-2.6	±30
CAL3	0.381	1.90	2.093	10.2	±30
CAL4	1.481	7.61	8.129	6.8	±30
CAL5	3.428	19.00	18.817	-1.0	±30
CAL6	8.388	47.60	46.046	-3.3	±30
CAL7	17.533	95.20	96.244	1.1	±30

Perfluorooctanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.237	18.5	±30
CAL2	0.105	0.60	0.574	-4.4	±30
CAL3	0.415	2.00	2.267	13.4	±30
CAL4	1.543	8.00	8.430	5.4	±30
CAL5	3.983	20.00	21.765	8.8	±30
CAL6	9.470	50.00	51.751	3.5	±30
CAL7	17.525	100.00	95.776	-4.2	±30

Perfluoro-octanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.046	0.19	0.191	3.2	±30
CAL2	0.121	0.56	0.500	-9.8	±30
CAL3	0.458	1.85	1.901	2.8	±30
CAL4	1.669	7.40	6.922	-6.5	±30
CAL5	4.166	18.50	17.279	-6.6	±30
CAL6	11.163	46.30	46.302	0.0	±30
CAL7	22.734	92.60	94.295	1.8	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

Perfluorononanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.059	0.20	0.219	9.3	±30
CAL2	0.141	0.60	0.520	-13.4	±30
CAL3	0.602	2.00	2.217	10.8	±30
CAL4	2.222	8.00	8.190	2.4	±30
CAL5	5.570	20.00	20.527	2.6	±30
CAL6	13.330	50.00	49.127	-1.7	±30
CAL7	24.314	100.00	89.607	-10.4	±30

Perfluorononanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.031	0.19	0.197	2.4	±30
CAL2	0.071	0.58	0.460	-20.1	±30
CAL3	0.334	1.92	2.147	11.8	±30
CAL4	1.216	7.68	7.826	1.9	±30
CAL5	3.031	19.20	19.506	1.6	±30
CAL6	7.636	48.00	49.137	2.4	±30
CAL7	14.654	96.00	94.295	-1.8	±30

Perfluorodecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.20	0.238	18.8	±30
CAL2	0.101	0.60	0.569	-5.2	±30
CAL3	0.404	2.00	2.277	13.8	±30
CAL4	1.491	8.00	8.392	4.9	±30
CAL5	3.933	20.00	22.139	10.7	±30
CAL6	8.941	50.00	50.325	0.7	±30
CAL7	17.208	100.00	96.860	-3.1	±30

8:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.095	0.19	0.206	7.2	±30
CAL2	0.248	0.58	0.538	-6.5	±30
CAL3	0.896	1.92	1.941	1.1	±30
CAL4	3.465	7.66	7.509	-2.0	±30
CAL5	9.529	19.20	20.646	7.5	±30
CAL6	21.510	47.90	46.607	-2.7	±30
CAL7	37.236	95.80	80.681	-15.8	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

Perfluorooctanesulfonamide	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.204	2.1	±30
CAL2	0.097	0.60	0.505	-15.9	±30
CAL3	0.430	2.00	2.231	11.5	±30
CAL4	1.564	8.00	8.114	1.4	±30
CAL5	4.040	20.00	20.959	4.8	±30
CAL6	10.068	50.00	52.230	4.5	±30
CAL7	18.612	100.00	96.557	-3.4	±30

NMeFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.031	0.20	0.206	3.0	±30
CAL2	0.091	0.60	0.602	0.4	±30
CAL3	0.339	2.00	2.241	12.1	±30
CAL4	1.316	8.00	8.707	8.8	±30
CAL5	3.284	20.00	21.719	8.6	±30
CAL6	7.328	50.00	48.469	-3.1	±30
CAL7	14.946	100.00	98.856	-1.1	±30

Perfluorodecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.024	0.19	0.191	-1.1	±30
CAL2	0.059	0.58	0.481	-16.9	±30
CAL3	0.262	1.93	2.122	9.9	±30
CAL4	0.971	7.70	7.853	2.0	±30
CAL5	2.292	19.30	18.534	-4.0	±30
CAL6	6.089	48.20	49.234	2.1	±30
CAL7	11.847	96.30	95.786	-0.5	±30

Perfluoroundecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.079	0.20	0.242	21.2	±30
CAL2	0.194	0.60	0.593	-1.1	±30
CAL3	0.737	2.00	2.256	12.8	±30
CAL4	2.685	8.00	8.220	2.8	±30
CAL5	6.727	20.00	20.598	3.0	±30
CAL6	16.008	50.00	49.014	-2.0	±30
CAL7	32.619	100.00	99.876	-0.1	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

NEtFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.051	0.20	0.256	27.9	±30
CAL2	0.100	0.60	0.504	-16.0	±30
CAL3	0.441	2.00	2.227	11.4	±30
CAL4	1.600	8.00	8.088	1.1	±30
CAL5	3.868	20.00	19.546	-2.3	±30
CAL6	9.929	50.00	50.179	0.4	±30
CAL7	18.727	100.00	94.646	-5.4	±30

Perfluorododecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.049	0.20	0.260	30.1*	±30
CAL2	0.098	0.60	0.517	-13.9	±30
CAL3	0.412	2.00	2.171	8.6	±30
CAL4	1.548	8.00	8.147	1.8	±30
CAL5	3.969	20.00	20.895	4.5	±30
CAL6	9.272	50.00	48.809	-2.4	±30
CAL7	17.549	100.00	92.376	-7.6	±30

10:2-fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.058	0.19	0.155	-19.8	±30
CAL2	0.194	0.58	0.515	-10.9	±30
CAL3	0.788	1.93	2.087	8.2	±30
CAL4	2.936	7.71	7.777	0.9	±30
CAL5	9.403	19.30	24.907	29.1	±30
CAL6	18.507	48.20	49.024	1.7	±30
CAL7	33.918	96.40	89.846	-6.8	±30

NMePFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.053	0.20	0.230	14.9	±30
CAL2	0.131	0.60	0.568	-5.3	±30
CAL3	0.530	2.00	2.305	15.2	±30
CAL4	1.934	8.00	8.404	5.0	±30
CAL5	5.327	20.00	23.147	15.7	±30
CAL6	11.805	50.00	51.300	2.6	±30
CAL7	21.826	100.00	94.847	-5.2	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

NMePFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.218	9.0	±30
CAL2	0.106	0.60	0.534	-11.0	±30
CAL3	0.422	2.00	2.131	6.5	±30
CAL4	1.596	8.00	8.052	0.7	±30
CAL5	4.032	20.00	20.344	1.7	±30
CAL6	9.484	50.00	47.852	-4.3	±30
CAL7	20.150	100.00	101.669	1.7	±30

Perfluorododecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.013	0.19	0.201	3.7	±30
CAL2	0.033	0.58	0.508	-12.6	±30
CAL3	0.134	1.94	2.042	5.2	±30
CAL4	0.495	7.74	7.539	-2.6	±30
CAL5	1.250	19.40	19.051	-1.8	±30
CAL6	3.190	48.40	48.634	0.5	±30
CAL7	6.368	96.80	97.080	0.3	±30

NEtPFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.064	0.20	0.215	7.3	±30
CAL2	0.194	0.60	0.649	8.1	±30
CAL3	0.697	2.00	2.336	16.8	±30
CAL4	2.549	8.00	8.540	6.7	±30
CAL5	6.422	20.00	21.516	7.6	±30
CAL6	14.675	50.00	49.168	-1.7	±30
CAL7	29.362	100.00	98.377	-1.6	±30

NEtPFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.037	0.20	0.179	-10.3	±30
CAL2	0.132	0.60	0.630	5.1	±30
CAL3	0.487	2.00	2.332	16.6	±30
CAL4	1.625	8.00	7.779	-2.8	±30
CAL5	4.515	20.00	21.615	8.1	±30
CAL6	10.541	50.00	50.462	0.9	±30
CAL7	20.430	100.00	97.801	-2.2	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631
Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31
Lab File Names: CAL1= 18DEC06DCAL-25.WIFF; CAL2= 18DEC06DCAL-26.WIFF; CAL3= 18DEC06DCAL-27.WIFF;
CAL4= 18DEC06DCAL-28.WIFF; CAL5= 18DEC06DCAL-29.WIFF; CAL6= 18DEC06DCAL-30.WIFF;
CAL7= 18DEC06DCAL-31.WIFF; CAL8= ;

Perfluorotridecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.032	0.20	0.213	6.3	±30
CAL2	0.088	0.60	0.575	-4.2	±30
CAL3	0.358	2.00	2.342	17.1	±30
CAL4	1.337	8.00	8.755	9.4	±30
CAL5	3.242	20.00	21.232	6.2	±30
CAL6	7.280	50.00	47.684	-4.6	±30
CAL7	12.951	100.00	84.826	-15.2	±30

Perfluorotetradecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.228	14.2	±30
CAL2	0.103	0.60	0.592	-1.4	±30
CAL3	0.401	2.00	2.295	14.8	±30
CAL4	1.456	8.00	8.329	4.1	±30
CAL5	3.582	20.00	20.486	2.4	±30
CAL6	8.546	50.00	48.870	-2.3	±30
CAL7	16.858	100.00	96.401	-3.6	±30

Perfluorohexadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.020	0.20	0.255	27.6	±30
CAL2	0.046	0.60	0.570	-5.0	±30
CAL3	0.186	2.00	2.334	16.7	±30
CAL4	0.624	8.00	7.816	-2.3	±30
CAL5	1.645	20.00	20.605	3.0	±30
CAL6	3.971	50.00	49.736	-0.5	±30
CAL7	7.944	100.00	99.483	-0.5	±30

Perfluorooctadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.014	0.20	0.217	8.6	±30
CAL2	0.034	0.60	0.548	-8.6	±30
CAL3	0.131	2.00	2.098	4.9	±30
CAL4	0.469	8.00	7.528	-5.9	±30
CAL5	1.251	20.00	20.081	0.4	±30
CAL6	3.090	50.00	49.596	-0.8	±30
CAL7	6.275	100.00	100.731	0.7	±30

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FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15
INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Lab File Names: CAL1=18DEC06DCAL-25.WIFF; CAL2=18DEC06DCAL-26.WIFF; CAL3=18DEC06DCAL-27.WIFF;
CAL4=18DEC06DCAL-28.WIFF; CAL5=18DEC06DCAL-29.WIFF; CAL6=18DEC06DCAL-30.WIFF;
CAL7=18DEC06DCAL-31.WIFF;

Analyte	RF							RF %RSD
	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	
Perfluorobutanoic acid	1.098	0.864	1.025	0.908	0.935	0.889	---	9
Perfluoropentanoic acid	1.142	0.890	1.054	0.950	0.988	0.931	---	8
Perfluorobutanesulfonate	1.074	0.869	1.046	0.934	0.986	0.937	0.928	7
4:2 fluorotelomersulfonate	1.810	1.498	2.080	1.740	1.906	1.666	---	10
Perfluorohexanoic acid	1.413	1.196	1.354	1.279	1.191	1.099	---	8
Perfluoropentanesulfonate	0.557	0.443	0.517	0.455	0.491	0.476	0.462	8
Perfluoroheptanoic acid	1.855	1.543	1.663	1.546	1.489	---	---	8
Perfluorohexanesulfonate	0.972	0.820	1.018	0.981	0.941	0.975	1.024	7
6:2 fluorotelomersulfonate	1.956	2.095	2.080	1.928	1.944	1.889	---	4
Perfluoroheptanesulfonate	0.839	0.839	0.949	0.920	0.853	0.834	0.871	5
Perfluorooctanoic acid	1.084	0.875	1.037	0.964	0.996	0.947	0.876	7
Perfluoro-octanesulfonate	1.189	1.039	1.184	1.078	1.076	1.152	1.174	5
Perfluorononanoic acid	1.483	1.175	1.504	1.389	1.393	1.333	---	8
Perfluorononanesulfonate	0.761	0.593	0.831	0.757	0.755	0.760	0.730	9
Perfluorodecanoic acid	1.055	0.842	1.011	0.932	0.983	0.894	0.860	8
8:2 fluorotelomersulfonate	2.370	2.067	2.235	2.167	2.377	2.151	---	5
Perfluorooctanesulfonamide	0.984	0.811	1.075	0.978	1.010	1.007	0.931	8
NMeFOSAA	0.778	0.759	0.847	0.823	0.821	0.733	0.747	5
Perfluorodecanesulfonate	0.585	0.491	0.650	0.603	0.568	0.604	0.588	8
Perfluoroundecanoic acid	1.980	1.615	1.842	1.678	1.682	1.601	1.631	8
NEtFOSAA	1.266	0.831	1.102	1.000	0.967	0.993	---	13
Perfluorododecanoic acid	1.236	0.818	1.031	0.967	0.992	0.927	---	13
10:2-fluorotelomersulfonate	1.450	1.610	1.956	1.824	2.334	1.839	1.685	14
NMePFOSAE	1.322	1.090	1.326	1.209	1.332	1.181	1.091	8
NMePFOSA	1.080	0.882	1.056	0.997	1.008	0.948	1.007	6
Perfluorododecanesulfonate	0.325	0.274	0.330	0.305	0.308	0.315	0.314	5
NEtPFOSAE	1.601	1.613	1.743	1.593	1.605	1.468	1.468	6
NEtPFOSA	0.937	1.097	1.218	1.016	1.129	1.054	1.022	8
Perfluorotridecanoic acid	0.811	0.731	0.894	0.836	0.810	0.728	---	7
Perfluorotetradecanoic acid	0.998	0.862	1.003	0.910	0.896	0.855	---	6
Perfluorohexadecanoic acid	0.509	0.379	0.466	0.390	0.411	0.397	0.397	11
Perfluorooctadecanoic acid	0.338	0.285	0.327	0.293	0.313	0.309	0.314	5

--- Calibration point does not apply

* = % RSD > 20

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC06DCAL-35.WIFF

Date/Time Analyzed: 12/07/2018 01:07 Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.26	13.01	±30
Perfluoropentanoic acid	2.00	2.34	17.18	±30
Perfluorobutanesulfonate	1.77	2.03	14.42	±30
4:2 fluorotelomersulfonate	1.87	2.07	10.81	±30
Perfluorohexanoic acid	2.00	2.42	20.92	±30
Perfluoropentanesulfonate	1.88	2.13	13.42	±30
Perfluoroheptanoic acid	2.00	2.25	12.69	±30
Perfluorohexanesulfonate	1.82	1.87	2.97	±30
6:2 fluorotelomersulfonate	1.90	1.93	1.39	±30
Perfluoroheptanesulfonate	1.90	2.05	7.79	±30
Perfluorooctanoic acid	2.00	2.44	21.81	±30
Perfluoro-octanesulfonate	1.85	1.90	2.64	±30
Perfluorononanoic acid	2.00	2.33	16.44	±30
Perfluorononanesulfonate	1.92	2.12	10.20	±30
Perfluorodecanoic acid	2.00	2.34	16.87	±30
8:2 fluorotelomersulfonate	1.92	2.15	12.06	±30
Perfluorooctanesulfonamide	2.00	2.10	4.99	±30
NMeFOSAA	2.00	2.41	20.52	±30
Perfluorodecanesulfonate	1.93	2.01	4.34	±30
Perfluoroundecanoic acid	2.00	2.37	18.57	±30
NEtFOSAA	2.00	2.28	13.96	±30
Perfluorododecanoic acid	2.00	2.29	14.51	±30
10:2-fluorotelomersulfonate	1.93	2.27	17.55	±30
NMePFOSAE	2.00	2.27	13.73	±30
NMePFOSA	2.00	2.16	8.02	±30
Perfluorododecanesulfonate	1.94	2.09	7.87	±30
NEtPFOSAE	2.00	2.29	14.59	±30
NEtPFOSA	2.00	2.15	7.52	±30
Perfluorotridecanoic acid	2.00	2.46	23.04	±30
Perfluorotetradecanoic acid	2.00	2.39	19.54	±30
Perfluorohexadecanoic acid	2.00	2.33	16.54	±30
Perfluorooctadecanoic acid	2.00	2.19	9.65	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC08D-01.WIFF

Date/Time Analyzed: 12/08/2018 08:07 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.58	-2.88	±30
Perfluoropentanoic acid	0.60	0.58	-3.19	±30
Perfluorobutanesulfonate	0.53	0.50	-6.70	±30
4:2 fluorotelomersulfonate	0.56	0.55	-1.61	±30
Perfluorohexanoic acid	0.60	0.55	-7.63	±30
Perfluoropentanesulfonate	0.56	0.51	-10.18	±30
Perfluoroheptanoic acid	0.60	0.60	0.69	±30
Perfluorohexanesulfonate	0.55	0.46	-16.75	±30
6:2 fluorotelomersulfonate	0.57	0.50	-12.86	±30
Perfluoroheptanesulfonate	0.57	0.53	-7.98	±30
Perfluorooctanoic acid	0.60	0.60	0.17	±30
Perfluoro-octanesulfonate	0.56	0.48	-13.56	±30
Perfluorononanoic acid	0.60	0.53	-11.36	±30
Perfluorononanesulfonate	0.58	0.48	-17.41	±30
Perfluorodecanoic acid	0.60	0.55	-9.07	±30
8:2 fluorotelomersulfonate	0.58	0.49	-14.58	±30
Perfluorooctanesulfonamide	0.60	0.57	-4.64	±30
NMeFOSAA	0.60	0.60	0.34	±30
Perfluorodecanesulfonate	0.58	0.56	-3.66	±30
Perfluoroundecanoic acid	0.60	0.50	-16.74	±30
NEtFOSAA	0.60	0.57	-5.06	±30
Perfluorododecanoic acid	0.60	0.57	-5.43	±30
10:2-fluorotelomersulfonate	0.58	0.45	-22.21	±30
NMePFOSAE	0.60	0.59	-1.38	±30
NMePFOSA	0.60	0.58	-3.65	±30
Perfluorododecanesulfonate	0.58	0.43	-25.32	±30
NEtPFOSAE	0.60	0.54	-9.32	±30
NEtPFOSA	0.60	0.59	-2.40	±30
Perfluorotridecanoic acid	0.60	0.62	4.08	±30
Perfluorotetradecanoic acid	0.60	0.59	-2.40	±30
Perfluorohexadecanoic acid	0.60	0.56	-7.25	±30
Perfluorooctadecanoic acid	0.60	0.49	-17.90	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC08D-23.WIFF

Date/Time Analyzed: 12/08/2018 11:25 Lab Sample ID: CCV3_CAL4

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	8.12	1.56	±30
Perfluoropentanoic acid	8.00	8.38	4.81	±30
Perfluorobutanesulfonate	7.08	7.18	1.46	±30
4:2 fluorotelomersulfonate	7.47	7.13	-4.50	±30
Perfluorohexanoic acid	8.00	8.31	3.93	±30
Perfluoropentanesulfonate	7.50	7.96	6.16	±30
Perfluoroheptanoic acid	8.00	8.16	1.99	±30
Perfluorohexanesulfonate	7.30	6.98	-4.40	±30
6:2 fluorotelomersulfonate	7.58	8.13	7.28	±30
Perfluoroheptanesulfonate	7.61	7.74	1.71	±30
Perfluorooctanoic acid	8.00	8.34	4.28	±30
Perfluoro-octanesulfonate	7.40	6.74	-8.91	±30
Perfluorononanoic acid	8.00	7.54	-5.79	±30
Perfluorononanesulfonate	7.68	7.43	-3.22	±30
Perfluorodecanoic acid	8.00	7.86	-1.71	±30
8:2 fluorotelomersulfonate	7.66	8.20	7.05	±30
Perfluorooctanesulfonamide	8.00	7.85	-1.88	±30
NMeFOSAA	8.00	8.00	-0.01	±30
Perfluorodecanesulfonate	7.70	7.22	-6.23	±30
Perfluoroundecanoic acid	8.00	7.75	-3.18	±30
NEtFOSAA	8.00	7.41	-7.37	±30
Perfluorododecanoic acid	8.00	8.17	2.17	±30
10:2-fluorotelomersulfonate	7.71	7.70	-0.15	±30
NMePFOSAE	8.00	8.27	3.42	±30
NMePFOSA	8.00	7.99	-0.14	±30
Perfluorododecanesulfonate	7.74	7.18	-7.19	±30
NEtPFOSAE	8.00	8.27	3.39	±30
NEtPFOSA	8.00	8.11	1.41	±30
Perfluorotridecanoic acid	8.00	8.88	11.04	±30
Perfluorotetradecanoic acid	8.00	8.22	2.71	±30
Perfluorohexadecanoic acid	8.00	8.03	0.37	±30
Perfluorooctadecanoic acid	8.00	7.14	-10.80	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC08D-35.WIFF

Date/Time Analyzed: 12/08/2018 13:14 Lab Sample ID: CCV4_ISC_CAL2

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.59	-1.34	±30
Perfluoropentanoic acid	0.60	0.55	-7.51	±30
Perfluorobutanesulfonate	0.53	0.48	-10.52	±30
4:2 fluorotelomersulfonate	0.56	0.51	-8.27	±30
Perfluorohexanoic acid	0.60	0.63	4.76	±30
Perfluoropentanesulfonate	0.56	0.51	-9.04	±30
Perfluoroheptanoic acid	0.60	0.57	-4.72	±30
Perfluorohexanesulfonate	0.55	0.48	-11.55	±30
6:2 fluorotelomersulfonate	0.57	0.60	5.79	±30
Perfluoroheptanesulfonate	0.57	0.56	-1.70	±30
Perfluorooctanoic acid	0.60	0.59	-2.32	±30
Perfluoro-octanesulfonate	0.56	0.44	-19.96	±30
Perfluorononanoic acid	0.60	0.52	-13.08	±30
Perfluorononanesulfonate	0.58	0.49	-14.82	±30
Perfluorodecanoic acid	0.60	0.55	-8.23	±30
8:2 fluorotelomersulfonate	0.58	0.57	-0.83	±30
Perfluorooctanesulfonamide	0.60	0.54	-9.34	±30
NMeFOSAA	0.60	0.59	-1.01	±30
Perfluorodecanesulfonate	0.58	0.51	-11.91	±30
Perfluoroundecanoic acid	0.60	0.52	-13.84	±30
NEtFOSAA	0.60	0.54	-10.82	±30
Perfluorododecanoic acid	0.60	0.58	-3.31	±30
10:2-fluorotelomersulfonate	0.58	0.54	-5.80	±30
NMePFOSAE	0.60	0.60	-0.70	±30
NMePFOSA	0.60	0.62	4.16	±30
Perfluorododecanesulfonate	0.58	0.49	-16.14	±30
NEtPFOSAE	0.60	0.52	-12.83	±30
NEtPFOSA	0.60	0.59	-2.06	±30
Perfluorotridecanoic acid	0.60	0.63	5.16	±30
Perfluorotetradecanoic acid	0.60	0.57	-4.78	±30
Perfluorohexadecanoic acid	0.60	0.59	-1.93	±30
Perfluorooctadecanoic acid	0.60	0.48	-20.24	±30

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC08D-47.WIFF

Date/Time Analyzed: 12/08/2018 15:02 Lab Sample ID: CCV5_CAL3

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.29	14.60	±30
Perfluoropentanoic acid	2.00	2.25	12.69	±30
Perfluorobutanesulfonate	1.77	2.02	13.94	±30
4:2 fluorotelomersulfonate	1.87	1.83	-1.98	±30
Perfluorohexanoic acid	2.00	2.34	16.88	±30
Perfluoropentanesulfonate	1.88	2.16	14.77	±30
Perfluoroheptanoic acid	2.00	2.30	14.86	±30
Perfluorohexanesulfonate	1.82	1.91	4.72	±30
6:2 fluorotelomersulfonate	1.90	2.12	11.55	±30
Perfluoroheptanesulfonate	1.90	2.28	20.07	±30
Perfluorooctanoic acid	2.00	2.36	18.01	±30
Perfluoro-octanesulfonate	1.85	1.78	-3.77	±30
Perfluorononanoic acid	2.00	2.21	10.59	±30
Perfluorononanesulfonate	1.92	1.98	2.89	±30
Perfluorodecanoic acid	2.00	2.36	18.08	±30
8:2 fluorotelomersulfonate	1.92	2.07	8.01	±30
Perfluorooctanesulfonamide	2.00	2.12	5.83	±30
NMeFOSAA	2.00	2.05	2.63	±30
Perfluorodecanesulfonate	1.93	1.95	1.00	±30
Perfluoroundecanoic acid	2.00	2.17	8.63	±30
NEtFOSAA	2.00	2.19	9.33	±30
Perfluorododecanoic acid	2.00	2.32	16.05	±30
10:2-fluorotelomersulfonate	1.93	2.15	11.39	±30
NMePFOSAE	2.00	2.14	7.14	±30
NMePFOSA	2.00	2.07	3.62	±30
Perfluorododecanesulfonate	1.94	1.72	-11.52	±30
NEtPFOSAE	2.00	2.24	11.78	±30
NEtPFOSA	2.00	2.12	6.11	±30
Perfluorotridecanoic acid	2.00	2.47	23.36	±30
Perfluorotetradecanoic acid	2.00	2.24	12.00	±30
Perfluorohexadecanoic acid	2.00	2.33	16.54	±30
Perfluorooctadecanoic acid	2.00	2.02	0.76	±30

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC10D-05.WIFF

Date/Time Analyzed: 12/10/2018 13:09 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.59	-1.25	±30
Perfluoropentanoic acid	0.60	0.65	8.91	±30
Perfluorobutanesulfonate	0.53	0.50	-5.93	±30
4:2 fluorotelomersulfonate	0.56	0.47	-15.18	±30
Perfluorohexanoic acid	0.60	0.59	-2.01	±30
Perfluoropentanesulfonate	0.56	0.52	-8.26	±30
Perfluoroheptanoic acid	0.60	0.62	3.60	±30
Perfluorohexanesulfonate	0.55	0.46	-15.96	±30
6:2 fluorotelomersulfonate	0.57	0.52	-8.71	±30
Perfluoroheptanesulfonate	0.57	0.51	-10.68	±30
Perfluorooctanoic acid	0.60	0.56	-6.50	±30
Perfluoro-octanesulfonate	0.56	0.47	-14.44	±30
Perfluorononanoic acid	0.60	0.58	-3.99	±30
Perfluorononanesulfonate	0.58	0.49	-15.08	±30
Perfluorodecanoic acid	0.60	0.59	-2.04	±30
8:2 fluorotelomersulfonate	0.58	0.45	-20.88	±30
Perfluorooctanesulfonamide	0.60	0.57	-4.35	±30
NMeFOSAA	0.60	0.60	-0.29	±30
Perfluorodecanesulfonate	0.58	0.46	-20.40	±30
Perfluoroundecanoic acid	0.60	0.54	-10.75	±30
NEtFOSAA	0.60	0.56	-6.64	±30
Perfluorododecanoic acid	0.60	0.55	-8.75	±30
10:2-fluorotelomersulfonate	0.58	0.43	-25.33	±30
NMePFOSAE	0.60	0.55	-7.79	±30
NMePFOSA	0.60	0.56	-6.73	±30
Perfluorododecanesulfonate	0.58	0.47	-19.47	±30
NEtPFOSAE	0.60	0.58	-2.63	±30
NEtPFOSA	0.60	0.59	-1.36	±30
Perfluorotridecanoic acid	0.60	0.63	4.23	±30
Perfluorotetradecanoic acid	0.60	0.58	-3.12	±30
Perfluorohexadecanoic acid	0.60	0.54	-10.63	±30
Perfluorooctadecanoic acid	0.60	0.47	-21.33	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC10D-67.WIFF

Date/Time Analyzed: 12/10/2018 22:30 Lab Sample ID: CCV8_CAL3

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.26	12.80	±30
Perfluoropentanoic acid	2.00	2.21	10.45	±30
Perfluorobutanesulfonate	1.77	2.06	16.54	±30
4:2 fluorotelomersulfonate	1.87	1.99	6.32	±30
Perfluorohexanoic acid	2.00	2.41	20.27	±30
Perfluoropentanesulfonate	1.88	2.20	17.02	±30
Perfluoroheptanoic acid	2.00	2.28	14.03	±30
Perfluorohexanesulfonate	1.82	1.95	6.99	±30
6:2 fluorotelomersulfonate	1.90	2.13	12.36	±30
Perfluoroheptanesulfonate	1.90	2.21	16.08	±30
Perfluorooctanoic acid	2.00	2.29	14.66	±30
Perfluoro-octanesulfonate	1.85	1.87	1.13	±30
Perfluorononanoic acid	2.00	2.10	4.80	±30
Perfluorononanesulfonate	1.92	1.94	1.26	±30
Perfluorodecanoic acid	2.00	2.36	18.23	±30
8:2 fluorotelomersulfonate	1.92	2.21	15.00	±30
Perfluorooctanesulfonamide	2.00	2.19	9.44	±30
NMeFOSAA	2.00	1.98	-0.81	±30
Perfluorodecanesulfonate	1.93	1.87	-3.16	±30
Perfluoroundecanoic acid	2.00	2.43	21.48	±30
NEtFOSAA	2.00	2.15	7.55	±30
Perfluorododecanoic acid	2.00	2.30	15.25	±30
10:2-fluorotelomersulfonate	1.93	1.95	1.18	±30
NMePFOSAE	2.00	2.16	8.02	±30
NMePFOSA	2.00	2.00	0.13	±30
Perfluorododecanesulfonate	1.94	1.74	-10.12	±30
NEtPFOSAE	2.00	2.27	13.74	±30
NEtPFOSA	2.00	2.17	8.48	±30
Perfluorotridecanoic acid	2.00	2.60	29.83	±30
Perfluorotetradecanoic acid	2.00	2.31	15.59	±30
Perfluorohexadecanoic acid	2.00	2.31	15.63	±30
Perfluorooctadecanoic acid	2.00	2.05	2.60	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC10D-78.WIFF

Date/Time Analyzed: 12/11/2018 00:10 Lab Sample ID: CCV9_CAL4

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	8.02	0.30	±30
Perfluoropentanoic acid	8.00	7.97	-0.34	±30
Perfluorobutanesulfonate	7.08	7.27	2.73	±30
4:2 fluorotelomersulfonate	7.47	7.30	-2.30	±30
Perfluorohexanoic acid	8.00	8.34	4.27	±30
Perfluoropentanesulfonate	7.50	7.56	0.75	±30
Perfluoroheptanoic acid	8.00	8.06	0.81	±30
Perfluorohexanesulfonate	7.30	6.77	-7.28	±30
6:2 fluorotelomersulfonate	7.58	7.74	2.07	±30
Perfluoroheptanesulfonate	7.61	7.92	4.07	±30
Perfluorooctanoic acid	8.00	8.41	5.17	±30
Perfluoro-octanesulfonate	7.40	6.75	-8.79	±30
Perfluorononanoic acid	8.00	7.86	-1.74	±30
Perfluorononanesulfonate	7.68	7.65	-0.44	±30
Perfluorodecanoic acid	8.00	8.43	5.39	±30
8:2 fluorotelomersulfonate	7.66	8.41	9.73	±30
Perfluorooctanesulfonamide	8.00	7.96	-0.48	±30
NMeFOSAA	8.00	8.67	8.39	±30
Perfluorodecanesulfonate	7.70	6.96	-9.66	±30
Perfluoroundecanoic acid	8.00	7.13	-10.85	±30
NEtFOSAA	8.00	7.94	-0.70	±30
Perfluorododecanoic acid	8.00	8.30	3.73	±30
10:2-fluorotelomersulfonate	7.71	7.80	1.19	±30
NMePFOSAE	8.00	8.08	0.99	±30
NMePFOSA	8.00	7.87	-1.66	±30
Perfluorododecanesulfonate	7.74	7.35	-5.06	±30
NEtPFOSAE	8.00	8.21	2.61	±30
NEtPFOSA	8.00	7.09	-11.42	±30
Perfluorotridecanoic acid	8.00	9.20	15.03	±30
Perfluorotetradecanoic acid	8.00	8.51	6.40	±30
Perfluorohexadecanoic acid	8.00	8.65	8.12	±30
Perfluorooctadecanoic acid	8.00	8.10	1.21	±30

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC10D-90.WIFF

Date/Time Analyzed: 12/11/2018 01:58 Lab Sample ID: CCV10_ISC_CAL2

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.58	-4.00	±30
Perfluoropentanoic acid	0.60	0.56	-6.86	±30
Perfluorobutanesulfonate	0.53	0.52	-2.60	±30
4:2 fluorotelomersulfonate	0.56	0.50	-10.56	±30
Perfluorohexanoic acid	0.60	0.62	2.74	±30
Perfluoropentanesulfonate	0.56	0.51	-9.63	±30
Perfluoroheptanoic acid	0.60	0.60	0.32	±30
Perfluorohexanesulfonate	0.55	0.47	-13.57	±30
6:2 fluorotelomersulfonate	0.57	0.58	1.90	±30
Perfluoroheptanesulfonate	0.57	0.54	-5.48	±30
Perfluorooctanoic acid	0.60	0.56	-6.99	±30
Perfluoro-octanesulfonate	0.56	0.45	-18.70	±30
Perfluorononanoic acid	0.60	0.48	-19.85	±30
Perfluorononanesulfonate	0.58	0.50	-13.13	±30
Perfluorodecanoic acid	0.60	0.56	-6.38	±30
8:2 fluorotelomersulfonate	0.58	0.56	-3.45	±30
Perfluorooctanesulfonamide	0.60	0.58	-3.02	±30
NMeFOSAA	0.60	0.47	-21.82	±30
Perfluorodecanesulfonate	0.58	0.52	-9.29	±30
Perfluoroundecanoic acid	0.60	0.47	-20.84	±30
NEtFOSAA	0.60	0.53	-11.69	±30
Perfluorododecanoic acid	0.60	0.55	-8.32	±30
10:2-fluorotelomersulfonate	0.58	0.47	-18.73	±30
NMePFOSAE	0.60	0.55	-8.07	±30
NMePFOSA	0.60	0.59	-1.51	±30
Perfluorododecanesulfonate	0.58	0.46	-20.91	±30
NEtPFOSAE	0.60	0.56	-6.81	±30
NEtPFOSA	0.60	0.50	-16.87	±30
Perfluorotridecanoic acid	0.60	0.58	-2.89	±30
Perfluorotetradecanoic acid	0.60	0.58	-3.17	±30
Perfluorohexadecanoic acid	0.60	0.59	-1.57	±30
Perfluorooctadecanoic acid	0.60	0.56	-6.26	±30

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC11D-01.WIFF

Date/Time Analyzed: 12/11/2018 04:59 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.58	-3.41	±30
Perfluoropentanoic acid	0.60	0.59	-2.14	±30
Perfluorobutanesulfonate	0.53	0.52	-1.80	±30
4:2 fluorotelomersulfonate	0.56	0.54	-4.43	±30
Perfluorohexanoic acid	0.60	0.60	0.58	±30
Perfluoropentanesulfonate	0.56	0.52	-7.98	±30
Perfluoroheptanoic acid	0.60	0.55	-7.84	±30
Perfluorohexanesulfonate	0.55	0.50	-9.42	±30
6:2 fluorotelomersulfonate	0.57	0.41	-28.50	±30
Perfluoroheptanesulfonate	0.57	0.50	-13.28	±30
Perfluorooctanoic acid	0.60	0.63	4.35	±30
Perfluoro-octanesulfonate	0.56	0.46	-16.25	±30
Perfluorononanoic acid	0.60	0.54	-9.56	±30
Perfluorononanesulfonate	0.58	0.50	-12.49	±30
Perfluorodecanoic acid	0.60	0.59	-1.67	±30
8:2 fluorotelomersulfonate	0.58	0.52	-8.73	±30
Perfluorooctanesulfonamide	0.60	0.53	-11.61	±30
NMeFOSAA	0.60	0.50	-16.45	±30
Perfluorodecanesulfonate	0.58	0.49	-14.94	±30
Perfluoroundecanoic acid	0.60	0.53	-11.27	±30
NEtFOSAA	0.60	0.59	-1.97	±30
Perfluorododecanoic acid	0.60	0.59	-2.17	±30
10:2-fluorotelomersulfonate	0.58	0.40	-31.05 *	±30
NMePFOSAE	0.60	0.58	-4.13	±30
NMePFOSA	0.60	0.51	-15.50	±30
Perfluorododecanesulfonate	0.58	0.53	-8.80	±30
NEtPFOSAE	0.60	0.57	-4.92	±30
NEtPFOSA	0.60	0.52	-12.81	±30
Perfluorotridecanoic acid	0.60	0.61	2.07	±30
Perfluorotetradecanoic acid	0.60	0.56	-6.68	±30
Perfluorohexadecanoic acid	0.60	0.61	1.03	±30
Perfluorooctadecanoic acid	0.60	0.55	-8.23	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC11D-60.WIFF

Date/Time Analyzed: 12/11/2018 13:51 Lab Sample ID: CCV6_CAL4

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	8.17	2.07	±30
Perfluoropentanoic acid	8.00	8.37	4.59	±30
Perfluorobutanesulfonate	7.08	7.14	0.78	±30
4:2 fluorotelomersulfonate	7.47	7.69	2.95	±30
Perfluorohexanoic acid	8.00	8.47	5.90	±30
Perfluoropentanesulfonate	7.50	7.54	0.59	±30
Perfluoroheptanoic acid	8.00	8.40	5.03	±30
Perfluorohexanesulfonate	7.30	6.76	-7.44	±30
6:2 fluorotelomersulfonate	7.58	7.45	-1.72	±30
Perfluoroheptanesulfonate	7.61	7.69	0.99	±30
Perfluorooctanoic acid	8.00	8.25	3.07	±30
Perfluoro-octanesulfonate	7.40	6.57	-11.19	±30
Perfluorononanoic acid	8.00	7.57	-5.36	±30
Perfluorononanesulfonate	7.68	7.10	-7.53	±30
Perfluorodecanoic acid	8.00	8.13	1.62	±30
8:2 fluorotelomersulfonate	7.66	7.65	-0.08	±30
Perfluorooctanesulfonamide	8.00	8.54	6.79	±30
NMeFOSAA	8.00	8.07	0.91	±30
Perfluorodecanesulfonate	7.70	7.08	-8.06	±30
Perfluoroundecanoic acid	8.00	8.04	0.54	±30
NEtFOSAA	8.00	7.78	-2.71	±30
Perfluorododecanoic acid	8.00	8.06	0.69	±30
10:2-fluorotelomersulfonate	7.71	7.62	-1.20	±30
NMePFOSAE	8.00	8.25	3.14	±30
NMePFOSA	8.00	7.75	-3.12	±30
Perfluorododecanesulfonate	7.74	6.73	-13.04	±30
NEtPFOSAE	8.00	7.86	-1.72	±30
NEtPFOSA	8.00	7.77	-2.86	±30
Perfluorotridecanoic acid	8.00	8.81	10.14	±30
Perfluorotetradecanoic acid	8.00	8.45	5.58	±30
Perfluorohexadecanoic acid	8.00	8.36	4.52	±30
Perfluorooctadecanoic acid	8.00	8.93	-0.84	±30

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI23

Instrument ID: 27631 Lab File ID: 18DEC11D-66.WIFF

Date/Time Analyzed: 12/11/2018 14:46 Lab Sample ID: CCV7_ISC_CAL2

Init. Calib. Date/Times: 12/06/2018 23:37 12/07/2018 00:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.59	-2.40	±30
Perfluoropentanoic acid	0.60	0.55	-8.19	±30
Perfluorobutanesulfonate	0.53	0.49	-8.09	±30
4:2 fluorotelomersulfonate	0.56	0.50	-10.29	±30
Perfluorohexanoic acid	0.60	0.59	-1.76	±30
Perfluoropentanesulfonate	0.56	0.49	-13.44	±30
Perfluoroheptanoic acid	0.60	0.57	-4.83	±30
Perfluorohexanesulfonate	0.55	0.49	-10.64	±30
6:2 fluorotelomersulfonate	0.57	0.60	6.05	±30
Perfluoroheptanesulfonate	0.57	0.51	-10.78	±30
Perfluorooctanoic acid	0.60	0.58	-3.04	±30
Perfluoro-octanesulfonate	0.56	0.43	-22.52	±30
Perfluorononanoic acid	0.60	0.50	-16.37	±30
Perfluorononanesulfonate	0.58	0.47	-18.74	±30
Perfluorodecanoic acid	0.60	0.64	7.32	±30
8:2 fluorotelomersulfonate	0.58	0.57	-0.80	±30
Perfluorooctanesulfonamide	0.60	0.55	-8.37	±30
NMeFOSAA	0.60	0.64	7.01	±30
Perfluorodecanesulfonate	0.58	0.46	-21.01	±30
Perfluoroundecanoic acid	0.60	0.52	-14.15	±30
NEtFOSAA	0.60	0.45	-24.31	±30
Perfluorododecanoic acid	0.60	0.56	-5.91	±30
10:2-fluorotelomersulfonate	0.58	0.46	-20.54	±30
NMePFOSAE	0.60	0.52	-13.23	±30
NMePFOSA	0.60	0.55	-7.63	±30
Perfluorododecanesulfonate	0.58	0.48	-16.64	±30
NEtPFOSAE	0.60	0.56	-6.41	±30
NEtPFOSA	0.60	0.56	-7.27	±30
Perfluorotridecanoic acid	0.60	0.59	-2.04	±30
Perfluorotetradecanoic acid	0.60	0.58	-3.33	±30
Perfluorohexadecanoic acid	0.60	0.59	-1.05	±30
Perfluorooctadecanoic acid	0.60	0.54	-9.31	±30

* Outside QC Limits.

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

Batch: 18339013 File Name:18DEC08D-01.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		373991	474841	936974	294668
LOWER LIMIT		186996	237421	468487	147334
UPPER LIMIT		560987	712262	1405461	442002
LAB SAMPLE ID	**DATE ANALYZED**				
BLK339013	12/08/18 11:52	433386	518898	991484	323347
LCS339013	12/08/18 12:01	399329	505013	974584	315660
9922836	12/08/18 12:10	466207	511393	975876	316199
9922837	12/08/18 12:19	421878	533313	984403	314039
9922838	12/08/18 12:28	430776	542743	1006202	314499
9922839	12/08/18 12:37	395571	513464	913452	316029
9922840	12/08/18 12:46	426079	512118	928970	317175
9922841	12/08/18 12:55	407793	498248	952116	306433
9922844	12/08/18 13:05	410044	508777	930295	295138
9922845	12/08/18 13:23	408688	515937	940179	317273
9922842MS	12/08/18 13:32	403459	533006	964609	316824
9922843MSD	12/08/18 13:41	402066	515892	955123	308575

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

Batch: 18340014 File Name:18DEC08D-01.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		373991	474841	936974	294668
LOWER LIMIT		186996	237421	468487	147334
UPPER LIMIT		560987	712262	1405461	442002
LAB SAMPLE ID	**DATE ANALYZED**				
BLK340014	12/10/18 22:39	406562	523288	970327	303479
9922846	12/10/18 23:07	414406	531199	973229	302040
9922847	12/10/18 23:16	414147	536728	935626	301673
9922850	12/10/18 23:25	445278	520857	994021	311017
9922851	12/10/18 23:34	428820	535934	990253	310047
9922852	12/10/18 23:43	407520	620618	891530	300360
9922853	12/10/18 23:52	401579	519588	791441	299439
9922848MS	12/11/18 00:01	415835	554979	938938	310333
9922849MSD	12/11/18 00:19	442867	540331	935909	313572
LCS340014	12/11/18 14:36	424986	531471	965634	290673

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

Batch: 18339013 File Name:18DEC10D-05.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		392614	507254	968979	302410
LOWER LIMIT		196307	253627	484490	151205
UPPER LIMIT		588921	760881	1453469	453615
LAB SAMPLE ID	**DATE ANALYZED**				
BLK339013	12/08/18 11:52	433386	518898	991484	323347
LCS339013	12/08/18 12:01	399329	505013	974584	315660
9922836	12/08/18 12:10	466207	511393	975876	316199
9922837	12/08/18 12:19	421878	533313	984403	314039
9922838	12/08/18 12:28	430776	542743	1006202	314499
9922839	12/08/18 12:37	395571	513464	913452	316029
9922840	12/08/18 12:46	426079	512118	928970	317175
9922841	12/08/18 12:55	407793	498248	952116	306433
9922844	12/08/18 13:05	410044	508777	930295	295138
9922845	12/08/18 13:23	408688	515937	940179	317273
9922842MS	12/08/18 13:32	403459	533006	964609	316824
9922843MSD	12/08/18 13:41	402066	515892	955123	308575

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

Batch: 18340014 File Name:18DEC10D-05.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		392614	507254	968979	302410
LOWER LIMIT		196307	253627	484490	151205
UPPER LIMIT		588921	760881	1453469	453615
LAB SAMPLE ID	**DATE ANALYZED**				
BLK340014	12/10/18 22:39	406562	523288	970327	303479
9922846	12/10/18 23:07	414406	531199	973229	302040
9922847	12/10/18 23:16	414147	536728	935626	301673
9922850	12/10/18 23:25	445278	520857	994021	311017
9922851	12/10/18 23:34	428820	535934	990253	310047
9922852	12/10/18 23:43	407520	620618	891530	300360
9922853	12/10/18 23:52	401579	519588	791441	299439
9922848MS	12/11/18 00:01	415835	554979	938938	310333
9922849MSD	12/11/18 00:19	442867	540331	935909	313572
LCS340014	12/11/18 14:36	424986	531471	965634	290673

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

Batch: 18339013 File Name:18DEC11D-01.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		419041	500971	953492	310746
LOWER LIMIT		209521	250486	476746	155373
UPPER LIMIT		628562	751457	1430238	466119
LAB SAMPLE ID	**DATE ANALYZED**				
BLK339013	12/08/18 11:52	433386	518898	991484	323347
LCS339013	12/08/18 12:01	399329	505013	974584	315660
9922836	12/08/18 12:10	466207	511393	975876	316199
9922837	12/08/18 12:19	421878	533313	984403	314039
9922838	12/08/18 12:28	430776	542743	1006202	314499
9922839	12/08/18 12:37	395571	513464	913452	316029
9922840	12/08/18 12:46	426079	512118	928970	317175
9922841	12/08/18 12:55	407793	498248	952116	306433
9922844	12/08/18 13:05	410044	508777	930295	295138
9922845	12/08/18 13:23	408688	515937	940179	317273
9922842MS	12/08/18 13:32	403459	533006	964609	316824
9922843MSD	12/08/18 13:41	402066	515892	955123	308575

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI23
Matrix: WATER

Batch: 18340014 File Name:18DEC11D-01.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		419041	500971	953492	310746
LOWER LIMIT		209521	250486	476746	155373
UPPER LIMIT		628562	751457	1430238	466119
LAB SAMPLE ID	**DATE ANALYZED**				
BLK340014	12/10/18 22:39	406562	523288	970327	303479
9922846	12/10/18 23:07	414406	531199	973229	302040
9922847	12/10/18 23:16	414147	536728	935626	301673
9922850	12/10/18 23:25	445278	520857	994021	311017
9922851	12/10/18 23:34	428820	535934	990253	310047
9922852	12/10/18 23:43	407520	620618	891530	300360
9922853	12/10/18 23:52	401579	519588	791441	299439
9922848MS	12/11/18 00:01	415835	554979	938938	310333
9922849MSD	12/11/18 00:19	442867	540331	935909	313572
LCS340014	12/11/18 14:36	424986	531471	965634	290673

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

Sample Data

PFAS by LC/MS/MS

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922836			**Data File:**		18DEC08D-28.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS15-2-01 Grab Groundwater			**Acquis Date:**		2018-12-08T12:10:54
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	51			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.28771			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	975876.4	936973.7	4	50	
13C2-PFOA	5.0	511392.8	474841.3	8	50	
13C4-PFOS	4.8	316199.3	294668.0	7	50	
13C2-PFDA	5.0	466207.0	373990.9	25	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	439880.8	13C3-PFBA	975876.4	0.451	16.162	13.280	82	50-150	
E13C5-PFHxA	721938.4	13C2-PFOA	511392.8	1.412	17.379	16.474	95	50-150	
E13C3-PFHxS	355351.3	13C2-PFOA	511392.8	0.695	16.440	15.491	94	50-150	
E13C4-PFHpA	571046.1	13C2-PFOA	511392.8	1.117	17.379	16.500	95	50-150	
E13C8-PFOA	902976.1	13C2-PFOA	511392.8	1.766	17.379	17.348	100	50-150	
E13C8-PFOS	323444.8	13C4-PFOS	316199.3	1.023	16.614	15.956	96	50-150	
E13C9-PFNA	615067.6	13C4-PFOS	316199.3	1.945	17.379	19.105	110	50-150	
E13C6-PFDA	684730.8	13C2-PFDA	466207.0	1.469	17.379	13.528	78	50-150	
Ed3-NMeFOSAA	141155.2	13C2-PFDA	466207.0	0.303	17.379	18.649	107	50-150	
E13C7-PFUnDA	435177.9	13C2-PFDA	466207.0	0.933	17.379	15.915	92	50-150	
Ed5-NEtFOSAA	87231.3	13C2-PFDA	466207.0	0.187	17.379	14.356	83	50-150	
E13C2-PFDoDA	881333.0	13C2-PFDA	466207.0	1.890	17.379	13.789	79	50-150	
E13C2-PFTeDA	559027.5	13C2-PFDA	466207.0	1.199	17.379	12.370	71	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

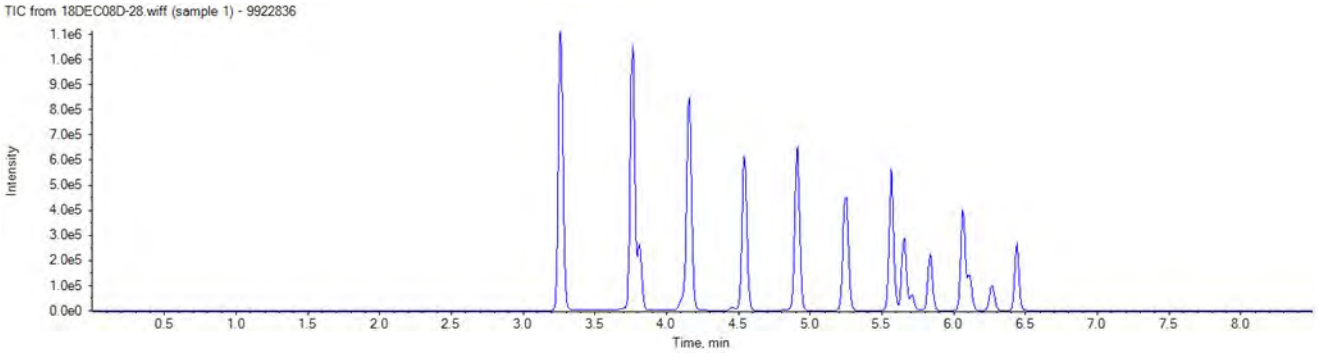
Analyte Quantitation Peak Table

Sample Name: 9922836 **Instrument Name:** LM27631 **File Name:** 18DEC08D-28.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28771	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	72672.5		A	13C3-PFBS	3.81	439880.8	0.165	2.846
PFHxA	4.16	1.000	1294634.9		A	13C5-PFHxA	4.16	721938.4	1.793	27.160
PFHpA	4.54	1.000	474345.4		M	13C4-PFHpA	4.54	571046.1	0.831	9.506
PFHxS	4.54	1.000	71687.6		M	13C3-PFHxS	4.54	355351.3	0.202	3.322
PFOA	4.91	1.000	38998.7		M	13C8-PFOA	4.91	902976.1	0.043	0.820
PFOS	5.23	1.000	4938.7		M	13C8-PFOS	5.24	323444.8	0.015	0.220
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	615067.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	684730.8	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	141155.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	435177.9	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	87231.3	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	881333.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	881333.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	559027.5	N/A	

Total Ion Chromatogram

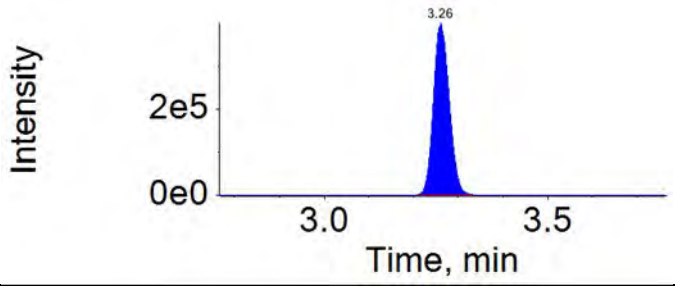


APPROVED
By MCD at 7:42 pm, 12/10/18

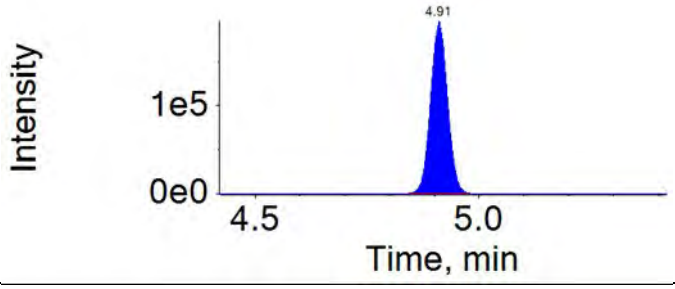
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

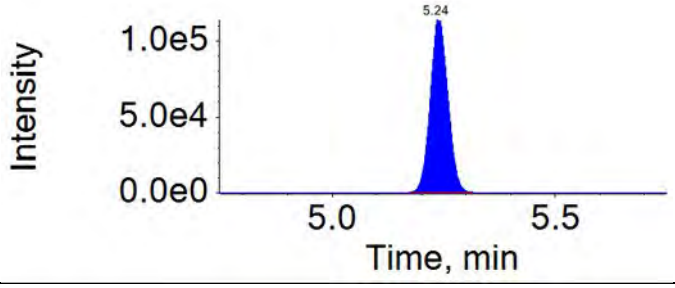
Injection Standard: 13C3-PFBA
216.0 / 172.0



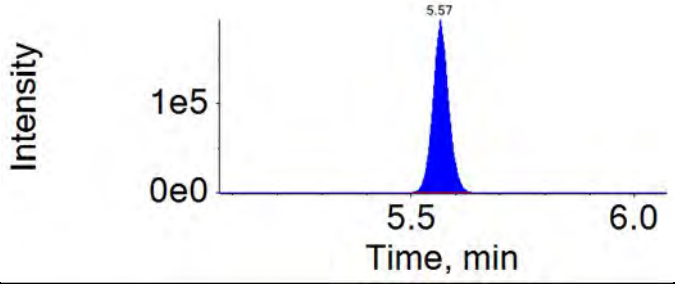
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

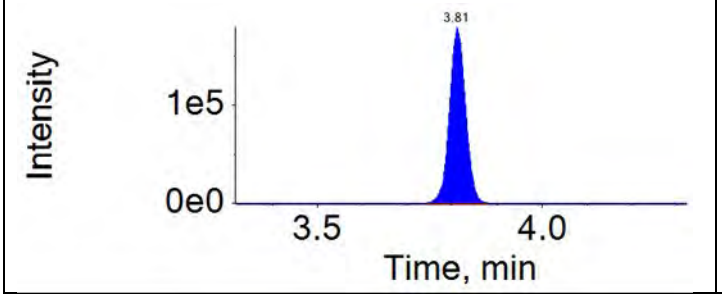


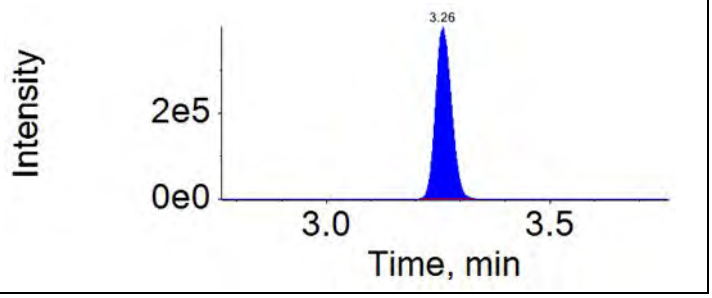
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

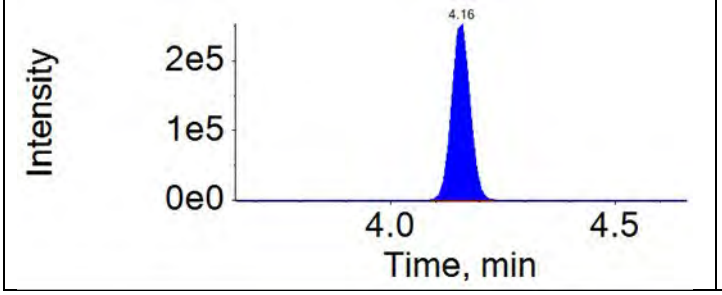
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

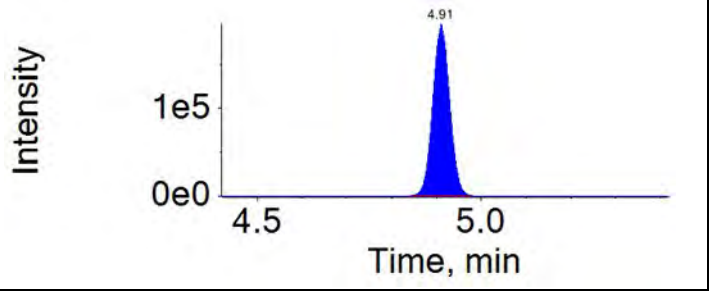
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



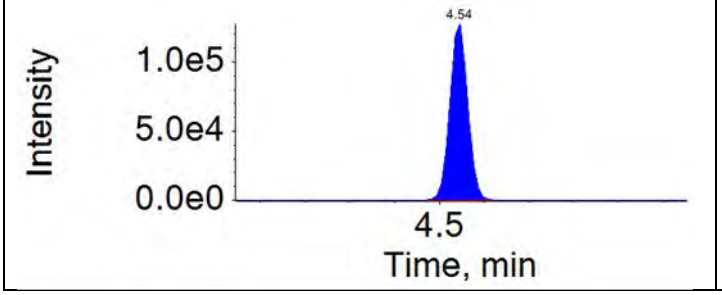


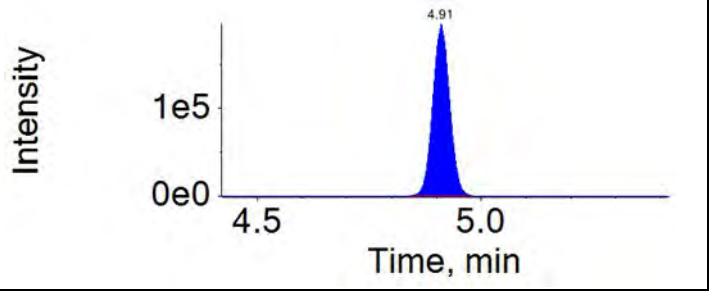
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



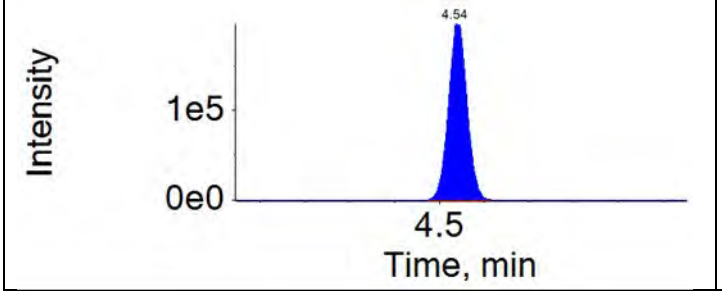


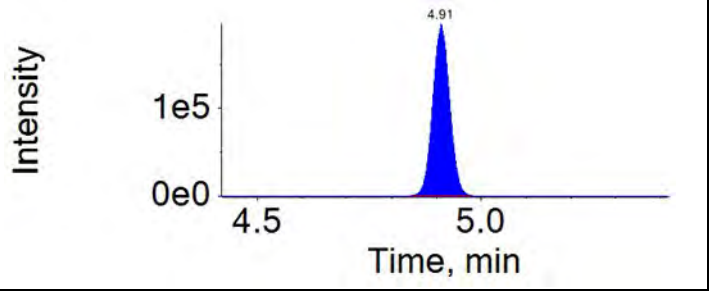
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

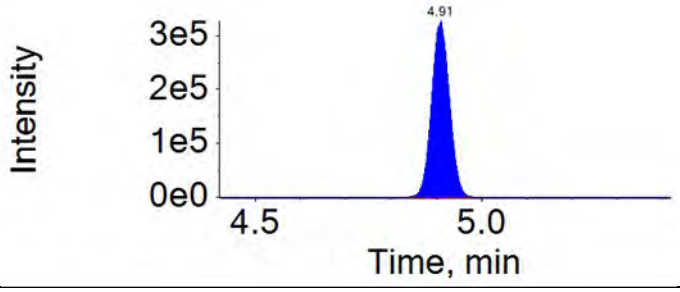
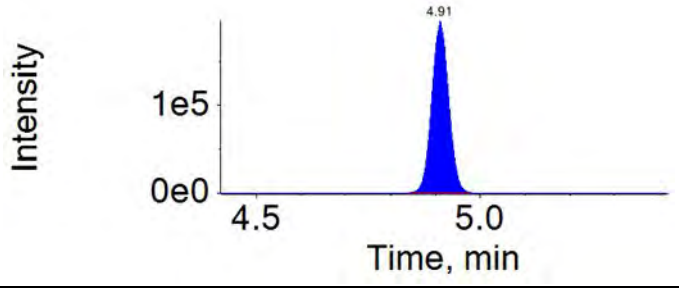


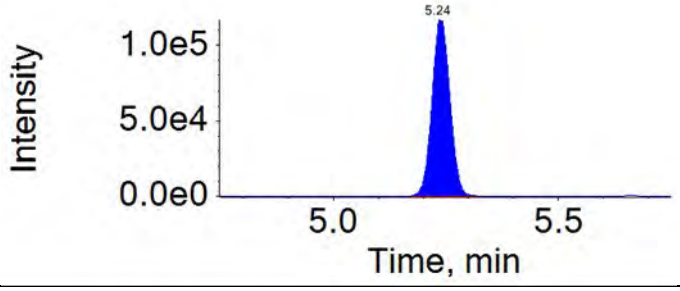
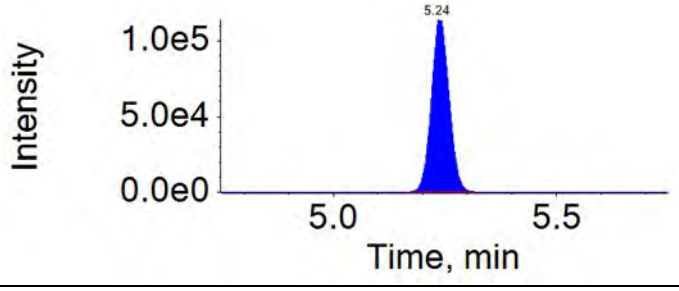


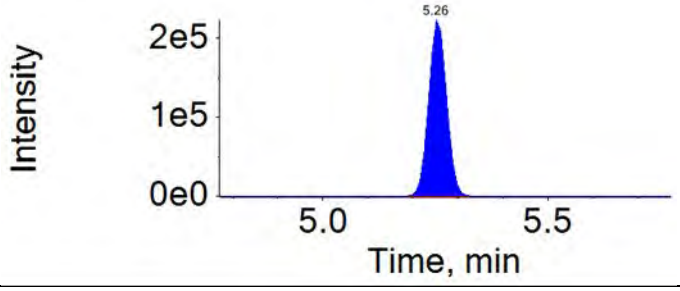
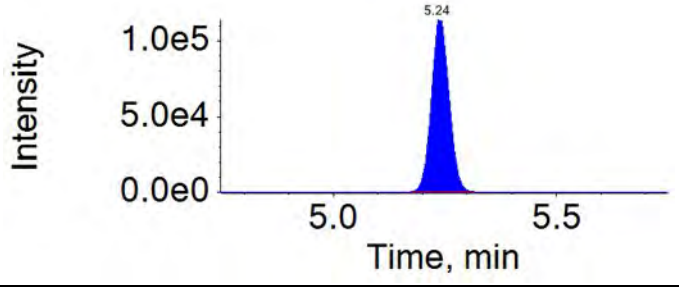
APPROVED
By MCD at 7:42 pm, 12/10/18

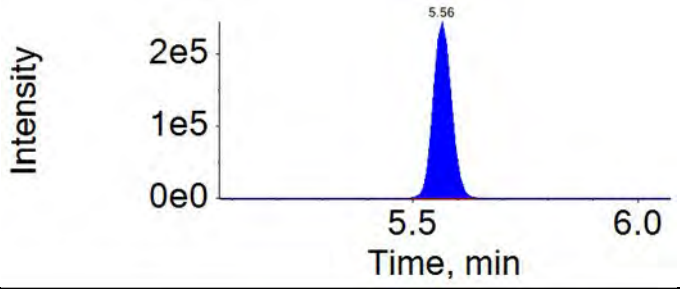
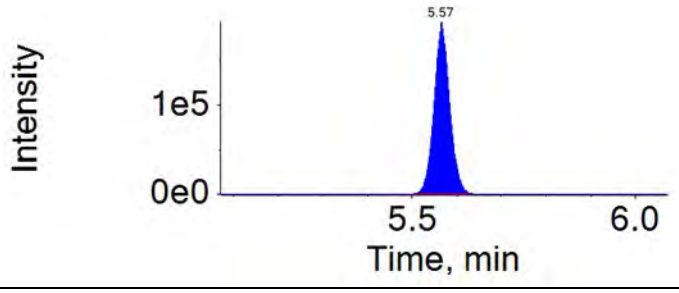
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

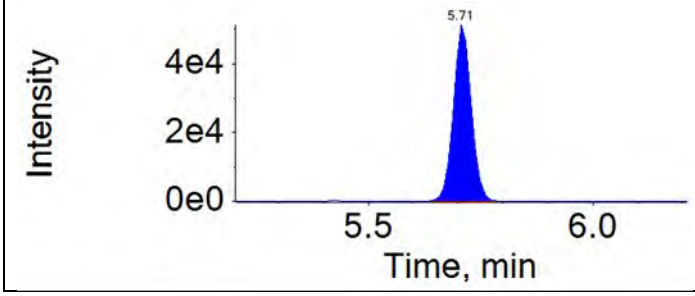
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

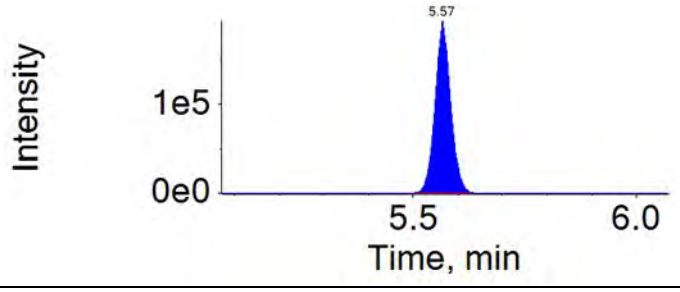
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

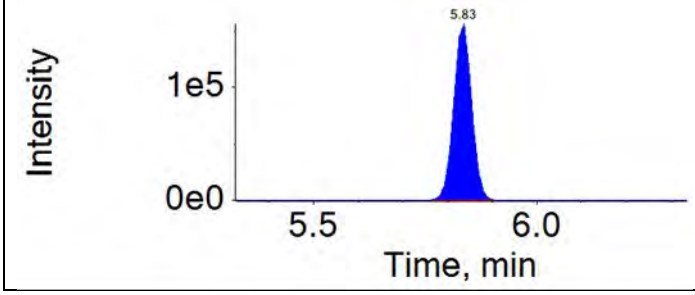
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

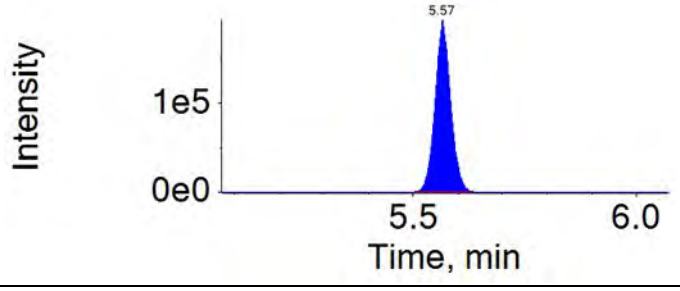
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



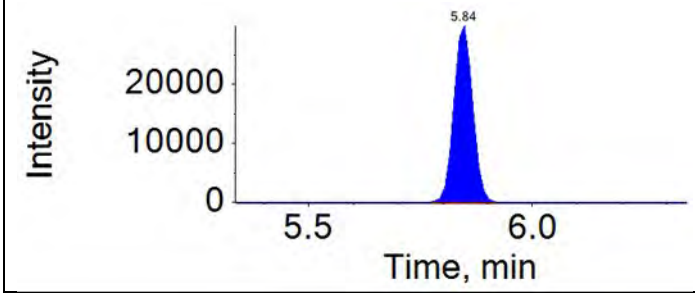


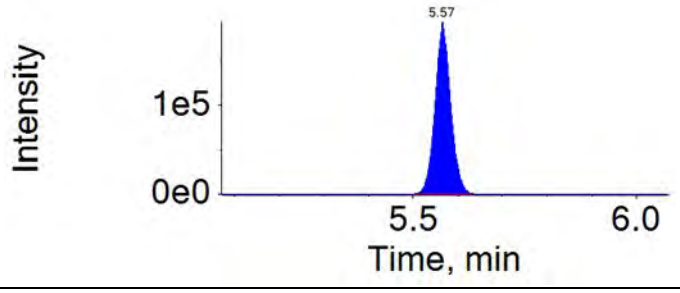
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



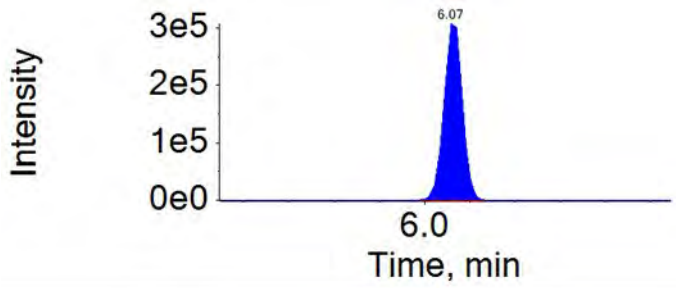


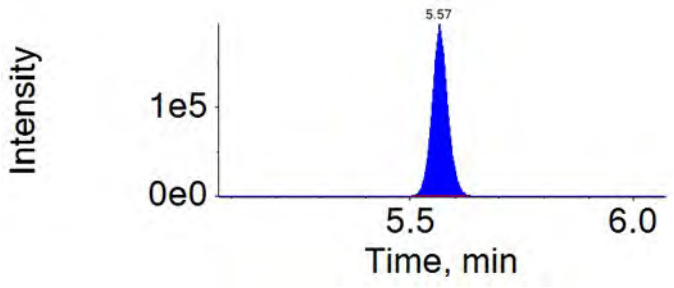
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

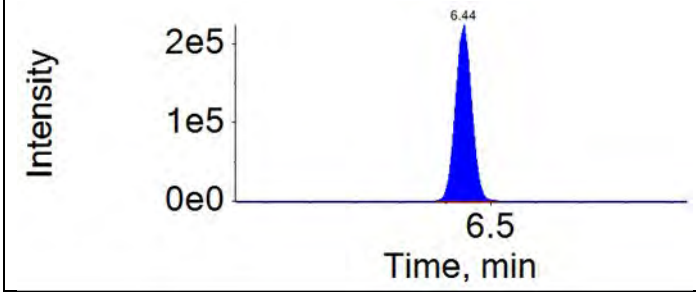
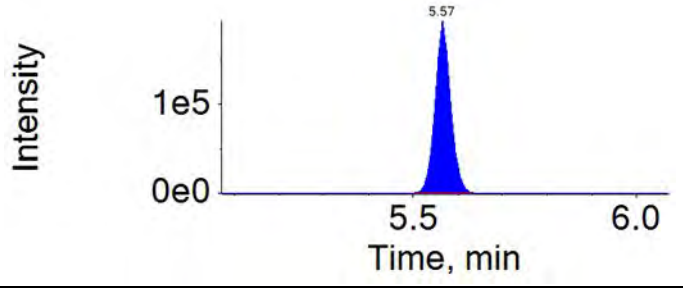




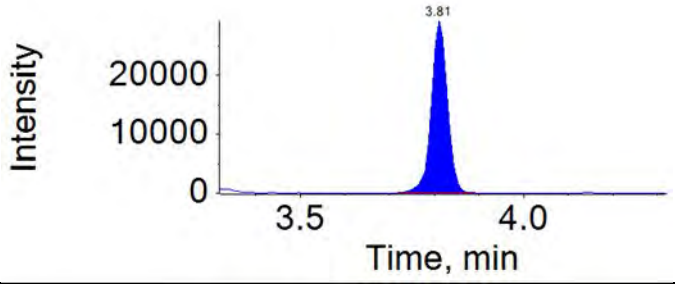
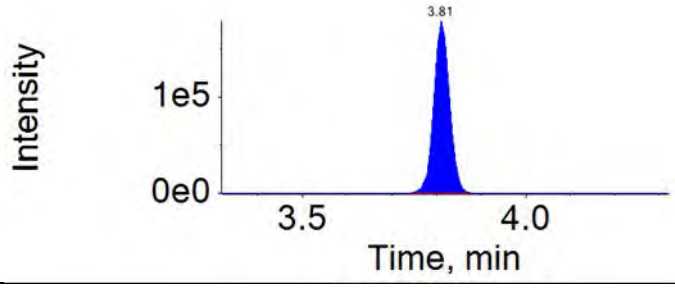
APPROVED
By MCD at 7:42 pm, 12/10/18

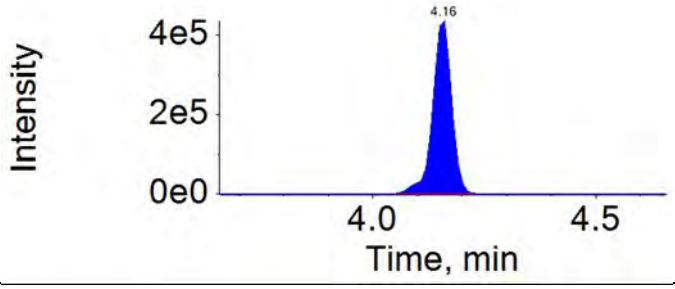
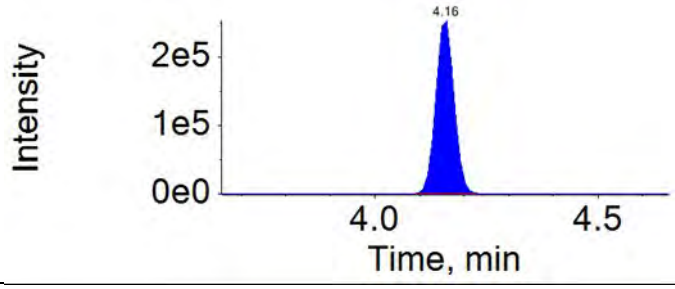
REVIEWED
By HMK at 12:27 pm, 12/13/18

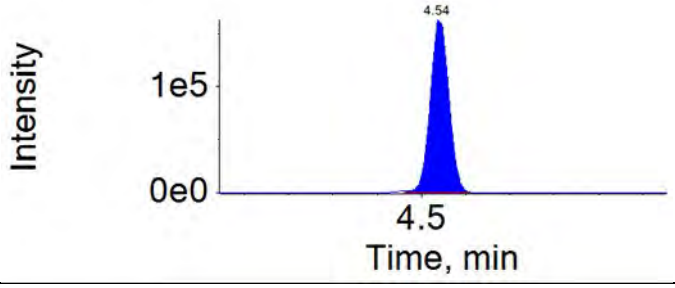
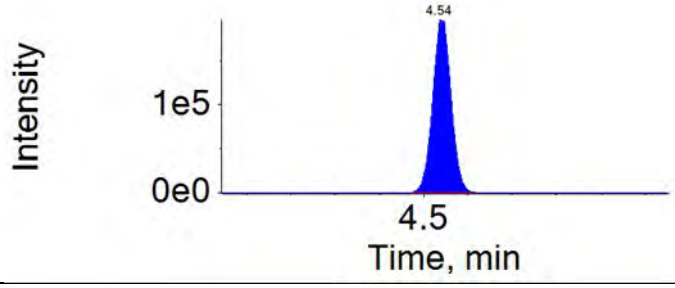
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

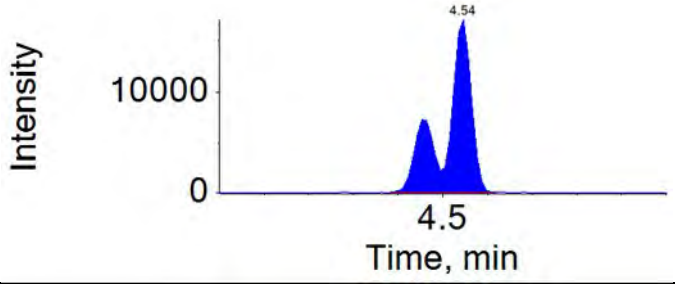
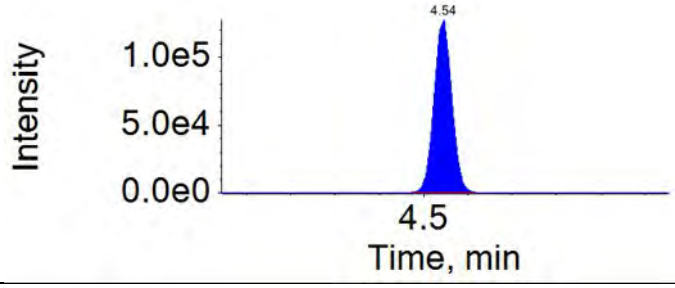
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

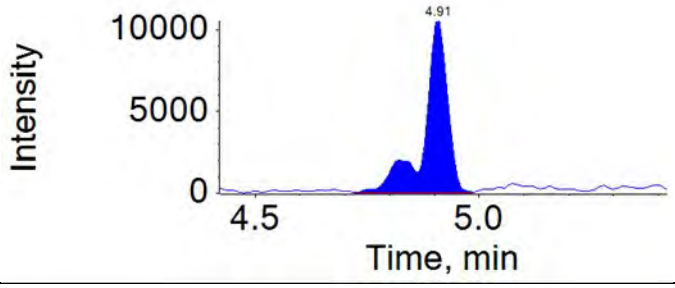
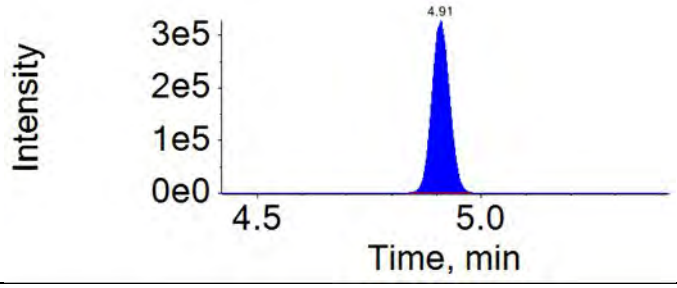
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

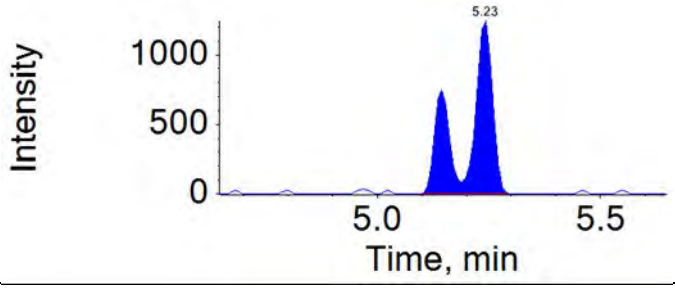
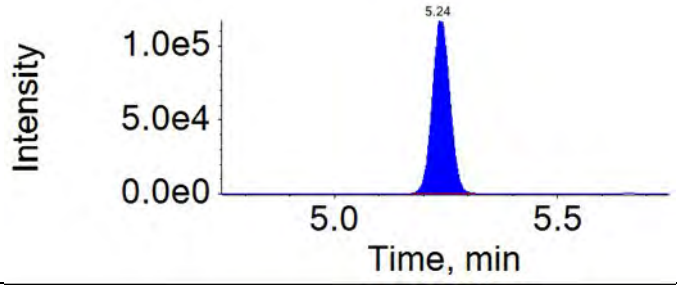
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

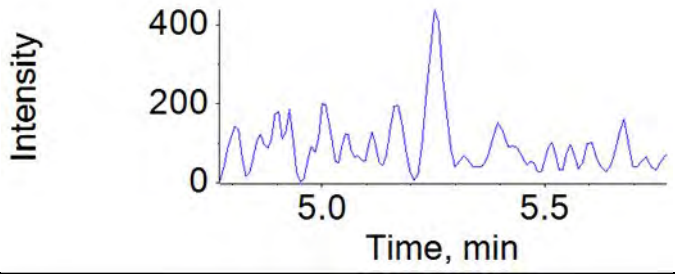
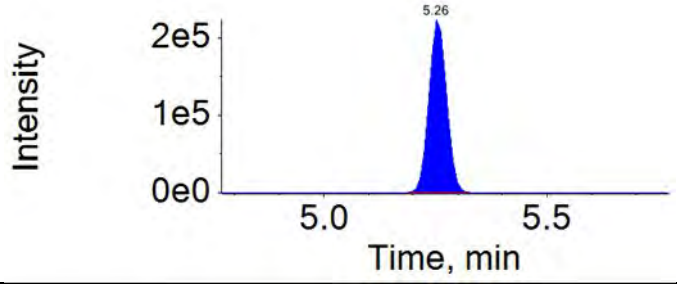
APPROVED
By MCD at 7:42 pm, 12/10/18

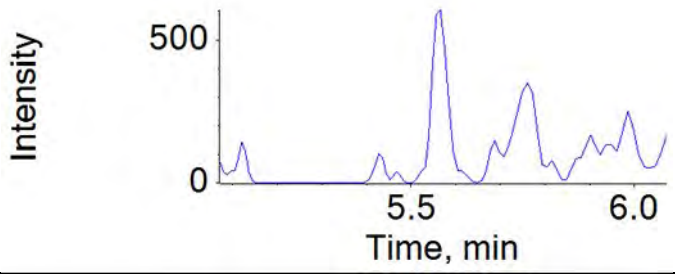
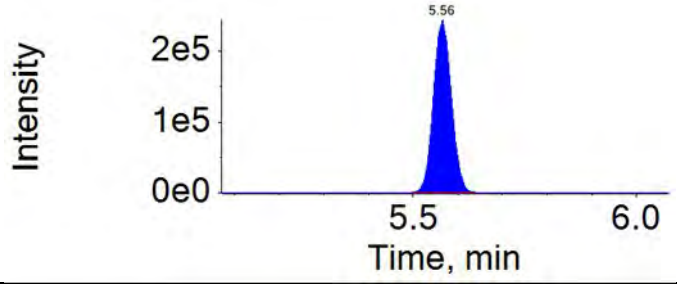
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

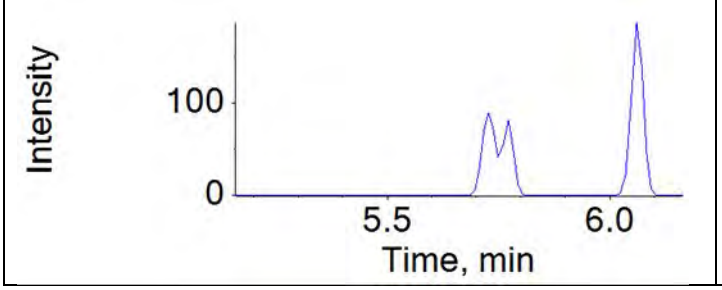
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

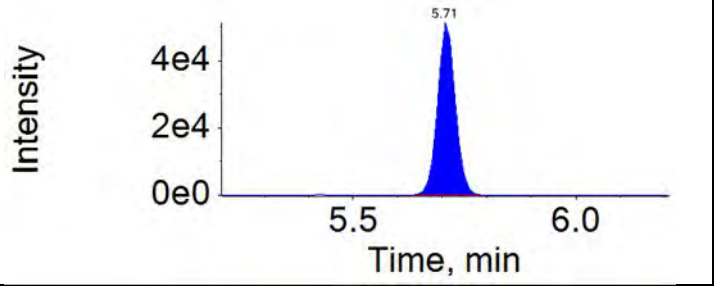
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

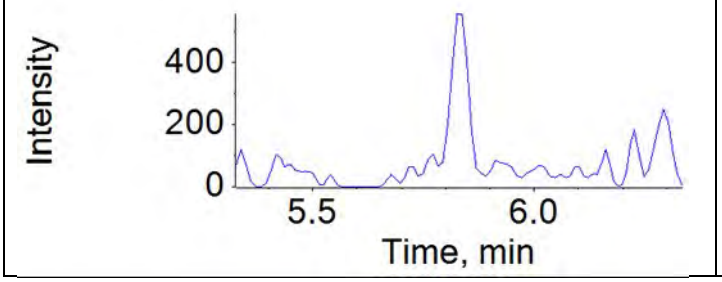
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

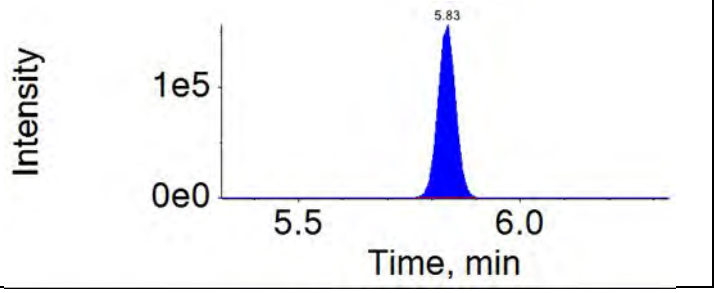
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



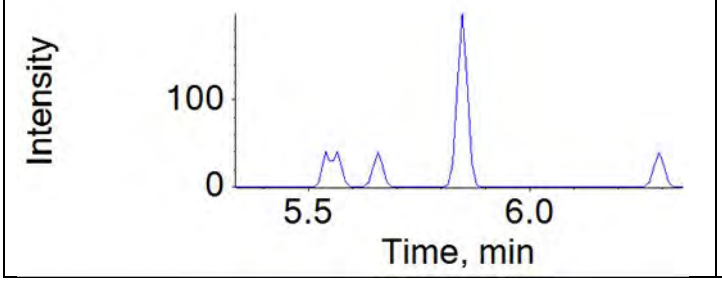


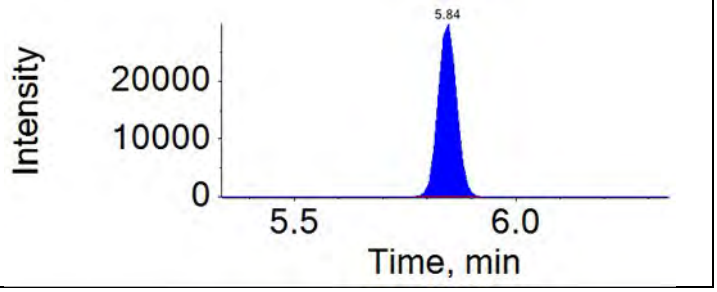
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



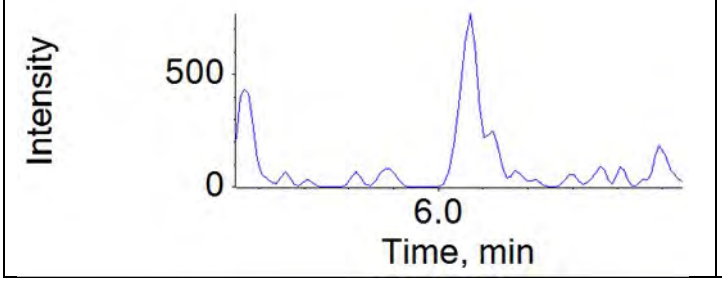


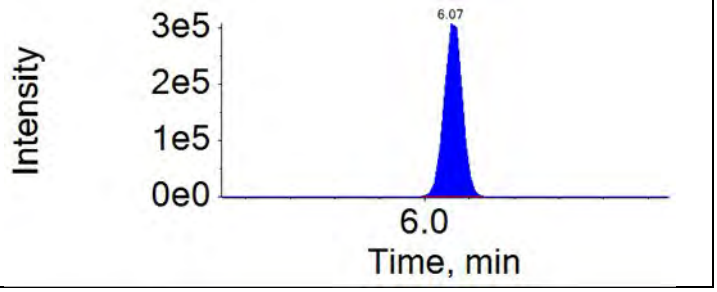
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

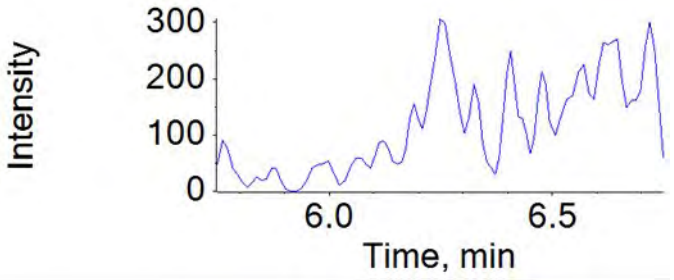
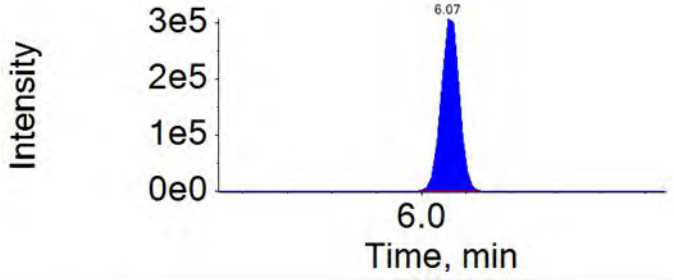


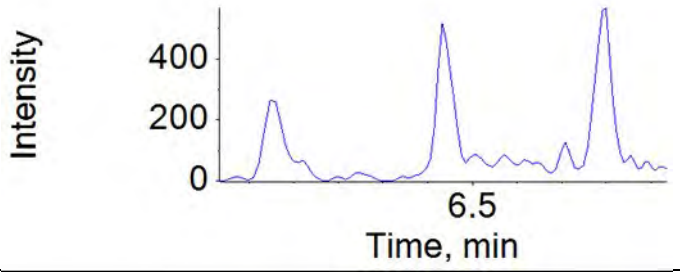
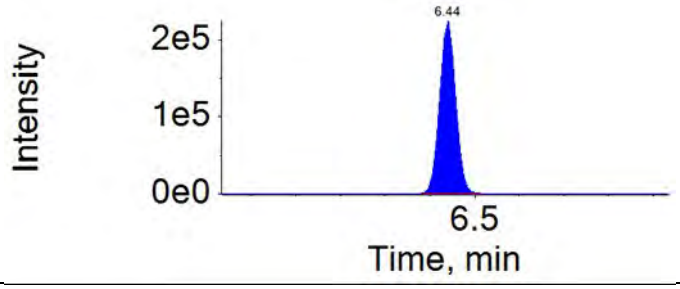


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

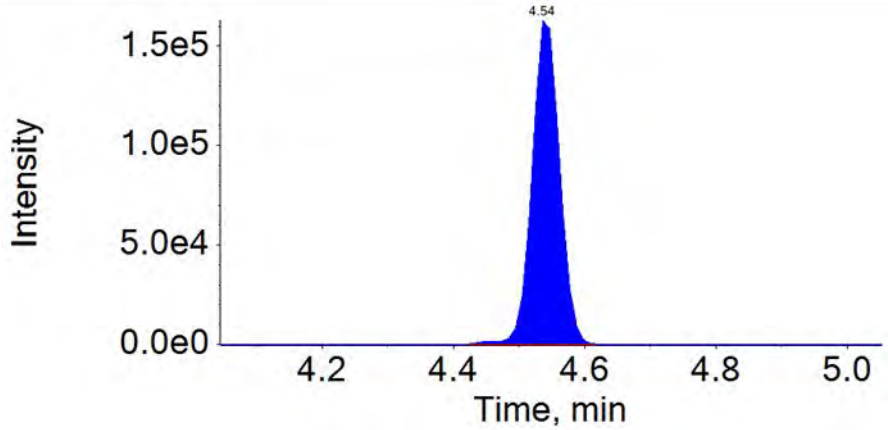
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

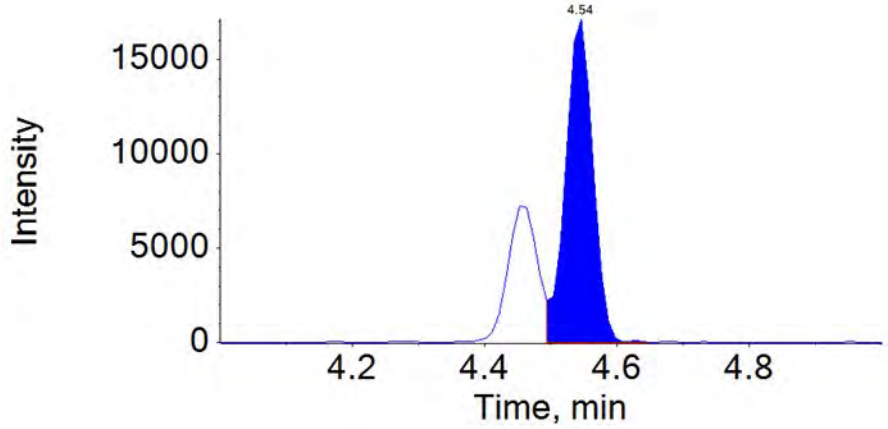
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHpA
RT (min.):
4.54
Peak Area:
476440.2
Mass Range:
363.0 / 319.0
File Name:
18DEC08D-28.wiff
Sample Name:
9922836



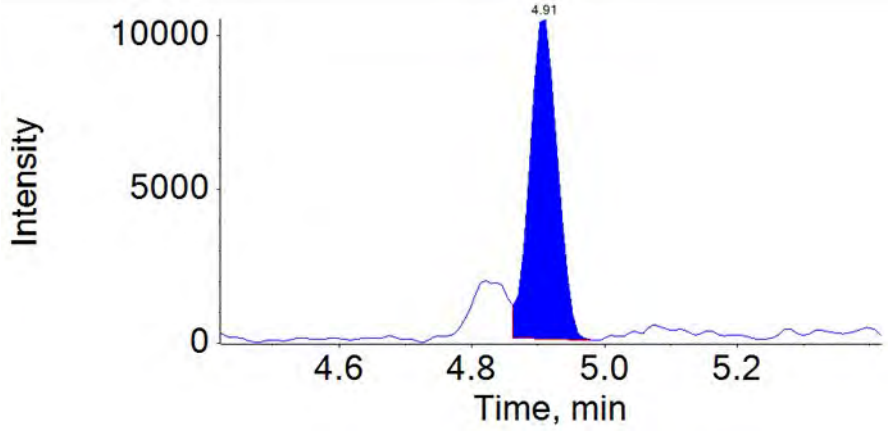
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
49256.6
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-28.wiff
Sample Name:
9922836



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
30196.0
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-28.wiff
Sample Name:
9922836

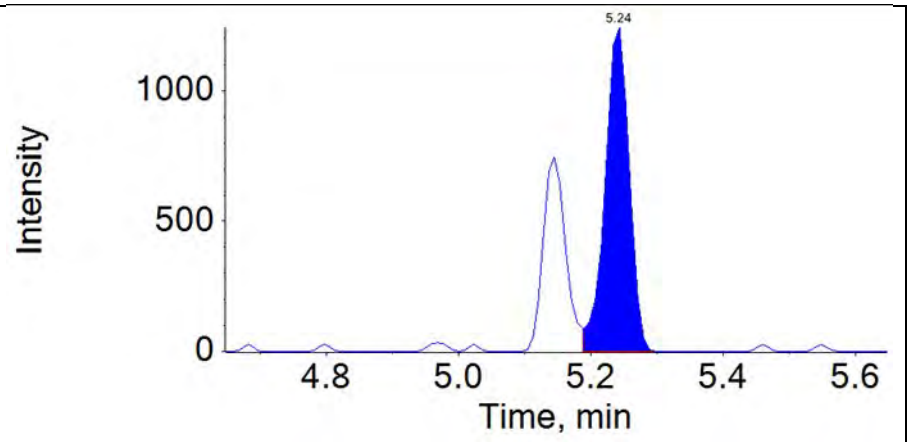


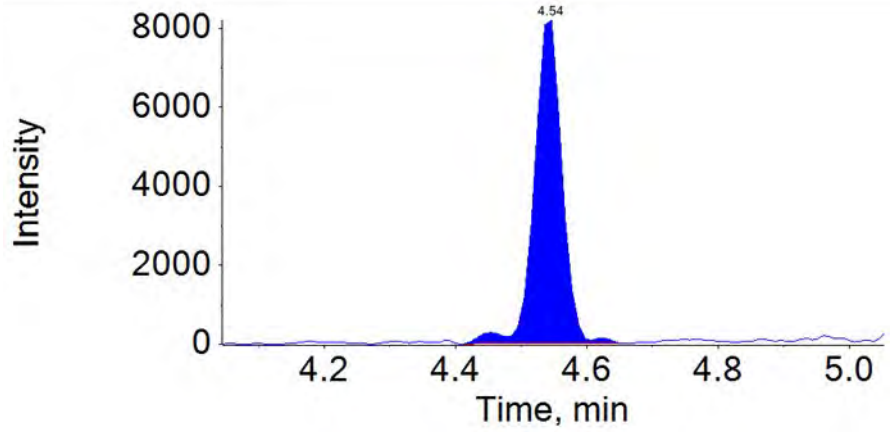
Integration Comment: incorrect integration

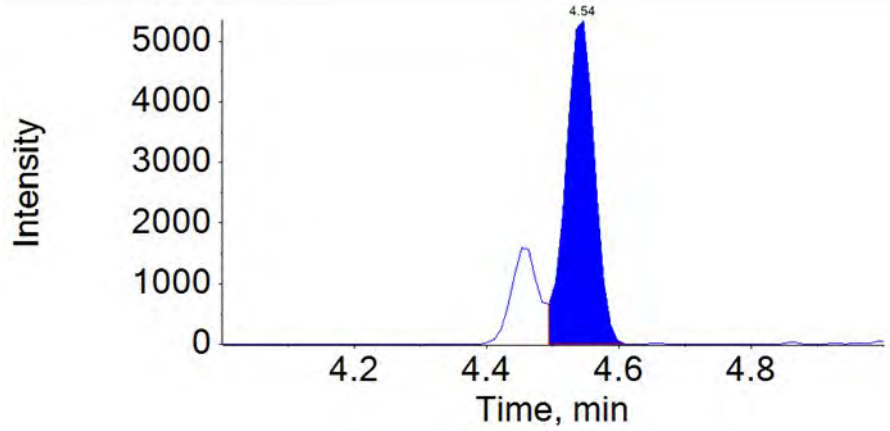
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFOS **RT (min.):** 5.24 **Peak Area:** 3162.9 **Mass Range:** 499.0 / 80.0 **File Name:** 18DEC08D-28.wiff **Sample Name:** 9922836	 **Integration Comment:** incorrect integration

Component Name: PFHpA_2 **RT (min.):** 4.54 **Peak Area:** 24388.9 **Mass Range:** 363.0 / 169.0 **File Name:** 18DEC08D-28.wiff **Sample Name:** 9922836	 **Integration Comment:** incorrect integration

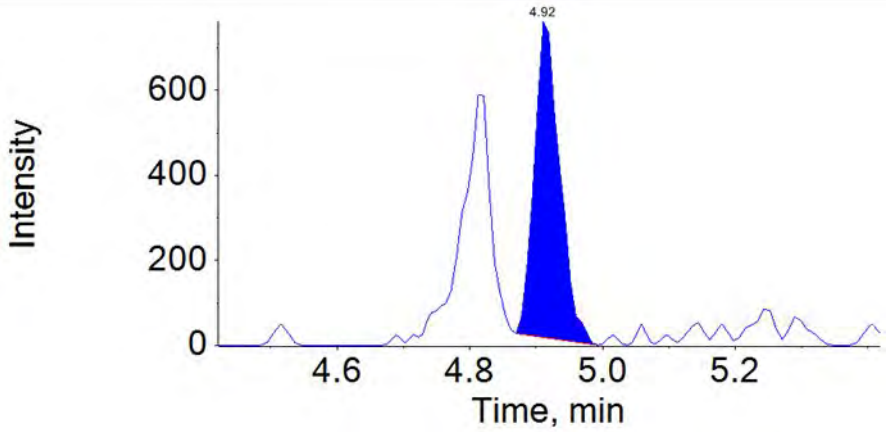
Component Name: PFHxS_2 **RT (min.):** 4.54 **Peak Area:** 16111.5 **Mass Range:** 399.0 / 99.0 **File Name:** 18DEC08D-28.wiff **Sample Name:** 9922836	 **Integration Comment:** incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

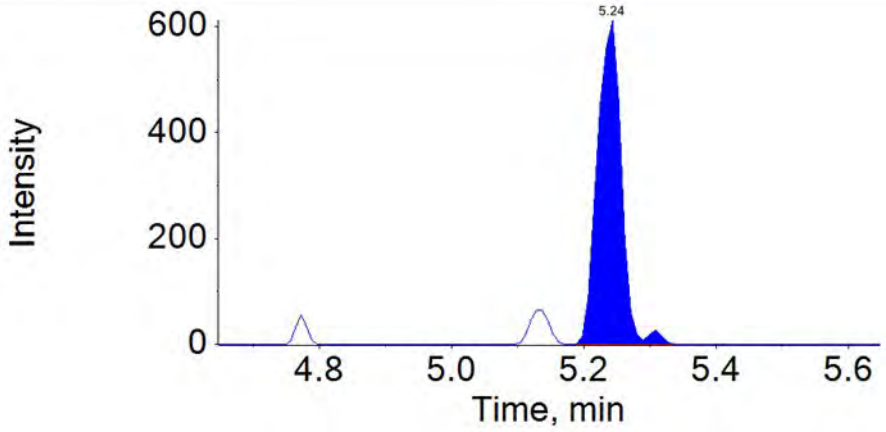
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
1987.7
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-28.wiff
Sample Name:
9922836



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
1556.1
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-28.wiff
Sample Name:
9922836



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

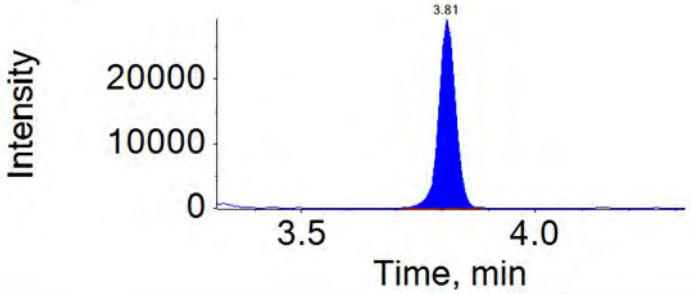
Sample Name: 9922836 **Instrument Name:** LM27631 **File Name:** 18DEC08D-28.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	72672.5	A	N/A	0.4041			
PFBS_2	3.81	1.00	29365.6	A	N/A	0.4041	12	50	
PFHxA	4.16	1.00	1294634.9	A	N/A	0.0098			
PFHxA_2	4.16	1.00	12624.9	A	N/A	0.0098	9	50	
PFHpA	4.54	1.00	474345.4	M	N/A	0.0495			
PFHpA_2	4.54	1.00	23475.7	M	N/A	0.0495	-12	50	
PFHxS	4.54	1.00	71687.6	M	N/A	0.2889			
PFHxS_2	4.54	1.00	20707.7	M	N/A	0.2889	-22	50	
PFOA	4.91	1.00	38998.7	M	N/A	0.1016			
PFOA_2	4.89	1.00	3960.8	M	N/A	0.1016	65	50	OOS
PFOS	5.23	1.00	4938.7	M	N/A	0.3343			
PFOS_2	5.24	1.00	1650.9	M	N/A	0.3343	10	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

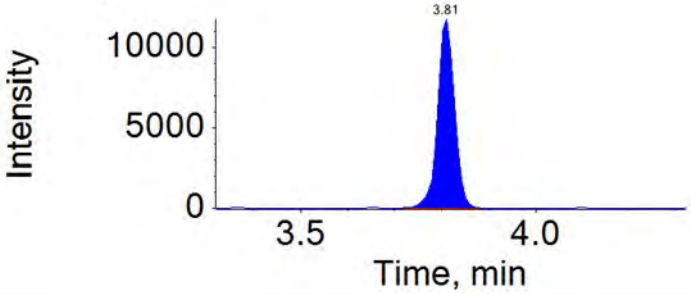
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

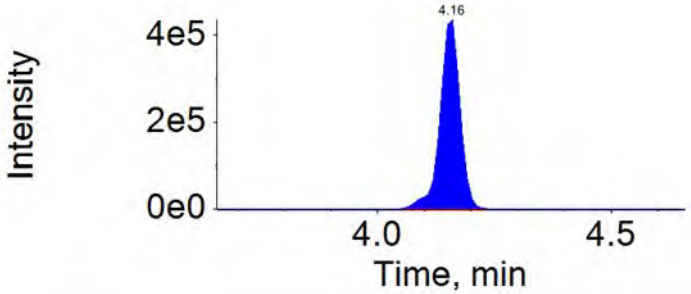
Component: PFBS
Primary Mass: 299.0 / 80.0



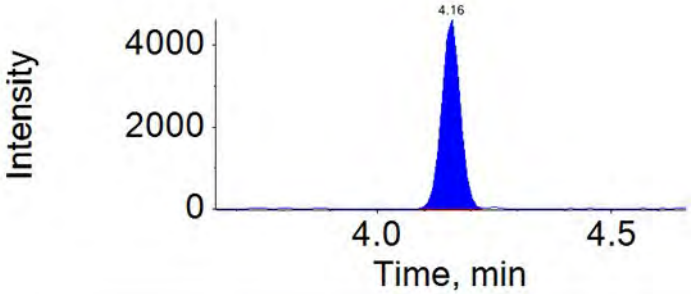
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



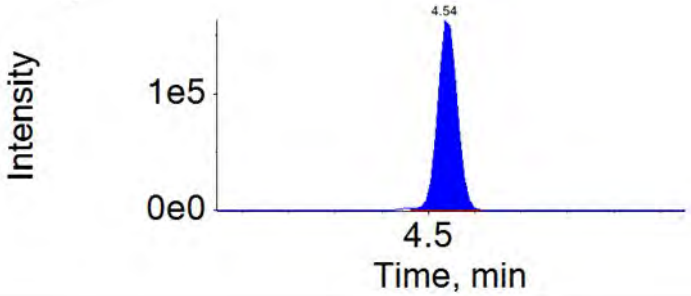
Component: PFHxA
Primary Mass: 313.0 / 269.0



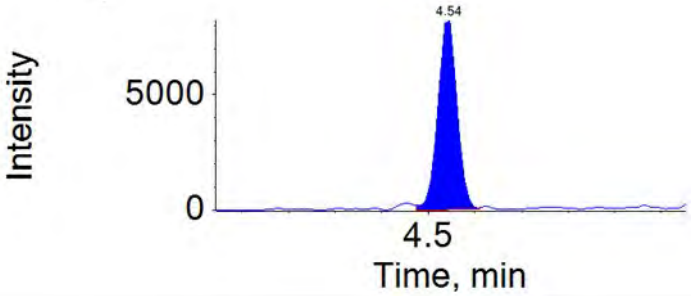
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



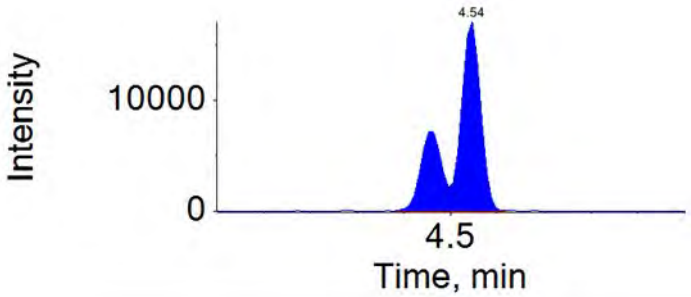
Component: PFHpA
Primary Mass: 363.0 / 319.0



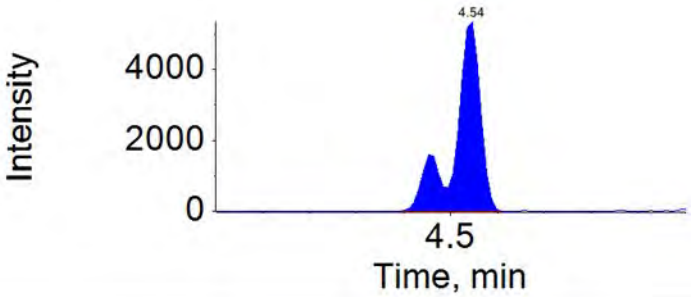
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



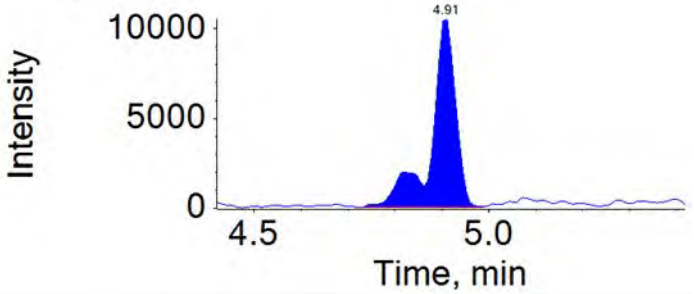
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



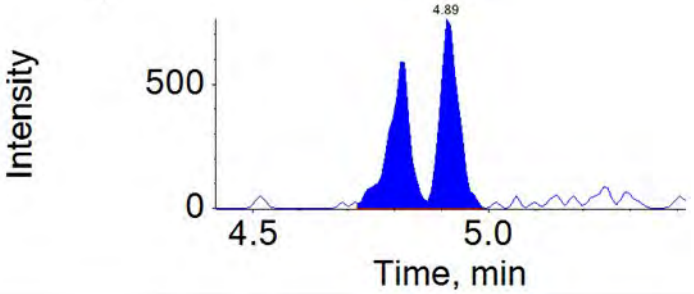
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

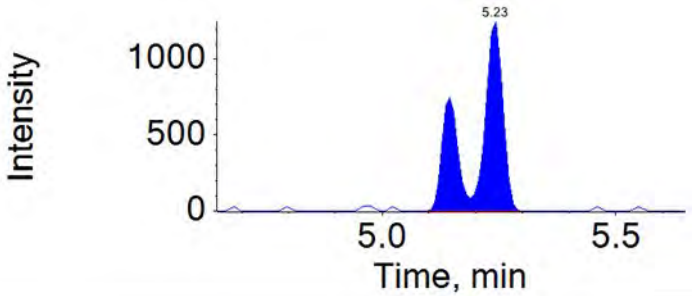
Component: PFOA
Primary Mass: 413.0 / 369.0



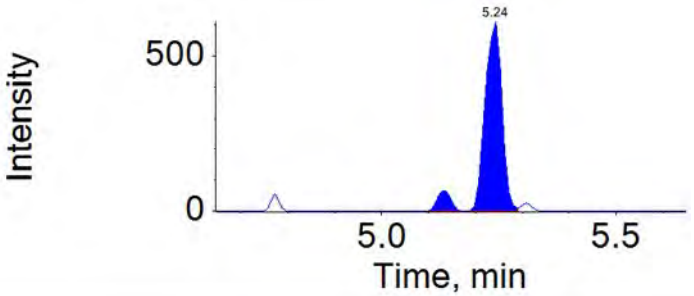
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



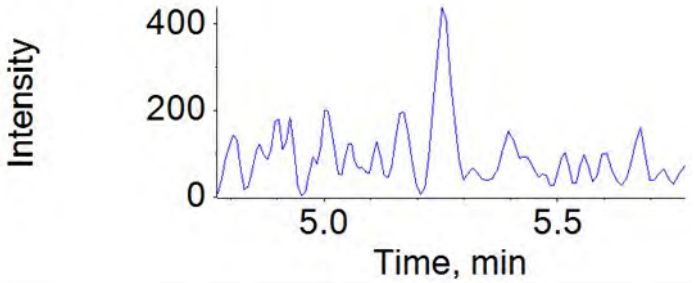
Component: PFOS
Primary Mass: 499.0 / 80.0



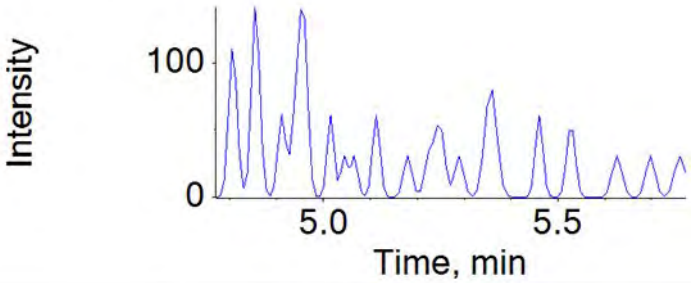
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



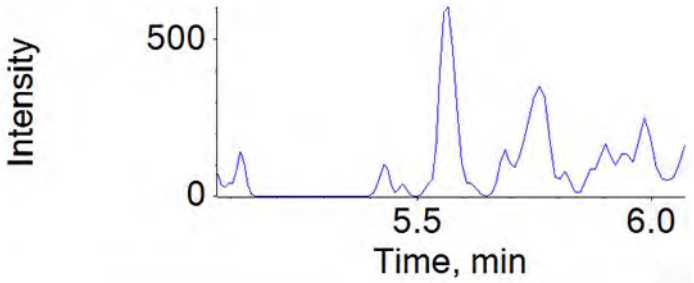
Component: PFNA
Primary Mass: 463.0 / 419.0



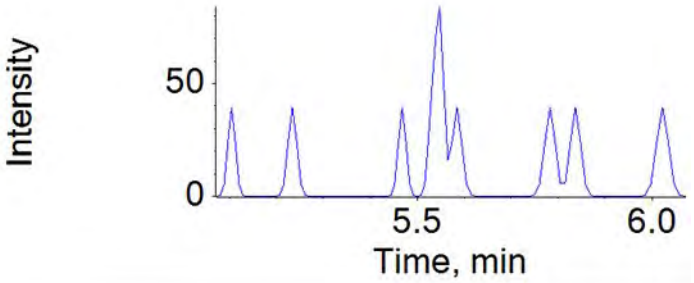
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



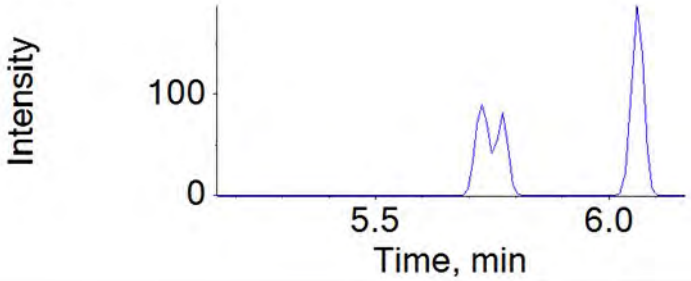
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



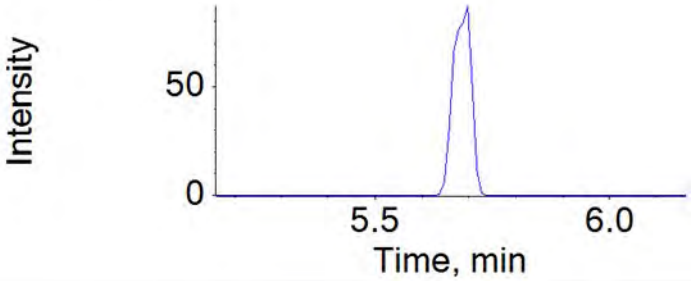
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

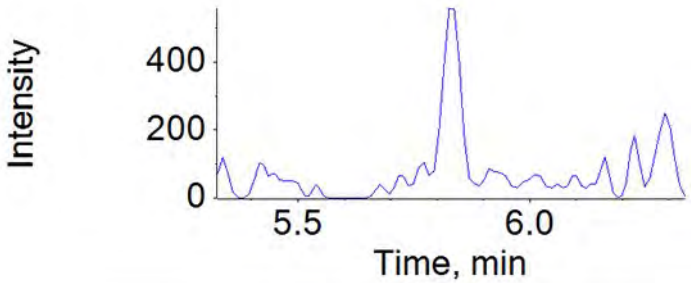
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



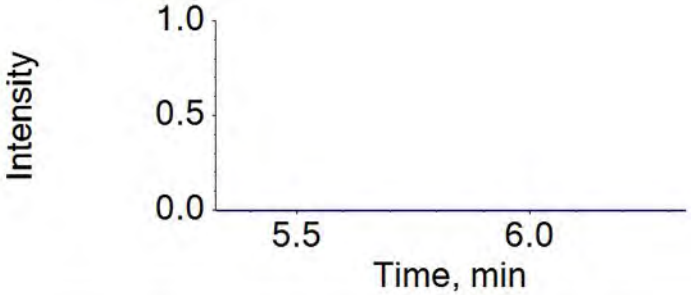
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



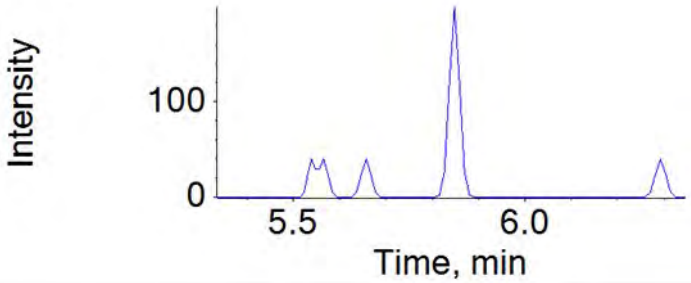
Component: PFUnDA
Primary Mass: 563.0 / 519.0



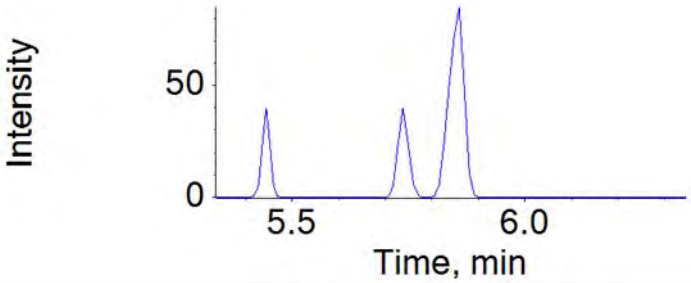
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



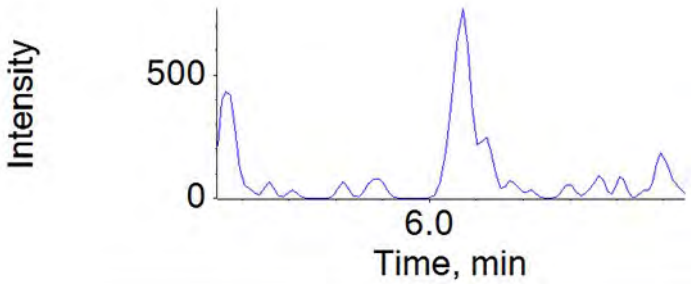
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



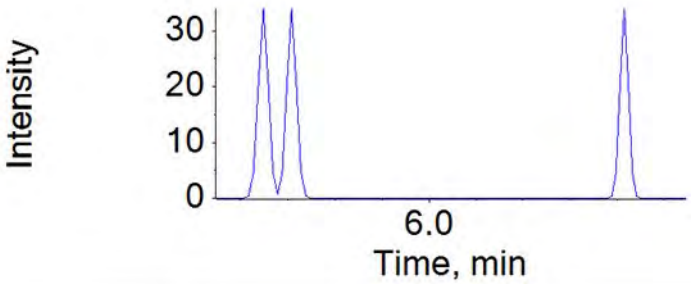
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



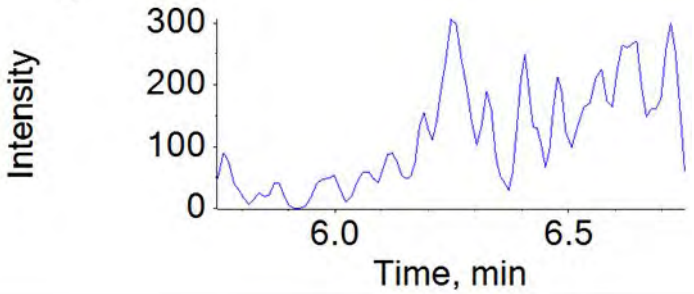
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



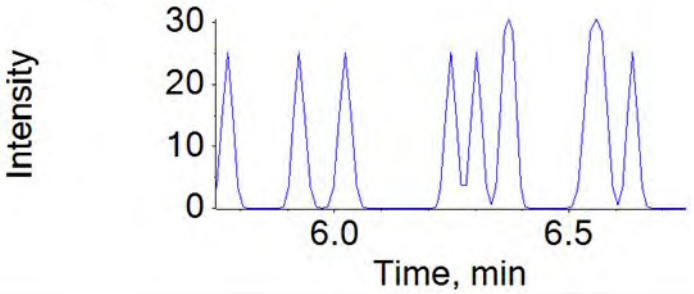
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

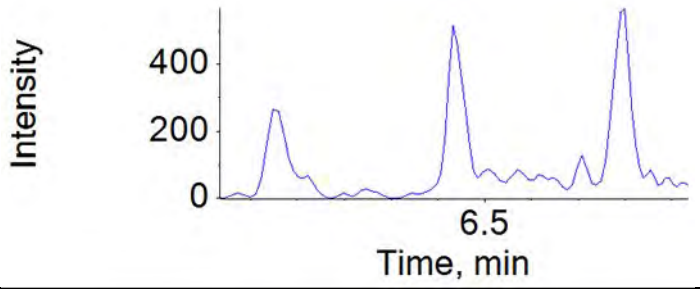
Component: PFTrDA
Primary Mass: 663.0 / 619.0



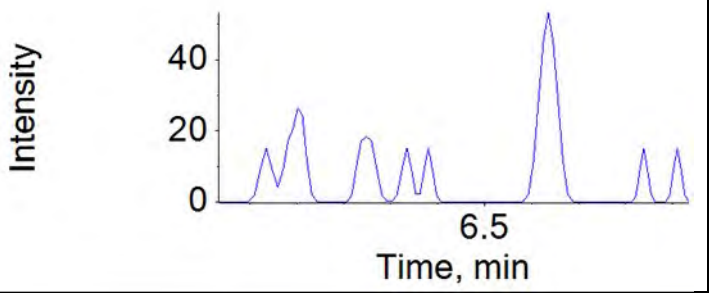
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922837			**Data File:**		18DEC08D-29.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS15-2-W-01 Grab Water			**Acquis Date:**		2018-12-08T12:19:54
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	52			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.27734			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	984403.1	936973.7	5	50	
13C2-PFOA	5.0	533312.9	474841.3	12	50	
13C4-PFOS	4.8	314038.6	294668.0	7	50	
13C2-PFDA	5.0	421878.5	373990.9	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	461863.0	13C3-PFBA	984403.1	0.469	16.766	14.340	86	50-150	
E13C5-PFHxA	707673.4	13C2-PFOA	533312.9	1.327	18.028	16.064	89	50-150	
E13C3-PFHxS	347098.7	13C2-PFOA	533312.9	0.651	17.055	15.052	88	50-150	
E13C4-PFHpA	561349.4	13C2-PFOA	533312.9	1.053	18.028	16.135	89	50-150	
E13C8-PFOA	923783.8	13C2-PFOA	533312.9	1.732	18.028	17.655	98	50-150	
E13C8-PFOS	337635.4	13C4-PFOS	314038.6	1.075	17.235	17.397	101	50-150	
E13C9-PFNA	606114.4	13C4-PFOS	314038.6	1.930	18.028	19.665	109	50-150	
E13C6-PFDA	747337.6	13C2-PFDA	421878.5	1.771	18.028	16.926	94	50-150	
Ed3-NMeFOSAA	145099.6	13C2-PFDA	421878.5	0.344	18.028	21.977	122	50-150	
E13C7-PFUnDA	437417.5	13C2-PFDA	421878.5	1.037	18.028	18.339	102	50-150	
Ed5-NEtFOSAA	89288.6	13C2-PFDA	421878.5	0.212	18.028	16.846	93	50-150	
E13C2-PFDoDA	884477.7	13C2-PFDA	421878.5	2.097	18.028	15.864	88	50-150	
E13C2-PFTeDA	604863.5	13C2-PFDA	421878.5	1.434	18.028	15.344	85	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

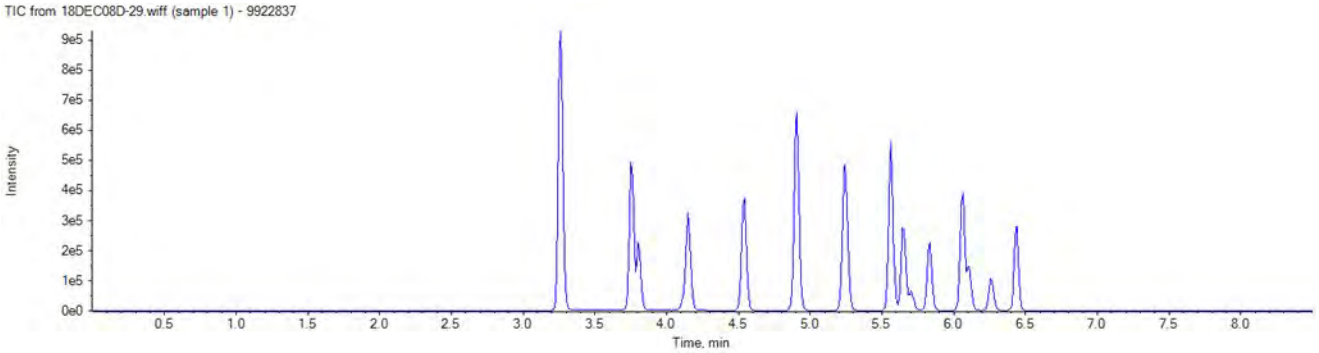
Analyte Quantitation Peak Table

Sample Name: 9922837 **Instrument Name:** LM27631 **File Name:** 18DEC08D-29.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27734	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	461863.0	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	707673.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	561349.5	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	347098.7	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.90	923783.8	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	337635.4	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	606114.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	747337.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	145099.6	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	437417.5	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	89288.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	884477.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	884477.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	604863.5	N/A	

Total Ion Chromatogram

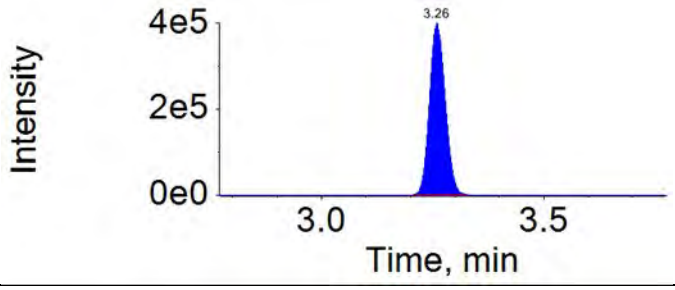


APPROVED
By MCD at 7:42 pm, 12/10/18

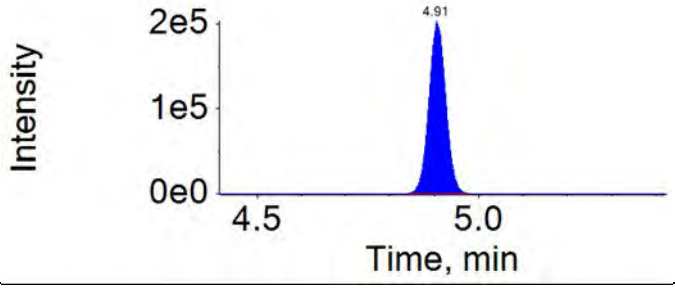
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

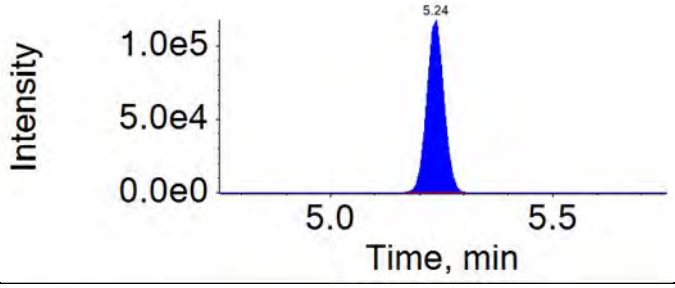
Injection Standard: 13C3-PFBA
216.0 / 172.0



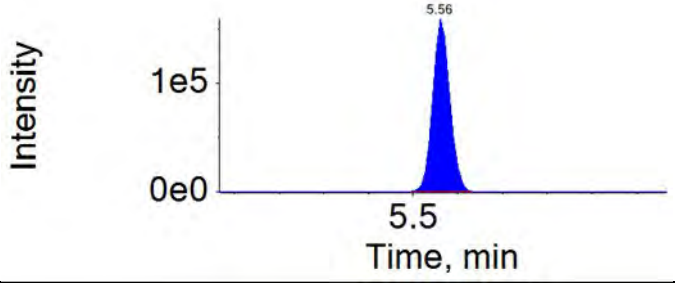
Injection Standard: 13C2-PFOA
415.0 / 370.0



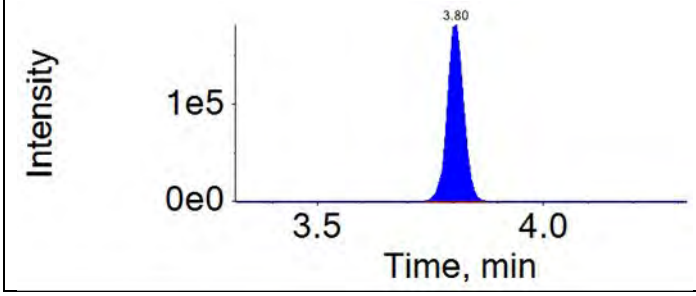
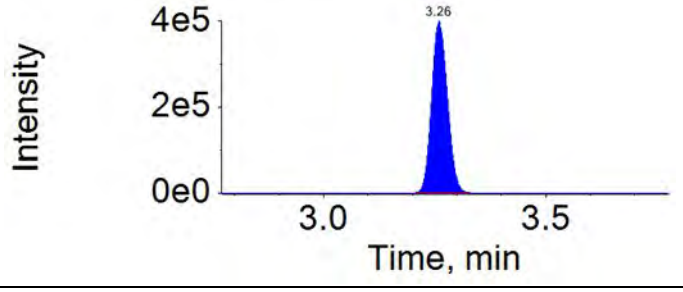
Injection Standard: 13C4-PFOS
503.0 / 80.0

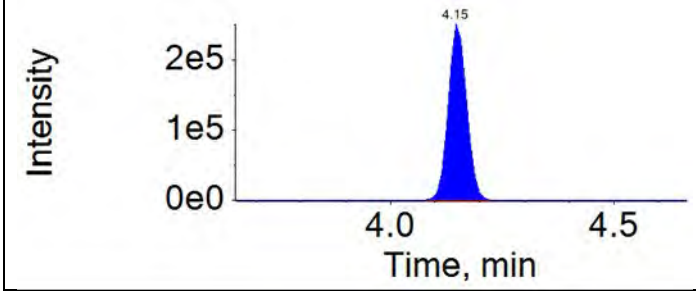
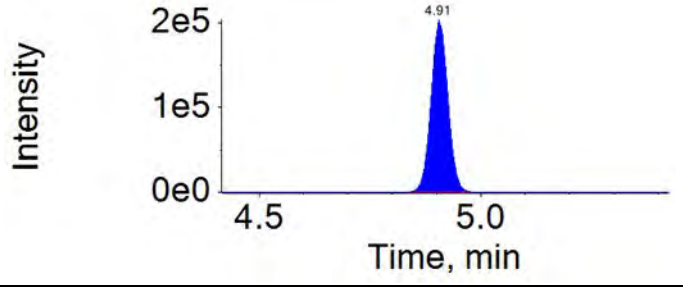


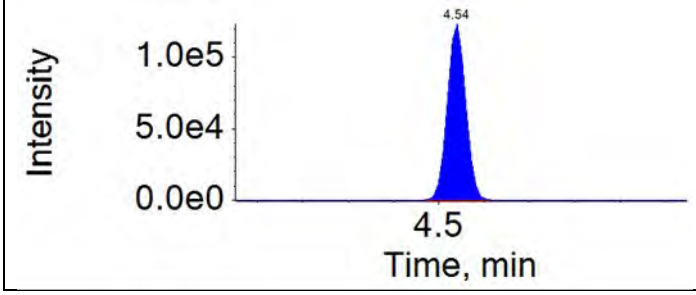
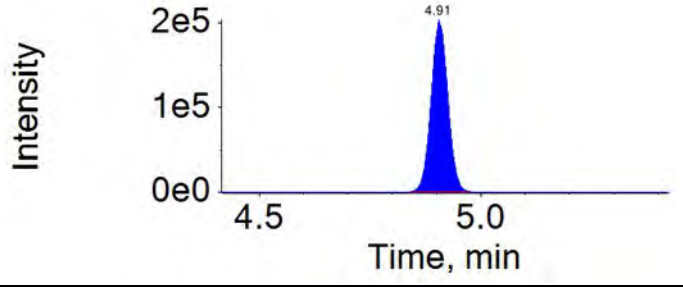
Injection Standard: 13C2-PFDA
515.0 / 470.0

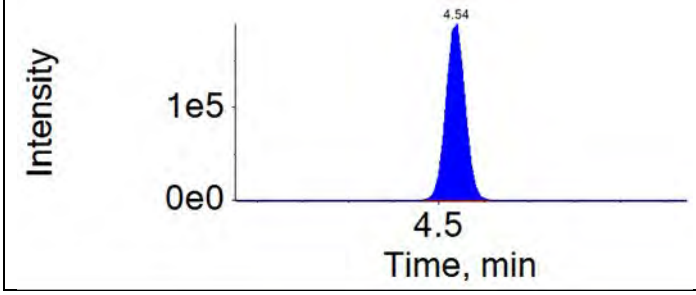
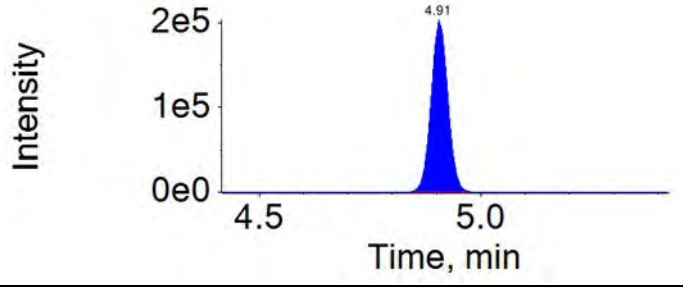


ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

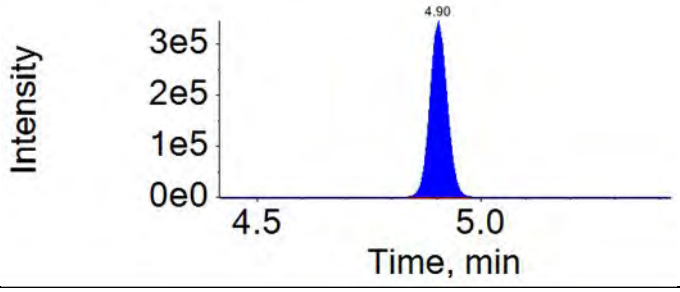
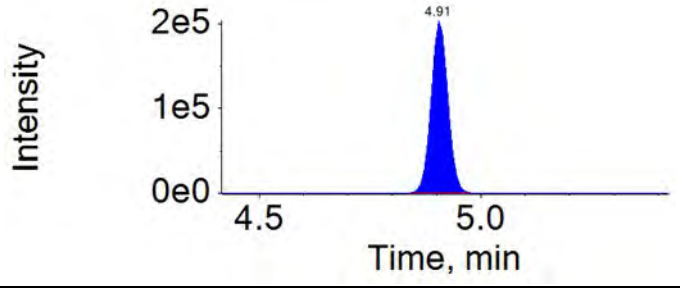
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

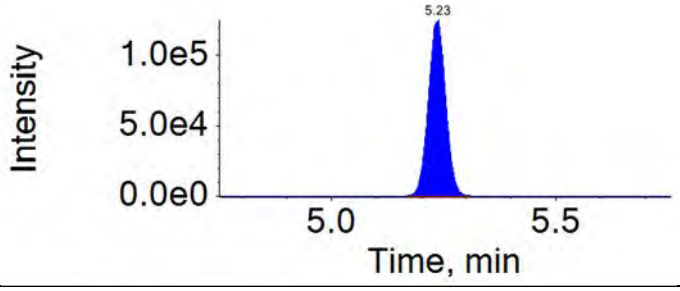
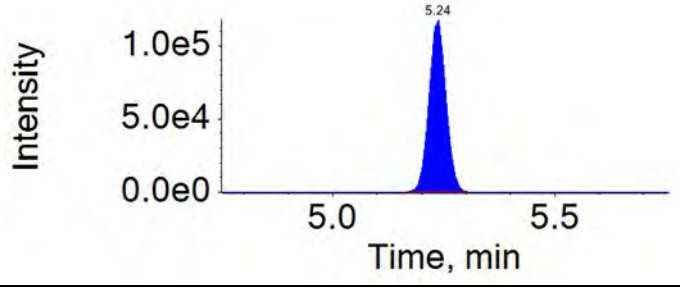
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

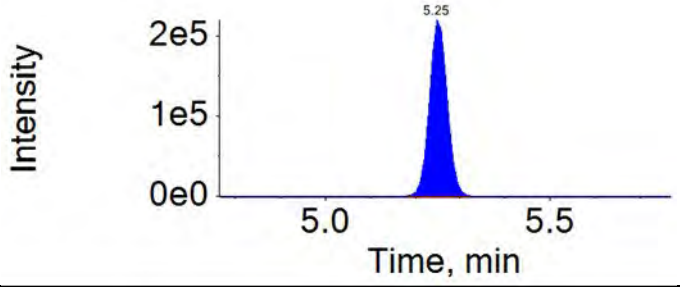
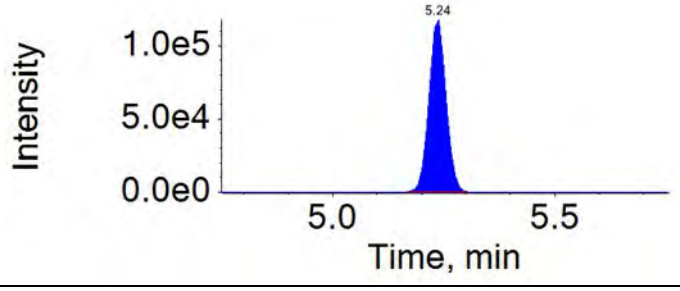
APPROVED
By MCD at 7:42 pm, 12/10/18

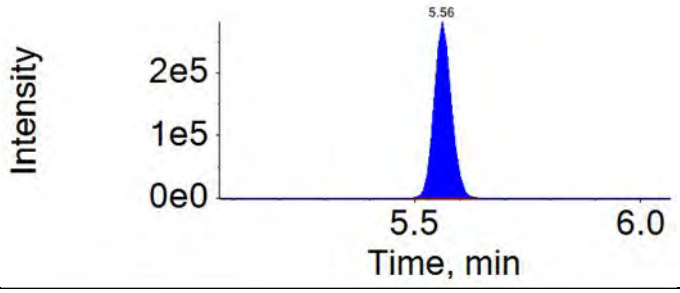
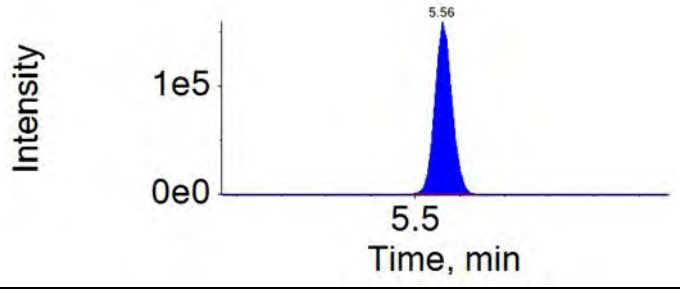
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

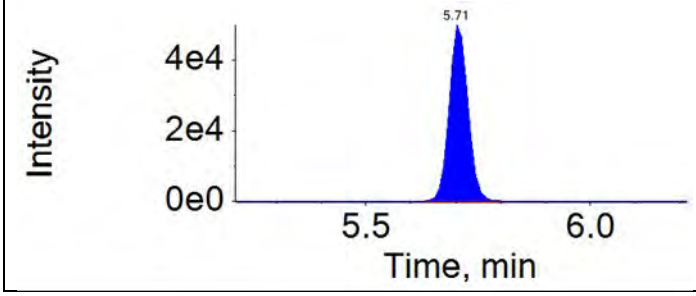
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

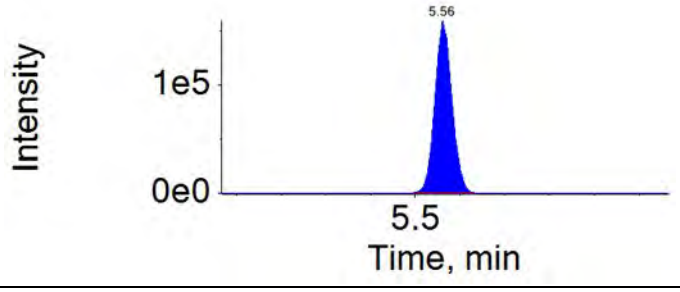
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

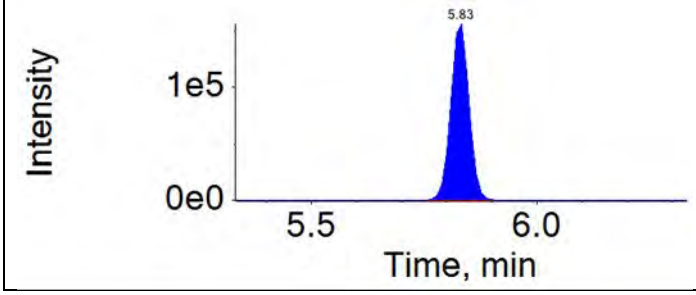
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

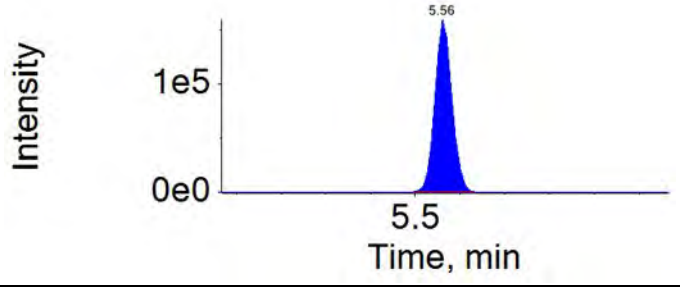
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



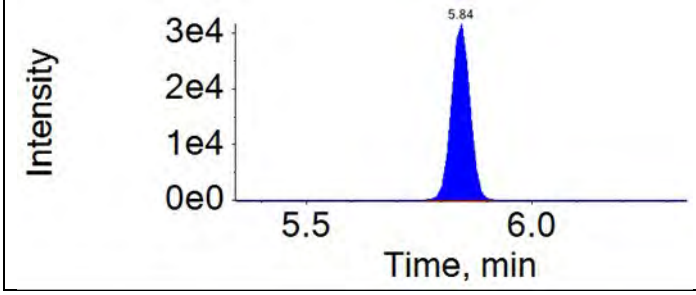


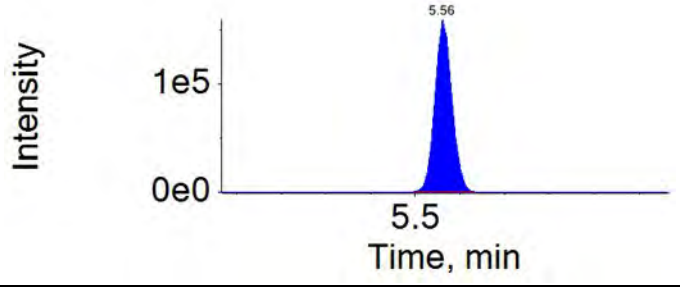
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



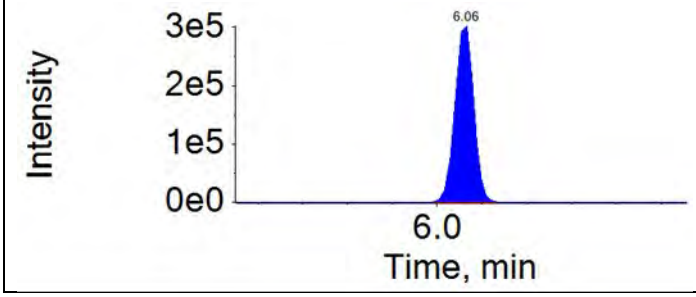


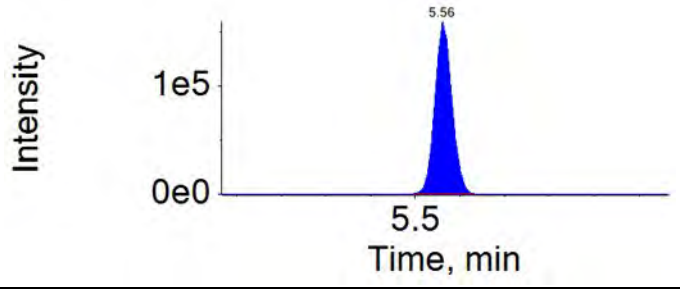
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

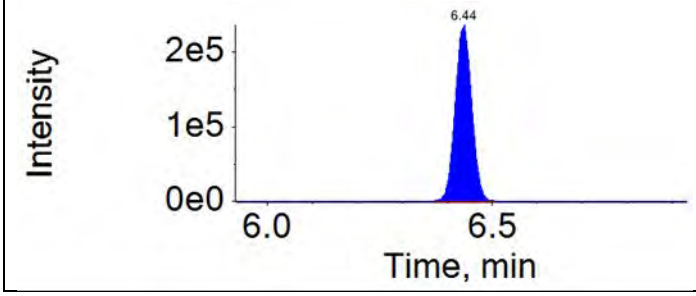
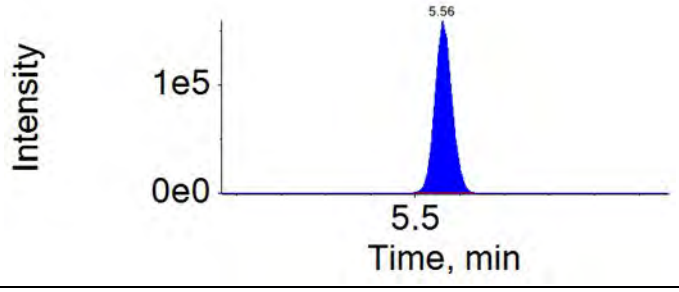




APPROVED
By MCD at 7:42 pm, 12/10/18

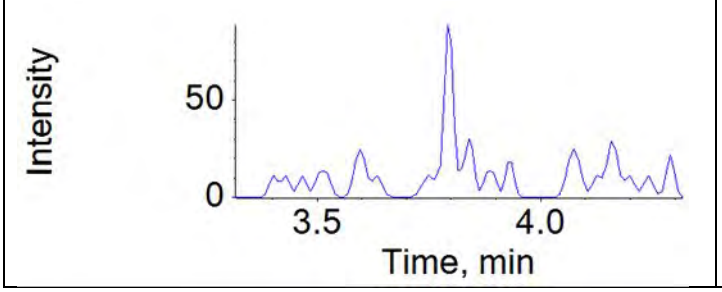
REVIEWED
By HMK at 12:27 pm, 12/13/18

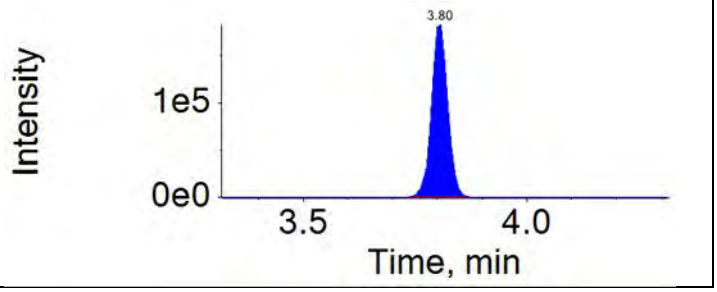
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

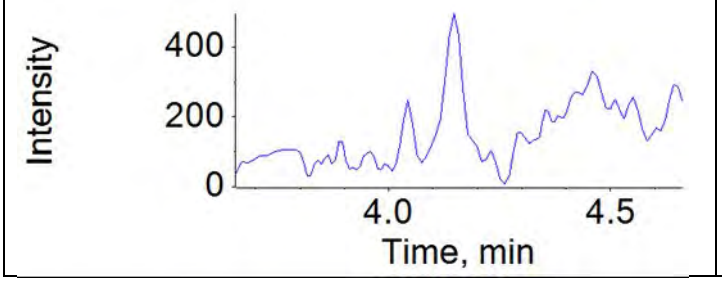
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

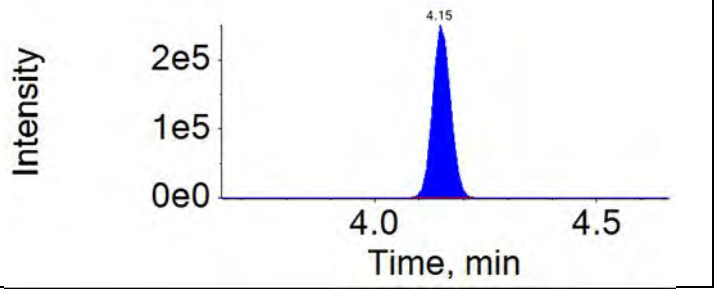
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



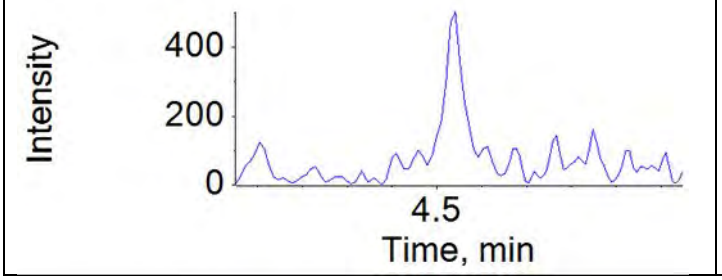


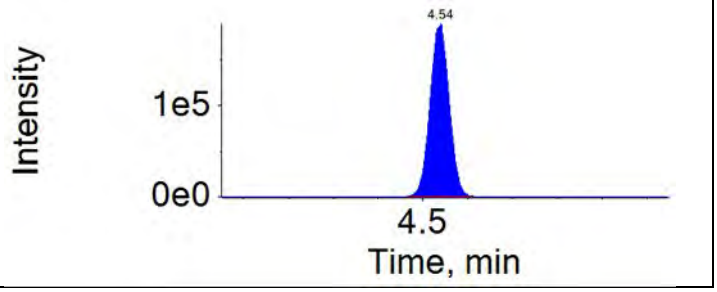
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



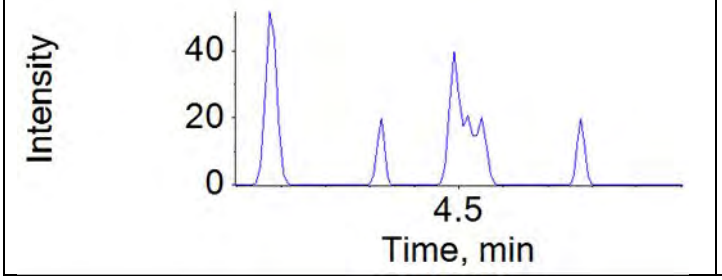


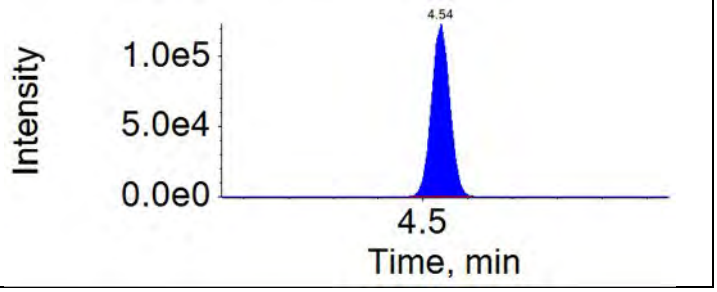
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



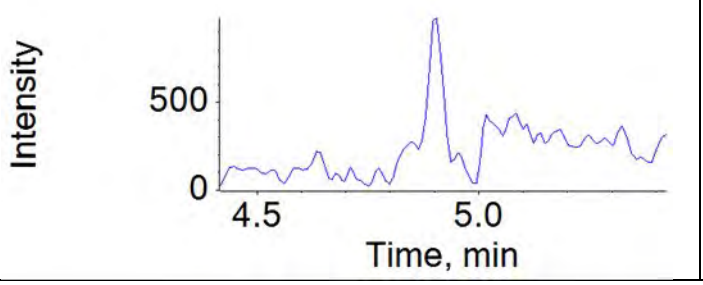


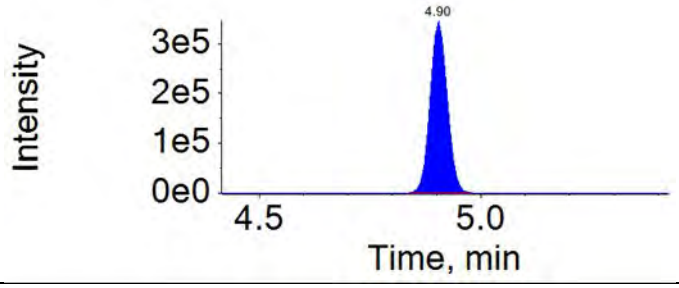
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

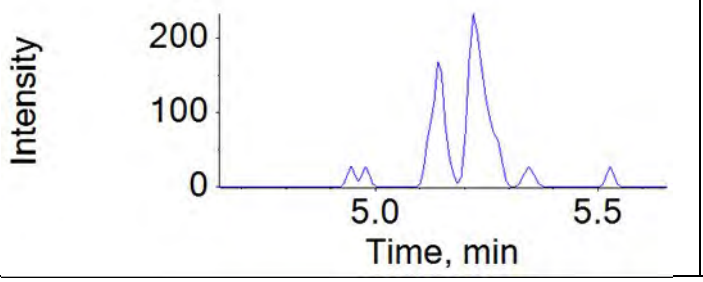
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

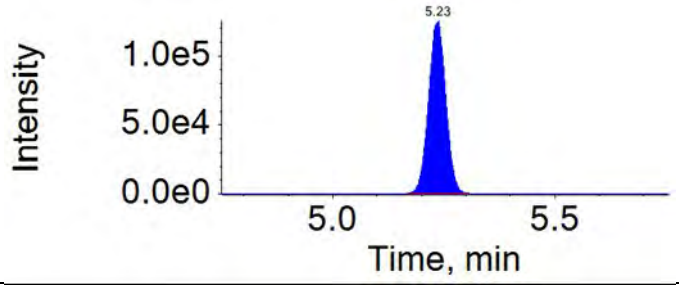
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



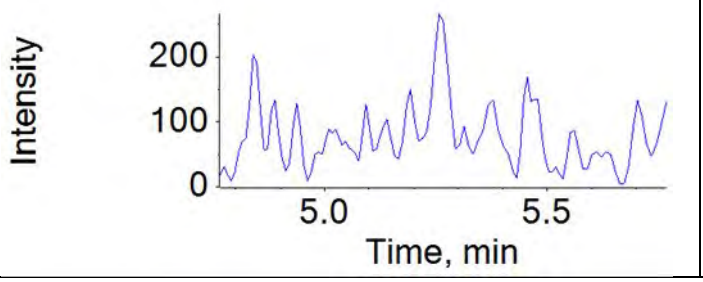


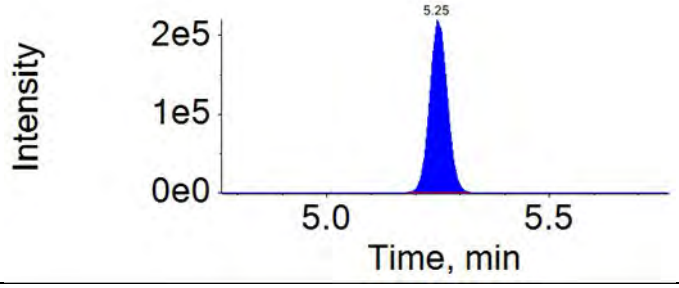
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



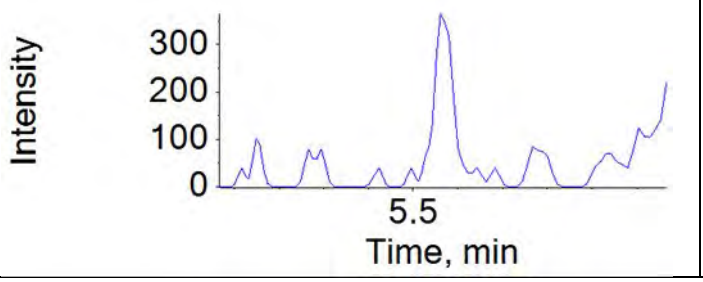


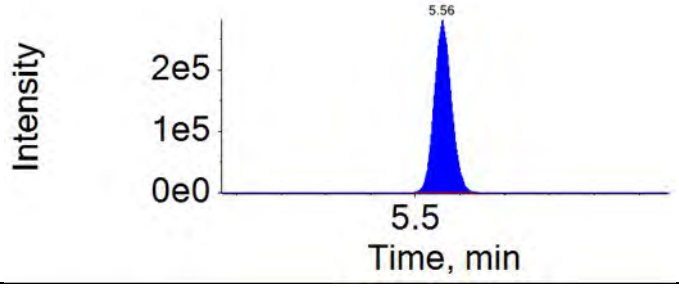
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



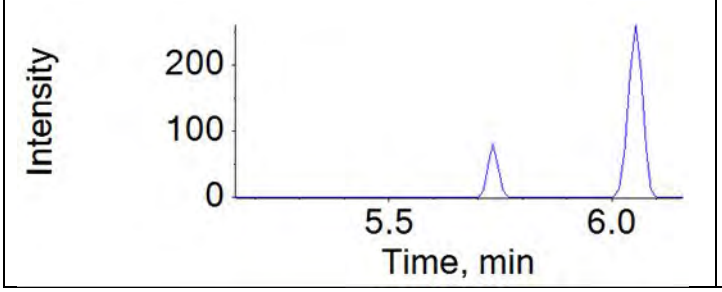


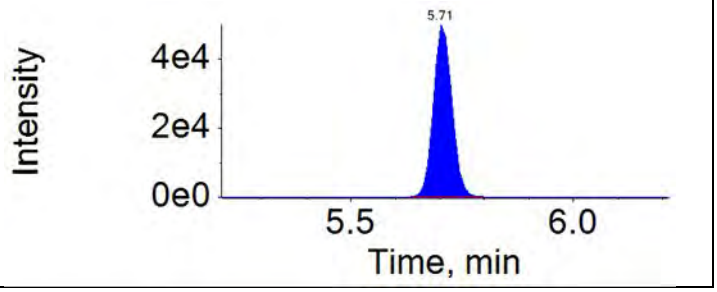
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

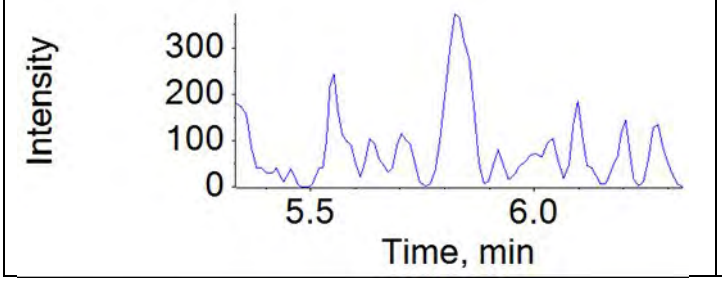
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

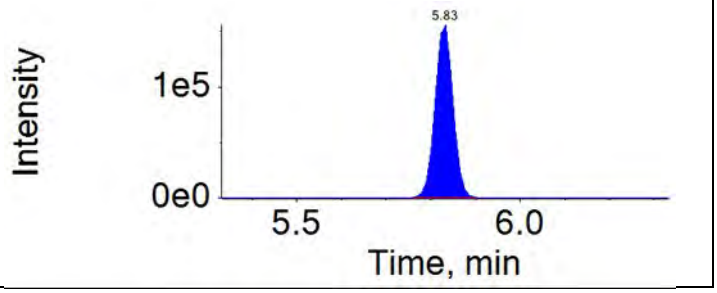
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



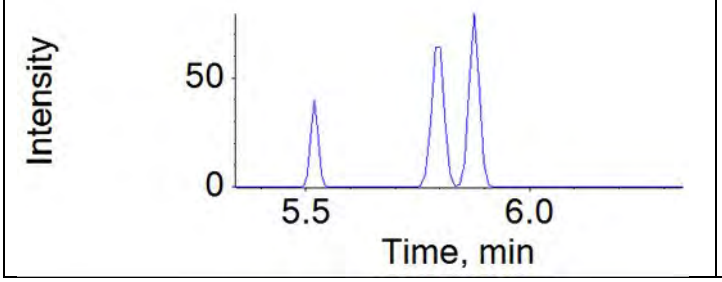


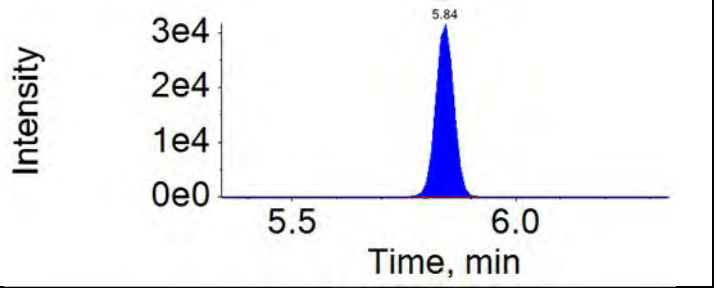
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



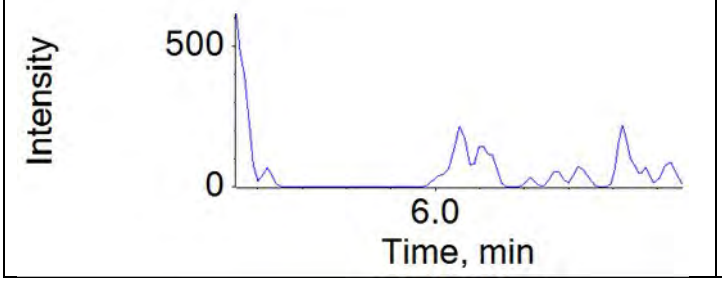


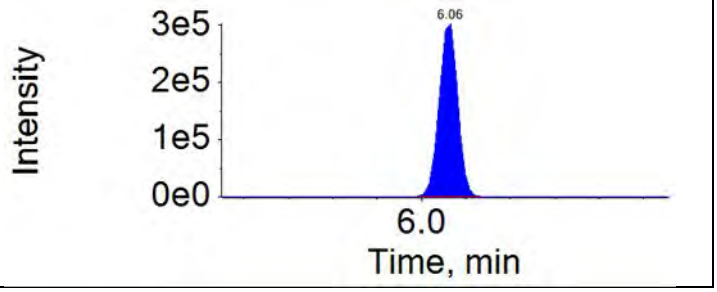
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

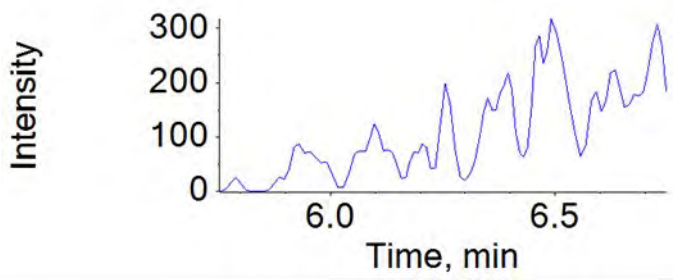
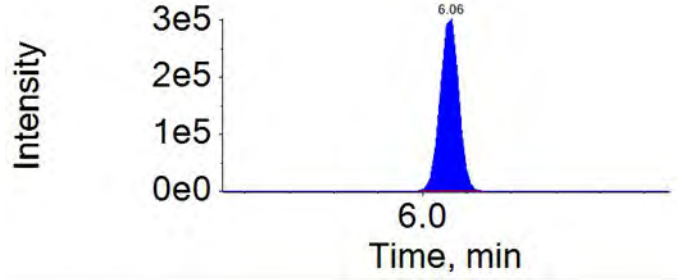


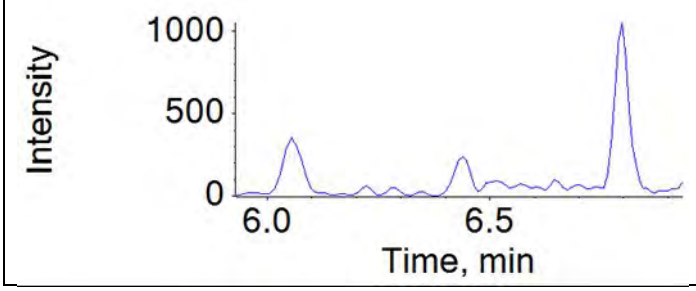
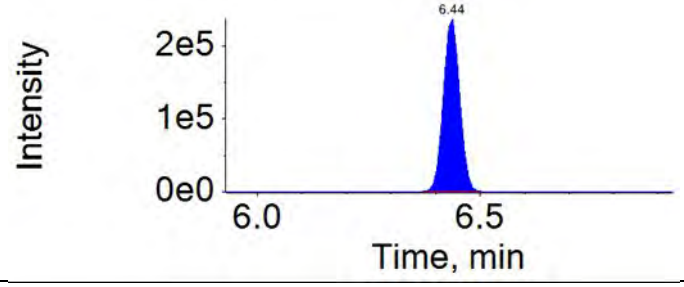


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

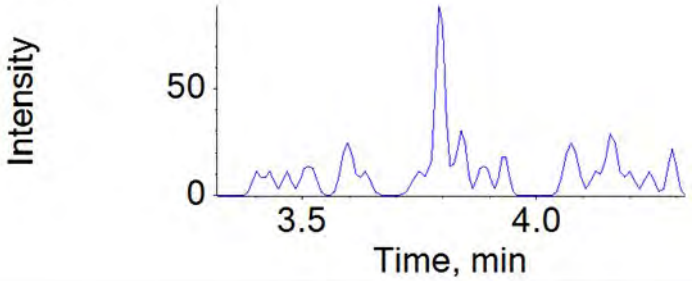
Sample Name: 9922837 **Instrument Name:** LM27631 **File Name:** 18DEC08D-29.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

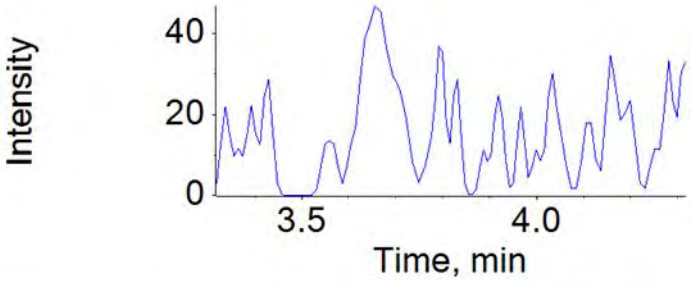
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

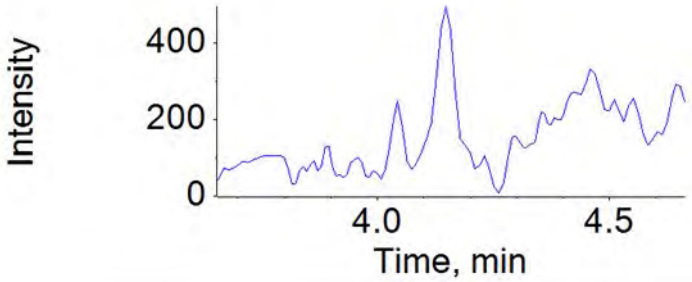
Component: PFBS
Primary Mass: 299.0 / 80.0



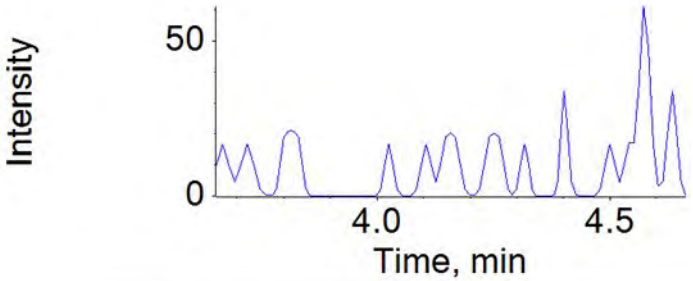
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



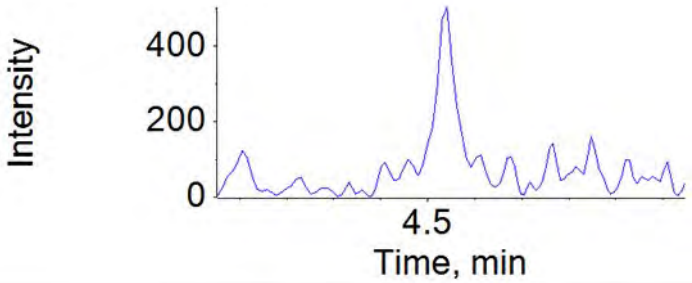
Component: PFHxA
Primary Mass: 313.0 / 269.0



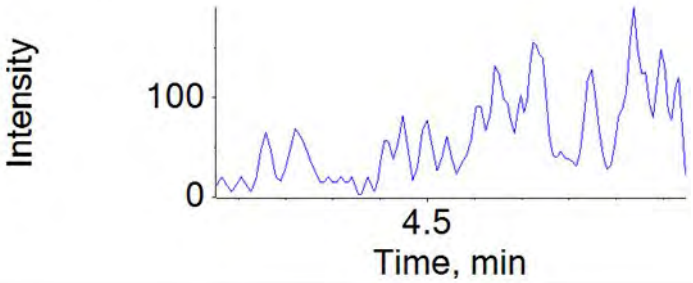
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



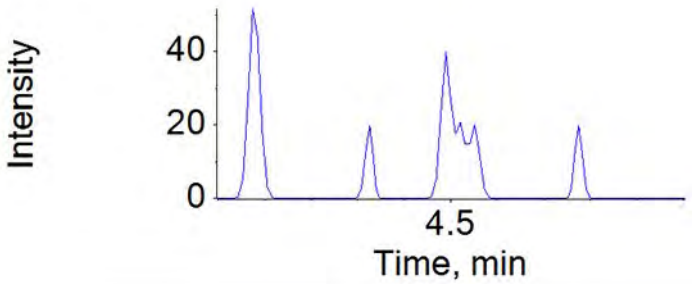
Component: PFHpA
Primary Mass: 363.0 / 319.0



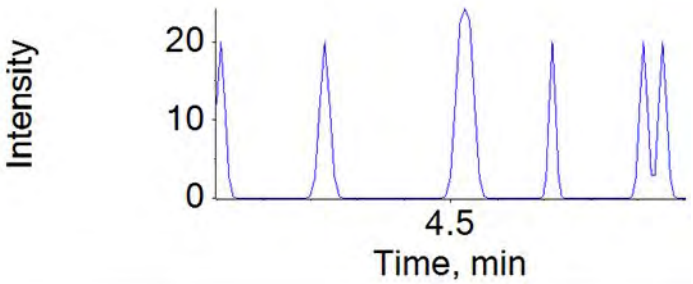
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



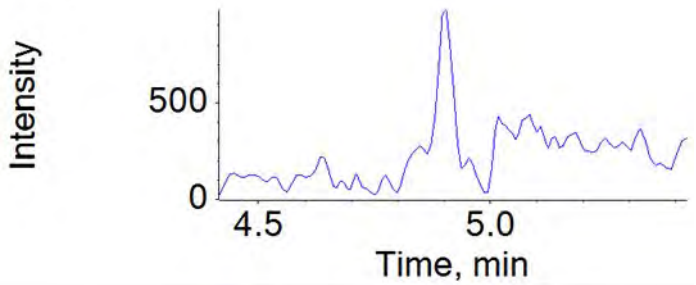
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



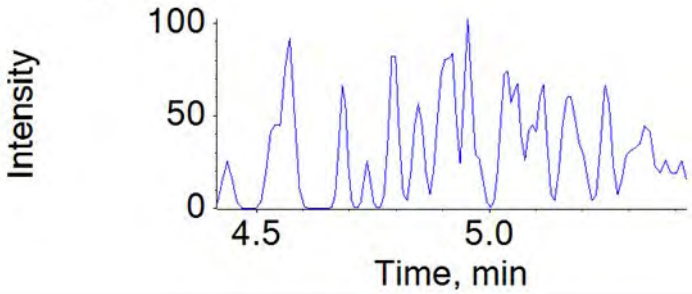
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

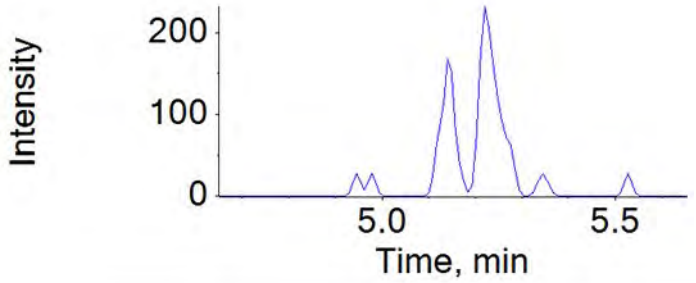
Component: PFOA
Primary Mass: 413.0 / 369.0



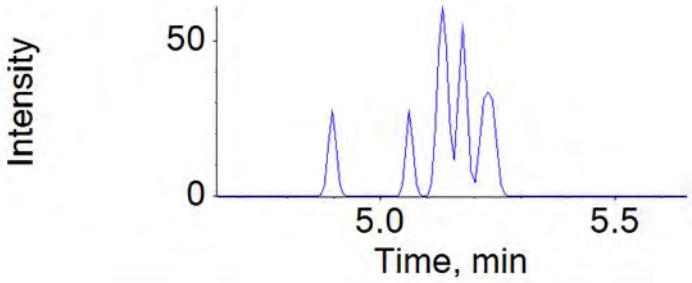
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



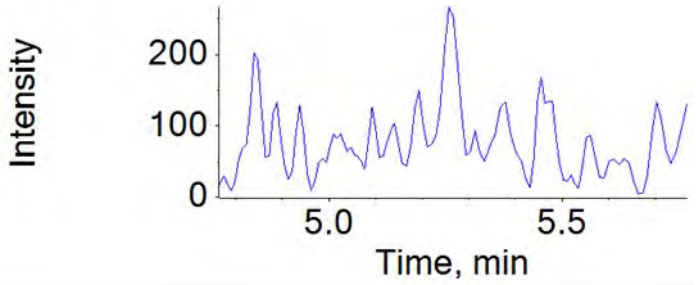
Component: PFOS
Primary Mass: 499.0 / 80.0



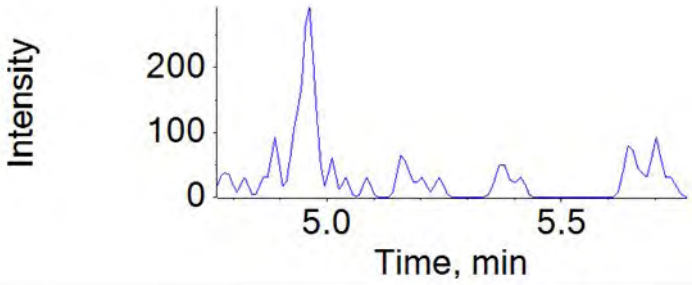
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



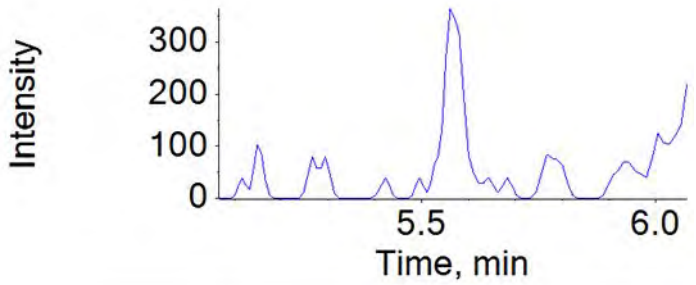
Component: PFNA
Primary Mass: 463.0 / 419.0



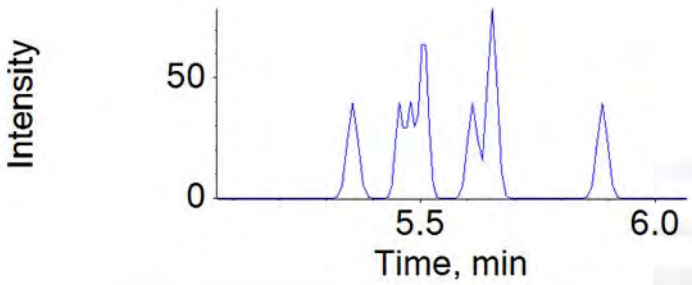
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



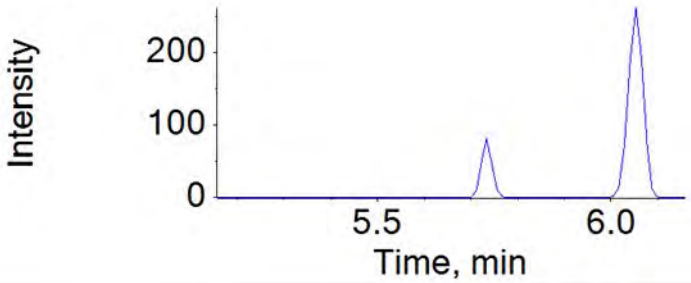
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



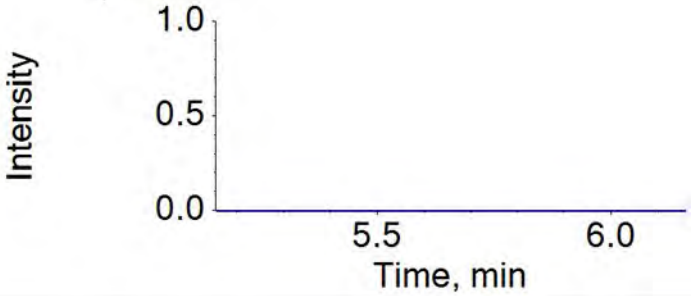
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

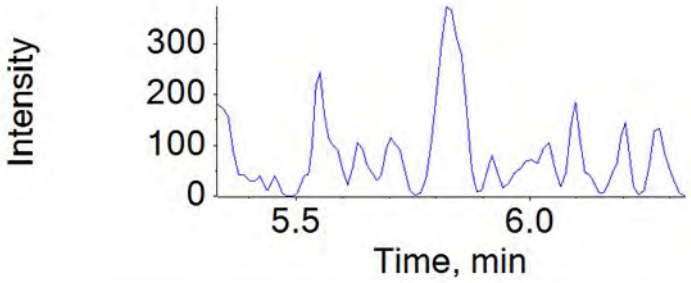
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



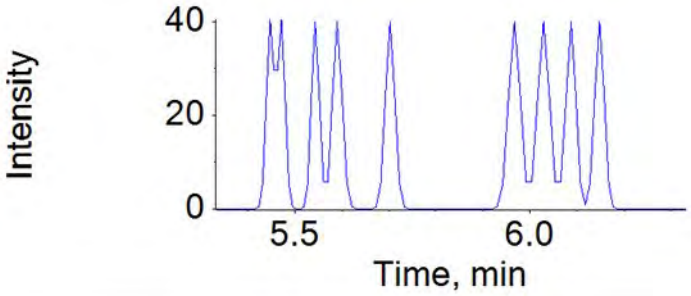
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



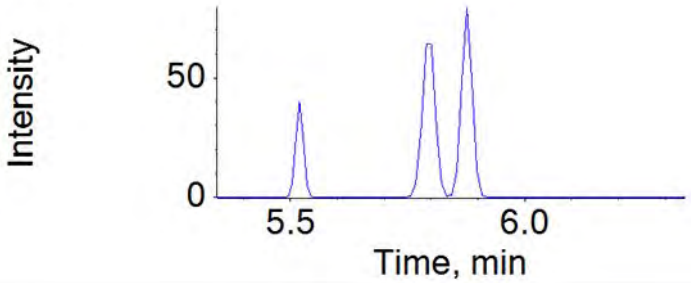
Component: PFUnDA
Primary Mass: 563.0 / 519.0



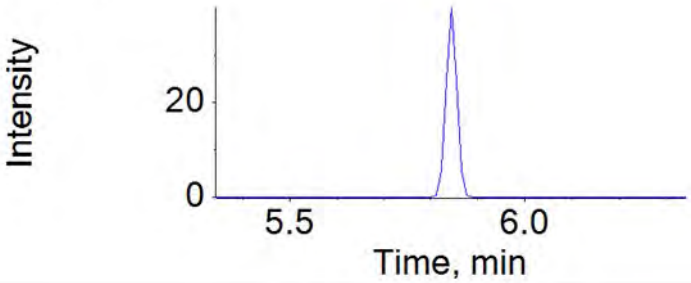
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



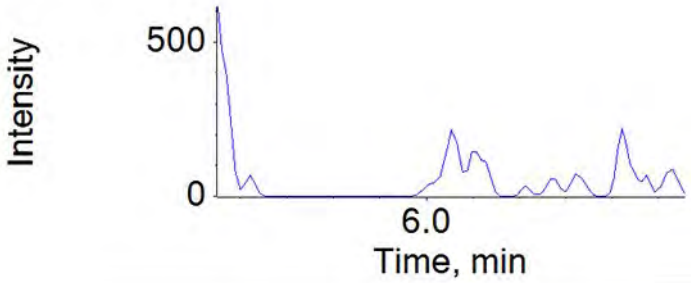
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



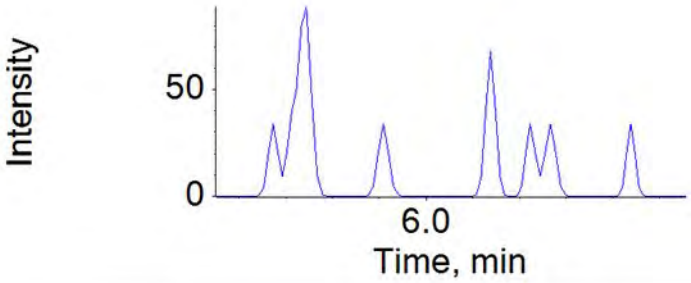
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



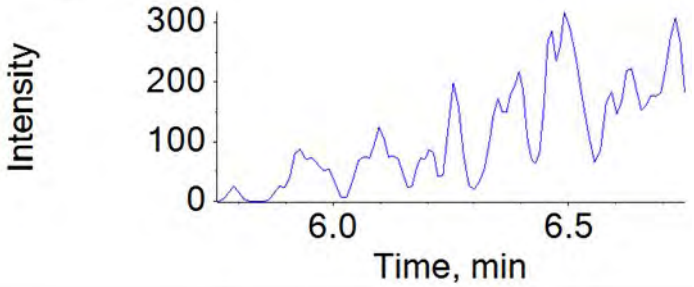
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



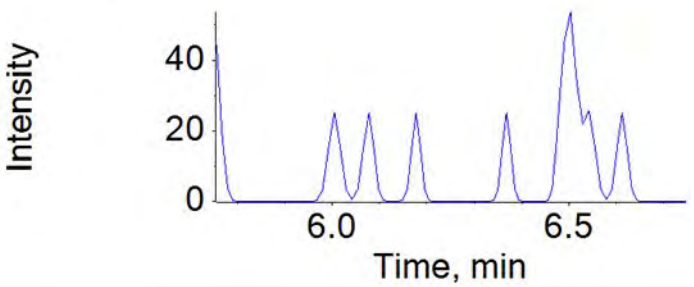
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

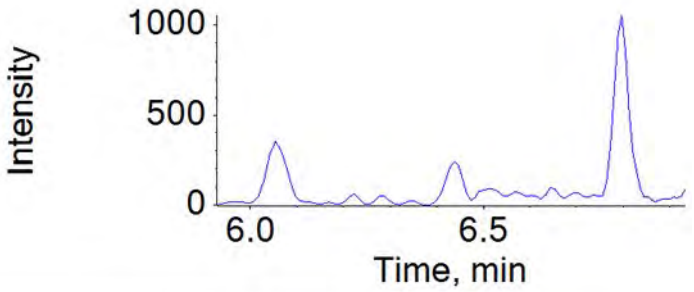
Component: PFTrDA
Primary Mass: 663.0 / 619.0



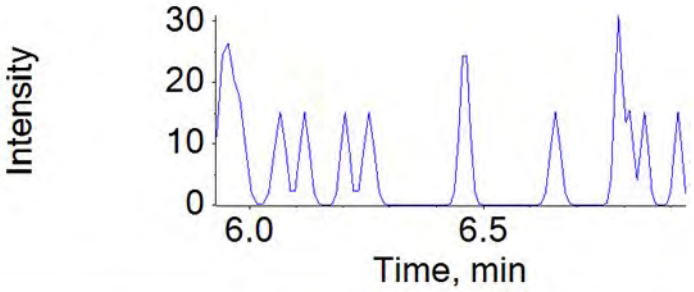
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922838			**Data File:**		18DEC08D-30.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS15-2-W-02 Grab Water			**Acquis Date:**		2018-12-08T12:28:54
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	53			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.29497			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1006202.0	936973.7	7	50	
13C2-PFOA	5.0	542742.7	474841.3	14	50	
13C4-PFOS	4.8	314499.0	294668.0	7	50	
13C2-PFDA	5.0	430776.2	373990.9	15	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	475606.5	13C3-PFBA	1006202.0	0.473	15.764	13.583	86	50-150	
E13C5-PFHxA	807037.4	13C2-PFOA	542742.7	1.487	16.951	16.925	100	50-150	
E13C3-PFHxS	376618.6	13C2-PFOA	542742.7	0.694	16.036	15.089	94	50-150	
E13C4-PFHpA	635836.0	13C2-PFOA	542742.7	1.172	16.951	16.885	100	50-150	
E13C8-PFOA	984228.6	13C2-PFOA	542742.7	1.813	16.951	17.378	103	50-150	
E13C8-PFOS	357891.5	13C4-PFOS	314499.0	1.138	16.205	17.314	107	50-150	
E13C9-PFNA	662287.5	13C4-PFOS	314499.0	2.106	16.951	20.174	119	50-150	
E13C6-PFDA	792557.9	13C2-PFDA	430776.2	1.840	16.951	16.529	98	50-150	
Ed3-NMeFOSAA	155104.4	13C2-PFDA	430776.2	0.360	16.951	21.632	128	50-150	
E13C7-PFUnDA	472537.1	13C2-PFDA	430776.2	1.097	16.951	18.242	108	50-150	
Ed5-NEtFOSAA	95155.5	13C2-PFDA	430776.2	0.221	16.951	16.531	98	50-150	
E13C2-PFDoDA	902110.5	13C2-PFDA	430776.2	2.094	16.951	14.899	88	50-150	
E13C2-PFTeDA	669078.6	13C2-PFDA	430776.2	1.553	16.951	15.629	92	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

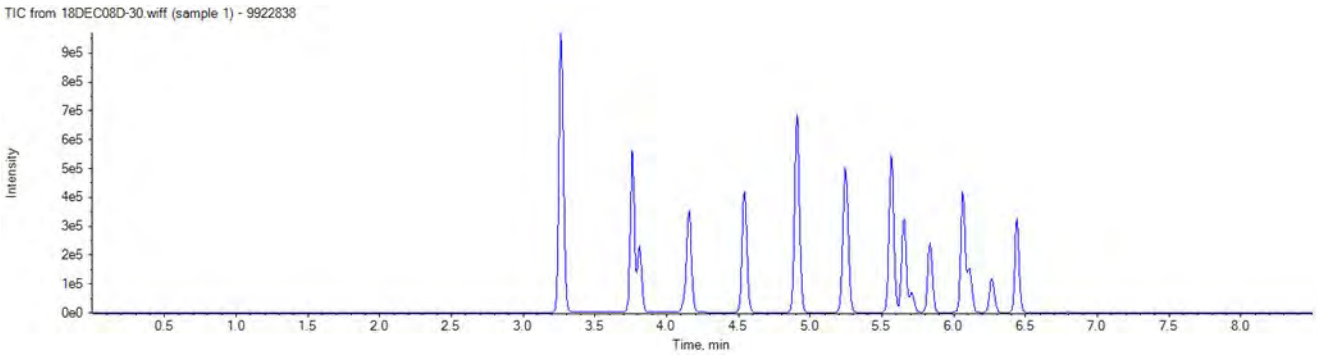
Analyte Quantitation Peak Table

Sample Name: 9922838 **Instrument Name:** LM27631 **File Name:** 18DEC08D-30.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.29497	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	475606.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	807037.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	635836.0	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	376618.6	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	984228.6	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	357891.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	662287.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	792557.9	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	155104.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	472537.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	95155.5	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	902110.5	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	902110.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	669078.6	N/A	

Total Ion Chromatogram

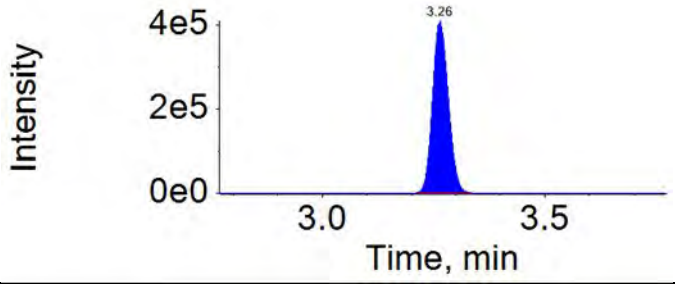


APPROVED
By MCD at 7:42 pm, 12/10/18

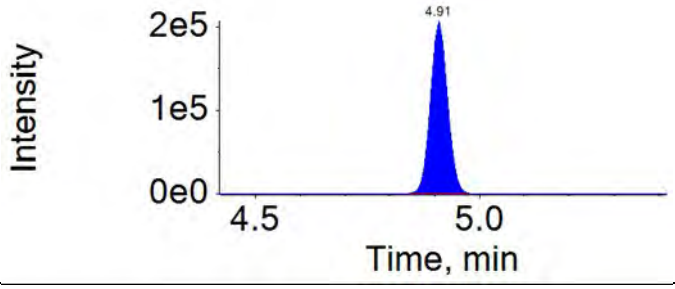
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

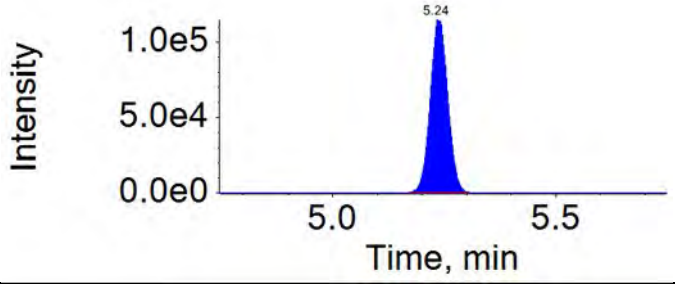
Injection Standard: 13C3-PFBA
216.0 / 172.0



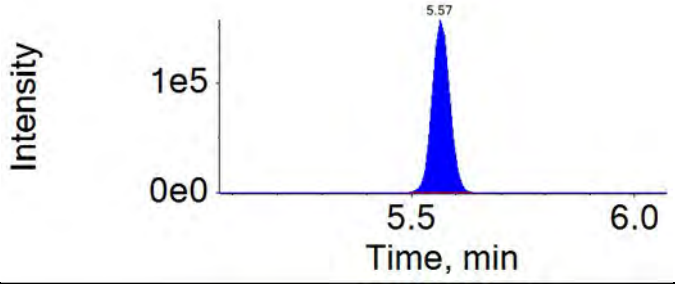
Injection Standard: 13C2-PFOA
415.0 / 370.0



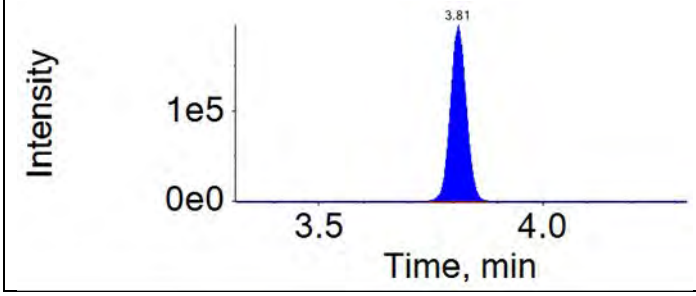
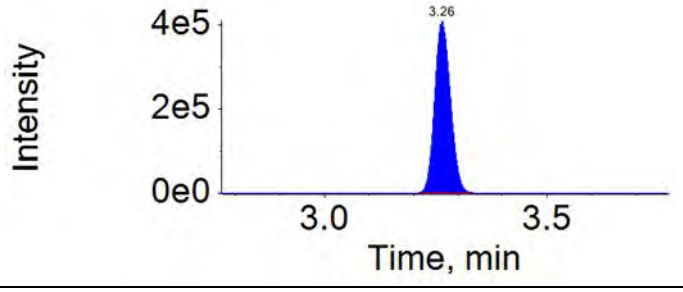
Injection Standard: 13C4-PFOS
503.0 / 80.0

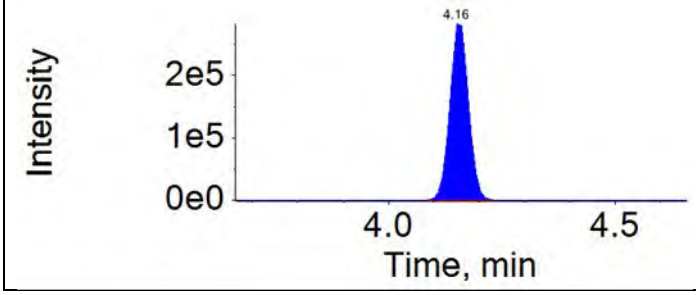
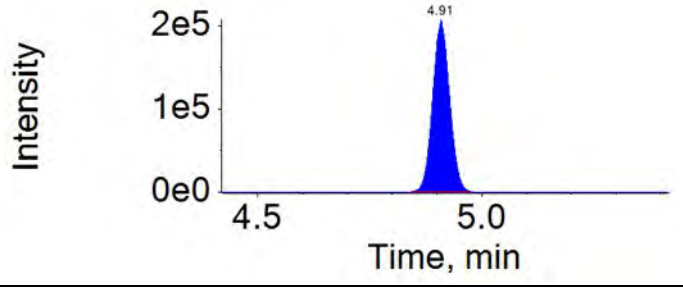


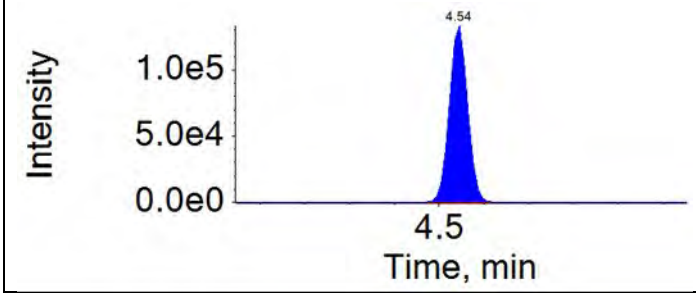
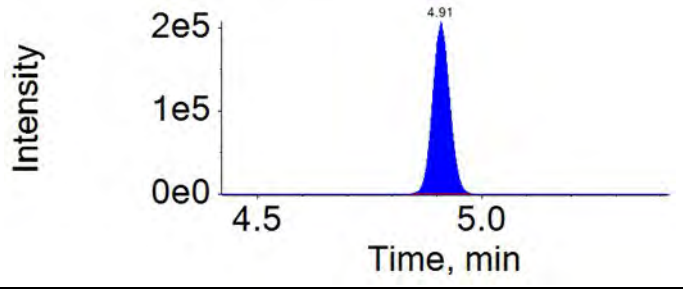
Injection Standard: 13C2-PFDA
515.0 / 470.0

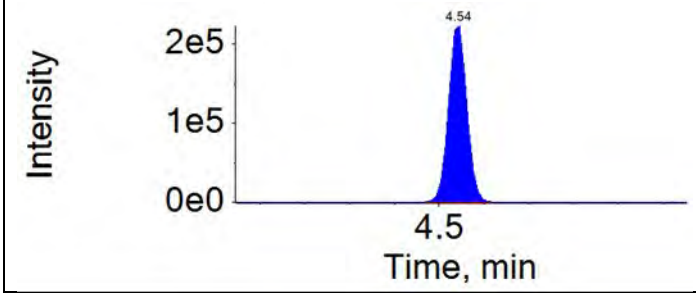
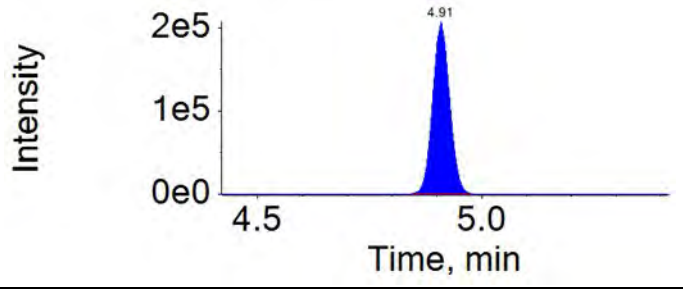


ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

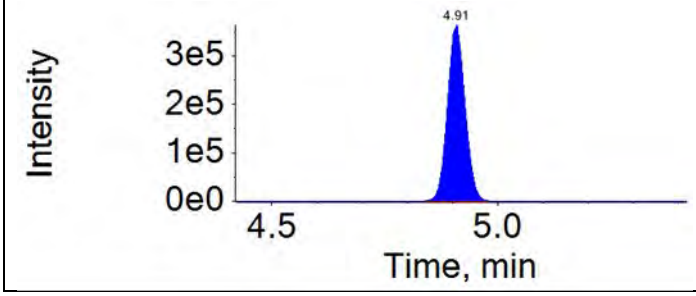
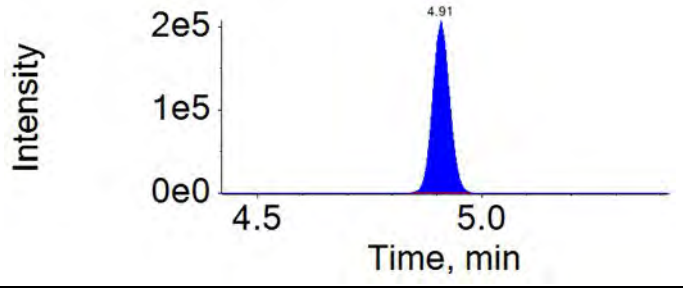
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

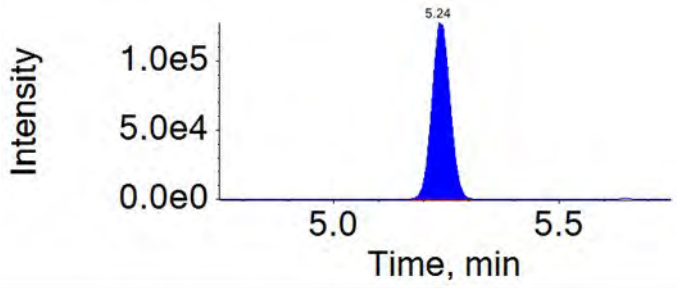
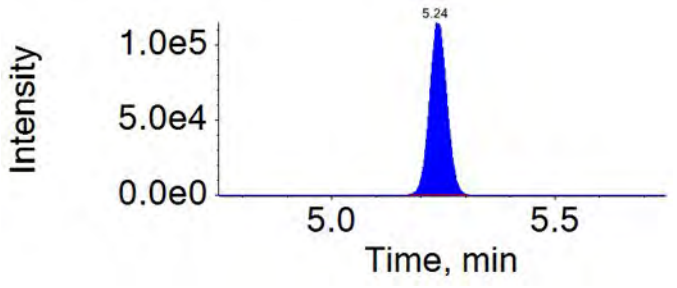
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

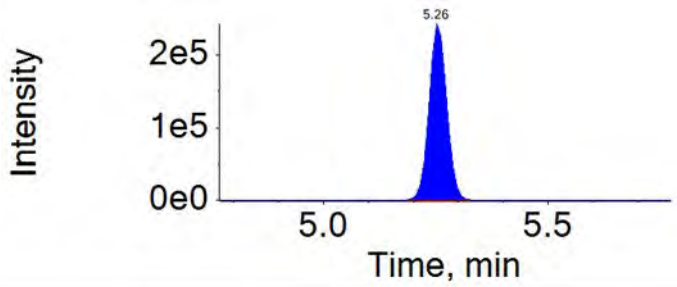
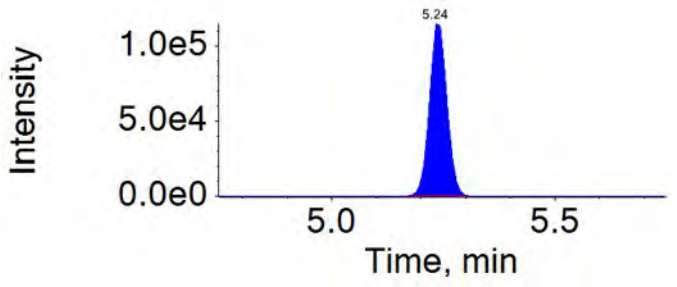
APPROVED
By MCD at 7:42 pm, 12/10/18

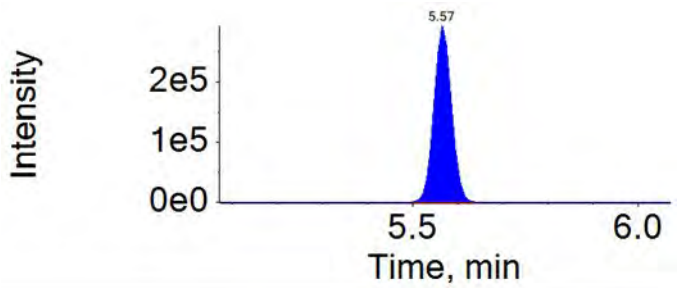
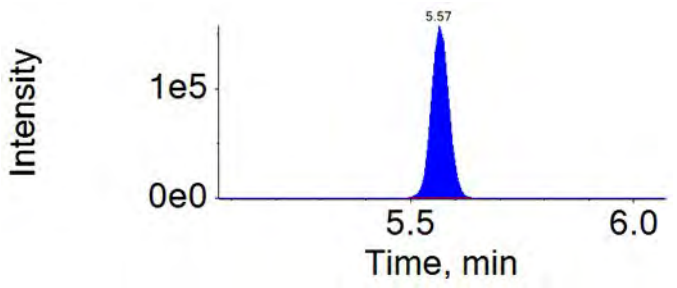
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

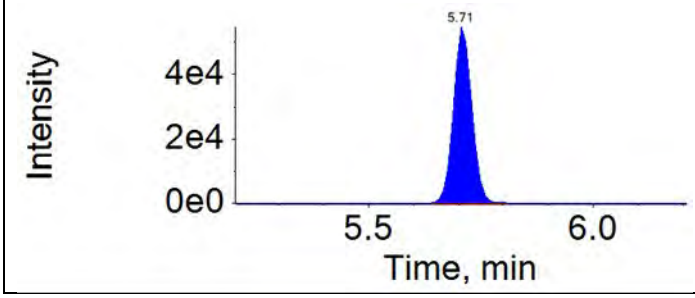
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

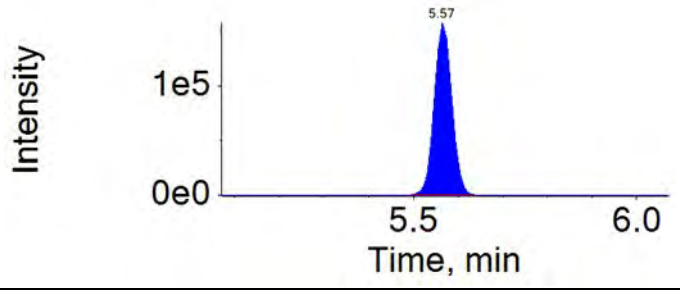
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

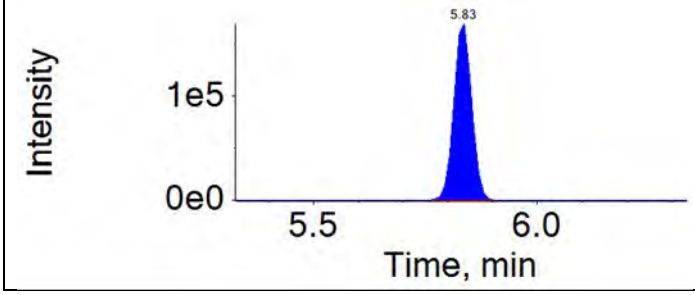
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

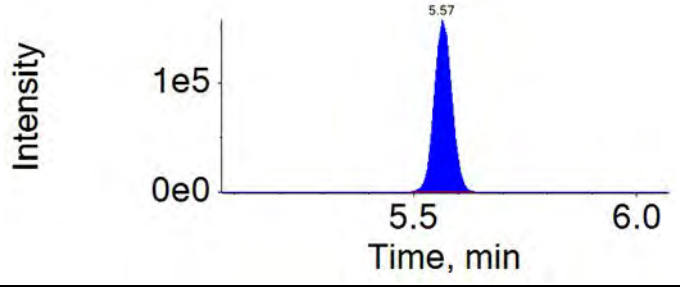
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



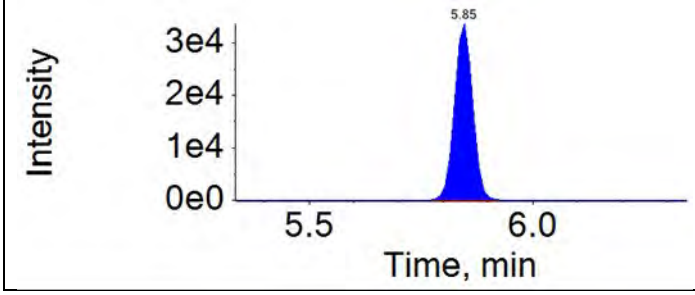


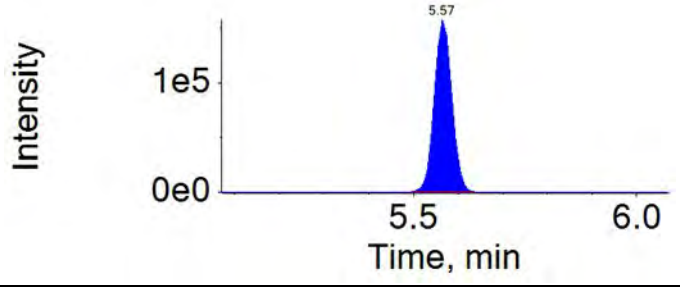
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



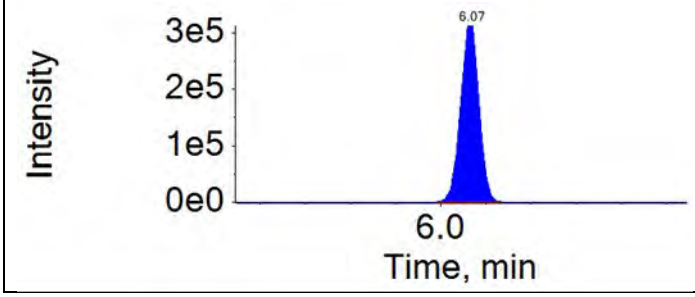


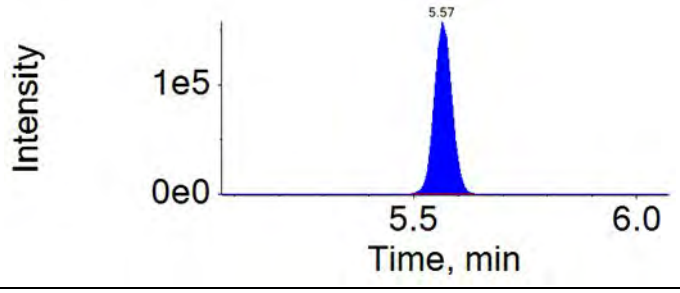
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

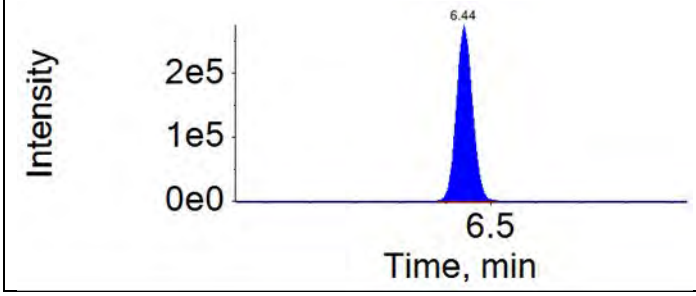
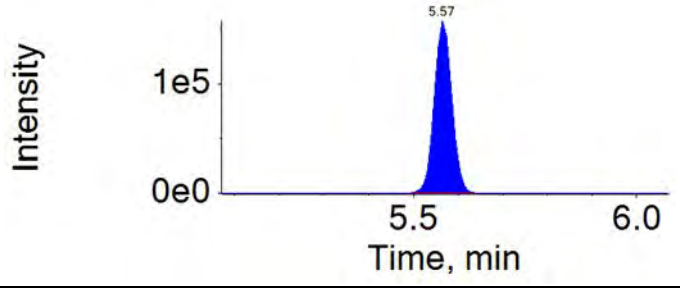




APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

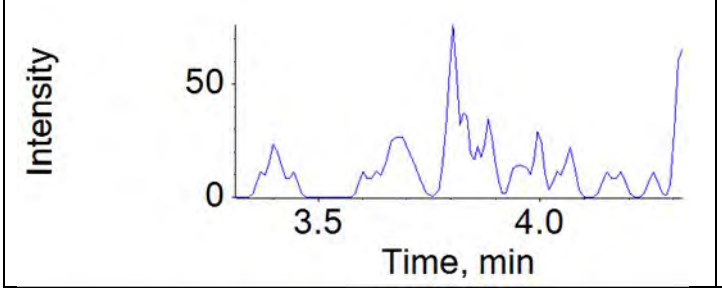
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

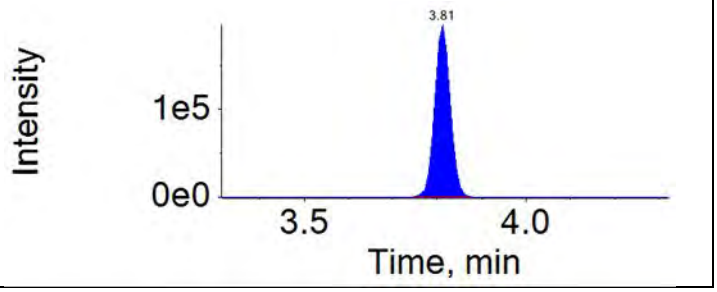
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

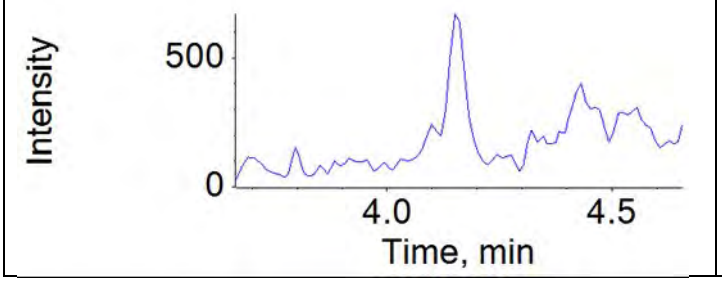
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

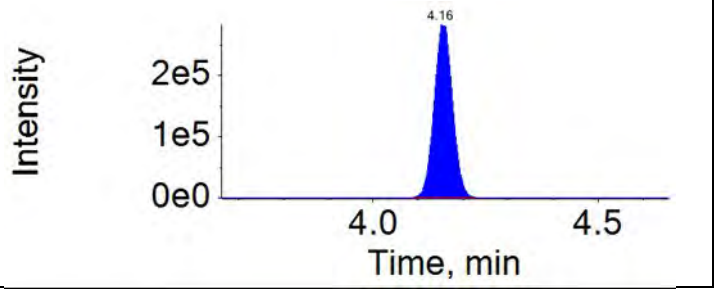
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



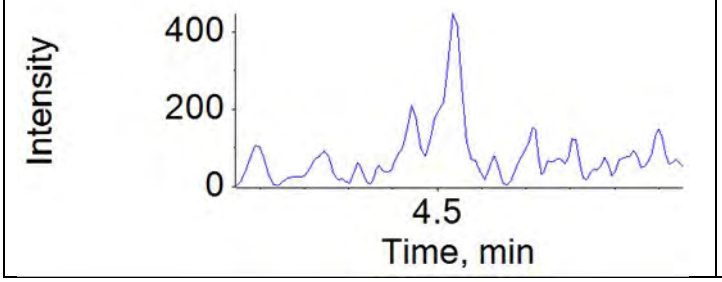


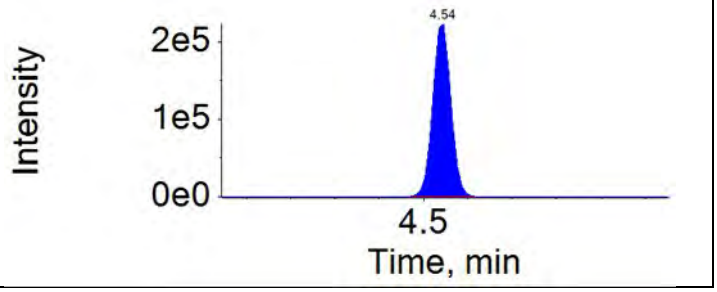
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



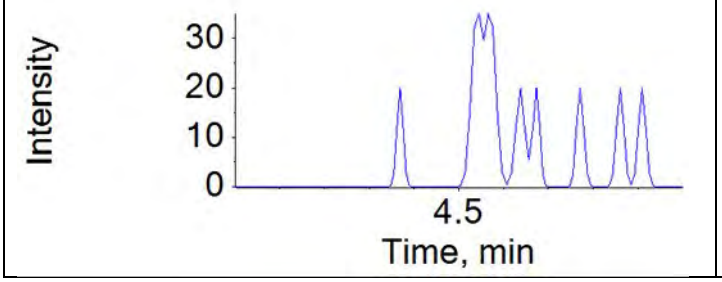


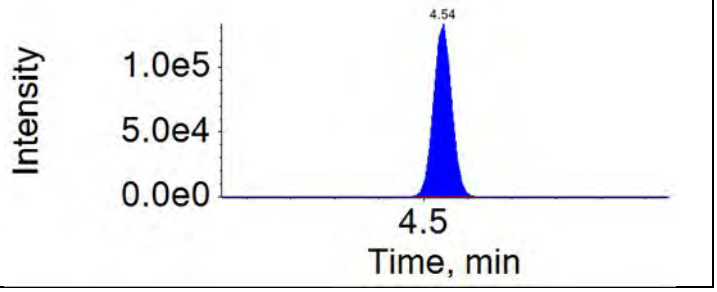
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



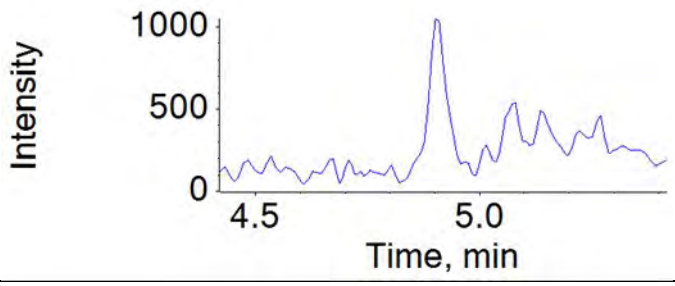


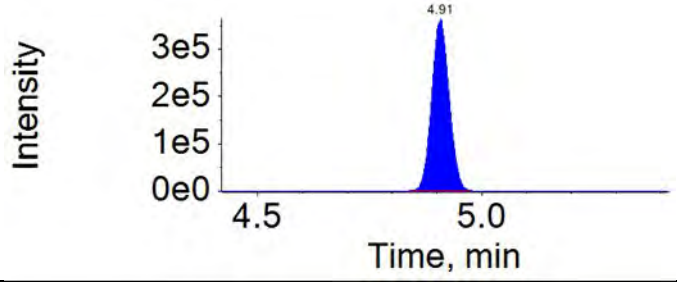
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

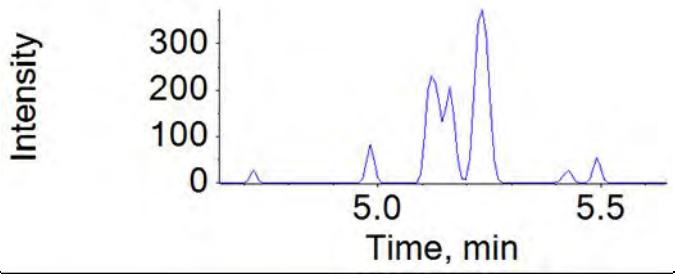
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

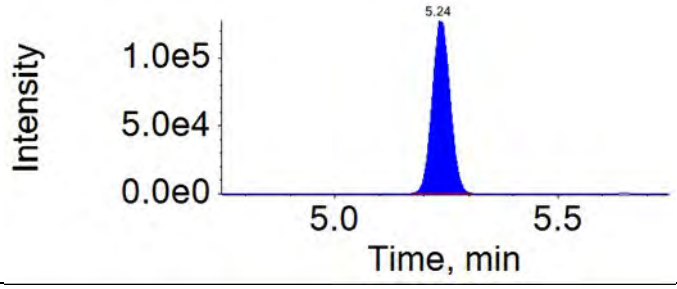
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



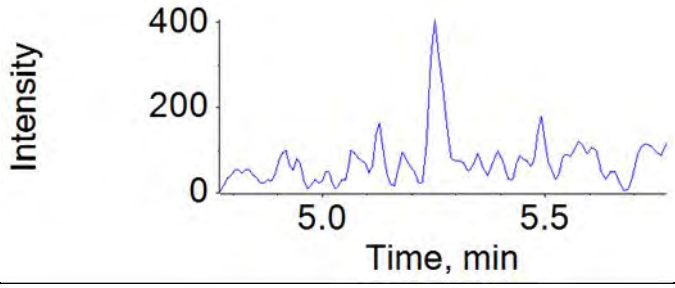


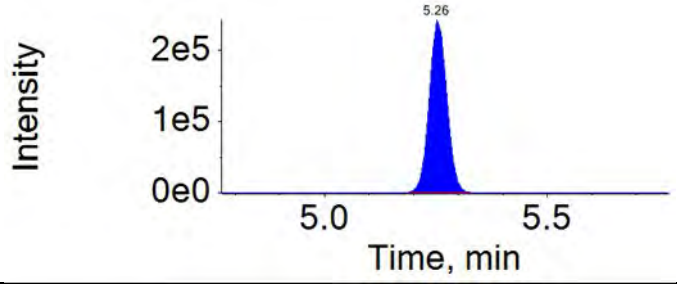
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



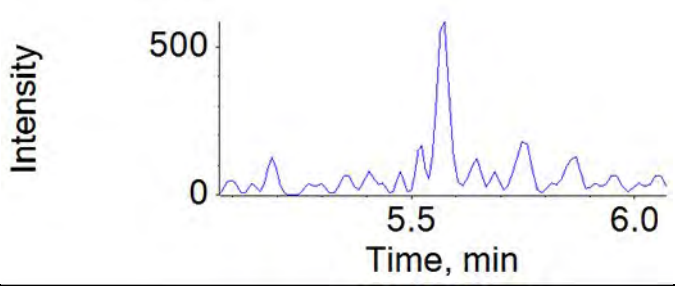


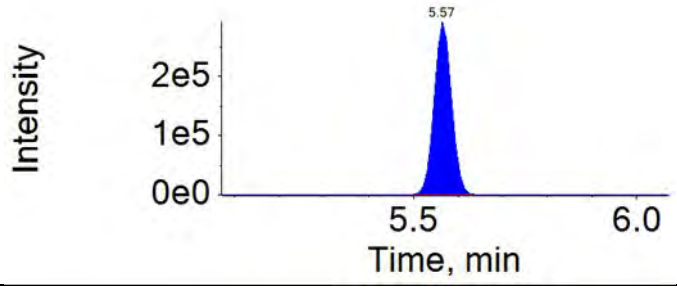
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



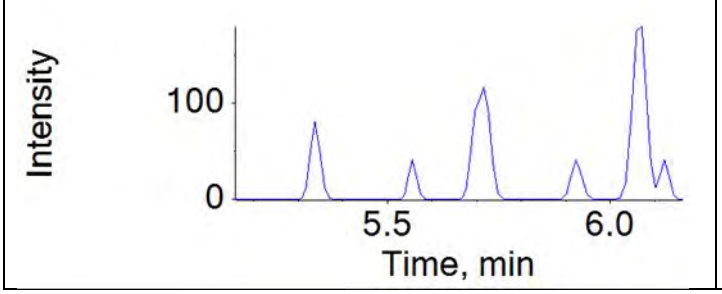


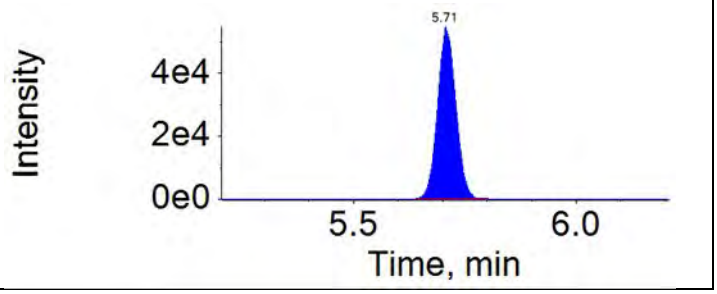
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

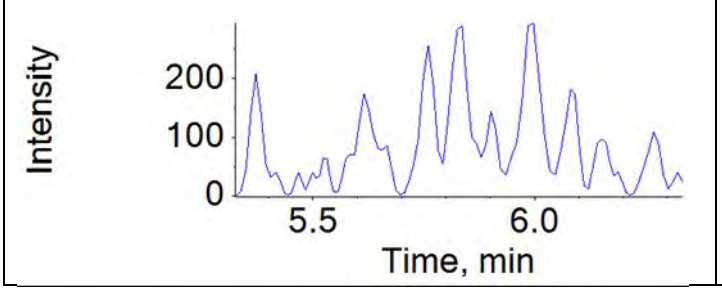
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

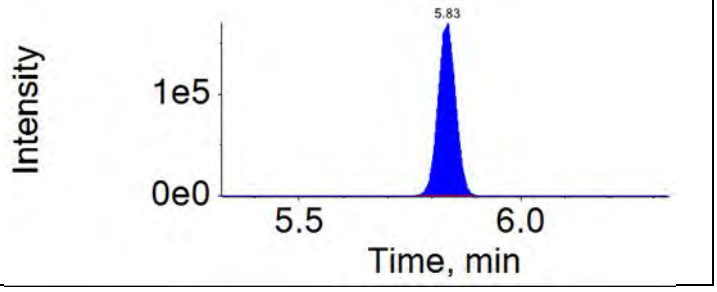
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



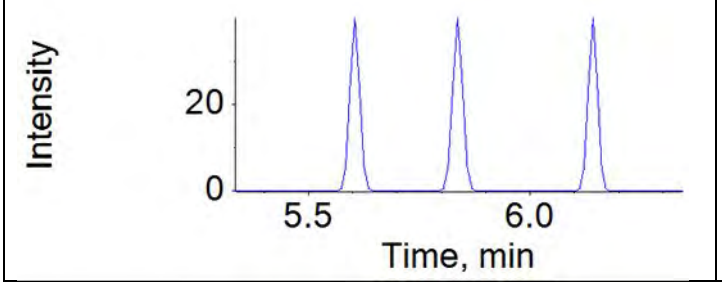


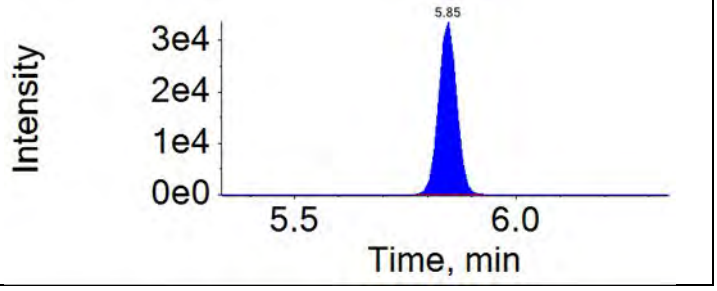
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



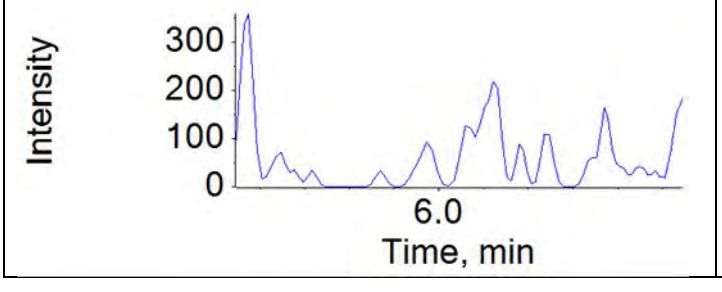


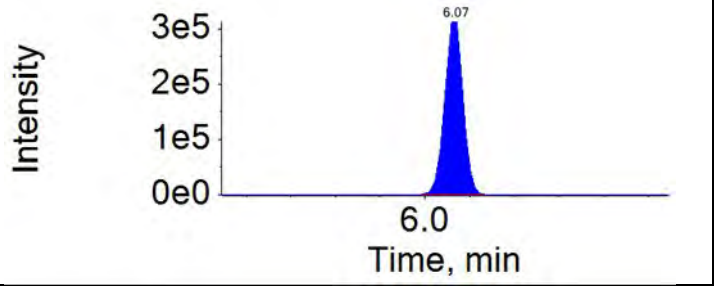
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



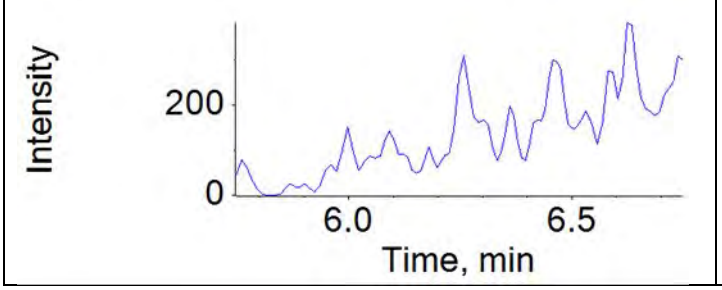


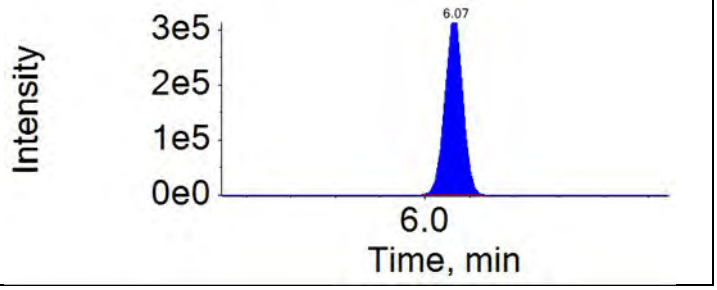
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

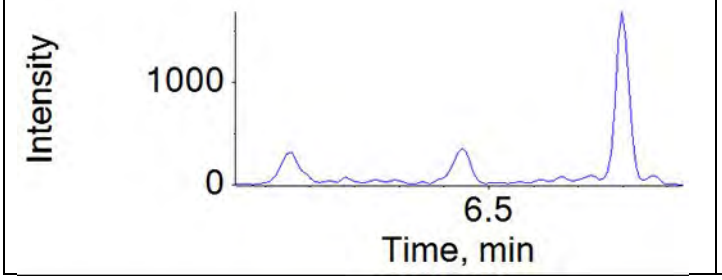
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

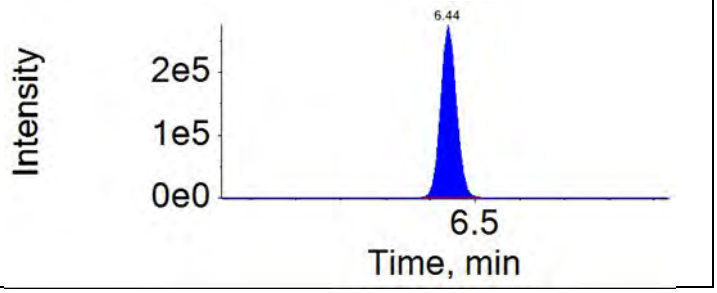
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

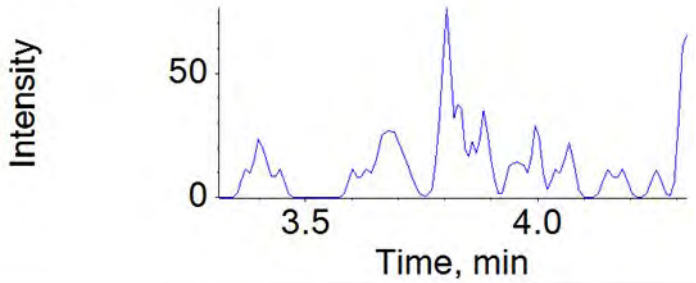
Sample Name: 9922838 **Instrument Name:** LM27631 **File Name:** 18DEC08D-30.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

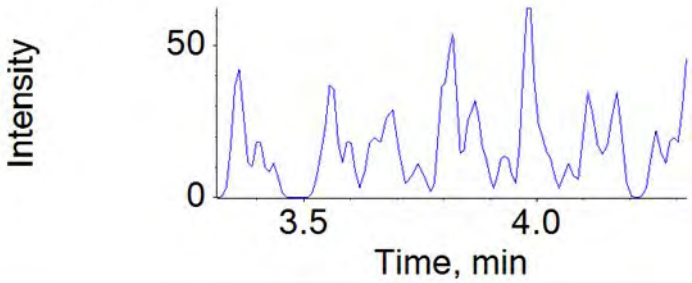
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

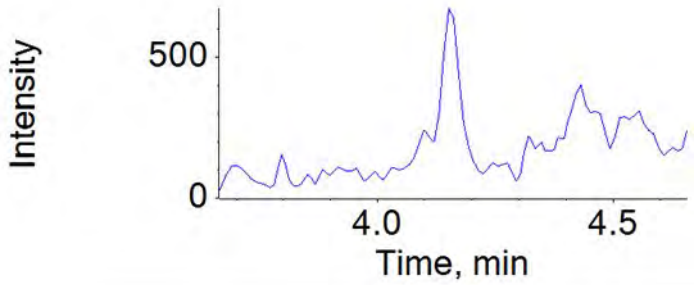
Component: PFBS
Primary Mass: 299.0 / 80.0



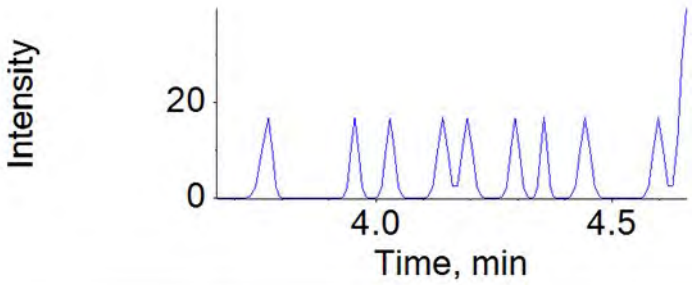
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



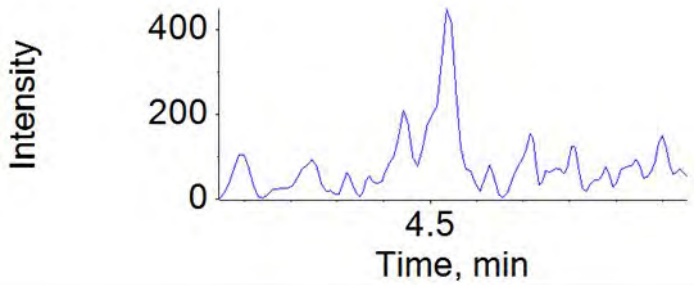
Component: PFHxA
Primary Mass: 313.0 / 269.0



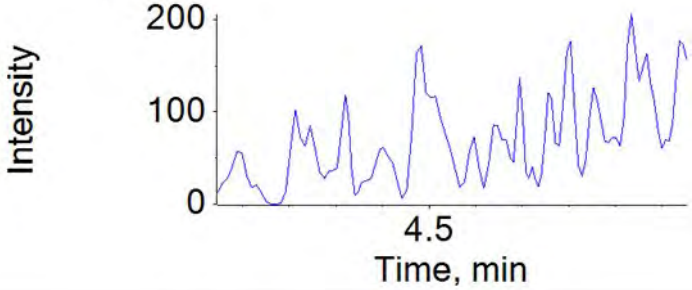
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



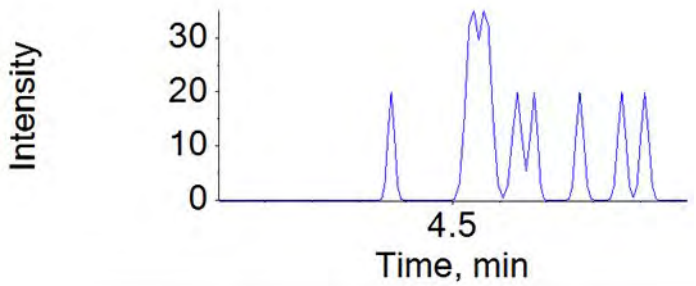
Component: PFHpA
Primary Mass: 363.0 / 319.0



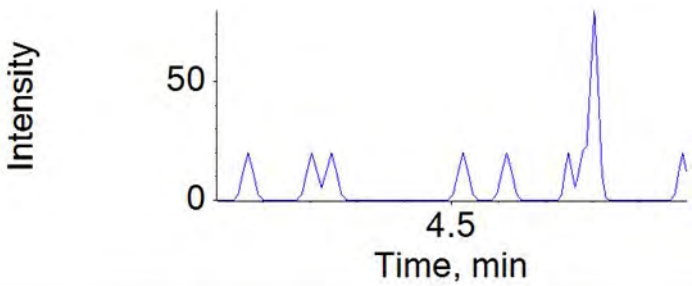
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



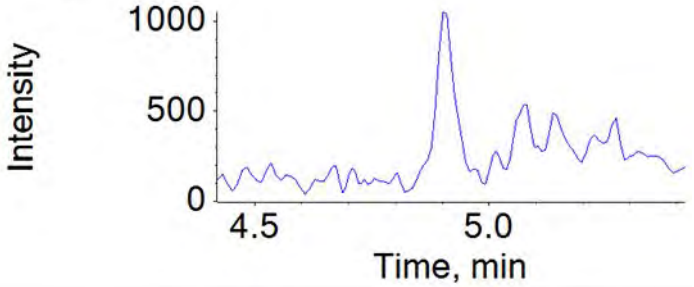
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



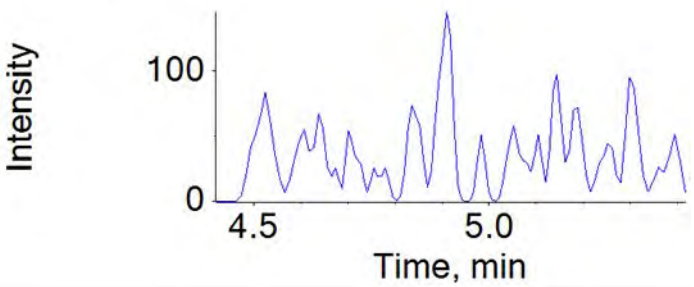
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

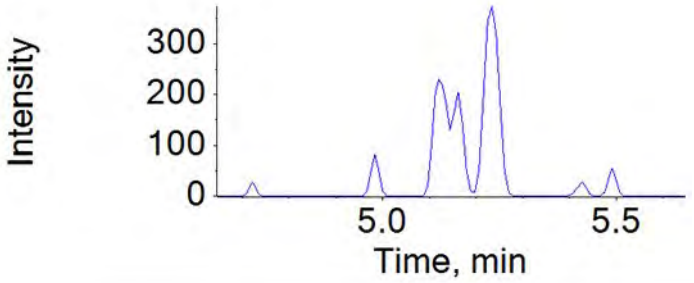
Component: PFOA
Primary Mass: 413.0 / 369.0



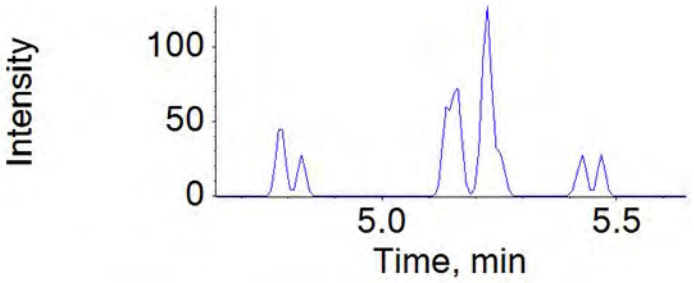
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



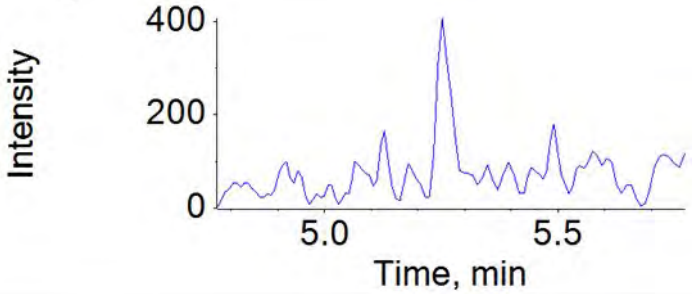
Component: PFOS
Primary Mass: 499.0 / 80.0



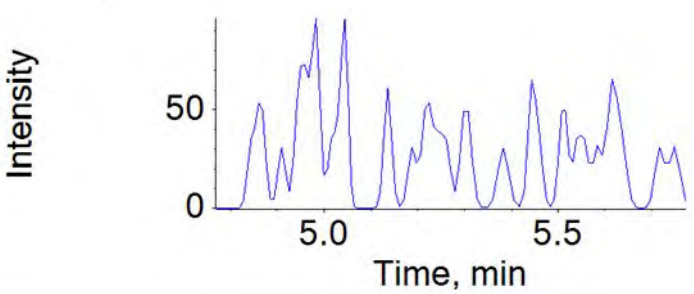
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



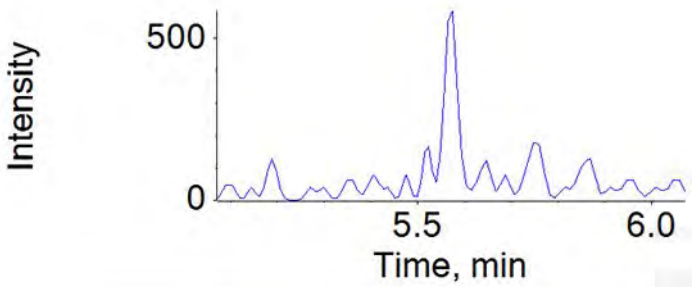
Component: PFNA
Primary Mass: 463.0 / 419.0



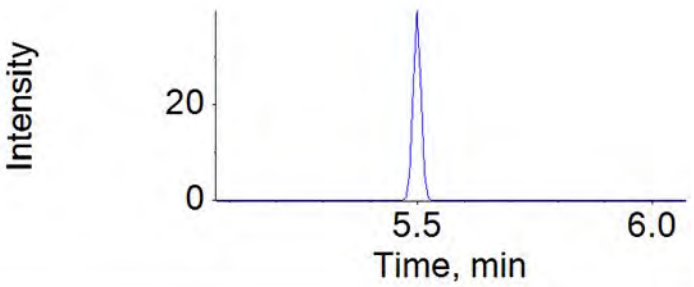
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



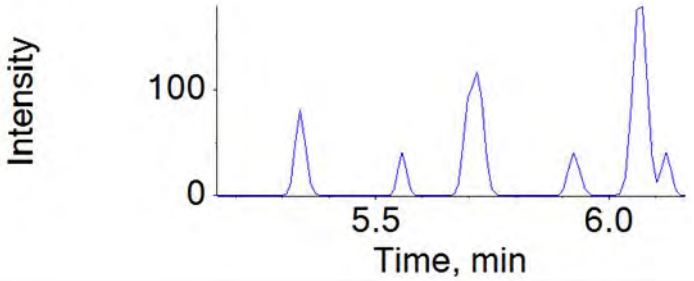
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



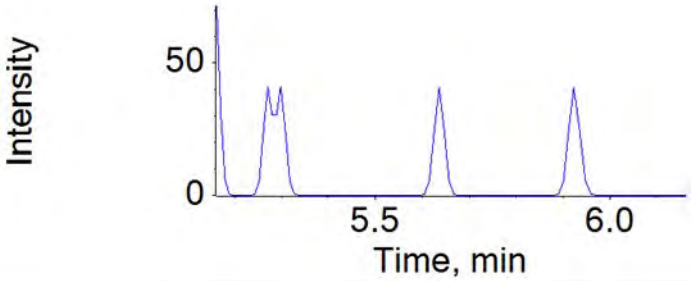
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

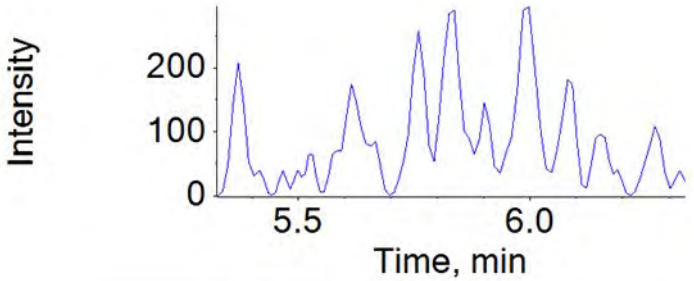
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



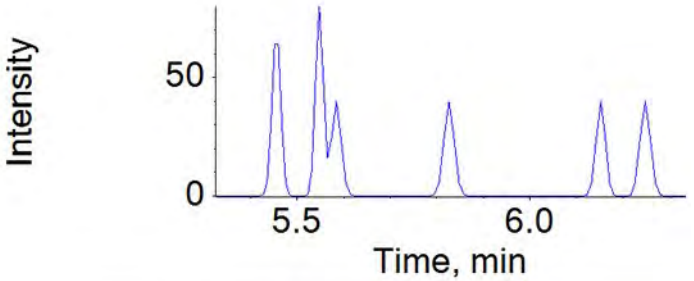
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



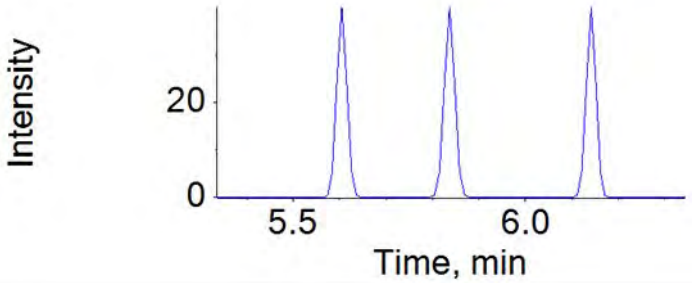
Component: PFUnDA
Primary Mass: 563.0 / 519.0



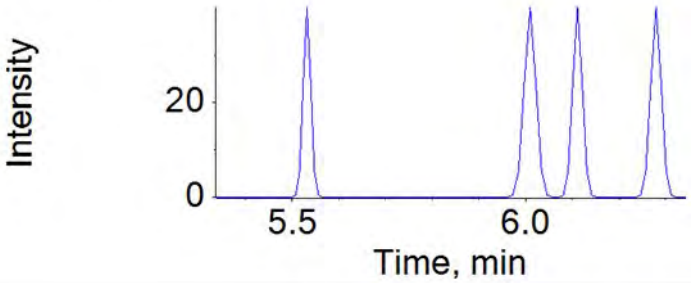
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



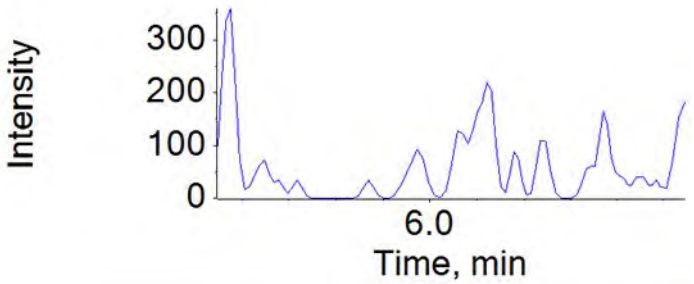
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



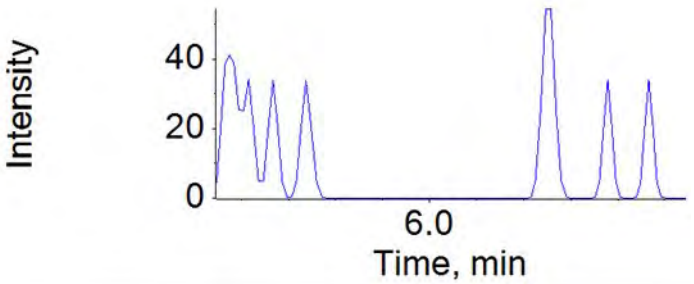
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



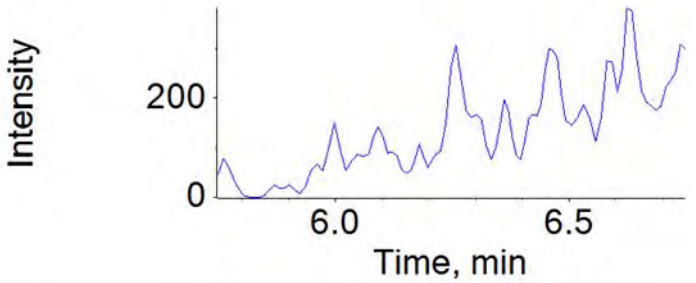
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



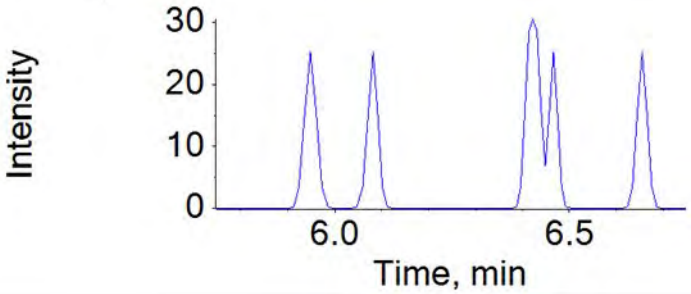
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

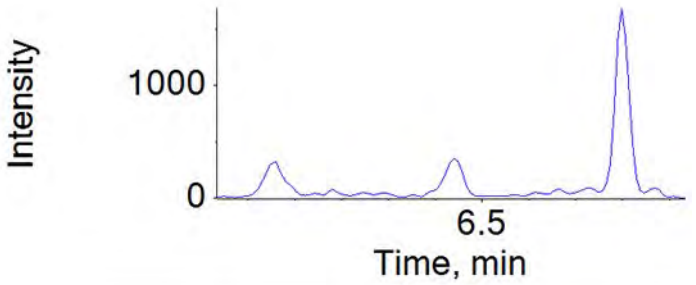
Component: PFTrDA
Primary Mass: 663.0 / 619.0



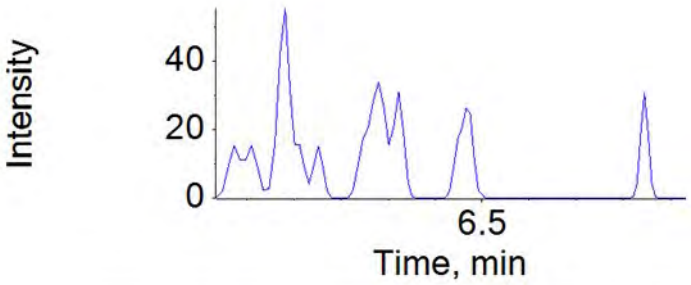
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922839			**Data File:**		18DEC08D-31.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS21-3-01 Grab Groundwater			**Acquis Date:**		2018-12-08T12:37:54
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	54			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.28645			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	913452.3	936973.7	-3	50	
13C2-PFOA	5.0	513463.7	474841.3	8	50	
13C4-PFOS	4.8	316029.2	294668.0	7	50	
13C2-PFDA	5.0	395571.4	373990.9	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	460896.2	13C3-PFBA	913452.3	0.505	16.233	14.931	92	50-150	
E13C5-PFHxA	753136.3	13C2-PFOA	513463.7	1.467	17.455	17.192	98	50-150	
E13C3-PFHxS	371787.3	13C2-PFOA	513463.7	0.724	16.512	16.213	98	50-150	
E13C4-PFHpA	567521.1	13C2-PFOA	513463.7	1.105	17.455	16.404	94	50-150	
E13C8-PFOA	909474.2	13C2-PFOA	513463.7	1.771	17.455	17.479	100	50-150	
E13C8-PFOS	357724.2	13C4-PFOS	316029.2	1.132	16.687	17.734	106	50-150	
E13C9-PFNA	629913.4	13C4-PFOS	316029.2	1.993	17.455	19.663	113	50-150	
E13C6-PFDA	705811.2	13C2-PFDA	395571.4	1.784	17.455	16.507	95	50-150	
Ed3-NMeFOSAA	133304.3	13C2-PFDA	395571.4	0.337	17.455	20.848	119	50-150	
E13C7-PFUnDA	463022.5	13C2-PFDA	395571.4	1.171	17.455	20.045	115	50-150	
Ed5-NEtFOSAA	84195.8	13C2-PFDA	395571.4	0.213	17.455	16.403	94	50-150	
E13C2-PFDoDA	882605.1	13C2-PFDA	395571.4	2.231	17.455	16.346	94	50-150	
E13C2-PFTeDA	644034.8	13C2-PFDA	395571.4	1.628	17.455	16.870	97	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

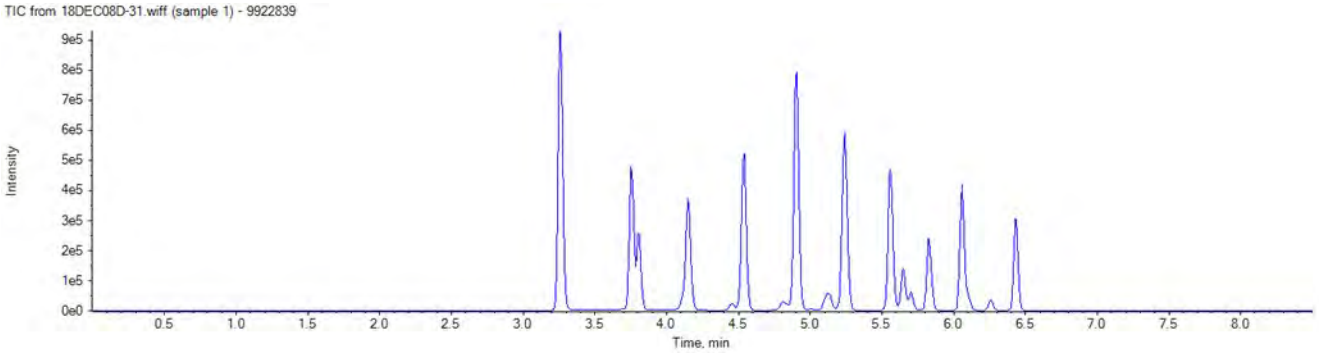
Analyte Quantitation Peak Table

Sample Name: 9922839 **Instrument Name:** LM27631 **File Name:** 18DEC08D-31.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28645	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.80	1.000	69003.2		A	13C3-PFBS	3.81	460896.2	0.150	2.591
PFHxA	4.15	1.000	51994.4		M	13C5-PFHxA	4.15	753136.3	0.069	1.050
PFHpA	4.54	1.000	27232.4		A	13C4-PFHpA	4.54	567521.1	0.048	0.552
PFHxS	4.54	1.000	262626.7		M	13C3-PFHxS	4.54	371787.3	0.706	11.684
PFOA	4.90	1.000	446037.8		M	13C8-PFOA	4.90	909474.2	0.490	9.357
PFOS	5.17	0.990	353079.0		M	13C8-PFOS	5.23	357724.2	0.987	14.292
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	629913.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	705811.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	133304.3	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	463022.5	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	84195.8	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	882605.1	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	882605.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	644034.8	N/A	

Total Ion Chromatogram

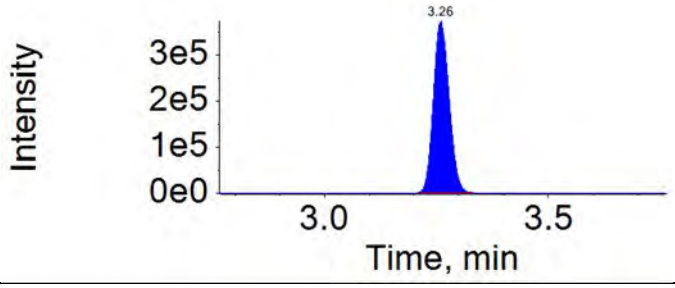


APPROVED
By MCD at 7:42 pm, 12/10/18

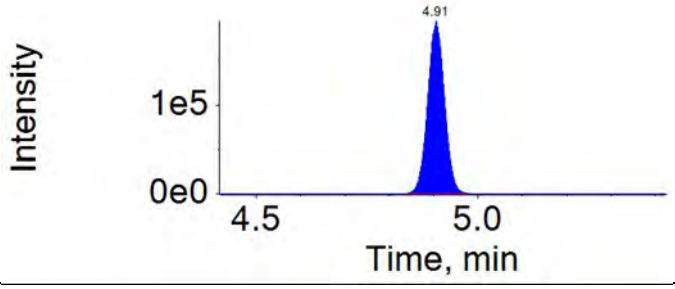
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

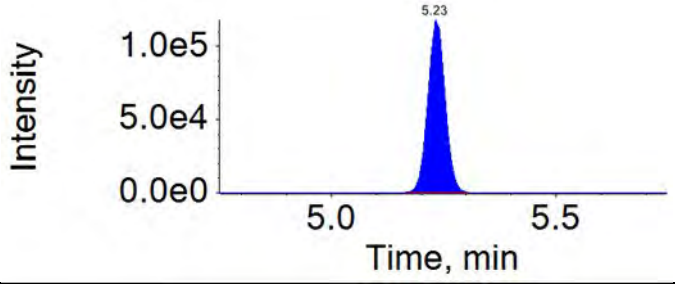
Injection Standard: 13C3-PFBA
216.0 / 172.0



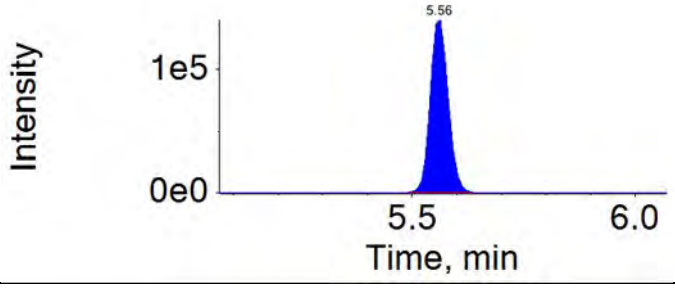
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

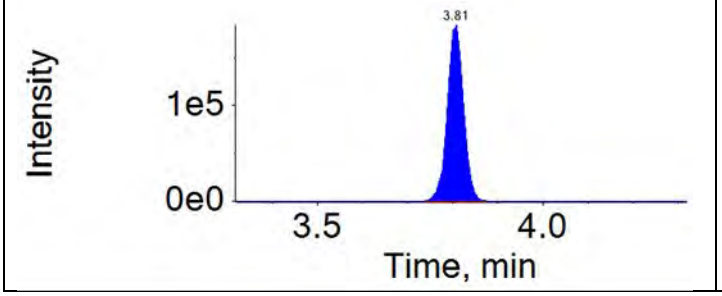


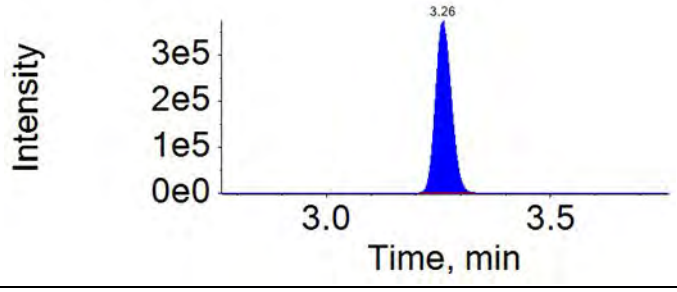
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

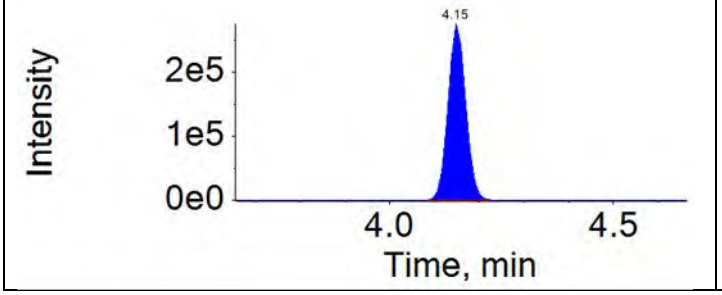
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

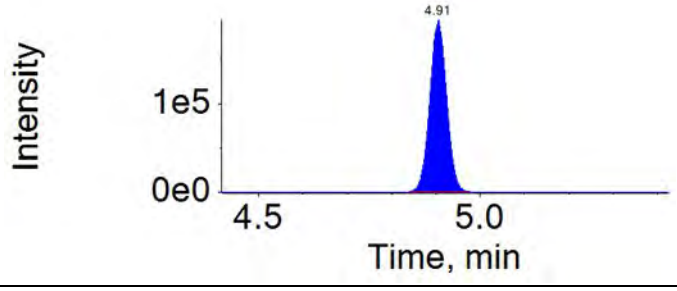
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



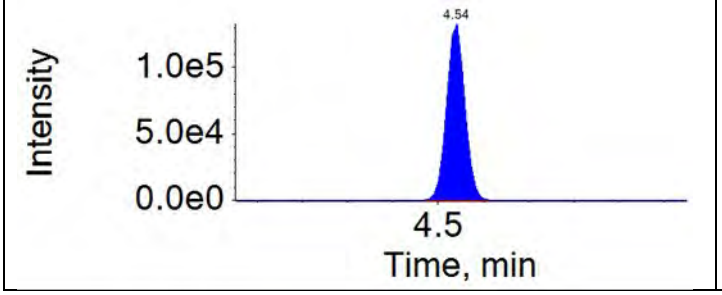


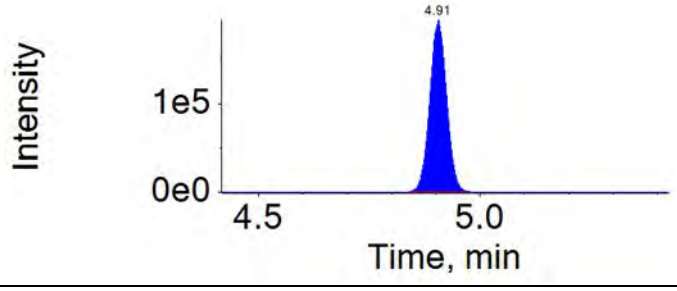
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



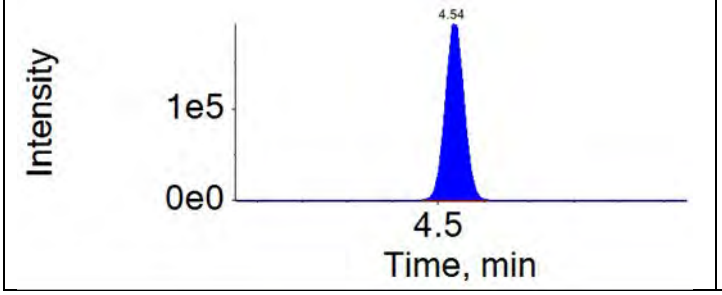


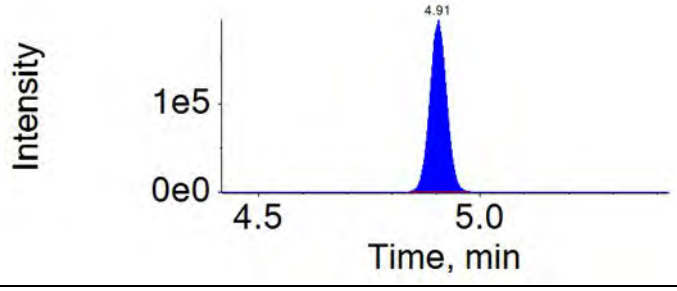
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

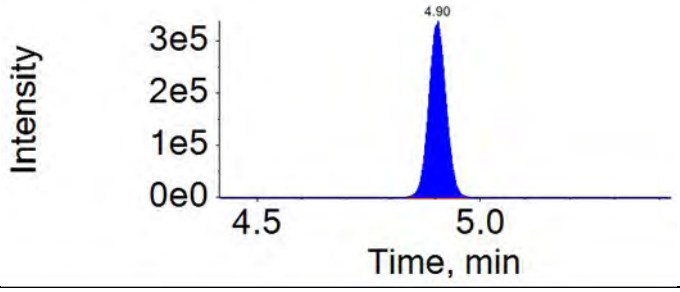
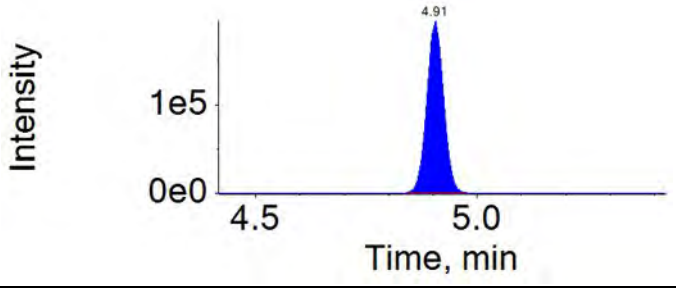


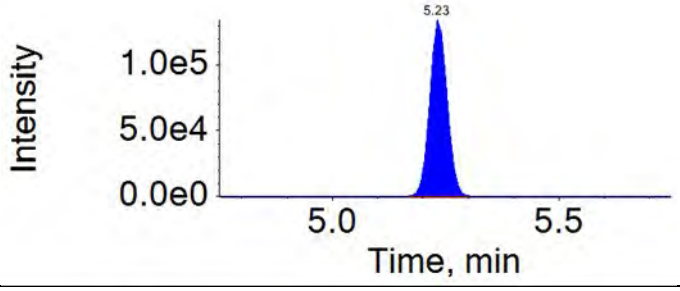
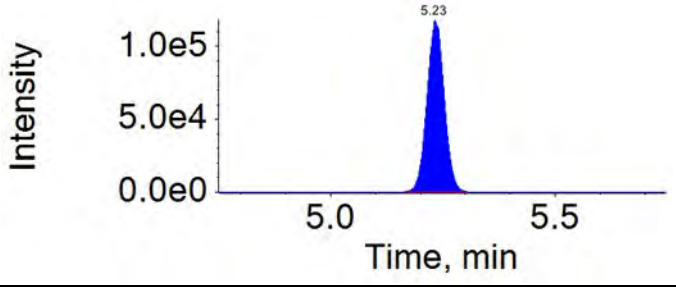


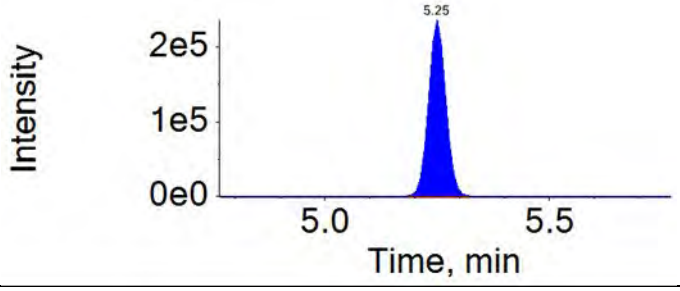
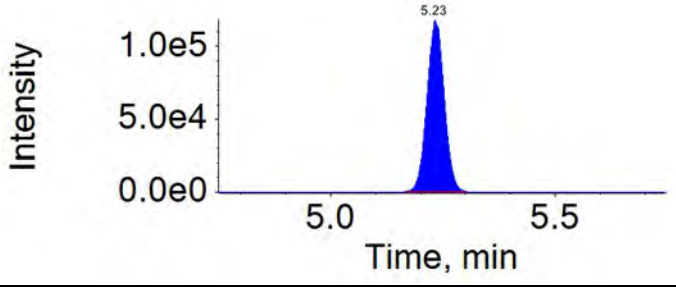
APPROVED
By MCD at 7:42 pm, 12/10/18

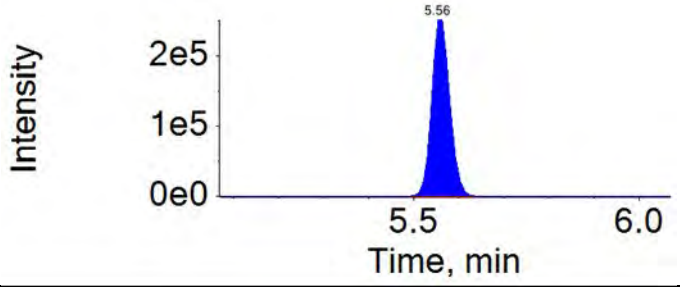
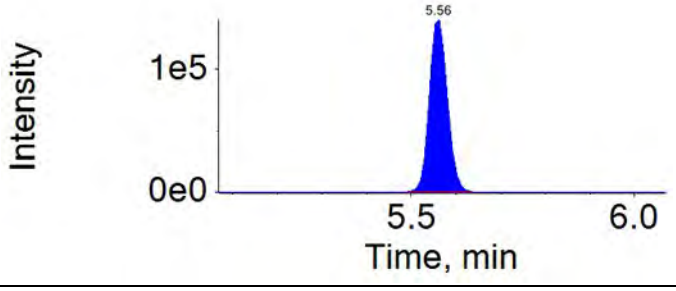
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

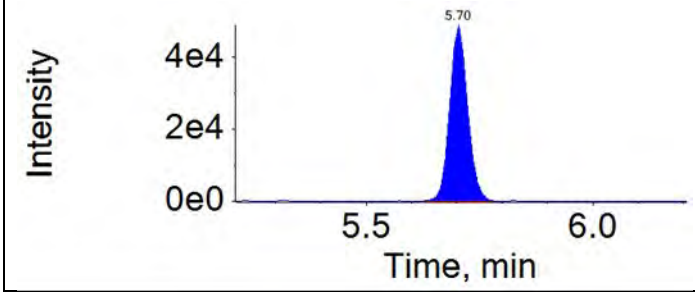
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

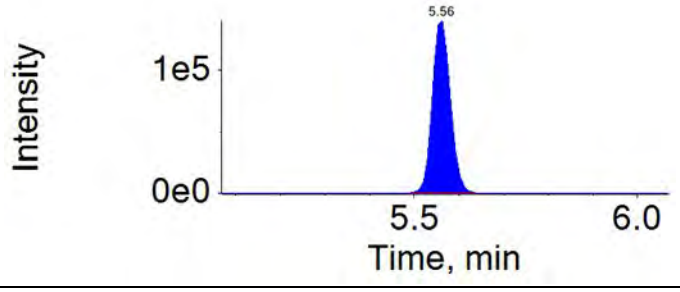
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

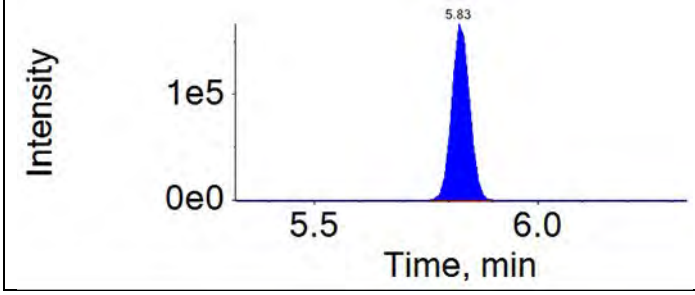
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

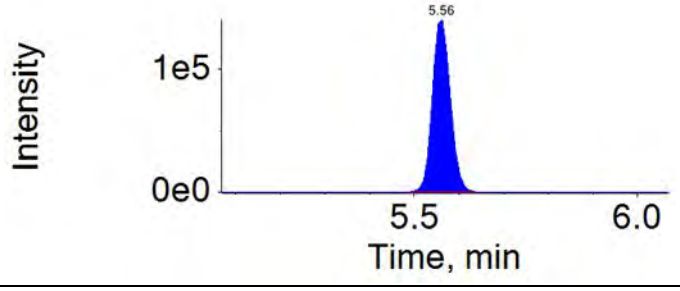
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



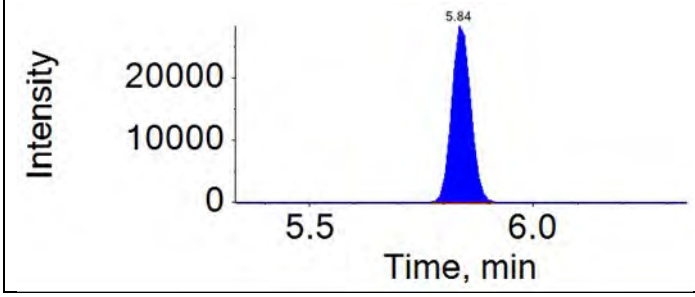


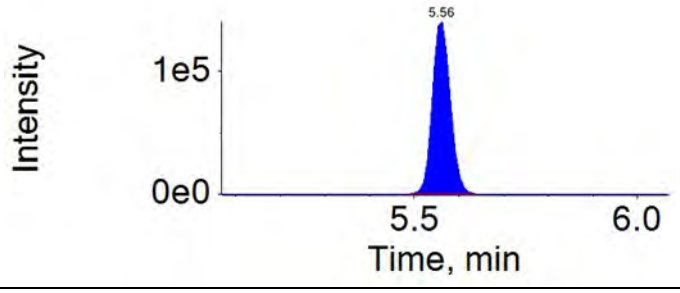
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



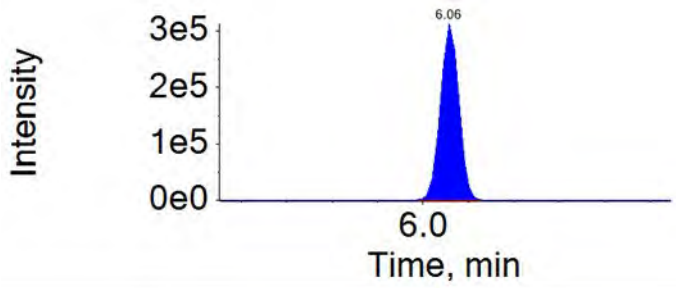


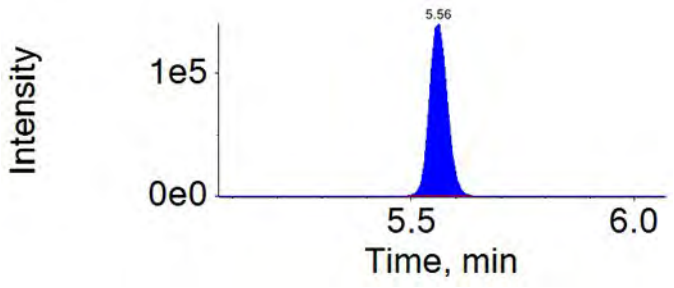
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

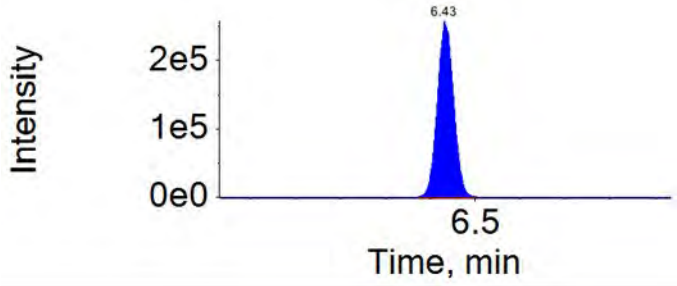
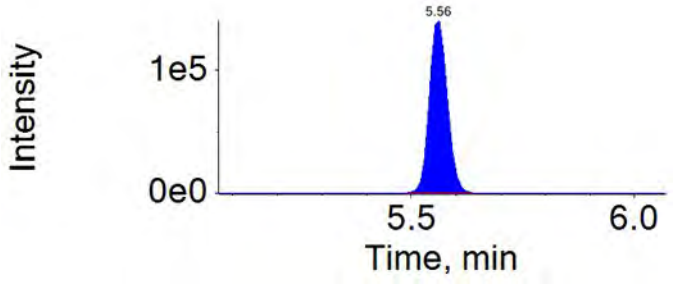




APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

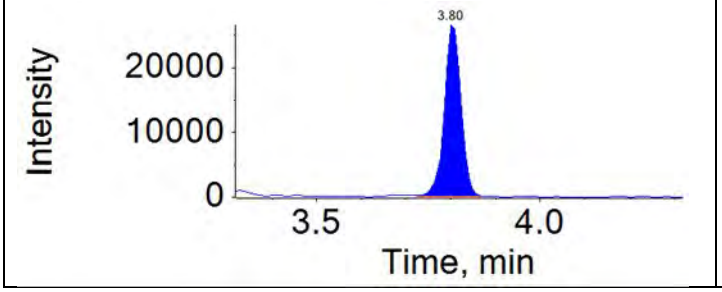
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

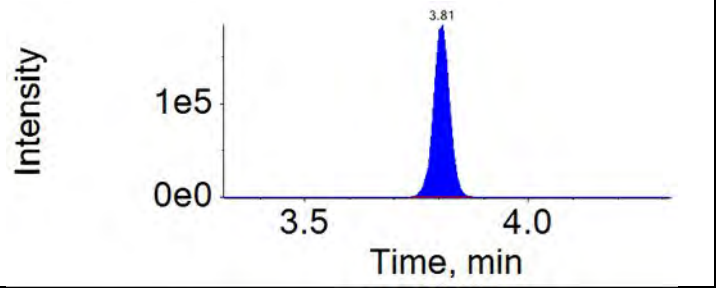
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

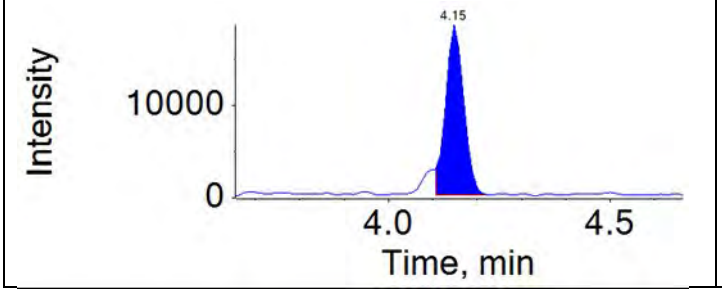
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

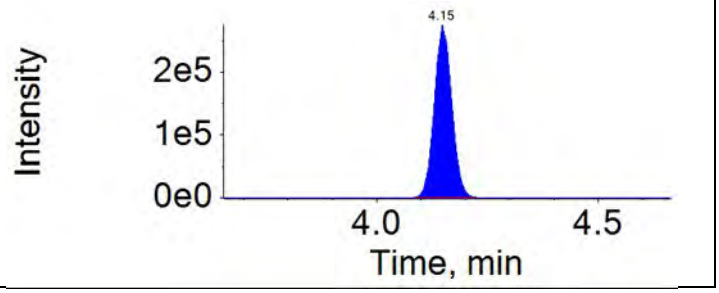
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



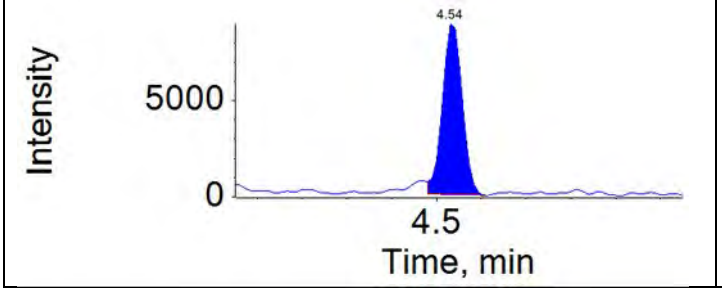


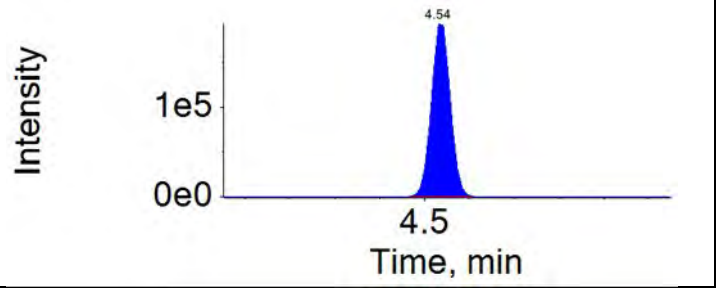
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



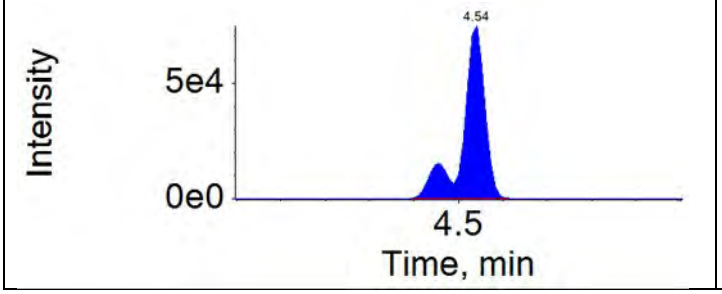


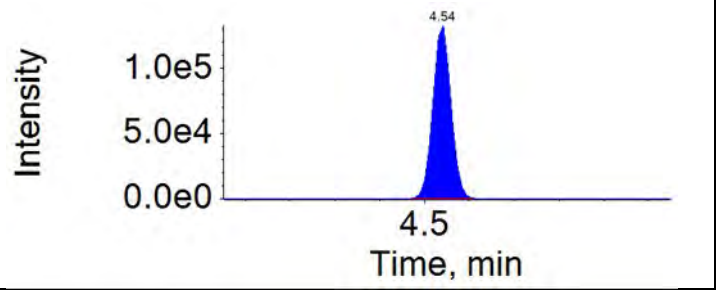
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

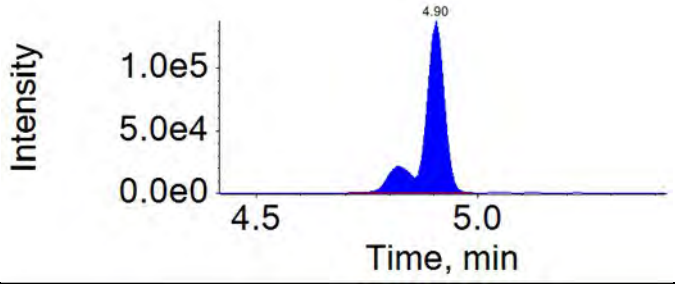
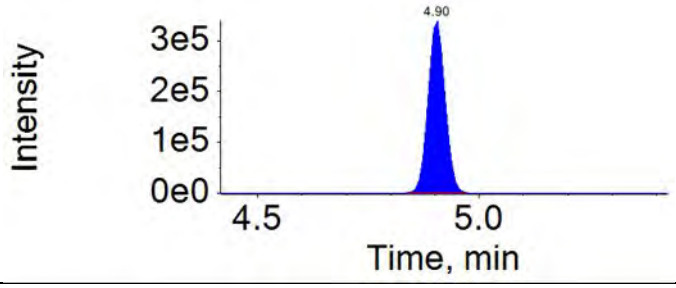


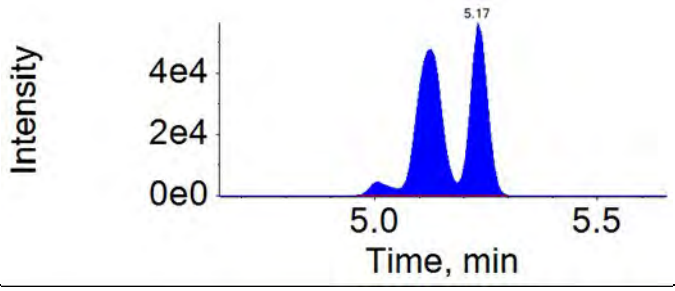
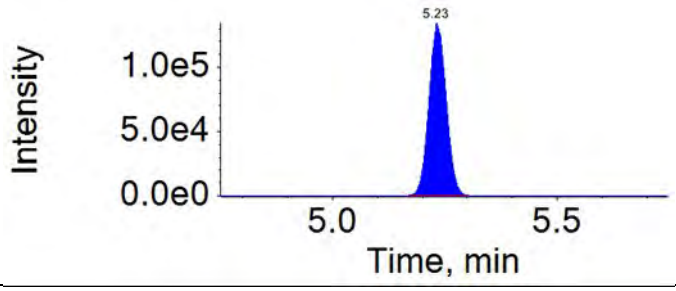


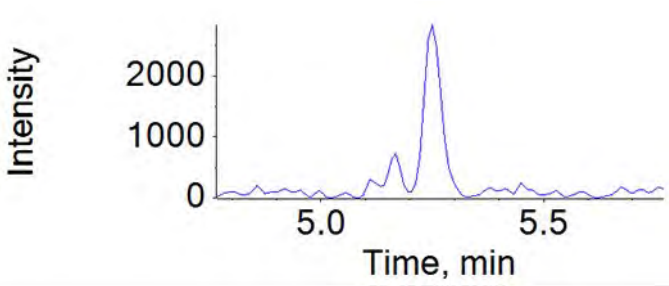
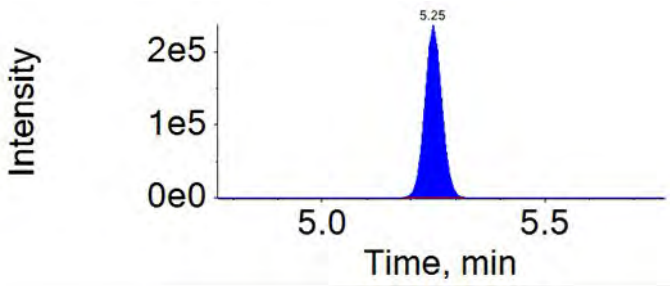
APPROVED
By MCD at 7:42 pm, 12/10/18

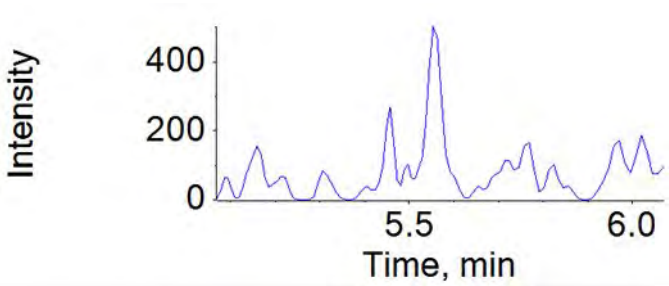
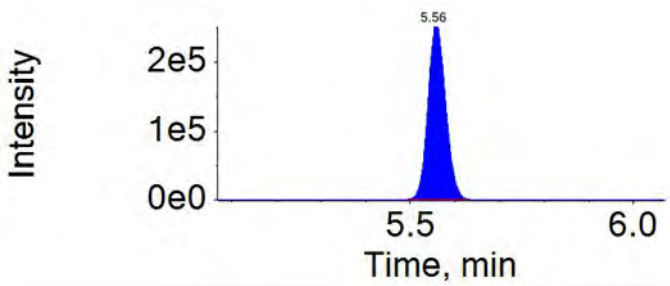
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

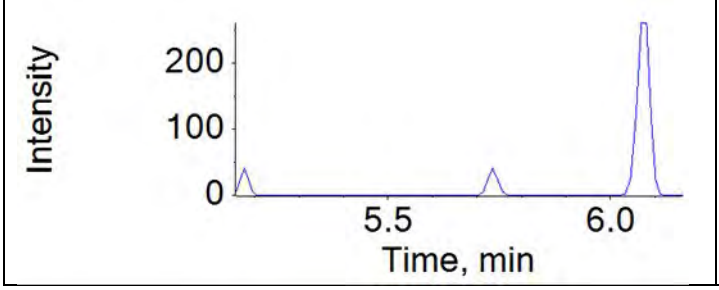
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

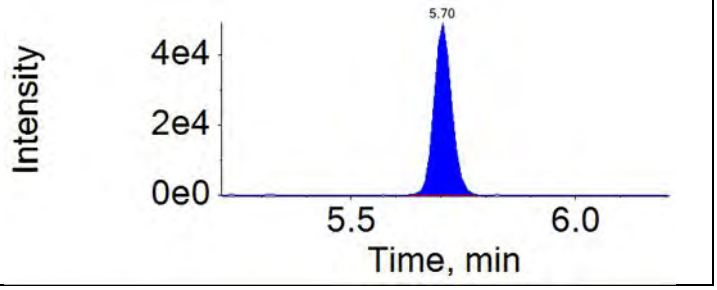
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

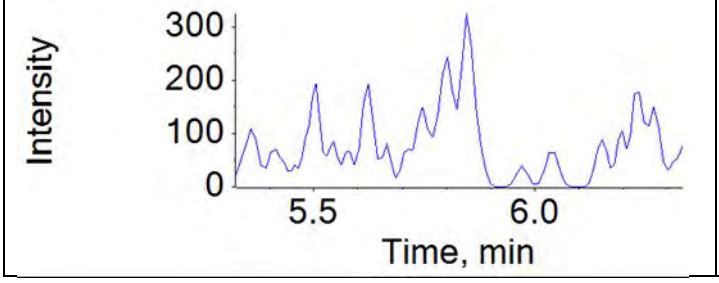
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

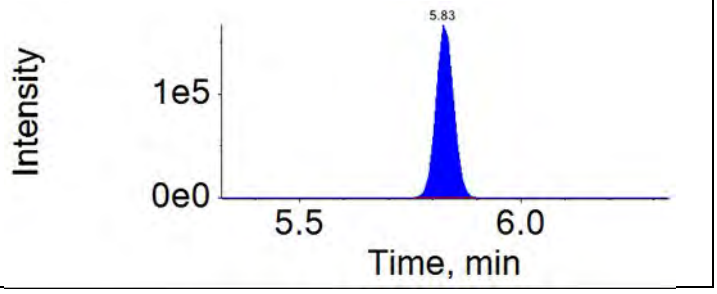
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



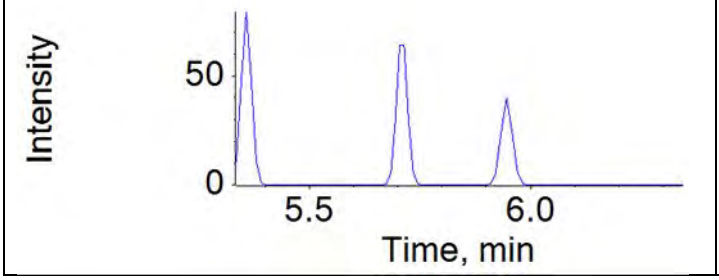


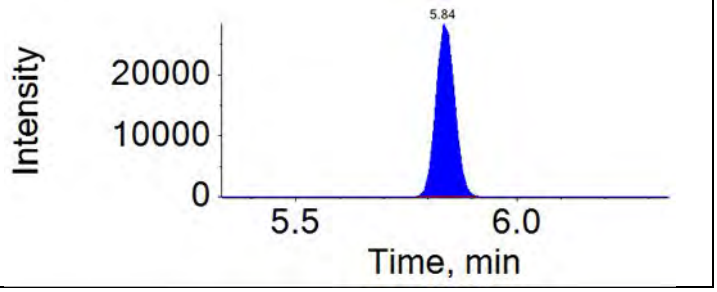
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



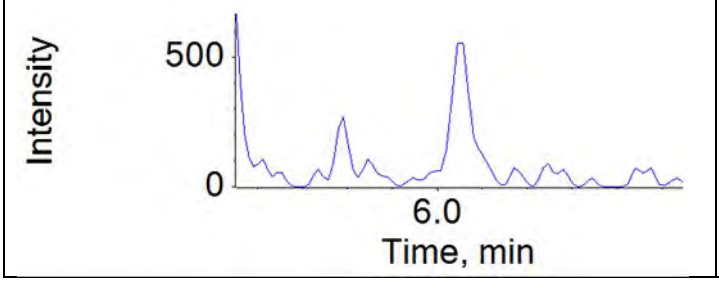


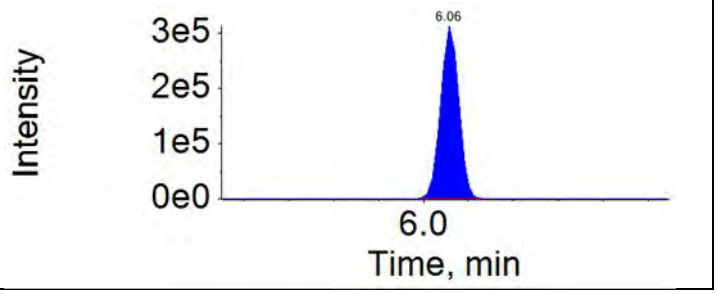
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0





APPROVED
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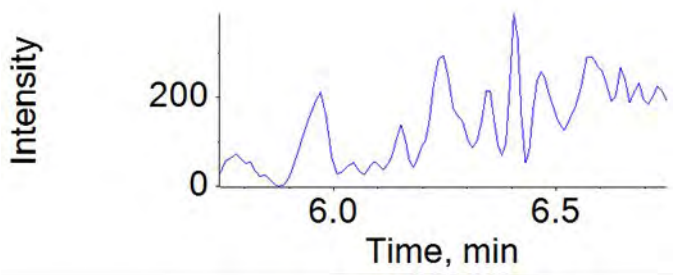
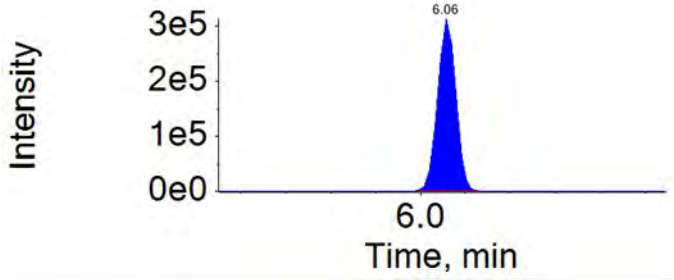
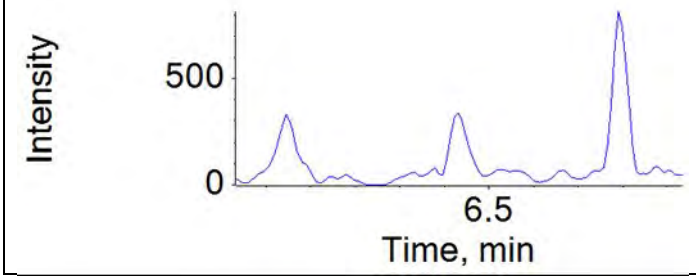
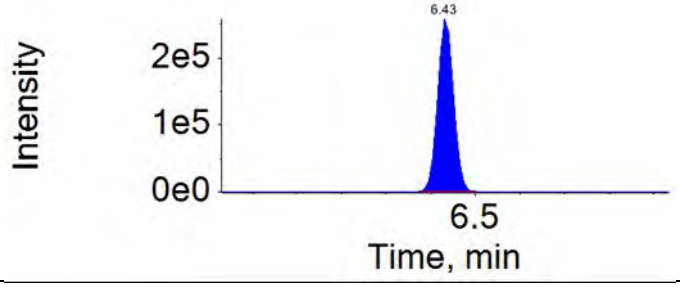
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

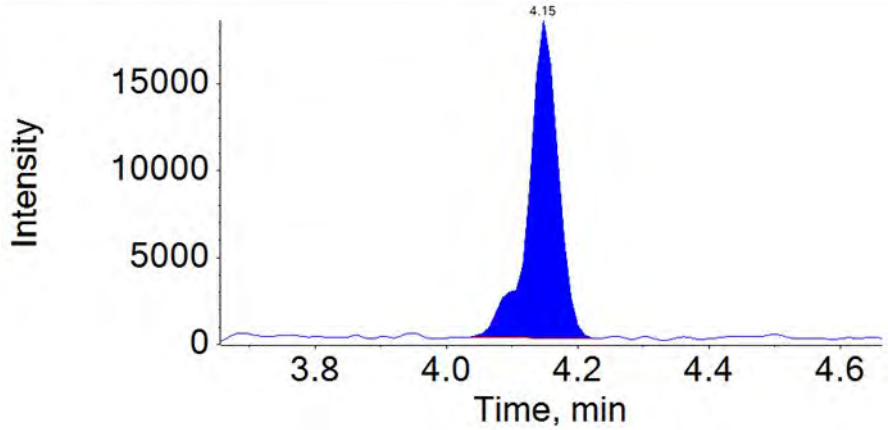
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.15
Peak Area:
57178.8
Mass Range:
313.0 / 269.0
File Name:
18DEC08D-31.wiff
Sample Name:
9922839



Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
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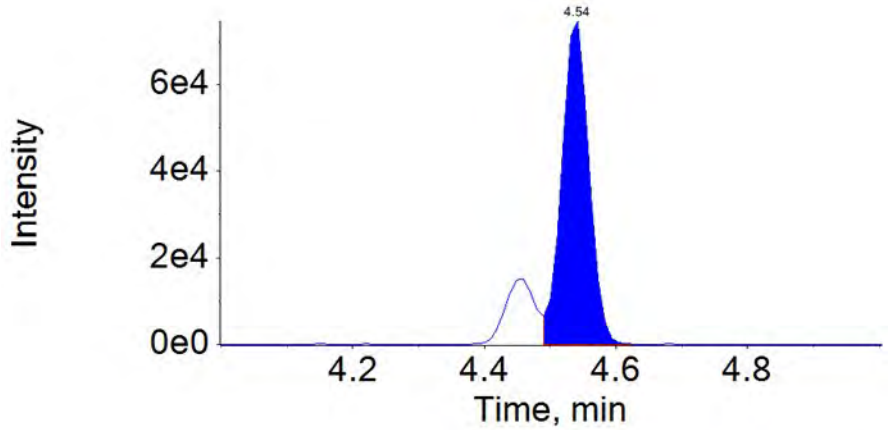
Peak Area:
214788.9
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-31.wiff
Sample Name:
9922839



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
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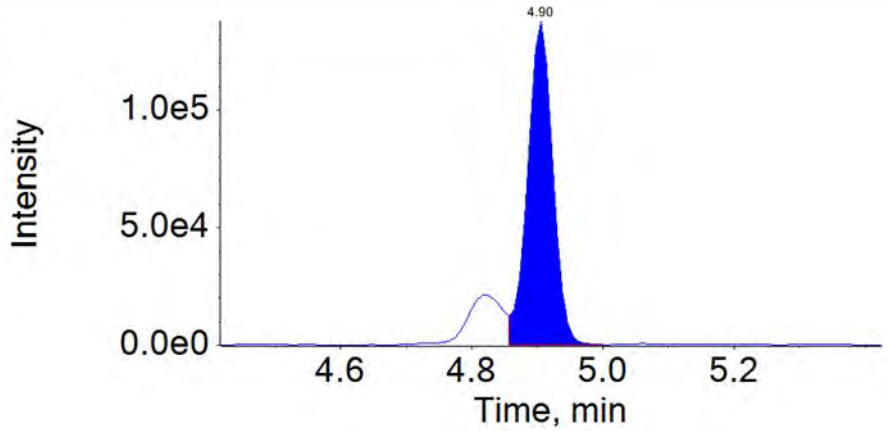
Peak Area:
365878.3
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-31.wiff
Sample Name:
9922839



Integration Comment: incorrect integration

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Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
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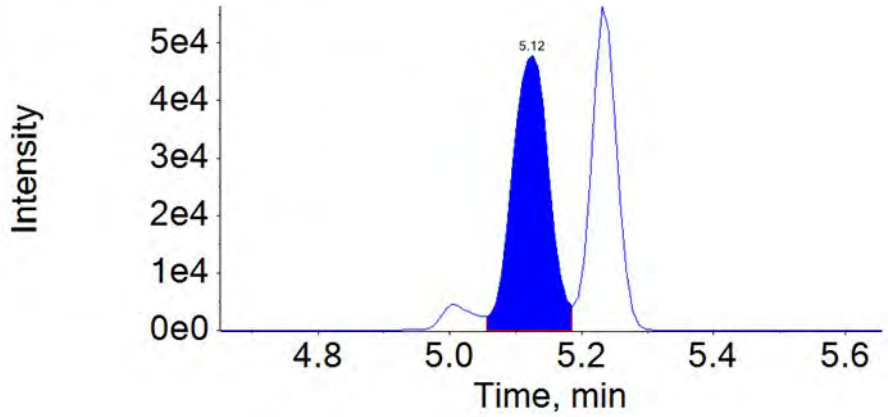
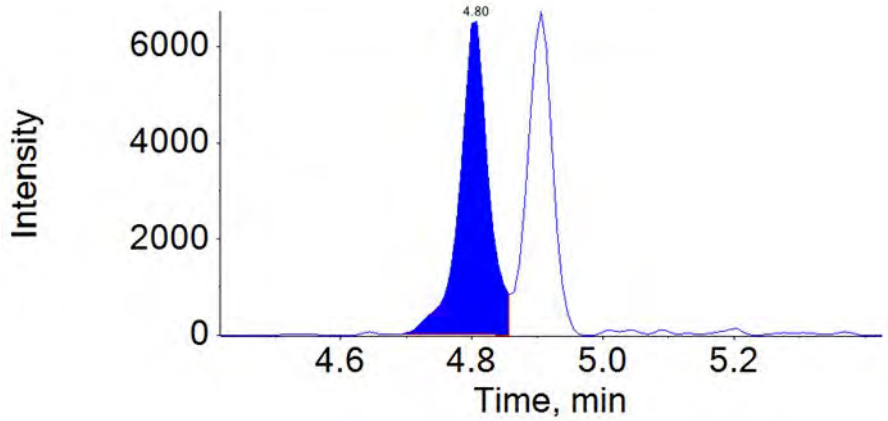
Peak Area:
186322.3
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-31.wiff
Sample Name:
9922839



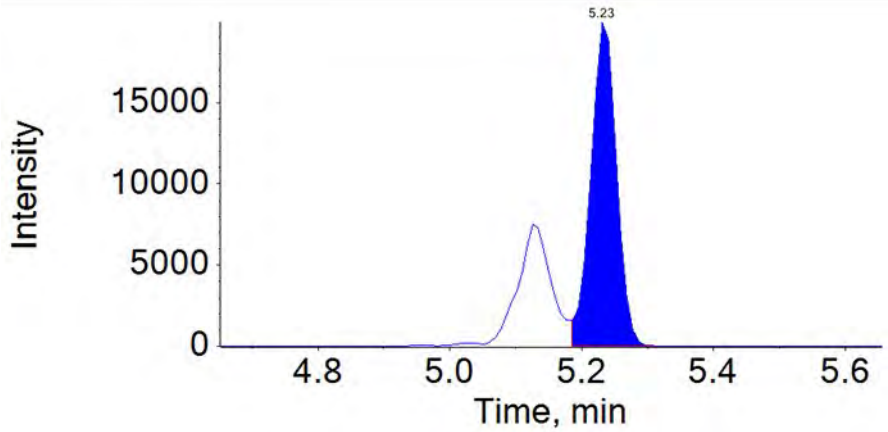
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.80
Peak Area:
20164.3
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-31.wiff
Sample Name:
9922839



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
53791.0
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-31.wiff
Sample Name:
9922839



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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By MCD at 7:42 pm, 12/10/18

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Ion Ratio Report

Sample Name: 9922839 **Instrument Name:** LM27631 **File Name:** 18DEC08D-31.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	69003.2	A	N/A	0.3856			
PFBS_2	3.80	1.00	26604.4	A	N/A	0.3856	7	50	
PFHxA	4.15	1.00	51994.4	M	N/A	0.0122			
PFHxA_2	4.15	1.00	632.1	A	N/A	0.0122	36	50	
PFHpA	4.54	1.00	27232.4	A	N/A	0.0613			
PFHpA_2	4.54	1.00	1669.7	A	N/A	0.0613	10	50	
PFHxS	4.54	1.00	262626.7	M	N/A	0.3371			
PFHxS_2	4.54	1.00	88530.0	A	N/A	0.3371	-9	50	
PFOA	4.90	1.00	446037.8	M	N/A	0.0859			
PFOA_2	4.86	0.99	38313.1	M	N/A	0.0859	39	50	
PFOS	5.17	0.99	353079.0	M	N/A	0.2289			
PFOS_2	5.23	1.00	80835.3	M	N/A	0.2289	-24	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

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By MCD at 7:42 pm, 12/10/18

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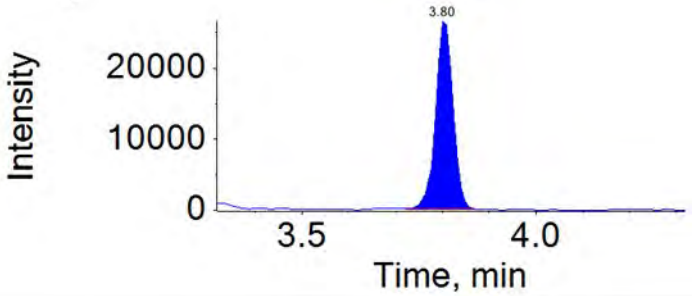
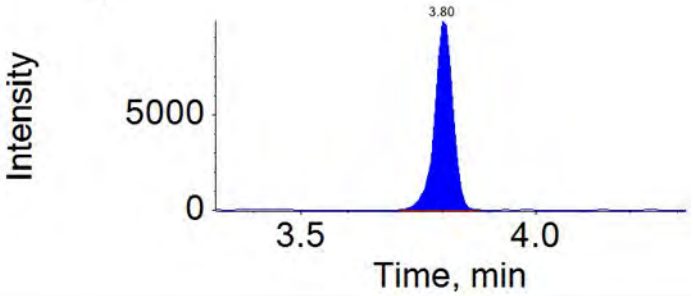
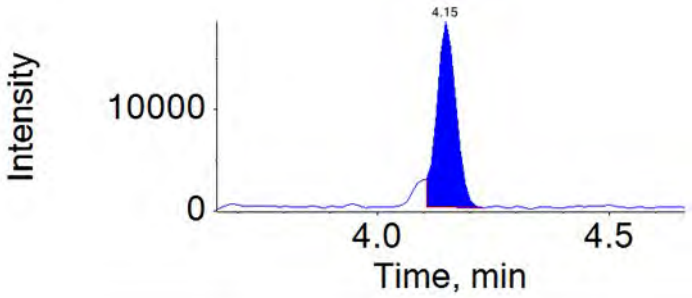
Component: PFBS
Primary Mass: 299.0 / 80.0



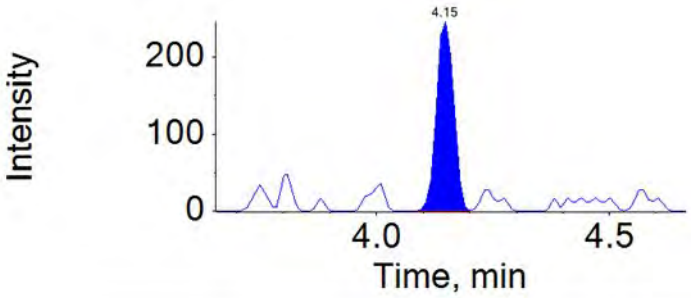
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



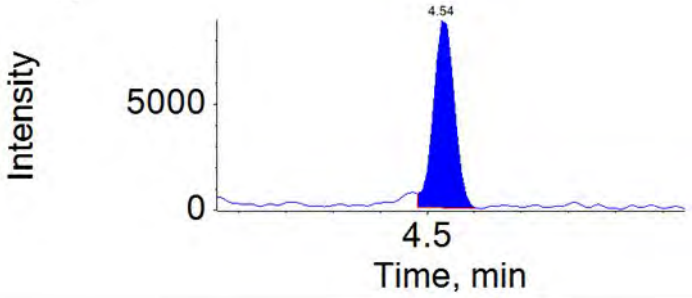
Component: PFHxA
Primary Mass: 313.0 / 269.0



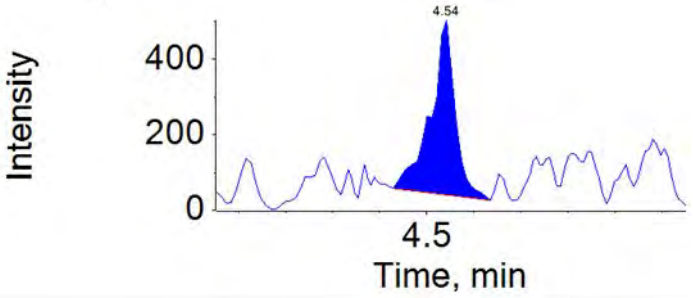
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



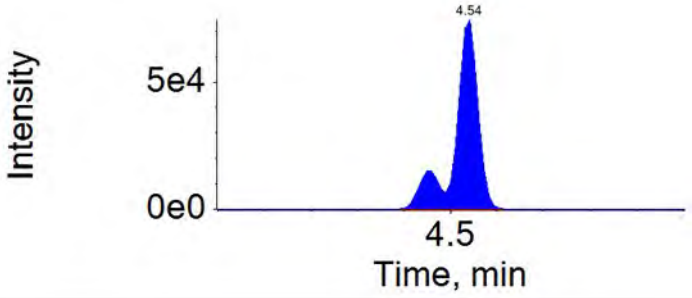
Component: PFHpA
Primary Mass: 363.0 / 319.0



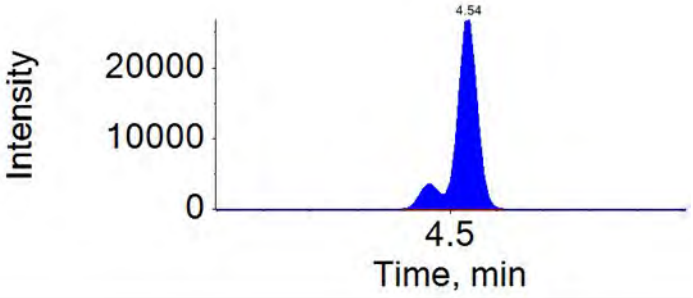
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



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By MCD at 7:42 pm, 12/10/18

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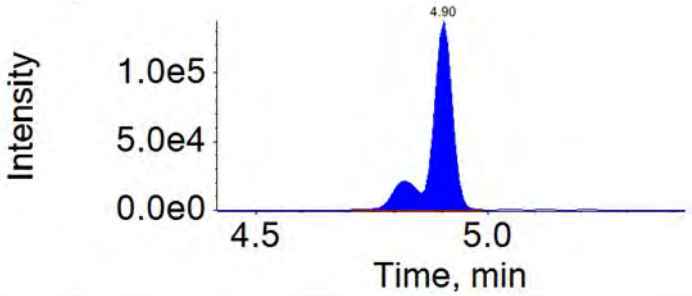
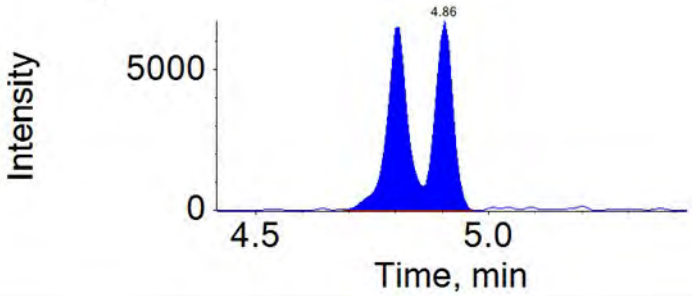
By HMK at 12:27 pm, 12/13/18

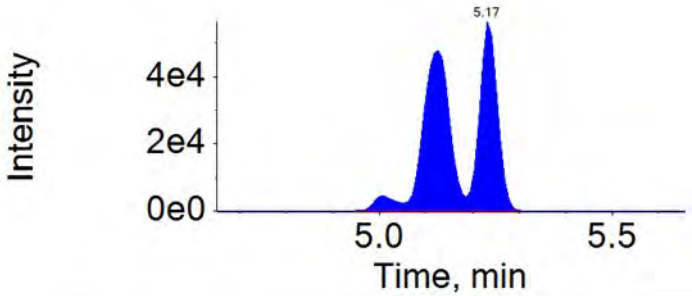
Component: PFOA
Primary Mass: 413.0 / 369.0



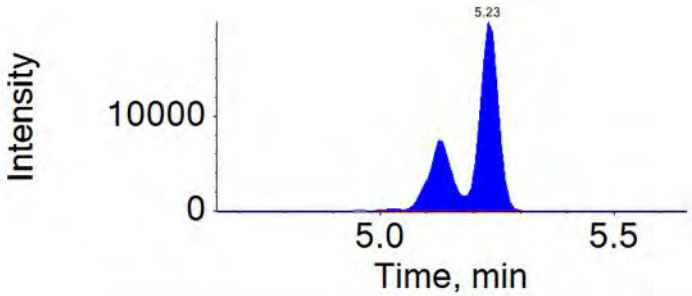
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



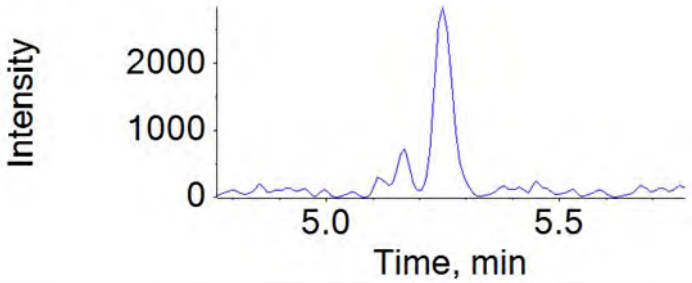
Component: PFOS
Primary Mass: 499.0 / 80.0



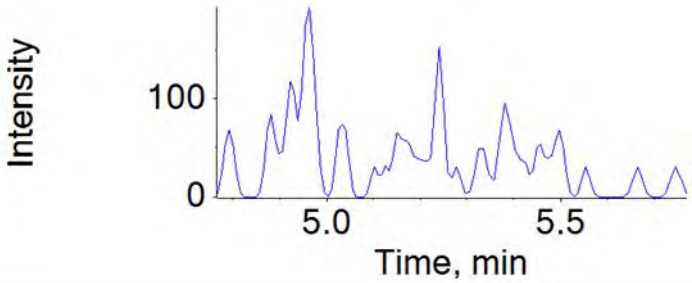
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



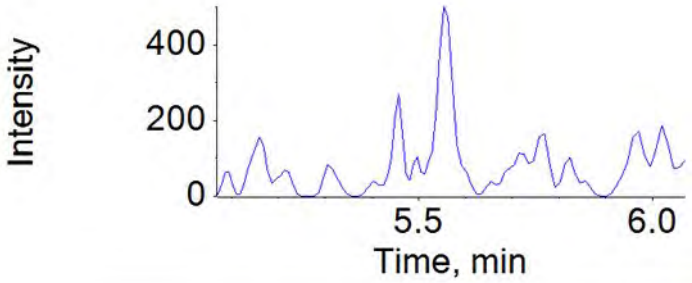
Component: PFNA
Primary Mass: 463.0 / 419.0



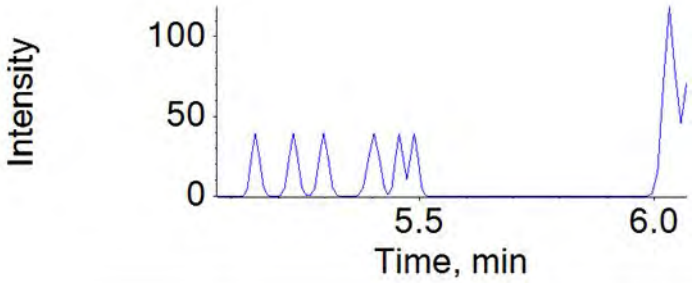
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



Component: PFDA_2
Secondary Mass: 513.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

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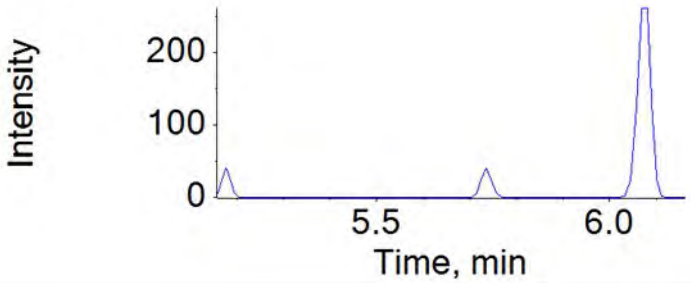
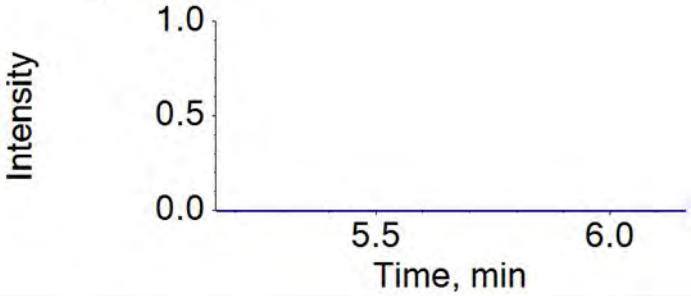
By HMK at 12:27 pm, 12/13/18

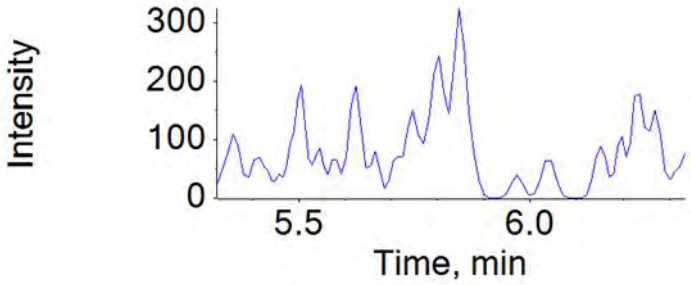
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFUnDA
Primary Mass: 563.0 / 519.0



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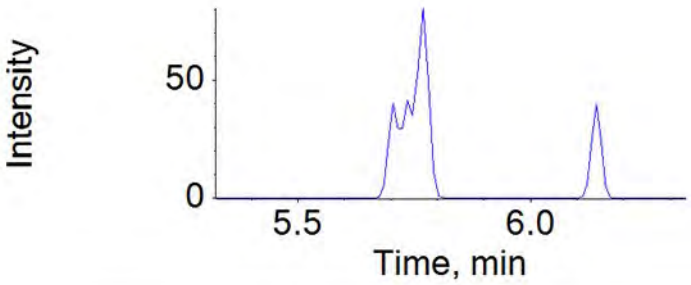
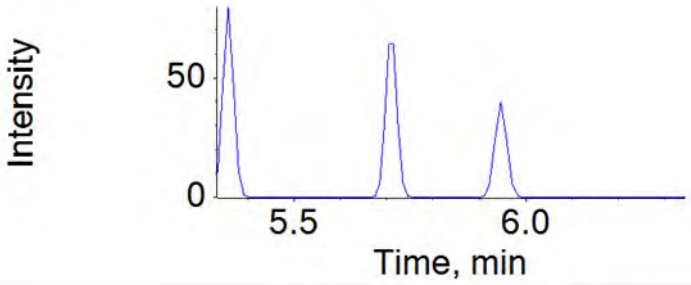
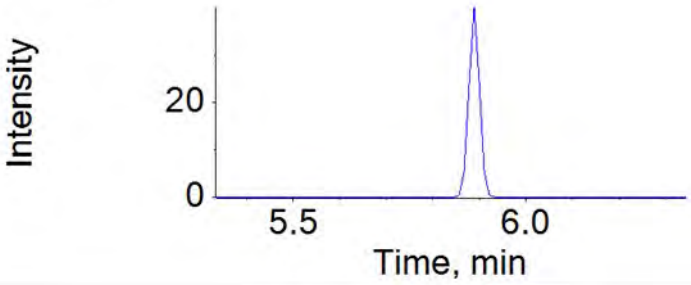
Secondary Mass: 563.0 / 169.0



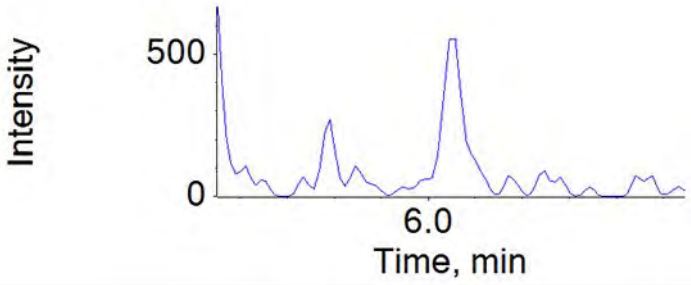
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



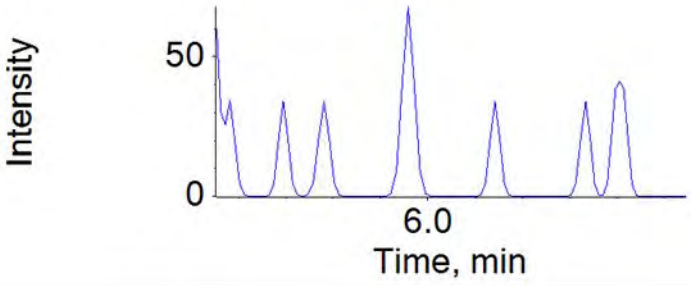
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



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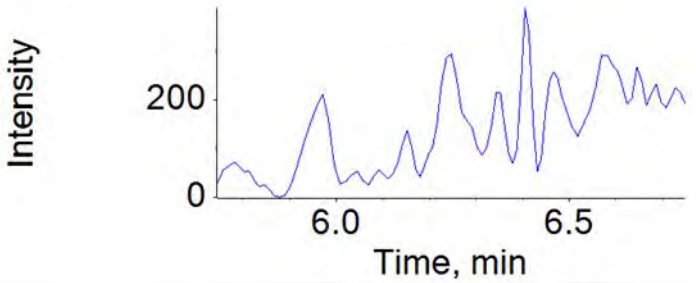
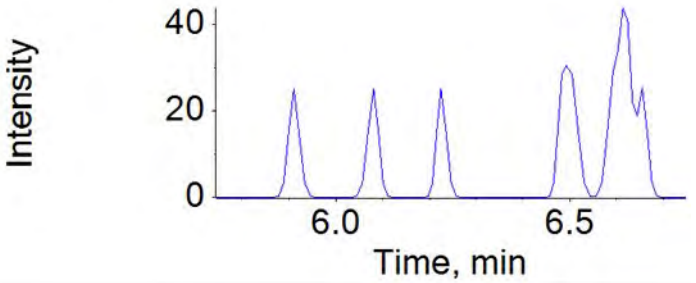
By HMK at 12:27 pm, 12/13/18

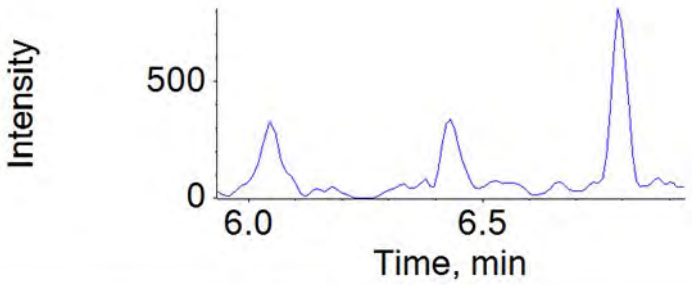
Component: PFTrDA
Primary Mass: 663.0 / 619.0



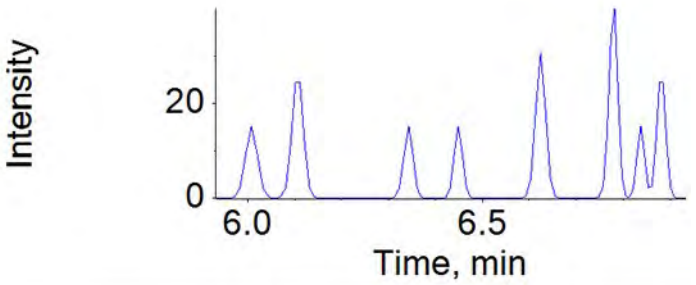
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922840			**Data File:**		18DEC08D-32.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS21-3-02 Grab Groundwater			**Acquis Date:**		2018-12-08T12:46:54
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	55			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.27195			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	928969.6	936973.7	-1	50	
13C2-PFOA	5.0	512117.6	474841.3	8	50	
13C4-PFOS	4.8	317174.7	294668.0	8	50	
13C2-PFDA	5.0	426078.6	373990.9	14	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	374919.1	13C3-PFBA	928969.6	0.404	17.099	12.579	74	50-150	
E13C5-PFHxA	638360.0	13C2-PFOA	512117.6	1.247	18.386	15.389	84	50-150	
E13C3-PFHxS	303919.3	13C2-PFOA	512117.6	0.593	17.393	13.997	80	50-150	
E13C4-PFHpA	482663.6	13C2-PFOA	512117.6	0.942	18.386	14.733	80	50-150	
E13C8-PFOA	809039.1	13C2-PFOA	512117.6	1.580	18.386	16.421	89	50-150	
E13C8-PFOS	276303.8	13C4-PFOS	317174.7	0.871	17.577	14.376	82	50-150	
E13C9-PFNA	559378.8	13C4-PFOS	317174.7	1.764	18.386	18.326	100	50-150	
E13C6-PFDA	635854.9	13C2-PFDA	426078.6	1.492	18.386	14.542	79	50-150	
Ed3-NMeFOSAA	116599.9	13C2-PFDA	426078.6	0.274	18.386	17.833	97	50-150	
E13C7-PFUnDA	473450.3	13C2-PFDA	426078.6	1.111	18.386	20.043	109	50-150	
Ed5-NEtFOSAA	87239.1	13C2-PFDA	426078.6	0.205	18.386	16.620	90	50-150	
E13C2-PFDoDA	748495.6	13C2-PFDA	426078.6	1.757	18.386	13.556	74	50-150	
E13C2-PFTeDA	626243.5	13C2-PFDA	426078.6	1.470	18.386	16.041	87	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

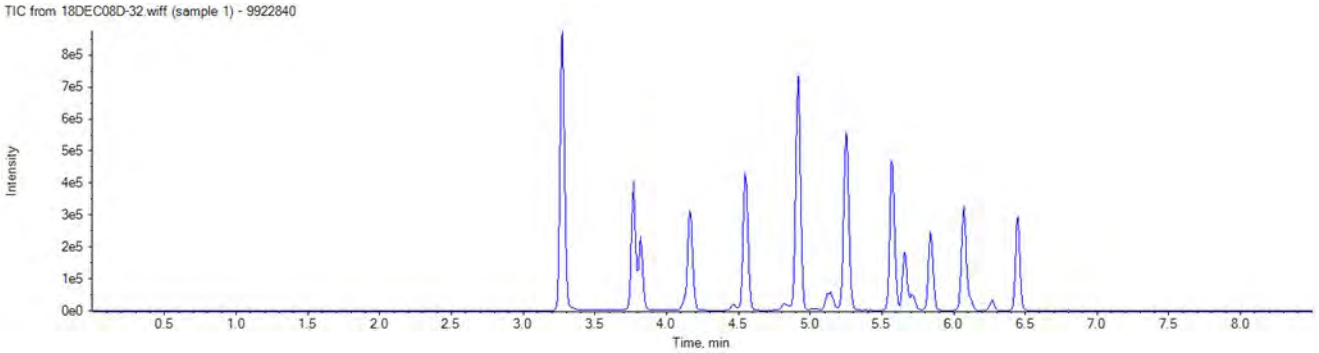
Analyte Quantitation Peak Table

Sample Name: 9922840 **Instrument Name:** LM27631 **File Name:** 18DEC08D-32.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27195	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.82	1.000	50872.0		A	13C3-PFBS	3.82	374919.1	0.136	2.473
PFHxA	4.16	1.000	40577.1		A	13C5-PFHxA	4.16	638360.0	0.064	1.019
PFHpA	4.55	1.000	21283.5		A	13C4-PFHpA	4.55	482663.6	0.044	0.534
PFHxS	4.55	1.000	204121.4		M	13C3-PFHxS	4.55	303919.3	0.672	11.702
PFOA	4.92	1.000	345294.5		M	13C8-PFOA	4.92	809039.1	0.427	8.577
PFOS	5.22	0.990	395972.5		M	13C8-PFOS	5.25	276303.8	1.433	21.858
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	559378.8	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	635854.9	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	116599.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	473450.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	87239.1	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	748495.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	748495.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	626243.5	N/A	

Total Ion Chromatogram

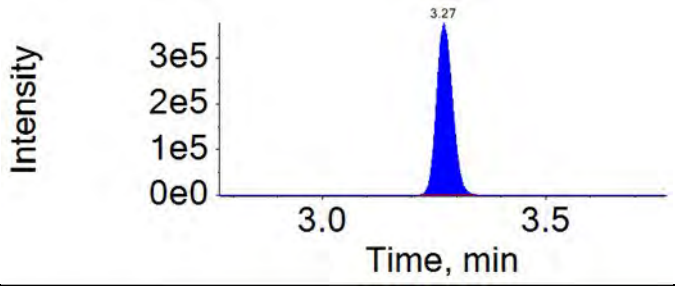


APPROVED
By MCD at 7:42 pm, 12/10/18

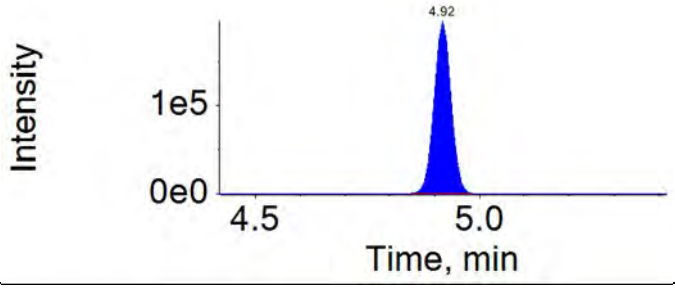
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

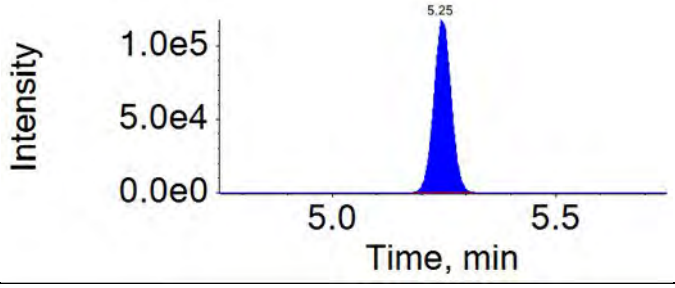
Injection Standard: 13C3-PFBA
216.0 / 172.0



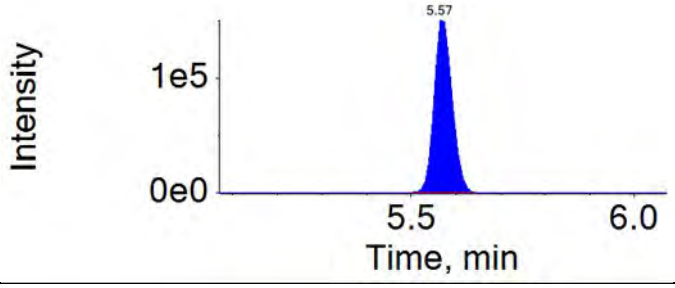
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

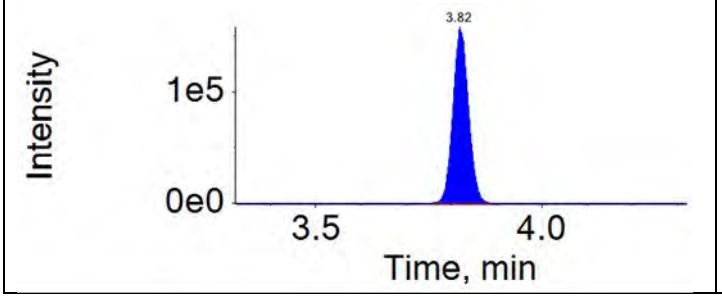


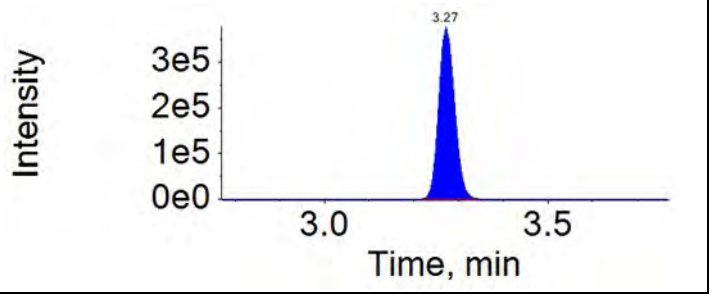
Injection Standard: 13C2-PFDA
515.0 / 470.0



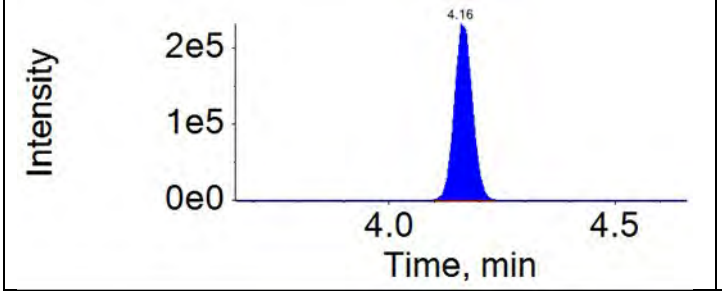
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

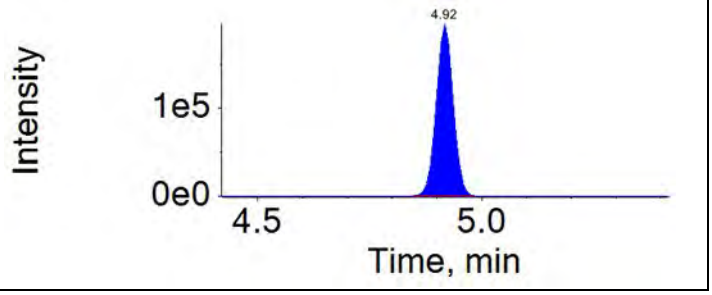
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



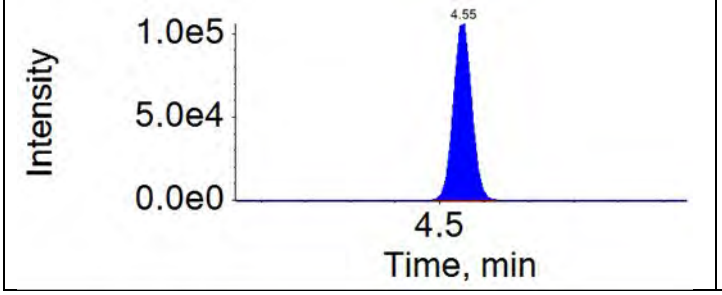


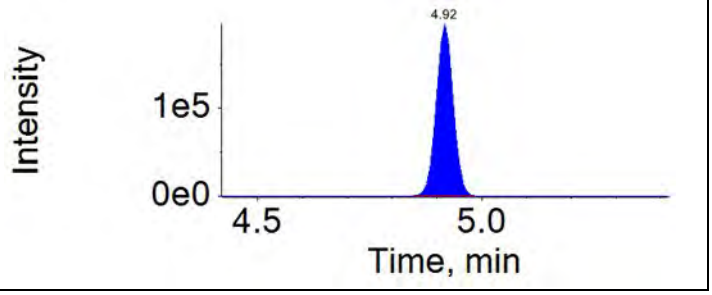
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



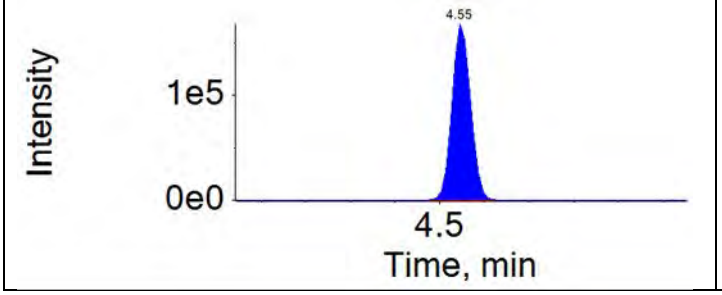


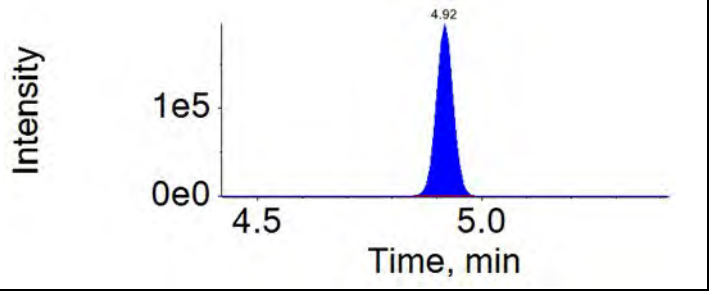
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

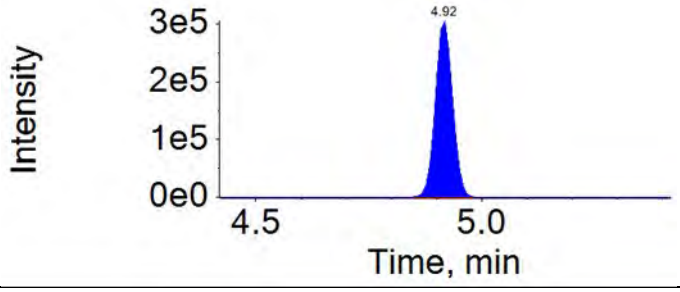
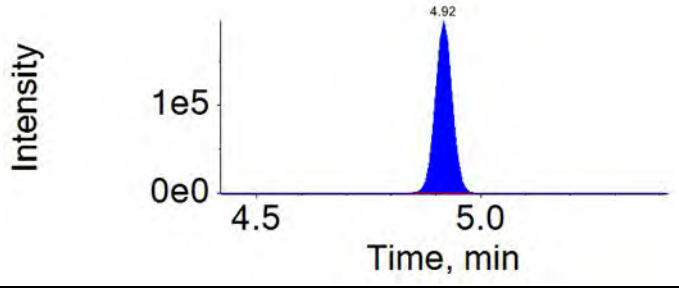


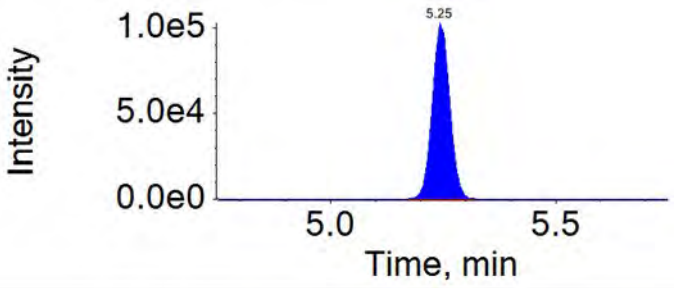
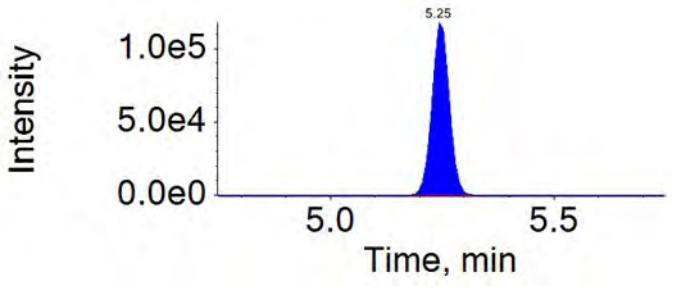


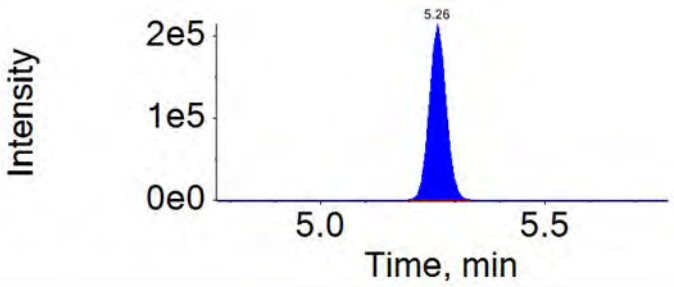
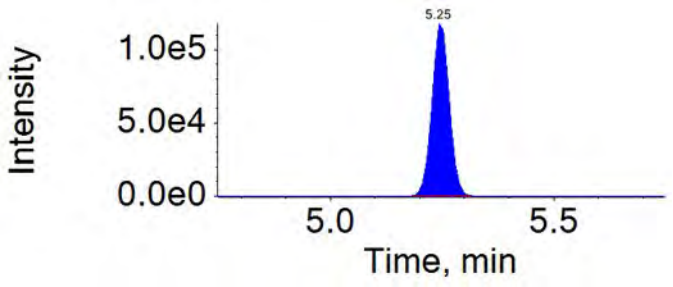
APPROVED
By MCD at 7:42 pm, 12/10/18

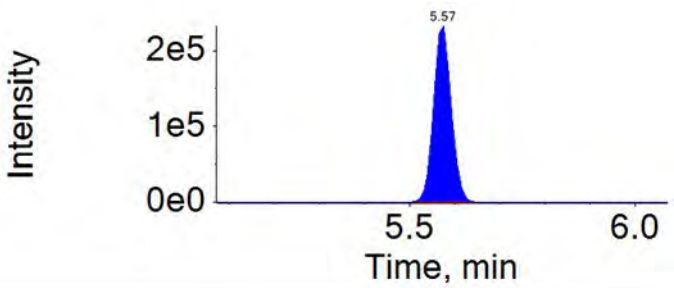
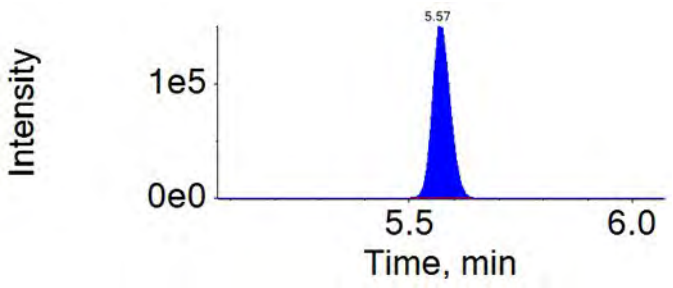
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

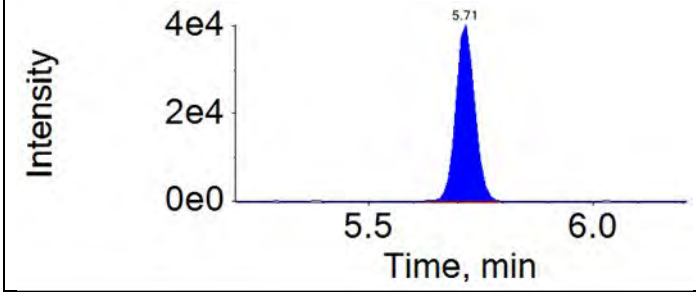
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

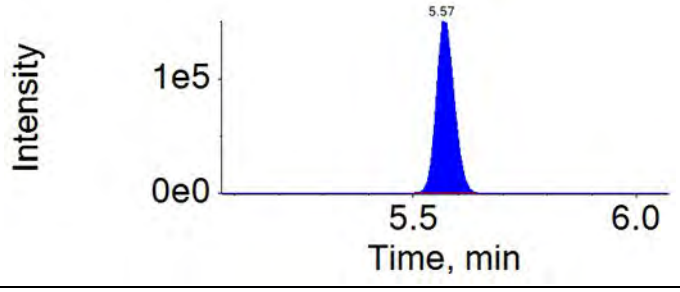
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

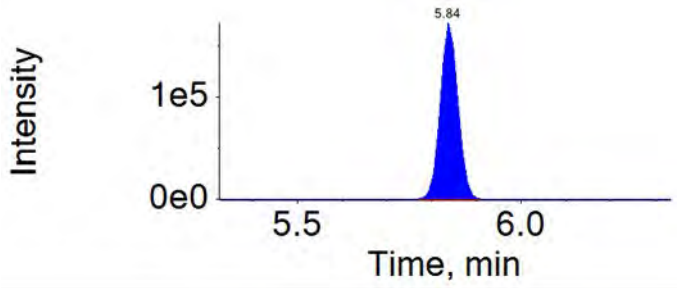
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

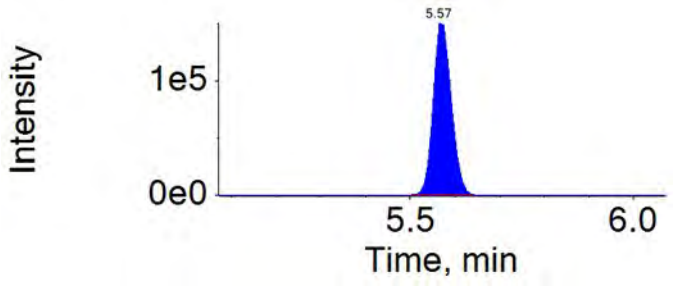
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



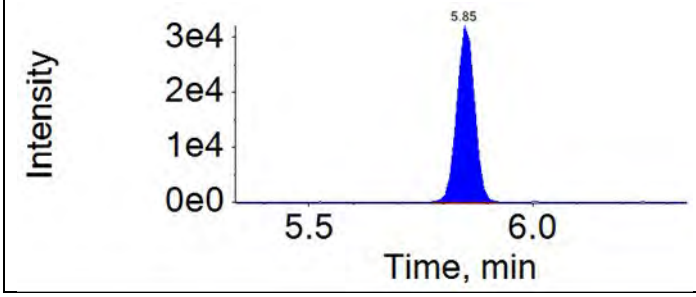


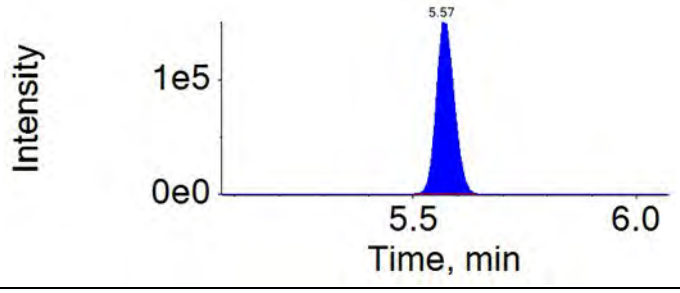
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



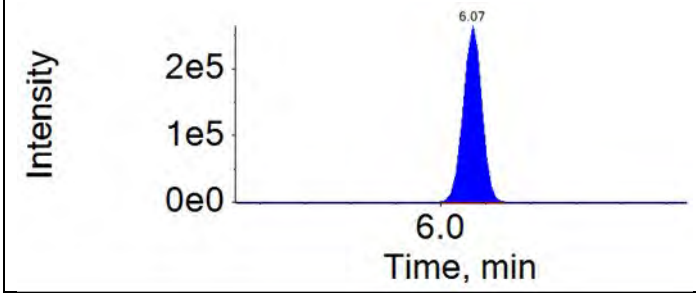


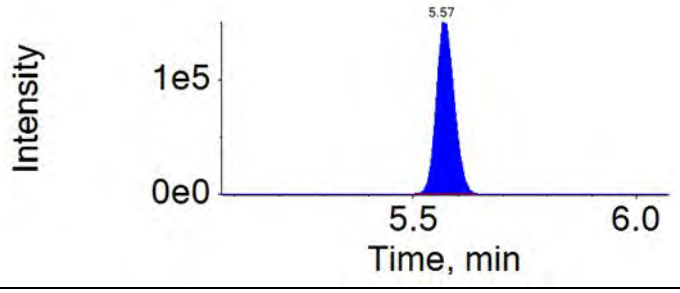
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

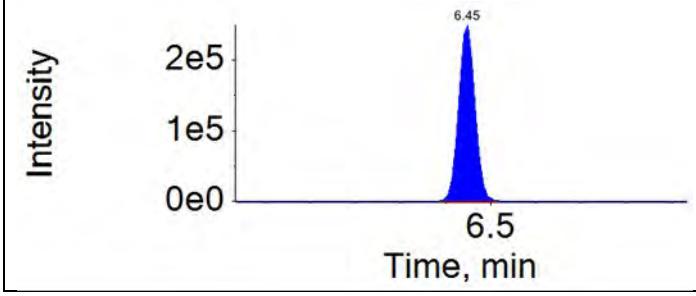
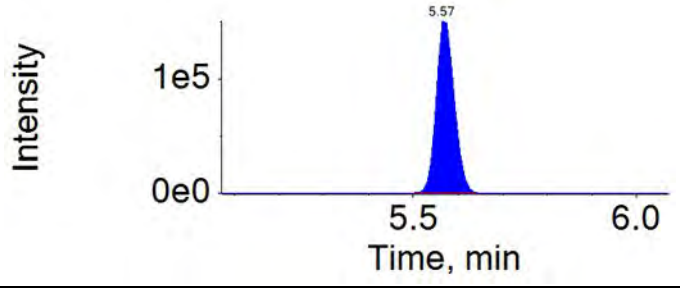




APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

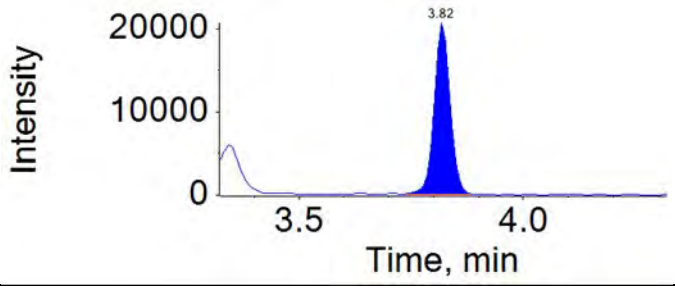
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

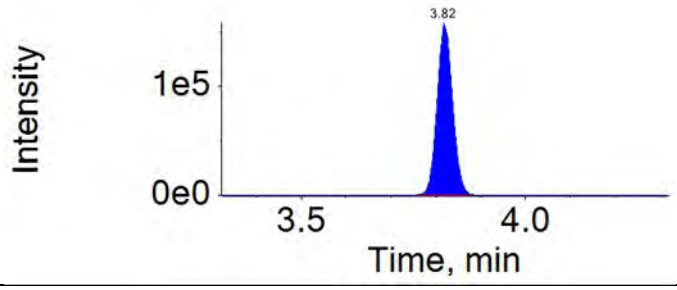
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

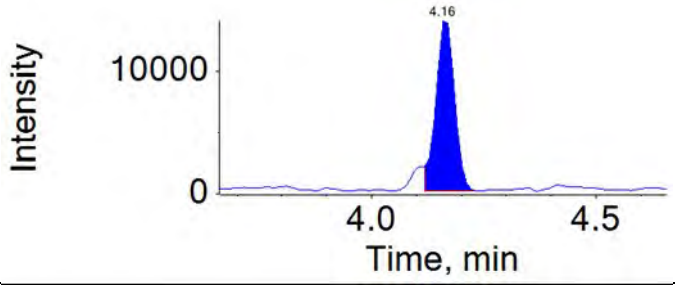
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

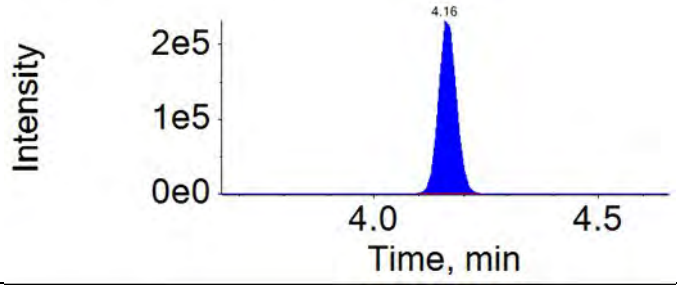
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



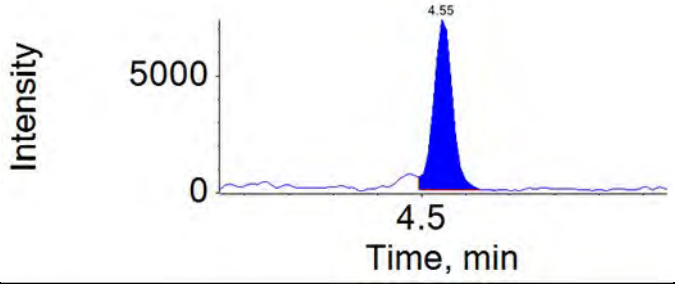


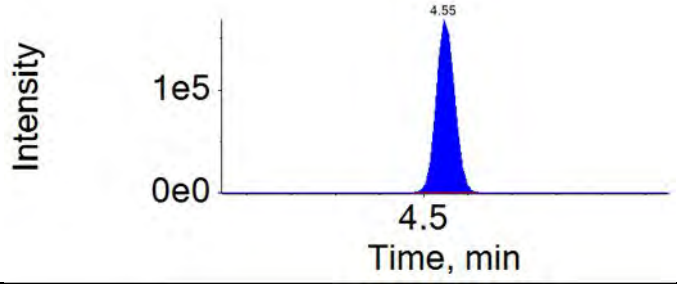
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



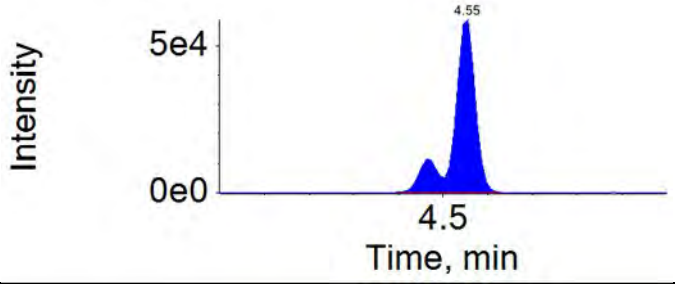


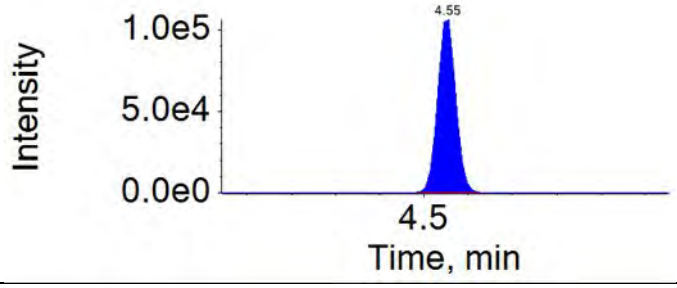
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



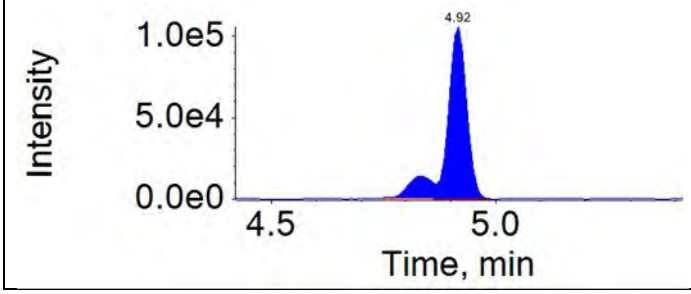


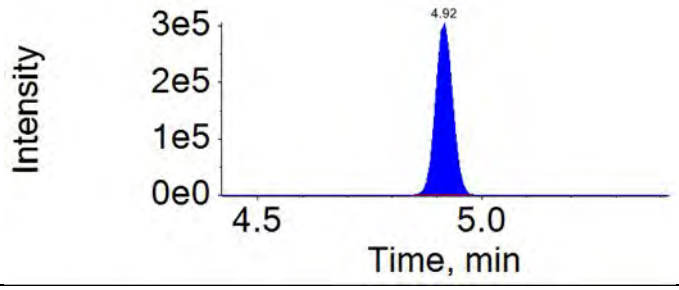
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

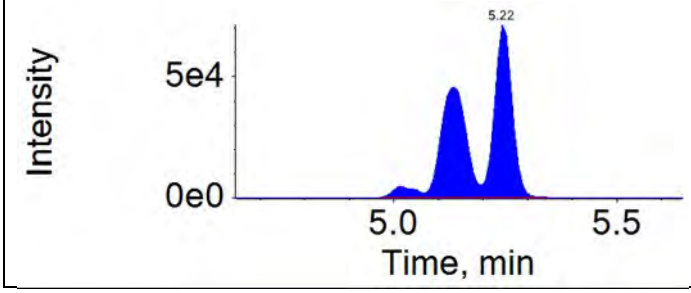
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

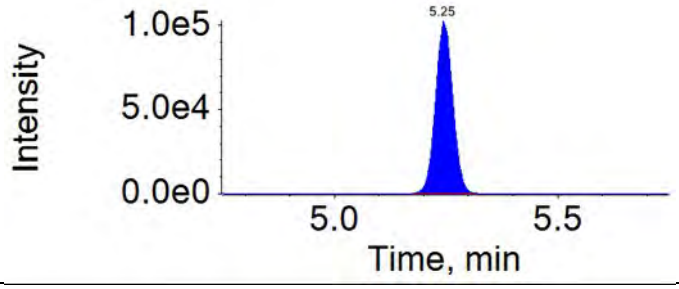
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



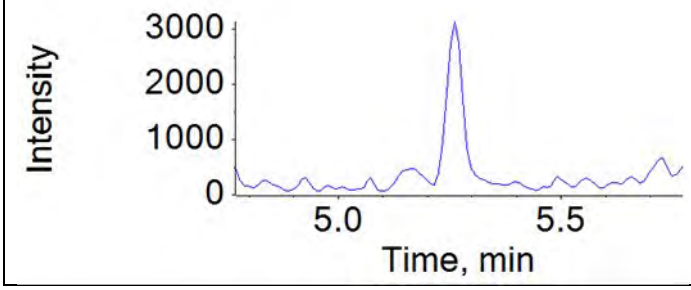


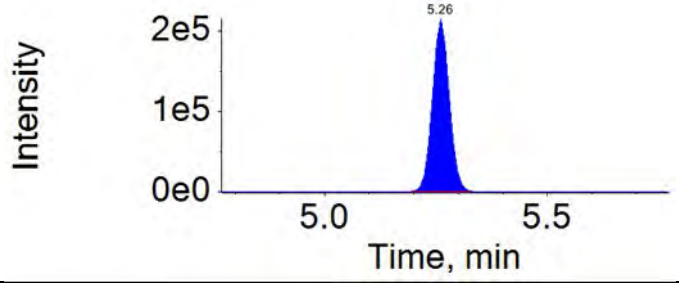
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



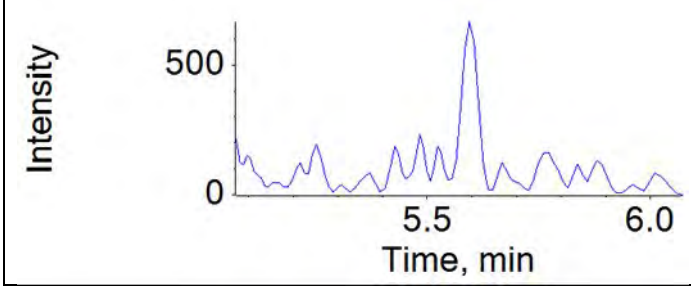


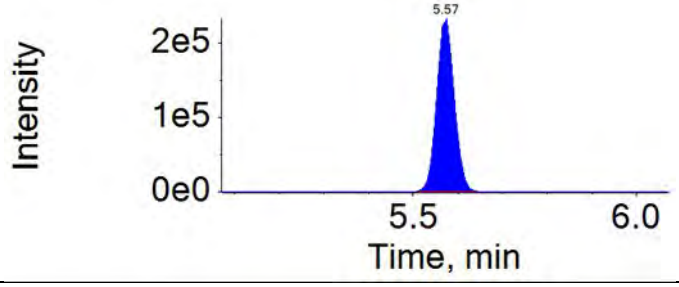
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



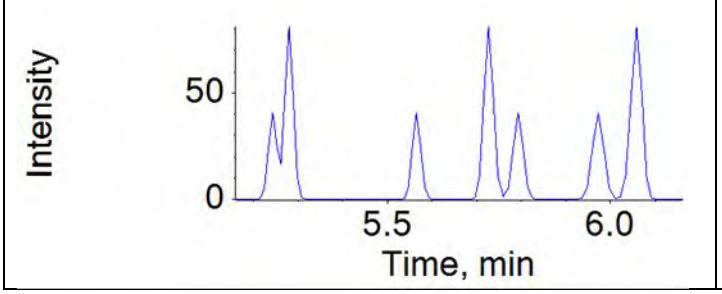


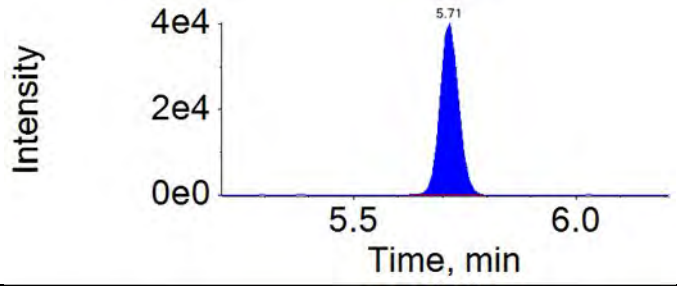
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

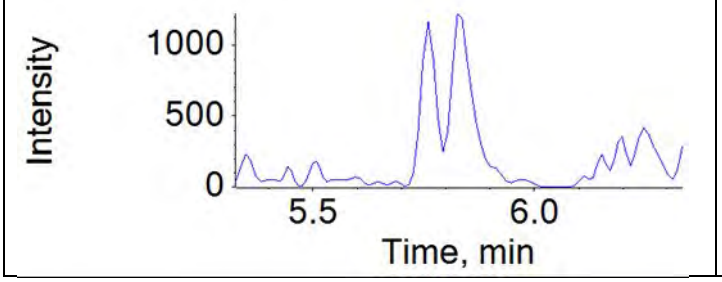
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

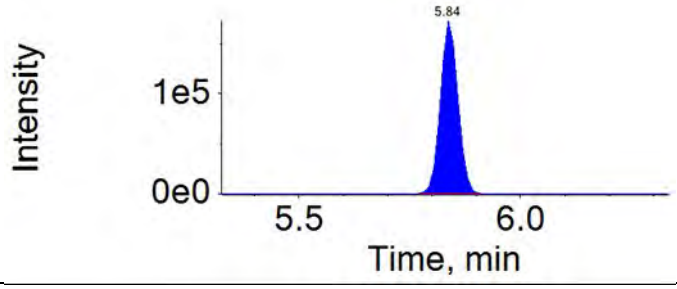
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



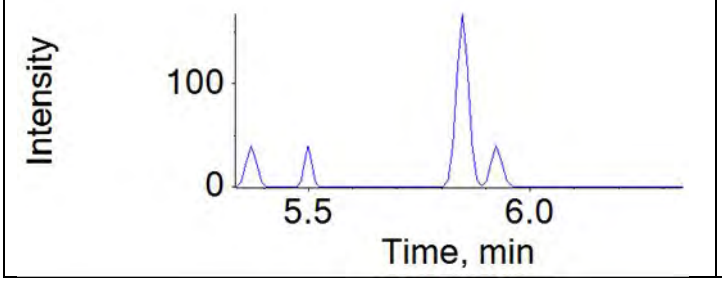


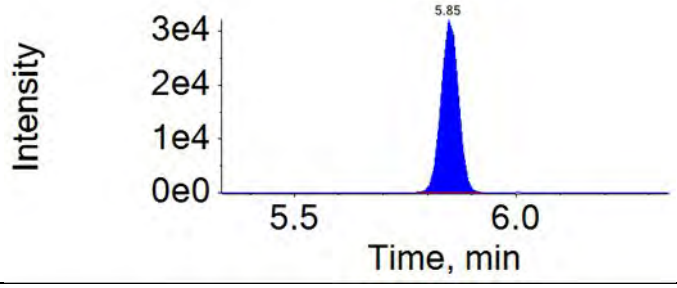
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



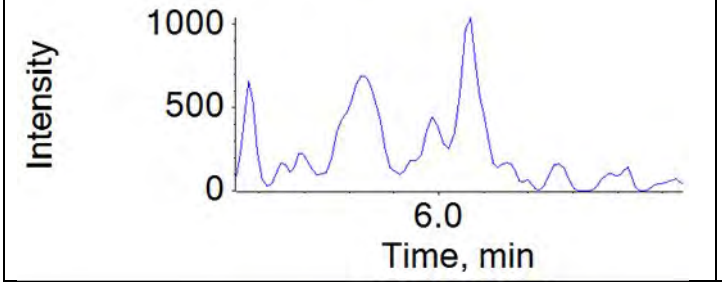


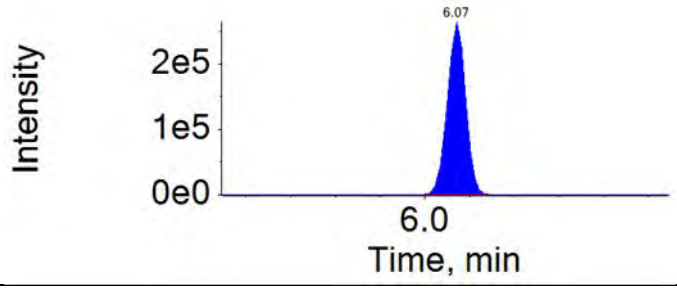
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

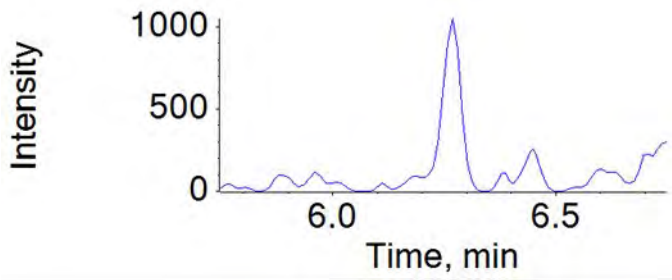
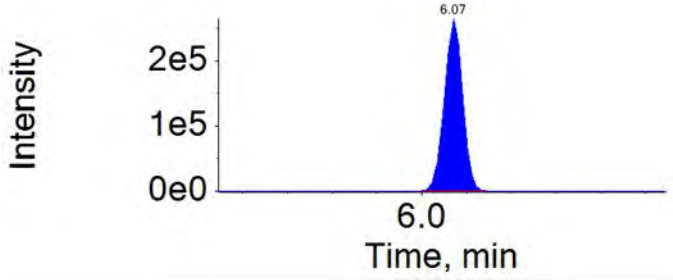


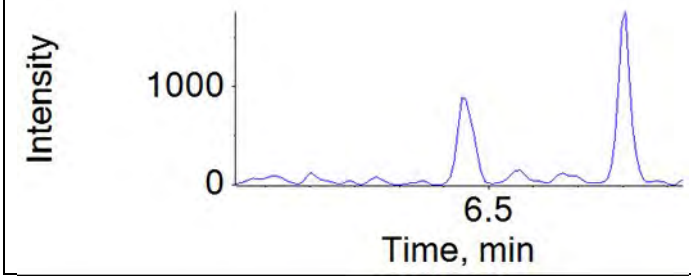
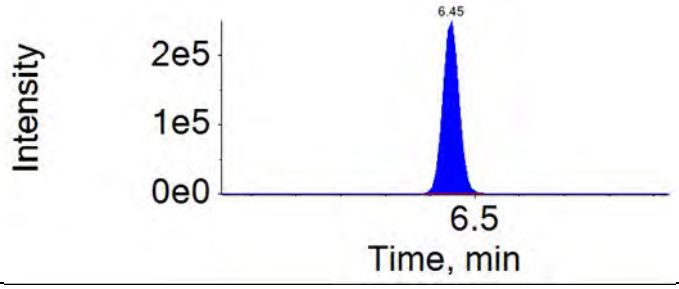


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

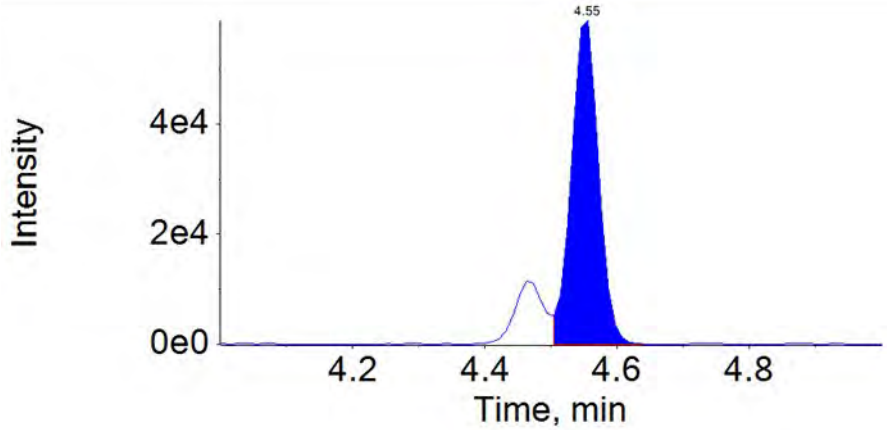
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

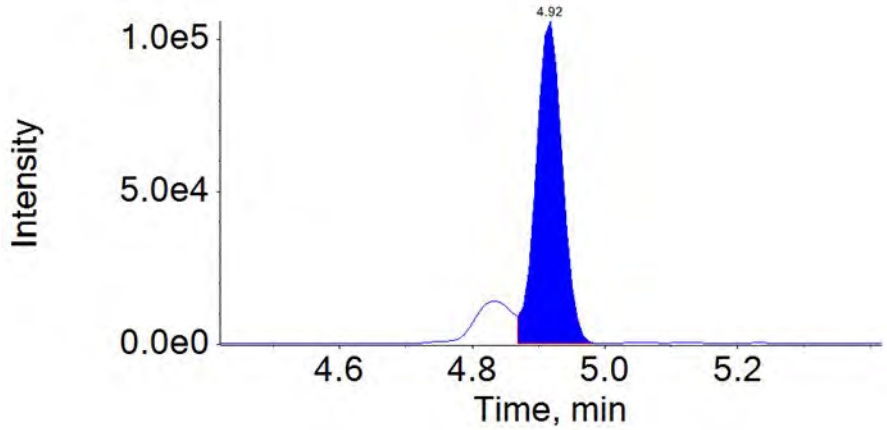
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
168654.5
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-32.wiff
Sample Name:
9922840



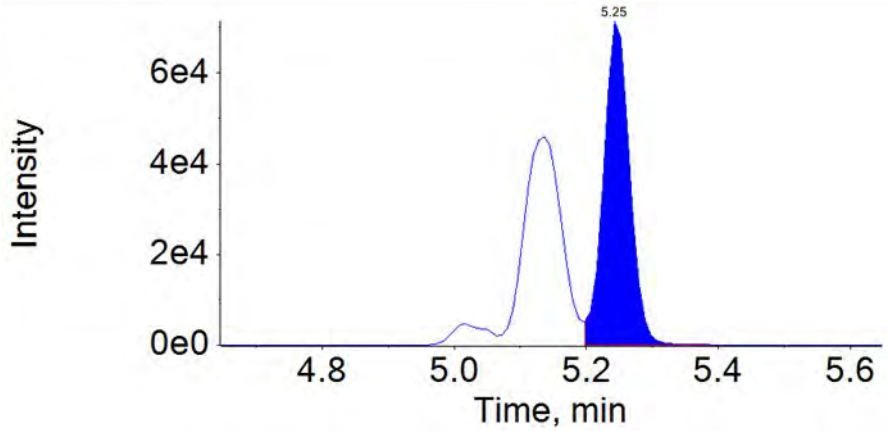
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
290769.9
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-32.wiff
Sample Name:
9922840



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
197131.6
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-32.wiff
Sample Name:
9922840



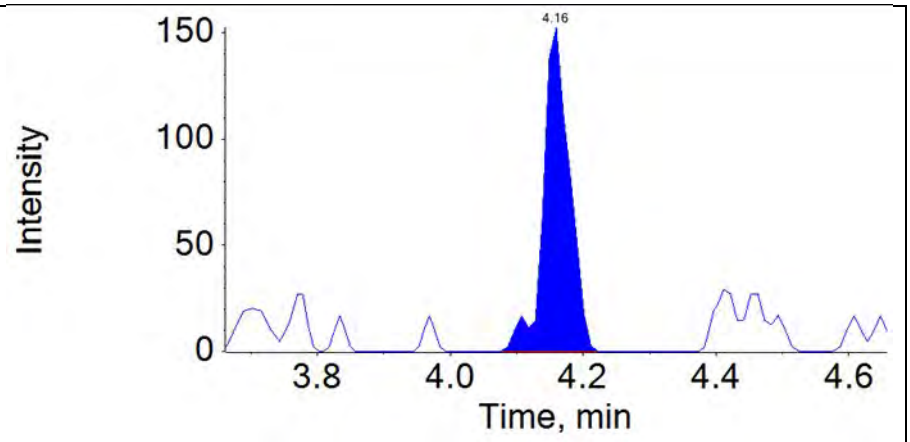
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

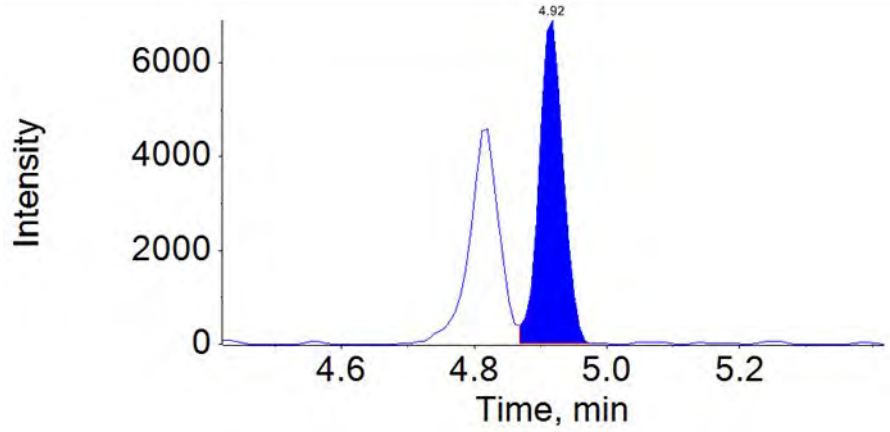
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
4.16
Peak Area:
421.9
Mass Range:
313.0 / 119.0
File Name:
18DEC08D-32.wiff
Sample Name:
9922840



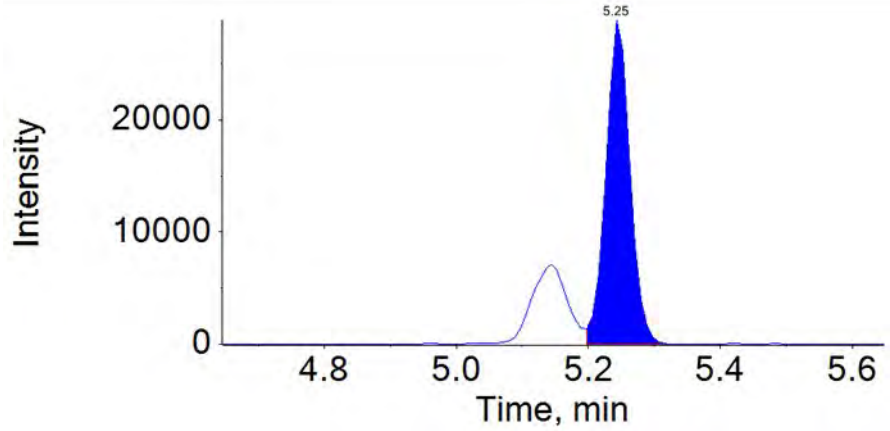
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
17402.0
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-32.wiff
Sample Name:
9922840



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
73362.6
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-32.wiff
Sample Name:
9922840



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

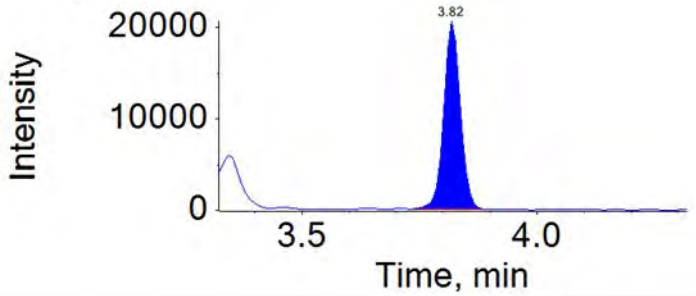
Sample Name: 9922840 **Instrument Name:** LM27631 **File Name:** 18DEC08D-32.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	50872.0	A	N/A	0.3668			
PFBS_2	3.82	1.00	18657.9	A	N/A	0.3668	2	50	
PFHxA	4.16	1.00	40577.1	A	N/A	0.0099			
PFHxA_2	4.16	1.00	400.4	M	N/A	0.0099	11	50	
PFHpA	4.55	1.00	21283.5	A	N/A	0.0310			
PFHpA_2	4.54	1.00	660.1	A	N/A	0.0310	-45	50	
PFHxS	4.55	1.00	204121.4	M	N/A	0.3291			
PFHxS_2	4.55	1.00	67179.2	A	N/A	0.3291	-11	50	
PFOA	4.92	1.00	345294.5	M	N/A	0.0926			
PFOA_2	4.90	1.00	31989.8	M	N/A	0.0926	50	50	
PFOS	5.22	0.99	395972.5	M	N/A	0.2530			
PFOS_2	5.25	1.00	100176.4	M	N/A	0.2530	-16	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

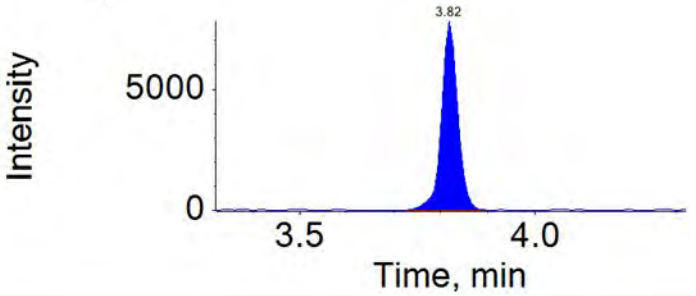
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

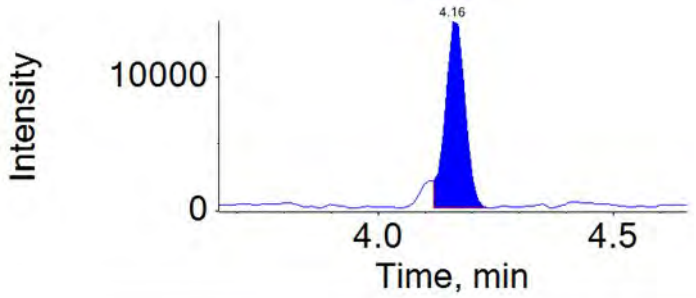
Component: PFBS
Primary Mass: 299.0 / 80.0



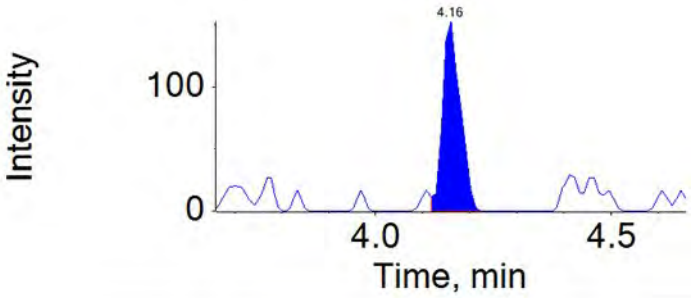
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



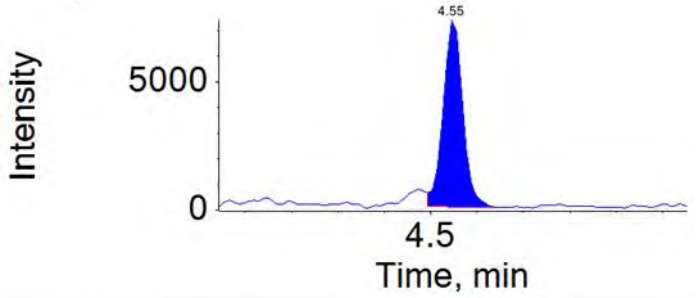
Component: PFHxA
Primary Mass: 313.0 / 269.0



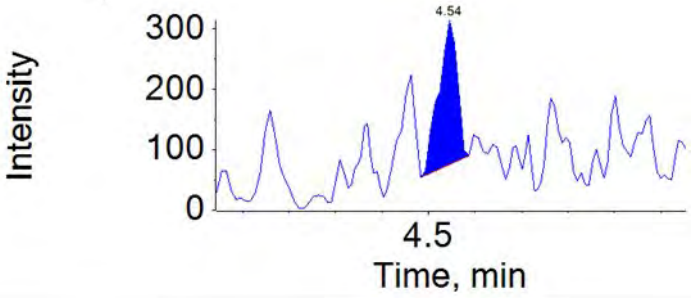
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



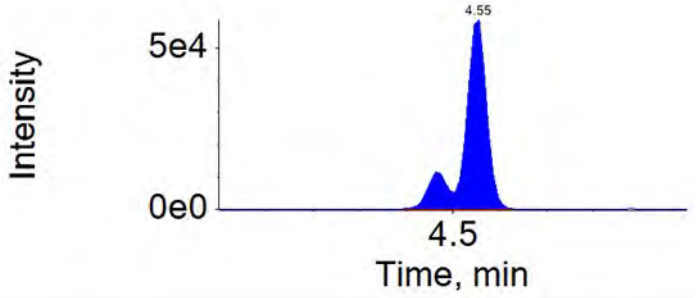
Component: PFHpA
Primary Mass: 363.0 / 319.0



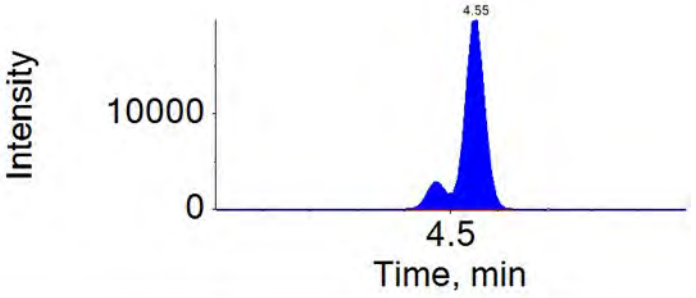
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



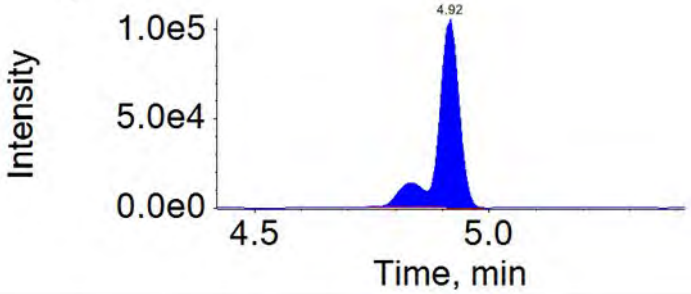
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



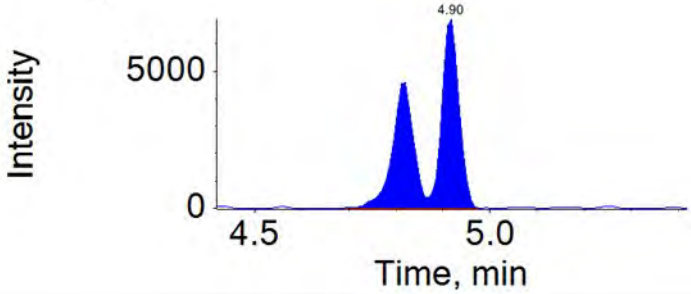
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

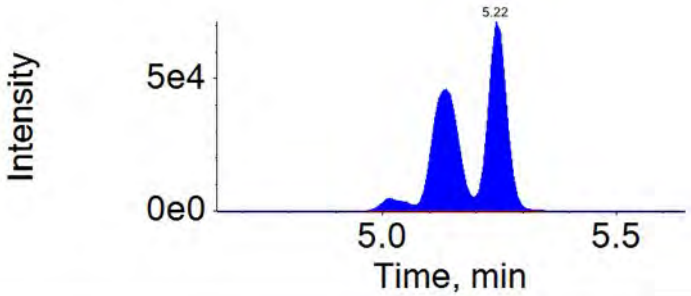
Component: PFOA
Primary Mass: 413.0 / 369.0



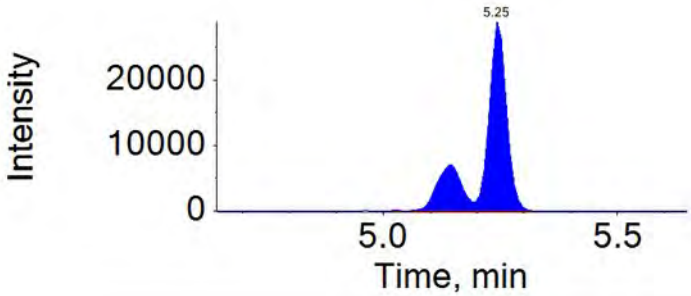
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



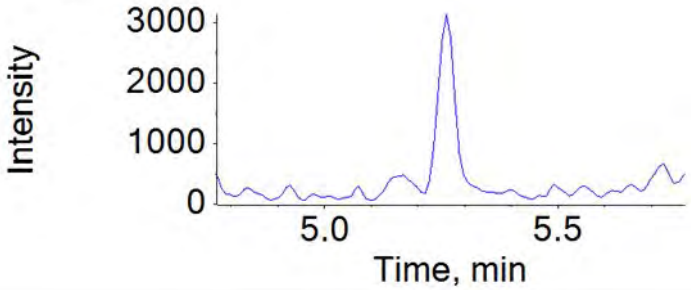
Component: PFOS
Primary Mass: 499.0 / 80.0



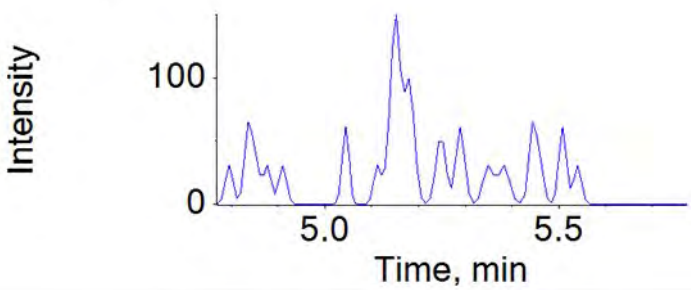
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



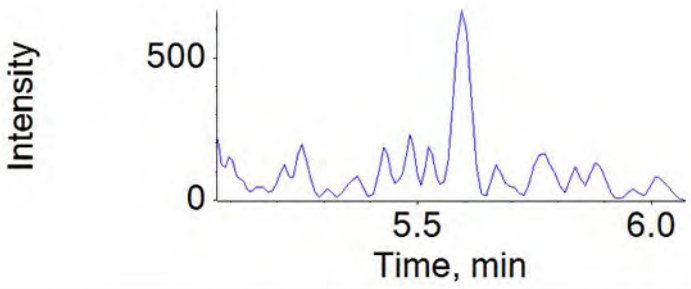
Component: PFNA
Primary Mass: 463.0 / 419.0



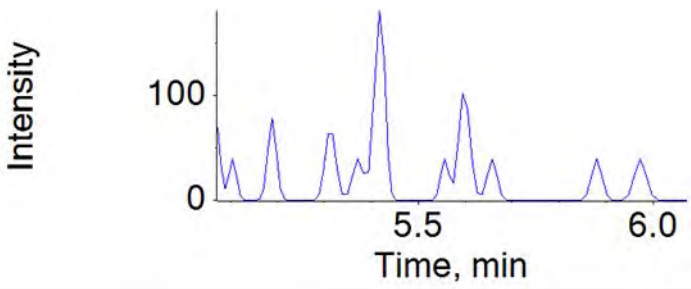
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



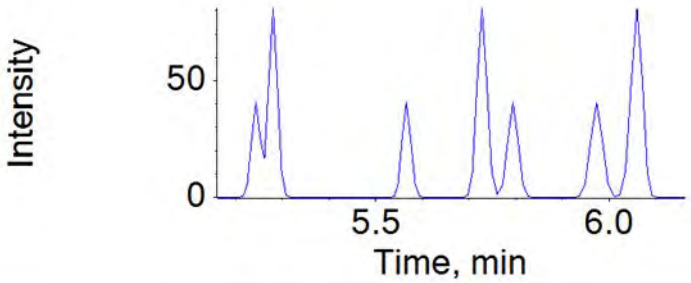
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



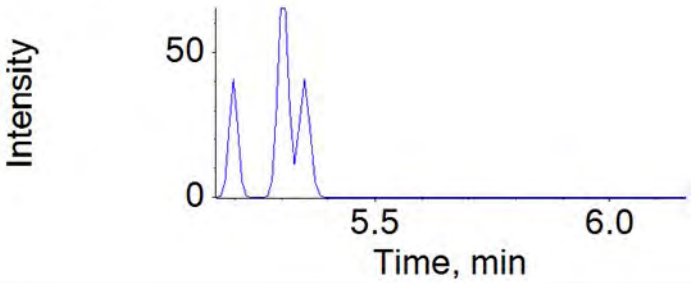
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

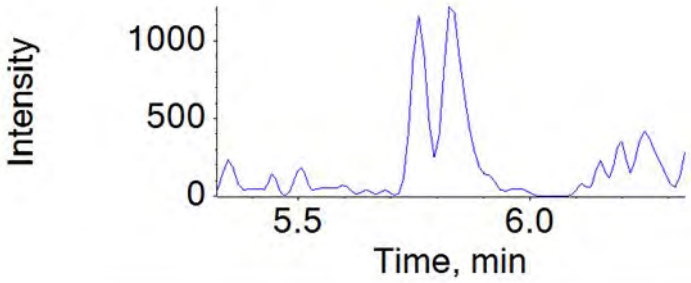
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



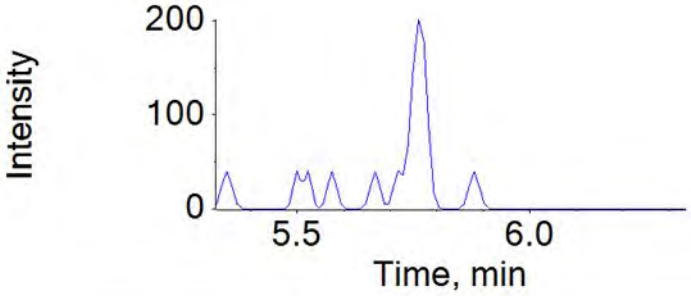
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



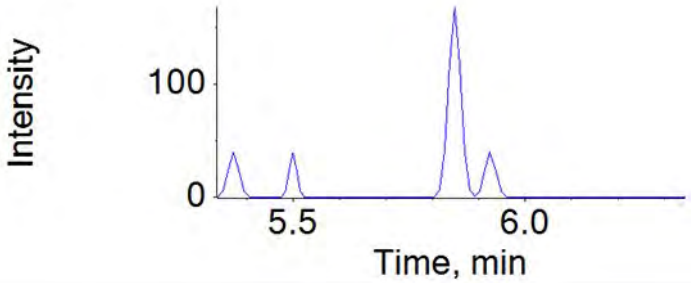
Component: PFUnDA
Primary Mass: 563.0 / 519.0



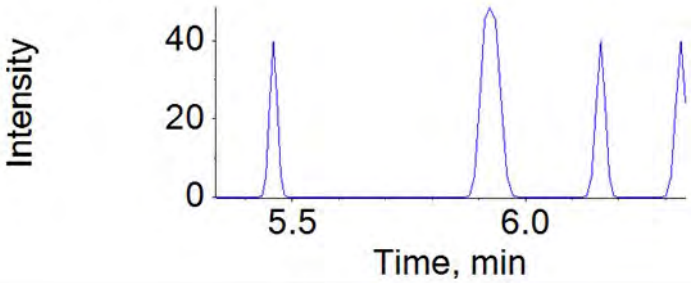
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



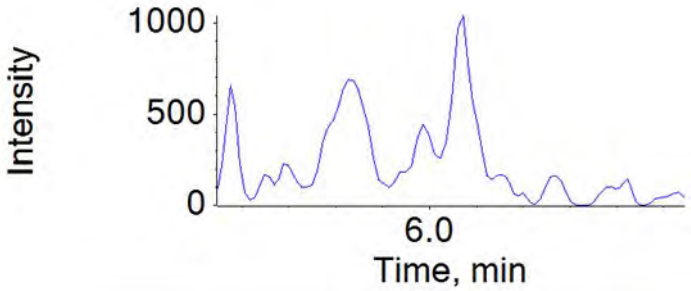
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



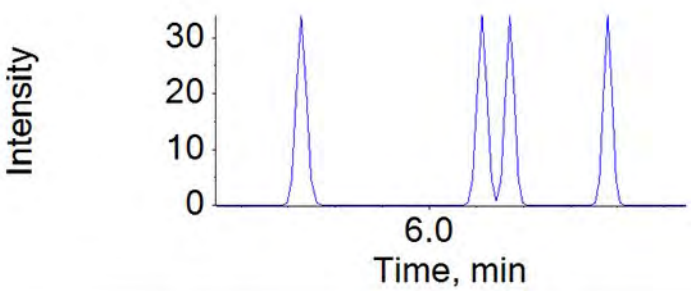
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



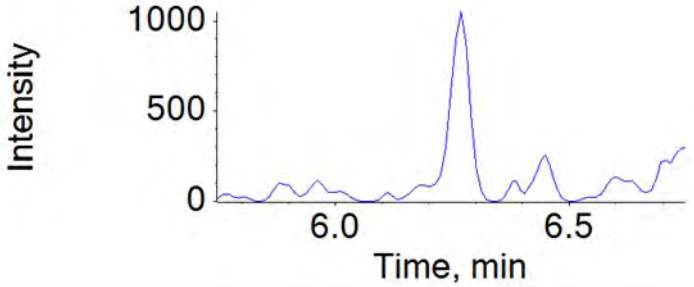
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



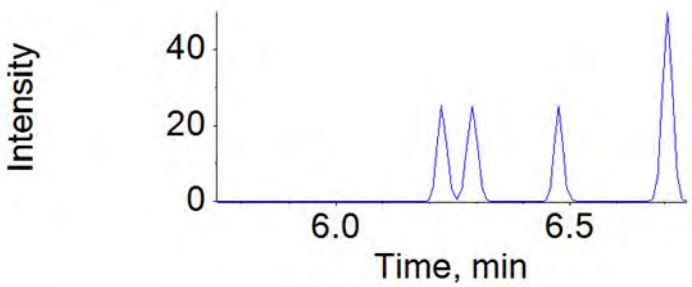
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

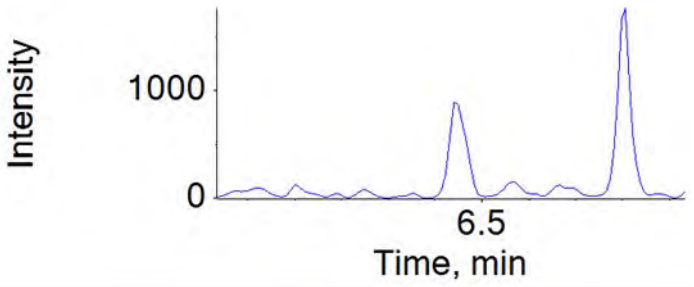
Component: PFTrDA
Primary Mass: 663.0 / 619.0



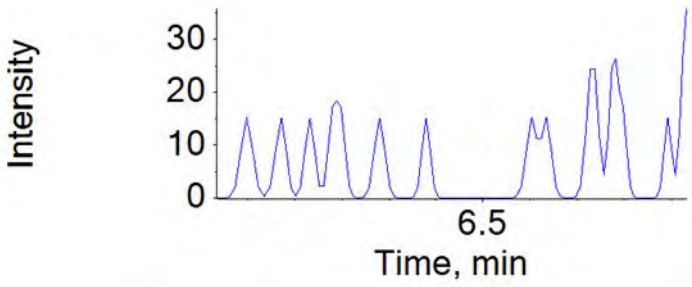
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922841BKG			**Data File:**		18DEC08D-33.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 Grab Groundwater			**Acquis Date:**		2018-12-08T12:55:57
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	56			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.28003			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	952116.1	936973.7	2	50	
13C2-PFOA	5.0	498247.6	474841.3	5	50	
13C4-PFOS	4.8	306433.3	294668.0	4	50	
13C2-PFDA	5.0	407793.2	373990.9	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	494366.3	13C3-PFBA	952116.1	0.519	16.605	15.717	95	50-150	
E13C5-PFHxA	800003.5	13C2-PFOA	498247.6	1.606	17.855	19.251	108	50-150	
E13C3-PFHxS	394250.3	13C2-PFOA	498247.6	0.791	16.891	18.124	107	50-150	
E13C4-PFHpA	695136.4	13C2-PFOA	498247.6	1.395	17.855	21.181	119	50-150	
E13C8-PFOA	1025267.3	13C2-PFOA	498247.6	2.058	17.855	20.772	116	50-150	
E13C8-PFOS	366416.2	13C4-PFOS	306433.3	1.196	17.070	19.163	112	50-150	
E13C9-PFNA	677775.8	13C4-PFOS	306433.3	2.212	17.855	22.320	125	50-150	
E13C6-PFDA	790960.0	13C2-PFDA	407793.2	1.940	17.855	18.355	103	50-150	
Ed3-NMeFOSAA	157064.3	13C2-PFDA	407793.2	0.385	17.855	24.374	137	50-150	
E13C7-PFUnDA	480093.3	13C2-PFDA	407793.2	1.177	17.855	20.623	116	50-150	
Ed5-NEtFOSAA	95019.6	13C2-PFDA	407793.2	0.233	17.855	18.368	103	50-150	
E13C2-PFDoDA	949403.4	13C2-PFDA	407793.2	2.328	17.855	17.447	98	50-150	
E13C2-PFTeDA	624703.8	13C2-PFDA	407793.2	1.532	17.855	16.237	91	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

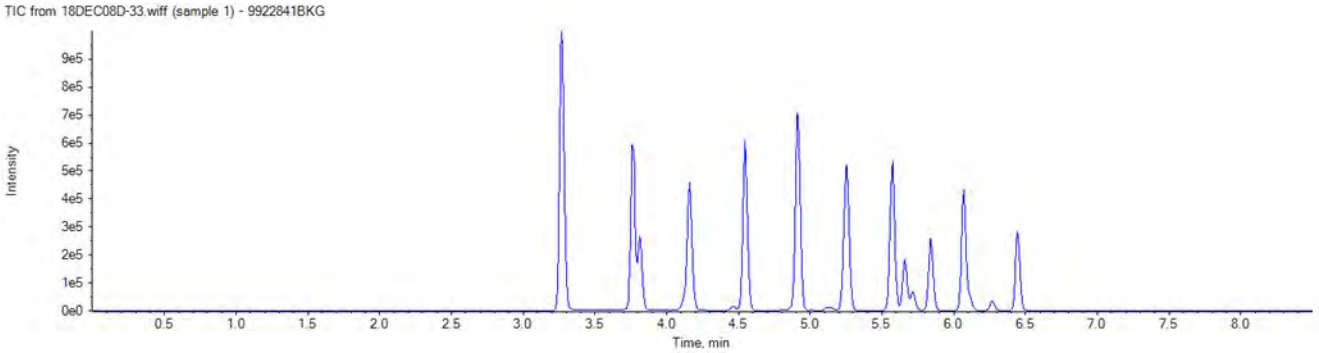
Analyte Quantitation Peak Table

Sample Name: 9922841BKG **Instrument Name:** LM27631 **File Name:** 18DEC08D-33.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28003	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	35241.5		A	13C3-PFBS	3.81	494366.3	0.071	1.262
PFHxA	4.16	1.000	211342.9		A	13C5-PFHxA	4.16	800003.5	0.264	4.111
PFHpA	4.55	1.000	49279.6		A	13C4-PFHpA	4.55	695136.4	0.071	0.834
PFHxS	4.55	1.000	167806.2		M	13C3-PFHxS	4.55	394250.3	0.426	7.202
PFOA	4.91	1.000	48871.0		M	13C8-PFOA	4.91	1025267.3	0.048	0.930
PFOS	5.13	0.980	56059.7		M	13C8-PFOS	5.24	366416.2	0.153	2.266
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	677775.8	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	790960.0	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	157064.3	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	480093.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	95019.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	949403.4	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	949403.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	624703.8	N/A	

Total Ion Chromatogram

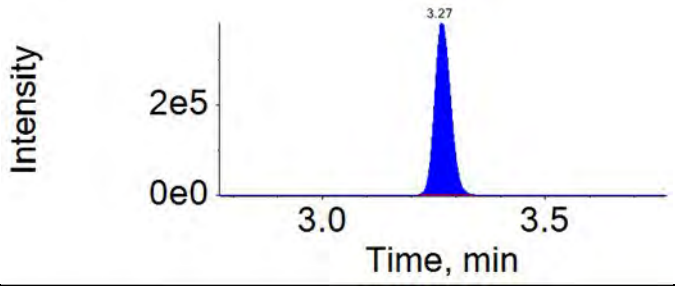


APPROVED
By MCD at 7:42 pm, 12/10/18

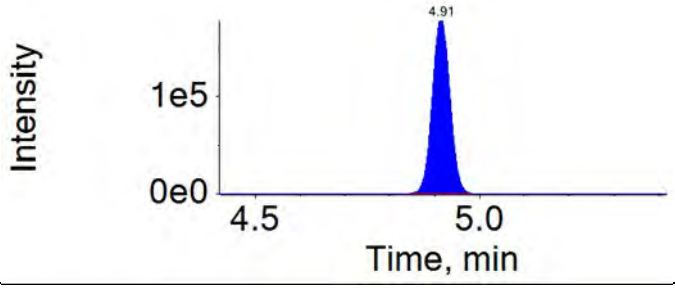
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

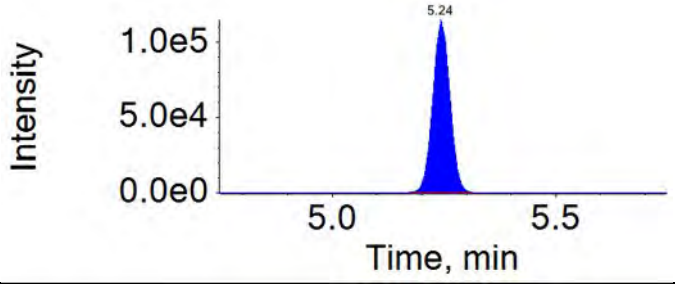
Injection Standard: 13C3-PFBA
216.0 / 172.0



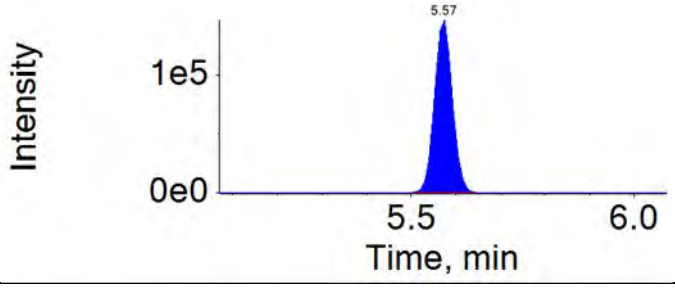
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

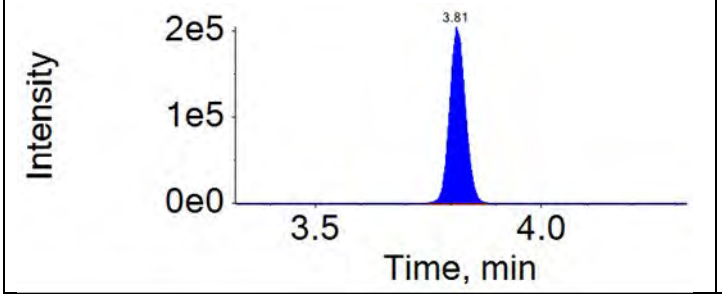


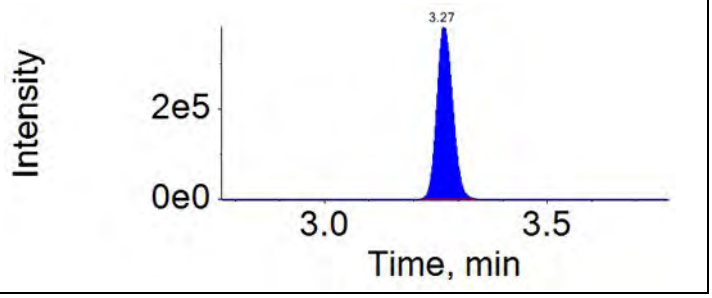
Injection Standard: 13C2-PFDA
515.0 / 470.0



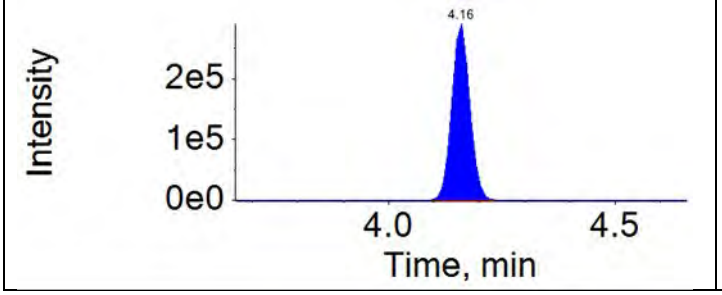
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

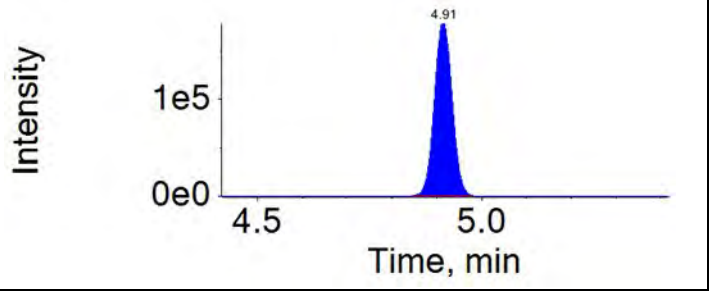
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



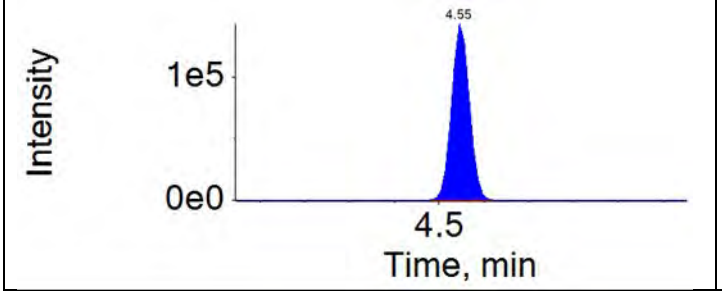


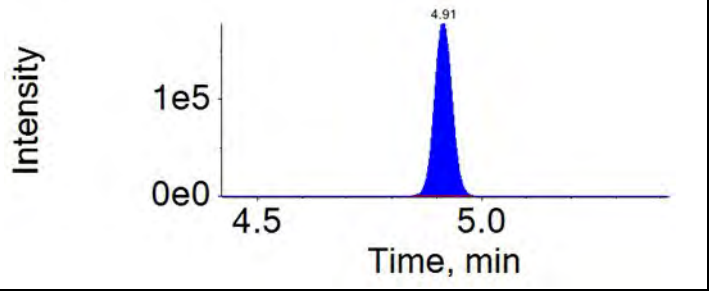
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



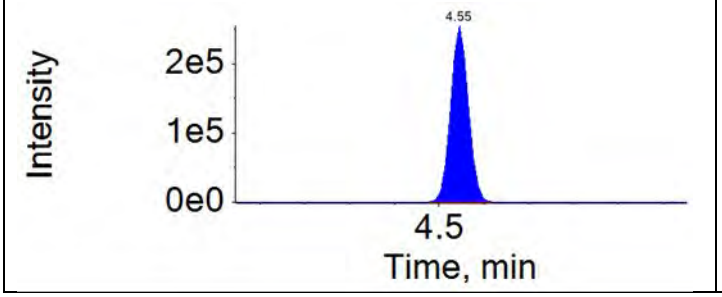


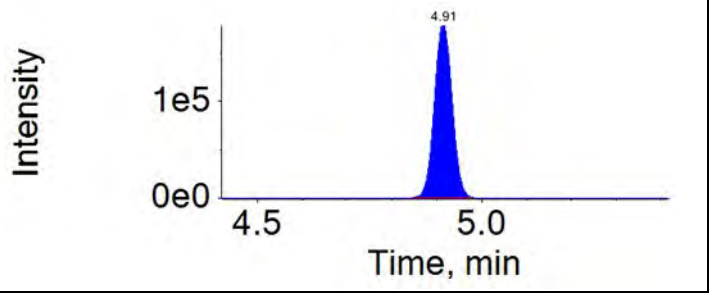
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

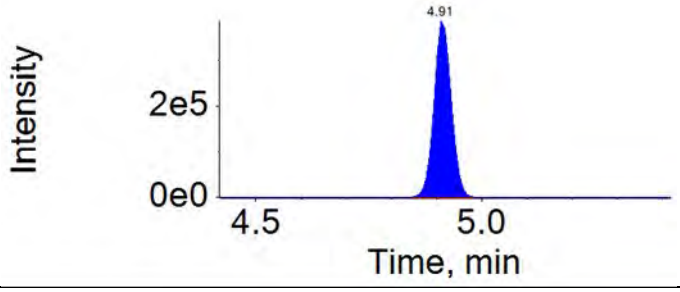
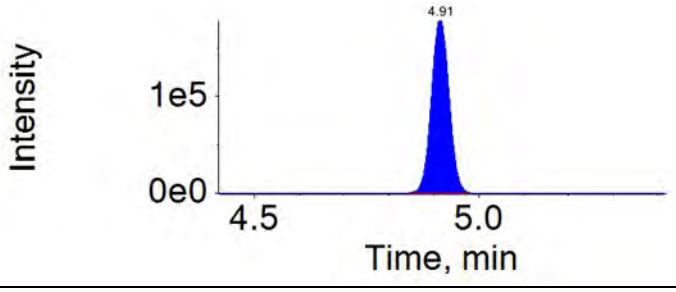


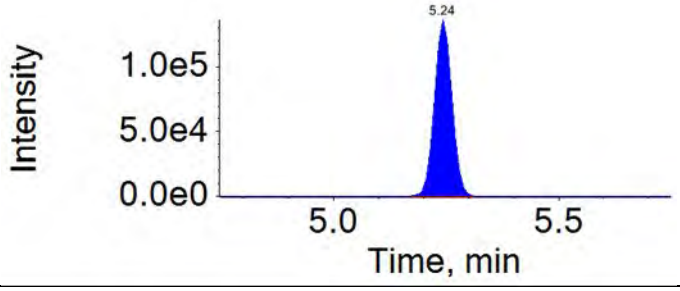
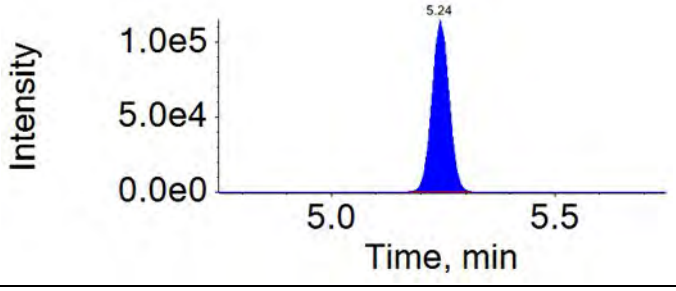


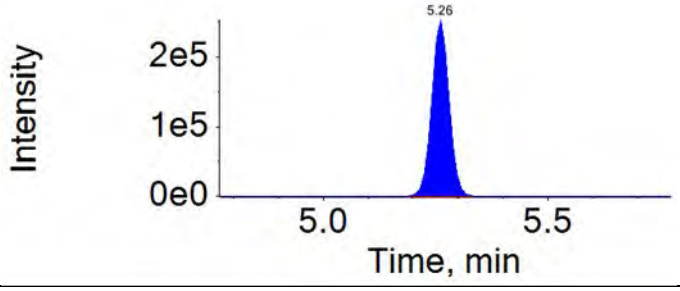
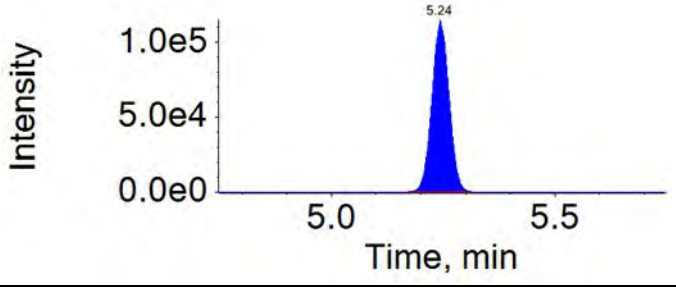
APPROVED
By MCD at 7:42 pm, 12/10/18

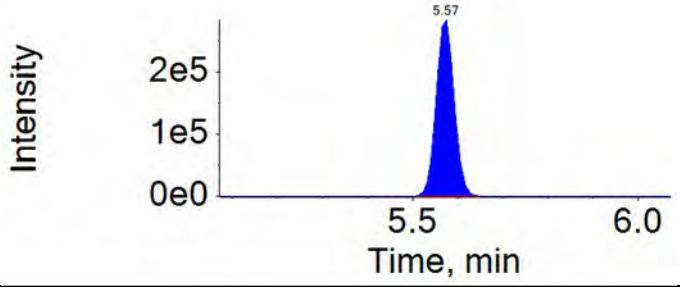
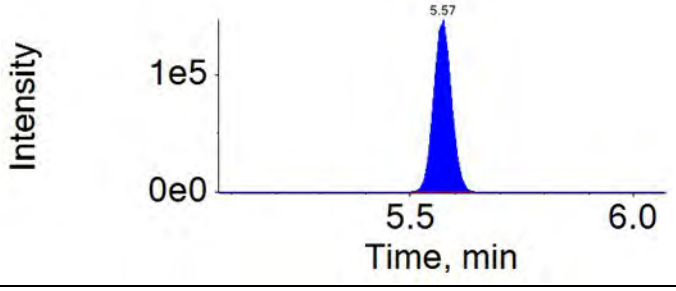
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

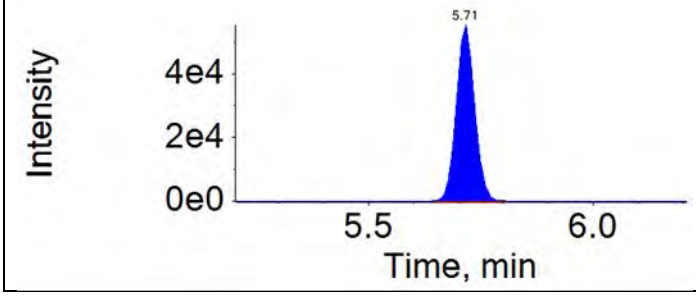
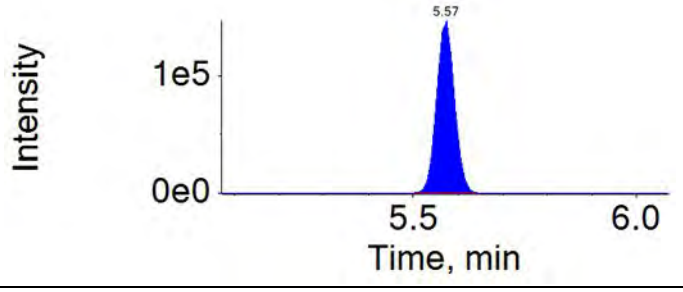
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

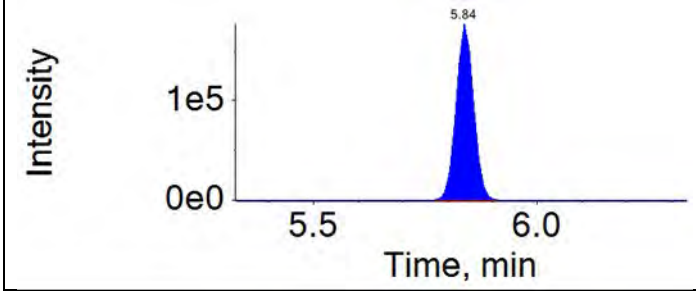
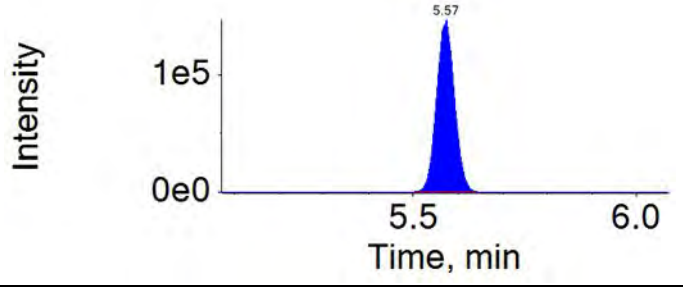
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

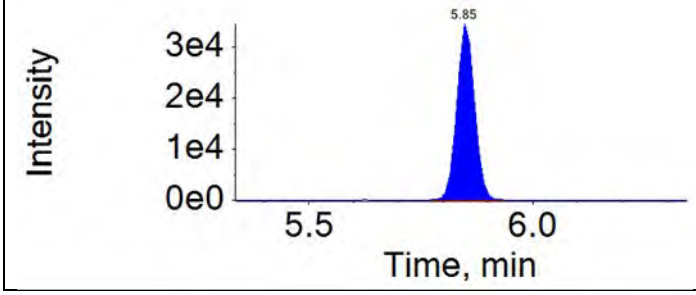
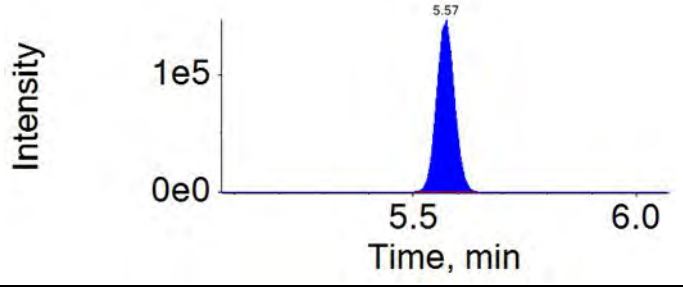
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

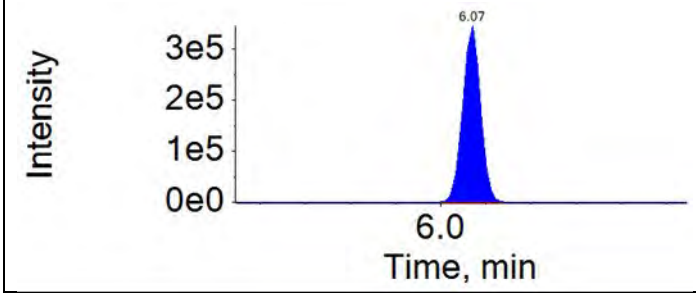
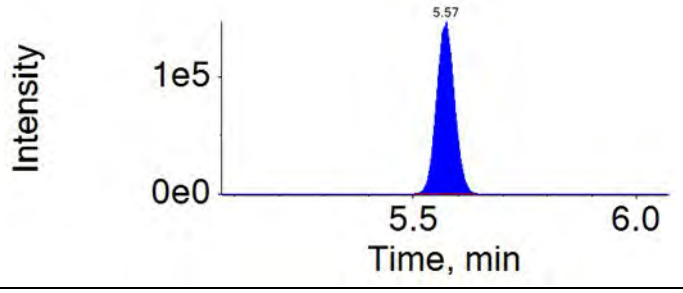
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

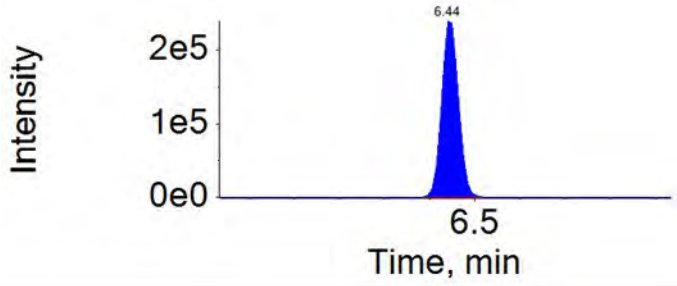
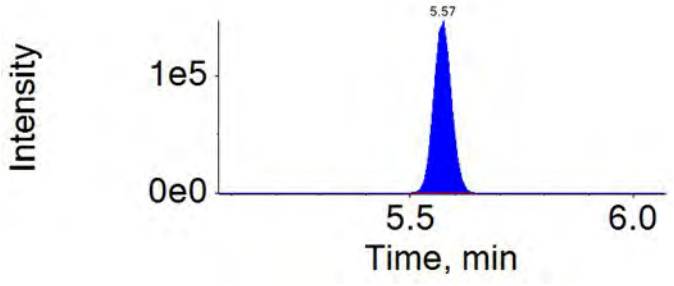
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

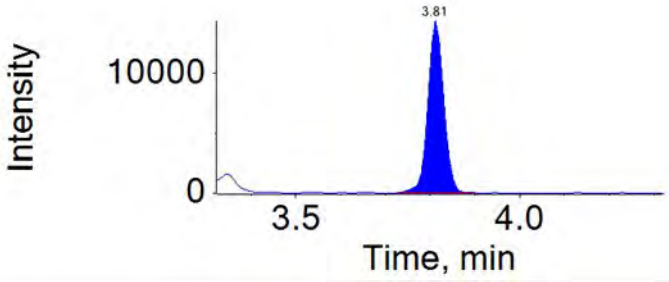
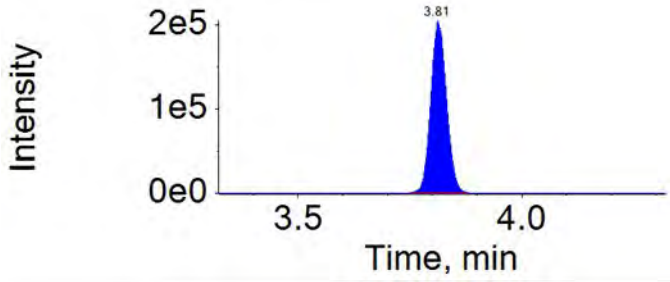
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

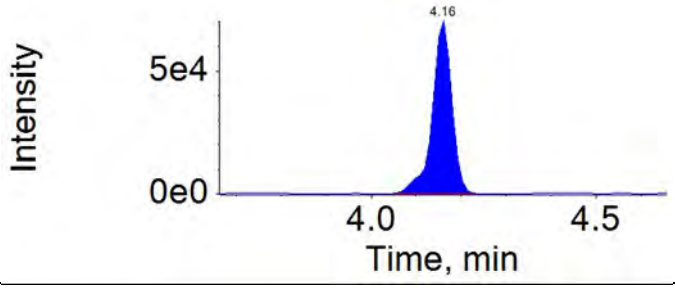
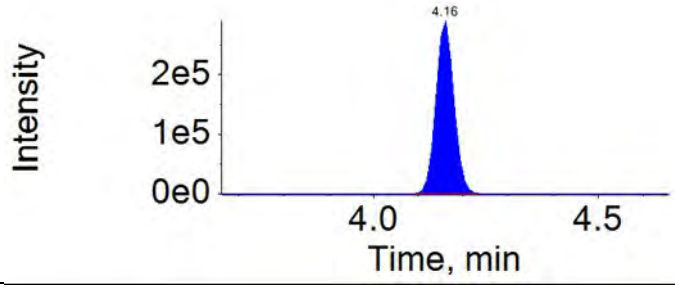
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

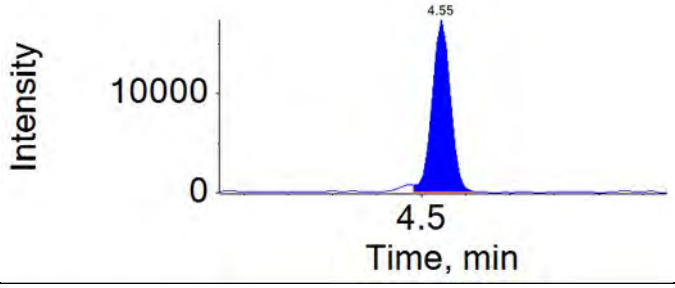
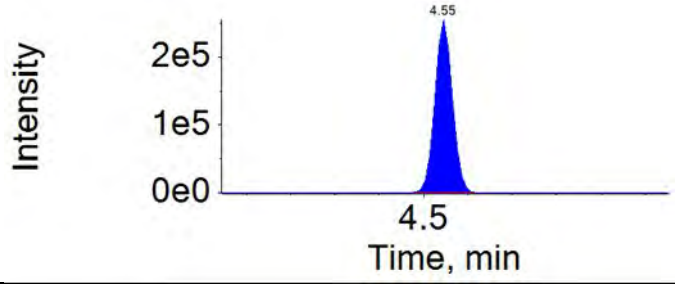
APPROVED
By MCD at 7:42 pm, 12/10/18

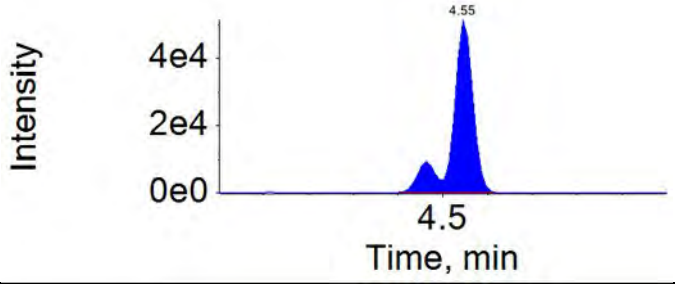
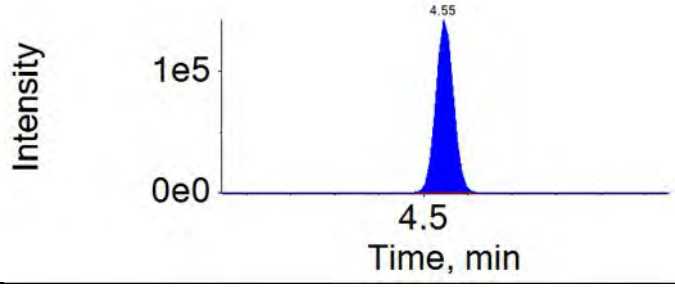
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

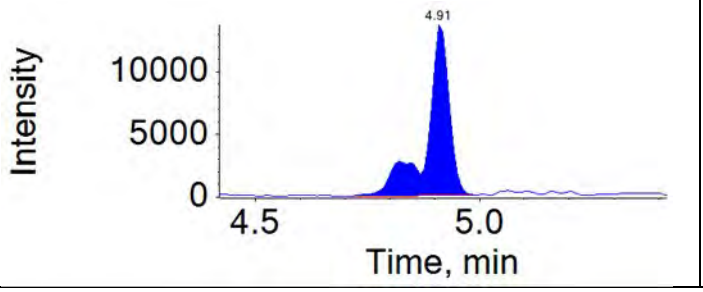
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

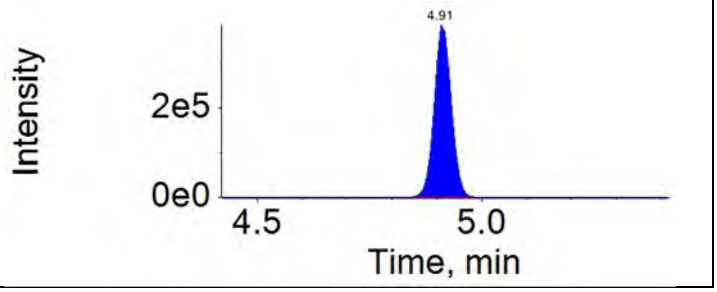
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

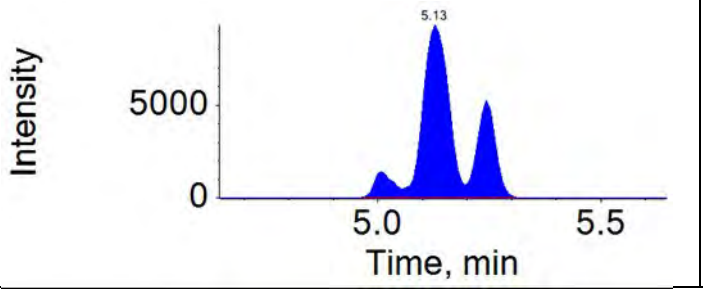
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

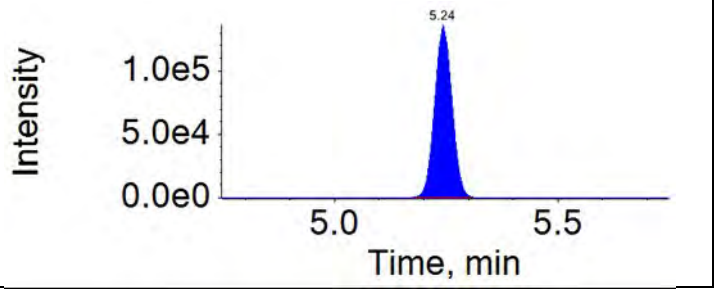
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



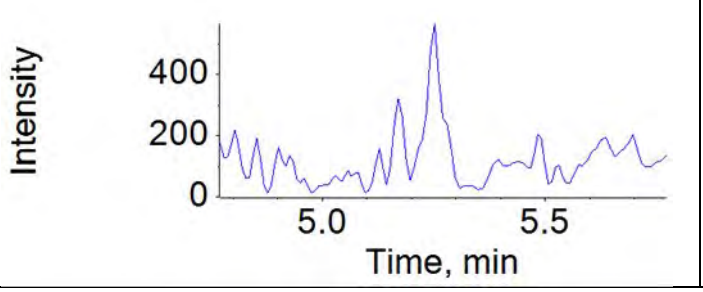


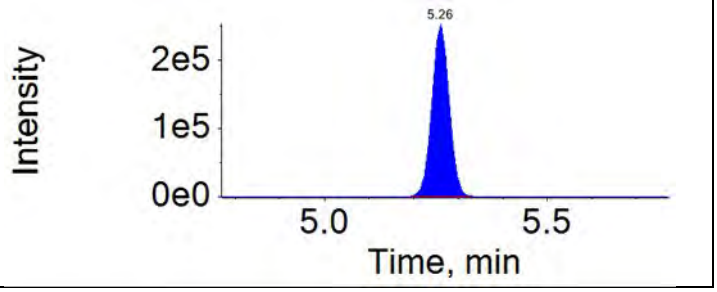
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



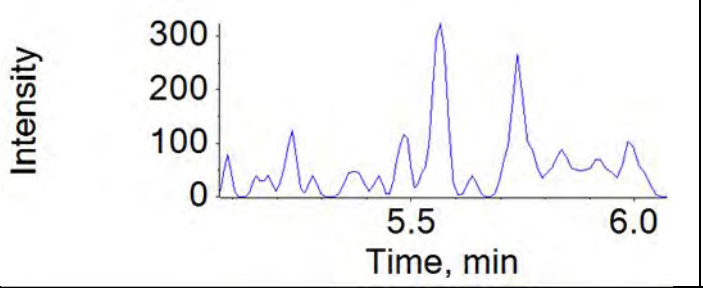


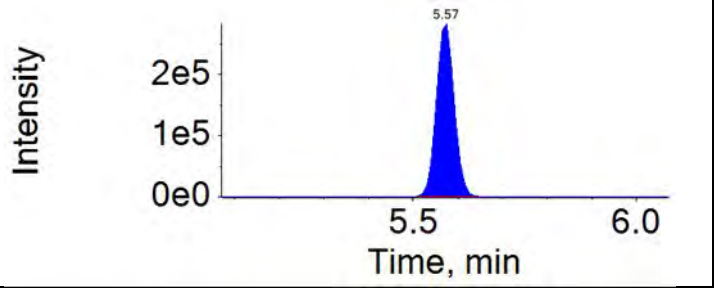
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



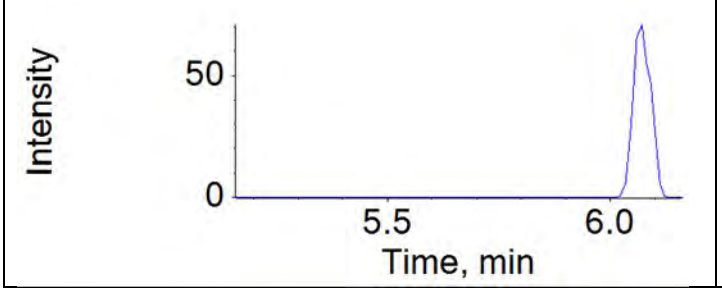


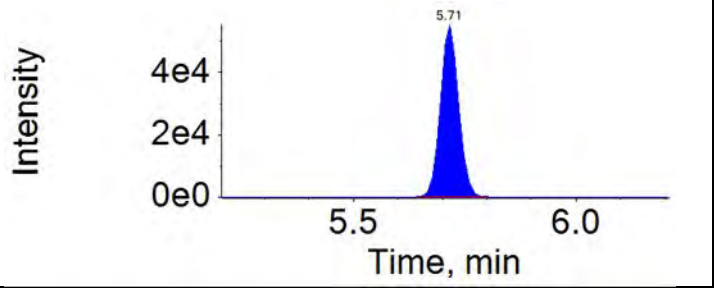
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

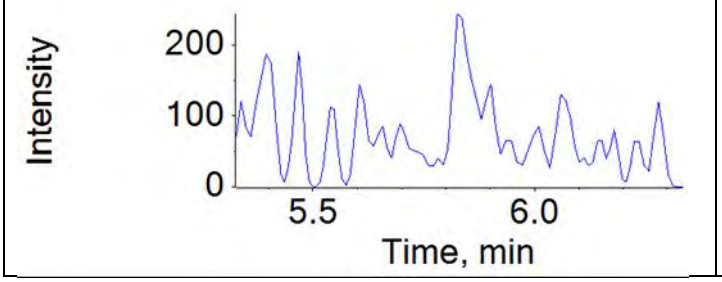
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

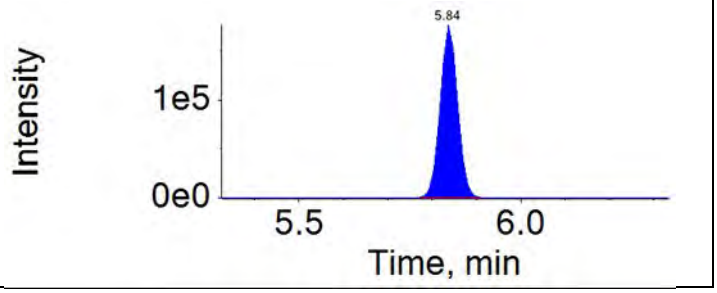
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



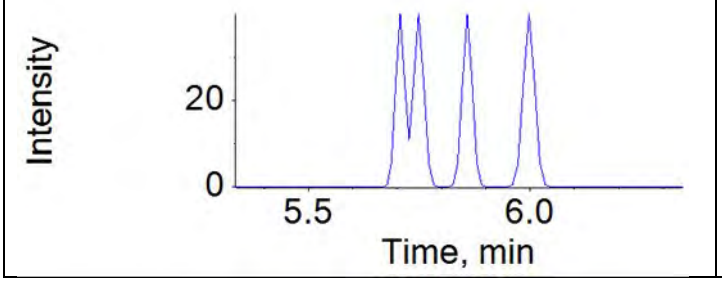


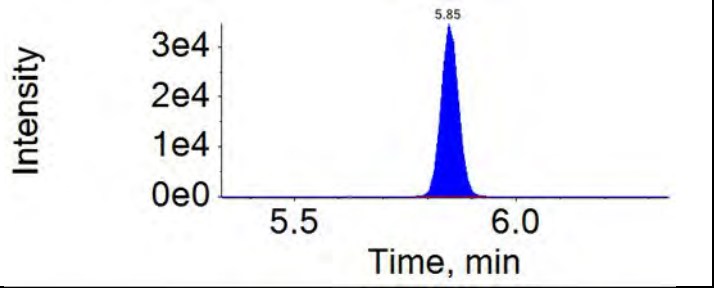
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



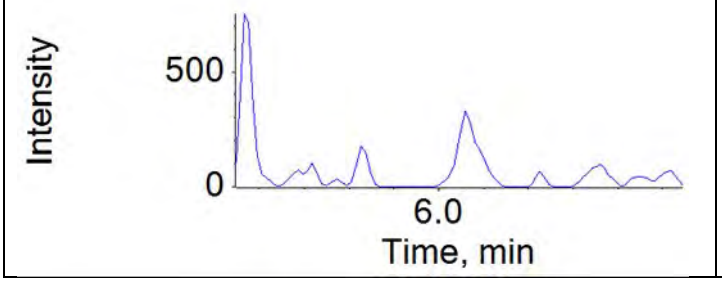


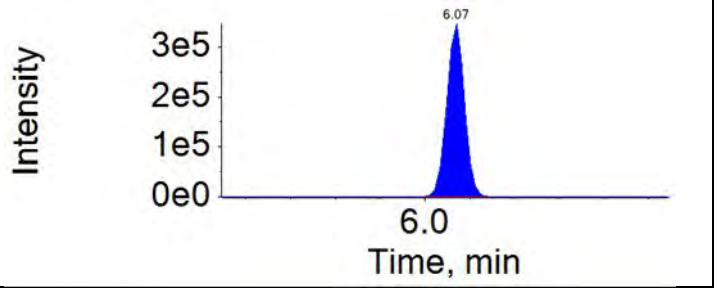
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

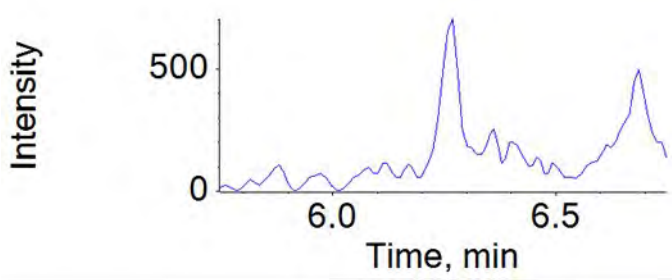
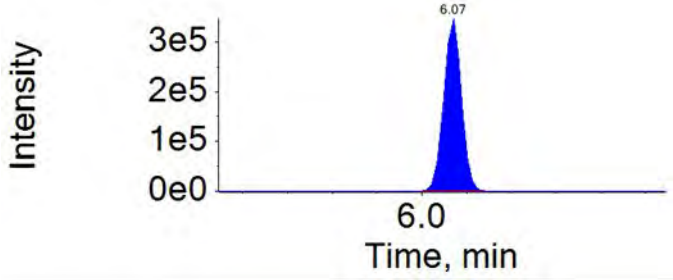


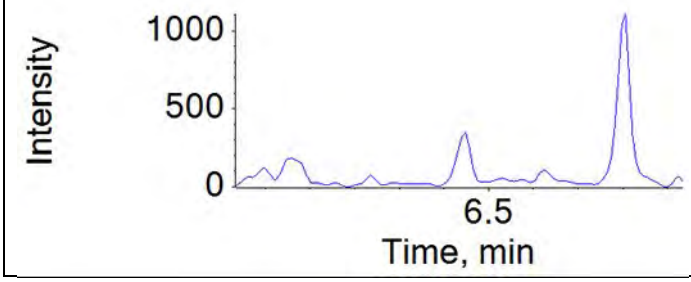
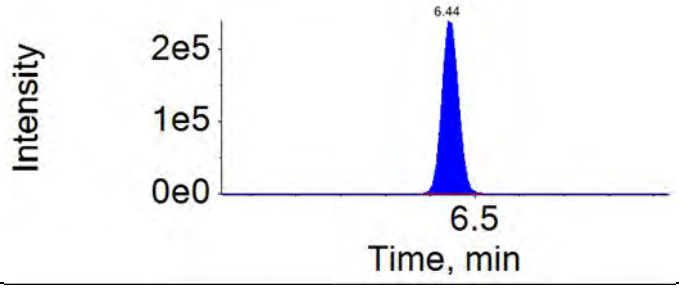


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

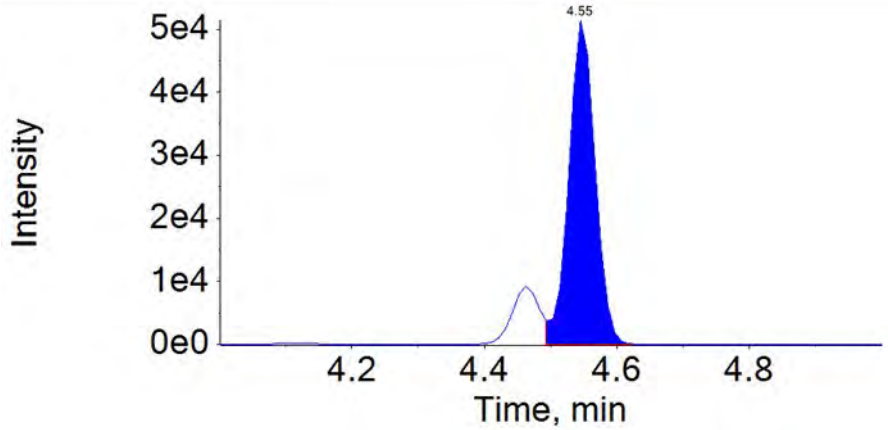
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

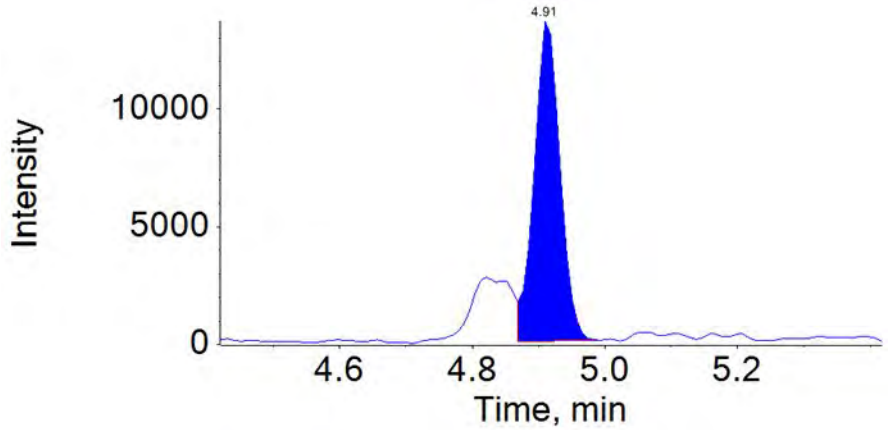
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
141831.4
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



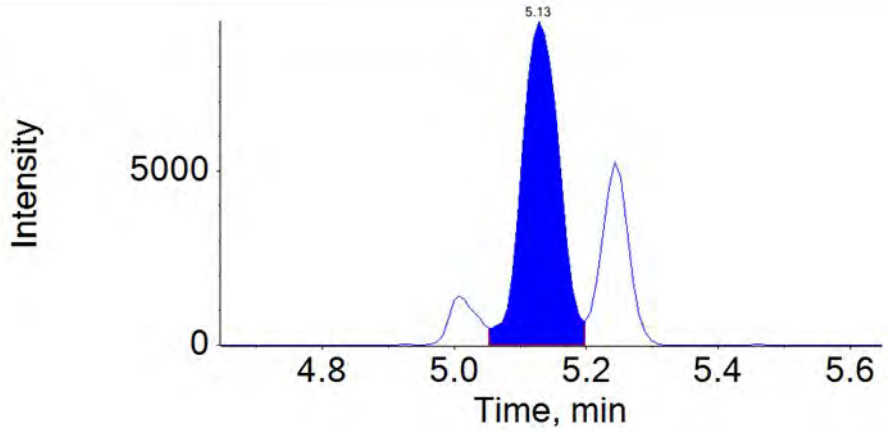
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
36796.3
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.13
Peak Area:
36788.7
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



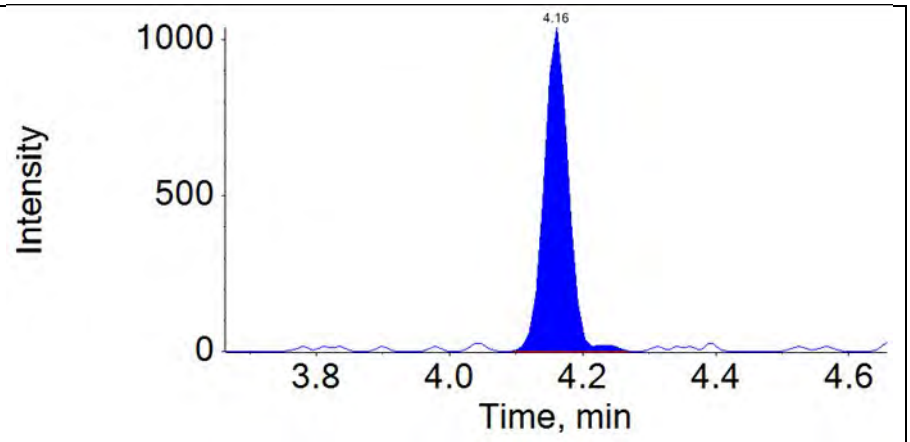
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

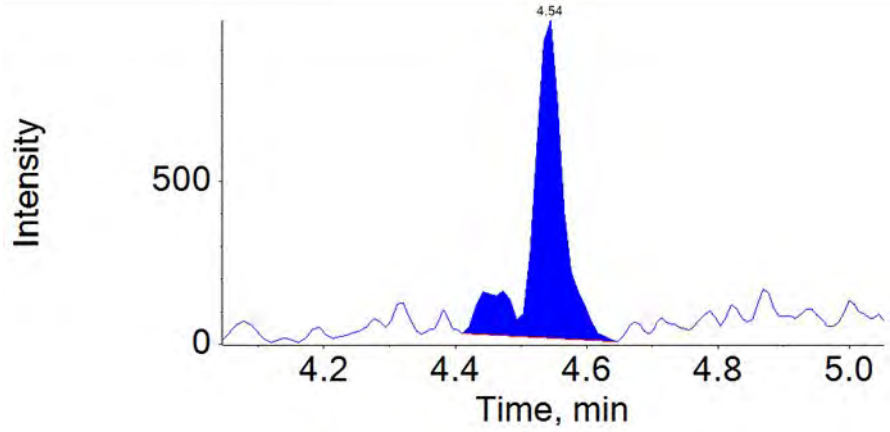
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
4.16
Peak Area:
2620.1
Mass Range:
313.0 / 119.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



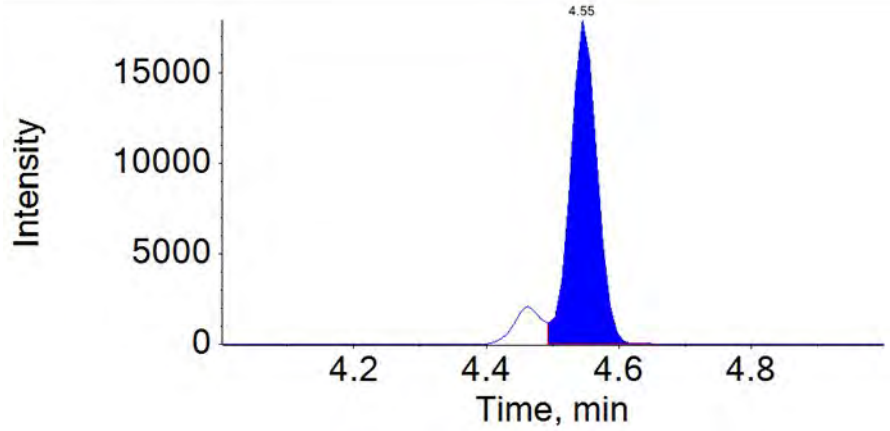
Integration Comment: incorrect integration

Component Name:
PFHpA_2
RT (min.):
4.54
Peak Area:
3257.0
Mass Range:
363.0 / 169.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
50095.6
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



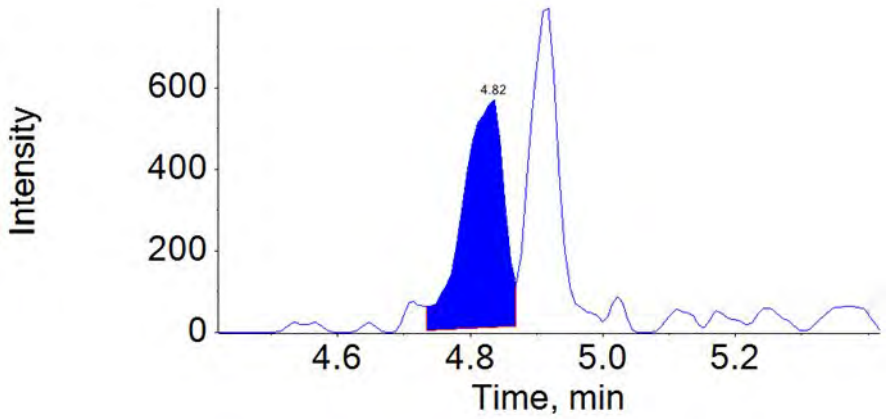
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

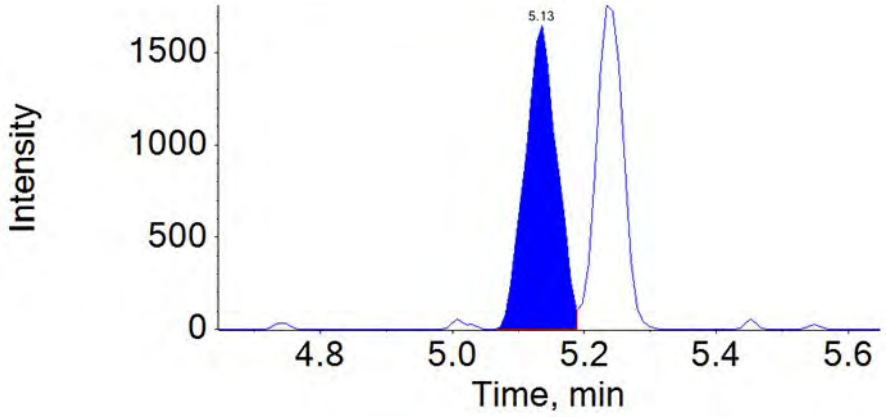
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.82
Peak Area:
2390.2
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.13
Peak Area:
5553.4
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-33.wiff
Sample Name:
9922841BKG



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

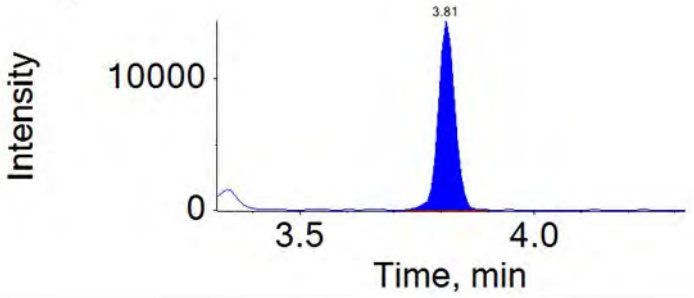
Sample Name: 9922841BKG **Instrument Name:** LM27631 **File Name:** 18DEC08D-33.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	35241.5	A	N/A	0.3857			
PFBS_2	3.81	1.00	13592.7	A	N/A	0.3857	7	50	
PFHxA	4.16	1.00	211342.9	A	N/A	0.0122			
PFHxA_2	4.16	1.00	2572.3	M	N/A	0.0122	37	50	
PFHpA	4.55	1.00	49279.6	A	N/A	0.0565			
PFHpA_2	4.54	1.00	2786.7	M	N/A	0.0565	1	50	
PFHxS	4.55	1.00	167806.2	M	N/A	0.3347			
PFHxS_2	4.55	1.00	56160.1	M	N/A	0.3347	-10	50	
PFOA	4.91	1.00	48871.0	M	N/A	0.1011			
PFOA_2	4.88	0.99	4942.3	M	N/A	0.1011	64	50	OOS
PFOS	5.13	0.98	56059.7	M	N/A	0.1907			
PFOS_2	5.19	0.99	10692.4	M	N/A	0.1907	-37	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

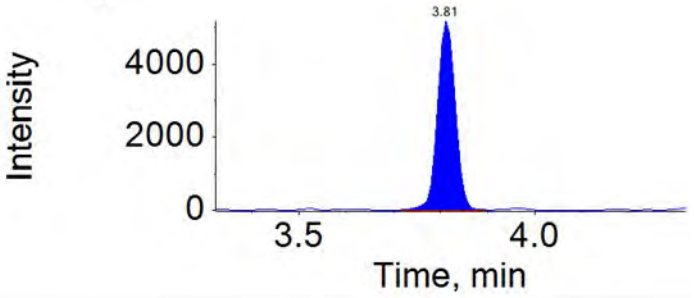
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

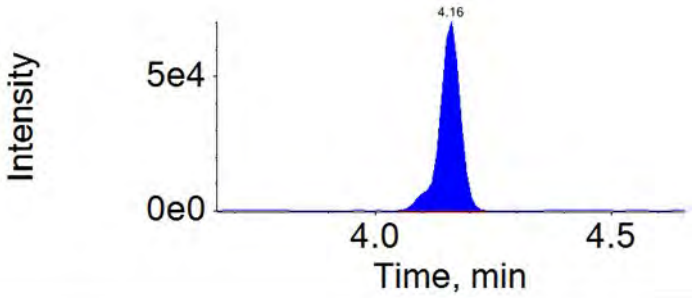
Component: PFBS
Primary Mass: 299.0 / 80.0



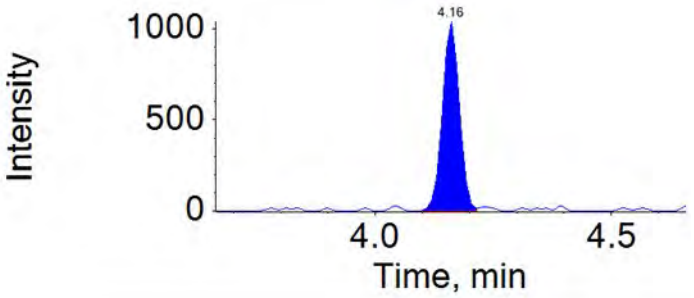
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



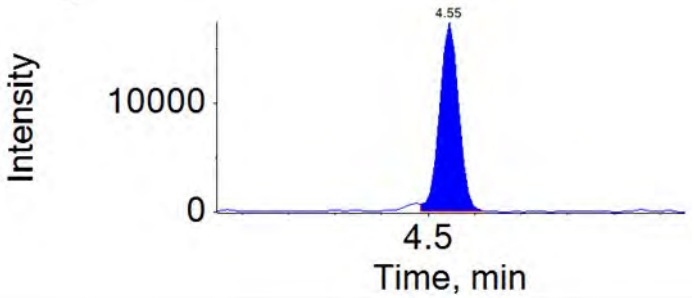
Component: PFHxA
Primary Mass: 313.0 / 269.0



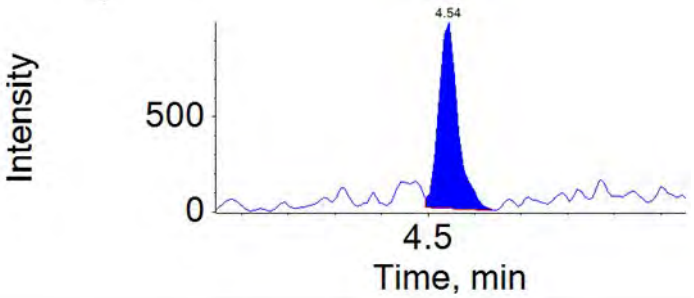
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



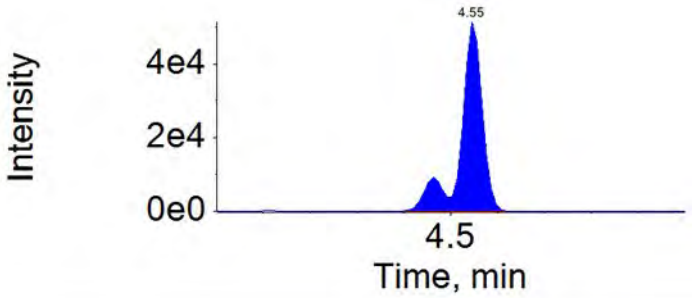
Component: PFHpA
Primary Mass: 363.0 / 319.0



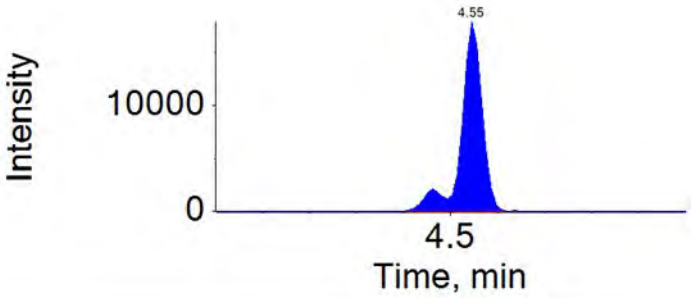
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



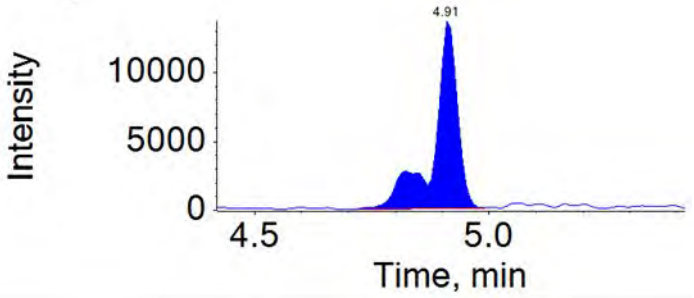
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



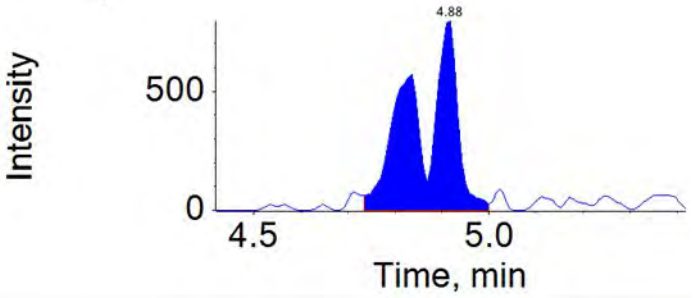
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

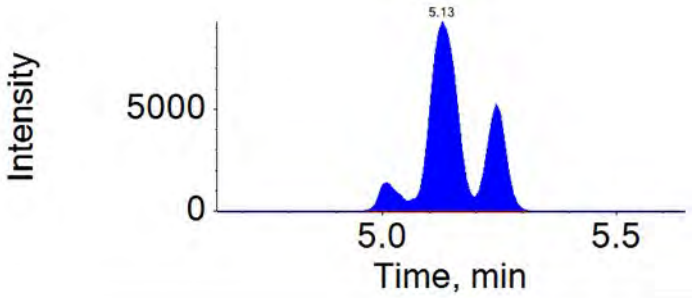
Component: PFOA
Primary Mass: 413.0 / 369.0



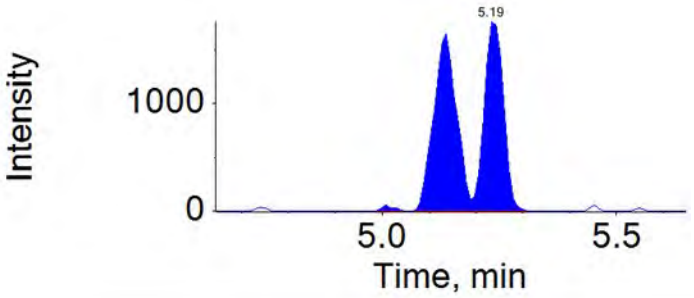
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



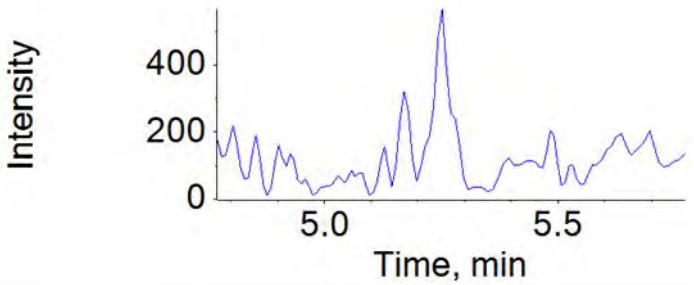
Component: PFOS
Primary Mass: 499.0 / 80.0



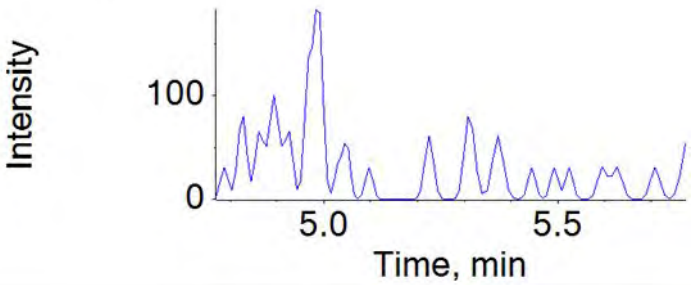
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



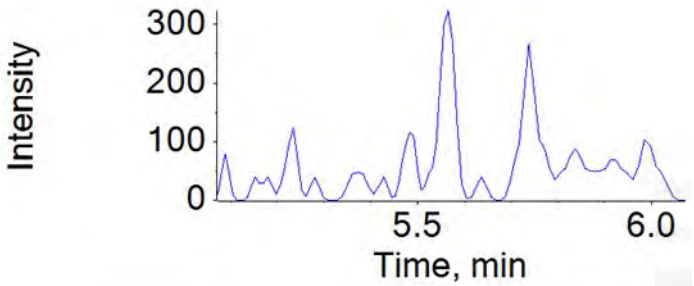
Component: PFNA
Primary Mass: 463.0 / 419.0



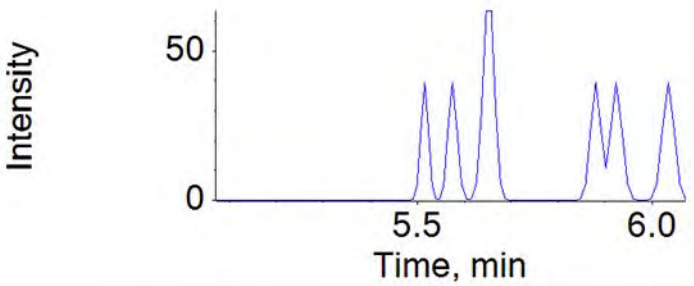
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



Component: PFDA_2
Secondary Mass: 513.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

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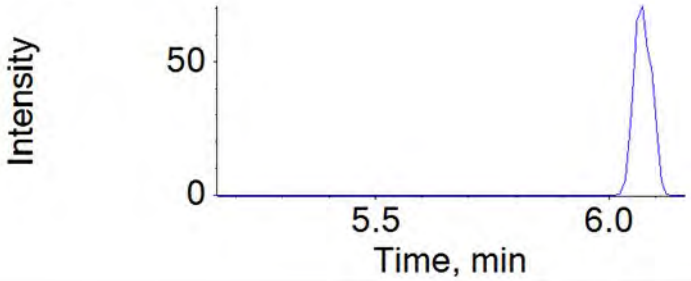
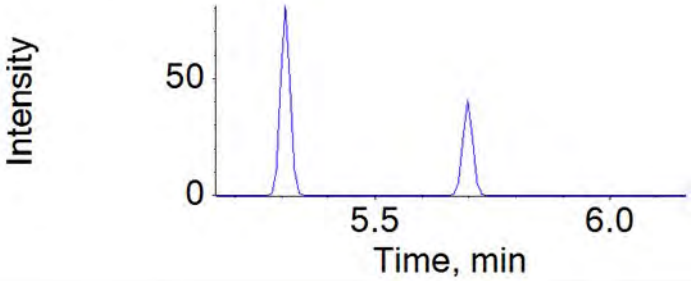
By HMK at 12:27 pm, 12/13/18

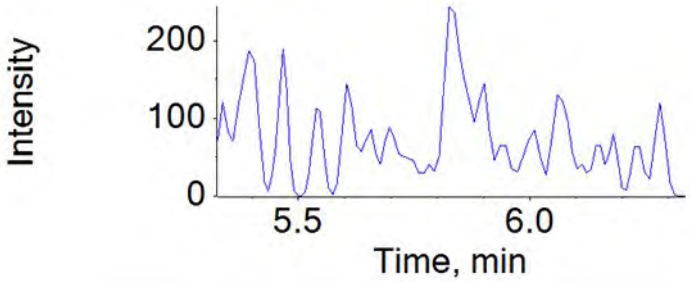
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



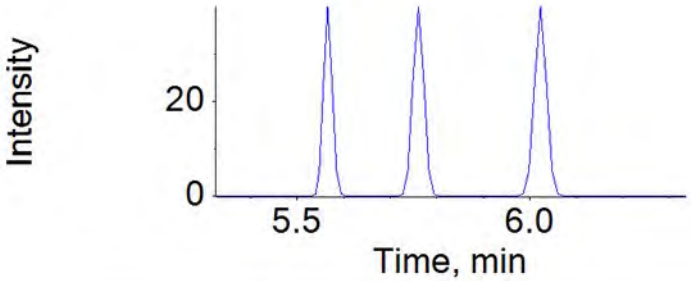
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



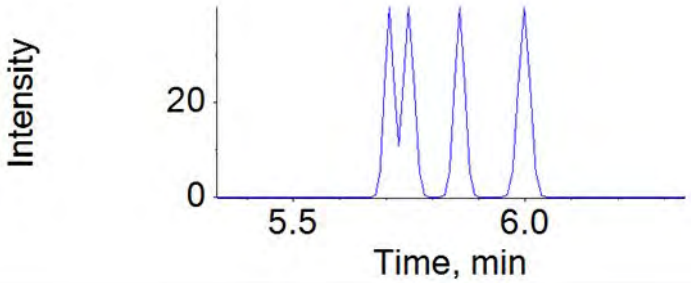
Component: PFUnDA
Primary Mass: 563.0 / 519.0



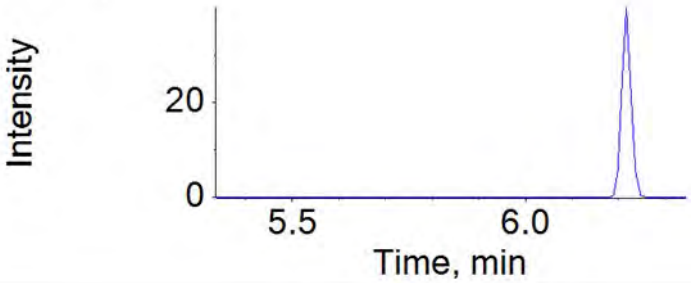
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



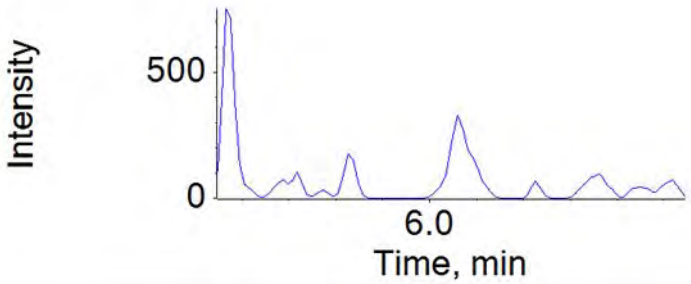
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



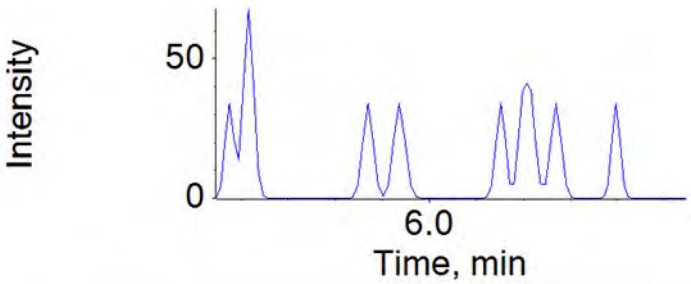
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

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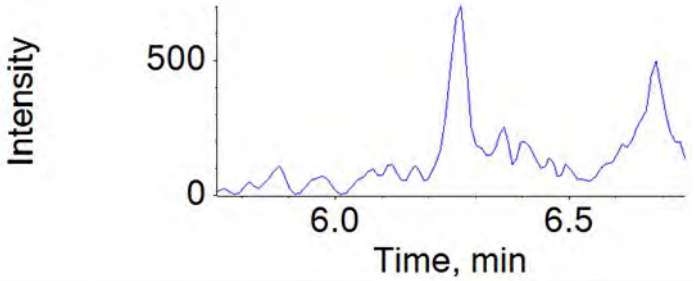
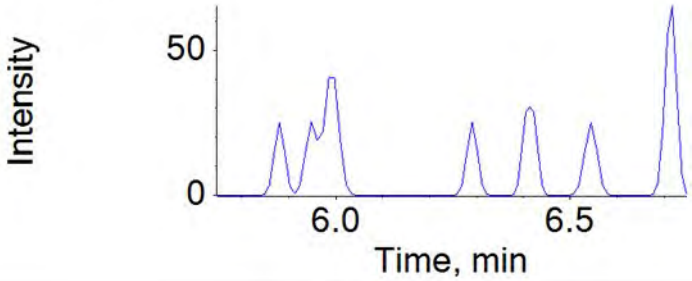
By HMK at 12:27 pm, 12/13/18

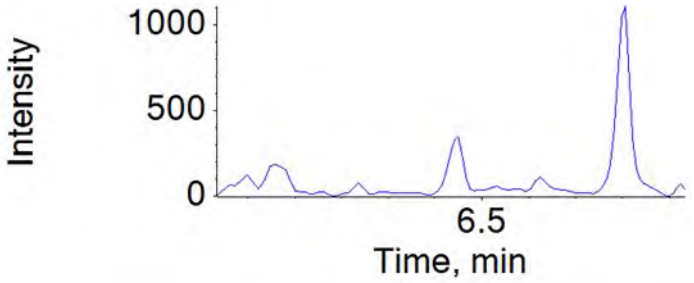
Component: PFTrDA
Primary Mass: 663.0 / 619.0



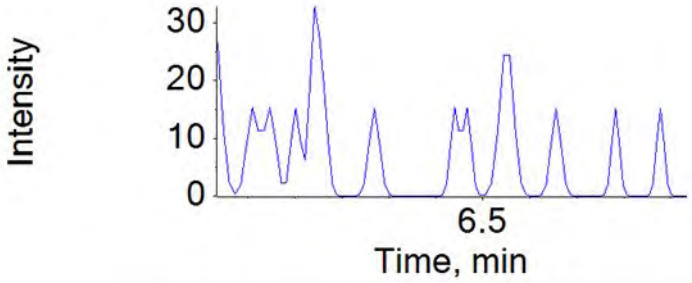
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922844			**Data File:**		18DEC08D-34.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS20-3-01 Grab Groundwater			**Acquis Date:**		2018-12-08T13:05:00
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	57			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.28202			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	930294.8	936973.7	-1	50	
13C2-PFOA	5.0	508776.6	474841.3	7	50	
13C4-PFOS	4.8	295138.2	294668.0	0	50	
13C2-PFDA	5.0	410044.5	373990.9	10	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	446995.8	13C3-PFBA	930294.8	0.480	16.488	14.442	88	50-150	
E13C5-PFHxA	749198.2	13C2-PFOA	508776.6	1.473	17.729	17.531	99	50-150	
E13C3-PFHxS	365939.6	13C2-PFOA	508776.6	0.719	16.772	16.358	98	50-150	
E13C4-PFHpA	595624.2	13C2-PFOA	508776.6	1.171	17.729	17.648	100	50-150	
E13C8-PFOA	958166.2	13C2-PFOA	508776.6	1.883	17.729	18.876	106	50-150	
E13C8-PFOS	341103.2	13C4-PFOS	295138.2	1.156	16.949	18.391	109	50-150	
E13C9-PFNA	613720.9	13C4-PFOS	295138.2	2.079	17.729	20.836	118	50-150	
E13C6-PFDA	735949.7	13C2-PFDA	410044.5	1.795	17.729	16.865	95	50-150	
Ed3-NMeFOSAA	148789.9	13C2-PFDA	410044.5	0.363	17.729	22.801	129	50-150	
E13C7-PFUnDA	434458.2	13C2-PFDA	410044.5	1.060	17.729	18.430	104	50-150	
Ed5-NEtFOSAA	87265.6	13C2-PFDA	410044.5	0.213	17.729	16.658	94	50-150	
E13C2-PFDoDA	849847.3	13C2-PFDA	410044.5	2.073	17.729	15.422	87	50-150	
E13C2-PFTeDA	606682.9	13C2-PFDA	410044.5	1.480	17.729	15.571	88	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

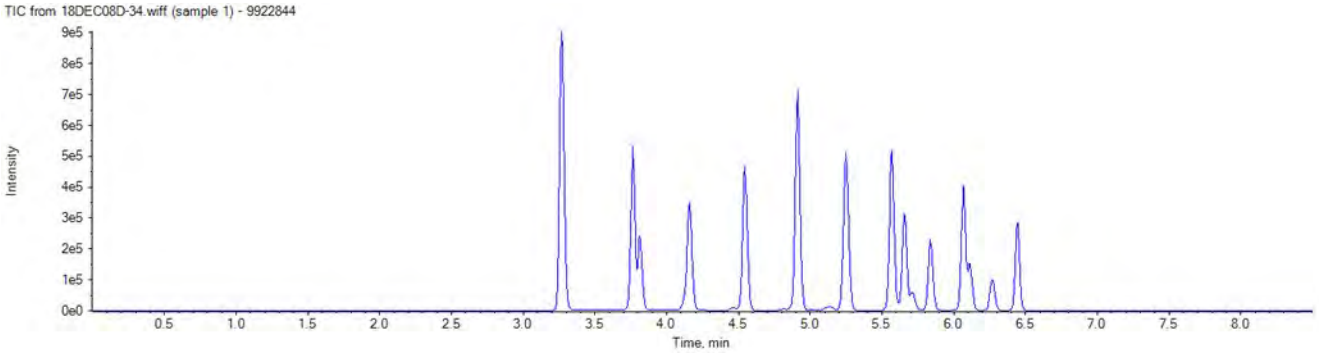
Analyte Quantitation Peak Table

Sample Name: 9922844 **Instrument Name:** LM27631 **File Name:** 18DEC08D-34.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28202	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	33229.9		A	13C3-PFBS	3.81	446995.8	0.074	1.307
PFHxA	4.16	1.000	23399.0		A	13C5-PFHxA	4.16	749198.2	0.031	0.483
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	595624.2	N/A	
PFHxS	4.55	1.000	108770.7		M	13C3-PFHxS	4.55	365939.6	0.297	4.994
PFOA	4.91	1.000	74529.6		M	13C8-PFOA	4.91	958166.2	0.078	1.507
PFOS	5.16	0.990	73859.4		M	13C8-PFOS	5.24	341103.2	0.217	3.185
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	613720.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	735949.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	148789.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	434458.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	87265.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	849847.3	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	849847.3	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	606682.9	N/A	

Total Ion Chromatogram

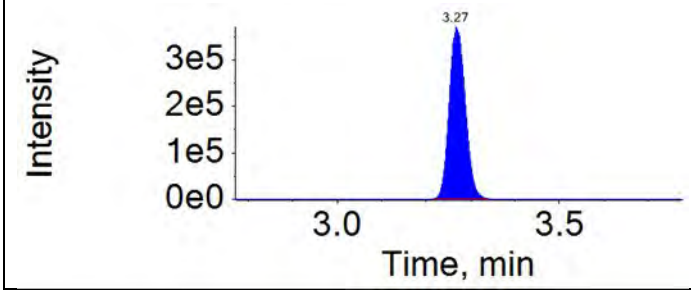


APPROVED
By MCD at 7:42 pm, 12/10/18

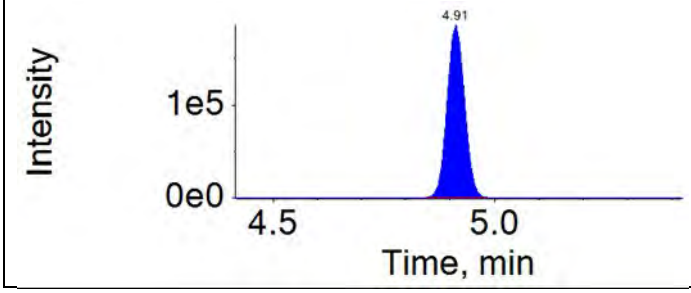
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

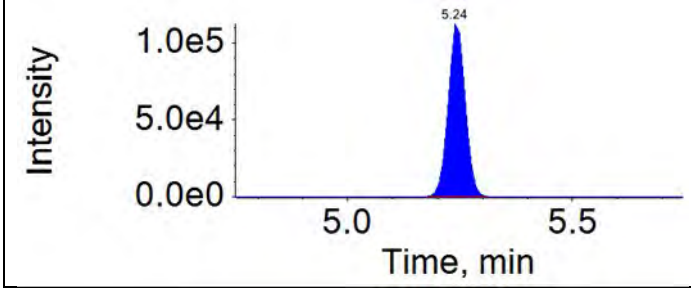
Injection Standard: 13C3-PFBA
216.0 / 172.0



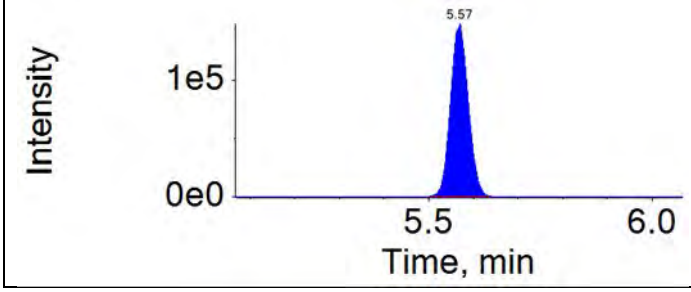
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

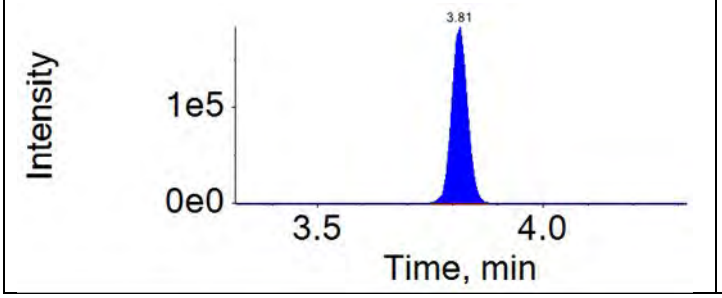


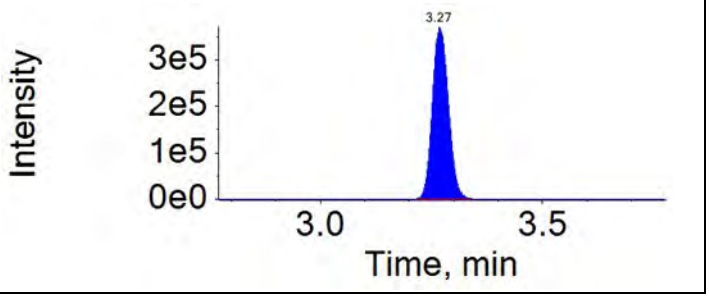
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

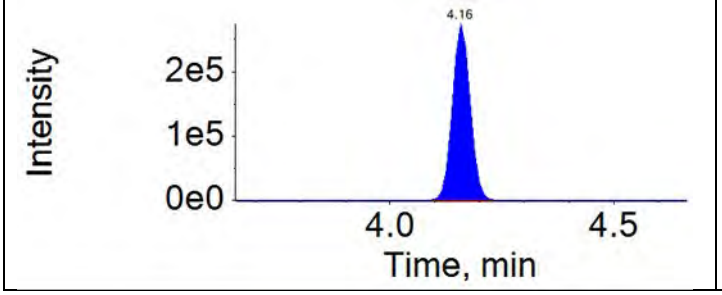
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

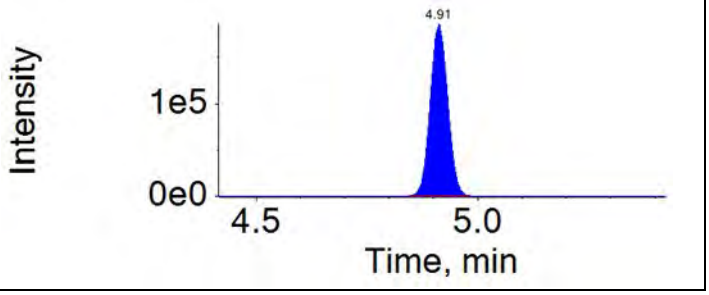
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



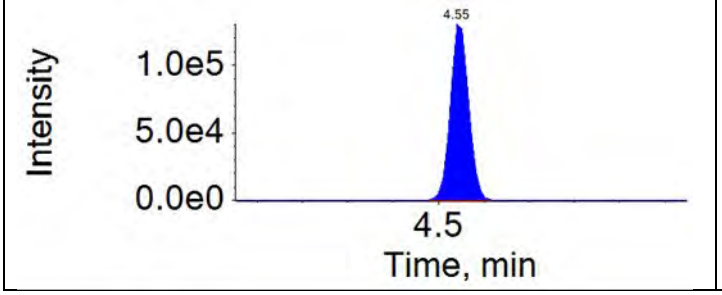


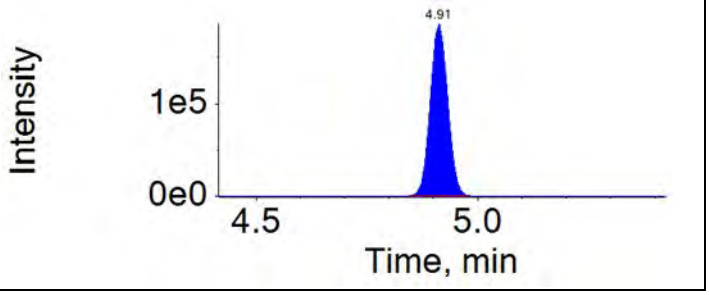
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



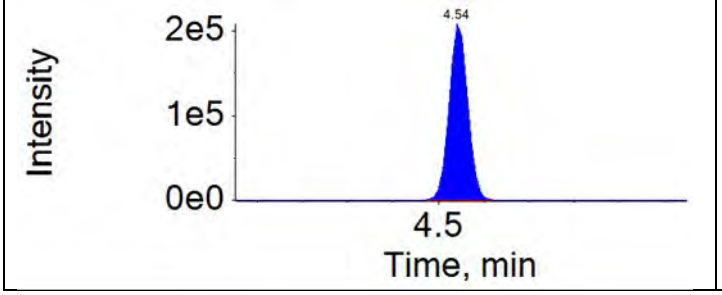


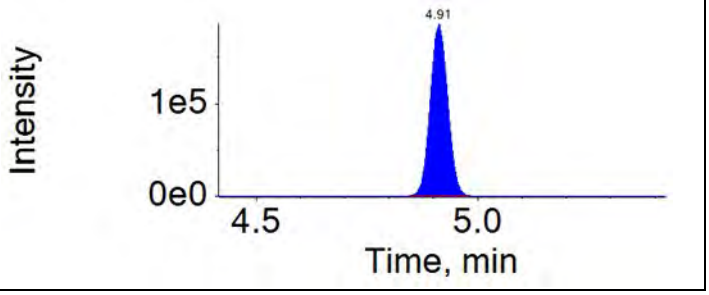
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

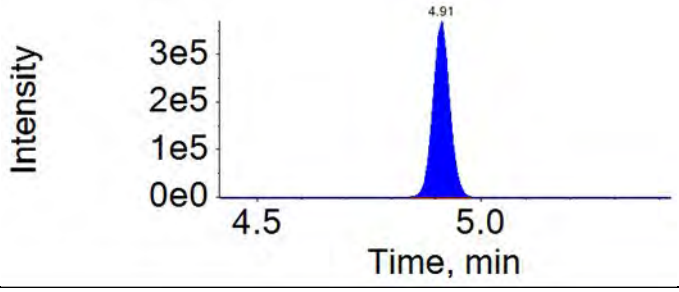
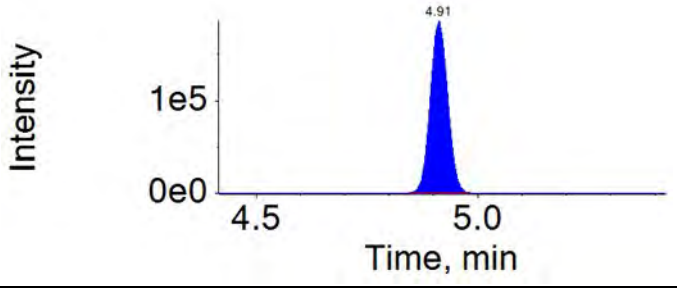


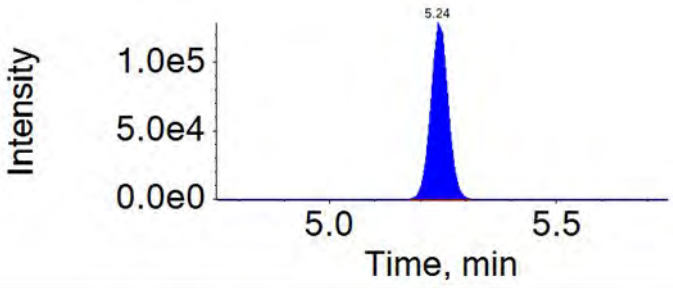
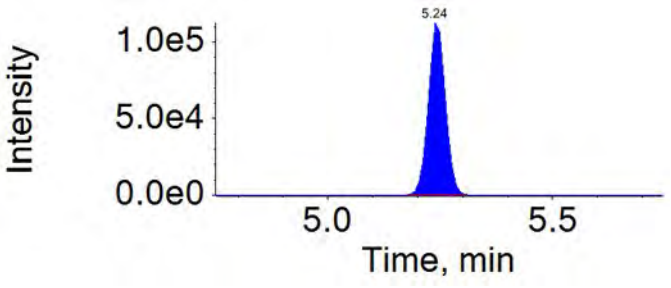


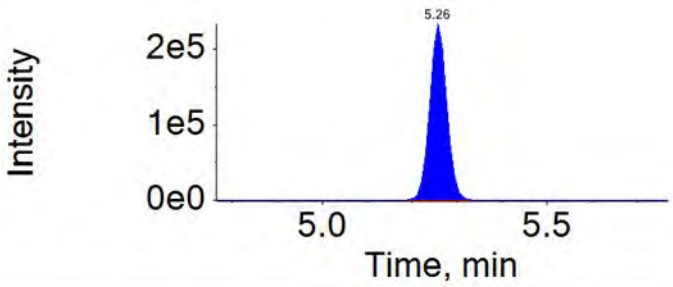
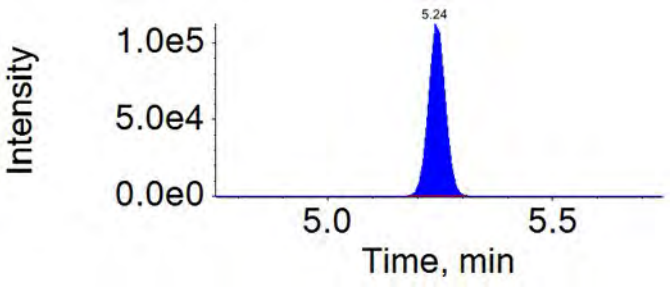
APPROVED
By MCD at 7:42 pm, 12/10/18

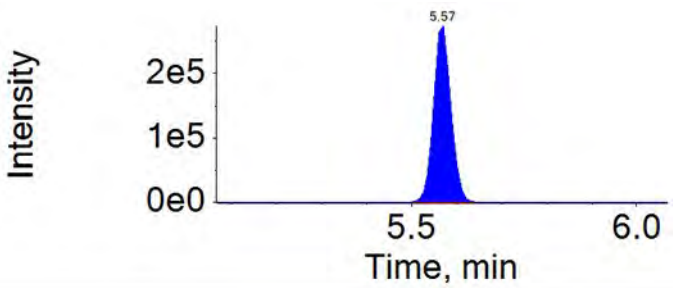
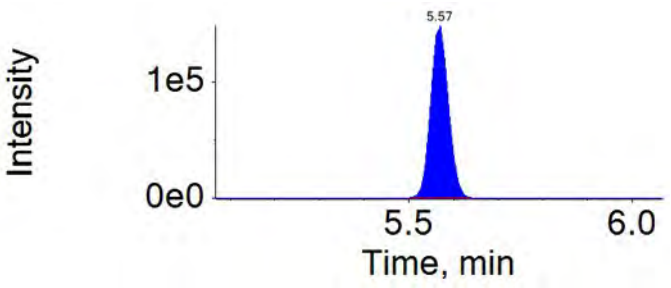
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

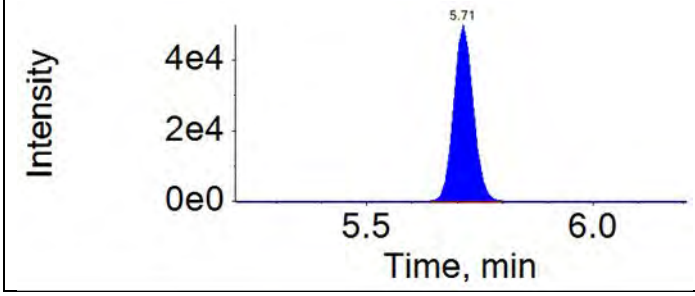
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

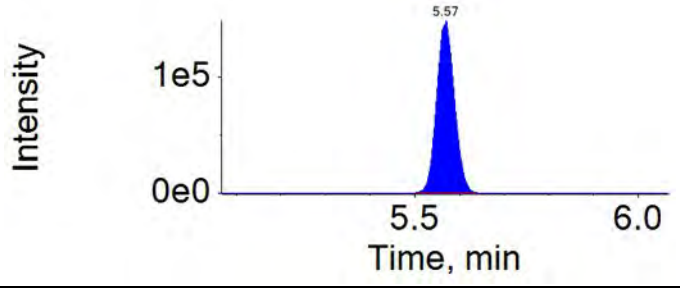
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

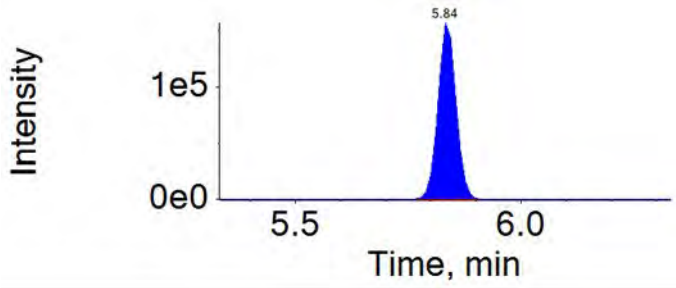
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

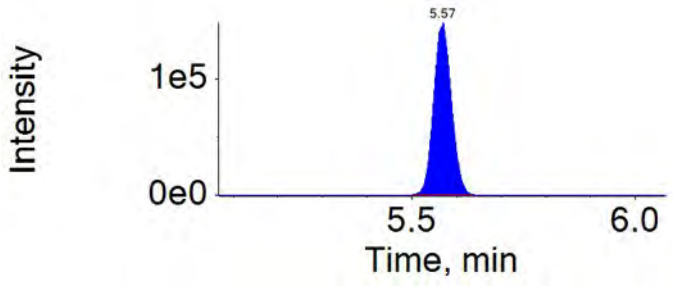
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



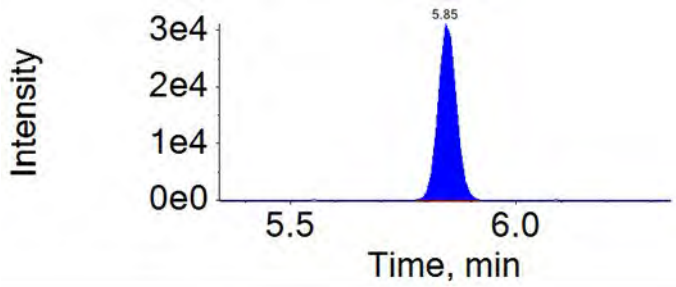


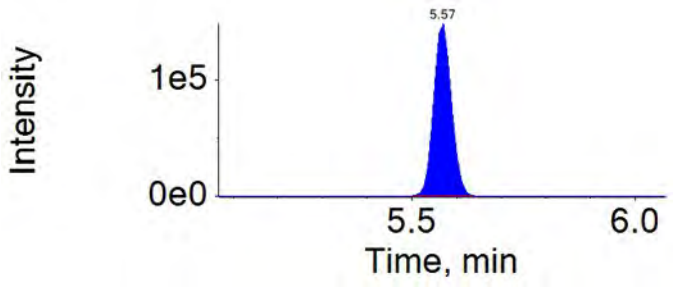
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



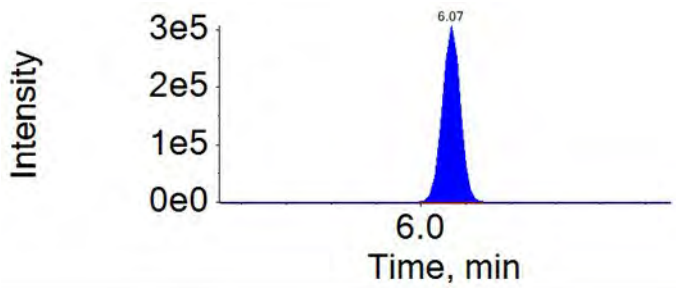


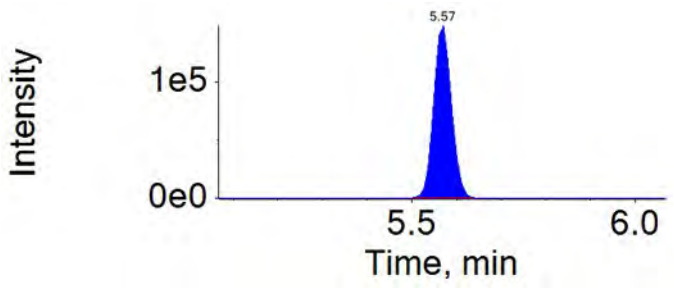
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



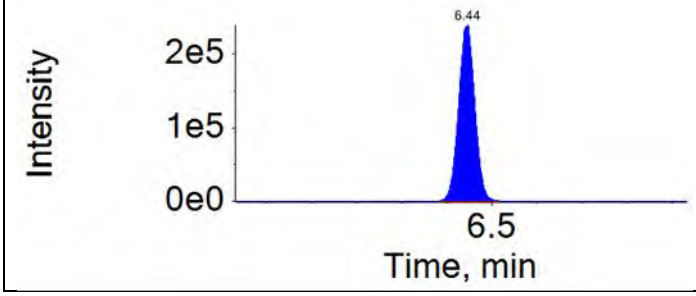


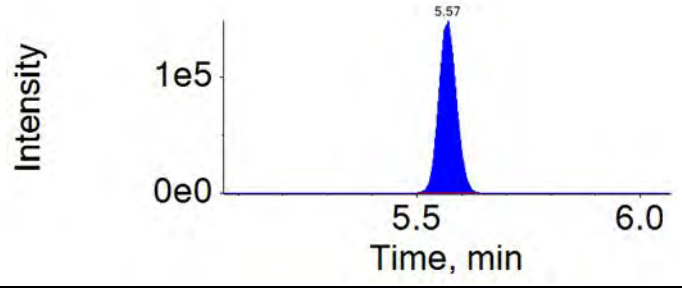
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

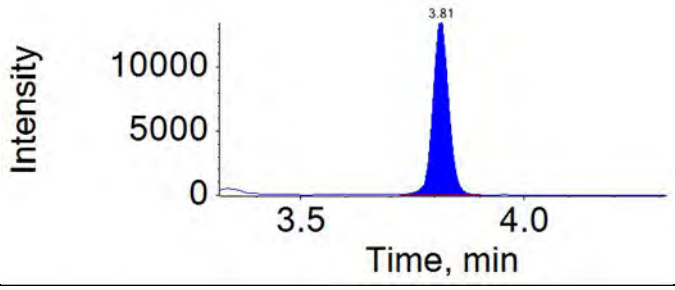
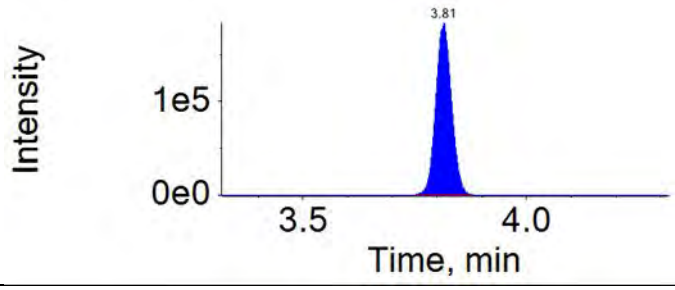


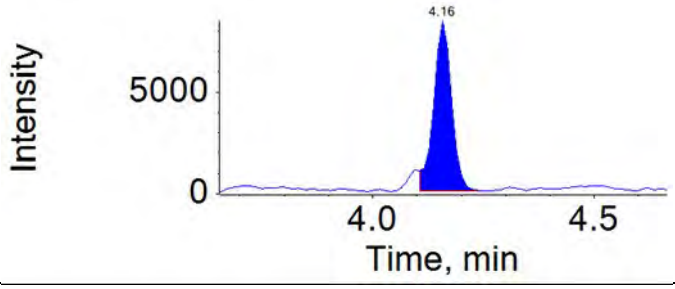
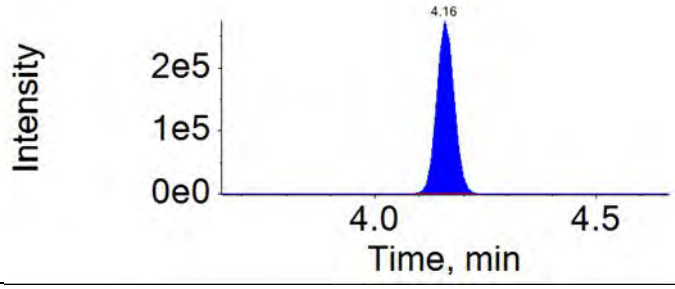


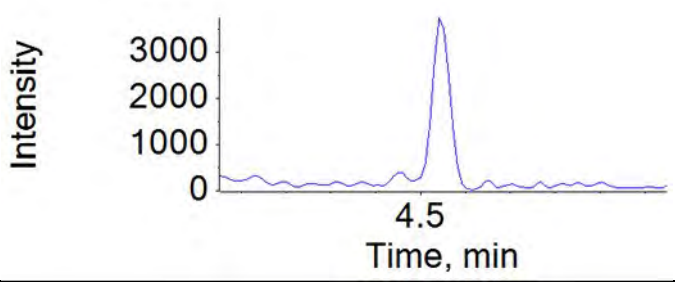
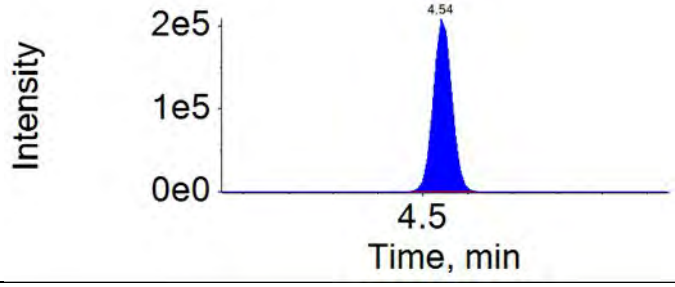
APPROVED
By MCD at 7:42 pm, 12/10/18

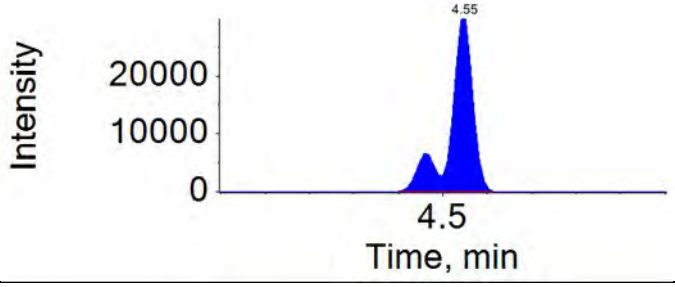
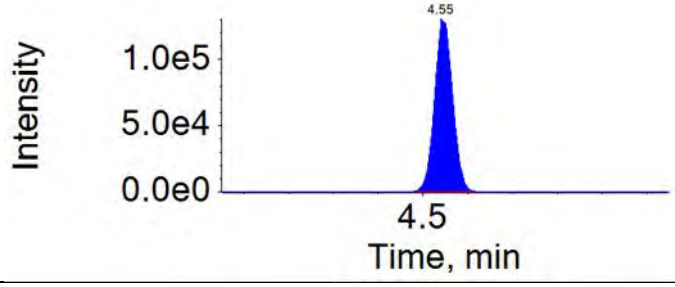
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

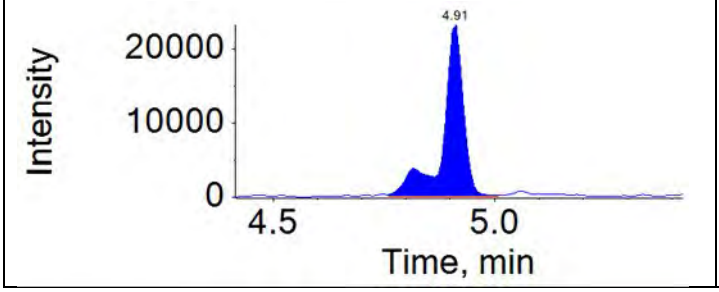
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

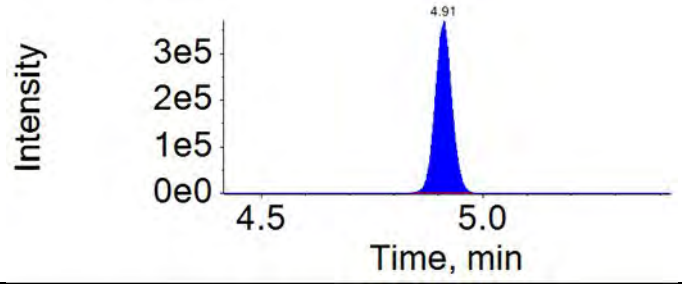
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

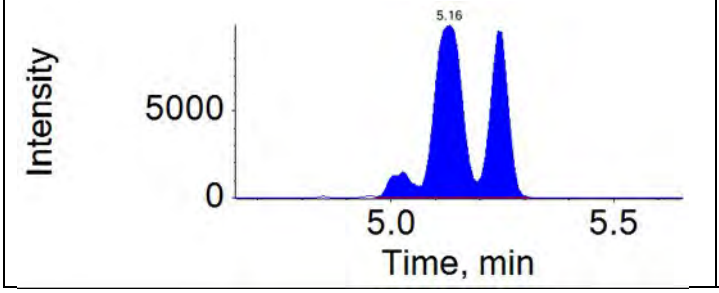
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

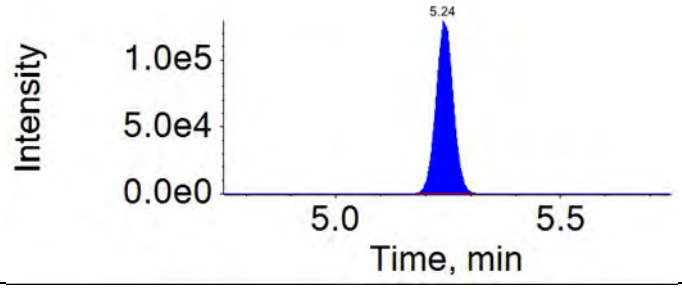
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



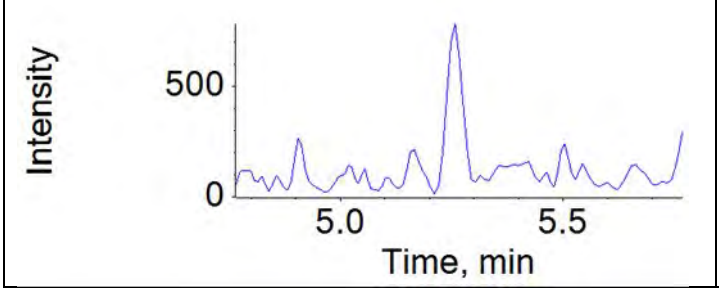


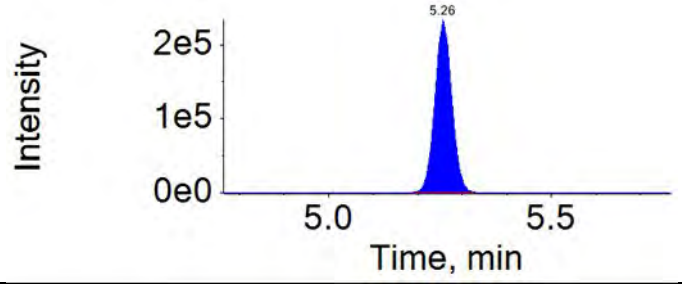
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



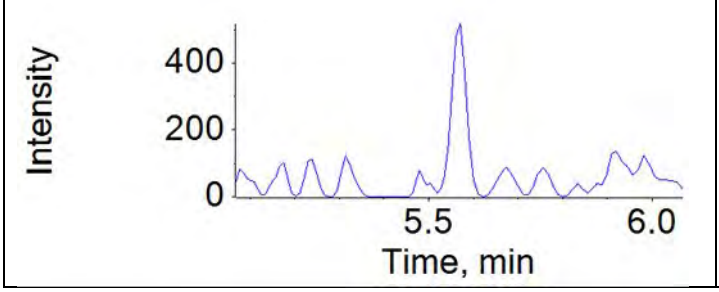


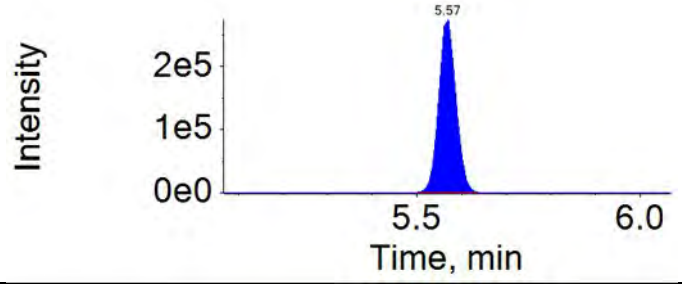
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



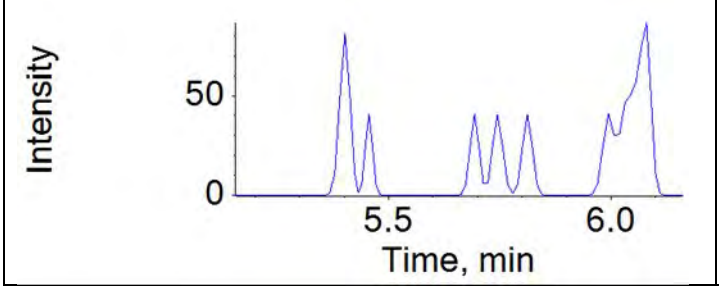


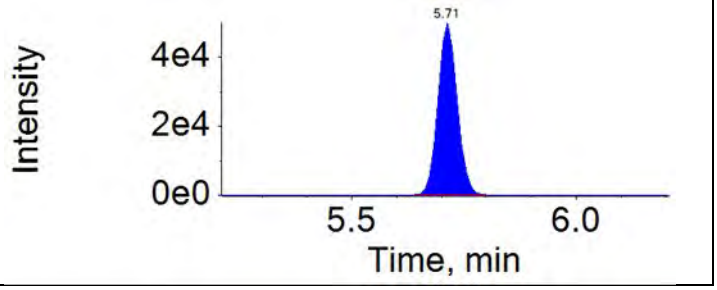
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

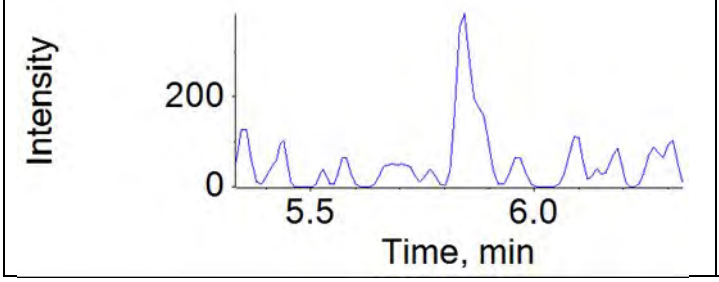
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

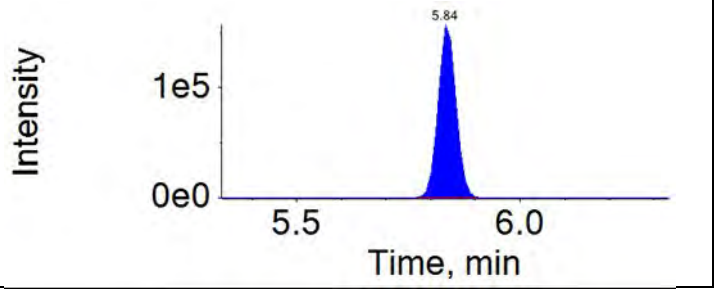
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



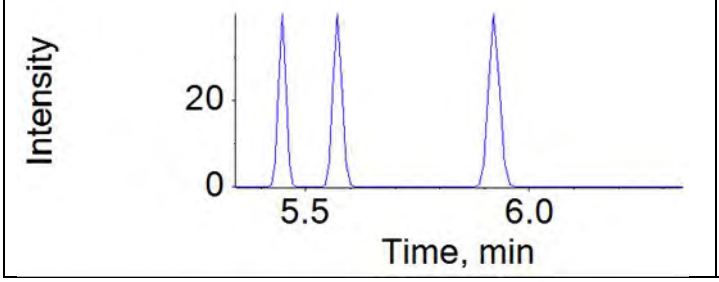


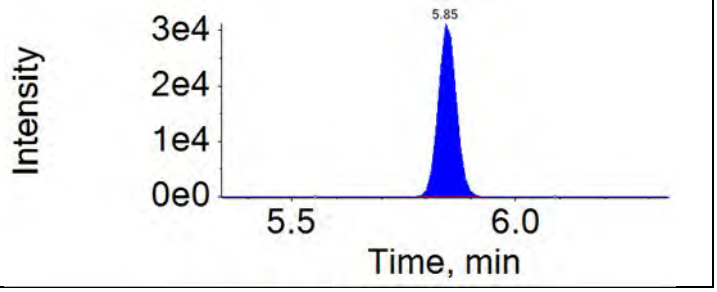
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



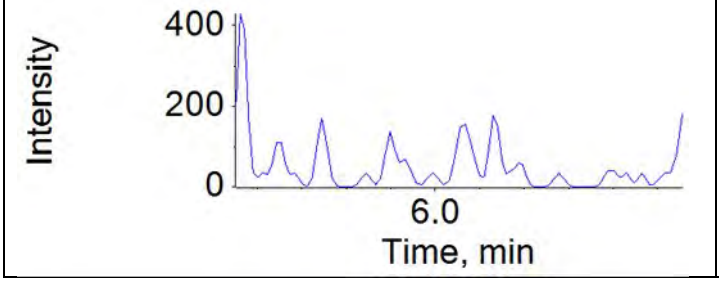


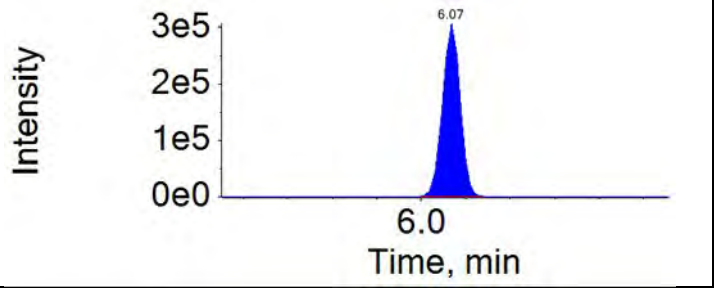
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

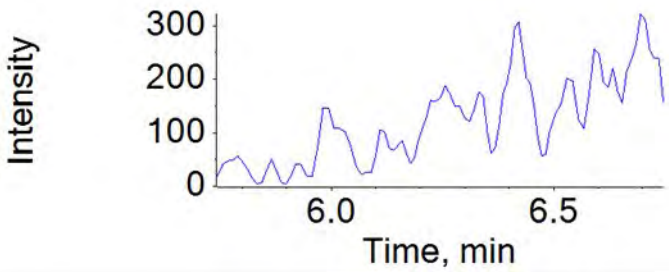
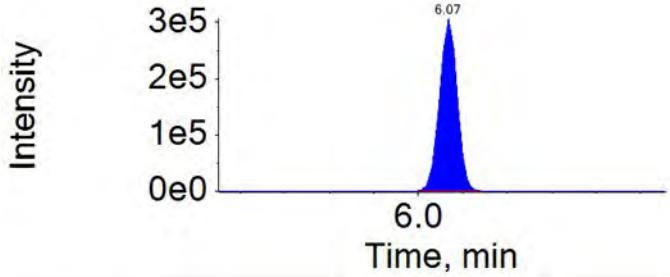


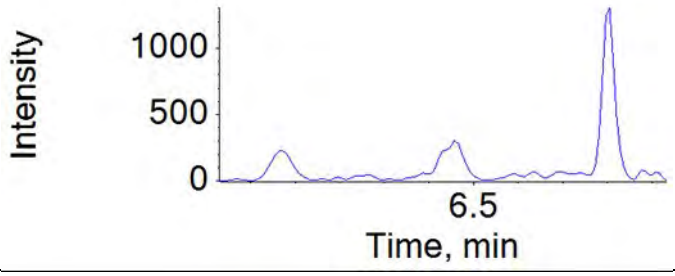
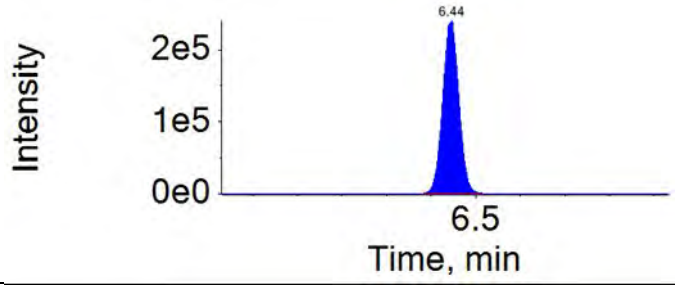


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

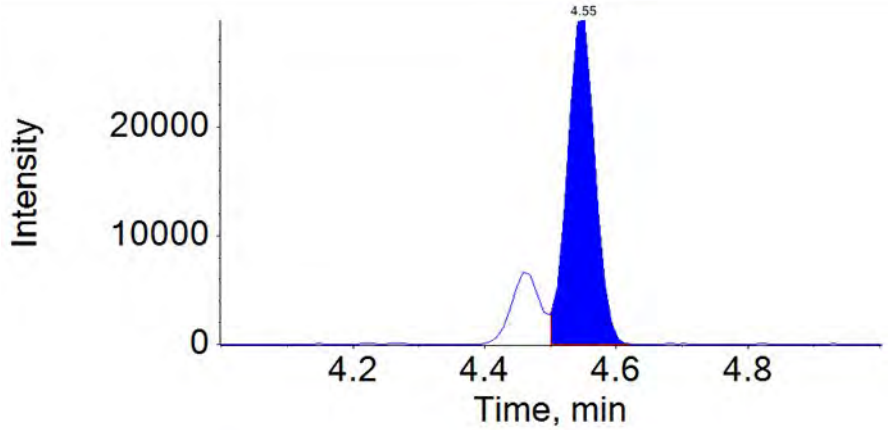
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

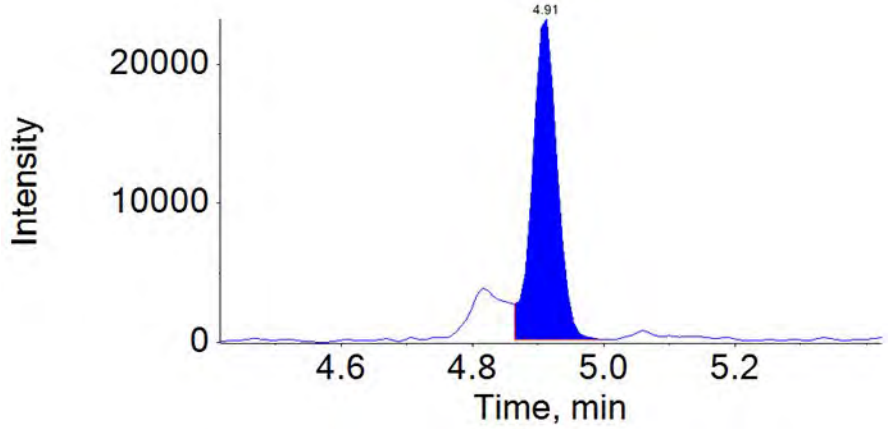
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
88283.9
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



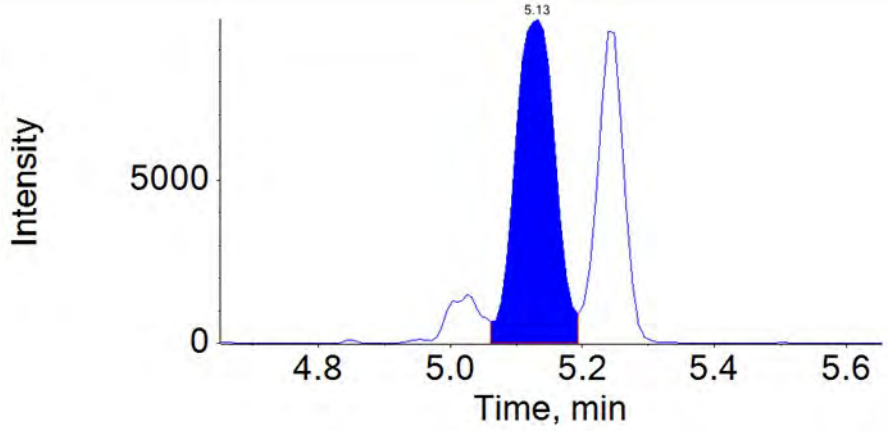
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
60402.3
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.13
Peak Area:
41770.8
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



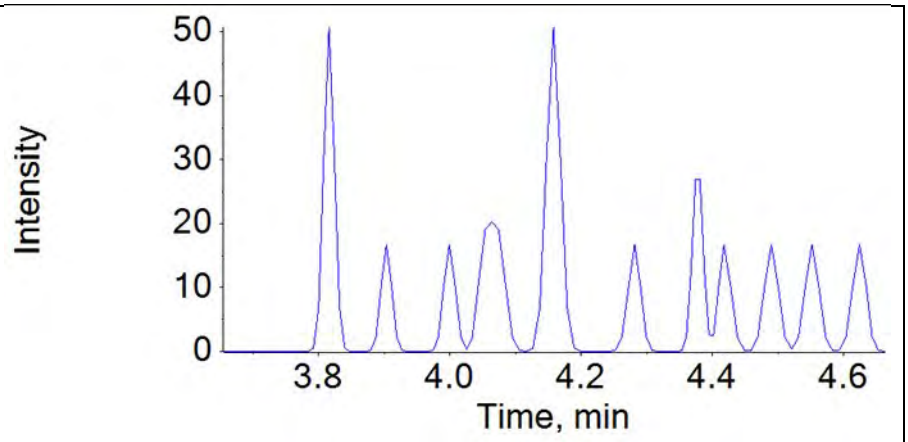
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

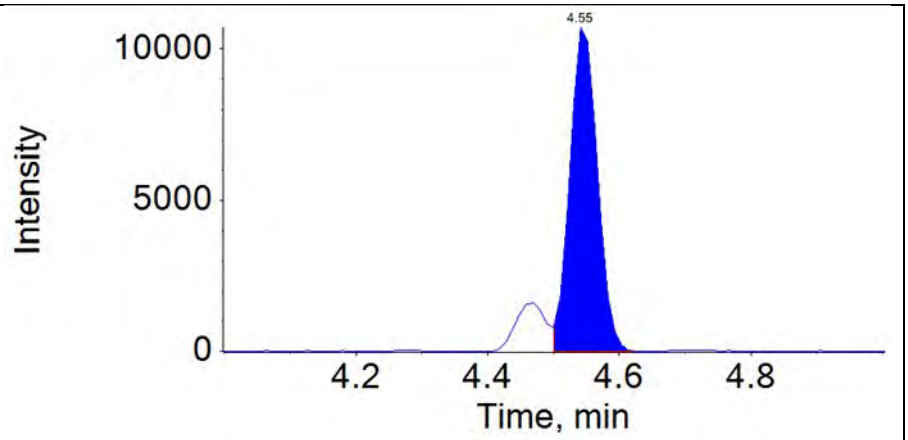
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
313.0 / 119.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



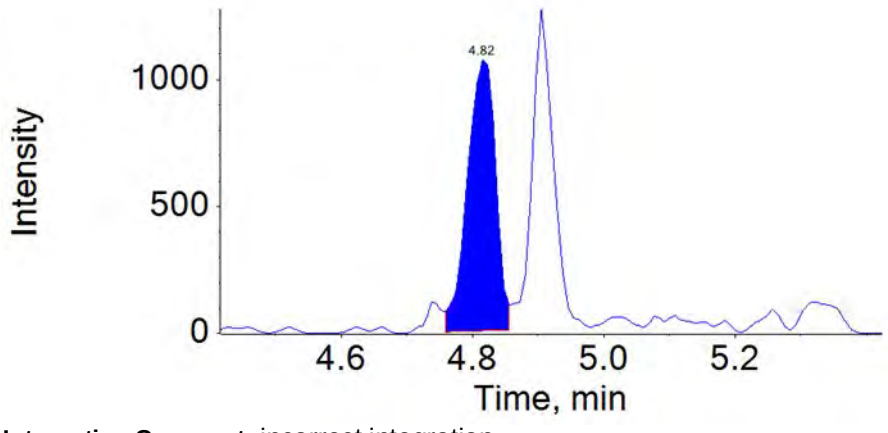
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
31341.8
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.82
Peak Area:
3204.3
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



Integration Comment: incorrect integration

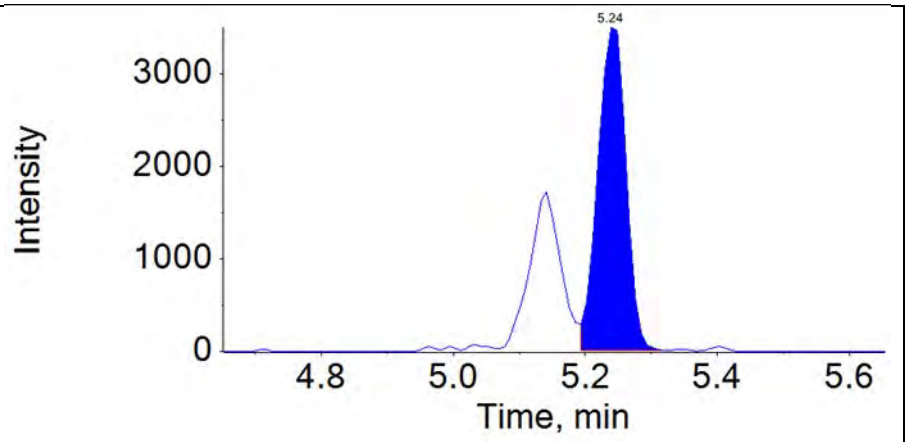
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
10407.0
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-34.wiff
Sample Name:
9922844



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Ion Ratio Report

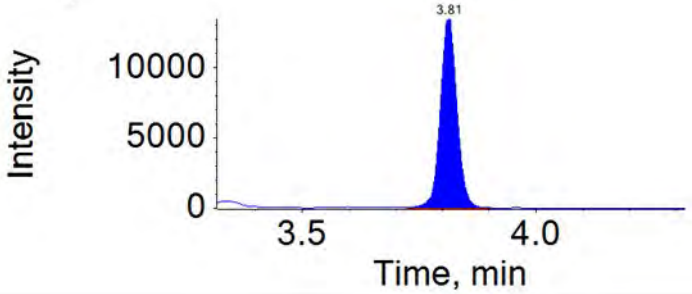
Sample Name: 9922844 **Instrument Name:** LM27631 **File Name:** 18DEC08D-34.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	33229.9	A	N/A	0.3829			
PFBS_2	3.81	1.00	12723.7	A	N/A	0.3829	7	50	
PFHxA	4.16	1.00	23399.0	A	N/A	0.0034			
PFHxA_2	4.16	1.00	79.4	M	N/A	0.0034	-62	50	OOS
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	4.55	1.00	108770.7	M	N/A	0.3347			
PFHxS_2	4.55	1.00	36400.9	M	N/A	0.3347	-10	50	
PFOA	4.91	1.00	74529.6	M	N/A	0.0842			
PFOA_2	4.86	0.99	6275.5	M	N/A	0.0842	36	50	
PFOS	5.16	0.99	73859.4	M	N/A	0.2218			
PFOS_2	5.24	1.00	16384.7	M	N/A	0.2218	-27	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

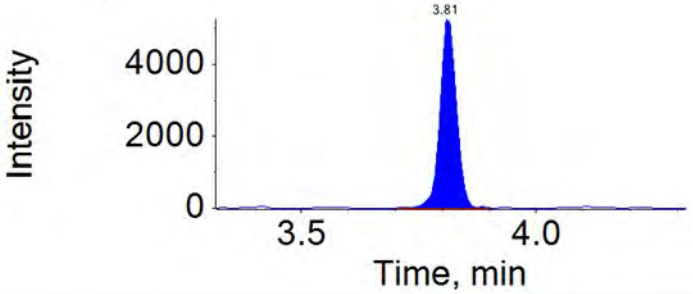
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

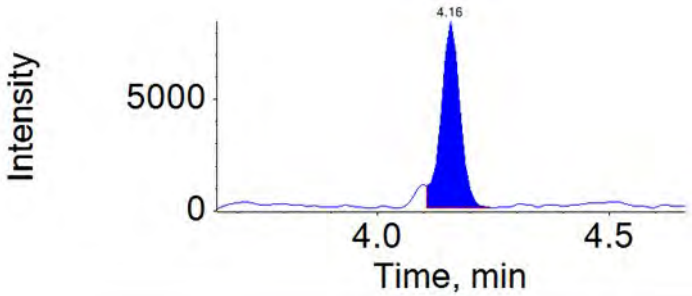
Component: PFBS
Primary Mass: 299.0 / 80.0



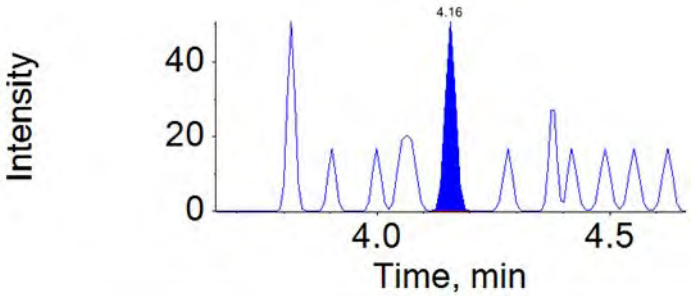
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



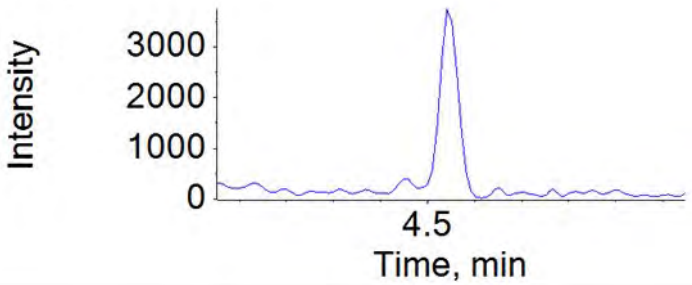
Component: PFHxA
Primary Mass: 313.0 / 269.0



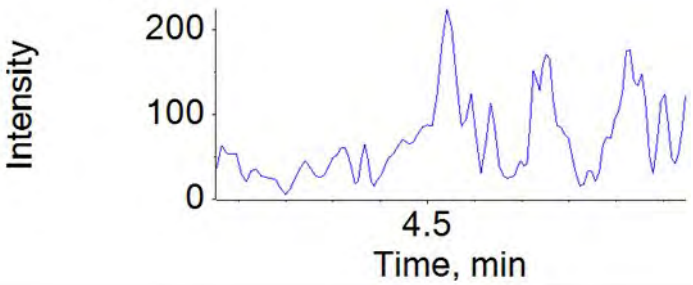
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



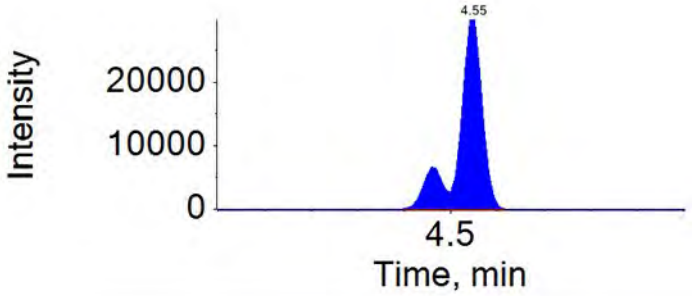
Component: PFHpA
Primary Mass: 363.0 / 319.0



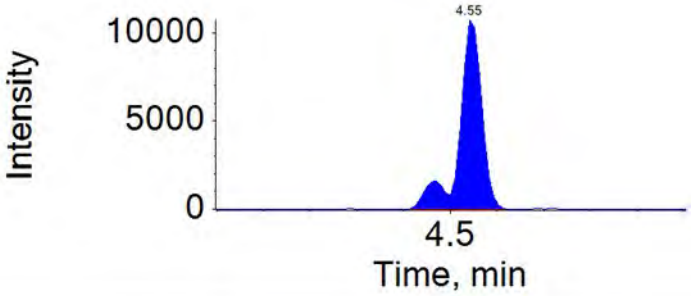
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



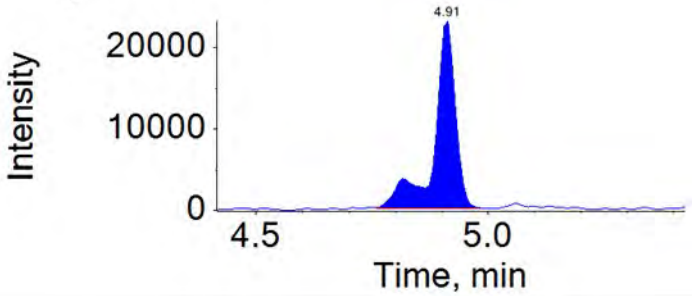
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



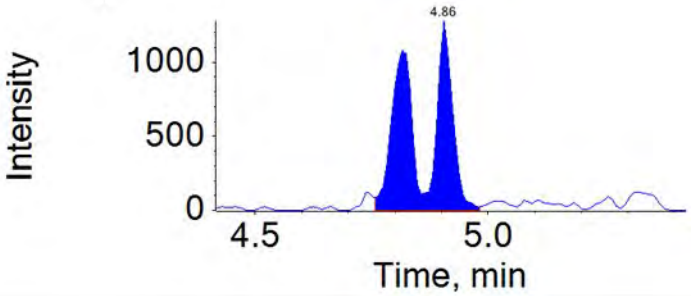
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

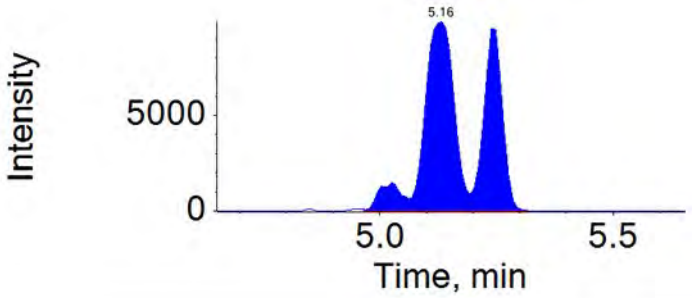
Component: PFOA
Primary Mass: 413.0 / 369.0



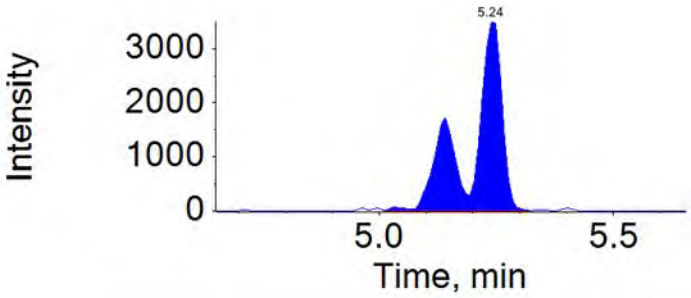
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



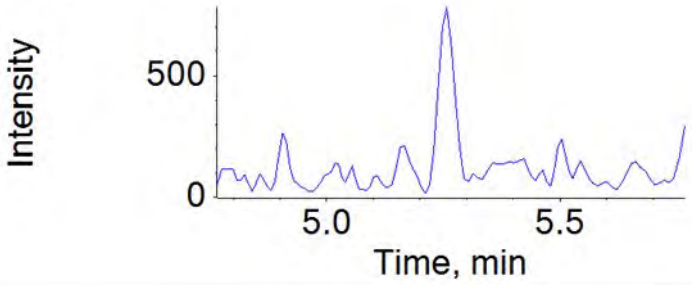
Component: PFOS
Primary Mass: 499.0 / 80.0



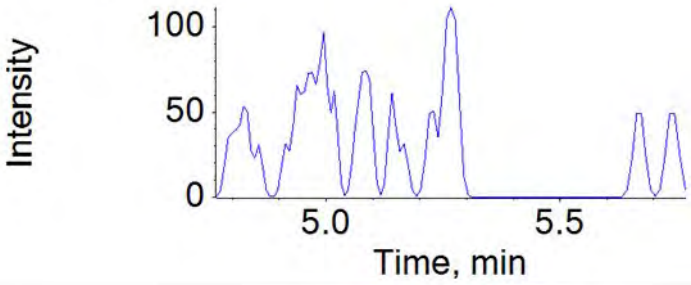
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



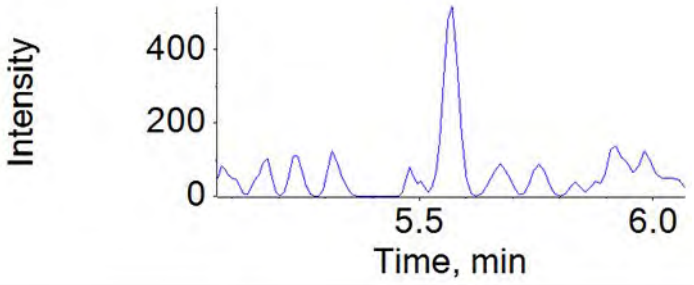
Component: PFNA
Primary Mass: 463.0 / 419.0



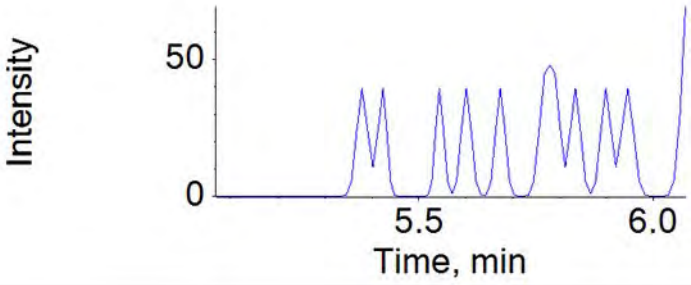
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



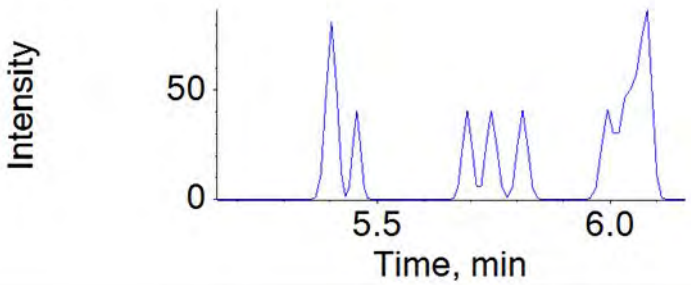
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



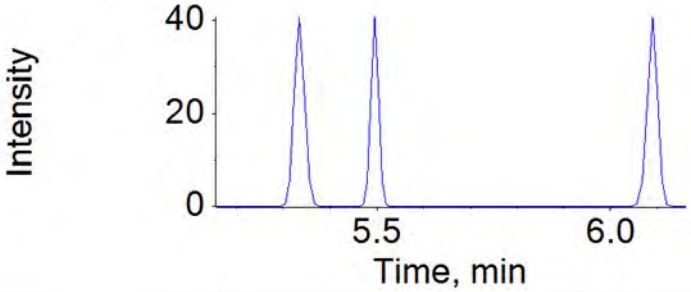
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

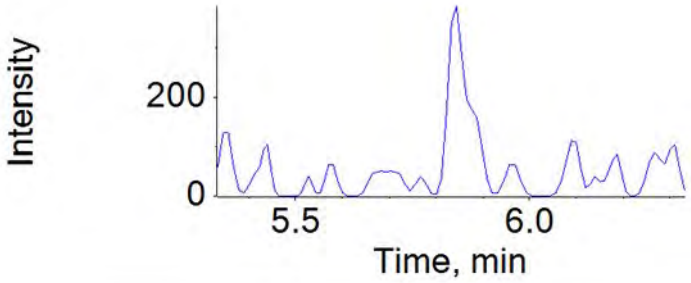
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



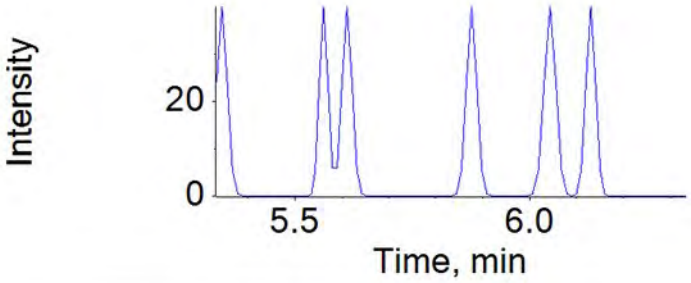
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



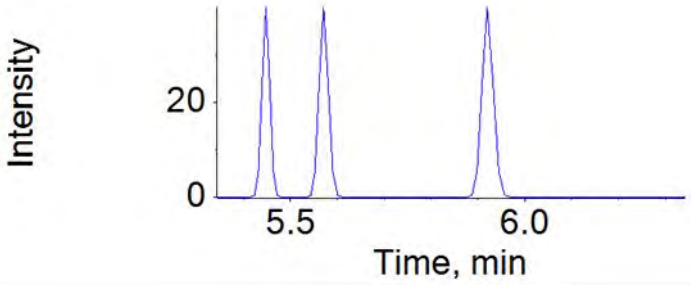
Component: PFUnDA
Primary Mass: 563.0 / 519.0



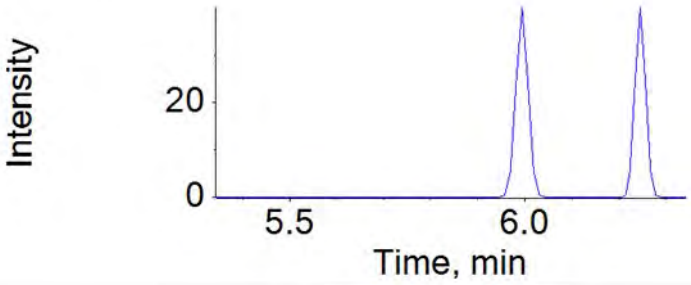
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



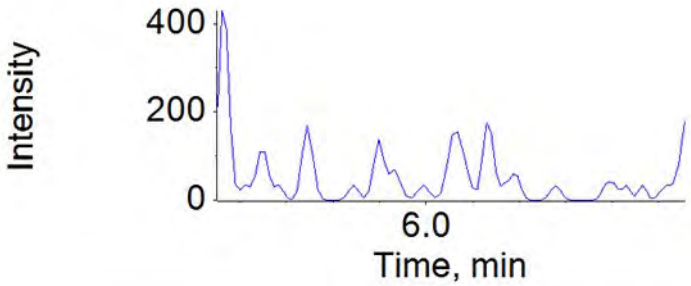
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



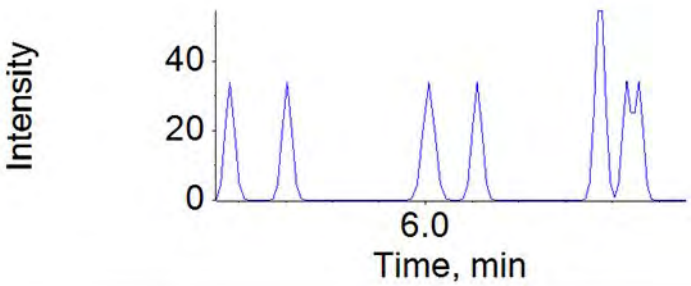
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



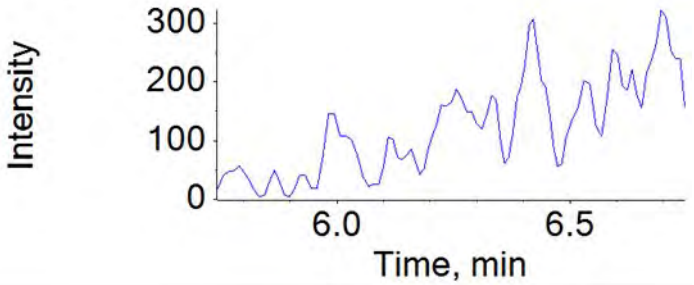
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



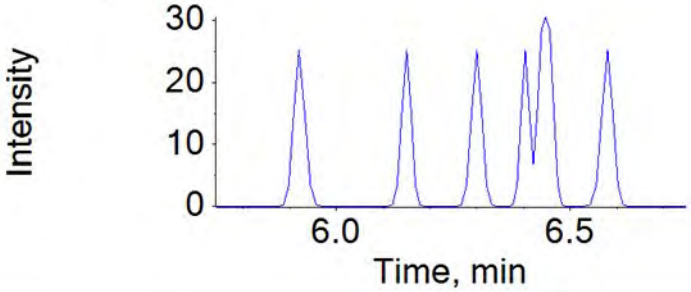
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

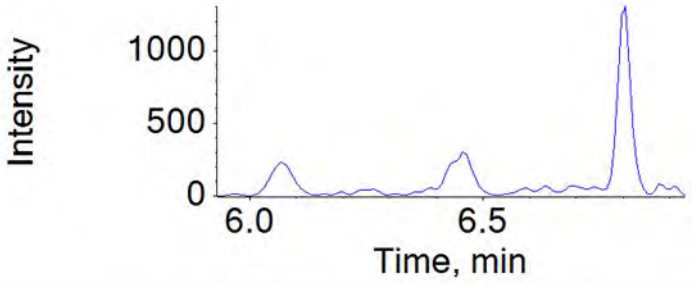
Component: PFTrDA
Primary Mass: 663.0 / 619.0



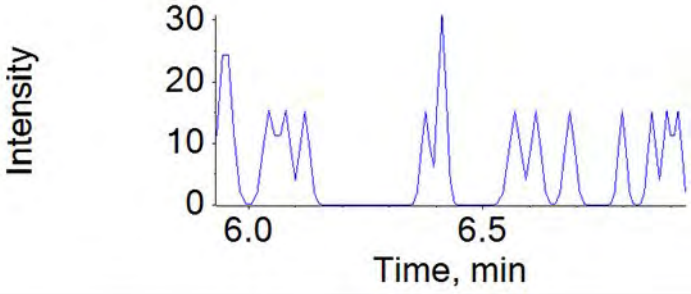
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922845			**Data File:**		18DEC08D-36.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-YS20-3-02 Grab Groundwater			**Acquis Date:**		2018-12-08T13:23:03
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	58			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.27893			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	940179.2	936973.7	0	50	
13C2-PFOA	5.0	515937.4	474841.3	9	50	
13C4-PFOS	4.8	317273.0	294668.0	8	50	
13C2-PFDA	5.0	408687.8	373990.9	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	484913.6	13C3-PFBA	940179.2	0.516	16.671	15.674	94	50-150	
E13C5-PFHxA	812263.2	13C2-PFOA	515937.4	1.574	17.926	18.950	106	50-150	
E13C3-PFHxS	397782.6	13C2-PFOA	515937.4	0.771	16.958	17.729	105	50-150	
E13C4-PFHpA	641538.1	13C2-PFOA	515937.4	1.243	17.926	18.952	106	50-150	
E13C8-PFOA	1024867.1	13C2-PFOA	515937.4	1.986	17.926	20.131	112	50-150	
E13C8-PFOS	373253.9	13C4-PFOS	317273.0	1.176	17.137	18.928	110	50-150	
E13C9-PFNA	667752.9	13C4-PFOS	317273.0	2.105	17.926	21.322	119	50-150	
E13C6-PFDA	767096.2	13C2-PFDA	408687.8	1.877	17.926	17.832	99	50-150	
Ed3-NMeFOSAA	160002.8	13C2-PFDA	408687.8	0.392	17.926	24.874	139	50-150	
E13C7-PFUnDA	477539.6	13C2-PFDA	408687.8	1.168	17.926	20.549	115	50-150	
Ed5-NEtFOSAA	98309.4	13C2-PFDA	408687.8	0.241	17.926	19.038	106	50-150	
E13C2-PFDoDA	990648.0	13C2-PFDA	408687.8	2.424	17.926	18.237	102	50-150	
E13C2-PFTeDA	672548.1	13C2-PFDA	408687.8	1.646	17.926	17.511	98	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

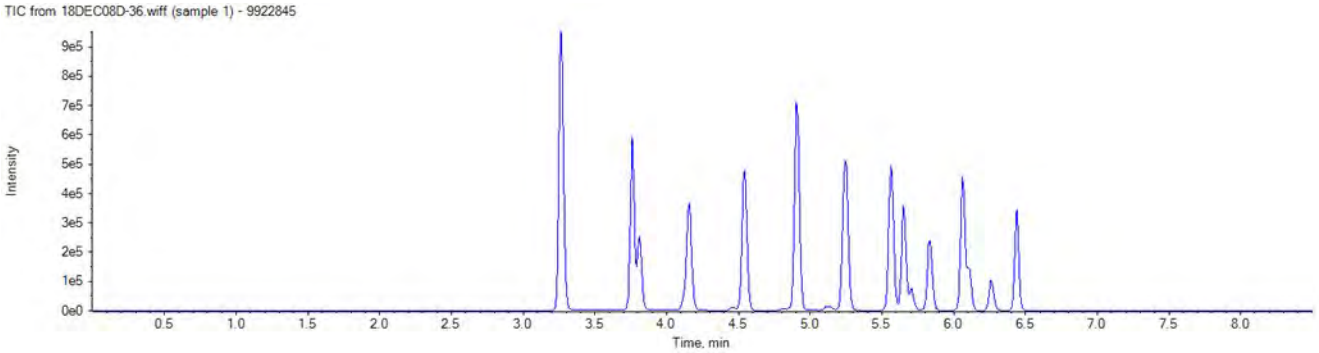
Analyte Quantitation Peak Table

Sample Name: 9922845 **Instrument Name:** LM27631 **File Name:** 18DEC08D-36.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27893	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	37561.5		A	13C3-PFBS	3.81	484913.6	0.077	1.376
PFHxA	4.16	1.000	24263.9		A	13C5-PFHxA	4.16	812263.2	0.030	0.467
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	641538.1	N/A	
PFHxS	4.54	1.000	118813.9		M	13C3-PFHxS	4.54	397782.6	0.299	5.074
PFOA	4.91	1.000	77603.8		M	13C8-PFOA	4.91	1024867.1	0.076	1.484
PFOS	5.17	0.990	84618.4		M	13C8-PFOS	5.24	373253.9	0.227	3.371
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	667752.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	767096.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	160002.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	477539.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	98309.4	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	990648.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	990648.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	672548.1	N/A	

Total Ion Chromatogram

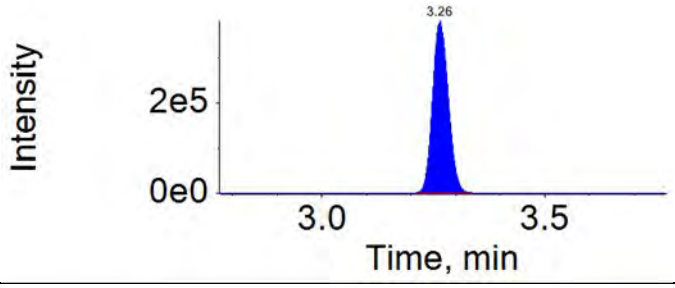


APPROVED
By MCD at 7:42 pm, 12/10/18

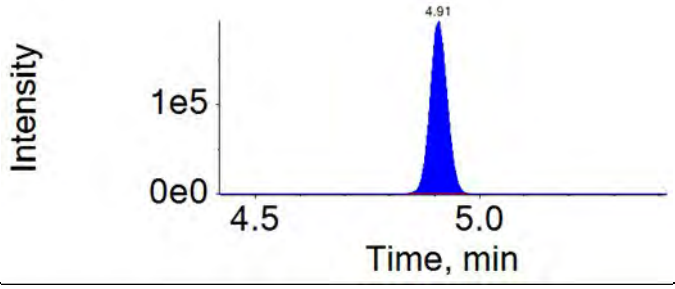
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

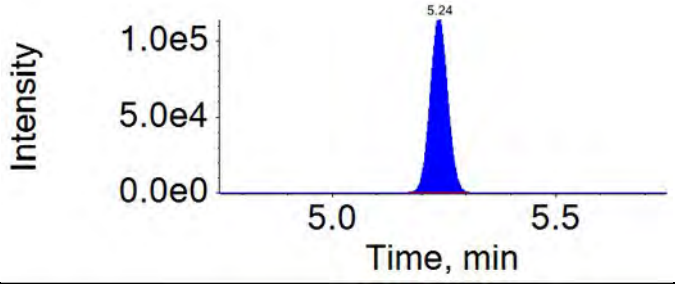
Injection Standard: 13C3-PFBA
216.0 / 172.0



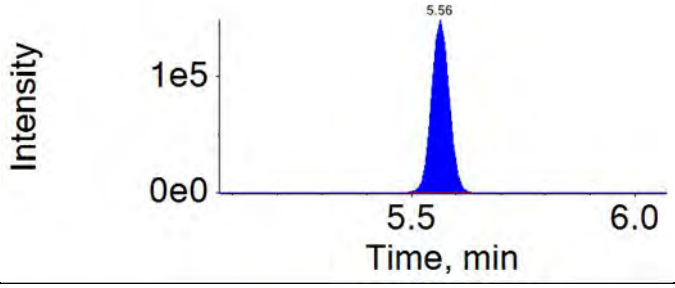
Injection Standard: 13C2-PFOA
415.0 / 370.0



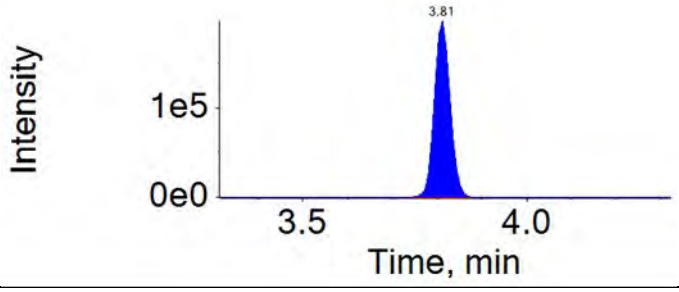
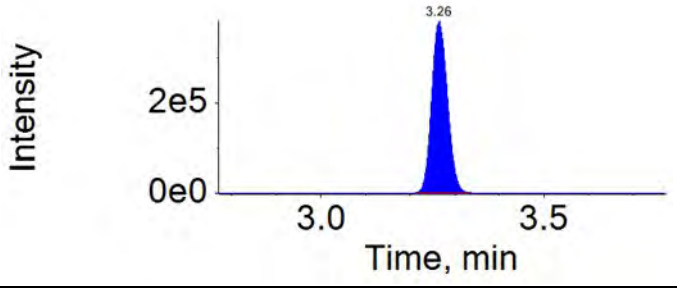
Injection Standard: 13C4-PFOS
503.0 / 80.0

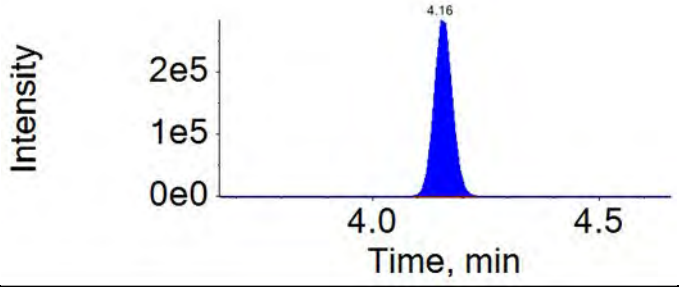
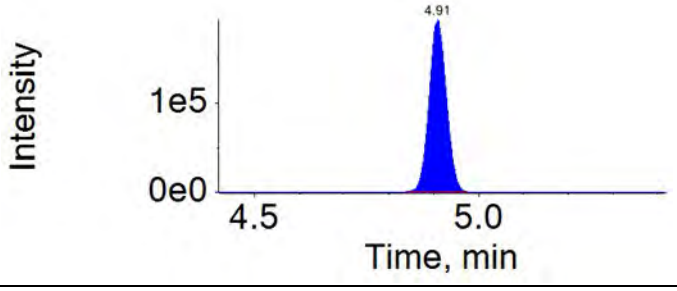


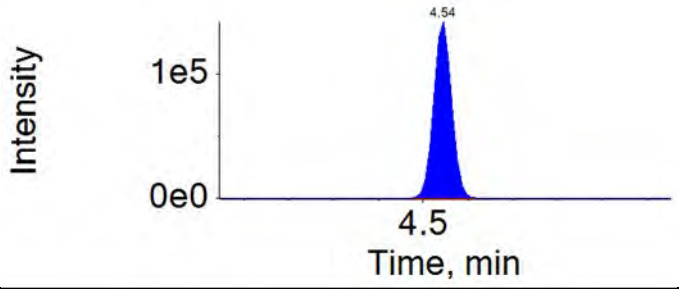
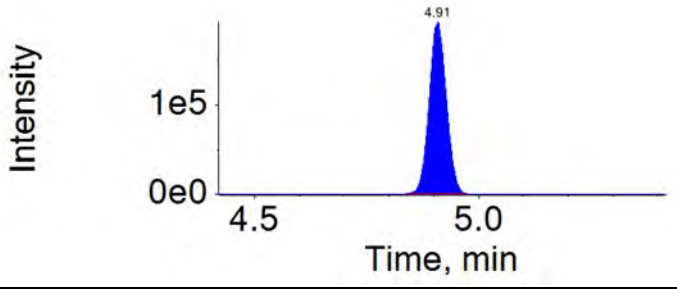
Injection Standard: 13C2-PFDA
515.0 / 470.0

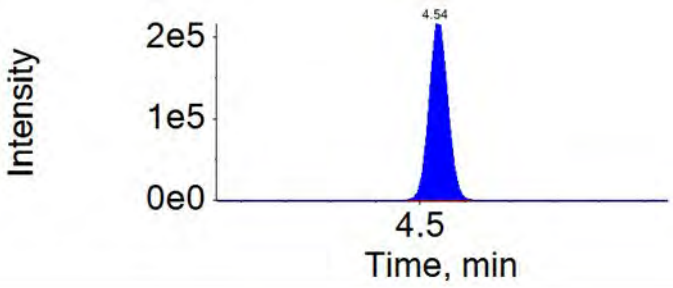
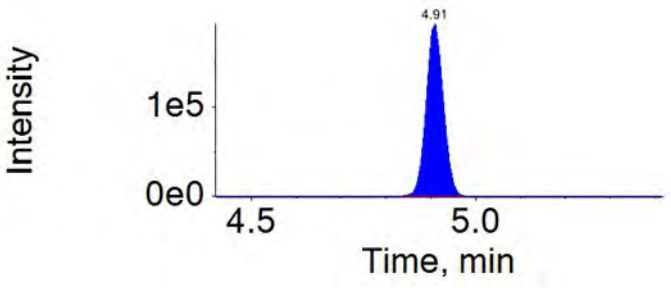


ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

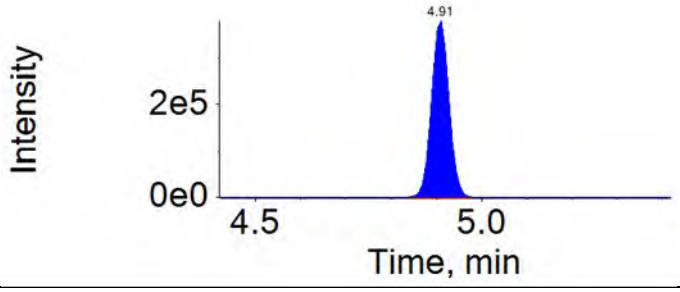
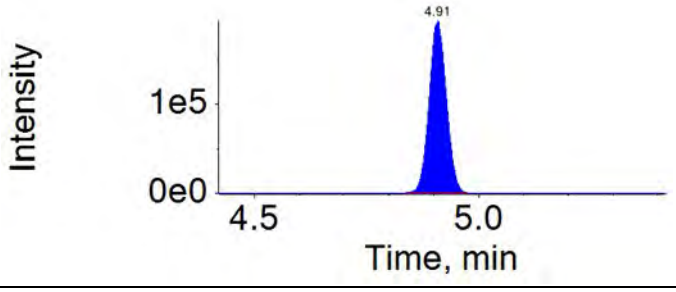
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

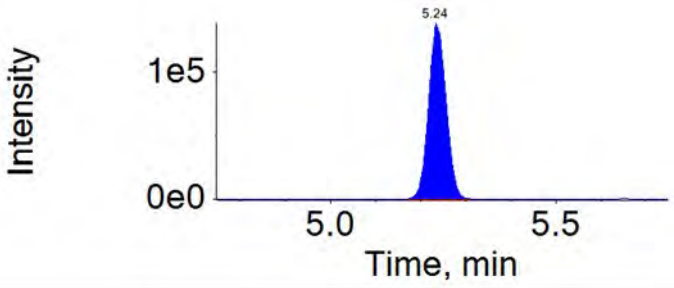
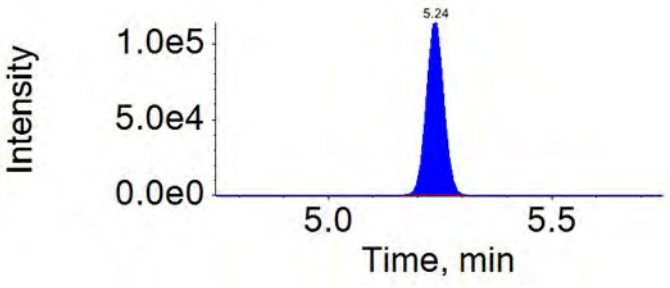
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

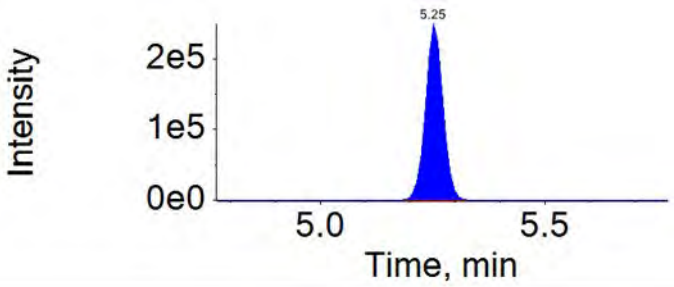
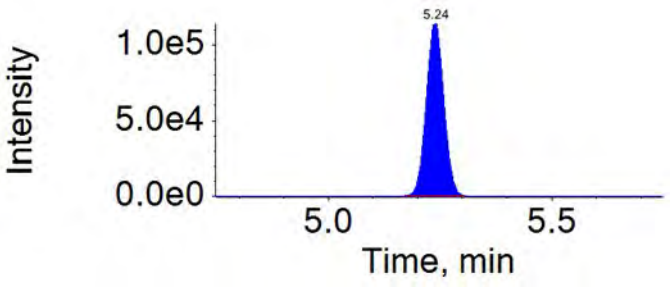
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

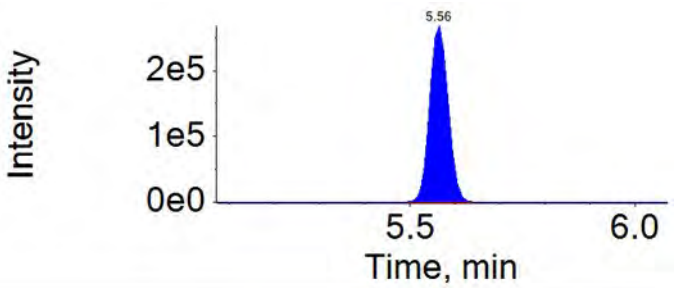
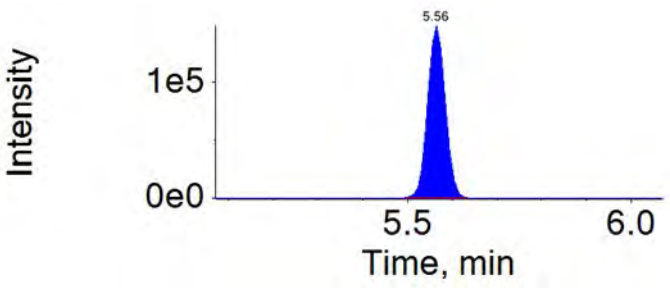
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

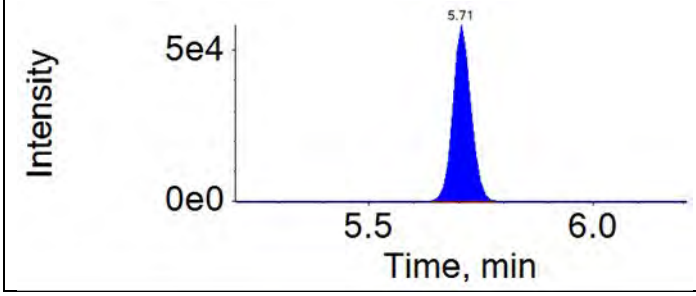
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

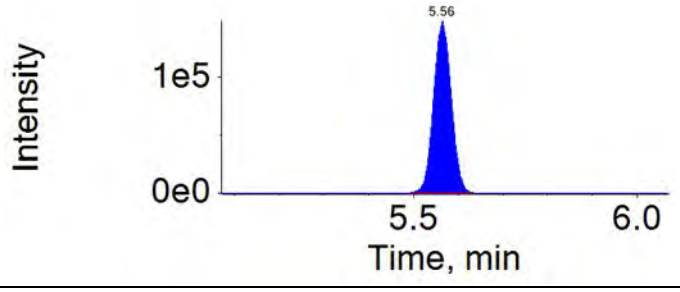
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

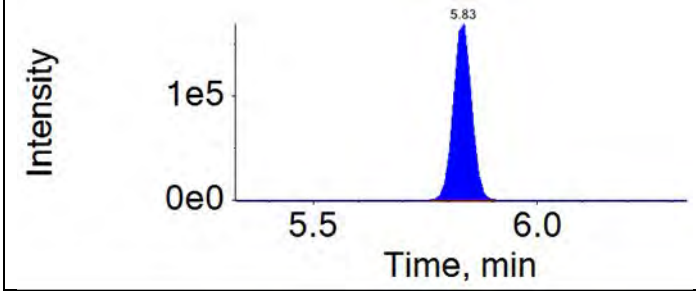
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

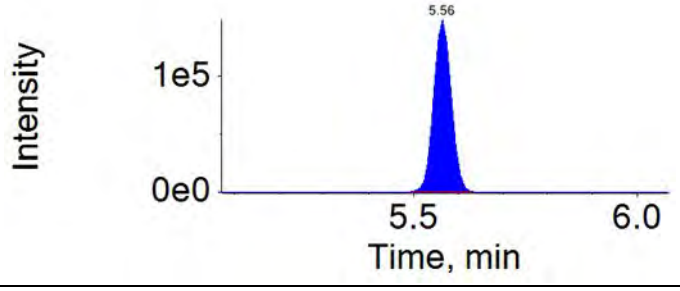
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



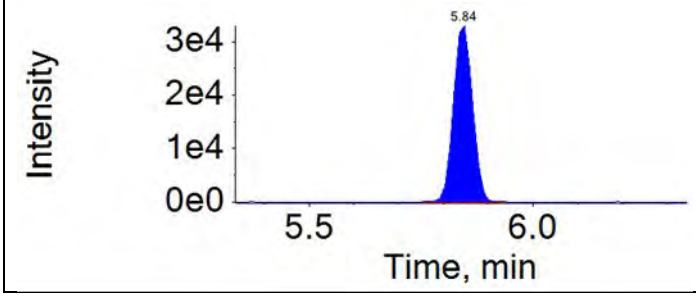


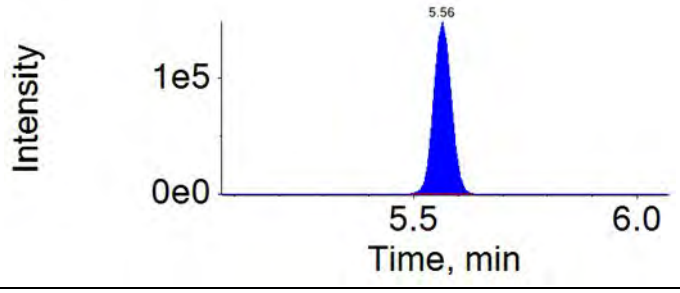
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



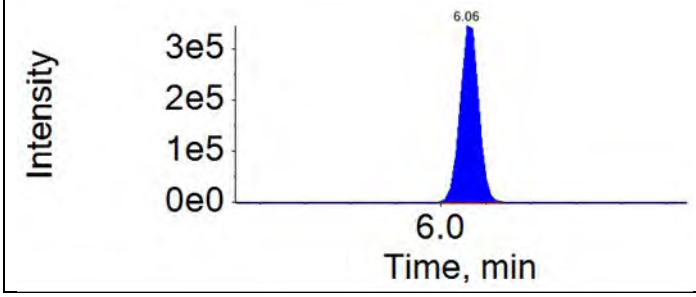


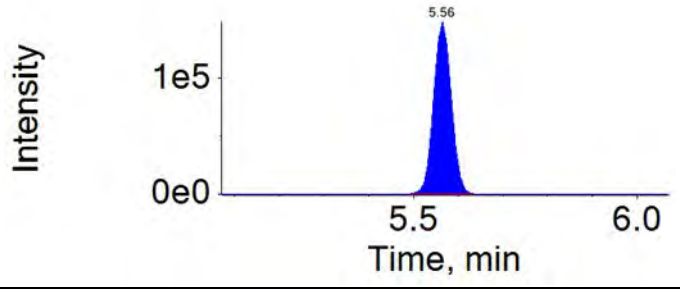
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

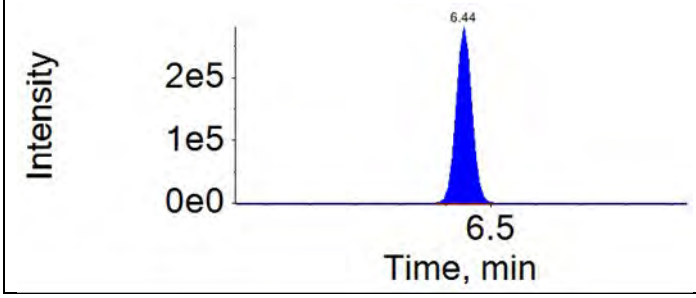
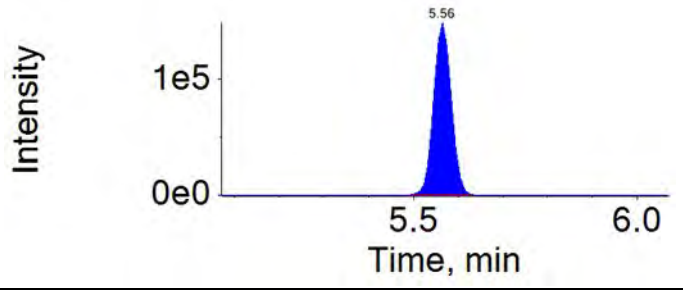




APPROVED
By MCD at 7:42 pm, 12/10/18

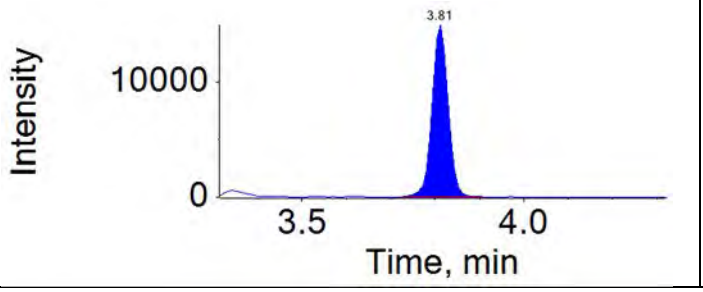
REVIEWED
By HMK at 12:28 pm, 12/13/18

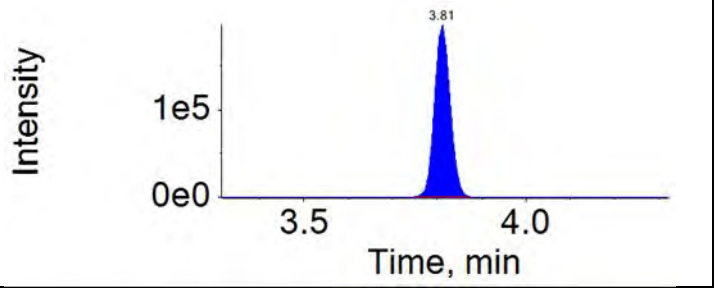
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

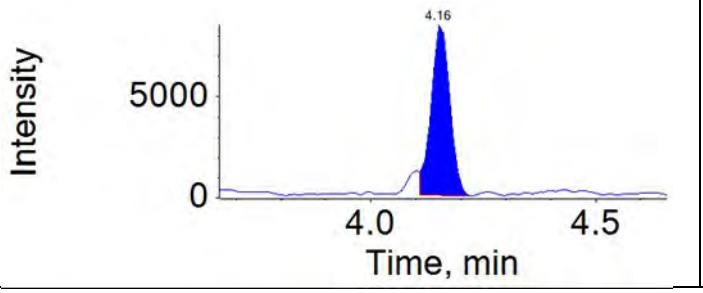
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

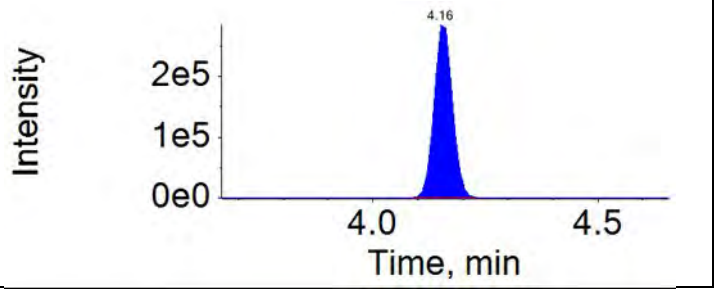
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



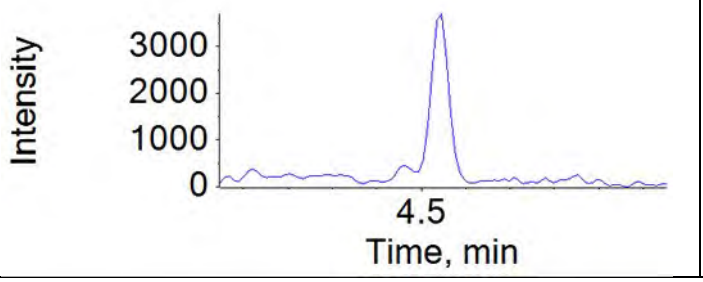


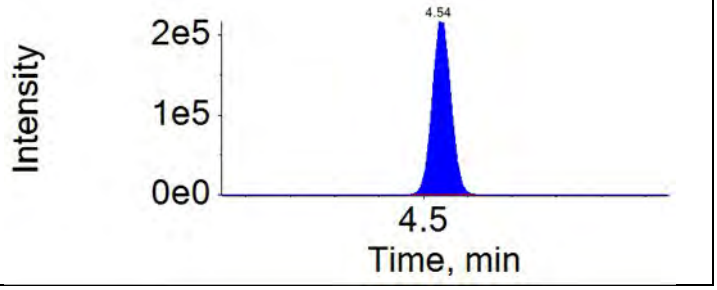
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



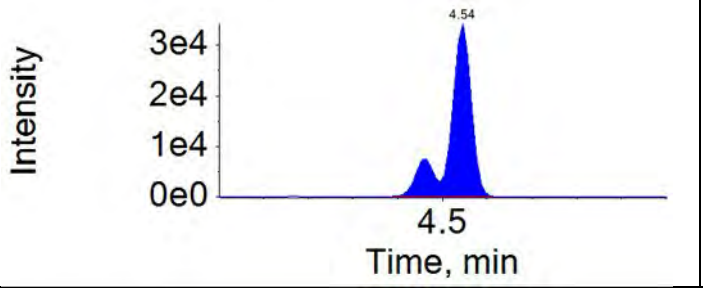


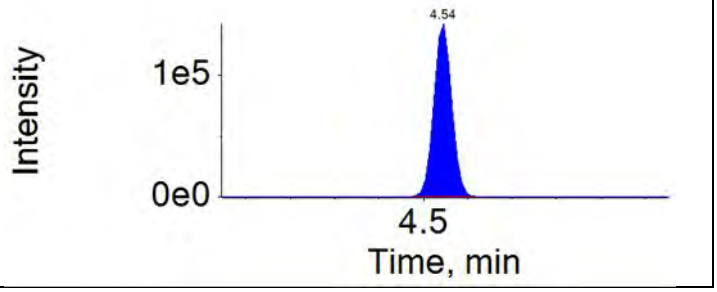
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



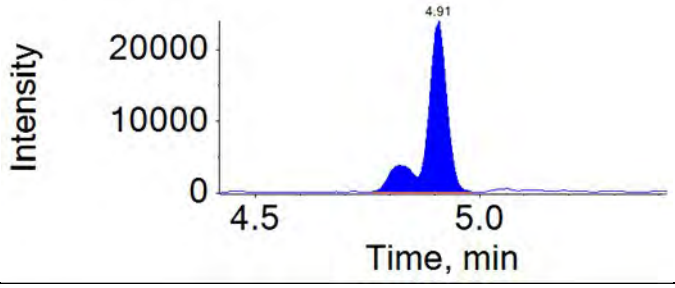


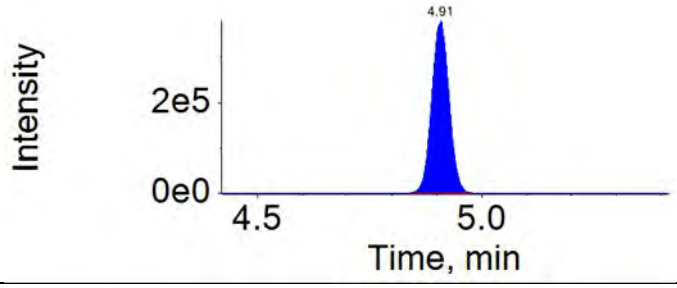
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

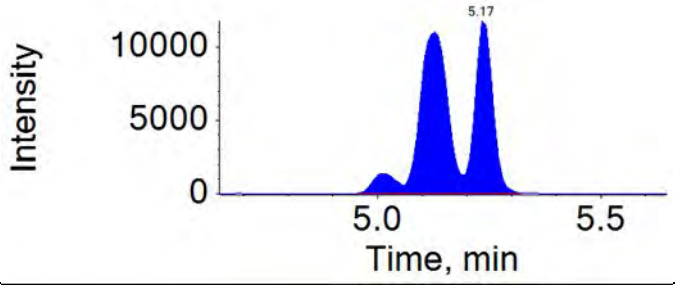
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

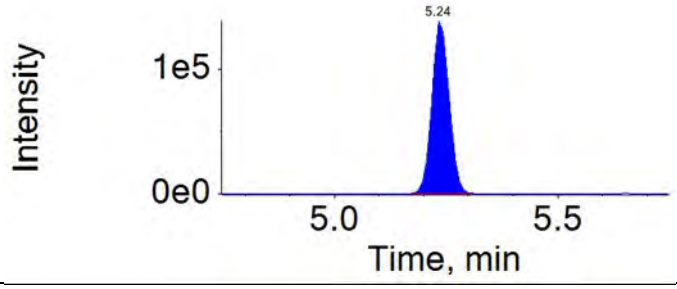
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



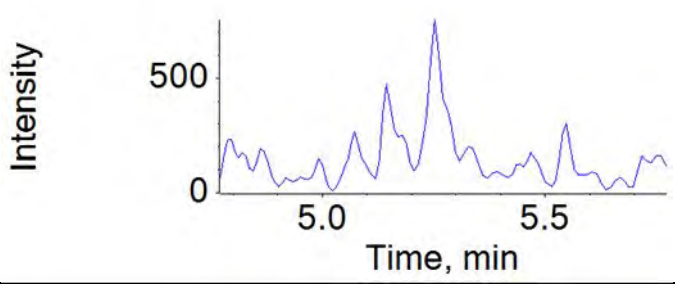


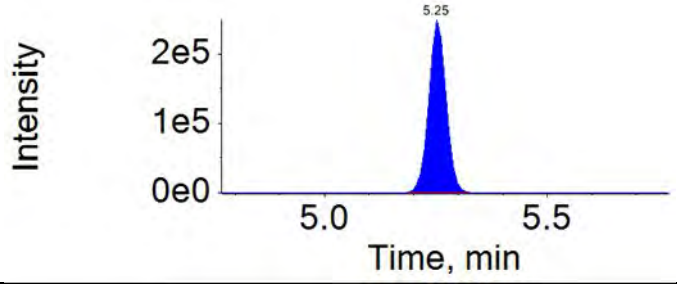
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



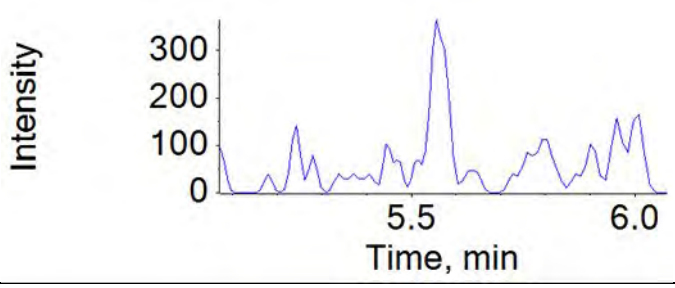


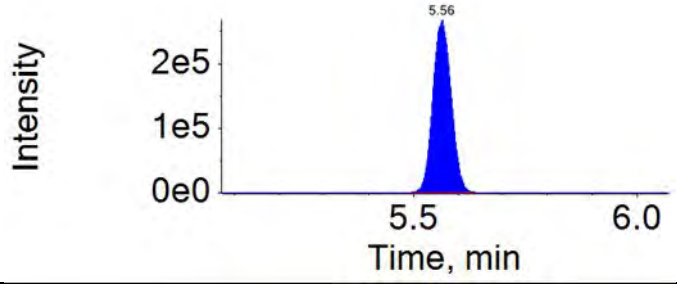
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



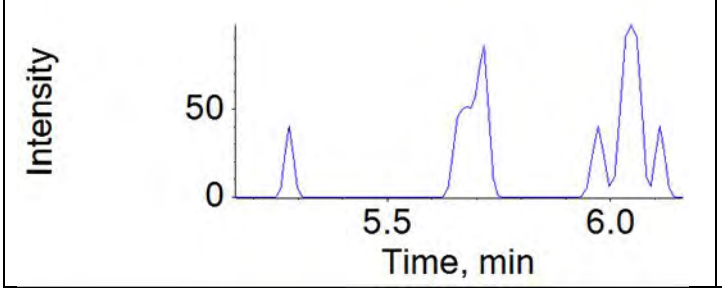


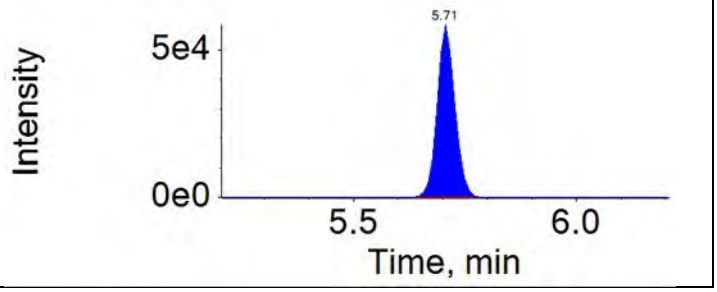
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

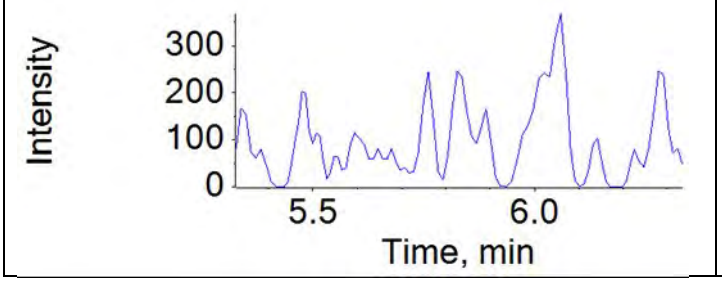
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

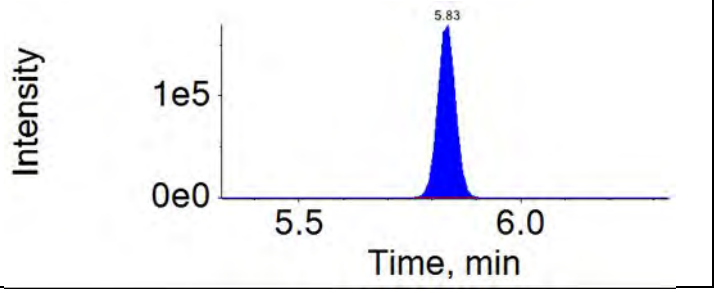
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



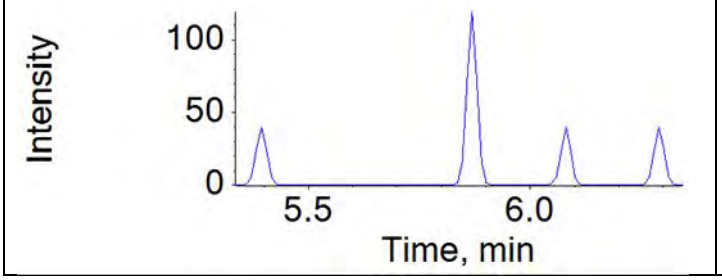


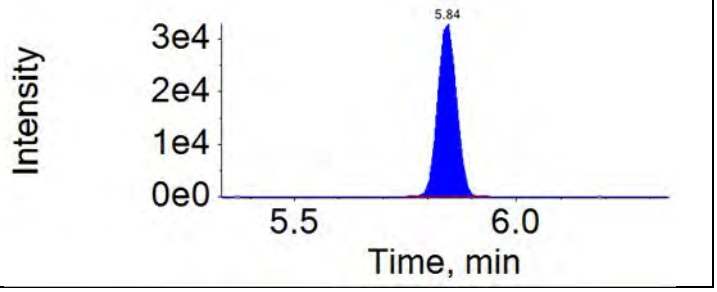
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



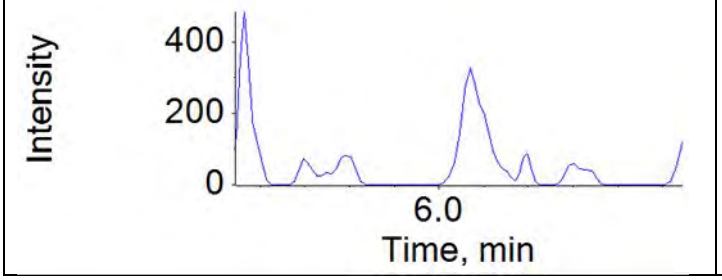


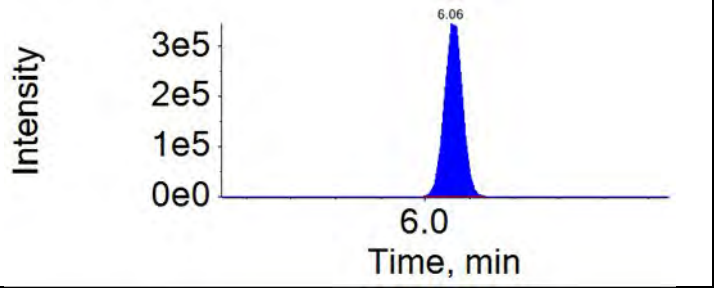
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



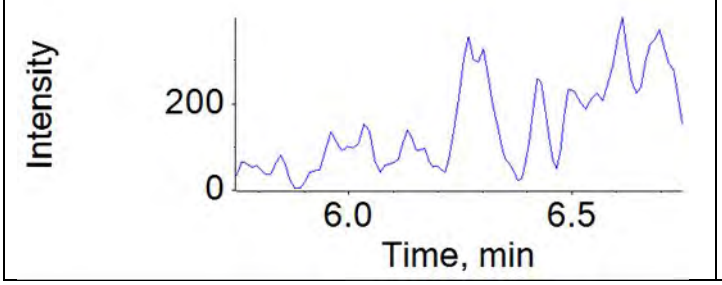


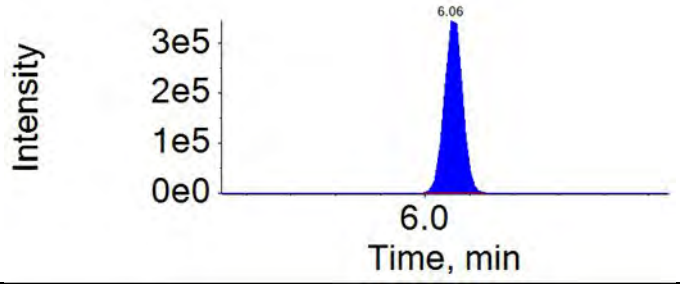
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

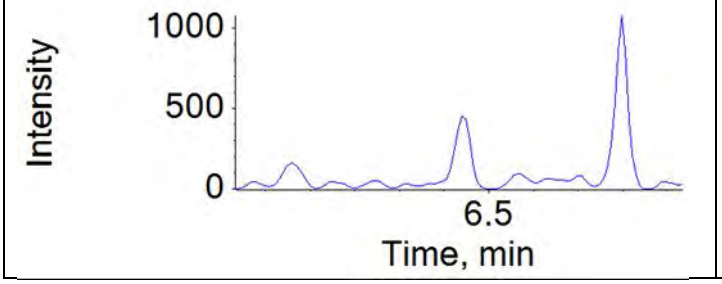
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

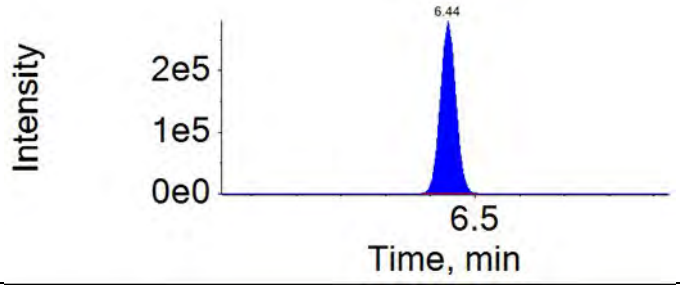
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



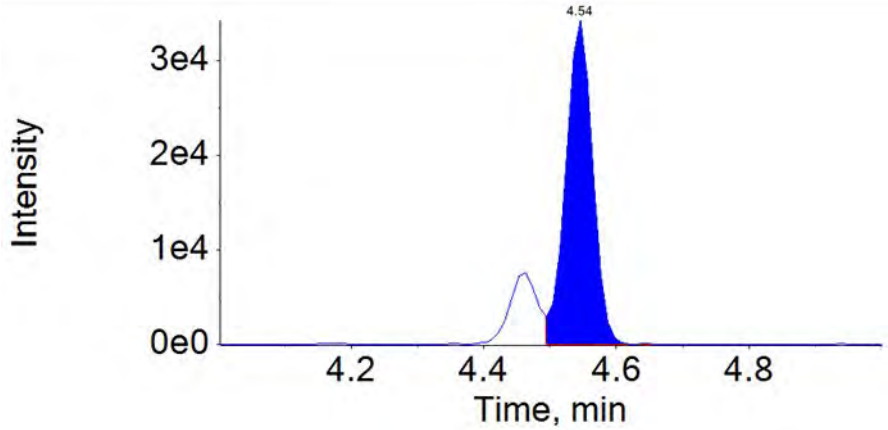


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

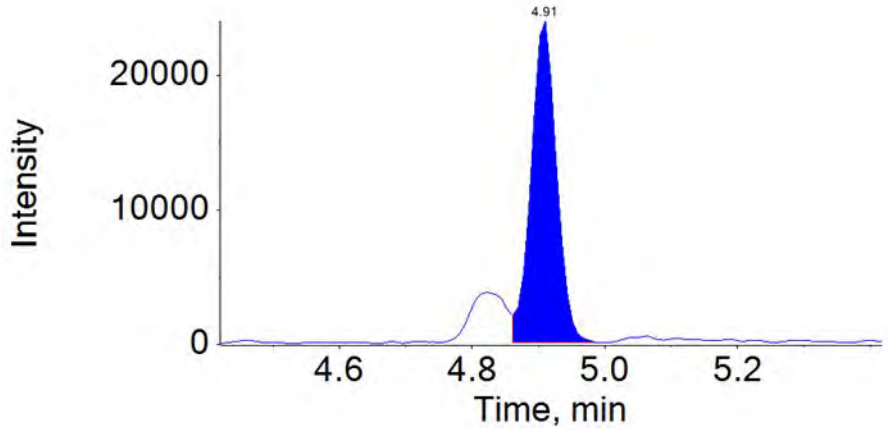
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
96628.8
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-36.wiff
Sample Name:
9922845



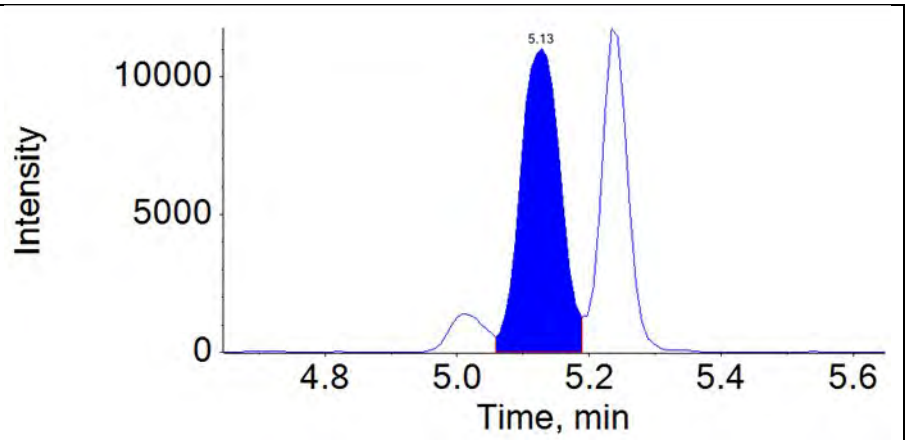
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
63530.3
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-36.wiff
Sample Name:
9922845



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.13
Peak Area:
46287.5
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-36.wiff
Sample Name:
9922845



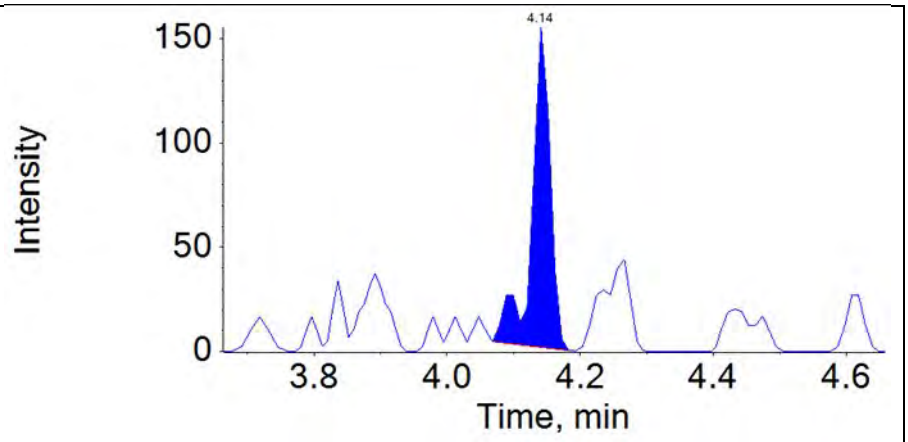
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

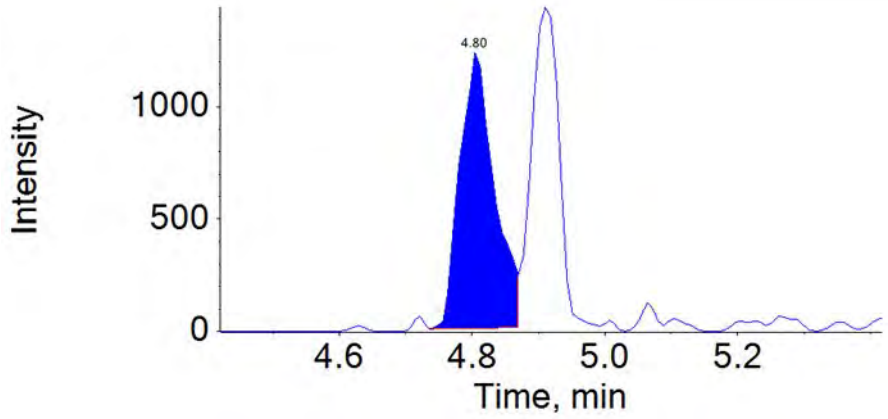
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
4.14
Peak Area:
299.0
Mass Range:
313.0 / 119.0
File Name:
18DEC08D-36.wiff
Sample Name:
9922845



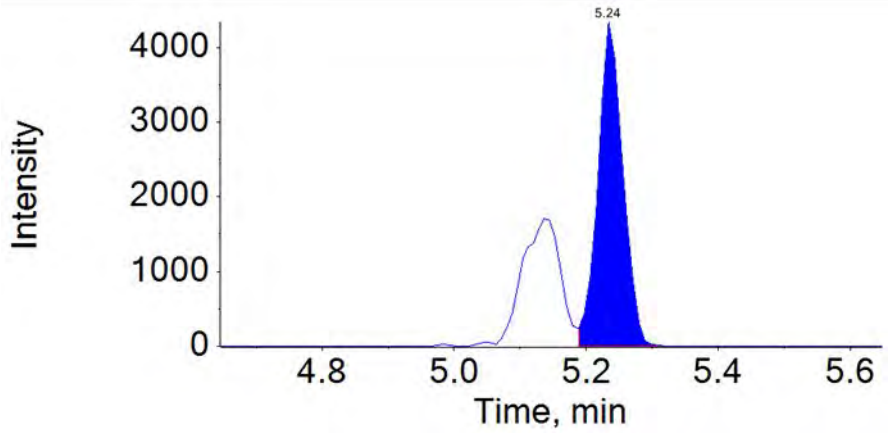
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.80
Peak Area:
4446.9
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-36.wiff
Sample Name:
9922845



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
11362.5
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-36.wiff
Sample Name:
9922845



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Ion Ratio Report

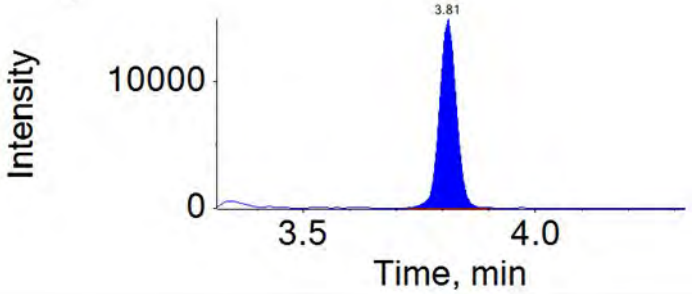
Sample Name: 9922845 **Instrument Name:** LM27631 **File Name:** 18DEC08D-36.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	37561.5	A	N/A	0.3766			
PFBS_2	3.81	1.00	14147.2	A	N/A	0.3766	5	50	
PFHxA	4.16	1.00	24263.9	A	N/A	0.0111			
PFHxA_2	4.14	1.00	269.7	M	N/A	0.0111	25	50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	4.54	1.00	118813.9	M	N/A	0.3279			
PFHxS_2	4.54	1.00	38954.0	A	N/A	0.3279	-11	50	
PFOA	4.91	1.00	77603.8	M	N/A	0.1115			
PFOA_2	4.87	0.99	8649.5	M	N/A	0.1115	81	50	OOS
PFOS	5.17	0.99	84618.4	M	N/A	0.2161			
PFOS_2	5.24	1.00	18289.7	M	N/A	0.2161	-29	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

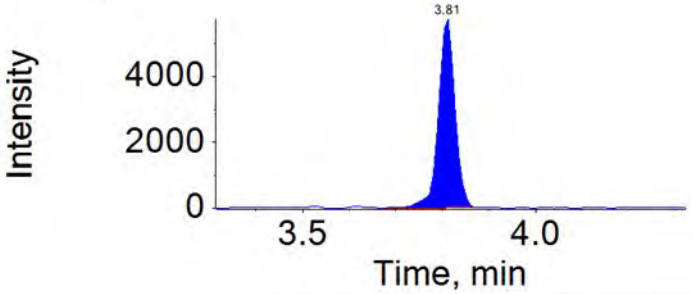
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

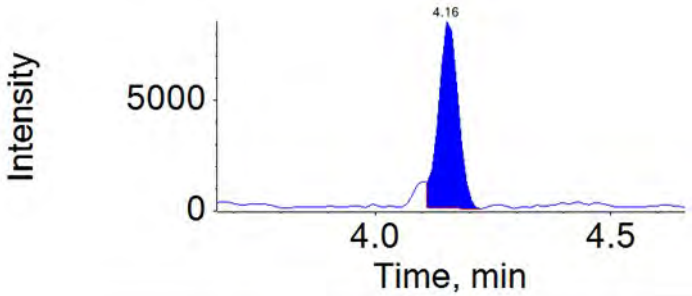
Component: PFBS
Primary Mass: 299.0 / 80.0



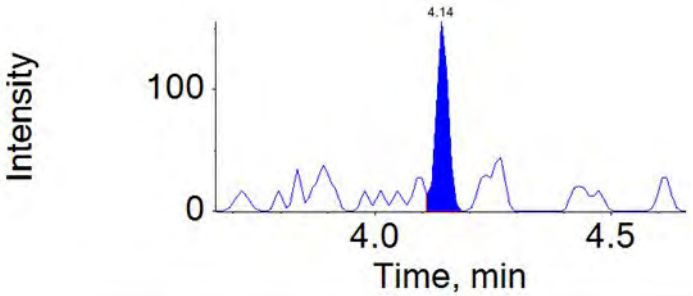
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



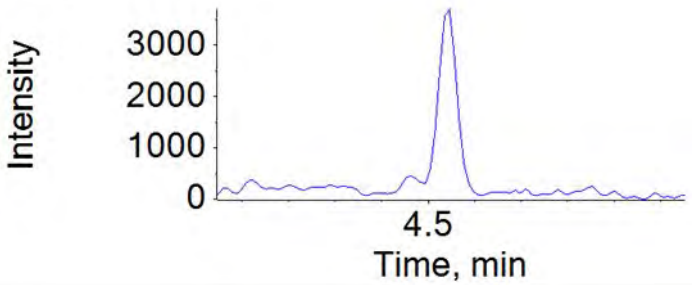
Component: PFHxA
Primary Mass: 313.0 / 269.0



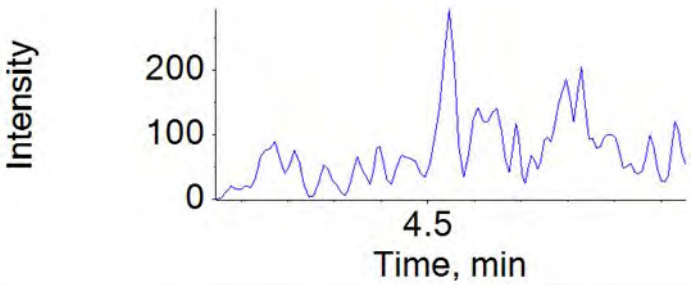
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



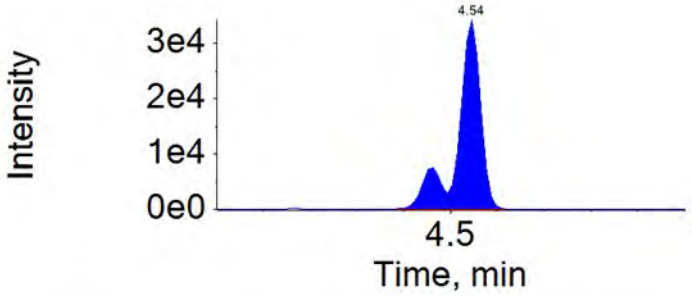
Component: PFHpA
Primary Mass: 363.0 / 319.0



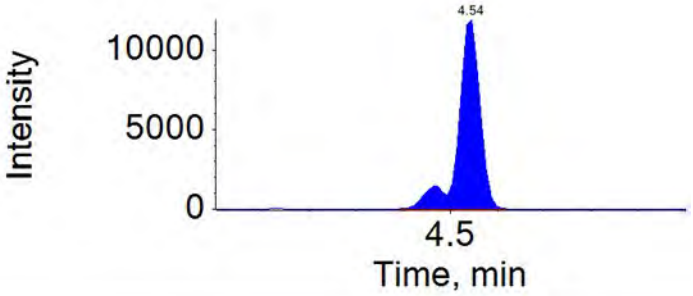
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



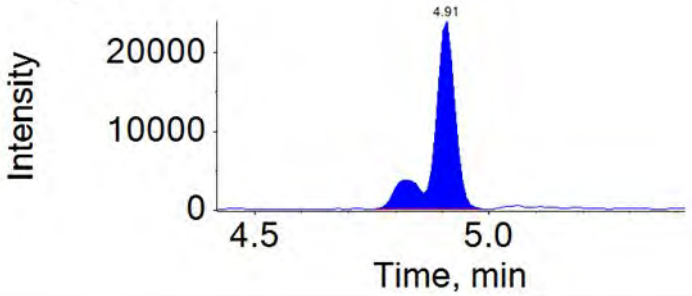
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



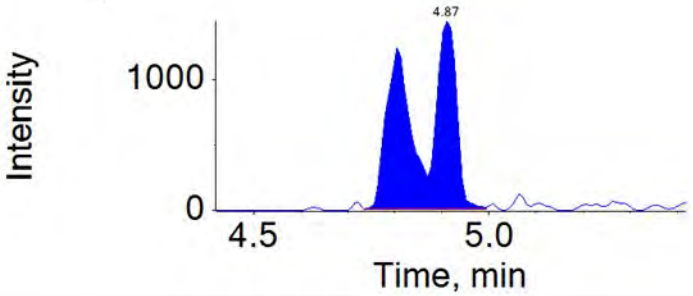
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

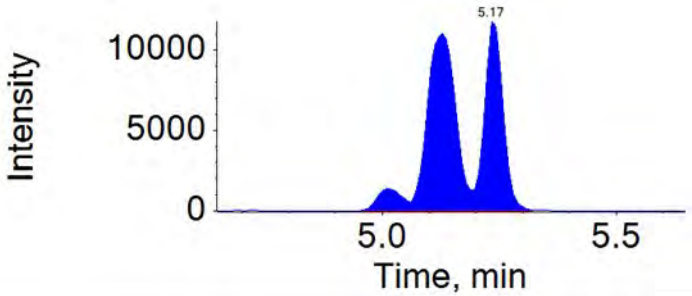
Component: PFOA
Primary Mass: 413.0 / 369.0



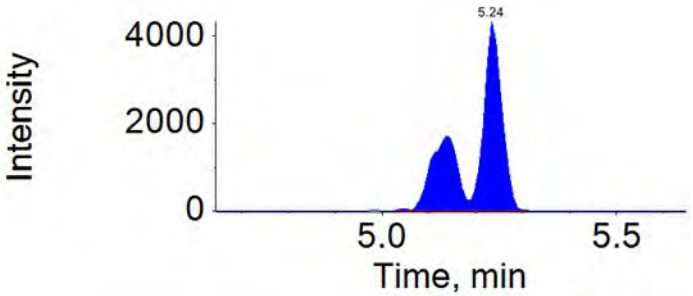
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



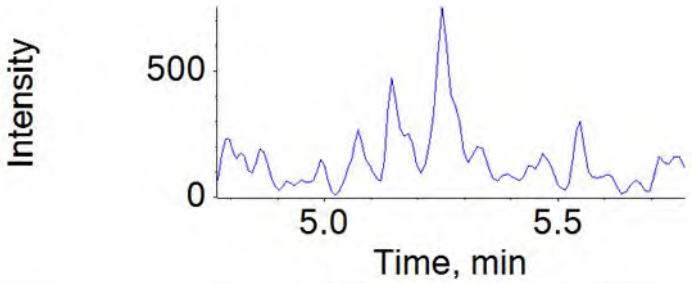
Component: PFOS
Primary Mass: 499.0 / 80.0



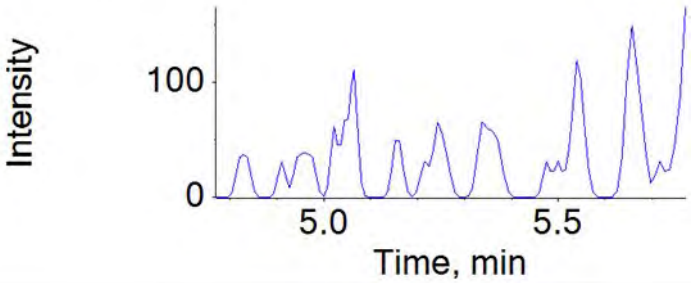
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



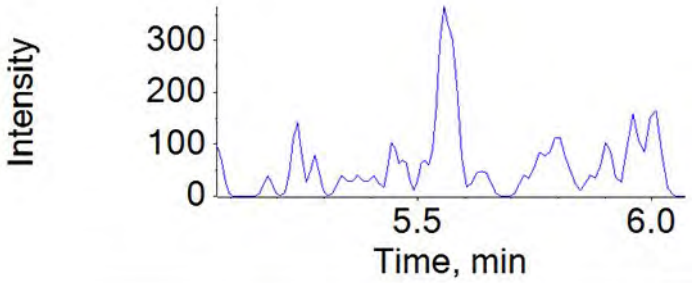
Component: PFNA
Primary Mass: 463.0 / 419.0



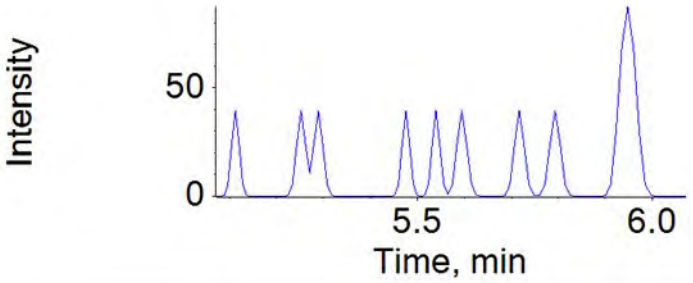
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



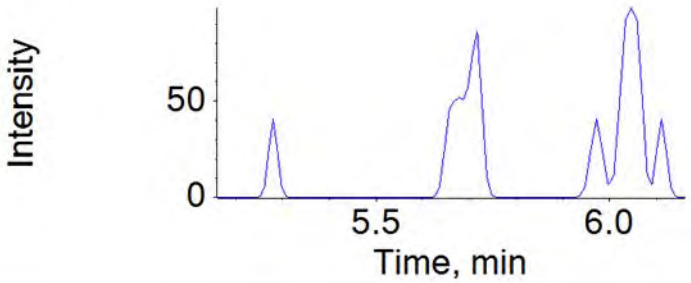
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



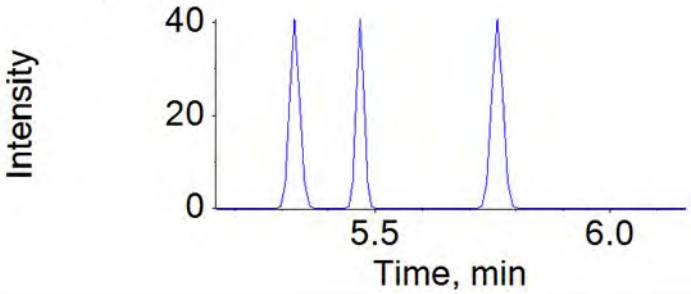
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

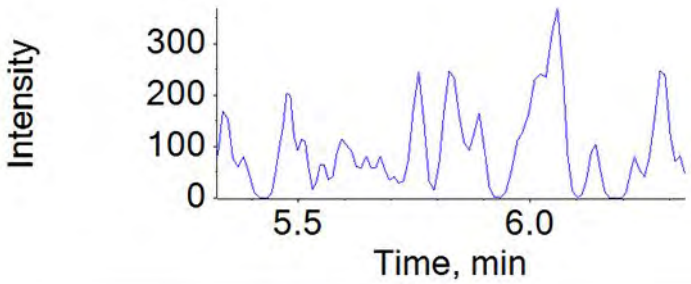
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



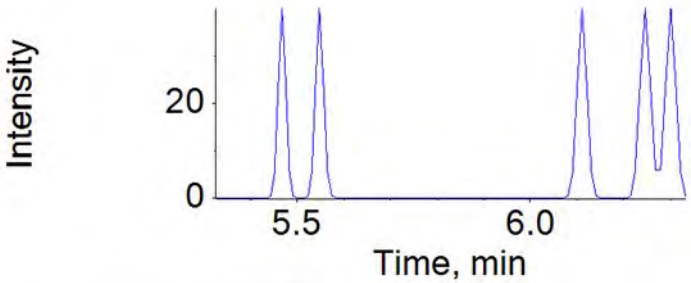
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



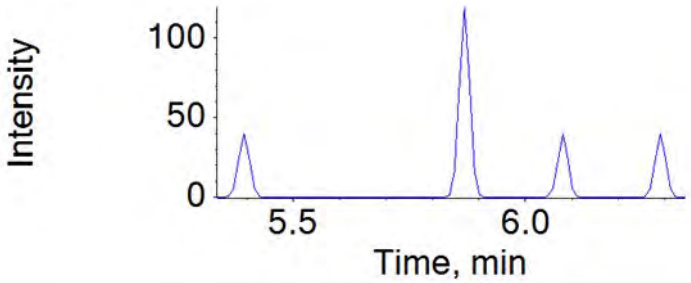
Component: PFUnDA
Primary Mass: 563.0 / 519.0



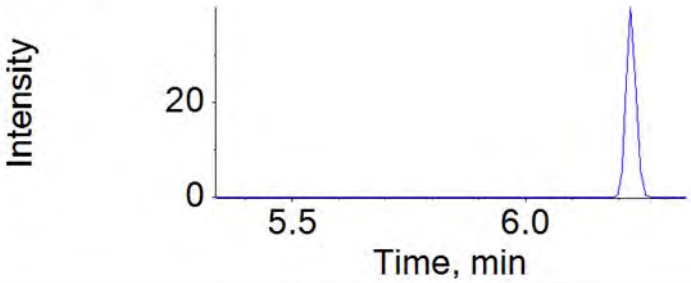
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



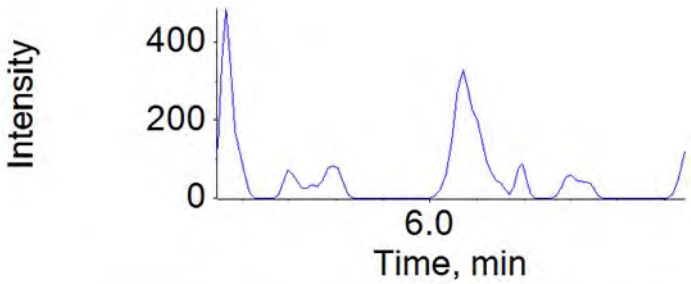
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



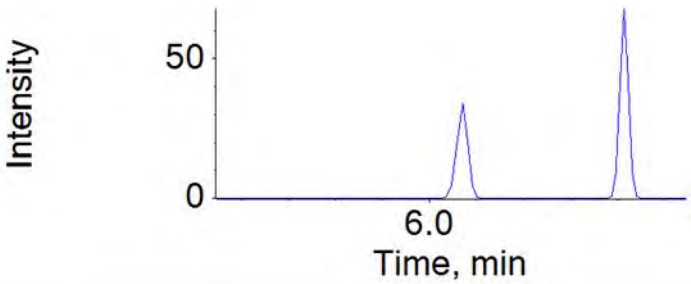
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



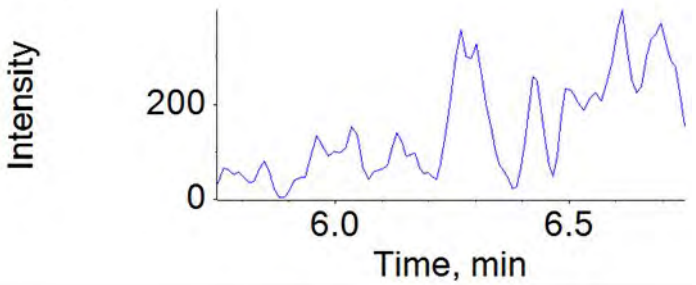
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



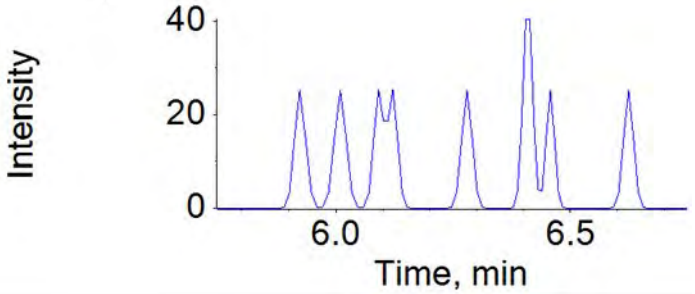
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

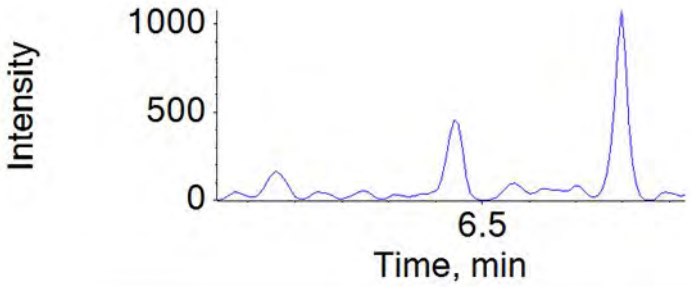
Component: PFTrDA
Primary Mass: 663.0 / 619.0



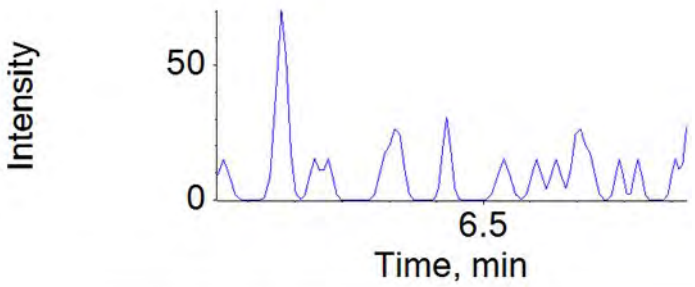
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922846			**Data File:**		18DEC10D-71.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-NGW01-01 Grab Groundwater			**Acquis Date:**		2018-12-10T23:07:01
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	60			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.20063			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	973228.5	968978.6	0	50	
13C2-PFOA	5.0	531199.0	507254.2	5	50	
13C4-PFOS	4.8	302040.3	302410.5	0	50	
13C2-PFDA	5.0	414405.7	392614.4	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	418714.9	13C3-PFBA	973228.5	0.430	23.177	18.177	78	50-150	
E13C5-PFHxA	731427.9	13C2-PFOA	531199.0	1.377	24.921	23.042	92	50-150	
E13C3-PFHxS	330769.1	13C2-PFOA	531199.0	0.623	23.576	19.907	84	50-150	
E13C4-PFHpA	581877.2	13C2-PFOA	531199.0	1.095	24.921	23.211	93	50-150	
E13C8-PFOA	881005.5	13C2-PFOA	531199.0	1.659	24.921	23.367	94	50-150	
E13C8-PFOS	310666.3	13C4-PFOS	302040.3	1.029	23.825	23.007	97	50-150	
E13C9-PFNA	646571.1	13C4-PFOS	302040.3	2.141	24.921	30.151	121	50-150	
E13C6-PFDA	673123.5	13C2-PFDA	414405.7	1.624	24.921	21.455	86	50-150	
Ed3-NMeFOSAA	134304.0	13C2-PFDA	414405.7	0.324	24.921	28.626	115	50-150	
E13C7-PFUnDA	437760.1	13C2-PFDA	414405.7	1.056	24.921	25.828	104	50-150	
Ed5-NEtFOSAA	80076.7	13C2-PFDA	414405.7	0.193	24.921	21.261	85	50-150	
E13C2-PFDoDA	988406.9	13C2-PFDA	414405.7	2.385	24.921	24.947	100	50-150	
E13C2-PFTeDA	498499.8	13C2-PFDA	414405.7	1.203	24.921	17.796	71	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

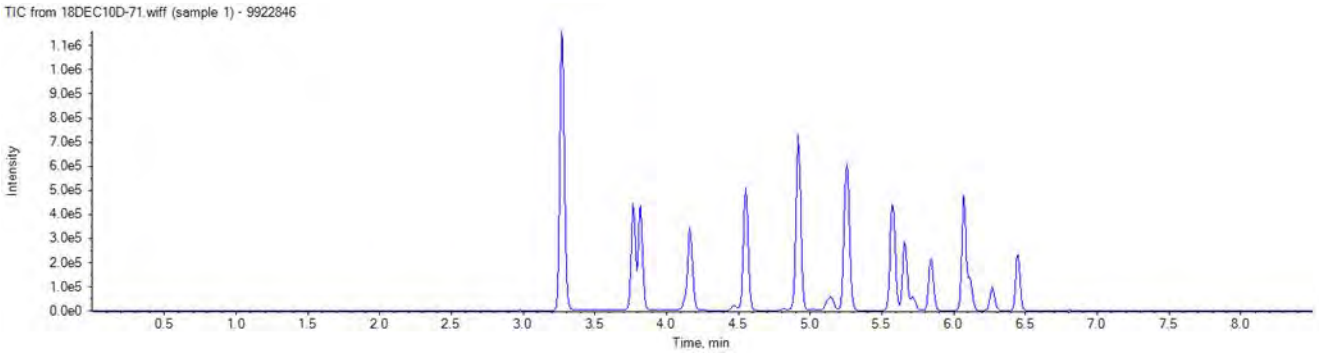
Analyte Quantitation Peak Table

Sample Name: 9922846 **Instrument Name:** LM27631 **File Name:** 18DEC10D-71.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.20063	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.82	1.000	348493.6		A	13C3-PFBS	3.82	418714.9	0.832	20.562
PFHxA	4.16	1.000	10956.6		M	13C5-PFHxA	4.16	731427.9	0.015	0.325
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	581877.2	N/A	
PFHxS	4.55	1.000	252211.5		M	13C3-PFHxS	4.55	330769.1	0.763	18.007
PFOA	4.92	1.000	186210.2		M	13C8-PFOA	4.92	881005.5	0.211	5.757
PFOS	5.25	1.000	464594.1		M	13C8-PFOS	5.25	310666.3	1.495	30.917
PFNA	5.26	1.000	26780.5		A	13C9-PFNA	5.26	646571.1	0.041	0.761
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	673123.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.72	134304.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	437760.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	80076.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	988406.9	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	988406.9	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	498499.8	N/A	

Total Ion Chromatogram

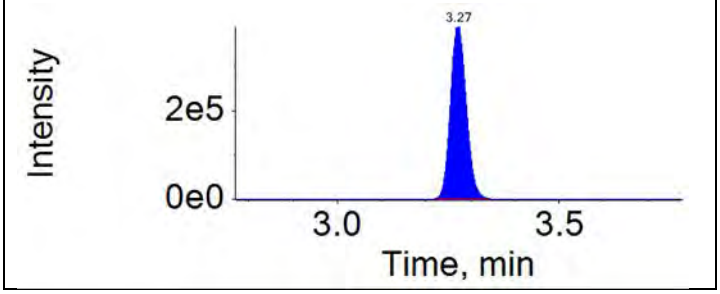


APPROVED
By MCD at 3:52 pm, 12/11/18

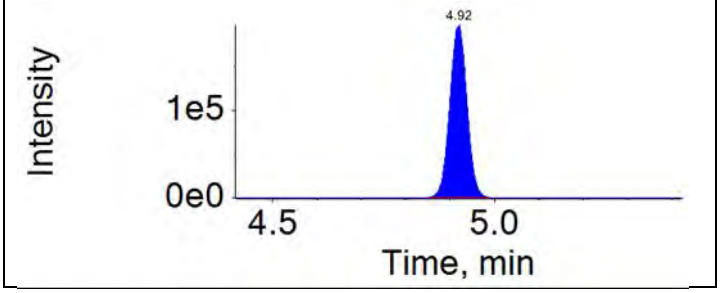
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

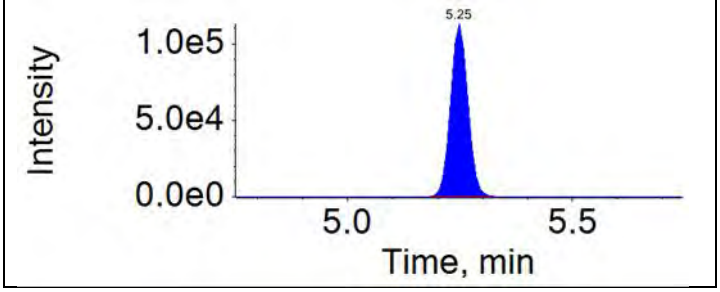
Injection Standard: 13C3-PFBA
216.0 / 172.0



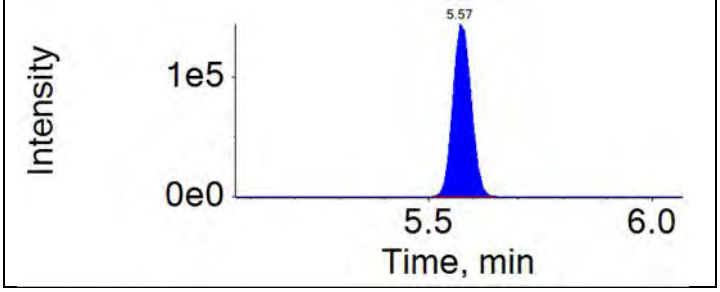
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



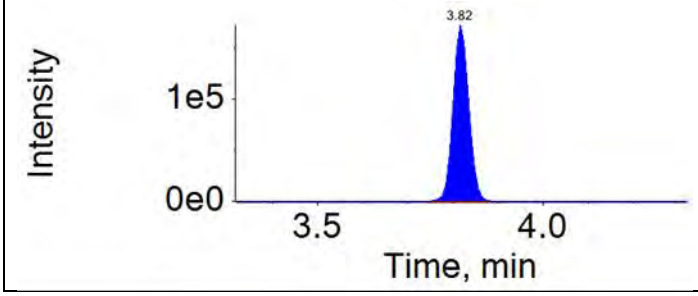
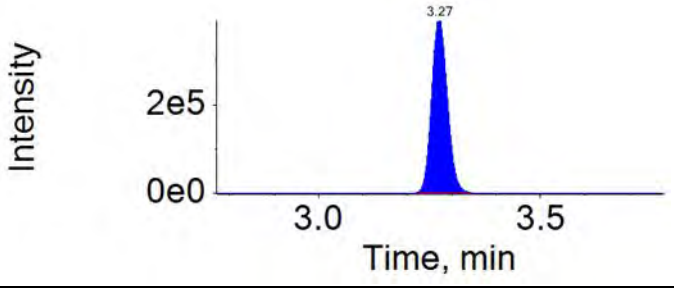
Injection Standard: 13C2-PFDA
515.0 / 470.0

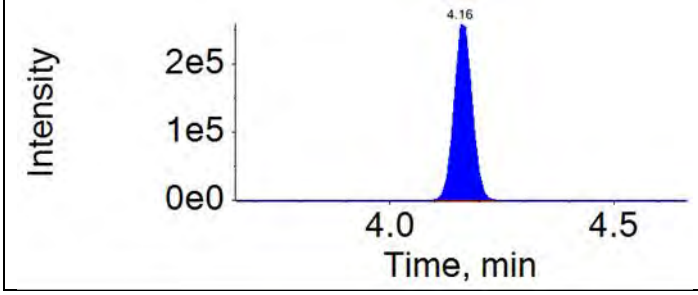
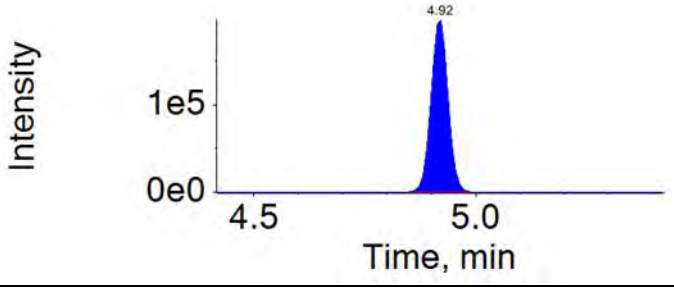


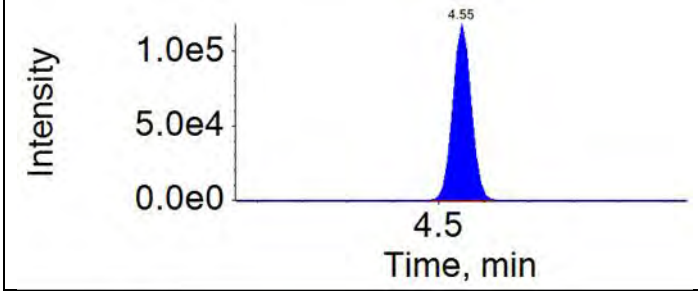
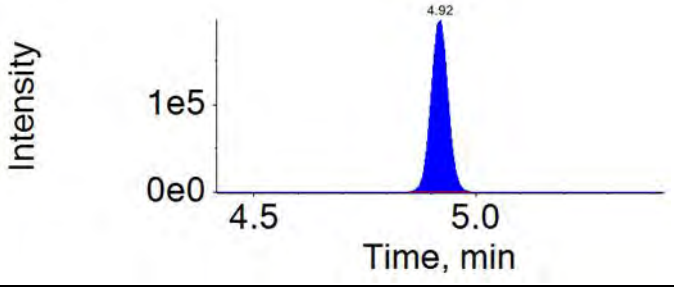
APPROVED
By MCD at 3:52 pm, 12/11/18

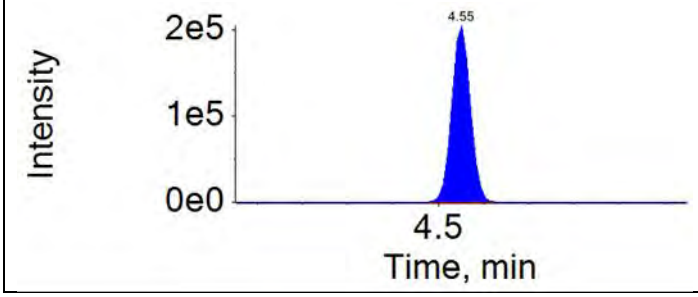
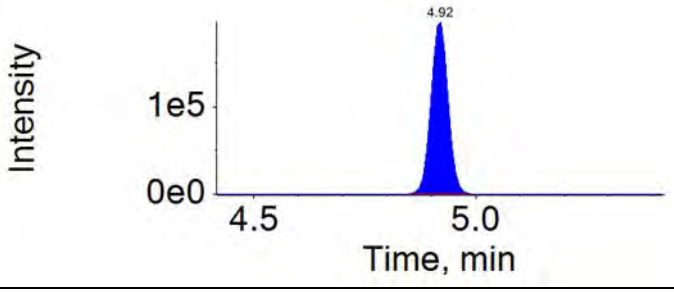
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

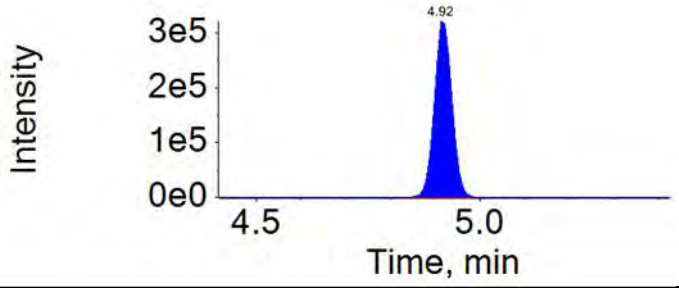
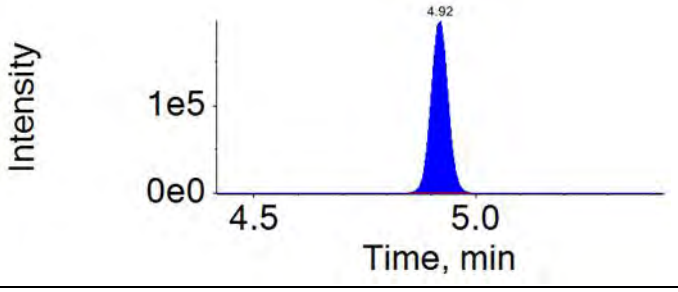
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

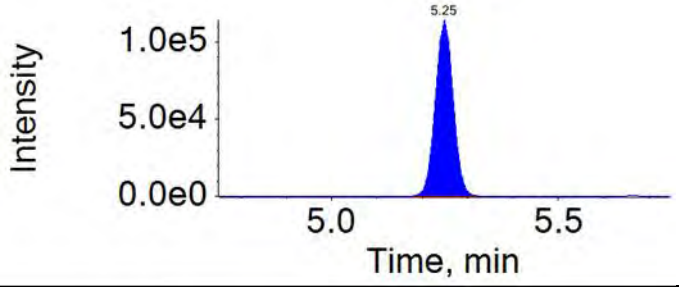
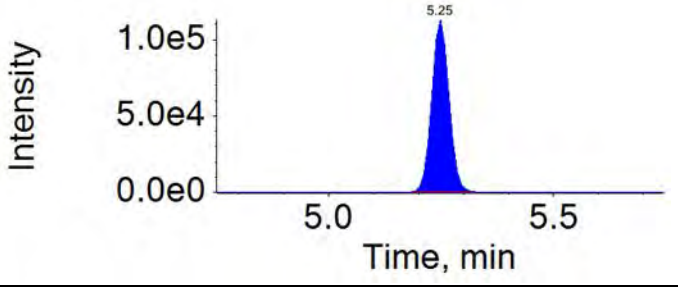
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

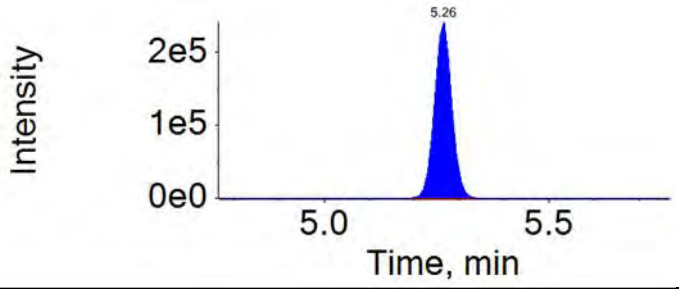
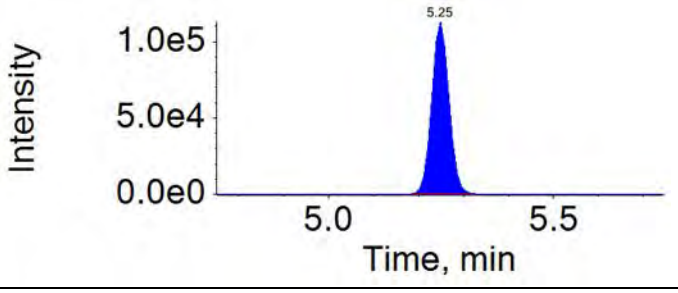
APPROVED
By MCD at 3:52 pm, 12/11/18

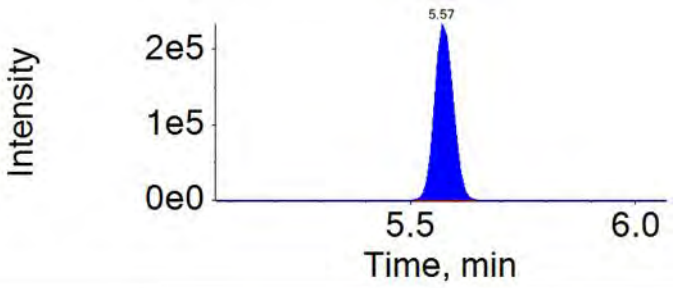
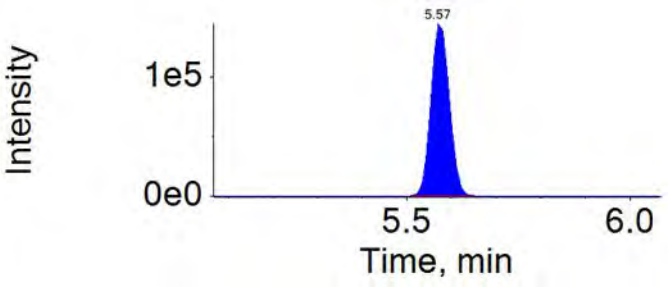
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

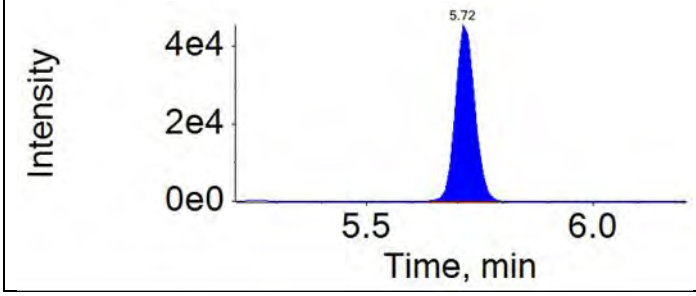
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

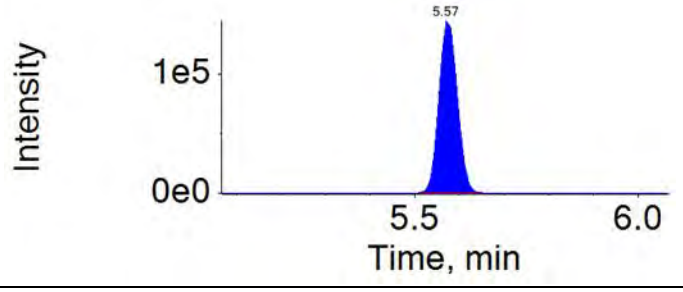
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

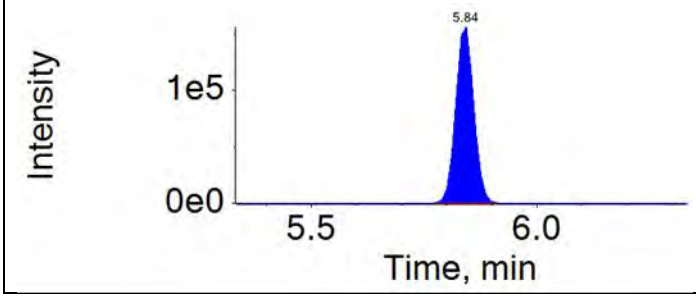
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

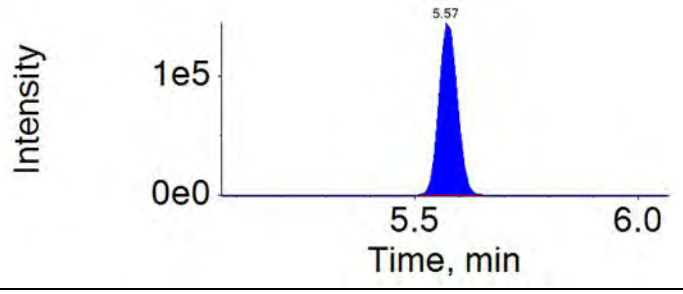
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



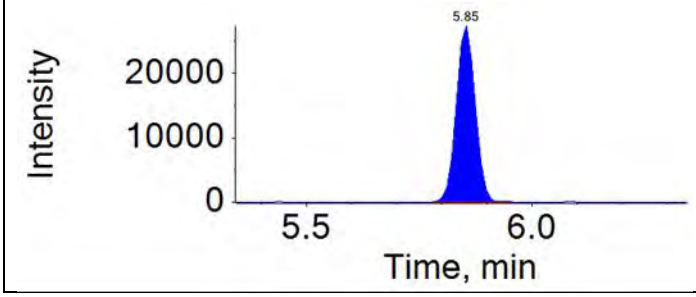


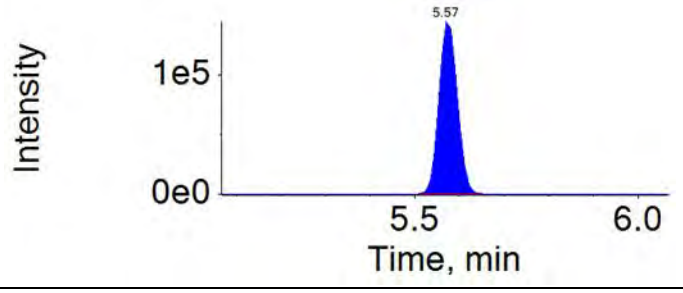
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



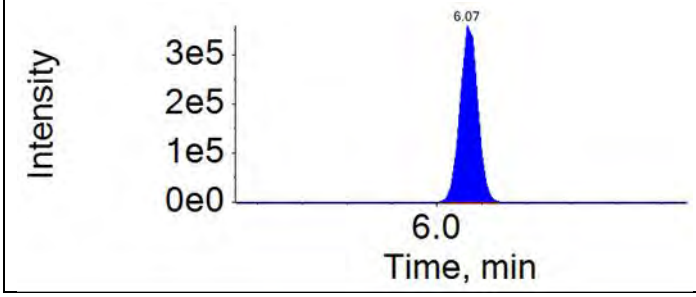


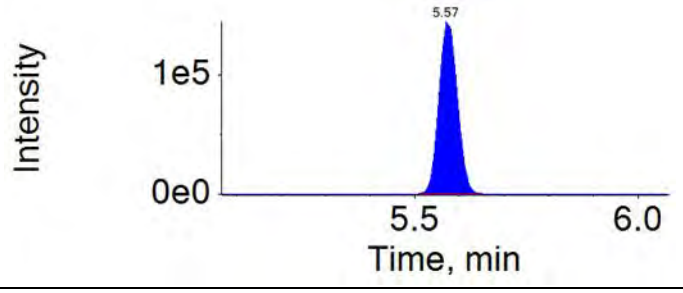
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



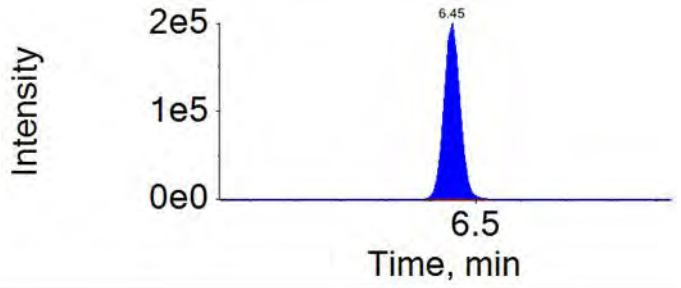


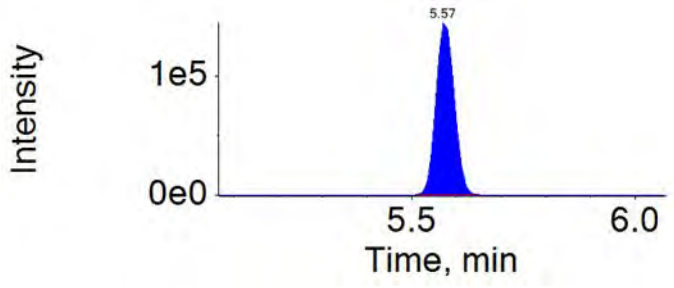
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0





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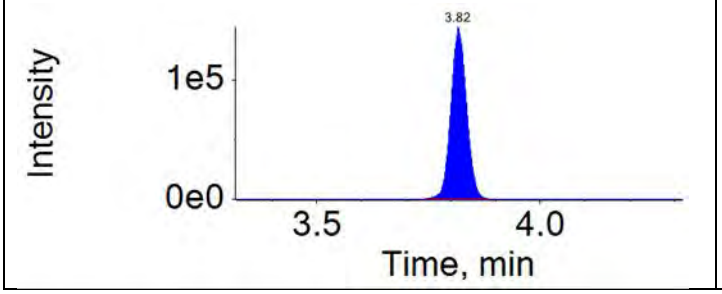
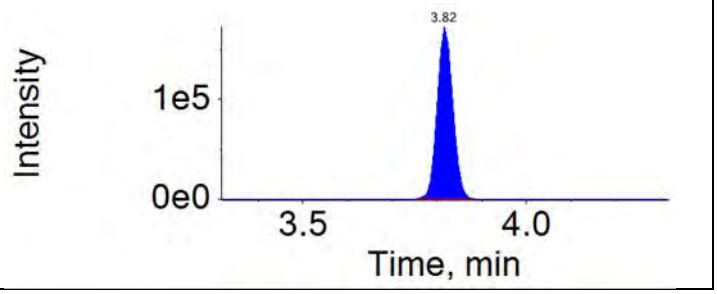
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

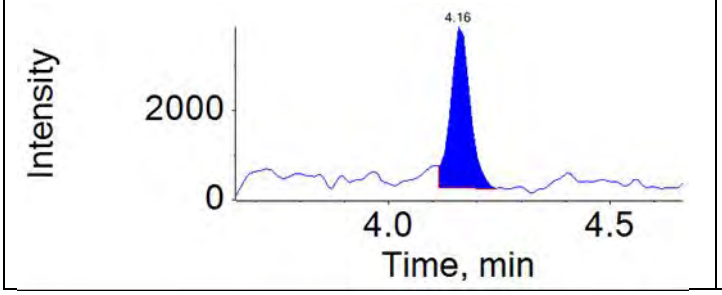
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

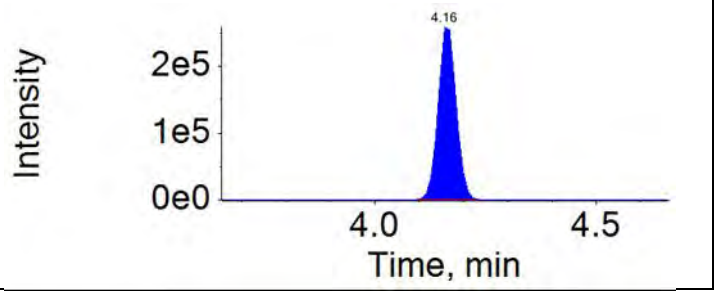
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



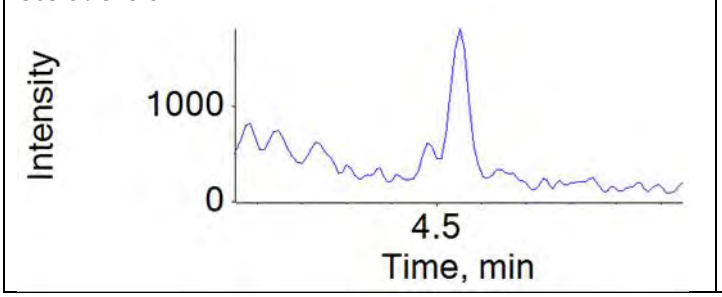


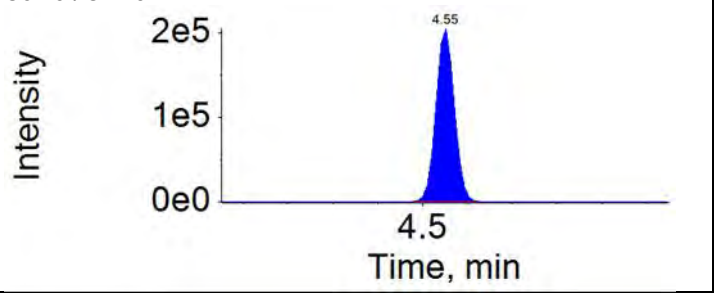
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



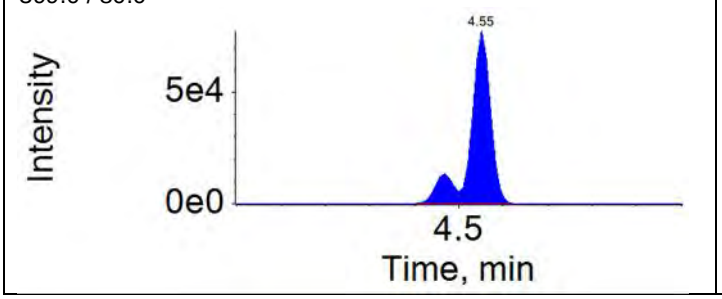


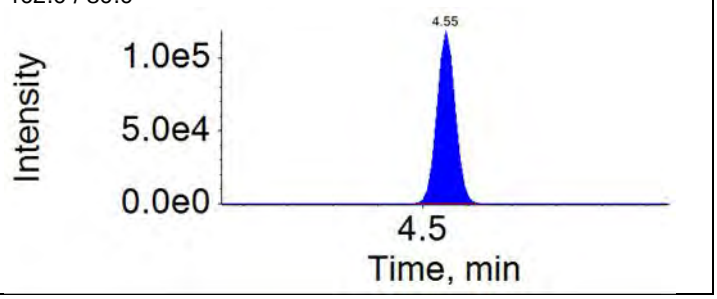
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



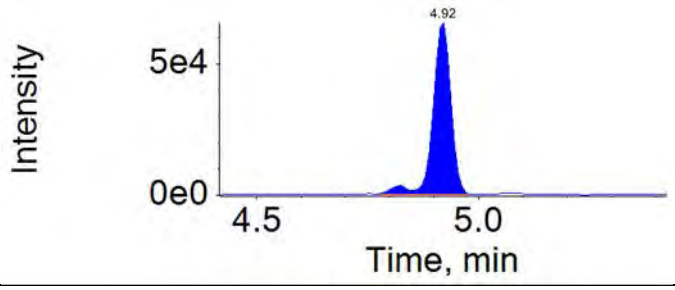


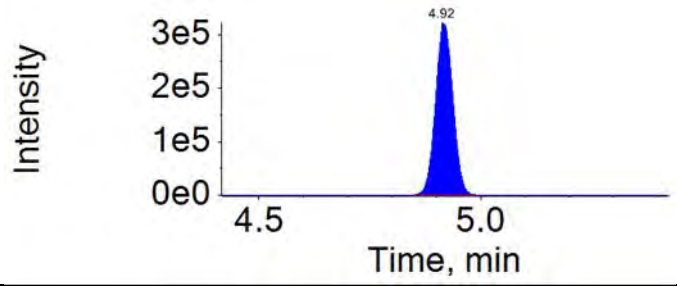
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

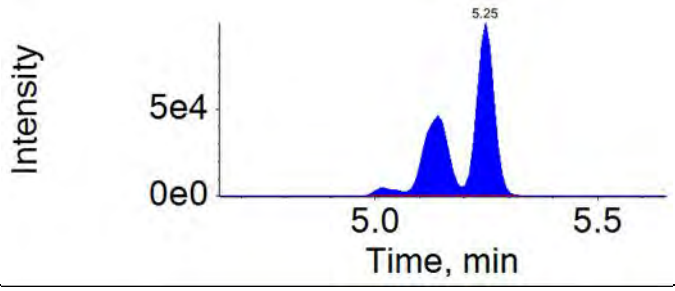
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

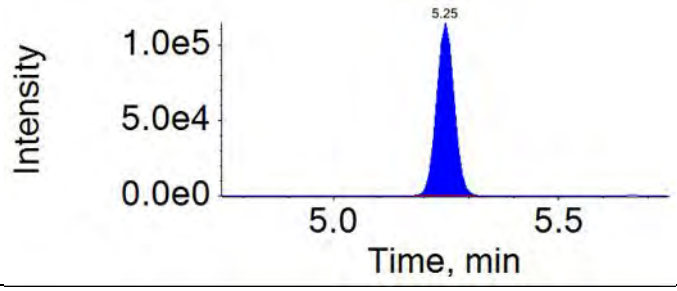
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



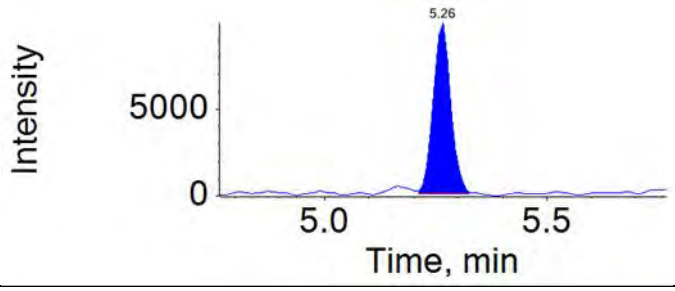


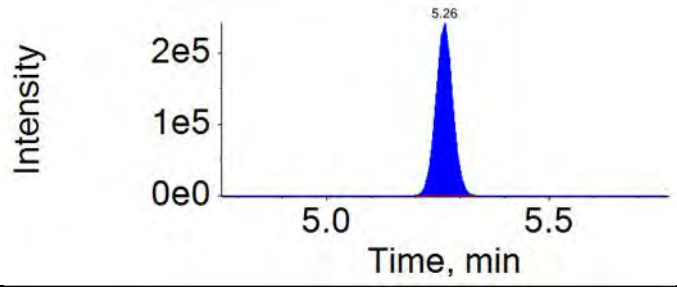
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



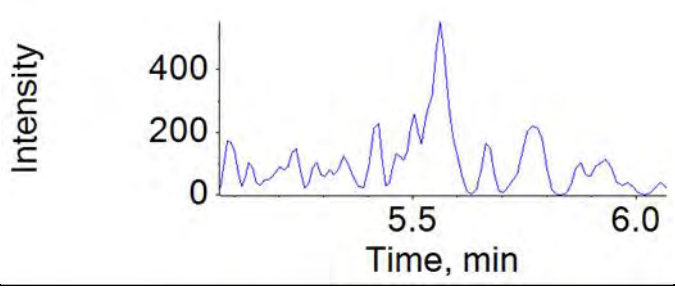


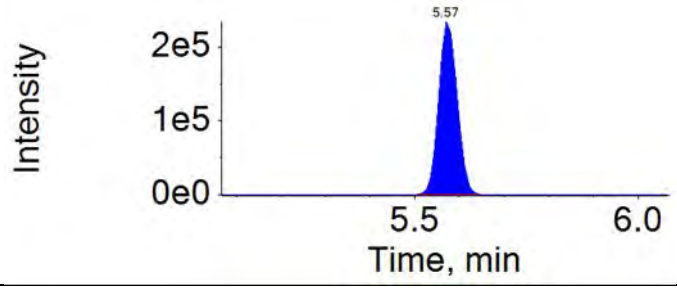
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





APPROVED
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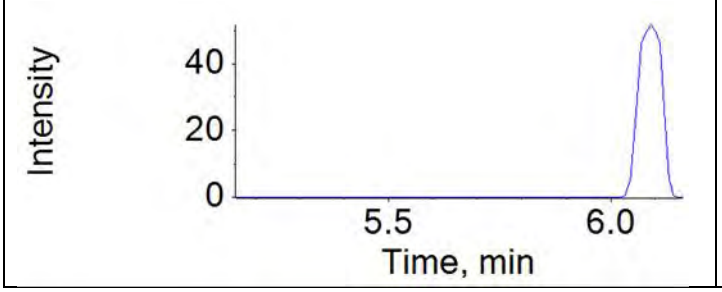
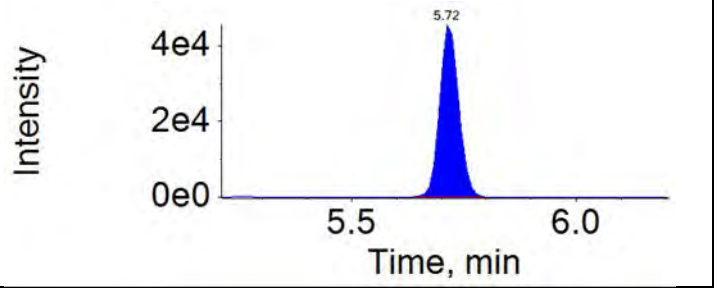
REVIEWED
By umar at 1:17 pm, 12/13/18

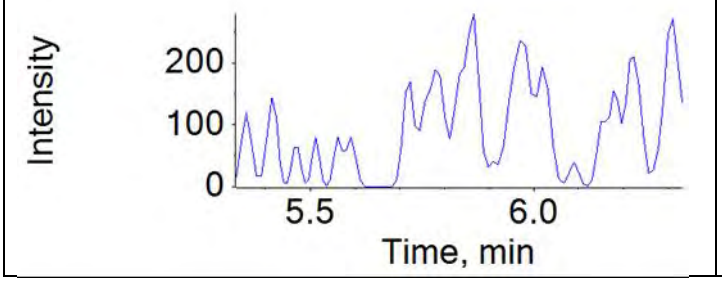
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

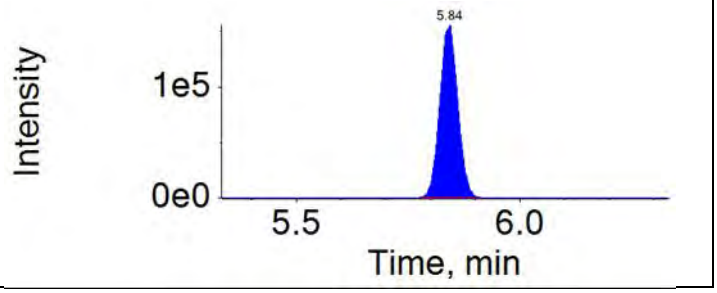
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



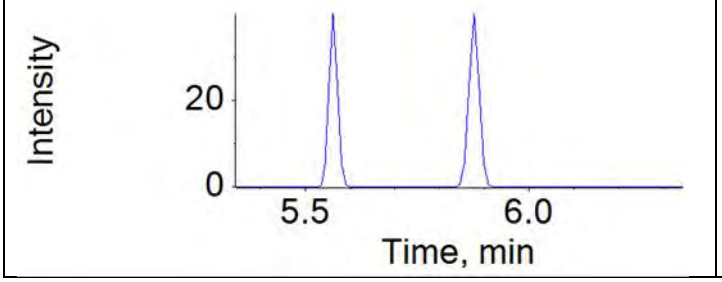


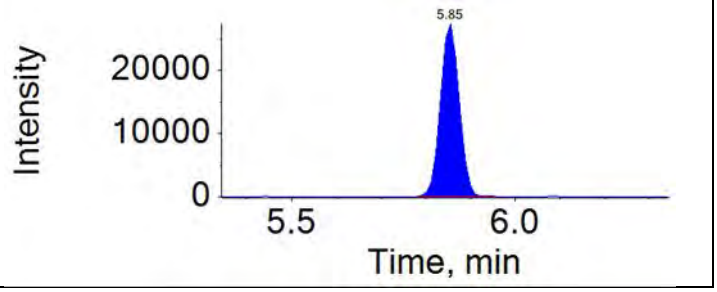
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



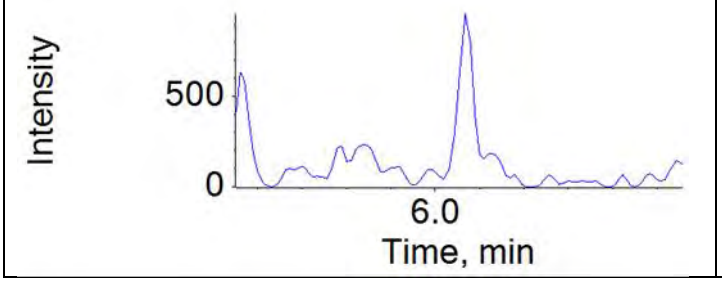


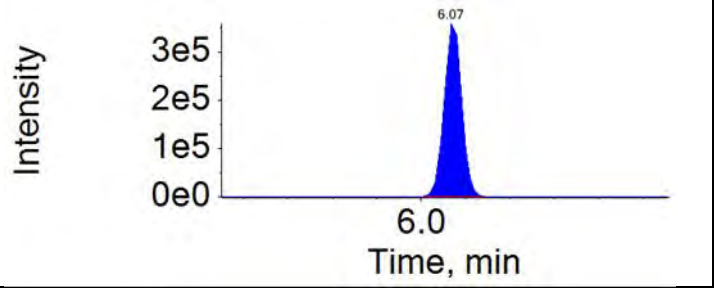
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



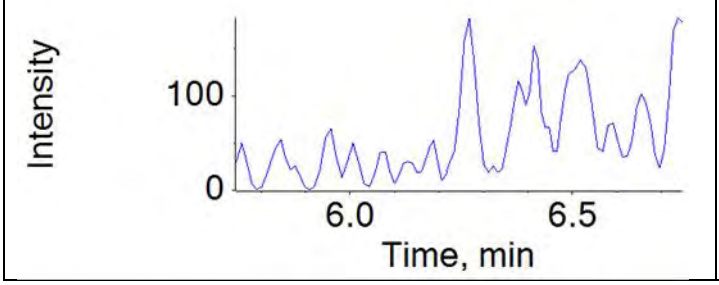


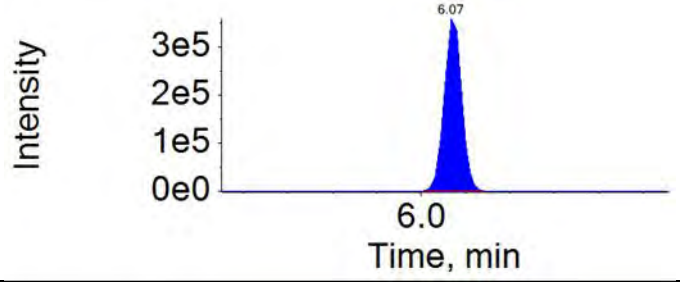
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

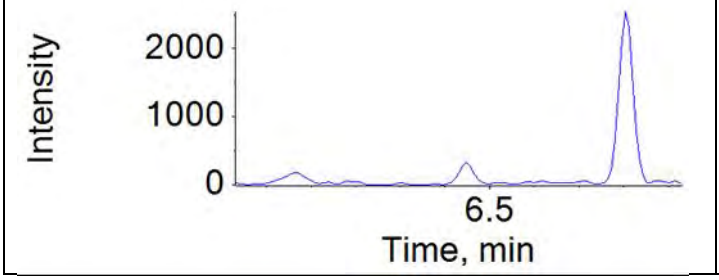
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

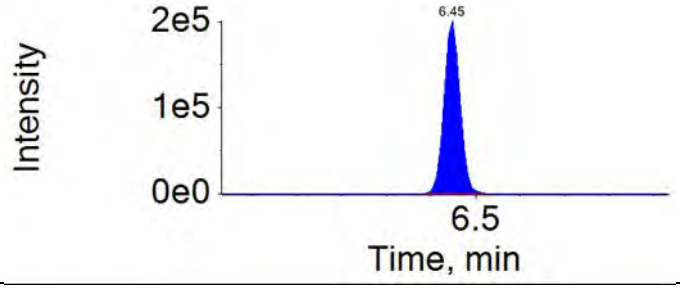
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



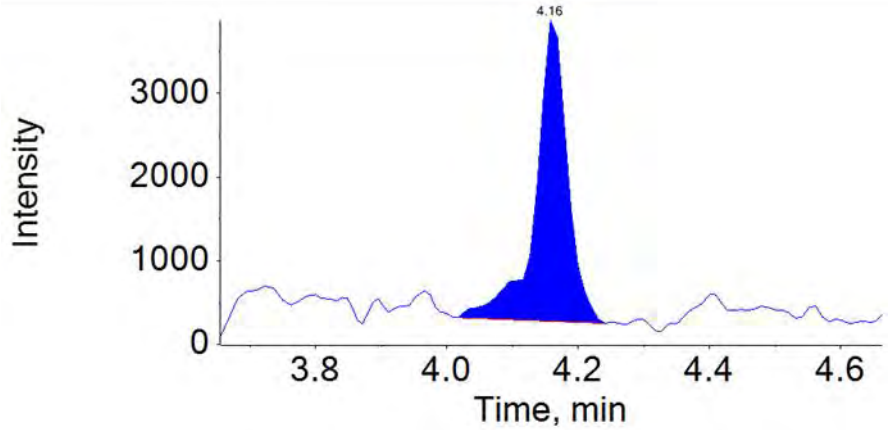


APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

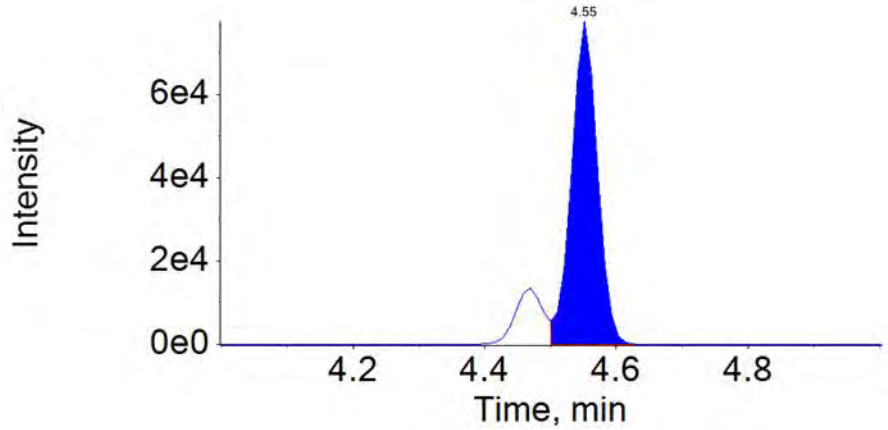
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.16
Peak Area:
12265.1
Mass Range:
313.0 / 269.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



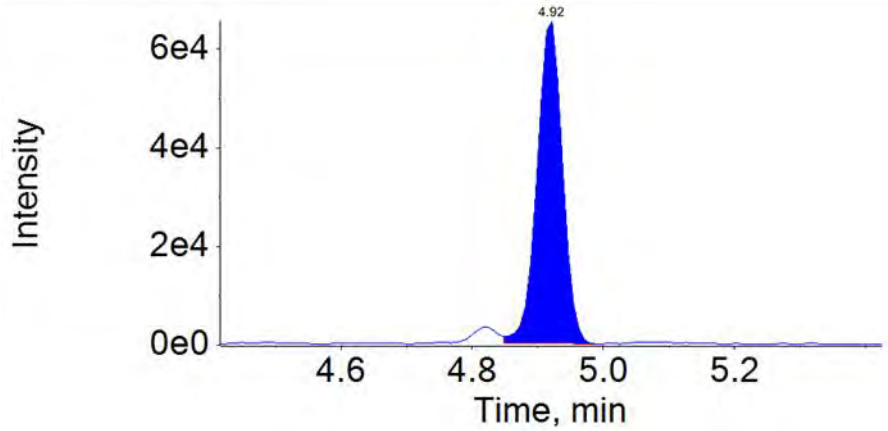
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
213162.4
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
176456.8
Mass Range:
413.0 / 369.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



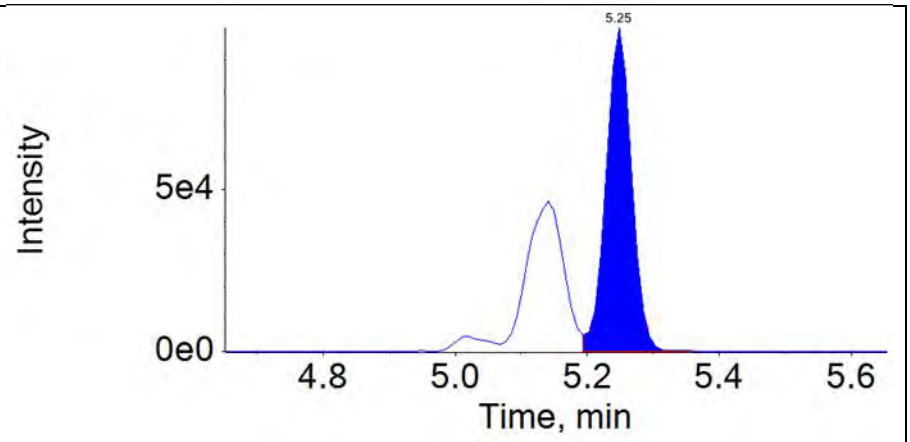
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

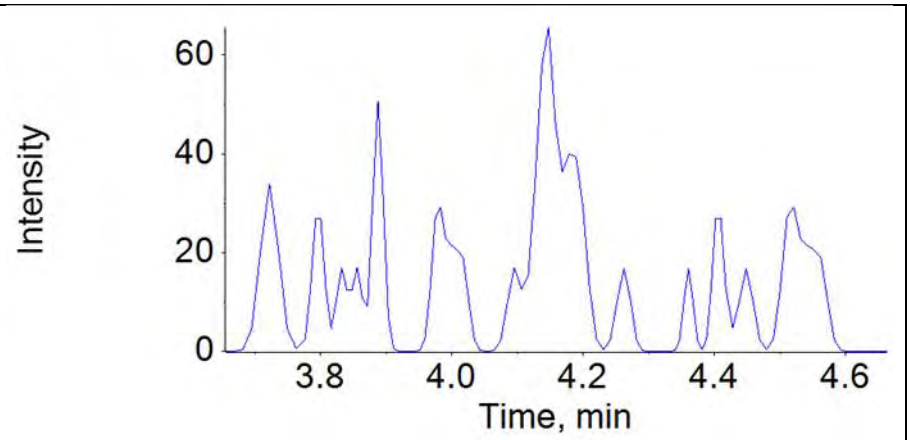
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
270394.8
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



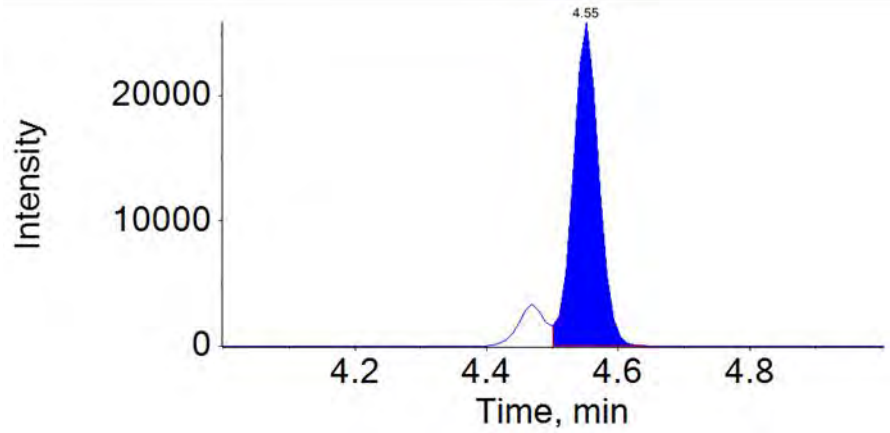
Integration Comment: incorrect integration

Component Name:
PFHxA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
313.0 / 119.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
70240.2
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



Integration Comment: incorrect integration

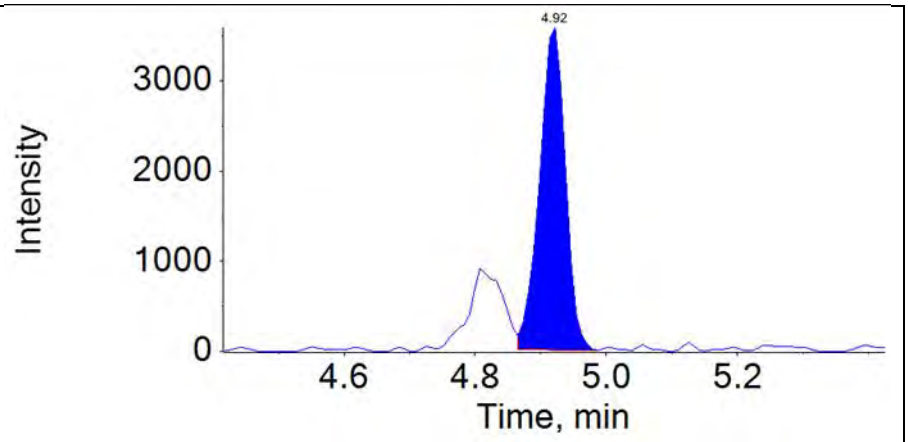
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

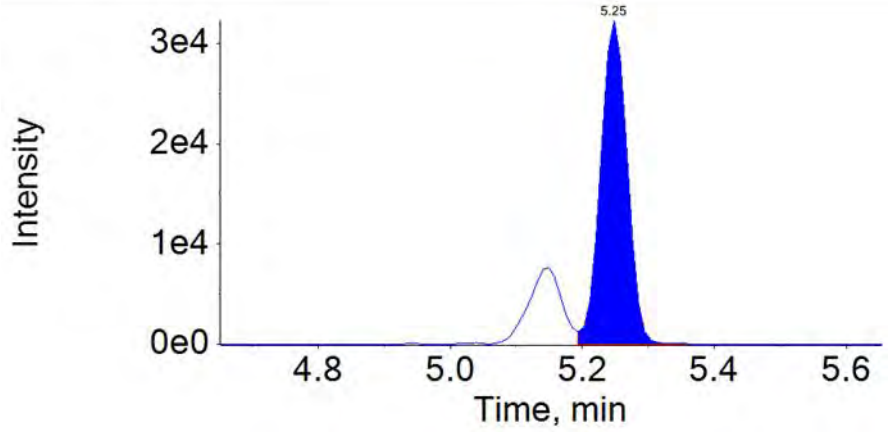
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
9846.0
Mass Range:
413.0 / 169.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
90714.8
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-71.wiff
Sample Name:
9922846



Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Ion Ratio Report

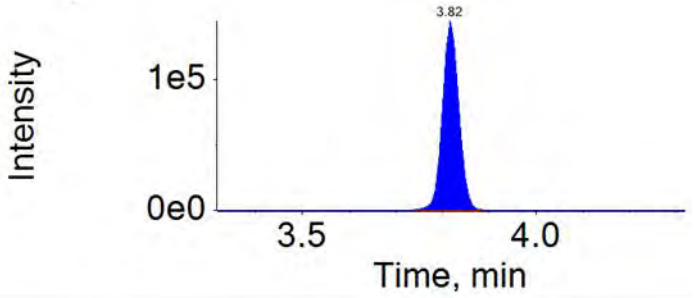
Sample Name: 9922846 **Instrument Name:** LM27631 **File Name:** 18DEC10D-71.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	348493.6	A	N/A	1.0000			
PFBS_2	3.82	1.00	128568.7	A	N/A	0.3689	2	50	
PFHxA	4.16	1.00	10956.6	M	N/A	1.0000			
PFHxA_2	4.15	1.00	243.2	M	N/A	0.0222	129	50	OOS
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	4.55	1.00	252211.5	M	N/A	1.0000			
PFHxS_2	4.55	1.00	79708.9	M	N/A	0.3160	-13	50	
PFOA	4.92	1.00	186210.2	M	N/A	1.0000			
PFOA_2	4.92	1.00	13307.3	M	N/A	0.0715	16	50	
PFOS	5.25	1.00	464594.1	M	N/A	1.0000			
PFOS_2	5.25	1.00	117902.8	M	N/A	0.2538	-16	50	
PFNA	5.26	1.00	26780.5	A	N/A	1.0000			
PFNA_2	5.27	1.00	617.9	A	N/A	0.0231	20	50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

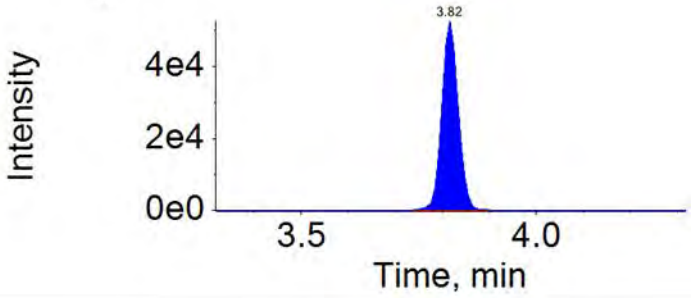
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

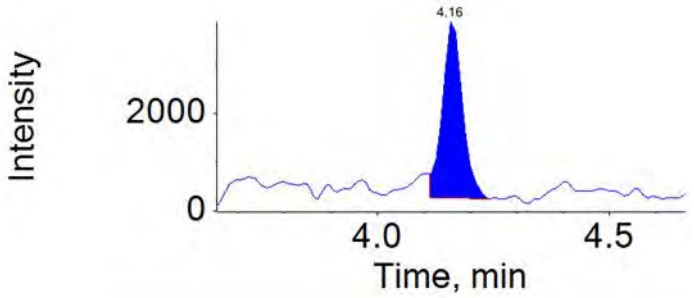
Component: PFBS
Primary Mass: 299.0 / 80.0



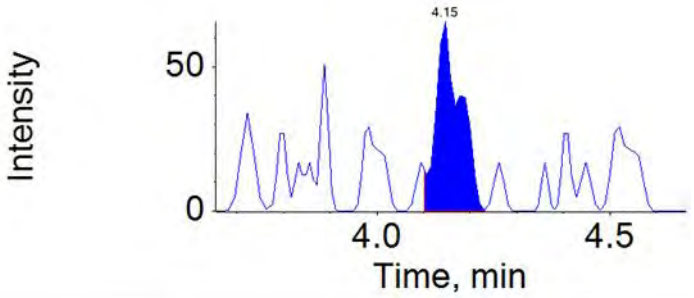
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



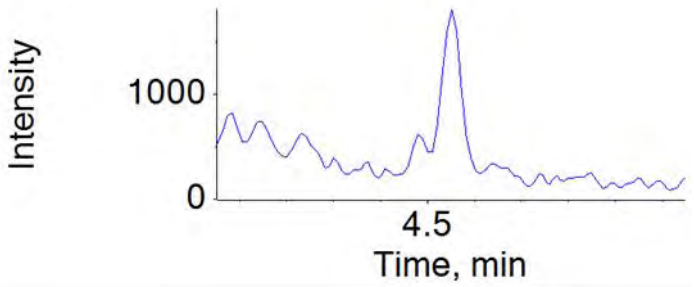
Component: PFHxA
Primary Mass: 313.0 / 269.0



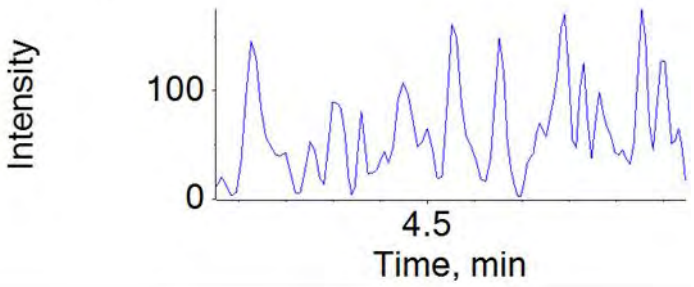
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



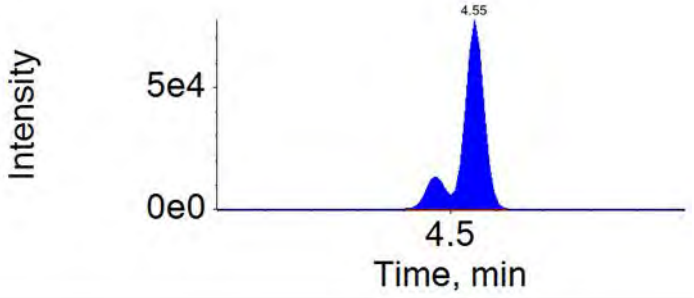
Component: PFHpA
Primary Mass: 363.0 / 319.0



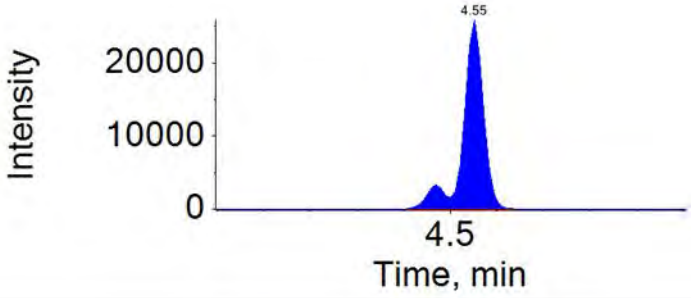
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



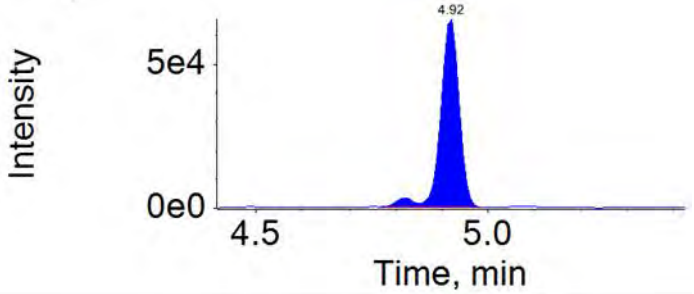
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



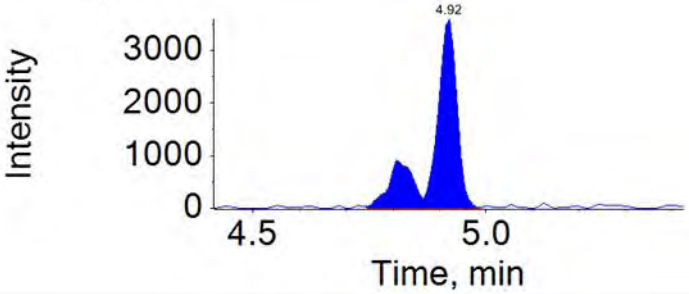
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

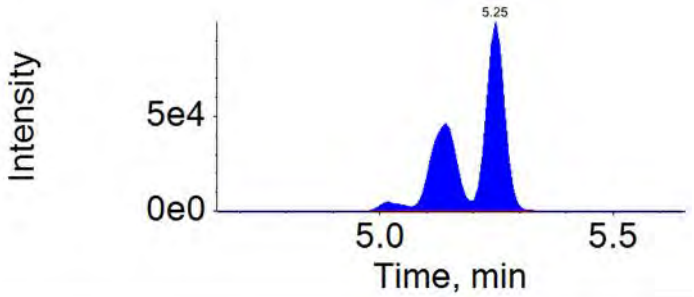
Component: PFOA
Primary Mass: 413.0 / 369.0



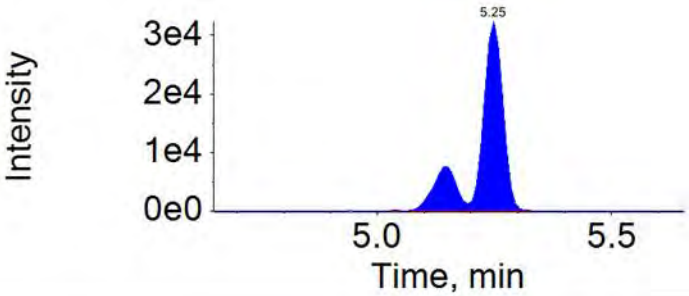
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



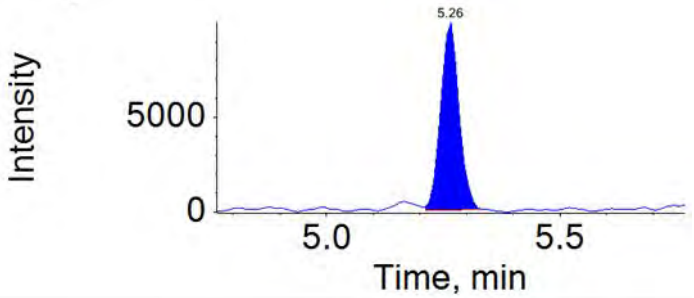
Component: PFOS
Primary Mass: 499.0 / 80.0



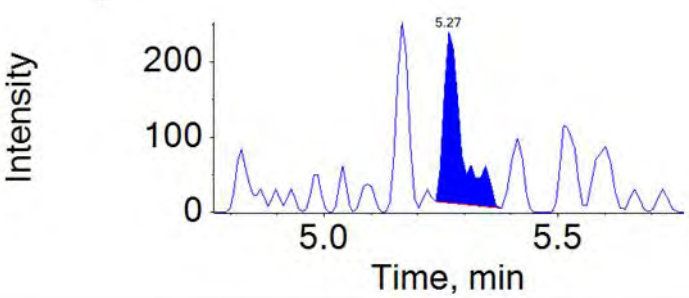
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



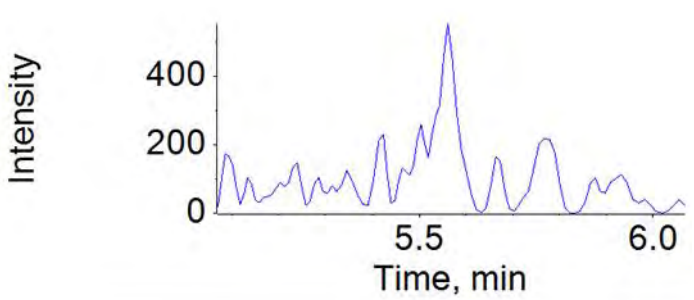
Component: PFNA
Primary Mass: 463.0 / 419.0



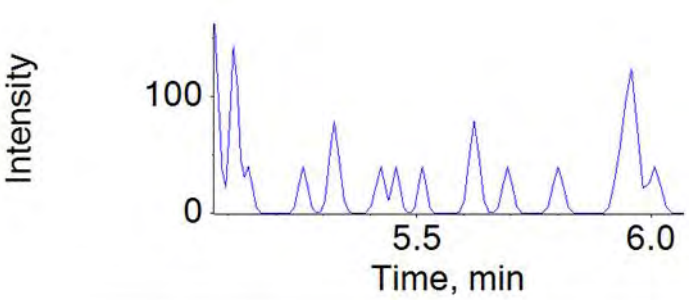
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



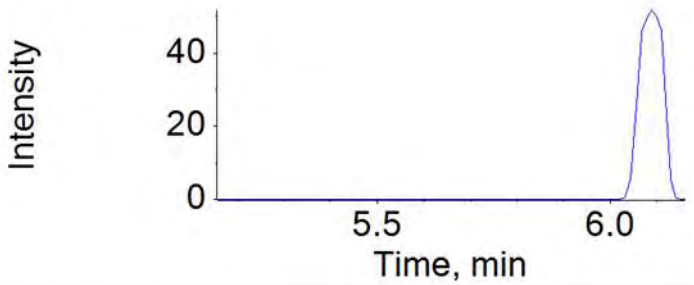
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



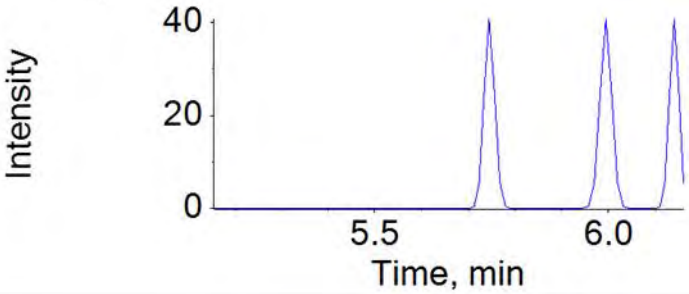
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

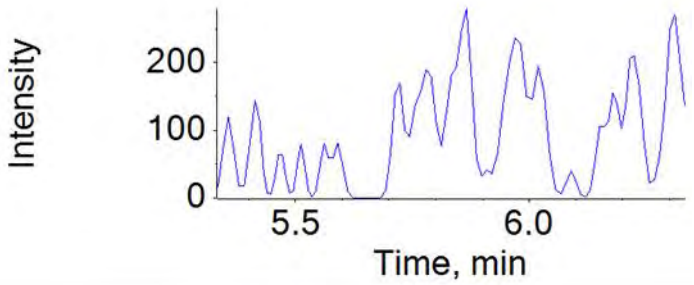
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



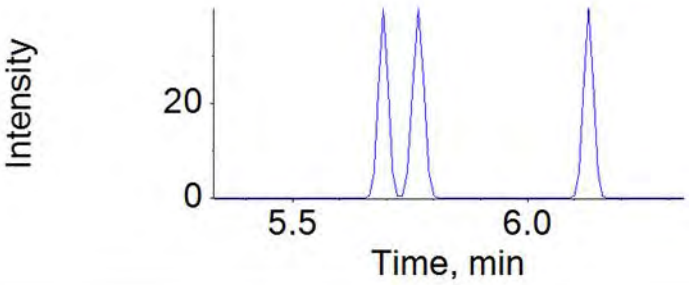
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



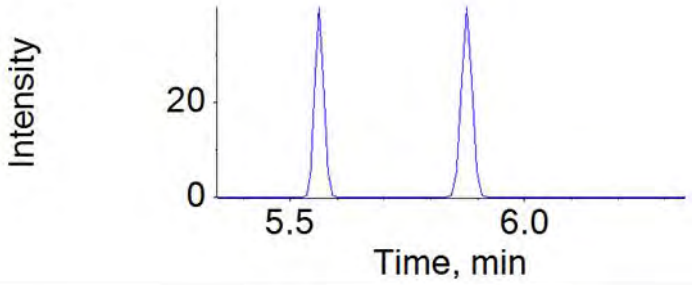
Component: PFUnDA
Primary Mass: 563.0 / 519.0



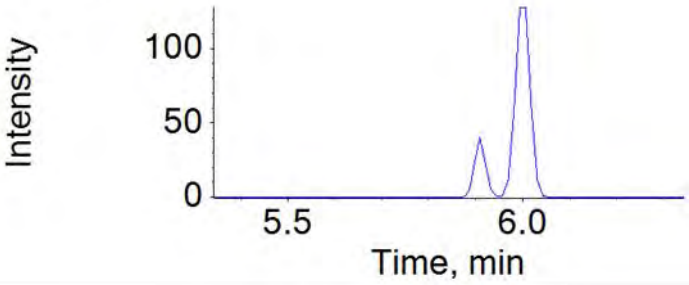
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



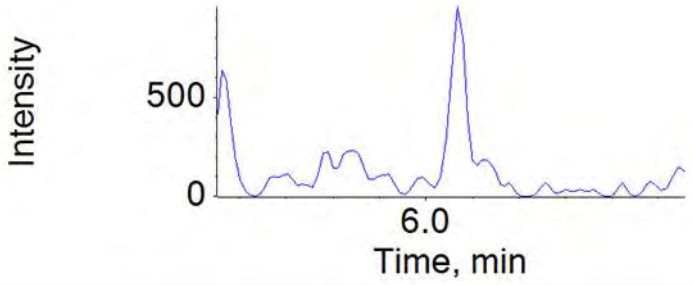
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



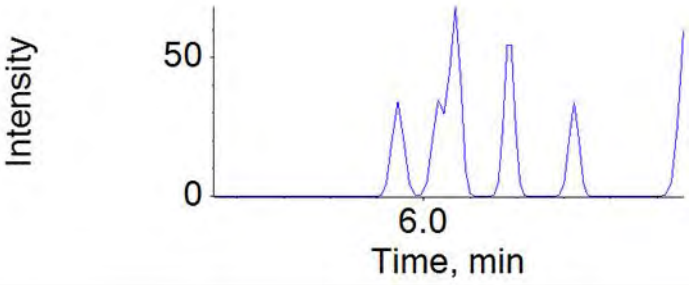
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



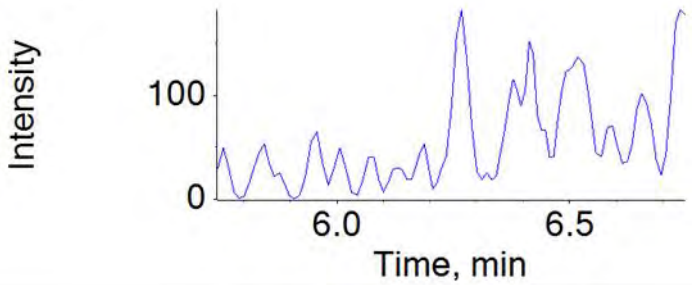
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



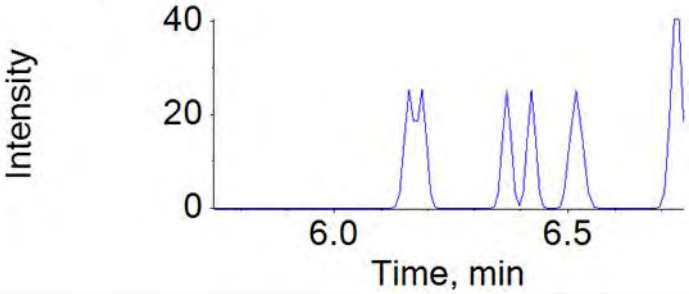
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

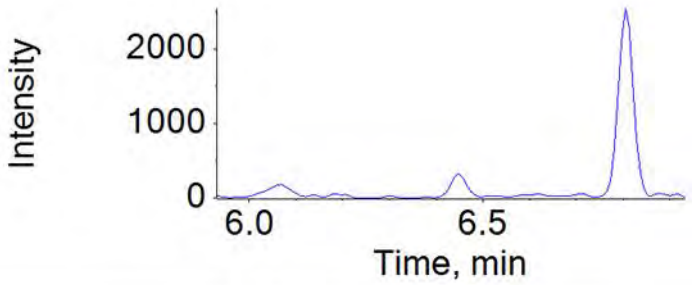
Component: PFTrDA
Primary Mass: 663.0 / 619.0



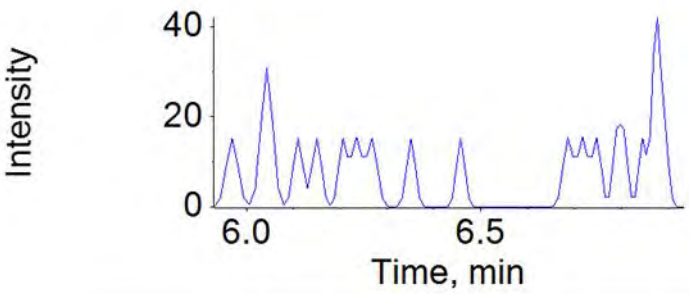
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922847BKG			**Data File:**		18DEC10D-72.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 Grab Groundwater			**Acquis Date:**		2018-12-10T23:16:04
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	61			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.27724			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	935626.1	968978.6	-3	50	
13C2-PFOA	5.0	536728.4	507254.2	6	50	
13C4-PFOS	4.8	301673.4	302410.5	0	50	
13C2-PFDA	5.0	414147.3	392614.4	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	402425.0	13C3-PFBA	935626.1	0.430	16.772	13.150	78	50-150	
E13C5-PFHxA	684126.5	13C2-PFOA	536728.4	1.275	18.035	15.436	86	50-150	
E13C3-PFHxS	308126.0	13C2-PFOA	536728.4	0.574	17.061	13.282	78	50-150	
E13C4-PFHpA	585160.4	13C2-PFOA	536728.4	1.090	18.035	16.718	93	50-150	
E13C8-PFOA	855541.9	13C2-PFOA	536728.4	1.594	18.035	16.252	90	50-150	
E13C8-PFOS	303781.8	13C4-PFOS	301673.4	1.007	17.241	16.300	95	50-150	
E13C9-PFNA	581055.4	13C4-PFOS	301673.4	1.926	18.035	19.632	109	50-150	
E13C6-PFDA	699187.4	13C2-PFDA	414147.3	1.688	18.035	16.137	89	50-150	
Ed3-NMeFOSAA	133435.0	13C2-PFDA	414147.3	0.322	18.035	20.595	114	50-150	
E13C7-PFUnDA	400009.3	13C2-PFDA	414147.3	0.966	18.035	17.090	95	50-150	
Ed5-NEtFOSAA	80647.9	13C2-PFDA	414147.3	0.195	18.035	15.506	86	50-150	
E13C2-PFDoDA	775599.4	13C2-PFDA	414147.3	1.873	18.035	14.176	79	50-150	
E13C2-PFTeDA	623262.4	13C2-PFDA	414147.3	1.505	18.035	16.111	89	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

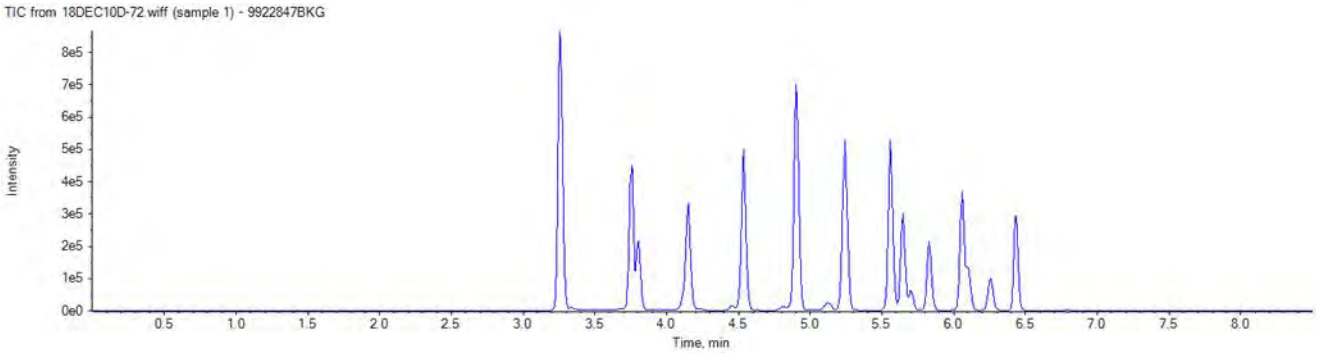
Analyte Quantitation Peak Table

Sample Name: 9922847BKG **Instrument Name:** LM27631 **File Name:** 18DEC10D-72.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27724	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.80	1.000	35788.1		A	13C3-PFBS	3.80	402425.0	0.089	1.590
PFHxA	4.15	1.000	26833.1		M	13C5-PFHxA	4.15	684126.5	0.039	0.616
PFHpA	4.53	1.000	19966.1		A	13C4-PFHpA	4.53	585160.4	0.034	0.405
PFHxS	4.54	1.000	145492.0		M	13C3-PFHxS	4.54	308126.0	0.472	8.070
PFOA	4.90	1.000	188332.2		M	13C8-PFOA	4.90	855541.9	0.220	4.339
PFOS	5.18	0.990	143712.9		M	13C8-PFOS	5.24	303781.8	0.473	7.078
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	581055.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	699187.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	133435.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	400009.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	80647.9	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	775599.4	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	775599.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	623262.4	N/A	

Total Ion Chromatogram

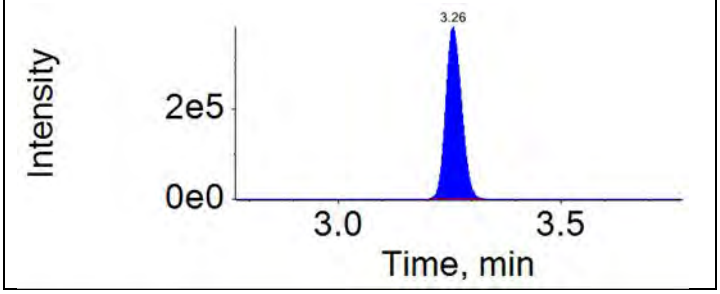


APPROVED
By MCD at 3:52 pm, 12/11/18

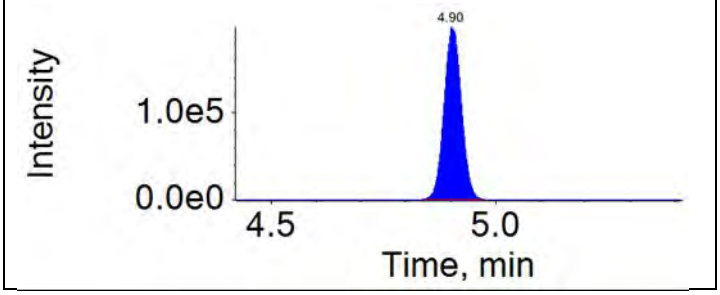
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

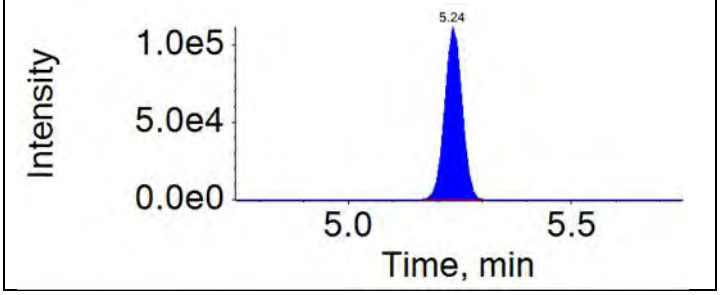
Injection Standard: 13C3-PFBA
216.0 / 172.0



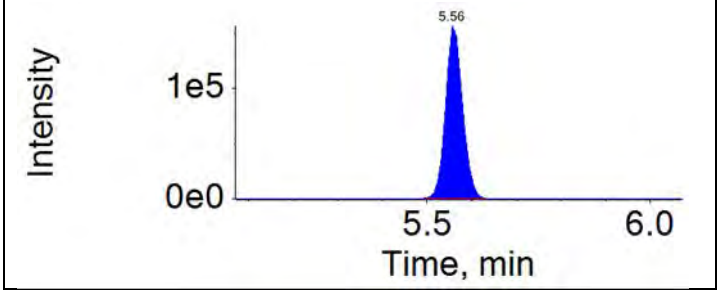
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



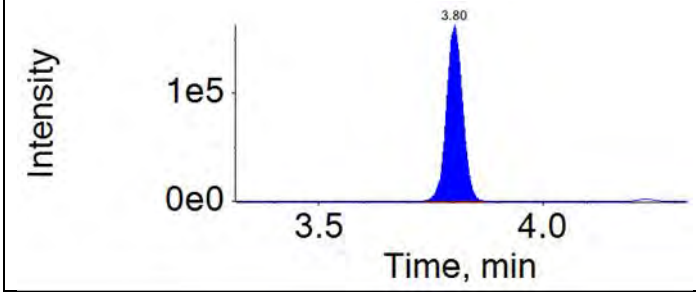
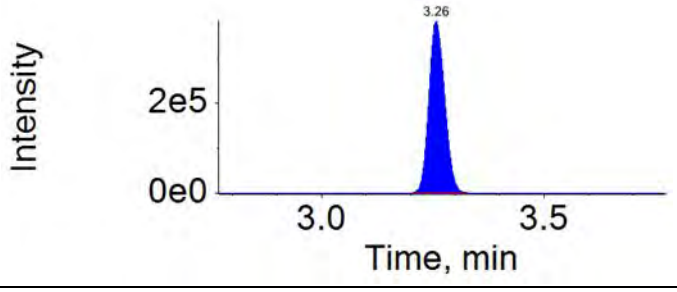
Injection Standard: 13C2-PFDA
515.0 / 470.0

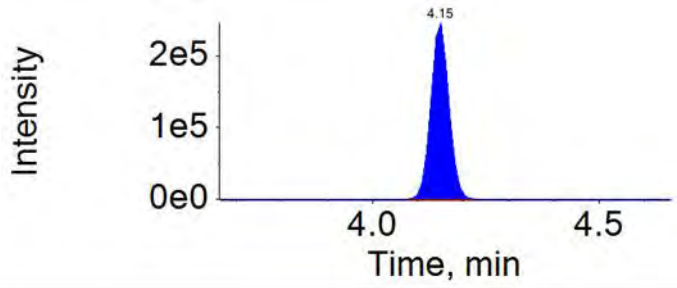
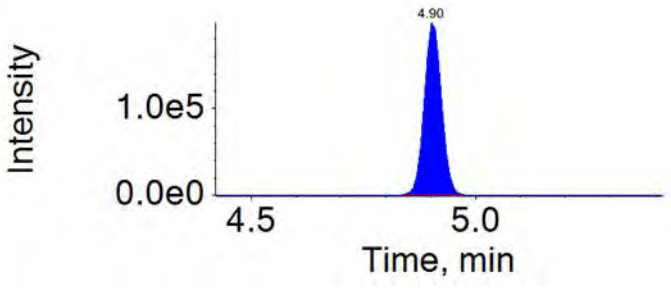


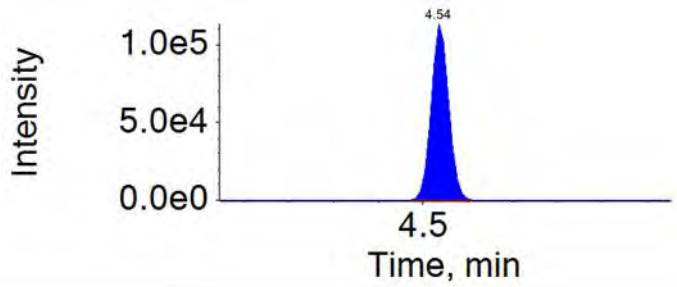
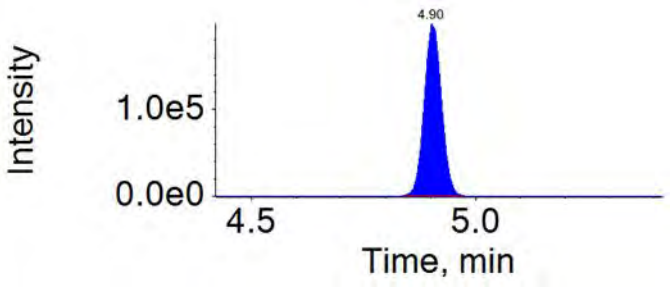
APPROVED
By MCD at 3:52 pm, 12/11/18

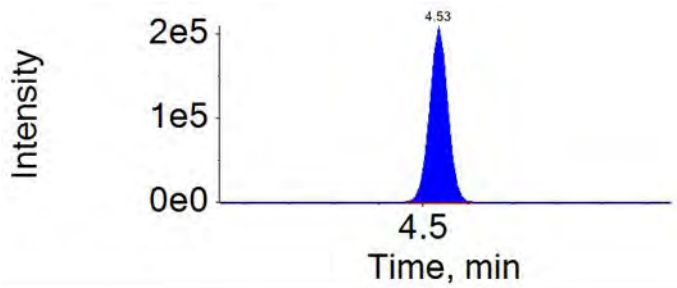
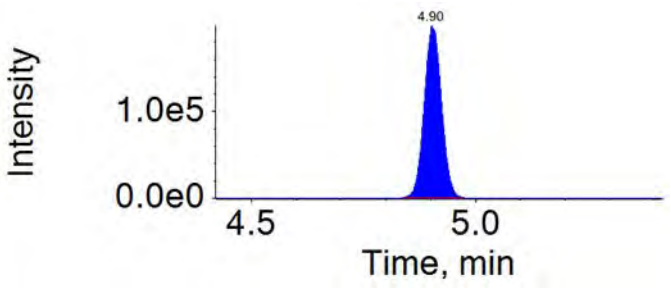
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

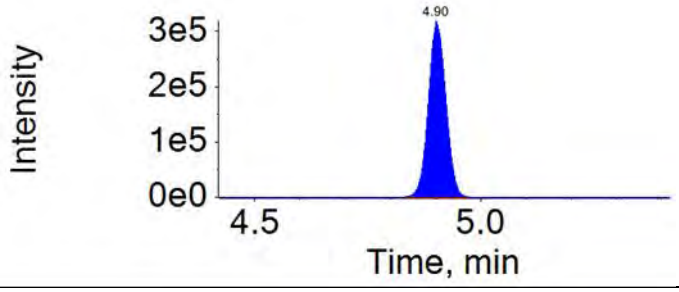
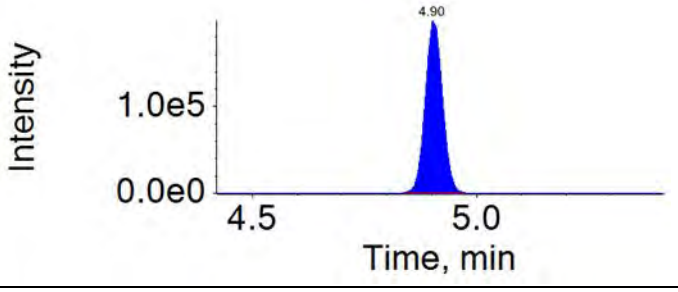
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

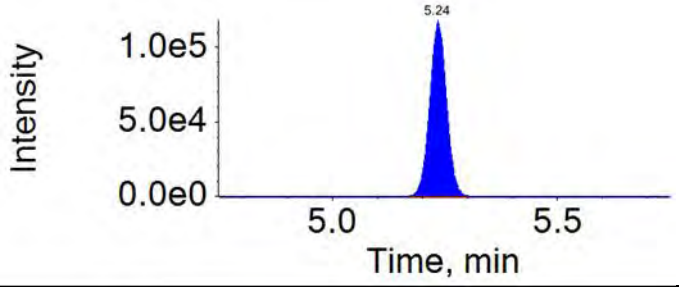
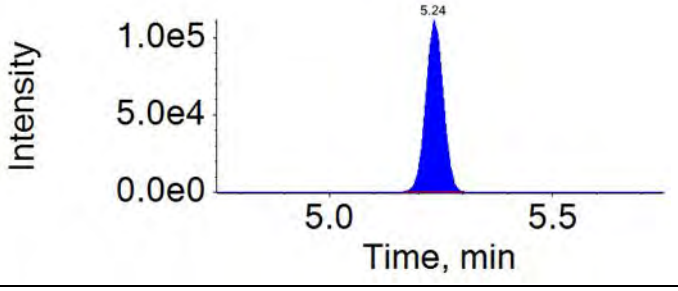
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

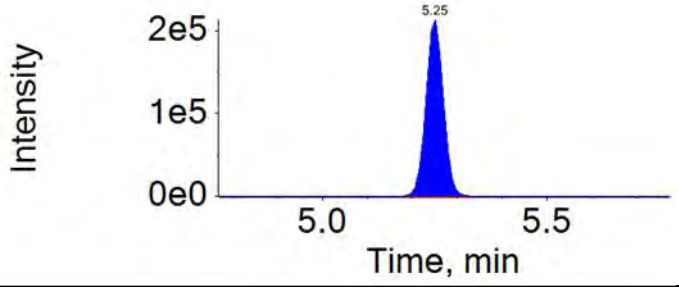
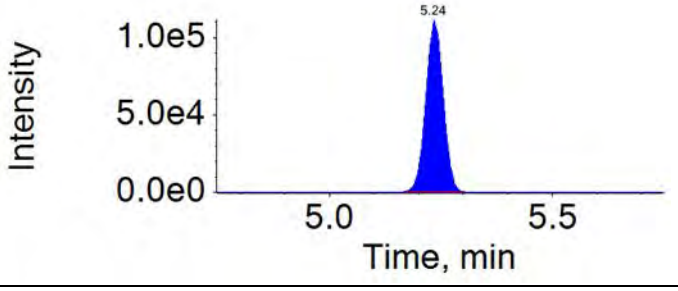
APPROVED
By MCD at 3:52 pm, 12/11/18

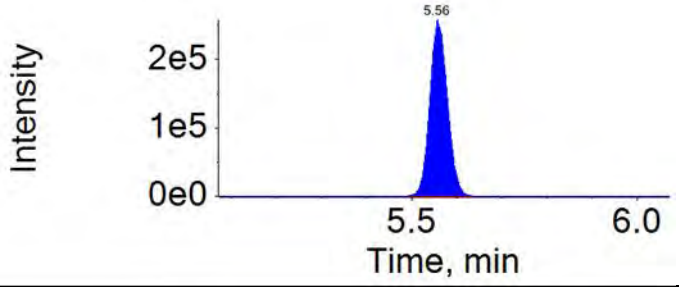
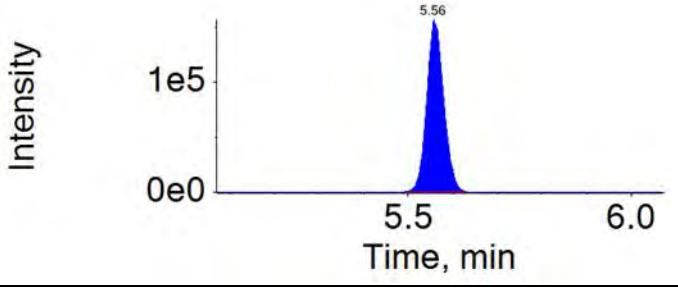
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

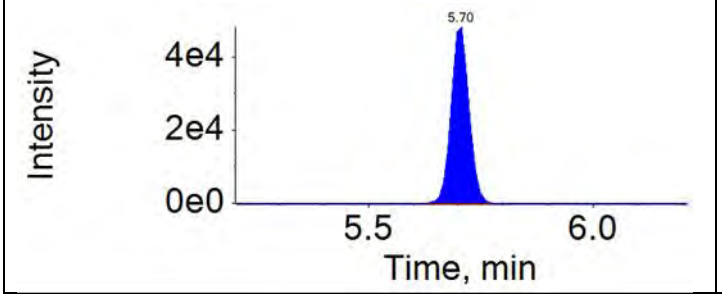
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

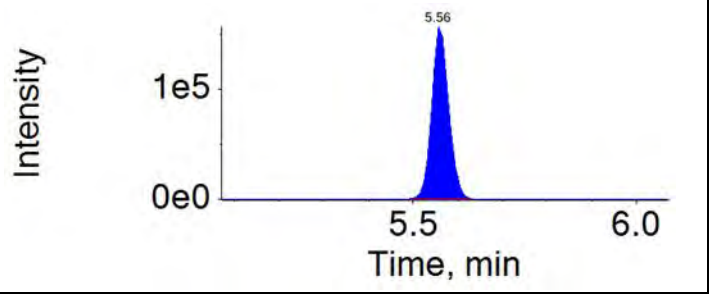
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

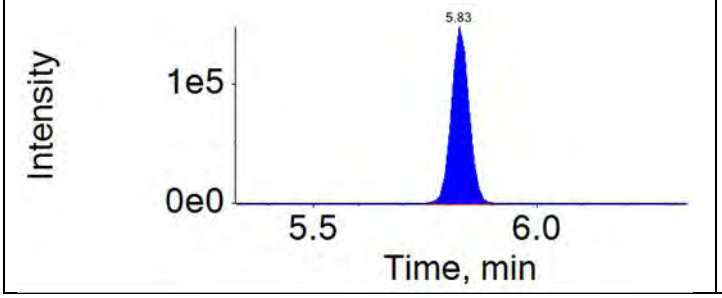
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

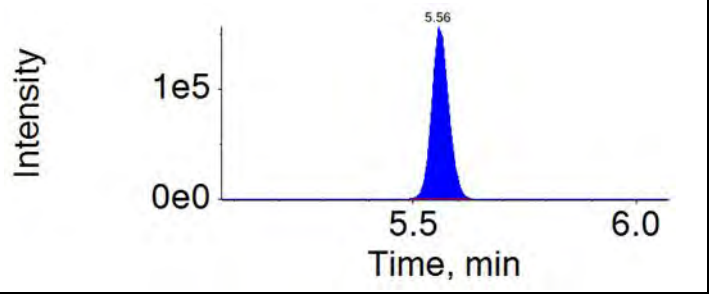
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



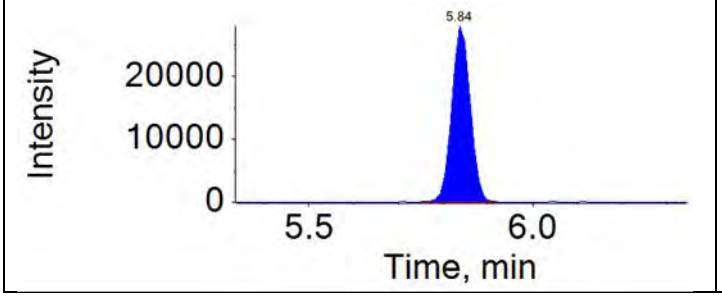


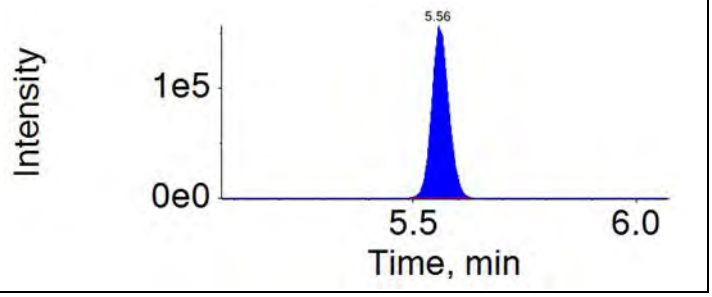
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



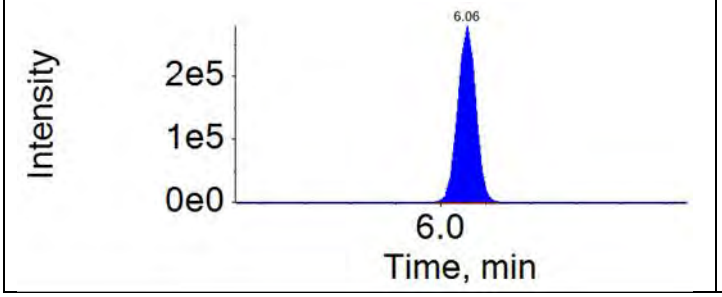


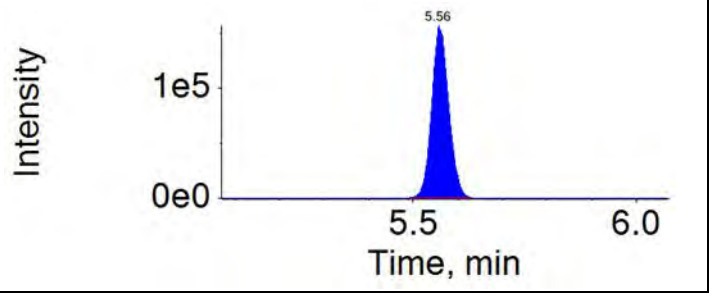
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



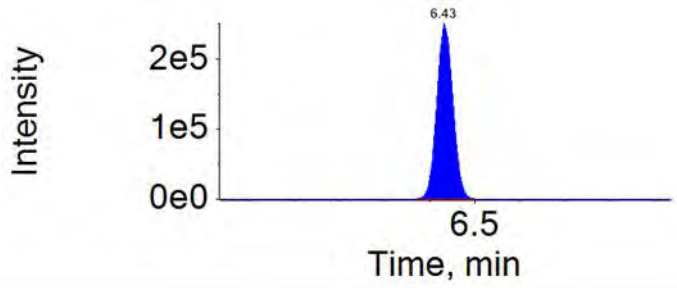


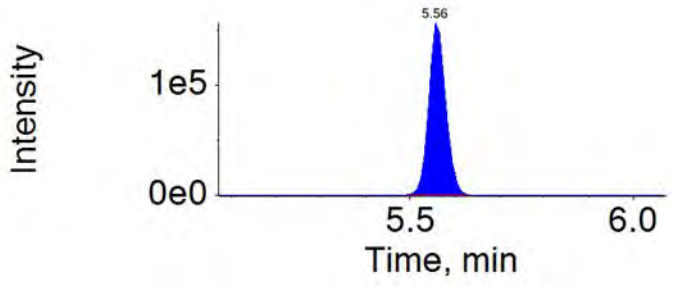
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



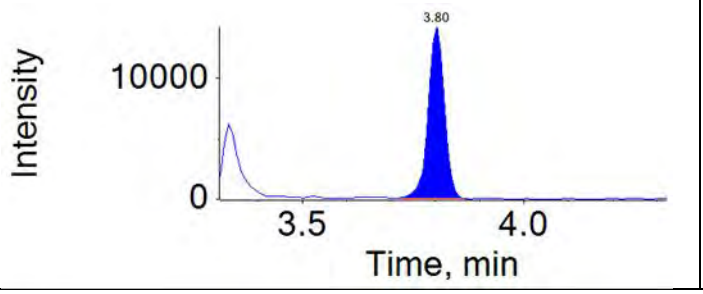


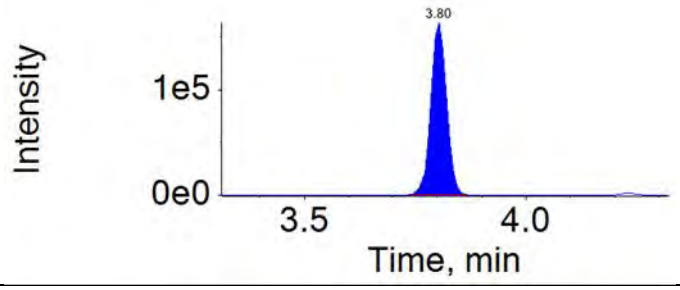
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

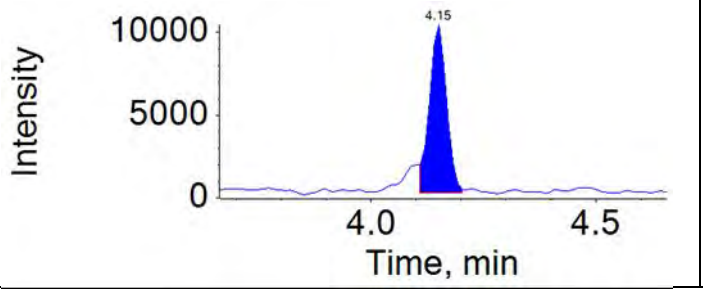
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

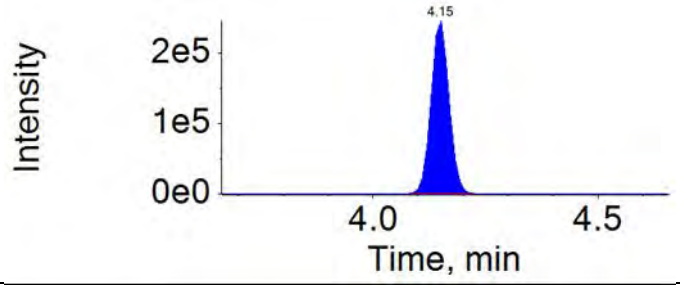
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



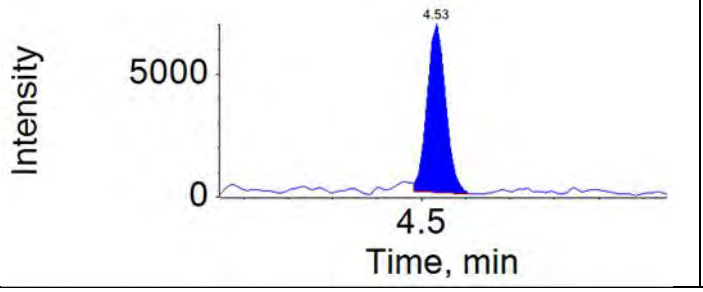


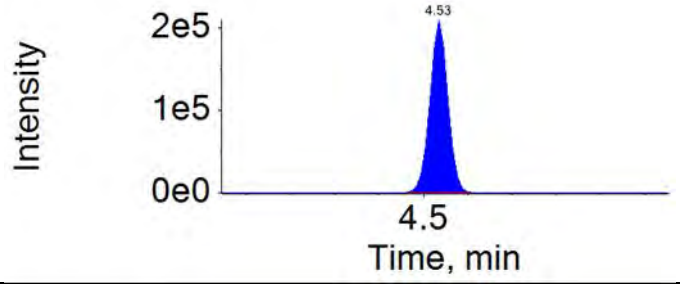
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



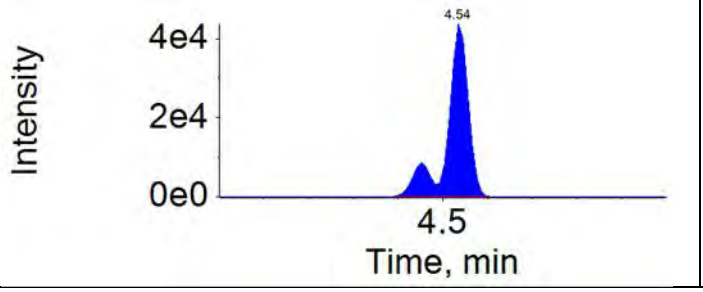


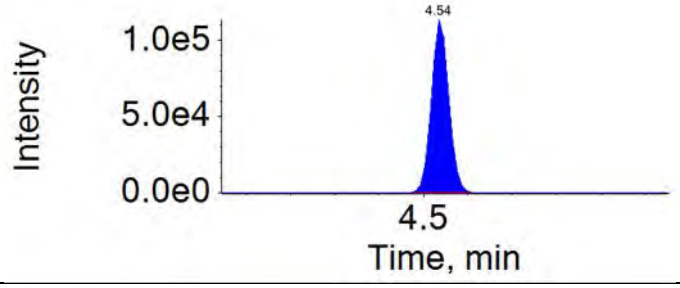
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



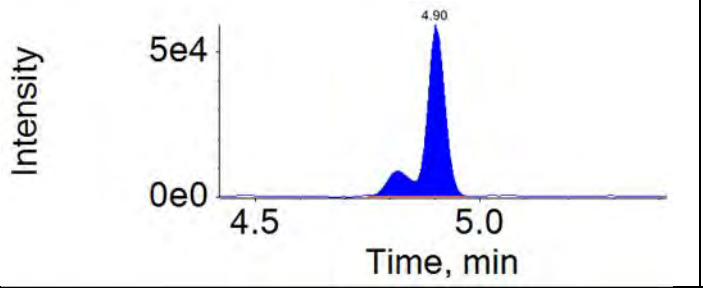


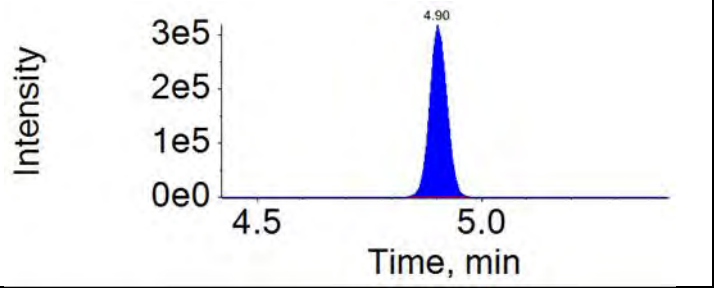
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

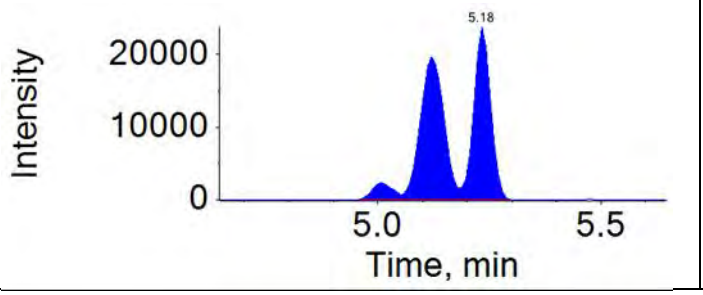
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

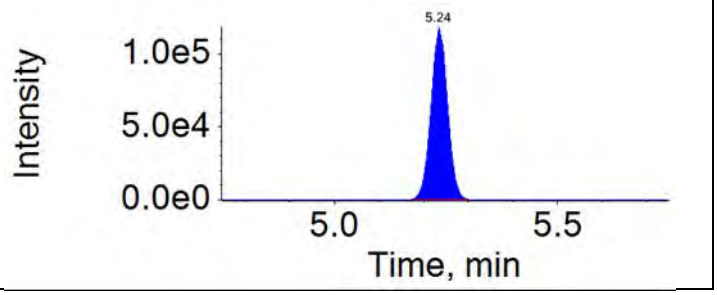
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



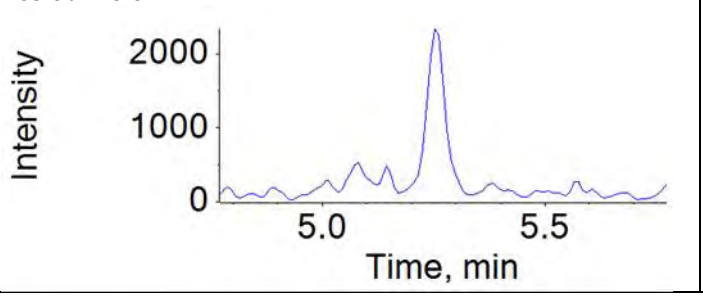


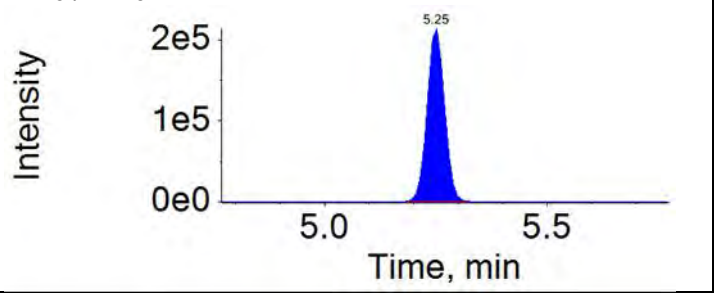
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



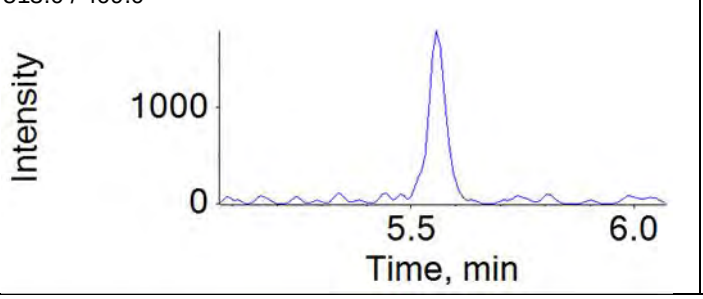


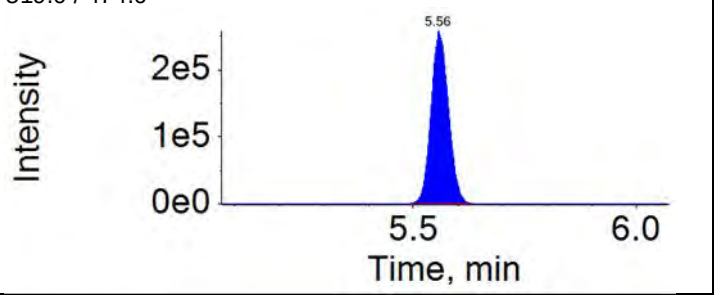
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



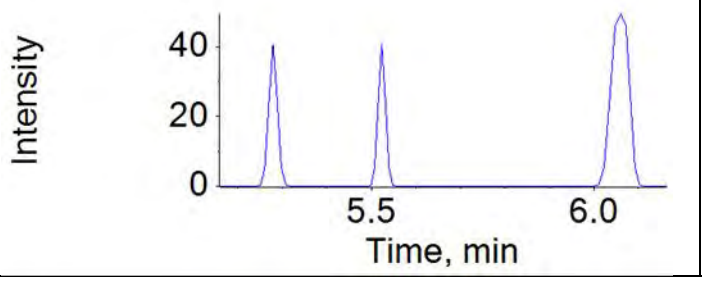


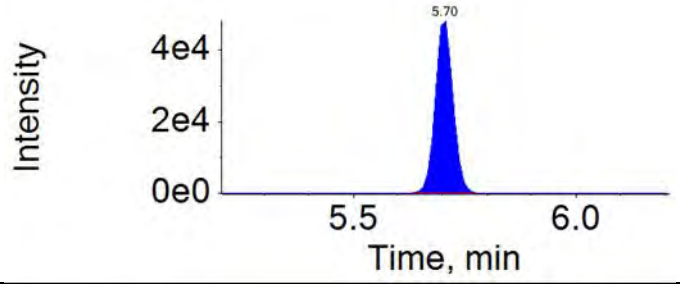
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

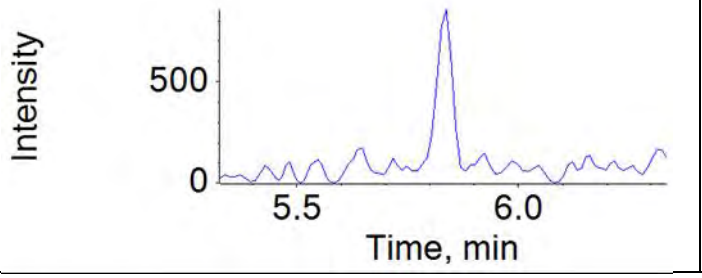
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

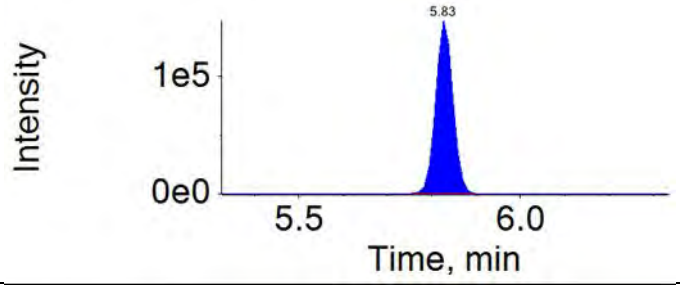
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



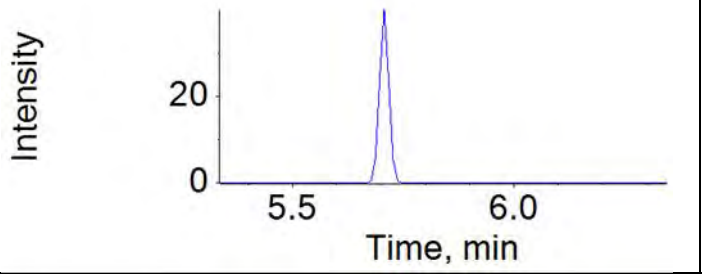


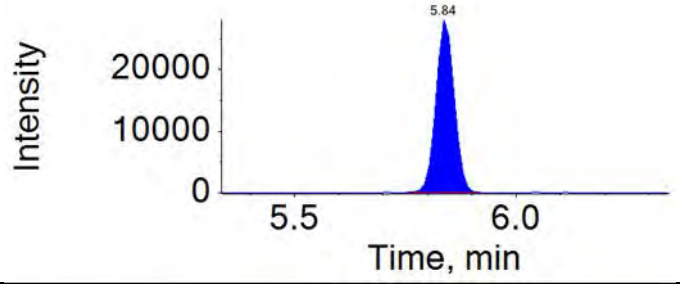
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



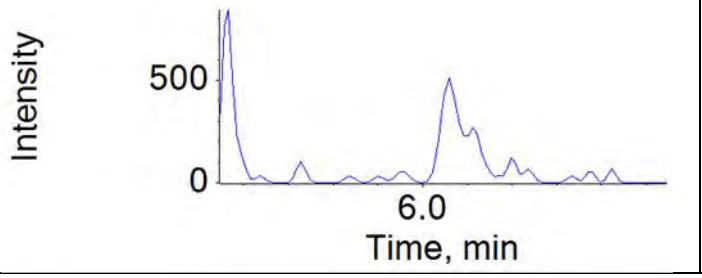


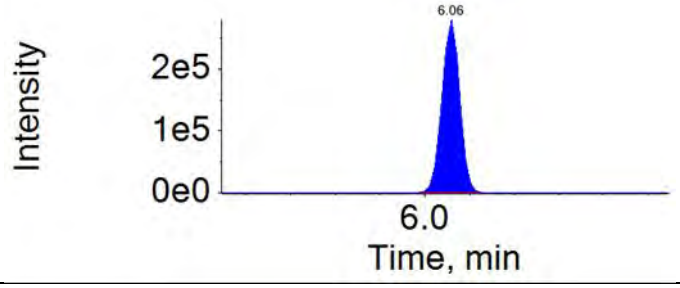
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



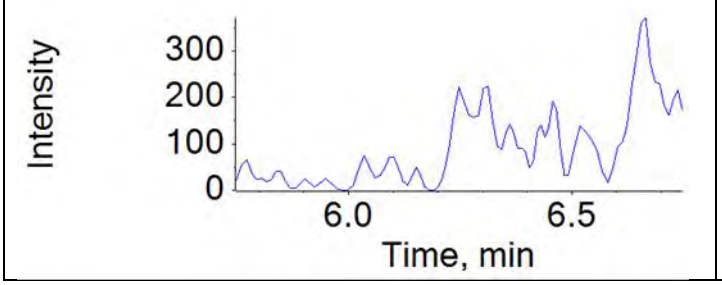


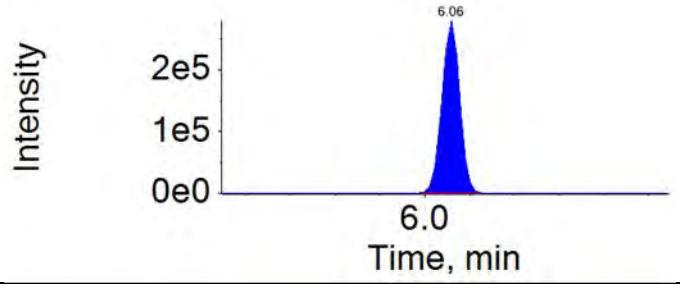
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

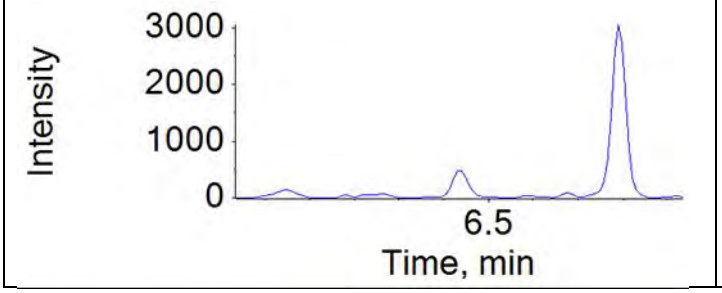
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

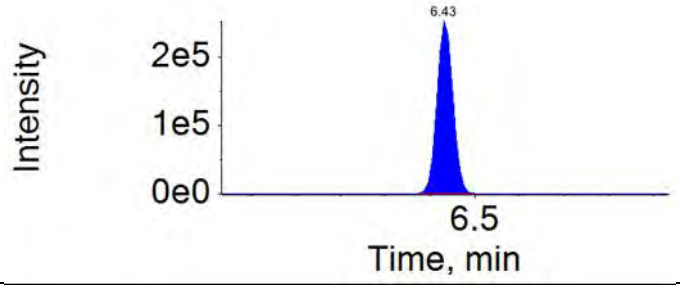
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



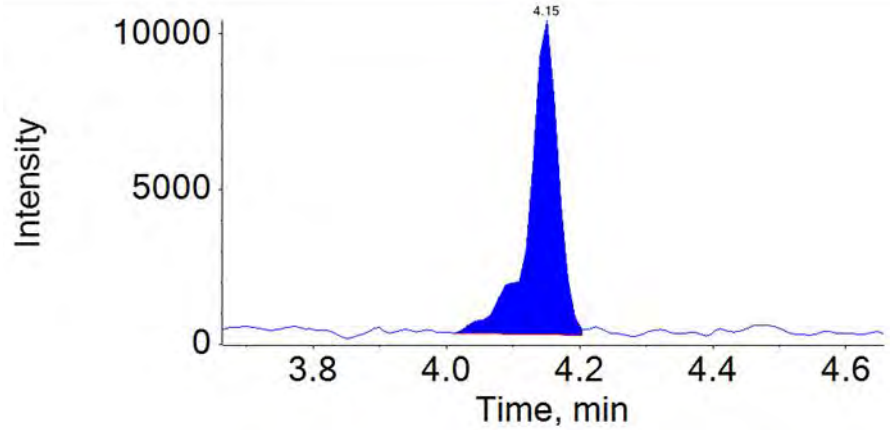


APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

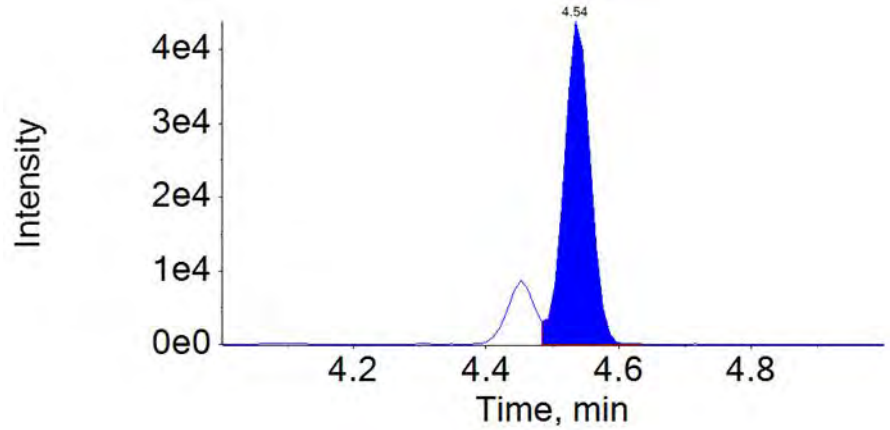
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.15
Peak Area:
31067.6
Mass Range:
313.0 / 269.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



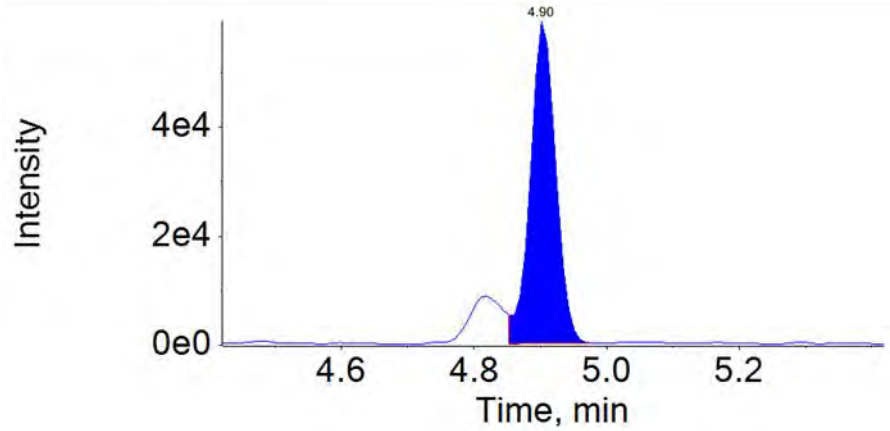
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
121774.2
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.90
Peak Area:
157282.4
Mass Range:
413.0 / 369.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



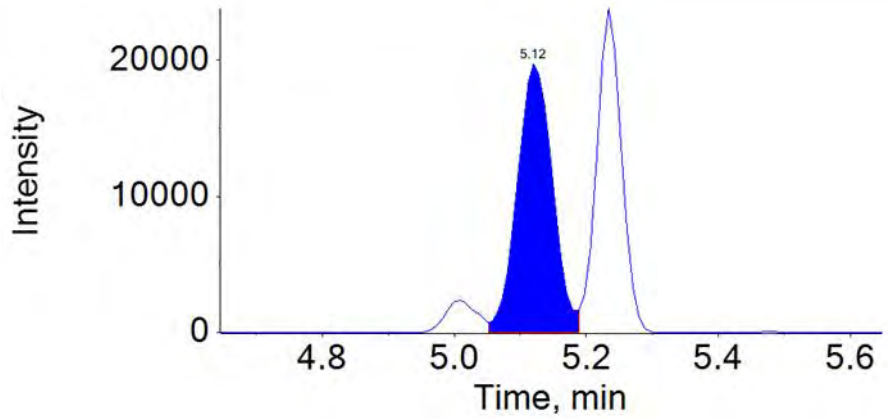
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

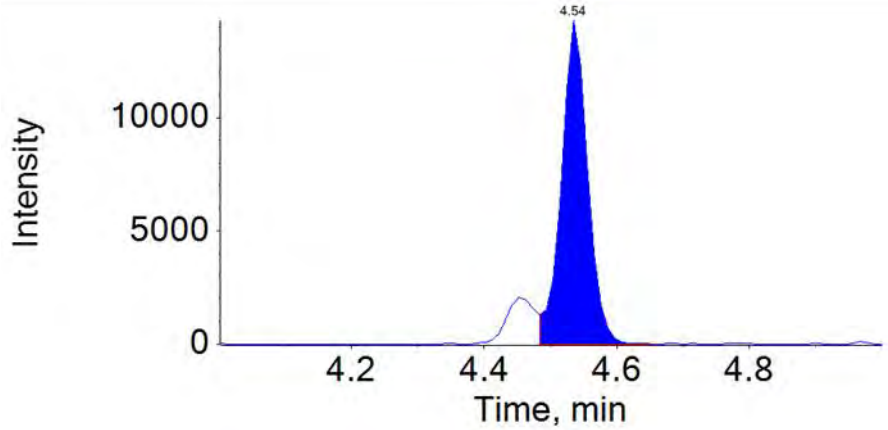
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.12
Peak Area:
73351.2
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



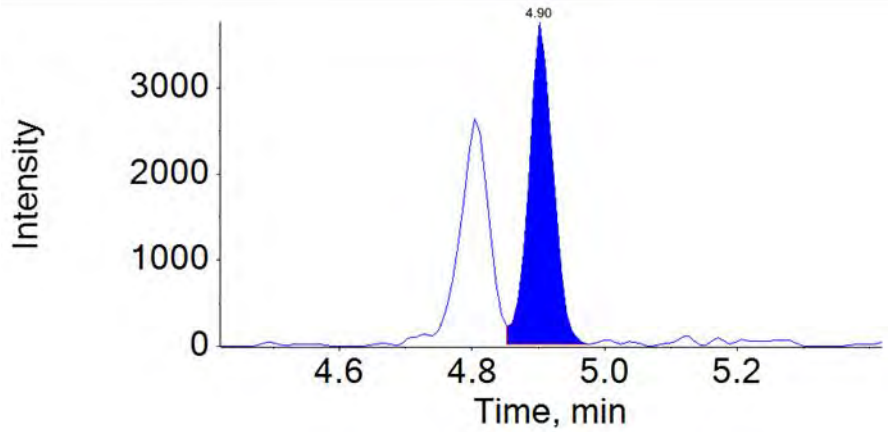
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
39437.0
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.90
Peak Area:
9466.0
Mass Range:
413.0 / 169.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



Integration Comment: incorrect integration

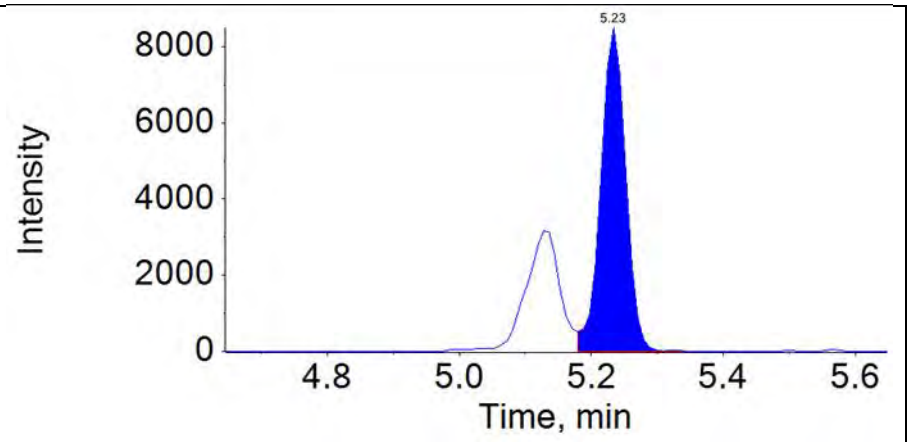
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
22305.1
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-72.wiff
Sample Name:
9922847BKG



Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Ion Ratio Report

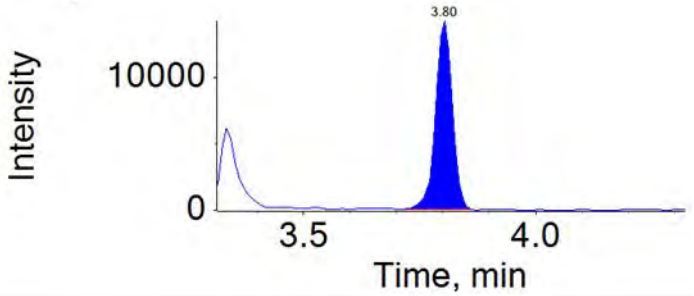
Sample Name: 9922847BKG **Instrument Name:** LM27631 **File Name:** 18DEC10D-72.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	35788.1	A	N/A	1.0000			
PFBS_2	3.80	1.00	13913.6	A	N/A	0.3888	7	50	
PFHxA	4.15	1.00	26833.1	M	N/A	1.0000			
PFHxA_2	4.15	1.00	606.6	A	N/A	0.0226	133	50	OOS
PFHpA	4.53	1.00	19966.1	A	N/A	1.0000			
PFHpA_2	4.53	1.00	1458.5	A	N/A	0.0730	29	50	
PFHxS	4.54	1.00	145492.0	M	N/A	1.0000			
PFHxS_2	4.54	1.00	45611.8	M	N/A	0.3135	-14	50	
PFOA	4.90	1.00	188332.2	M	N/A	1.0000			
PFOA_2	4.88	0.99	17530.8	M	N/A	0.0931	51	50	OOS
PFOS	5.18	0.99	143712.9	M	N/A	1.0000			
PFOS_2	5.23	1.00	33633.2	M	N/A	0.2340	-23	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

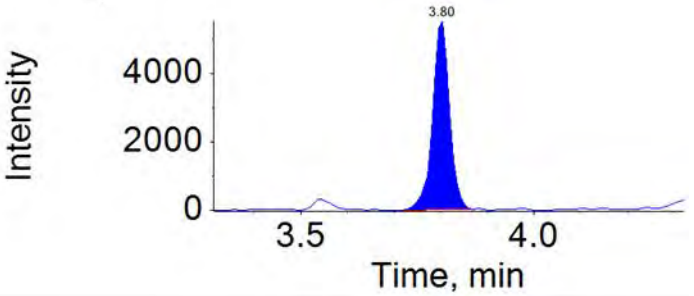
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

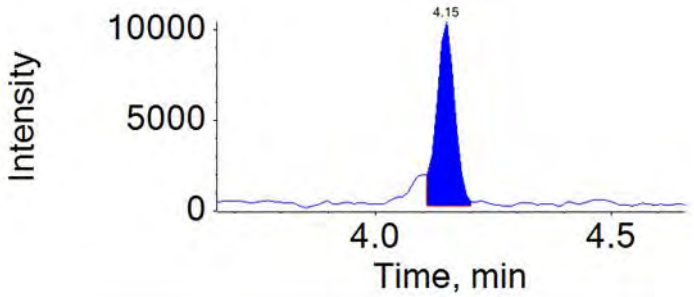
Component: PFBS
Primary Mass: 299.0 / 80.0



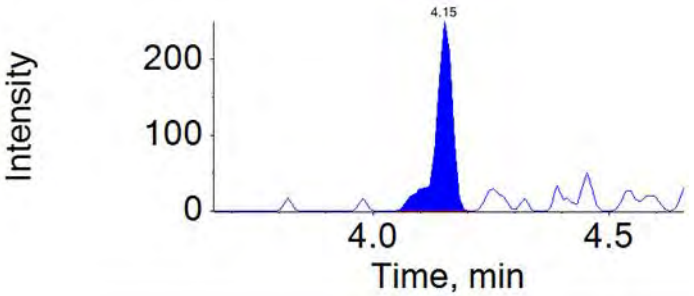
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



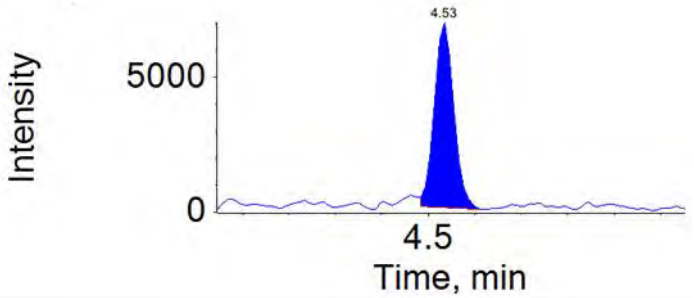
Component: PFHxA
Primary Mass: 313.0 / 269.0



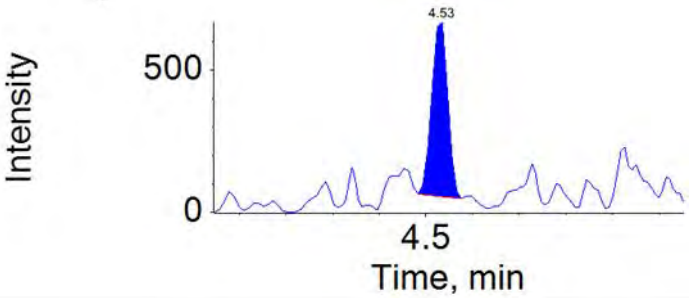
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



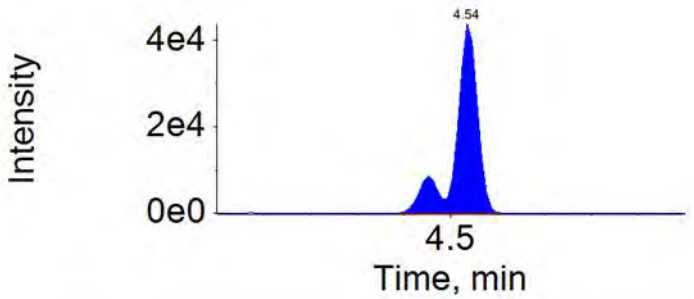
Component: PFHpA
Primary Mass: 363.0 / 319.0



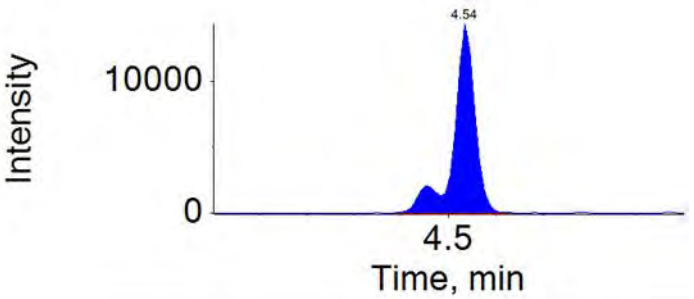
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



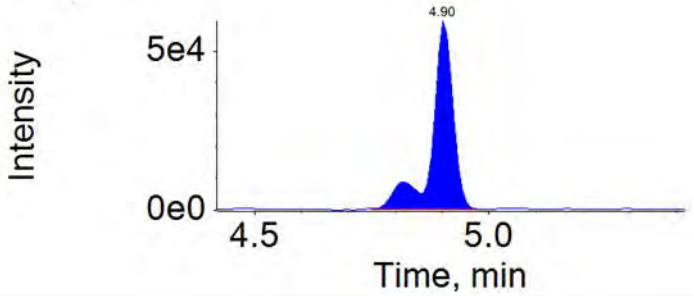
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



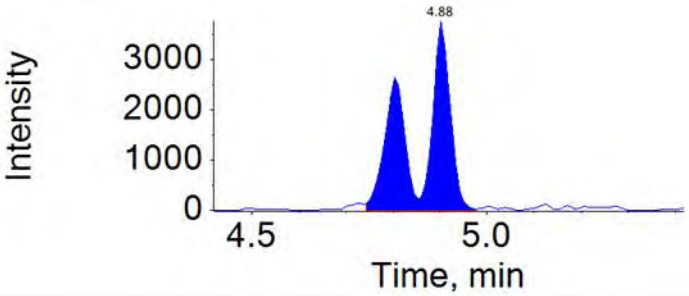
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

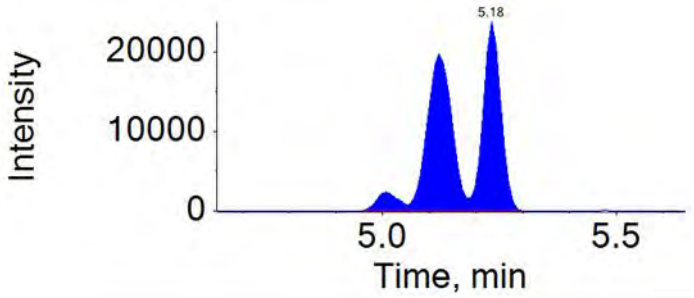
Component: PFOA
Primary Mass: 413.0 / 369.0



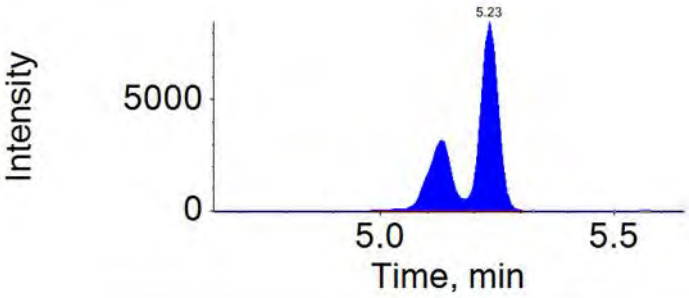
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



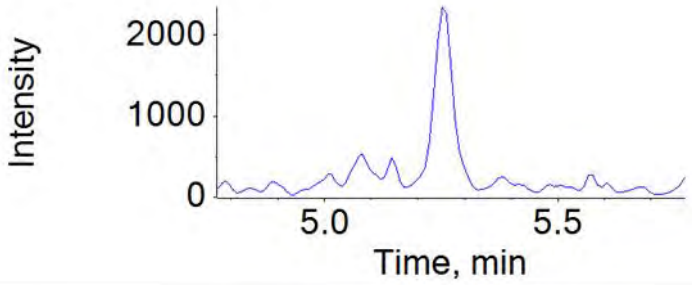
Component: PFOS
Primary Mass: 499.0 / 80.0



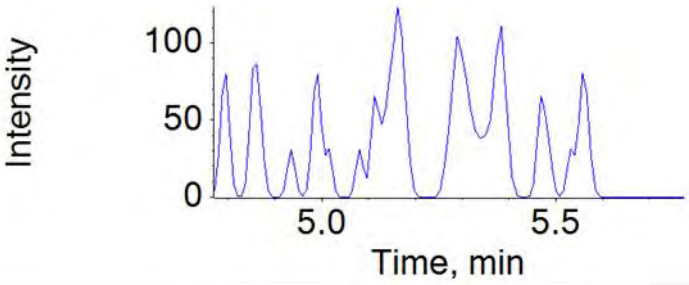
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



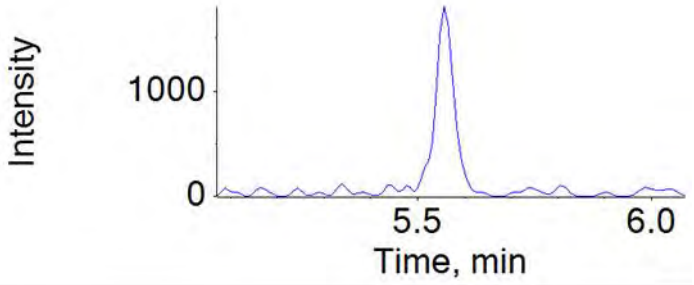
Component: PFNA
Primary Mass: 463.0 / 419.0



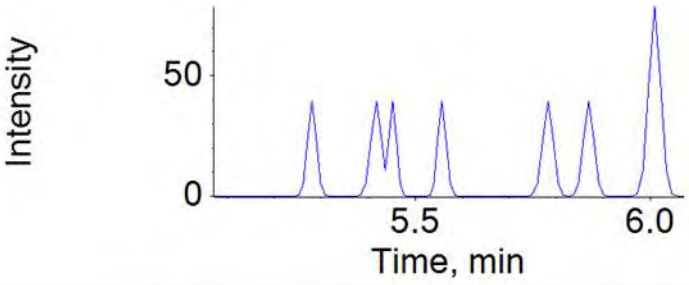
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



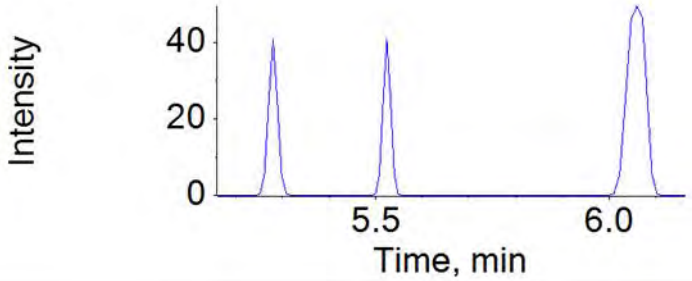
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



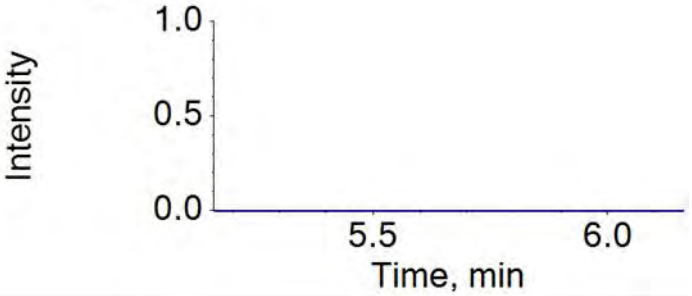
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

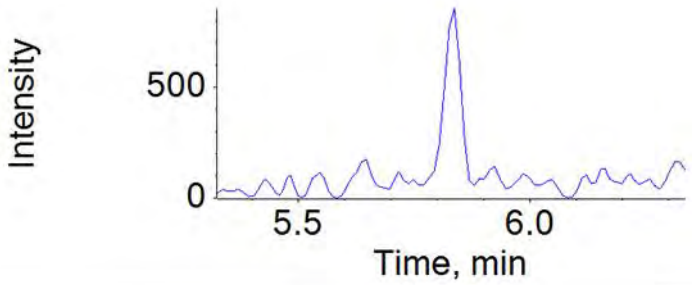
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



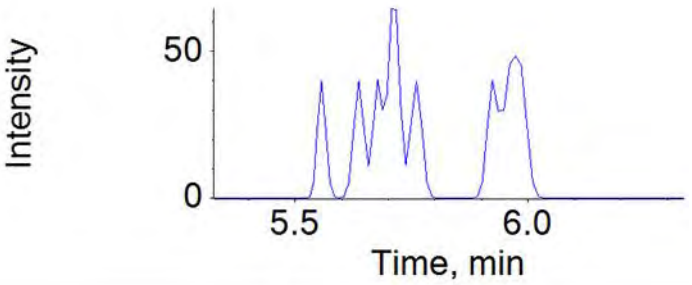
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



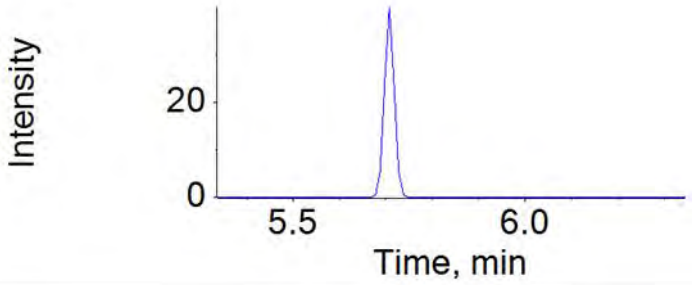
Component: PFUnDA
Primary Mass: 563.0 / 519.0



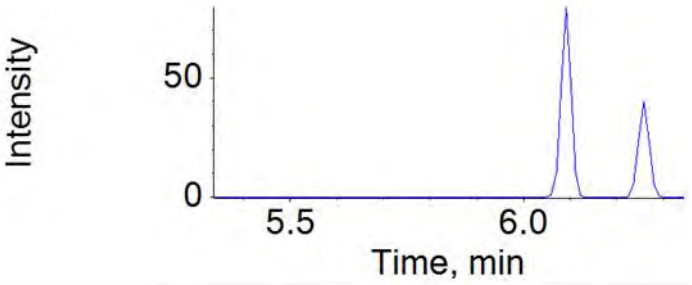
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



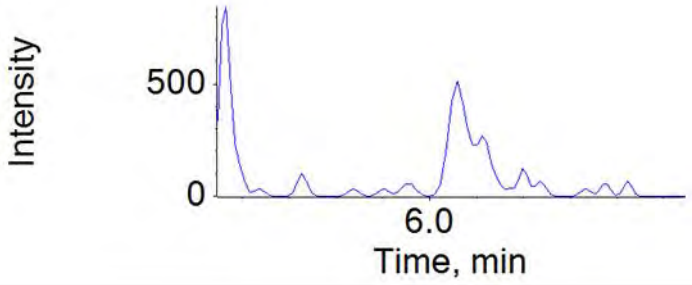
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



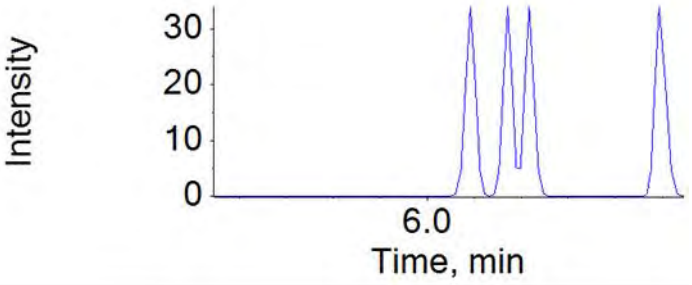
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



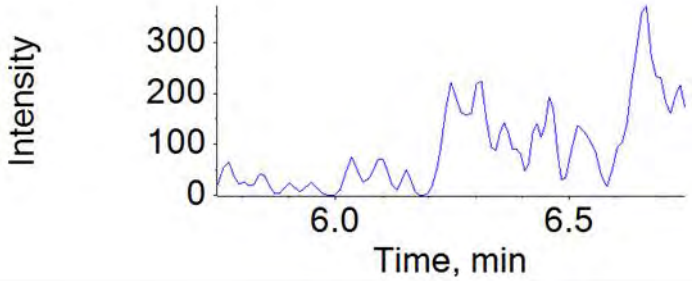
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



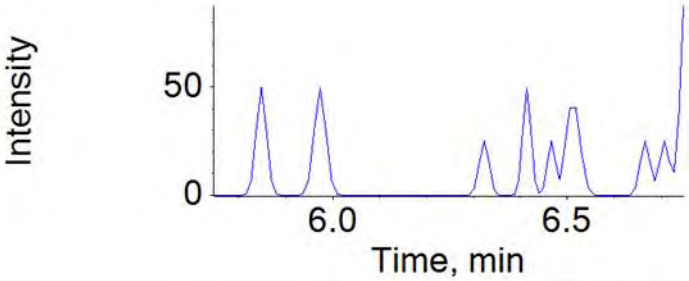
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

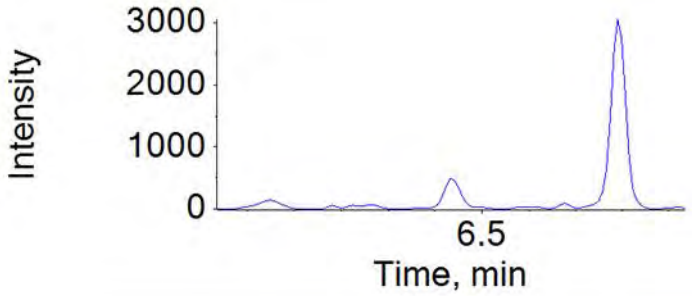
Component: PFTrDA
Primary Mass: 663.0 / 619.0



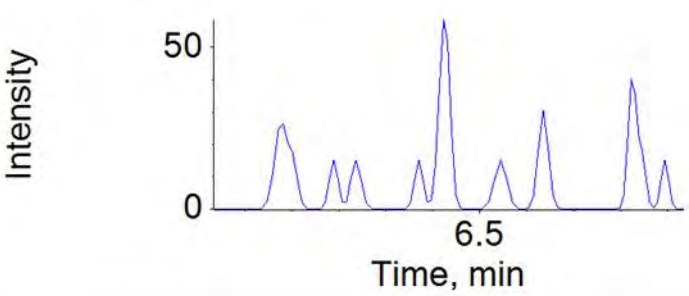
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922850			**Data File:**		18DEC10D-73.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-W-01 Grab Water			**Acquis Date:**		2018-12-10T23:25:07
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	62			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.28503			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	994021.0	968978.6	3	50	
13C2-PFOA	5.0	520857.1	507254.2	3	50	
13C4-PFOS	4.8	311016.7	302410.5	3	50	
13C2-PFDA	5.0	445277.8	392614.4	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	429649.7	13C3-PFBA	994021.0	0.432	16.314	12.854	79	50-150	
E13C5-PFHxA	678651.4	13C2-PFOA	520857.1	1.303	17.542	15.348	87	50-150	
E13C3-PFHxS	336717.4	13C2-PFOA	520857.1	0.646	16.595	14.548	88	50-150	
E13C4-PFHpA	520737.8	13C2-PFOA	520857.1	1.000	17.542	14.912	85	50-150	
E13C8-PFOA	918472.5	13C2-PFOA	520857.1	1.763	17.542	17.488	100	50-150	
E13C8-PFOS	316029.3	13C4-PFOS	311016.7	1.016	16.770	15.999	95	50-150	
E13C9-PFNA	583845.7	13C4-PFOS	311016.7	1.877	17.542	18.611	106	50-150	
E13C6-PFDA	686100.3	13C2-PFDA	445277.8	1.541	17.542	14.326	82	50-150	
Ed3-NMeFOSAA	136290.4	13C2-PFDA	445277.8	0.306	17.542	19.030	108	50-150	
E13C7-PFUnDA	425108.9	13C2-PFDA	445277.8	0.955	17.542	16.431	94	50-150	
Ed5-NEtFOSAA	78954.8	13C2-PFDA	445277.8	0.177	17.542	13.733	78	50-150	
E13C2-PFDoDA	783509.6	13C2-PFDA	445277.8	1.760	17.542	12.955	74	50-150	
E13C2-PFTeDA	544725.2	13C2-PFDA	445277.8	1.223	17.542	12.739	73	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

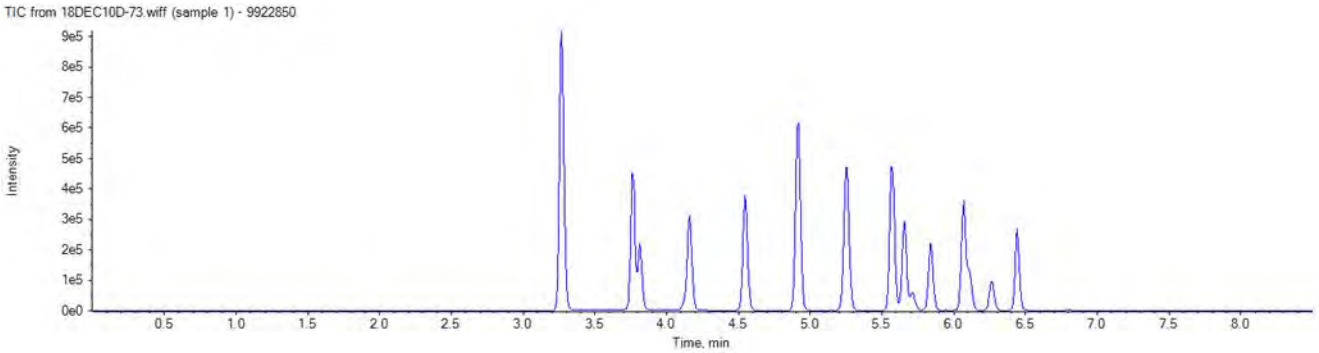
Analyte Quantitation Peak Table

Sample Name: 9922850 **Instrument Name:** LM27631 **File Name:** 18DEC10D-73.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28503	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	429649.7	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	678651.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	520737.8	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	336717.4	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	918472.5	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	316029.3	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	583845.7	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	686100.3	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	136290.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	425108.9	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	78954.8	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	783509.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	783509.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	544725.2	N/A	

Total Ion Chromatogram

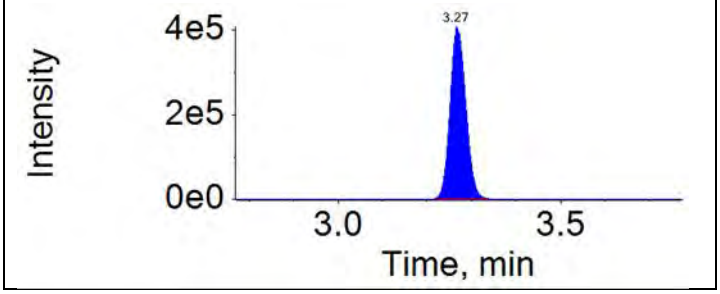


APPROVED
By MCD at 3:52 pm, 12/11/18

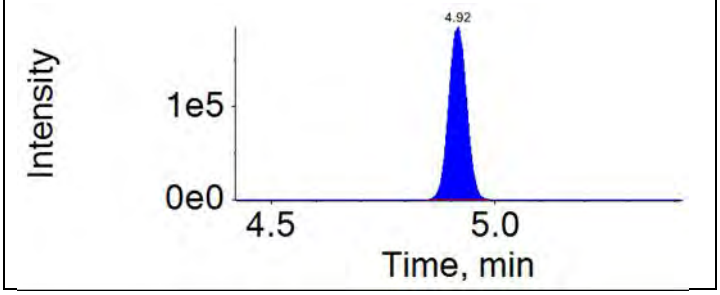
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

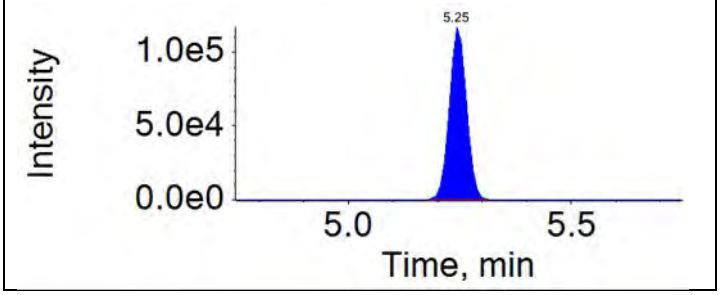
Injection Standard: 13C3-PFBA
216.0 / 172.0



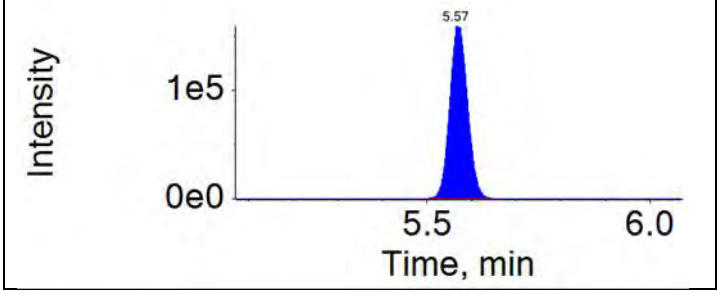
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



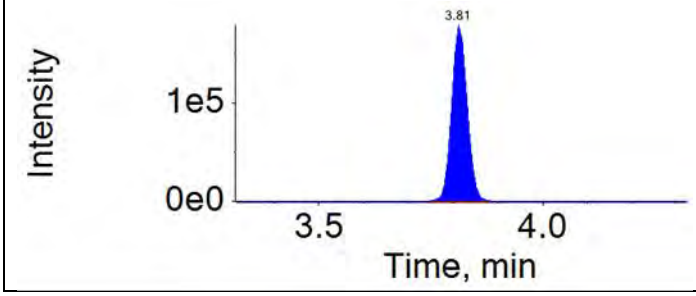
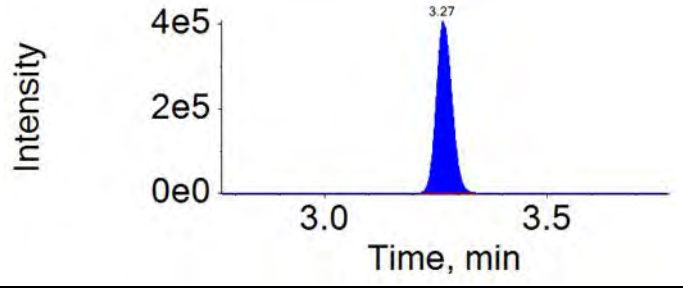
Injection Standard: 13C2-PFDA
515.0 / 470.0

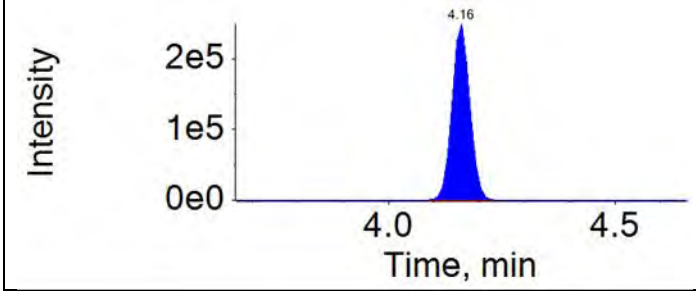
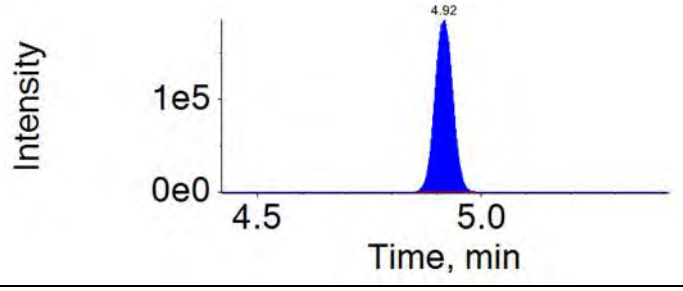


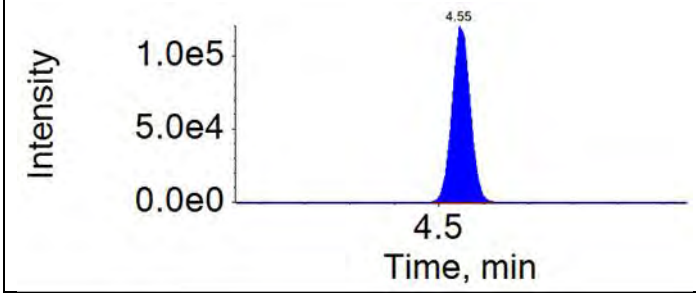
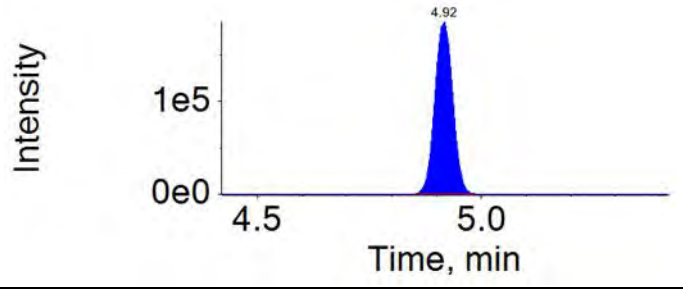
APPROVED
By MCD at 3:52 pm, 12/11/18

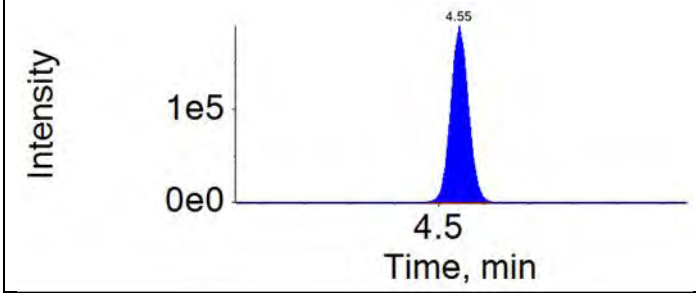
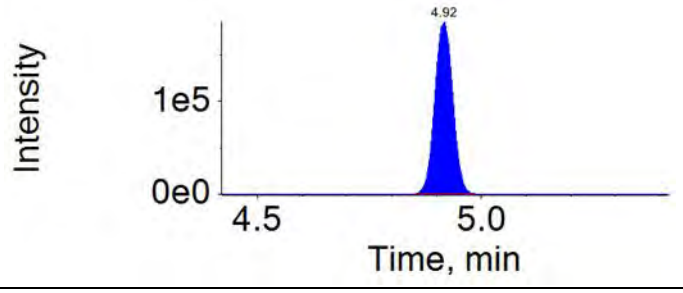
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

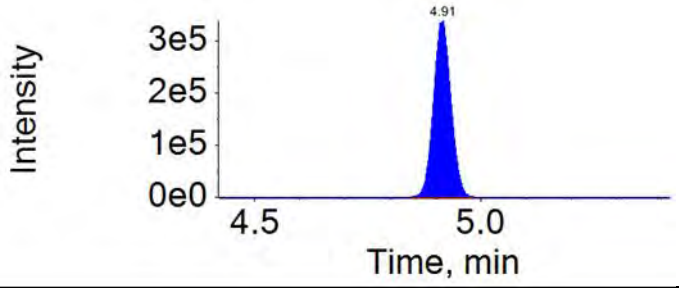
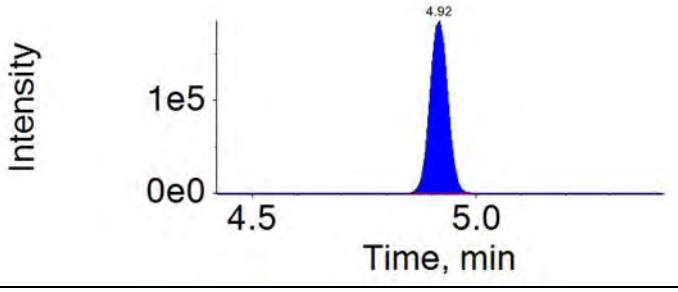
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

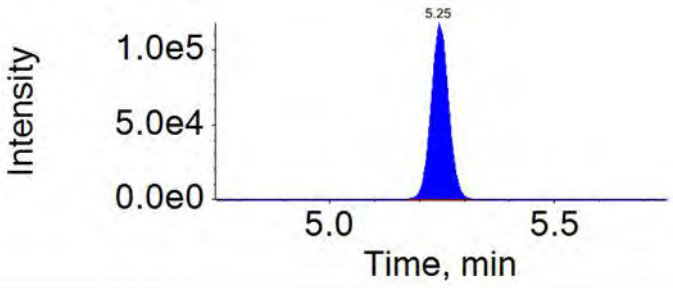
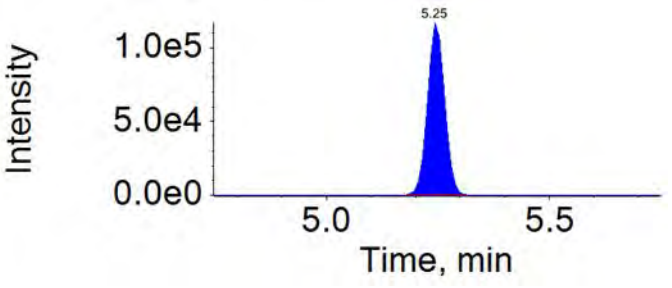
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

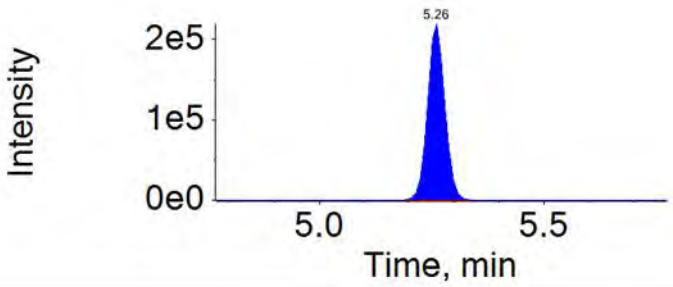
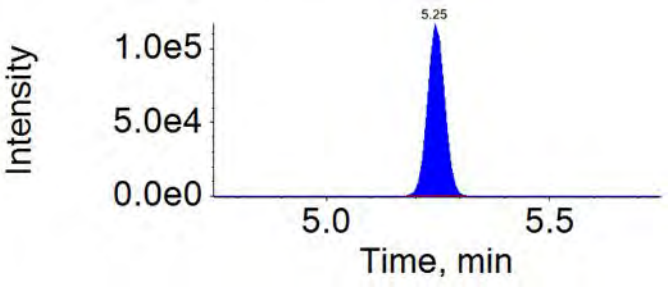
APPROVED
By MCD at 3:52 pm, 12/11/18

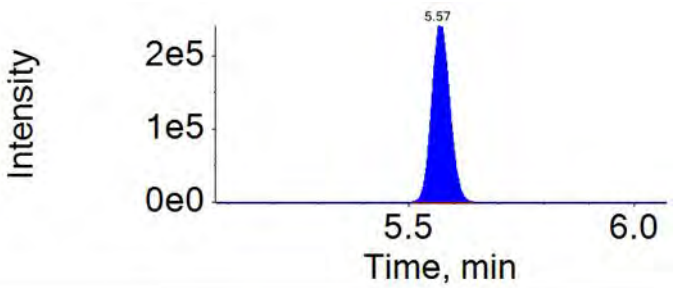
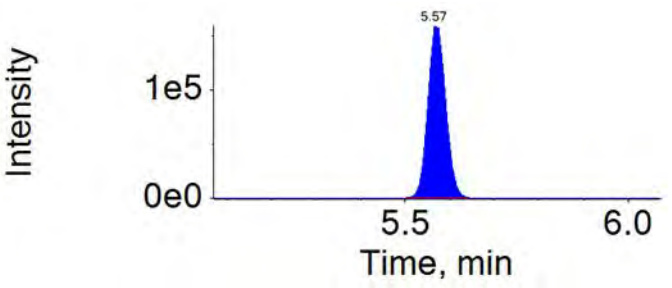
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

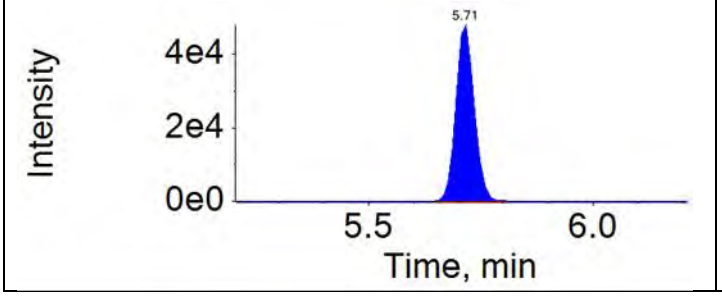
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

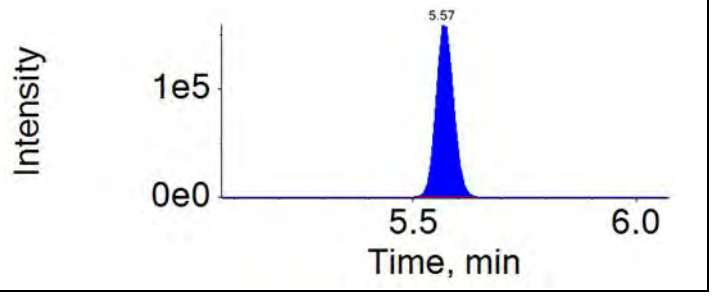
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

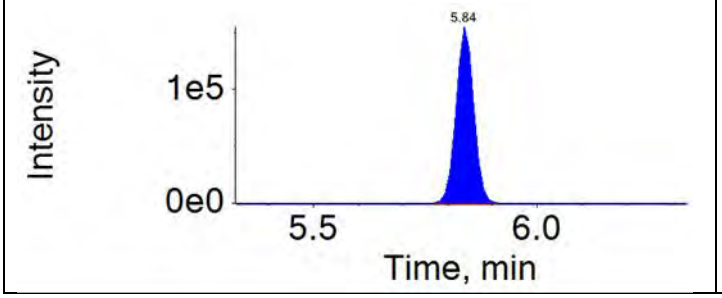
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

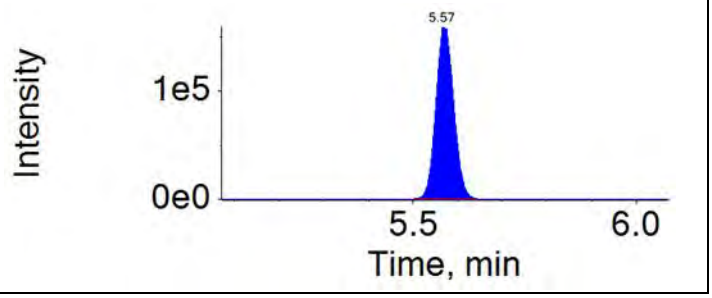
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



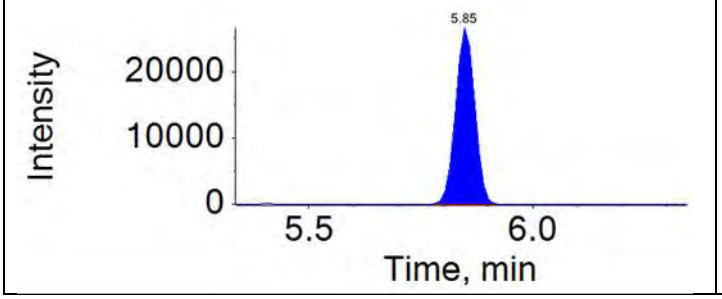


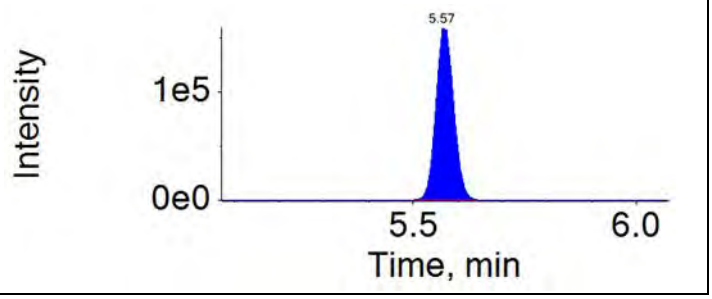
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



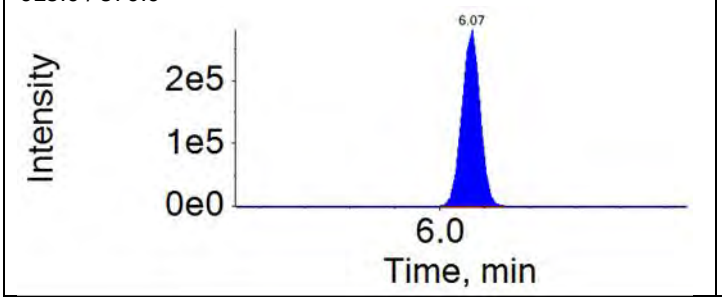


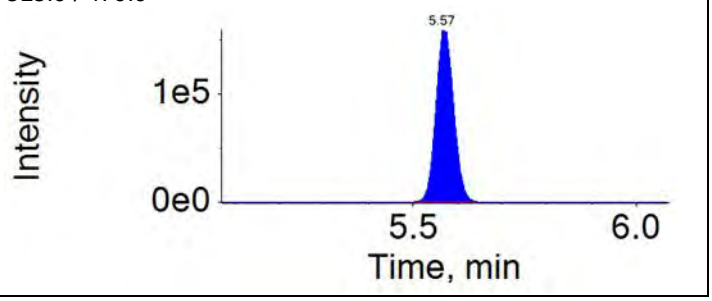
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

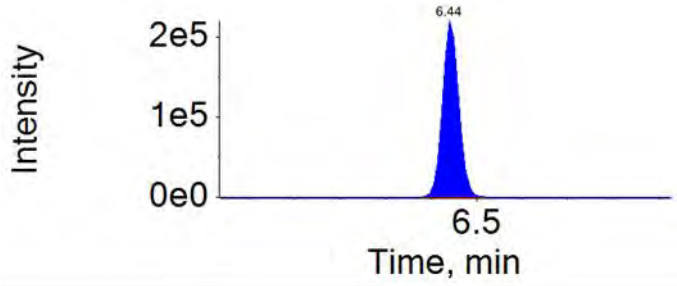
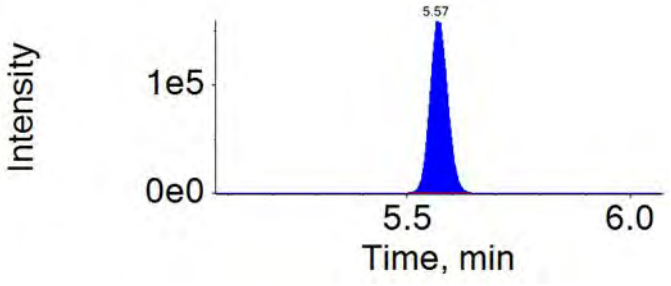




APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

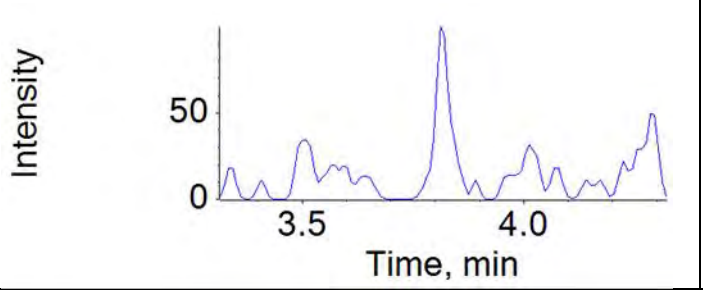
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

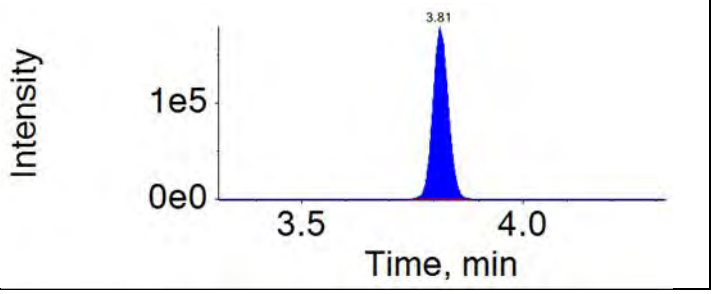
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

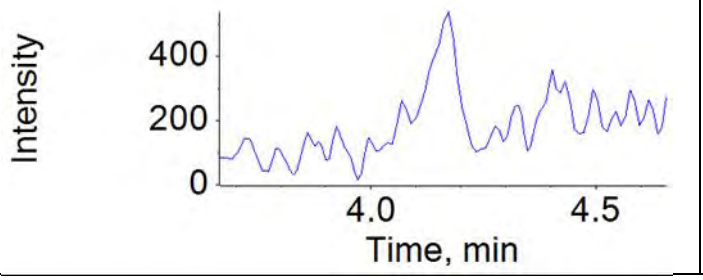
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

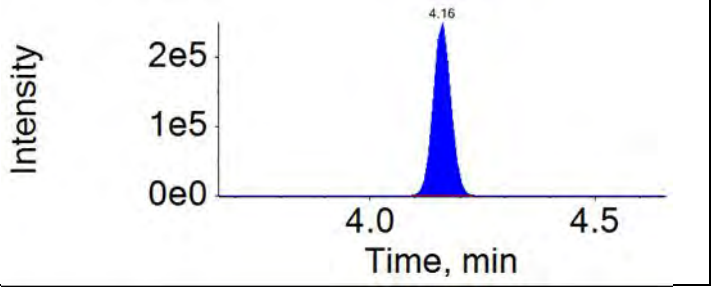
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



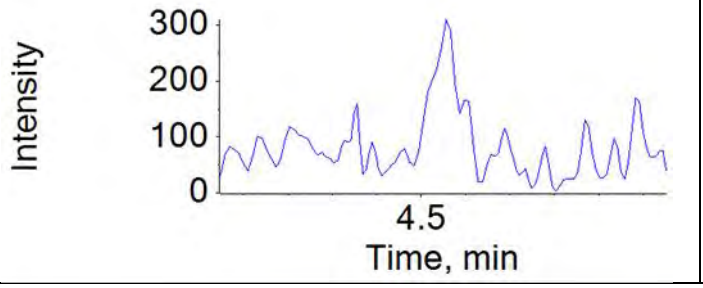


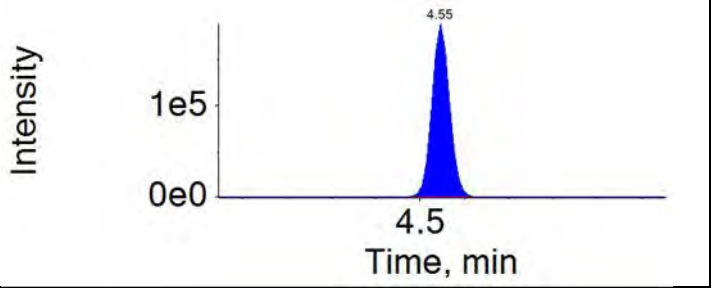
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



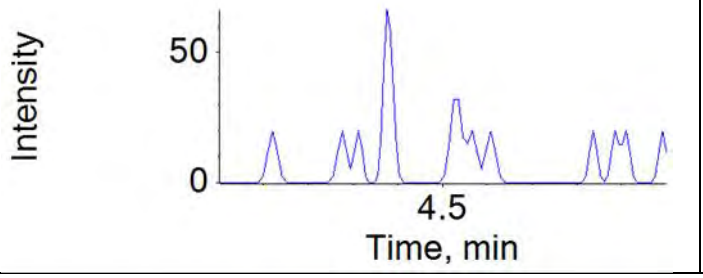


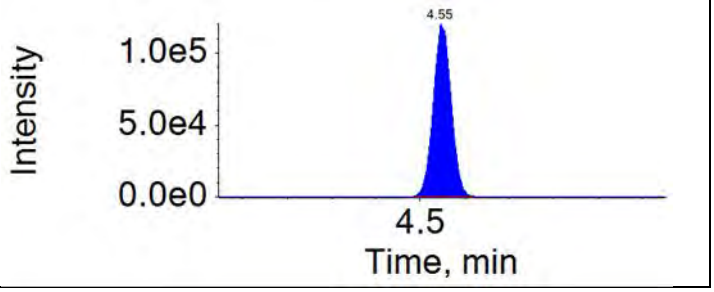
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



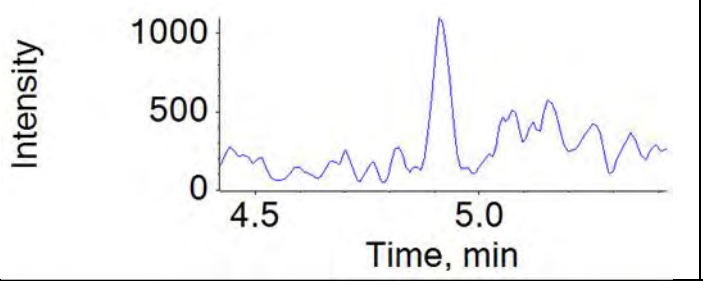


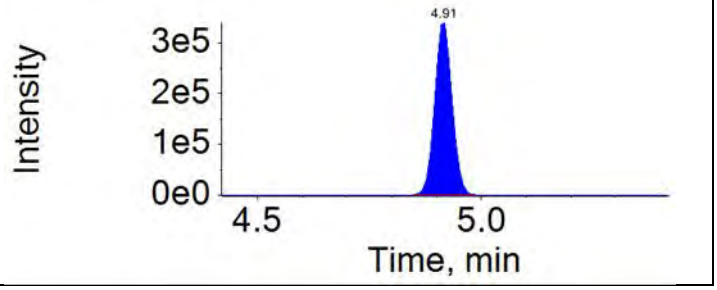
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

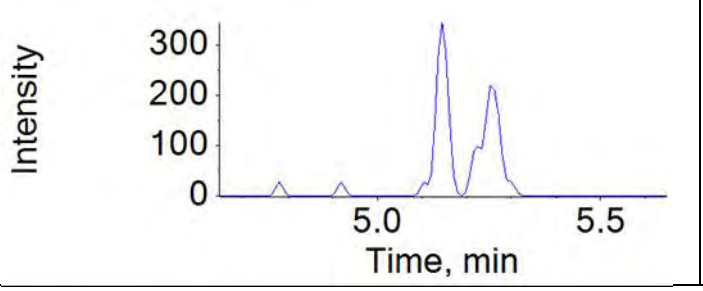
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

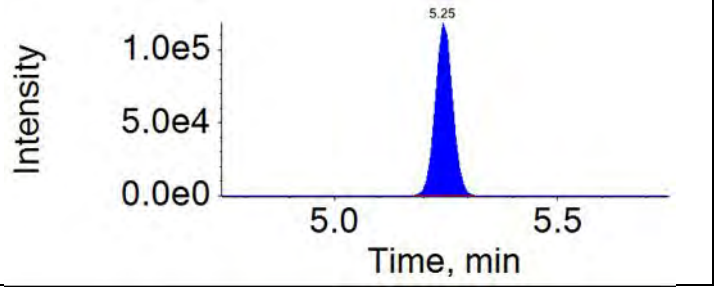
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



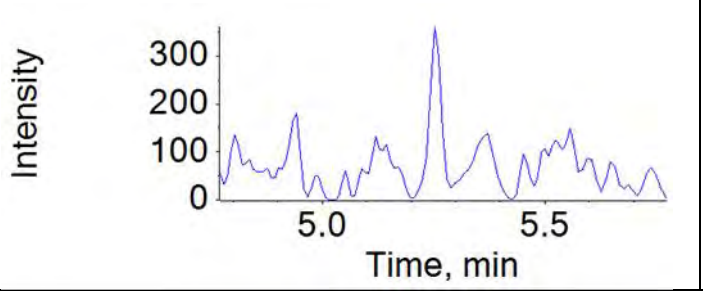


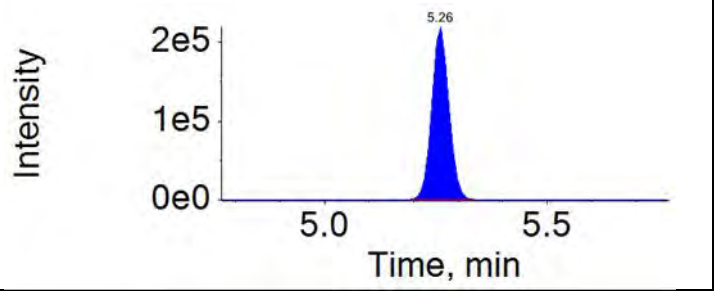
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



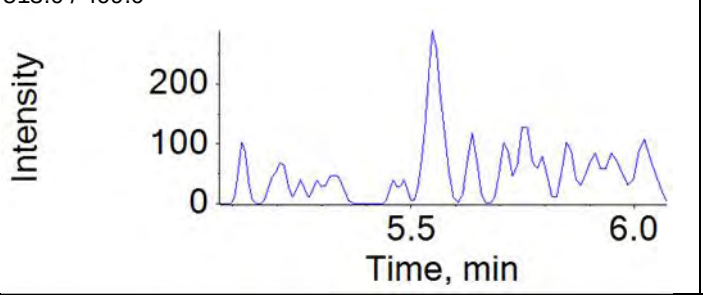


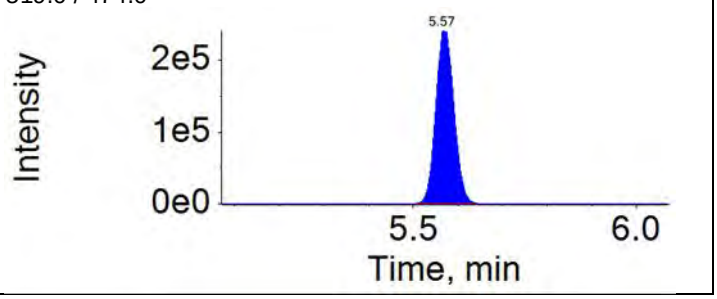
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



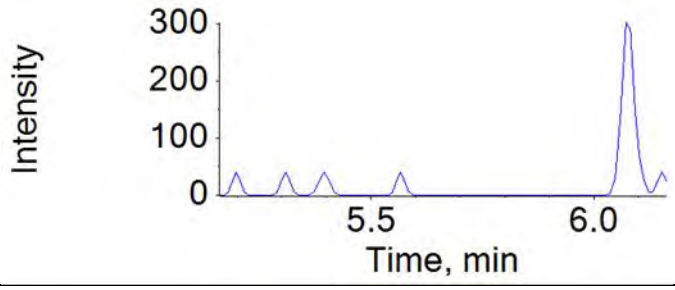


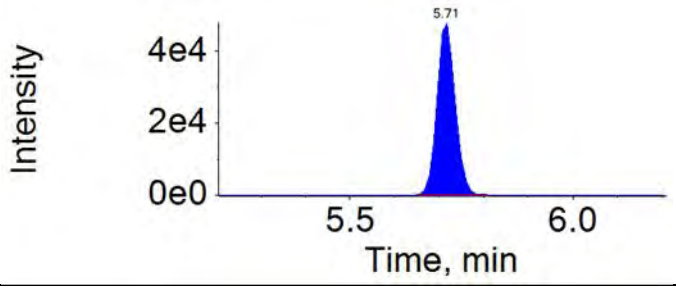
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

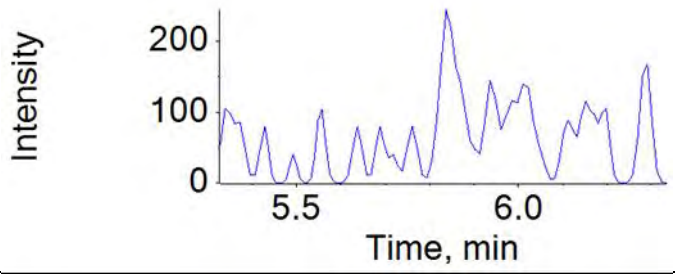
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

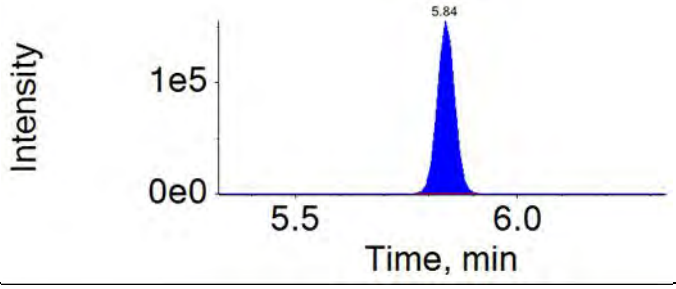
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



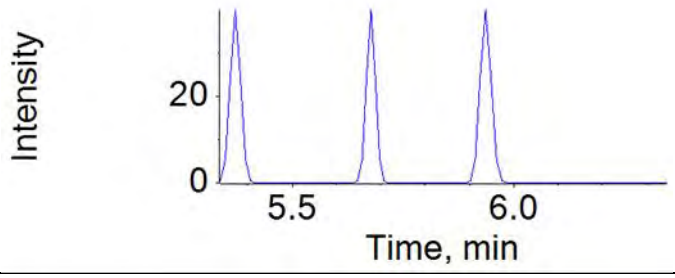


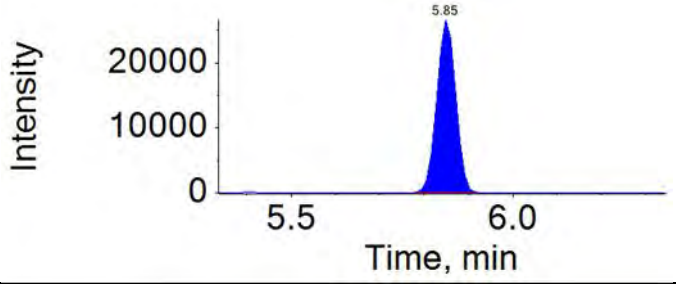
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



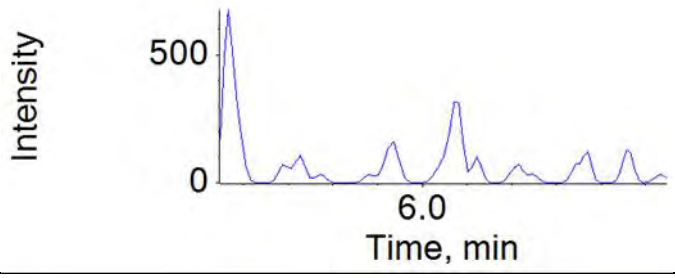


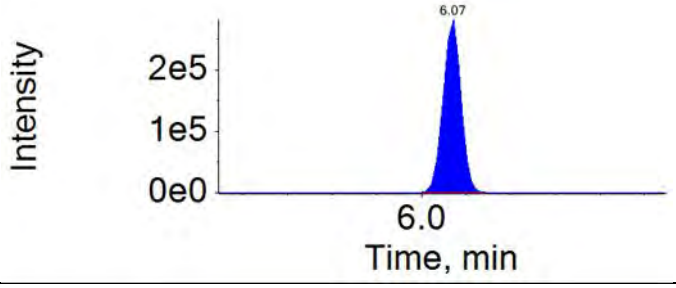
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



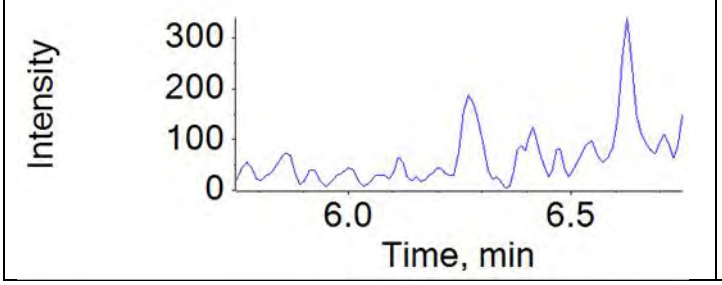


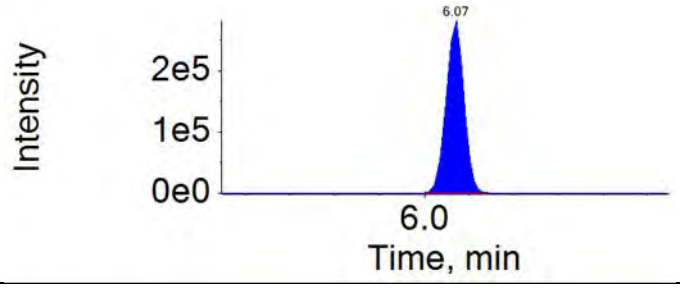
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

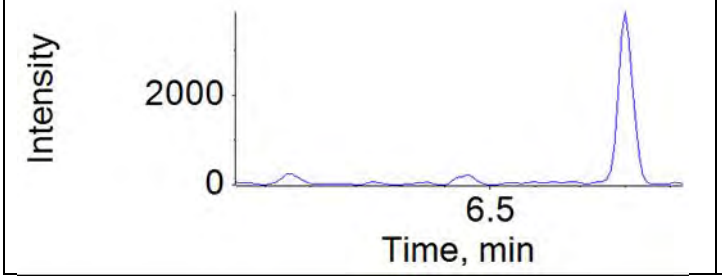
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

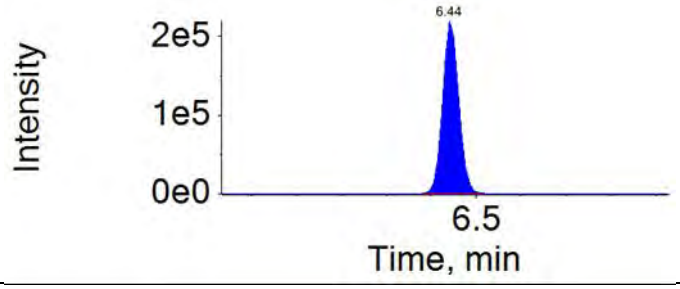
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





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By umar at 1:17 pm, 12/13/18

Ion Ratio Report

Sample Name: 9922850 **Instrument Name:** LM27631 **File Name:** 18DEC10D-73.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

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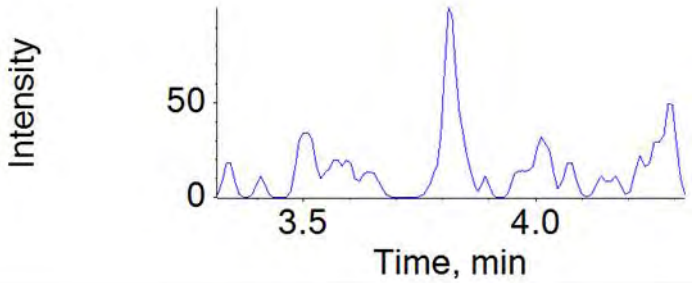
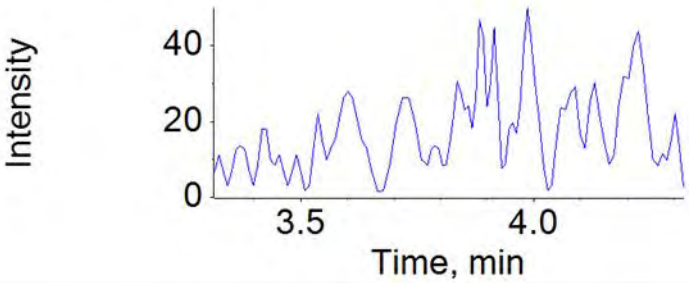
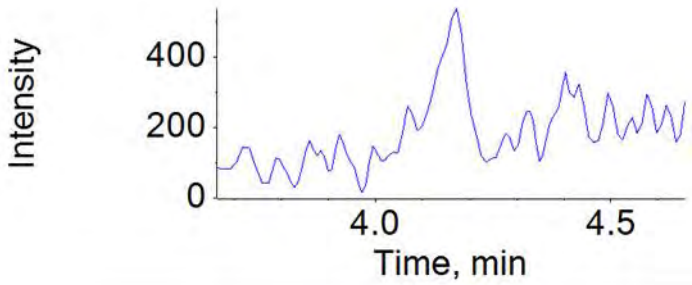
Component: PFBS
Primary Mass: 299.0 / 80.0



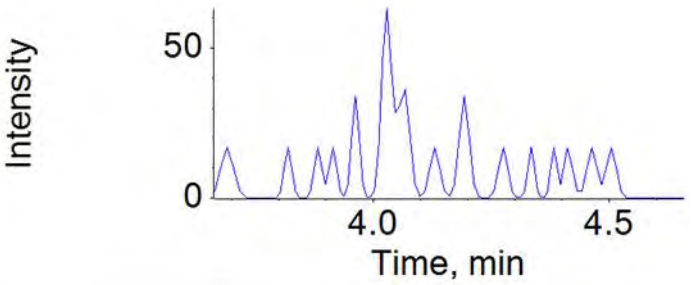
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



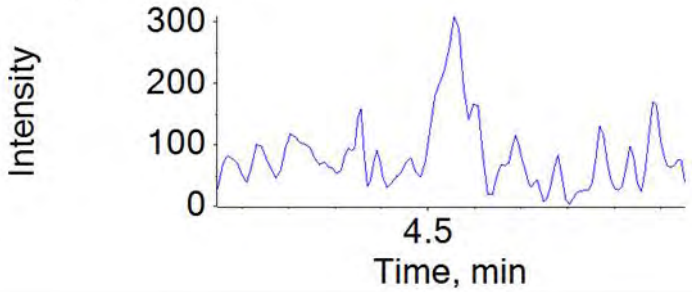
Component: PFHxA
Primary Mass: 313.0 / 269.0



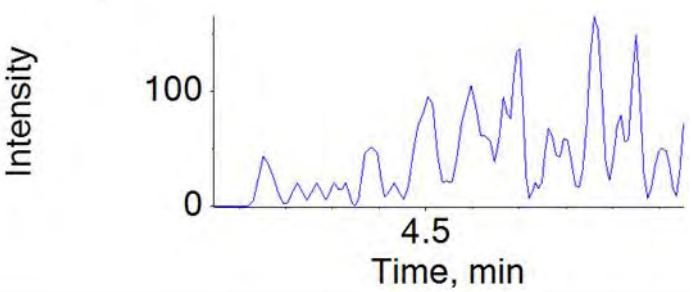
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



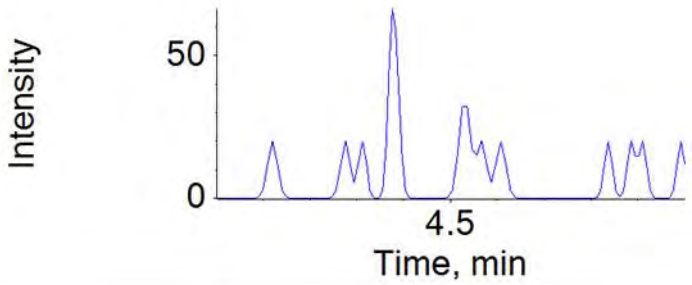
Component: PFHpA
Primary Mass: 363.0 / 319.0



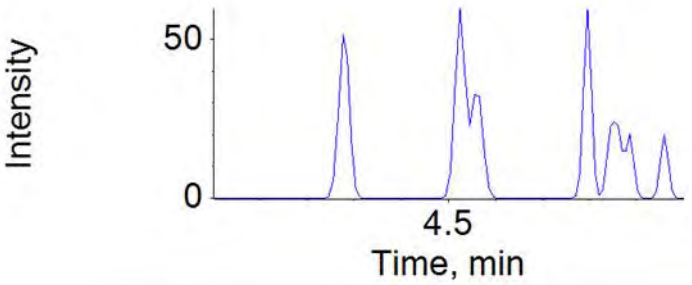
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



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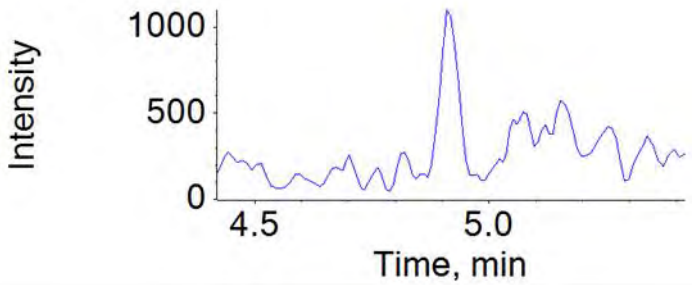
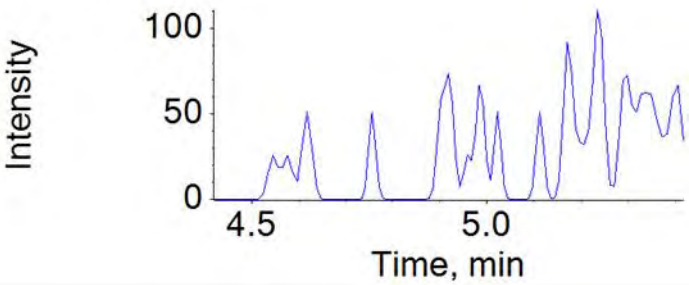
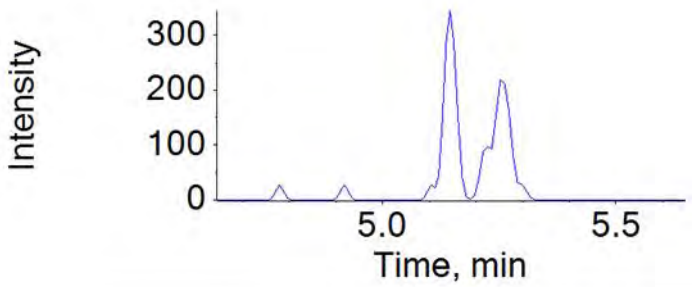
Component: PFOA
Primary Mass: 413.0 / 369.0



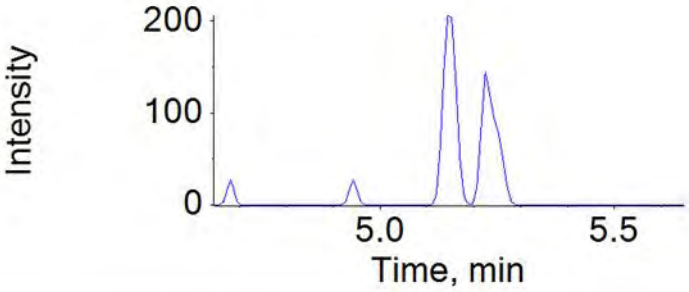
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



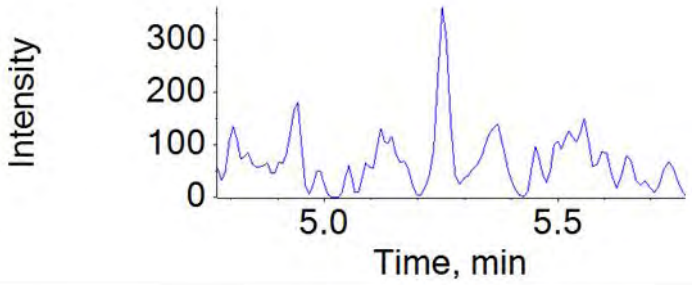
Component: PFOS
Primary Mass: 499.0 / 80.0



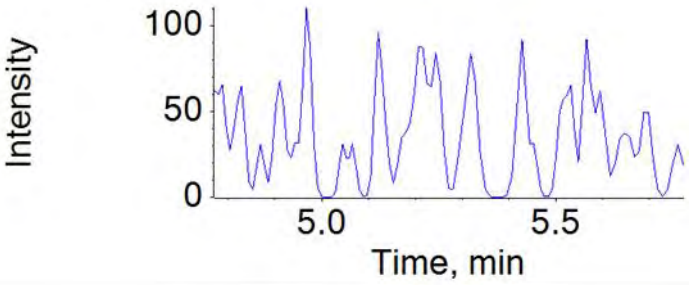
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



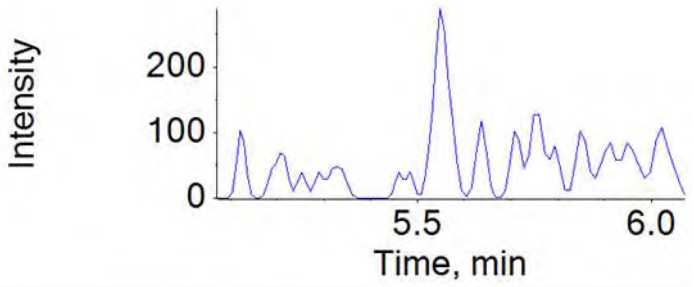
Component: PFNA
Primary Mass: 463.0 / 419.0



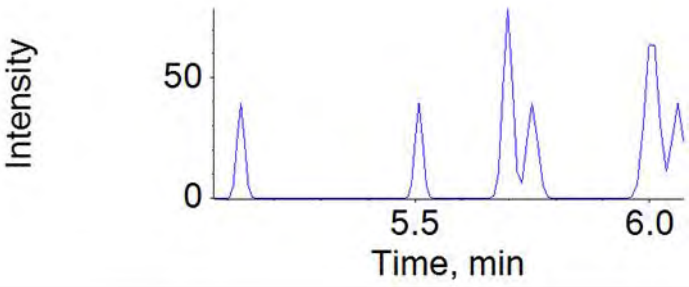
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



Component: PFDA_2
Secondary Mass: 513.0 / 169.0



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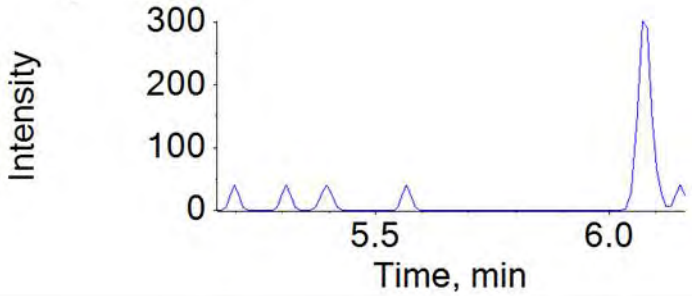
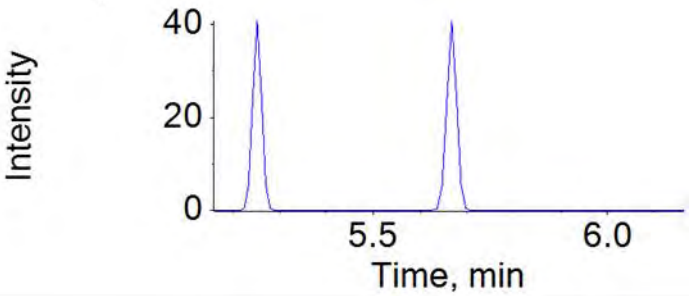
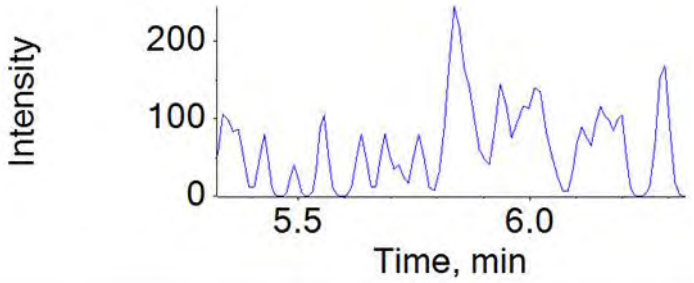
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



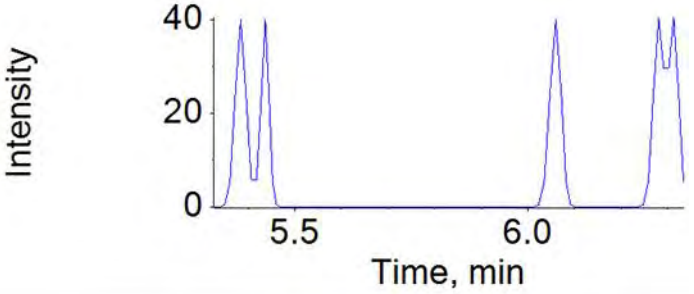
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



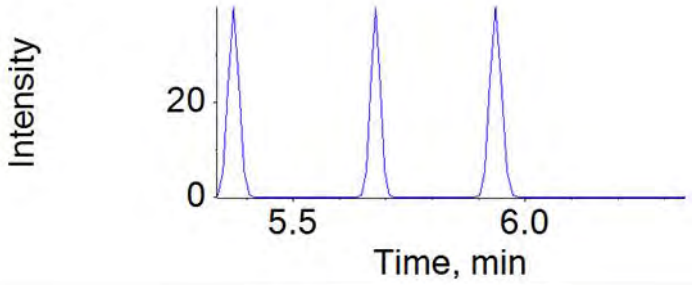
Component: PFUnDA
Primary Mass: 563.0 / 519.0



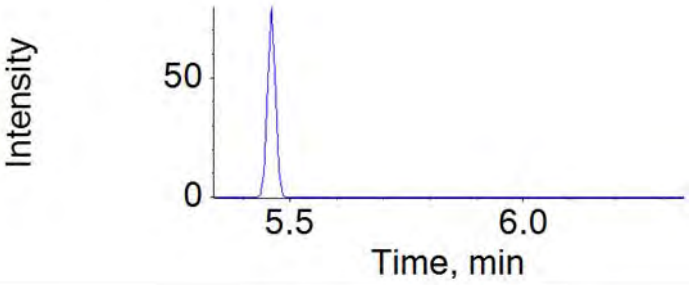
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



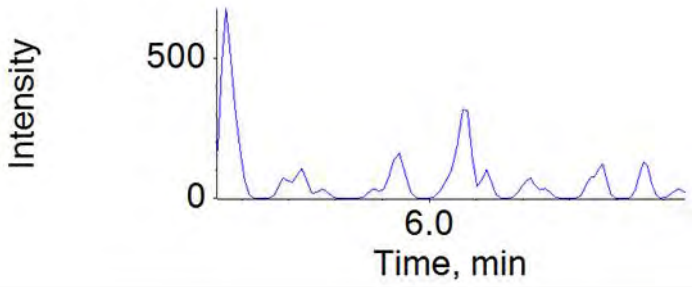
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



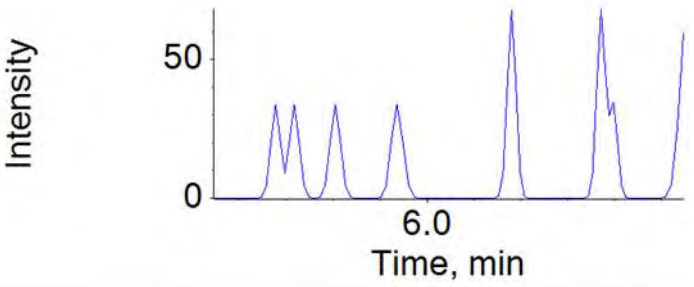
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



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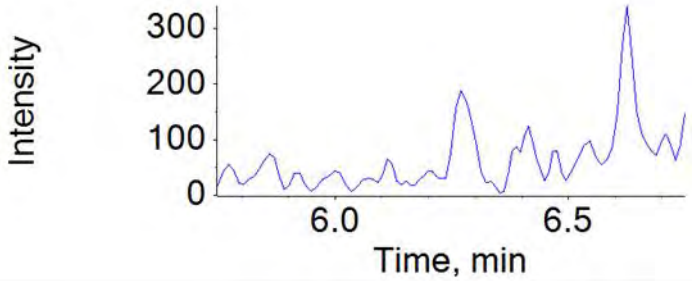
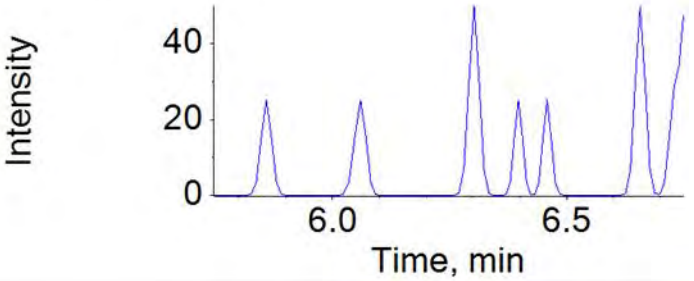
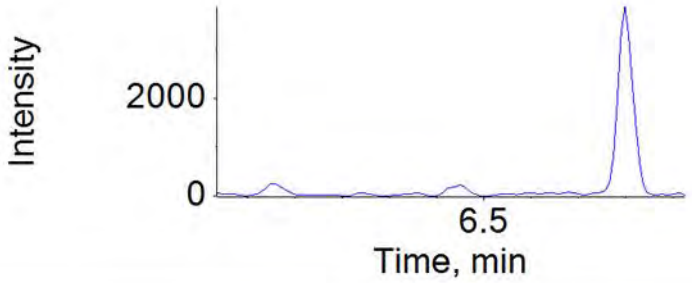
Component: PFTrDA
Primary Mass: 663.0 / 619.0



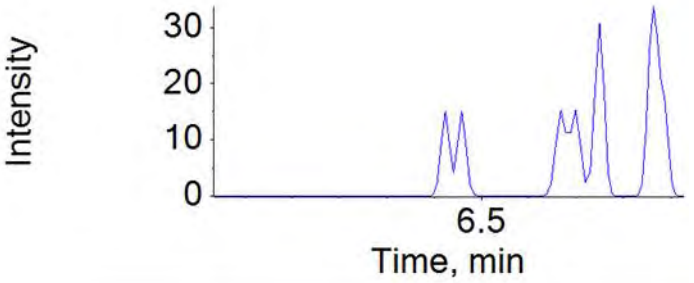
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



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By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922851			**Data File:**		18DEC10D-74.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-W-02 Grab Water			**Acquis Date:**		2018-12-10T23:34:07
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	63			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.28266			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	990252.6	968978.6	2	50	
13C2-PFOA	5.0	535934.4	507254.2	6	50	
13C4-PFOS	4.8	310047.1	302410.5	3	50	
13C2-PFDA	5.0	428819.8	392614.4	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	411969.0	13C3-PFBA	990252.6	0.416	16.451	12.476	76	50-150	
E13C5-PFHxA	693626.5	13C2-PFOA	535934.4	1.294	17.689	15.373	87	50-150	
E13C3-PFHxS	324418.3	13C2-PFOA	535934.4	0.605	16.734	13.736	82	50-150	
E13C4-PFHpA	549550.4	13C2-PFOA	535934.4	1.025	17.689	15.422	87	50-150	
E13C8-PFOA	910919.6	13C2-PFOA	535934.4	1.700	17.689	16.998	96	50-150	
E13C8-PFOS	307287.5	13C4-PFOS	310047.1	0.991	16.911	15.736	93	50-150	
E13C9-PFNA	625994.2	13C4-PFOS	310047.1	2.019	17.689	20.185	114	50-150	
E13C6-PFDA	662296.7	13C2-PFDA	428819.8	1.544	17.689	14.480	82	50-150	
Ed3-NMeFOSAA	136620.2	13C2-PFDA	428819.8	0.319	17.689	19.974	113	50-150	
E13C7-PFUnDA	420816.4	13C2-PFDA	428819.8	0.981	17.689	17.031	96	50-150	
Ed5-NEtFOSAA	79898.7	13C2-PFDA	428819.8	0.186	17.689	14.551	82	50-150	
E13C2-PFDoDA	783990.7	13C2-PFDA	428819.8	1.828	17.689	13.573	77	50-150	
E13C2-PFTeDA	527716.7	13C2-PFDA	428819.8	1.231	17.689	12.922	73	50-150	

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By MCD at 3:52 pm, 12/11/18

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By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

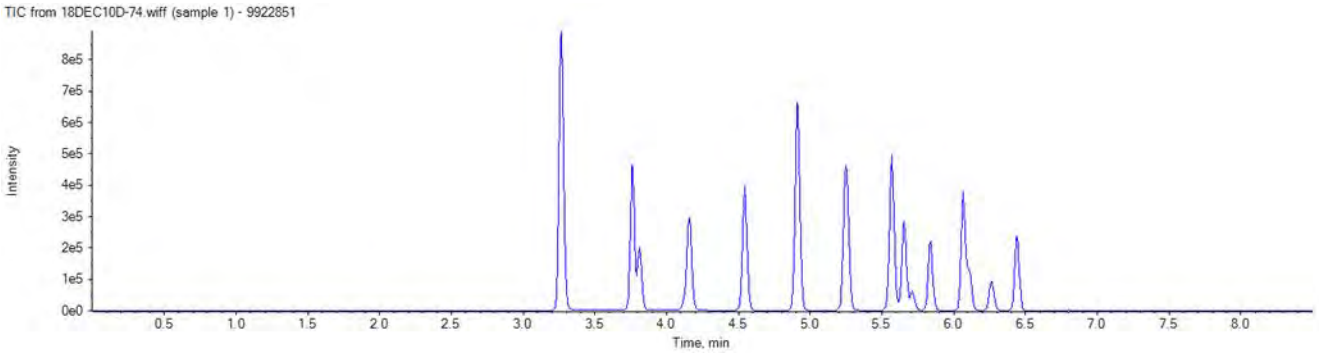
Analyte Quantitation Peak Table

Sample Name: 9922851 **Instrument Name:** LM27631 **File Name:** 18DEC10D-74.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28266	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	411969.0	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	693626.5	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	549550.4	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	324418.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	910919.6	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	307287.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	625994.2	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	662296.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	136620.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	420816.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	79898.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	783990.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	783990.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	527716.7	N/A	

Total Ion Chromatogram

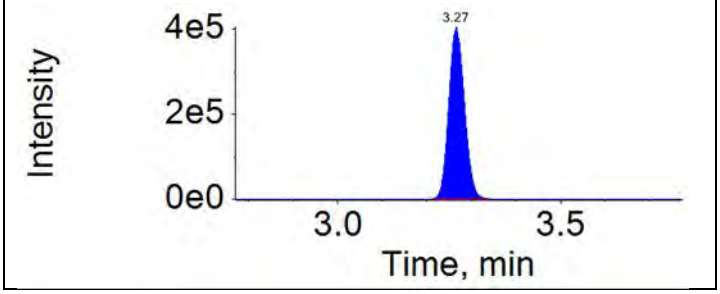


APPROVED
By MCD at 3:52 pm, 12/11/18

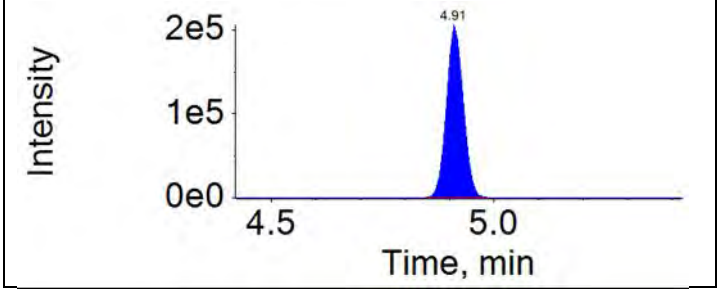
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

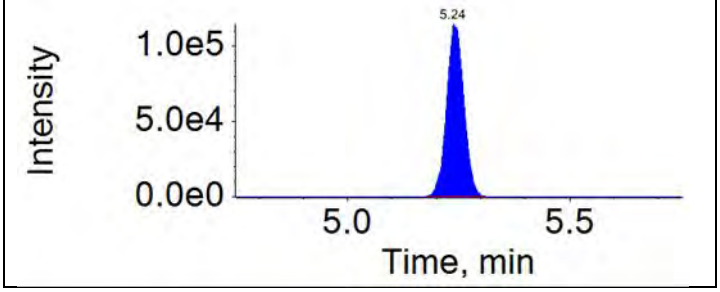
Injection Standard: 13C3-PFBA
216.0 / 172.0



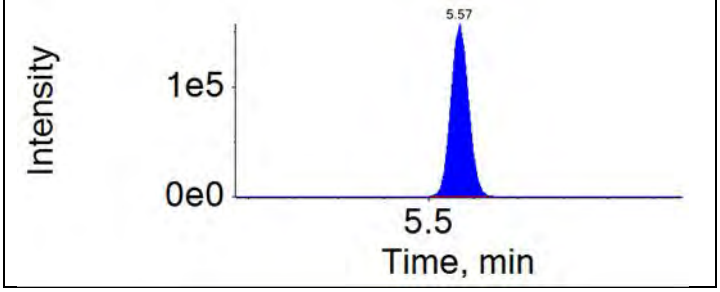
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



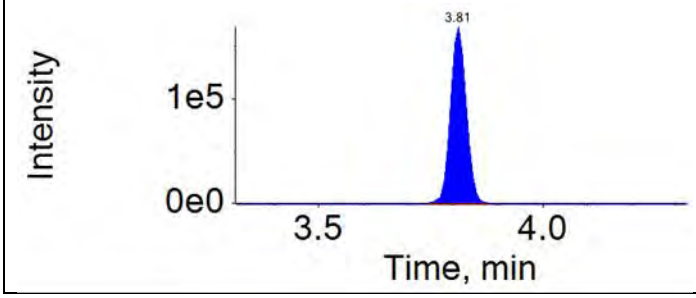
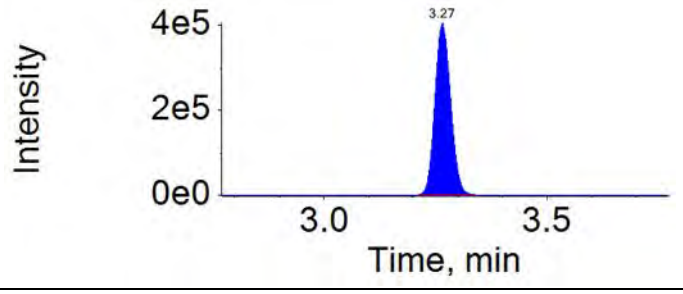
Injection Standard: 13C2-PFDA
515.0 / 470.0

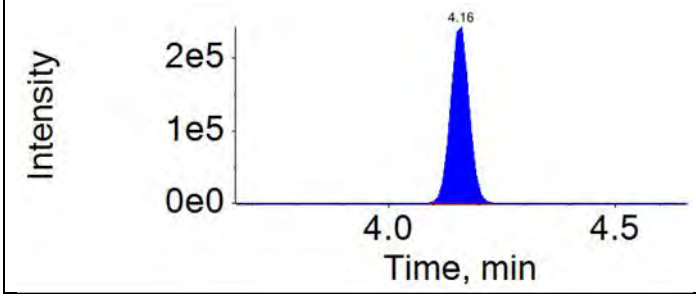
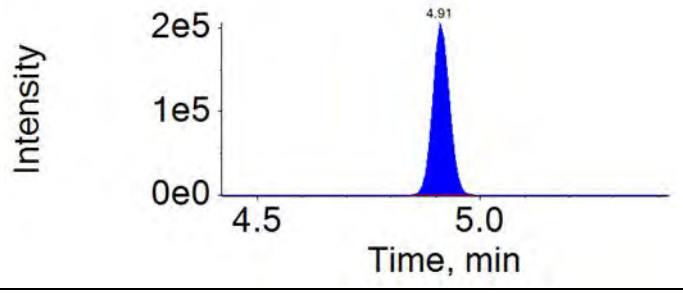


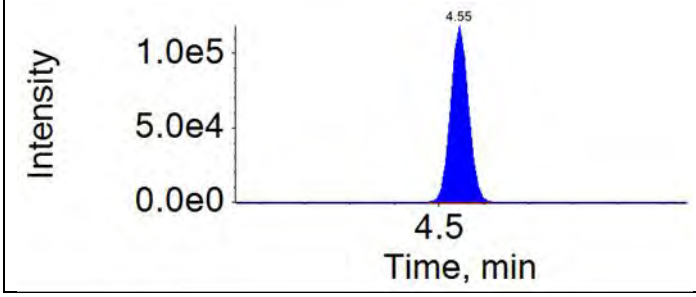
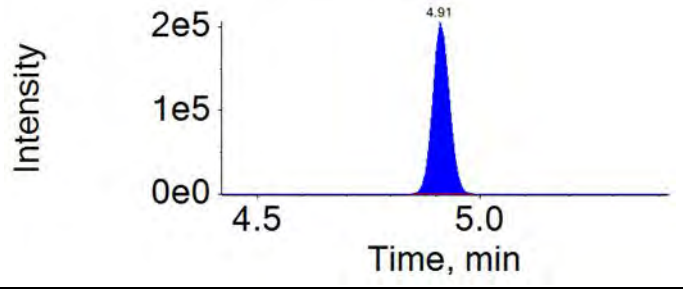
APPROVED
By MCD at 3:52 pm, 12/11/18

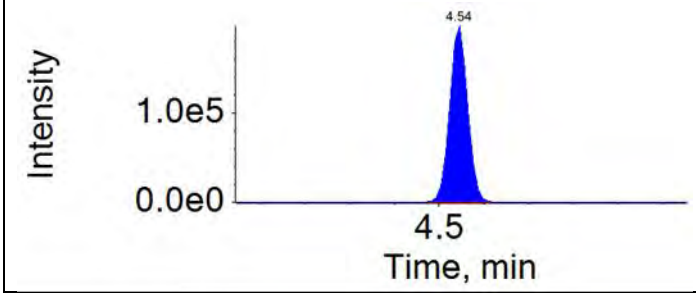
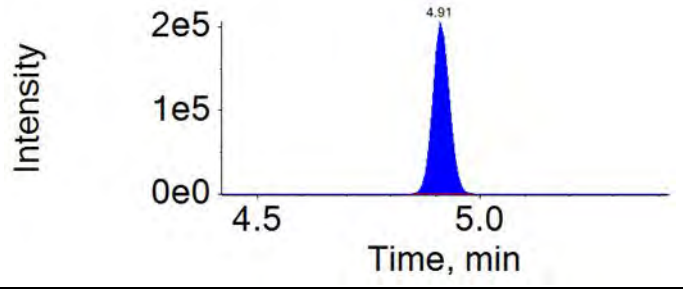
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

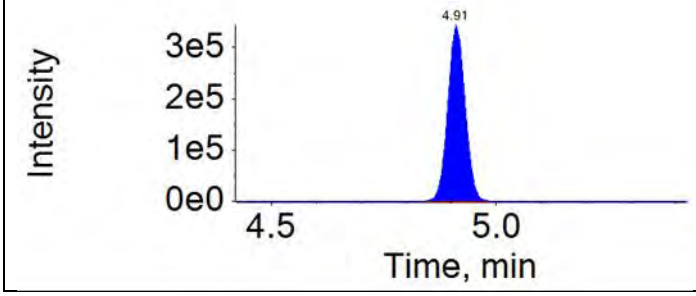
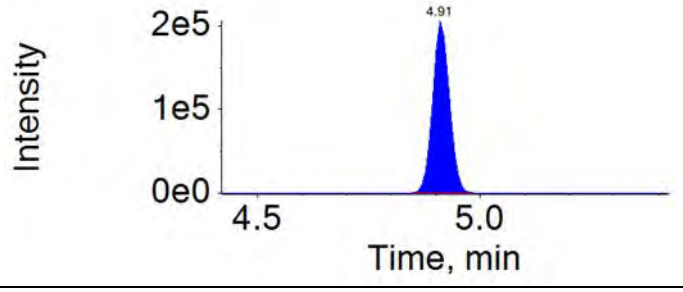
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

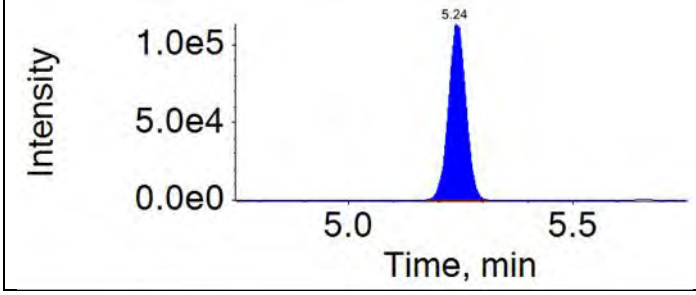
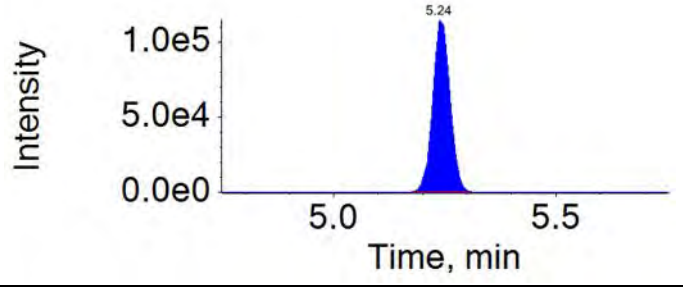
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

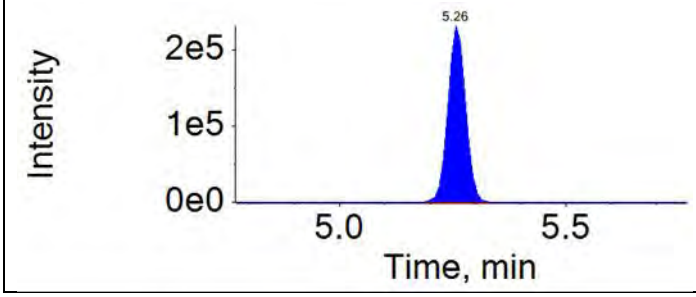
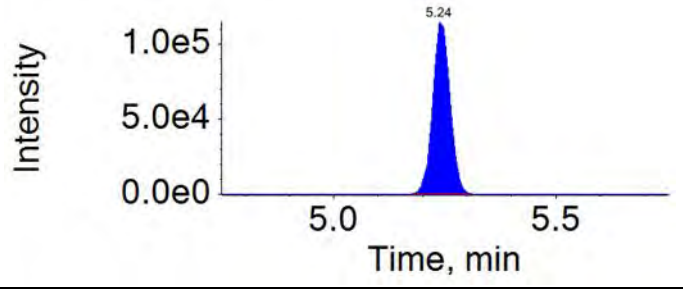
APPROVED
By MCD at 3:52 pm, 12/11/18

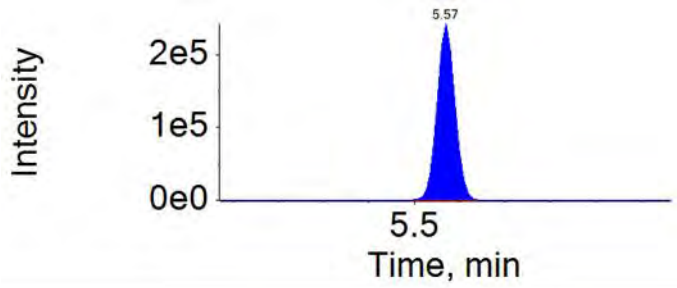
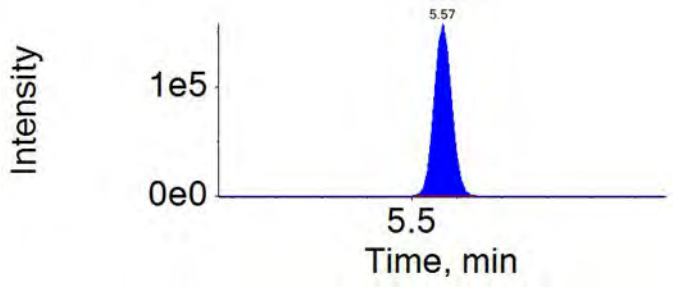
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

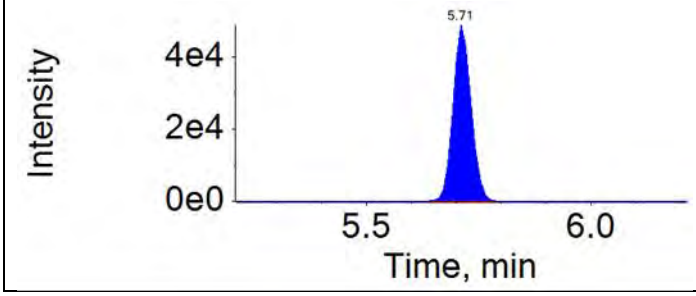
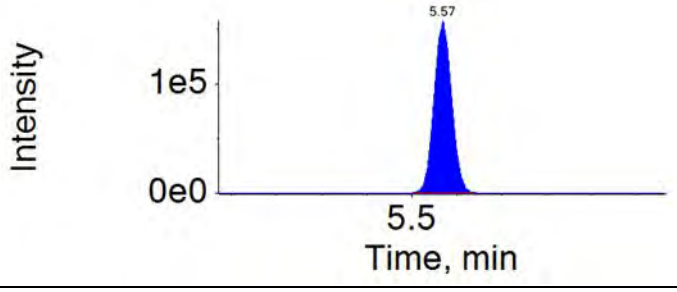
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

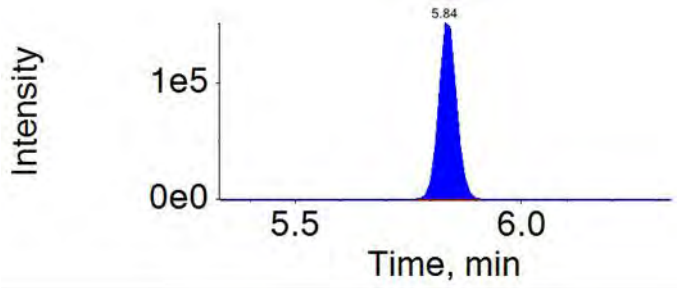
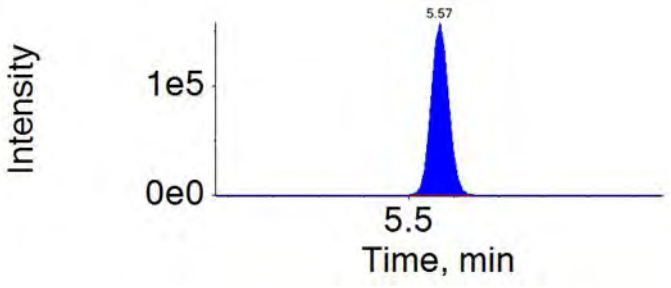
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

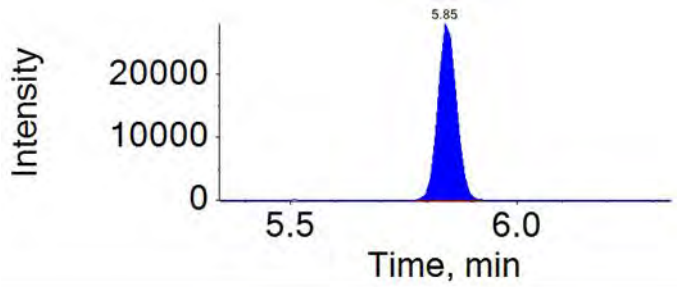
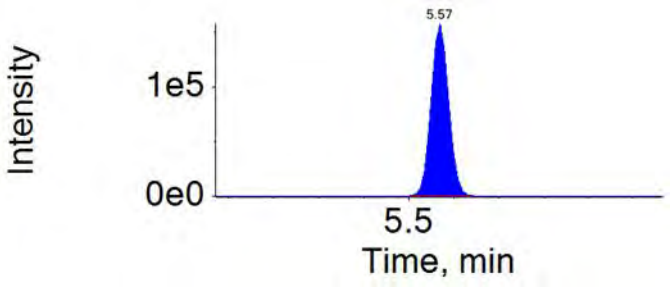
APPROVED
By MCD at 3:52 pm, 12/11/18

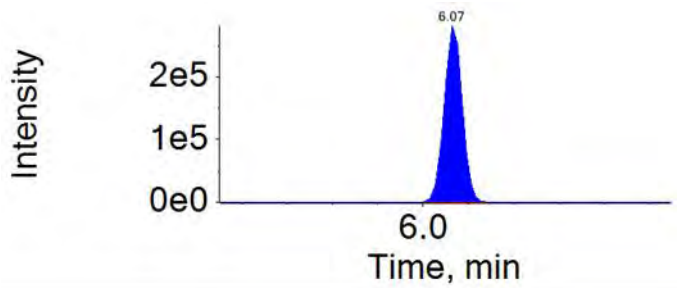
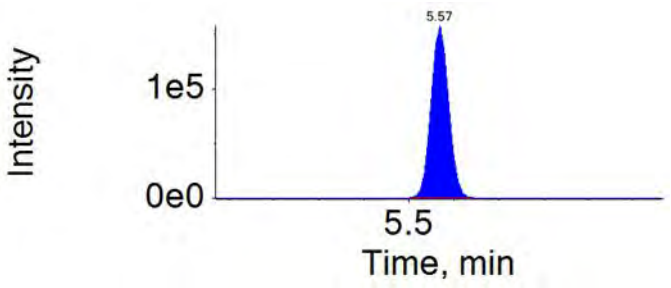
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

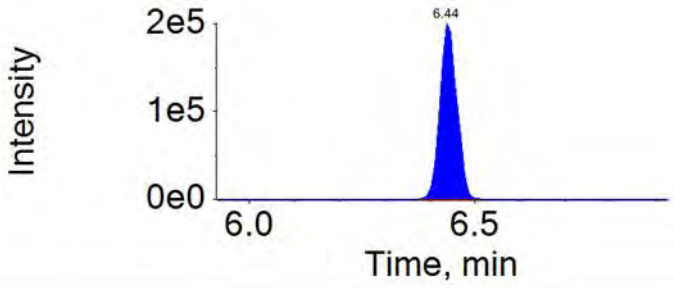
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

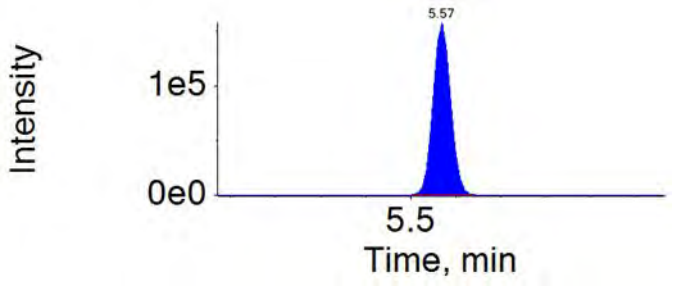
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



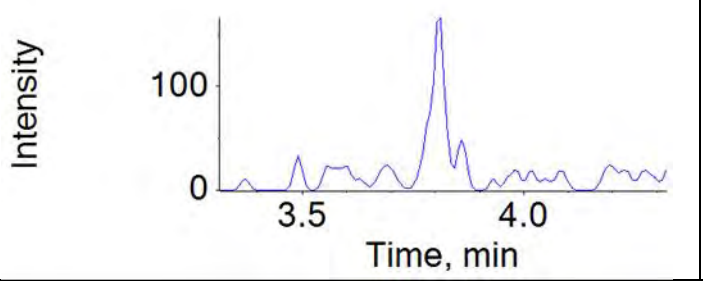


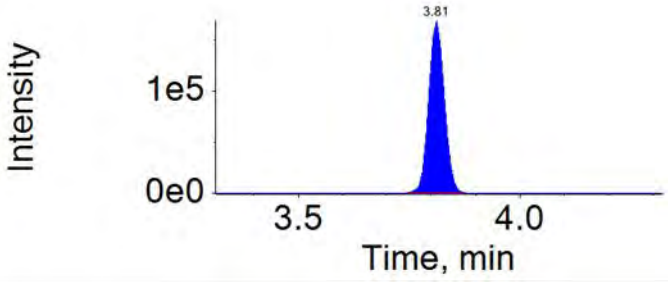
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

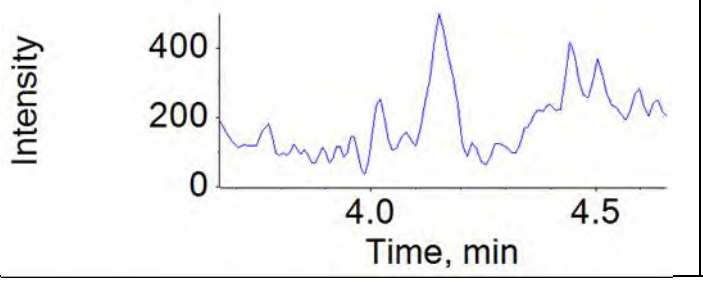
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

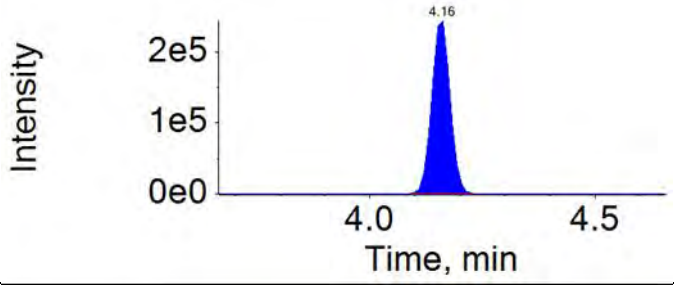
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



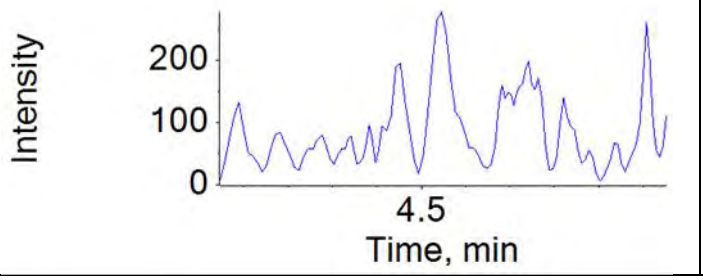


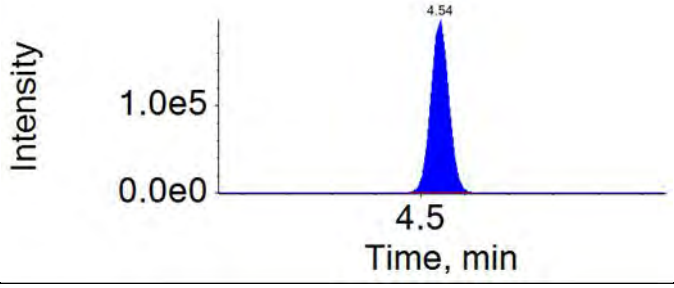
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



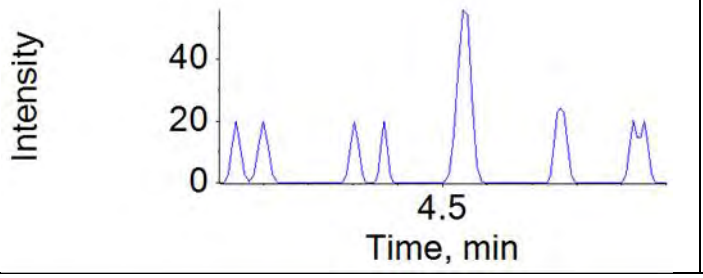


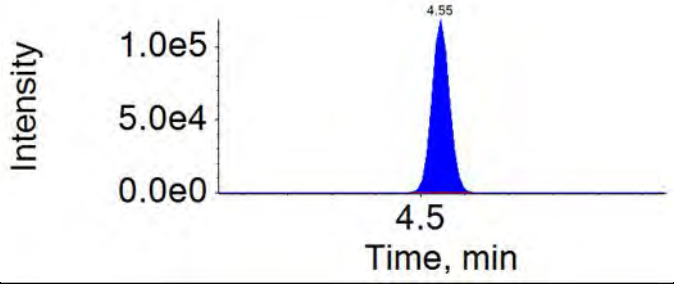
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



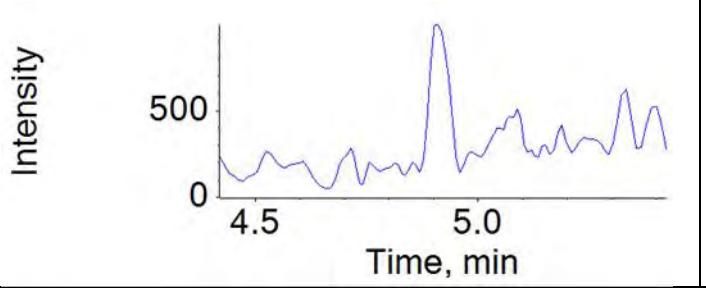


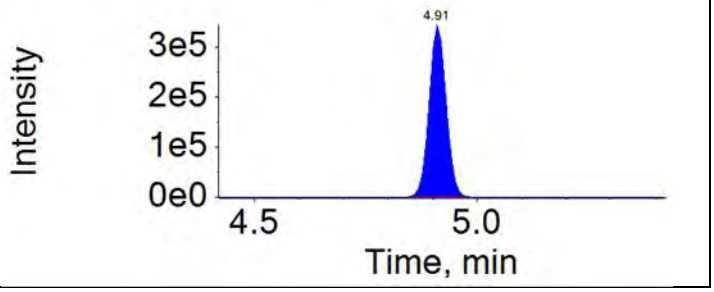
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

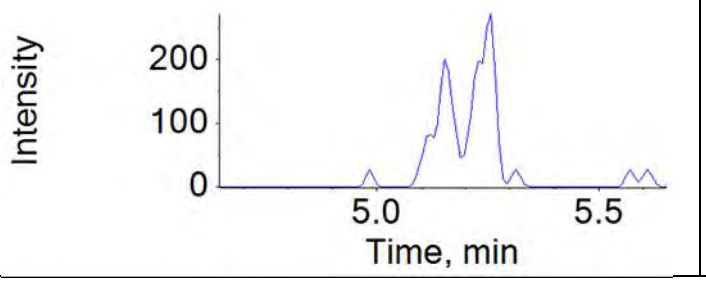
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

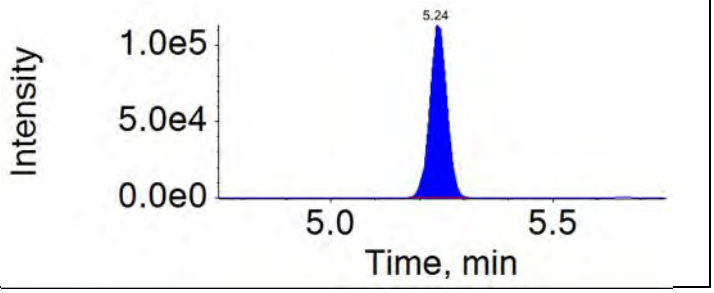
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



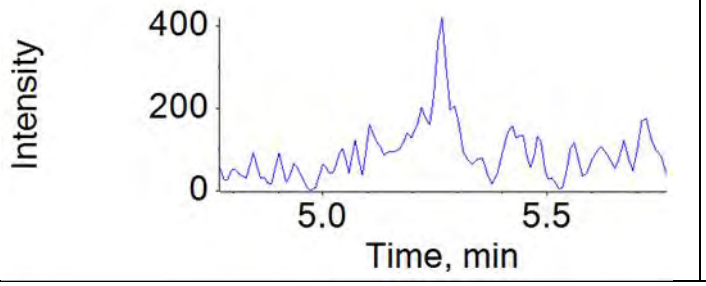


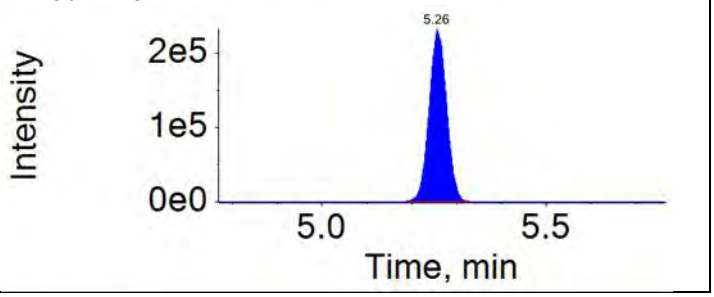
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



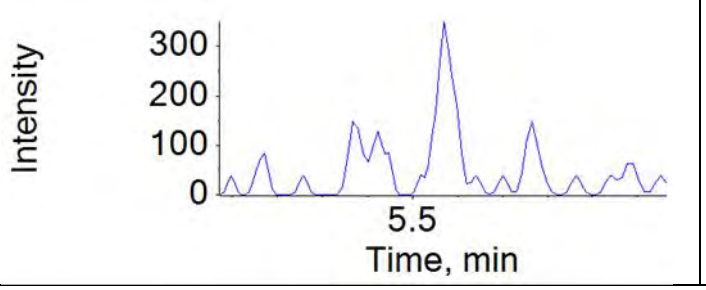


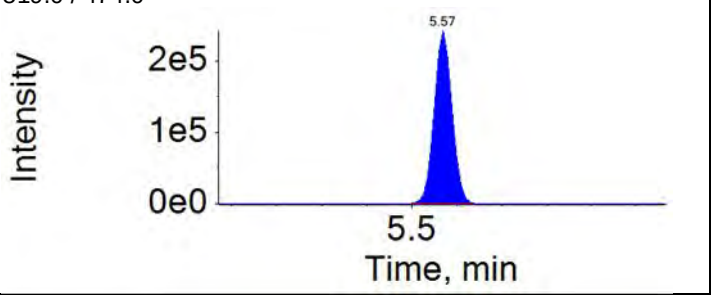
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



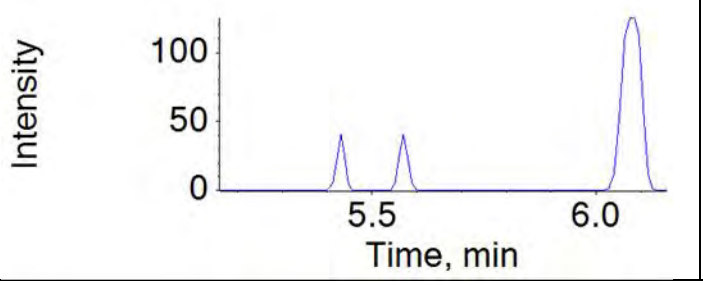


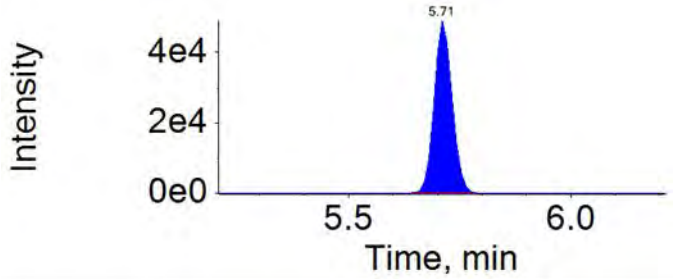
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

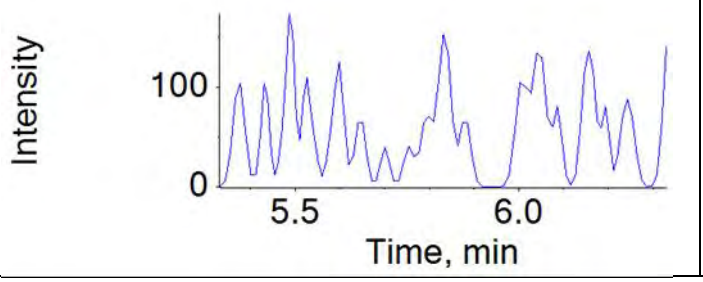
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

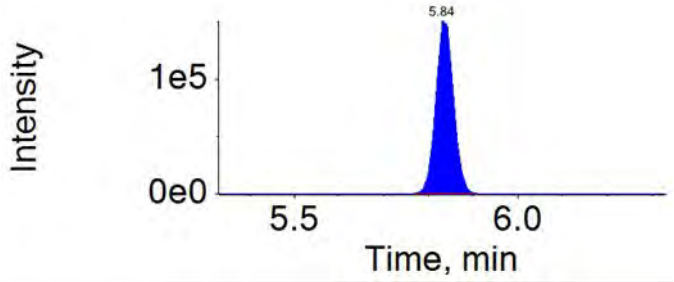
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



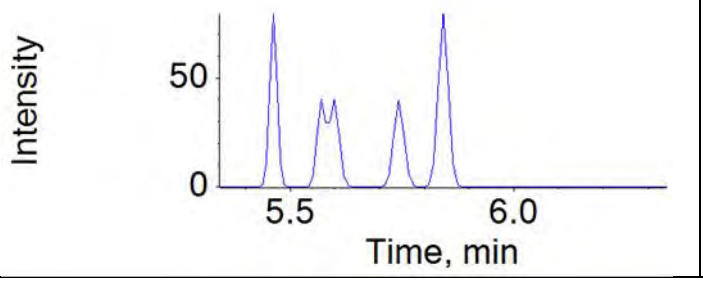


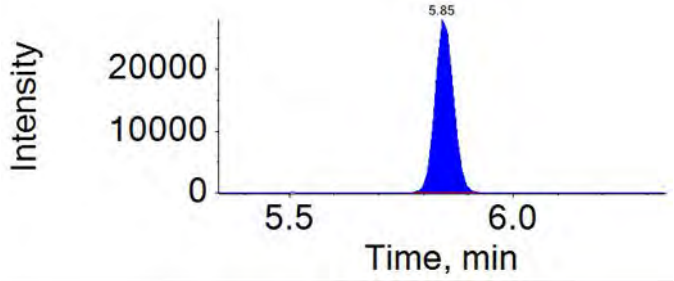
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



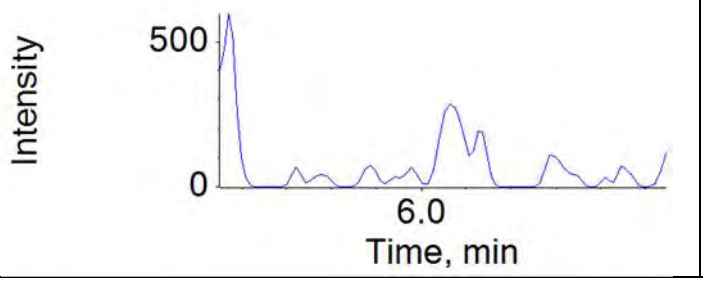


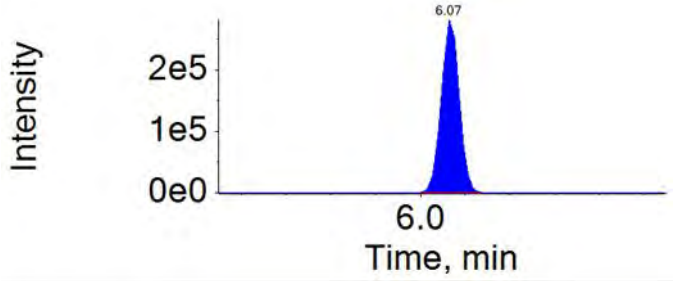
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

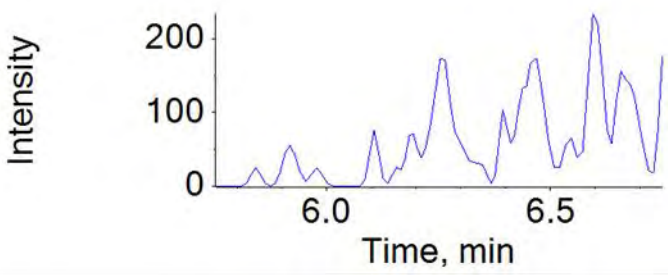
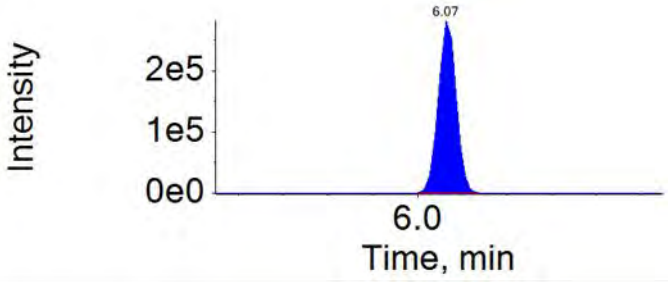


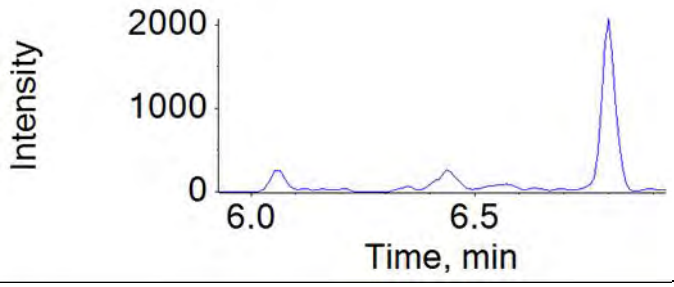
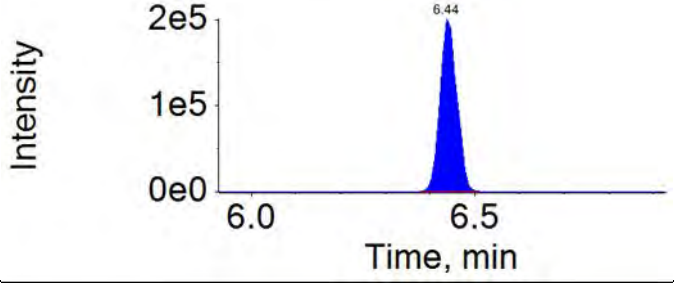


APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Ion Ratio Report

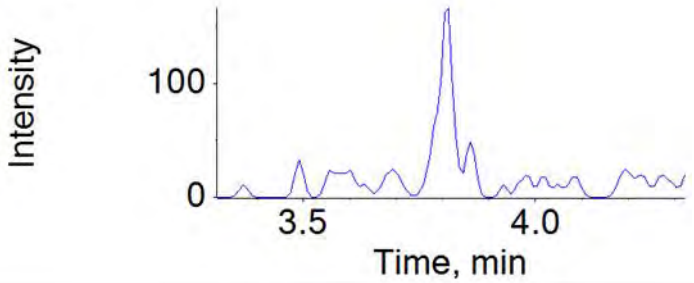
Sample Name: 9922851 **Instrument Name:** LM27631 **File Name:** 18DEC10D-74.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

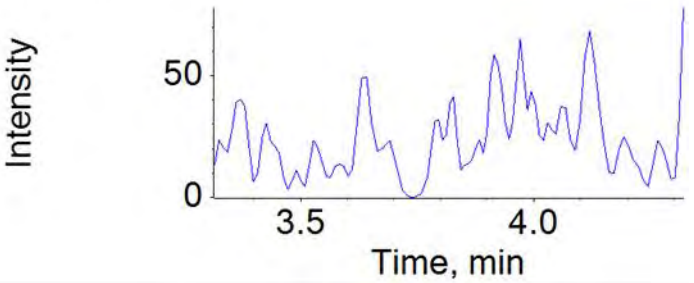
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

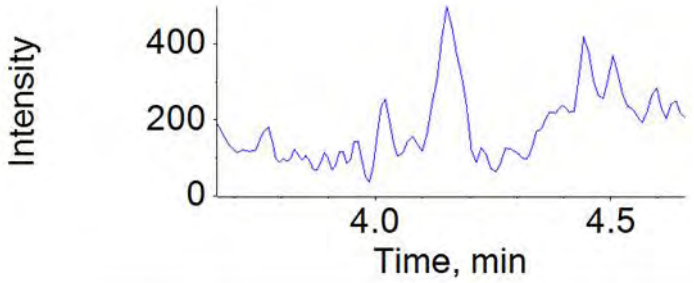
Component: PFBS
Primary Mass: 299.0 / 80.0



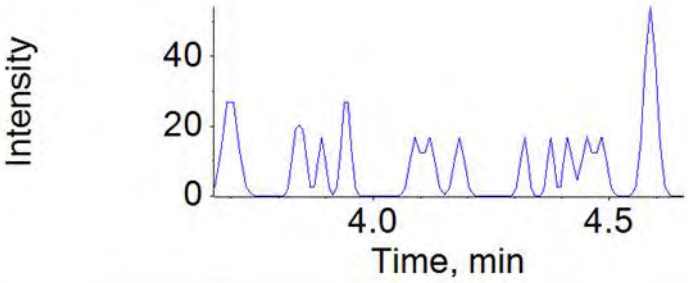
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



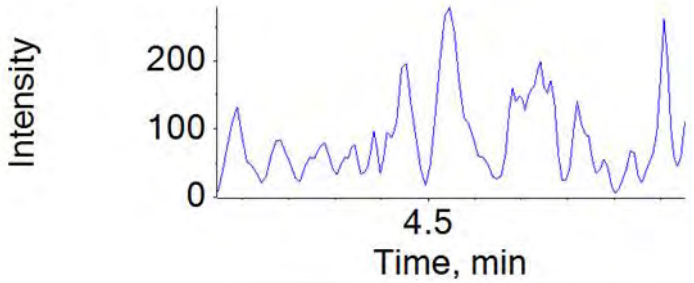
Component: PFHxA
Primary Mass: 313.0 / 269.0



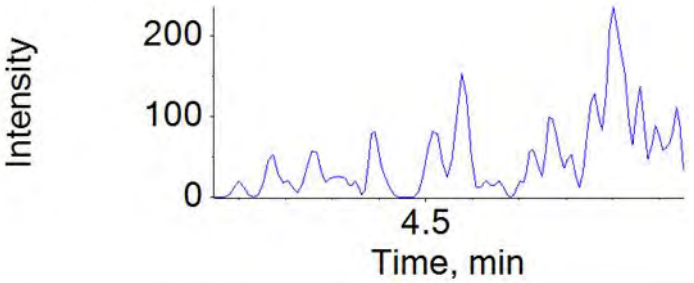
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



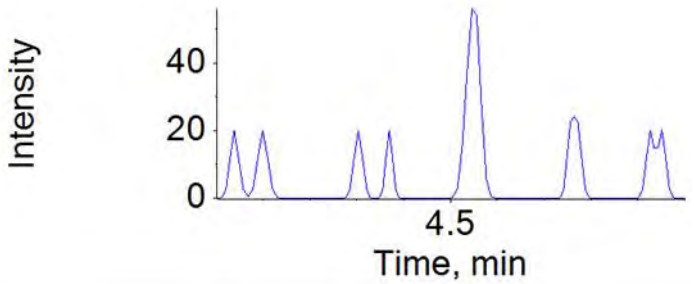
Component: PFHpA
Primary Mass: 363.0 / 319.0



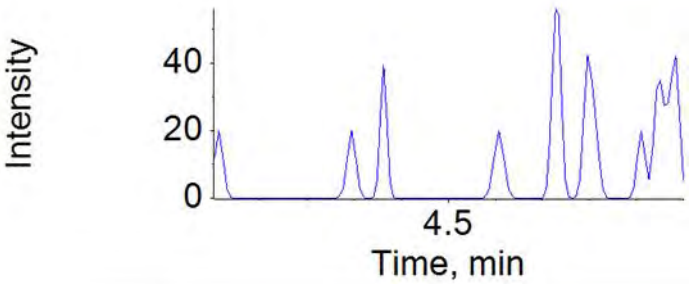
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



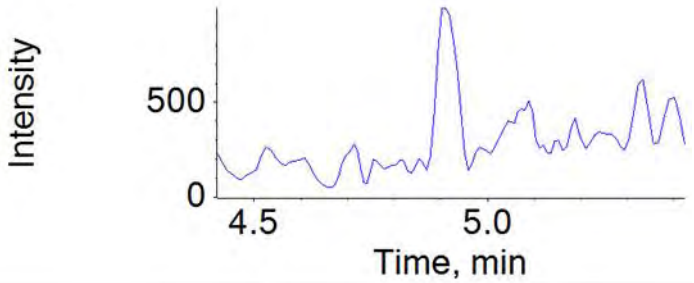
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



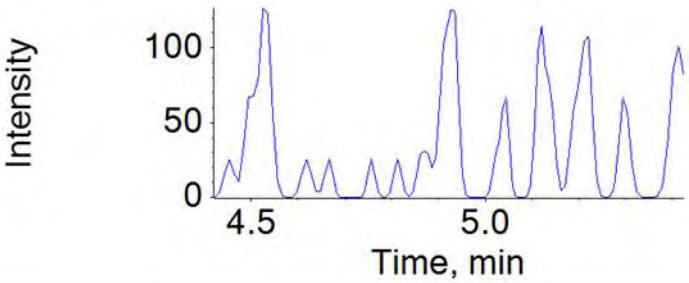
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

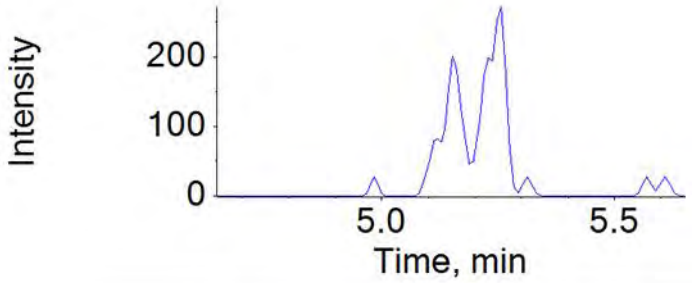
Component: PFOA
Primary Mass: 413.0 / 369.0



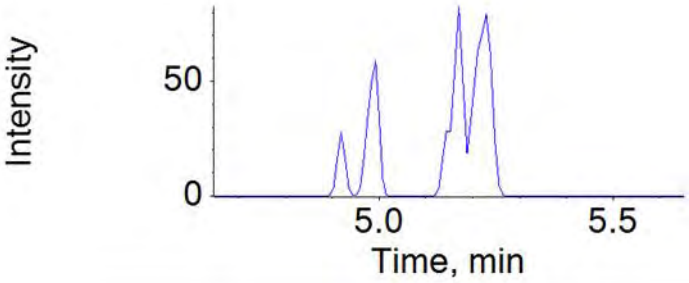
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



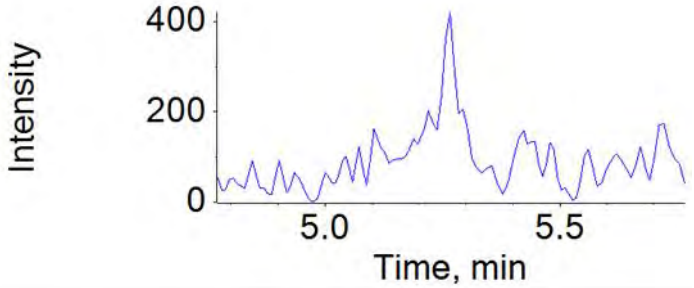
Component: PFOS
Primary Mass: 499.0 / 80.0



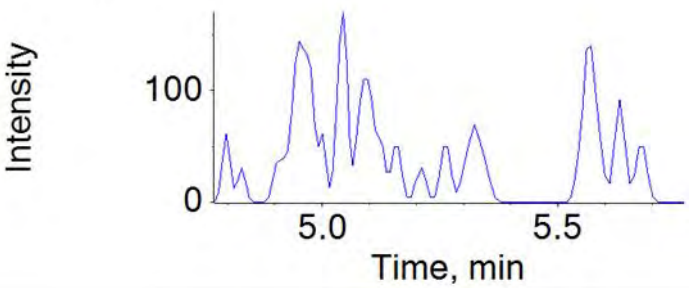
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



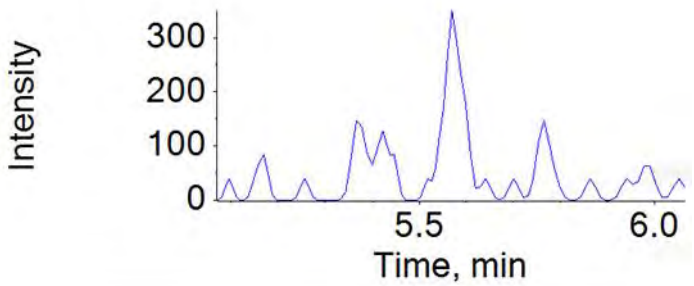
Component: PFNA
Primary Mass: 463.0 / 419.0



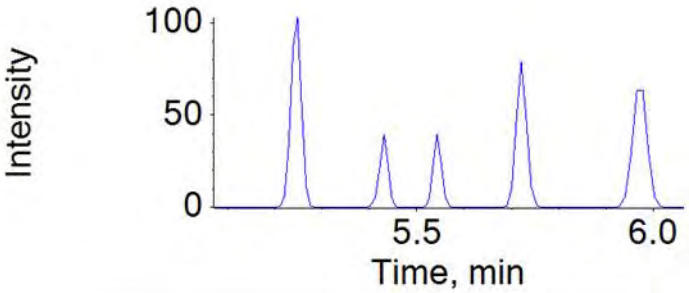
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



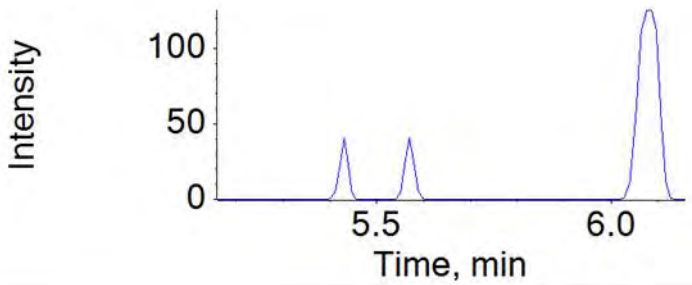
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



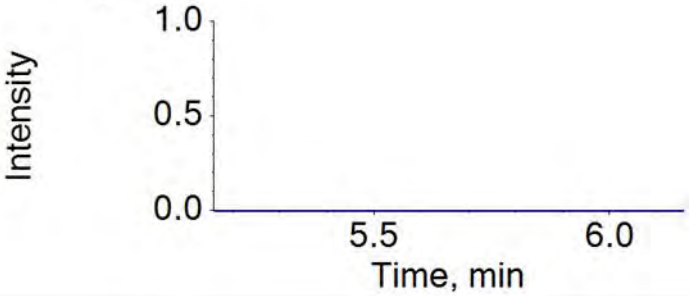
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

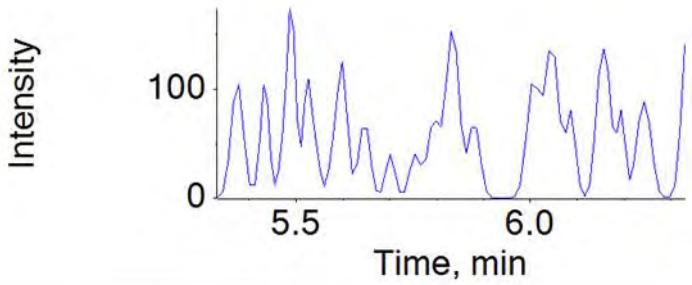
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



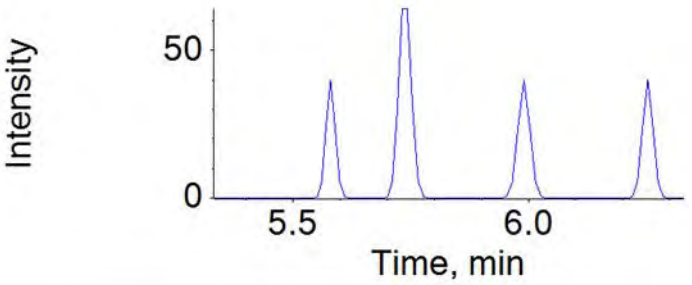
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



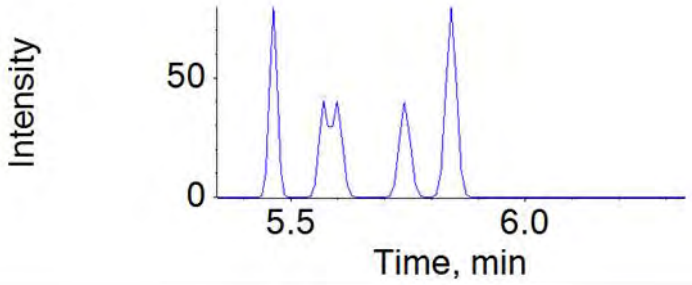
Component: PFUnDA
Primary Mass: 563.0 / 519.0



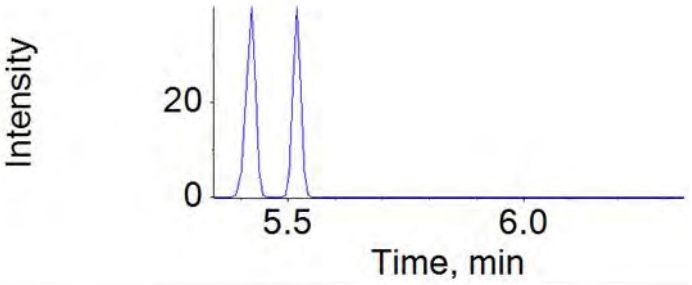
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



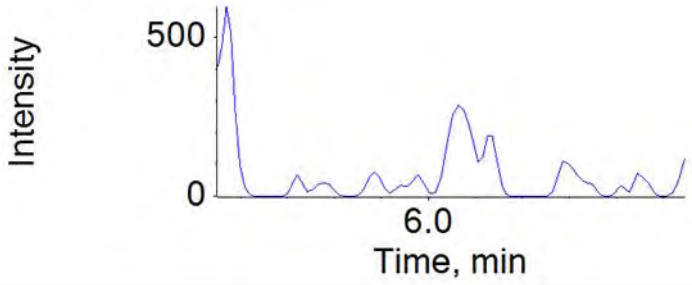
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



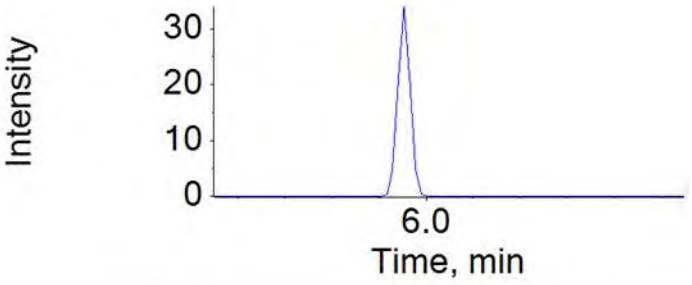
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



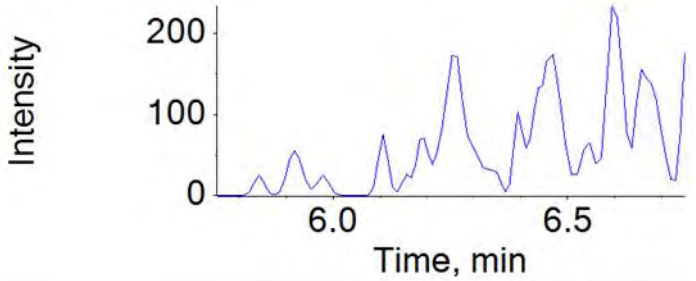
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



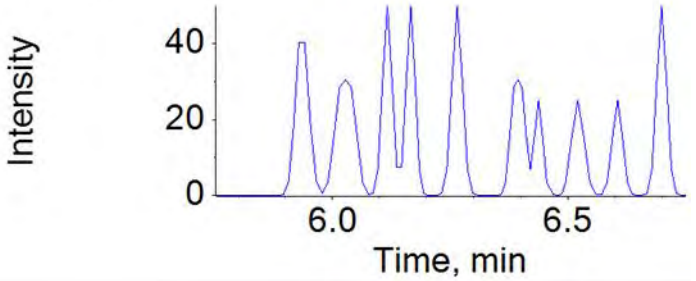
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

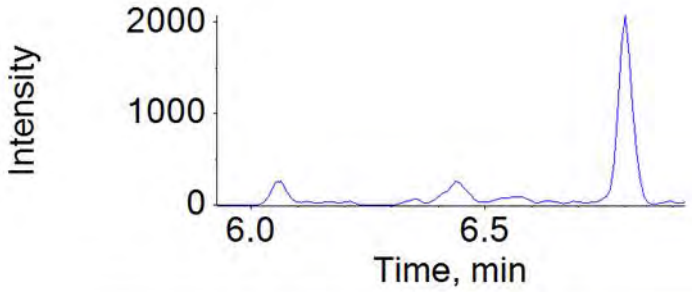
Component: PFTrDA
Primary Mass: 663.0 / 619.0



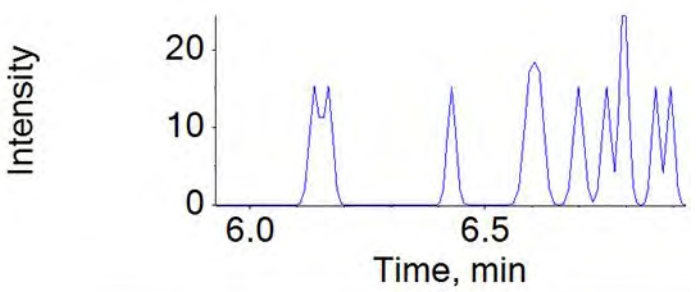
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922852			**Data File:**		18DEC10D-75.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-6-01 Grab Groundwater			**Acquis Date:**		2018-12-10T23:43:07
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	64			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.28917			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	891530.3	968978.6	-8	50	
13C2-PFOA	5.0	620617.6	507254.2	22	50	
13C4-PFOS	4.8	300359.6	302410.5	-1	50	
13C2-PFDA	5.0	407519.9	392614.4	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	384304.0	13C3-PFBA	891530.3	0.431	16.081	12.636	79	50-150	
E13C5-PFHxA	648028.4	13C2-PFOA	620617.6	1.044	17.291	12.123	70	50-150	
E13C3-PFHxS	303890.8	13C2-PFOA	620617.6	0.490	16.357	10.861	66	50-150	
E13C4-PFHpA	633062.7	13C2-PFOA	620617.6	1.020	17.291	14.996	87	50-150	
E13C8-PFOA	806188.5	13C2-PFOA	620617.6	1.299	17.291	12.698	73	50-150	
E13C8-PFOS	297940.2	13C4-PFOS	300359.6	0.992	16.530	15.395	93	50-150	
E13C9-PFNA	600119.6	13C4-PFOS	300359.6	1.998	17.291	19.525	113	50-150	
E13C6-PFDA	681575.2	13C2-PFDA	407519.9	1.672	17.291	15.327	89	50-150	
Ed3-NMeFOSAA	125029.4	13C2-PFDA	407519.9	0.307	17.291	18.802	109	50-150	
E13C7-PFUnDA	400017.6	13C2-PFDA	407519.9	0.982	17.291	16.652	96	50-150	
Ed5-NEtFOSAA	78176.4	13C2-PFDA	407519.9	0.192	17.291	14.645	85	50-150	
E13C2-PFDoDA	850846.7	13C2-PFDA	407519.9	2.088	17.291	15.152	88	50-150	
E13C2-PFTeDA	648270.2	13C2-PFDA	407519.9	1.591	17.291	16.328	94	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

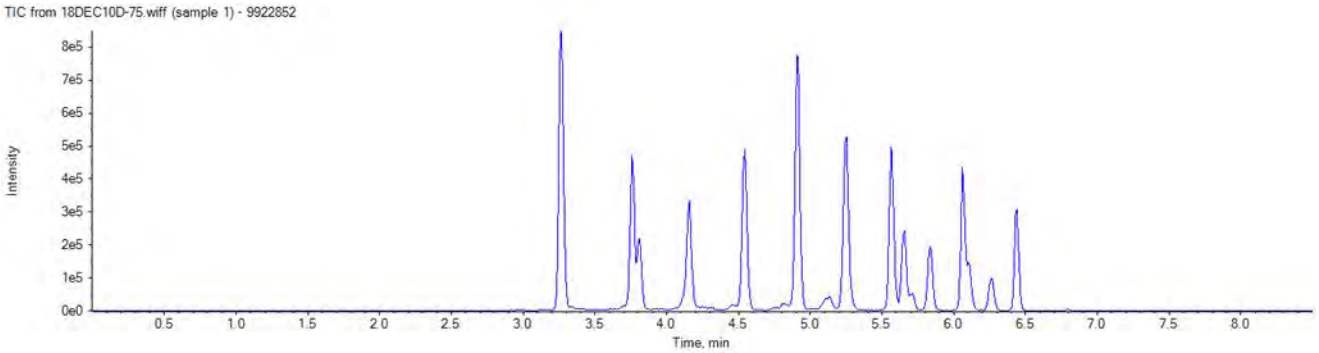
Analyte Quantitation Peak Table

Sample Name: 9922852 **Instrument Name:** LM27631 **File Name:** 18DEC10D-75.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28917	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	44756.5		A	13C3-PFBS	3.81	384304.0	0.116	1.996
PFHxA	4.15	1.000	72197.8		M	13C5-PFHxA	4.16	648028.4	0.111	1.679
PFHpA	4.54	1.000	38735.8		A	13C4-PFHpA	4.54	633062.7	0.061	0.697
PFHxS	4.54	1.000	173559.0		M	13C3-PFHxS	4.54	303890.8	0.571	9.358
PFOA	4.91	1.000	318527.3		M	13C8-PFOA	4.91	806188.5	0.395	7.467
PFOS	5.20	0.990	244556.3		M	13C8-PFOS	5.24	297940.2	0.821	11.774
PFNA	5.29	1.010	33459.9		A	13C9-PFNA	5.26	600119.6	0.056	0.711
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	681575.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	125029.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	400017.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	78176.4	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	850846.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	850846.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	648270.2	N/A	

Total Ion Chromatogram

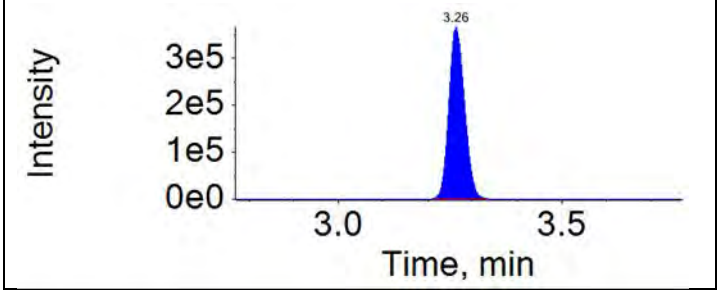


APPROVED
By MCD at 3:52 pm, 12/11/18

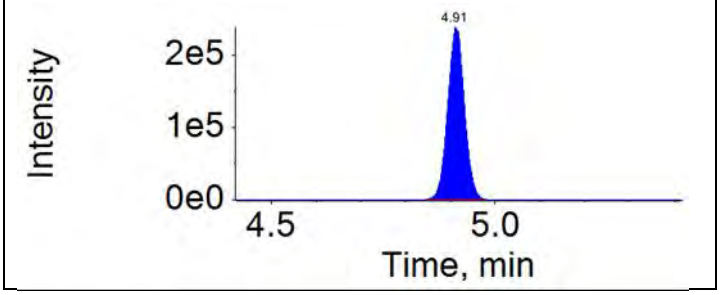
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

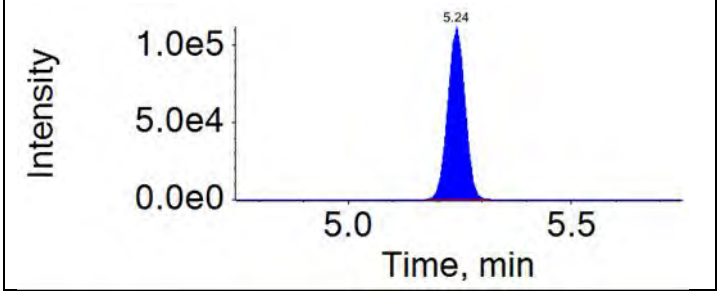
Injection Standard: 13C3-PFBA
216.0 / 172.0



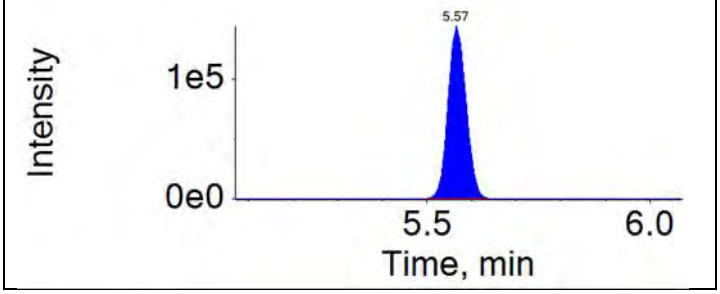
Injection Standard: 13C2-PFOA
415.0 / 370.0



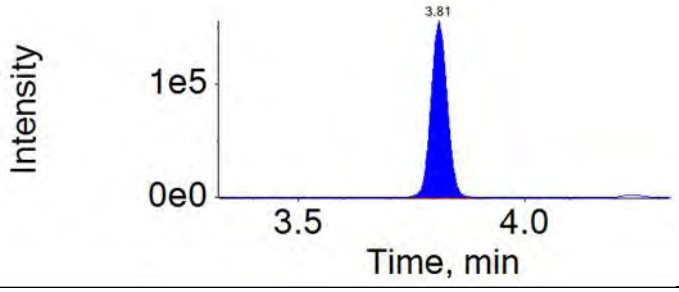
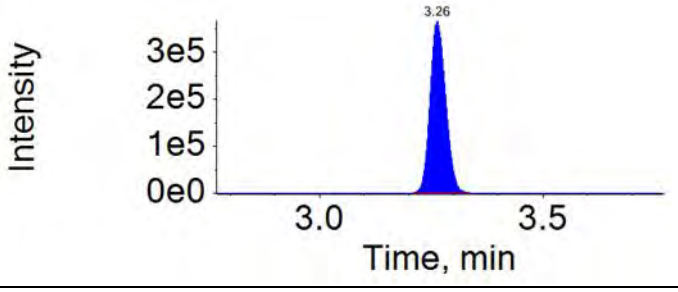
Injection Standard: 13C4-PFOS
503.0 / 80.0

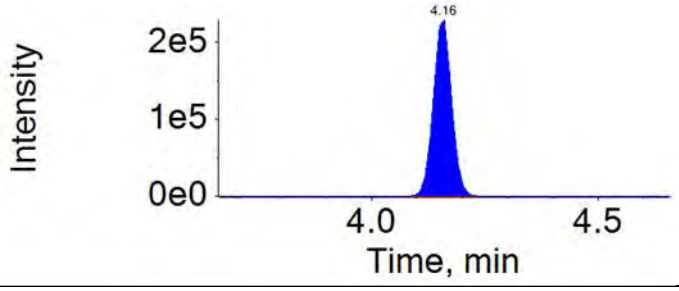
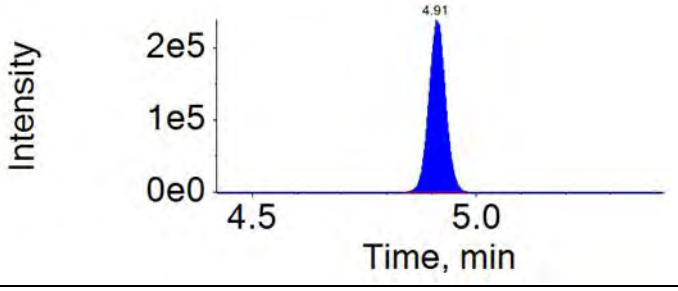


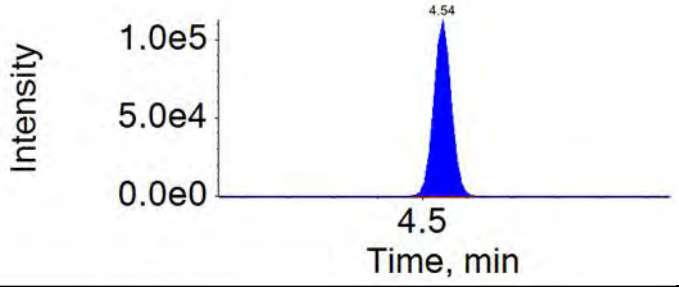
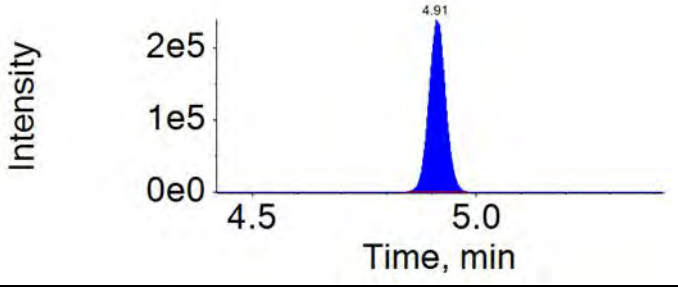
Injection Standard: 13C2-PFDA
515.0 / 470.0

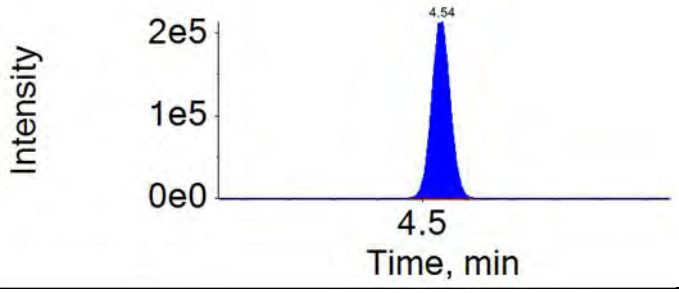
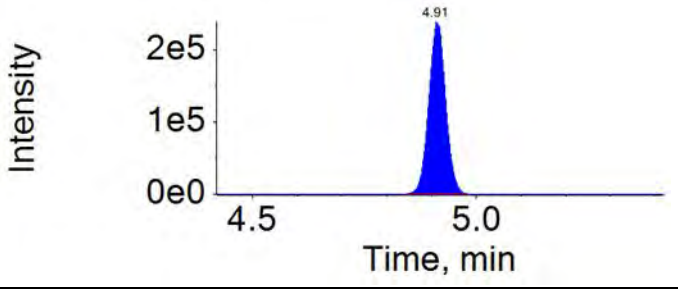


ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

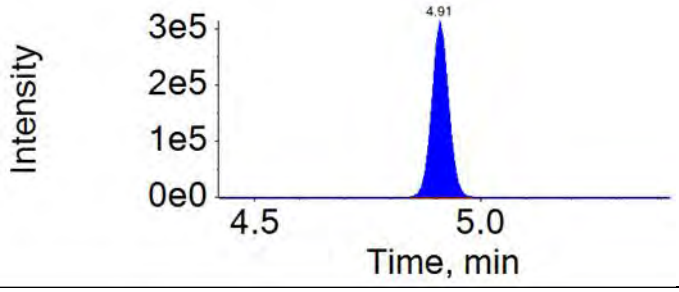
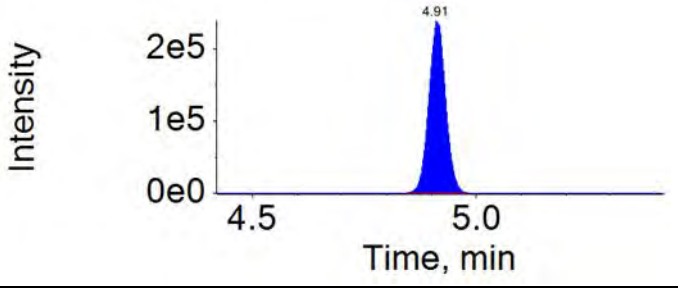
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

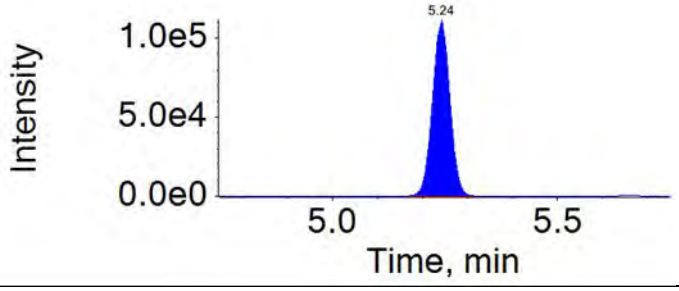
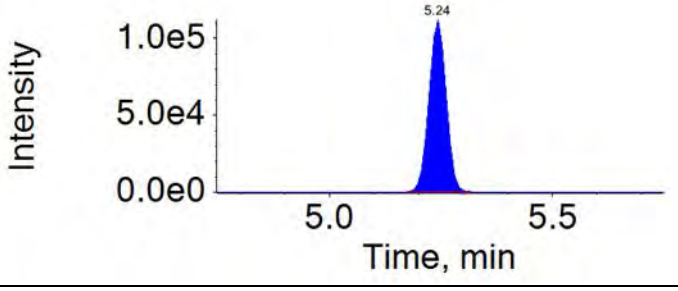
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

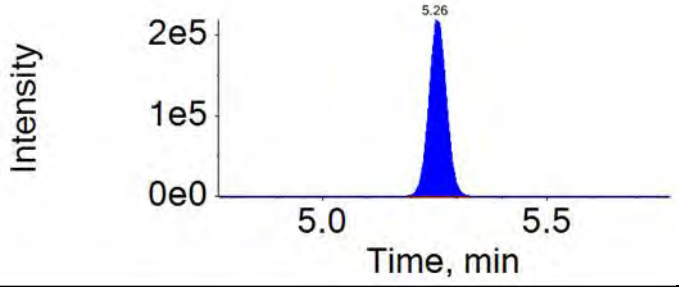
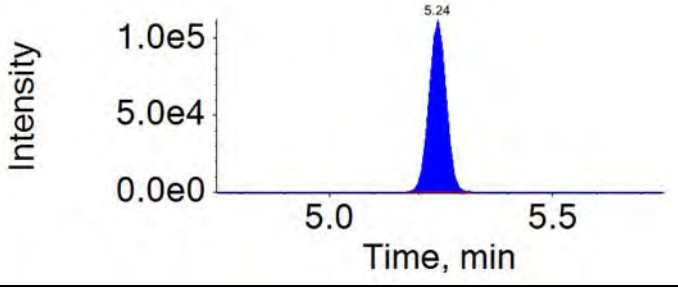
APPROVED
By MCD at 3:52 pm, 12/11/18

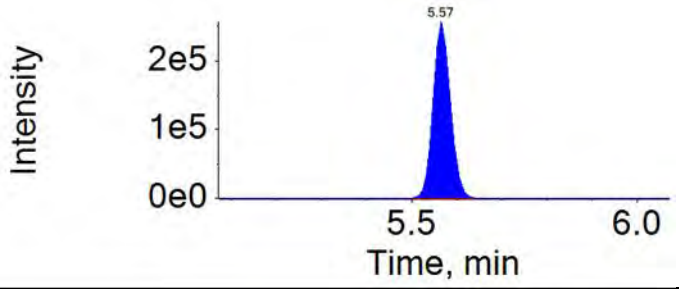
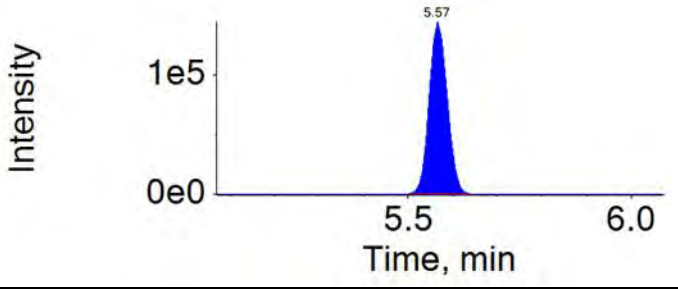
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

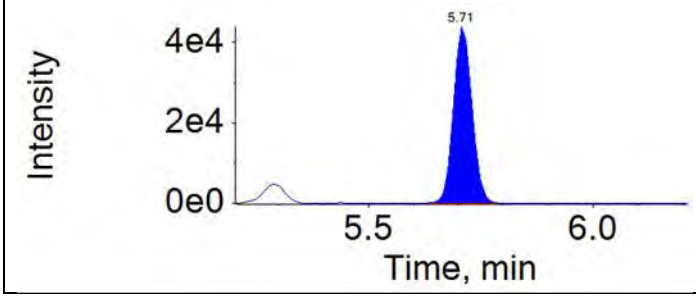
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

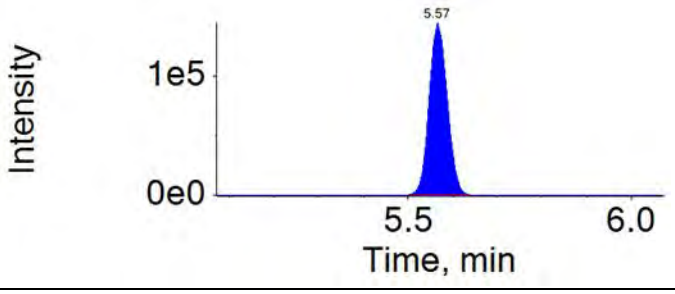
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

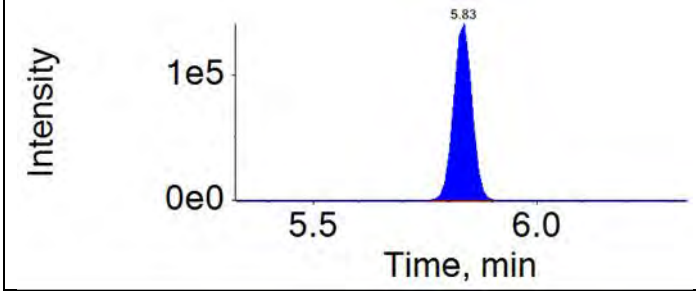
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

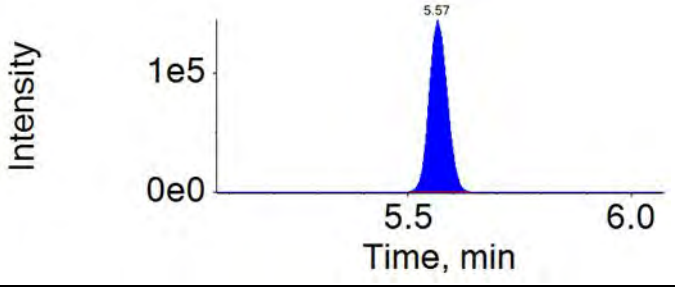
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



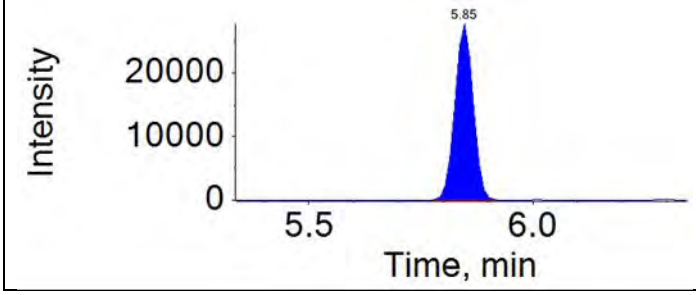


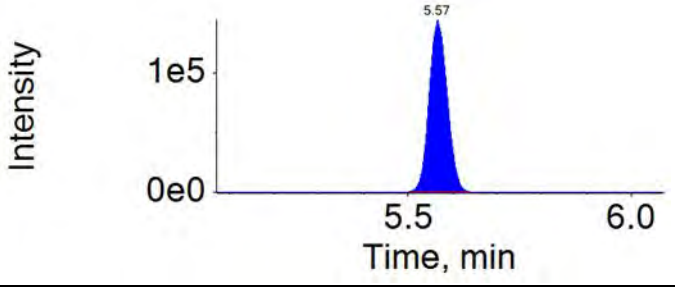
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



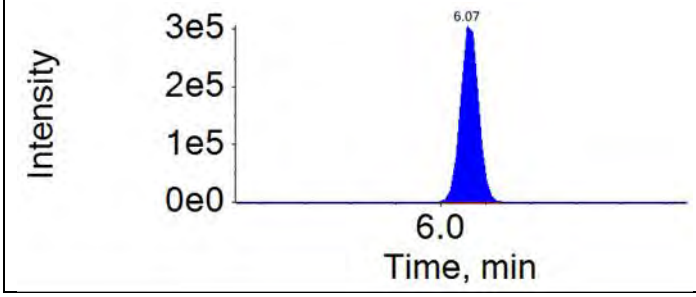


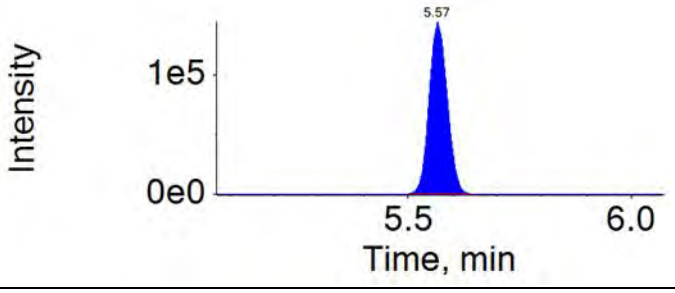
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

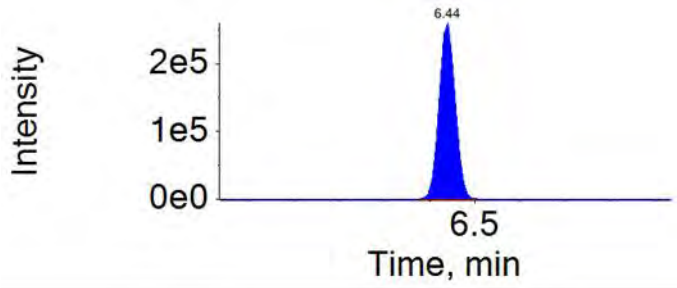
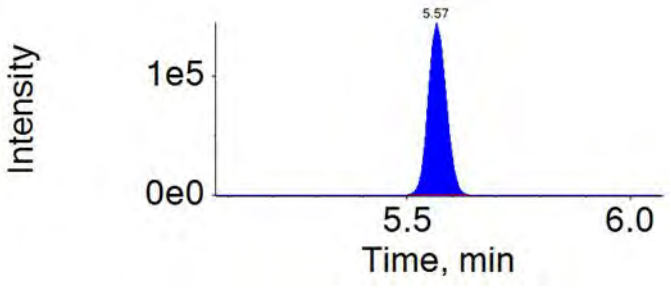




APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

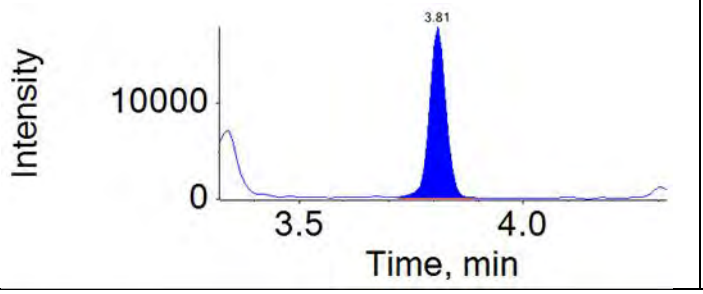
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

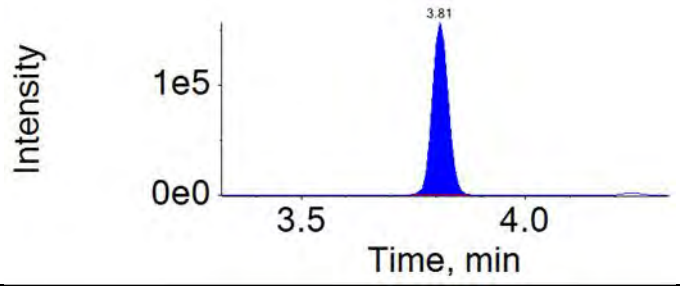
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

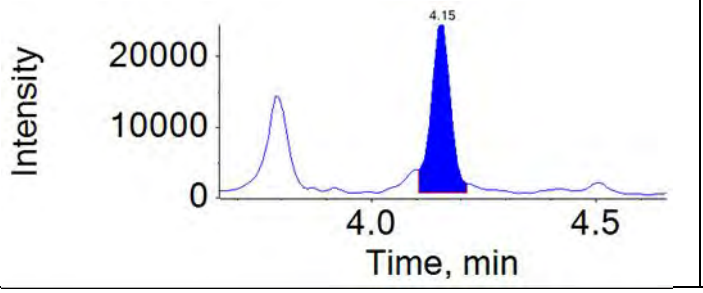
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

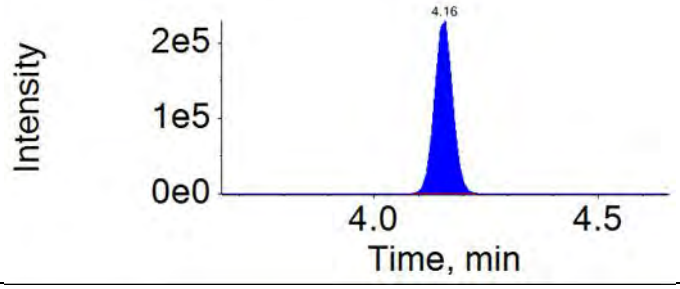
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



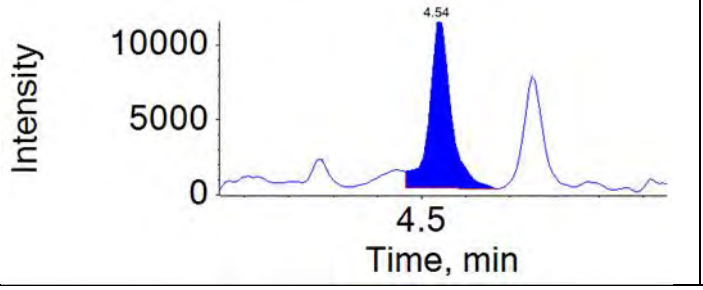


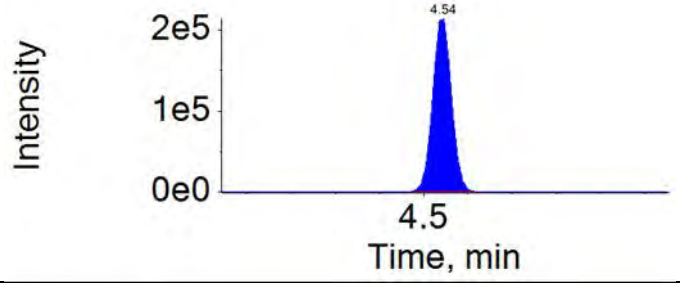
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



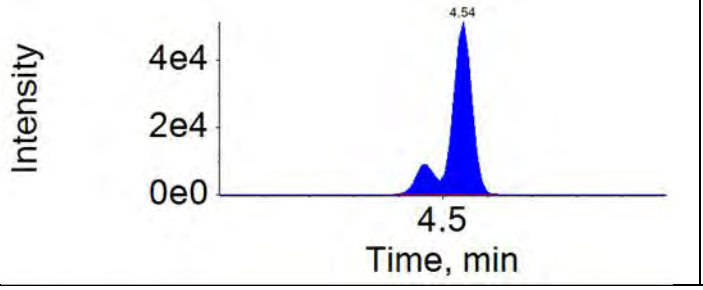


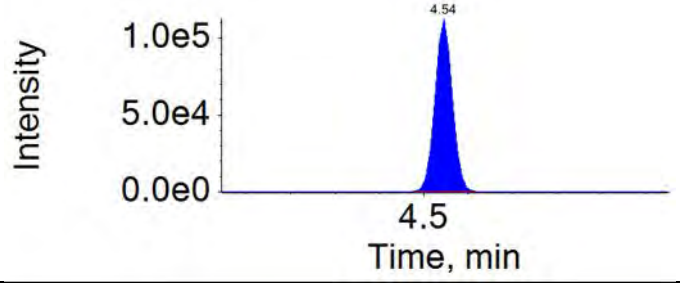
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



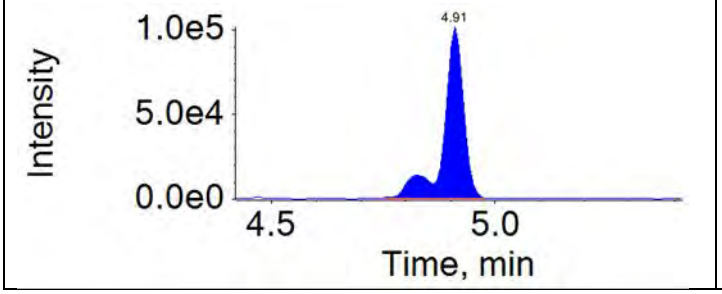


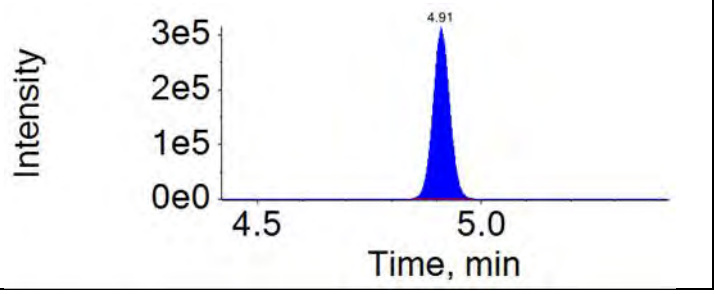
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

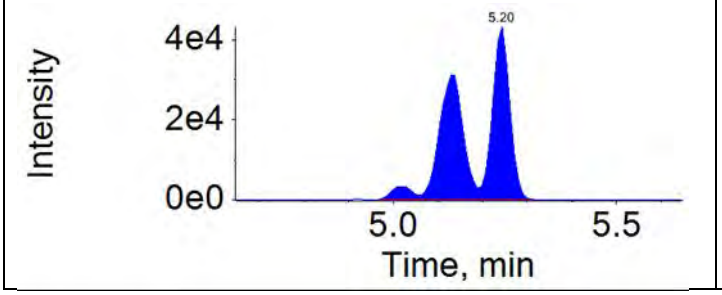
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

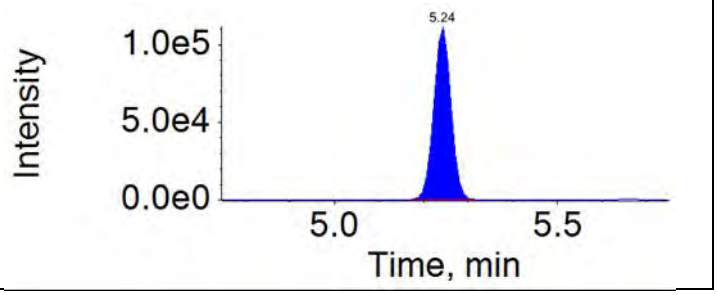
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



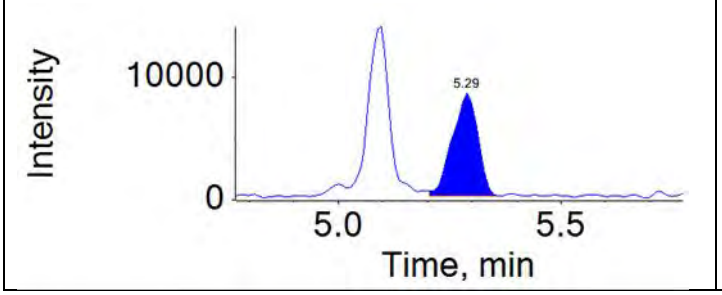


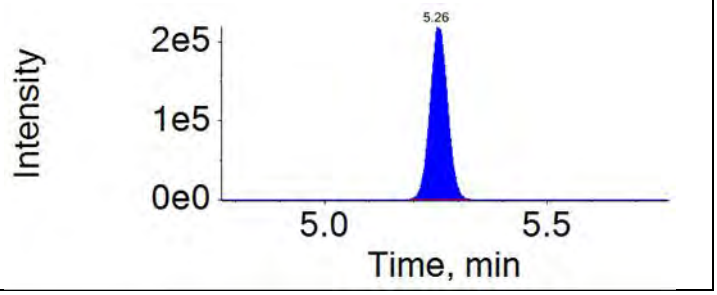
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



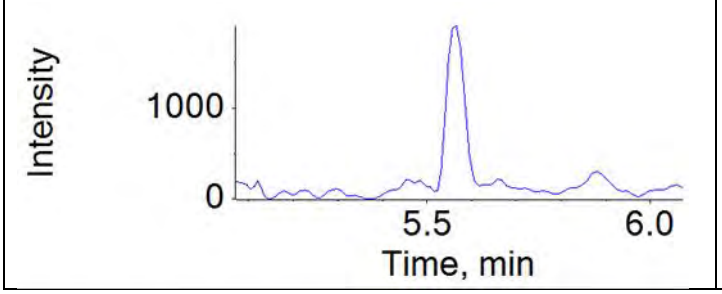


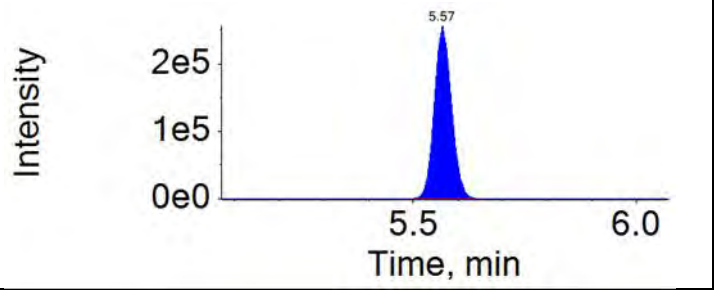
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



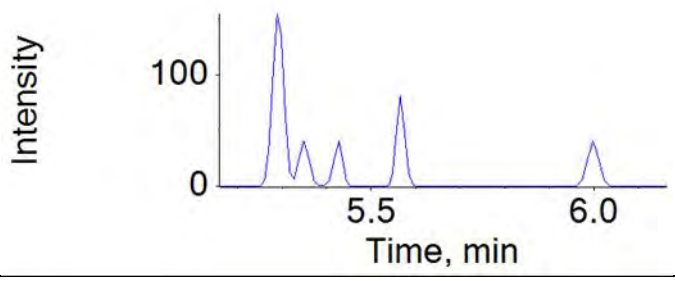


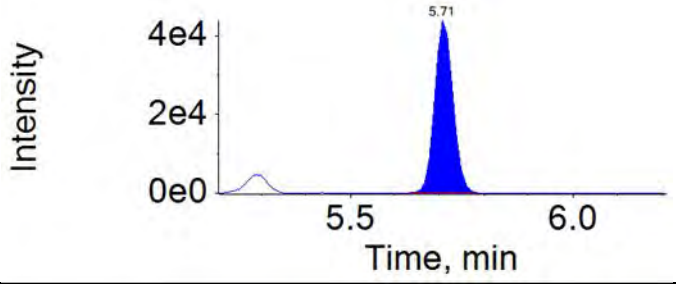
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

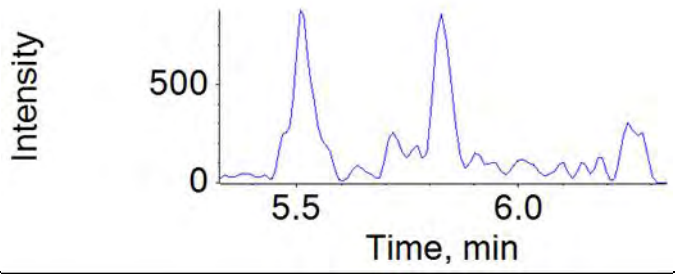
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

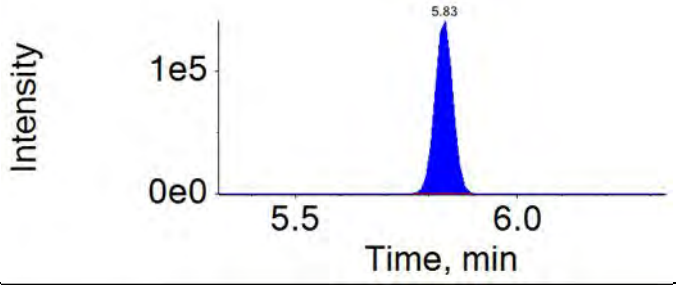
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



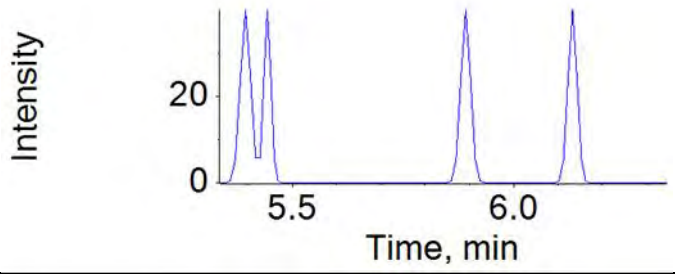


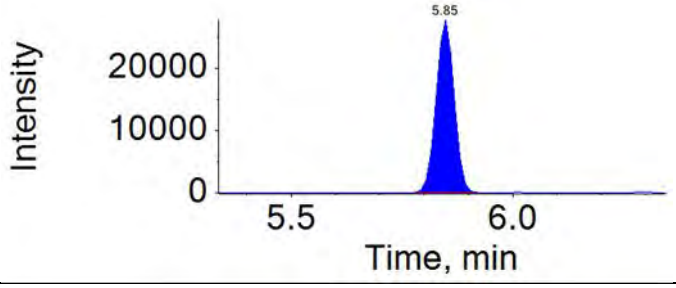
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



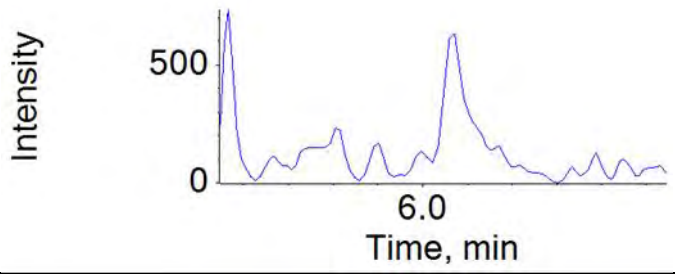


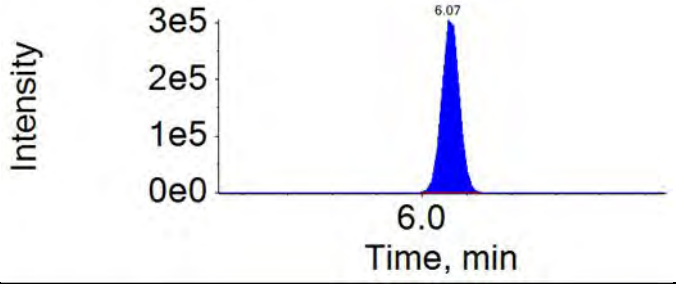
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

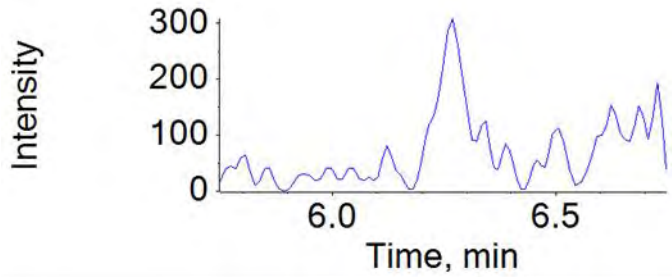
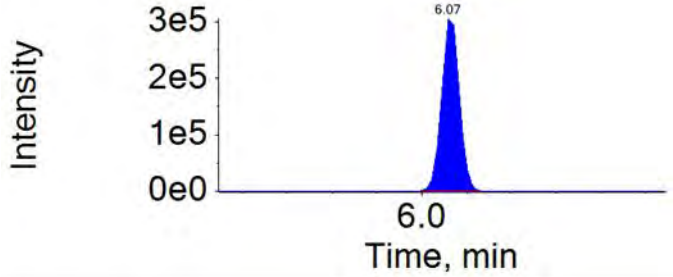


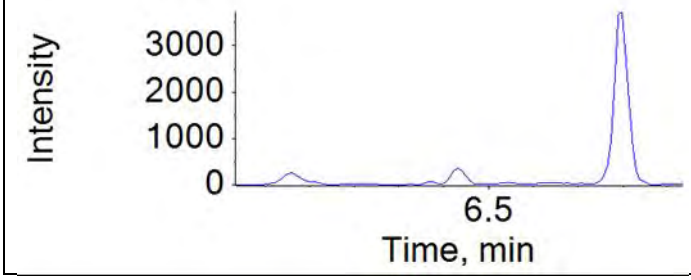
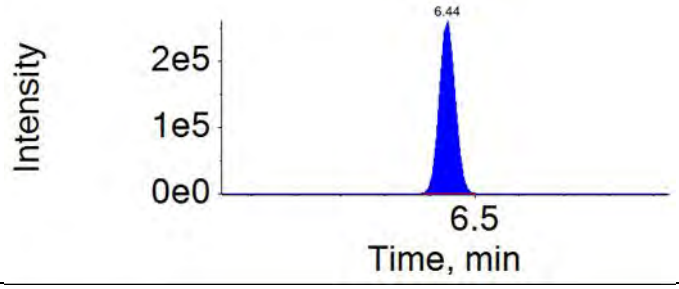


APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

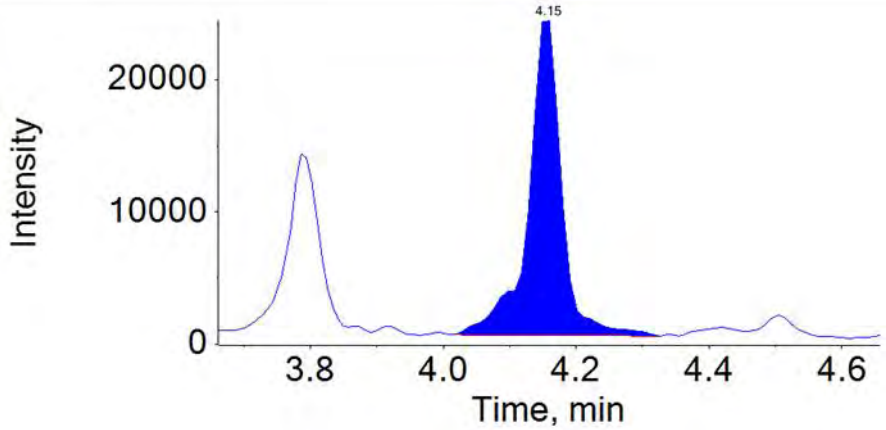
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

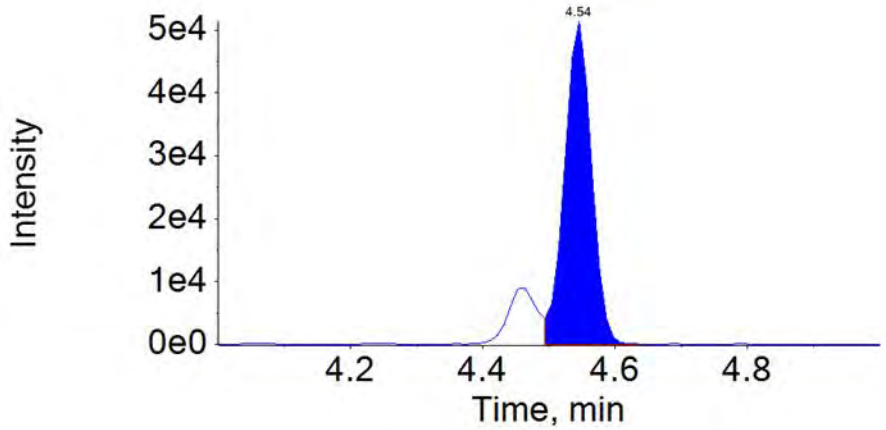
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.15
Peak Area:
83856.4
Mass Range:
313.0 / 269.0
File Name:
18DEC10D-75.wiff
Sample Name:
9922852



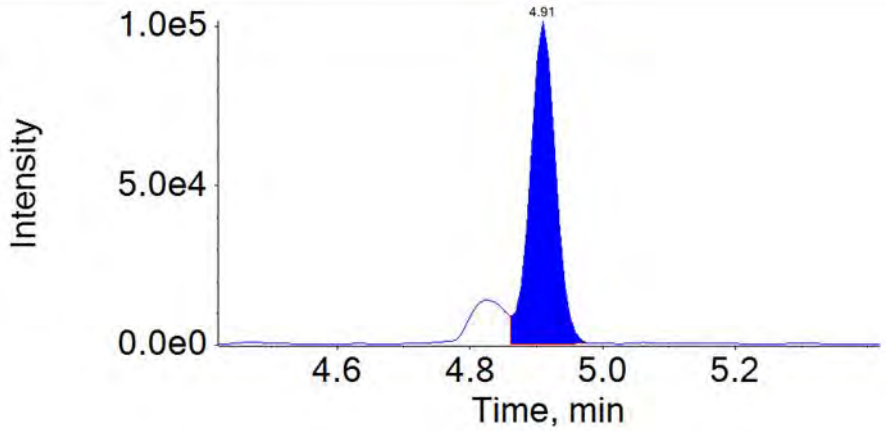
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
146004.7
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-75.wiff
Sample Name:
9922852



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
268183.6
Mass Range:
413.0 / 369.0
File Name:
18DEC10D-75.wiff
Sample Name:
9922852



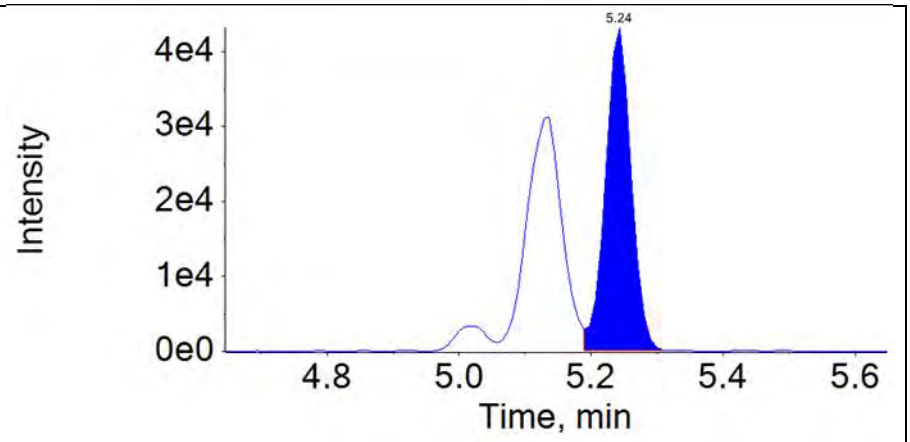
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

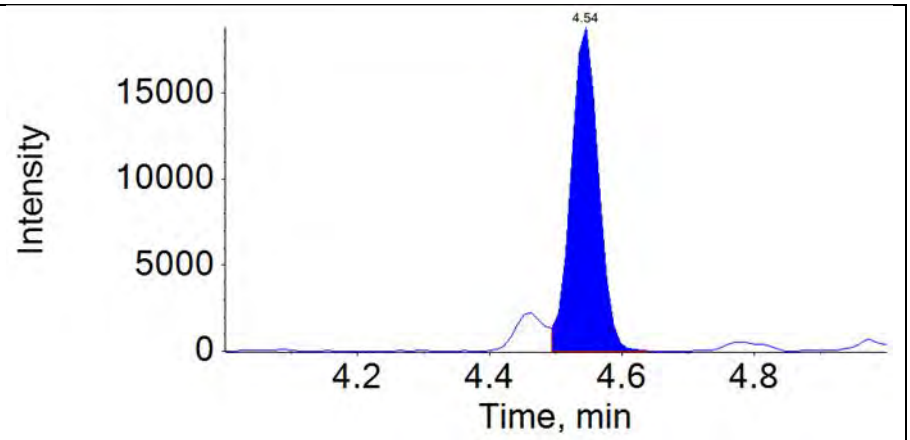
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
116830.2
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-75.wiff
Sample Name:
9922852



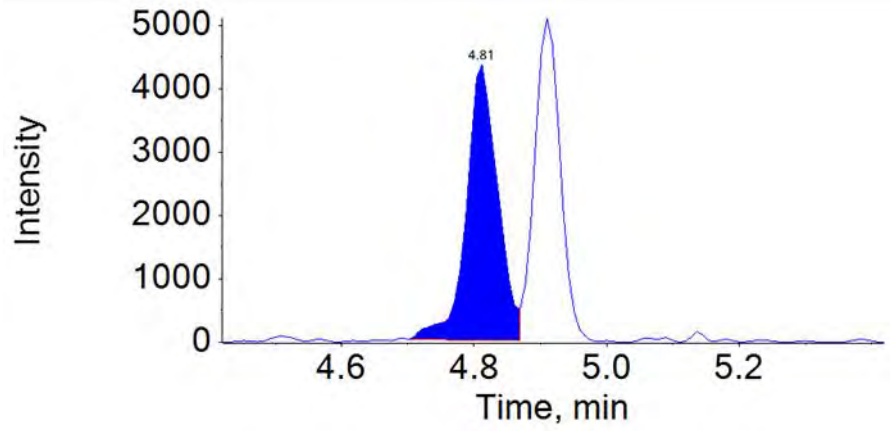
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
54020.4
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-75.wiff
Sample Name:
9922852



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.81
Peak Area:
14412.0
Mass Range:
413.0 / 169.0
File Name:
18DEC10D-75.wiff
Sample Name:
9922852

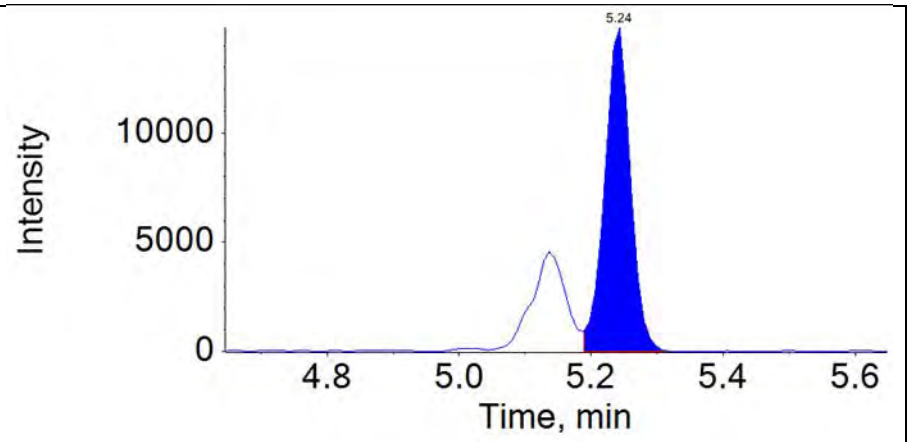


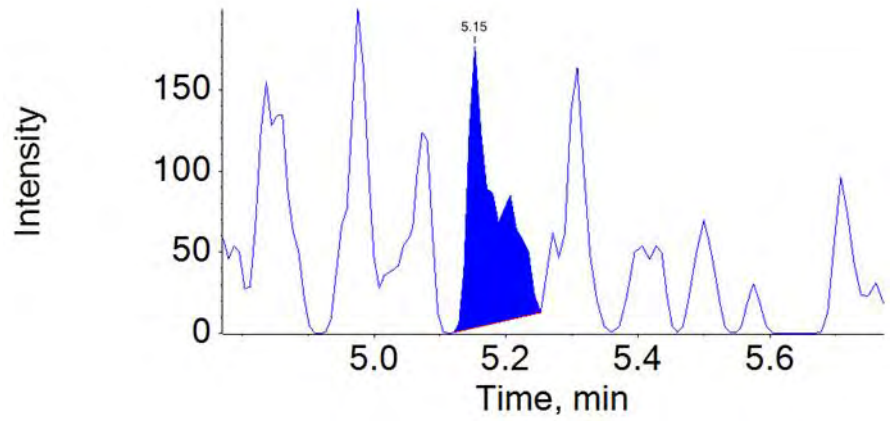
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFOS_2 **RT (min.):** 5.24 **Peak Area:** 40206.5 **Mass Range:** 499.0 / 99.0 **File Name:** 18DEC10D-75.wiff **Sample Name:** 9922852	 **Integration Comment:** incorrect integration

Component Name: PFNA_2 **RT (min.):** 5.15 **Peak Area:** 518.9 **Mass Range:** 463.0 / 169.0 **File Name:** 18DEC10D-75.wiff **Sample Name:** 9922852	 **Integration Comment:** incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Ion Ratio Report

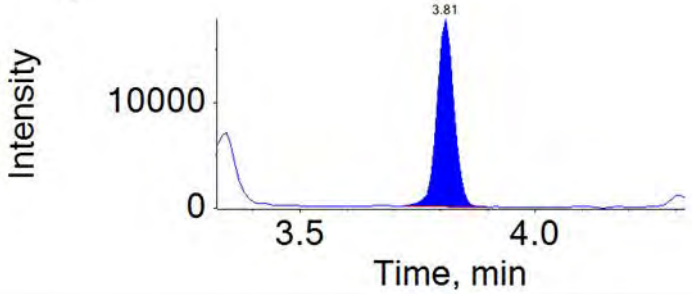
Sample Name: 9922852 **Instrument Name:** LM27631 **File Name:** 18DEC10D-75.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	44756.5	A	N/A	1.0000			
PFBS_2	3.81	1.00	18469.0	A	N/A	0.4127	14	50	
PFHxA	4.15	1.00	72197.8	M	N/A	1.0000			
PFHxA_2	4.15	1.00	620.1	A	N/A	0.0086	-12	50	
PFHpA	4.54	1.00	38735.8	A	N/A	1.0000			
PFHpA_2	4.54	1.00	1676.5	A	N/A	0.0433	-23	50	
PFHxS	4.54	1.00	173559.0	M	N/A	1.0000			
PFHxS_2	4.54	1.00	61052.2	M	N/A	0.3518	-3	50	
PFOA	4.91	1.00	318527.3	M	N/A	1.0000			
PFOA_2	4.87	0.99	28494.3	M	N/A	0.0895	45	50	
PFOS	5.20	0.99	244556.3	M	N/A	1.0000			
PFOS_2	5.24	1.00	57214.2	M	N/A	0.2340	-23	50	
PFNA	5.29	1.01	33459.9	A	N/A	1.0000			
PFNA_2	5.31	1.01	394.0	M	N/A	0.0118	-39	50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

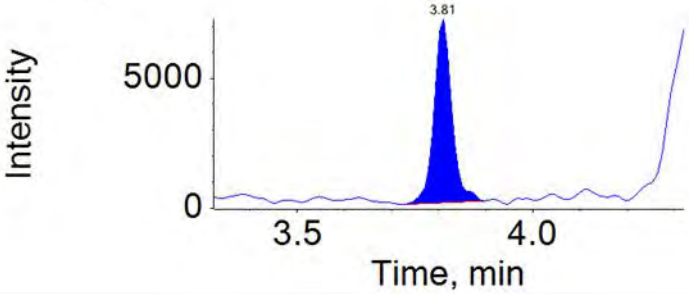
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

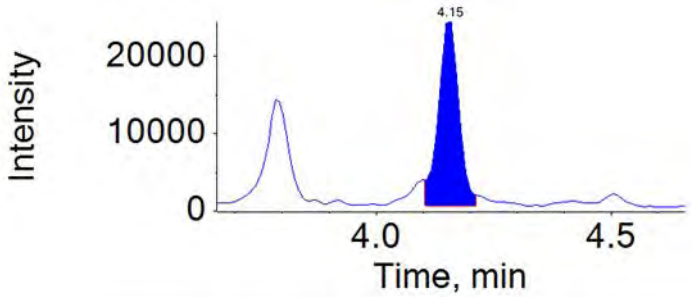
Component: PFBS
Primary Mass: 299.0 / 80.0



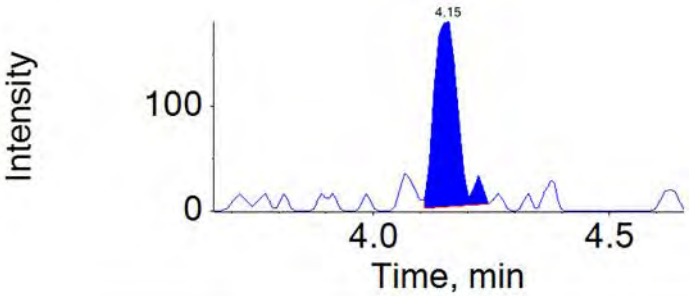
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



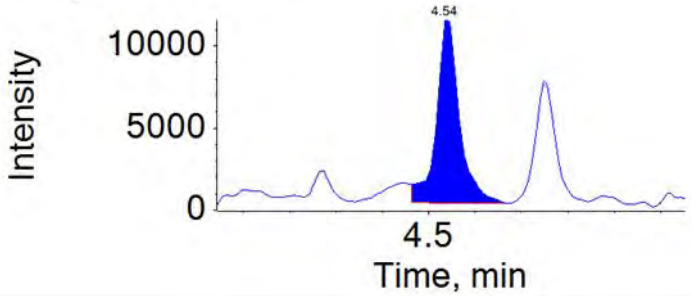
Component: PFHxA
Primary Mass: 313.0 / 269.0



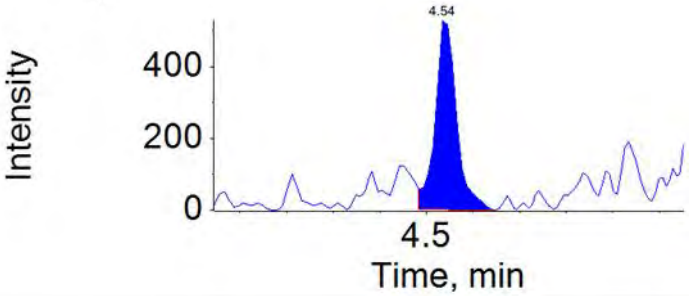
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



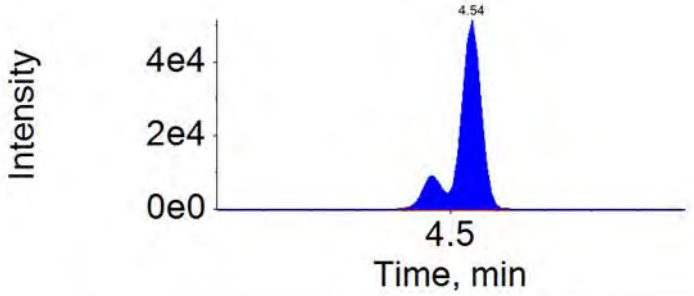
Component: PFHpA
Primary Mass: 363.0 / 319.0



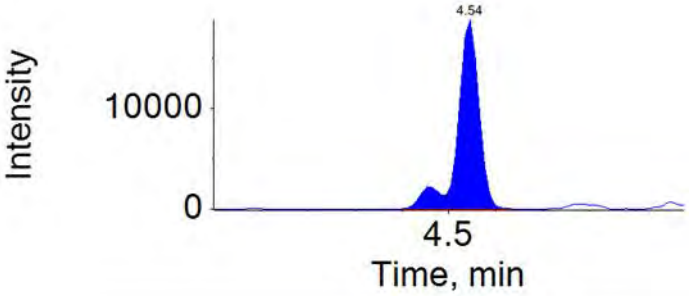
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



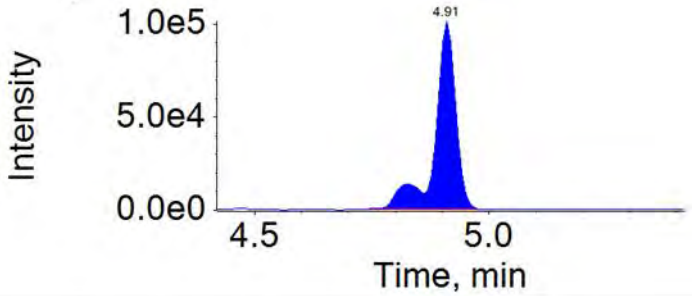
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



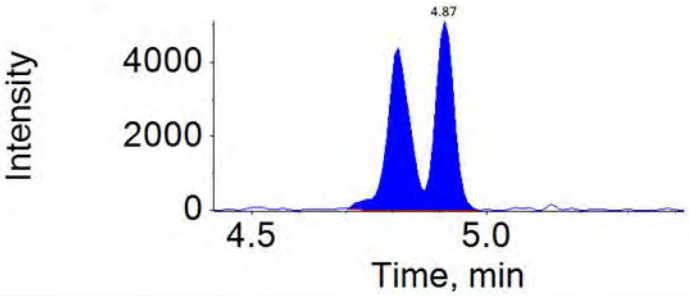
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

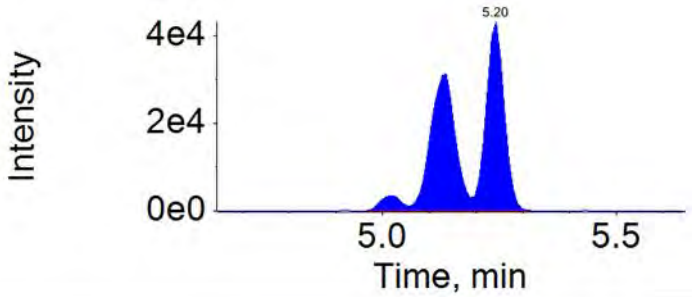
Component: PFOA
Primary Mass: 413.0 / 369.0



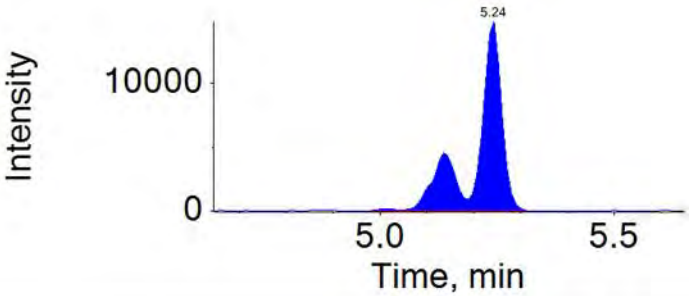
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



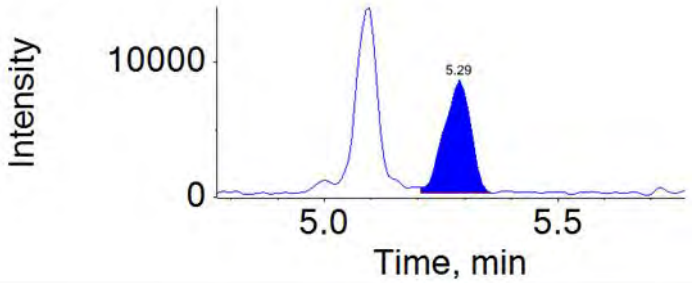
Component: PFOS
Primary Mass: 499.0 / 80.0



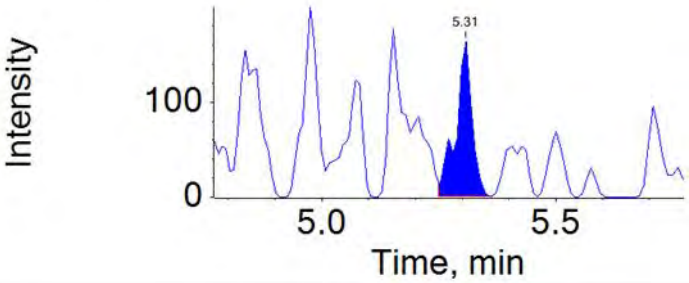
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



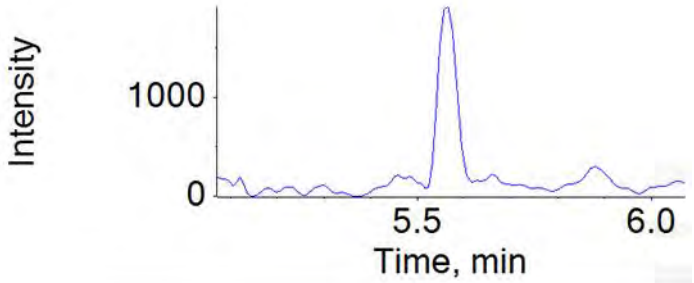
Component: PFNA
Primary Mass: 463.0 / 419.0



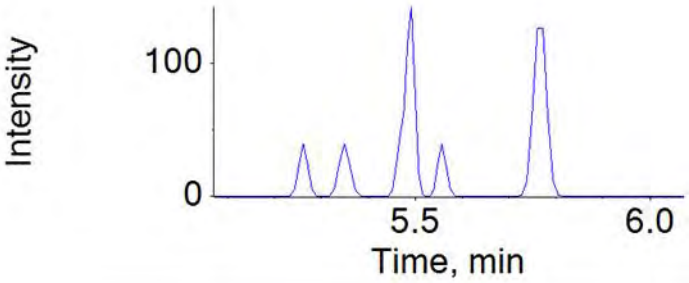
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



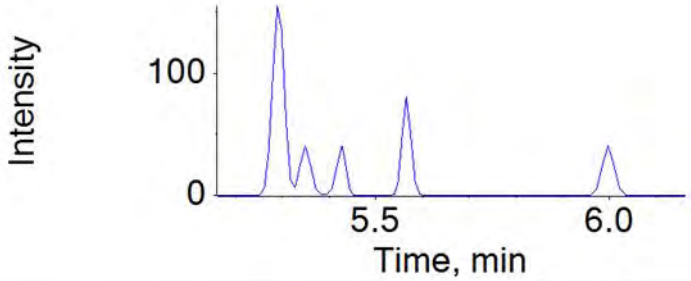
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



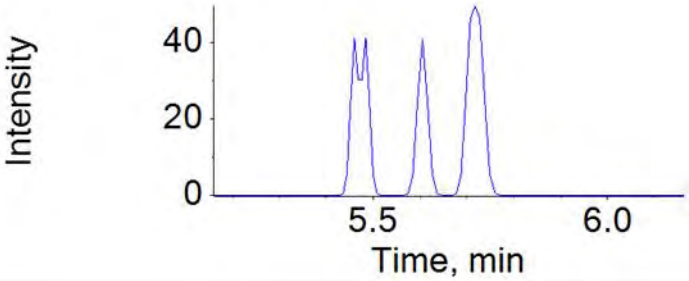
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

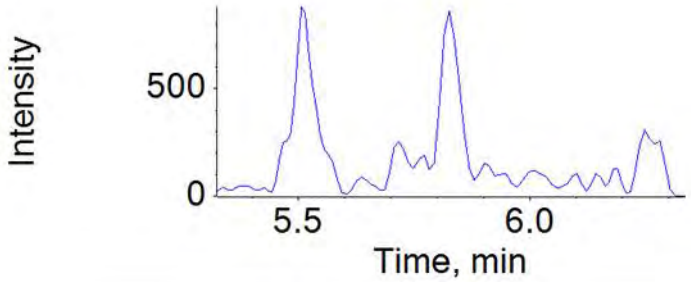
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



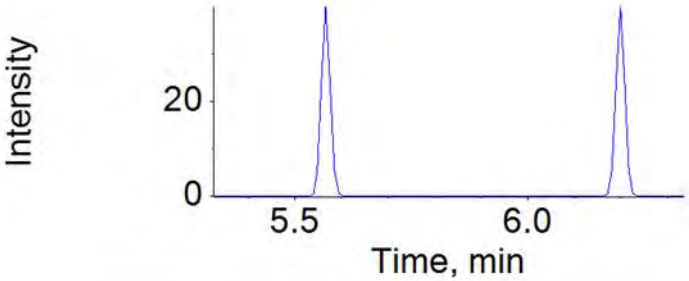
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



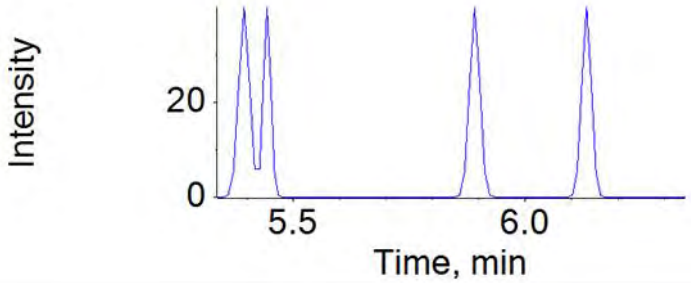
Component: PFUnDA
Primary Mass: 563.0 / 519.0



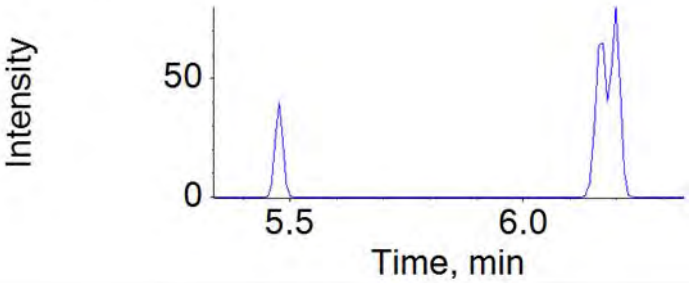
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



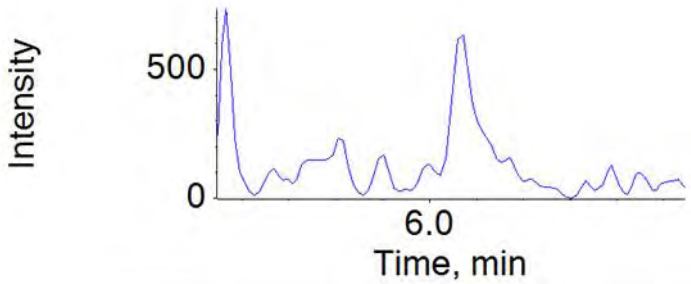
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



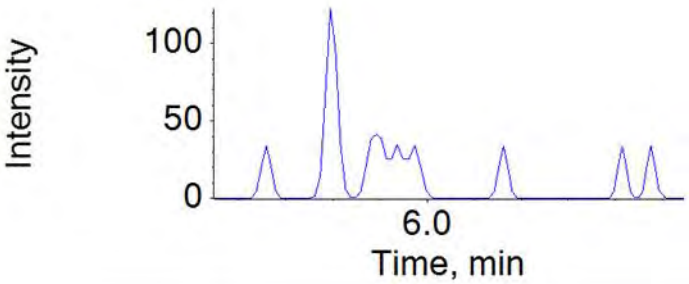
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



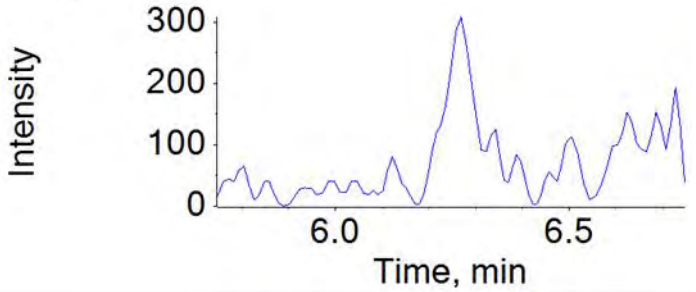
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



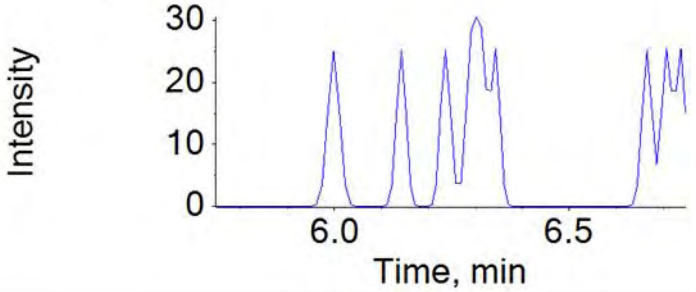
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

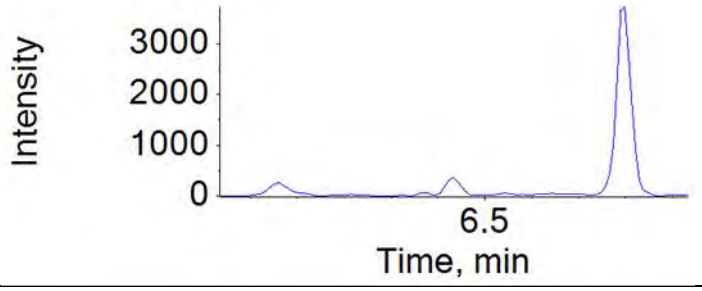
Component: PFTrDA
Primary Mass: 663.0 / 619.0



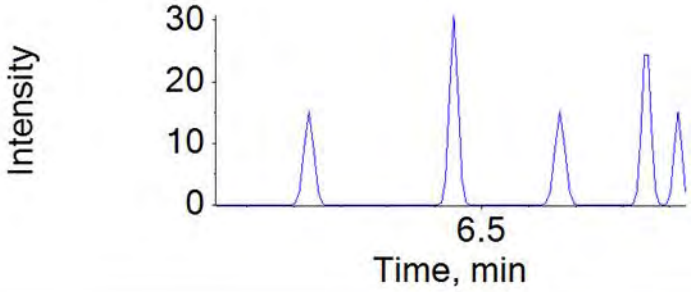
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922853			**Data File:**		18DEC10D-76.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-NNE-5-01 Grab Groundwater			**Acquis Date:**		2018-12-10T23:52:10
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	65			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.27736			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	791441.3	968978.6	-18	50	
13C2-PFOA	5.0	519587.7	507254.2	2	50	
13C4-PFOS	4.8	299439.4	302410.5	-1	50	
13C2-PFDA	5.0	401579.4	392614.4	2	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	358071.2	13C3-PFBA	791441.3	0.452	16.765	13.827	82	50-150	
E13C5-PFHxA	603686.4	13C2-PFOA	519587.7	1.162	18.027	14.064	78	50-150	
E13C3-PFHxS	282327.2	13C2-PFOA	519587.7	0.543	17.054	12.566	74	50-150	
E13C4-PFHpA	476455.4	13C2-PFOA	519587.7	0.917	18.027	14.055	78	50-150	
E13C8-PFOA	778399.6	13C2-PFOA	519587.7	1.498	18.027	15.268	85	50-150	
E13C8-PFOS	256822.4	13C4-PFOS	299439.4	0.858	17.234	13.878	81	50-150	
E13C9-PFNA	526540.7	13C4-PFOS	299439.4	1.758	18.027	17.915	99	50-150	
E13C6-PFDA	575164.6	13C2-PFDA	401579.4	1.432	18.027	13.684	76	50-150	
Ed3-NMeFOSAA	113679.7	13C2-PFDA	401579.4	0.283	18.027	18.087	100	50-150	
E13C7-PFUnDA	336463.2	13C2-PFDA	401579.4	0.838	18.027	14.818	82	50-150	
Ed5-NEtFOSAA	62801.1	13C2-PFDA	401579.4	0.156	18.027	12.447	69	50-150	
E13C2-PFDoDA	618378.6	13C2-PFDA	401579.4	1.540	18.027	11.651	65	50-150	
E13C2-PFTeDA	438255.8	13C2-PFDA	401579.4	1.091	18.027	11.678	65	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

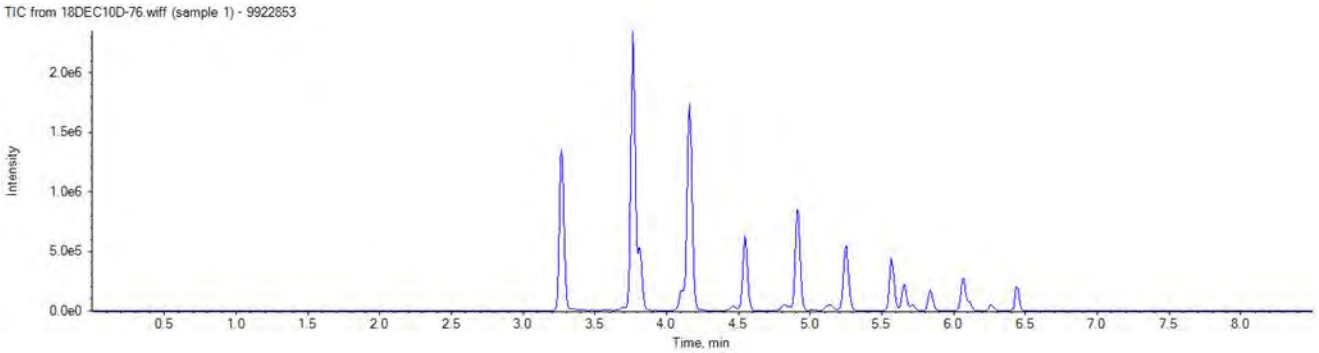
Analyte Quantitation Peak Table

Sample Name: 9922853 **Instrument Name:** LM27631 **File Name:** 18DEC10D-76.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27736	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	501654.7		A	13C3-PFBS	3.81	358071.2	1.401	25.037
PFHxA	4.16	1.000	3553370.2		M	13C5-PFHxA	4.16	603686.4	5.886	92.475
PFHpA	4.55	1.000	248931.2		M	13C4-PFHpA	4.55	476455.4	0.522	6.202
PFHxS	4.55	1.000	365722.9		M	13C3-PFHxS	4.55	282327.2	1.295	22.129
PFOA	4.91	1.000	763239.2		M	13C8-PFOA	4.91	778399.6	0.981	19.320
PFOS	5.24	1.000	393155.7		M	13C8-PFOS	5.24	256822.4	1.531	22.893
PFNA	5.26	1.000	26541.8		A	13C9-PFNA	5.26	526540.7	0.050	0.670
PFDA	5.57	1.000	12694.1		A	13C6-PFDA	5.57	575164.6	0.022	0.448
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	113679.7	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	336463.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	62801.1	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	618378.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	618378.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	438255.8	N/A	

Total Ion Chromatogram

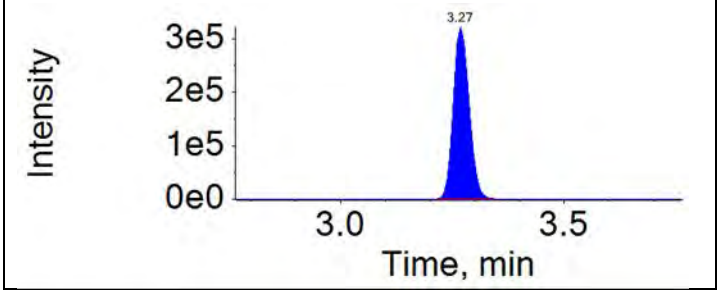


APPROVED
By MCD at 3:52 pm, 12/11/18

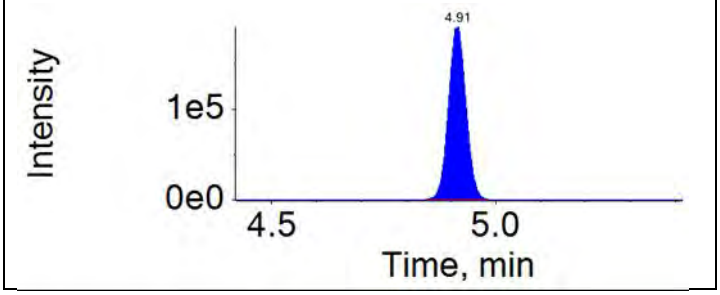
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

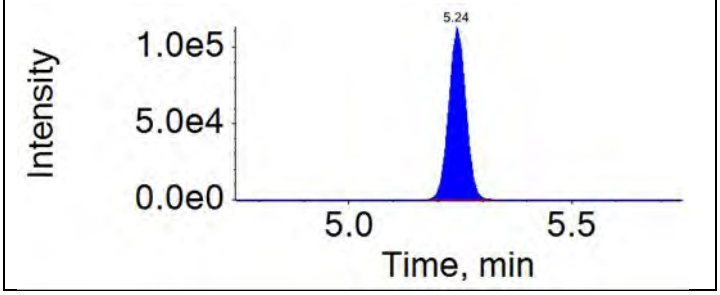
Injection Standard: 13C3-PFBA
216.0 / 172.0



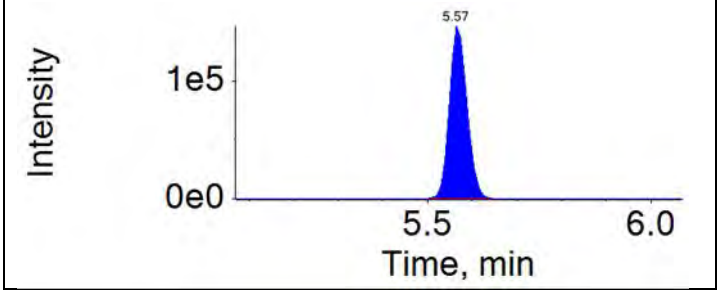
Injection Standard: 13C2-PFOA
415.0 / 370.0



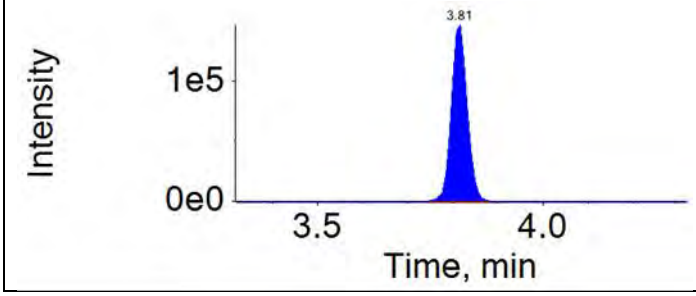
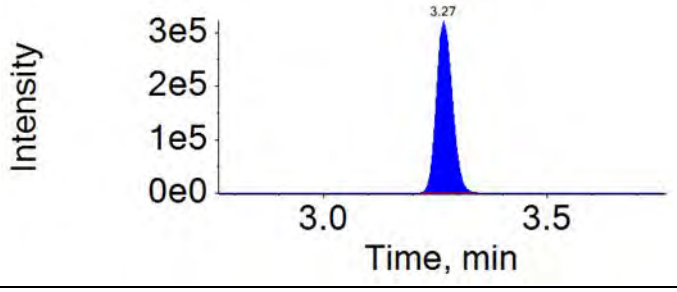
Injection Standard: 13C4-PFOS
503.0 / 80.0

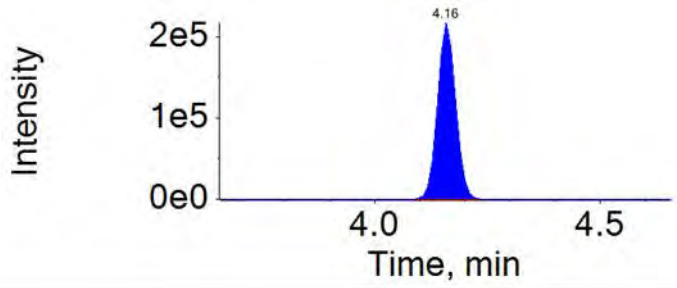
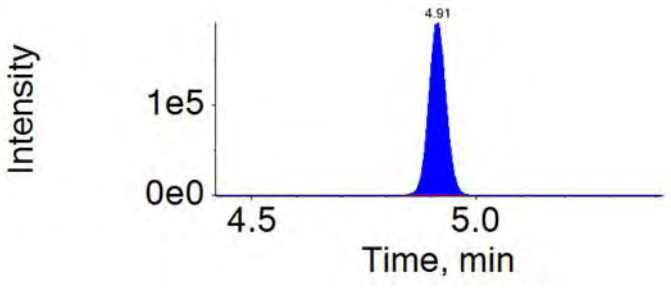


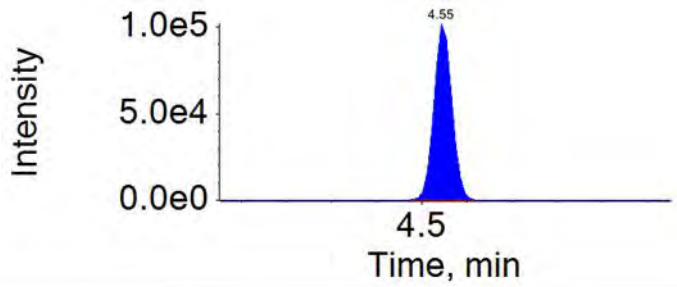
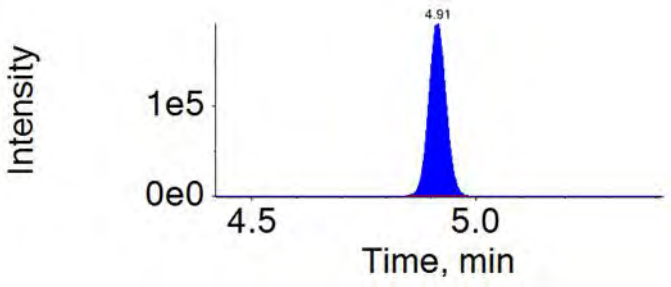
Injection Standard: 13C2-PFDA
515.0 / 470.0

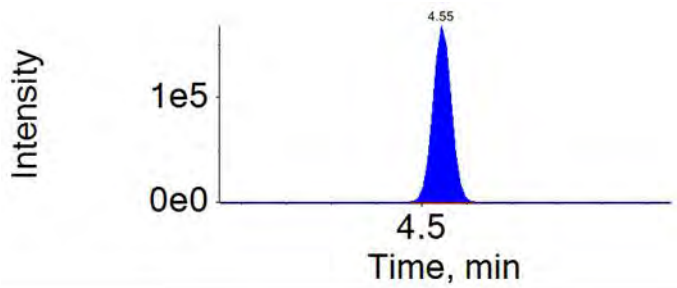
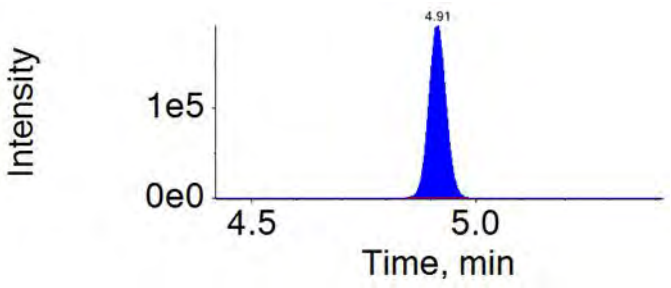


ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

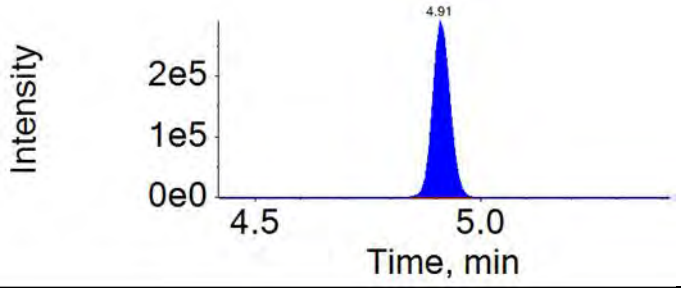
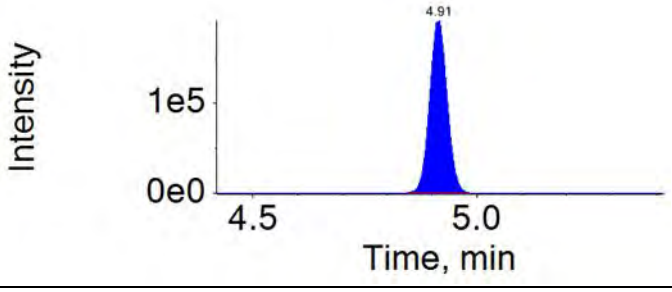
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

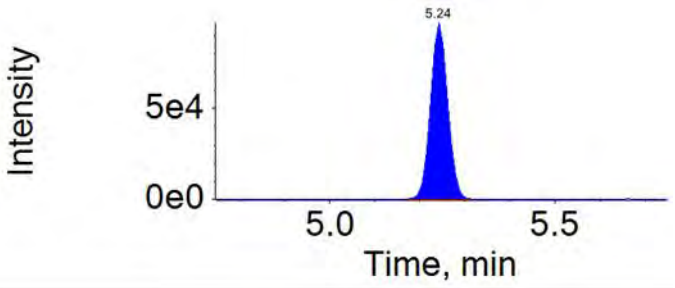
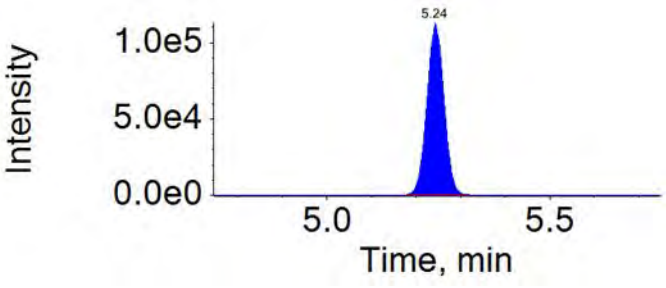
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

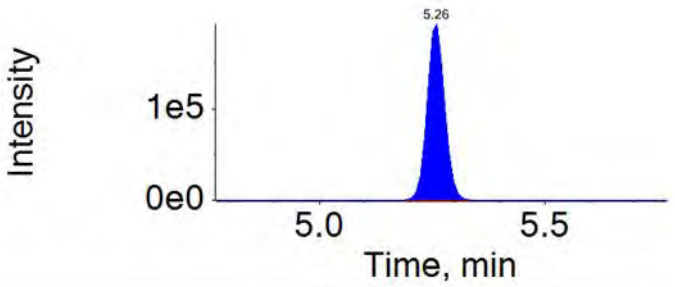
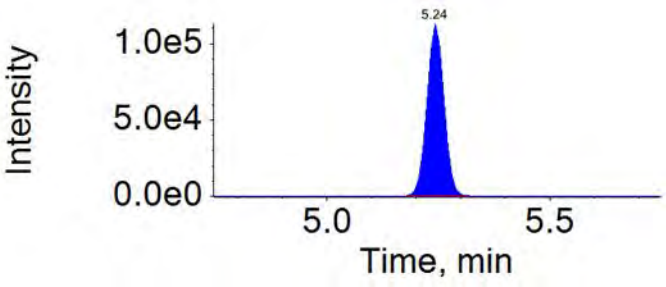
APPROVED
By MCD at 3:52 pm, 12/11/18

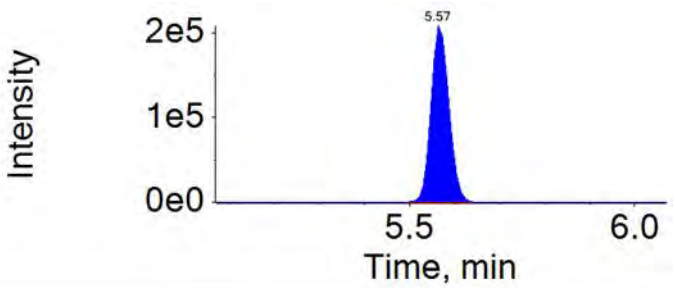
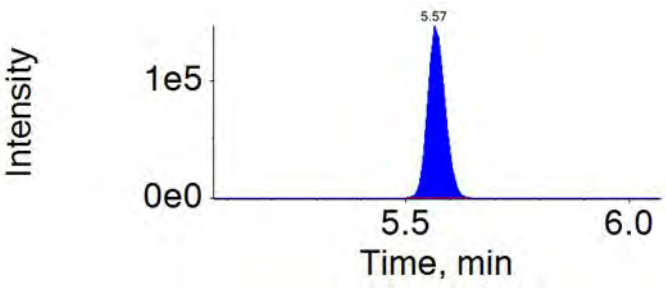
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

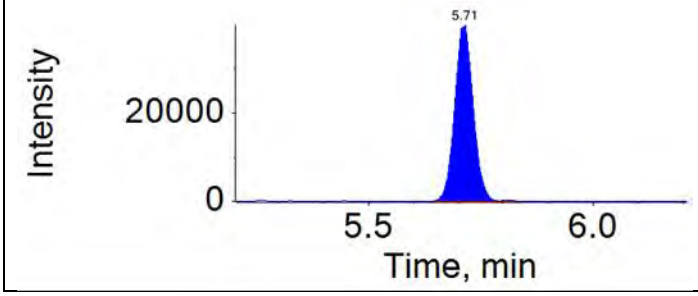
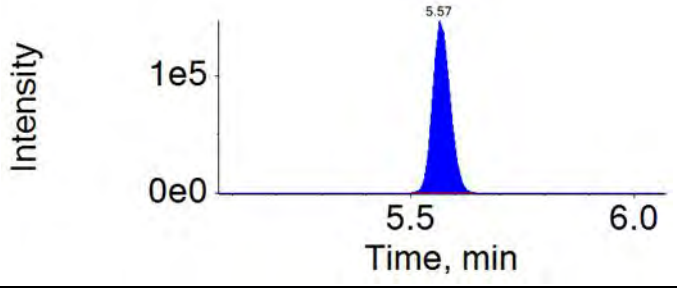
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

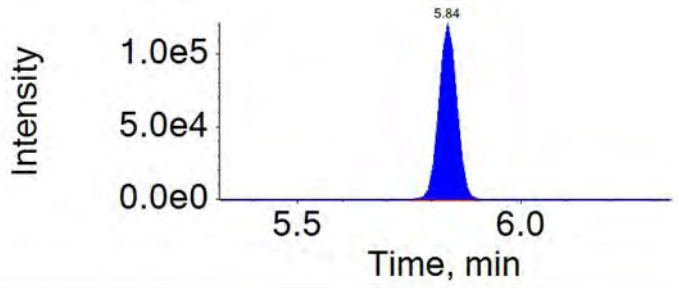
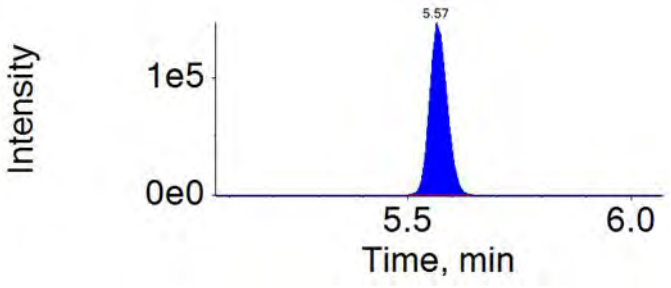
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

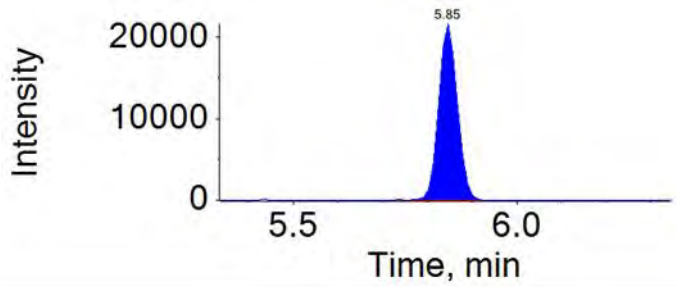
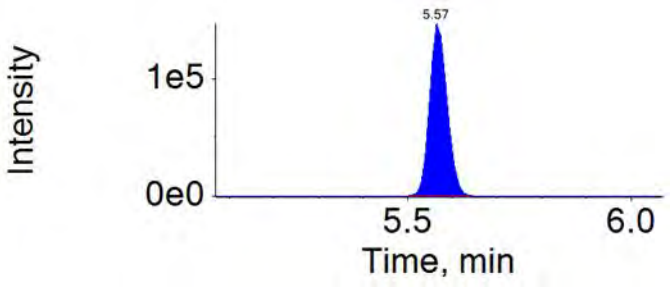
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

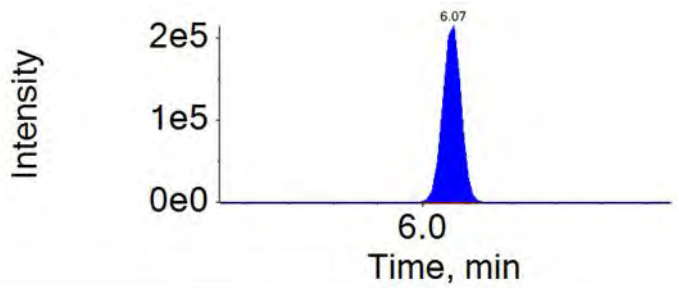
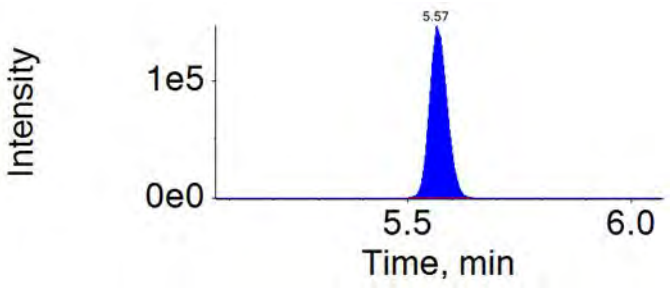
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

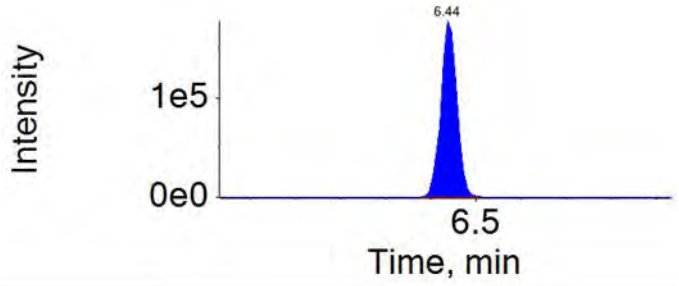
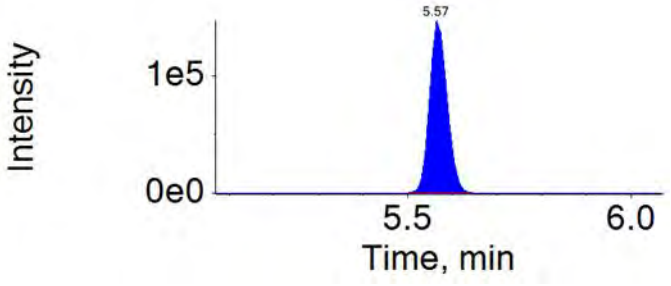
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

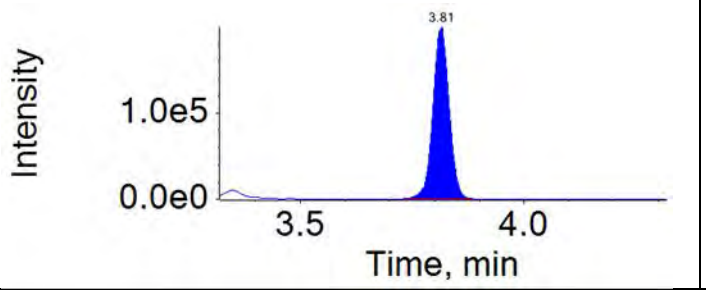
REVIEWED
By umar at 1:17 pm, 12/13/18

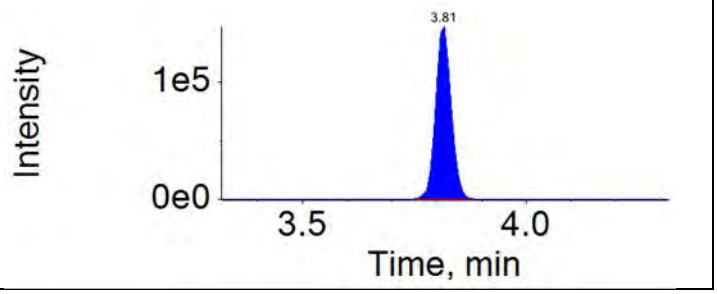
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

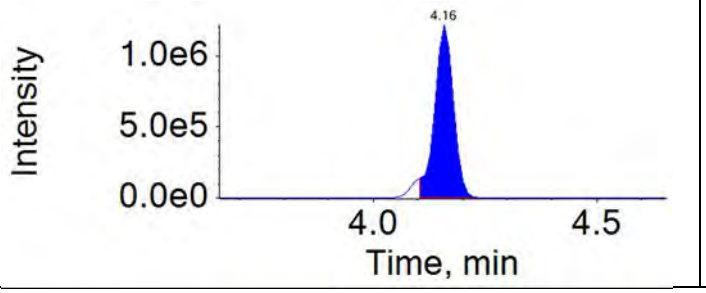
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

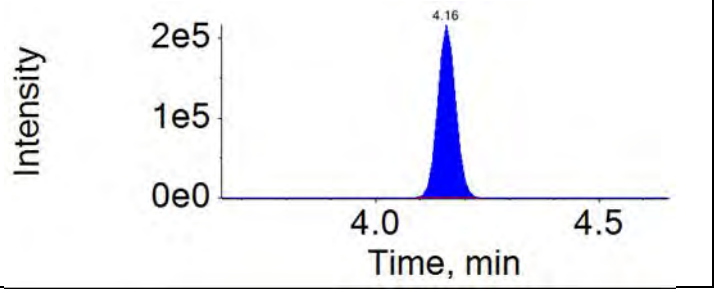
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



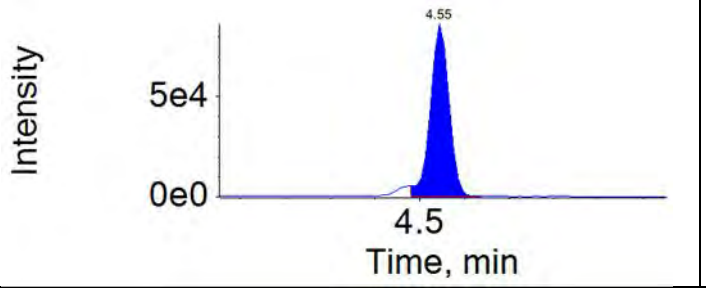


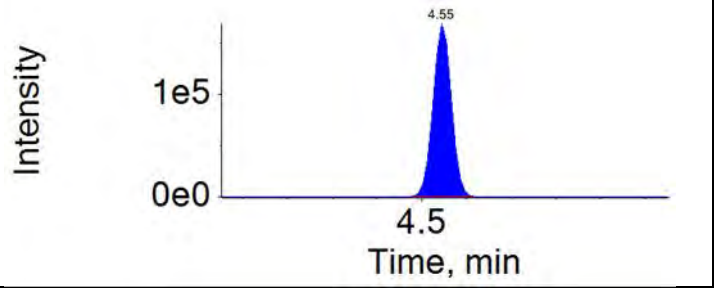
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



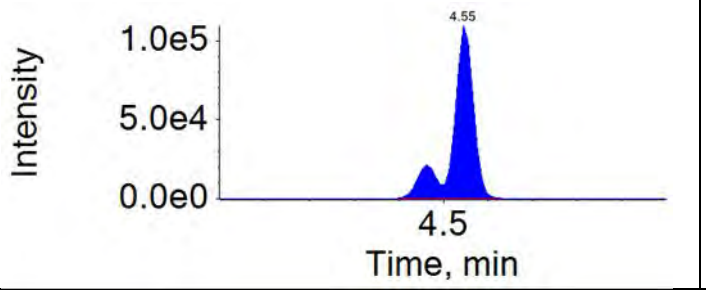


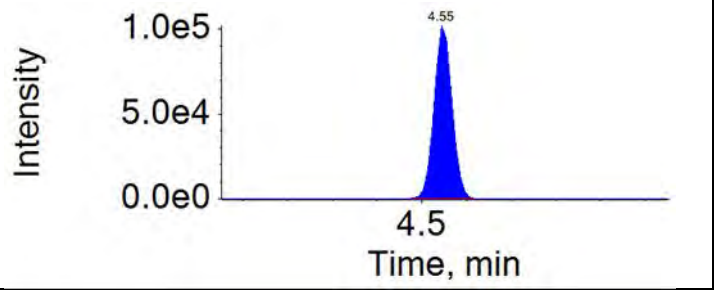
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



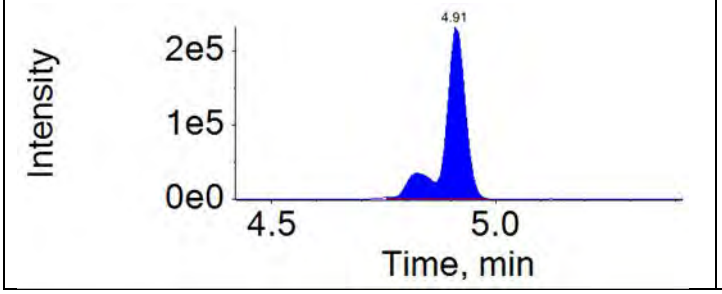


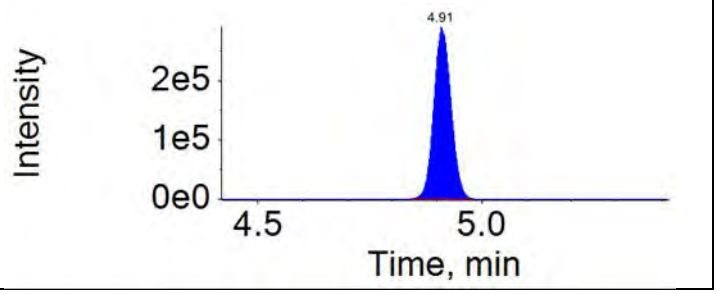
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

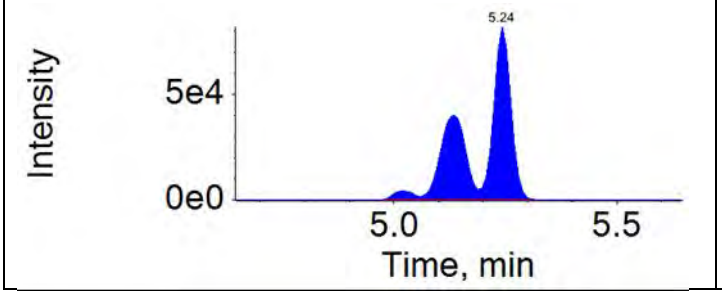
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

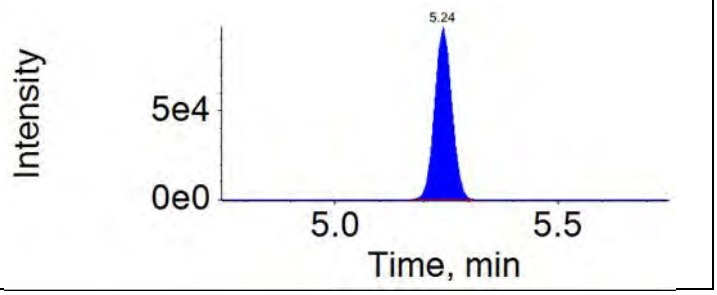
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



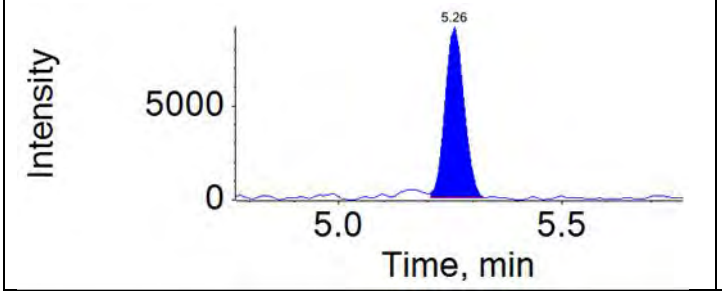


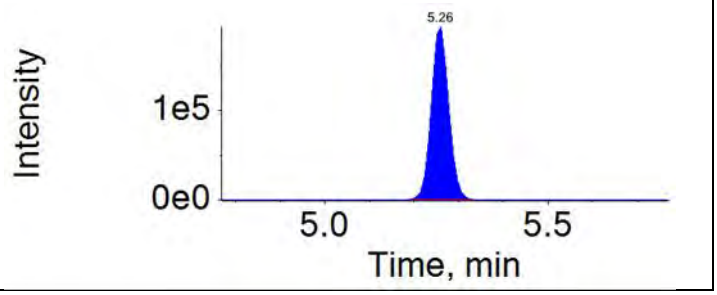
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



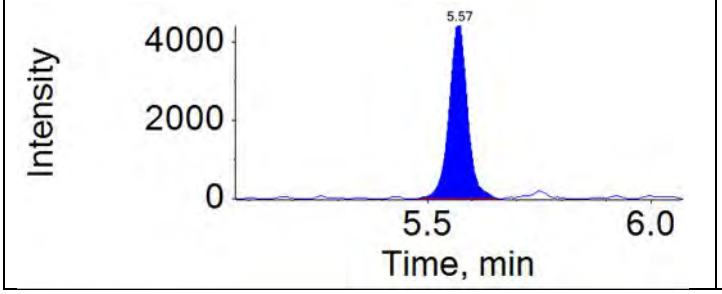


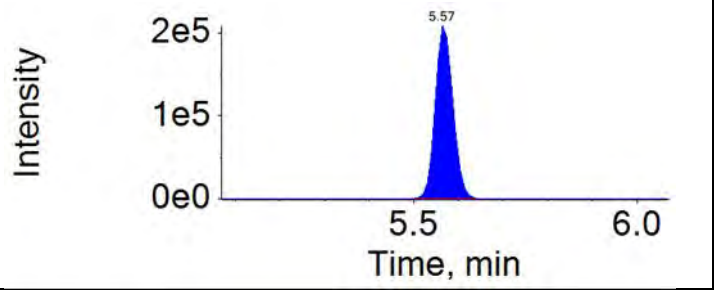
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



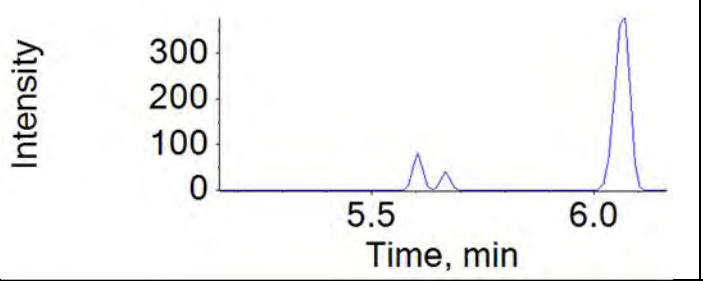


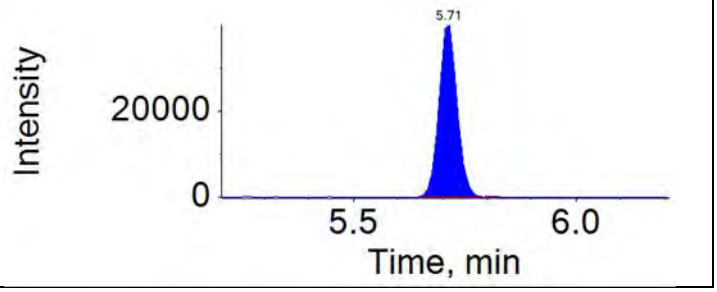
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

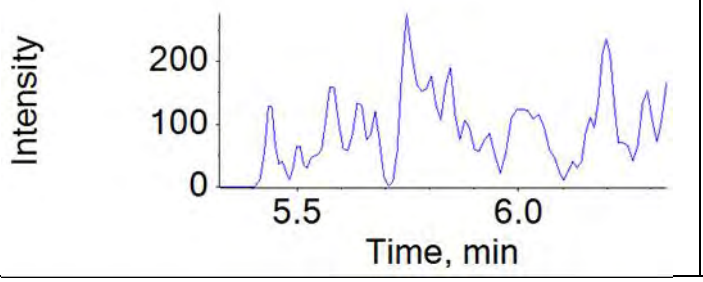
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

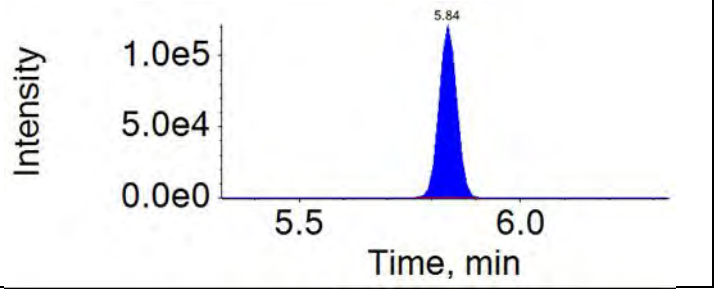
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



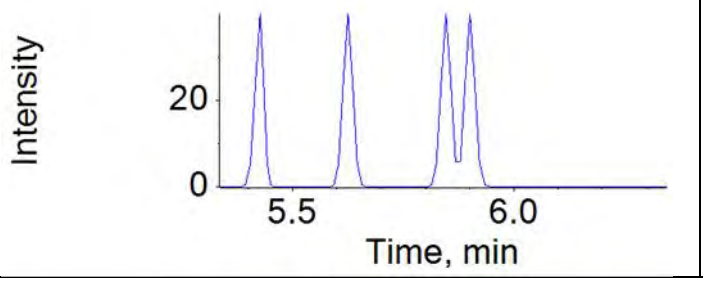


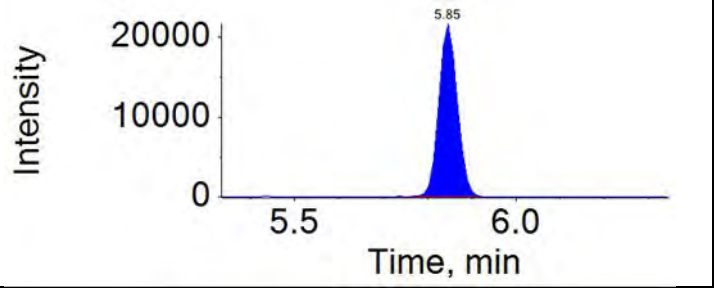
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



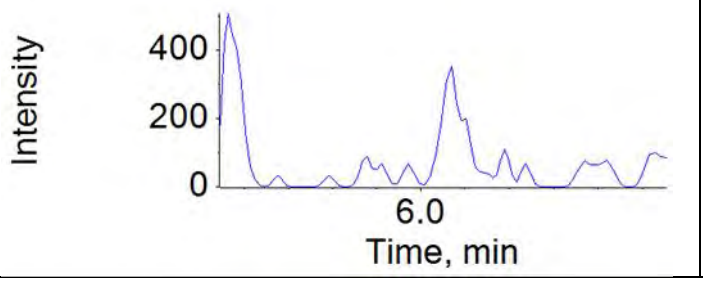


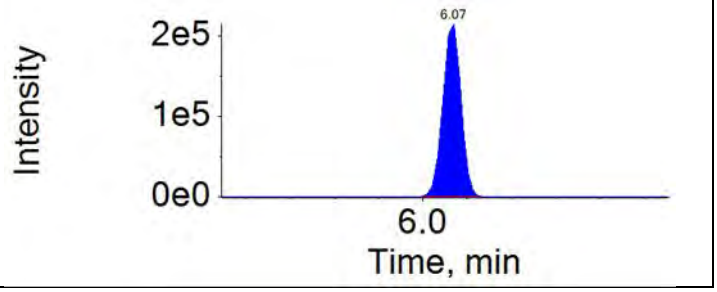
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



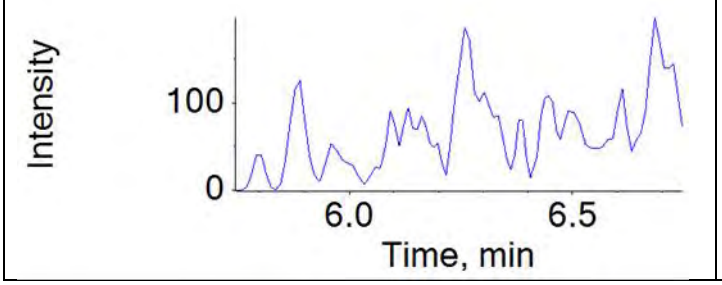


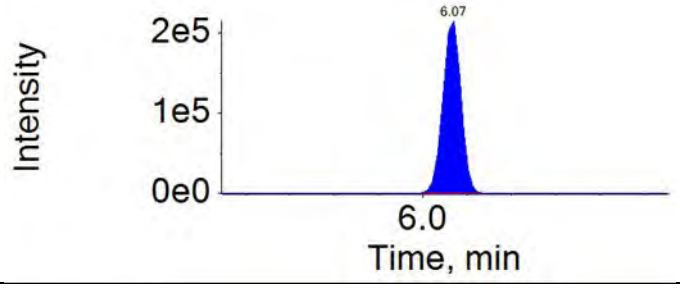
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

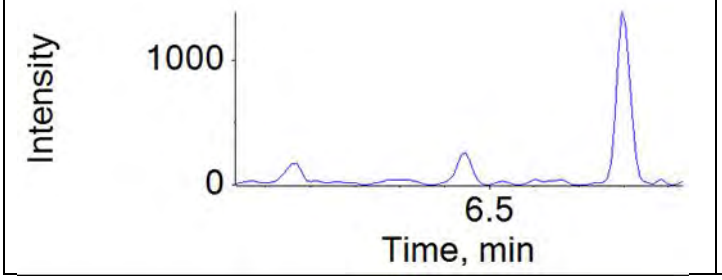
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

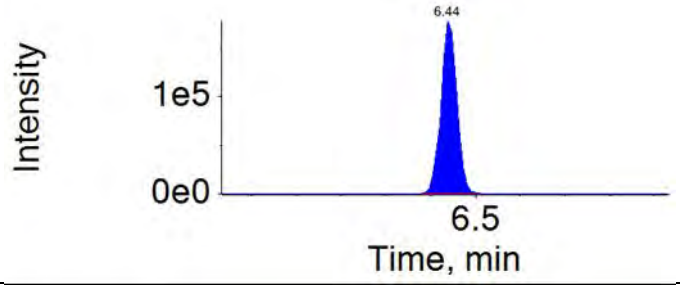
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



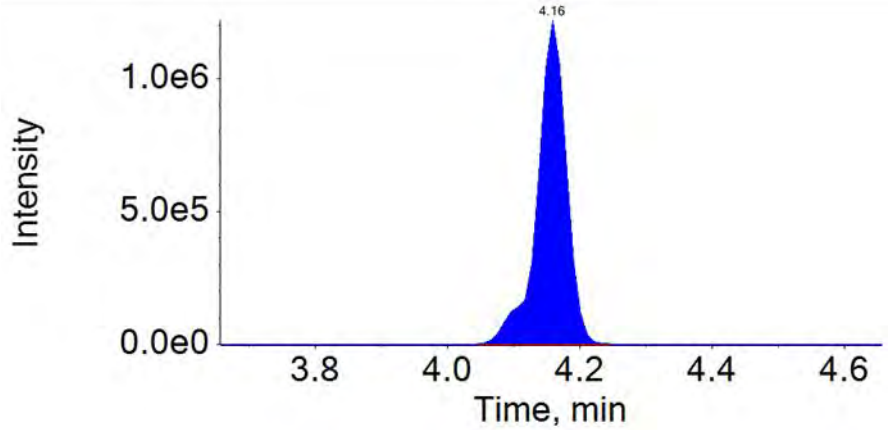


APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

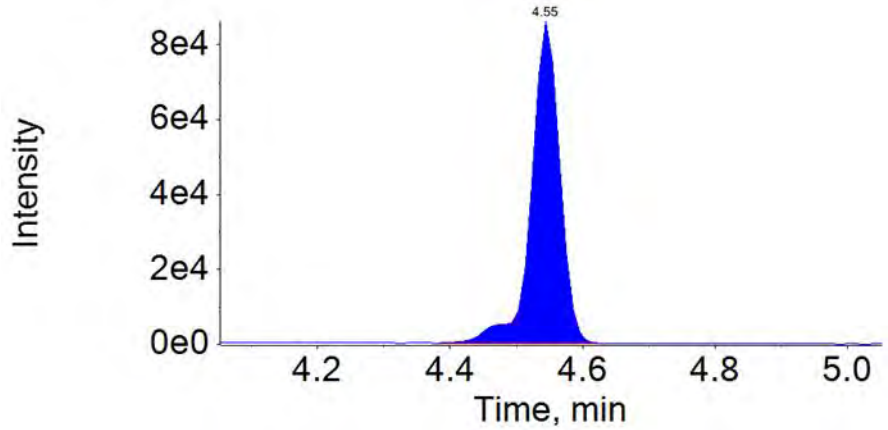
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.16
Peak Area:
3745609.3
Mass Range:
313.0 / 269.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



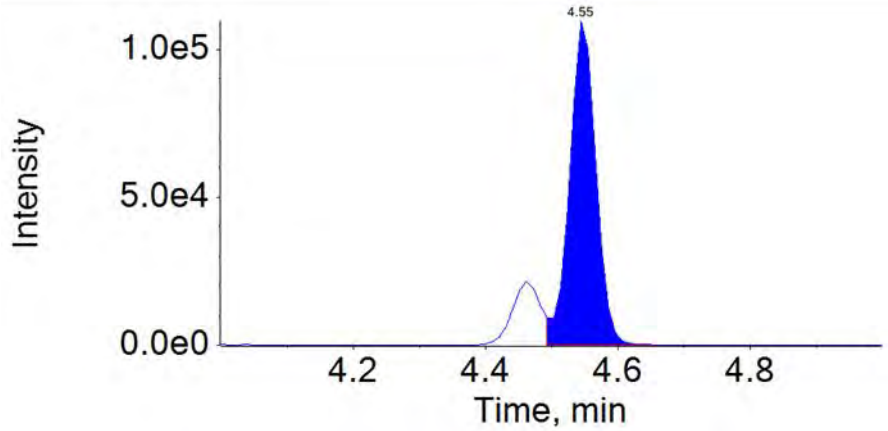
Integration Comment: incorrect integration

Component Name:
PFHpA
RT (min.):
4.55
Peak Area:
258456.0
Mass Range:
363.0 / 319.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
302837.1
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



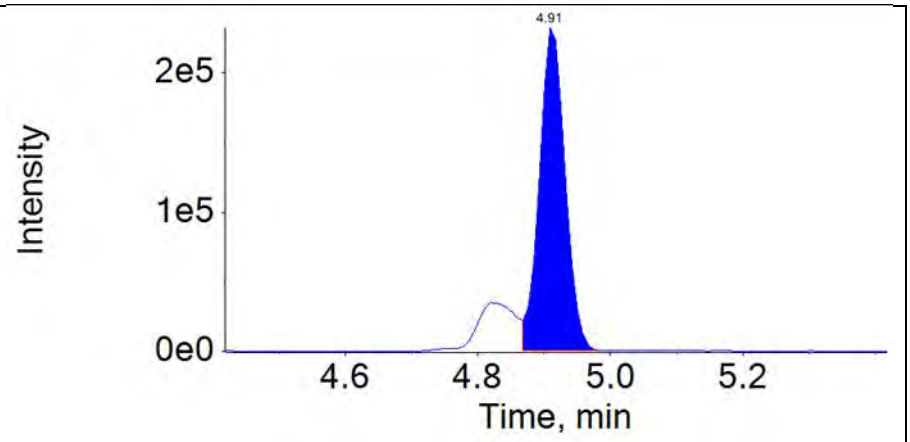
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
625452.5
Mass Range:
413.0 / 369.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
220758.3
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-76.wiff
Sample Name:
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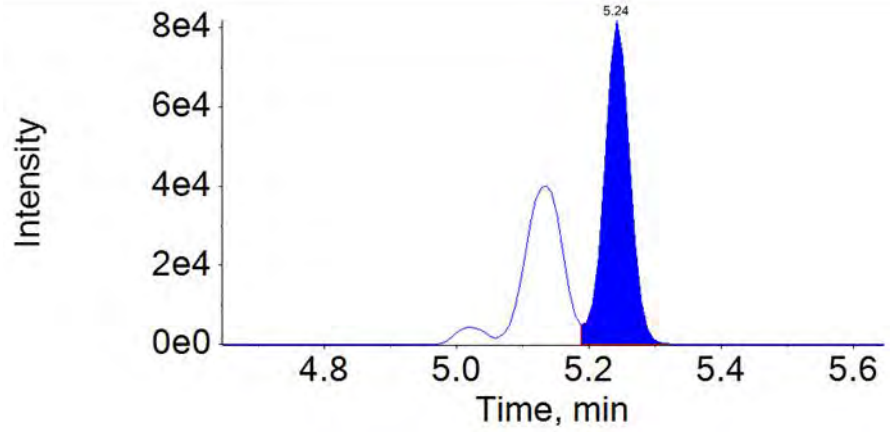

Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
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Peak Area:
110310.5
Mass Range:
399.0 / 99.0
File Name:
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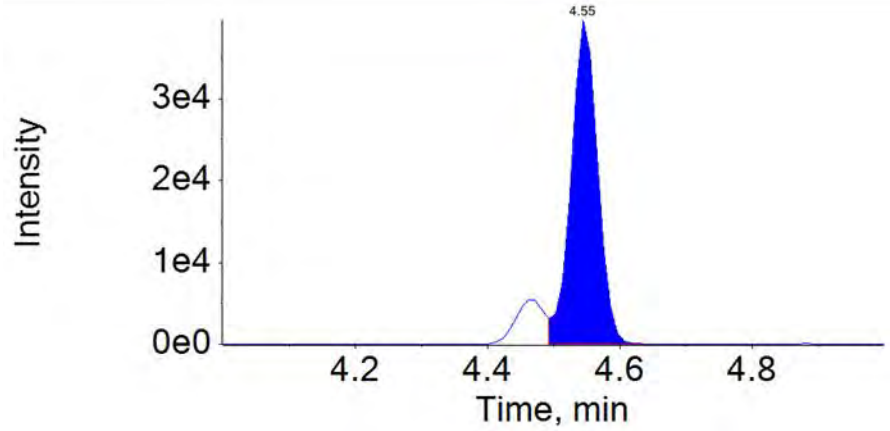
Sample Name:
9922853



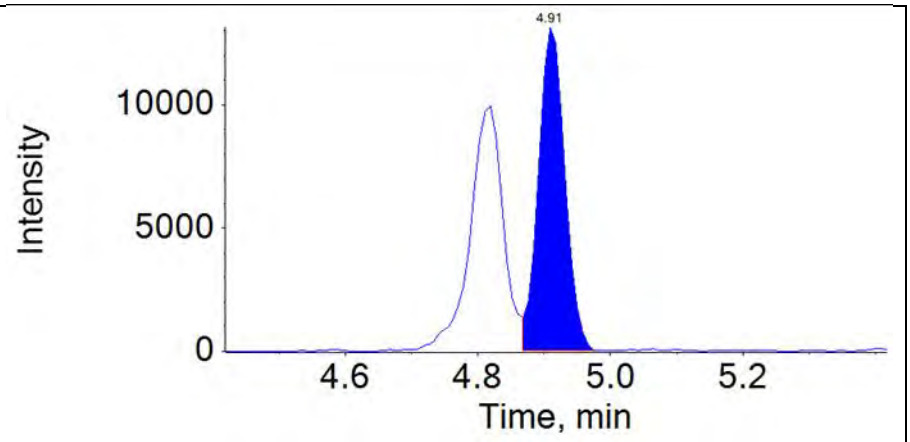
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

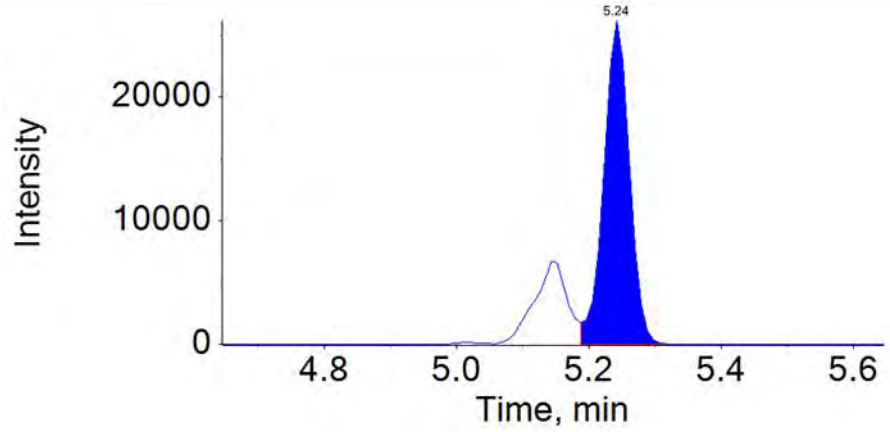
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
36198.4
Mass Range:
413.0 / 169.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



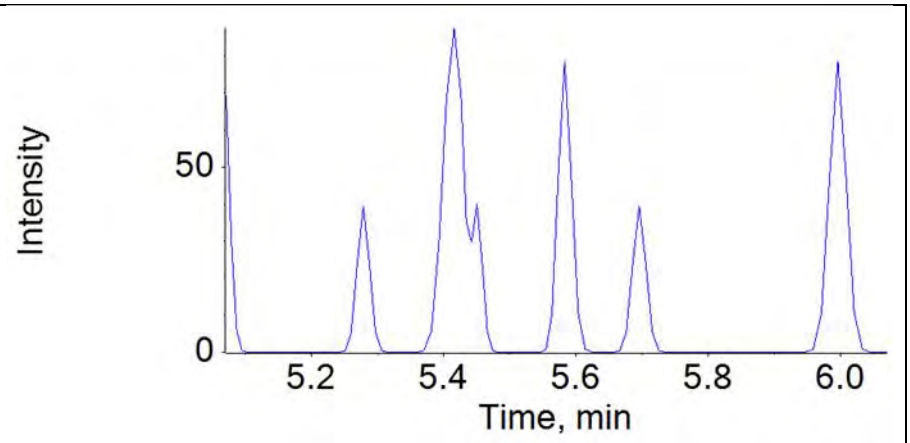
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
70928.1
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



Integration Comment: incorrect integration

Component Name:
PFDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
513.0 / 169.0
File Name:
18DEC10D-76.wiff
Sample Name:
9922853



Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Ion Ratio Report

Sample Name: 9922853 **Instrument Name:** LM27631 **File Name:** 18DEC10D-76.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	501654.7	A	N/A	1.0000			
PFBS_2	3.81	1.00	189044.1	A	N/A	0.3768	4	50	
PFHxA	4.16	1.00	3553370.2	M	N/A	1.0000			
PFHxA_2	4.16	1.00	37539.9	A	N/A	0.0106	9	50	
PFHpA	4.55	1.00	248931.2	M	N/A	1.0000			
PFHpA_2	4.54	1.00	13776.3	A	N/A	0.0553	-2	50	
PFHxS	4.55	1.00	365722.9	M	N/A	1.0000			
PFHxS_2	4.55	1.00	126593.7	M	N/A	0.3461	-5	50	
PFOA	4.91	1.00	763239.2	M	N/A	1.0000			
PFOA_2	4.88	0.99	70543.2	M	N/A	0.0924	50	50	
PFOS	5.24	1.00	393155.7	M	N/A	1.0000			
PFOS_2	5.24	1.00	94776.2	M	N/A	0.2411	-20	50	
PFNA	5.26	1.00	26541.8	A	N/A	1.0000			
PFNA_2	5.26	1.00	380.4	A	N/A	0.0143	-25	50	
PFDA	5.57	1.00	12694.1	A	N/A	1.0000			
PFDA_2	5.58	1.00	116.6	M	N/A	0.0092	-5	50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

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By MCD at 3:52 pm, 12/11/18

REVIEWED
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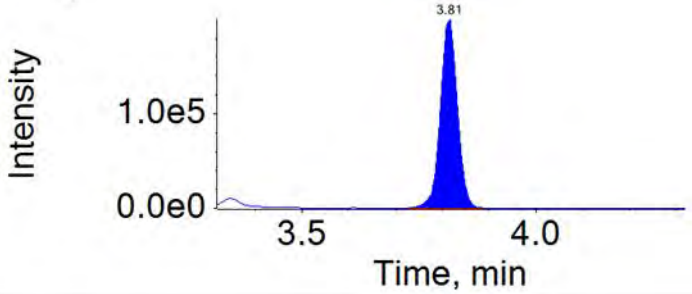
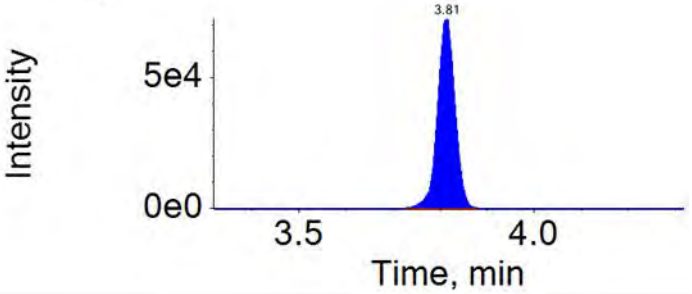
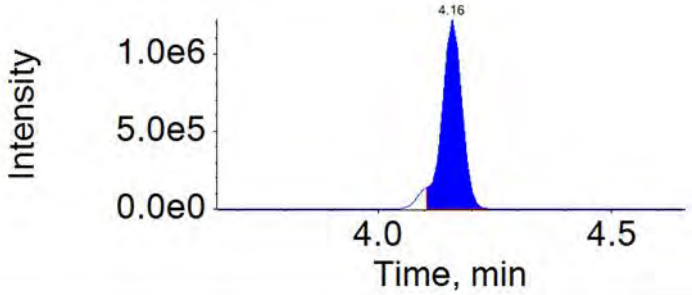
Component: PFBS
Primary Mass: 299.0 / 80.0



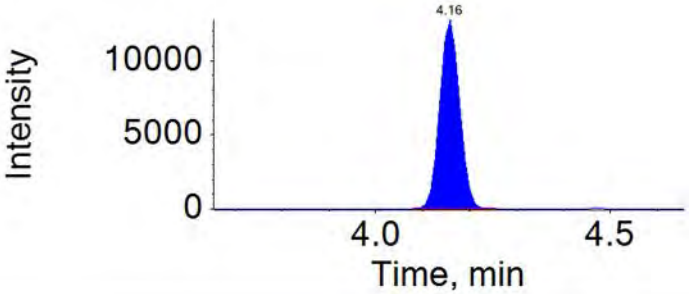
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



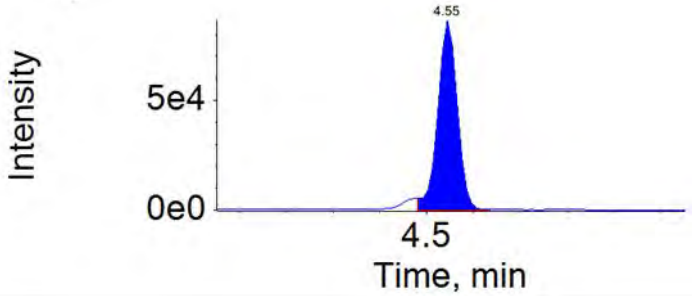
Component: PFHxA
Primary Mass: 313.0 / 269.0



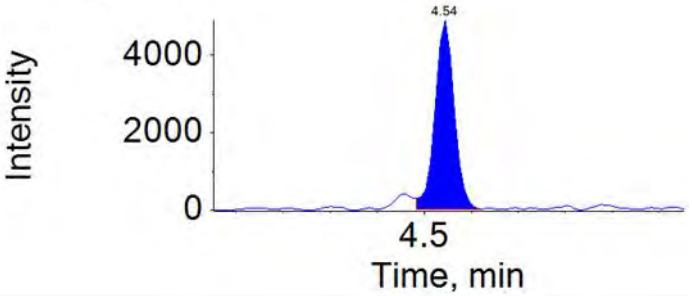
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



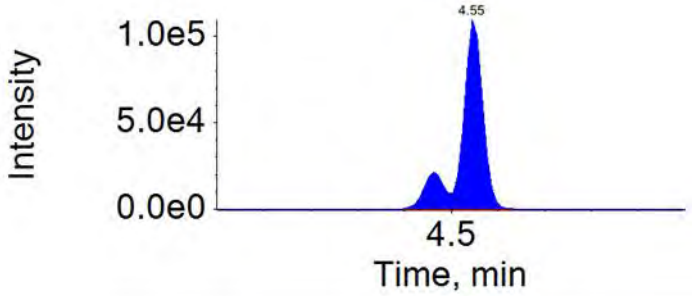
Component: PFHpA
Primary Mass: 363.0 / 319.0



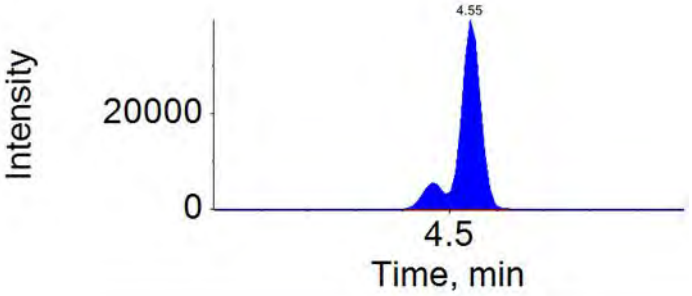
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



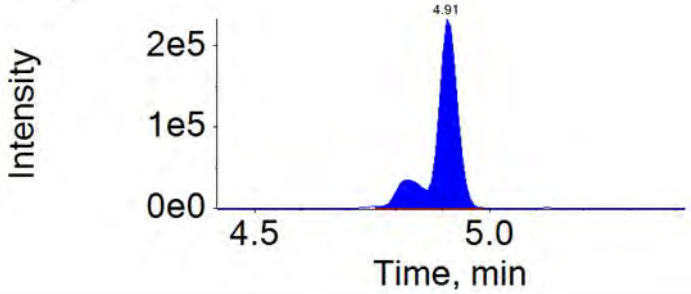
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



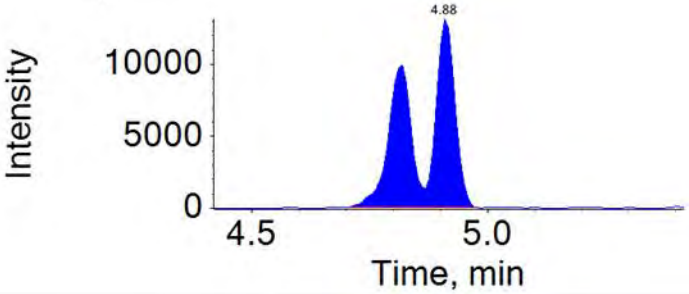
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

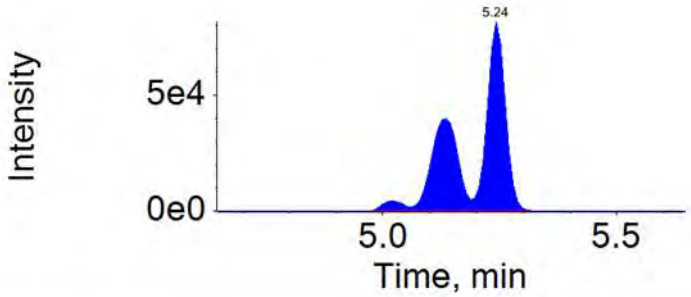
Component: PFOA
Primary Mass: 413.0 / 369.0



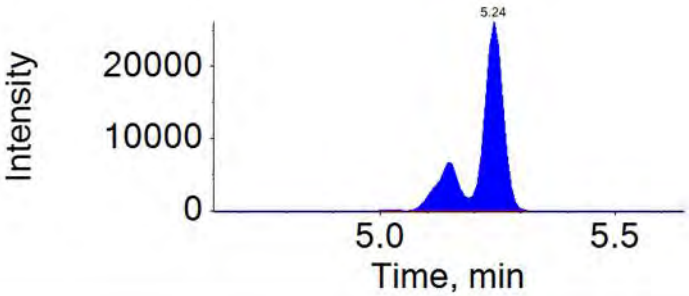
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



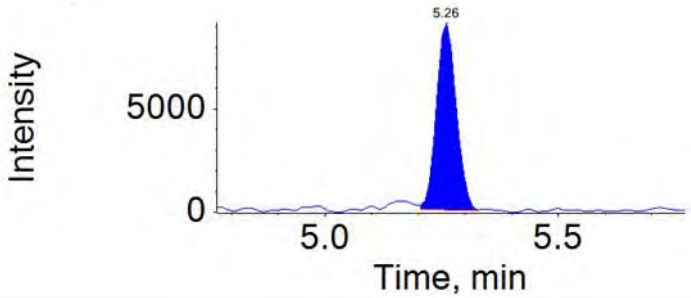
Component: PFOS
Primary Mass: 499.0 / 80.0



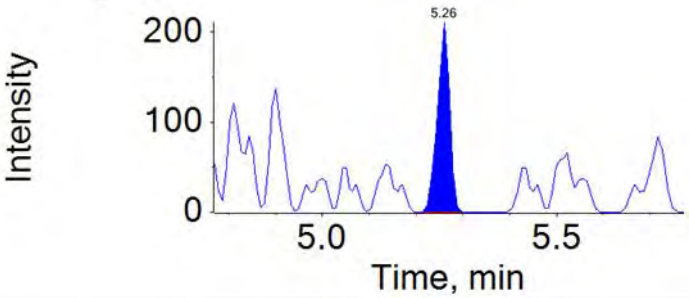
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



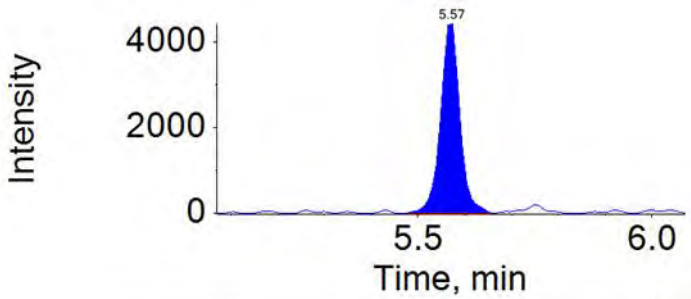
Component: PFNA
Primary Mass: 463.0 / 419.0



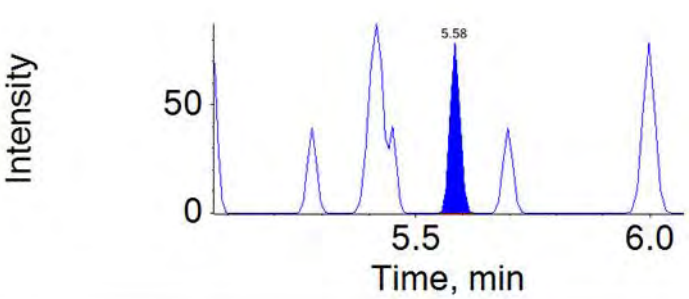
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



Component: PFDA_2
Secondary Mass: 513.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

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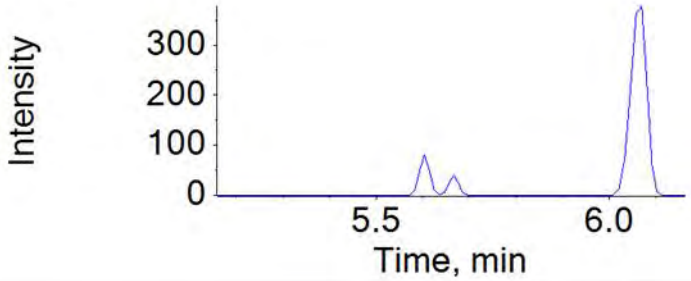
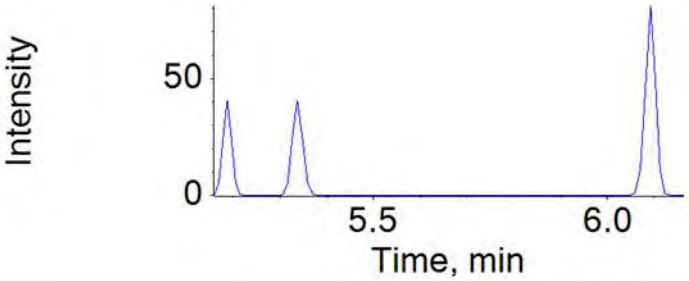
By umar at 1:17 pm, 12/13/18

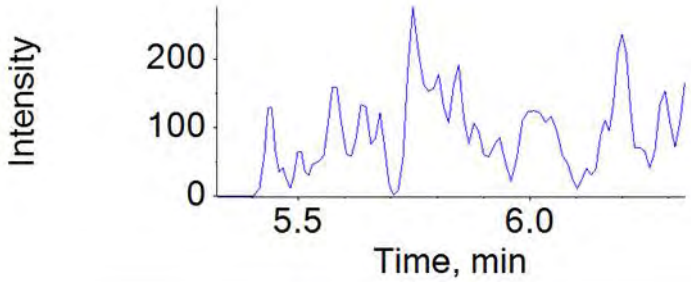
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



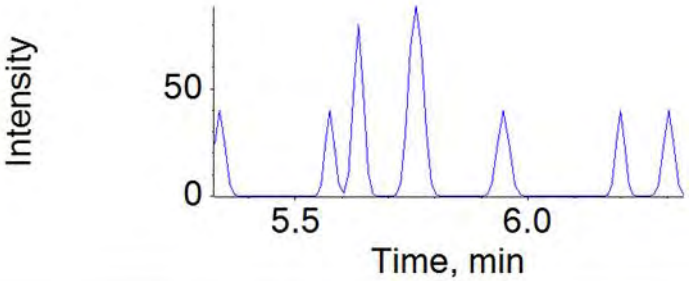
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



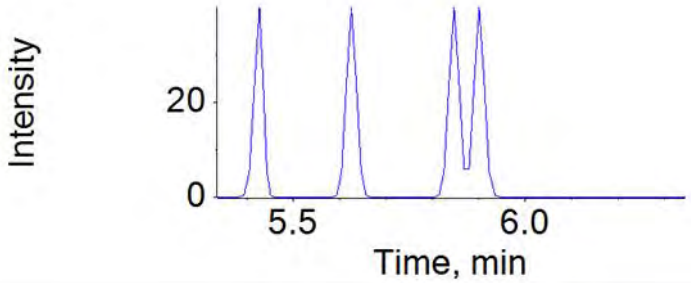
Component: PFUnDA
Primary Mass: 563.0 / 519.0



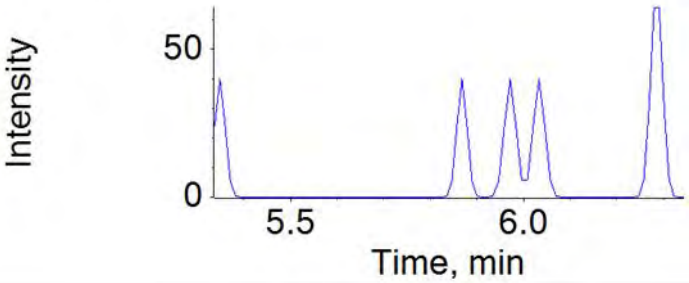
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



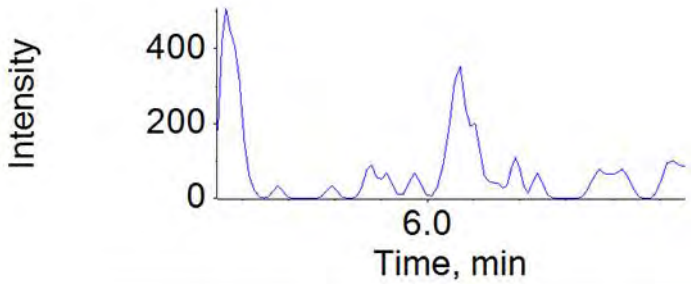
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



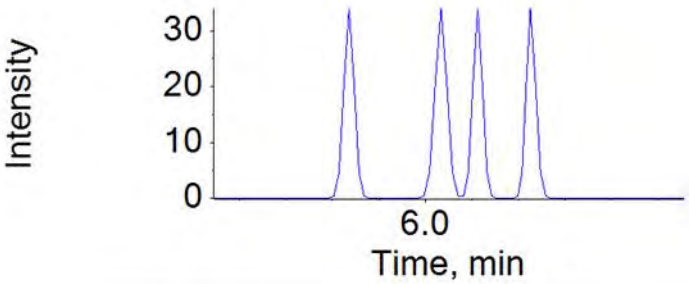
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



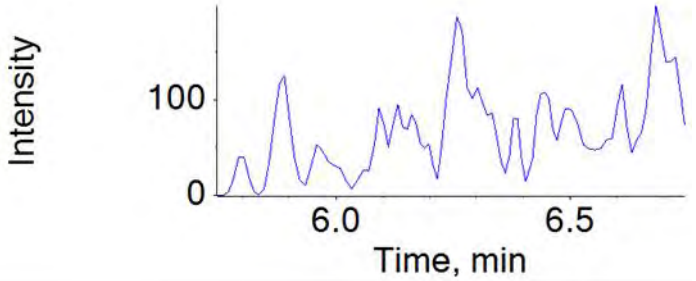
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



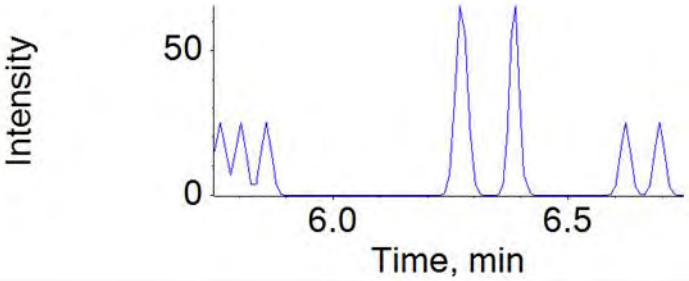
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

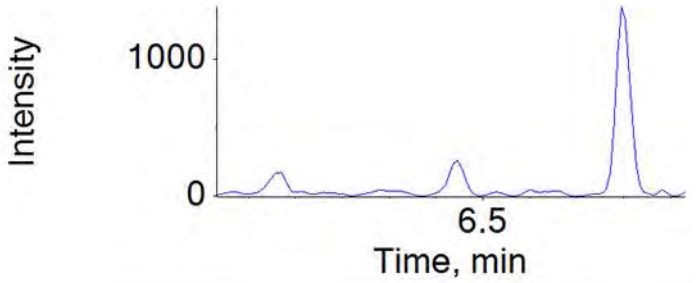
Component: PFTrDA
Primary Mass: 663.0 / 619.0



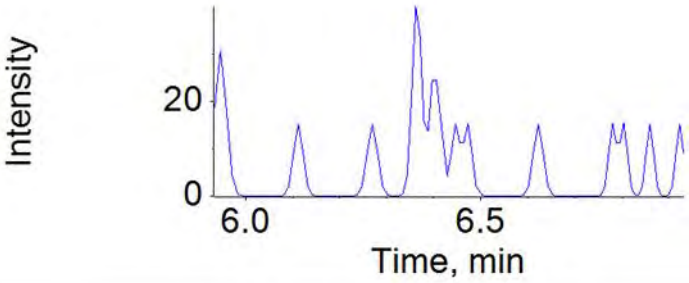
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Standards Data

PFAS by LC/MS/MS

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LC-MS/MS Sample Run Log

Printed: 12/11/2018 2:56:00 PM
Template: Sample Run Log-17JUL05.docx

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
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18DEC06DCAL-25.wiff	CAL1	N/A	12/6/2018 11:37:31 PM
18DEC06DCAL-26.wiff	CAL2	N/A	12/6/2018 11:46:31 PM
18DEC06DCAL-27.wiff	CAL3	N/A	12/6/2018 11:55:31 PM
18DEC06DCAL-28.wiff	CAL4	N/A	12/7/2018 12:04:31 AM
18DEC06DCAL-29.wiff	CAL5	N/A	12/7/2018 12:13:31 AM
18DEC06DCAL-30.wiff	CAL6	N/A	12/7/2018 12:22:31 AM
18DEC06DCAL-31.wiff	CAL7	N/A	12/7/2018 12:31:34 AM
18DEC06DCAL-32.wiff	Instrument Blank	N/A	12/7/2018 12:40:37 AM
18DEC06DCAL-33.wiff	ICV	N/A	12/7/2018 12:49:37 AM
18DEC06DCAL-34.wiff	L+B CAL3	N/A	12/7/2018 12:58:37 AM
18DEC06DCAL-35.wiff	CCV1_CAL3	N/A	12/7/2018 1:07:40 AM
18DEC08D-01.wiff	CCV1_ISC_CAL2	N/A	12/8/2018 8:07:22 AM
18DEC08D-02.wiff	Instrument Blank	N/A	12/8/2018 8:16:21 AM
18DEC08D-03.wiff	BLK338005	18338005	12/8/2018 8:25:24 AM
18DEC08D-04.wiff	LCS338005	18338005	12/8/2018 8:34:24 AM
18DEC08D-05.wiff	9920182BKG	18338005	12/8/2018 8:43:27 AM
18DEC08D-06.wiff	9920185	18338005	12/8/2018 8:52:30 AM
18DEC08D-07.wiff	9920186	18338005	12/8/2018 9:01:30 AM
18DEC08D-08.wiff	9920187	18338005	12/8/2018 9:10:30 AM
18DEC08D-09.wiff	9920188	18338005	12/8/2018 9:19:33 AM
18DEC08D-10.wiff	9920183MS	18338005	12/8/2018 9:28:36 AM
18DEC08D-11.wiff	9920184MSD	18338005	12/8/2018 9:37:39 AM
18DEC08D-12.wiff	CCV2_CAL3	N/A	12/8/2018 9:46:42 AM
18DEC08D-13.wiff	BLK339012	18339012	12/8/2018 9:55:42 AM
18DEC08D-14.wiff	LCS339012	18339012	12/8/2018 10:04:42 AM
18DEC08D-15.wiff	9920198BKG	18339012	12/8/2018 10:13:42 AM
18DEC08D-16.wiff	9920201	18339012	12/8/2018 10:22:42 AM
18DEC08D-17.wiff	9920202	18339012	12/8/2018 10:31:42 AM
18DEC08D-18.wiff	9920203	18339012	12/8/2018 10:40:42 AM
18DEC08D-19.wiff	9922700	18339012	12/8/2018 10:49:42 AM
18DEC08D-20.wiff	9922701	18339012	12/8/2018 10:58:45 AM
18DEC08D-21.wiff	9922702	18339012	12/8/2018 11:07:45 AM
18DEC08D-22.wiff	9920199MS	18339012	12/8/2018 11:16:45 AM
18DEC08D-23.wiff	CCV3_CAL4	N/A	12/8/2018 11:25:45 AM
18DEC08D-24.wiff	9920200MSD	18339012	12/8/2018 11:34:48 AM
18DEC08D-25.wiff	solvent	N/A	12/8/2018 11:43:51 AM
18DEC08D-26.wiff	BLK339013	18339013	12/8/2018 11:52:54 AM
18DEC08D-27.wiff	LCS339013	18339013	12/8/2018 12:01:54 PM
18DEC08D-28.wiff	9922836	18339013	12/8/2018 12:10:54 PM
18DEC08D-29.wiff	9922837	18339013	12/8/2018 12:19:54 PM
18DEC08D-30.wiff	9922838	18339013	12/8/2018 12:28:54 PM
18DEC08D-31.wiff	9922839	18339013	12/8/2018 12:37:54 PM
18DEC08D-32.wiff	9922840	18339013	12/8/2018 12:46:54 PM
18DEC08D-33.wiff	9922841BKG	18339013	12/8/2018 12:55:57 PM
18DEC08D-34.wiff	9922844	18339013	12/8/2018 1:05:00 PM
18DEC08D-35.wiff	CCV4_ISC_CAL2	N/A	12/8/2018 1:14:00 PM
18DEC08D-36.wiff	9922845	18339013	12/8/2018 1:23:03 PM
18DEC08D-37.wiff	9922842MS	18339013	12/8/2018 1:32:06 PM
18DEC08D-38.wiff	9922843MSD	18339013	12/8/2018 1:41:09 PM
18DEC08D-39.wiff	solvent	N/A	12/8/2018 1:50:12 PM
18DEC08D-40.wiff	BLK340015	18340015	12/8/2018 1:59:12 PM
18DEC08D-41.wiff	LCS340015	18340015	12/8/2018 2:08:15 PM
18DEC08D-42.wiff	9922691	18340015	12/8/2018 2:17:18 PM
18DEC08D-43.wiff	9922692	18340015	12/8/2018 2:26:21 PM
18DEC08D-44.wiff	9922693	18340015	12/8/2018 2:35:24 PM
18DEC08D-45.wiff	9922694	18340015	12/8/2018 2:44:27 PM

APPROVED
By MCD at 2:56 pm, 12/11/18

Instrument Name: LM27631

18DEC08D-46.wiff	9922695	18340015	12/8/2018 2:53:27 PM
18DEC08D-47.wiff	CCV5_CAL3	N/A	12/8/2018 3:02:31 PM
18DEC08D-48.wiff	9922696BKG	18340015	12/8/2018 3:11:30 PM
18DEC08D-49.wiff	9922699	18340015	12/8/2018 3:20:30 PM
18DEC08D-50.wiff	9922697MS	18340015	12/8/2018 3:29:30 PM
18DEC08D-51.wiff	9922698MSD	18340015	12/8/2018 3:38:30 PM
18DEC08D-52.wiff	CCV6_CAL4	N/A	12/8/2018 3:47:30 PM
18DEC08D-53.wiff	solvent	N/A	12/8/2018 3:56:30 PM
18DEC08D-54.wiff	solvent	N/A	12/8/2018 4:05:33 PM

20 mM Ammonium Acetate in H2O: 782412061833A
20 mM Ammonium Acetate in 0.5% H2O\Methanol: 782412061833B

APPROVED
By MCD at 2:56 pm, 12/11/18

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18DEC06DCAL-24.wiff	MDL	N/A	12/6/2018 11:28:31 PM
18DEC06DCAL-25.wiff	CAL1	N/A	12/6/2018 11:37:31 PM
18DEC06DCAL-26.wiff	CAL2	N/A	12/6/2018 11:46:31 PM
18DEC06DCAL-27.wiff	CAL3	N/A	12/6/2018 11:55:31 PM
18DEC06DCAL-28.wiff	CAL4	N/A	12/7/2018 12:04:31 AM
18DEC06DCAL-29.wiff	CAL5	N/A	12/7/2018 12:13:31 AM
18DEC06DCAL-30.wiff	CAL6	N/A	12/7/2018 12:22:31 AM
18DEC06DCAL-31.wiff	CAL7	N/A	12/7/2018 12:31:34 AM
18DEC06DCAL-32.wiff	Instrument Blank	N/A	12/7/2018 12:40:37 AM
18DEC06DCAL-33.wiff	ICV	N/A	12/7/2018 12:49:37 AM
18DEC06DCAL-34.wiff	L+B CAL3	N/A	12/7/2018 12:58:37 AM
18DEC06DCAL-35.wiff	CCV1_CAL3	N/A	12/7/2018 1:07:40 AM
18DEC10D-01.wiff	solvent	N/A	12/10/2018 12:33:03 PM
18DEC10D-02.wiff	solvent	N/A	12/10/2018 12:42:06 PM
18DEC10D-03.wiff	solvent	N/A	12/10/2018 12:51:09 PM
18DEC10D-04.wiff	solvent	N/A	12/10/2018 1:00:12 PM
18DEC10D-05.wiff	CCV1_ISC_CAL2	N\A	12/10/2018 1:09:15 PM
18DEC10D-06.wiff	Instrument Blank	N/A	12/10/2018 1:18:15 PM
18DEC10D-07.wiff	BLK339008	18339008	12/10/2018 1:29:19 PM
18DEC10D-08.wiff	LCS339008	18339008	12/10/2018 1:38:21 PM
18DEC10D-09.wiff	LCSDA	18339008	12/10/2018 1:47:21 PM
18DEC10D-10.wiff	9911505RE	18339008	12/10/2018 1:56:24 PM
18DEC10D-11.wiff	9911506RE	18339008	12/10/2018 2:05:24 PM
18DEC10D-12.wiff	9911507RE	18339008	12/10/2018 2:14:24 PM
18DEC10D-13.wiff	CCV2_CAL3	N/A	12/10/2018 2:23:24 PM
18DEC10D-14.wiff	solvent	N/A	12/10/2018 2:32:24 PM
18DEC10D-15.wiff	BLK340004	18340004	12/10/2018 2:41:24 PM
18DEC10D-16.wiff	LCS340004	18340004	12/10/2018 2:50:24 PM
18DEC10D-17.wiff	LCSDA	18340004	12/10/2018 2:59:24 PM
18DEC10D-18.wiff	9911508RE	18340004	12/10/2018 3:08:27 PM
18DEC10D-19.wiff	9911509RE	18340004	12/10/2018 3:17:30 PM
18DEC10D-20.wiff	9911513RE	18340004	12/10/2018 3:26:33 PM
18DEC10D-21.wiff	CCV3_CAL4	N/A	12/10/2018 3:35:36 PM
18DEC10D-22.wiff	9911514RE	18340004	12/10/2018 3:44:39 PM
18DEC10D-23.wiff	9911515RE	18340004	12/10/2018 3:53:42 PM
18DEC10D-24.wiff	9911516RE	18340004	12/10/2018 4:02:45 PM
18DEC10D-25.wiff	9911517RE	18340004	12/10/2018 4:11:45 PM
18DEC10D-26.wiff	9911518RE	18340004	12/10/2018 4:20:48 PM
18DEC10D-27.wiff	9911519RE	18340004	12/10/2018 4:29:51 PM
18DEC10D-28.wiff	9911542RE	18340004	12/10/2018 4:38:54 PM
18DEC10D-29.wiff	9911543RE	18340004	12/10/2018 4:47:54 PM
18DEC10D-30.wiff	CCV4_ISC_CAL2	N/A	12/10/2018 4:56:54 PM
18DEC10D-31.wiff	BLK340014	18340014	12/10/2018 5:05:54 PM
18DEC10D-32.wiff	LCS340014	18340014	12/10/2018 5:14:54 PM
18DEC10D-33.wiff	9913119RE	18340014	12/10/2018 5:23:54 PM
18DEC10D-34.wiff	9922846	18340014	12/10/2018 5:32:54 PM
18DEC10D-35.wiff	9922847BKG	18340014	12/10/2018 5:41:57 PM
18DEC10D-36.wiff	9922850	18340014	12/10/2018 5:51:00 PM
18DEC10D-37.wiff	9922851	18340014	12/10/2018 6:00:03 PM
18DEC10D-38.wiff	9922852	18340014	12/10/2018 6:09:06 PM
18DEC10D-39.wiff	9922853	18340014	12/10/2018 6:18:09 PM
18DEC10D-40.wiff	9922848MS	18340014	12/10/2018 6:27:12 PM
18DEC10D-41.wiff	CCV5_CAL3	N/A	12/10/2018 6:36:12 PM
18DEC10D-42.wiff	9922849MSD	18340014	12/10/2018 6:45:12 PM
18DEC10D-43.wiff	solvent	N/A	12/10/2018 6:54:15 PM
18DEC10D-44.wiff	BLK339002	18339002	12/10/2018 7:03:18 PM
18DEC10D-45.wiff	LCS339002	18339002	12/10/2018 7:12:19 PM

APPROVED
By MCD at 6:11 pm, 12/11/18

Instrument Name: LM27631

18DEC10D-46.wiff	9920646	18339002	12/10/2018 7:21:21 PM
18DEC10D-47.wiff	9920647	18339002	12/10/2018 7:30:21 PM
18DEC10D-48.wiff	9920648	18339002	12/10/2018 7:39:21 PM
18DEC10D-49.wiff	9920649	18339002	12/10/2018 7:48:21 PM
18DEC10D-50.wiff	9920650	18339002	12/10/2018 7:57:25 PM
18DEC10D-51.wiff	9920651	18339002	12/10/2018 8:06:28 PM
18DEC10D-52.wiff	9920652	18339002	12/10/2018 8:15:27 PM
18DEC10D-53.wiff	CCV6_CAL4	N/A	12/10/2018 8:24:27 PM
18DEC10D-54.wiff	BLK340015	18340015	12/10/2018 8:33:28 PM
18DEC10D-55.wiff	LCS340015	18340015	12/10/2018 8:42:30 PM
18DEC10D-56.wiff	9922691	18340015	12/10/2018 8:51:33 PM
18DEC10D-57.wiff	9922692	18340015	12/10/2018 9:00:36 PM
18DEC10D-58.wiff	9922693	18340015	12/10/2018 9:09:39 PM
18DEC10D-59.wiff	9922694	18340015	12/10/2018 9:18:40 PM
18DEC10D-60.wiff	9922695	18340015	12/10/2018 9:27:40 PM
18DEC10D-61.wiff	CCV7_ISC_CAL2	N/A	12/10/2018 9:36:43 PM
18DEC10D-62.wiff	Instrument Blank	N/A	12/10/2018 9:45:46 PM
18DEC10D-63.wiff	9922696BKG	18340015	12/10/2018 9:54:49 PM
18DEC10D-64.wiff	9922699	18340015	12/10/2018 10:03:49 PM
18DEC10D-65.wiff	9922697MS	18340015	12/10/2018 10:12:49 PM
18DEC10D-66.wiff	9922698MSD	18340015	12/10/2018 10:21:52 PM
18DEC10D-67.wiff	CCV8_CAL3	N/A	12/10/2018 10:30:52 PM
18DEC10D-68.wiff	BLK340014	18340014	12/10/2018 10:39:55 PM
18DEC10D-69.wiff	LCS340014	18340014	12/10/2018 10:48:55 PM
18DEC10D-70.wiff	9913119RE	18340014	12/10/2018 10:57:58 PM
18DEC10D-71.wiff	9922846	18340014	12/10/2018 11:07:01 PM
18DEC10D-72.wiff	9922847BKG	18340014	12/10/2018 11:16:04 PM
18DEC10D-73.wiff	9922850	18340014	12/10/2018 11:25:07 PM
18DEC10D-74.wiff	9922851	18340014	12/10/2018 11:34:07 PM
18DEC10D-75.wiff	9922852	18340014	12/10/2018 11:43:07 PM
18DEC10D-76.wiff	9922853	18340014	12/10/2018 11:52:10 PM
18DEC10D-77.wiff	9922848MS	18340014	12/11/2018 12:01:10 AM
18DEC10D-78.wiff	CCV9_CAL4	N/A	12/11/2018 12:10:13 AM
18DEC10D-79.wiff	9922849MSD	18340014	12/11/2018 12:19:13 AM
18DEC10D-80.wiff	solvent	N/A	12/11/2018 12:28:13 AM
18DEC10D-81.wiff	BLK339002	18339002	12/11/2018 12:37:16 AM
18DEC10D-82.wiff	LCS339002	18339002	12/11/2018 12:46:16 AM
18DEC10D-83.wiff	9920646	18339002	12/11/2018 12:55:16 AM
18DEC10D-84.wiff	9920647	18339002	12/11/2018 1:04:19 AM
18DEC10D-85.wiff	9920648	18339002	12/11/2018 1:13:22 AM
18DEC10D-86.wiff	9920649	18339002	12/11/2018 1:22:22 AM
18DEC10D-87.wiff	9920650	18339002	12/11/2018 1:31:22 AM
18DEC10D-88.wiff	9920651	18339002	12/11/2018 1:40:25 AM
18DEC10D-89.wiff	9920652	18339002	12/11/2018 1:49:25 AM
18DEC10D-90.wiff	CCV10_ISC_CAL2	N/A	12/11/2018 1:58:28 AM
18DEC10D-91.wiff	9920653	18339002	12/11/2018 2:07:31 AM
18DEC10D-92.wiff	9920654	18339002	12/11/2018 2:16:34 AM
18DEC10D-93.wiff	9920655	18339002	12/11/2018 2:25:37 AM
18DEC10D-94.wiff	9920656	18339002	12/11/2018 2:34:37 AM
18DEC10D-95.wiff	9920657MS	18339002	12/11/2018 2:43:37 AM
18DEC10D-96.wiff	9920658MSD	18339002	12/11/2018 2:52:37 AM
18DEC10D-97.wiff	CCV11_CAL3	N/A	12/11/2018 3:01:40 AM
18DEC10D-98.wiff	BLK340015	18340015	12/11/2018 3:10:40 AM
18DEC10D-99.wiff	LCS340015	18340015	12/11/2018 3:19:43 AM
18DEC10D-100.wiff	9922691	18340015	12/11/2018 3:28:46 AM
18DEC10D-101.wiff	9922692	18340015	12/11/2018 3:37:49 AM
18DEC10D-102.wiff	9922693	18340015	12/11/2018 3:46:52 AM
18DEC10D-103.wiff	9922694	18340015	12/11/2018 3:55:55 AM

APPROVED
By MCD at 6:11 pm, 12/11/18

Instrument Name: LM27631

18DEC10D-104.wiff	9922695	18340015	12/11/2018 4:04:58 AM
18DEC10D-105.wiff	CCV12_CAL4	N/A	12/11/2018 4:14:01 AM
18DEC10D-106.wiff	9922696BKG	18340015	12/11/2018 4:23:01 AM
18DEC10D-107.wiff	9922699	18340015	12/11/2018 4:32:01 AM
18DEC10D-108.wiff	9922697MS	18340015	12/11/2018 4:41:01 AM
18DEC10D-109.wiff	9922698MSD	18340015	12/11/2018 4:50:01 AM

20 mM Ammonium Acetate in H2O: 782412061833A
20 mM Ammonium Acetate in 0.5% H2O\Methanol: 782412061833B

APPROVED
By MCD at 6:11 pm, 12/11/18

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18DEC06DCAL-24.wiff	MDL	N/A	12/6/2018 11:28:31 PM
18DEC06DCAL-25.wiff	CAL1	N/A	12/6/2018 11:37:31 PM
18DEC06DCAL-26.wiff	CAL2	N/A	12/6/2018 11:46:31 PM
18DEC06DCAL-27.wiff	CAL3	N/A	12/6/2018 11:55:31 PM
18DEC06DCAL-28.wiff	CAL4	N/A	12/7/2018 12:04:31 AM
18DEC06DCAL-29.wiff	CAL5	N/A	12/7/2018 12:13:31 AM
18DEC06DCAL-30.wiff	CAL6	N/A	12/7/2018 12:22:31 AM
18DEC06DCAL-31.wiff	CAL7	N/A	12/7/2018 12:31:34 AM
18DEC06DCAL-32.wiff	Instrument Blank	N/A	12/7/2018 12:40:37 AM
18DEC06DCAL-33.wiff	ICV	N/A	12/7/2018 12:49:37 AM
18DEC06DCAL-34.wiff	L+B CAL3	N/A	12/7/2018 12:58:37 AM
18DEC06DCAL-35.wiff	CCV1_CAL3	N/A	12/7/2018 1:07:40 AM
18DEC11D-01.wiff	CCV1_ISC_CAL2	N/A	12/11/2018 4:59:04 AM
18DEC11D-02.wiff	Instrument Blank	N/A	12/11/2018 5:08:07 AM
18DEC11D-03.wiff	BLK343003	18343003	12/11/2018 5:17:10 AM
18DEC11D-04.wiff	LCS343003	18343003	12/11/2018 5:26:13 AM
18DEC11D-05.wiff	LCSDA	18343003	12/11/2018 5:35:13 AM
18DEC11D-06.wiff	9927672	18343003	12/11/2018 5:44:13 AM
18DEC11D-07.wiff	9927673	18343003	12/11/2018 5:53:16 AM
18DEC11D-08.wiff	9927674	18343003	12/11/2018 6:02:19 AM
18DEC11D-09.wiff	9927675	18343003	12/11/2018 6:11:22 AM
18DEC11D-10.wiff	9927676	18343003	12/11/2018 6:20:25 AM
18DEC11D-11.wiff	9927677	18343003	12/11/2018 6:29:28 AM
18DEC11D-12.wiff	9927678	18343003	12/11/2018 6:38:28 AM
18DEC11D-13.wiff	CCV2_CAL3	N/A	12/11/2018 6:47:28 AM
18DEC11D-14.wiff	9927679	18343003	12/11/2018 6:56:31 AM
18DEC11D-15.wiff	9927680	18343003	12/11/2018 7:05:34 AM
18DEC11D-16.wiff	solvent	N/A	12/11/2018 7:14:37 AM
18DEC11D-17.wiff	BLK344004	18344004	12/11/2018 7:23:40 AM
18DEC11D-18.wiff	LCS344004	18344004	12/11/2018 7:32:43 AM
18DEC11D-19.wiff	9922703	18344004	12/11/2018 7:41:43 AM
18DEC11D-20.wiff	9922704	18344004	12/11/2018 7:50:43 AM
18DEC11D-21.wiff	9922705	18344004	12/11/2018 7:59:43 AM
18DEC11D-22.wiff	9922706	18344004	12/11/2018 8:08:46 AM
18DEC11D-23.wiff	9922707	18344004	12/11/2018 8:17:46 AM
18DEC11D-24.wiff	9922708	18344004	12/11/2018 8:26:49 AM
18DEC11D-25.wiff	CCV3_CAL4	N/A	12/11/2018 8:35:53 AM
18DEC11D-26.wiff	9922709	18344004	12/11/2018 8:44:53 AM
18DEC11D-27.wiff	9922710	18344004	12/11/2018 8:53:55 AM
18DEC11D-28.wiff	9922712	18344004	12/11/2018 9:02:58 AM
18DEC11D-29.wiff	9922714BKG	18344004	12/11/2018 9:12:01 AM
18DEC11D-30.wiff	9922717	18344004	12/11/2018 9:21:04 AM
18DEC11D-31.wiff	9922718	18344004	12/11/2018 9:30:07 AM
18DEC11D-32.wiff	9922719	18344004	12/11/2018 9:39:10 AM
18DEC11D-33.wiff	9922720	18344004	12/11/2018 9:48:10 AM
18DEC11D-34.wiff	9922721	18344004	12/11/2018 9:57:11 AM
18DEC11D-35.wiff	9922722	18344004	12/11/2018 10:06:10 AM
18DEC11D-36.wiff	CCV4_ISC_CAL2	N/A	12/11/2018 10:15:11 AM
18DEC11D-37.wiff	9922723	18344004	12/11/2018 10:24:14 AM
18DEC11D-38.wiff	9922724	18344004	12/11/2018 10:33:14 AM
18DEC11D-39.wiff	9922715MS	18344004	12/11/2018 10:42:14 AM
18DEC11D-40.wiff	9922716MSD	18344004	12/11/2018 10:51:14 AM
18DEC11D-41.wiff	solvent	N/A	12/11/2018 11:00:13 AM
18DEC11D-42.wiff	BLK338005	18338005	12/11/2018 11:09:14 AM
18DEC11D-43.wiff	LCS338005	18338005	12/11/2018 11:18:13 AM
18DEC11D-44.wiff	9920182BKG	18338005	12/11/2018 11:27:14 AM
18DEC11D-45.wiff	9920185	18338005	12/11/2018 11:36:13 AM

APPROVED
By MCD at 9:48 pm, 12/12/18

Instrument Name: LM27631

18DEC11D-46.wiff	9920186	18338005	12/11/2018 11:45:14 AM
18DEC11D-47.wiff	9920187	18338005	12/11/2018 11:54:14 AM
18DEC11D-48.wiff	CCV5_CAL3	N/A	12/11/2018 12:03:17 PM
18DEC11D-49.wiff	9920188	18338005	12/11/2018 12:12:20 PM
18DEC11D-50.wiff	9920183MS	18338005	12/11/2018 12:21:23 PM
18DEC11D-51.wiff	9920184MSD	18338005	12/11/2018 12:30:26 PM
18DEC11D-52.wiff	solvent	N/A	12/11/2018 12:39:29 PM
18DEC11D-53.wiff	BLK339012	18339012	12/11/2018 12:48:32 PM
18DEC11D-54.wiff	LCS339012	18339012	12/11/2018 12:57:32 PM
18DEC11D-55.wiff	9920198BKG	18339012	12/11/2018 1:06:32 PM
18DEC11D-56.wiff	9920201	18339012	12/11/2018 1:15:35 PM
18DEC11D-57.wiff	9920202	18339012	12/11/2018 1:24:38 PM
18DEC11D-58.wiff	9920203	18339012	12/11/2018 1:33:41 PM
18DEC11D-59.wiff	9922700	18339012	12/11/2018 1:42:44 PM
18DEC11D-60.wiff	CCV6_CAL4	N/A	12/11/2018 1:51:47 PM
18DEC11D-61.wiff	9922701	18339012	12/11/2018 2:00:50 PM
18DEC11D-62.wiff	9922702	18339012	12/11/2018 2:09:53 PM
18DEC11D-63.wiff	9920199MS	18339012	12/11/2018 2:18:56 PM
18DEC11D-64.wiff	9920200MSD	18339012	12/11/2018 2:27:56 PM
18DEC11D-65.wiff	LCS340014	18340014	12/11/2018 2:36:59 PM
18DEC11D-66.wiff	CCV7_ISC_CAL2	N/A	12/11/2018 2:46:02 PM
18DEC11D-67.wiff	solvent	N/A	12/11/2018 2:55:05 PM
18DEC11D-68.wiff	BLK344020	18344020	12/11/2018 3:04:08 PM
18DEC11D-69.wiff	LCS344020	18344020	12/11/2018 3:13:11 PM
18DEC11D-70.wiff	9920476	18344020	12/11/2018 3:22:14 PM
18DEC11D-71.wiff	9922711	18344020	12/11/2018 3:31:17 PM
18DEC11D-72.wiff	9930102	18344020	12/11/2018 3:40:20 PM
18DEC11D-73.wiff	9930103	18344020	12/11/2018 3:49:23 PM
18DEC11D-74.wiff	9930104	18344020	12/11/2018 3:58:23 PM
18DEC11D-75.wiff	9930105	18344020	12/11/2018 4:07:23 PM
18DEC11D-76.wiff	9930106	18344020	12/11/2018 4:16:23 PM
18DEC11D-77.wiff	9930107	18344020	12/11/2018 4:25:26 PM
18DEC11D-78.wiff	CCV8_CAL3	N/A	12/11/2018 4:34:29 PM
18DEC11D-79.wiff	9931255	18344020	12/11/2018 4:43:32 PM
18DEC11D-80.wiff	9931952BKG	18344020	12/11/2018 4:52:35 PM
18DEC11D-81.wiff	9931953MS	18344020	12/11/2018 5:01:38 PM
18DEC11D-82.wiff	9931954MSD	18344020	12/11/2018 5:10:38 PM
18DEC11D-83.wiff	9931955	18344020	12/11/2018 5:19:41 PM
18DEC11D-84.wiff	solvent	N/A	12/11/2018 5:28:44 PM
18DEC11D-85.wiff	LCS339002	18339002	12/11/2018 5:37:47 PM
18DEC11D-86.wiff	9920648	18339002	12/11/2018 5:46:50 PM
18DEC11D-87.wiff	9920654DL	18339002	12/11/2018 5:55:53 PM
18DEC11D-88.wiff	CCV9_CAL4	N/A	12/11/2018 6:04:56 PM

20 mM Ammonium Acetate in H2O: 782412061833A
20 mM Ammonium Acetate in 0.5% H2O\Methanol: 782412061833B

APPROVED
By MCD at 9:48 pm, 12/12/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample File Name	Acquisition Date	Sample ID	Sample Name
18DEC06DCAL-25.wiff	12/6/2018 11:37:31 PM	CALBRN11833C	CAL1
18DEC06DCAL-26.wiff	12/6/2018 11:46:31 PM	CALBRN21833C	CAL2
18DEC06DCAL-27.wiff	12/6/2018 11:55:31 PM	CALBRN31833B	CAL3
18DEC06DCAL-28.wiff	12/7/2018 12:04:31 AM	CALBRN41833B	CAL4
18DEC06DCAL-29.wiff	12/7/2018 12:13:31 AM	CALBRN51833B	CAL5
18DEC06DCAL-30.wiff	12/7/2018 12:22:31 AM	CALBRN61833B	CAL6
18DEC06DCAL-31.wiff	12/7/2018 12:31:34 AM	CALBRN71833B	CAL7

CAL3 Injection Standard Areas

Sample Name	Injection Std Name	Injection Std Area
CAL3	13C3-PFBA	825688.9
CAL3	13C2-PFOA	449802.8
CAL3	13C4-PFOS	276858.3
CAL3	13C2-PFDA	315428.3

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Response Factor Table

Analyte Name	CAL 1	CAL 2	CAL 3	CAL 4	CAL 5	CAL 6	CAL 7	%RSD	Limit	OOS	r^2	OOS
PFBA	1.098	0.864	1.025	0.908	0.935	0.889	N/A	9	20		0.999	
PFPeA	1.142	0.890	1.054	0.950	0.988	0.931	N/A	8	20		0.999	
PFBS	1.074	0.869	1.046	0.934	0.986	0.937	0.928	7	20		0.999	
4:2-FTS	1.810	1.498	2.080	1.740	1.906	1.666	N/A	10	20		0.995	
PFHxA	1.413	1.196	1.354	1.279	1.191	1.099	N/A	8	20		0.997	
PFPeS	0.557	0.443	0.517	0.455	0.491	0.476	0.462	8	20		0.999	
PFHpA	1.855	1.543	1.663	1.546	1.489	N/A	N/A	8	20		0.999	
PFHxS	0.972	0.820	1.018	0.981	0.941	0.975	1.024	7	20		0.999	
6:2-FTS	1.956	2.095	2.080	1.928	1.944	1.889	N/A	4	20		1.000	
PFHpS	0.839	0.839	0.949	0.920	0.853	0.834	0.871	5	20		0.999	
PFOA	1.084	0.875	1.037	0.964	0.996	0.947	0.876	7	20		0.997	
PFOS	1.189	1.039	1.184	1.078	1.076	1.152	1.174	5	20		0.999	
PFNA	1.483	1.175	1.504	1.389	1.393	1.333	N/A	8	20		0.999	
PFNS	0.761	0.593	0.831	0.757	0.755	0.760	0.730	9	20		0.999	
PFDA	1.055	0.842	1.011	0.932	0.983	0.894	0.860	8	20		0.998	
8:2-FTS	2.370	2.067	2.235	2.167	2.377	2.151	N/A	5	20		0.998	
PFOSA	0.984	0.811	1.075	0.978	1.010	1.007	0.931	8	20		0.998	
NMeFOSAA	0.778	0.759	0.847	0.823	0.821	0.733	0.747	5	20		0.998	
PFDS	0.585	0.491	0.650	0.603	0.568	0.604	0.588	8	20		0.999	
PFUnDA	1.980	1.615	1.842	1.678	1.682	1.601	1.631	8	20		1.000	
NEtFOSAA	1.266	0.831	1.102	1.000	0.967	0.993	N/A	13	20		0.999	
PFDoDA	1.236	0.818	1.031	0.967	0.992	0.927	N/A	13	20		0.999	
10:2-FTS	1.450	1.610	1.956	1.824	2.334	1.839	1.685	14	20		0.988	
NMePFOSAE	1.322	1.090	1.326	1.209	1.332	1.181	1.091	8	20		0.995	
NMePFOSA	1.080	0.882	1.056	0.997	1.008	0.948	1.007	6	20		0.999	
PFDoS	0.325	0.274	0.330	0.305	0.308	0.315	0.314	5	20		1.000	
NEtPFOSAE	1.601	1.613	1.743	1.593	1.605	1.468	1.468	6	20		0.999	
NEtPFOSA	0.937	1.097	1.218	1.016	1.129	1.054	1.022	8	20		0.999	
PFTrDA	0.811	0.731	0.894	0.836	0.810	0.728	N/A	7	20		0.996	
PFTeDA	0.998	0.862	1.003	0.910	0.896	0.855	N/A	6	20		0.999	
PFHxDA	0.509	0.379	0.466	0.390	0.411	0.397	0.397	11	20		1.000	
PFODA	0.338	0.285	0.327	0.293	0.313	0.309	0.314	5	20		1.000	

APPROVED
By MSM at 1:53 pm, 12/7/18

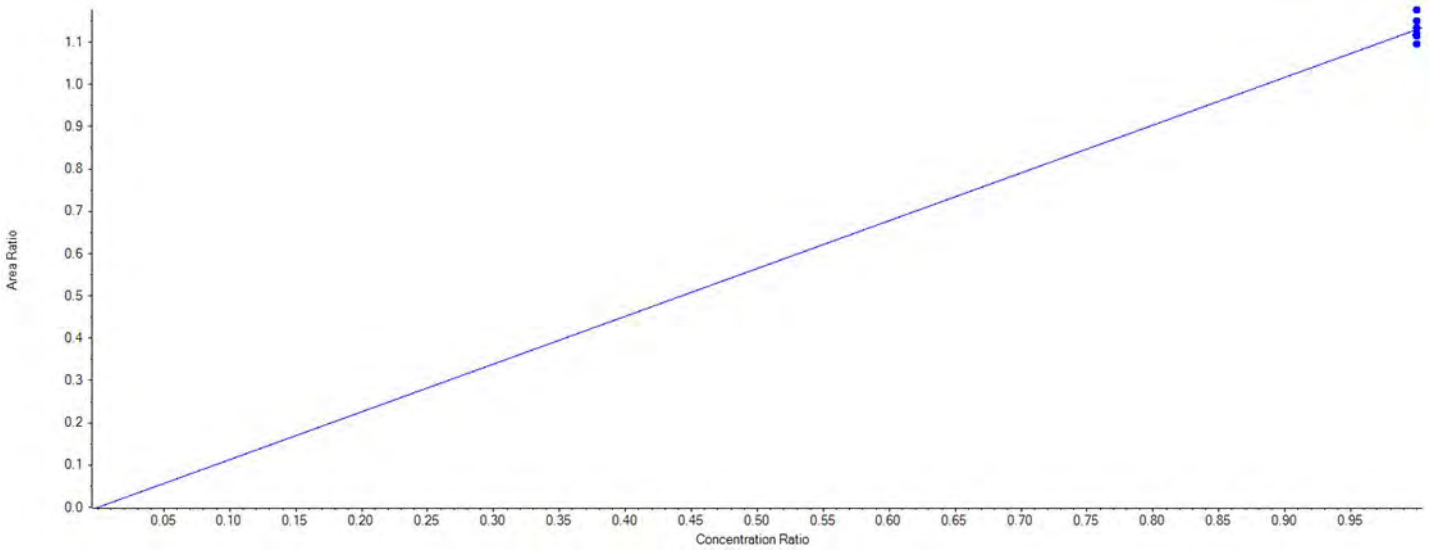
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFBA

y = 1.12976 x (std. dev. = 0.02669) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C4-PFBA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	898694.92	804002.52	True	5.00	1.118	3.28	1.000	5.000	4.947	-1	30	
CAL2	956879.62	813532.84	True	5.00	1.176	3.27	1.000	5.000	5.206	4	30	
CAL3	936631.96	825688.88	True	5.00	1.134	3.27	1.000	5.000	5.020	0	30	
CAL4	937321.23	856263.90	True	5.00	1.095	3.27	1.000	5.000	4.845	-3	30	
CAL5	852222.77	764407.02	True	5.00	1.115	3.27	1.000	5.000	4.934	-1	30	
CAL6	779560.55	677845.97	True	5.00	1.150	3.27	1.000	5.000	5.090	2	30	
CAL7	674364.92	601926.90	True	5.00	1.120	3.27	1.000	5.000	4.958	-1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

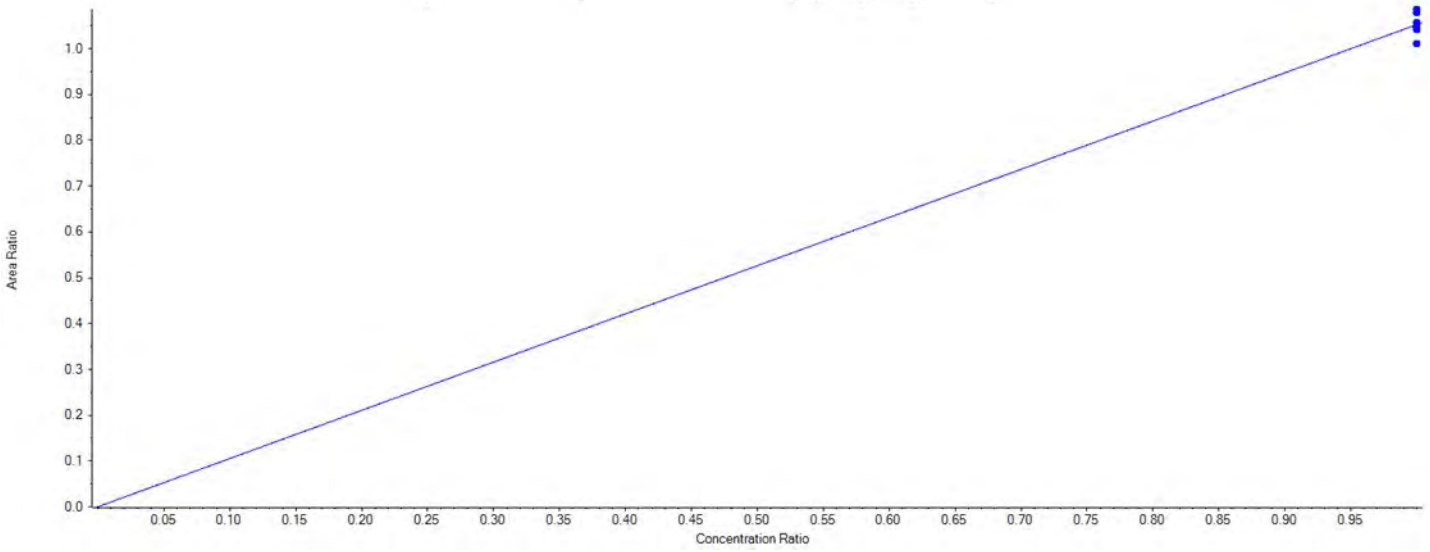
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFPeA

y = 1.05278 x (std. dev. = 0.02487) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C5-PFPeA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	841151.01	804002.52	True	5.00	1.046	3.77	1.150	5.000	4.969	-1	30	
CAL2	852542.70	813532.84	True	5.00	1.048	3.77	1.150	5.000	4.977	0	30	
CAL3	860904.33	825688.88	True	5.00	1.043	3.77	1.150	5.000	4.952	-1	30	
CAL4	865794.49	856263.90	True	5.00	1.011	3.77	1.150	5.000	4.802	-4	30	
CAL5	807458.25	764407.02	True	5.00	1.056	3.77	1.150	5.000	5.017	0	30	
CAL6	735887.05	677845.97	True	5.00	1.086	3.77	1.150	5.000	5.156	3	30	
CAL7	649808.28	601926.90	True	5.00	1.080	3.77	1.150	5.000	5.127	3	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

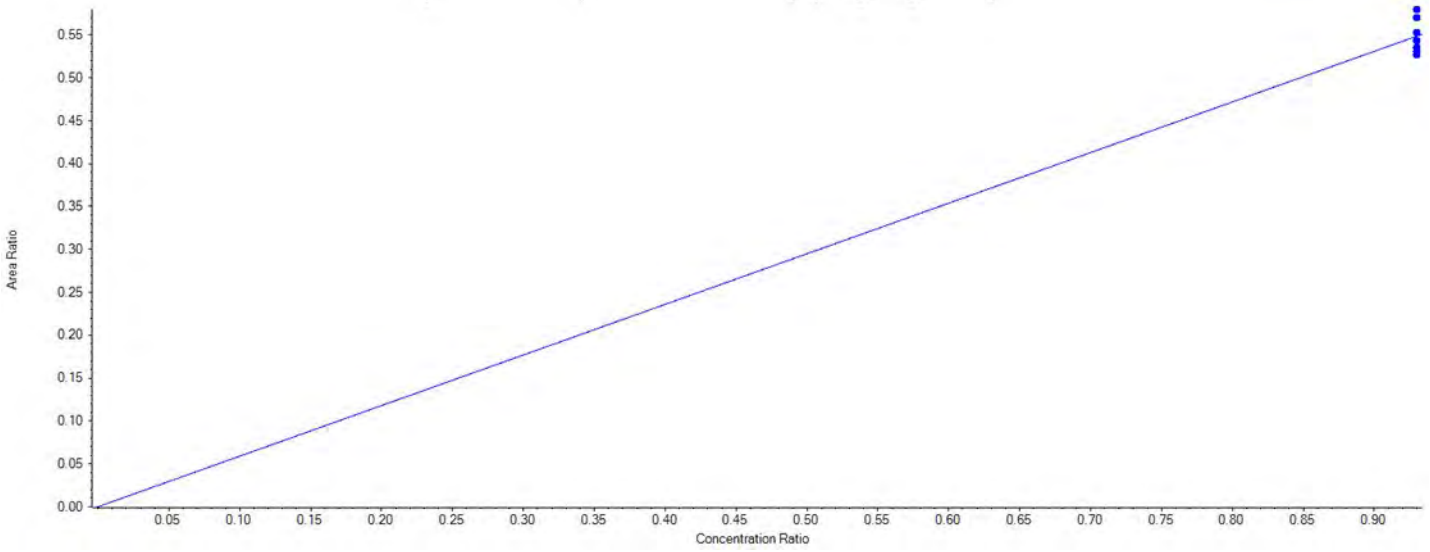
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFBS

y = 0.58987 x (std. dev. = 0.02171) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C3-PFBS Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	426818.09	804002.52	True	5.00	0.531	3.82	1.170	4.650	4.500	-3	30	
CAL2	449605.58	813532.84	True	5.00	0.553	3.82	1.170	4.650	4.685	1	30	
CAL3	442018.22	825688.88	True	5.00	0.535	3.82	1.170	4.650	4.538	-2	30	
CAL4	451275.83	856263.90	True	5.00	0.527	3.82	1.170	4.650	4.467	-4	30	
CAL5	415721.12	764407.02	True	5.00	0.544	3.82	1.170	4.650	4.610	-1	30	
CAL6	392877.27	677845.97	True	5.00	0.580	3.82	1.170	4.650	4.913	6	30	
CAL7	343547.87	601926.90	True	5.00	0.571	3.82	1.170	4.650	4.838	4	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

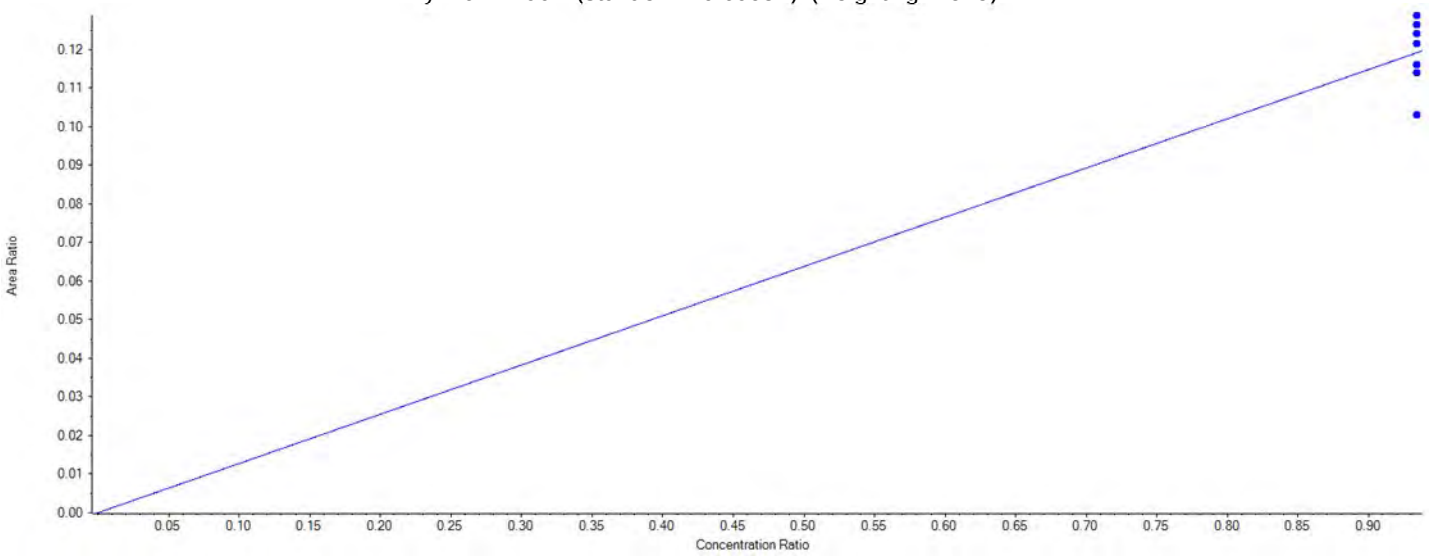
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-4:2-FTS

y = 0.12760 x (std. dev. = 0.00951) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-4:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	53888.76	433955.28	True	5.00	0.124	4.14	0.840	4.670	4.866	4	30	
CAL2	54114.25	427587.52	True	5.00	0.127	4.13	0.840	4.670	4.959	6	30	
CAL3	46397.66	449802.77	True	5.00	0.103	4.14	0.840	4.670	4.042	-13	30	
CAL4	53204.09	467059.35	True	5.00	0.114	4.13	0.840	4.670	4.464	-4	30	
CAL5	49011.43	422543.93	True	5.00	0.116	4.13	0.840	4.670	4.545	-3	30	
CAL6	49555.02	407328.46	True	5.00	0.122	4.13	0.840	4.670	4.767	2	30	
CAL7	49950.52	387778.11	True	5.00	0.129	4.13	0.840	4.670	5.047	8	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

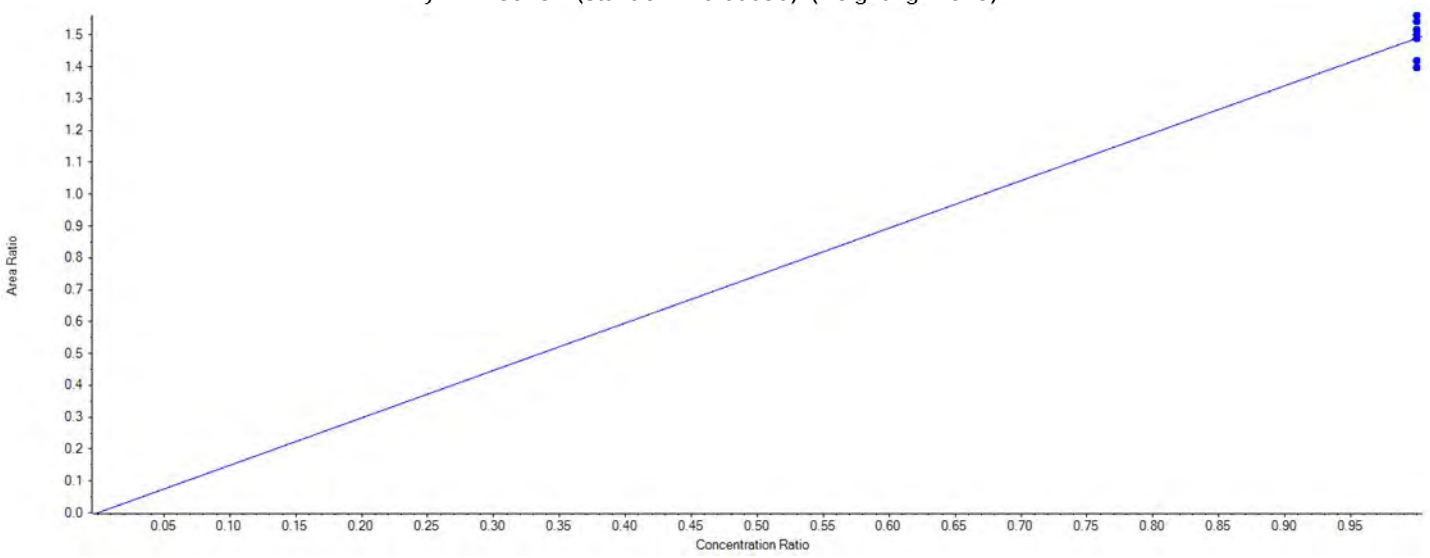
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFHxA

y = 1.48923 x (std. dev. = 0.06056) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C5-PFHxA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	658089.96	433955.28	True	5.00	1.516	4.17	0.850	5.000	5.092	2	30	
CAL2	667261.24	427587.52	True	5.00	1.561	4.16	0.850	5.000	5.239	5	30	
CAL3	675673.64	449802.77	True	5.00	1.502	4.17	0.850	5.000	5.043	1	30	
CAL4	653028.28	467059.35	True	5.00	1.398	4.17	0.850	5.000	4.694	-6	30	
CAL5	650822.82	422543.93	True	5.00	1.540	4.17	0.850	5.000	5.171	3	30	
CAL6	606649.18	407328.46	True	5.00	1.489	4.16	0.850	5.000	5.000	0	30	
CAL7	549743.17	387778.11	True	5.00	1.418	4.16	0.850	5.000	4.760	-5	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

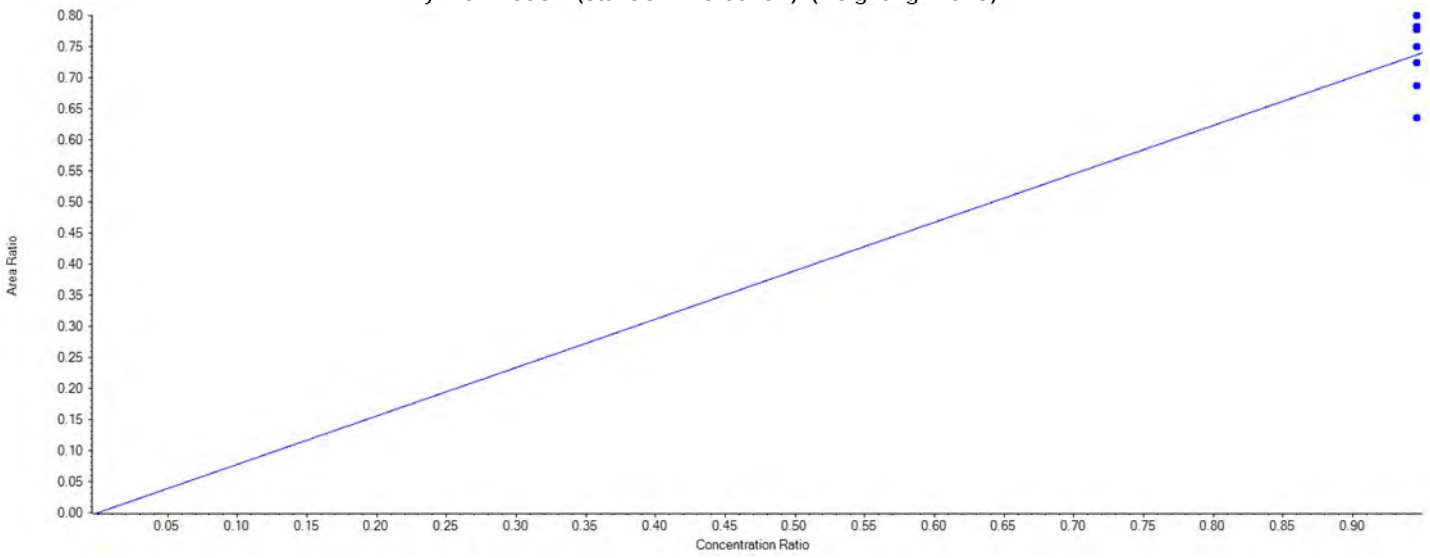
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFHxS

y = 0.77953 x (std. dev. = 0.06251) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C3-PFHxS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	339911.13	433955.28	True	5.00	0.783	4.56	0.930	4.730	5.024	6	30	
CAL2	342350.12	427587.52	True	5.00	0.801	4.55	0.930	4.730	5.135	9	30	
CAL3	337878.72	449802.77	True	5.00	0.751	4.56	0.930	4.730	4.818	2	30	
CAL4	321174.93	467059.35	True	5.00	0.688	4.56	0.930	4.730	4.411	-7	30	
CAL5	328924.25	422543.93	True	5.00	0.778	4.56	0.930	4.730	4.993	6	30	
CAL6	295455.62	407328.46	True	5.00	0.725	4.56	0.930	4.730	4.652	-2	30	
CAL7	246441.16	387778.11	True	5.00	0.636	4.55	0.920	4.730	4.076	-14	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

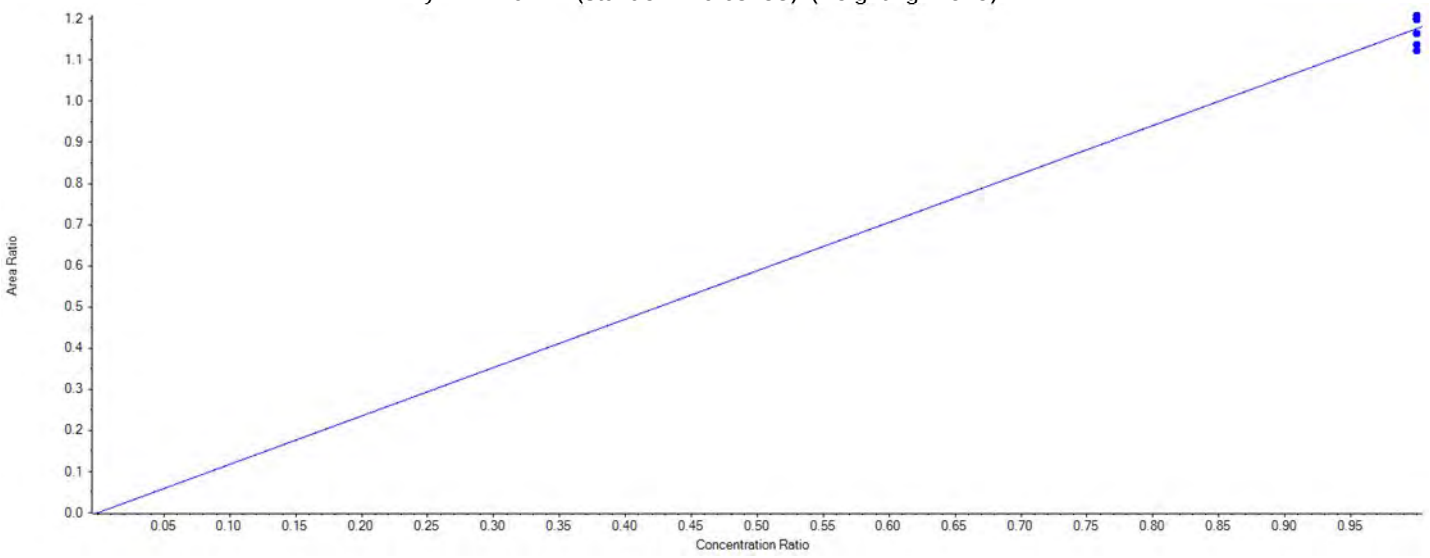
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFHpA

y = 1.17612 x (std. dev. = 0.03458) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C4-PFHpA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	505550.33	433955.28	True	5.00	1.165	4.56	0.920	5.000	4.953	-1	30	
CAL2	513029.29	427587.52	True	5.00	1.200	4.55	0.920	5.000	5.101	2	30	
CAL3	543346.60	449802.77	True	5.00	1.208	4.56	0.930	5.000	5.135	3	30	
CAL4	530667.18	467059.35	True	5.00	1.136	4.55	0.920	5.000	4.830	-3	30	
CAL5	506360.31	422543.93	True	5.00	1.198	4.56	0.920	5.000	5.095	2	30	
CAL6	489476.90	407328.46	True	5.00	1.202	4.55	0.920	5.000	5.109	2	30	
CAL7	435799.63	387778.11	True	5.00	1.124	4.55	0.920	5.000	4.778	-4	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

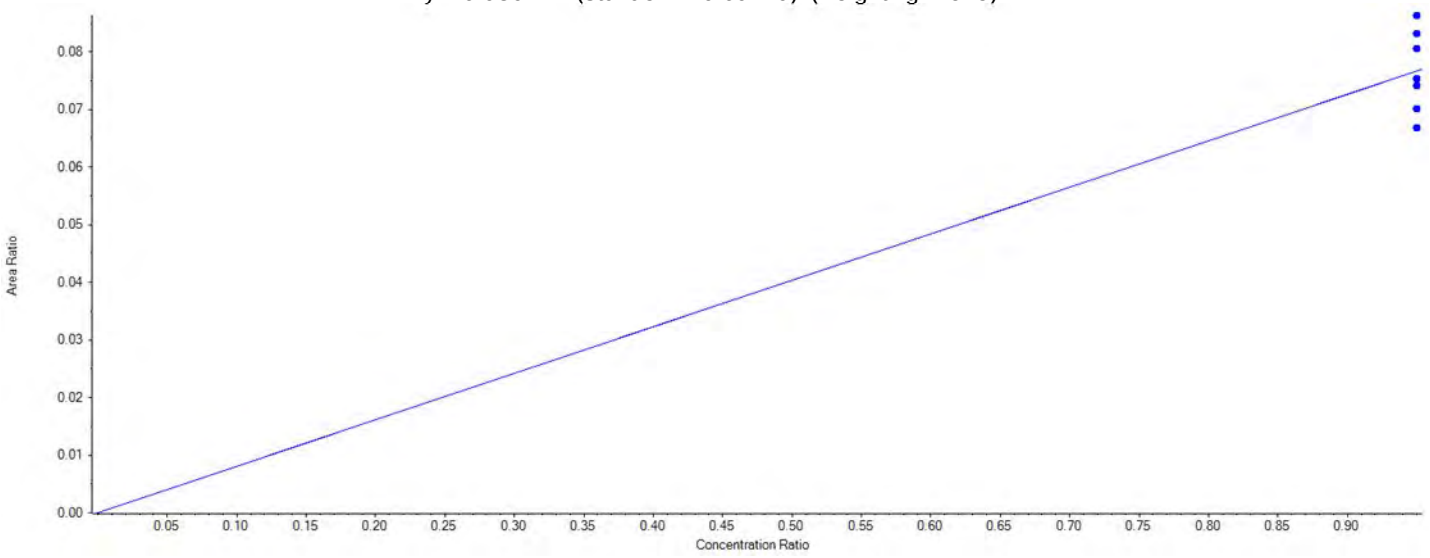
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-6:2-FTS

y = 0.08071 x (std. dev. = 0.00740) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-6:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	37457.50	433955.28	True	5.00	0.086	4.92	1.000	4.750	5.347	13	30	
CAL2	35543.06	427587.52	True	5.00	0.083	4.91	1.000	4.750	5.150	8	30	
CAL3	36276.48	449802.77	True	5.00	0.081	4.91	1.000	4.750	4.996	5	30	
CAL4	35211.09	467059.35	True	5.00	0.075	4.91	1.000	4.750	4.670	-2	30	
CAL5	31346.83	422543.93	True	5.00	0.074	4.91	1.000	4.750	4.596	-3	30	
CAL6	27234.78	407328.46	True	5.00	0.067	4.91	1.000	4.750	4.142	-13	30	
CAL7	27219.54	387778.11	True	5.00	0.070	4.91	1.000	4.750	4.349	-8	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

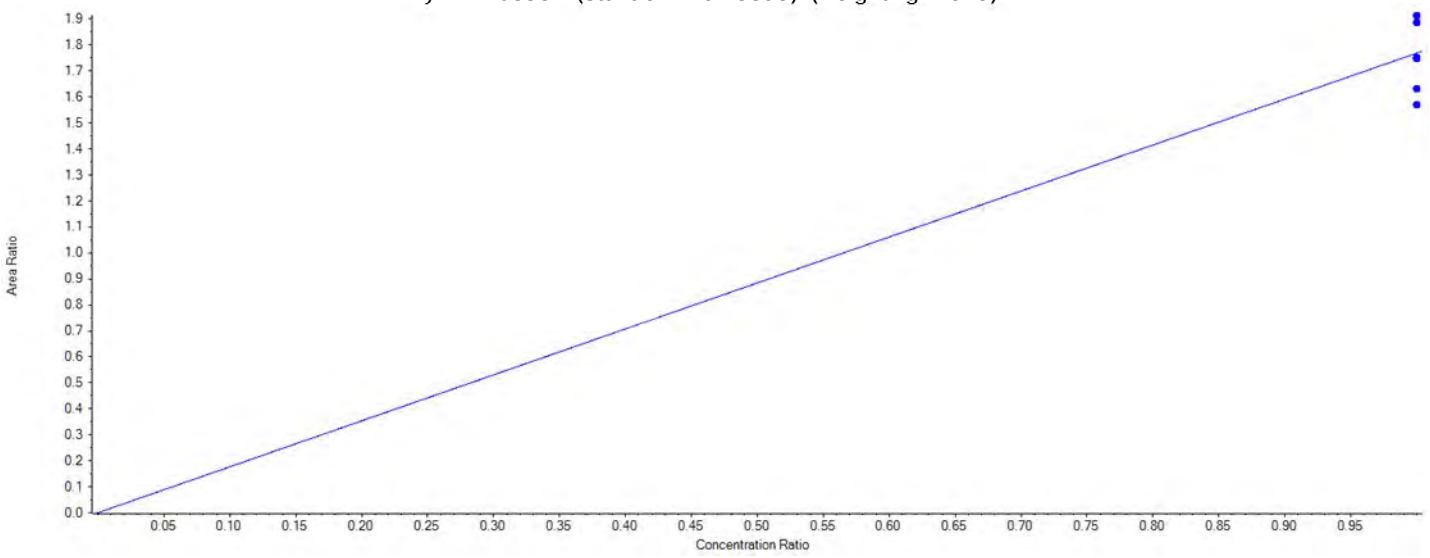
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOA

y = 1.76883 x (std. dev. = 0.13398) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	818121.26	433955.28	True	5.00	1.885	4.93	1.000	5.000	5.329	7	30	
CAL2	818119.44	427587.52	True	5.00	1.913	4.92	1.000	5.000	5.408	8	30	
CAL3	847979.16	449802.77	True	5.00	1.885	4.92	1.000	5.000	5.329	7	30	
CAL4	816400.08	467059.35	True	5.00	1.748	4.92	1.000	5.000	4.941	-1	30	
CAL5	739531.43	422543.93	True	5.00	1.750	4.93	1.000	5.000	4.947	-1	30	
CAL6	664219.19	407328.46	True	5.00	1.631	4.92	1.000	5.000	4.609	-8	30	
CAL7	608500.38	387778.11	True	5.00	1.569	4.92	1.000	5.000	4.436	-11	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

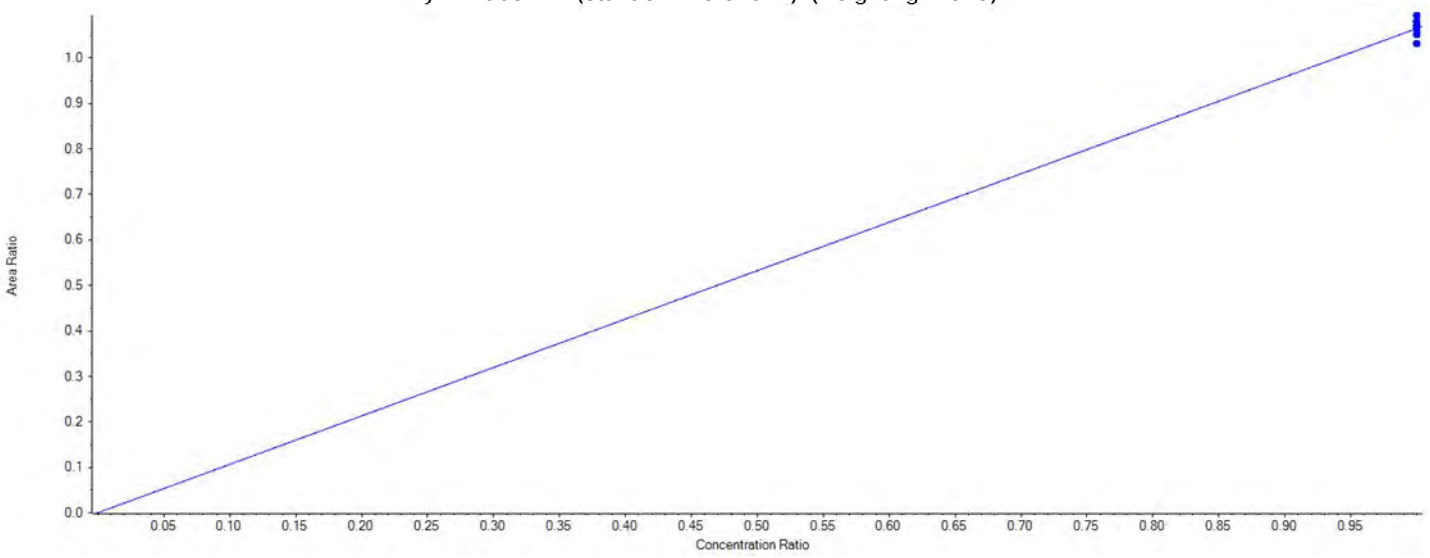
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOS

y = 1.06511 x (std. dev. = 0.02011) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOS Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	296771.13	274852.70	True	4.78	1.080	5.26	1.000	4.780	4.846	1	30	
CAL2	308155.48	287749.94	True	4.78	1.071	5.25	1.000	4.780	4.806	1	30	
CAL3	294019.28	276858.25	True	4.78	1.062	5.26	1.000	4.780	4.766	0	30	
CAL4	299310.50	284903.08	True	4.78	1.051	5.25	1.000	4.780	4.715	-1	30	
CAL5	286479.93	261977.37	True	4.78	1.094	5.26	1.000	4.780	4.908	3	30	
CAL6	255714.77	247949.79	True	4.78	1.031	5.25	1.000	4.780	4.628	-3	30	
CAL7	231168.31	216503.60	True	4.78	1.068	5.25	1.000	4.780	4.792	0	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

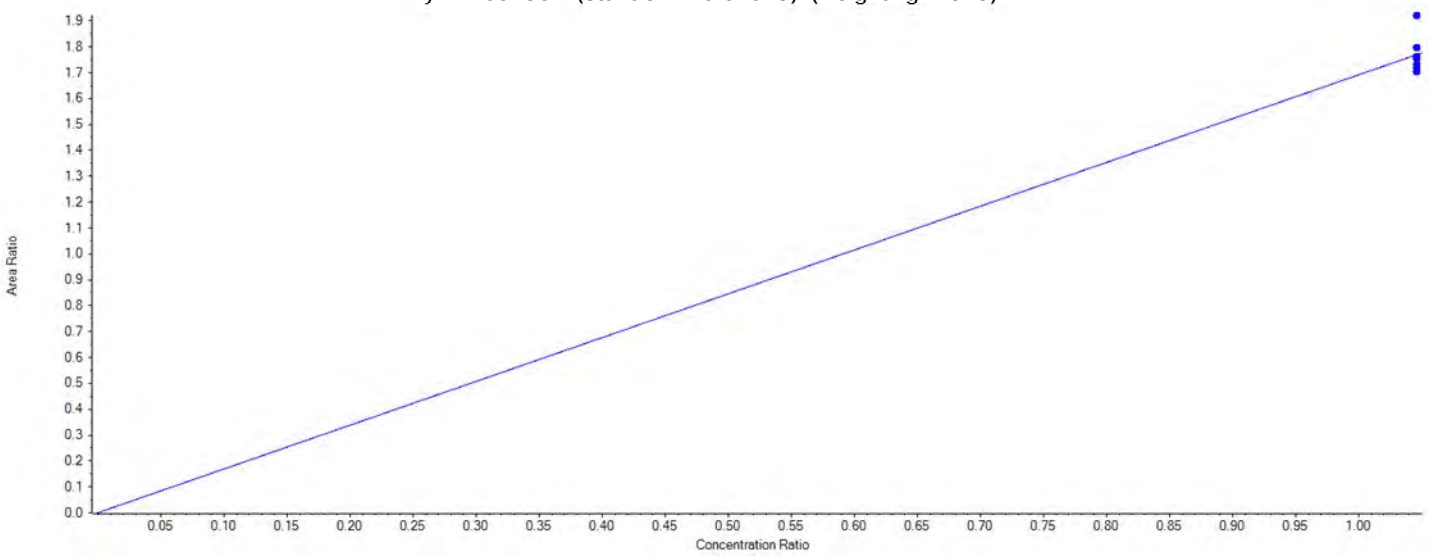
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C9-PFNA

y = 1.69155 x (std. dev. = 0.07028) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C9-PFNA Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	472343.16	274852.70	True	4.78	1.719	5.27	1.000	5.000	4.856	-3	30	
CAL2	489864.82	287749.94	True	4.78	1.702	5.27	1.000	5.000	4.811	-4	30	
CAL3	487999.89	276858.25	True	4.78	1.763	5.27	1.000	5.000	4.981	0	30	
CAL4	492781.53	284903.08	True	4.78	1.730	5.27	1.000	5.000	4.888	-2	30	
CAL5	459963.38	261977.37	True	4.78	1.756	5.27	1.000	5.000	4.961	-1	30	
CAL6	445443.05	247949.79	True	4.78	1.797	5.27	1.000	5.000	5.077	2	30	
CAL7	415771.23	216503.60	True	4.78	1.920	5.27	1.000	5.000	5.427	9	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

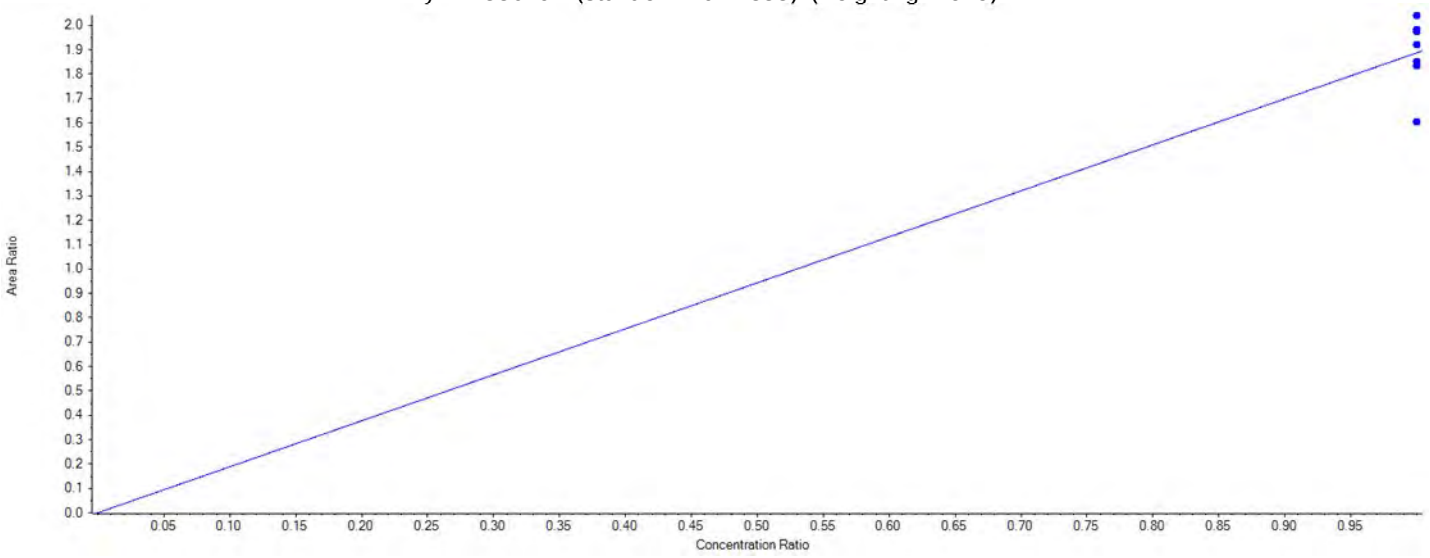
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C6-PFDA

y = 1.88679 x (std. dev. = 0.14388) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C6-PFDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	610780.80	330011.01	True	5.00	1.851	5.58	1.000	5.000	4.905	-2	30	
CAL2	620021.26	303983.96	True	5.00	2.040	5.58	1.000	5.000	5.405	8	30	
CAL3	622094.83	315428.26	True	5.00	1.972	5.58	1.000	5.000	5.226	5	30	
CAL4	611644.12	381032.92	True	5.00	1.605	5.58	1.000	5.000	4.254	-15	30	
CAL5	550668.27	286525.96	True	5.00	1.922	5.58	1.000	5.000	5.093	2	30	
CAL6	541153.24	272997.03	True	5.00	1.982	5.58	1.000	5.000	5.253	5	30	
CAL7	491017.31	267511.10	True	5.00	1.836	5.58	1.000	5.000	4.864	-3	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

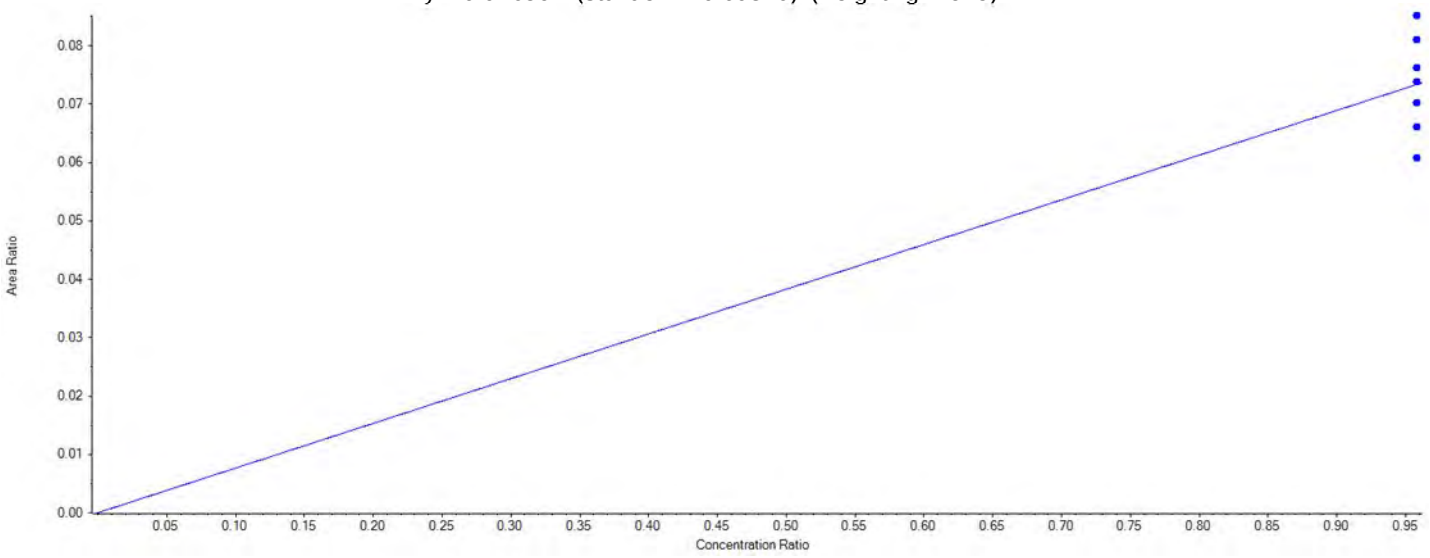
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-8:2-FTS

y = 0.07659 x (std. dev. = 0.00876) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-8:2-FTS Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	23191.69	330011.01	True	5.00	0.070	5.59	1.000	4.790	4.588	-4	30	
CAL2	25892.25	303983.96	True	5.00	0.085	5.58	1.000	4.790	5.561	16	30	
CAL3	25542.30	315428.26	True	5.00	0.081	5.59	1.000	4.790	5.287	10	30	
CAL4	23195.67	381032.92	True	5.00	0.061	5.58	1.000	4.790	3.974	-17	30	
CAL5	18960.22	286525.96	True	5.00	0.066	5.58	1.000	4.790	4.320	-10	30	
CAL6	20179.01	272997.03	True	5.00	0.074	5.58	1.000	4.790	4.826	1	30	
CAL7	20381.41	267511.10	True	5.00	0.076	5.58	1.000	4.790	4.974	4	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

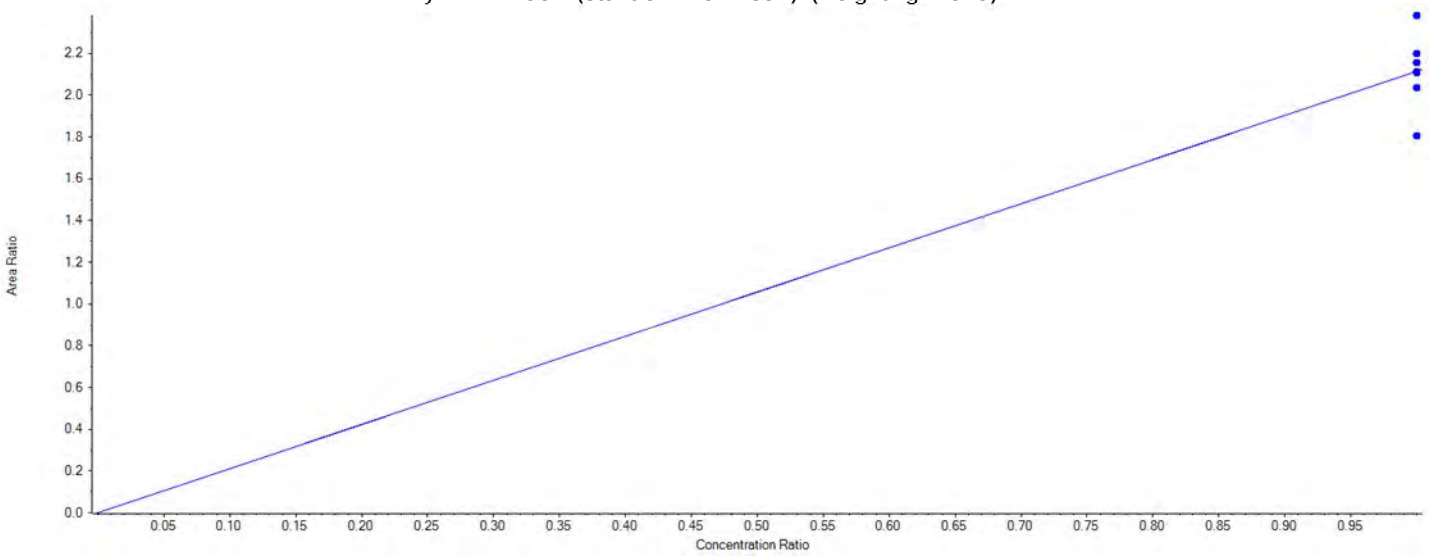
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOSA

y = 2.11408 x (std. dev. = 0.17387) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	695258.63	330011.01	True	5.00	2.107	5.67	1.010	5.000	4.983	0	30	
CAL2	723822.87	303983.96	True	5.00	2.381	5.66	1.020	5.000	5.632	13	30	
CAL3	693861.54	315428.26	True	5.00	2.200	5.66	1.010	5.000	5.203	4	30	
CAL4	688204.51	381032.92	True	5.00	1.806	5.66	1.020	5.000	4.272	-15	30	
CAL5	617622.80	286525.96	True	5.00	2.156	5.67	1.020	5.000	5.098	2	30	
CAL6	576971.52	272997.03	True	5.00	2.113	5.66	1.010	5.000	4.999	0	30	
CAL7	544579.33	267511.10	True	5.00	2.036	5.66	1.010	5.000	4.815	-4	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

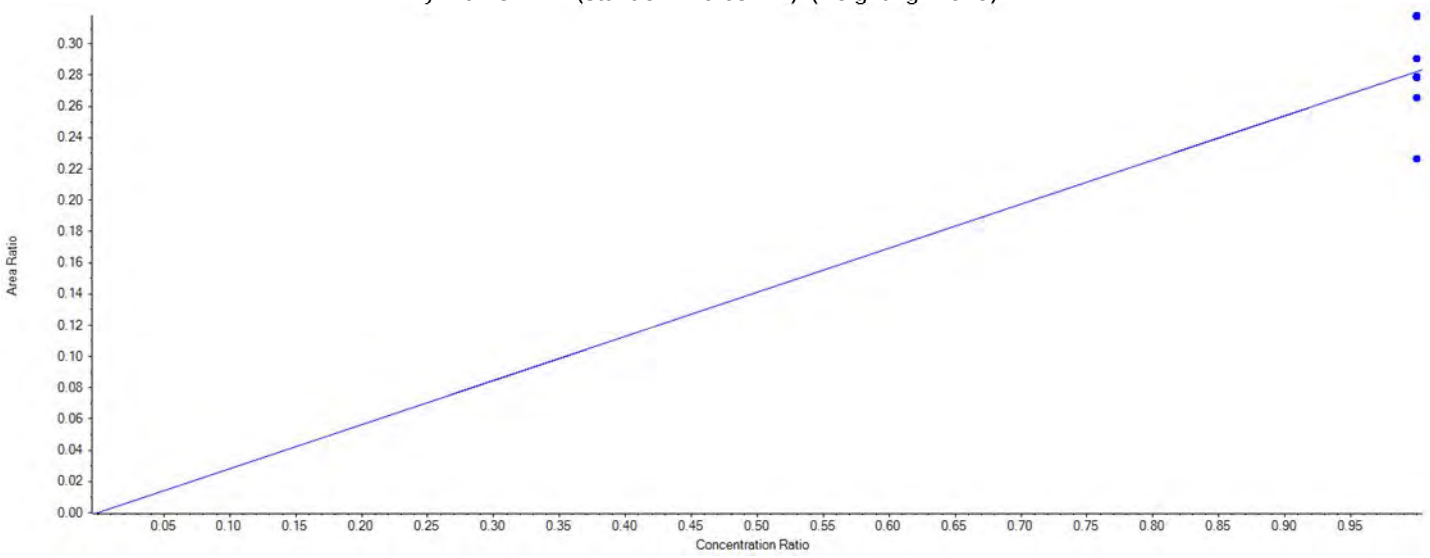
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMeFOSAA

y = 0.28214 x (std. dev. = 0.03172) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed3-NMeFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	91943.99	330011.01	True	5.00	0.279	5.73	1.030	5.000	4.937	-1	30	
CAL2	84870.09	303983.96	True	5.00	0.279	5.72	1.030	5.000	4.948	-1	30	
CAL3	83733.38	315428.26	True	5.00	0.265	5.73	1.030	5.000	4.704	-6	30	
CAL4	86138.32	381032.92	True	5.00	0.226	5.72	1.030	5.000	4.006	-20	30	
CAL5	83194.53	286525.96	True	5.00	0.290	5.72	1.030	5.000	5.146	3	30	
CAL6	86838.40	272997.03	True	5.00	0.318	5.72	1.030	5.000	5.637	13	30	
CAL7	84863.12	267511.10	True	5.00	0.317	5.72	1.030	5.000	5.622	12	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

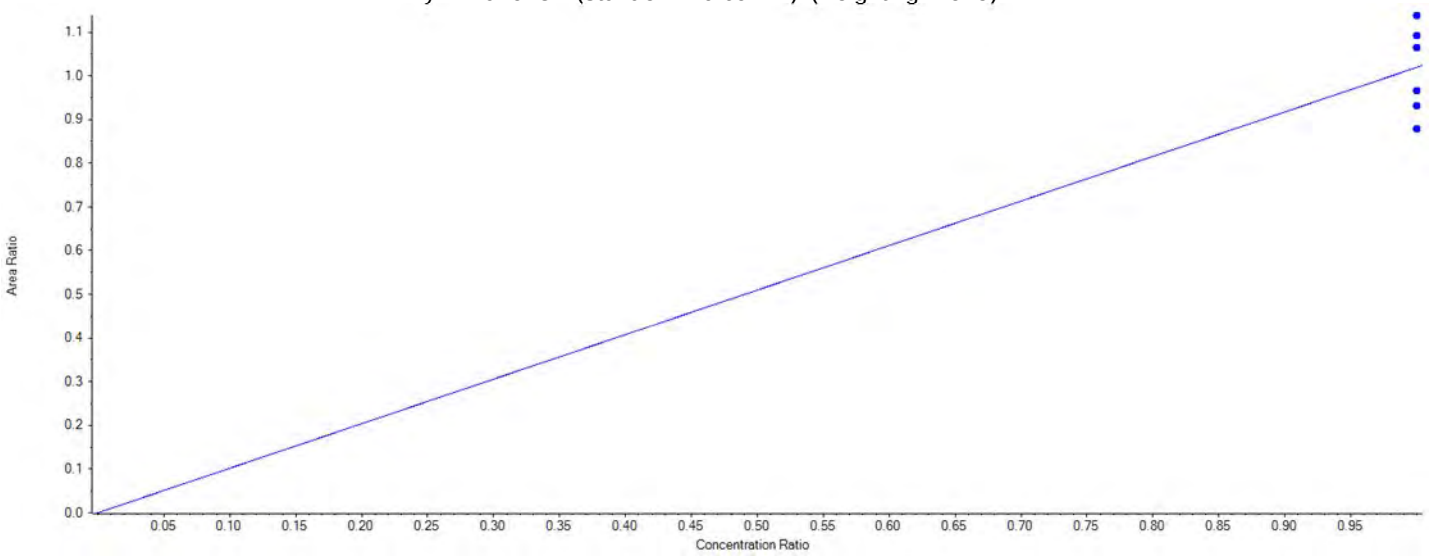
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C7-PFUnDA

y = 1.01928 x (std. dev. = 0.09441) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C7-PFUnDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	318852.78	330011.01	True	5.00	0.966	5.85	1.050	5.000	4.740	-5	30	
CAL2	345908.67	303983.96	True	5.00	1.138	5.84	1.050	5.000	5.582	12	30	
CAL3	335572.48	315428.26	True	5.00	1.064	5.85	1.050	5.000	5.219	4	30	
CAL4	335166.97	381032.92	True	5.00	0.880	5.85	1.050	5.000	4.315	-14	30	
CAL5	305265.77	286525.96	True	5.00	1.065	5.85	1.050	5.000	5.226	5	30	
CAL6	297859.04	272997.03	True	5.00	1.091	5.85	1.050	5.000	5.352	7	30	
CAL7	249018.66	267511.10	True	5.00	0.931	5.84	1.050	5.000	4.566	-9	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

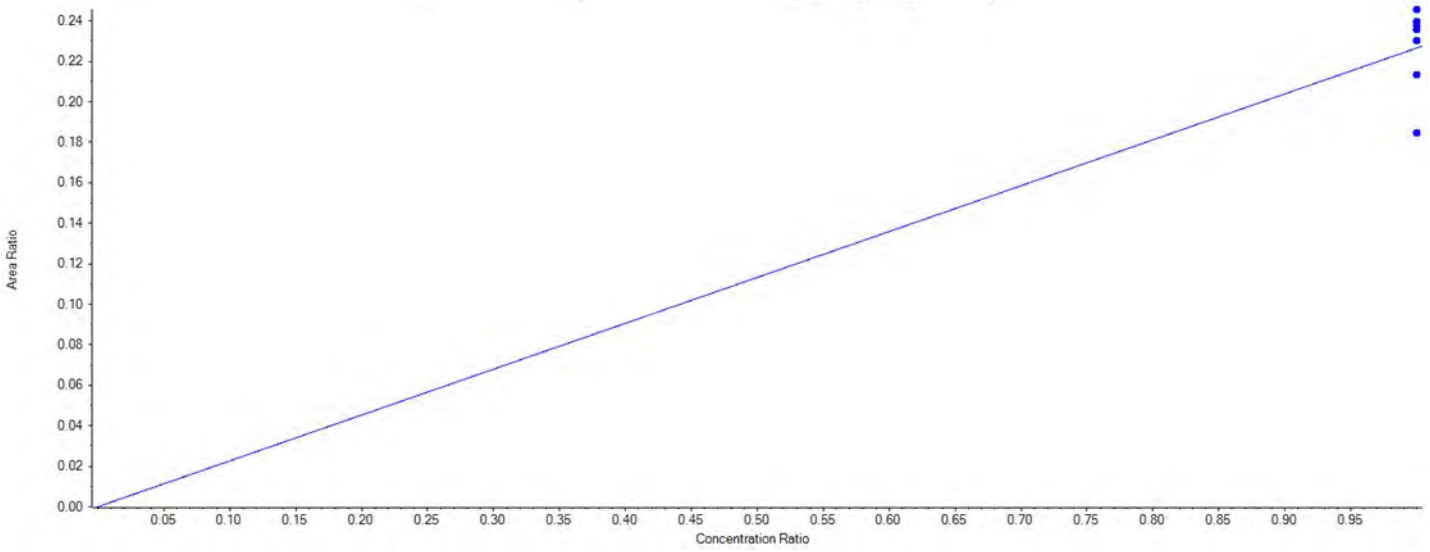
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtFOSAA

y = 0.22650 x (std. dev. = 0.02112) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed5-NEtFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	70354.75	330011.01	True	5.00	0.213	5.86	1.050	5.000	4.706	-6	30	
CAL2	74625.88	303983.96	True	5.00	0.245	5.86	1.050	5.000	5.419	8	30	
CAL3	72524.36	315428.26	True	5.00	0.230	5.86	1.050	5.000	5.076	2	30	
CAL4	70313.98	381032.92	True	5.00	0.185	5.86	1.050	5.000	4.074	-19	30	
CAL5	67520.89	286525.96	True	5.00	0.236	5.86	1.050	5.000	5.202	4	30	
CAL6	64805.85	272997.03	True	5.00	0.237	5.86	1.050	5.000	5.240	5	30	
CAL7	64018.92	267511.10	True	5.00	0.239	5.85	1.050	5.000	5.283	6	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

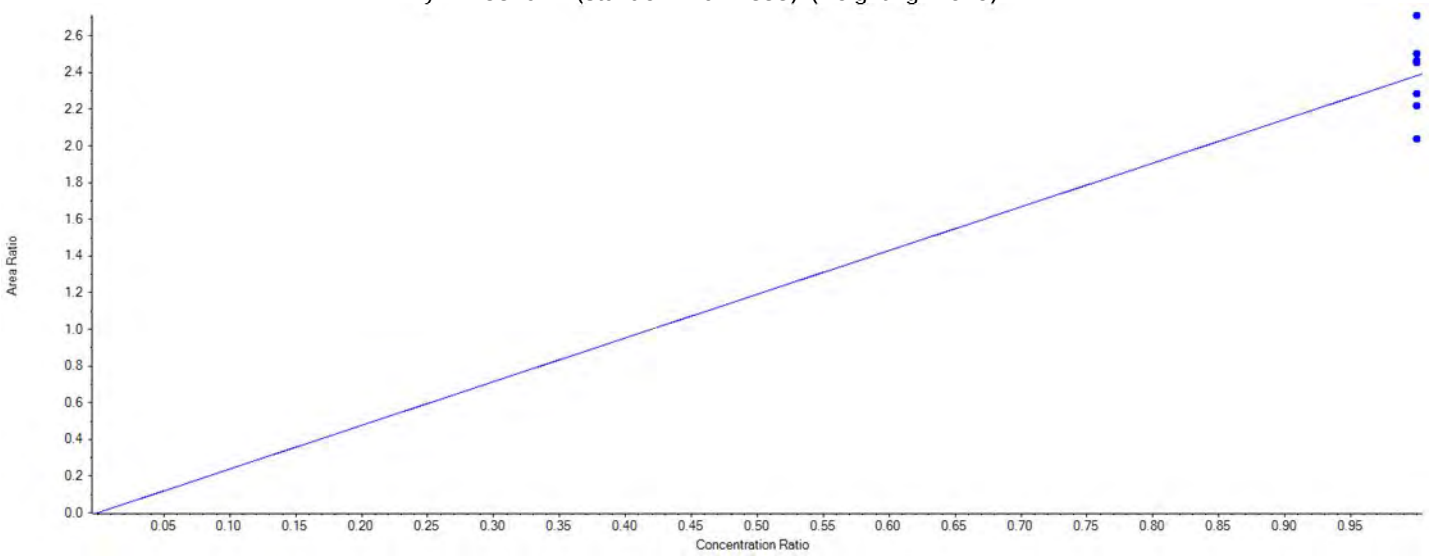
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFDoDA

y = 2.38264 x (std. dev. = 0.21888) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-PFDoDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	754066.10	330011.01	True	5.00	2.285	6.08	1.090	5.000	4.795	-4	30	
CAL2	823944.34	303983.96	True	5.00	2.710	6.08	1.090	5.000	5.688	14	30	
CAL3	789543.71	315428.26	True	5.00	2.503	6.08	1.090	5.000	5.253	5	30	
CAL4	777497.15	381032.92	True	5.00	2.040	6.08	1.090	5.000	4.282	-14	30	
CAL5	706411.13	286525.96	True	5.00	2.465	6.08	1.090	5.000	5.174	3	30	
CAL6	670197.85	272997.03	True	5.00	2.455	6.07	1.090	5.000	5.152	3	30	
CAL7	593609.87	267511.10	True	5.00	2.219	6.07	1.090	5.000	4.657	-7	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

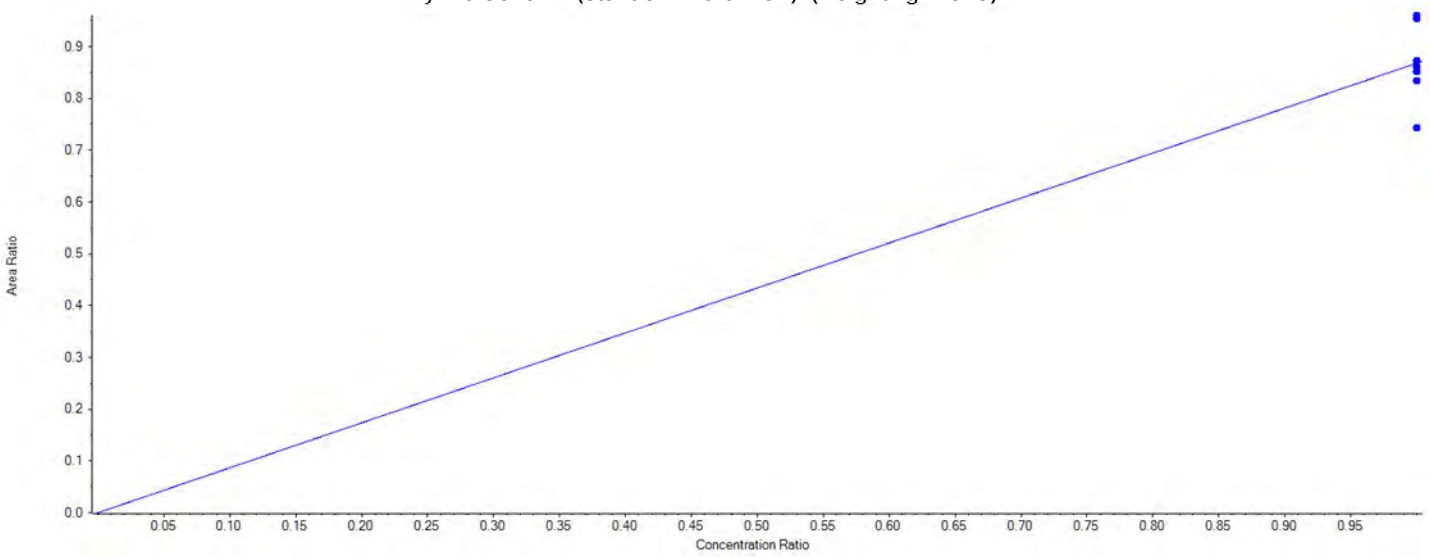
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed7-NMePFOSAE

y = 0.86797 x (std. dev. = 0.07432) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed7-NMePFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	275061.76	330011.01	True	5.00	0.833	6.12	1.100	5.000	4.801	-4	30	
CAL2	265104.11	303983.96	True	5.00	0.872	6.11	1.100	5.000	5.024	0	30	
CAL3	271371.96	315428.26	True	5.00	0.860	6.12	1.100	5.000	4.956	-1	30	
CAL4	283055.24	381032.92	True	5.00	0.743	6.12	1.100	5.000	4.279	-14	30	
CAL5	244218.51	286525.96	True	5.00	0.852	6.12	1.100	5.000	4.910	-2	30	
CAL6	260658.19	272997.03	True	5.00	0.955	6.11	1.100	5.000	5.500	10	30	
CAL7	256769.15	267511.10	True	5.00	0.960	6.11	1.100	5.000	5.529	11	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

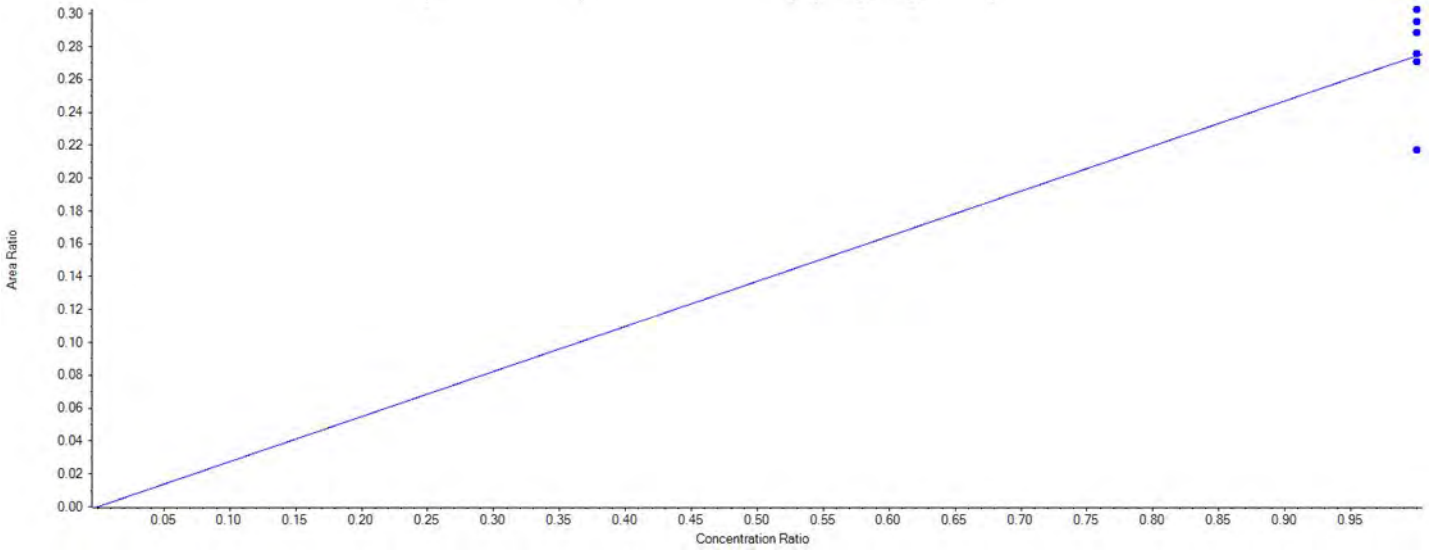
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMePFOSA

y = 0.27441 x (std. dev. = 0.02799) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed3-NMePFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	89306.24	330011.01	True	5.00	0.271	6.13	1.100	5.000	4.931	-1	30	
CAL2	87716.56	303983.96	True	5.00	0.289	6.13	1.100	5.000	5.258	5	30	
CAL3	85427.70	315428.26	True	5.00	0.271	6.13	1.100	5.000	4.935	-1	30	
CAL4	82821.34	381032.92	True	5.00	0.217	6.13	1.100	5.000	3.960	-21	30	
CAL5	84514.87	286525.96	True	5.00	0.295	6.13	1.100	5.000	5.374	7	30	
CAL6	82601.00	272997.03	True	5.00	0.303	6.13	1.100	5.000	5.513	10	30	
CAL7	73831.64	267511.10	True	5.00	0.276	6.12	1.100	5.000	5.029	1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

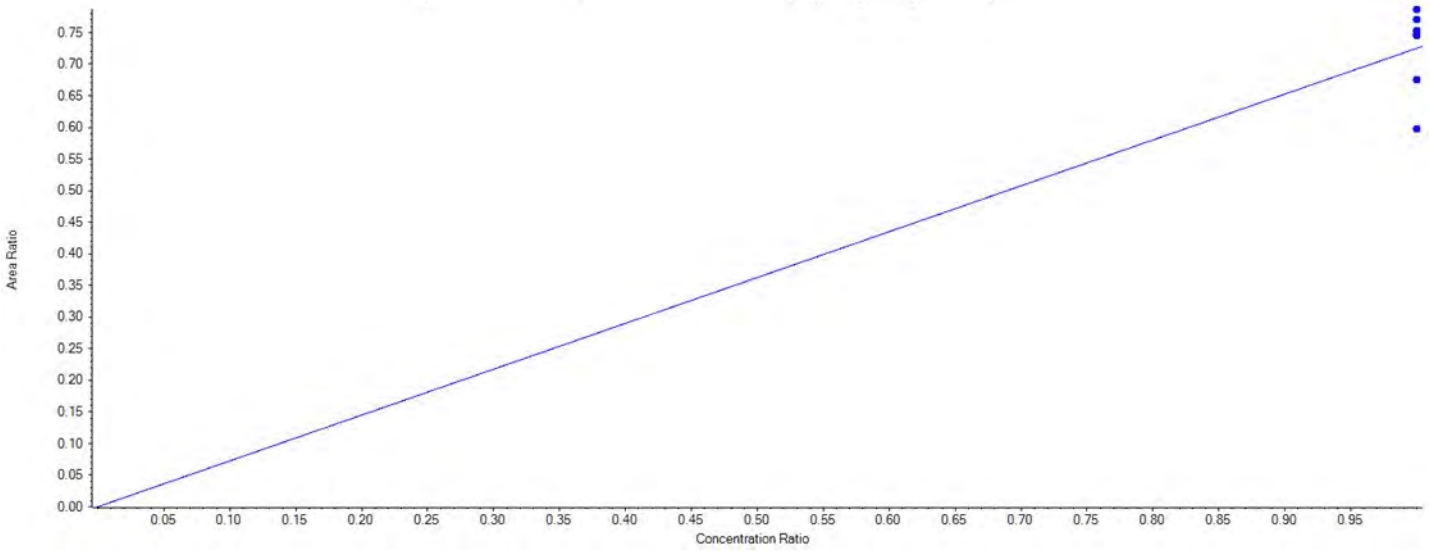
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed9-NEtPFOSAE

y = 0.72508 x (std. dev. = 0.06602) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed9-NEtPFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	222789.54	330011.01	True	5.00	0.675	6.27	1.120	5.000	4.655	-7	30	
CAL2	234011.31	303983.96	True	5.00	0.770	6.27	1.120	5.000	5.308	6	30	
CAL3	235845.39	315428.26	True	5.00	0.748	6.27	1.120	5.000	5.156	3	30	
CAL4	227812.80	381032.92	True	5.00	0.598	6.27	1.120	5.000	4.123	-18	30	
CAL5	215846.99	286525.96	True	5.00	0.753	6.27	1.120	5.000	5.195	4	30	
CAL6	214650.52	272997.03	True	5.00	0.786	6.27	1.120	5.000	5.422	8	30	
CAL7	199424.66	267511.10	True	5.00	0.745	6.27	1.120	5.000	5.141	3	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

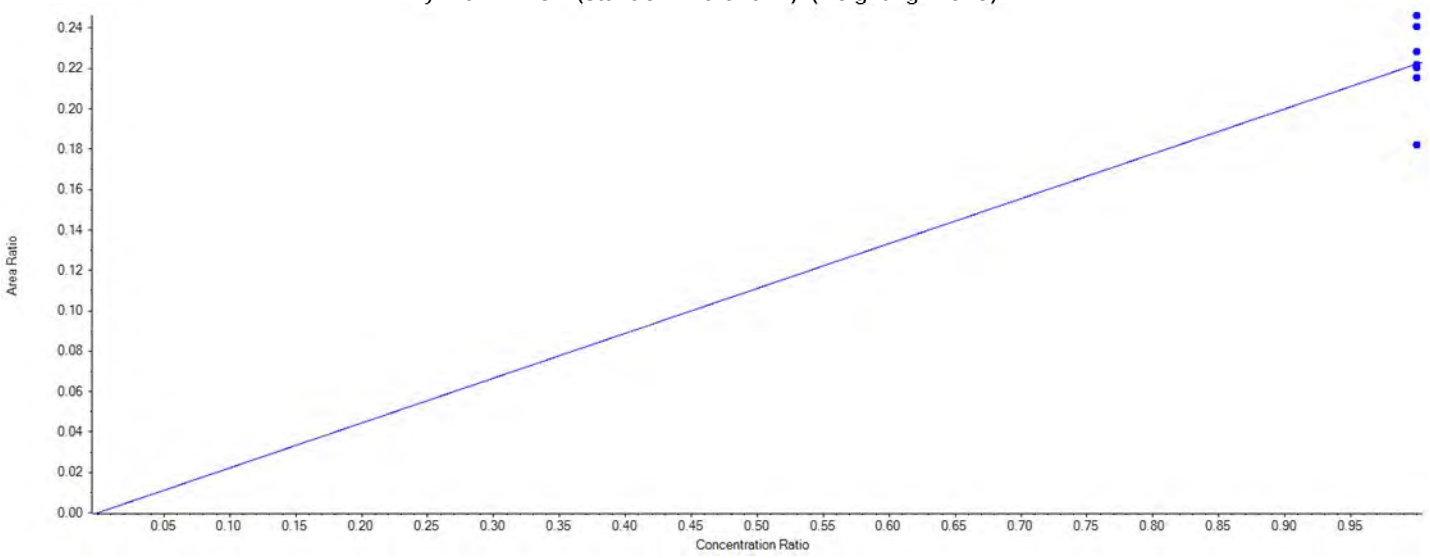
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtPFOSA

y = 0.22218 x (std. dev. = 0.02077) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed5-NEtPFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	71072.66	330011.01	True	5.00	0.215	6.29	1.130	5.000	4.847	-3	30	
CAL2	66979.27	303983.96	True	5.00	0.220	6.28	1.130	5.000	4.959	-1	30	
CAL3	70028.97	315428.26	True	5.00	0.222	6.29	1.130	5.000	4.996	0	30	
CAL4	69489.36	381032.92	True	5.00	0.182	6.29	1.130	5.000	4.104	-18	30	
CAL5	65432.89	286525.96	True	5.00	0.228	6.29	1.130	5.000	5.139	3	30	
CAL6	65686.64	272997.03	True	5.00	0.241	6.28	1.130	5.000	5.415	8	30	
CAL7	65852.47	267511.10	True	5.00	0.246	6.28	1.130	5.000	5.540	11	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

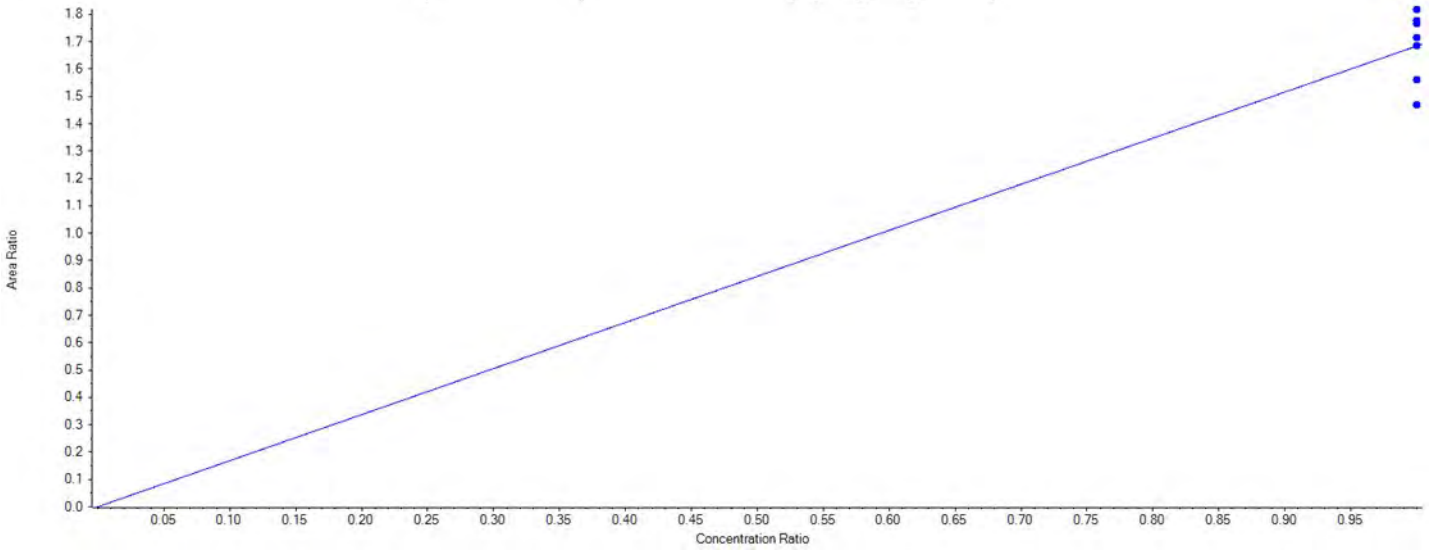
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFTeDA

y = 1.68461 x (std. dev. = 0.12668) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-PFTeDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	515073.56	330011.01	True	5.00	1.561	6.46	1.160	5.000	4.632	-7	30	
CAL2	540663.86	303983.96	True	5.00	1.779	6.45	1.160	5.000	5.279	6	30	
CAL3	540932.65	315428.26	True	5.00	1.715	6.45	1.160	5.000	5.090	2	30	
CAL4	559294.73	381032.92	True	5.00	1.468	6.45	1.160	5.000	4.357	-13	30	
CAL5	520852.39	286525.96	True	5.00	1.818	6.45	1.160	5.000	5.395	8	30	
CAL6	481845.90	272997.03	True	5.00	1.765	6.45	1.160	5.000	5.239	5	30	
CAL7	451368.75	267511.10	True	5.00	1.687	6.45	1.160	5.000	5.008	0	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

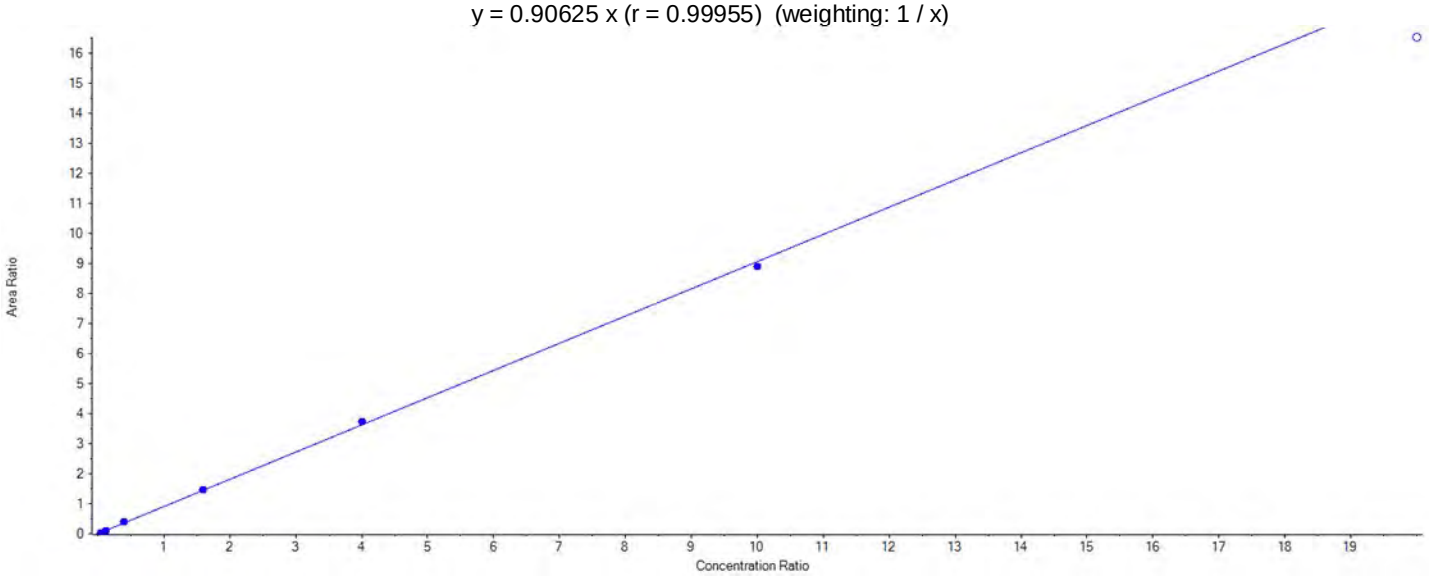
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFBA

y = 0.90625 x (r = 0.99955) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFBA Area	S/N	13C4-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	39459.31	249.5	898694.92	True	5.00	0.044	3.27	1.000	0.200	0.242	21	30	
CAL2	99228.63	402.0	956879.62	True	5.00	0.104	3.27	1.000	0.600	0.572	-5	30	
CAL3	383859.64	701.3	936631.96	True	5.00	0.410	3.27	1.000	2.000	2.261	13	30	
CAL4	1362372.60	1390.9	937321.23	True	5.00	1.453	3.27	1.000	8.000	8.019	0	30	
CAL5	3186861.83	2118.1	852222.77	True	5.00	3.739	3.27	1.000	20.000	20.632	3	30	
CAL6	6933920.33	3235.9	779560.55	True	5.00	8.895	3.27	1.000	50.000	49.074	-2	30	
CAL7	11149178.56	3063.3	674364.92	False	5.00	16.533	3.27	1.000	100.000	91.216	-9	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

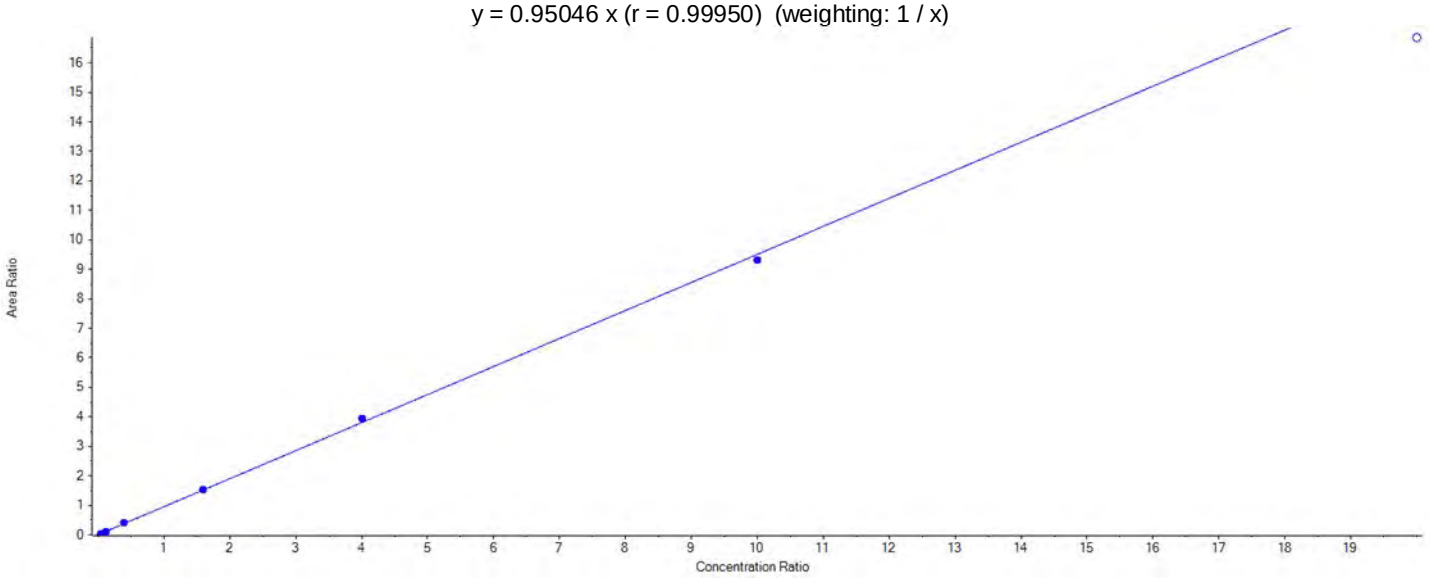
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFPeA

y = 0.95046 x (r = 0.99950) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFPeA Area	S/N	13C5-PFPeA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	38422.35	113.4	841151.01	True	5.00	0.046	3.78	1.000	0.200	0.240	20	30	
CAL2	91072.26	133.2	852542.70	True	5.00	0.107	3.77	1.000	0.600	0.562	-6	30	
CAL3	363071.54	265.2	860904.33	True	5.00	0.422	3.77	1.000	2.000	2.219	11	30	
CAL4	1316238.40	503.8	865794.49	True	5.00	1.520	3.77	1.000	8.000	7.998	0	30	
CAL5	3191751.14	819.2	807458.25	True	5.00	3.953	3.77	1.000	20.000	20.794	4	30	
CAL6	6852617.33	1075.4	735887.05	True	5.00	9.312	3.77	1.000	50.000	48.987	-2	30	
CAL7	10952335.05	1287.5	649808.28	False	5.00	16.855	3.77	1.000	100.000	88.666	-11	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

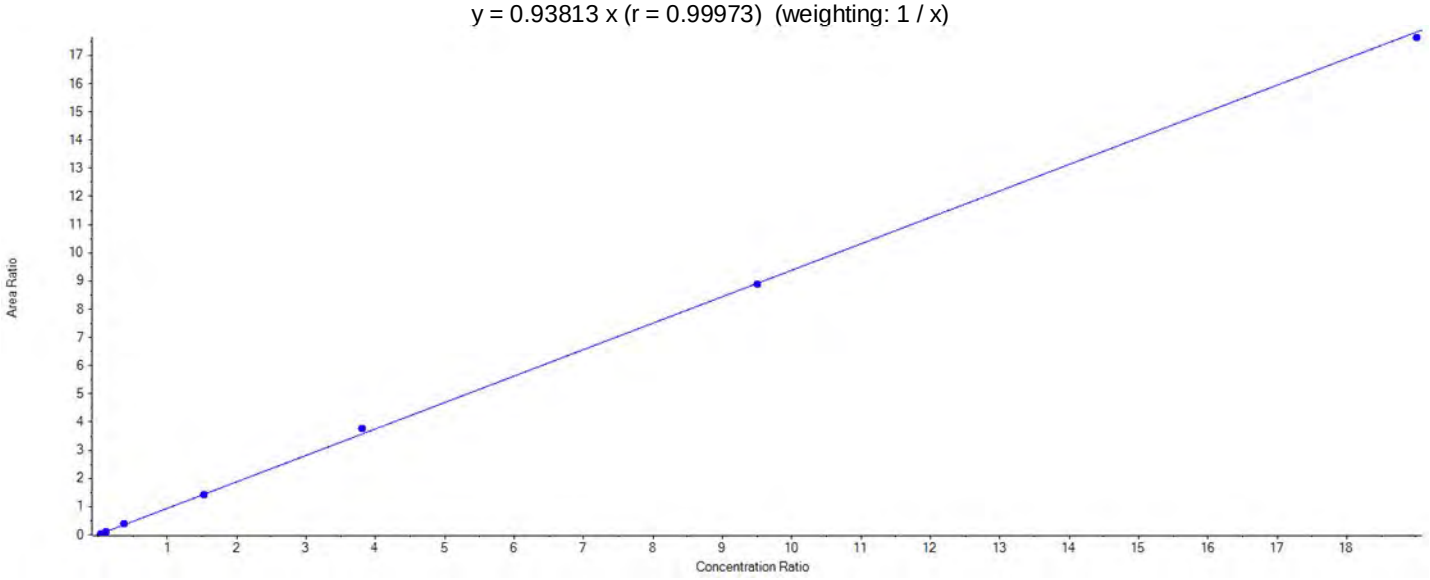
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFBS

y = 0.93813 x (r = 0.99973) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFBS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	17447.72	656.7	426818.09	True	4.65	0.041	3.82	1.000	0.177	0.203	14	30	
CAL2	44603.18	981.7	449605.58	True	4.65	0.099	3.82	1.000	0.531	0.492	-7	30	
CAL3	175965.98	1993.3	442018.22	True	4.65	0.398	3.82	1.000	1.770	1.973	11	30	
CAL4	641650.74	3293.4	451275.83	True	4.65	1.422	3.82	1.000	7.080	7.048	0	30	
CAL5	1560425.11	3850.1	415721.12	True	4.65	3.754	3.82	1.000	17.700	18.605	5	30	
CAL6	3497911.96	3368.2	392877.27	True	4.65	8.903	3.82	1.000	44.200	44.131	0	30	
CAL7	6058196.36	3513.6	343547.87	True	4.65	17.634	3.82	1.000	88.400	87.407	-1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

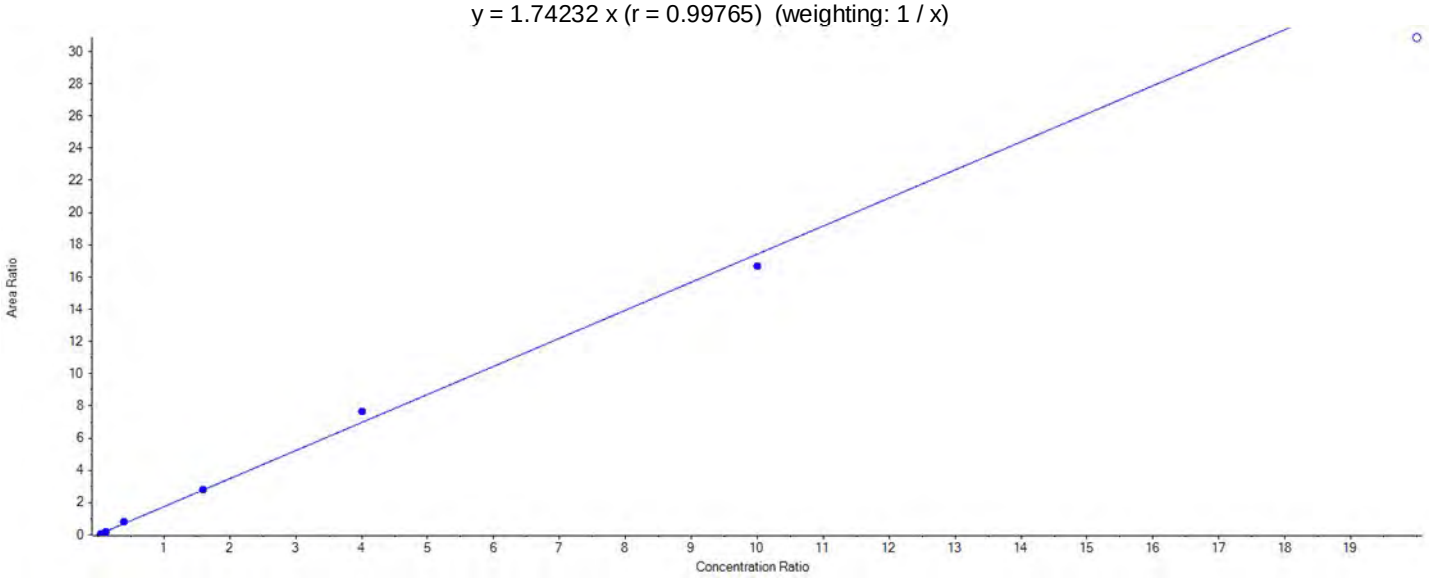
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

4:2-FTS

y = 1.74232 x (r = 0.99765) (weighting: 1 / x)



Component Calibration Verification

Sample Name	4:2-FTS Area	S/N	13C2-4:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3906.59	478.9	53888.76	True	4.67	0.072	4.14	1.000	0.187	0.194	4	30	
CAL2	9721.43	618.9	54114.25	True	4.67	0.180	4.13	1.000	0.560	0.482	-14	30	
CAL3	38643.69	896.7	46397.66	True	4.67	0.833	4.14	1.000	1.870	2.232	19	30	
CAL4	148072.82	1873.1	53204.09	True	4.67	2.783	4.13	1.000	7.470	7.460	0	30	
CAL5	374067.13	2126.5	49011.43	True	4.67	7.632	4.13	1.000	18.700	20.457	9	30	
CAL6	825733.73	3123.2	49555.02	True	4.67	16.663	4.13	1.000	46.700	44.662	-4	30	
CAL7	1541772.12	4328.6	49950.52	False	4.67	30.866	4.13	1.000	93.400	82.731	-11	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

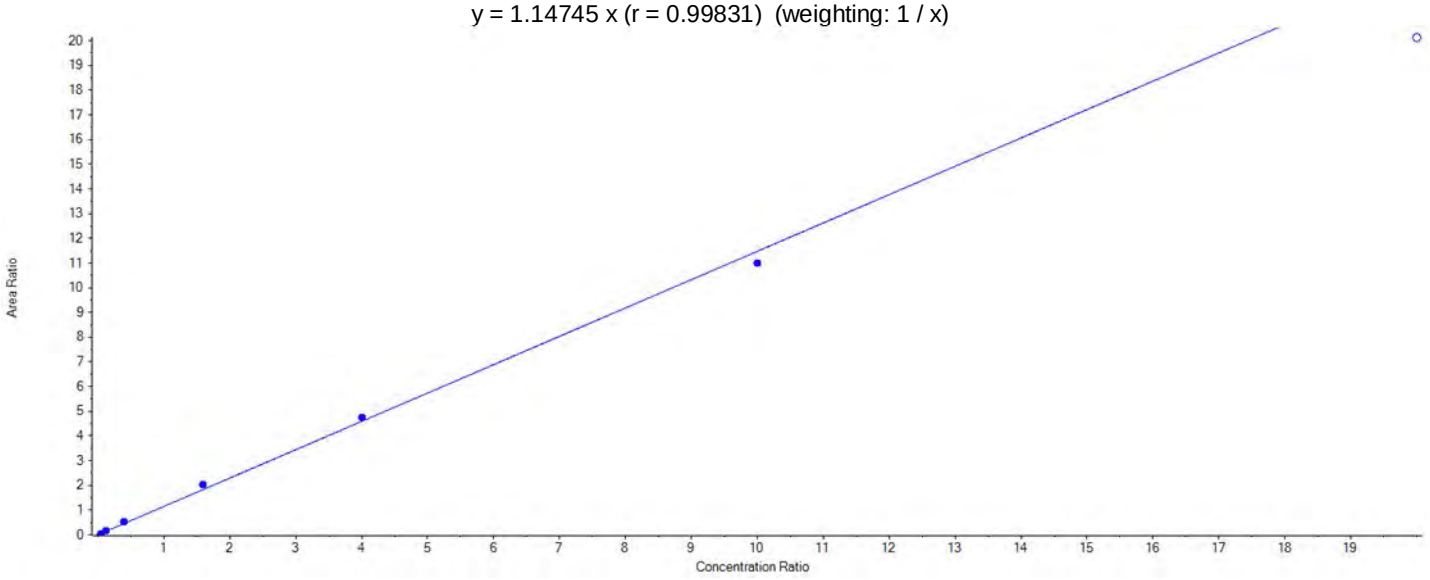
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxA

y = 1.14745 x (r = 0.99831) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxA Area	S/N	13C5-PFHxA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	37193.37	297.4	658089.96	True	5.00	0.057	4.17	1.000	0.200	0.246	23	30	
CAL2	95772.84	420.4	667261.24	True	5.00	0.144	4.16	1.000	0.600	0.625	4	30	
CAL3	365926.61	822.6	675673.64	True	5.00	0.542	4.17	1.000	2.000	2.360	18	30	
CAL4	1336811.10	1330.8	653028.28	True	5.00	2.047	4.17	1.000	8.000	8.920	12	30	
CAL5	3100313.22	2036.9	650822.82	True	5.00	4.764	4.17	1.000	20.000	20.758	4	30	
CAL6	6667267.35	2311.5	606649.18	True	5.00	10.990	4.16	1.000	50.000	47.890	-4	30	
CAL7	11064156.53	2847.3	549743.17	False	5.00	20.126	4.16	1.000	100.000	87.699	-12	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

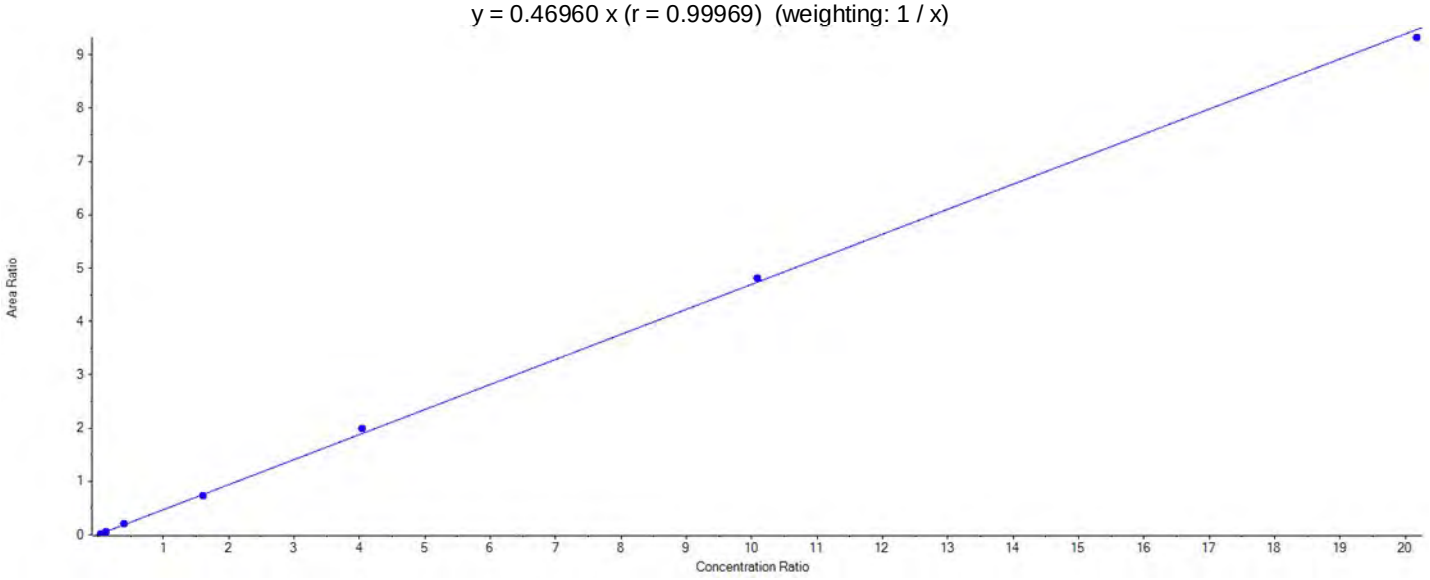
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFPeS

y = 0.46960 x (r = 0.99969) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFPeS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	9605.71	550.8	426818.09	True	4.65	0.023	4.19	1.100	0.188	0.223	19	30	
CAL2	24089.05	647.1	449605.58	True	4.65	0.054	4.18	1.100	0.563	0.531	-6	30	
CAL3	92327.74	1911.4	442018.22	True	4.65	0.209	4.19	1.100	1.880	2.068	10	30	
CAL4	330977.55	1972.0	451275.83	True	4.65	0.733	4.19	1.100	7.500	7.262	-3	30	
CAL5	825391.64	3406.1	415721.12	True	4.65	1.985	4.19	1.100	18.800	19.660	5	30	
CAL6	1887536.71	3273.3	392877.27	True	4.65	4.804	4.19	1.100	46.900	47.573	1	30	
CAL7	3202799.19	3006.3	343547.87	True	4.65	9.323	4.18	1.100	93.800	92.314	-2	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

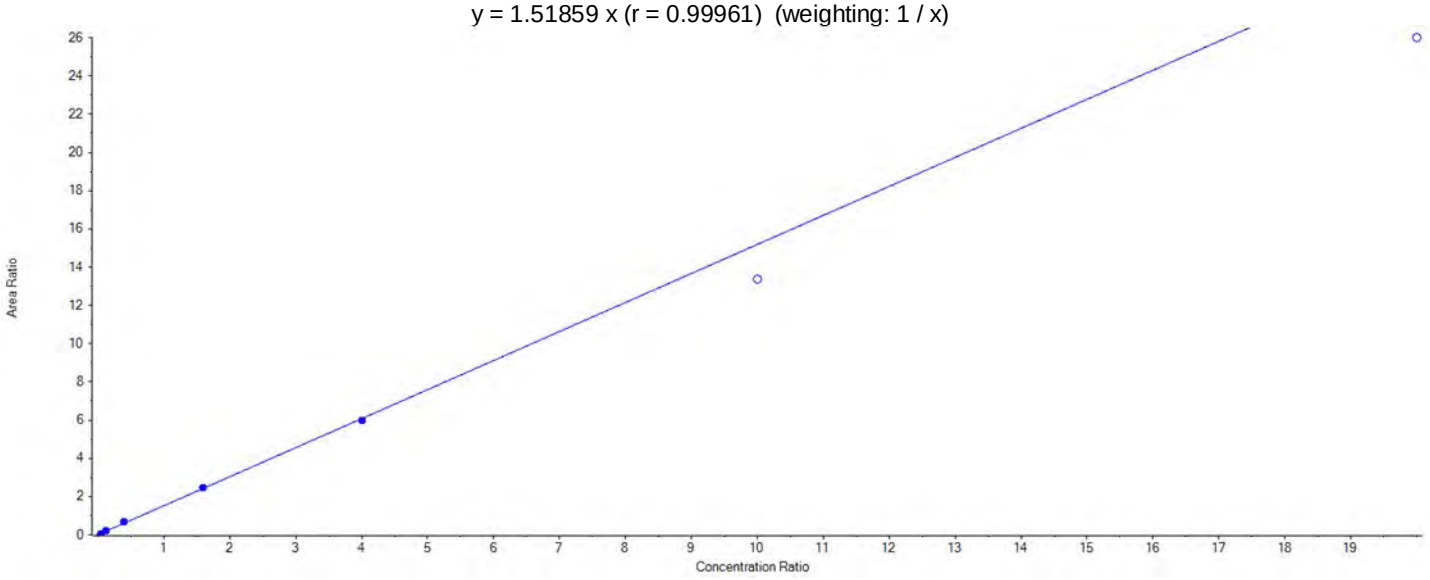
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHpA

y = 1.51859 x (r = 0.99961) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHpA Area	S/N	13C4-PFHpA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	37520.09	366.2	505550.33	True	5.00	0.074	4.56	1.000	0.200	0.244	22	30	
CAL2	95001.99	663.3	513029.29	True	5.00	0.185	4.55	1.000	0.600	0.610	2	30	
CAL3	361419.75	1165.6	543346.60	True	5.00	0.665	4.56	1.000	2.000	2.190	10	30	
CAL4	1312251.02	2071.3	530667.18	True	5.00	2.473	4.55	1.000	8.000	8.142	2	30	
CAL5	3016454.01	2849.9	506360.31	True	5.00	5.957	4.56	1.000	20.000	19.614	-2	30	
CAL6	6544306.50	3175.1	489476.90	False	5.00	13.370	4.55	1.000	50.000	44.021	-12	30	
CAL7	11333940.43	3930.2	435799.63	False	5.00	26.007	4.55	1.000	100.000	85.629	-14	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

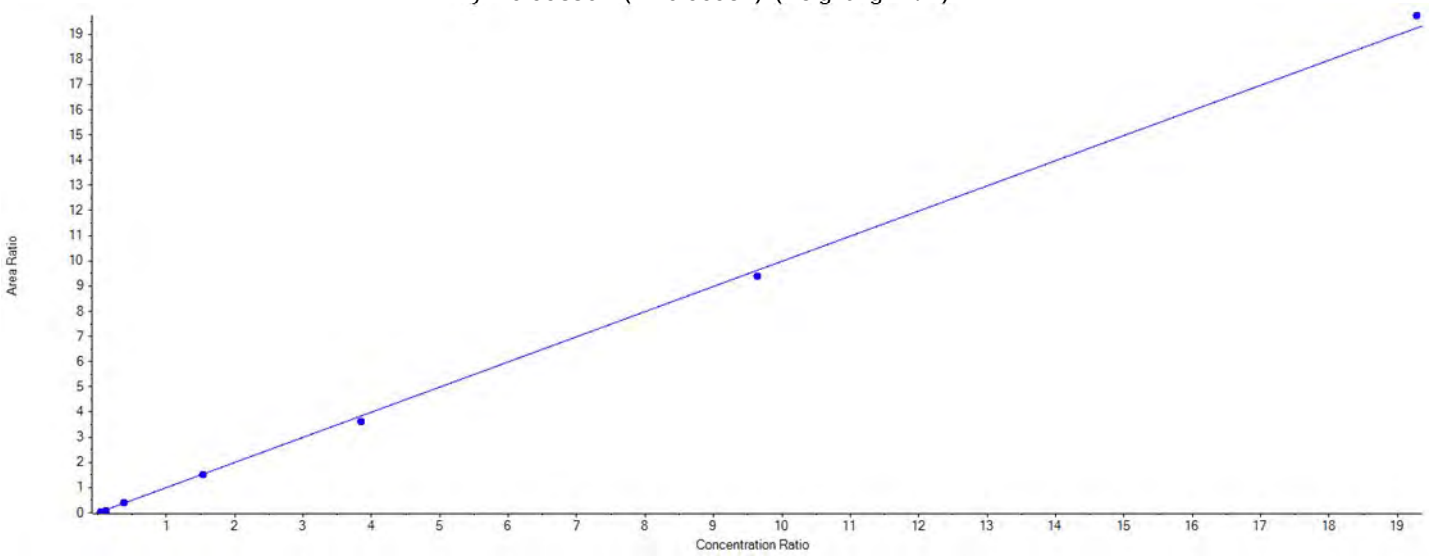
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxS

y = 0.99830 x (r = 0.99951) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	12711.08	786.3	339911.13	True	4.73	0.037	4.56	1.000	0.182	0.177	-3	30	
CAL2	32481.65	789.7	342350.12	True	4.73	0.095	4.55	1.000	0.547	0.450	-18	30	
CAL3	132327.20	30638.2	337878.72	True	4.73	0.392	4.56	1.000	1.820	1.856	2	30	
CAL4	486027.42	2643.0	321174.93	True	4.73	1.513	4.56	1.000	7.300	7.170	-2	30	
CAL5	1191013.53	2408.4	328924.25	True	4.73	3.621	4.56	1.000	18.200	17.156	-6	30	
CAL6	2776076.01	1955.8	295455.62	True	4.73	9.396	4.56	1.000	45.600	44.518	-2	30	
CAL7	4864366.46	1787.5	246441.16	True	4.73	19.738	4.55	1.000	91.200	93.522	3	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

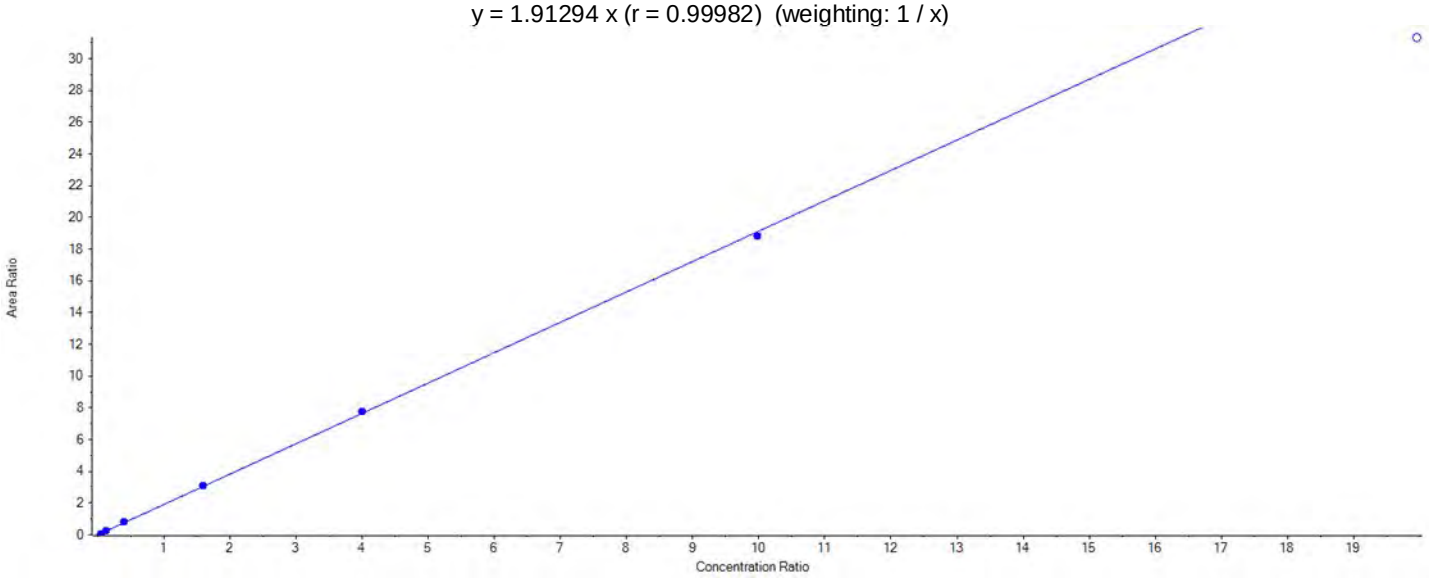
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

6:2-FTS

y = 1.91294 x (r = 0.99982) (weighting: 1 / x)



Component Calibration Verification

Sample Name	6:2-FTS Area	S/N	13C2-6:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	2930.50	264.2	37457.50	True	4.75	0.078	4.92	1.000	0.190	0.194	2	30	
CAL2	8921.66	860.8	35543.06	True	4.75	0.251	4.91	1.000	0.569	0.623	10	30	
CAL3	30175.96	805.9	36276.48	True	4.75	0.832	4.91	1.000	1.900	2.066	9	30	
CAL4	108350.61	1447.6	35211.09	True	4.75	3.077	4.91	1.000	7.580	7.641	1	30	
CAL5	243777.52	2364.2	31346.83	True	4.75	7.777	4.91	1.000	19.000	19.310	2	30	
CAL6	513358.22	2477.6	27234.78	True	4.75	18.849	4.91	1.000	47.400	46.805	-1	30	
CAL7	852701.24	2275.0	27219.54	False	4.75	31.327	4.91	1.000	94.800	77.787	-18	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

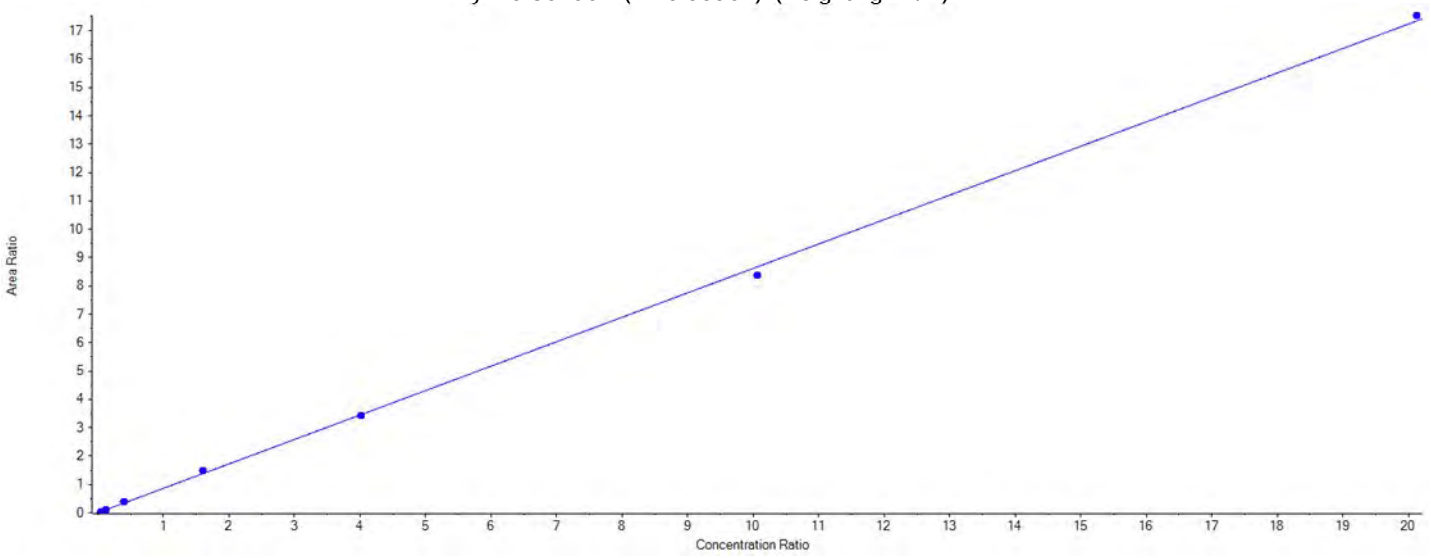
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHpS

y = 0.86166 x (r = 0.99964) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHpS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	11460.50	17591.2	339911.13	True	4.73	0.034	4.92	1.080	0.190	0.185	-3	30	
CAL2	34669.19	1722.1	342350.12	True	4.73	0.101	4.91	1.080	0.571	0.556	-3	30	
CAL3	128849.80	1783.1	337878.72	True	4.73	0.381	4.92	1.080	1.900	2.093	10	30	
CAL4	475629.59	3164.1	321174.93	True	4.73	1.481	4.92	1.080	7.610	8.129	7	30	
CAL5	1127510.75	2888.5	328924.25	True	4.73	3.428	4.92	1.080	19.000	18.817	-1	30	
CAL6	2478350.56	2992.3	295455.62	True	4.73	8.388	4.91	1.080	47.600	46.046	-3	30	
CAL7	4320784.79	2653.7	246441.16	True	4.73	17.533	4.91	1.080	95.200	96.244	1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

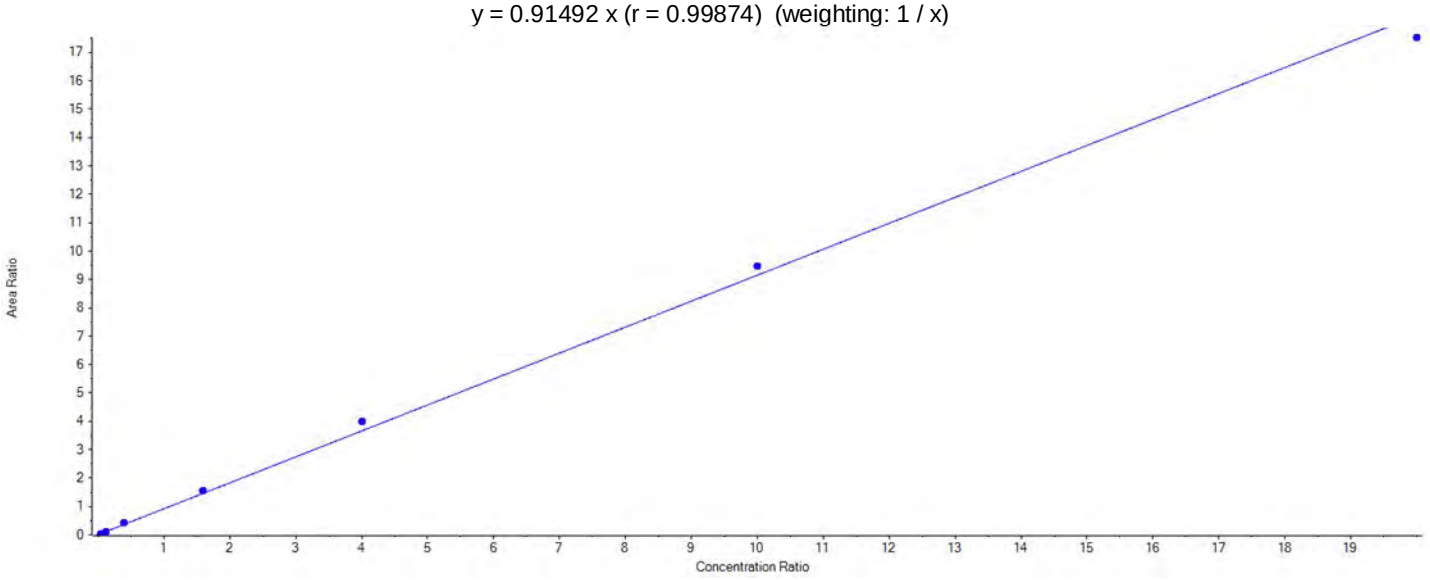
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOA

y = 0.91492 x (r = 0.99874) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOA Area	S/N	13C8-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	35481.90	195.0	818121.26	True	5.00	0.043	4.93	1.000	0.200	0.237	19	30	
CAL2	85869.84	319.6	818119.44	True	5.00	0.105	4.92	1.000	0.600	0.574	-4	30	
CAL3	351794.98	658.1	847979.16	True	5.00	0.415	4.92	1.000	2.000	2.267	13	30	
CAL4	1259378.83	1308.2	816400.08	True	5.00	1.543	4.92	1.000	8.000	8.430	5	30	
CAL5	2945282.04	1984.3	739531.43	True	5.00	3.983	4.93	1.000	20.000	21.765	9	30	
CAL6	6289920.12	2608.9	664219.19	True	5.00	9.470	4.92	1.000	50.000	51.751	4	30	
CAL7	10664235.85	2366.7	608500.38	True	5.00	17.525	4.92	1.000	100.000	95.776	-4	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

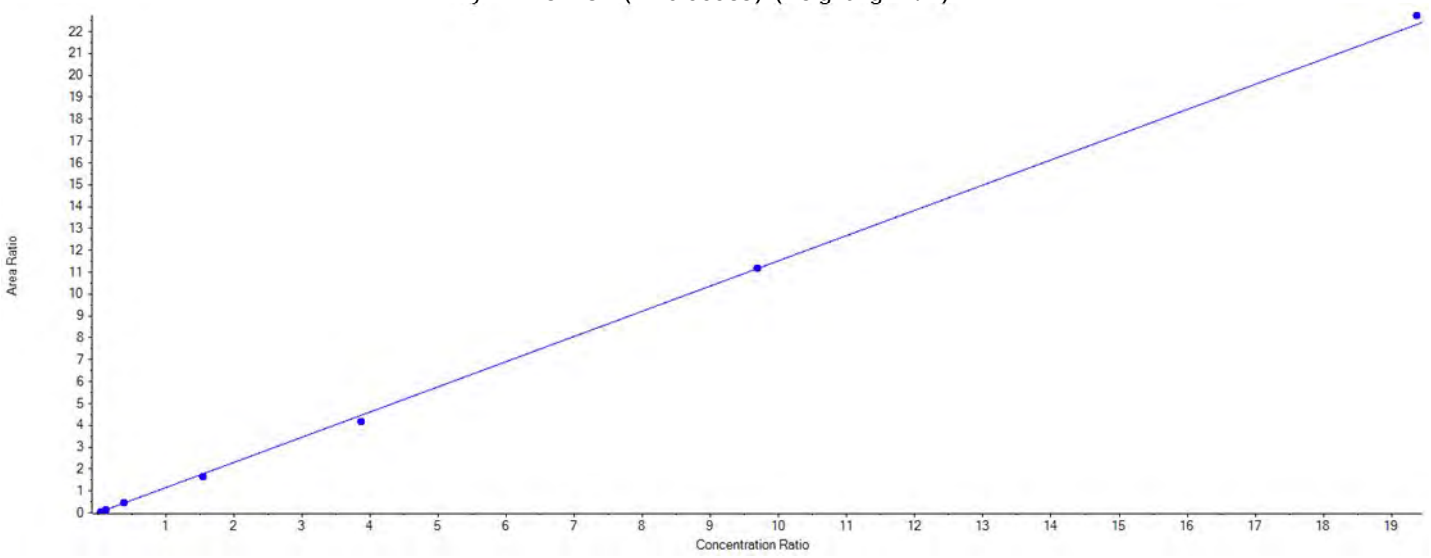
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOS

y = 1.15243 x (r = 0.99955) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	13660.39	451.8	296771.13	True	4.78	0.046	5.26	1.000	0.185	0.191	3	30	
CAL2	37181.07	1135.7	308155.48	True	4.78	0.121	5.25	1.000	0.555	0.500	-10	30	
CAL3	134760.97	738.7	294019.28	True	4.78	0.458	5.25	1.000	1.850	1.901	3	30	
CAL4	499514.66	1257.0	299310.50	True	4.78	1.669	5.25	1.000	7.400	6.922	-6	30	
CAL5	1193441.80	1540.1	286479.93	True	4.78	4.166	5.26	1.000	18.500	17.279	-7	30	
CAL6	2854538.75	1101.5	255714.77	True	4.78	11.163	5.25	1.000	46.300	46.302	0	30	
CAL7	5255335.21	1157.9	231168.31	True	4.78	22.734	5.25	1.000	92.600	94.295	2	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

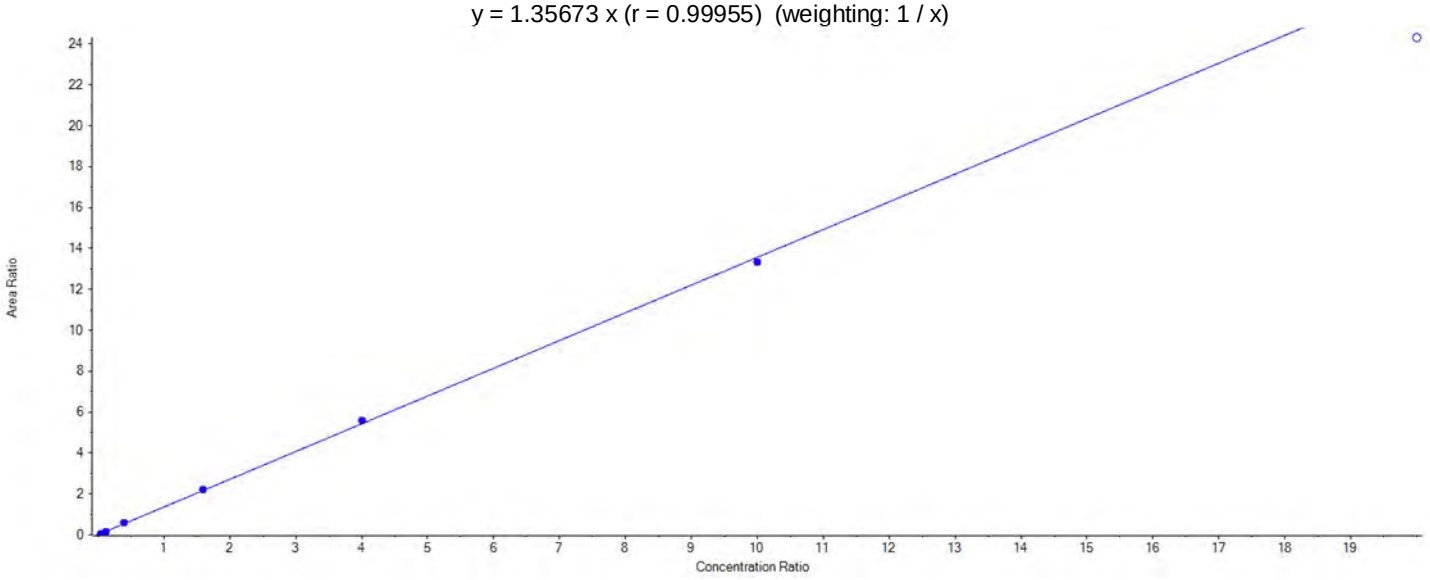
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFNA

y = 1.35673 x (r = 0.99955) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFNA Area	S/N	13C9-PFNA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	28020.98	258.4	472343.16	True	5.00	0.059	5.27	1.000	0.200	0.219	9	30	
CAL2	69083.38	575.7	489864.82	True	5.00	0.141	5.27	1.000	0.600	0.520	-13	30	
CAL3	293549.54	1224.2	487999.89	True	5.00	0.602	5.27	1.000	2.000	2.217	11	30	
CAL4	1095142.56	1851.2	492781.53	True	5.00	2.222	5.27	1.000	8.000	8.190	2	30	
CAL5	2562019.26	3199.1	459963.38	True	5.00	5.570	5.27	1.000	20.000	20.527	3	30	
CAL6	5937971.99	3496.6	445443.05	True	5.00	13.330	5.27	1.000	50.000	49.127	-2	30	
CAL7	10109257.93	3549.3	415771.23	False	5.00	24.314	5.27	1.000	100.000	89.607	-10	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

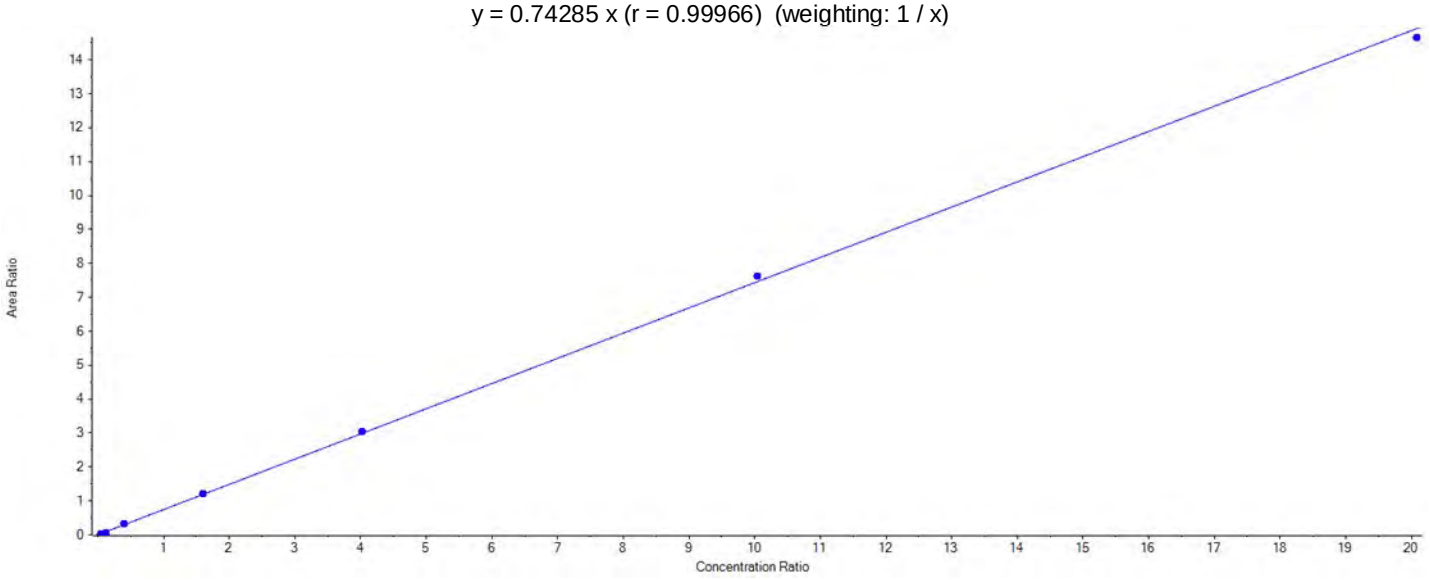
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFNS

y = 0.74285 x (r = 0.99966) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFNS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	9066.40	109136.7	296771.13	True	4.78	0.031	5.56	1.060	0.192	0.197	2	30	
CAL2	22032.83	19202.1	308155.48	True	4.78	0.071	5.55	1.060	0.576	0.460	-20	30	
CAL3	98097.94	32132.9	294019.28	True	4.78	0.334	5.56	1.060	1.920	2.147	12	30	
CAL4	364043.01	9726.8	299310.50	True	4.78	1.216	5.56	1.060	7.680	7.826	2	30	
CAL5	868436.21	1522.6	286479.93	True	4.78	3.031	5.56	1.060	19.200	19.506	2	30	
CAL6	1952695.25	2379.9	255714.77	True	4.78	7.636	5.56	1.060	48.000	49.137	2	30	
CAL7	3387582.43	2929.1	231168.31	True	4.78	14.654	5.55	1.060	96.000	94.295	-2	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

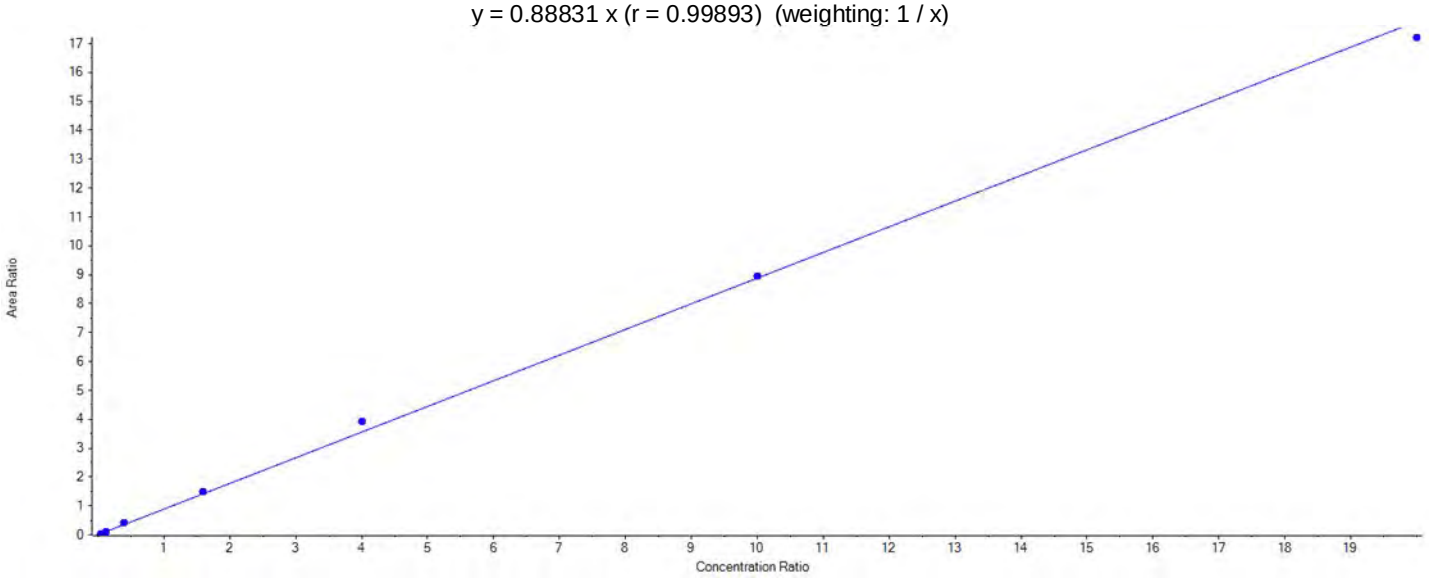
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDA

y = 0.88831 x (r = 0.99893) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDA Area	S/N	13C6-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	25786.15	166.4	610780.80	True	5.00	0.042	5.58	1.000	0.200	0.238	19	30	
CAL2	62650.38	298.0	620021.26	True	5.00	0.101	5.58	1.000	0.600	0.569	-5	30	
CAL3	251623.61	652.9	622094.83	True	5.00	0.404	5.58	1.000	2.000	2.277	14	30	
CAL4	911932.08	1327.7	611644.12	True	5.00	1.491	5.58	1.000	8.000	8.392	5	30	
CAL5	2165925.64	1806.8	550668.27	True	5.00	3.933	5.58	1.000	20.000	22.139	11	30	
CAL6	4838370.82	1898.2	541153.24	True	5.00	8.941	5.58	1.000	50.000	50.325	1	30	
CAL7	8449610.52	2128.5	491017.31	True	5.00	17.208	5.58	1.000	100.000	96.860	-3	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

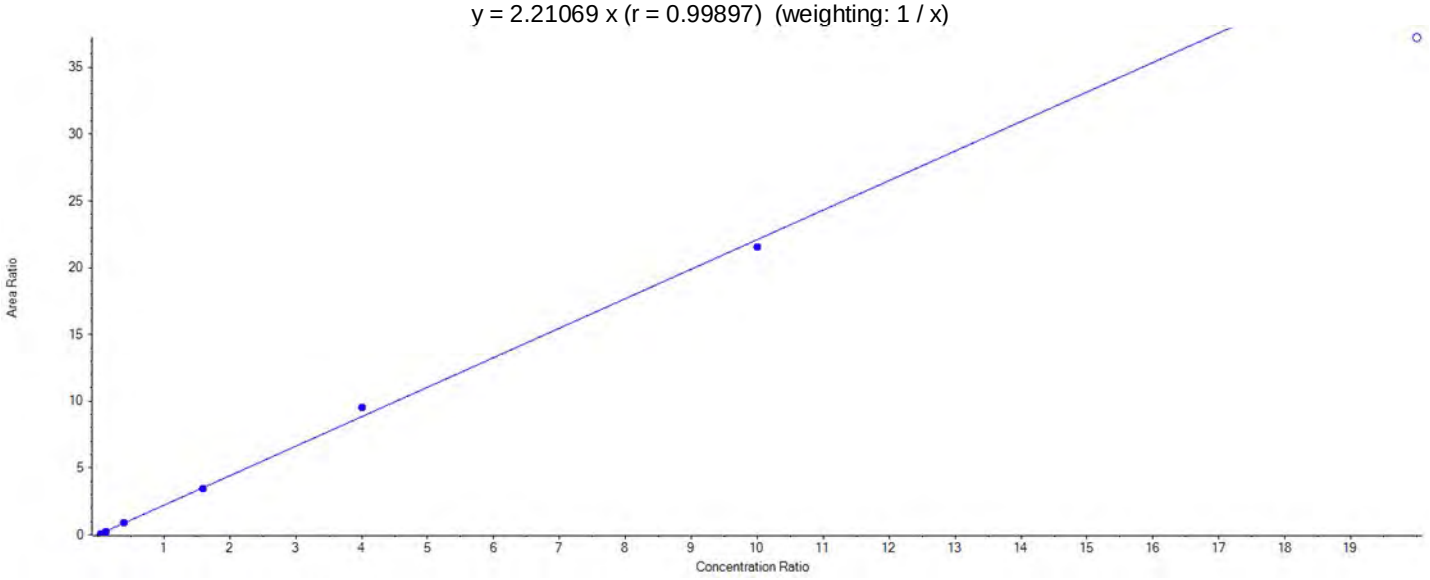
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

8:2-FTS

y = 2.21069 x (r = 0.99897) (weighting: 1 / x)



Component Calibration Verification

Sample Name	8:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	2203.18	58.0	23191.69	True	4.79	0.095	5.59	1.000	0.192	0.206	7	30	
CAL2	6424.49	130.3	25892.25	True	4.79	0.248	5.58	1.000	0.575	0.538	-7	30	
CAL3	22886.21	465.5	25542.30	True	4.79	0.896	5.59	1.000	1.920	1.941	1	30	
CAL4	80381.54	706.8	23195.67	True	4.79	3.465	5.58	1.000	7.660	7.509	-2	30	
CAL5	180667.13	1004.3	18960.22	True	4.79	9.529	5.58	1.000	19.200	20.646	8	30	
CAL6	434056.07	2021.2	20179.01	True	4.79	21.510	5.58	1.000	47.900	46.607	-3	30	
CAL7	758920.24	2278.1	20381.41	False	4.79	37.236	5.58	1.000	95.800	80.681	-16	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

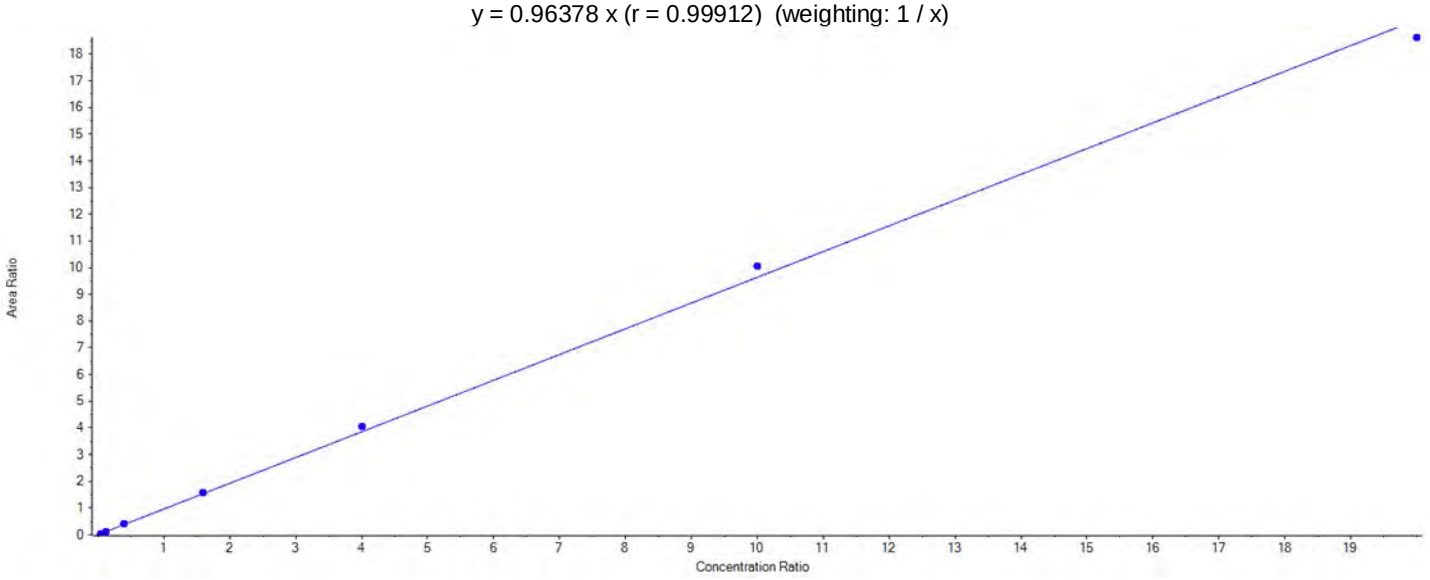
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOSA

y = 0.96378 x (r = 0.99912) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOSA Area	S/N	13C8-PFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	27373.90	557.6	695258.63	True	5.00	0.039	5.67	1.000	0.200	0.204	2	30	
CAL2	70441.25	540.5	723822.87	True	5.00	0.097	5.66	1.000	0.600	0.505	-16	30	
CAL3	298383.71	1487.7	693861.54	True	5.00	0.430	5.66	1.000	2.000	2.231	12	30	
CAL4	1076362.63	2201.0	688204.51	True	5.00	1.564	5.66	1.000	8.000	8.114	1	30	
CAL5	2495160.43	2222.1	617622.80	True	5.00	4.040	5.66	1.000	20.000	20.959	5	30	
CAL6	5808768.48	2082.9	576971.52	True	5.00	10.068	5.66	1.000	50.000	52.230	4	30	
CAL7	10135588.91	2046.9	544579.33	True	5.00	18.612	5.66	1.000	100.000	96.557	-3	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

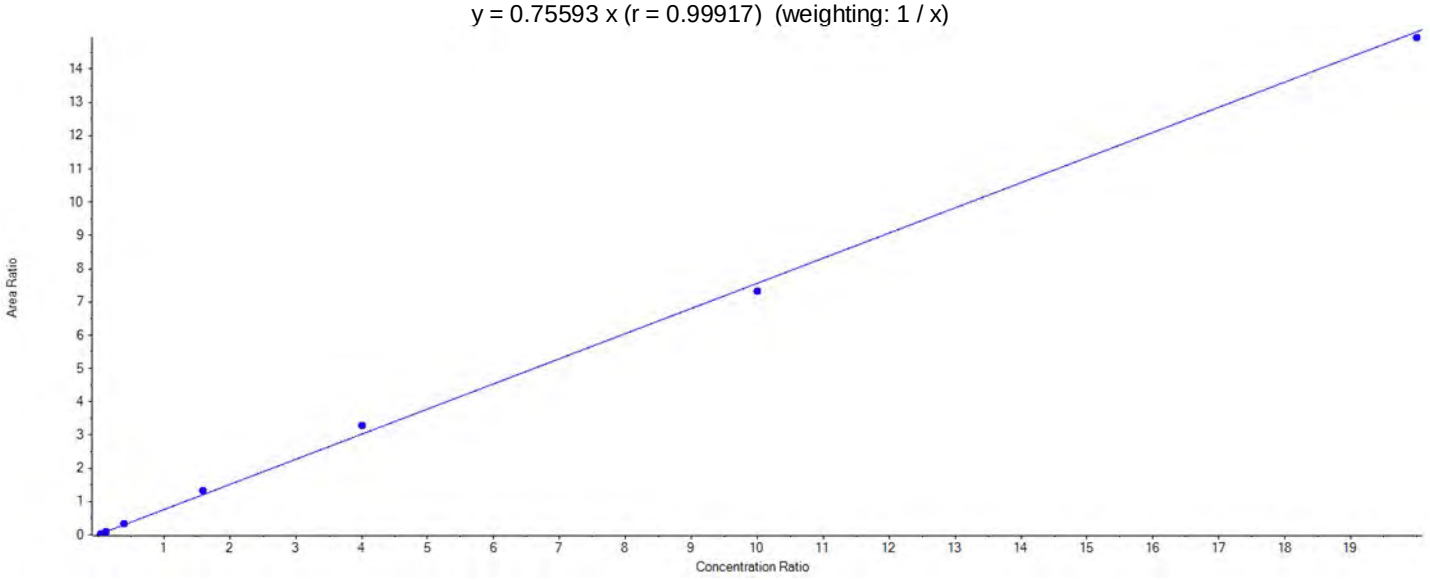
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

NMeFOSAA

y = 0.75593 x (r = 0.99917) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMeFOSAA Area	S/N	d3-NMeFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	2862.99	329.5	91943.99	True	5.00	0.031	5.74	1.000	0.200	0.206	3	30	
CAL2	7727.87	170.3	84870.09	True	5.00	0.091	5.72	1.000	0.600	0.602	0	30	
CAL3	28372.58	314.2	83733.38	True	5.00	0.339	5.73	1.000	2.000	2.241	12	30	
CAL4	113391.52	784.4	86138.32	True	5.00	1.316	5.73	1.000	8.000	8.707	9	30	
CAL5	273175.18	1090.1	83194.53	True	5.00	3.284	5.73	1.000	20.000	21.719	9	30	
CAL6	636332.60	1008.2	86838.40	True	5.00	7.328	5.72	1.000	50.000	48.469	-3	30	
CAL7	1268339.66	1234.6	84863.12	True	5.00	14.946	5.72	1.000	100.000	98.856	-1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

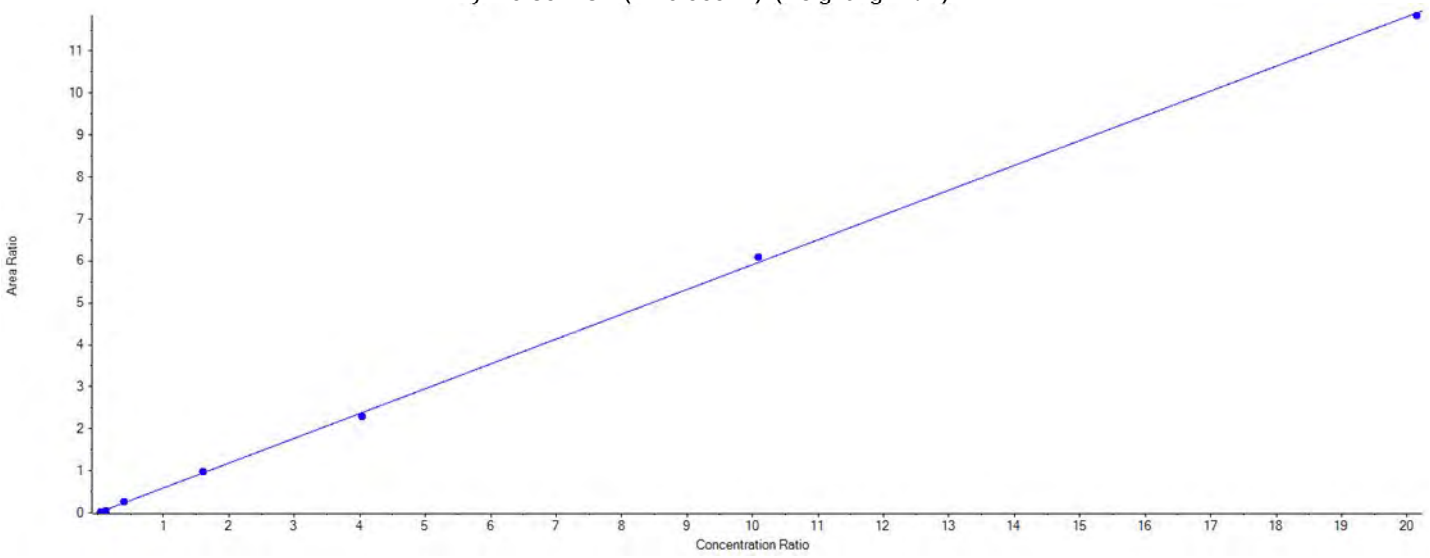
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDS

y = 0.59118 x (r = 0.99972) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	7005.61	40832.3	296771.13	True	4.78	0.024	5.82	1.110	0.193	0.191	-1	30	
CAL2	18312.86	1550842.3	308155.48	True	4.78	0.059	5.82	1.110	0.578	0.481	-17	30	
CAL3	77164.09	705.6	294019.28	True	4.78	0.262	5.82	1.110	1.930	2.122	10	30	
CAL4	290693.23	74178.4	299310.50	True	4.78	0.971	5.82	1.110	7.700	7.853	2	30	
CAL5	656687.67	14915.4	286479.93	True	4.78	2.292	5.82	1.110	19.300	18.534	-4	30	
CAL6	1557080.12	2480.6	255714.77	True	4.78	6.089	5.82	1.110	48.200	49.234	2	30	
CAL7	2738544.97	4085.7	231168.31	True	4.78	11.847	5.82	1.110	96.300	95.786	-1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

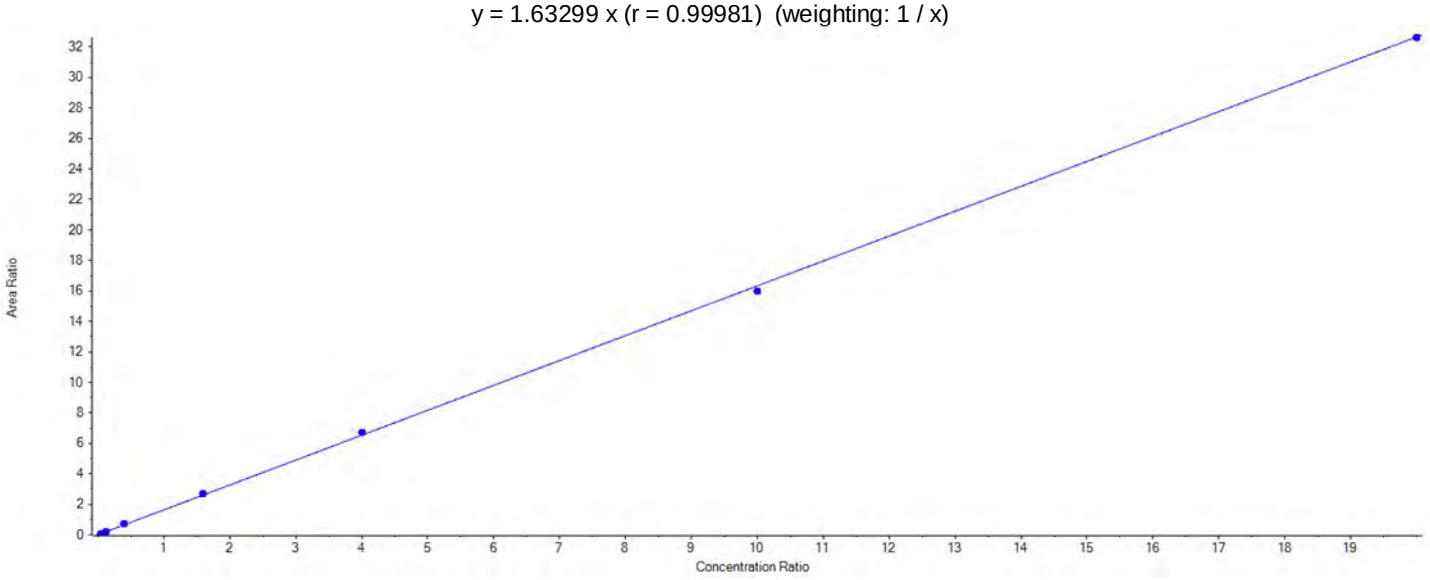
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFUnDA

y = 1.63299 x (r = 0.99981) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFUnDA Area	S/N	13C7-PFUnDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	25249.68	177.7	318852.78	True	5.00	0.079	5.85	1.000	0.200	0.242	21	30	
CAL2	67047.18	399.0	345908.67	True	5.00	0.194	5.84	1.000	0.600	0.593	-1	30	
CAL3	247240.79	825.6	335572.48	True	5.00	0.737	5.85	1.000	2.000	2.256	13	30	
CAL4	899827.44	1309.1	335166.97	True	5.00	2.685	5.85	1.000	8.000	8.220	3	30	
CAL5	2053634.11	2370.2	305265.77	True	5.00	6.727	5.85	1.000	20.000	20.598	3	30	
CAL6	4768074.33	2464.2	297859.04	True	5.00	16.008	5.84	1.000	50.000	49.014	-2	30	
CAL7	8122821.30	3096.0	249018.66	True	5.00	32.619	5.84	1.000	100.000	99.876	0	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

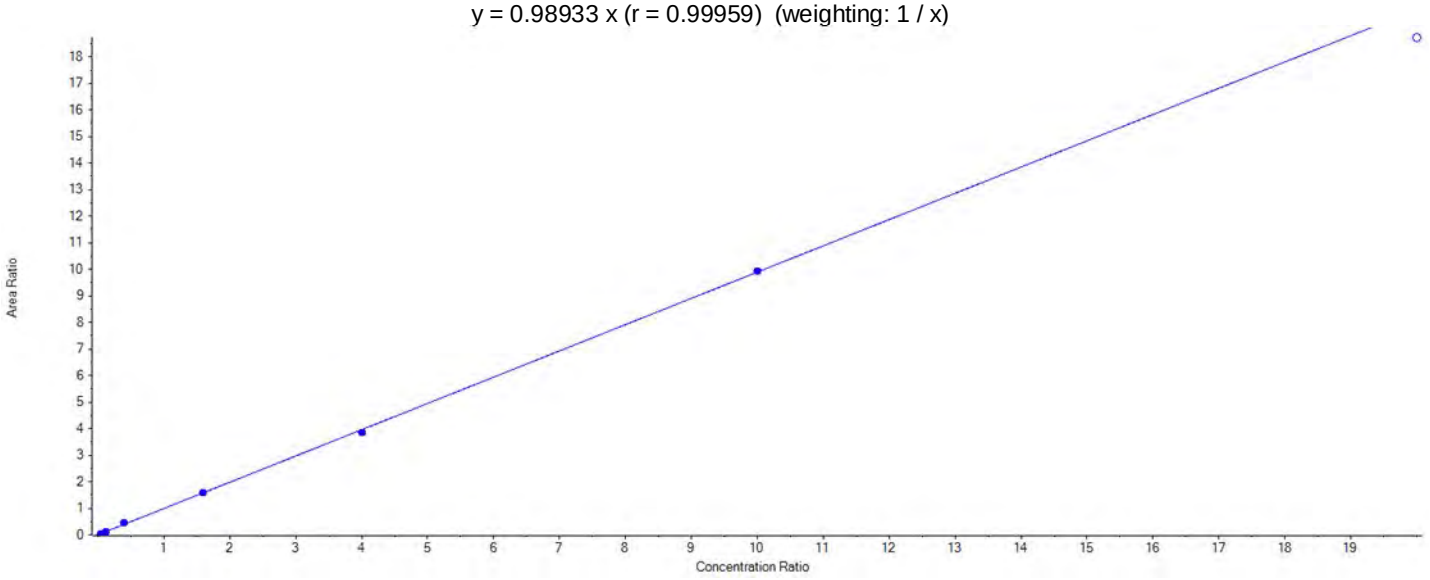
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtFOSAA

y = 0.98933 x (r = 0.99959) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtFOSAA Area	S/N	d5-NEtFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3561.72	160.5	70354.75	True	5.00	0.051	5.87	1.000	0.200	0.256	28	30	
CAL2	7437.87	232.6	74625.88	True	5.00	0.100	5.86	1.000	0.600	0.504	-16	30	
CAL3	31960.94	12521.6	72524.36	True	5.00	0.441	5.87	1.000	2.000	2.227	11	30	
CAL4	112530.30	852.2	70313.98	True	5.00	1.600	5.86	1.000	8.000	8.088	1	30	
CAL5	261138.15	1113.7	67520.89	True	5.00	3.868	5.86	1.000	20.000	19.546	-2	30	
CAL6	643440.74	1557.0	64805.85	True	5.00	9.929	5.86	1.000	50.000	50.179	0	30	
CAL7	1198896.19	1364.6	64018.92	False	5.00	18.727	5.86	1.000	100.000	94.646	-5	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

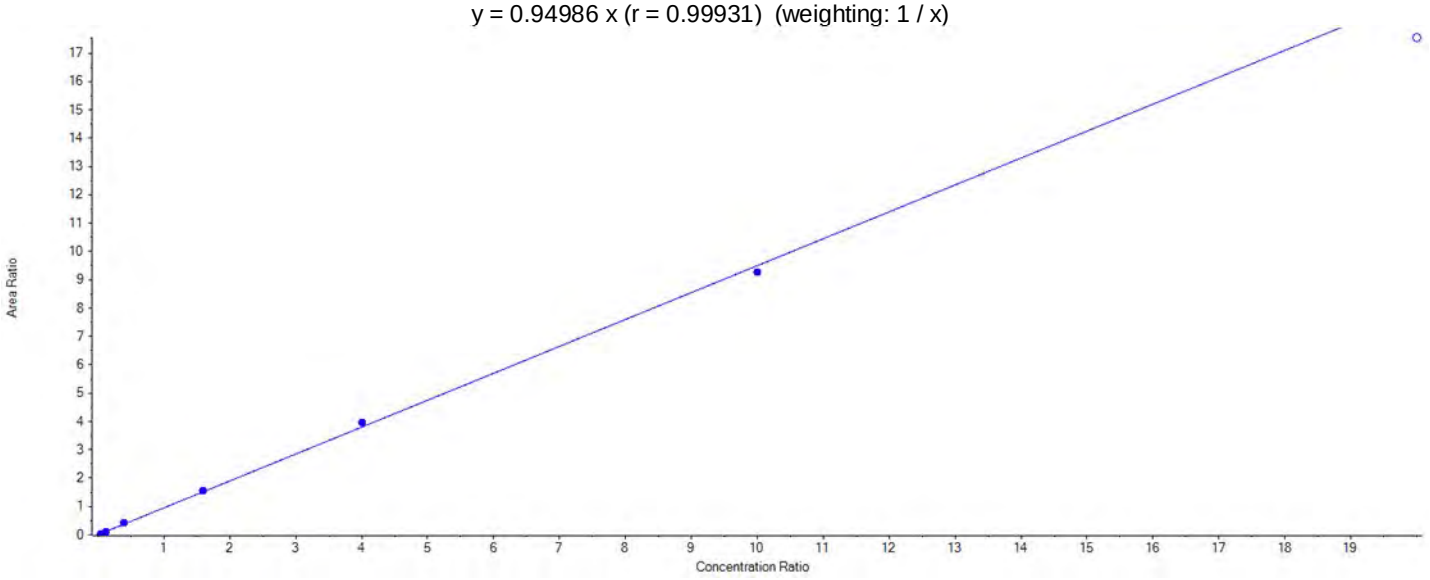
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDoDA

y = 0.94986 x (r = 0.99931) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDoDA Area	S/N	13C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	37270.51	412.0	754066.10	True	5.00	0.049	6.08	1.000	0.200	0.260	30	30	
CAL2	80887.26	620.8	823944.34	True	5.00	0.098	6.07	1.000	0.600	0.517	-14	30	
CAL3	325640.83	1278.7	789543.71	True	5.00	0.412	6.08	1.000	2.000	2.171	9	30	
CAL4	1203364.64	2004.1	777497.15	True	5.00	1.548	6.08	1.000	8.000	8.147	2	30	
CAL5	2804098.45	2754.1	706411.13	True	5.00	3.969	6.08	1.000	20.000	20.895	4	30	
CAL6	6214332.27	2901.1	670197.85	True	5.00	9.272	6.07	1.000	50.000	48.809	-2	30	
CAL7	10417166.00	2398.9	593609.87	False	5.00	17.549	6.07	1.000	100.000	92.376	-8	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

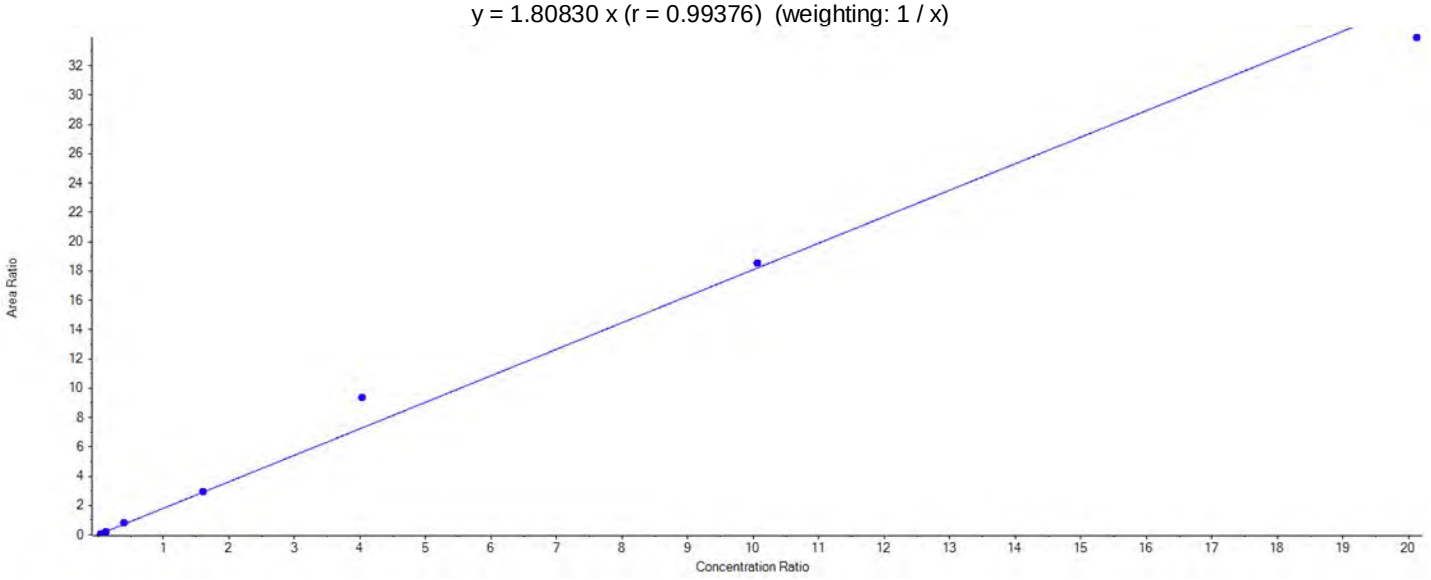
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

10:2-FTS

y = 1.80830 x (r = 0.99376) (weighting: 1 / x)



Component Calibration Verification

Sample Name	10:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1354.81	399.2	23191.69	True	4.79	0.058	6.09	1.090	0.193	0.155	-20	30	
CAL2	5031.45	1102.9	25892.25	True	4.79	0.194	6.09	1.090	0.578	0.515	-11	30	
CAL3	20128.37	12142.5	25542.30	True	4.79	0.788	6.10	1.090	1.930	2.087	8	30	
CAL4	68099.46	2363.8	23195.67	True	4.79	2.936	6.09	1.090	7.710	7.777	1	30	
CAL5	178277.68	1526.2	18960.22	True	4.79	9.403	6.09	1.090	19.300	24.907	29	30	
CAL6	373461.12	1810.4	20179.01	True	4.79	18.507	6.09	1.090	48.200	49.024	2	30	
CAL7	691304.98	2564.5	20381.41	True	4.79	33.918	6.09	1.090	96.400	89.846	-7	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

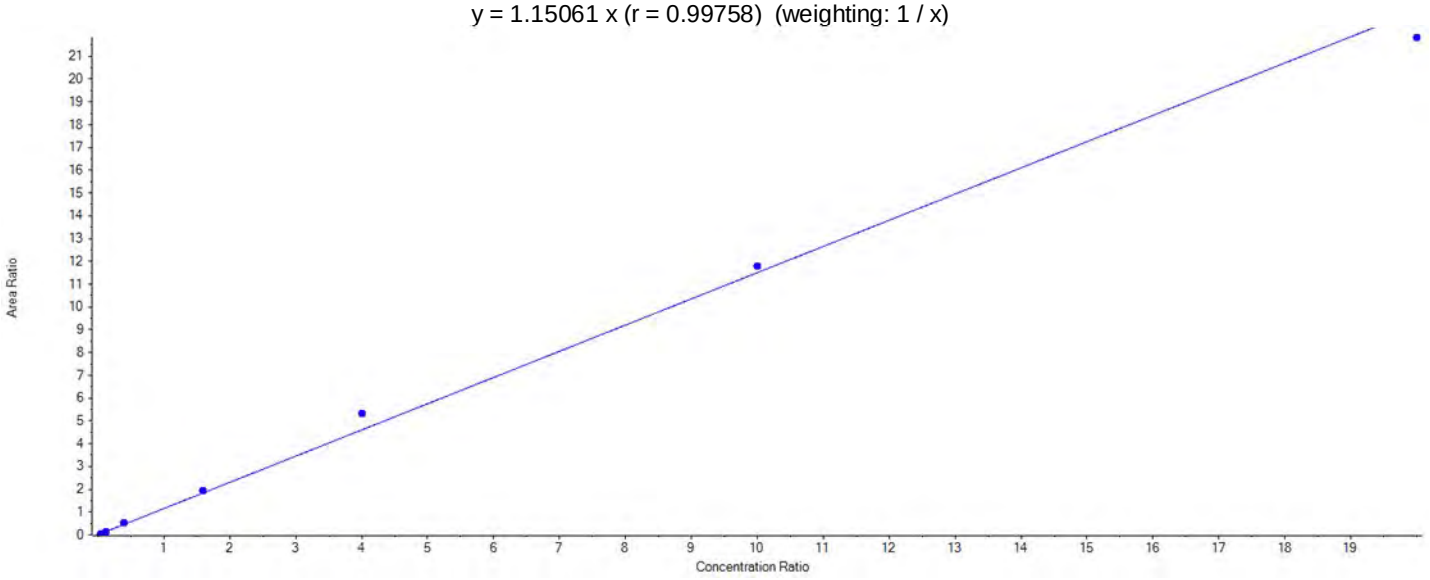
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSAE

y = 1.15061 x (r = 0.99758) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMePFOSAE Area	S/N	d7-NMePFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	14542.72	115.4	275061.76	True	5.00	0.053	6.13	1.000	0.200	0.230	15	30	
CAL2	34660.64	260.9	265104.11	True	5.00	0.131	6.12	1.000	0.600	0.568	-5	30	
CAL3	143928.06	490.0	271371.96	True	5.00	0.530	6.13	1.000	2.000	2.305	15	30	
CAL4	547399.01	855.7	283055.24	True	5.00	1.934	6.13	1.000	8.000	8.404	5	30	
CAL5	1300871.75	997.5	244218.51	True	5.00	5.327	6.13	1.000	20.000	23.147	16	30	
CAL6	3077102.19	1464.8	260658.19	True	5.00	11.805	6.12	1.000	50.000	51.300	3	30	
CAL7	5604299.93	1313.3	256769.15	True	5.00	21.826	6.12	1.000	100.000	94.847	-5	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

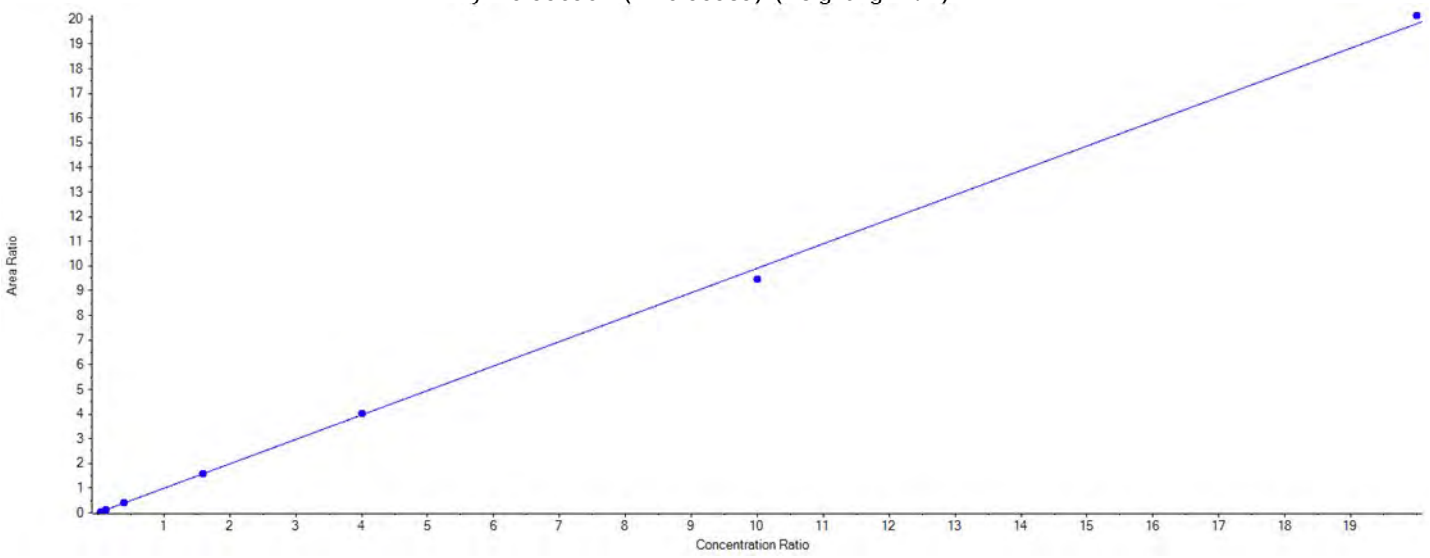
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSA

y = 0.99096 x (r = 0.99959) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMePFOSA Area	S/N	d3-NMePFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3858.71	312.2	89306.24	True	5.00	0.043	6.14	1.000	0.200	0.218	9	30	
CAL2	9287.70	211.0	87716.56	True	5.00	0.106	6.13	1.000	0.600	0.534	-11	30	
CAL3	36080.19	652.6	85427.70	True	5.00	0.422	6.13	1.000	2.000	2.131	7	30	
CAL4	132178.28	1048.0	82821.34	True	5.00	1.596	6.13	1.000	8.000	8.052	1	30	
CAL5	340769.02	1312.1	84514.87	True	5.00	4.032	6.13	1.000	20.000	20.344	2	30	
CAL6	783375.42	1153.6	82601.00	True	5.00	9.484	6.13	1.000	50.000	47.852	-4	30	
CAL7	1487707.20	1331.1	73831.64	True	5.00	20.150	6.13	1.000	100.000	101.669	2	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

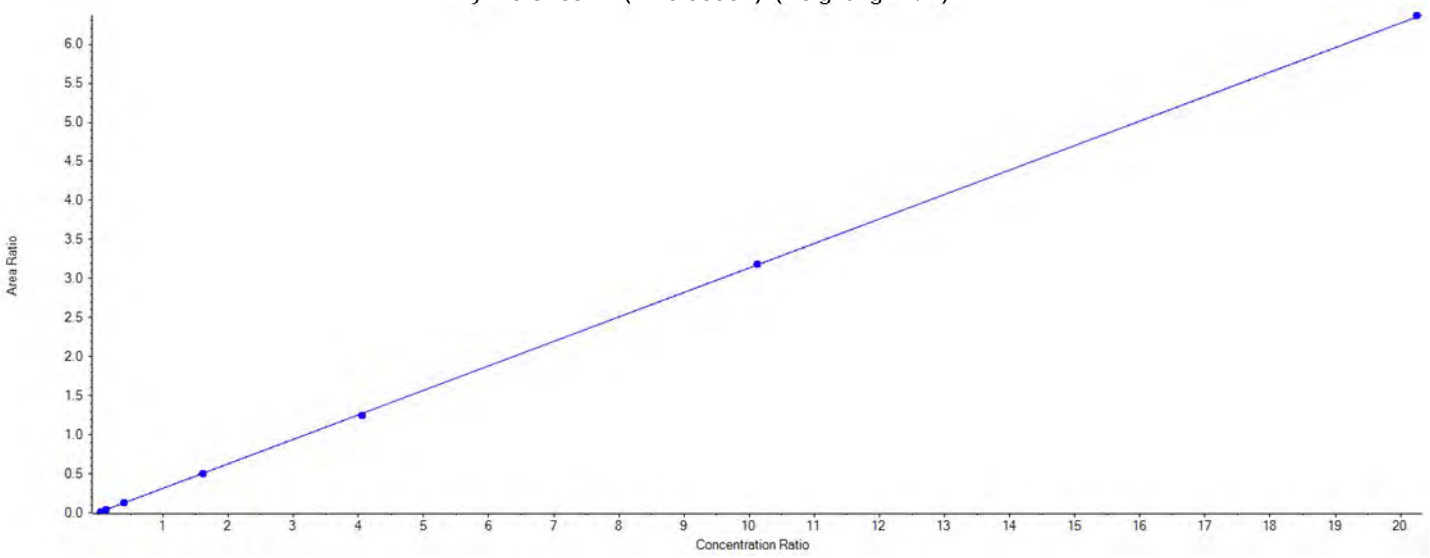
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDoS

y = 0.31354 x (r = 0.99992) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDoS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3916.45	1274.7	296771.13	True	4.78	0.013	6.25	1.190	0.194	0.201	4	30	
CAL2	10261.97	350.6	308155.48	True	4.78	0.033	6.24	1.190	0.581	0.508	-13	30	
CAL3	39376.37	1317.9	294019.28	True	4.78	0.134	6.25	1.190	1.940	2.042	5	30	
CAL4	148019.20	3384.5	299310.50	True	4.78	0.495	6.25	1.190	7.740	7.539	-3	30	
CAL5	357990.58	1979.8	286479.93	True	4.78	1.250	6.25	1.190	19.400	19.051	-2	30	
CAL6	815763.72	1854.4	255714.77	True	4.78	3.190	6.24	1.190	48.400	48.634	0	30	
CAL7	1472050.71	2021.5	231168.31	True	4.78	6.368	6.24	1.190	96.800	97.080	0	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

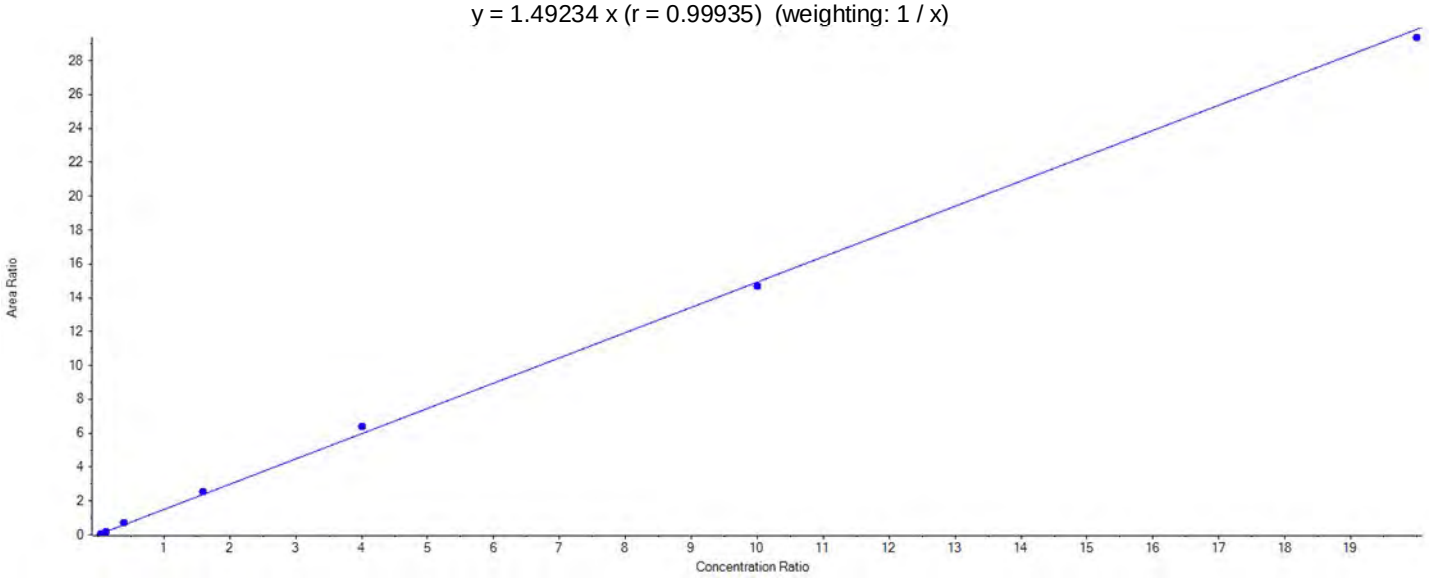
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSAE

y = 1.49234 x (r = 0.99935) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtPFOSAE Area	S/N	d9-NEtPFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	14267.84	119.0	222789.54	True	5.00	0.064	6.28	1.000	0.200	0.215	7	30	
CAL2	45303.75	325.5	234011.31	True	5.00	0.194	6.28	1.000	0.600	0.649	8	30	
CAL3	164401.86	464.6	235845.39	True	5.00	0.697	6.28	1.000	2.000	2.336	17	30	
CAL4	580672.37	823.7	227812.80	True	5.00	2.549	6.28	1.000	8.000	8.540	7	30	
CAL5	1386117.66	1034.1	215846.99	True	5.00	6.422	6.28	1.000	20.000	21.516	8	30	
CAL6	3150023.96	1284.6	214650.52	True	5.00	14.675	6.28	1.000	50.000	49.168	-2	30	
CAL7	5855586.84	1418.6	199424.66	True	5.00	29.362	6.28	1.000	100.000	98.377	-2	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

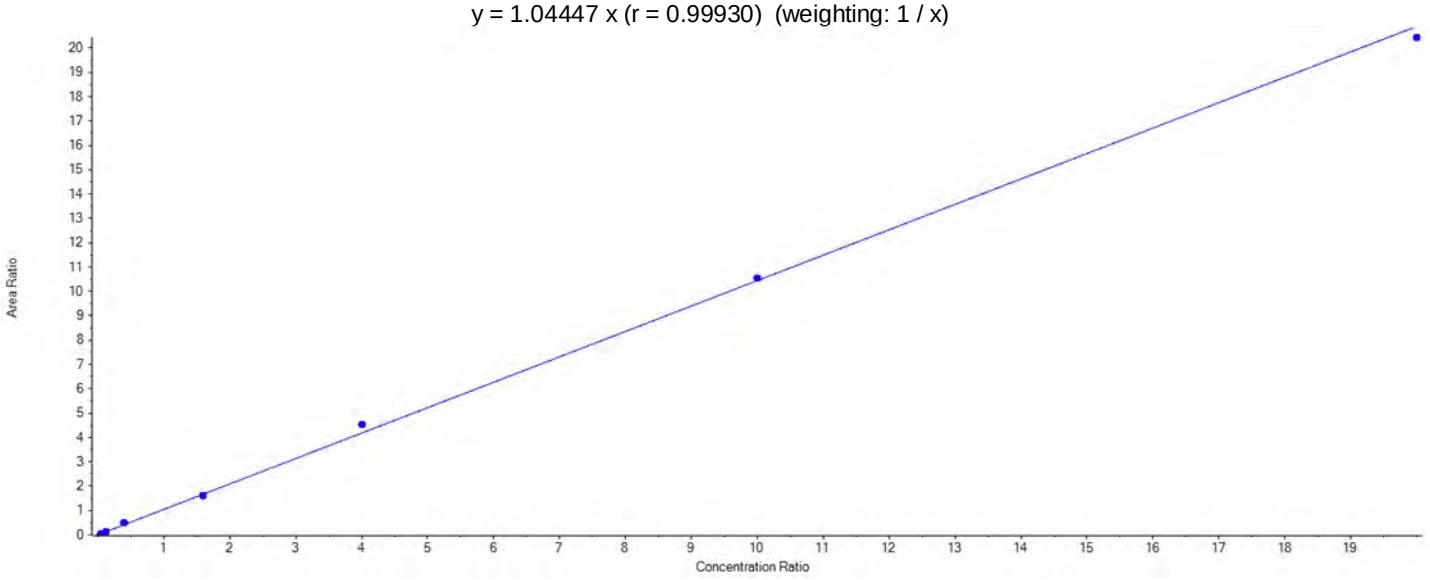
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSA

y = 1.04447 x (r = 0.99930) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtPFOSA Area	S/N	d5-NEtPFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	2663.21	74.4	71072.66	True	5.00	0.037	6.30	1.000	0.200	0.179	-10	30	
CAL2	8819.41	201.3	66979.27	True	5.00	0.132	6.29	1.000	0.600	0.630	5	30	
CAL3	34117.11	493.5	70028.97	True	5.00	0.487	6.29	1.000	2.000	2.332	17	30	
CAL4	112922.94	859.2	69489.36	True	5.00	1.625	6.29	1.000	8.000	7.779	-3	30	
CAL5	295448.63	1329.2	65432.89	True	5.00	4.515	6.29	1.000	20.000	21.615	8	30	
CAL6	692421.71	1122.4	65686.64	True	5.00	10.541	6.29	1.000	50.000	50.462	1	30	
CAL7	1345368.37	1255.4	65852.47	True	5.00	20.430	6.29	1.000	100.000	97.801	-2	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

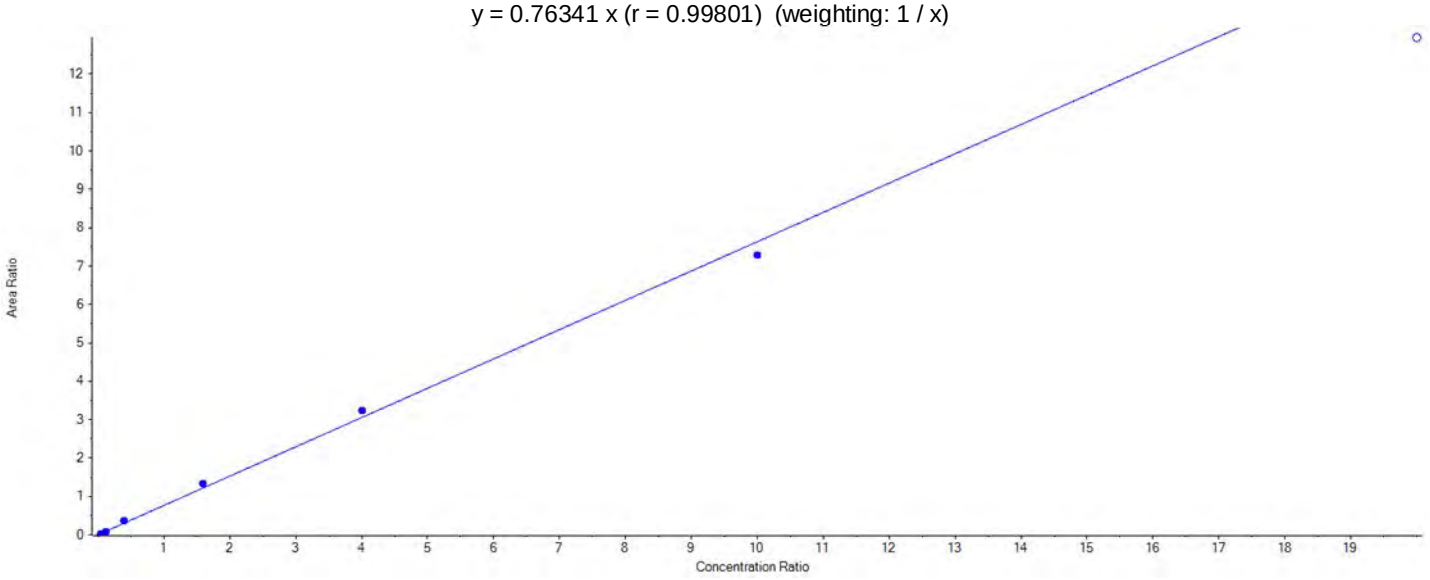
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTrDA

y = 0.76341 x (r = 0.99801) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFTrDA Area	S/N	13C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	24471.60	143.9	754066.10	True	5.00	0.032	6.28	1.030	0.200	0.213	6	30	
CAL2	72303.60	213.3	823944.34	True	5.00	0.088	6.27	1.030	0.600	0.575	-4	30	
CAL3	282288.53	519.7	789543.71	True	5.00	0.358	6.28	1.030	2.000	2.342	17	30	
CAL4	1039364.46	741.4	777497.15	True	5.00	1.337	6.28	1.030	8.000	8.755	9	30	
CAL5	2289995.99	1052.8	706411.13	True	5.00	3.242	6.28	1.030	20.000	21.232	6	30	
CAL6	4879343.81	1480.3	670197.85	True	5.00	7.280	6.27	1.030	50.000	47.684	-5	30	
CAL7	7688079.44	1694.8	593609.87	False	5.00	12.951	6.27	1.030	100.000	84.826	-15	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

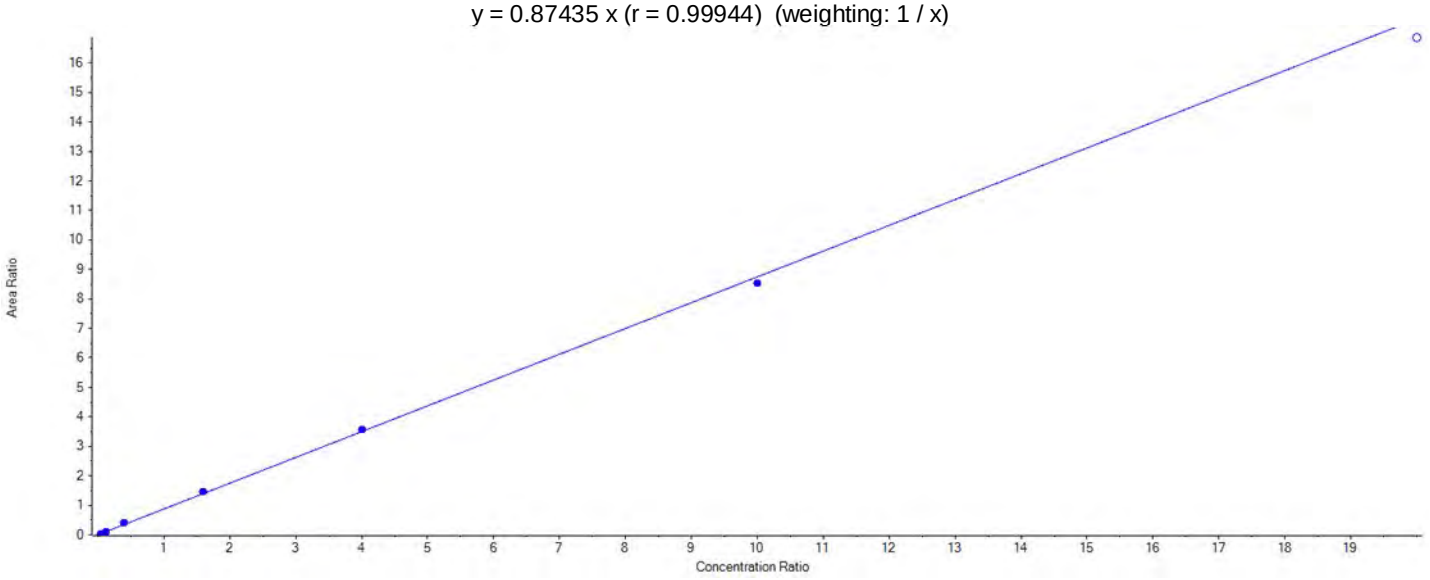
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTeDA

y = 0.87435 x (r = 0.99944) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFTeDA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	20571.65	155.1	515073.56	True	5.00	0.040	6.45	1.000	0.200	0.228	14	30	
CAL2	55946.77	270.4	540663.86	True	5.00	0.103	6.45	1.000	0.600	0.592	-1	30	
CAL3	217102.02	792.1	540932.65	True	5.00	0.401	6.45	1.000	2.000	2.295	15	30	
CAL4	814575.84	1339.9	559294.73	True	5.00	1.456	6.45	1.000	8.000	8.329	4	30	
CAL5	1865922.85	1575.4	520852.39	True	5.00	3.582	6.45	1.000	20.000	20.486	2	30	
CAL6	4117781.14	1789.0	481845.90	True	5.00	8.546	6.45	1.000	50.000	48.870	-2	30	
CAL7	7609017.15	1938.6	451368.75	False	5.00	16.858	6.45	1.000	100.000	96.401	-4	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

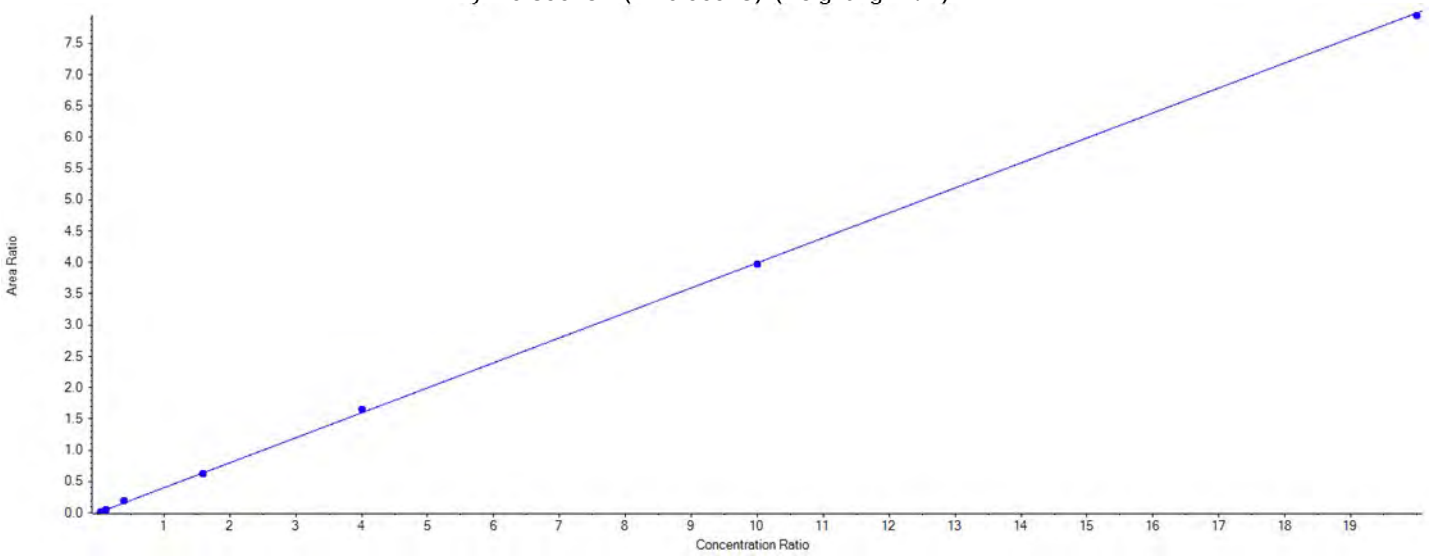
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxDA

y = 0.39925 x (r = 0.99978) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxDA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	10493.78	347.8	515073.56	True	5.00	0.020	6.74	1.040	0.200	0.255	28	30	
CAL2	24602.52	783.7	540663.86	True	5.00	0.046	6.74	1.040	0.600	0.570	-5	30	
CAL3	100823.70	1310.5	540932.65	True	5.00	0.186	6.74	1.040	2.000	2.334	17	30	
CAL4	349067.59	1866.3	559294.73	True	5.00	0.624	6.74	1.040	8.000	7.816	-2	30	
CAL5	856971.96	2417.8	520852.39	True	5.00	1.645	6.74	1.040	20.000	20.605	3	30	
CAL6	1913602.75	4651.9	481845.90	True	5.00	3.971	6.74	1.040	50.000	49.736	-1	30	
CAL7	3585505.03	3079.9	451368.75	True	5.00	7.944	6.73	1.040	100.000	99.483	-1	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

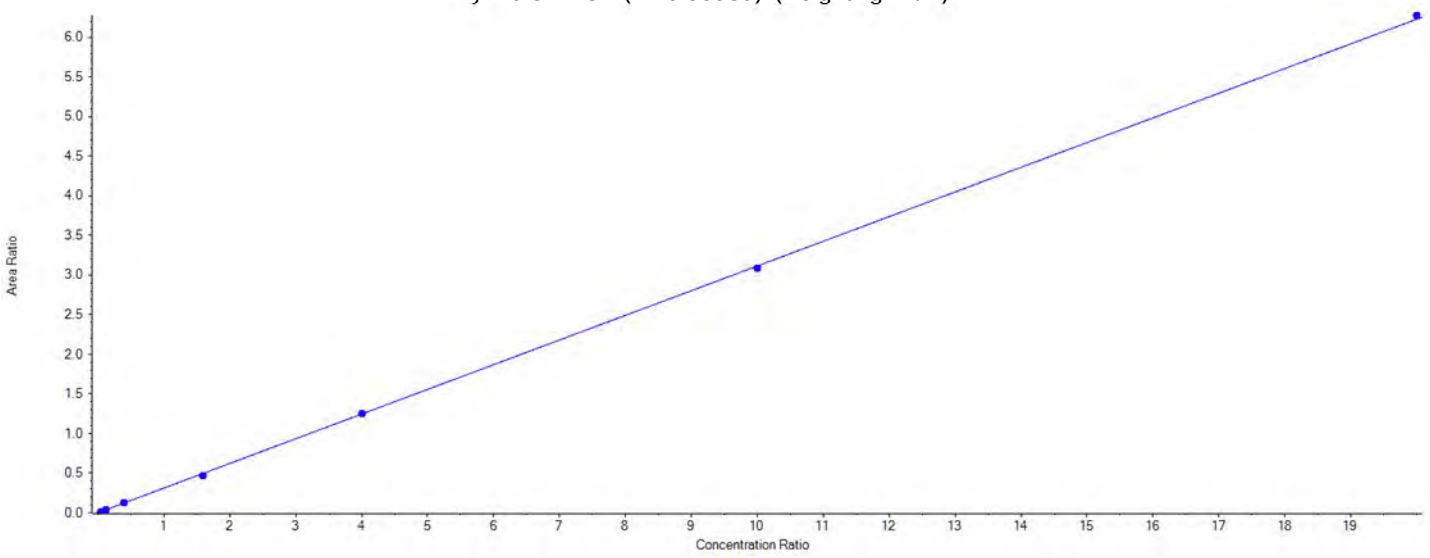
REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

PFODA

y = 0.31148 x (r = 0.99986) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFODA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	6969.17	553.6	515073.56	True	5.00	0.014	6.99	1.080	0.200	0.217	9	30	
CAL2	18468.51	1036.0	540663.86	True	5.00	0.034	6.98	1.080	0.600	0.548	-9	30	
CAL3	70714.00	1712.2	540932.65	True	5.00	0.131	6.99	1.080	2.000	2.098	5	30	
CAL4	262292.75	2891.5	559294.73	True	5.00	0.469	6.98	1.080	8.000	7.528	-6	30	
CAL5	651552.95	3073.4	520852.39	True	5.00	1.251	6.99	1.080	20.000	20.081	0	30	
CAL6	1488718.76	3739.3	481845.90	True	5.00	3.090	6.98	1.080	50.000	49.596	-1	30	
CAL7	2832373.93	3634.0	451368.75	True	5.00	6.275	6.98	1.080	100.000	100.731	1	30	

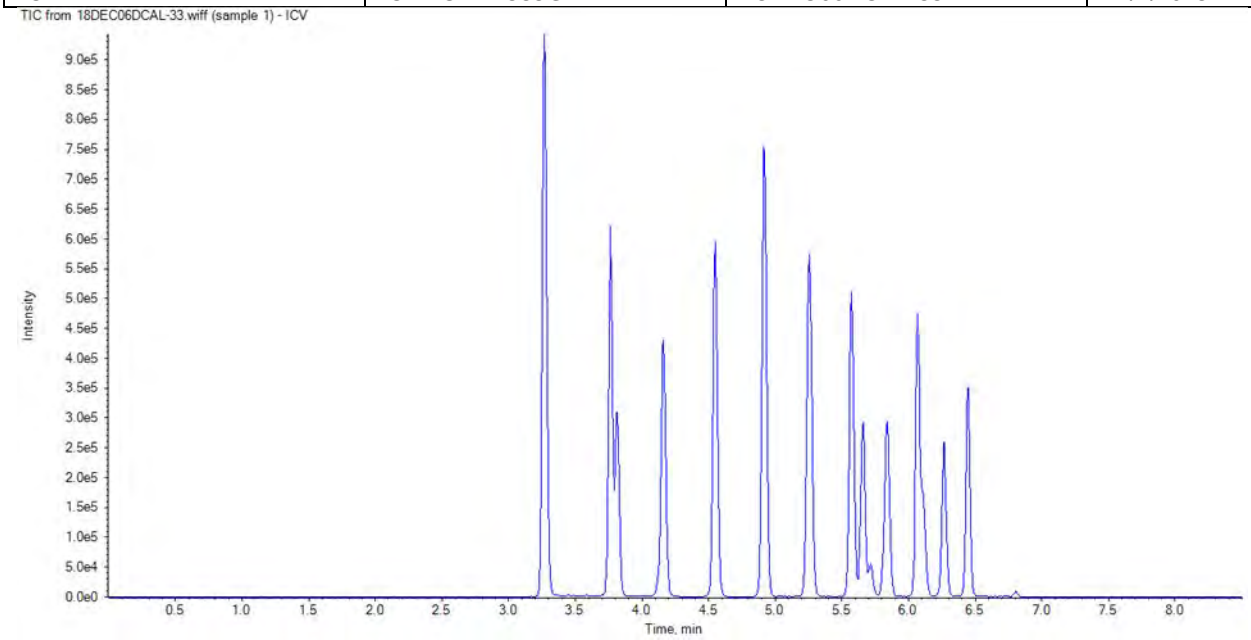
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18DEC06DCAL-33.wiff	12/7/2018 12:49:37 AM



Injection Standard Name	Inj Std Conc	Injection Std Peak Area	CAL3 Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.000	862809.82	825688.9	4.5	50	
13C2-PFOA	5.000	440385.38	449802.8	-2.1	50	
13C4-PFOS	4.780	289133.30	276858.3	4.4	50	
13C2-PFDA	5.000	325898.29	315428.3	3.3	50	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC06DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC06DCAL12/7/2018 12:45:29 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18DEC06DCAL-33.wiff	12/7/2018 12:49:37 AM

Analyte Name	Analyte Area	Ext Std Name	Ext Std Area	Ext Std Con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	365740.64	13C4-PFBA	949191.04	5.00	0.385	3.27	1.00	2.000	2.126	6	30	
PFPeA	343574.54	13C5-PFPeA	881736.08	5.00	0.390	3.77	1.00	2.000	2.050	2	30	
PFBS	162265.95	13C3-PFBS	445541.67	4.65	0.364	3.81	1.00	1.769	1.805	2	30	
4:2-FTS	N/A	13C2-4:2-FTS	56764.65	4.67	N/A	N/A	N/A	0.000	N/A		30	
PFHxA	339202.11	13C5-PFHxA	656636.38	5.00	0.517	4.16	1.00	2.000	2.251	13	30	
PFPeS	N/A	13C3-PFBS	445541.67	4.65	N/A	N/A	N/A	0.000	N/A		30	
PFHpA	342255.00	13C4-PFHpA	518050.90	5.00	0.661	4.55	1.00	2.000	2.175	9	30	
PFHxS	125645.75	13C3-PFHxS	350861.28	4.73	0.358	4.55	1.00	1.890	1.697	-10	30	
6:2-FTS	N/A	13C2-6:2-FTS	35235.42	4.75	N/A	N/A	N/A	0.000	N/A		30	
PFHpS	124002.40	13C3-PFHxS	350861.28	4.73	0.353	4.91	1.08	1.900	1.940	2	30	
PFOA	320848.38	13C8-PFOA	819462.10	5.00	0.392	4.92	1.00	2.000	2.140	7	30	
PFOS	119330.15	13C8-PFOS	301700.51	4.78	0.396	5.25	1.00	1.910	1.641	-14	30	
PFNA	281622.36	13C9-PFNA	506111.66	5.00	0.556	5.26	1.00	2.000	2.051	3	30	
PFNS	N/A	13C8-PFOS	301700.51	4.78	N/A	N/A	N/A	0.000	N/A		30	
PFDA	241839.27	13C6-PFDA	616493.85	5.00	0.392	5.57	1.00	2.000	2.208	10	30	
8:2-FTS	N/A	13C2-8:2-FTS	24385.97	4.79	N/A	N/A	N/A	0.000	N/A		30	
PFOSA	N/A	13C8-PFOSA	701268.41	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMeFOSAA	33150.53	d3-NMeFOSAA	87605.07	5.00	0.378	5.72	1.00	2.000	2.503	25	30	
PFDS	72651.57	13C8-PFOS	301700.51	4.78	0.241	5.81	1.11	1.930	1.947	1	30	
PFUnDA	236810.29	13C7-PFUnDA	336300.95	5.00	0.704	5.84	1.00	2.000	2.156	8	30	
NEtFOSAA	28610.36	d5-NEtFOSAA	71167.55	5.00	0.402	5.86	1.00	2.000	2.032	2	30	
PFDoDA	282836.29	13C2-PFDoDA	765392.66	5.00	0.370	6.07	1.00	2.000	1.945	-3	30	
10:2-FTS	N/A	13C2-8:2-FTS	24385.97	4.79	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSAE	N/A	d7-NMePFOSAE	282158.78	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSA	N/A	d3-NMePFOSA	89779.37	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFDoS	N/A	13C8-PFOS	301700.51	4.78	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSAE	N/A	d9-NEtPFOSAE	228783.41	5.00	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSA	N/A	d5-NEtPFOSA	72087.81	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFTrDA	269624.15	13C2-PFDoDA	765392.66	5.00	0.352	6.27	1.03	2.000	2.307	15	30	
PFTeDA	203997.28	13C2-PFTeDA	545334.36	5.00	0.374	6.44	1.00	2.000	2.139	7	30	
PFHxDA	N/A	13C2-PFTeDA	545334.36	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFODA	N/A	13C2-PFTeDA	545334.36	5.00	N/A	N/A	N/A	0.000	N/A		30	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL1			**Data File:**		18DEC06DCAL-25.wiff
Sample ID:	CALBRN11833C			**Acquis Date:**		2018-12-06T23:37:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	3			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	804002.5	825688.9	-3	50	
13C2-PFOA	5.0	433955.3	449802.8	-4	50	
13C4-PFOS	4.8	274852.7	276858.3	-1	50	
13C2-PFDA	5.0	330011.0	315428.3	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	898694.9	13C3-PFBA	804002.5	1.118	5.000	4.947	99	70-130	
E13C5-PFPeA	841151.0	13C3-PFBA	804002.5	1.046	5.000	4.969	99	70-130	
E13C3-PFBS	426818.1	13C3-PFBA	804002.5	0.531	4.650	4.500	97	70-130	
E13C2-4:2-FTS	53888.8	13C2-PFOA	433955.3	0.124	4.670	4.866	104	70-130	
E13C5-PFHxA	658090.0	13C2-PFOA	433955.3	1.516	5.000	5.092	102	70-130	
E13C3-PFHxS	339911.1	13C2-PFOA	433955.3	0.783	4.730	5.024	106	70-130	
E13C4-PFHpA	505550.3	13C2-PFOA	433955.3	1.165	5.000	4.953	99	70-130	
E13C2-6:2-FTS	37457.5	13C2-PFOA	433955.3	0.086	4.750	5.347	113	70-130	
E13C8-PFOA	818121.3	13C2-PFOA	433955.3	1.885	5.000	5.329	107	70-130	
E13C8-PFOS	296771.1	13C4-PFOS	274852.7	1.080	4.780	4.846	101	70-130	
E13C9-PFNA	472343.2	13C4-PFOS	274852.7	1.719	5.000	4.856	97	70-130	
E13C6-PFDA	610780.8	13C2-PFDA	330011.0	1.851	5.000	4.905	98	70-130	
E13C2-8:2-FTS	23191.7	13C2-PFDA	330011.0	0.070	4.790	4.588	96	70-130	
E13C8-PFOSA	695258.6	13C2-PFDA	330011.0	2.107	5.000	4.983	100	70-130	
Ed3-NMeFOSAA	91944.0	13C2-PFDA	330011.0	0.279	5.000	4.937	99	70-130	
E13C7-PFUnDA	318852.8	13C2-PFDA	330011.0	0.966	5.000	4.740	95	70-130	
Ed5-NEtFOSAA	70354.8	13C2-PFDA	330011.0	0.213	5.000	4.706	94	70-130	
E13C2-PFDoDA	754066.1	13C2-PFDA	330011.0	2.285	5.000	4.795	96	70-130	
Ed7-NMePFOSAE	275061.8	13C2-PFDA	330011.0	0.833	5.000	4.801	96	70-130	
Ed3-NMePFOSA	89306.2	13C2-PFDA	330011.0	0.271	5.000	4.931	99	70-130	
Ed9-NEtPFOSAE	222789.5	13C2-PFDA	330011.0	0.675	5.000	4.655	93	70-130	
Ed5-NEtPFOSA	71072.7	13C2-PFDA	330011.0	0.215	5.000	4.847	97	70-130	
E13C2-PFTeDA	515073.6	13C2-PFDA	330011.0	1.561	5.000	4.632	93	70-130	

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

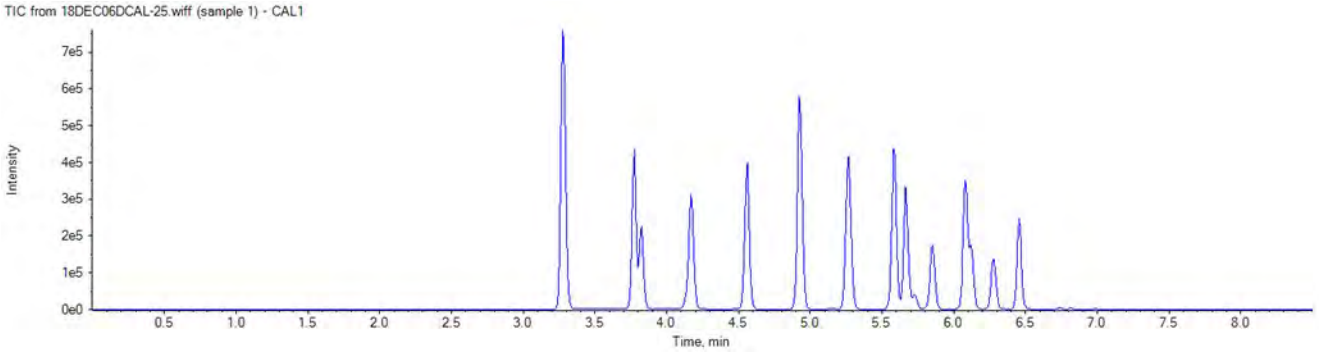
Analyte Quantitation Peak Table

Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-25.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	39459.3		A	13C4-PFBA	3.28	898694.9	0.044	0.242
PFPeA	3.78	1.000	38422.4		A	13C5-PFPeA	3.77	841151.0	0.046	0.240
PFBS	3.82	1.000	17447.7		A	13C3-PFBS	3.82	426818.1	0.041	0.203
4:2-FTS	4.14	1.000	3906.6		A	13C2-4:2-FTS	4.14	53888.8	0.072	0.194
PFHxA	4.17	1.000	37193.4		A	13C5-PFHxA	4.17	658090.0	0.057	0.246
PFPeS	4.19	1.100	9605.7		A	13C3-PFBS	3.82	426818.1	0.023	0.223
PFHpA	4.56	1.000	37520.1		A	13C4-PFHpA	4.56	505550.3	0.074	0.244
PFHxS	4.56	1.000	12711.1		M	13C3-PFHxS	4.56	339911.1	0.037	0.177
6:2-FTS	4.92	1.000	2930.5		A	13C2-6:2-FTS	4.92	37457.5	0.078	0.194
PFHpS	4.92	1.080	11460.5		A	13C3-PFHxS	4.56	339911.1	0.034	0.185
PFOA	4.93	1.000	35481.9		A	13C8-PFOA	4.93	818121.3	0.043	0.237
PFOS	5.26	1.000	13660.4		M	13C8-PFOS	5.26	296771.1	0.046	0.191
PFNA	5.27	1.000	28021.0		A	13C9-PFNA	5.27	472343.2	0.059	0.219
PFNS	5.56	1.060	9066.4		A	13C8-PFOS	5.26	296771.1	0.031	0.197
PFDA	5.58	1.000	25786.2		A	13C6-PFDA	5.58	610780.8	0.042	0.238
8:2-FTS	5.59	1.000	2203.2		A	13C2-8:2-FTS	5.59	23191.7	0.095	0.206
PFOSA	5.67	1.000	27373.9		A	13C8-PFOSA	5.67	695258.6	0.039	0.204
NMeFOSAA	5.74	1.000	2863.0		A	d3-NMeFOSAA	5.73	91944.0	0.031	0.206
PFDS	5.82	1.110	7005.6		A	13C8-PFOS	5.26	296771.1	0.024	0.191
PFUnDA	5.85	1.000	25249.7		A	13C7-PFUnDA	5.85	318852.8	0.079	0.242
NEtFOSAA	5.87	1.000	3561.7		M	d5-NEtFOSAA	5.86	70354.8	0.051	0.256
PFDoDA	6.08	1.000	37270.5		A	13C2-PFDoDA	6.08	754066.1	0.049	0.260
10:2-FTS	6.09	1.090	1354.8		A	13C2-8:2-FTS	5.59	23191.7	0.058	0.155
NMePFOSAE	6.13	1.000	14542.7		A	d7-NMePFOSAE	6.12	275061.8	0.053	0.230
NMePFOSA	6.14	1.000	3858.7		A	d3-NMePFOSA	6.13	89306.2	0.043	0.218
PFDoS	6.25	1.190	3916.5		A	13C8-PFOS	5.26	296771.1	0.013	0.201
NEtPFOSAE	6.28	1.000	14267.8		A	d9-NEtPFOSAE	6.27	222789.5	0.064	0.215
NEtPFOSA	6.30	1.000	2663.2		A	d5-NEtPFOSA	6.29	71072.7	0.037	0.179
PFTrDA	6.28	1.030	24471.6		A	13C2-PFDoDA	6.08	754066.1	0.032	0.213
PFTeDA	6.45	1.000	20571.7		A	13C2-PFTeDA	6.46	515073.6	0.040	0.228
PFHxDA	6.74	1.040	10493.8		A	13C2-PFTeDA	6.46	515073.6	0.020	0.255
PFODA	6.99	1.080	6969.2		A	13C2-PFTeDA	6.46	515073.6	0.014	0.217

Total Ion Chromatogram

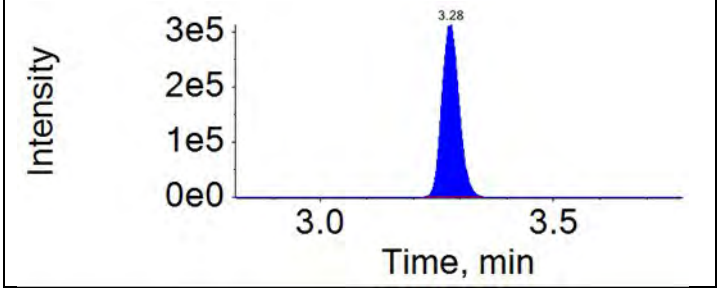


APPROVED
By MSM at 1:53 pm, 12/7/18

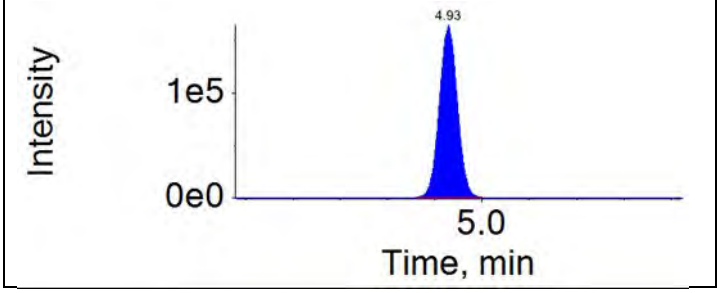
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

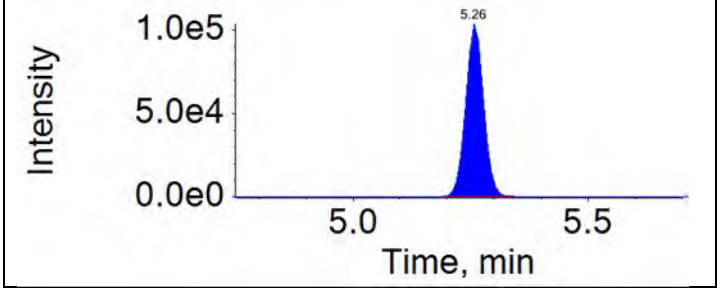
Injection Standard: 13C3-PFBA
216.0 / 172.0



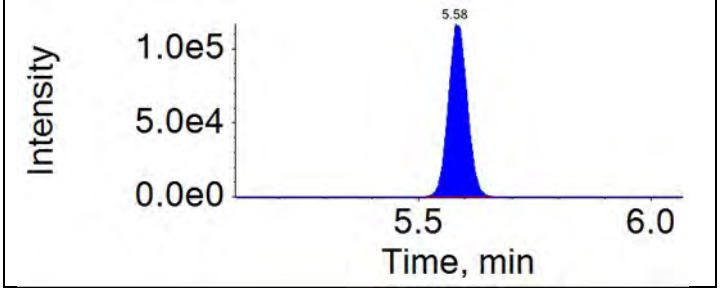
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

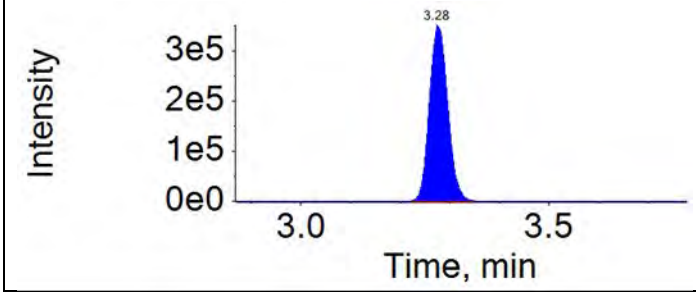


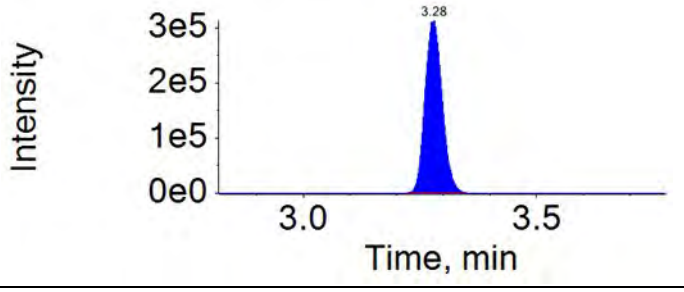
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

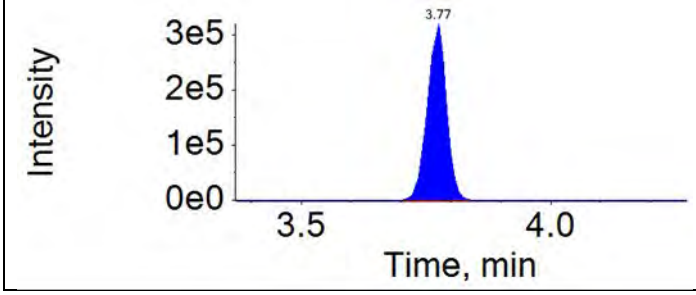
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

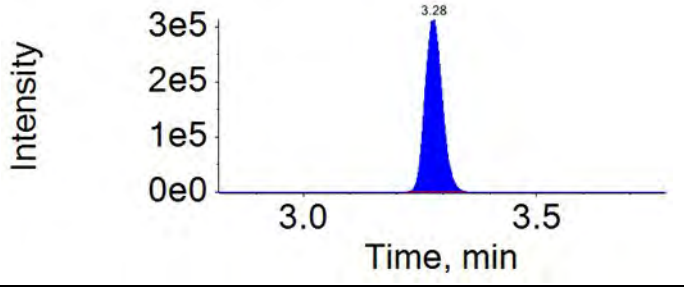
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



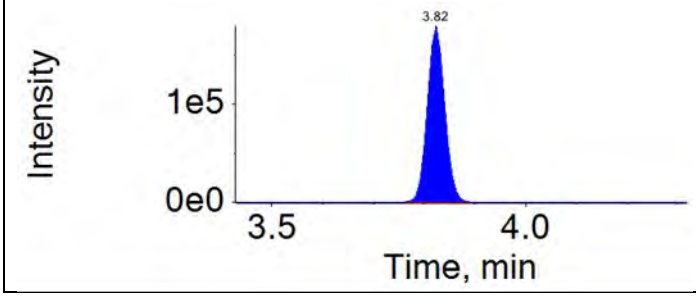


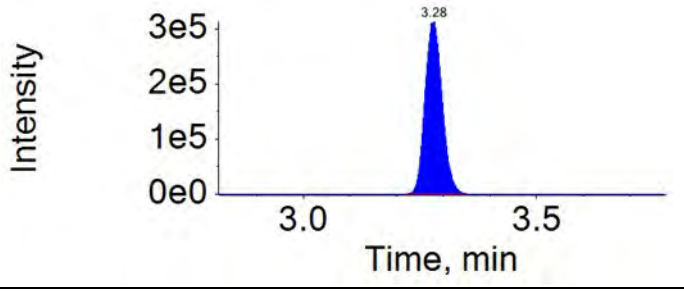
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



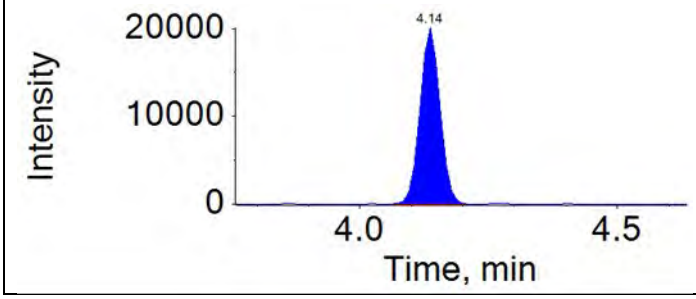


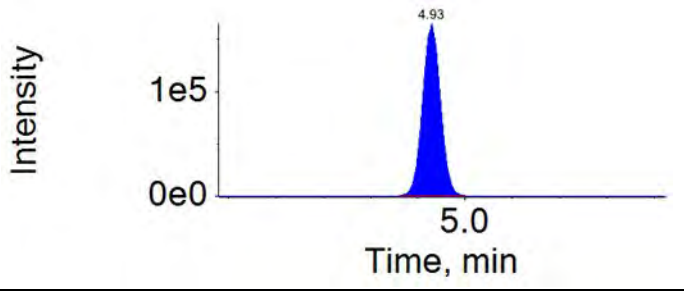
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



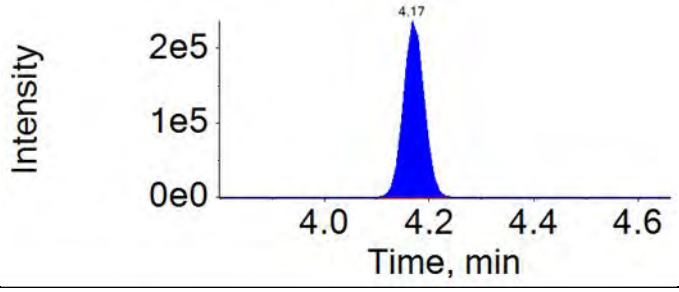


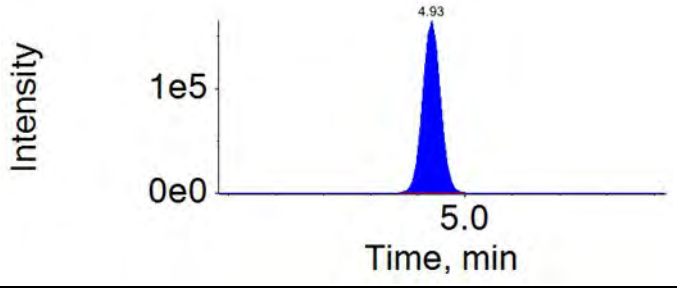
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

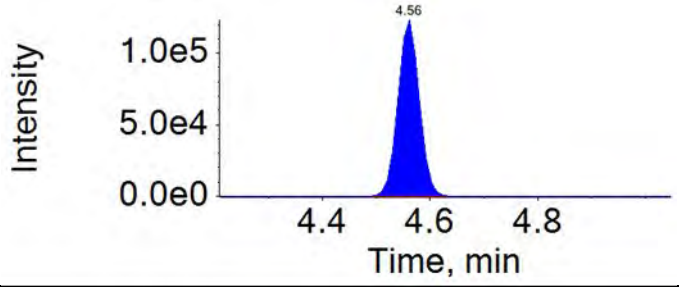
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

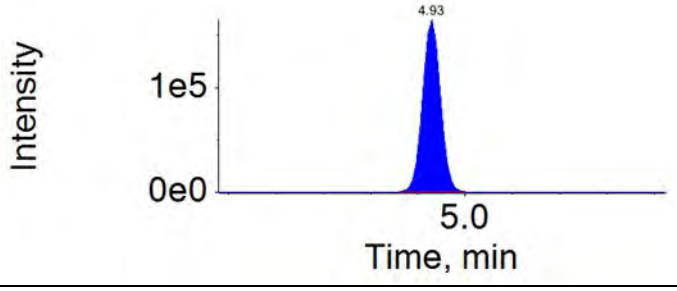
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



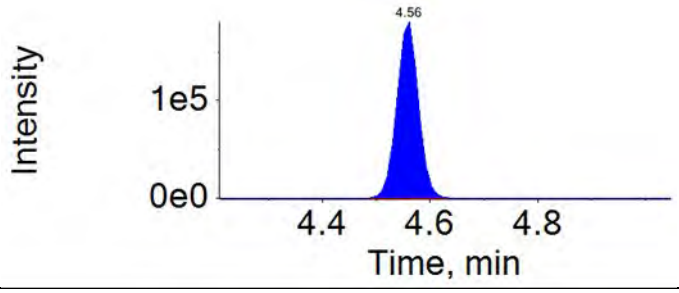


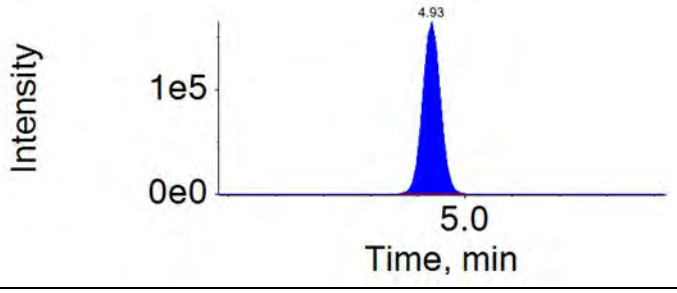
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



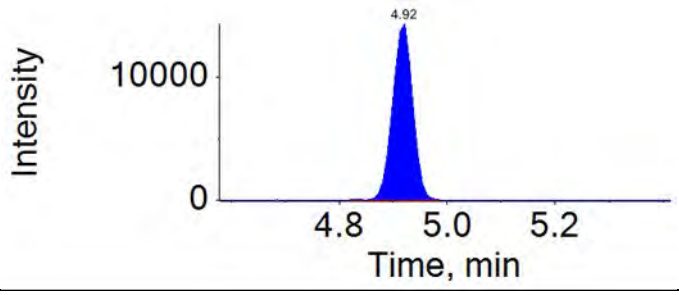


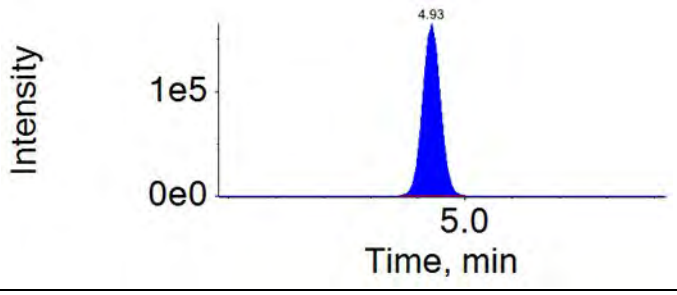
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



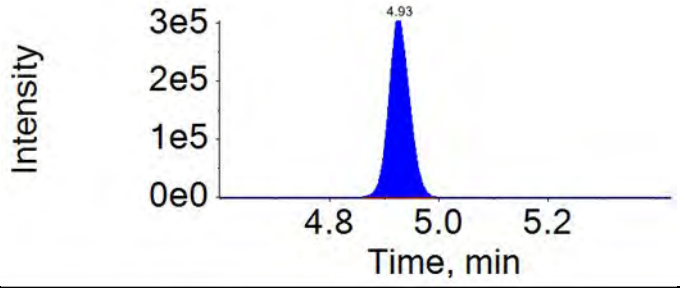


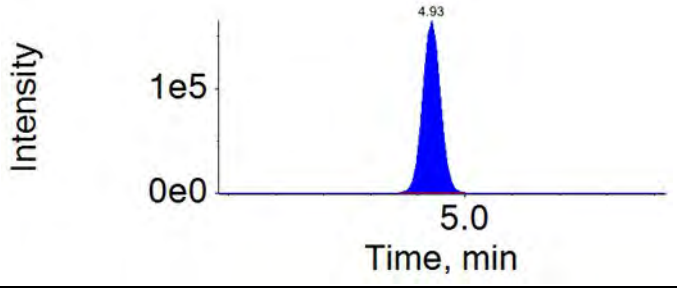
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

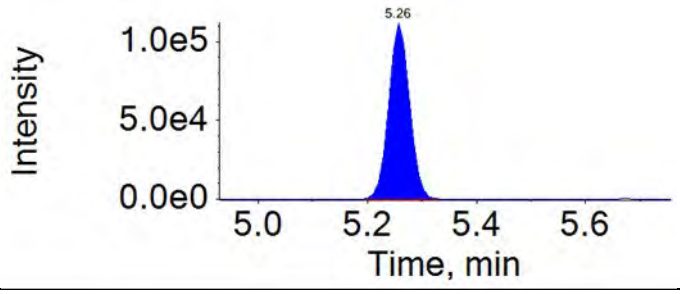
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

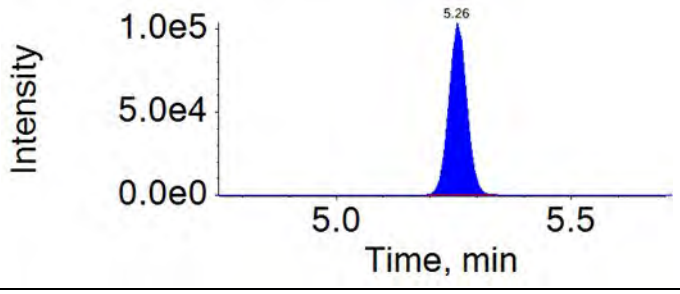
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



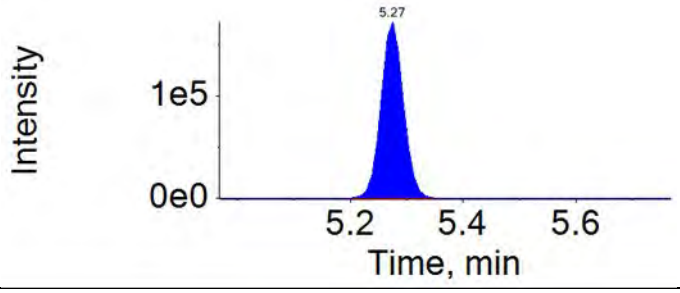


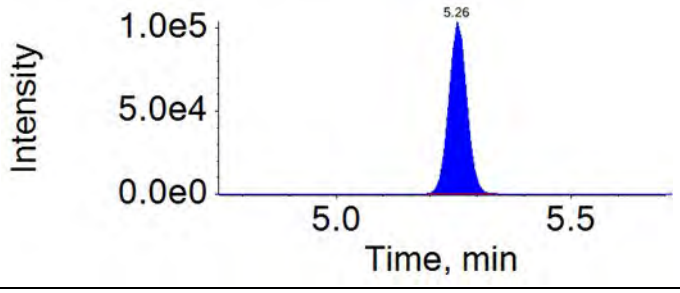
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



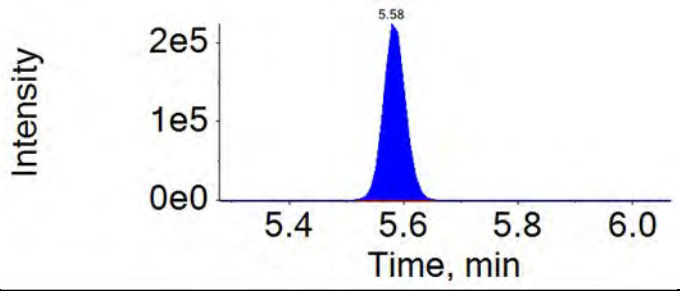


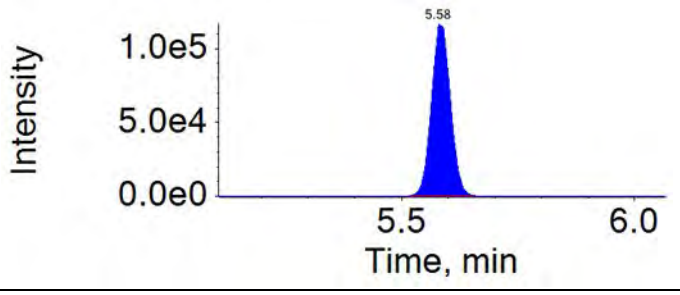
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



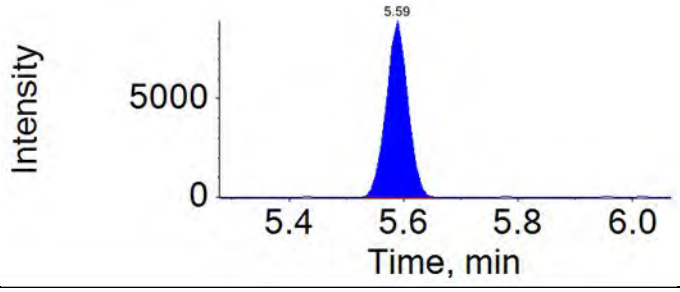


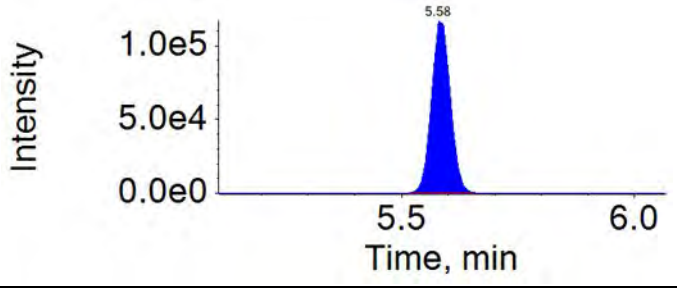
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

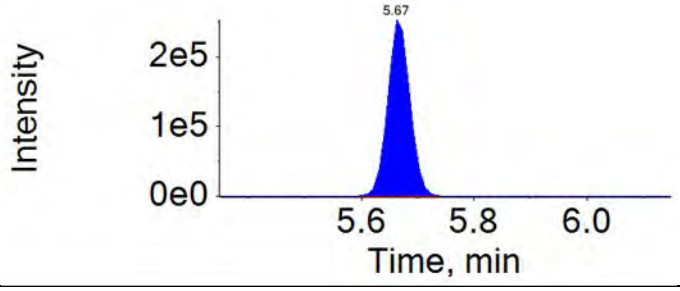
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

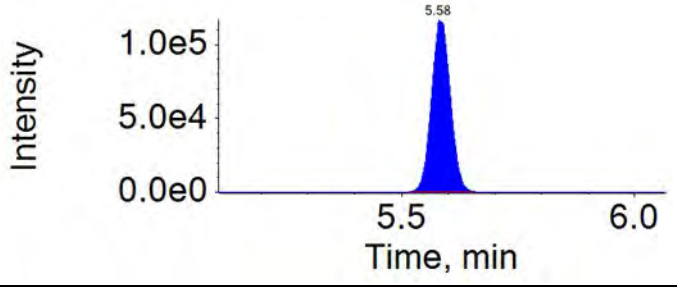
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



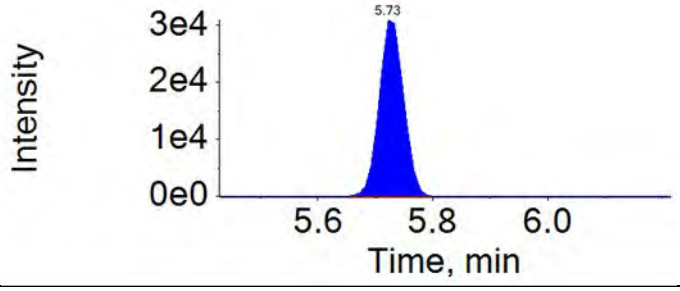


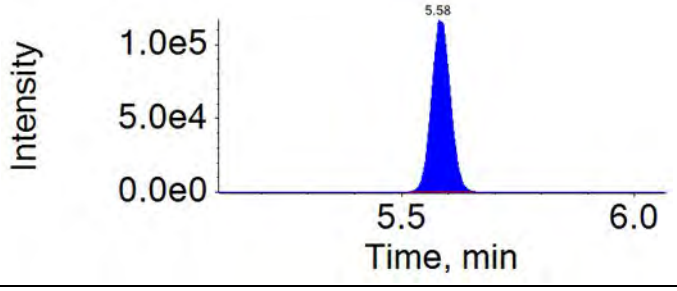
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



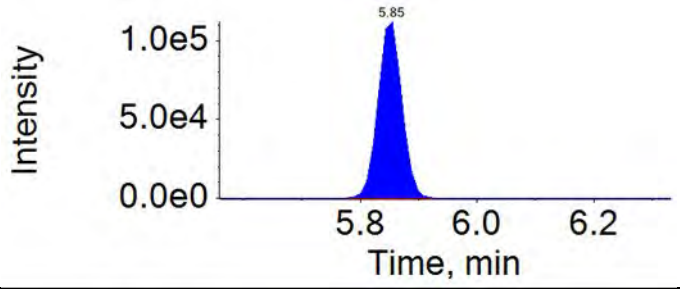


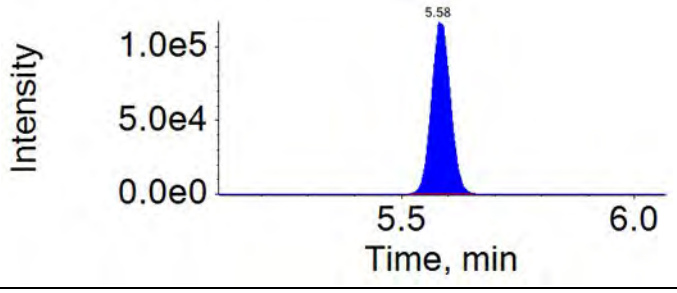
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



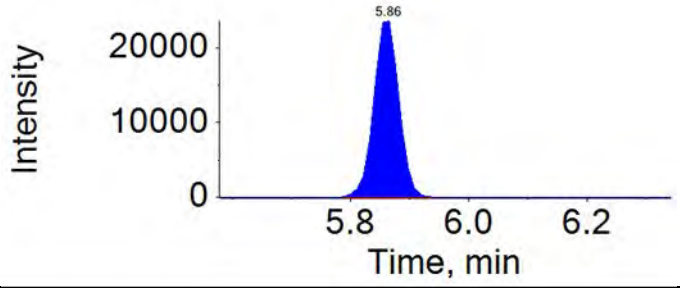


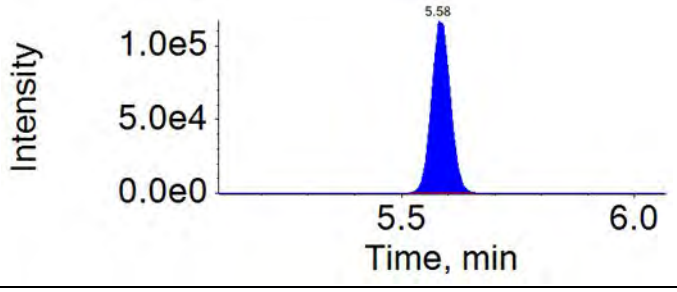
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

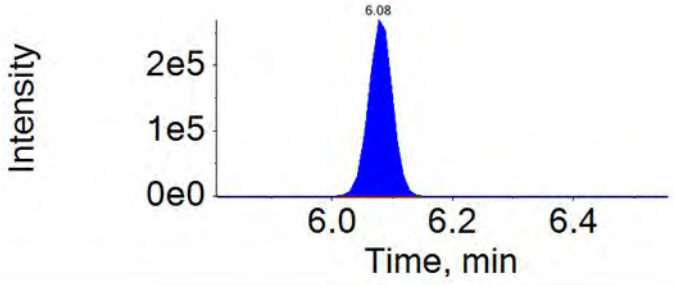
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

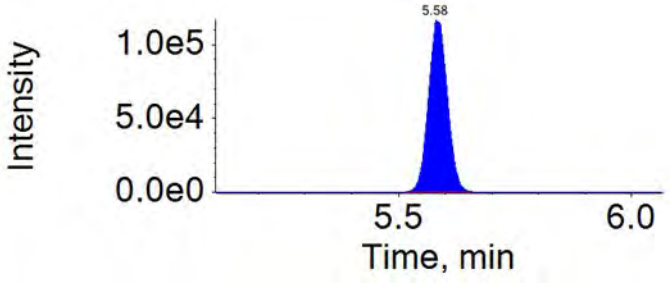
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



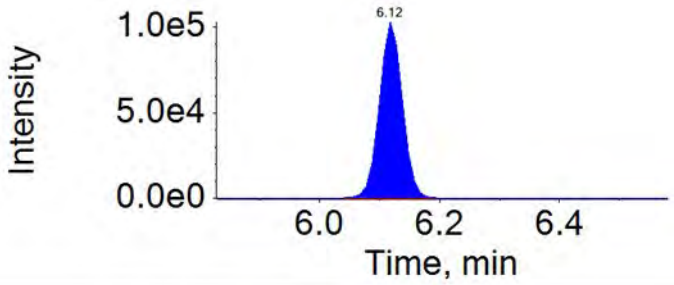


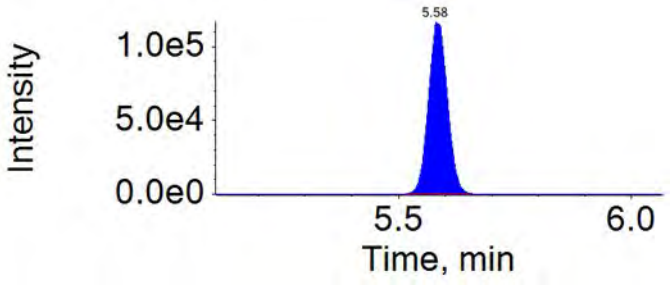
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



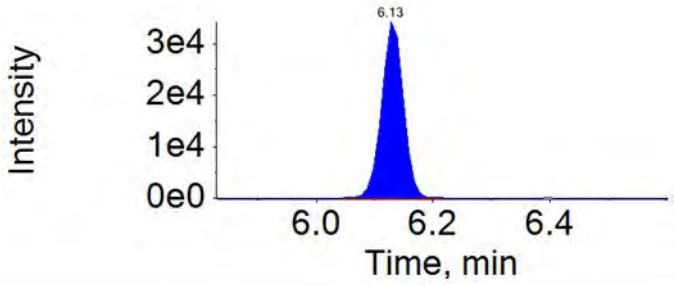


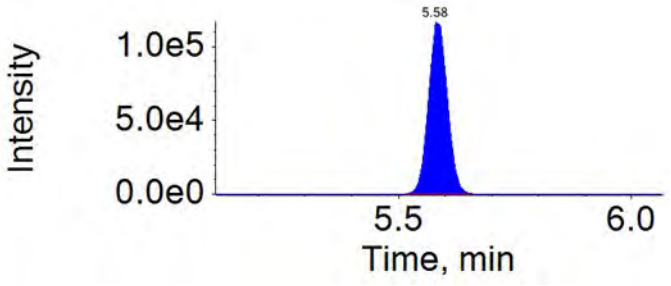
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



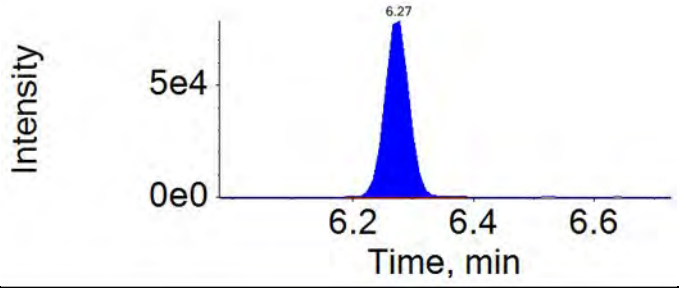


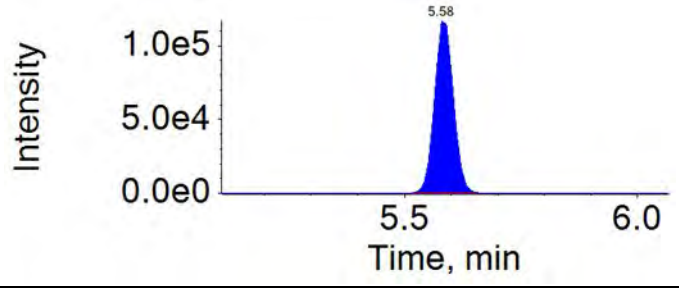
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

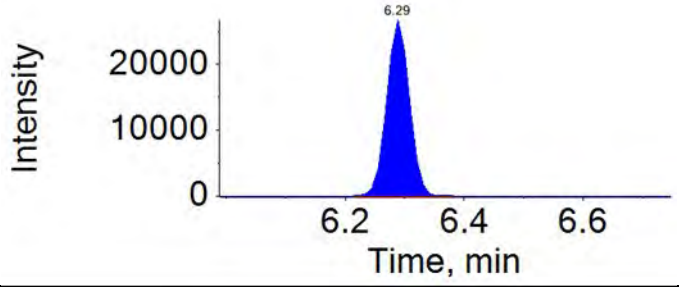
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

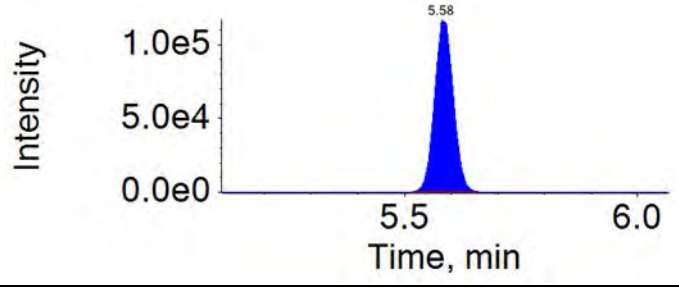
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



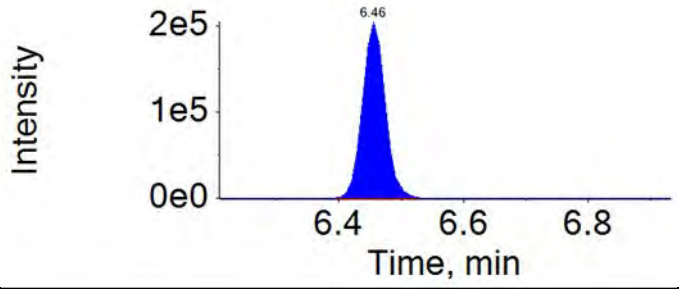


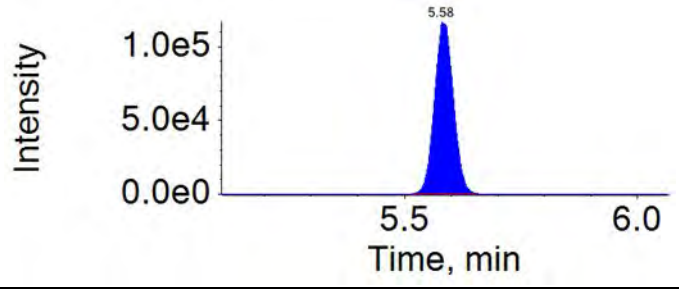
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



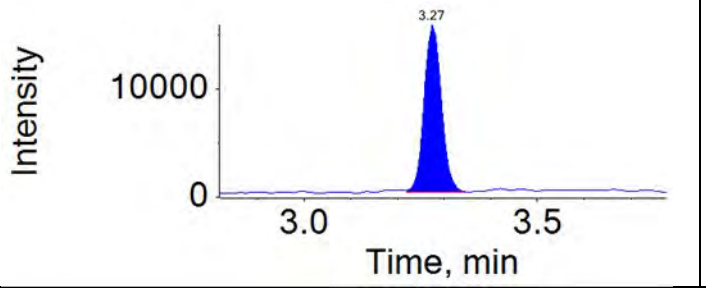


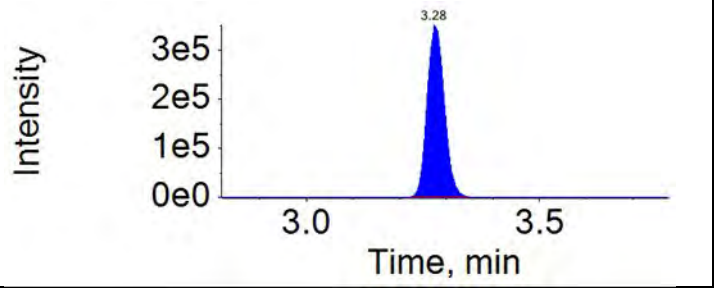
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

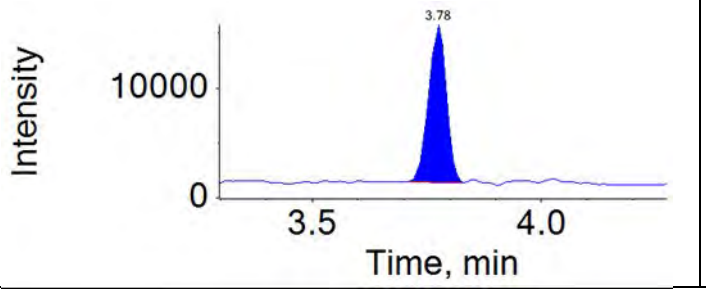
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

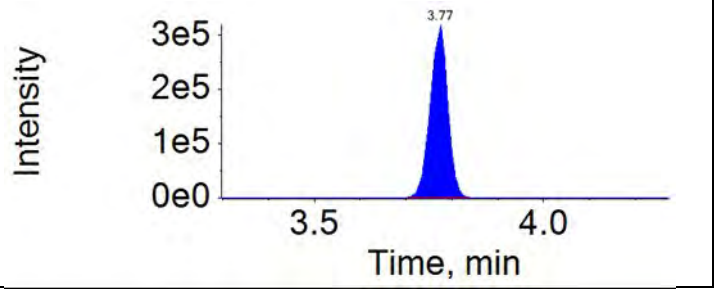
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



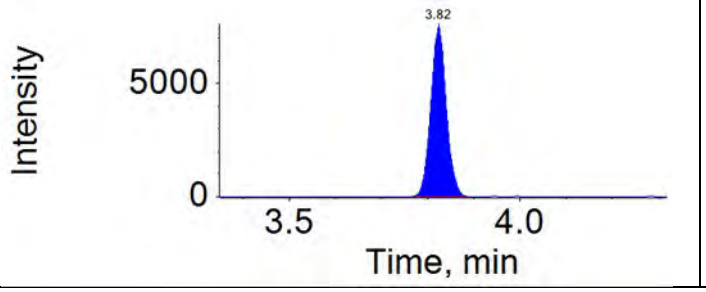


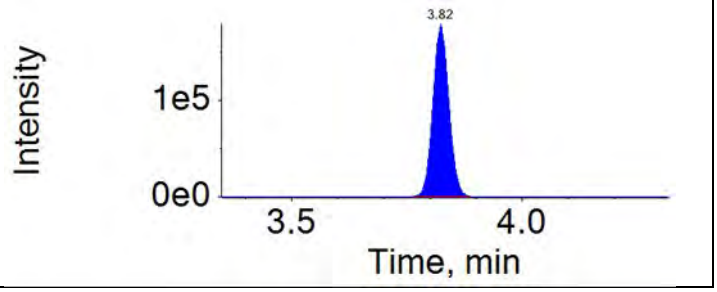
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



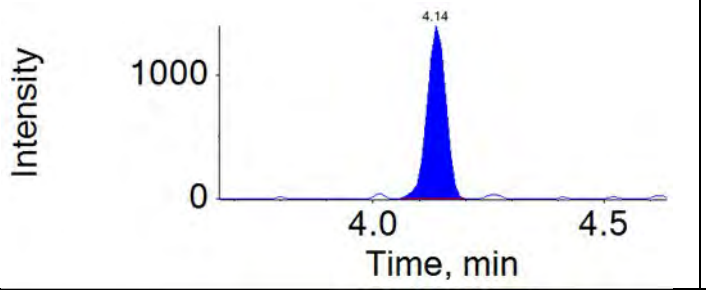


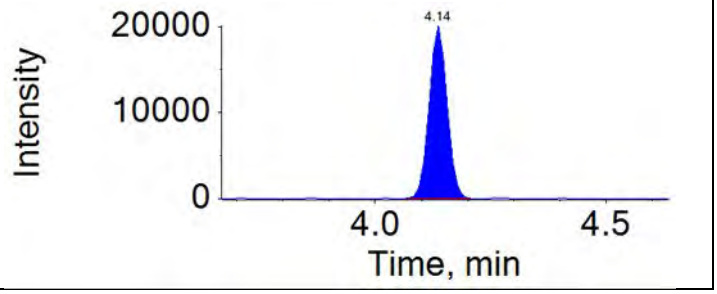
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



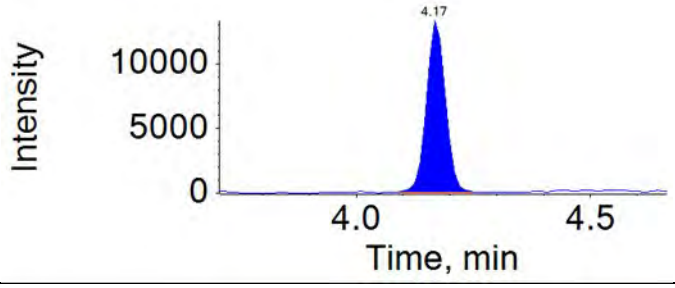


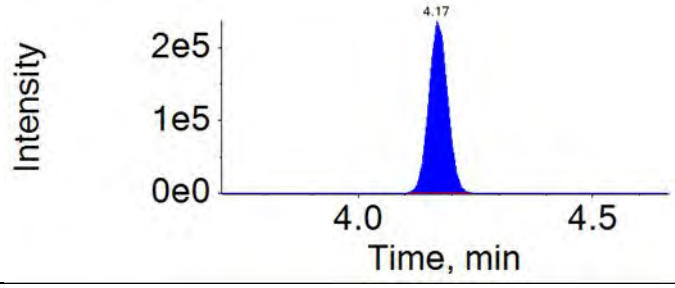
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

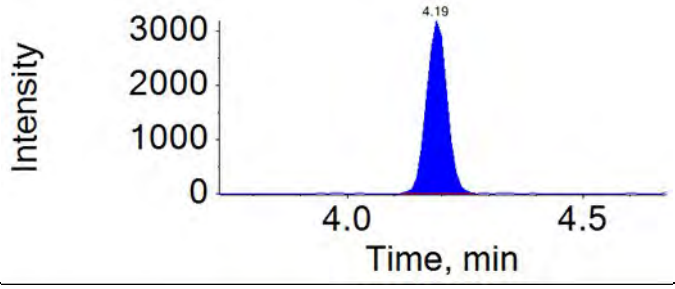
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

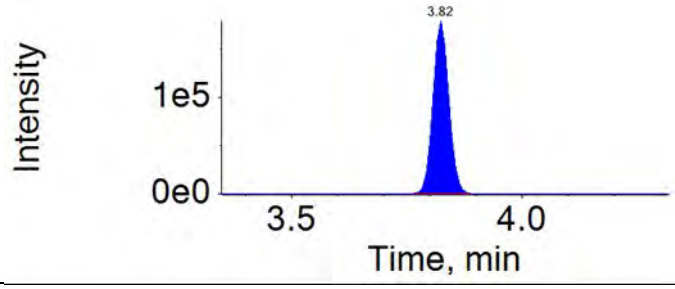
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



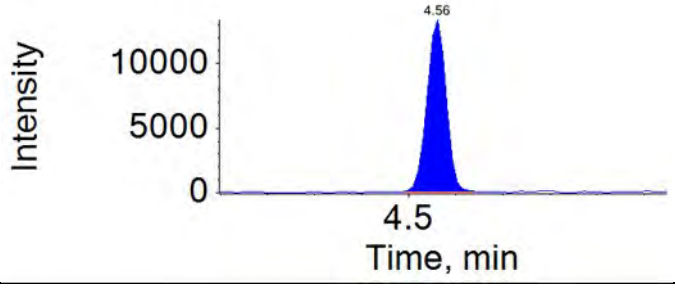


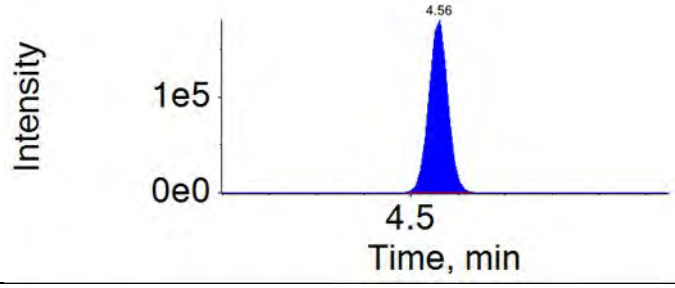
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



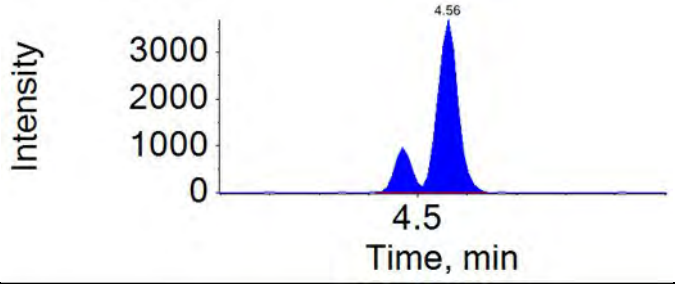


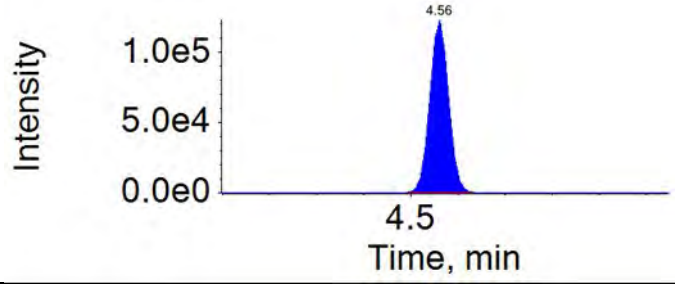
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

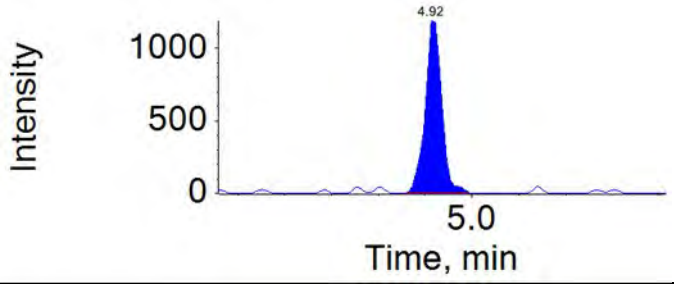
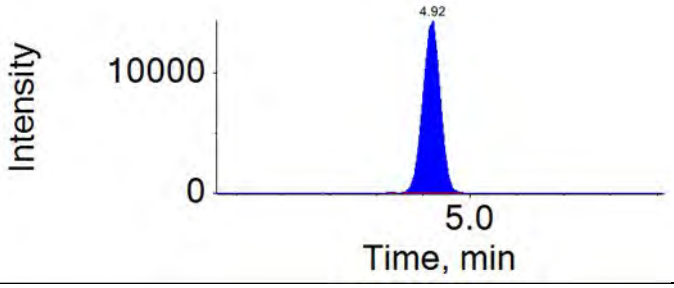


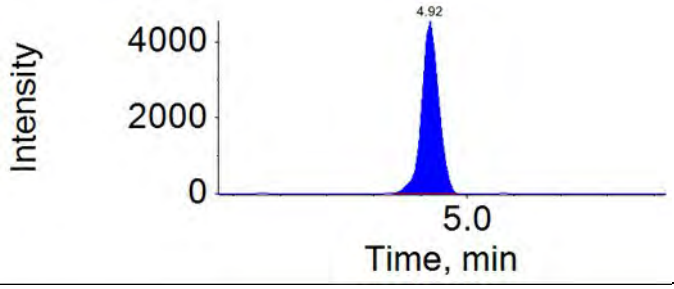
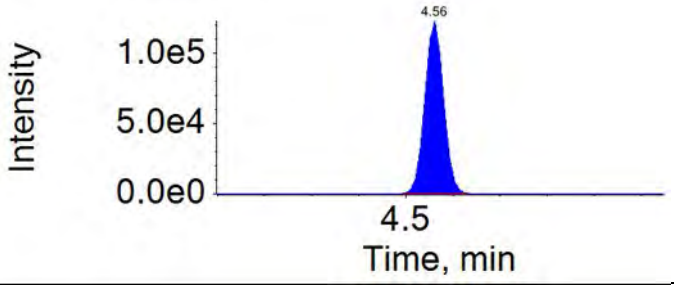


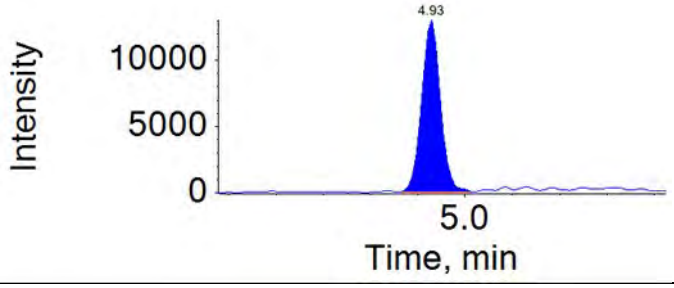
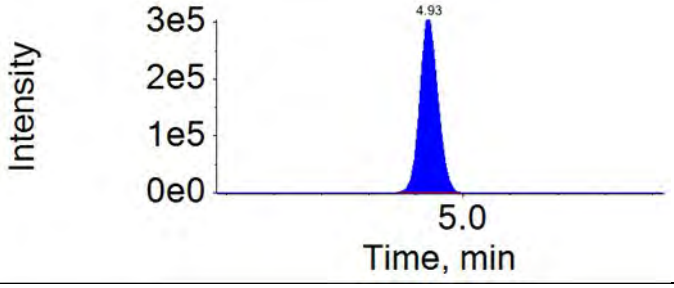
APPROVED
By MSM at 1:53 pm, 12/7/18

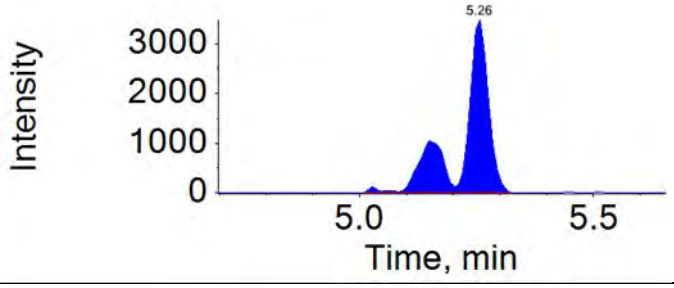
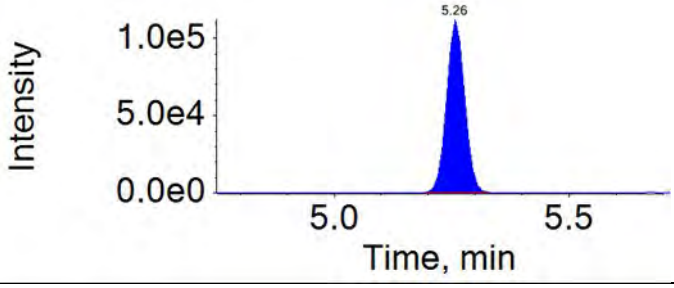
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

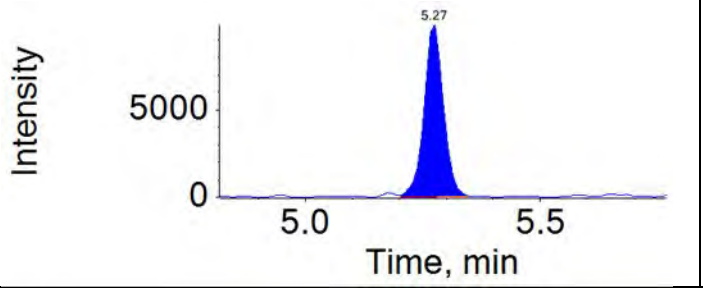
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

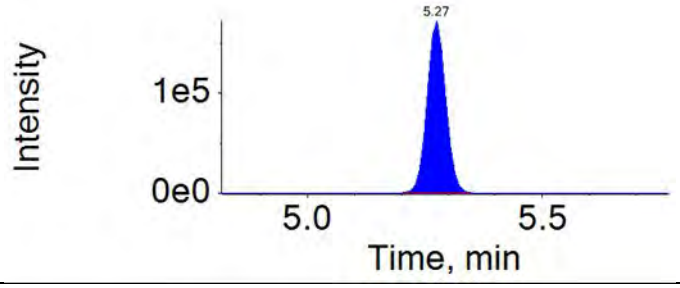
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

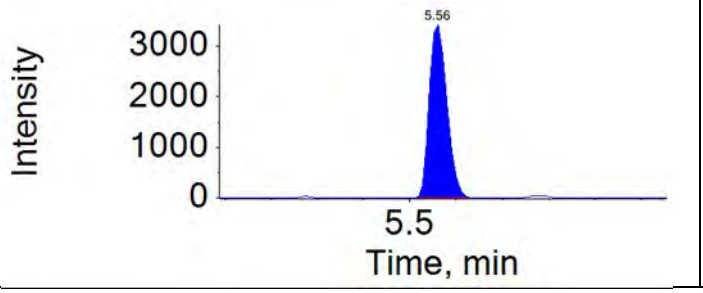
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

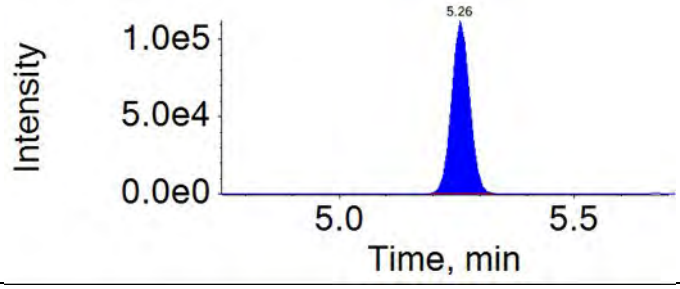
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



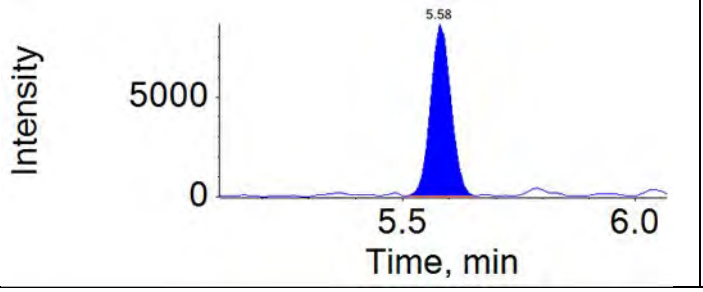


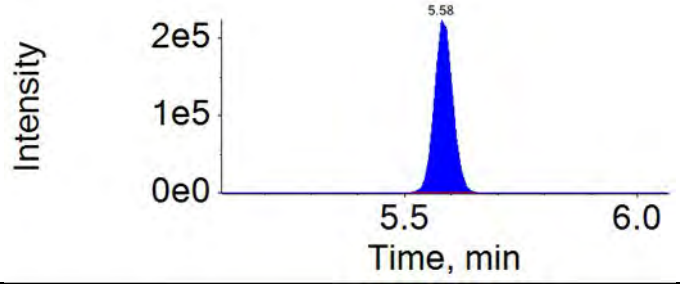
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



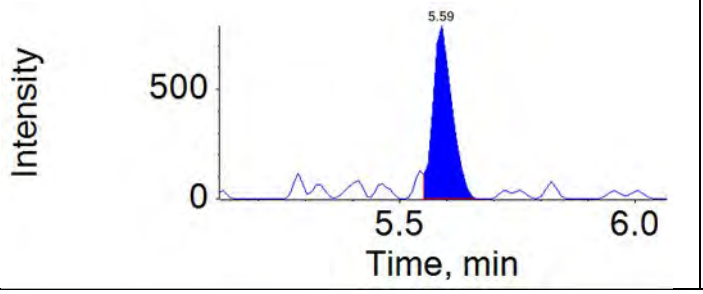


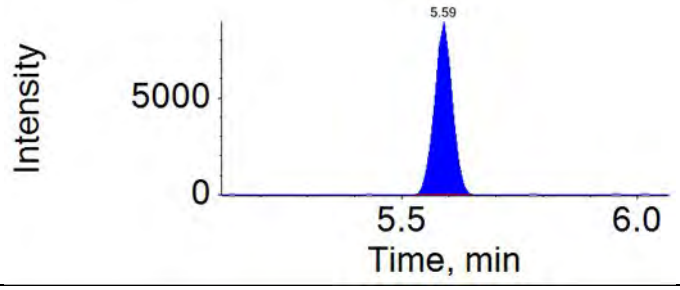
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



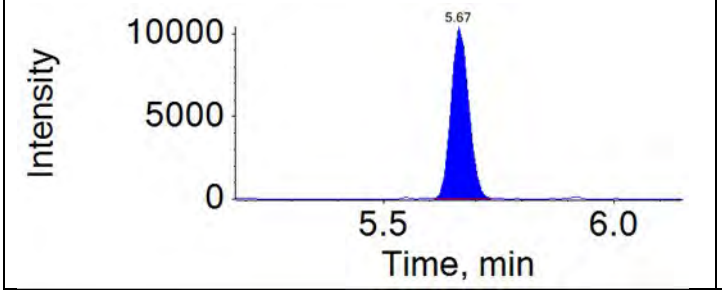


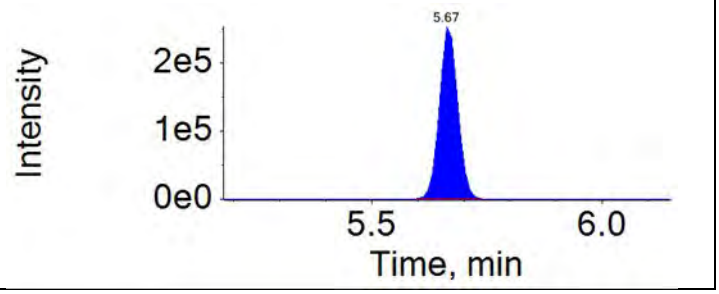
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

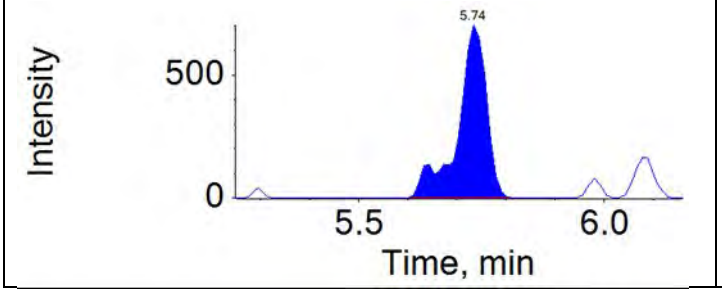
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

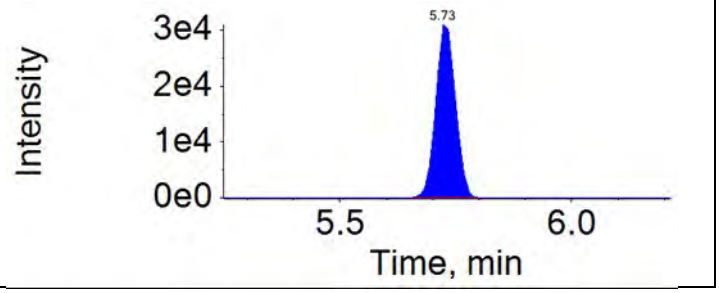
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



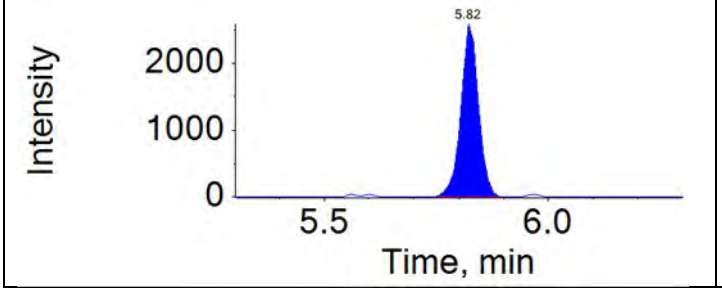


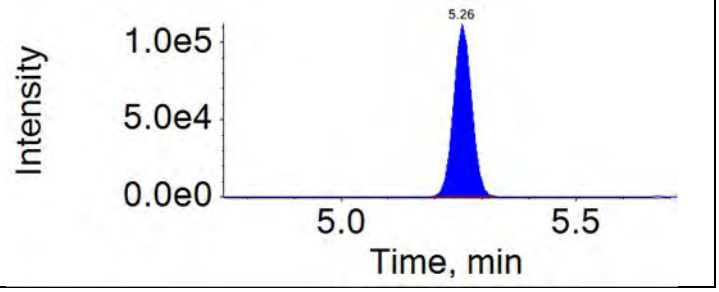
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



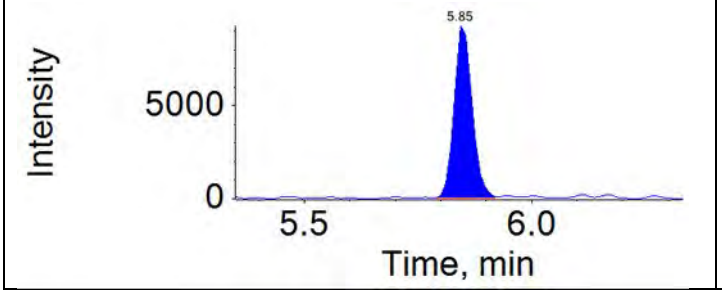


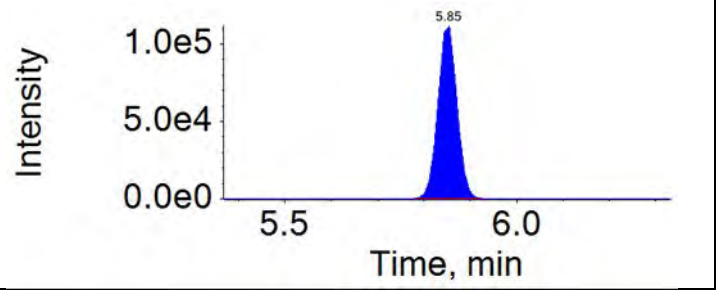
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



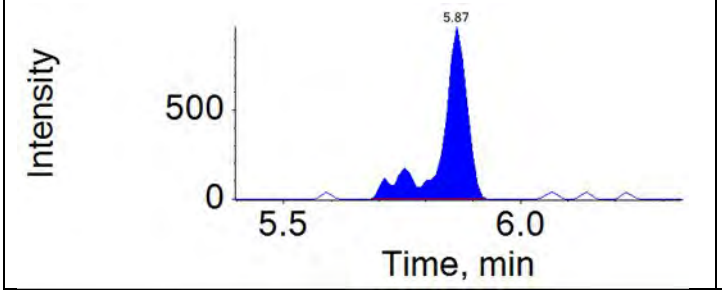


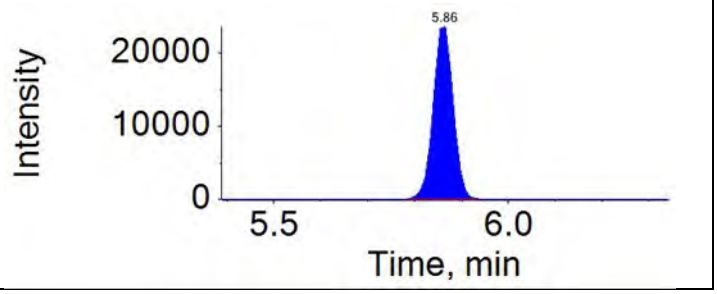
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

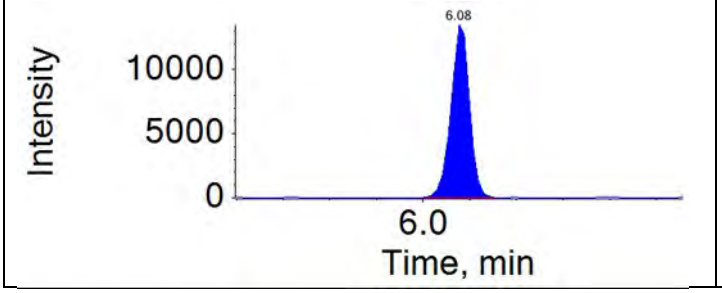
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

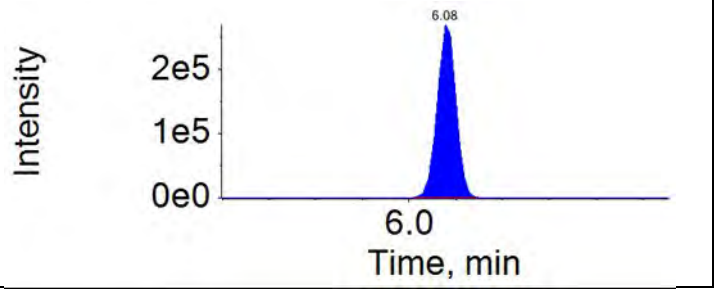
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



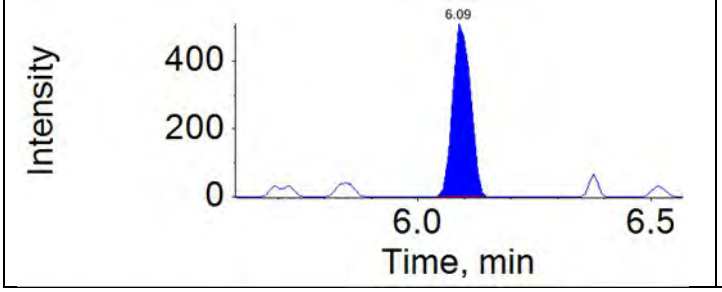


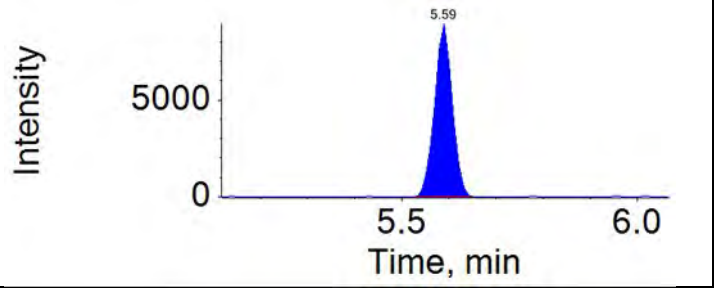
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



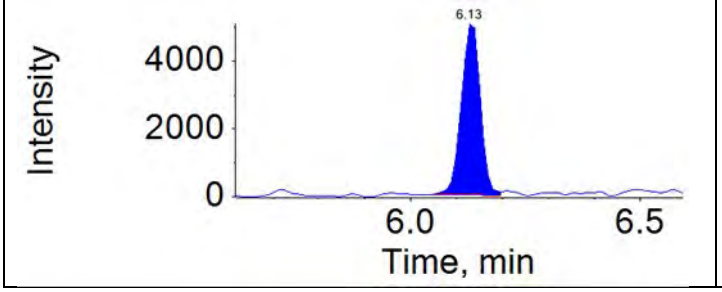


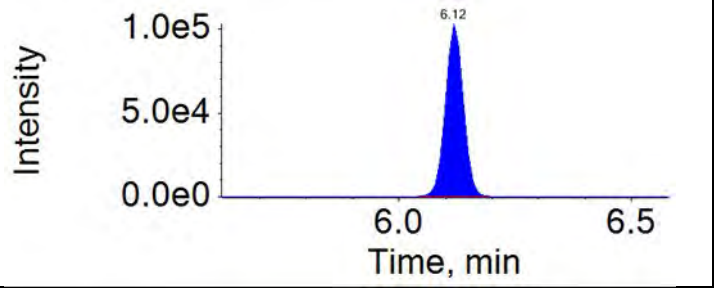
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



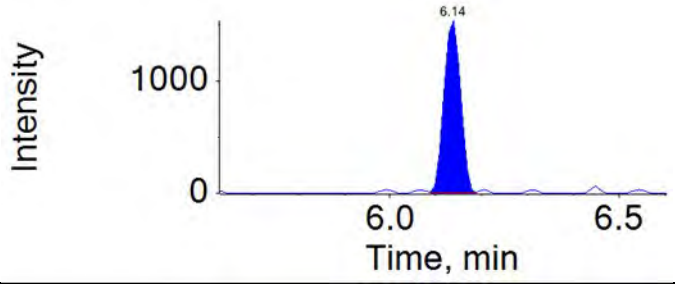


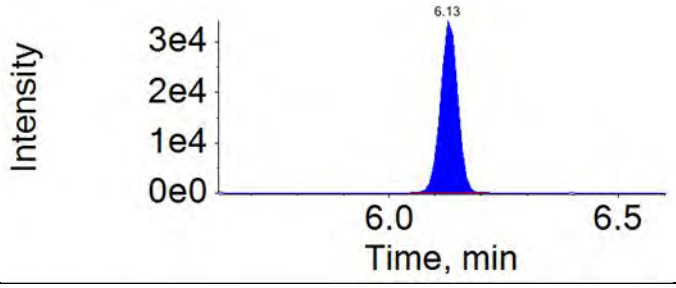
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

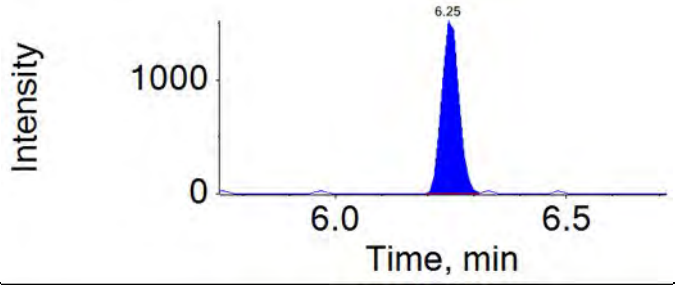
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

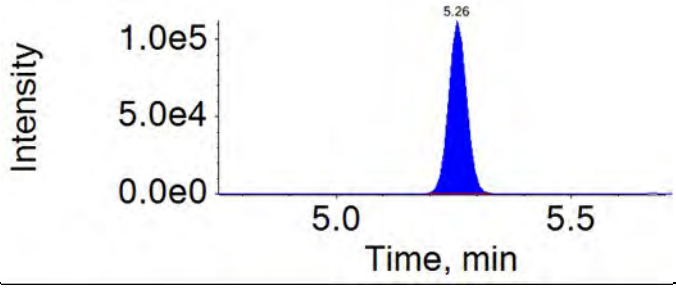
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



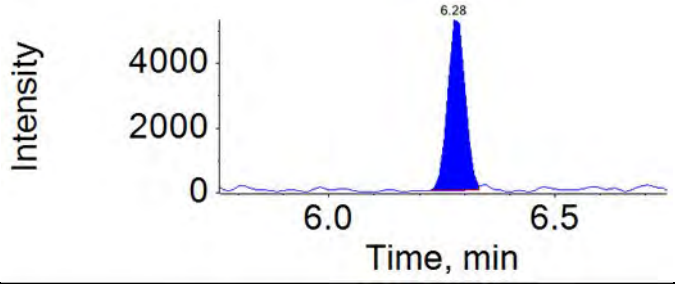


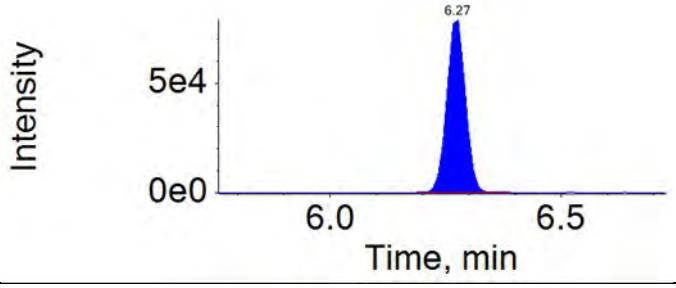
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



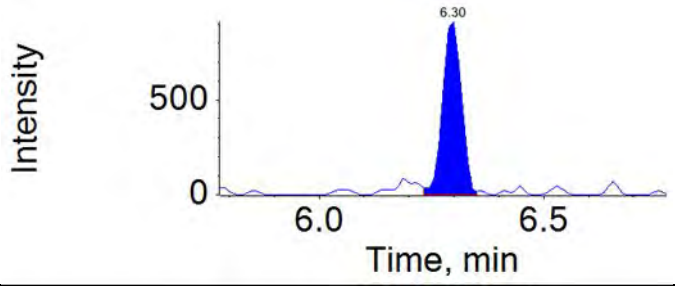


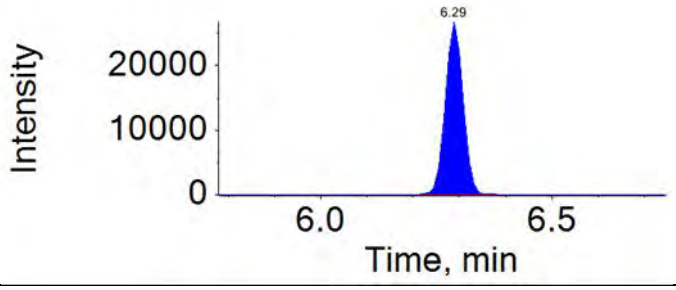
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



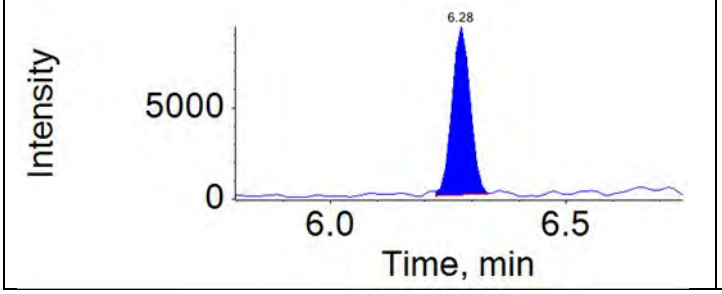


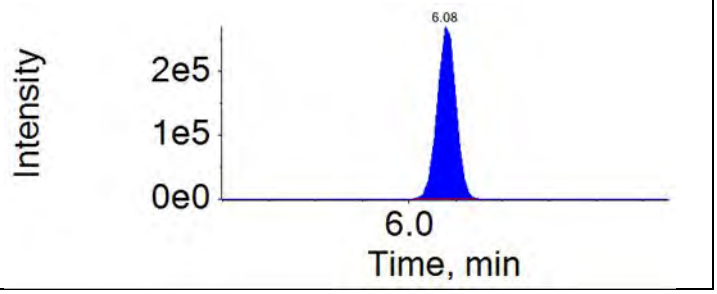
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

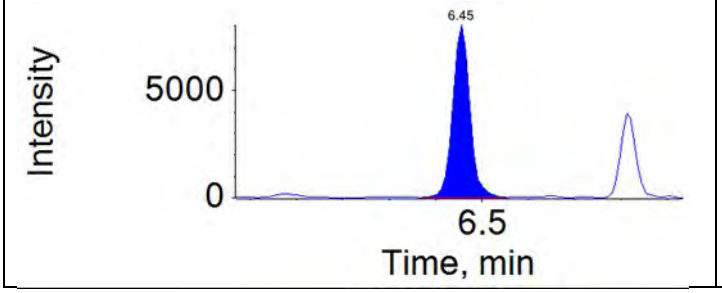
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

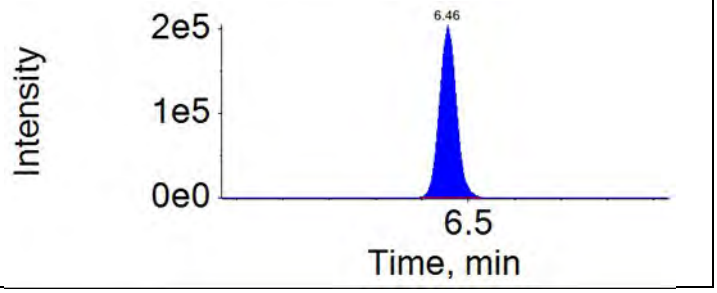
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



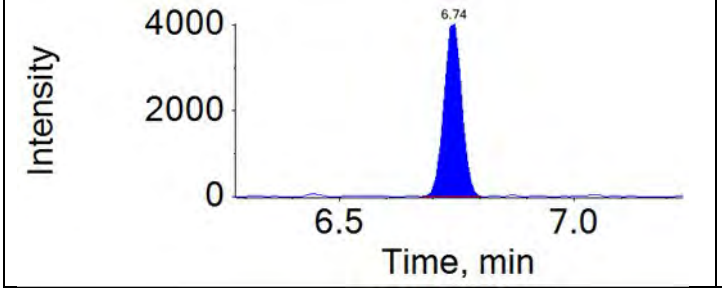


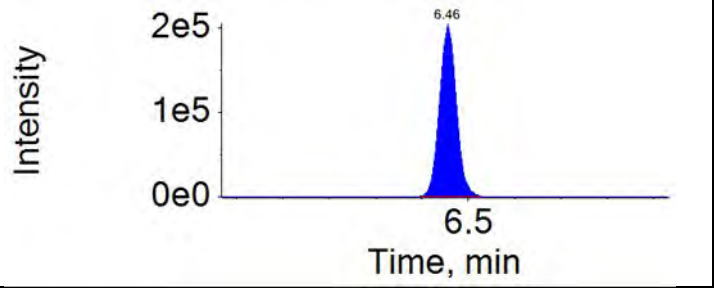
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



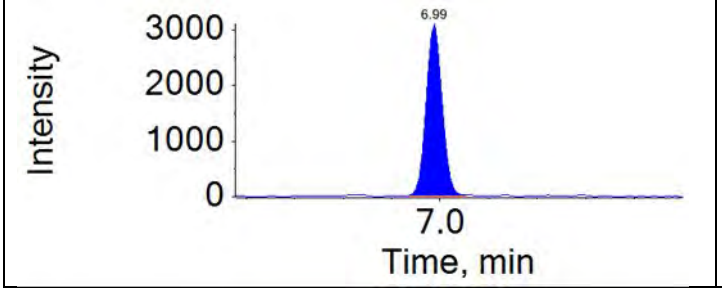


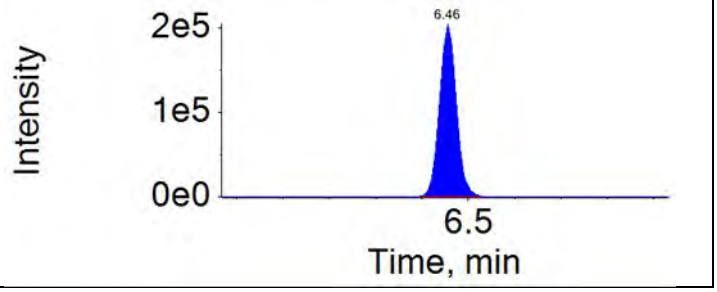
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0

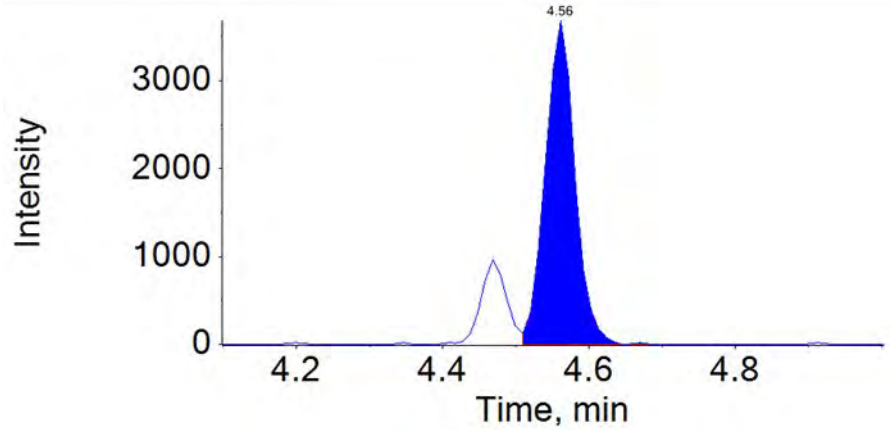


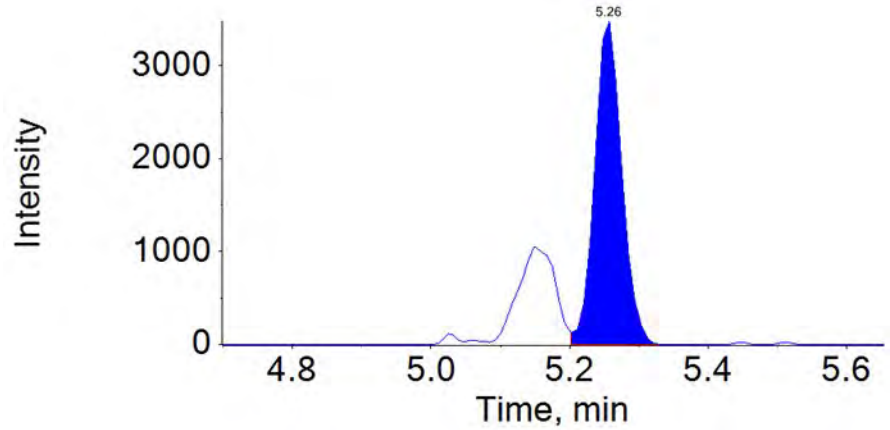


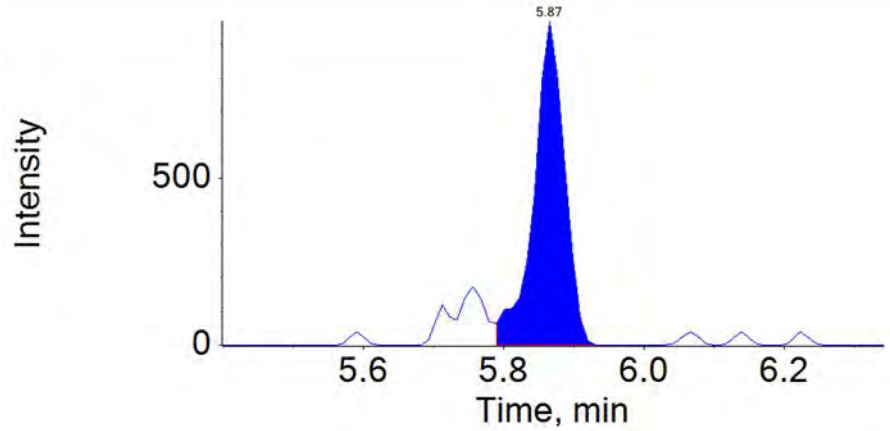
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFHxS **RT (min.):** 4.56 **Peak Area:** 10405.38 **Mass Range:** 399.0 / 80.0 **File Name:** 18DEC06DCAL-25.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

Component Name: PFOS **RT (min.):** 5.26 **Peak Area:** 9490.79 **Mass Range:** 499.0 / 80.0 **File Name:** 18DEC06DCAL-25.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

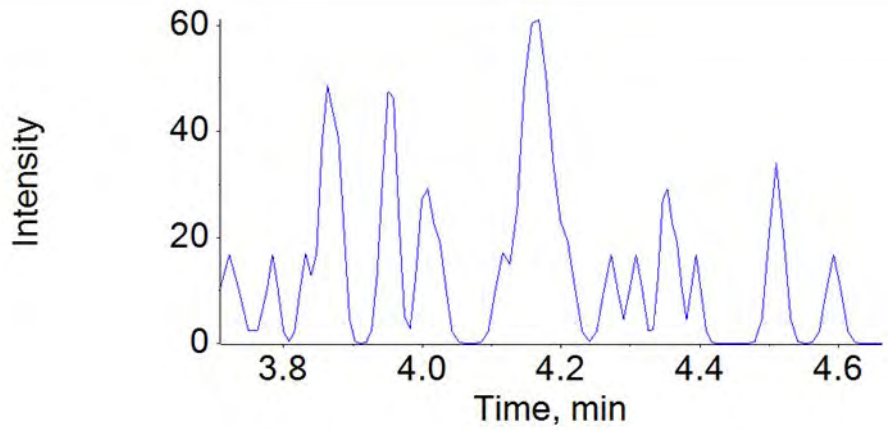
Component Name: NEtFOSAA **RT (min.):** 5.87 **Peak Area:** 2954.48 **Mass Range:** 584.0 / 419.0 **File Name:** 18DEC06DCAL-25.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

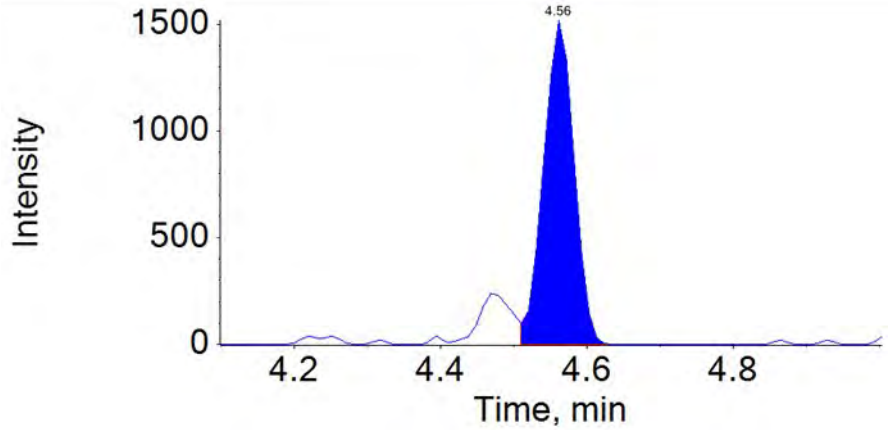
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
313.0 / 119.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



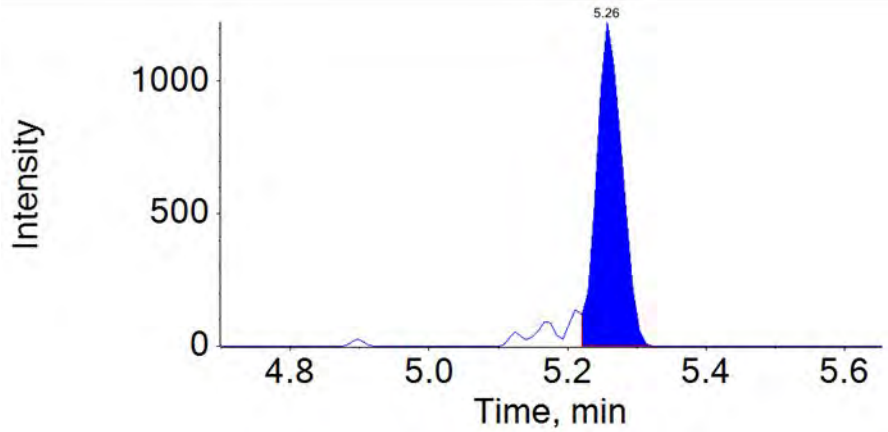
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
4402.27
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.26
Peak Area:
3101.09
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



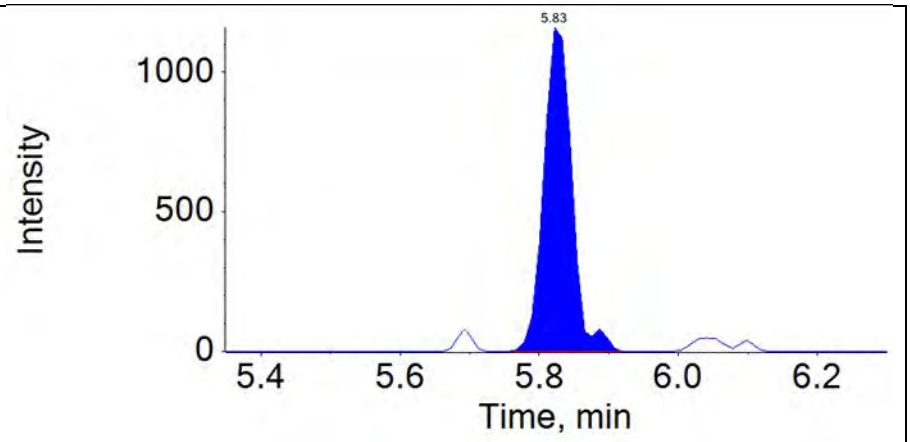
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

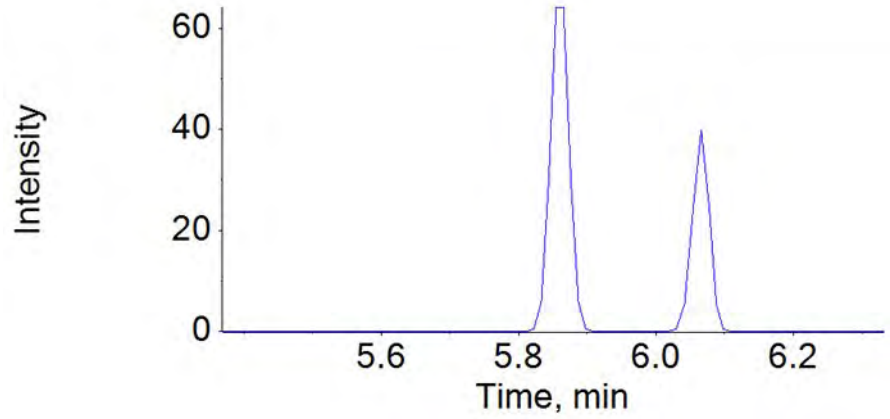
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDS_2
RT (min.):
5.83
Peak Area:
3271.80
Mass Range:
599.0 / 99.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



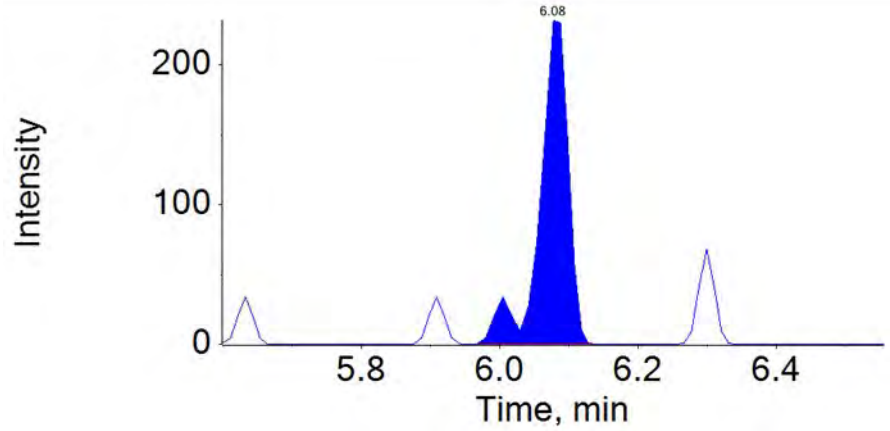
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFDoDA_2
RT (min.):
6.08
Peak Area:
671.26
Mass Range:
613.0 / 169.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



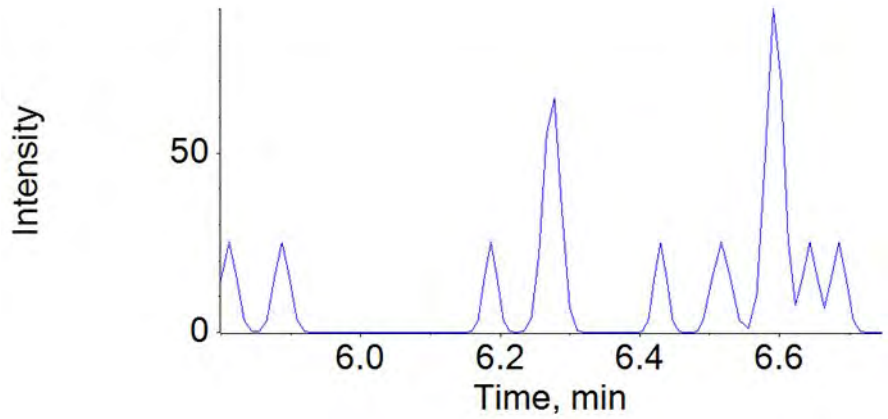
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

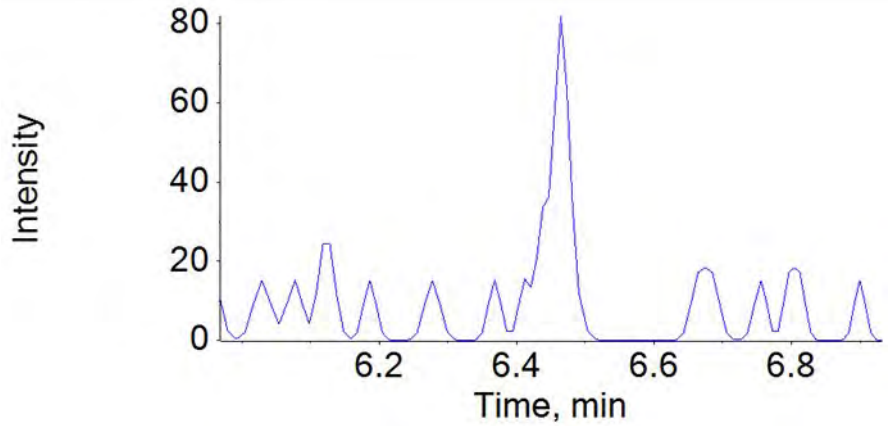
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFTrDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
663.0 / 169.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



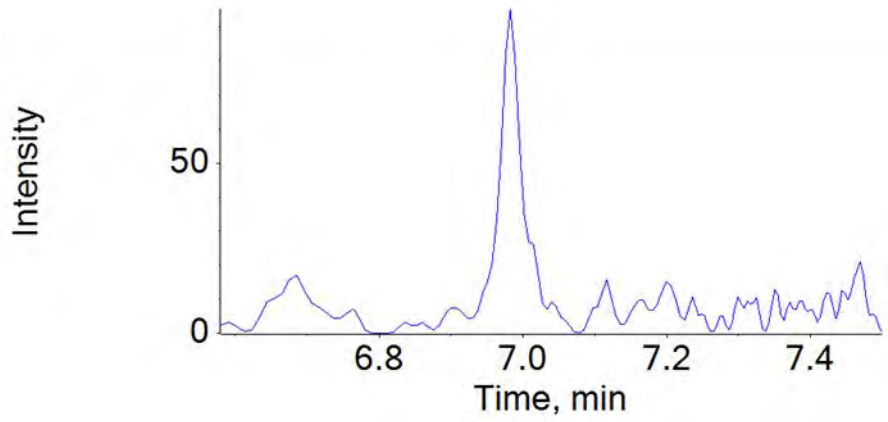
Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFODA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
913.0 / 169.0
File Name:
18DEC06DCAL-25.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Ion Ratio Report

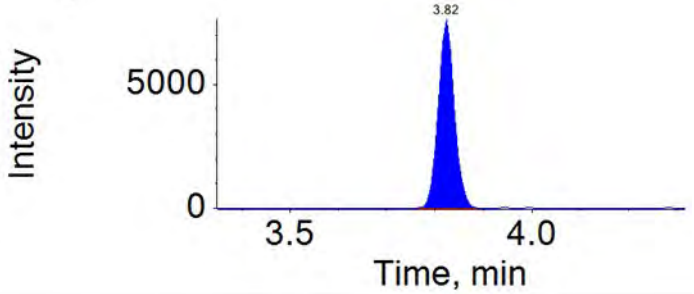
Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-25.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	17447.72	A	1.0000	1.0000			
PFBS_2	3.82	1.00	6236.17	A	0.3627	0.3574	-1	50	
4:2-FTS	4.14	1.00	3906.59	A	1.0000	1.0000			
4:2-FTS_2	4.14	1.00	3004.38	A	0.6542	0.7691	18	50	
PFHxA	4.17	1.00	37193.37	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	234.07	M	0.0097	0.0063	-35	50	
PFPeS	4.19	1.10	9605.71	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	4882.71	A	0.5262	0.5083	-3	50	
PFHpA	4.56	1.00	37520.09	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	2056.69	A	0.0565	0.0548	-3	50	
PFHxS	4.56	1.00	12711.08	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	5122.27	M	0.3645	0.4030	11	50	
6:2-FTS	4.92	1.00	2930.50	A	1.0000	1.0000			
6:2-FTS_2	4.92	1.00	1943.08	A	0.6273	0.6631	6	50	
PFHpS	4.92	1.08	11460.50	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	5056.44	A	0.4162	0.4412	6	50	
PFOA	4.93	1.00	35481.90	A	1.0000	1.0000			
PFOA_2	4.92	1.00	2459.57	A	0.0616	0.0693	13	50	
PFOS	5.26	1.00	13660.39	M	1.0000	1.0000			
PFOS_2	5.26	1.00	3514.81	M	0.3021	0.2573	-15	50	
PFNA	5.27	1.00	28020.98	A	1.0000	1.0000			
PFNA_2	5.26	1.00	444.44	A	0.0192	0.0159	-17	50	
PFNS	5.56	1.06	9066.40	A	1.0000	1.0000			
PFNS_2	5.56	1.06	5325.86	A	0.4845	0.5874	21	50	
PFDA	5.58	1.00	25786.15	A	1.0000	1.0000			
PFDA_2	5.60	1.00	295.19	A	0.0096	0.0114	19	50	
8:2-FTS	5.59	1.00	2203.18	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	1615.08	A	0.6117	0.7331	20	50	
NMeFOSAA	5.74	1.00	2862.99	A	1.0000	1.0000			
NMeFOSAA_2	5.73	1.00	769.19	A	0.2673	0.2687	1	50	
PFDS	5.82	1.11	7005.61	A	1.0000	1.0000			
PFDS_2	5.83	1.11	3163.16	M	0.4952	0.4515	-9	50	
PFUnDA	5.85	1.00	25249.68	A	1.0000	1.0000			
PFUnDA_2	5.86	1.00	129.73	M	0.0041	0.0051	25	50	
NEtFOSAA	5.87	1.00	3561.72	M	1.0000	1.0000			
NEtFOSAA_2	5.87	1.00	2532.36	A	0.6726	0.7110	6	50	
PFDoDA	6.08	1.00	37270.51	A	1.0000	1.0000			
PFDoDA_2	6.08	1.00	606.14	M	0.0133	0.0163	22	50	
10:2-FTS	6.09	1.09	1354.81	A	1.0000	1.0000			
10:2-FTS_2	6.10	1.09	1128.23	A	0.6969	0.8328	20	50	
PFTrDA	6.28	1.03	24471.60	A	1.0000	1.0000			
PFTrDA_2	6.27	1.03	123.92	M	0.0075	0.0051	-33	50	
PFTeDA	6.45	1.00	20571.65	A	1.0000	1.0000			
PFTeDA_2	6.46	1.00	200.37	M	0.0066	0.0097	47	50	
PFHxDA	6.74	1.04	10493.78	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	612.43	A	0.0616	0.0584	-5	50	
PFODA	6.99	1.08	6969.17	A	1.0000	1.0000			
PFODA_2	6.98	1.08	222.61	M	0.0272	0.0319	17	50	

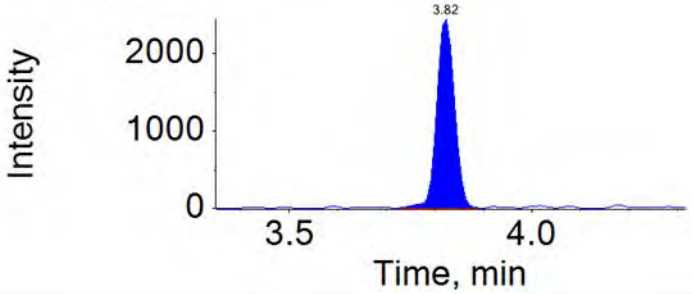
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

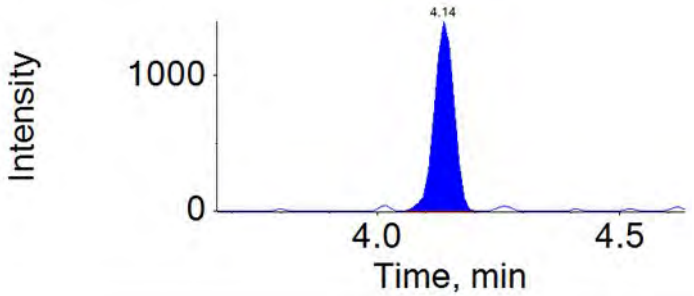
Component: PFBS
Primary Mass: 299.0 / 80.0



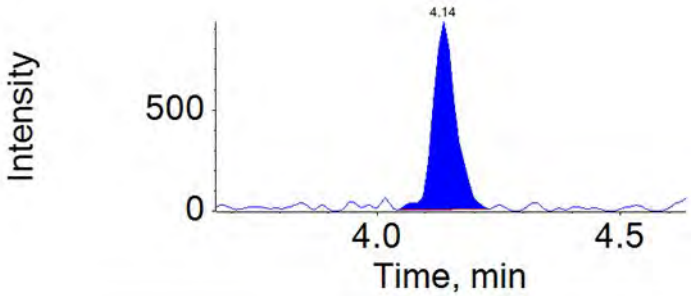
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



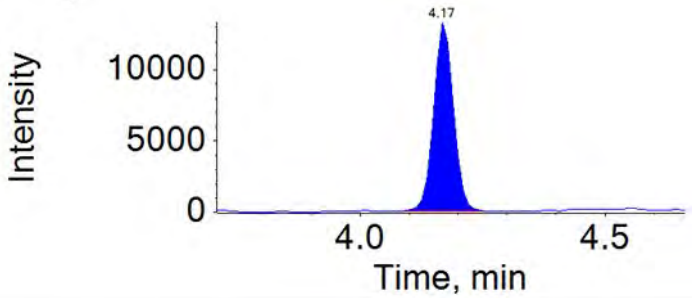
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



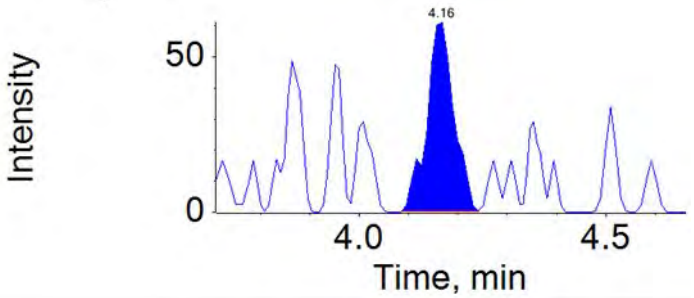
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



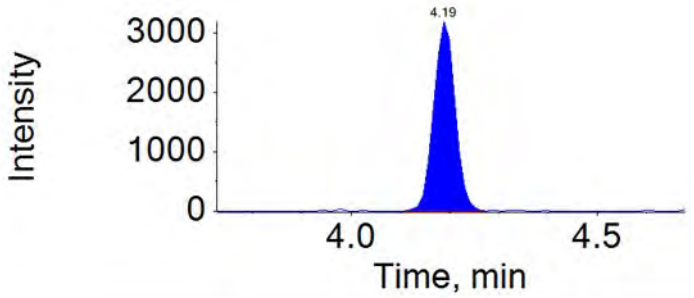
Component: PFHxA
Primary Mass: 313.0 / 269.0



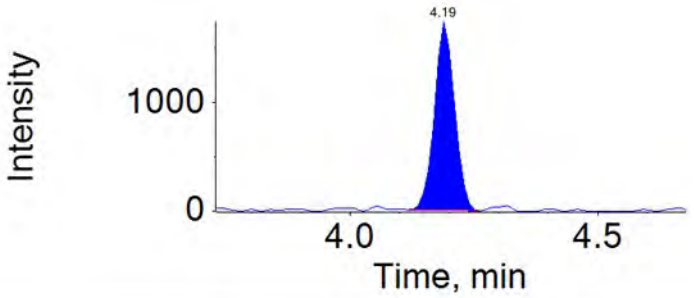
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



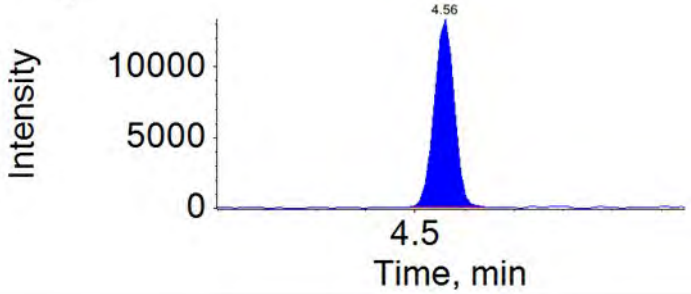
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



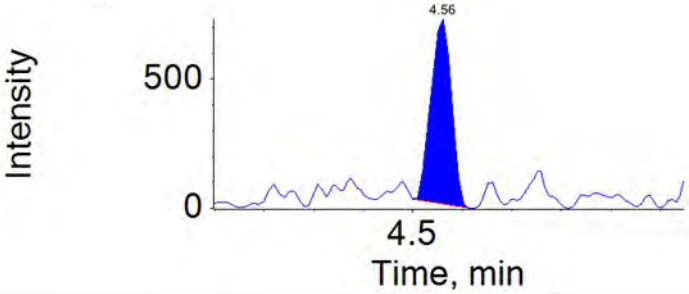
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

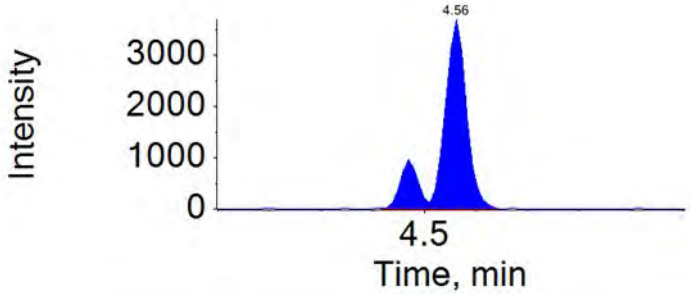
Component: PFHpA
Primary Mass: 363.0 / 319.0



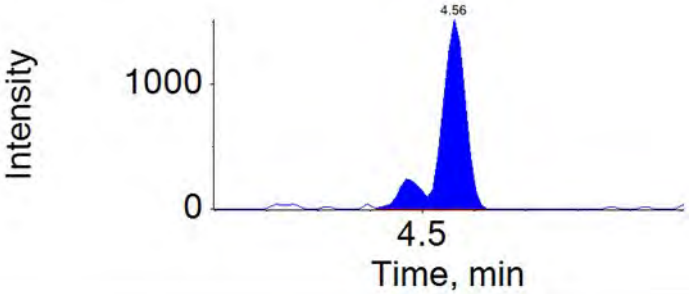
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



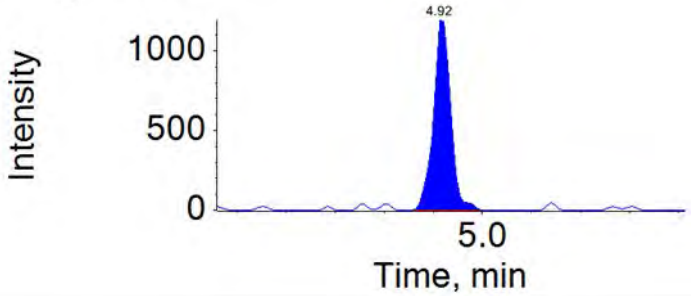
Component: PFHxS
Primary Mass: 399.0 / 80.0



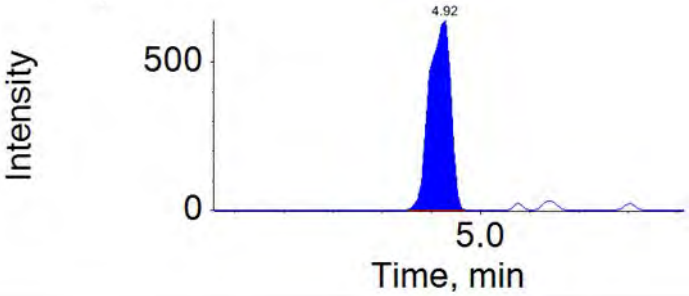
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



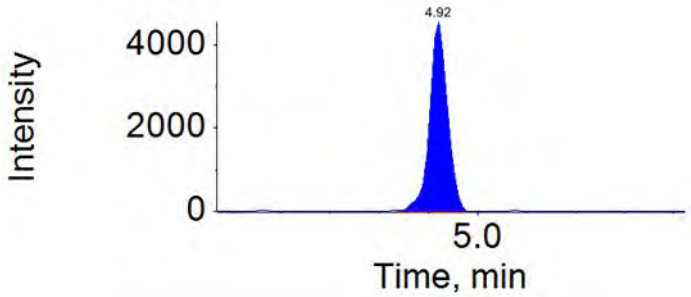
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



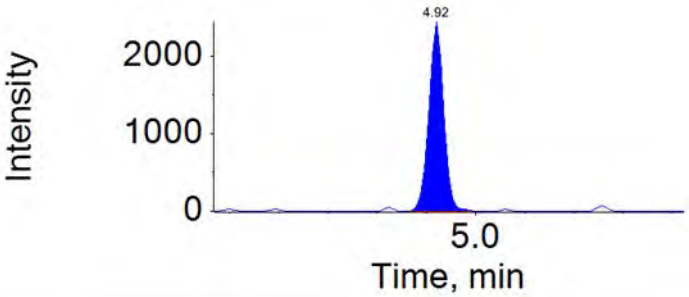
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



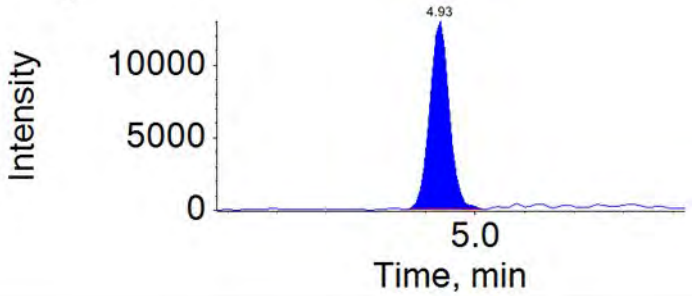
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



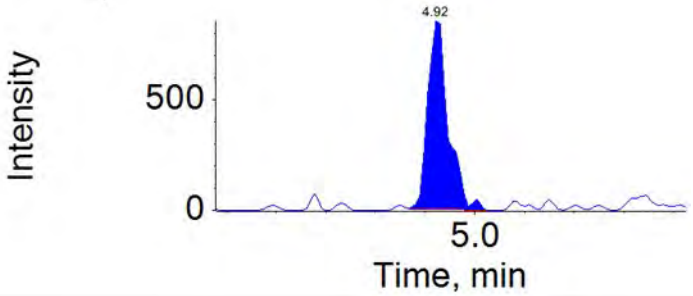
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

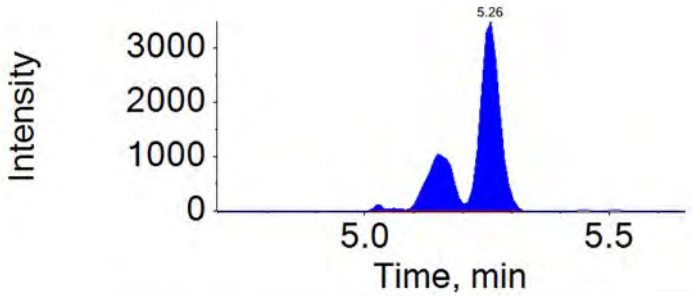
Component: PFOA
Primary Mass: 413.0 / 369.0



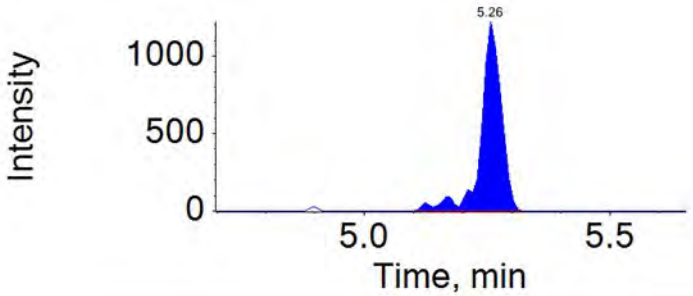
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



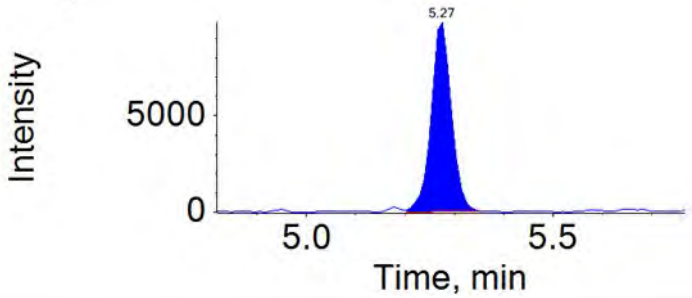
Component: PFOS
Primary Mass: 499.0 / 80.0



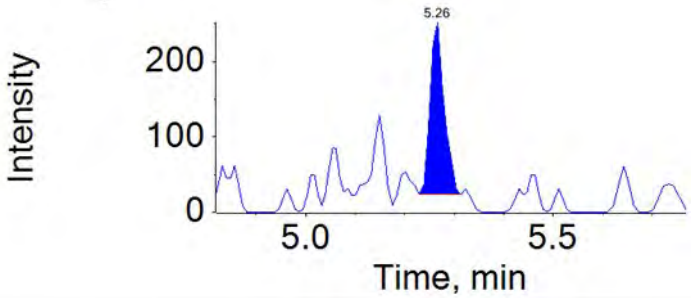
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



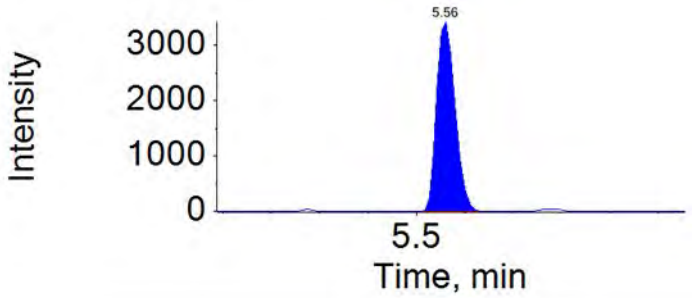
Component: PFNA
Primary Mass: 463.0 / 419.0



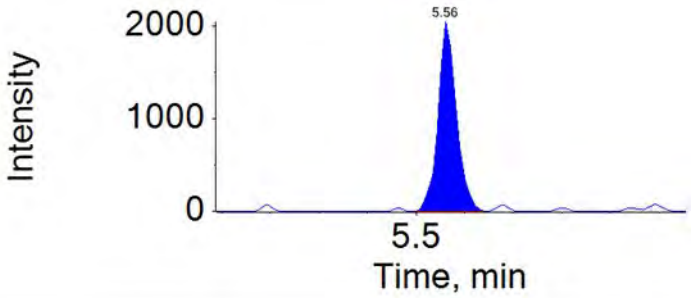
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



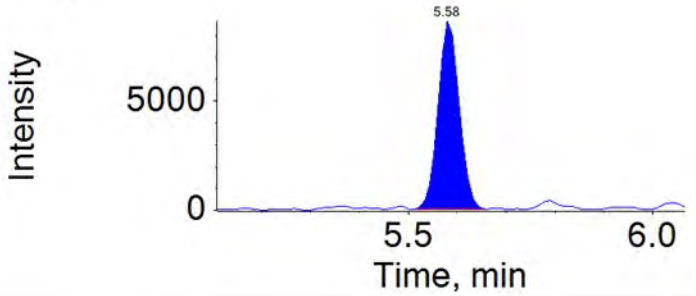
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



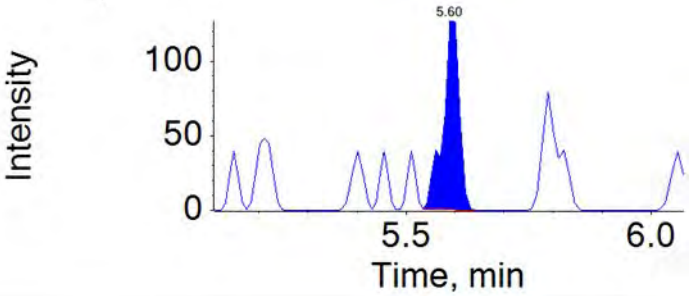
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

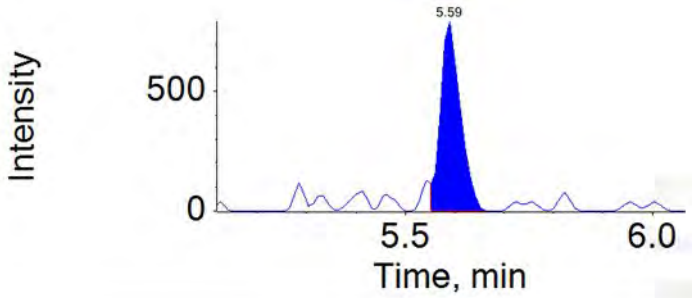
Component: PFDA
Primary Mass: 513.0 / 469.0



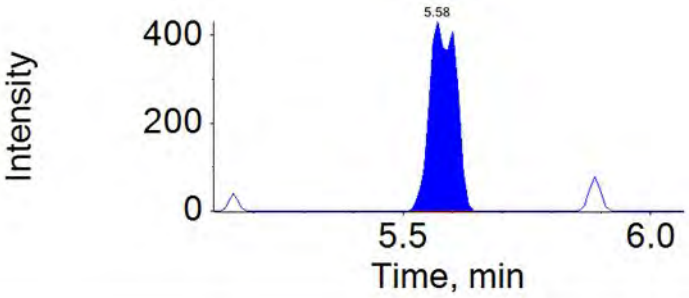
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



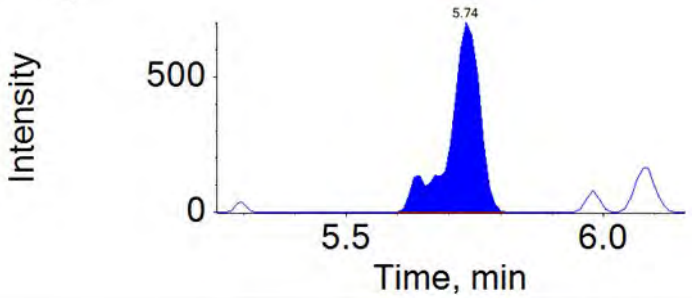
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



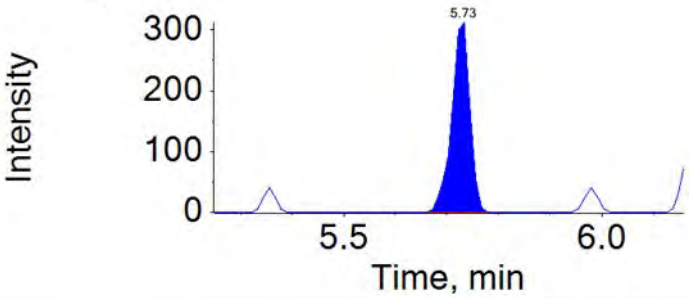
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



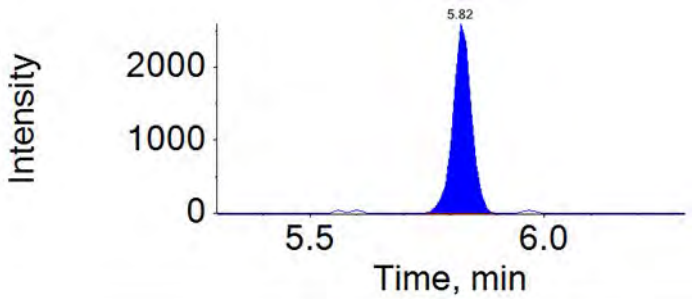
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



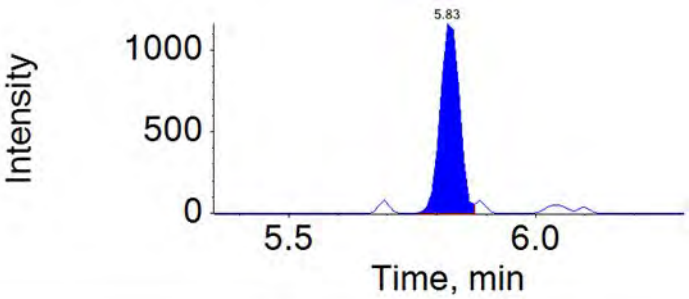
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



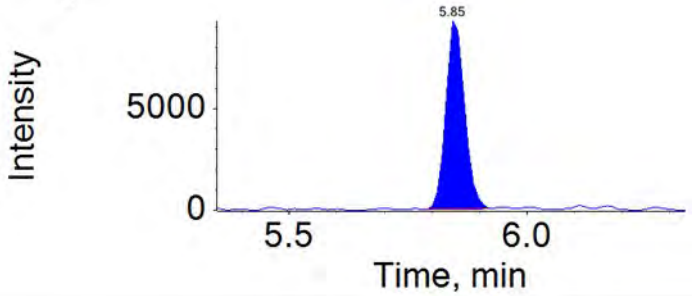
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



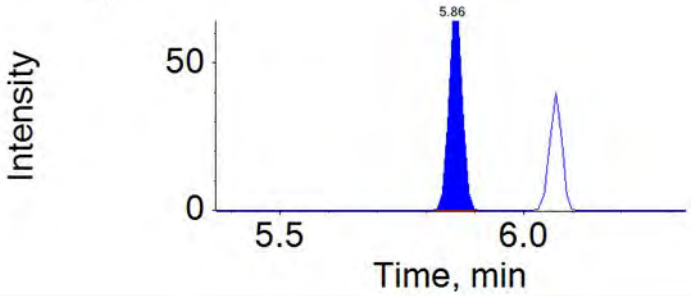
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

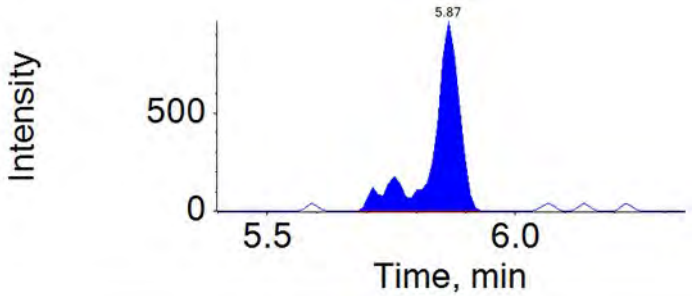
Component: PFUnDA
Primary Mass: 563.0 / 519.0



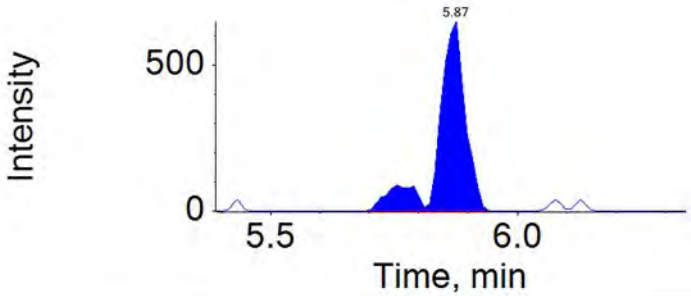
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



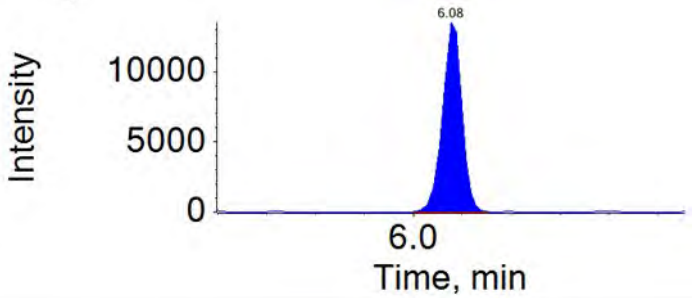
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



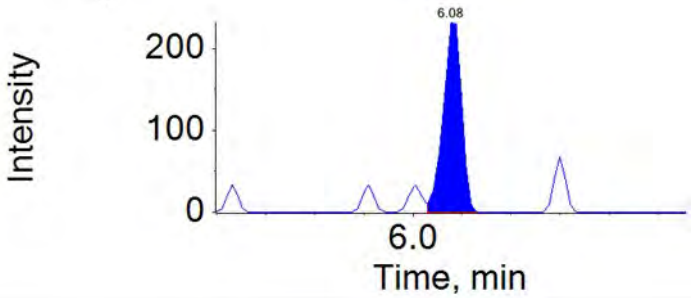
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



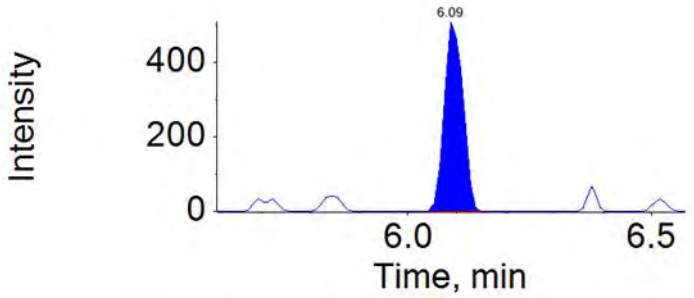
Component: PFDoDA
Primary Mass: 613.0 / 569.0



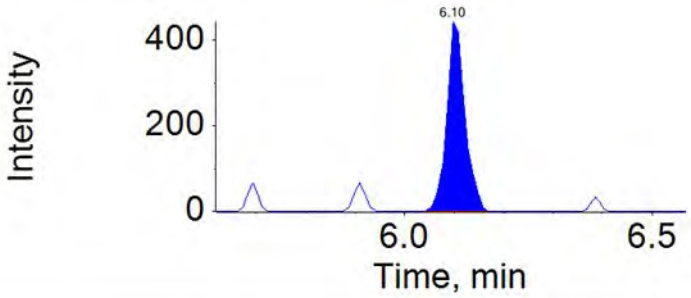
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



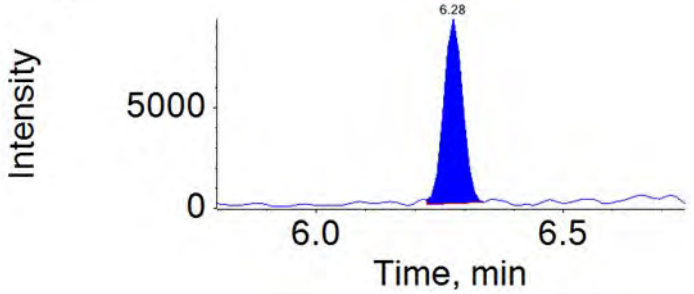
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



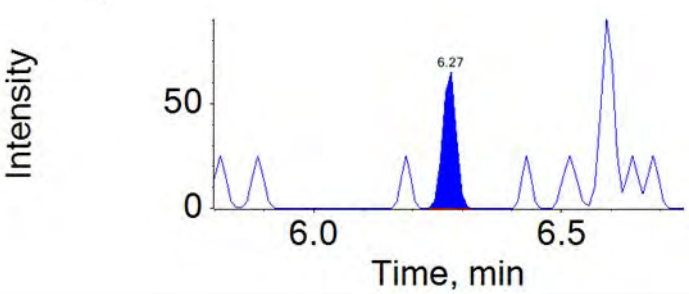
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

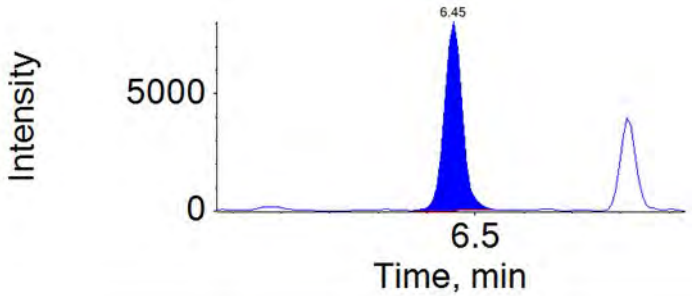
Component: PFTrDA
Primary Mass: 663.0 / 619.0



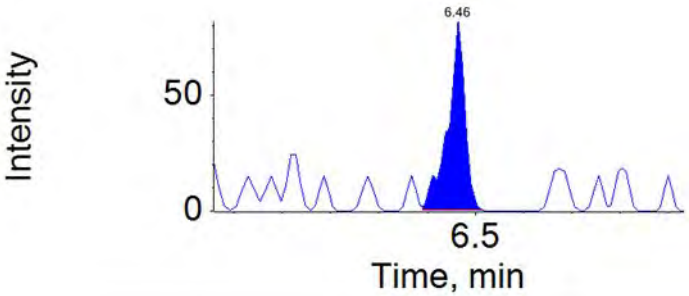
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



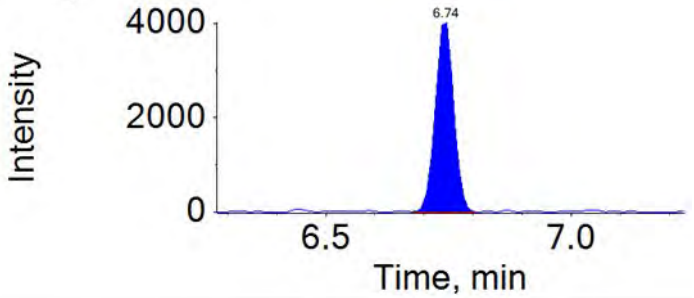
Component: PFTeDA
Primary Mass: 713.0 / 669.0



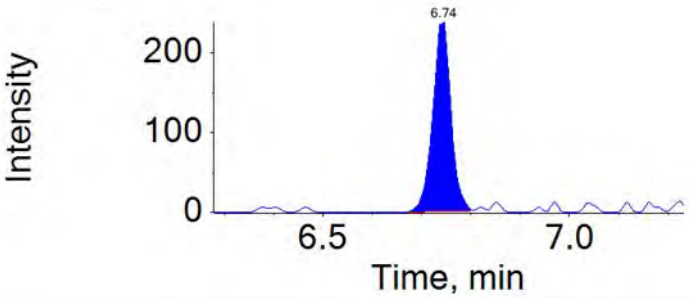
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



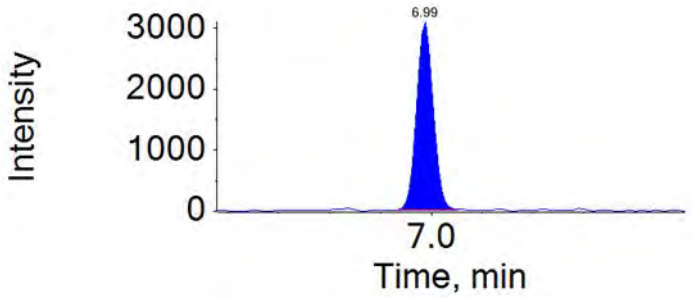
Component: PFHxDA
Primary Mass: 813.0 / 769.0



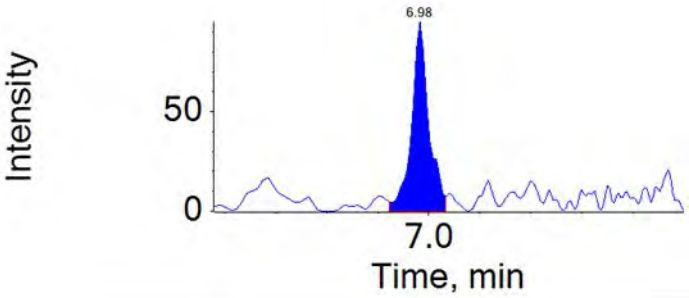
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL2			**Data File:**		18DEC06DCAL-26.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-06T23:46:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	813532.8	825688.9	-1	50	
13C2-PFOA	5.0	427587.5	449802.8	-5	50	
13C4-PFOS	4.8	287749.9	276858.3	4	50	
13C2-PFDA	5.0	303984.0	315428.3	-4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	956879.6	13C3-PFBA	813532.8	1.176	5.000	5.206	104	70-130	
E13C5-PFPeA	852542.7	13C3-PFBA	813532.8	1.048	5.000	4.977	100	70-130	
E13C3-PFBS	449605.6	13C3-PFBA	813532.8	0.553	4.650	4.685	101	70-130	
E13C2-4:2-FTS	54114.3	13C2-PFOA	427587.5	0.127	4.670	4.959	106	70-130	
E13C5-PFHxA	667261.2	13C2-PFOA	427587.5	1.561	5.000	5.239	105	70-130	
E13C3-PFHxS	342350.1	13C2-PFOA	427587.5	0.801	4.730	5.135	109	70-130	
E13C4-PFHpA	513029.3	13C2-PFOA	427587.5	1.200	5.000	5.101	102	70-130	
E13C2-6:2-FTS	35543.1	13C2-PFOA	427587.5	0.083	4.750	5.150	108	70-130	
E13C8-PFOA	818119.4	13C2-PFOA	427587.5	1.913	5.000	5.408	108	70-130	
E13C8-PFOS	308155.5	13C4-PFOS	287749.9	1.071	4.780	4.806	101	70-130	
E13C9-PFNA	489864.8	13C4-PFOS	287749.9	1.702	5.000	4.811	96	70-130	
E13C6-PFDA	620021.3	13C2-PFDA	303984.0	2.040	5.000	5.405	108	70-130	
E13C2-8:2-FTS	25892.3	13C2-PFDA	303984.0	0.085	4.790	5.561	116	70-130	
E13C8-PFOSA	723822.9	13C2-PFDA	303984.0	2.381	5.000	5.632	113	70-130	
Ed3-NMeFOSAA	84870.1	13C2-PFDA	303984.0	0.279	5.000	4.948	99	70-130	
E13C7-PFUnDA	345908.7	13C2-PFDA	303984.0	1.138	5.000	5.582	112	70-130	
Ed5-NEtFOSAA	74625.9	13C2-PFDA	303984.0	0.245	5.000	5.419	108	70-130	
E13C2-PFDoDA	823944.3	13C2-PFDA	303984.0	2.710	5.000	5.688	114	70-130	
Ed7-NMePFOSAE	265104.1	13C2-PFDA	303984.0	0.872	5.000	5.024	100	70-130	
Ed3-NMePFOSA	87716.6	13C2-PFDA	303984.0	0.289	5.000	5.258	105	70-130	
Ed9-NEtPFOSAE	234011.3	13C2-PFDA	303984.0	0.770	5.000	5.308	106	70-130	
Ed5-NEtPFOSA	66979.3	13C2-PFDA	303984.0	0.220	5.000	4.959	99	70-130	
E13C2-PFTeDA	540663.9	13C2-PFDA	303984.0	1.779	5.000	5.279	106	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

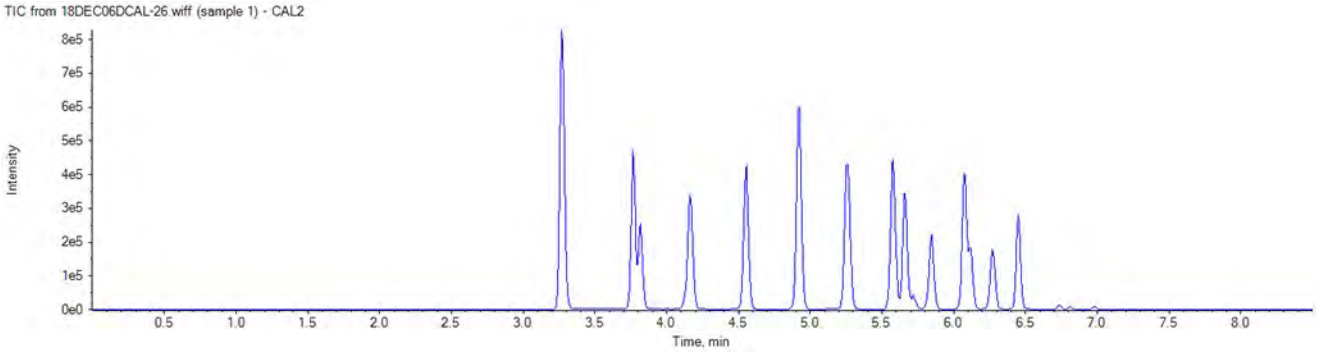
Analyte Quantitation Peak Table

Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-26.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	99228.6		A	13C4-PFBA	3.27	956879.6	0.104	0.572
PFPeA	3.77	1.000	91072.3		A	13C5-PFPeA	3.77	852542.7	0.107	0.562
PFBS	3.82	1.000	44603.2		A	13C3-PFBS	3.82	449605.6	0.099	0.492
4:2-FTS	4.13	1.000	9721.4		A	13C2-4:2-FTS	4.13	54114.3	0.180	0.482
PFHxA	4.16	1.000	95772.8		A	13C5-PFHxA	4.16	667261.2	0.144	0.625
PFPeS	4.18	1.100	24089.1		A	13C3-PFBS	3.82	449605.6	0.054	0.531
PFHpA	4.55	1.000	95002.0		A	13C4-PFHpA	4.55	513029.3	0.185	0.610
PFHxS	4.55	1.000	32481.7		M	13C3-PFHxS	4.55	342350.1	0.095	0.450
6:2-FTS	4.91	1.000	8921.7		A	13C2-6:2-FTS	4.91	35543.1	0.251	0.623
PFHpS	4.91	1.080	34669.2		A	13C3-PFHxS	4.55	342350.1	0.101	0.556
PFOA	4.92	1.000	85869.8		A	13C8-PFOA	4.92	818119.4	0.105	0.574
PFOS	5.25	1.000	37181.1		M	13C8-PFOS	5.25	308155.5	0.121	0.500
PFNA	5.27	1.000	69083.4		A	13C9-PFNA	5.27	489864.8	0.141	0.520
PFNS	5.55	1.060	22032.8		A	13C8-PFOS	5.25	308155.5	0.071	0.460
PFDA	5.58	1.000	62650.4		A	13C6-PFDA	5.58	620021.3	0.101	0.569
8:2-FTS	5.58	1.000	6424.5		A	13C2-8:2-FTS	5.58	25892.3	0.248	0.538
PFOSA	5.66	1.000	70441.3		A	13C8-PFOSA	5.66	723822.9	0.097	0.505
NMeFOSAA	5.72	1.000	7727.9		M	d3-NMeFOSAA	5.72	84870.1	0.091	0.602
PFDS	5.82	1.110	18312.9		A	13C8-PFOS	5.25	308155.5	0.059	0.481
PFUnDA	5.84	1.000	67047.2		A	13C7-PFUnDA	5.84	345908.7	0.194	0.593
NEtFOSAA	5.86	1.000	7437.9		A	d5-NEtFOSAA	5.86	74625.9	0.100	0.504
PFDoDA	6.07	1.000	80887.3		A	13C2-PFDoDA	6.08	823944.3	0.098	0.517
10:2-FTS	6.09	1.090	5031.5		A	13C2-8:2-FTS	5.58	25892.3	0.194	0.515
NMePFOSAE	6.12	1.000	34660.6		A	d7-NMePFOSAE	6.11	265104.1	0.131	0.568
NMePFOSA	6.13	1.000	9287.7		A	d3-NMePFOSA	6.13	87716.6	0.106	0.534
PFDoS	6.24	1.190	10262.0		A	13C8-PFOS	5.25	308155.5	0.033	0.508
NEtPFOSAE	6.28	1.000	45303.8		A	d9-NEtPFOSAE	6.27	234011.3	0.194	0.649
NEtPFOSA	6.29	1.000	8819.4		A	d5-NEtPFOSA	6.28	66979.3	0.132	0.630
PFTrDA	6.27	1.030	72303.6		A	13C2-PFDoDA	6.08	823944.3	0.088	0.575
PFTeDA	6.45	1.000	55946.8		A	13C2-PFTeDA	6.45	540663.9	0.103	0.592
PFHxDA	6.74	1.040	24602.5		A	13C2-PFTeDA	6.45	540663.9	0.046	0.570
PFODA	6.98	1.080	18468.5		A	13C2-PFTeDA	6.45	540663.9	0.034	0.548

Total Ion Chromatogram

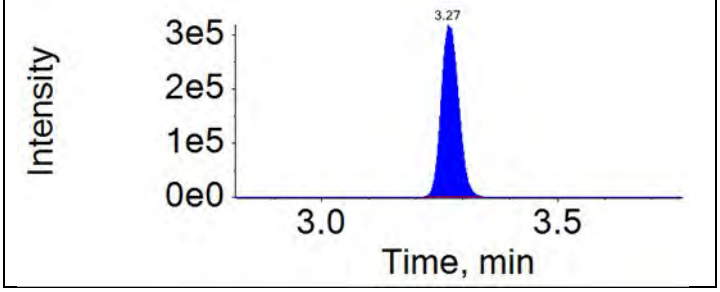


APPROVED
By MSM at 1:53 pm, 12/7/18

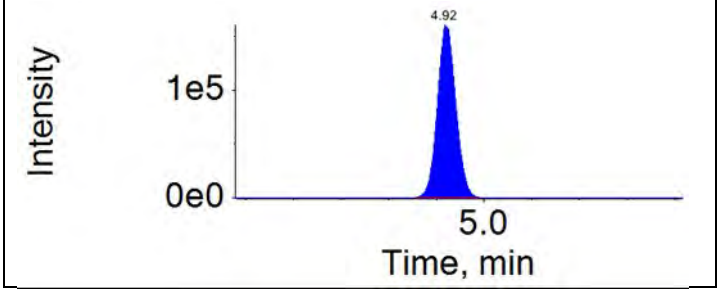
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

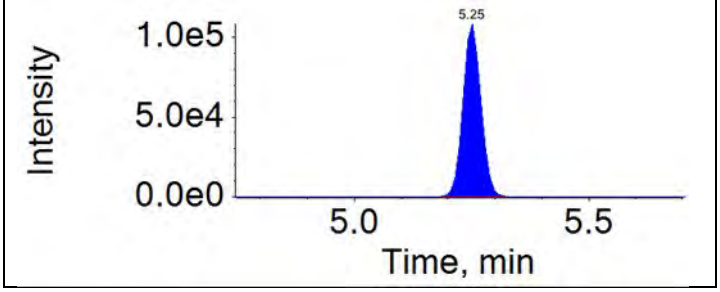
Injection Standard: 13C3-PFBA
216.0 / 172.0



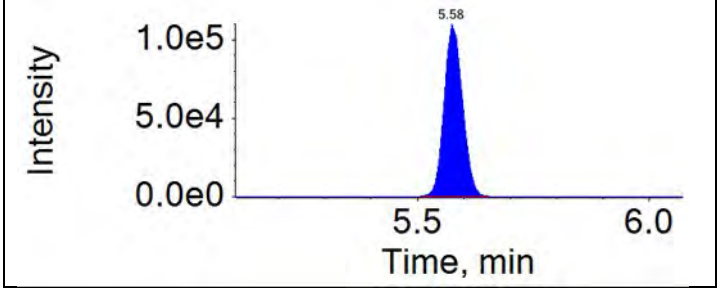
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

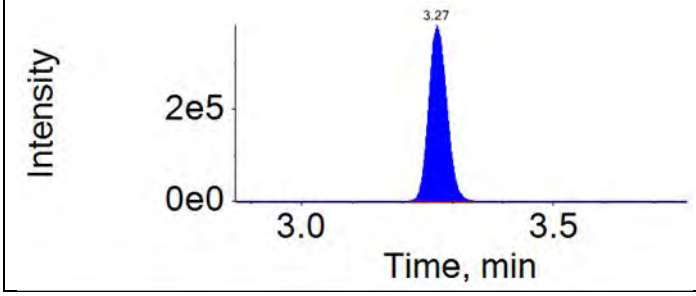


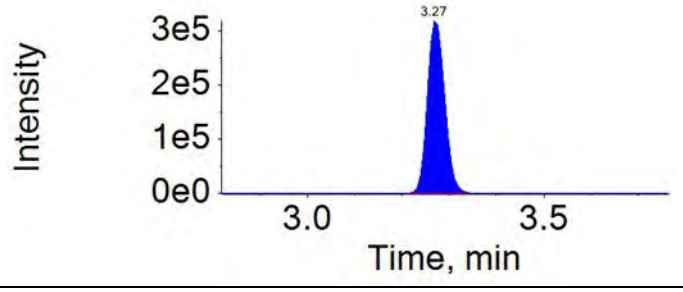
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

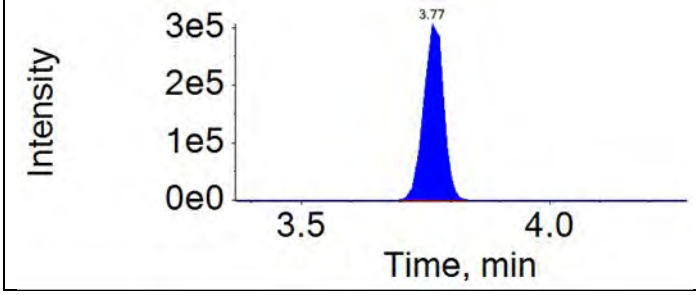
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

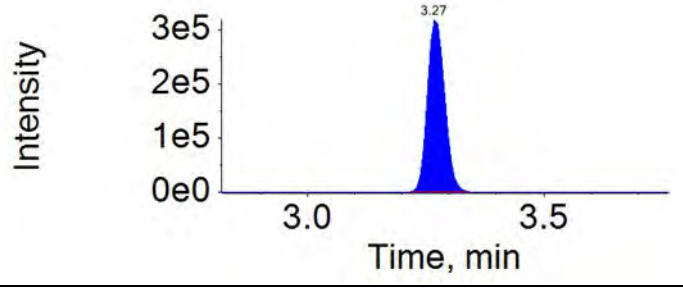
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



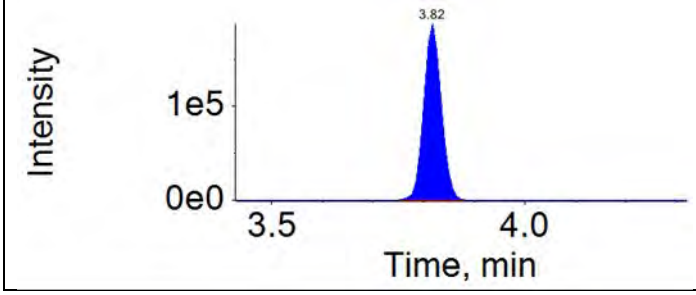


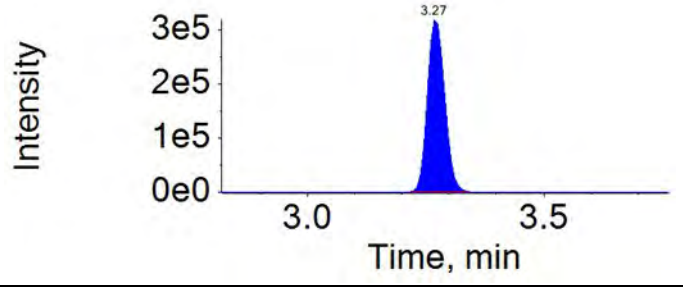
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



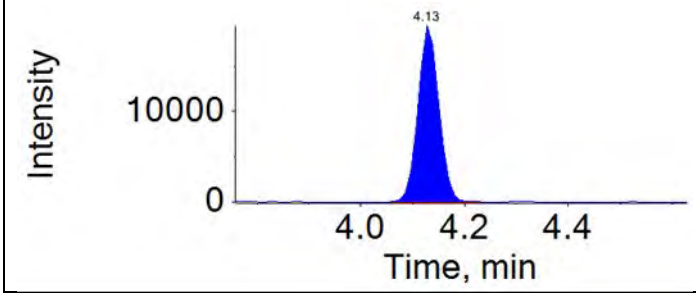


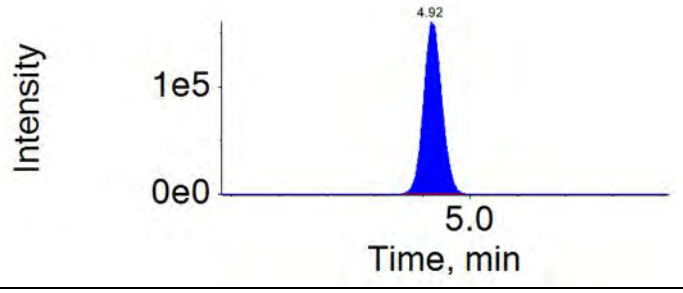
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



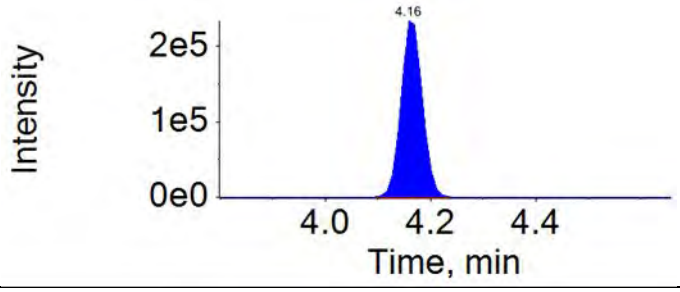


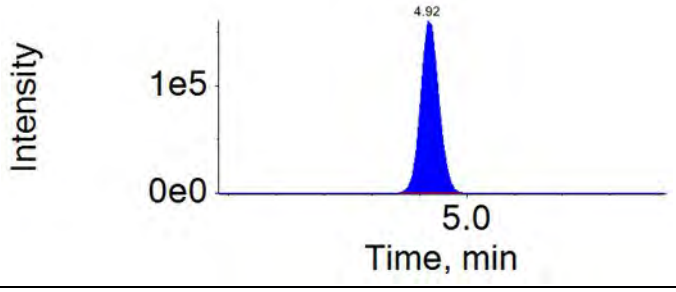
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

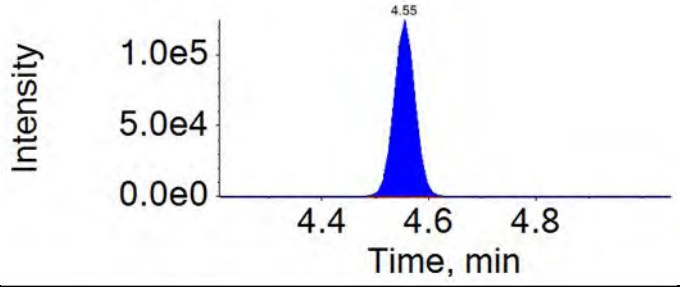
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

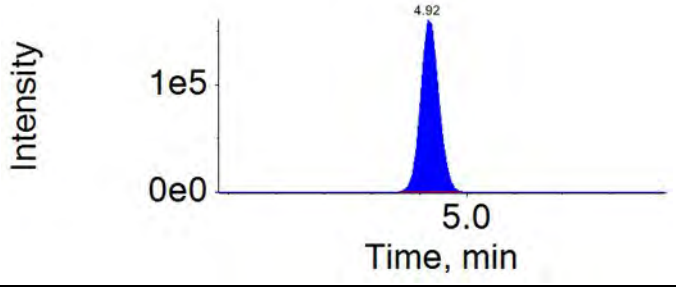
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



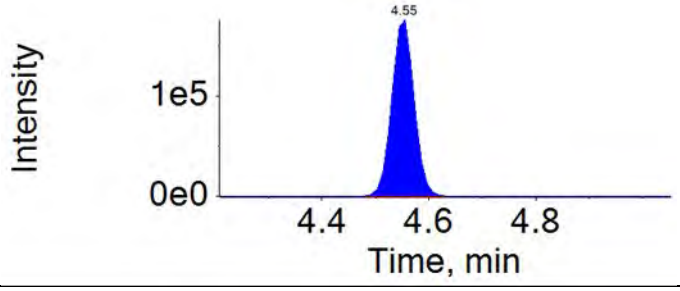


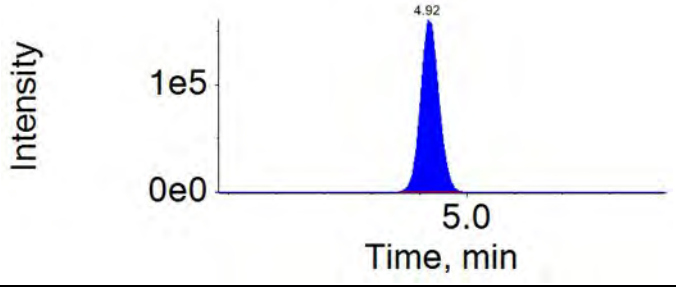
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



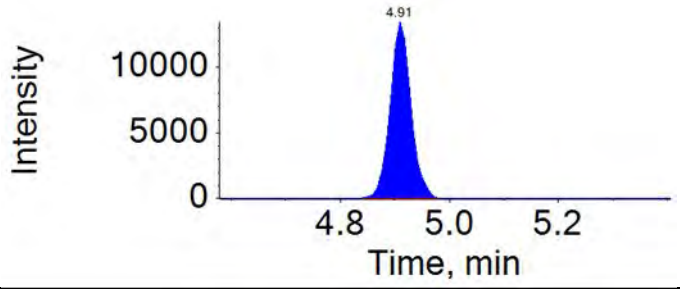


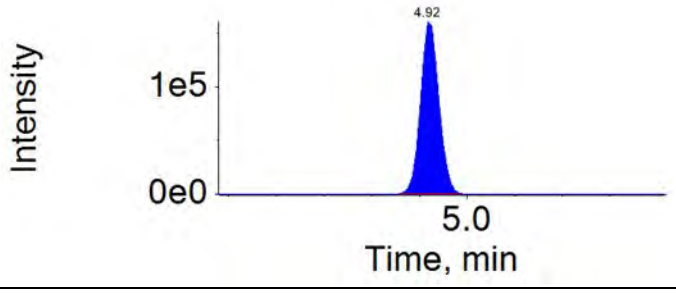
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



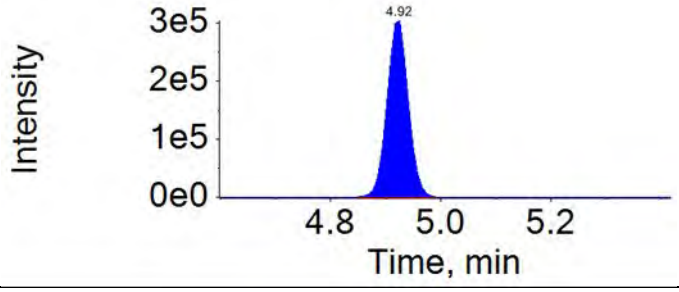


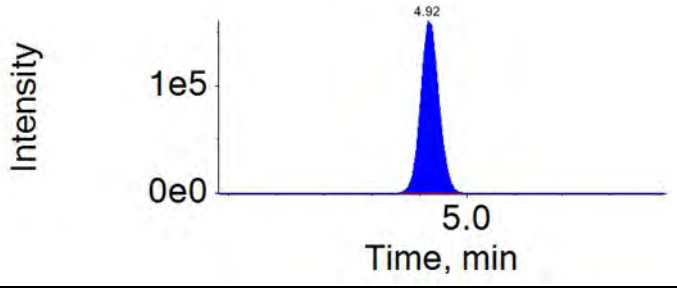
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

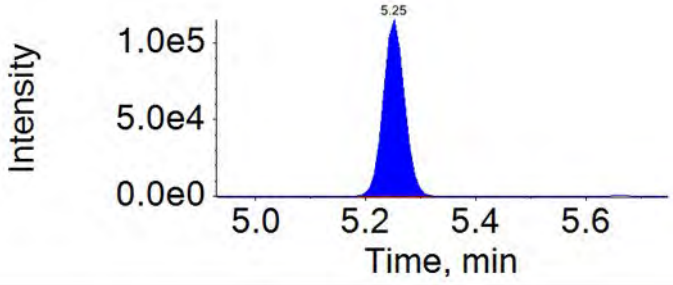
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

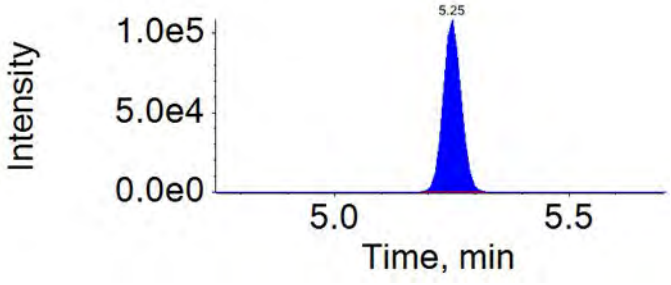
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



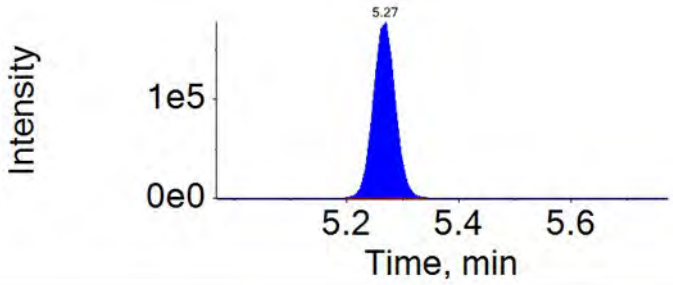


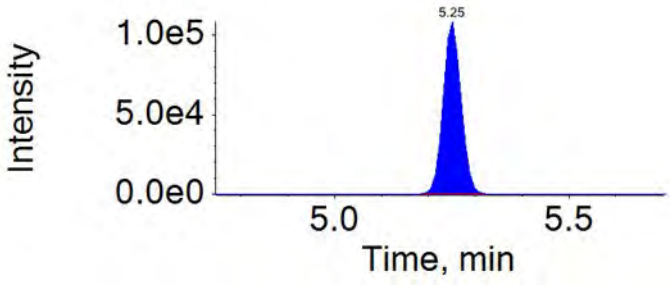
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



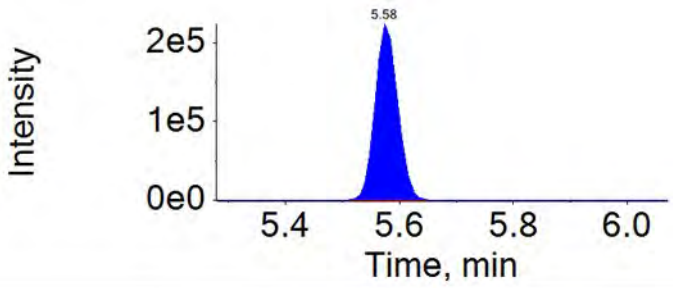


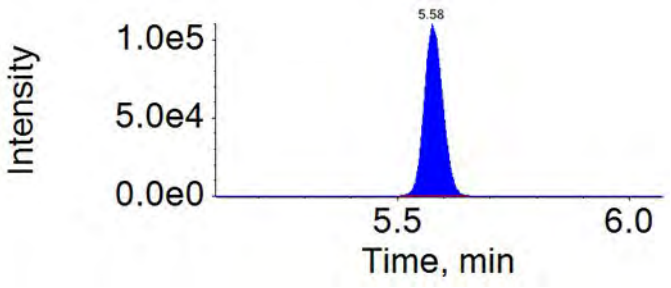
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



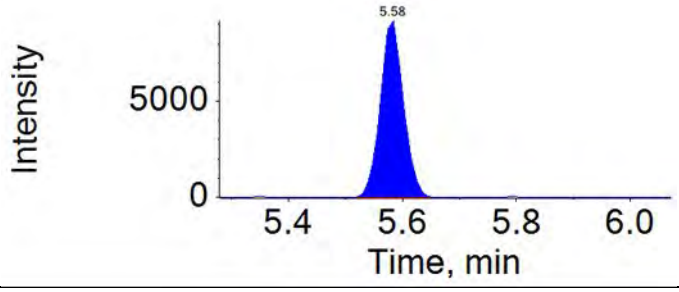


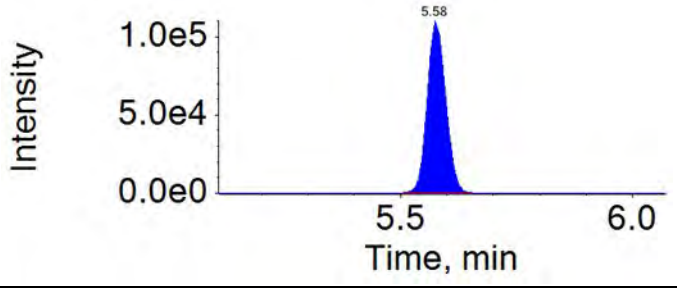
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

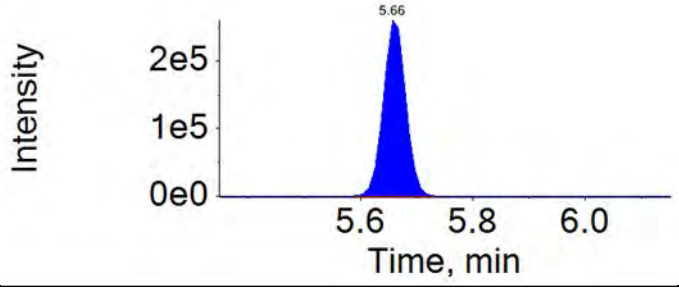
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

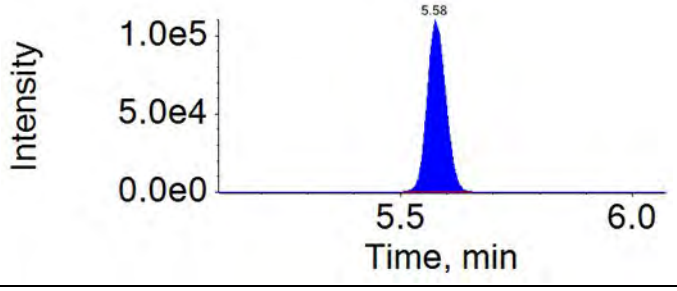
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



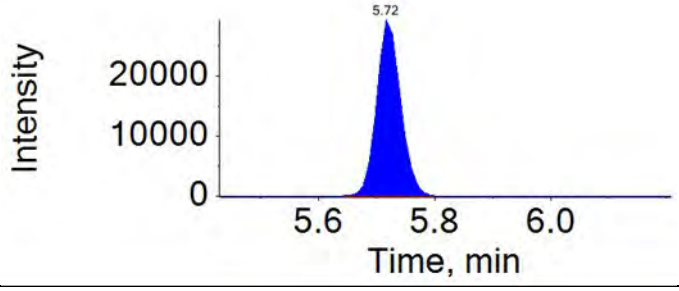


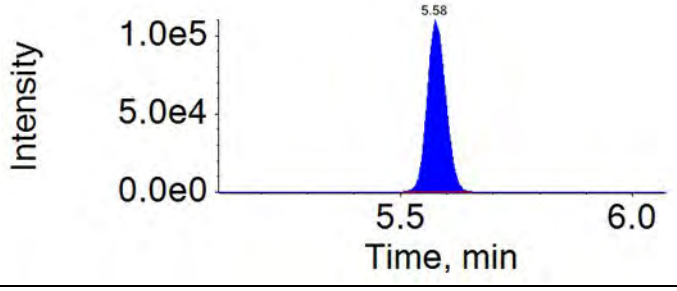
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



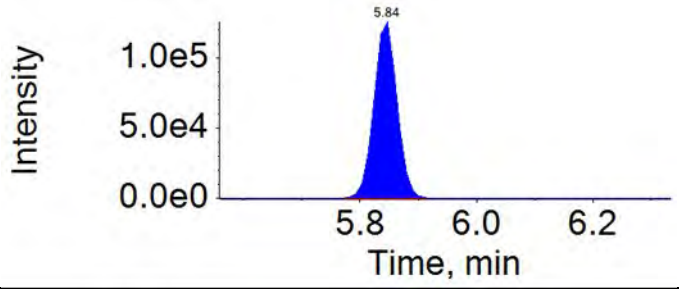


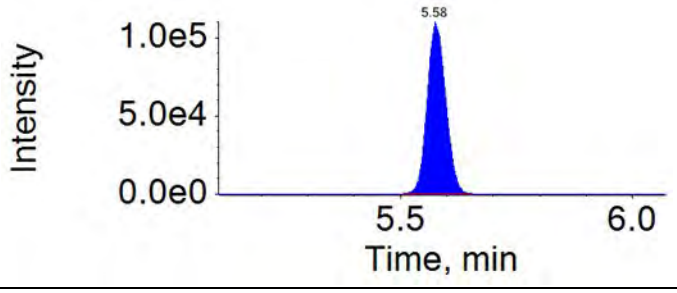
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



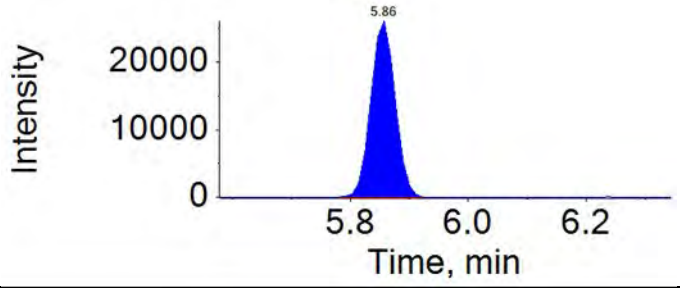


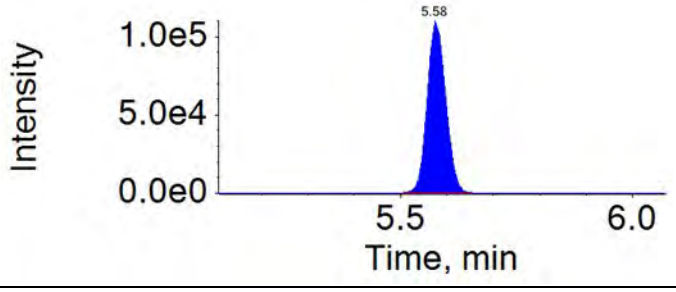
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

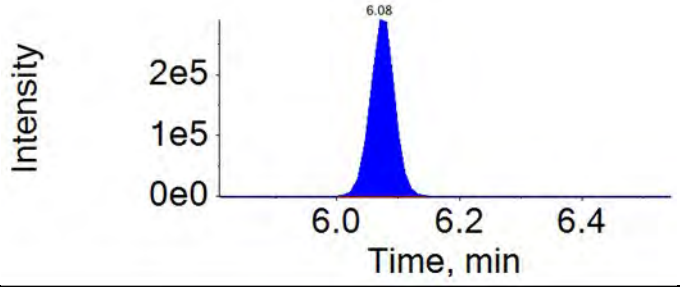
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

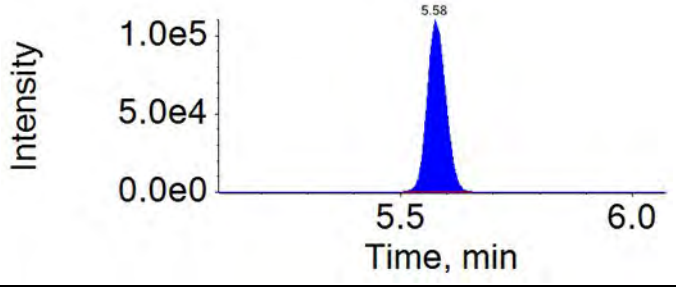
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



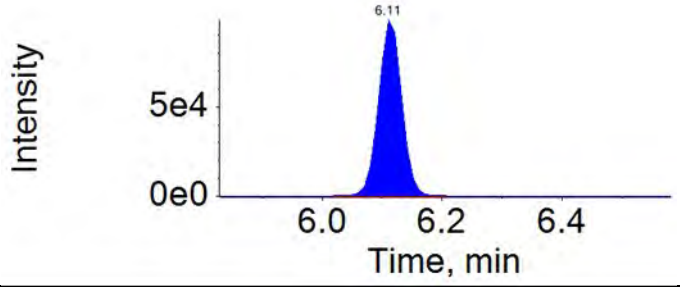


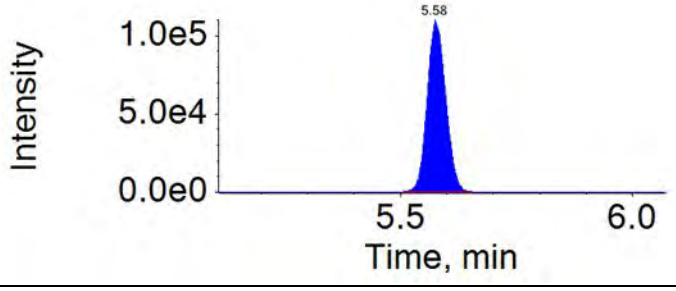
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



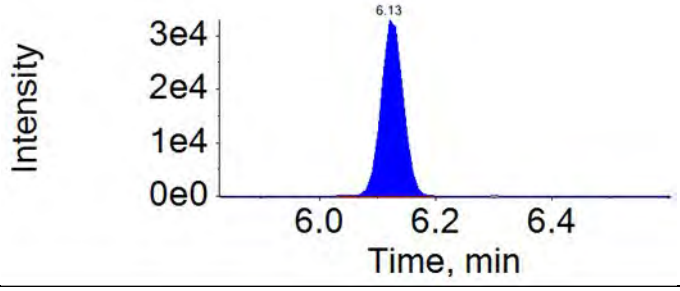


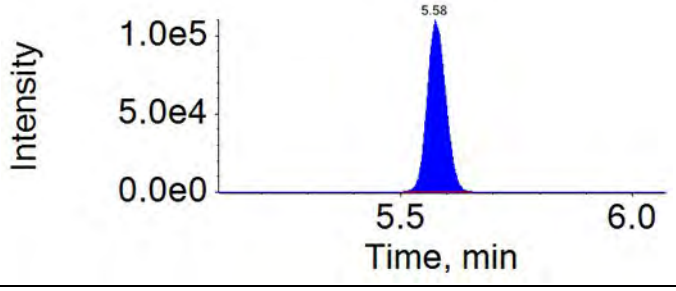
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



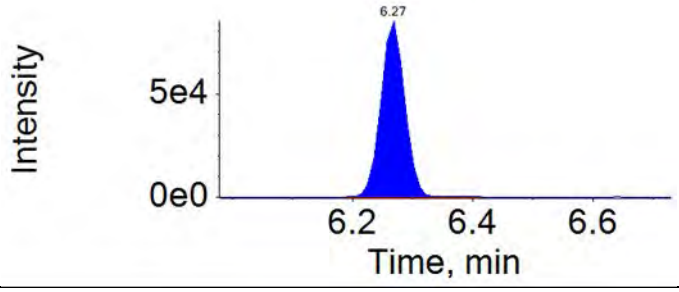


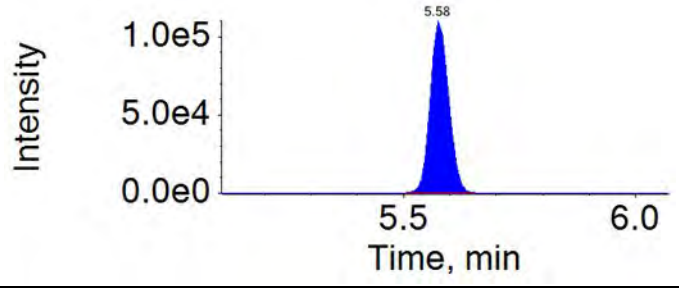
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

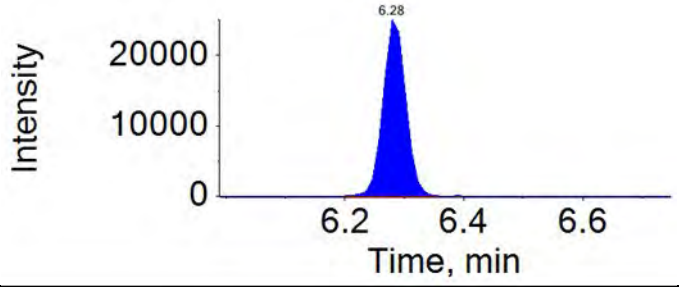
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

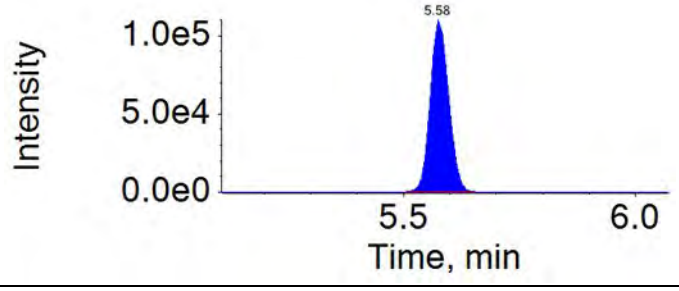
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



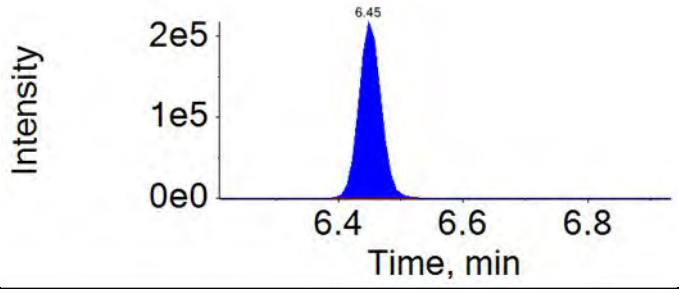


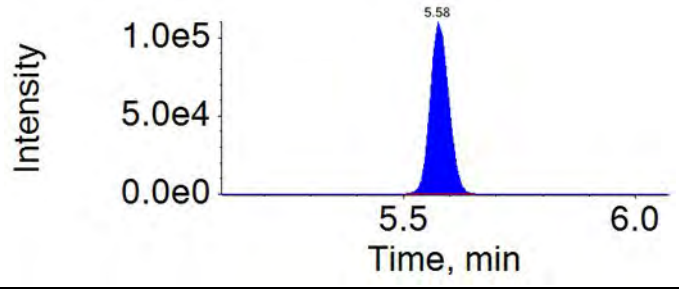
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



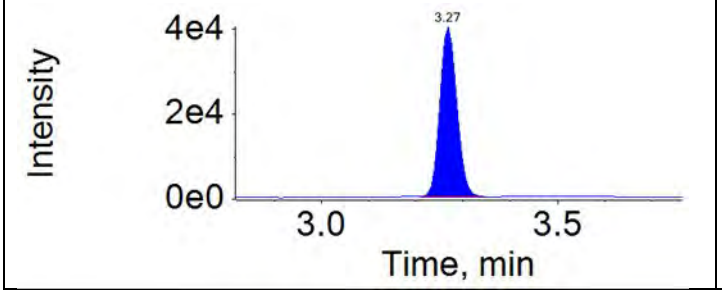


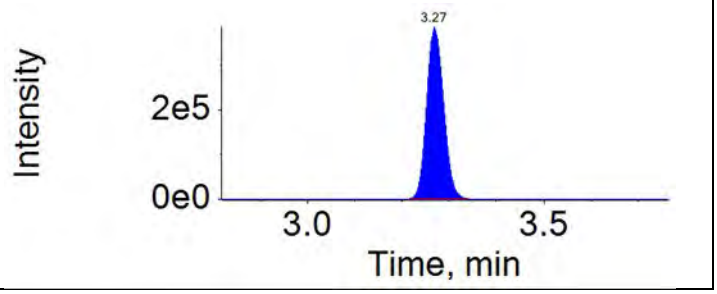
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

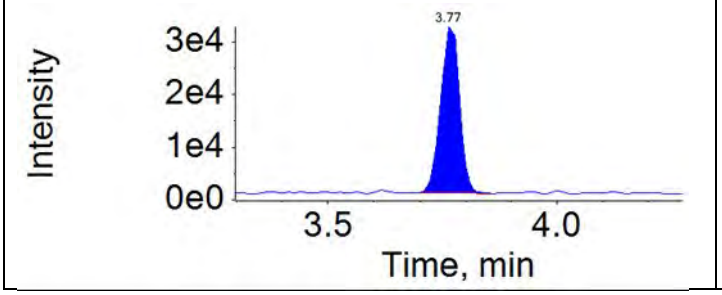
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

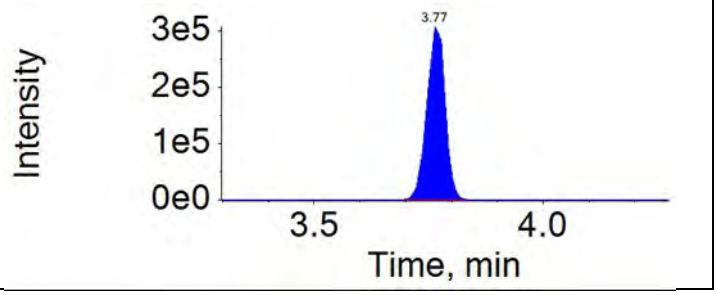
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



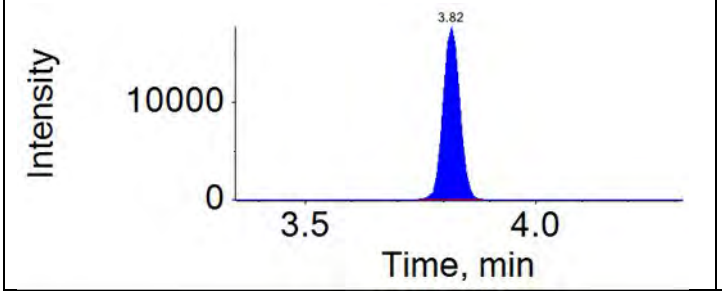


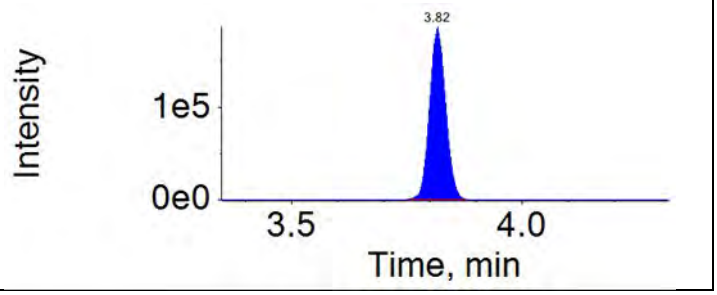
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



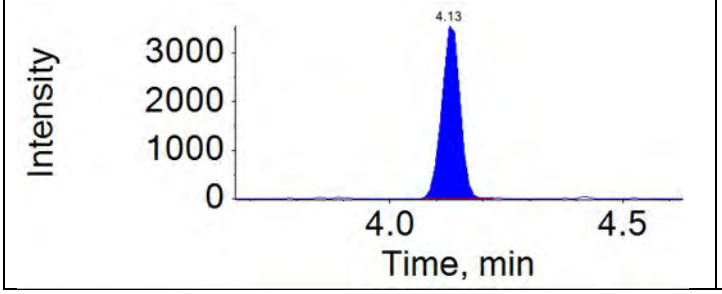


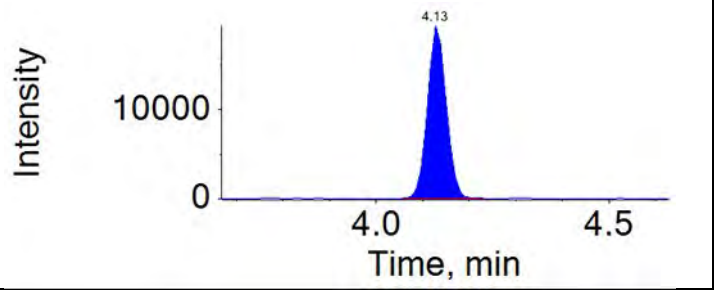
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



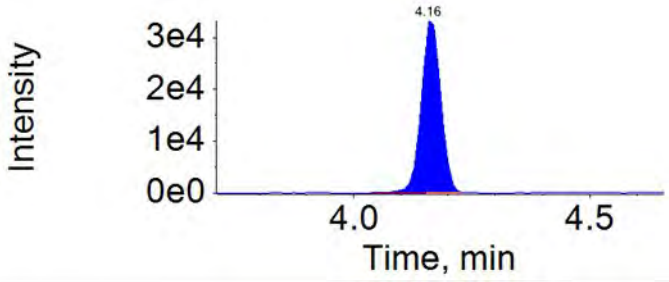


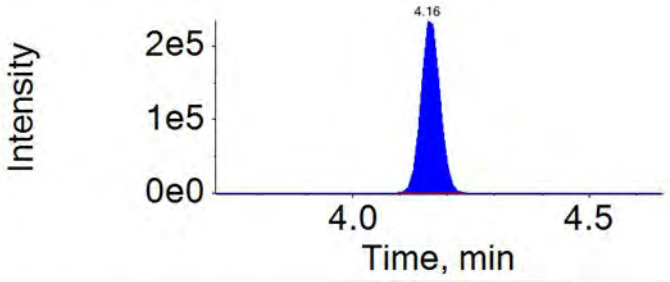
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

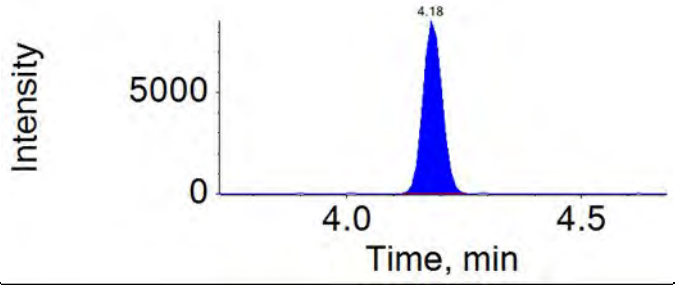
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

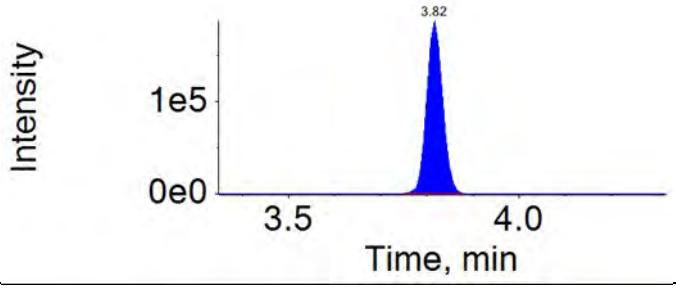
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



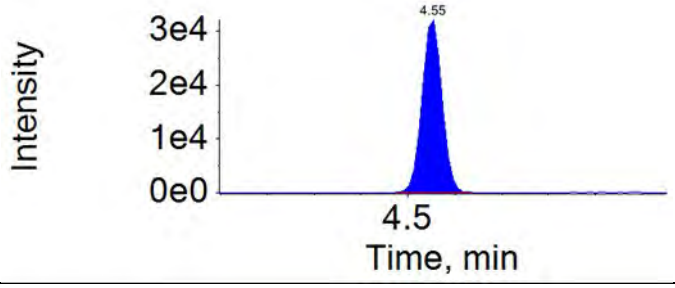


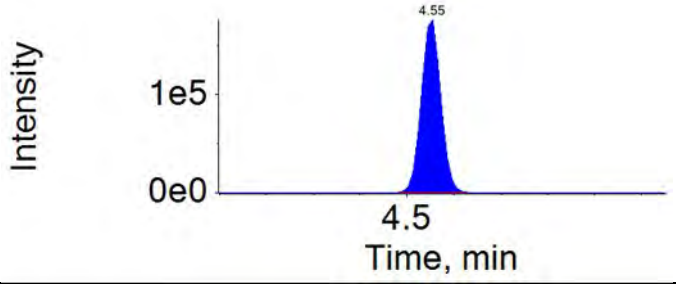
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



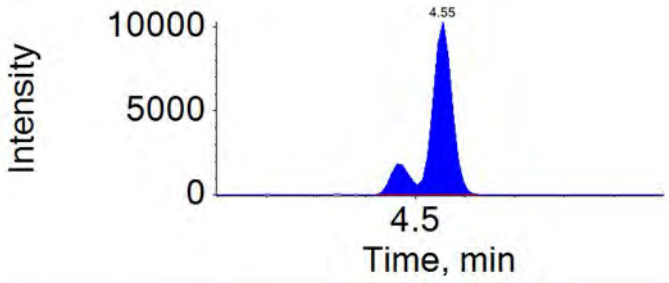


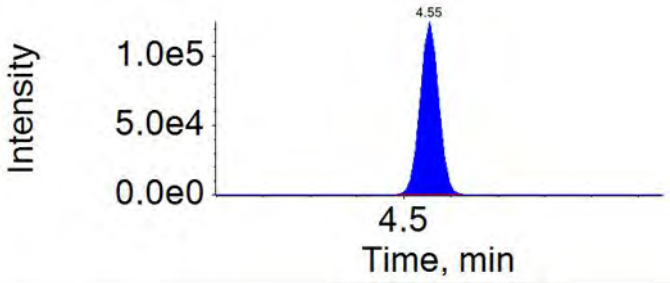
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



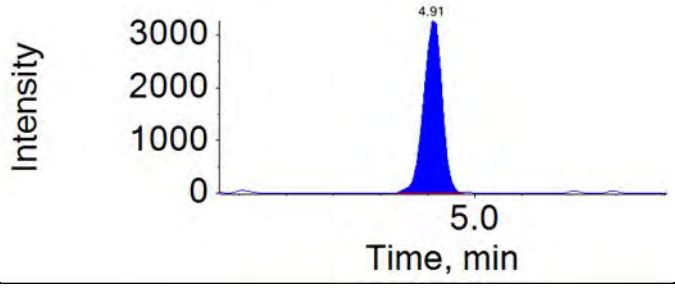


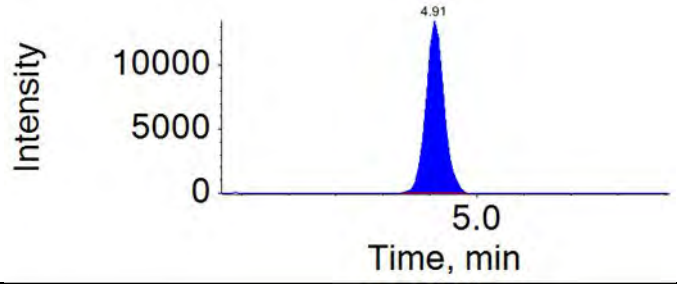
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

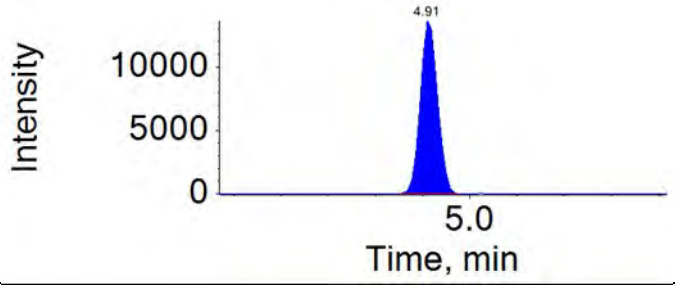
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

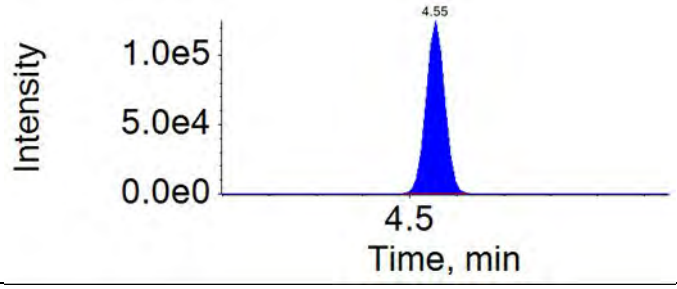
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



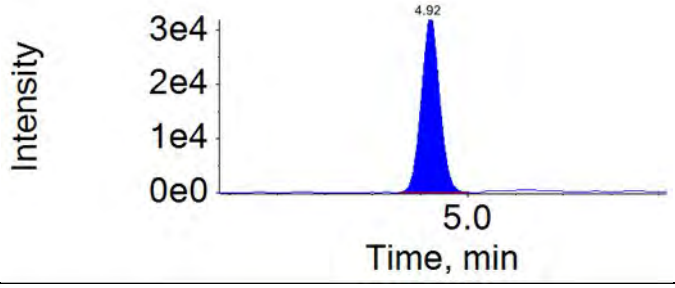


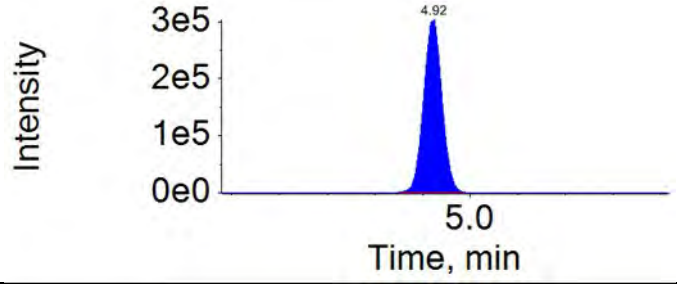
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



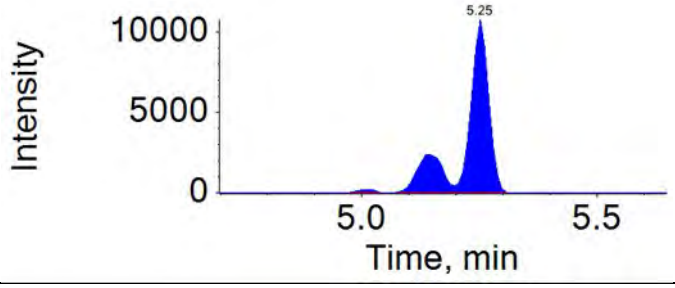


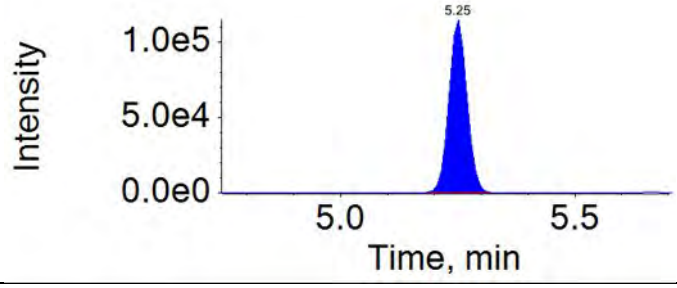
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



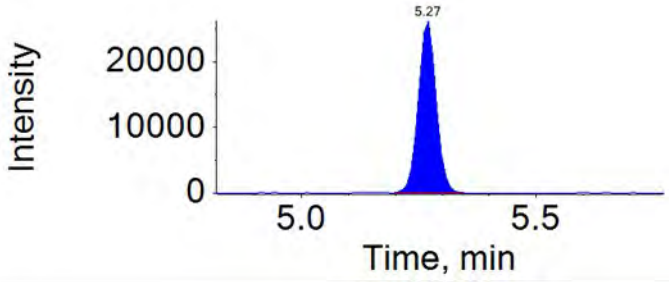


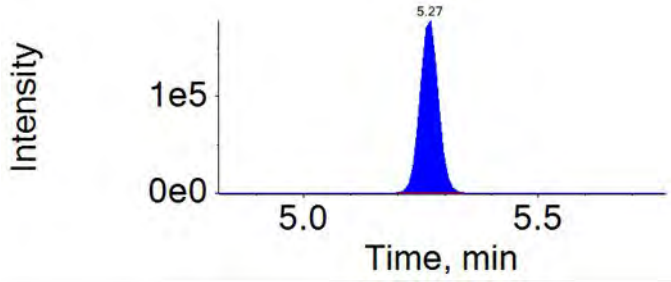
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

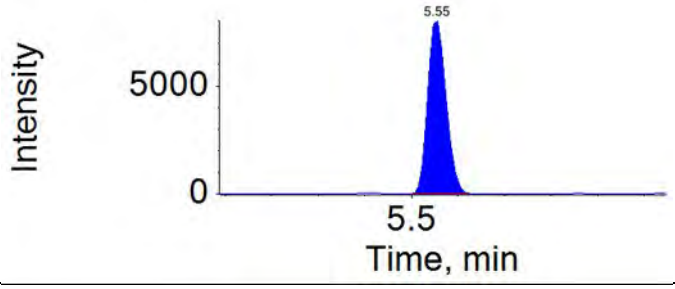
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

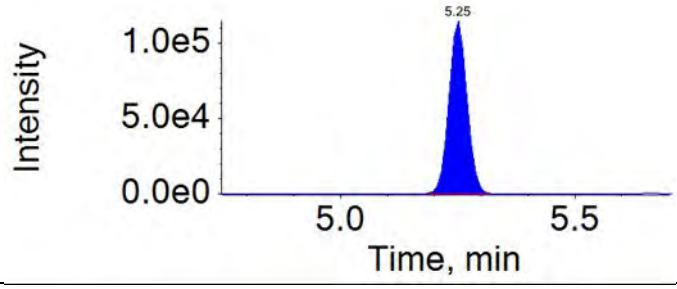
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



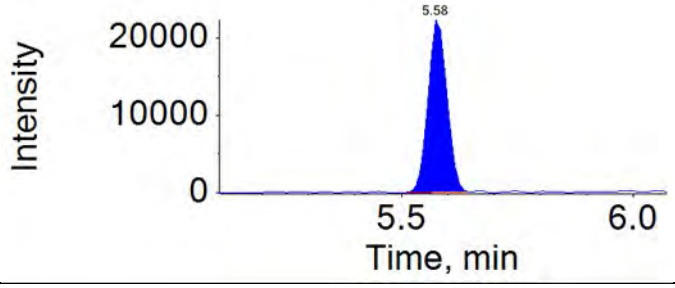


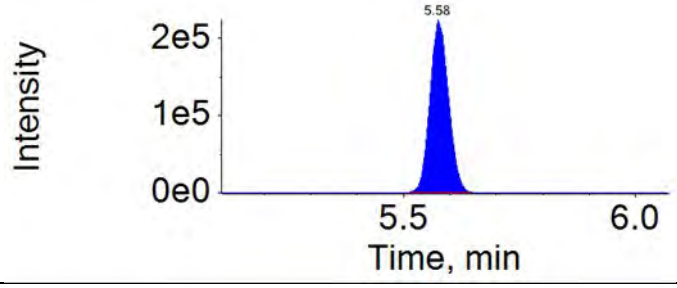
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



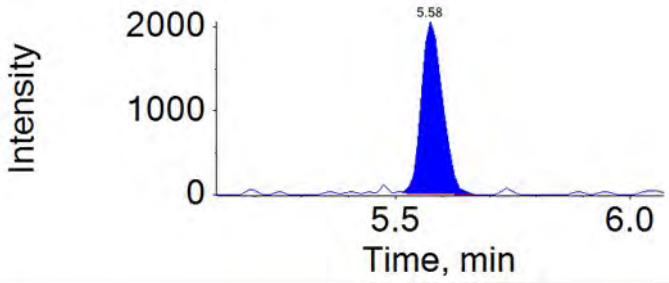


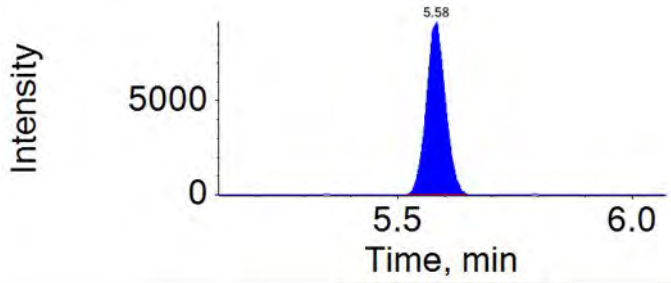
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

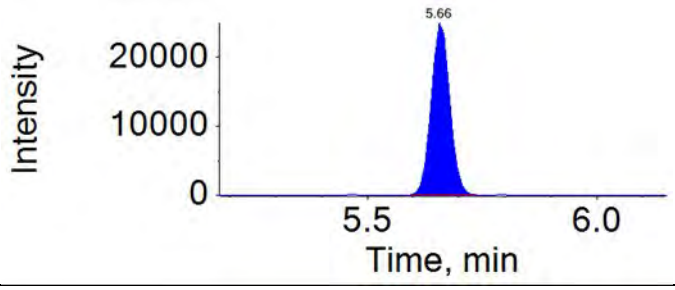
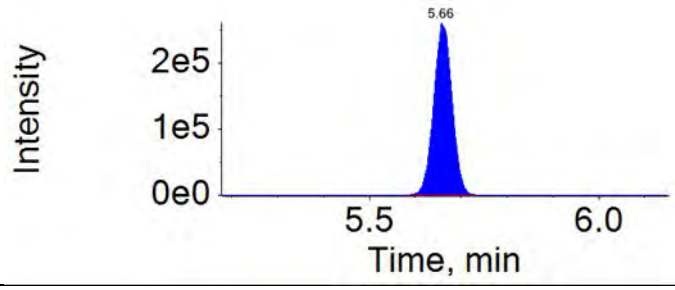


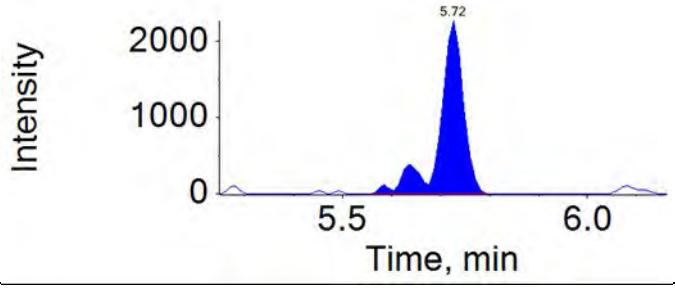
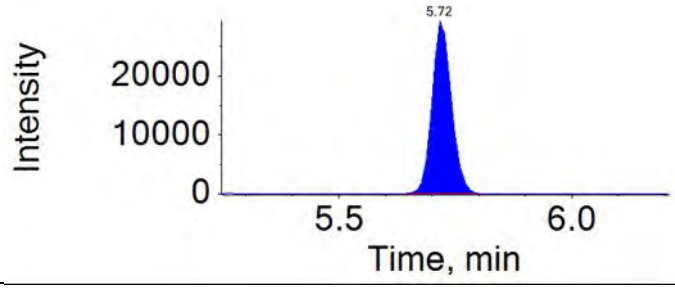


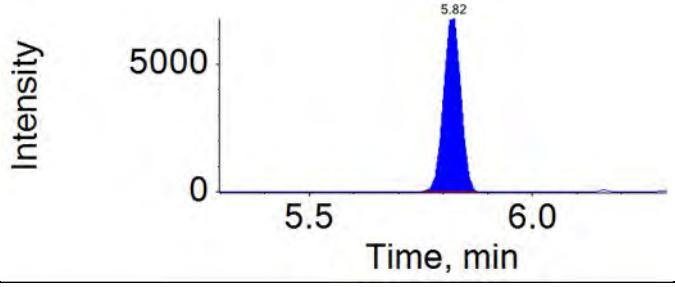
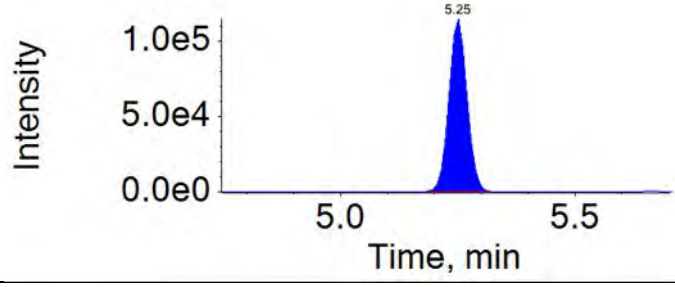
APPROVED
By MSM at 1:53 pm, 12/7/18

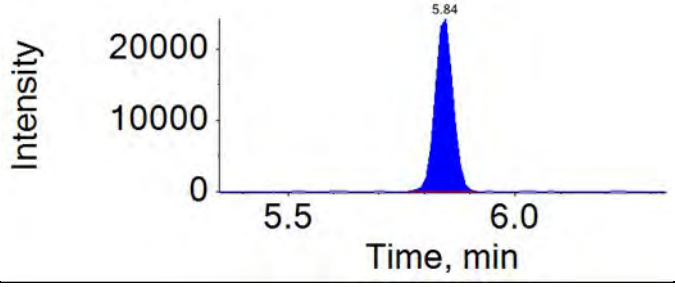
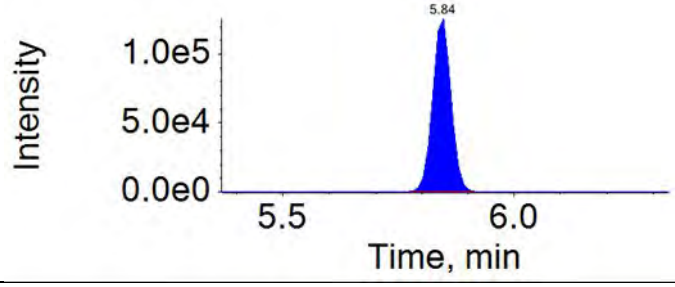
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

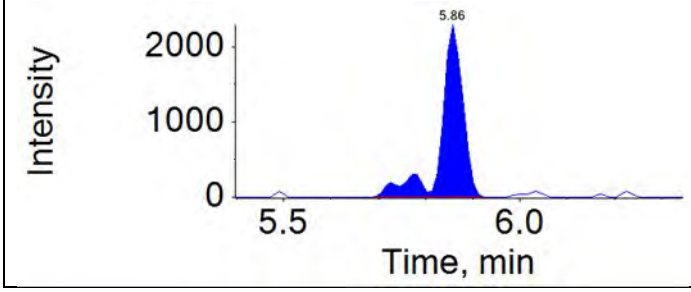
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

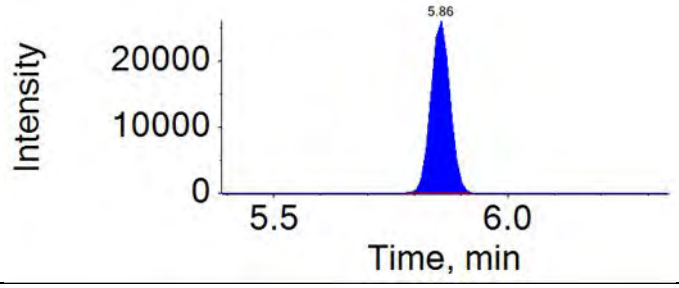
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

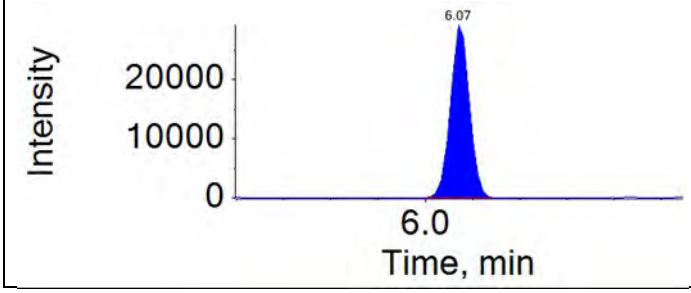
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

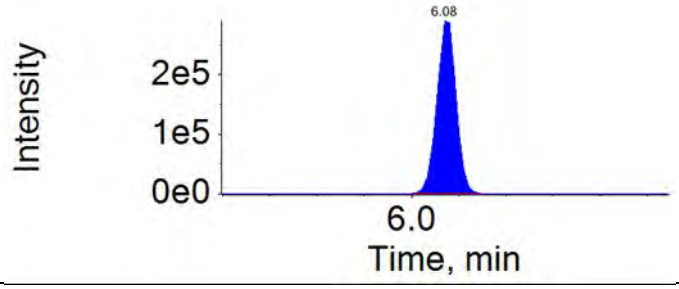
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



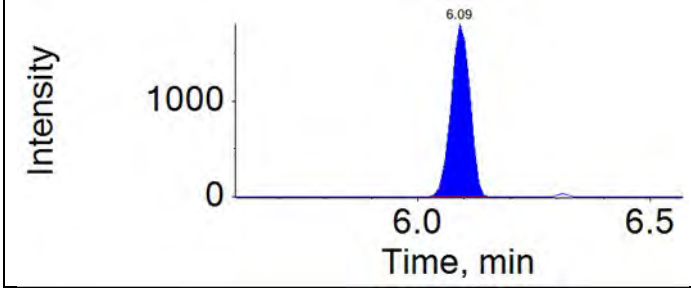


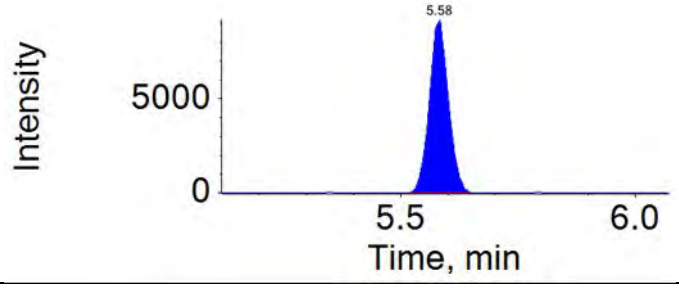
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



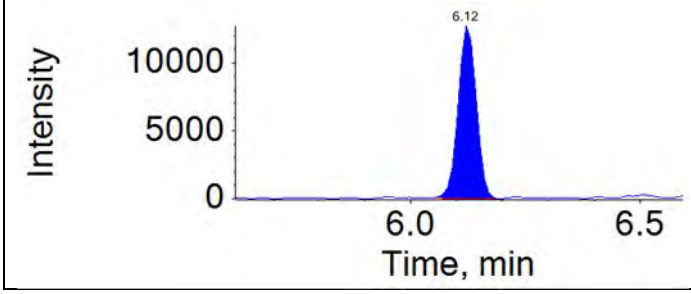


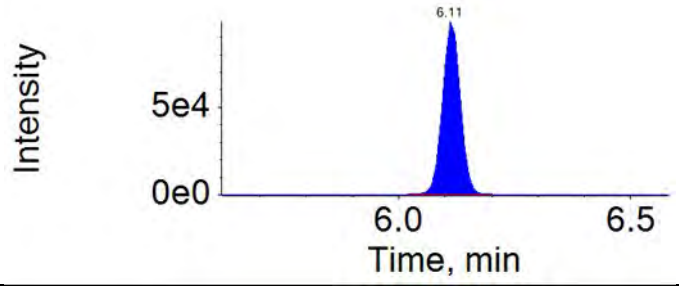
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



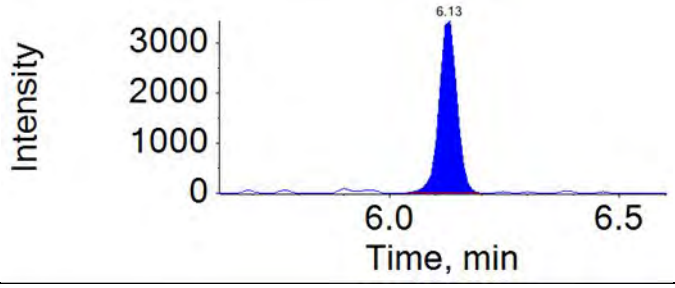


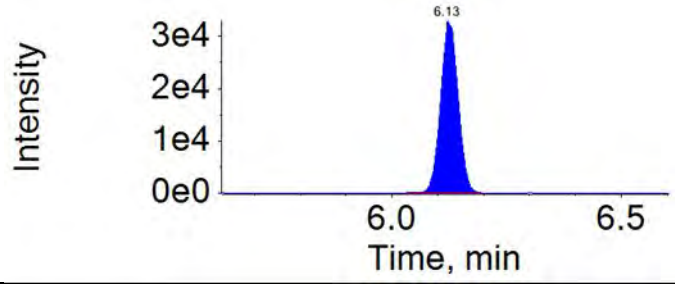
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

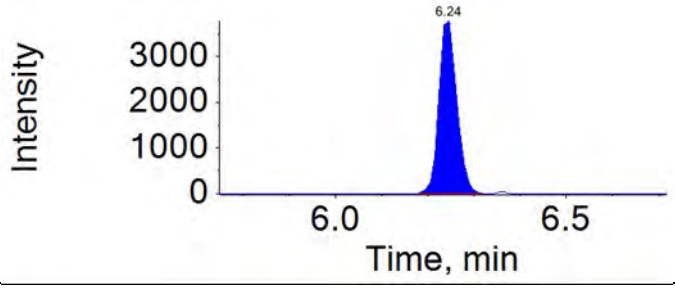
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

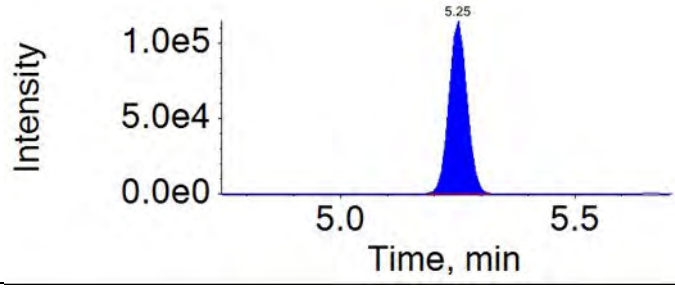
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



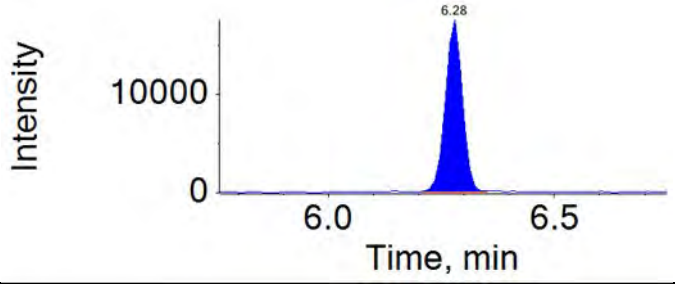


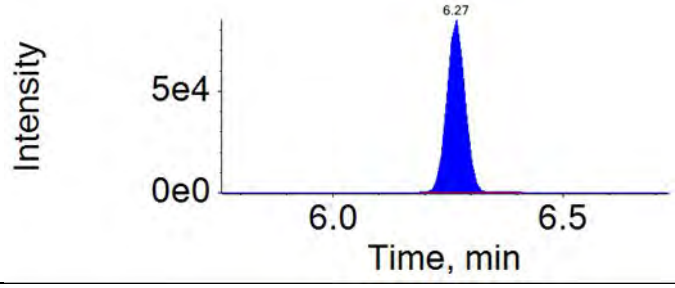
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



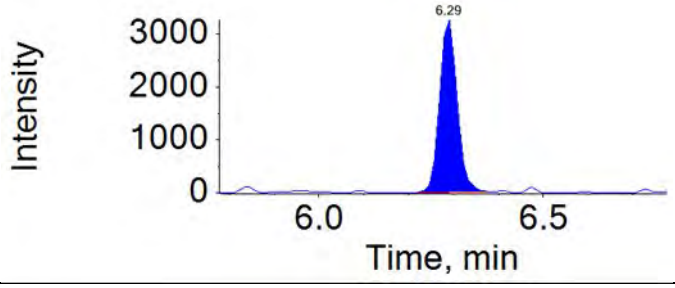


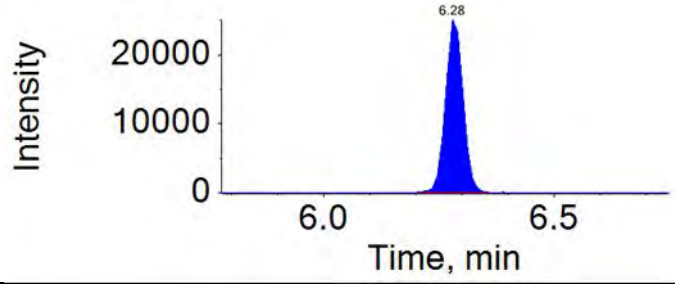
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

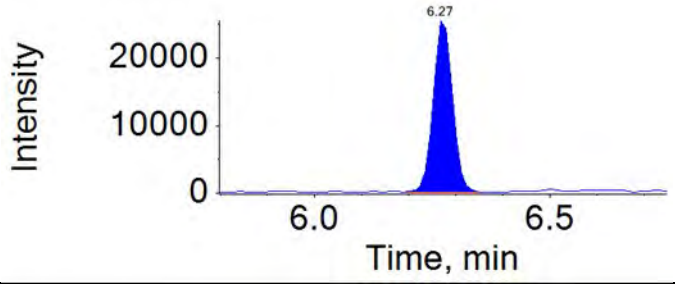
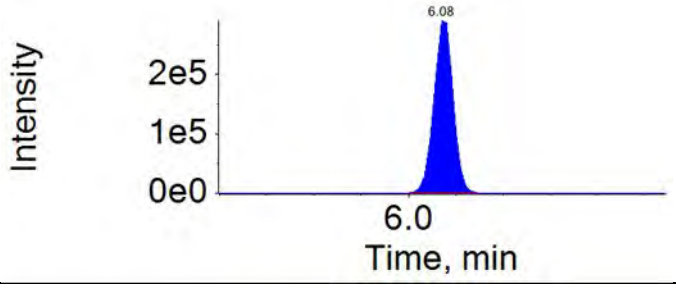


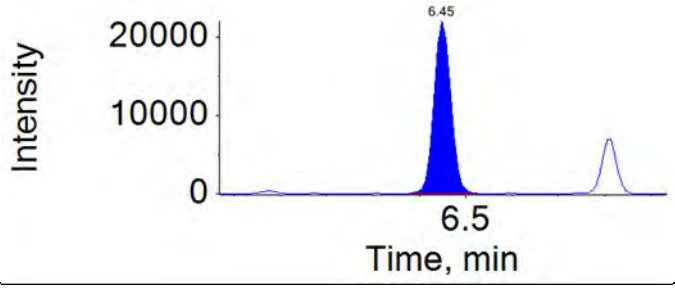
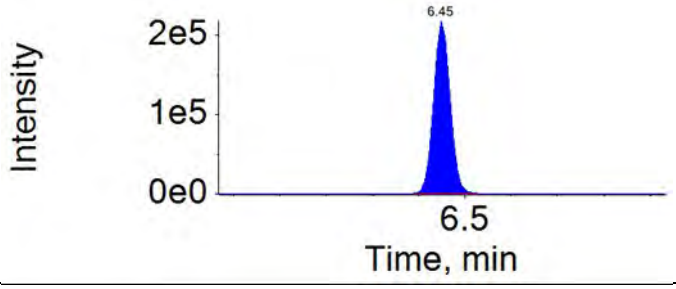


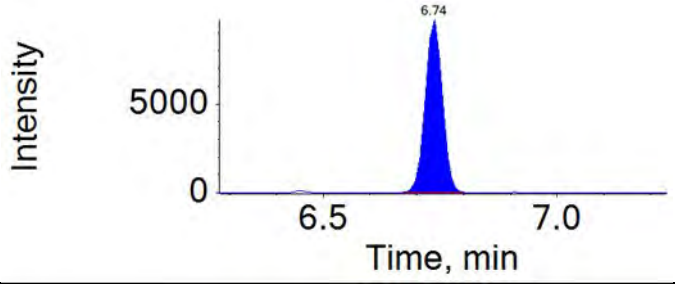
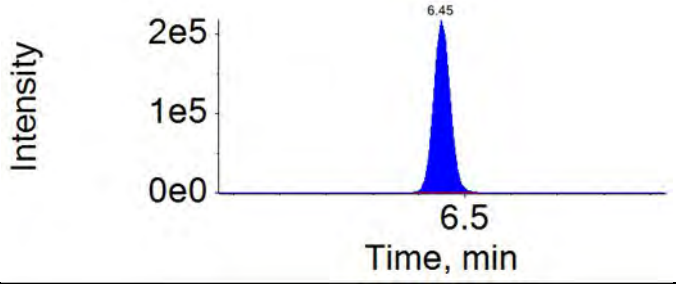
APPROVED
By MSM at 1:53 pm, 12/7/18

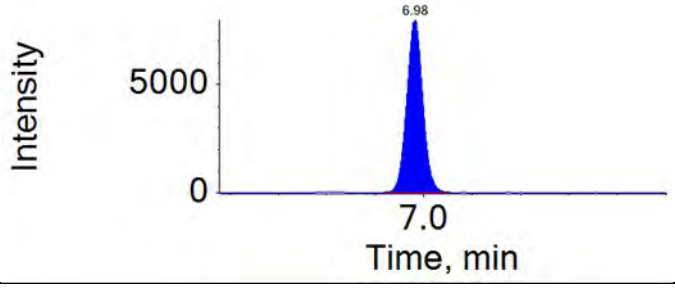
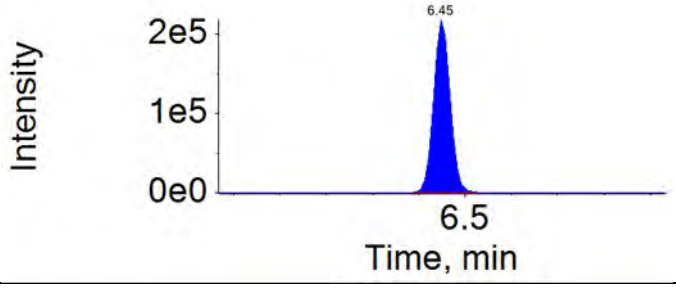
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

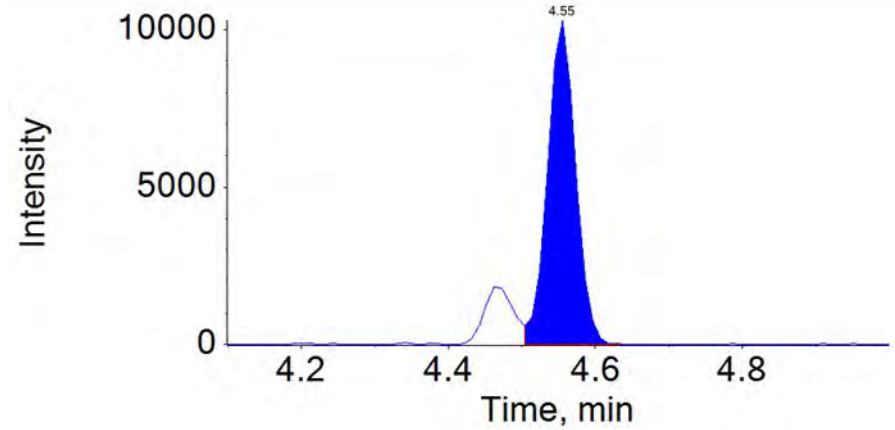
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

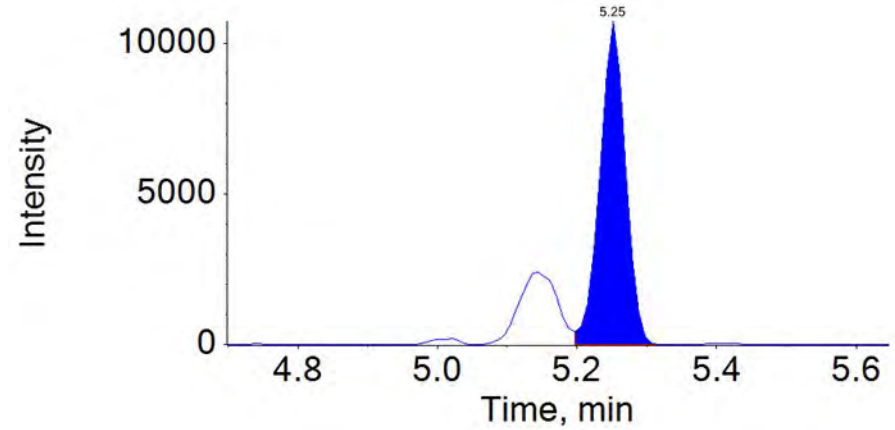
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
27411.38
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



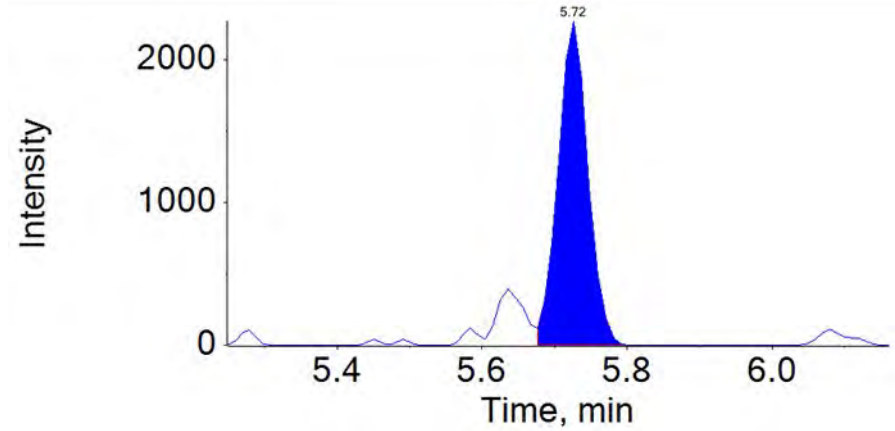
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
27396.62
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
6513.12
Mass Range:
570.0 / 419.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



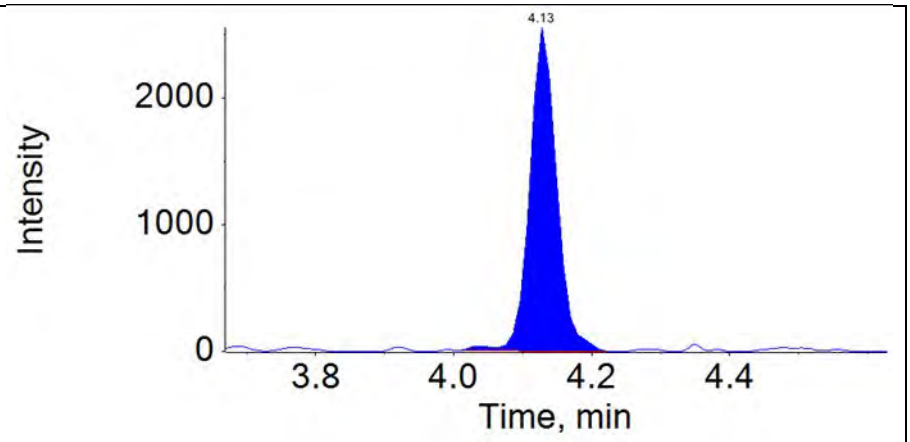
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

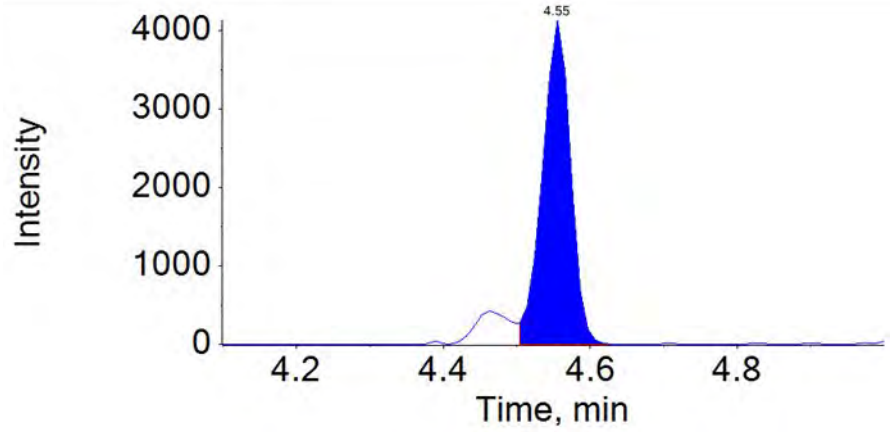
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
4:2-FTS_2
RT (min.):
4.13
Peak Area:
6932.31
Mass Range:
327.0 / 81.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



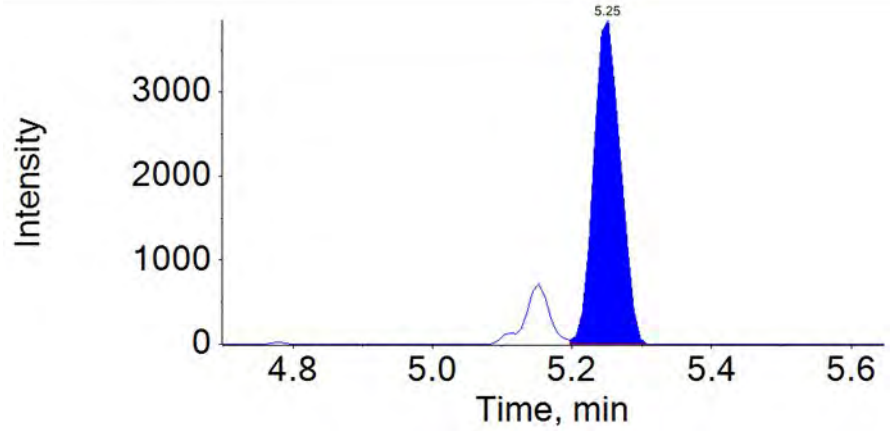
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
11026.69
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
10258.87
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



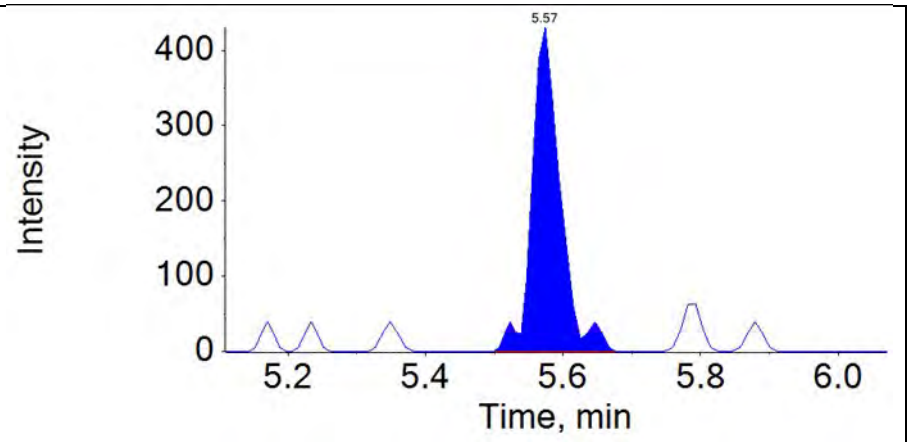
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

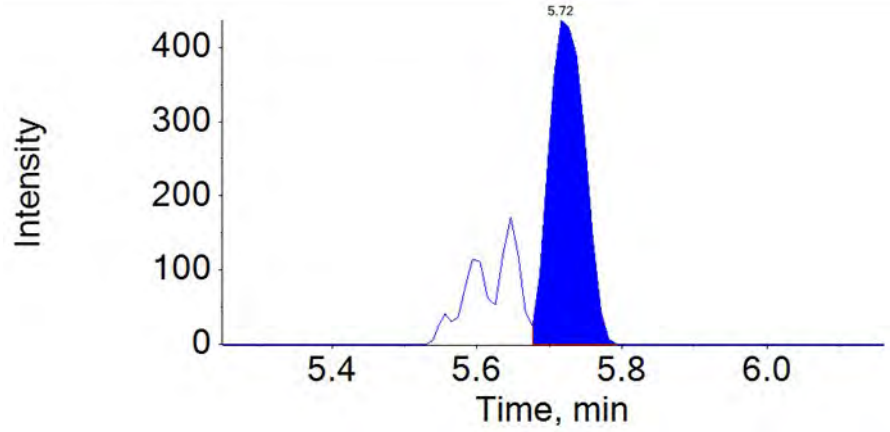
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
5.57
Peak Area:
1238.07
Mass Range:
513.0 / 169.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



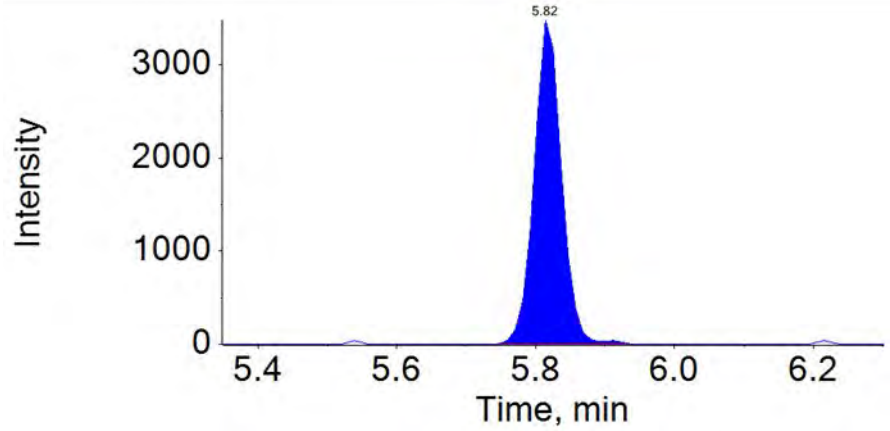
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
1520.34
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
PFDS_2
RT (min.):
5.82
Peak Area:
9554.04
Mass Range:
599.0 / 99.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



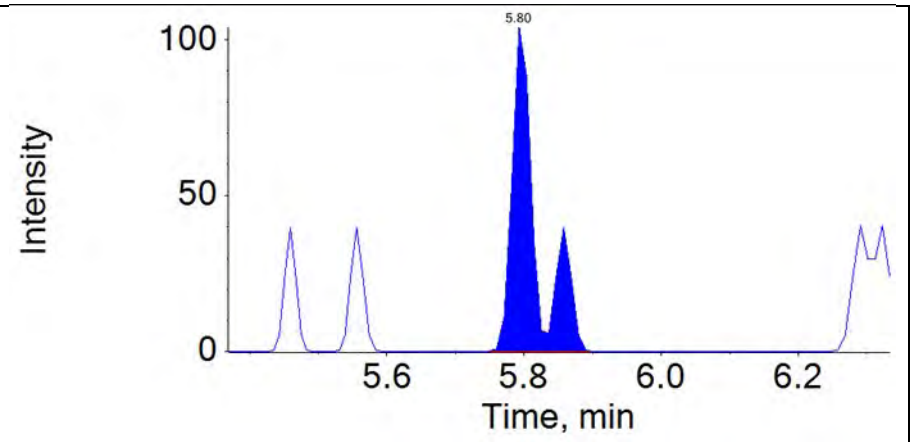
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

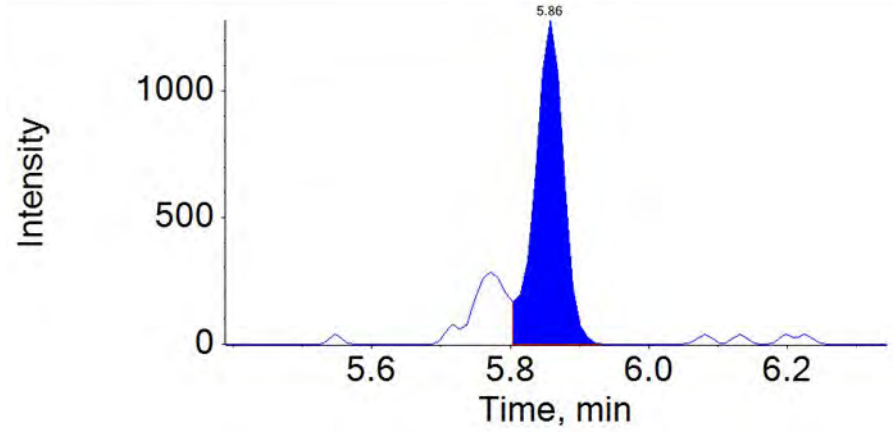
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFUnDA_2
RT (min.):
5.80
Peak Area:
259.84
Mass Range:
563.0 / 169.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



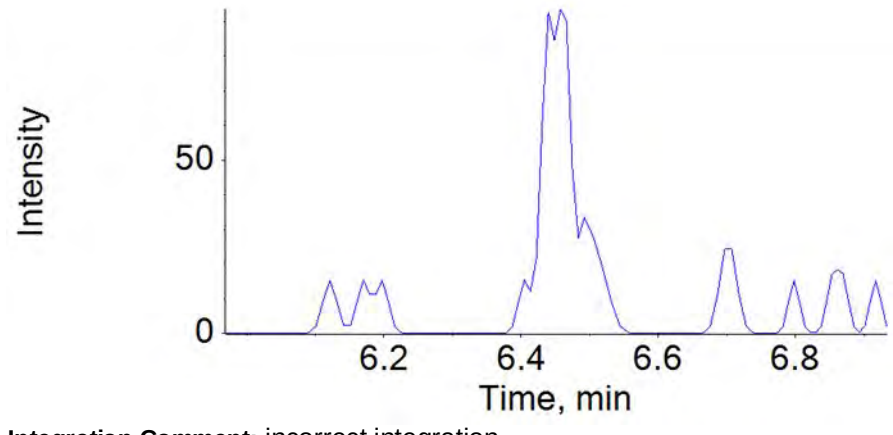
Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
3655.72
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

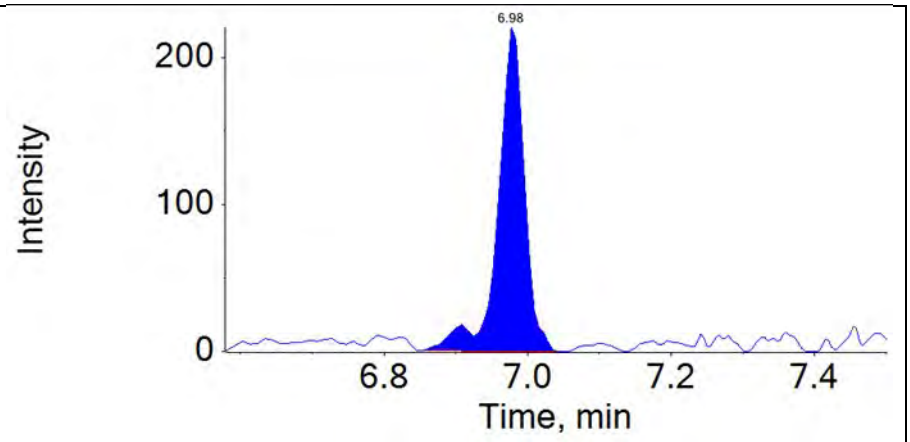
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFODA_2
RT (min.):
6.98
Peak Area:
566.46
Mass Range:
913.0 / 169.0
File Name:
18DEC06DCAL-26.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Ion Ratio Report

Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-26.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	44603.18	A	1.0000	1.0000			
PFBS_2	3.81	1.00	16155.50	A	0.3627	0.3622	0	50	
4:2-FTS	4.13	1.00	9721.43	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	6883.83	M	0.6542	0.7081	8	50	
PFHxA	4.16	1.00	95772.84	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	772.56	A	0.0097	0.0081	-17	50	
PFPeS	4.18	1.10	24089.05	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	13567.24	A	0.5262	0.5632	7	50	
PFHpA	4.55	1.00	95001.99	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	5611.64	A	0.0565	0.0591	5	50	
PFHxS	4.55	1.00	32481.65	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	12460.11	M	0.3645	0.3836	5	50	
6:2-FTS	4.91	1.00	8921.66	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	4103.08	A	0.6273	0.4599	-27	50	
PFHpS	4.91	1.08	34669.19	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	14135.50	A	0.4162	0.4077	-2	50	
PFOA	4.92	1.00	85869.84	A	1.0000	1.0000			
PFOA_2	4.92	1.00	5256.38	A	0.0616	0.0612	-1	50	
PFOS	5.25	1.00	37181.07	M	1.0000	1.0000			
PFOS_2	5.25	1.00	12022.90	M	0.3021	0.3234	7	50	
PFNA	5.27	1.00	69083.38	A	1.0000	1.0000			
PFNA_2	5.26	1.00	965.06	A	0.0192	0.0140	-27	50	
PFNS	5.55	1.06	22032.83	A	1.0000	1.0000			
PFNS_2	5.55	1.06	11480.76	A	0.4845	0.5211	8	50	
PFDA	5.58	1.00	62650.38	A	1.0000	1.0000			
PFDA_2	5.57	1.00	1122.62	M	0.0096	0.0179	86	50	OOS
8:2-FTS	5.58	1.00	6424.49	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	3674.88	A	0.6117	0.5720	-6	50	
NMeFOSAA	5.72	1.00	7727.87	M	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	2145.53	M	0.2673	0.2776	4	50	
PFDS	5.82	1.11	18312.86	A	1.0000	1.0000			
PFDS_2	5.82	1.11	9497.52	M	0.4952	0.5186	5	50	
PFUnDA	5.84	1.00	67047.18	A	1.0000	1.0000			
PFUnDA_2	5.80	0.99	196.17	M	0.0041	0.0029	-29	50	
NEtFOSAA	5.86	1.00	7437.87	A	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	4668.57	M	0.6726	0.6277	-7	50	
PFDoDA	6.07	1.00	80887.26	A	1.0000	1.0000			
PFDoDA_2	6.07	1.00	1137.76	A	0.0133	0.0141	6	50	
10:2-FTS	6.09	1.09	5031.45	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	2765.69	A	0.6969	0.5497	-21	50	
PFTrDA	6.27	1.03	72303.60	A	1.0000	1.0000			
PFTrDA_2	6.27	1.03	329.09	A	0.0075	0.0046	-40	50	
PFTeDA	6.45	1.00	55946.77	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	360.09	M	0.0066	0.0064	-3	50	
PFHxDA	6.74	1.04	24602.52	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	1563.80	A	0.0616	0.0636	3	50	
PFODA	6.98	1.08	18468.51	A	1.0000	1.0000			
PFODA_2	6.98	1.08	528.63	M	0.0272	0.0286	5	50	

APPROVED
By MSM at 1:53 pm, 12/7/18

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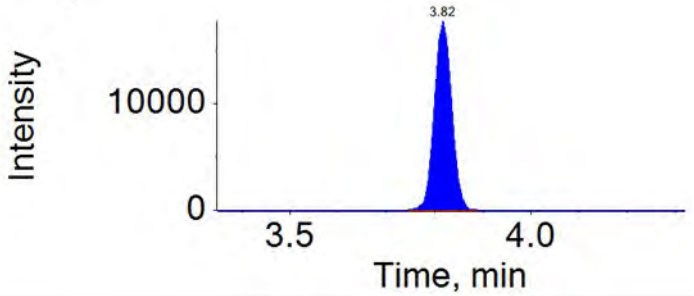
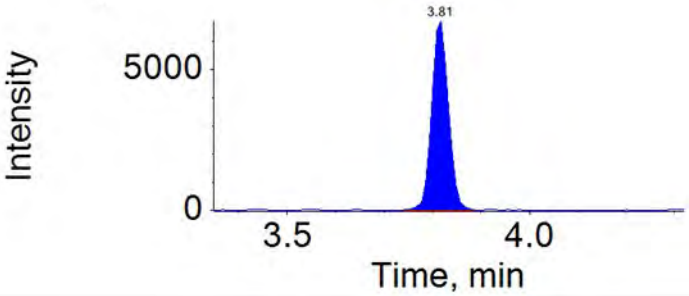
By HMK at 1:54 pm, 12/9/18

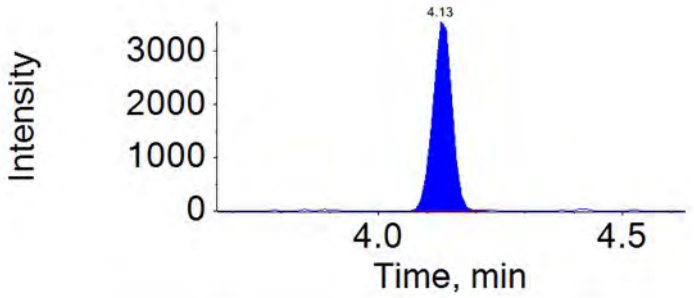
Component: PFBS
Primary Mass: 299.0 / 80.0



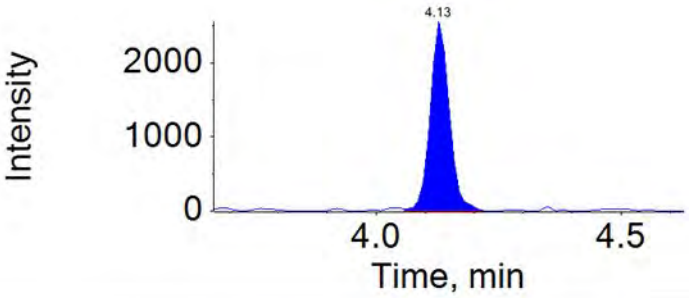
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



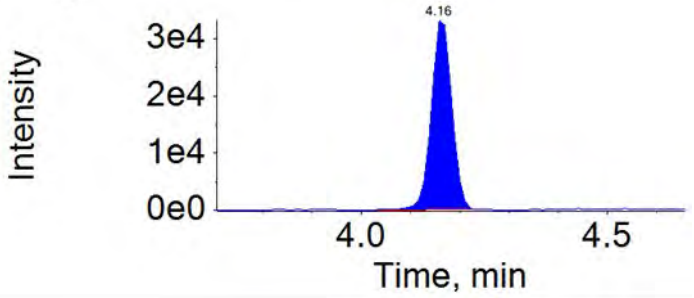
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



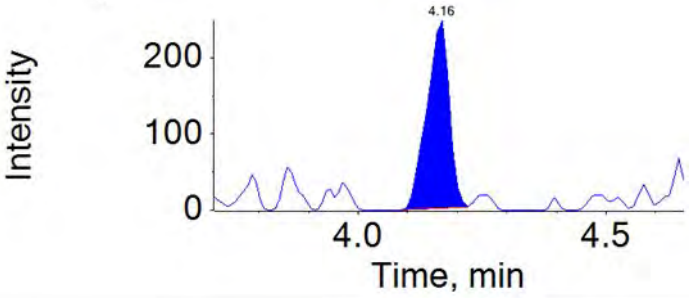
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



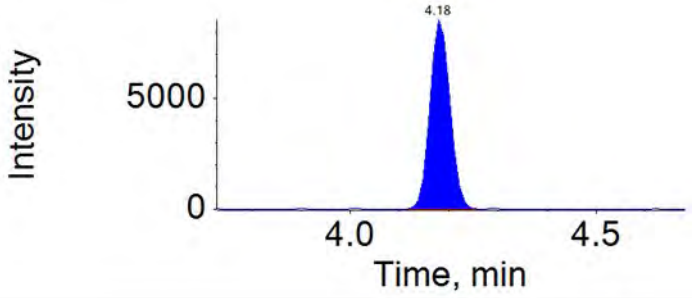
Component: PFHxA
Primary Mass: 313.0 / 269.0



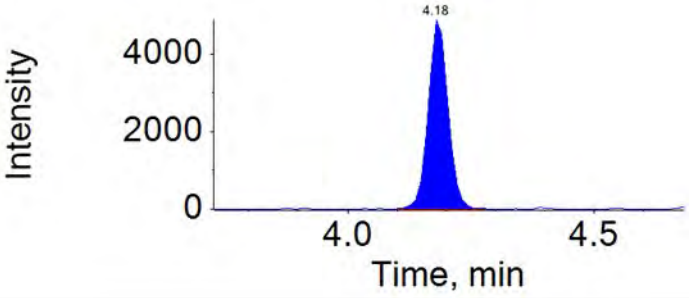
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



APPROVED
By MSM at 1:53 pm, 12/7/18

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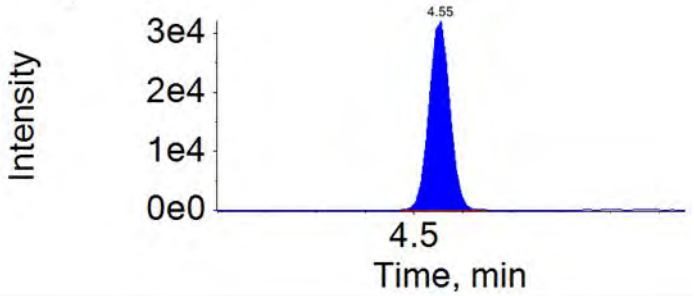
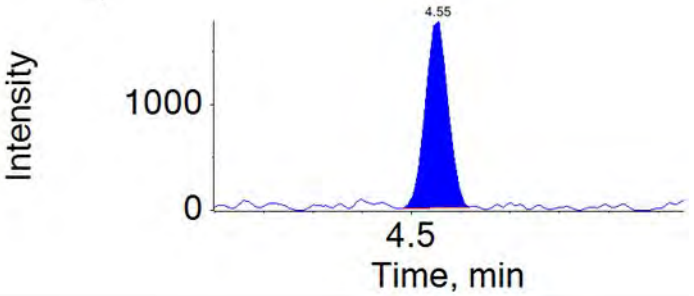
By HMK at 1:54 pm, 12/9/18

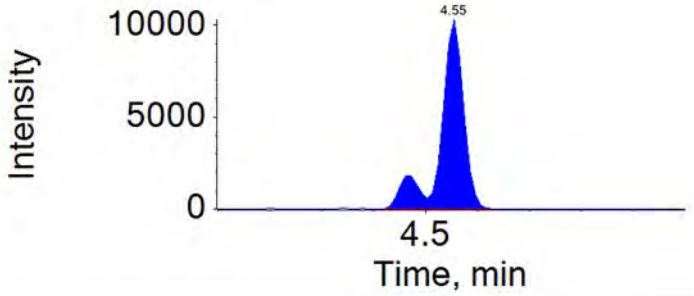
Component: PFHpA
Primary Mass: 363.0 / 319.0



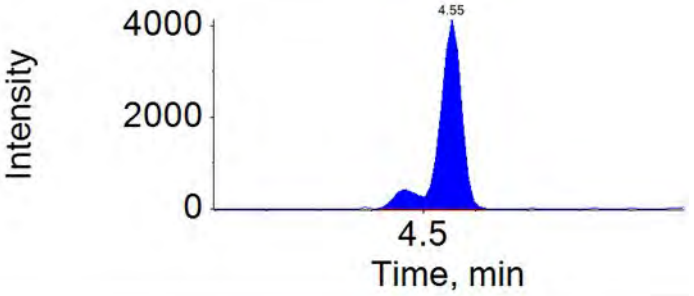
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



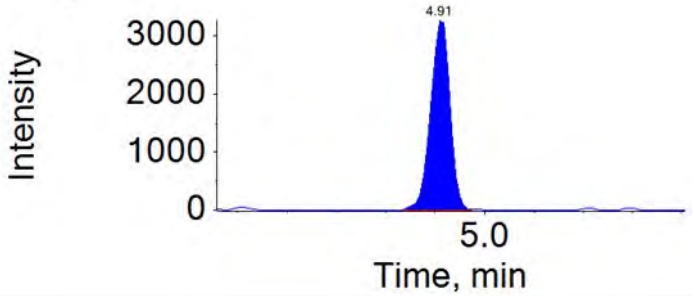
Component: PFHxS
Primary Mass: 399.0 / 80.0



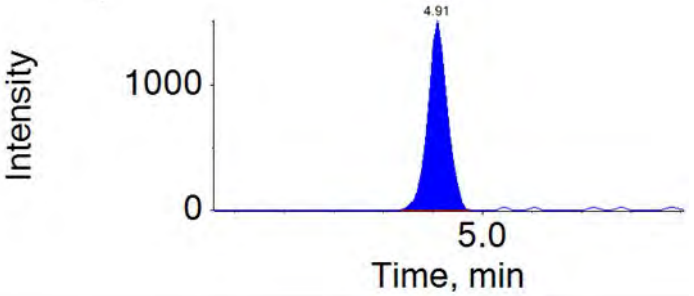
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



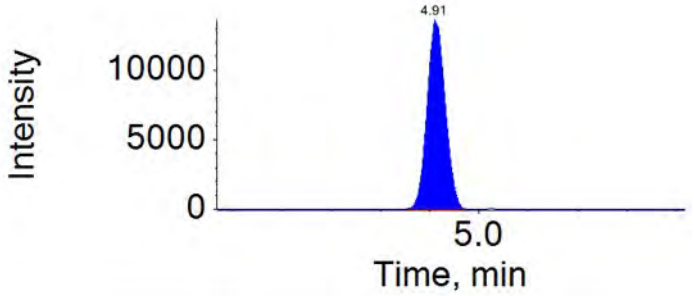
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



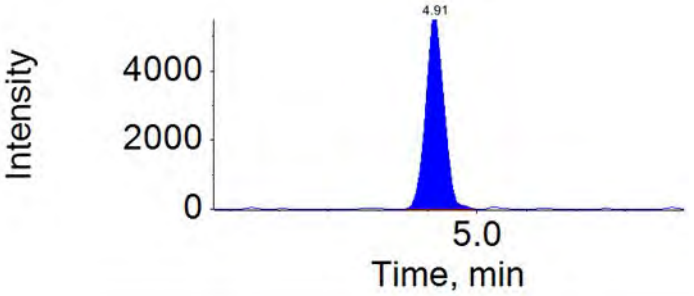
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



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By MSM at 1:53 pm, 12/7/18

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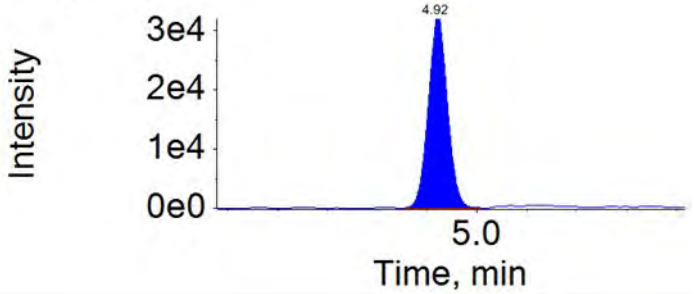
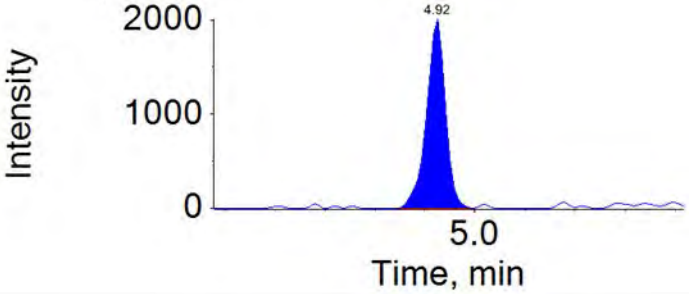
By HMK at 1:54 pm, 12/9/18

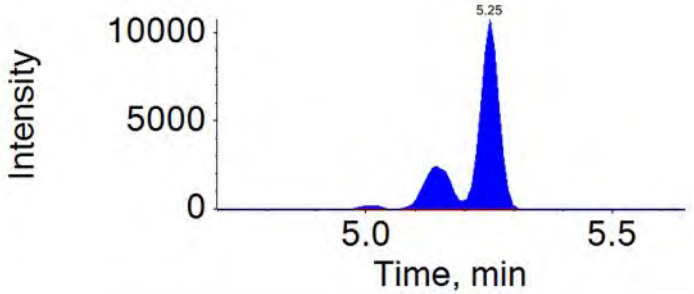
Component: PFOA
Primary Mass: 413.0 / 369.0



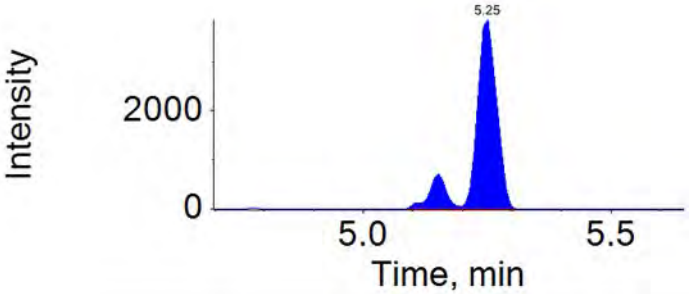
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



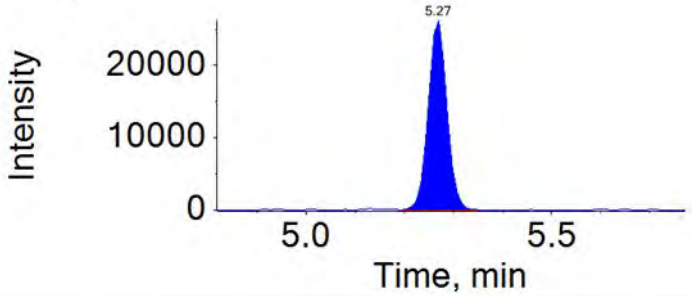
Component: PFOS
Primary Mass: 499.0 / 80.0



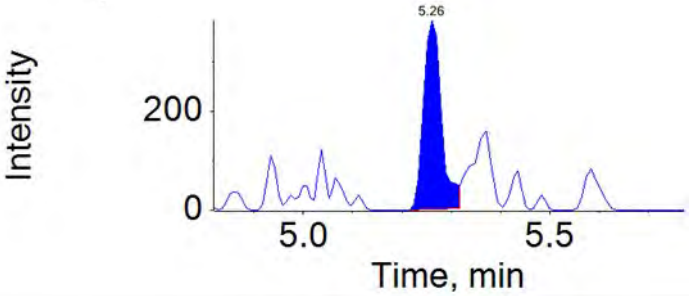
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



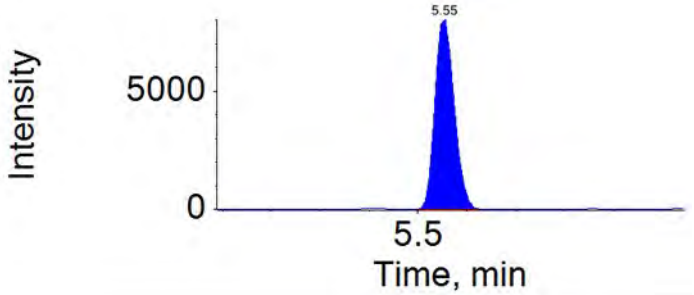
Component: PFNA
Primary Mass: 463.0 / 419.0



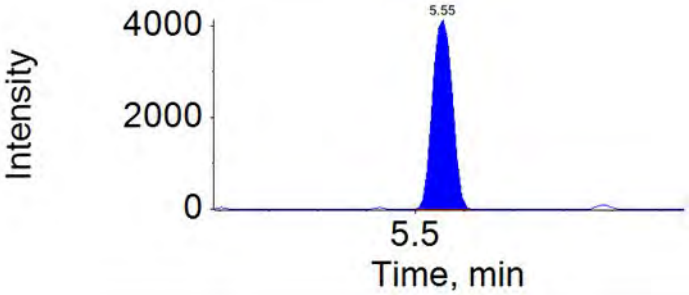
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



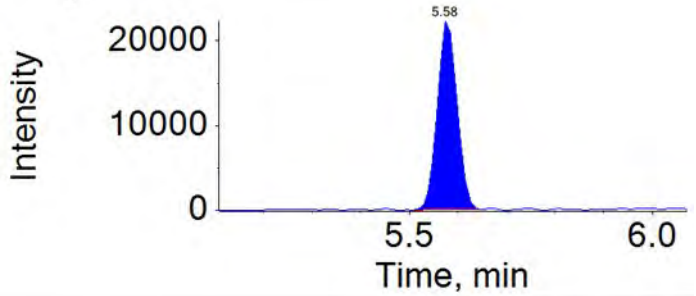
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



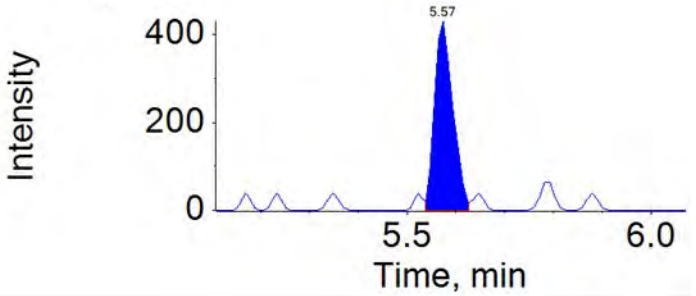
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

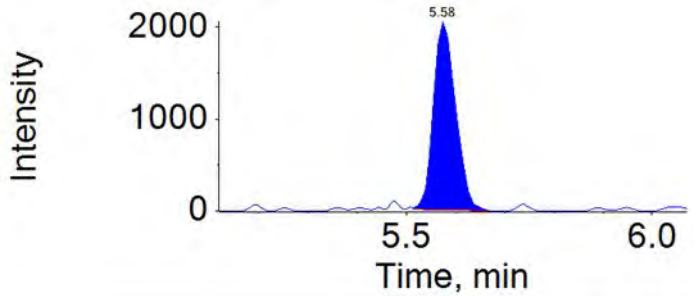
Component: PFDA
Primary Mass: 513.0 / 469.0



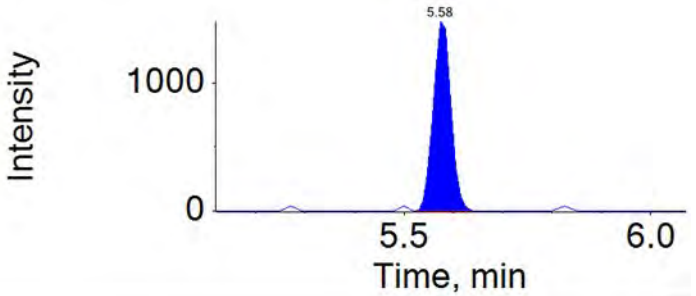
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



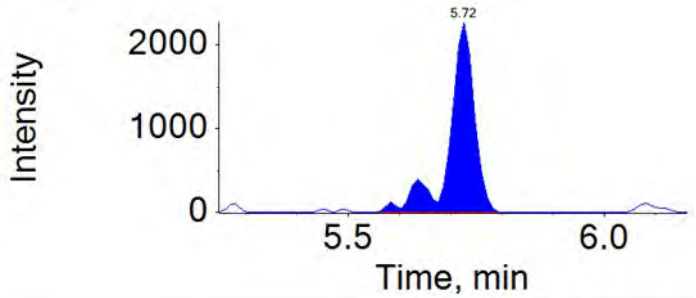
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



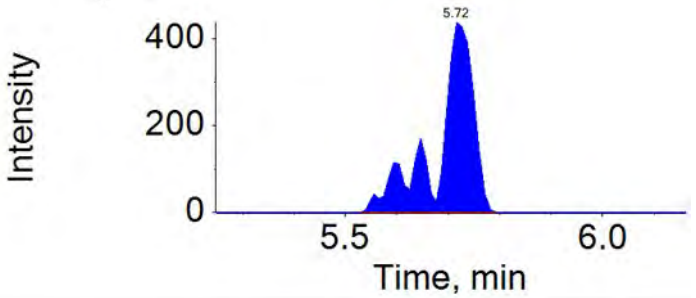
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



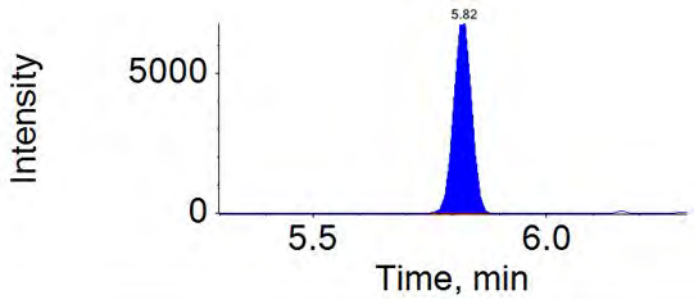
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



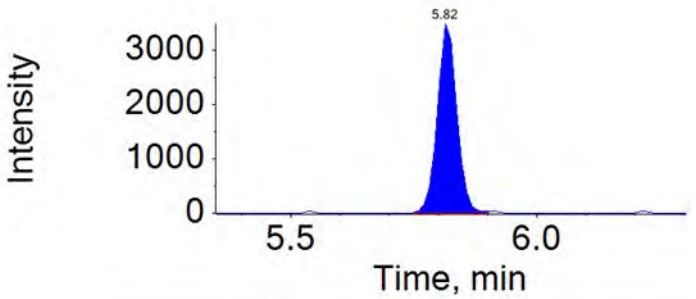
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



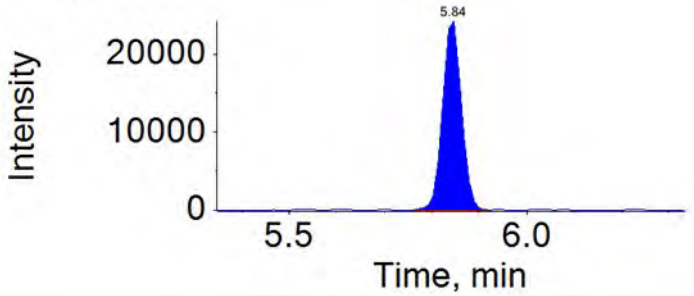
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



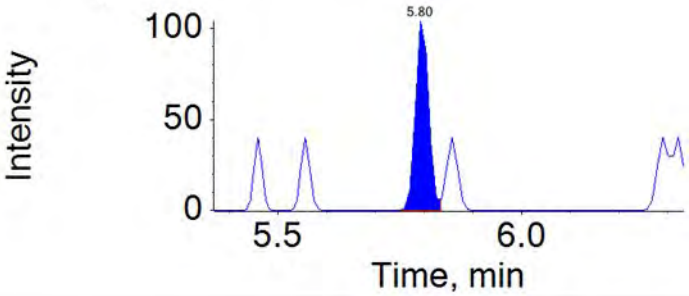
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

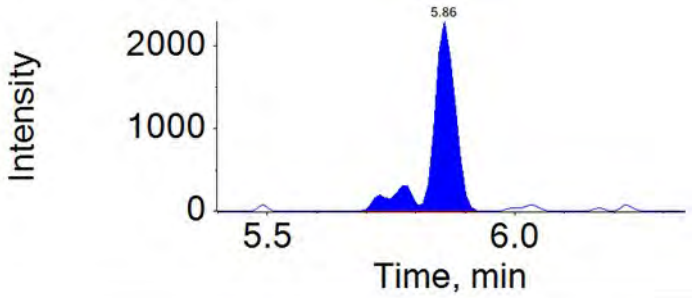
Component: PFUnDA
Primary Mass: 563.0 / 519.0



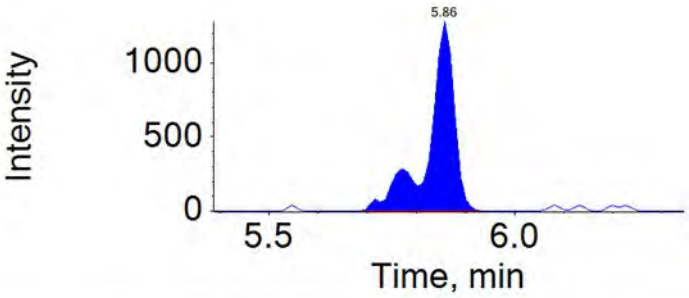
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



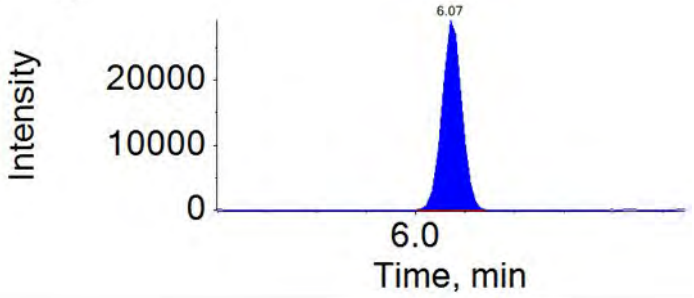
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



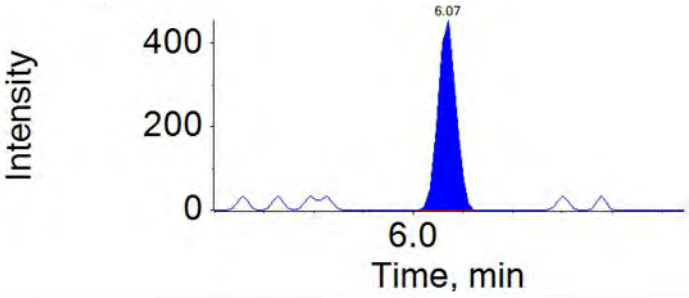
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



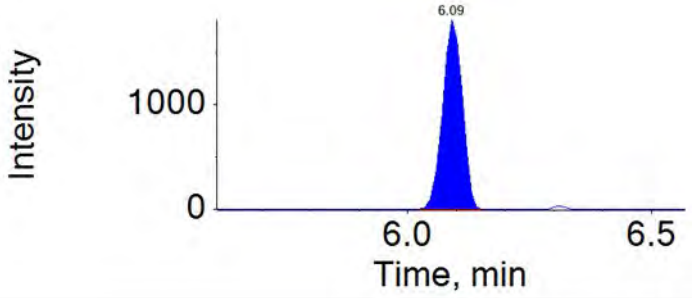
Component: PFDoDA
Primary Mass: 613.0 / 569.0



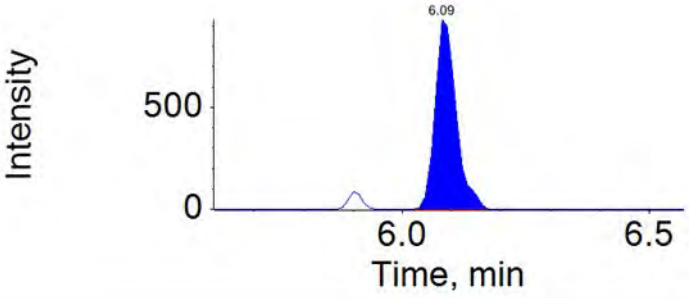
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



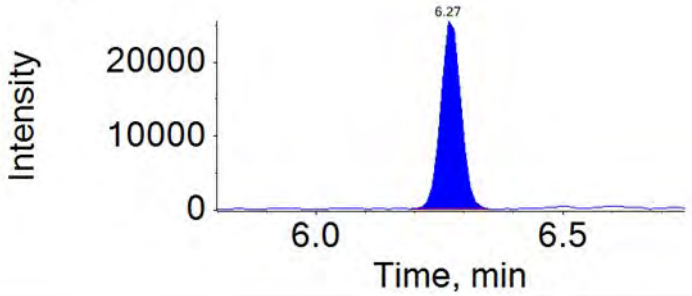
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



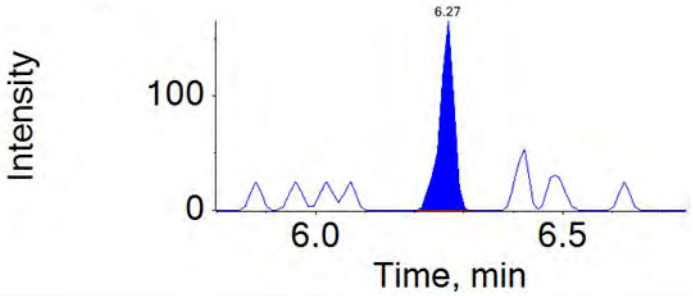
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

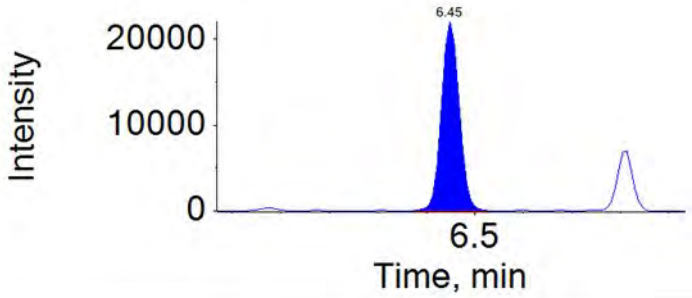
Component: PFTrDA
Primary Mass: 663.0 / 619.0



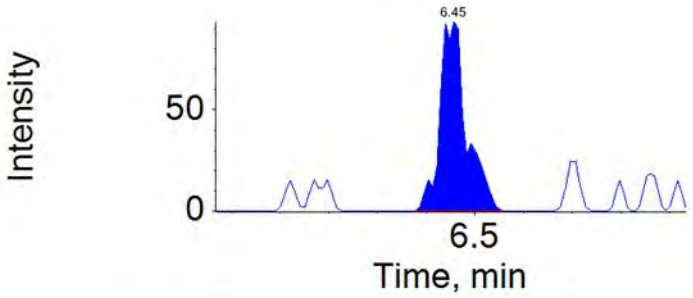
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



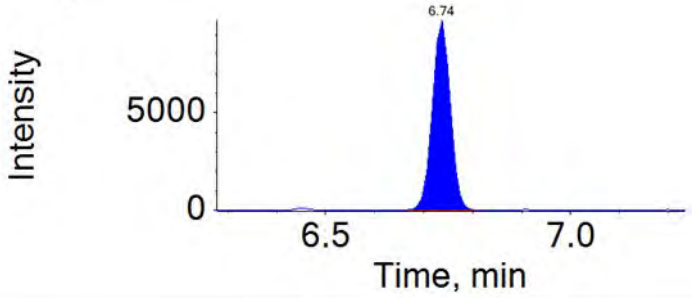
Component: PFTeDA
Primary Mass: 713.0 / 669.0



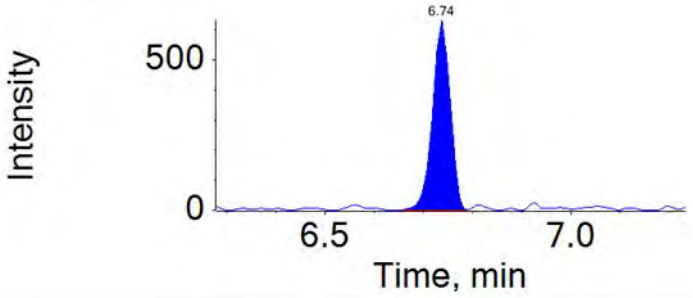
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



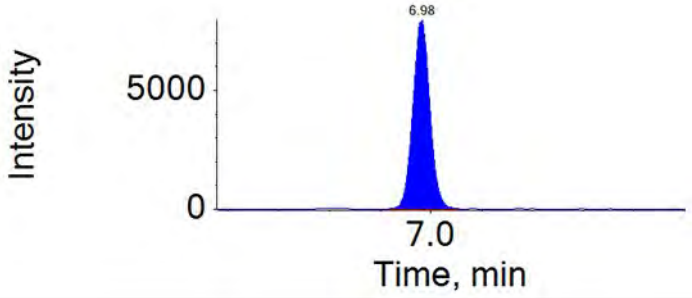
Component: PFHxDA
Primary Mass: 813.0 / 769.0



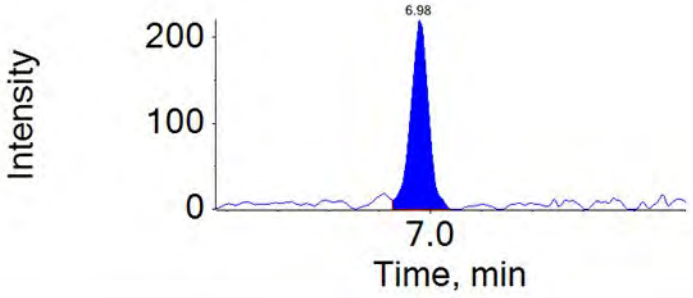
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL3			**Data File:**		18DEC06DCAL-27.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-06T23:55:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	825688.9	825688.9	0	50	
13C2-PFOA	5.0	449802.8	449802.8	0	50	
13C4-PFOS	4.8	276858.3	276858.3	0	50	
13C2-PFDA	5.0	315428.3	315428.3	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	936632.0	13C3-PFBA	825688.9	1.134	5.000	5.020	100	70-130	
E13C5-PFPeA	860904.3	13C3-PFBA	825688.9	1.043	5.000	4.952	99	70-130	
E13C3-PFBS	442018.2	13C3-PFBA	825688.9	0.535	4.650	4.538	98	70-130	
E13C2-4:2-FTS	46397.7	13C2-PFOA	449802.8	0.103	4.670	4.042	87	70-130	
E13C5-PFHxA	675673.6	13C2-PFOA	449802.8	1.502	5.000	5.043	101	70-130	
E13C3-PFHxS	337878.7	13C2-PFOA	449802.8	0.751	4.730	4.818	102	70-130	
E13C4-PFHpA	543346.6	13C2-PFOA	449802.8	1.208	5.000	5.135	103	70-130	
E13C2-6:2-FTS	36276.5	13C2-PFOA	449802.8	0.081	4.750	4.996	105	70-130	
E13C8-PFOA	847979.2	13C2-PFOA	449802.8	1.885	5.000	5.329	107	70-130	
E13C8-PFOS	294019.3	13C4-PFOS	276858.3	1.062	4.780	4.766	100	70-130	
E13C9-PFNA	487999.9	13C4-PFOS	276858.3	1.763	5.000	4.981	100	70-130	
E13C6-PFDA	622094.8	13C2-PFDA	315428.3	1.972	5.000	5.226	105	70-130	
E13C2-8:2-FTS	25542.3	13C2-PFDA	315428.3	0.081	4.790	5.287	110	70-130	
E13C8-PFOSA	693861.5	13C2-PFDA	315428.3	2.200	5.000	5.203	104	70-130	
Ed3-NMeFOSAA	83733.4	13C2-PFDA	315428.3	0.265	5.000	4.704	94	70-130	
E13C7-PFUnDA	335572.5	13C2-PFDA	315428.3	1.064	5.000	5.219	104	70-130	
Ed5-NEtFOSAA	72524.4	13C2-PFDA	315428.3	0.230	5.000	5.076	102	70-130	
E13C2-PFDoDA	789543.7	13C2-PFDA	315428.3	2.503	5.000	5.253	105	70-130	
Ed7-NMePFOSAE	271372.0	13C2-PFDA	315428.3	0.860	5.000	4.956	99	70-130	
Ed3-NMePFOSA	85427.7	13C2-PFDA	315428.3	0.271	5.000	4.935	99	70-130	
Ed9-NEtPFOSAE	235845.4	13C2-PFDA	315428.3	0.748	5.000	5.156	103	70-130	
Ed5-NEtPFOSA	70029.0	13C2-PFDA	315428.3	0.222	5.000	4.996	100	70-130	
E13C2-PFTeDA	540932.7	13C2-PFDA	315428.3	1.715	5.000	5.090	102	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

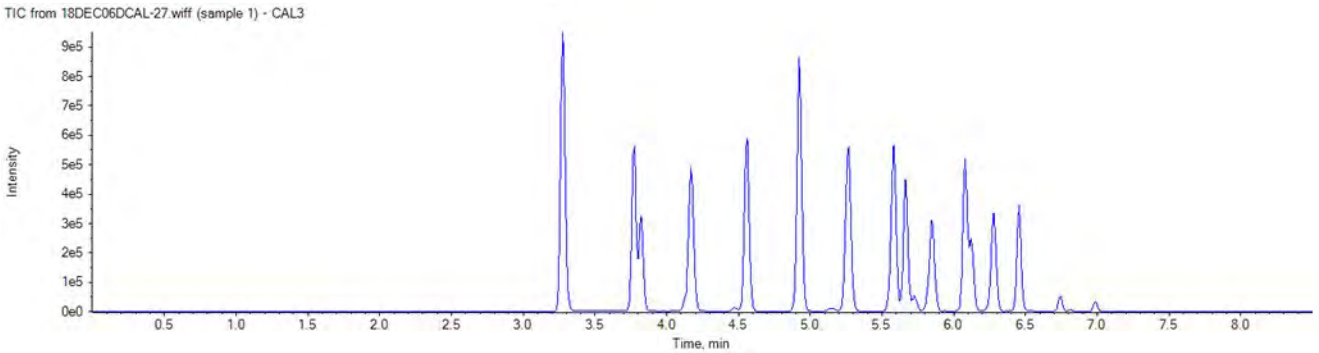
Analyte Quantitation Peak Table

Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-27.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	383859.6		A	13C4-PFBA	3.27	936632.0	0.410	2.261
PFPeA	3.77	1.000	363071.5		A	13C5-PFPeA	3.77	860904.3	0.422	2.219
PFBS	3.82	1.000	175966.0		A	13C3-PFBS	3.82	442018.2	0.398	1.973
4:2-FTS	4.14	1.000	38643.7		A	13C2-4:2-FTS	4.14	46397.7	0.833	2.232
PFHxA	4.17	1.000	365926.6		A	13C5-PFHxA	4.17	675673.6	0.542	2.360
PFPeS	4.19	1.100	92327.7		A	13C3-PFBS	3.82	442018.2	0.209	2.068
PFHpA	4.56	1.000	361419.8		A	13C4-PFHpA	4.56	543346.6	0.665	2.190
PFHxS	4.56	1.000	132327.2		M	13C3-PFHxS	4.56	337878.7	0.392	1.856
6:2-FTS	4.91	1.000	30176.0		A	13C2-6:2-FTS	4.91	36276.5	0.832	2.066
PFHpS	4.92	1.080	128849.8		A	13C3-PFHxS	4.56	337878.7	0.381	2.093
PFOA	4.92	1.000	351795.0		A	13C8-PFOA	4.92	847979.2	0.415	2.267
PFOS	5.25	1.000	134761.0		M	13C8-PFOS	5.26	294019.3	0.458	1.901
PFNA	5.27	1.000	293549.5		A	13C9-PFNA	5.27	487999.9	0.602	2.217
PFNS	5.56	1.060	98097.9		A	13C8-PFOS	5.26	294019.3	0.334	2.147
PFDA	5.58	1.000	251623.6		A	13C6-PFDA	5.58	622094.8	0.404	2.277
8:2-FTS	5.59	1.000	22886.2		A	13C2-8:2-FTS	5.59	25542.3	0.896	1.941
PFOSA	5.66	1.000	298383.7		A	13C8-PFOSA	5.66	693861.5	0.430	2.231
NMeFOSAA	5.73	1.000	28372.6		A	d3-NMeFOSAA	5.73	83733.4	0.339	2.241
PFDS	5.82	1.110	77164.1		A	13C8-PFOS	5.26	294019.3	0.262	2.122
PFUnDA	5.85	1.000	247240.8		A	13C7-PFUnDA	5.85	335572.5	0.737	2.256
NEtFOSAA	5.87	1.000	31960.9		A	d5-NEtFOSAA	5.86	72524.4	0.441	2.227
PFDoDA	6.08	1.000	325640.8		A	13C2-PFDoDA	6.08	789543.7	0.412	2.171
10:2-FTS	6.10	1.090	20128.4		A	13C2-8:2-FTS	5.59	25542.3	0.788	2.087
NMePFOSAE	6.13	1.000	143928.1		A	d7-NMePFOSAE	6.12	271372.0	0.530	2.305
NMePFOSA	6.13	1.000	36080.2		A	d3-NMePFOSA	6.13	85427.7	0.422	2.131
PFDoS	6.25	1.190	39376.4		A	13C8-PFOS	5.26	294019.3	0.134	2.042
NEtPFOSAE	6.28	1.000	164401.9		A	d9-NEtPFOSAE	6.27	235845.4	0.697	2.336
NEtPFOSA	6.29	1.000	34117.1		A	d5-NEtPFOSA	6.29	70029.0	0.487	2.332
PFTrDA	6.28	1.030	282288.5		A	13C2-PFDoDA	6.08	789543.7	0.358	2.342
PFTeDA	6.45	1.000	217102.0		A	13C2-PFTeDA	6.45	540932.7	0.401	2.295
PFHxDA	6.74	1.040	100823.7		A	13C2-PFTeDA	6.45	540932.7	0.186	2.334
PFODA	6.99	1.080	70714.0		A	13C2-PFTeDA	6.45	540932.7	0.131	2.098

Total Ion Chromatogram

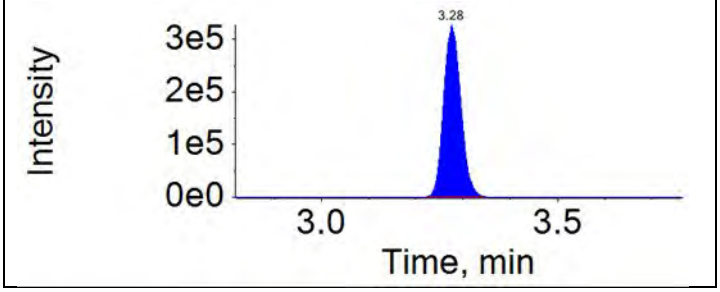


APPROVED
By MSM at 1:53 pm, 12/7/18

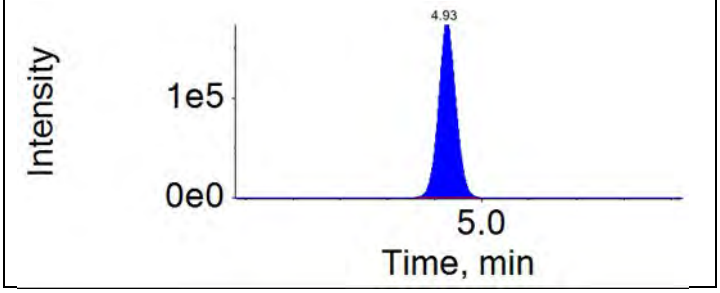
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

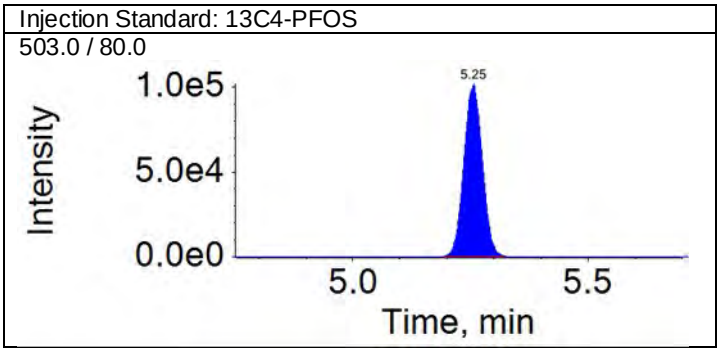
Injection Standard: 13C3-PFBA
216.0 / 172.0



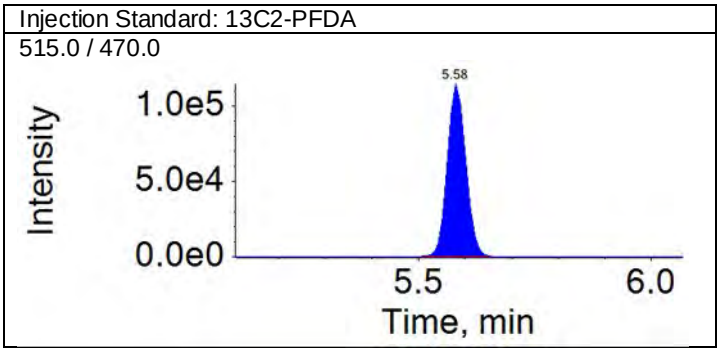
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

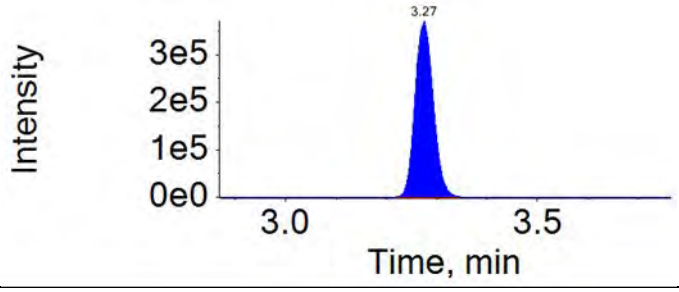


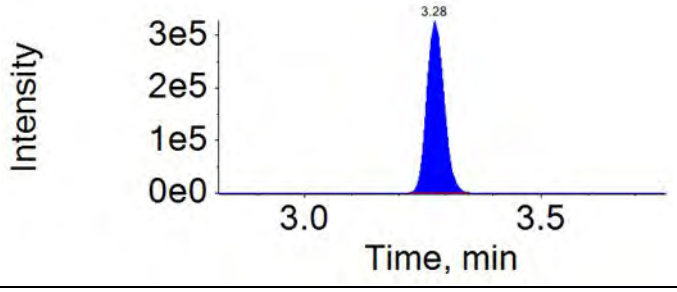
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

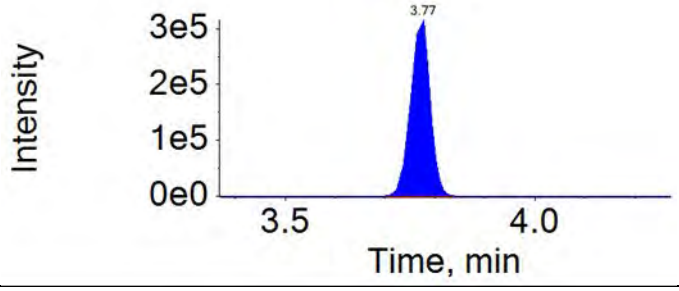
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

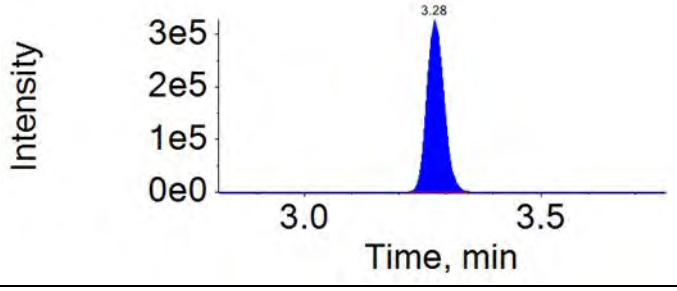
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



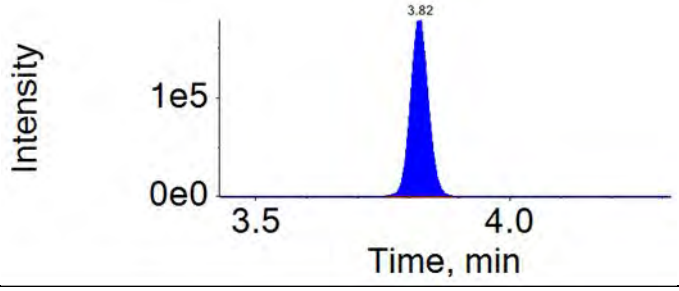


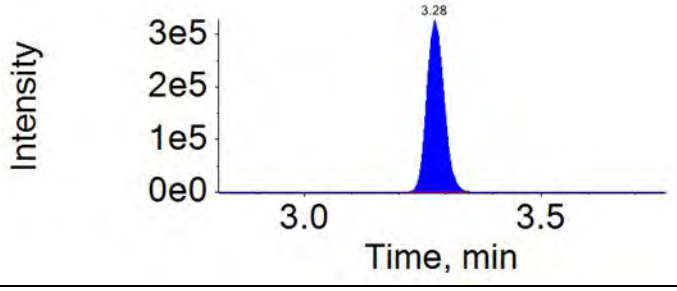
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



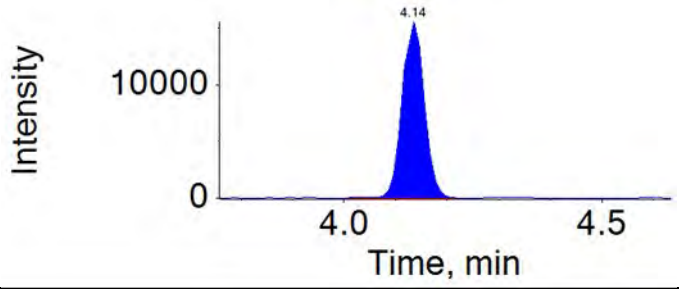


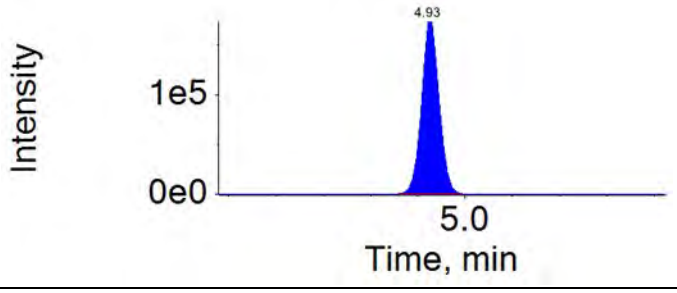
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



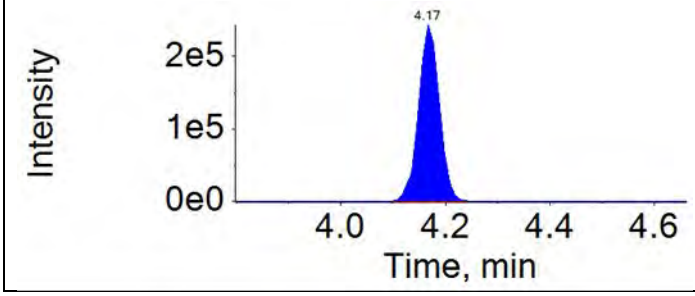


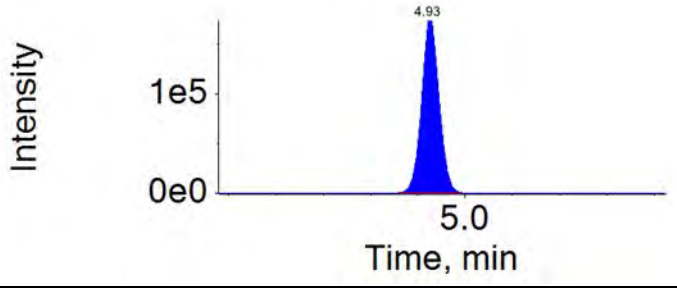
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

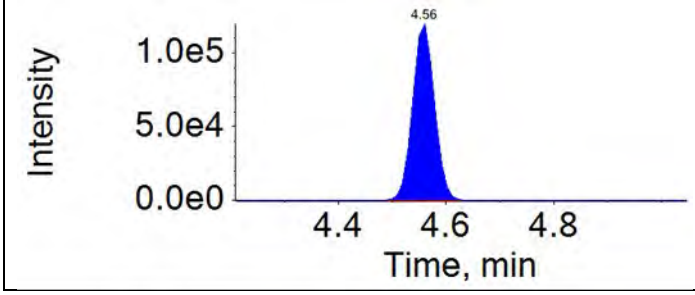
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

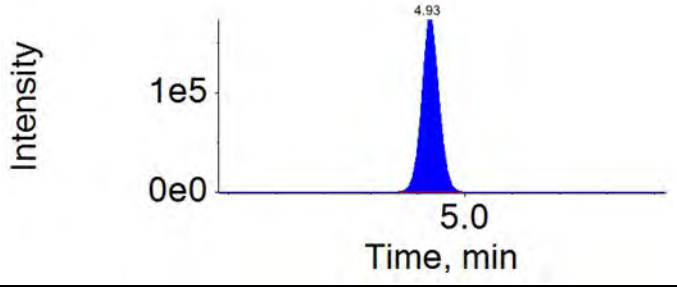
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



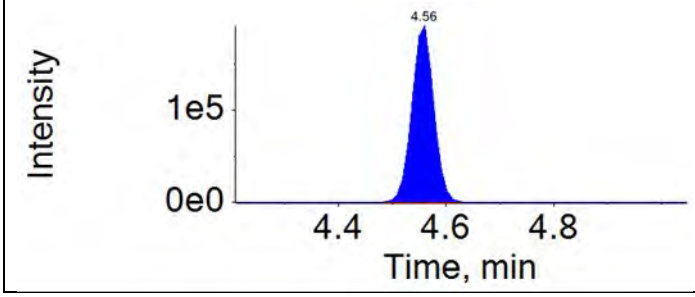


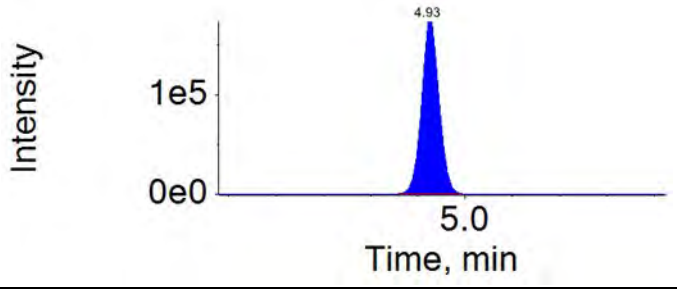
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



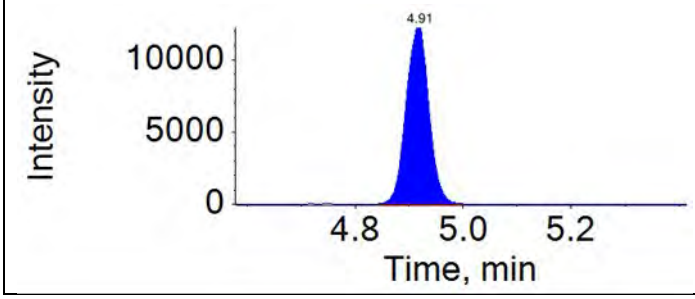


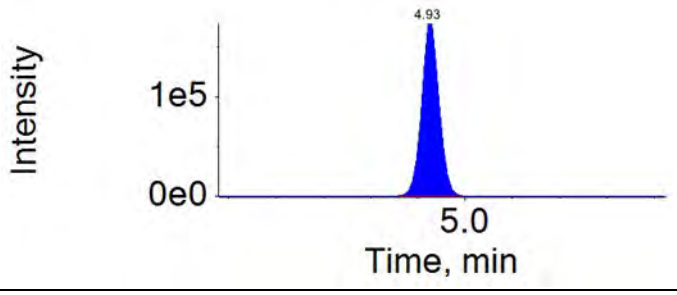
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



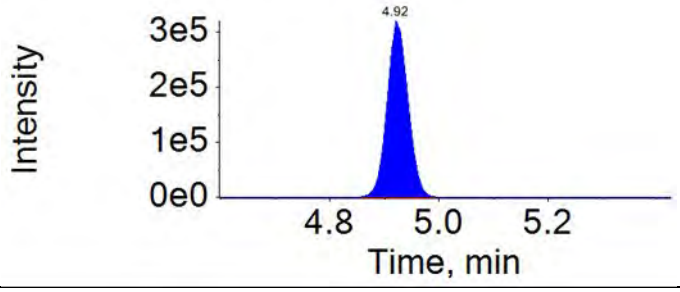


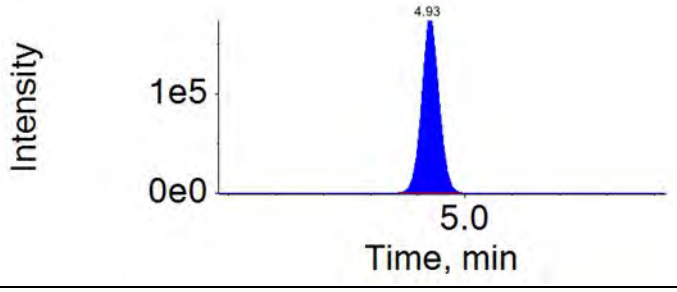
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

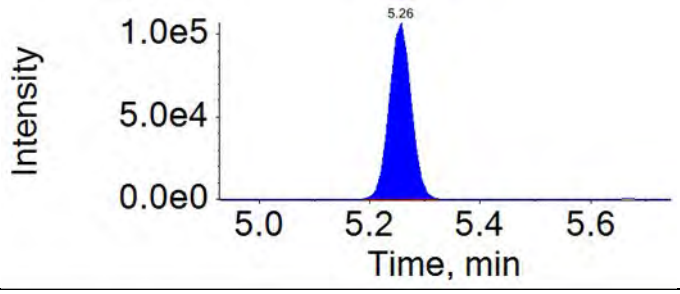
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

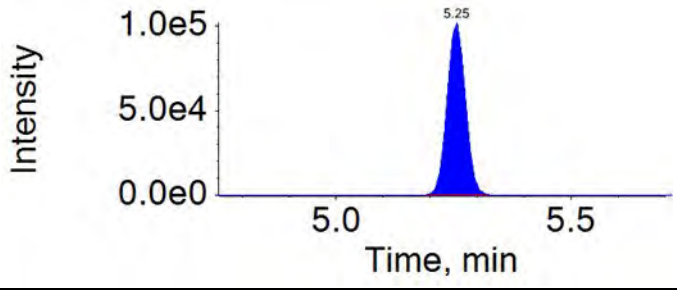
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



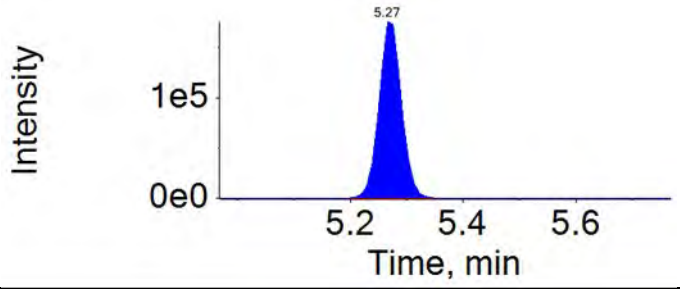


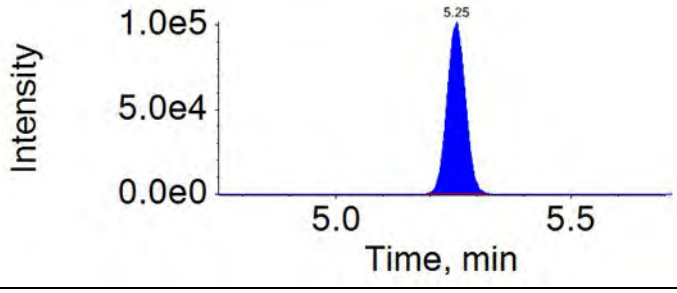
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



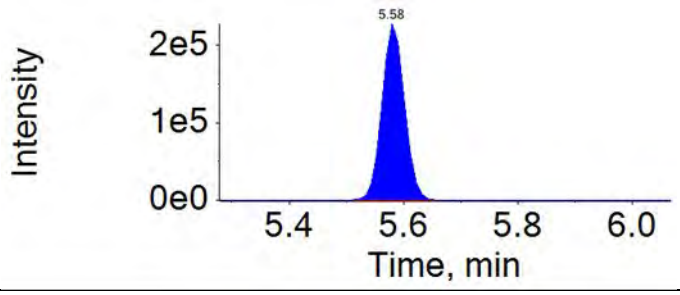


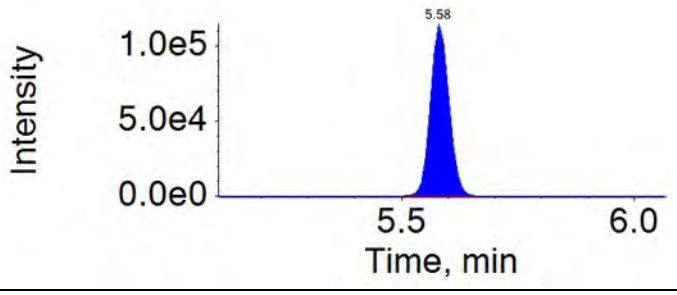
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

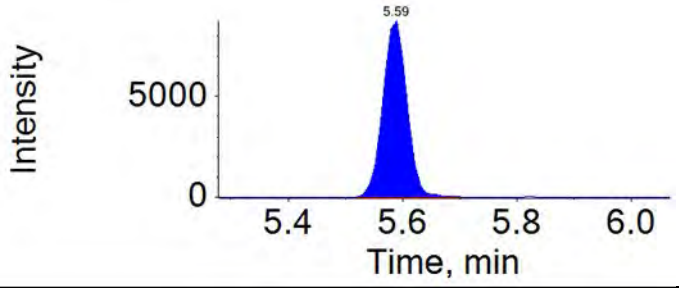
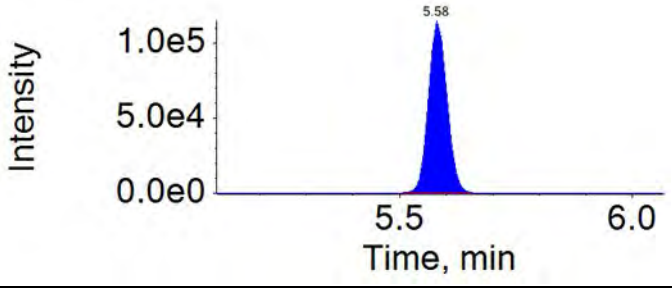


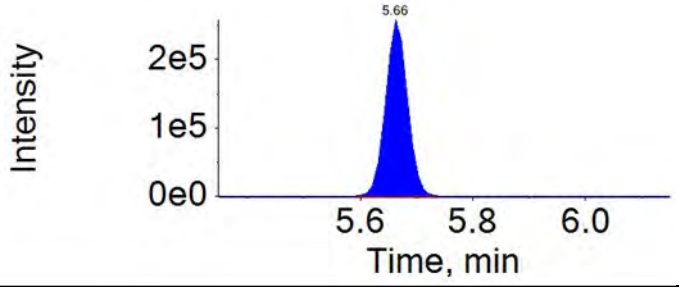
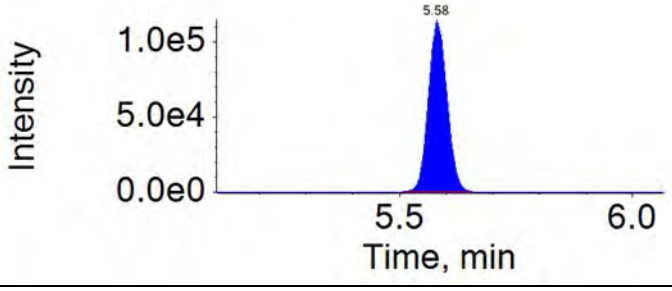


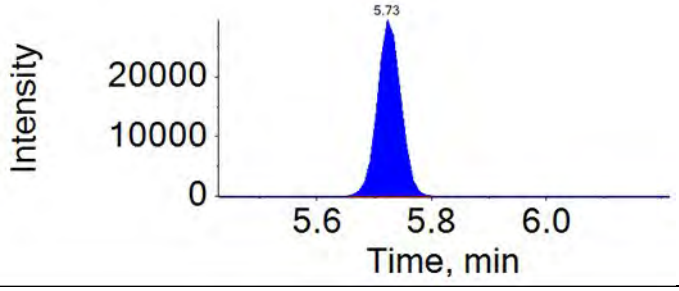
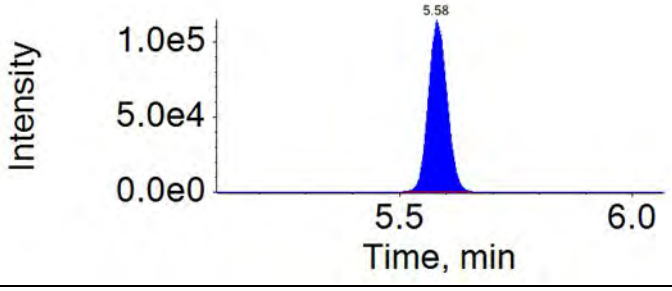
APPROVED
By MSM at 1:53 pm, 12/7/18

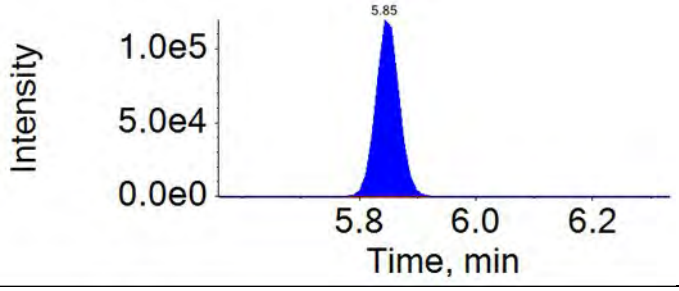
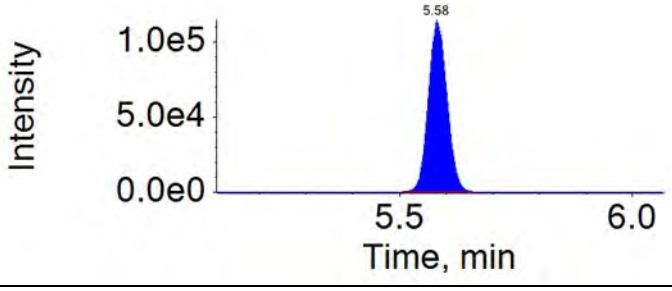
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

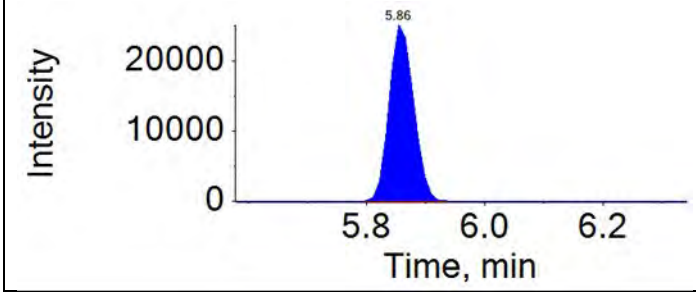
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

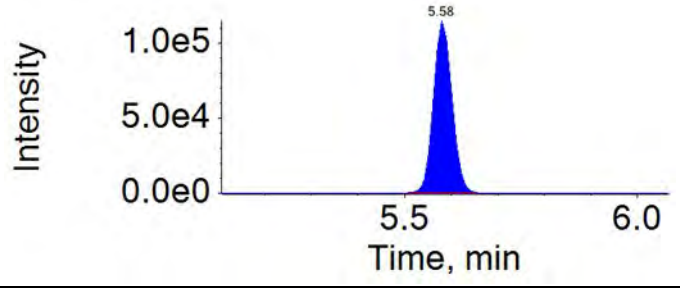
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

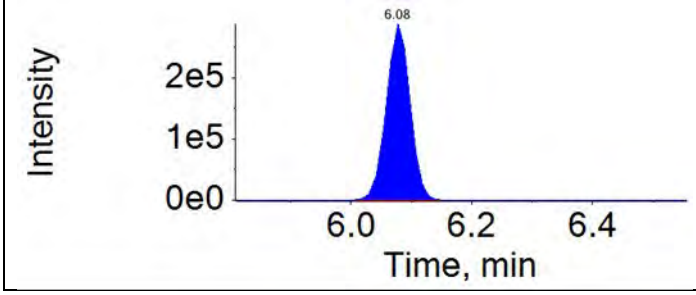
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

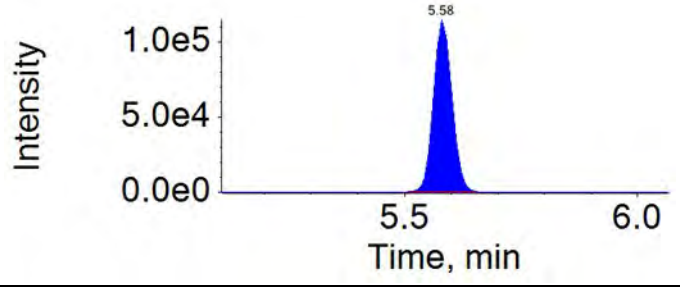
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



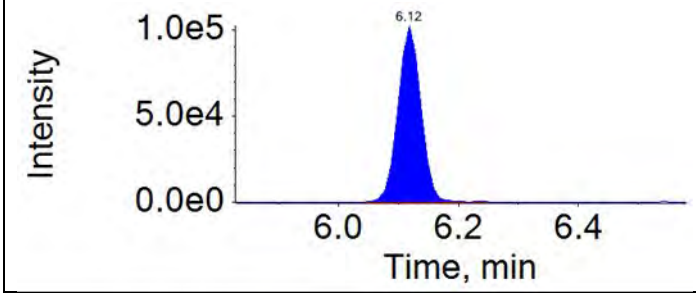


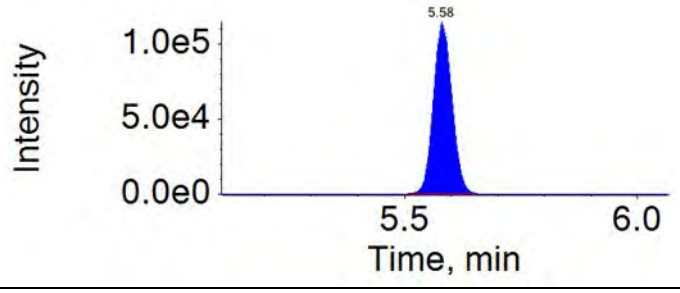
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



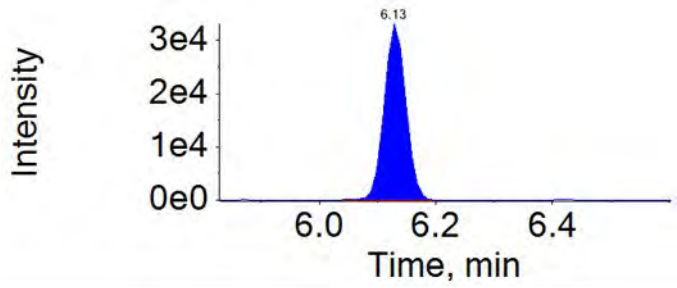


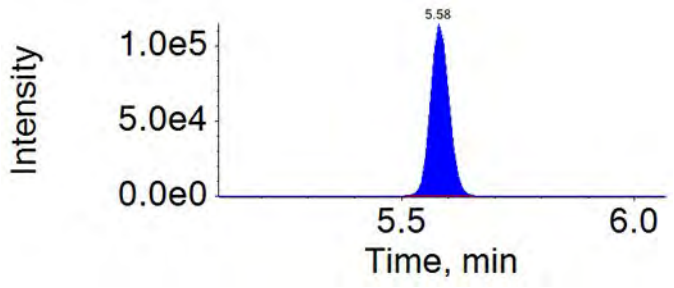
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



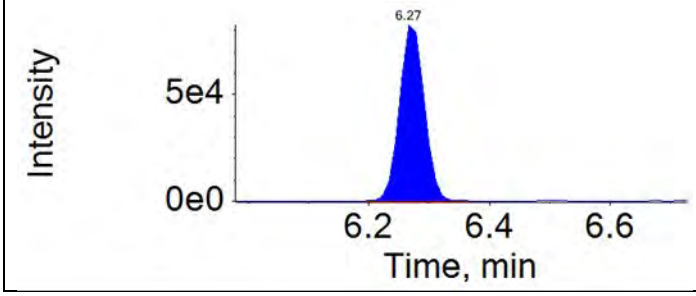


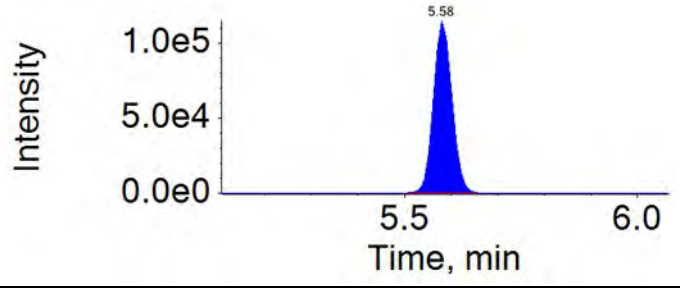
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

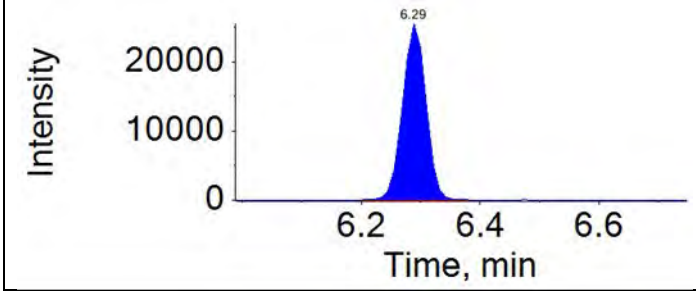
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

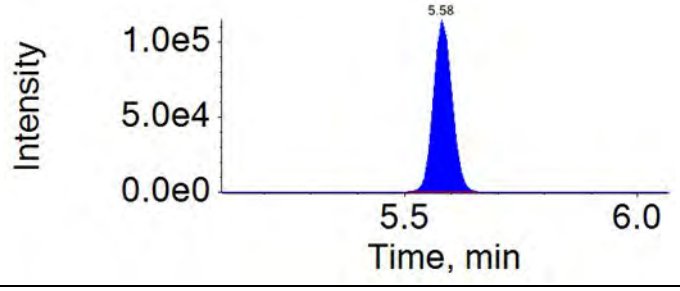
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



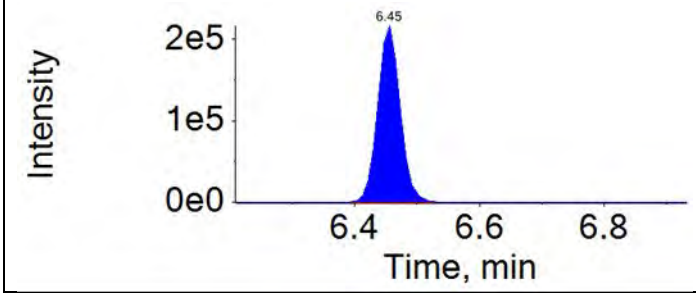


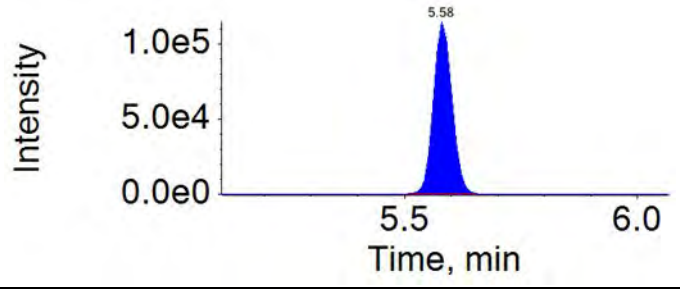
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

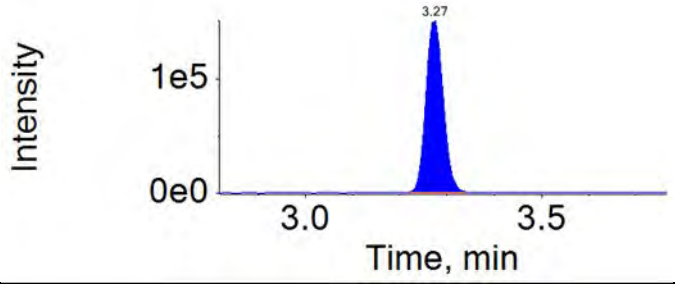
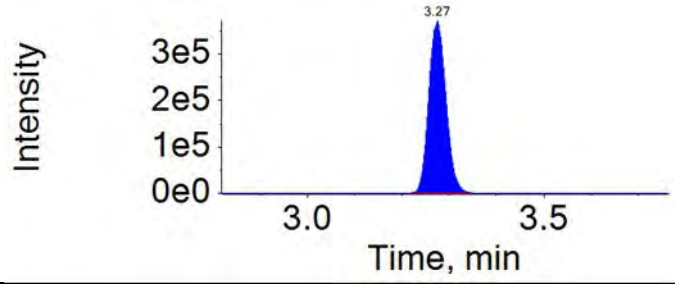


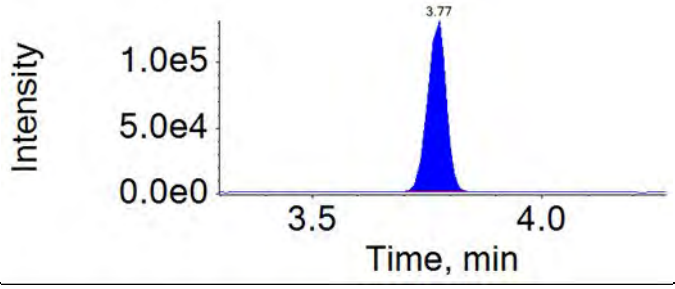
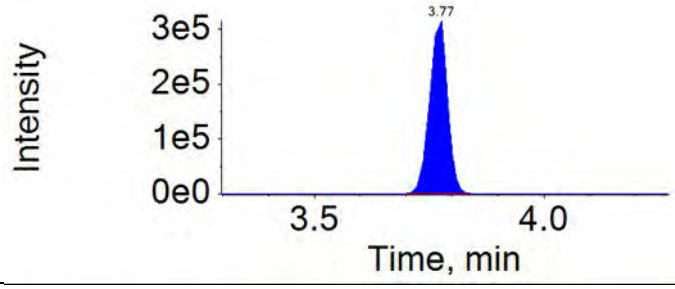


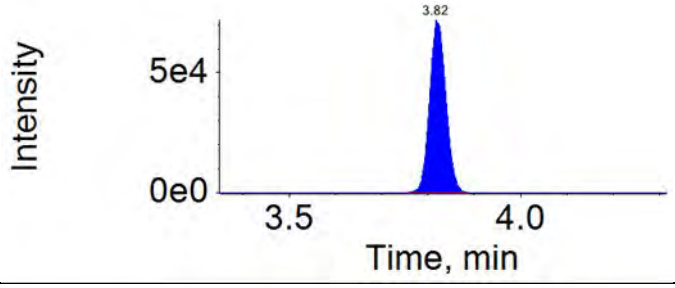
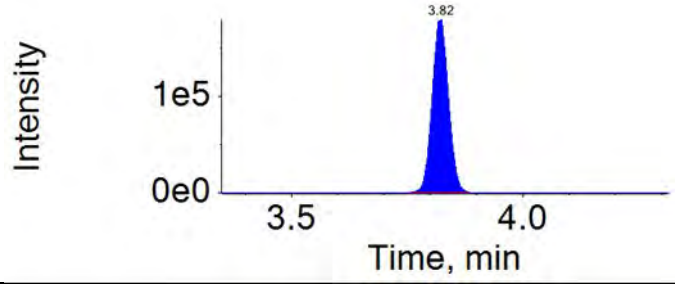
APPROVED
By MSM at 1:53 pm, 12/7/18

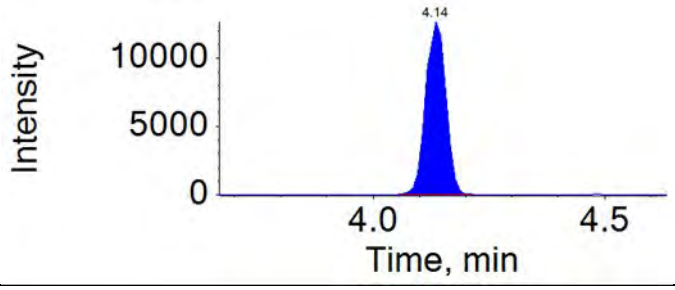
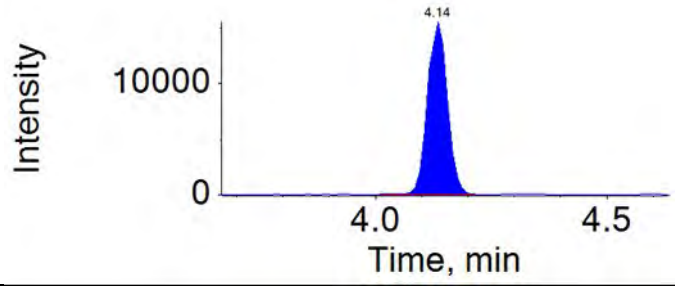
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

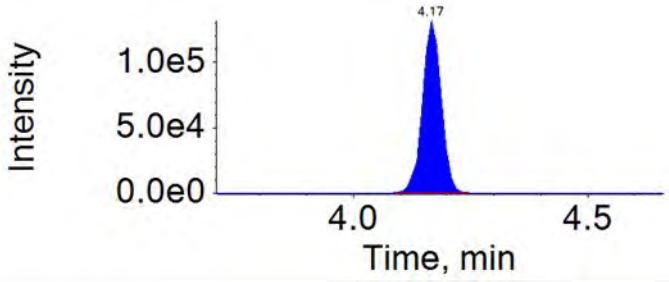
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

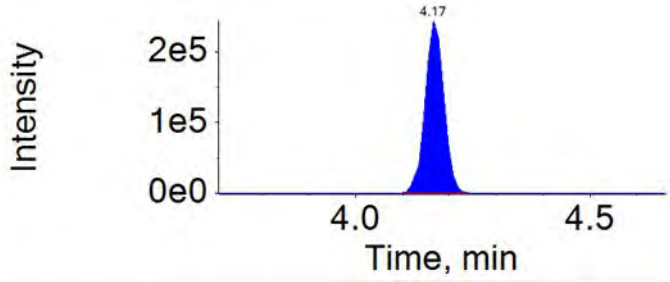
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

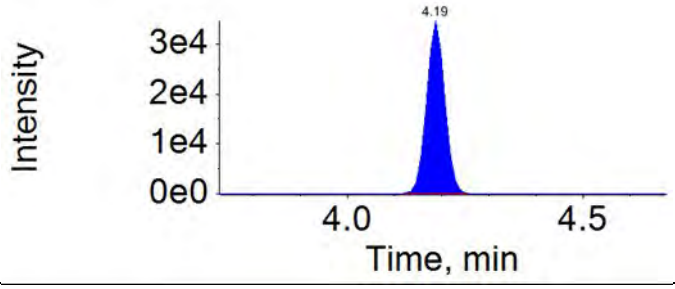
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

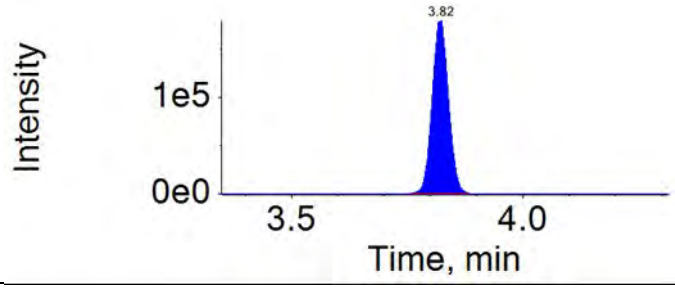
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



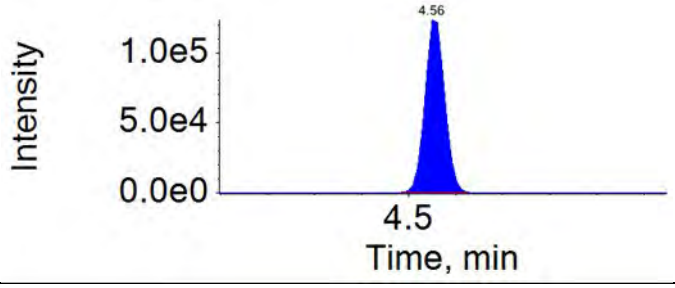


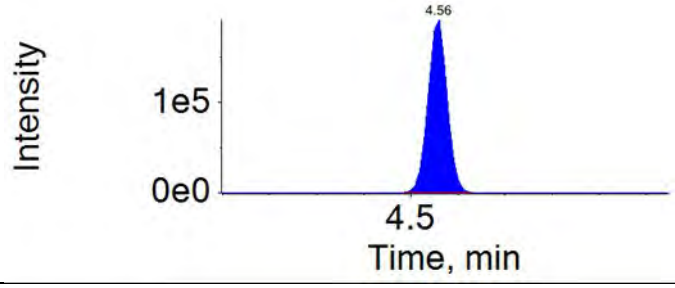
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



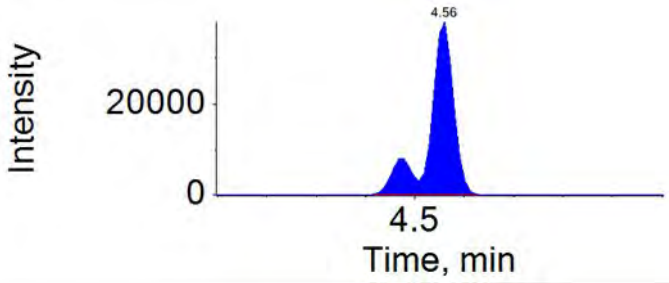


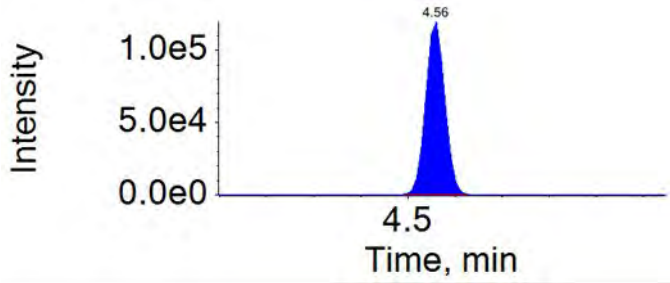
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



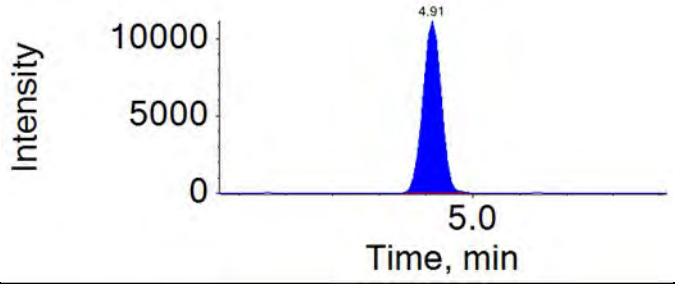


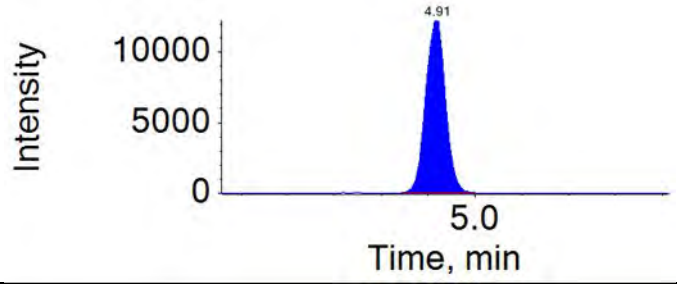
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

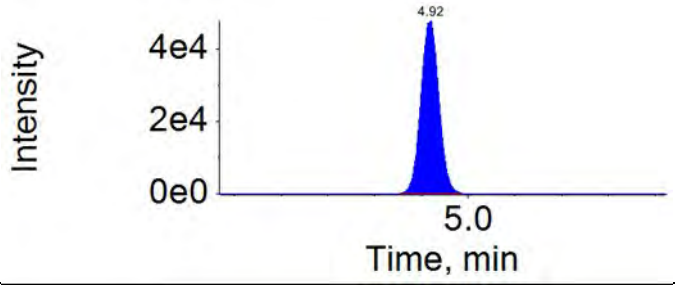
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

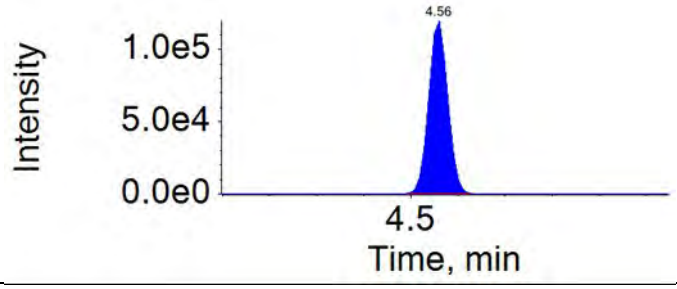
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



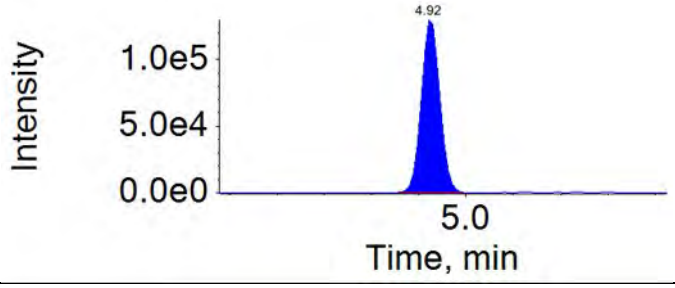


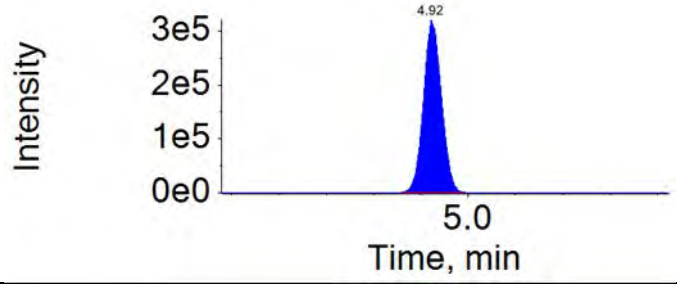
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



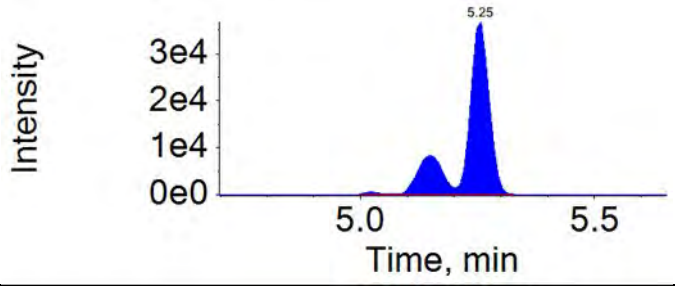


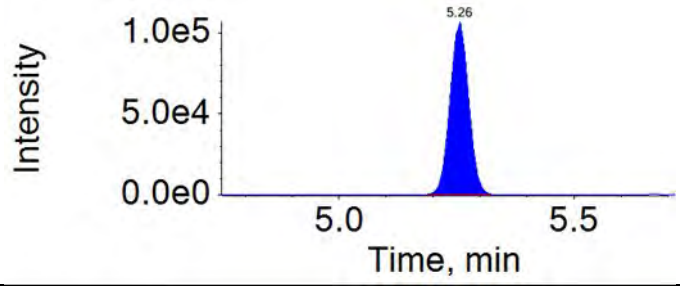
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



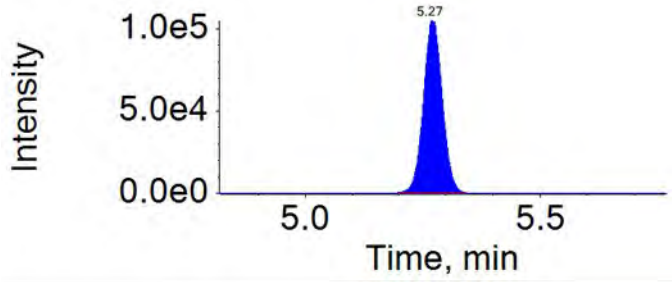


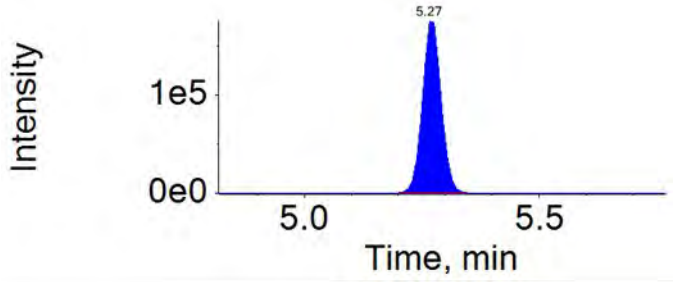
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

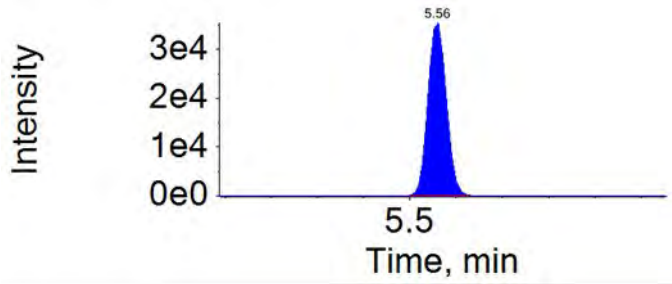
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

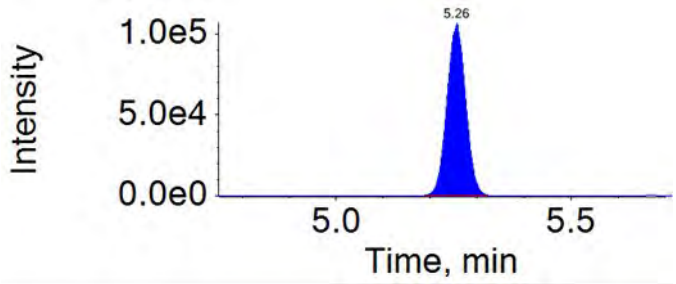
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



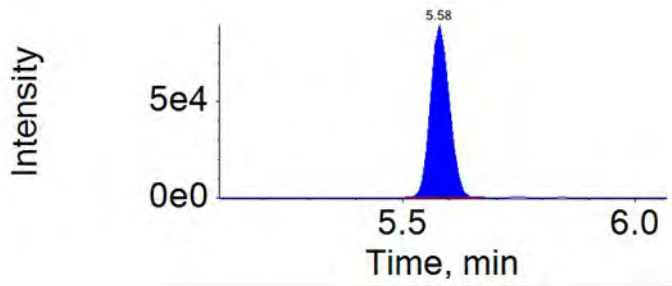


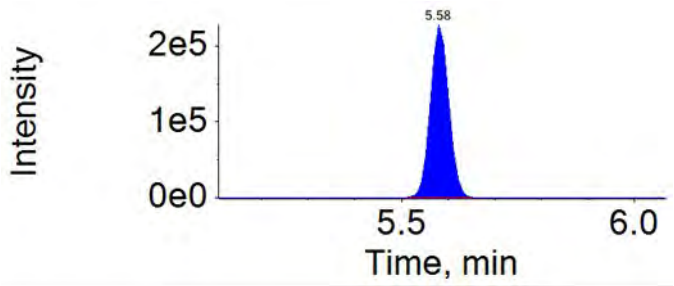
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



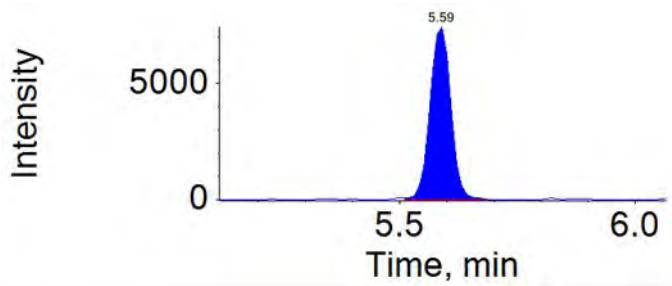


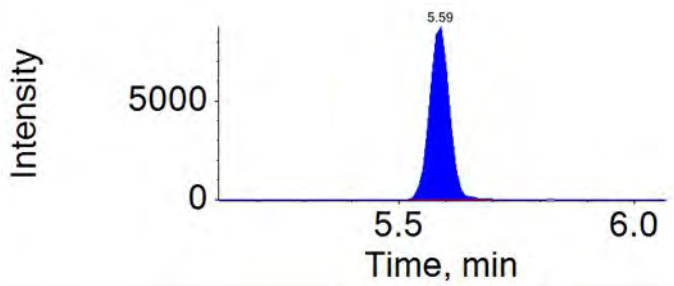
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



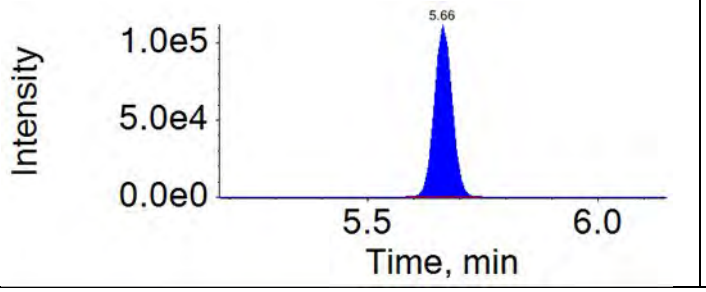


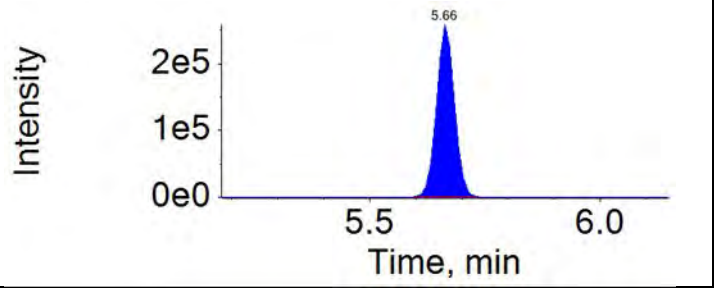
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

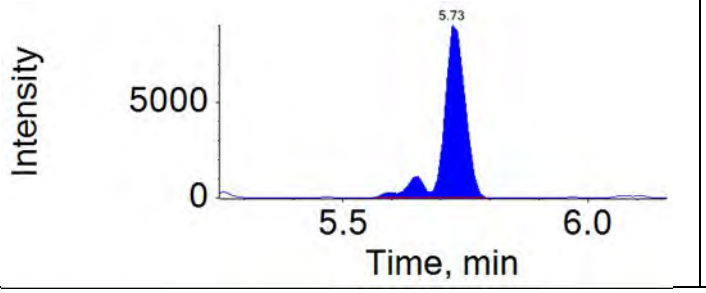
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

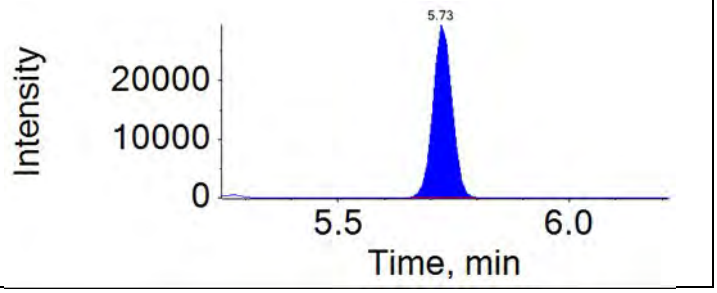
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



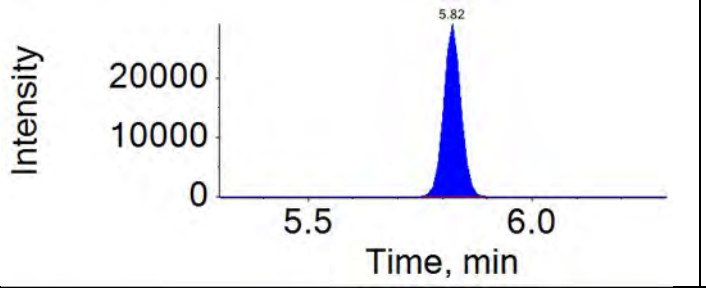


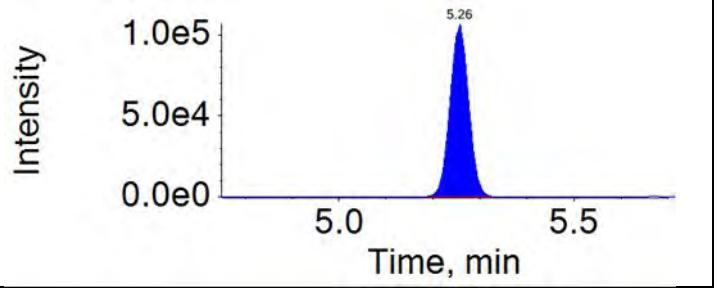
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



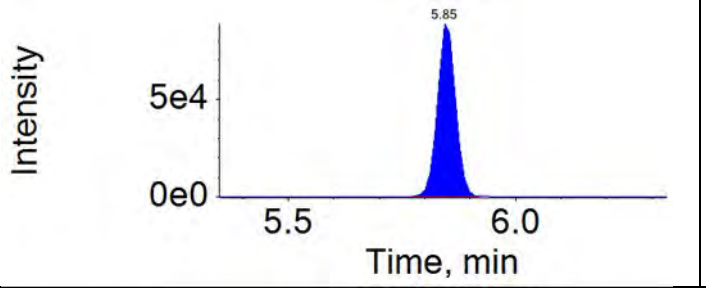


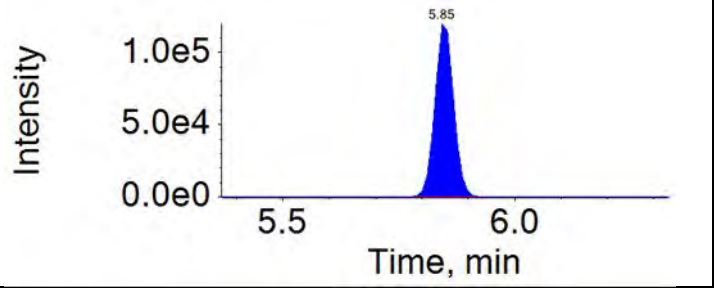
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



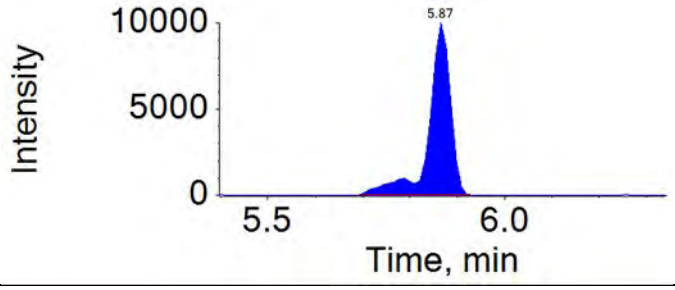


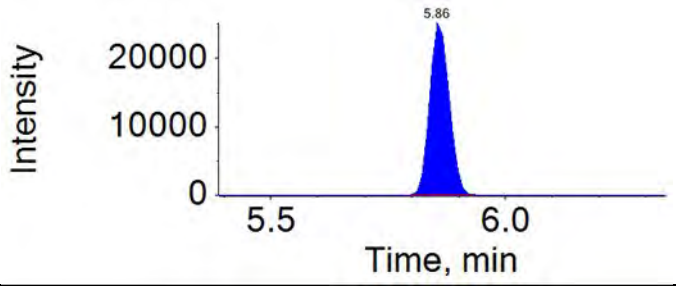
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

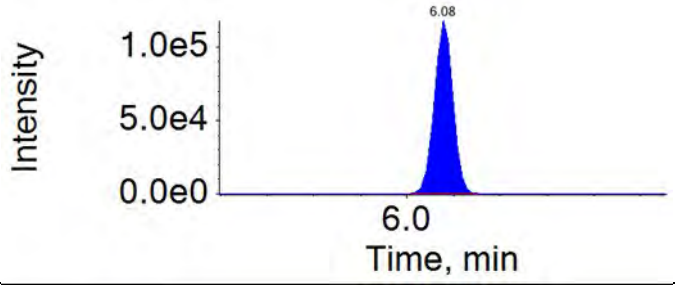
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

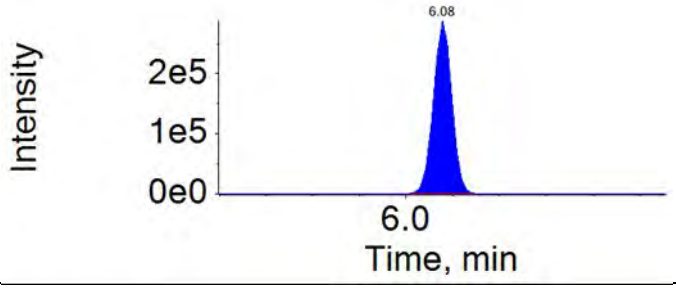
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



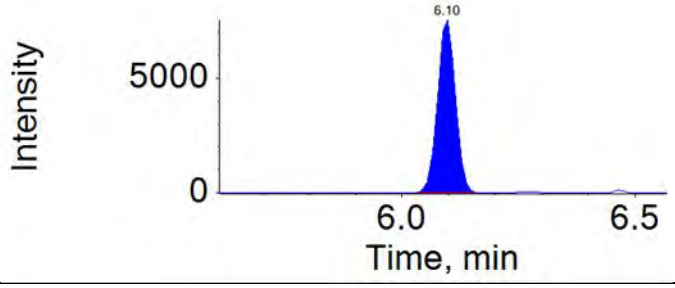


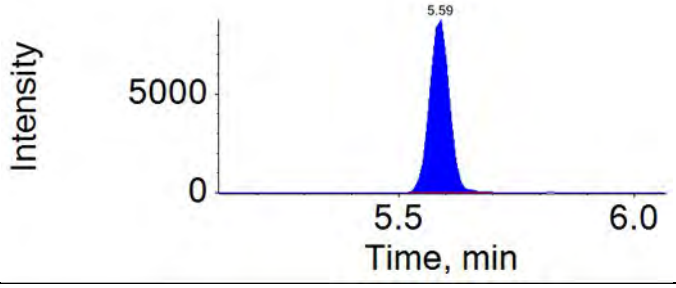
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



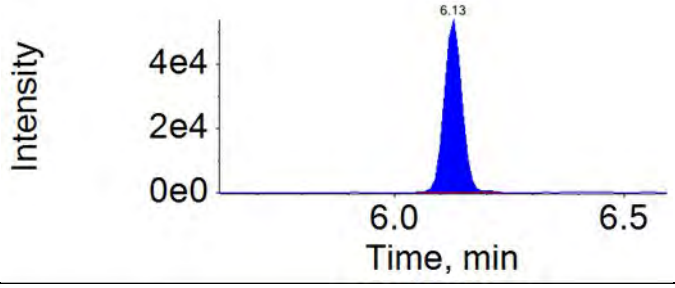


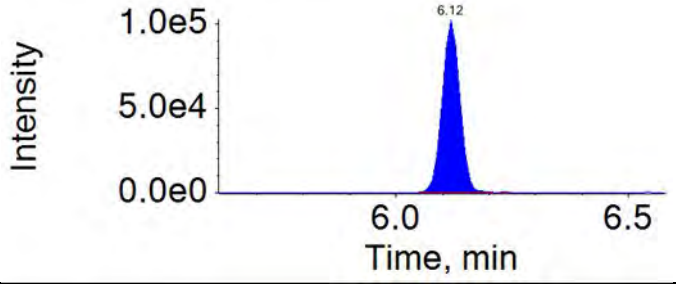
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



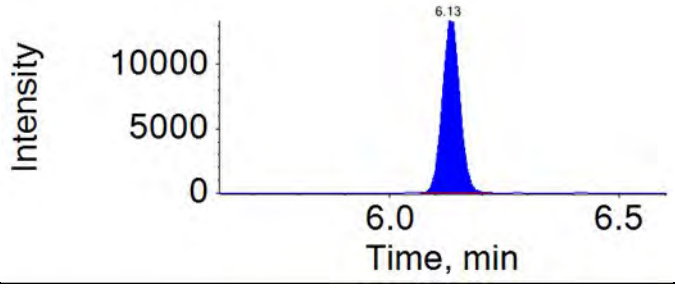


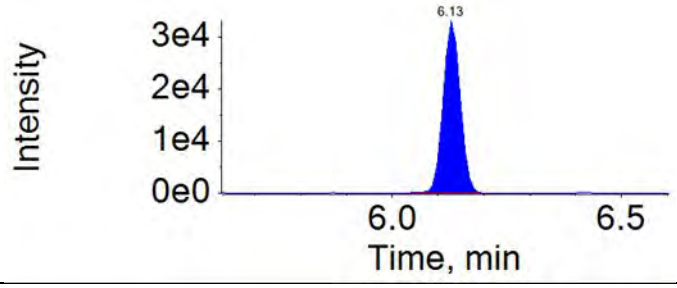
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

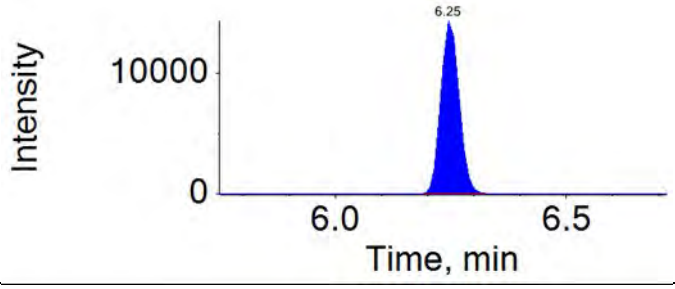
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

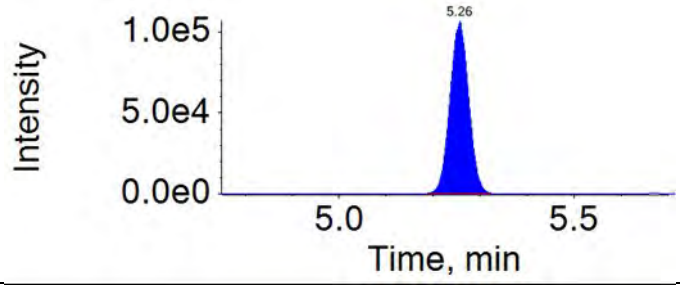
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



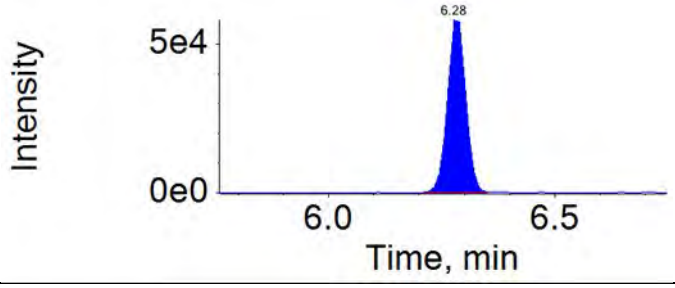


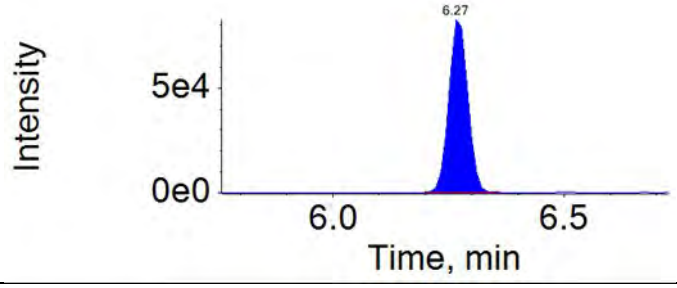
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



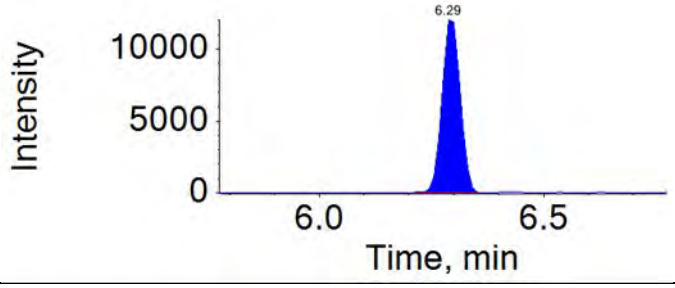


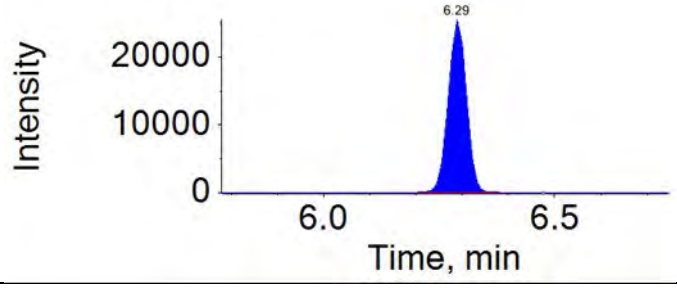
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



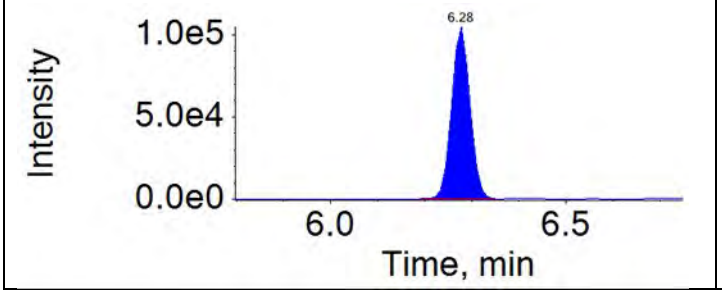


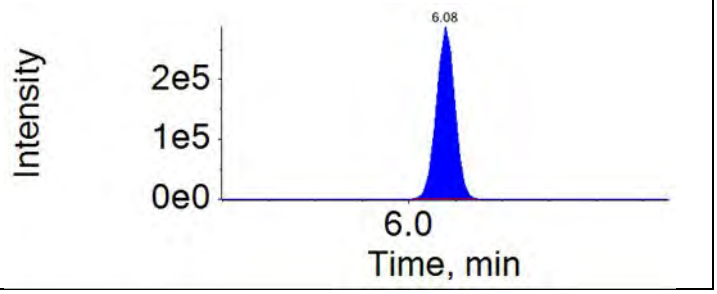
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

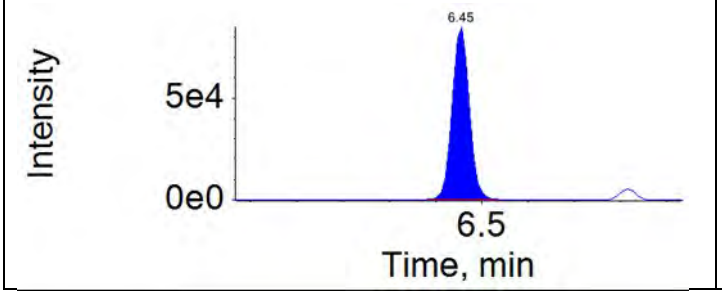
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

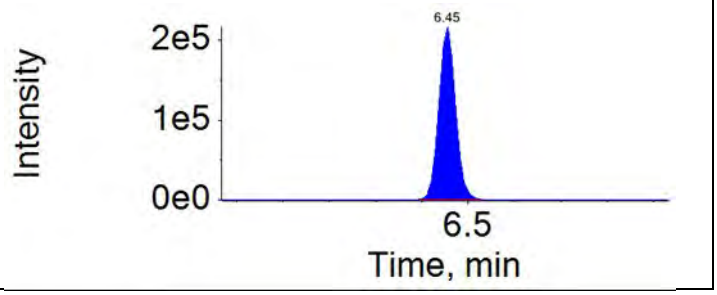
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



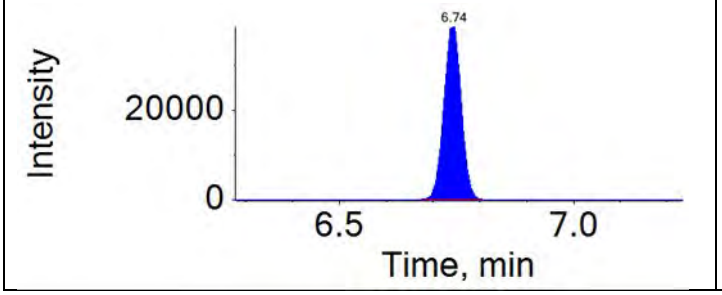


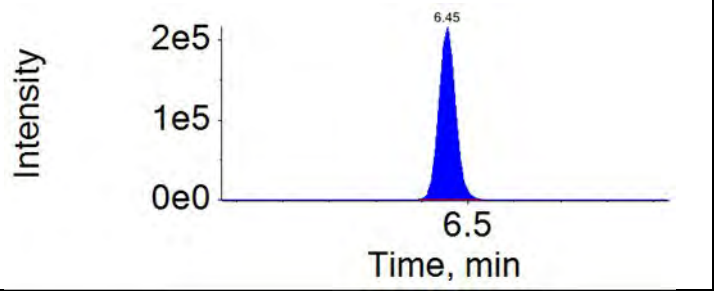
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



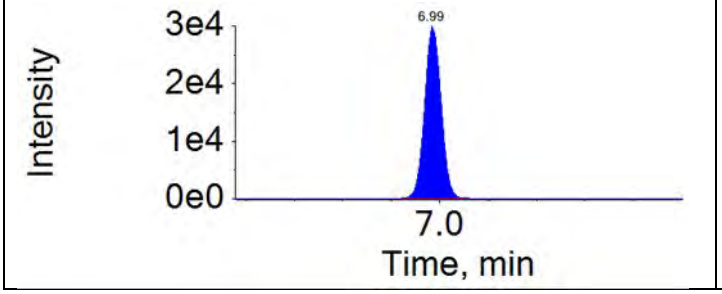


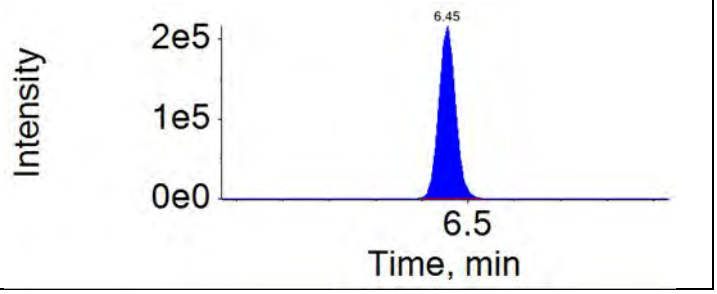
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



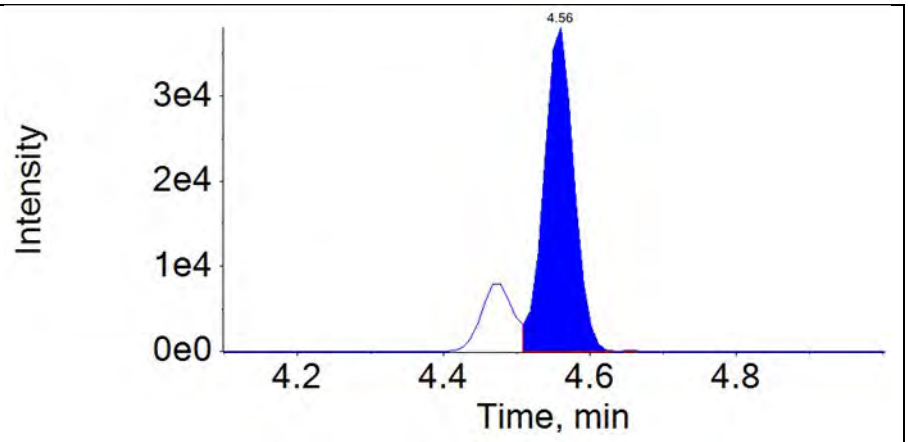


APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

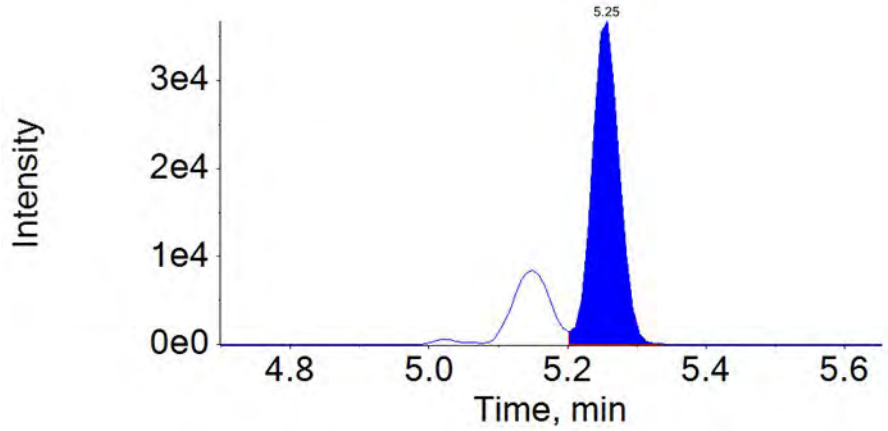
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
108367.26
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



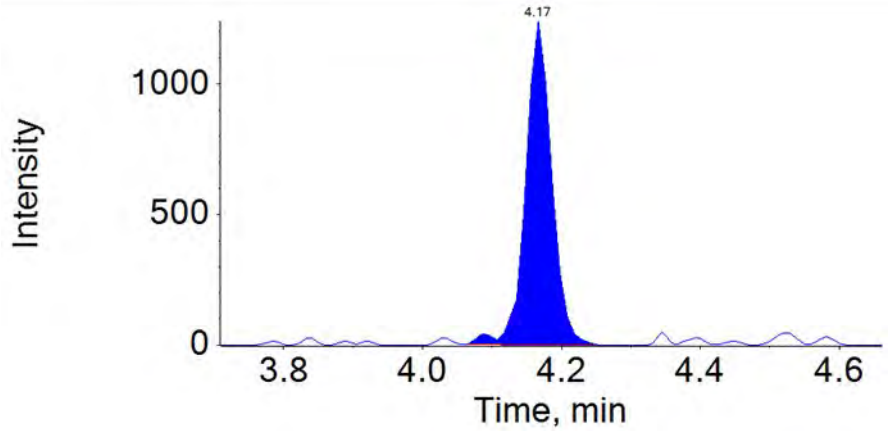
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
101197.55
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
PFHxA_2
RT (min.):
4.17
Peak Area:
3257.78
Mass Range:
313.0 / 119.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



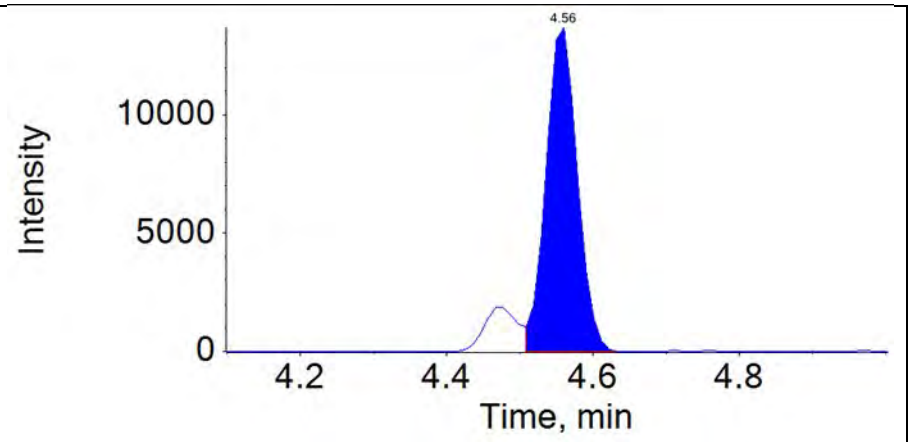
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

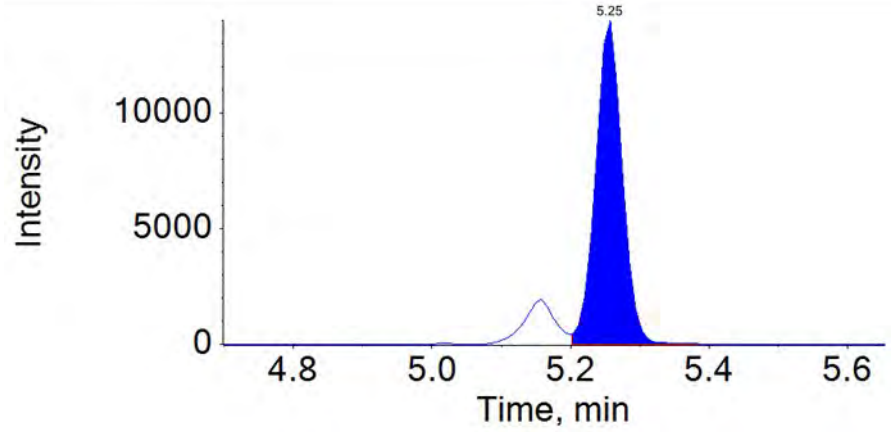
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
40915.46
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



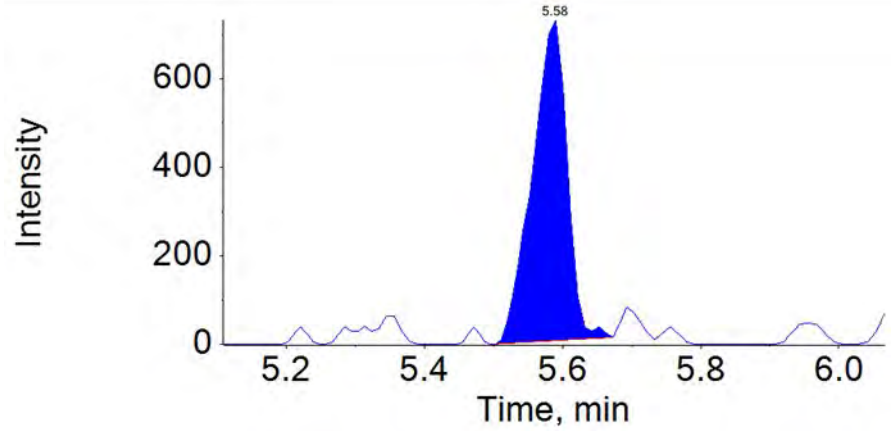
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
37514.93
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
PFDA_2
RT (min.):
5.58
Peak Area:
2544.30
Mass Range:
513.0 / 169.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



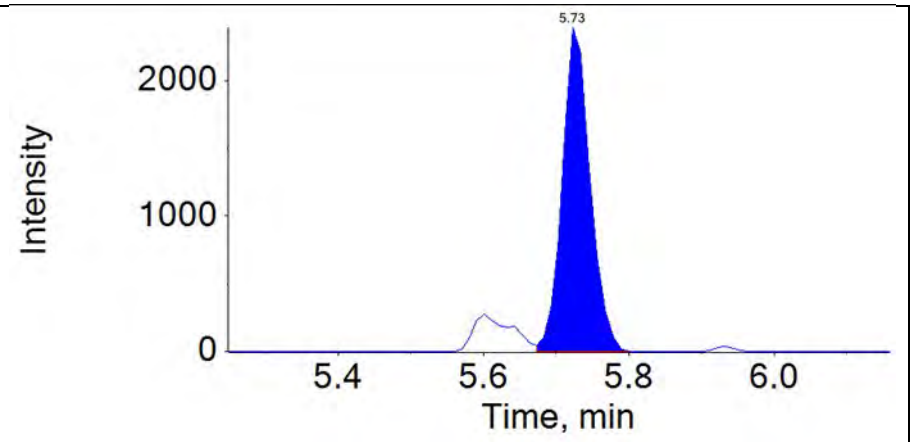
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

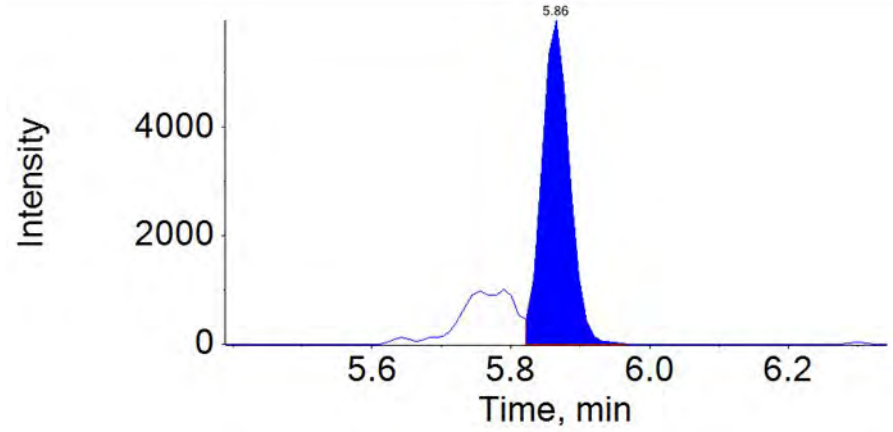
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.73
Peak Area:
6388.95
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



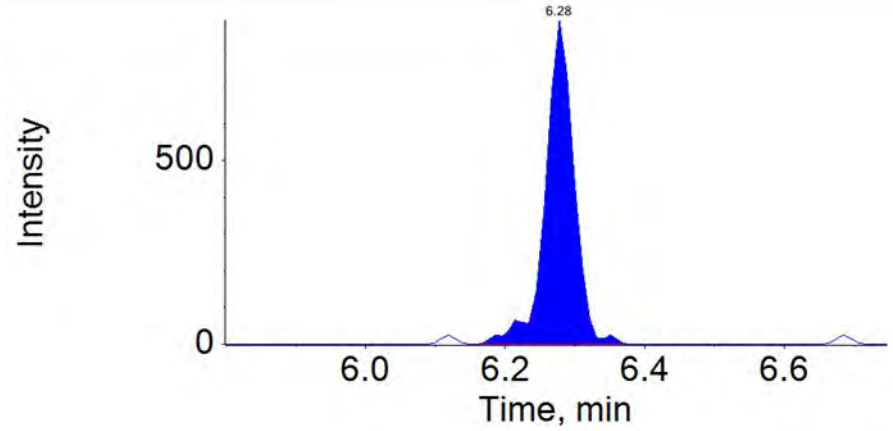
Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
16528.92
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
PFTrDA_2
RT (min.):
6.28
Peak Area:
2522.53
Mass Range:
663.0 / 169.0
File Name:
18DEC06DCAL-27.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Ion Ratio Report

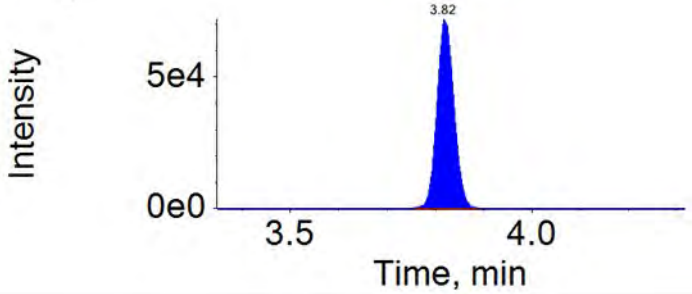
Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-27.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	175965.98	A	1.0000	1.0000			
PFBS_2	3.82	1.00	62986.43	A	0.3627	0.3579	-1	50	
4:2-FTS	4.14	1.00	38643.69	A	1.0000	1.0000			
4:2-FTS_2	4.14	1.00	23233.41	A	0.6542	0.6012	-8	50	
PFHxA	4.17	1.00	365926.61	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	3186.66	M	0.0097	0.0087	-10	50	
PFPeS	4.19	1.10	92327.74	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	49861.48	A	0.5262	0.5400	3	50	
PFHpA	4.56	1.00	361419.75	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	19446.73	A	0.0565	0.0538	-5	50	
PFHxS	4.56	1.00	132327.20	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	46831.60	M	0.3645	0.3539	-3	50	
6:2-FTS	4.91	1.00	30175.96	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	20371.72	A	0.6273	0.6751	8	50	
PFHpS	4.92	1.08	128849.80	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	55393.12	A	0.4162	0.4299	3	50	
PFOA	4.92	1.00	351794.98	A	1.0000	1.0000			
PFOA_2	4.93	1.00	20987.94	A	0.0616	0.0597	-3	50	
PFOS	5.25	1.00	134760.97	M	1.0000	1.0000			
PFOS_2	5.25	1.00	43699.03	M	0.3021	0.3243	7	50	
PFNA	5.27	1.00	293549.54	A	1.0000	1.0000			
PFNA_2	5.27	1.00	7319.93	A	0.0192	0.0249	30	50	
PFNS	5.56	1.06	98097.94	A	1.0000	1.0000			
PFNS_2	5.56	1.06	45813.14	A	0.4845	0.4670	-4	50	
PFDA	5.58	1.00	251623.61	A	1.0000	1.0000			
PFDA_2	5.58	1.00	2553.39	M	0.0096	0.0101	5	50	
8:2-FTS	5.59	1.00	22886.21	A	1.0000	1.0000			
8:2-FTS_2	5.59	1.00	13505.17	A	0.6117	0.5901	-4	50	
NMeFOSAA	5.73	1.00	28372.58	A	1.0000	1.0000			
NMeFOSAA_2	5.73	1.00	7393.75	M	0.2673	0.2606	-3	50	
PFDS	5.82	1.11	77164.09	A	1.0000	1.0000			
PFDS_2	5.82	1.11	40764.59	A	0.4952	0.5283	7	50	
PFUnDA	5.85	1.00	247240.79	A	1.0000	1.0000			
PFUnDA_2	5.85	1.00	1300.67	A	0.0041	0.0053	28	50	
NEtFOSAA	5.87	1.00	31960.94	A	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	21849.64	M	0.6726	0.6836	2	50	
PFDoDA	6.08	1.00	325640.83	A	1.0000	1.0000			
PFDoDA_2	6.08	1.00	3552.58	A	0.0133	0.0109	-18	50	
10:2-FTS	6.10	1.09	20128.37	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	12894.29	A	0.6969	0.6406	-8	50	
PFTrDA	6.28	1.03	282288.53	A	1.0000	1.0000			
PFTrDA_2	6.28	1.03	2341.28	M	0.0075	0.0083	10	50	
PFTeDA	6.45	1.00	217102.02	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	1209.29	A	0.0066	0.0056	-16	50	
PFHxDA	6.74	1.04	100823.70	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	5841.33	A	0.0616	0.0579	-6	50	
PFODA	6.99	1.08	70714.00	A	1.0000	1.0000			
PFODA_2	6.98	1.08	1837.52	A	0.0272	0.0260	-5	50	

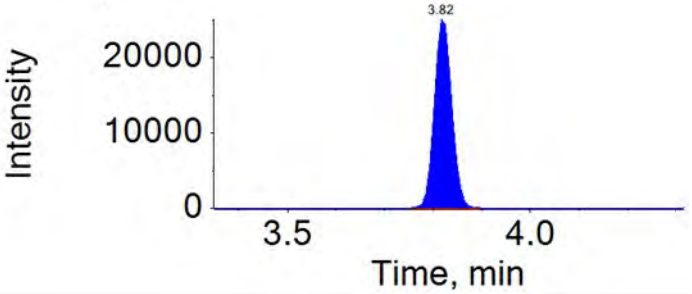
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

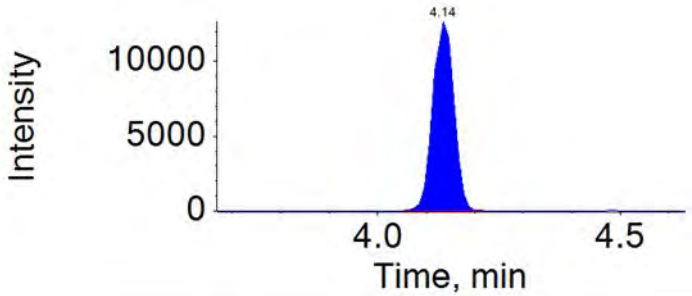
Component: PFBS
Primary Mass: 299.0 / 80.0



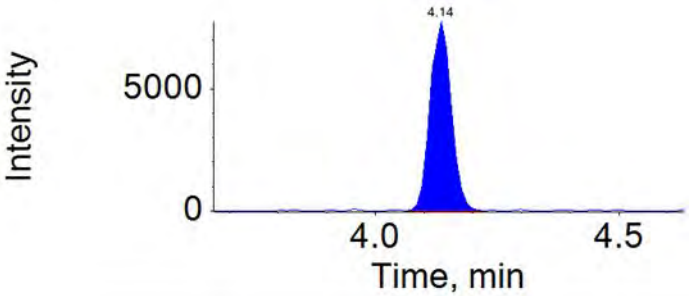
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



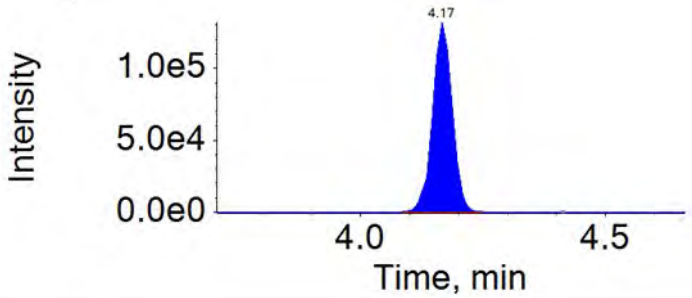
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



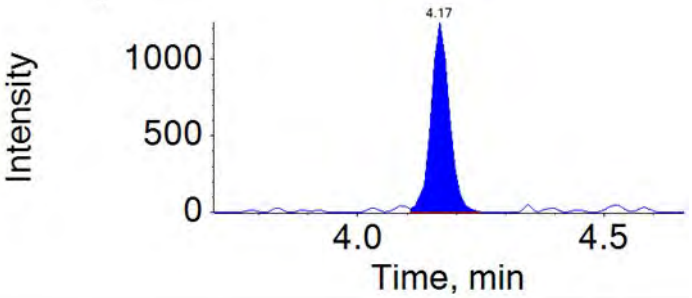
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



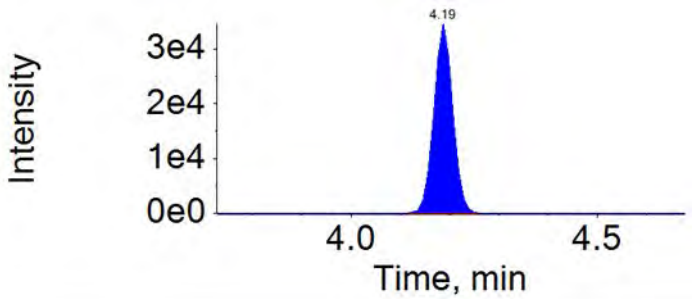
Component: PFHxA
Primary Mass: 313.0 / 269.0



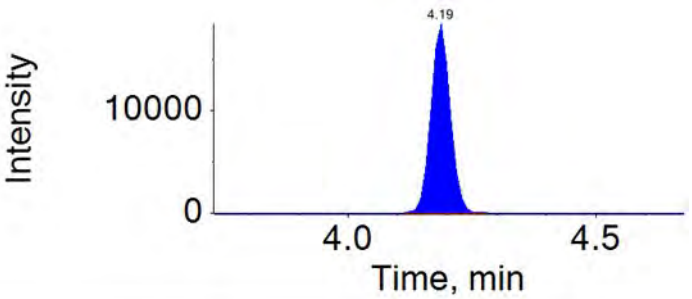
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



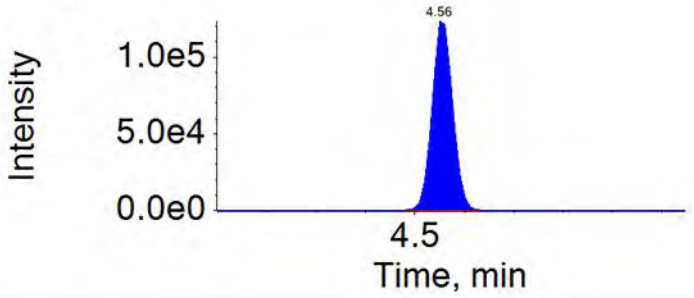
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



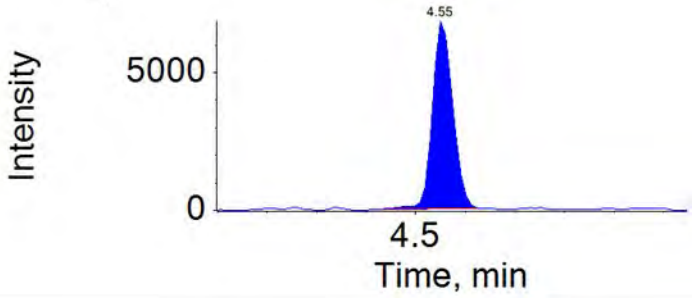
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

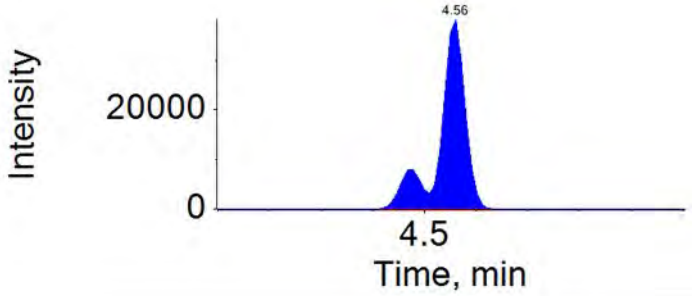
Component: PFHpA
Primary Mass: 363.0 / 319.0



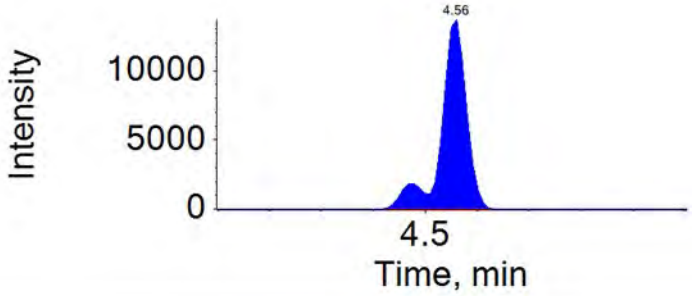
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



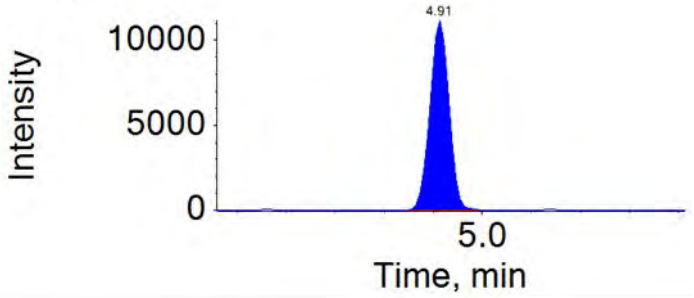
Component: PFHxS
Primary Mass: 399.0 / 80.0



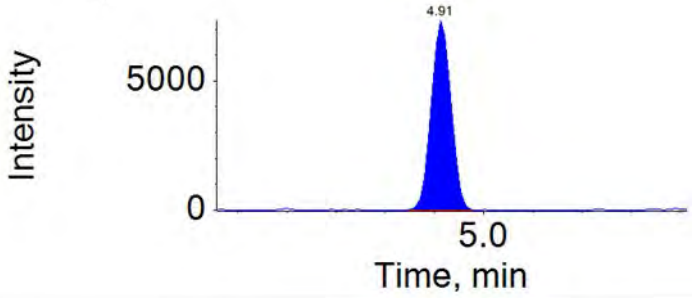
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



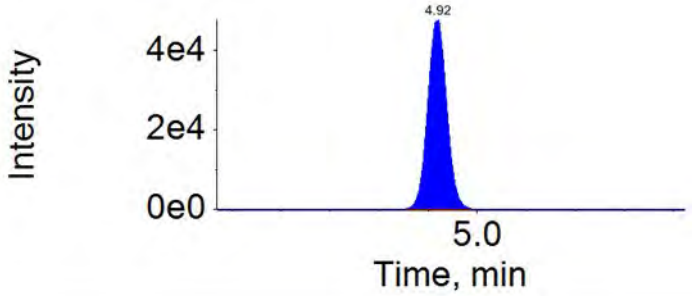
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



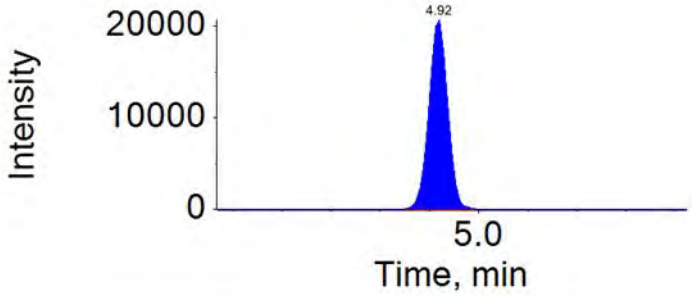
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



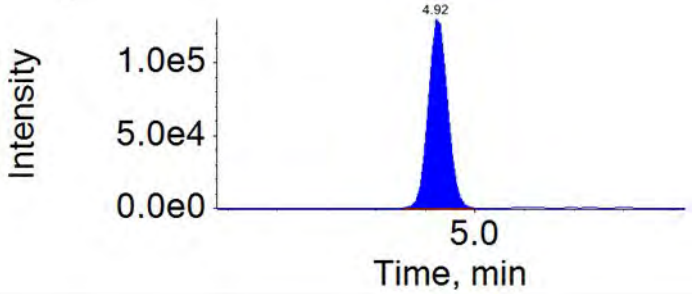
Component: PFHpS
Primary Mass: 449.0 / 80.0



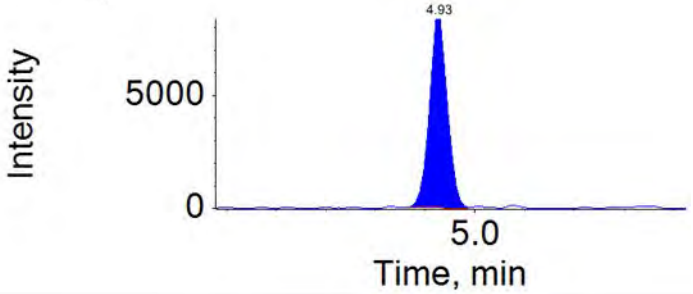
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



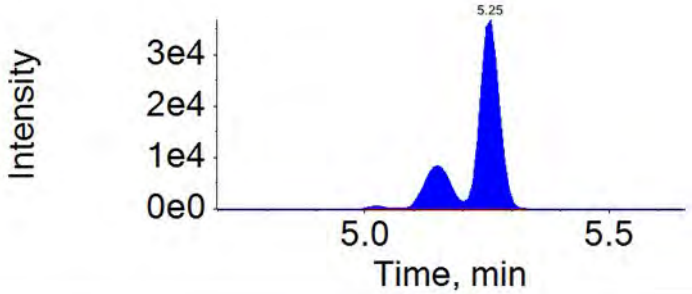
Component: PFOA
Primary Mass: 413.0 / 369.0



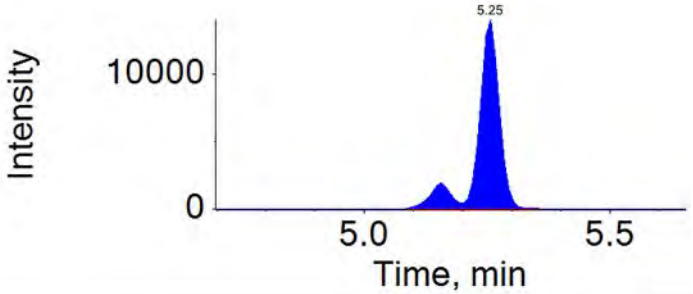
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



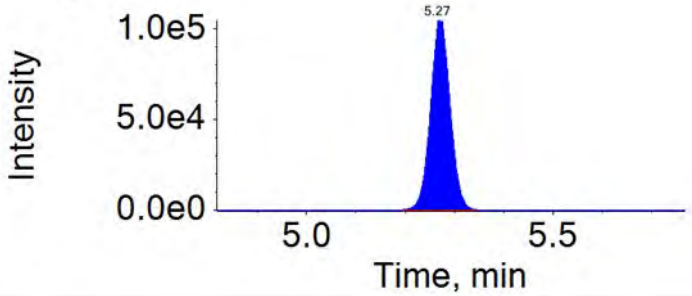
Component: PFOS
Primary Mass: 499.0 / 80.0



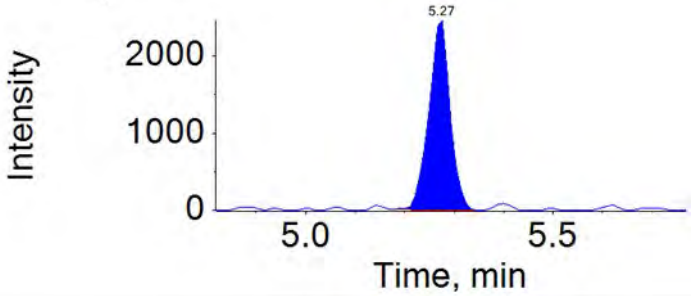
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



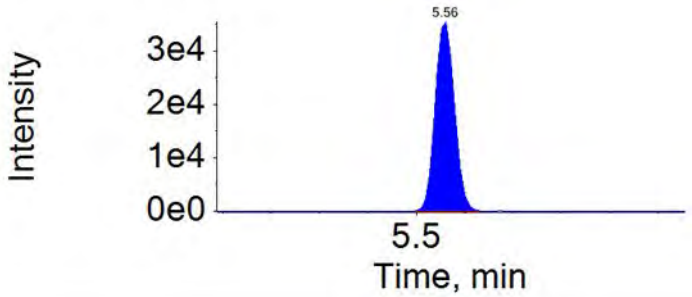
Component: PFNA
Primary Mass: 463.0 / 419.0



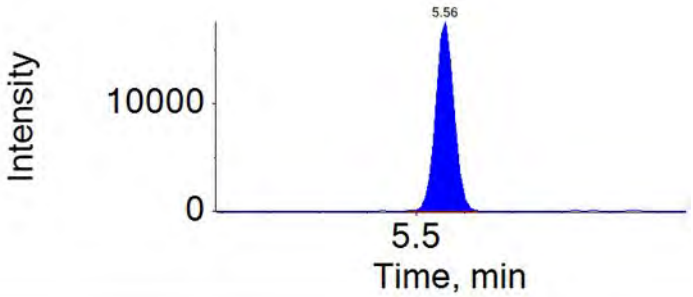
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



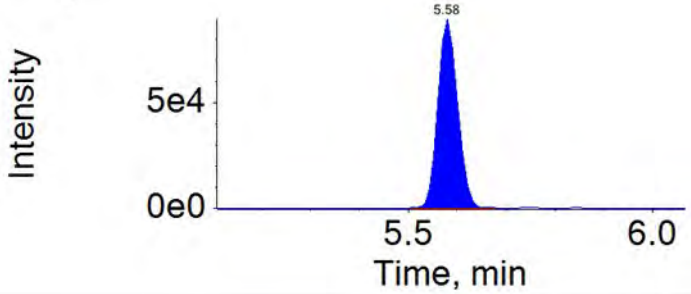
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



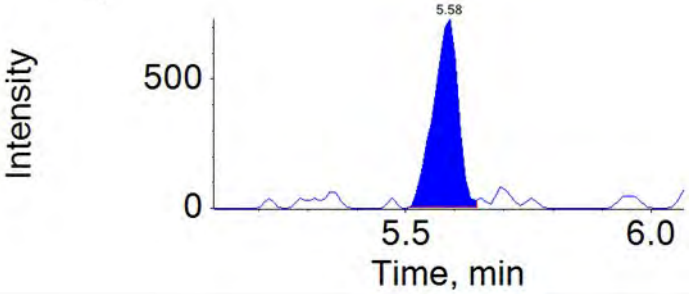
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

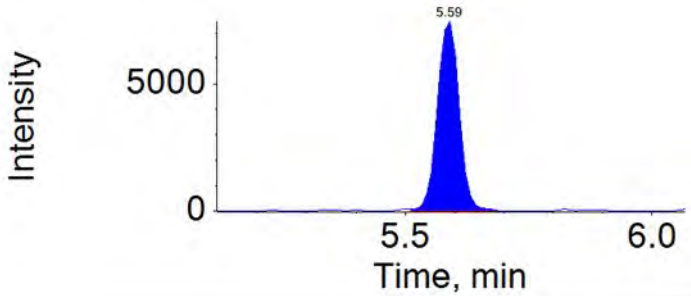
Component: PFDA
Primary Mass: 513.0 / 469.0



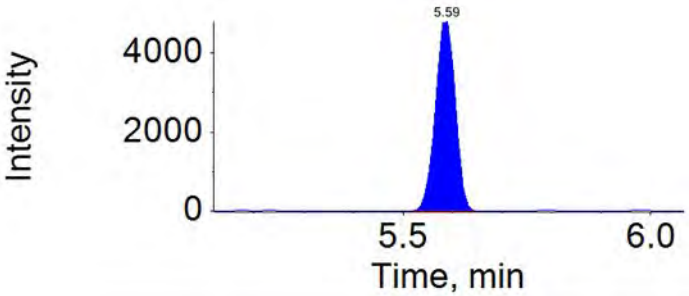
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



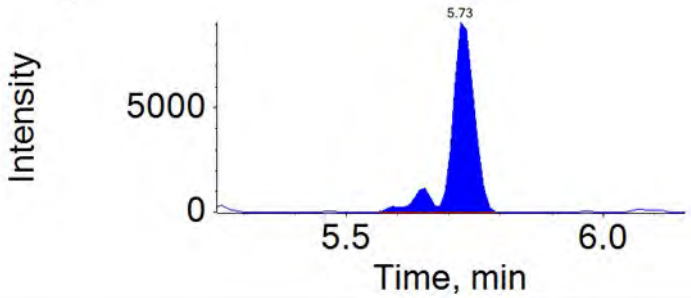
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



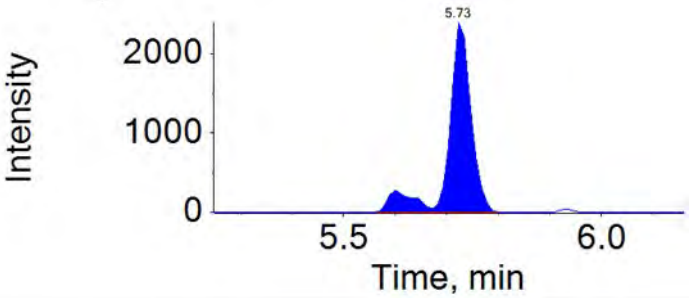
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



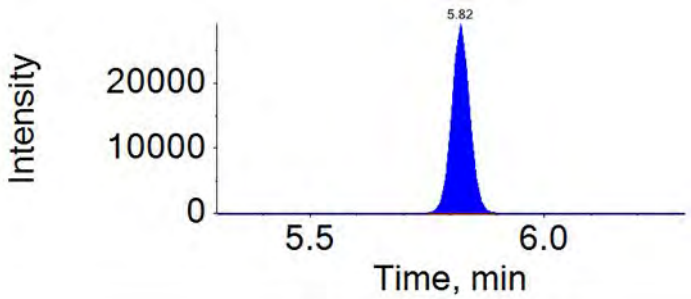
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



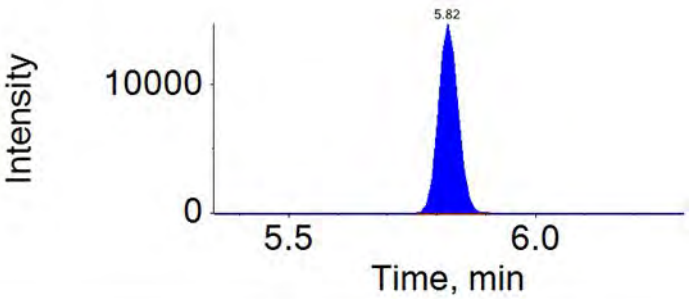
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



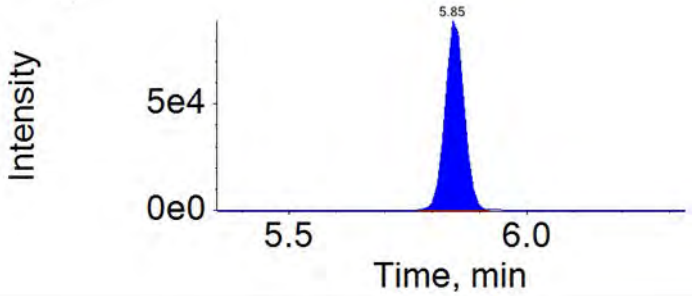
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



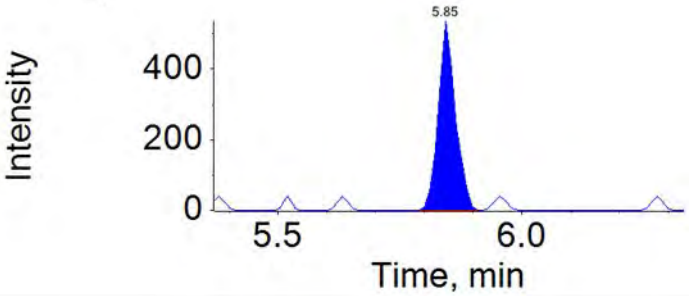
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

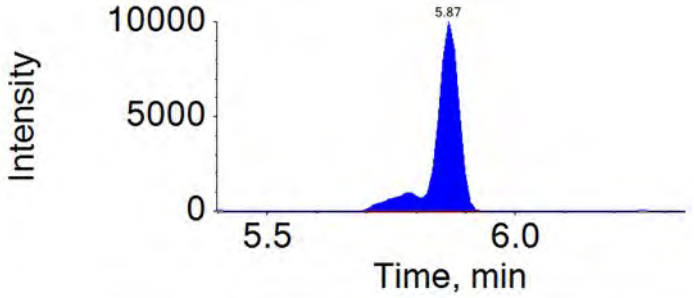
Component: PFUnDA
Primary Mass: 563.0 / 519.0



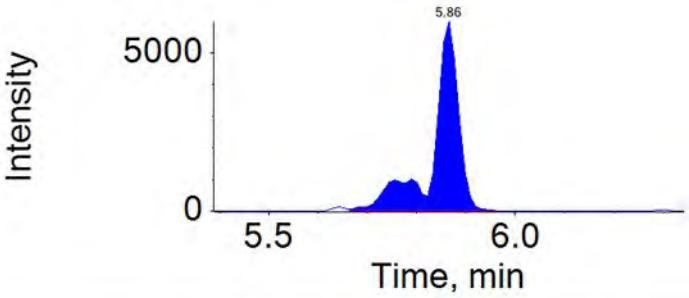
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



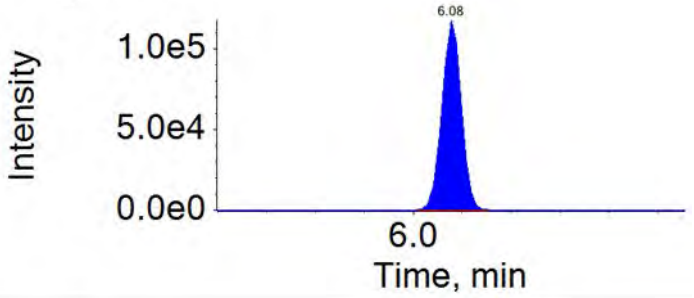
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



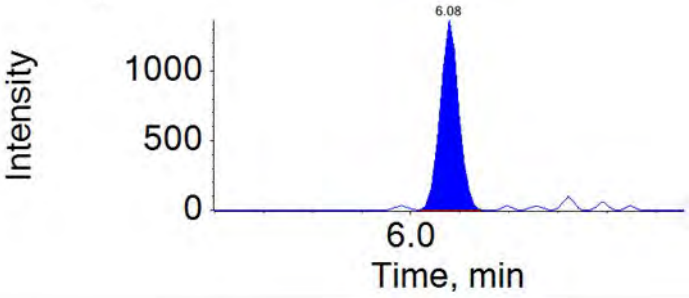
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



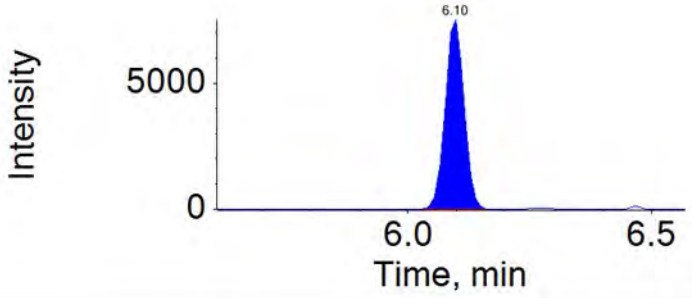
Component: PFDoDA
Primary Mass: 613.0 / 569.0



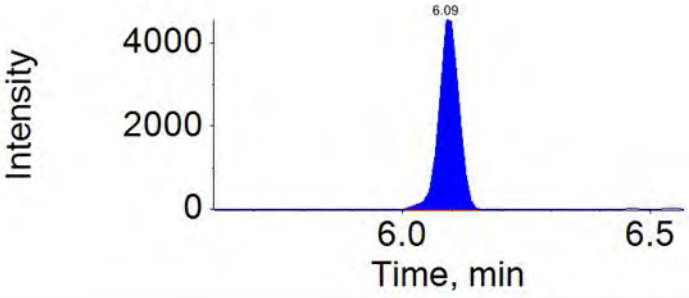
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



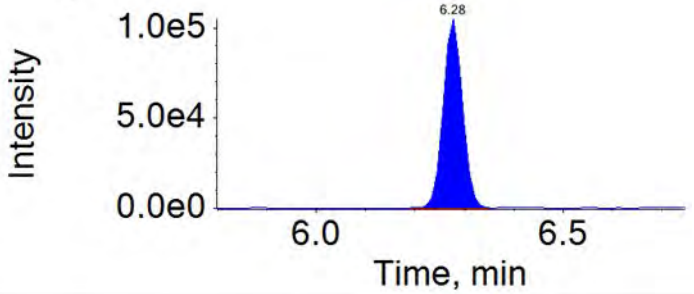
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



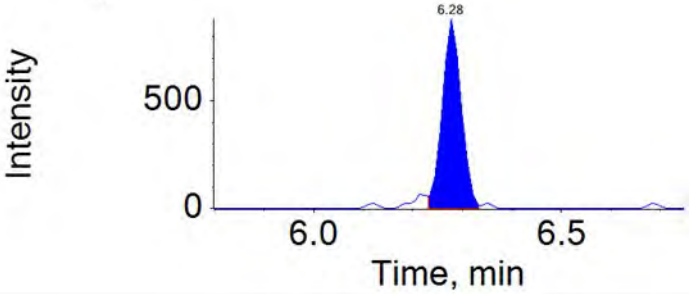
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

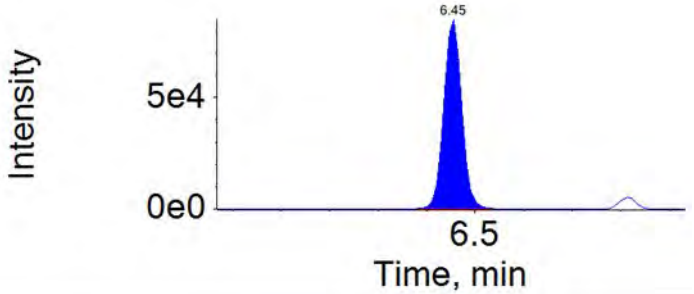
Component: PFTrDA
Primary Mass: 663.0 / 619.0



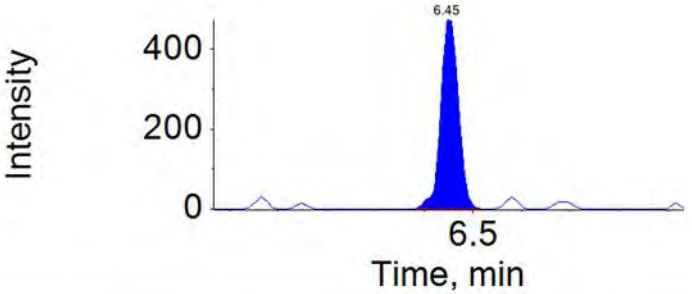
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



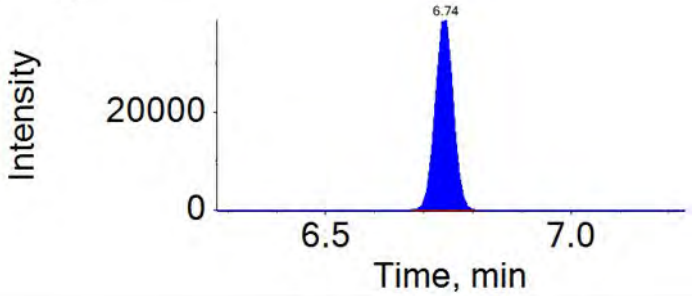
Component: PFTeDA
Primary Mass: 713.0 / 669.0



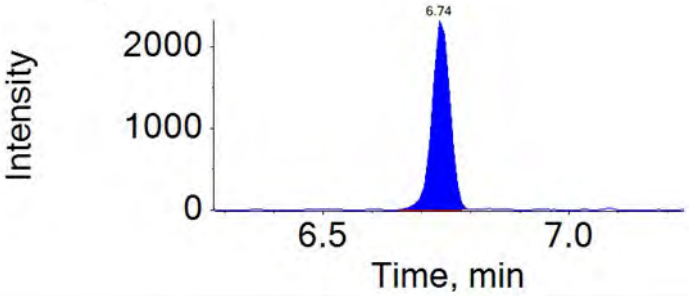
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



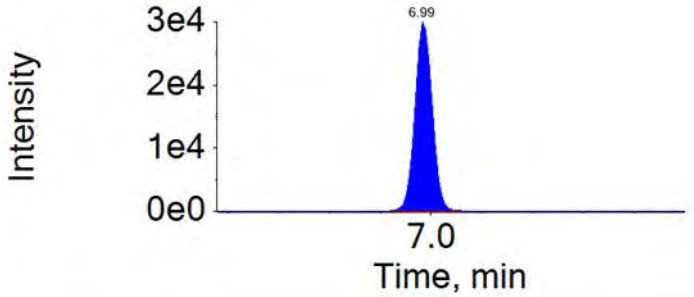
Component: PFHxDA
Primary Mass: 813.0 / 769.0



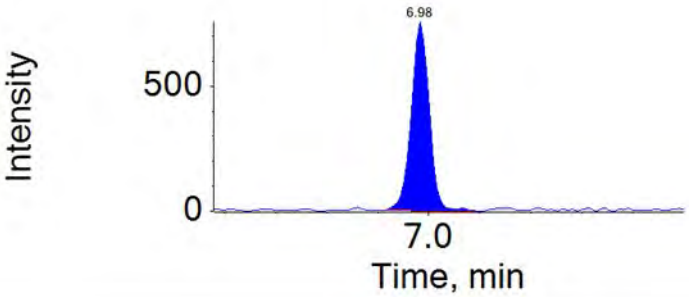
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL4			**Data File:**		18DEC06DCAL-28.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-07T00:04:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	856263.9	825688.9	4	50	
13C2-PFOA	5.0	467059.4	449802.8	4	50	
13C4-PFOS	4.8	284903.1	276858.3	3	50	
13C2-PFDA	5.0	381032.9	315428.3	21	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	937321.2	13C3-PFBA	856263.9	1.095	5.000	4.845	97	70-130	
E13C5-PFPeA	865794.5	13C3-PFBA	856263.9	1.011	5.000	4.802	96	70-130	
E13C3-PFBS	451275.8	13C3-PFBA	856263.9	0.527	4.650	4.467	96	70-130	
E13C2-4:2-FTS	53204.1	13C2-PFOA	467059.4	0.114	4.670	4.464	96	70-130	
E13C5-PFHxA	653028.3	13C2-PFOA	467059.4	1.398	5.000	4.694	94	70-130	
E13C3-PFHxS	321174.9	13C2-PFOA	467059.4	0.688	4.730	4.411	93	70-130	
E13C4-PFHpA	530667.2	13C2-PFOA	467059.4	1.136	5.000	4.830	97	70-130	
E13C2-6:2-FTS	35211.1	13C2-PFOA	467059.4	0.075	4.750	4.670	98	70-130	
E13C8-PFOA	816400.1	13C2-PFOA	467059.4	1.748	5.000	4.941	99	70-130	
E13C8-PFOS	299310.5	13C4-PFOS	284903.1	1.051	4.780	4.715	99	70-130	
E13C9-PFNA	492781.5	13C4-PFOS	284903.1	1.730	5.000	4.888	98	70-130	
E13C6-PFDA	611644.1	13C2-PFDA	381032.9	1.605	5.000	4.254	85	70-130	
E13C2-8:2-FTS	23195.7	13C2-PFDA	381032.9	0.061	4.790	3.974	83	70-130	
E13C8-PFOSA	688204.5	13C2-PFDA	381032.9	1.806	5.000	4.272	85	70-130	
Ed3-NMeFOSAA	86138.3	13C2-PFDA	381032.9	0.226	5.000	4.006	80	70-130	
E13C7-PFUnDA	335167.0	13C2-PFDA	381032.9	0.880	5.000	4.315	86	70-130	
Ed5-NEtFOSAA	70314.0	13C2-PFDA	381032.9	0.185	5.000	4.074	81	70-130	
E13C2-PFDoDA	777497.2	13C2-PFDA	381032.9	2.040	5.000	4.282	86	70-130	
Ed7-NMePFOSAE	283055.2	13C2-PFDA	381032.9	0.743	5.000	4.279	86	70-130	
Ed3-NMePFOSA	82821.3	13C2-PFDA	381032.9	0.217	5.000	3.960	79	70-130	
Ed9-NEtPFOSAE	227812.8	13C2-PFDA	381032.9	0.598	5.000	4.123	82	70-130	
Ed5-NEtPFOSA	69489.4	13C2-PFDA	381032.9	0.182	5.000	4.104	82	70-130	
E13C2-PFTeDA	559294.7	13C2-PFDA	381032.9	1.468	5.000	4.357	87	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

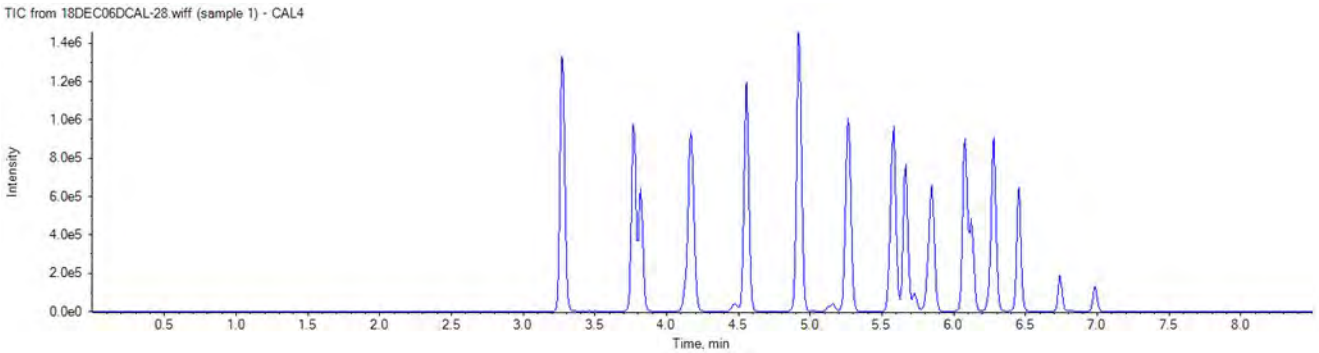
Analyte Quantitation Peak Table

Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-28.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	1362372.6		A	13C4-PFBA	3.27	937321.2	1.453	8.019
PFPeA	3.77	1.000	1316238.4		A	13C5-PFPeA	3.77	865794.5	1.520	7.998
PFBS	3.82	1.000	641650.7		A	13C3-PFBS	3.82	451275.8	1.422	7.048
4:2-FTS	4.13	1.000	148072.8		A	13C2-4:2-FTS	4.13	53204.1	2.783	7.460
PFHxA	4.17	1.000	1336811.1		A	13C5-PFHxA	4.17	653028.3	2.047	8.920
PFPeS	4.19	1.100	330977.6		A	13C3-PFBS	3.82	451275.8	0.733	7.262
PFHpA	4.55	1.000	1312251.0		A	13C4-PFHpA	4.55	530667.2	2.473	8.142
PFHxS	4.56	1.000	486027.4		M	13C3-PFHxS	4.56	321174.9	1.513	7.170
6:2-FTS	4.91	1.000	108350.6		A	13C2-6:2-FTS	4.91	35211.1	3.077	7.641
PFHpS	4.92	1.080	475629.6		A	13C3-PFHxS	4.56	321174.9	1.481	8.129
PFOA	4.92	1.000	1259378.8		A	13C8-PFOA	4.92	816400.1	1.543	8.430
PFOS	5.25	1.000	499514.7		M	13C8-PFOS	5.25	299310.5	1.669	6.922
PFNA	5.27	1.000	1095142.6		A	13C9-PFNA	5.27	492781.5	2.222	8.190
PFNS	5.56	1.060	364043.0		A	13C8-PFOS	5.25	299310.5	1.216	7.826
PFDA	5.58	1.000	911932.1		A	13C6-PFDA	5.58	611644.1	1.491	8.392
8:2-FTS	5.58	1.000	80381.5		A	13C2-8:2-FTS	5.58	23195.7	3.465	7.509
PFOSA	5.66	1.000	1076362.6		A	13C8-PFOSA	5.66	688204.5	1.564	8.114
NMeFOSAA	5.73	1.000	113391.5		M	d3-NMeFOSAA	5.72	86138.3	1.316	8.707
PFDS	5.82	1.110	290693.2		A	13C8-PFOS	5.25	299310.5	0.971	7.853
PFUnDA	5.85	1.000	899827.4		A	13C7-PFUnDA	5.85	335167.0	2.685	8.220
NEtFOSAA	5.86	1.000	112530.3		M	d5-NEtFOSAA	5.86	70314.0	1.600	8.088
PFDoDA	6.08	1.000	1203364.6		A	13C2-PFDoDA	6.08	777497.2	1.548	8.147
10:2-FTS	6.09	1.090	68099.5		A	13C2-8:2-FTS	5.58	23195.7	2.936	7.777
NMePFOSAE	6.13	1.000	547399.0		A	d7-NMePFOSAE	6.12	283055.2	1.934	8.404
NMePFOSA	6.13	1.000	132178.3		A	d3-NMePFOSA	6.13	82821.3	1.596	8.052
PFDoS	6.25	1.190	148019.2		A	13C8-PFOS	5.25	299310.5	0.495	7.539
NEtPFOSAE	6.28	1.000	580672.4		A	d9-NEtPFOSAE	6.27	227812.8	2.549	8.540
NEtPFOSA	6.29	1.000	112922.9		A	d5-NEtPFOSA	6.29	69489.4	1.625	7.779
PFTrDA	6.28	1.030	1039364.5		A	13C2-PFDoDA	6.08	777497.2	1.337	8.755
PFTeDA	6.45	1.000	814575.8		A	13C2-PFTeDA	6.45	559294.7	1.456	8.329
PFHxDA	6.74	1.040	349067.6		A	13C2-PFTeDA	6.45	559294.7	0.624	7.816
PFODA	6.98	1.080	262292.8		A	13C2-PFTeDA	6.45	559294.7	0.469	7.528

Total Ion Chromatogram

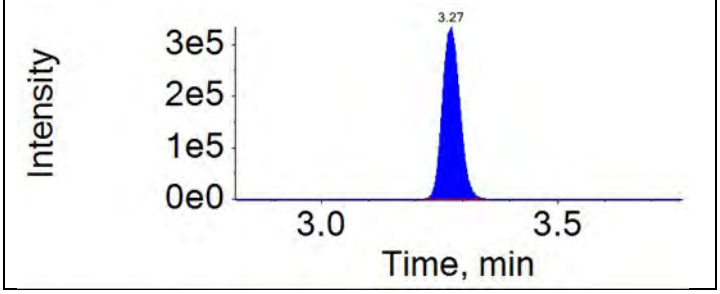


APPROVED
By MSM at 1:53 pm, 12/7/18

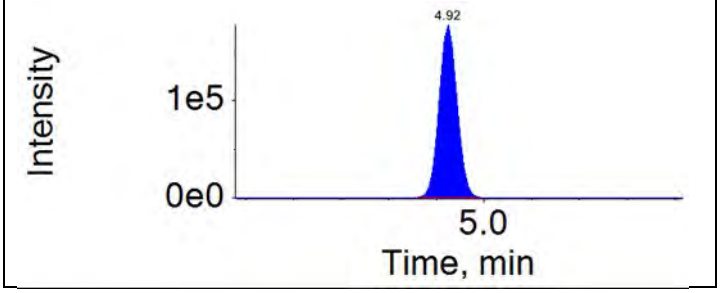
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

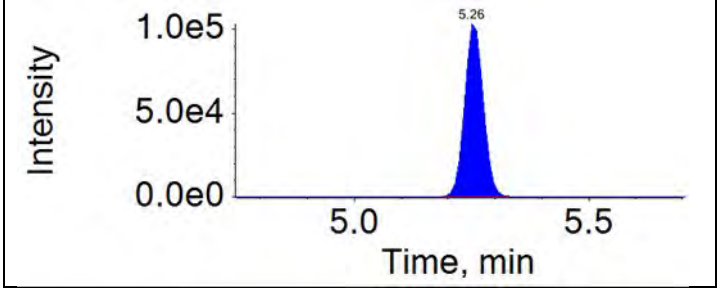
Injection Standard: 13C3-PFBA
216.0 / 172.0



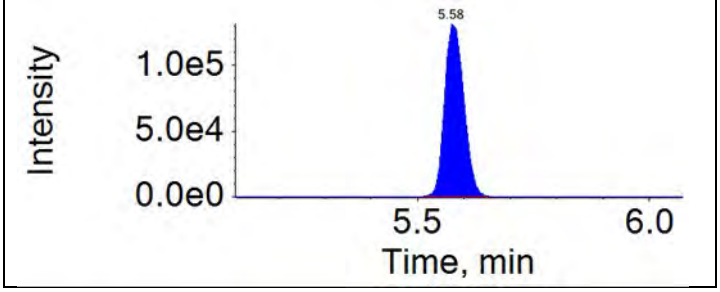
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

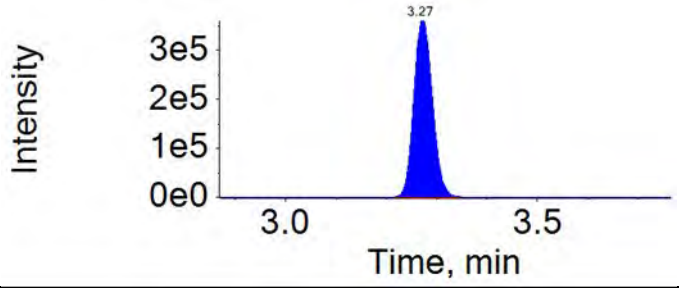


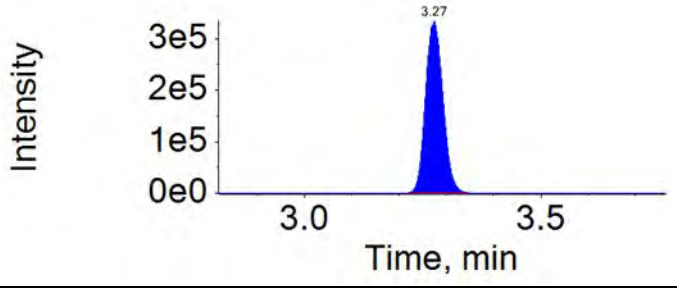
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

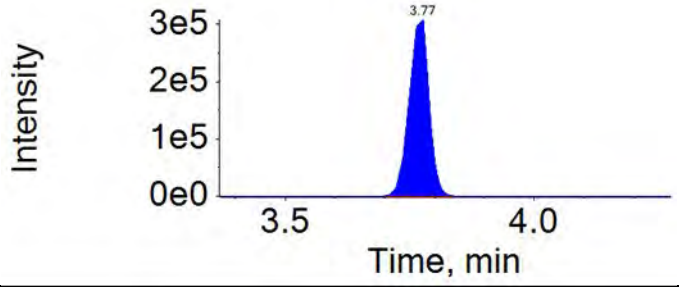
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

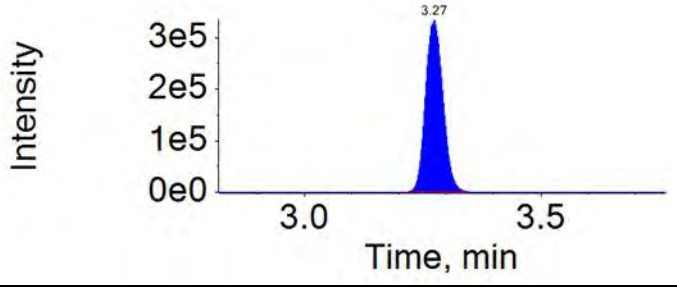
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



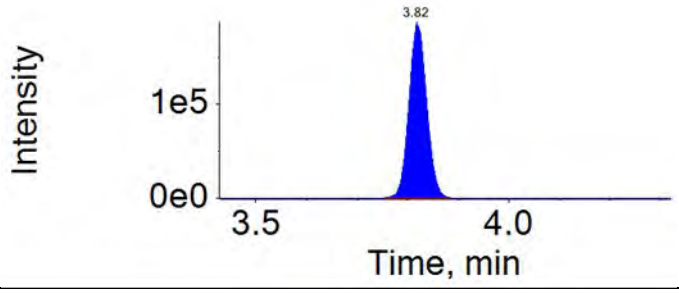


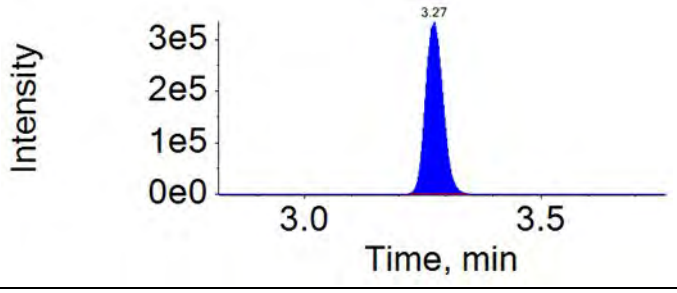
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



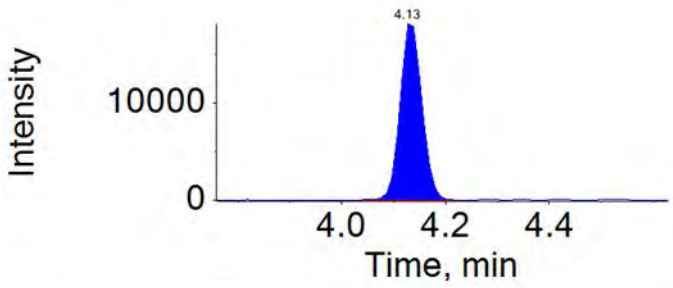


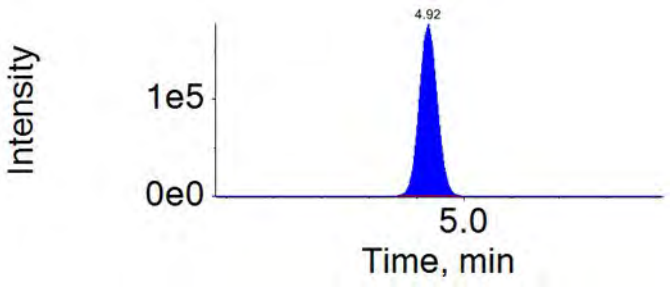
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



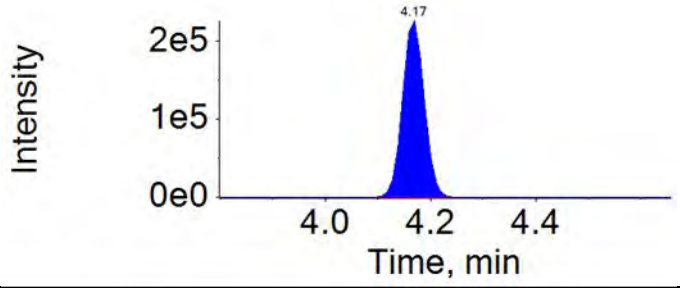


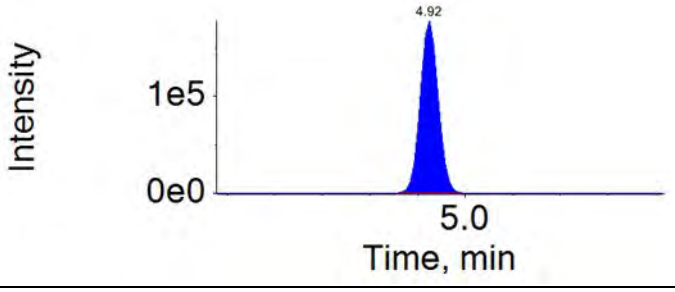
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

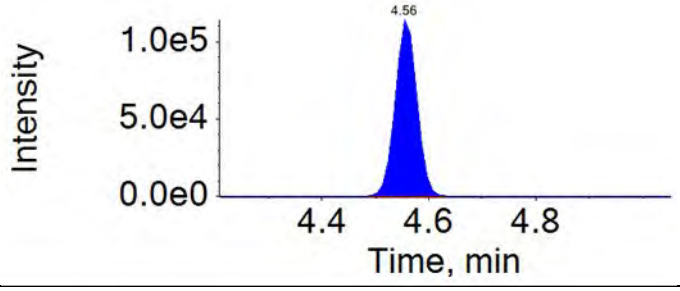
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

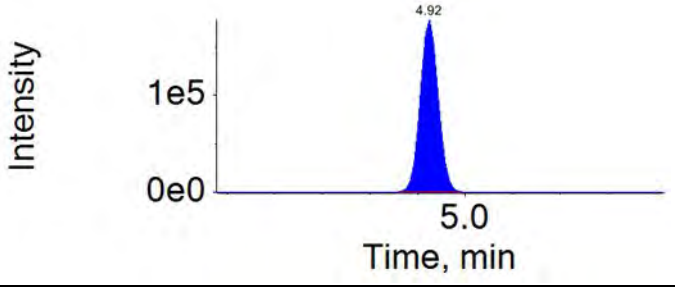
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



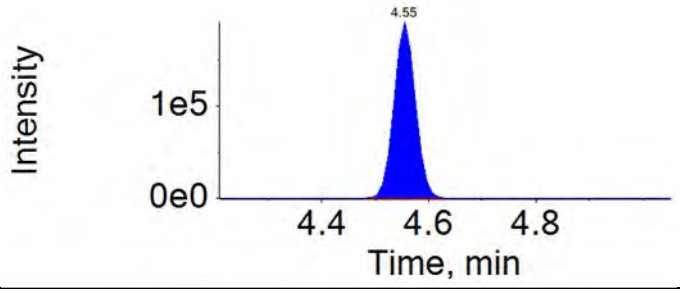


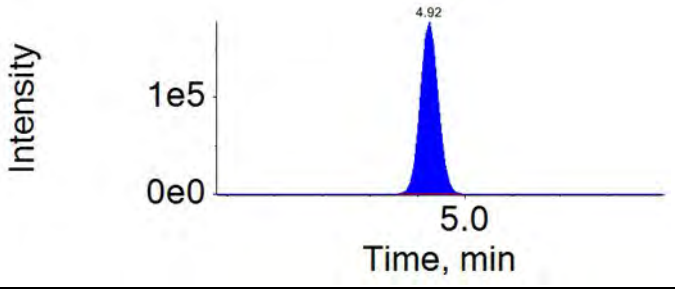
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



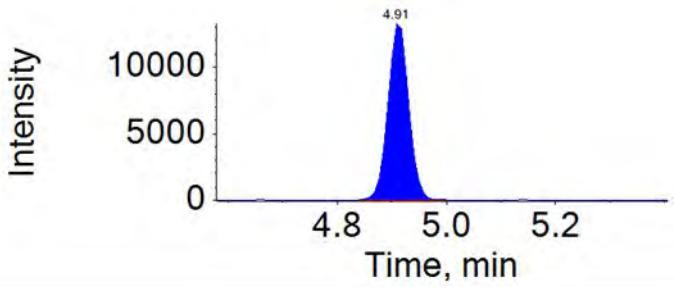


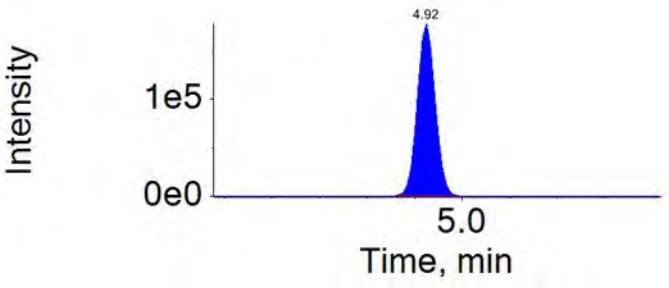
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



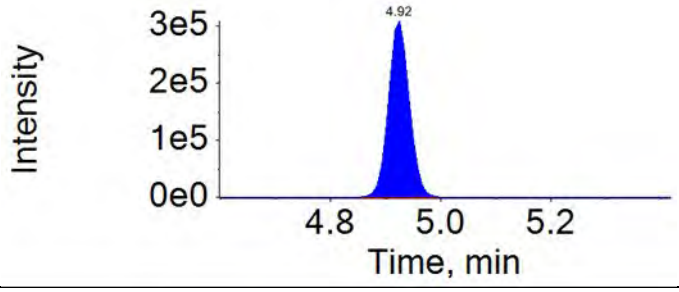


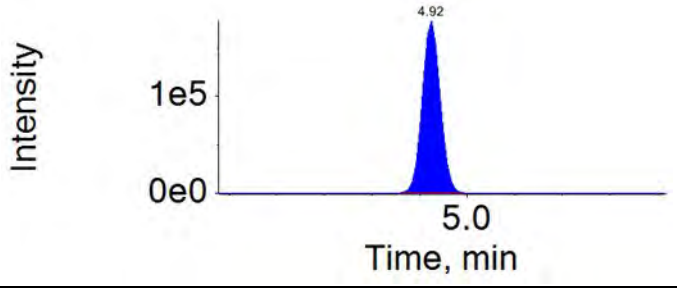
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

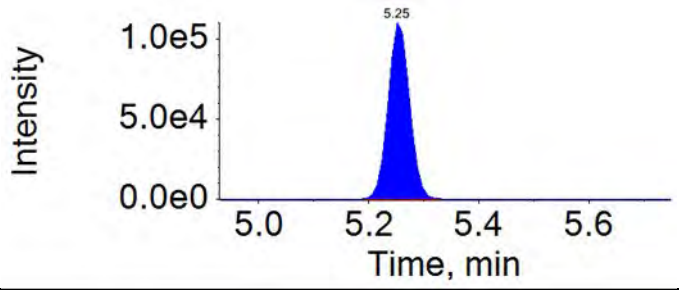
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

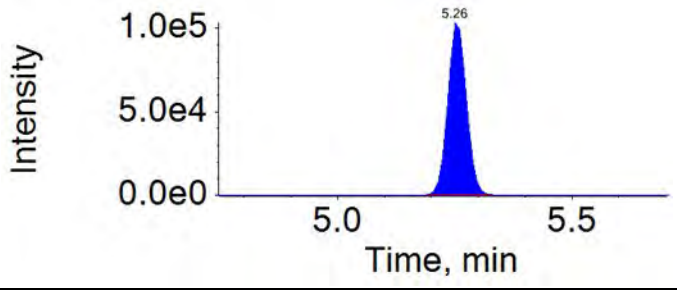
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



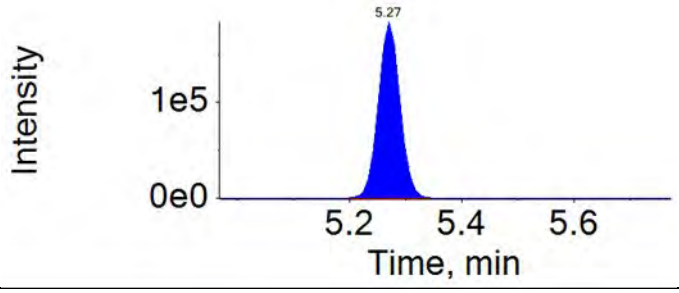


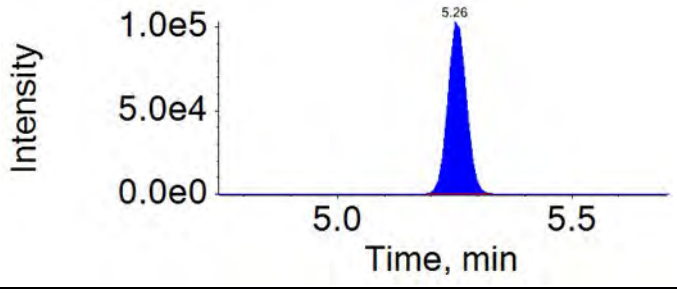
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



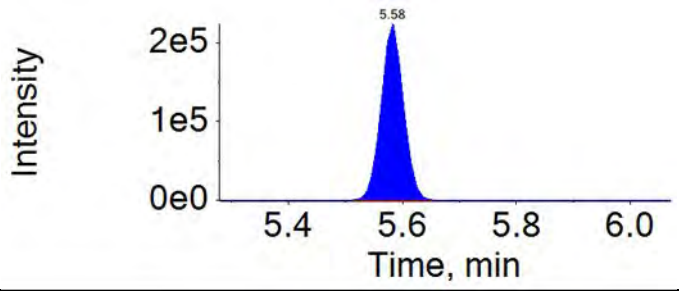


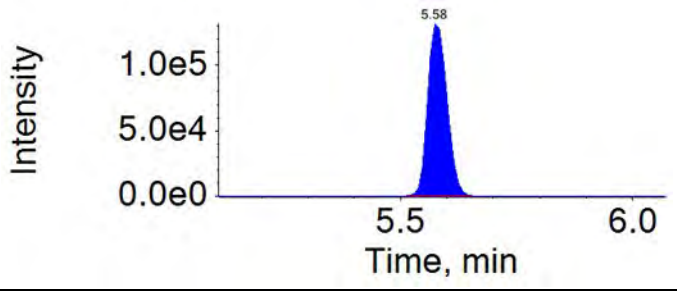
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

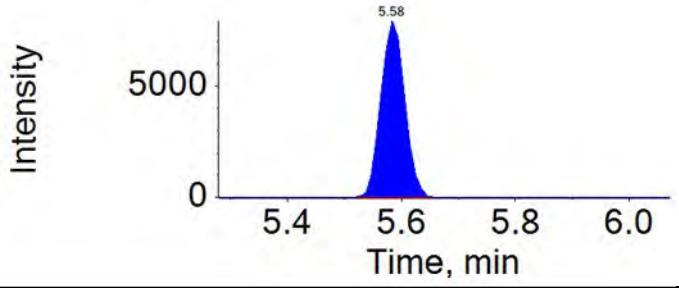
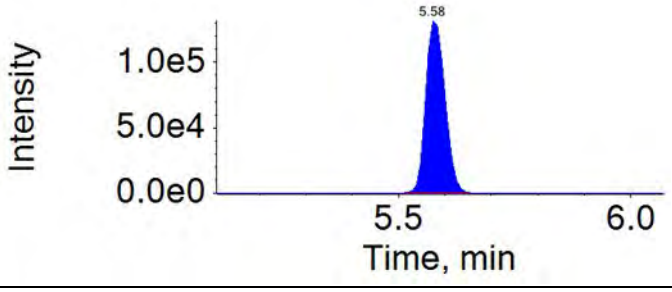


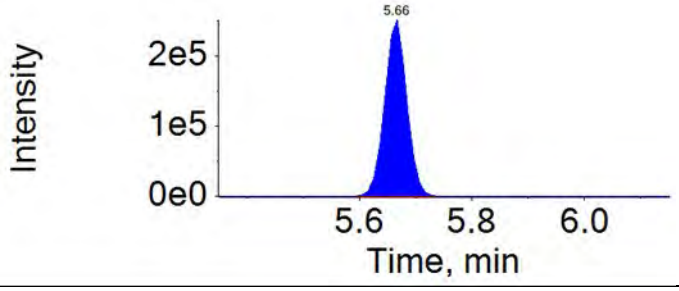
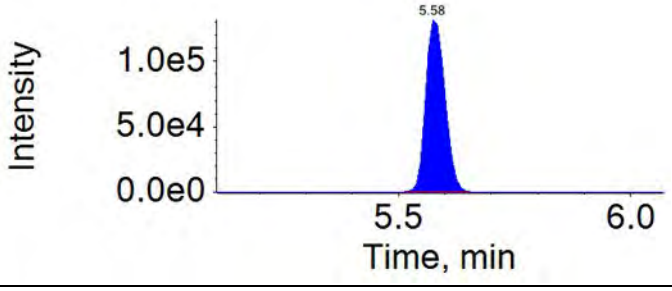


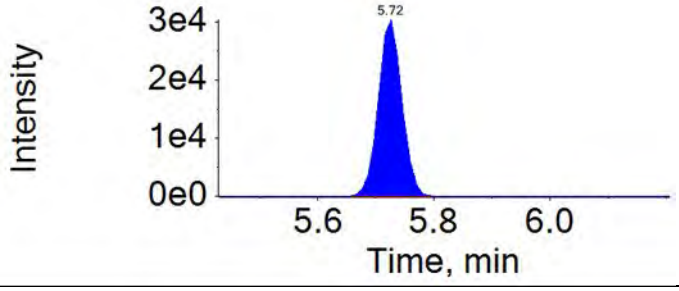
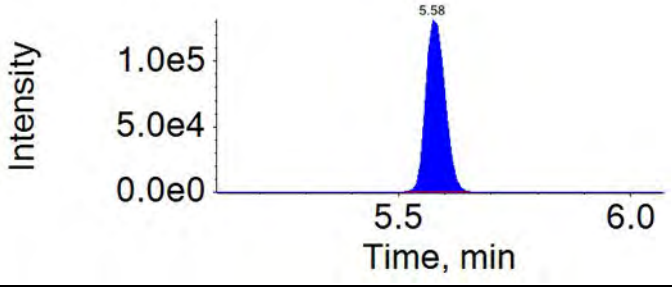
APPROVED
By MSM at 1:53 pm, 12/7/18

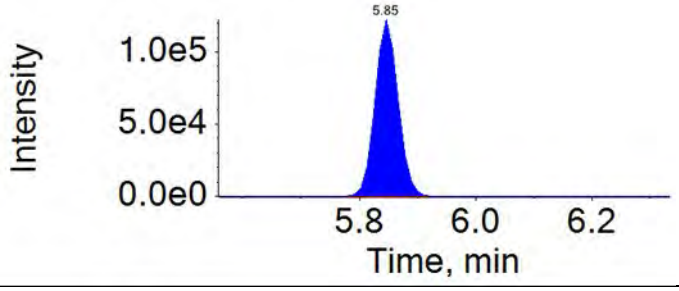
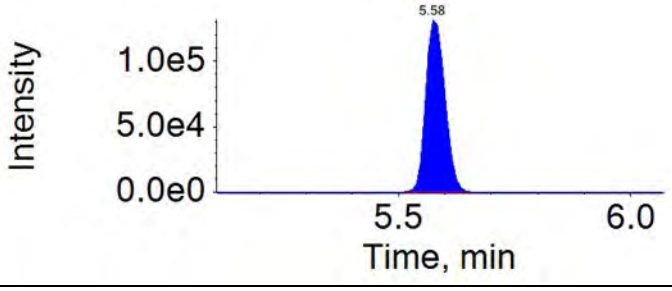
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

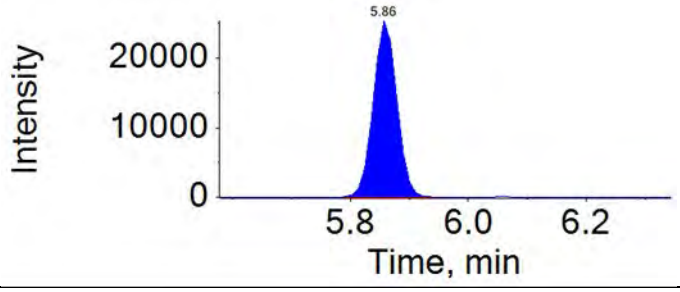
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

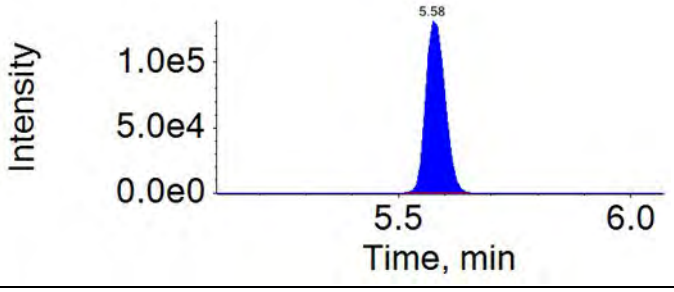
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

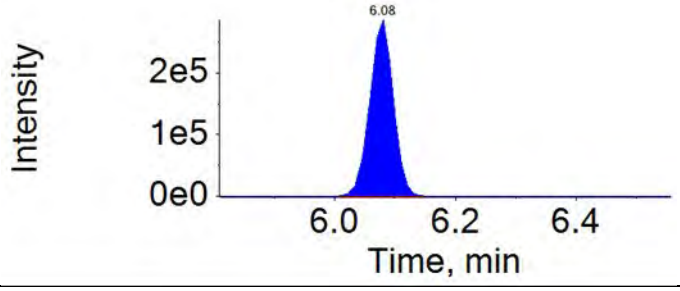
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

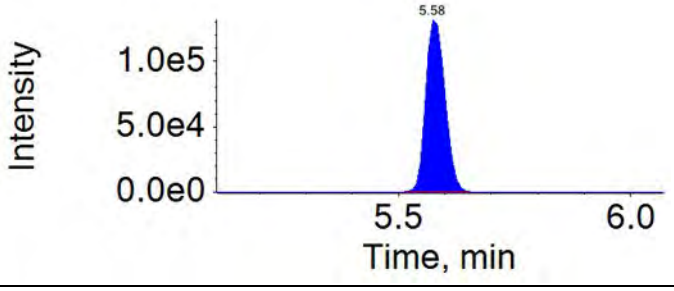
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



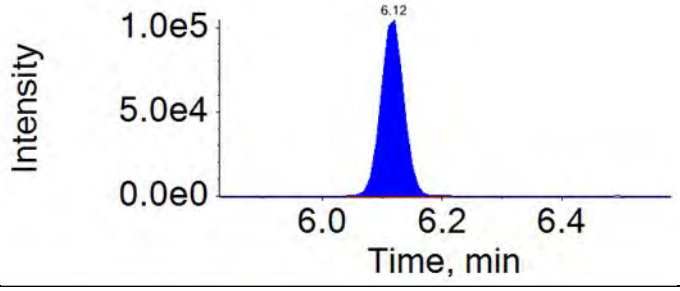


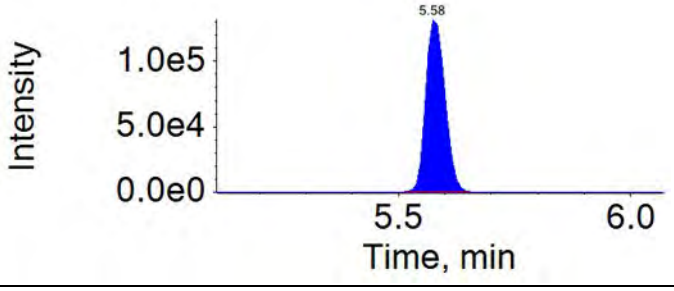
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



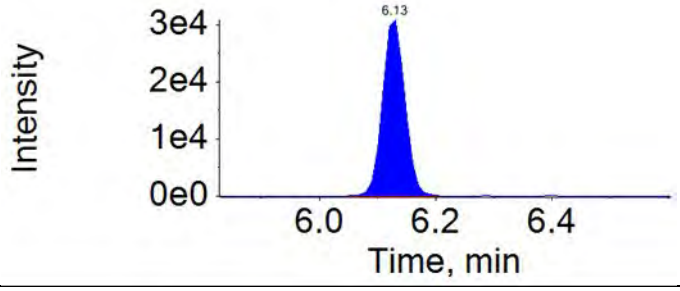


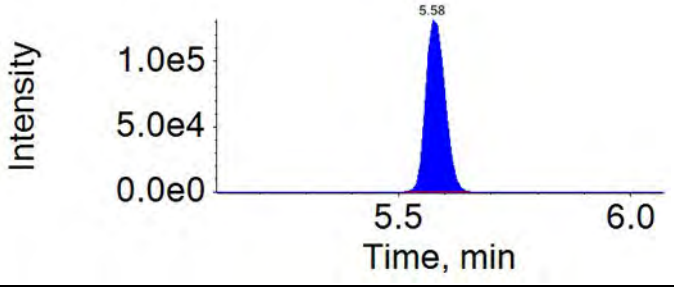
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



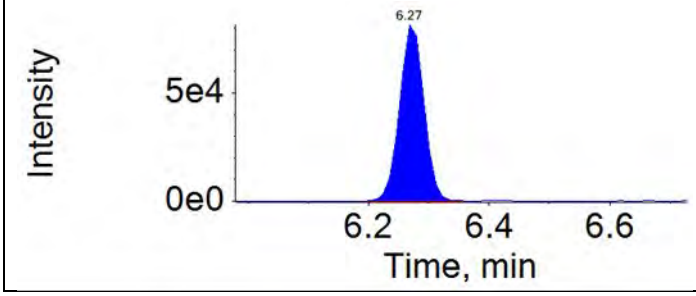


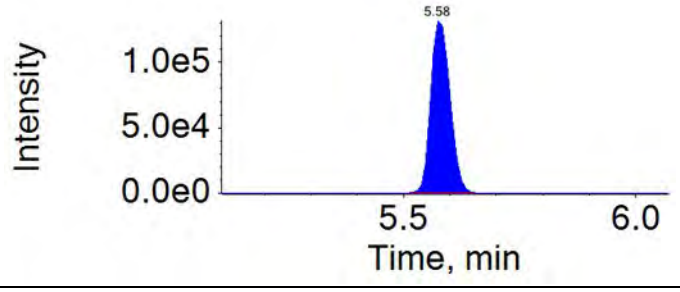
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

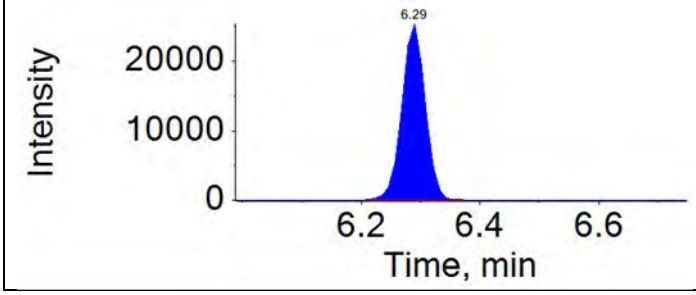
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

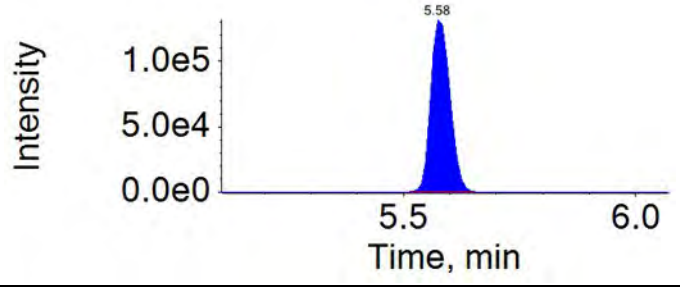
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



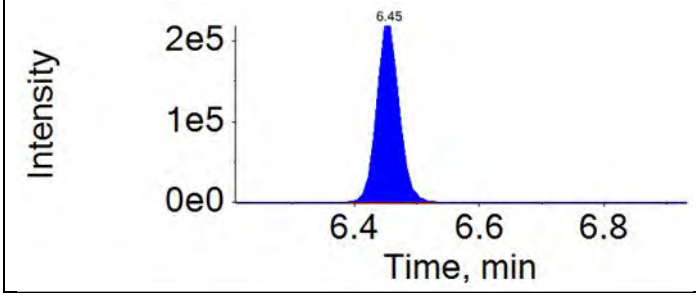


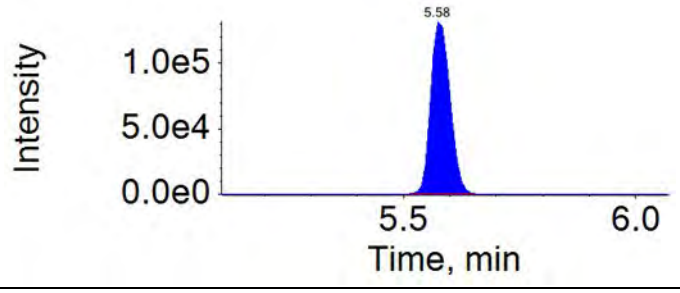
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

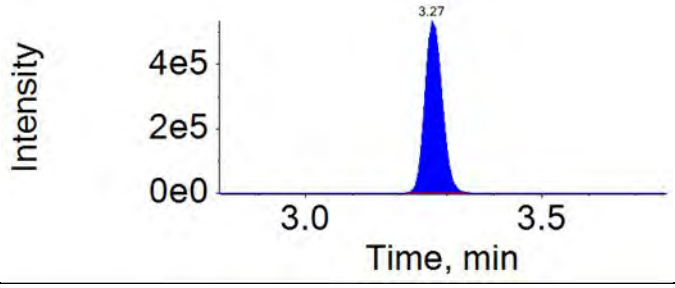
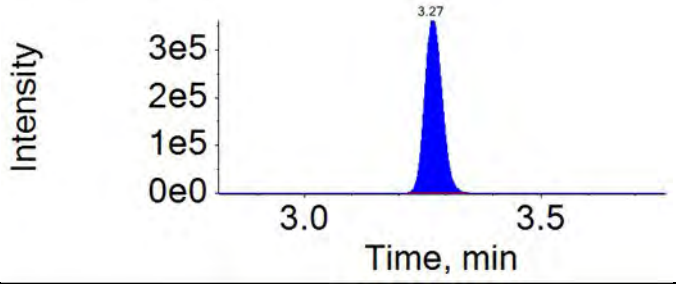


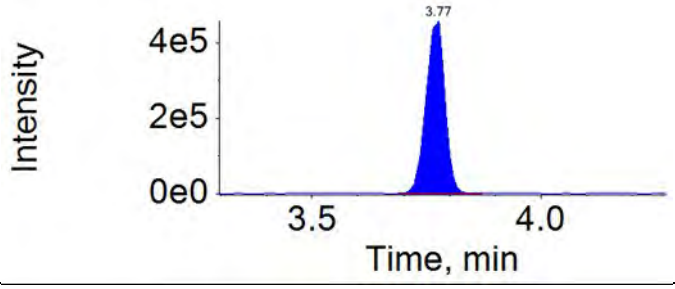
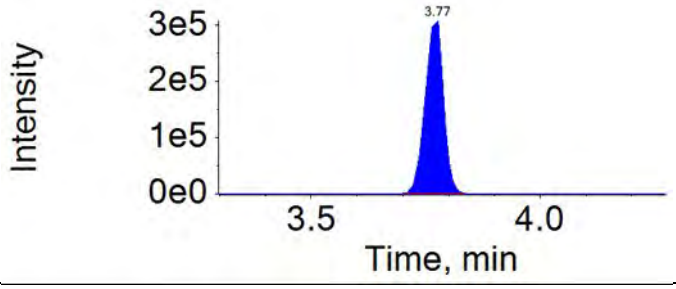


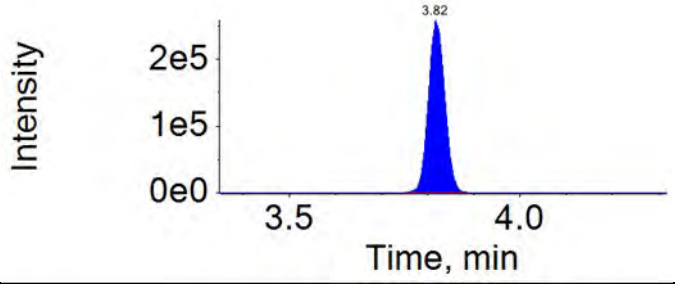
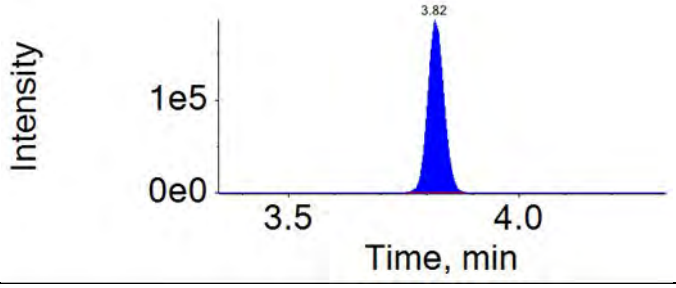
APPROVED
By MSM at 1:53 pm, 12/7/18

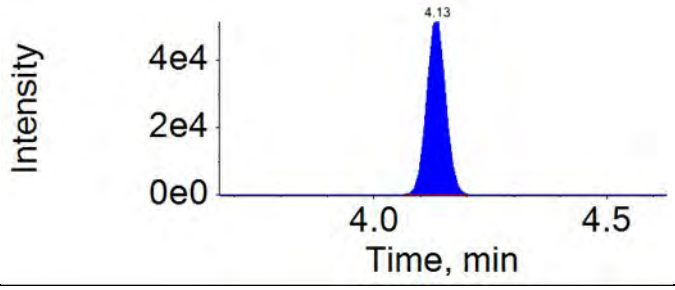
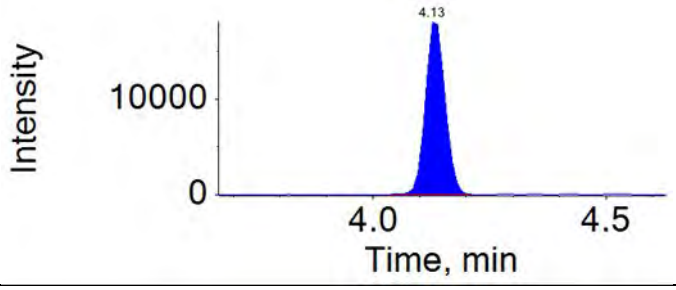
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

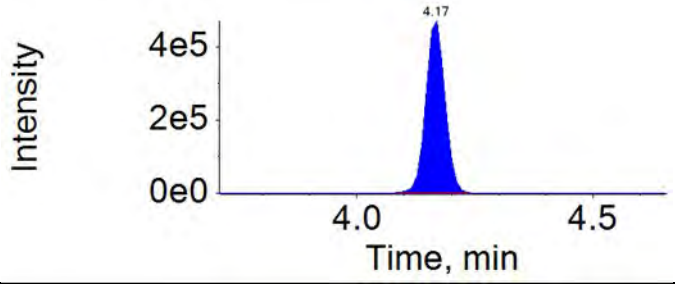
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

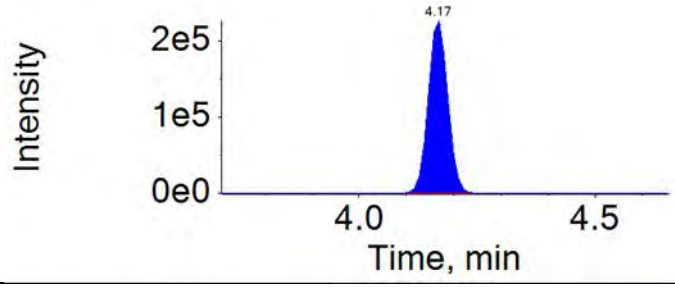
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

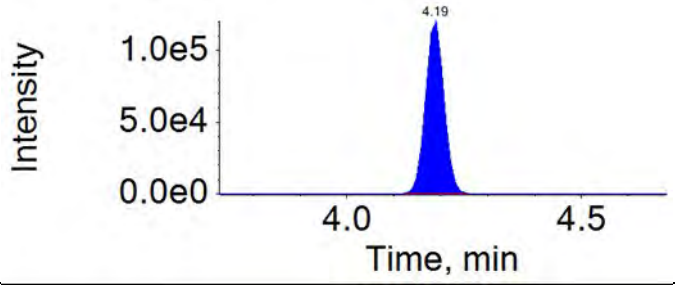
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

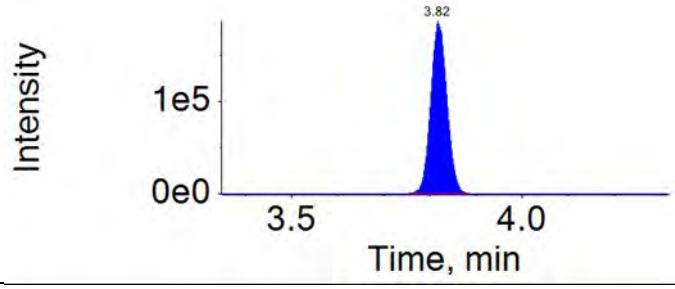
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



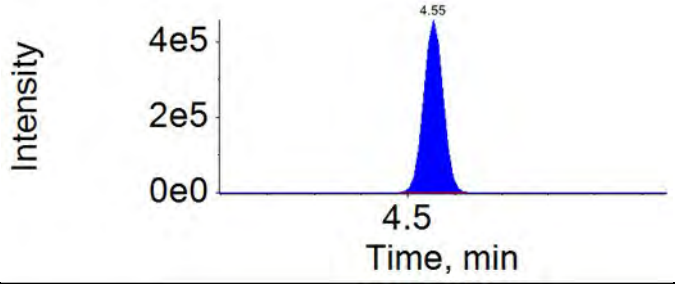


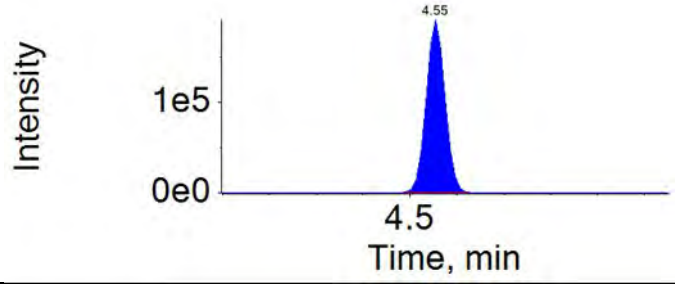
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



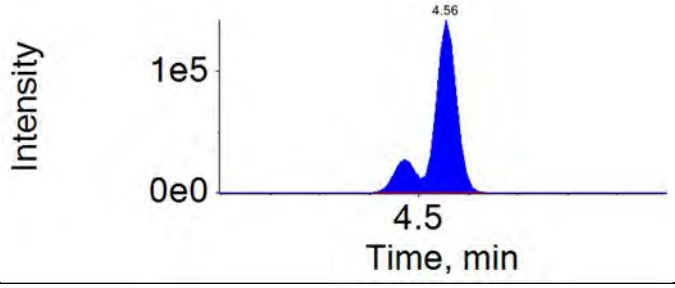


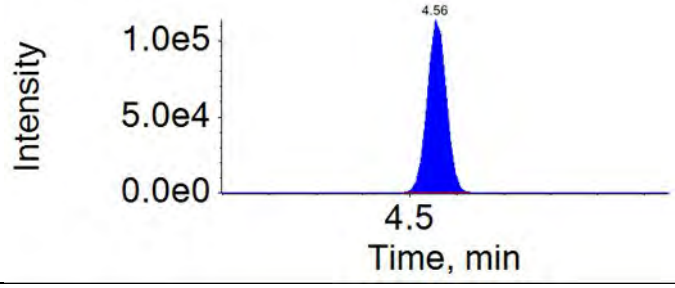
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



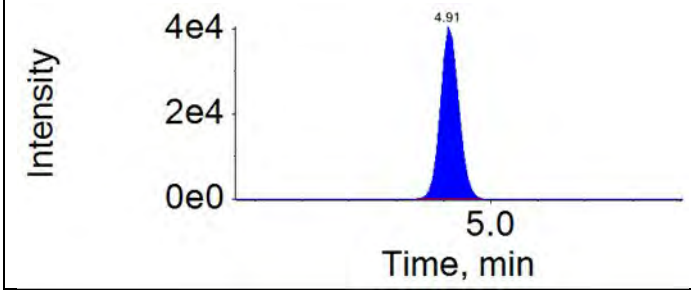


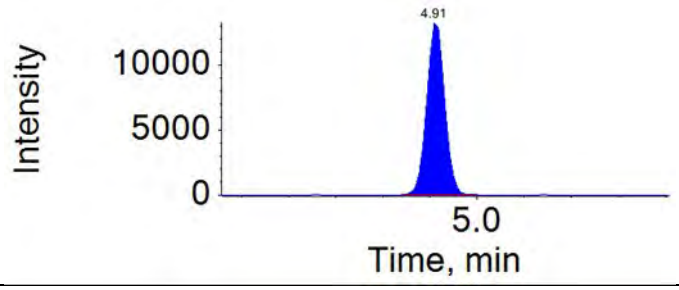
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

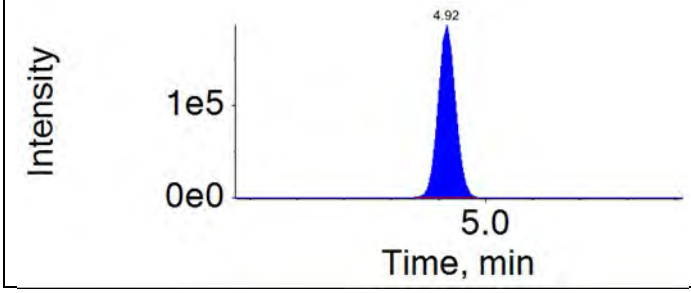
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

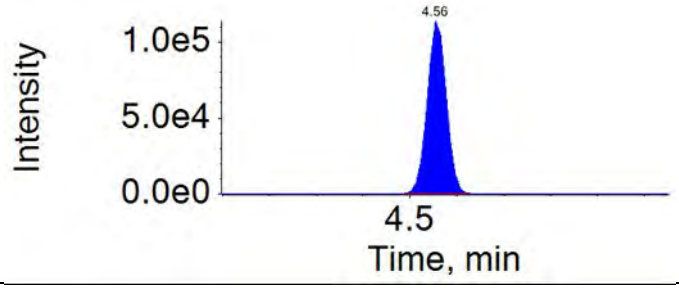
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



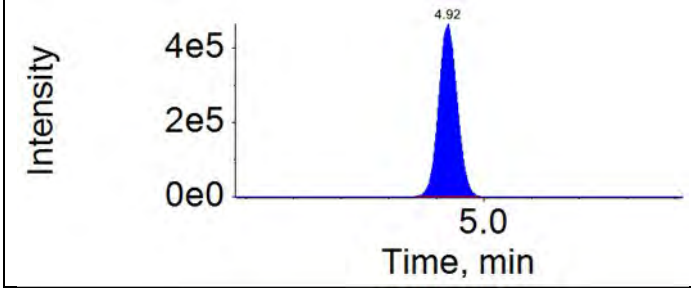


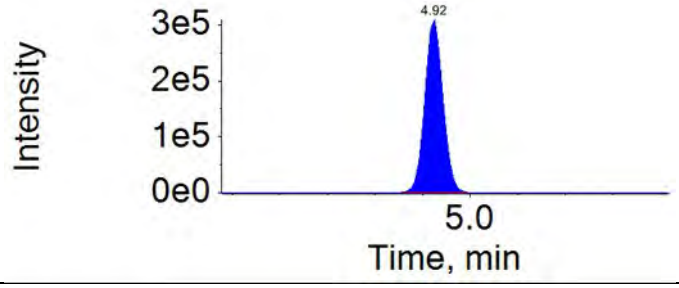
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



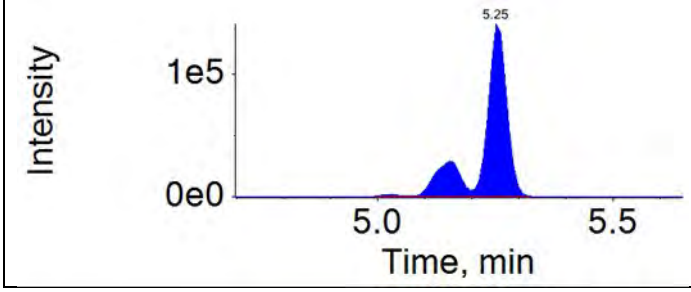


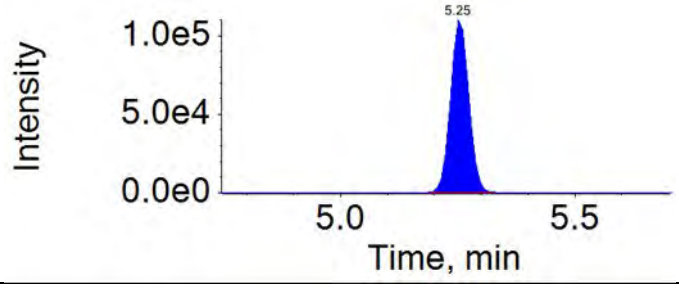
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



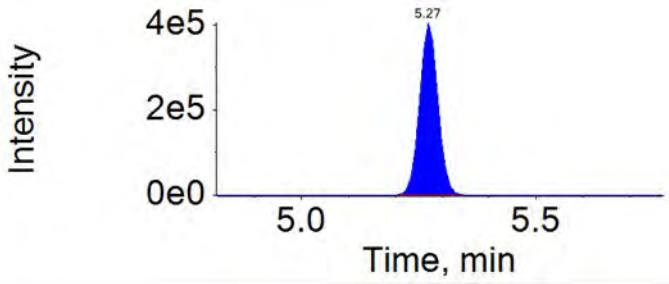


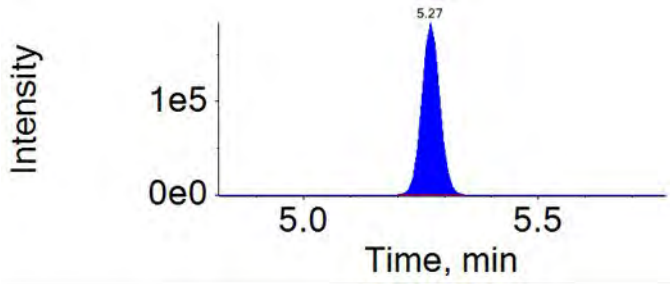
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

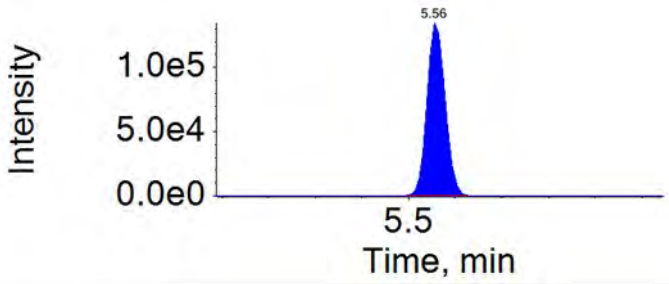
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

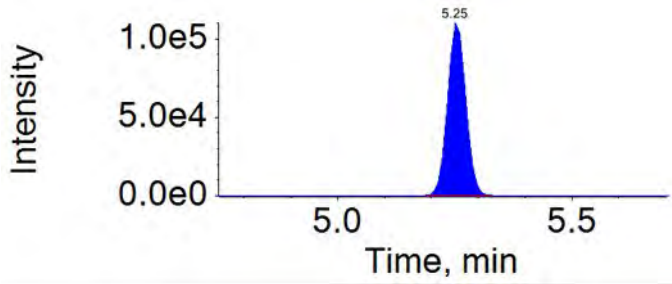
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



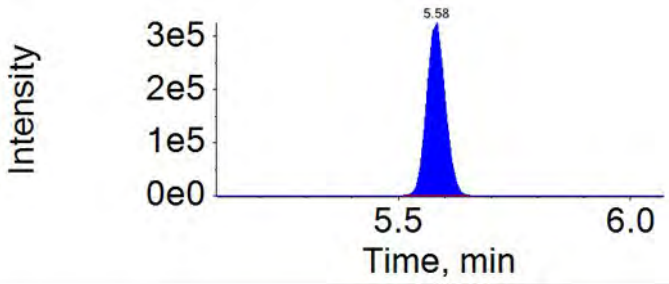


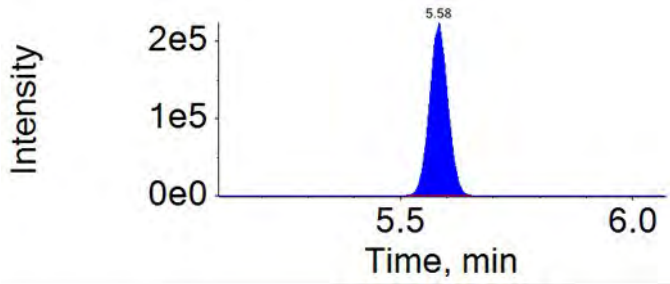
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



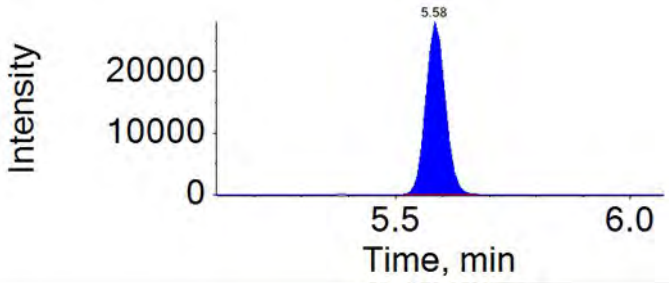


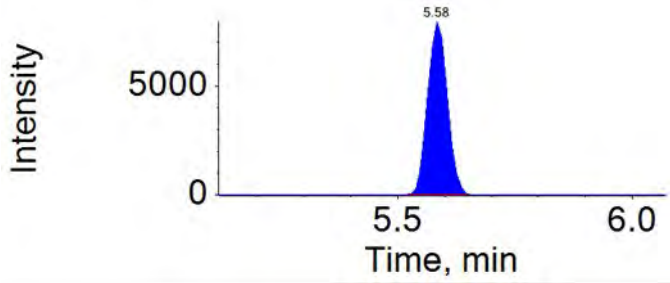
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



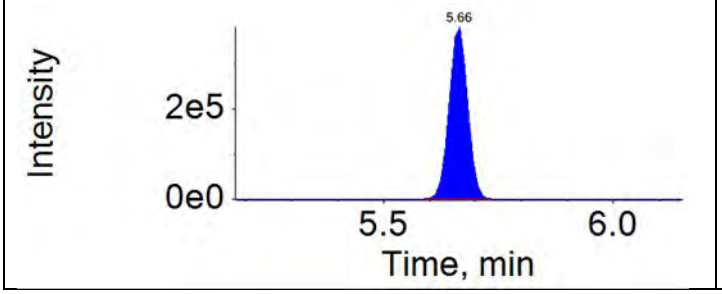


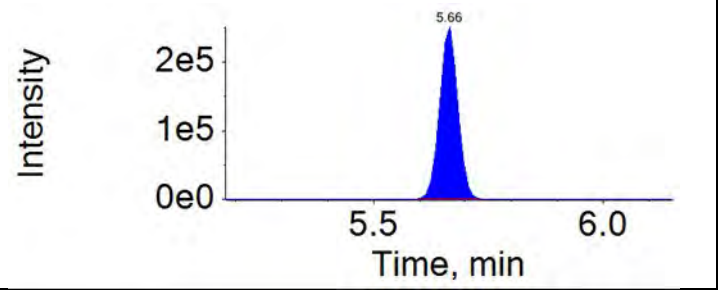
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

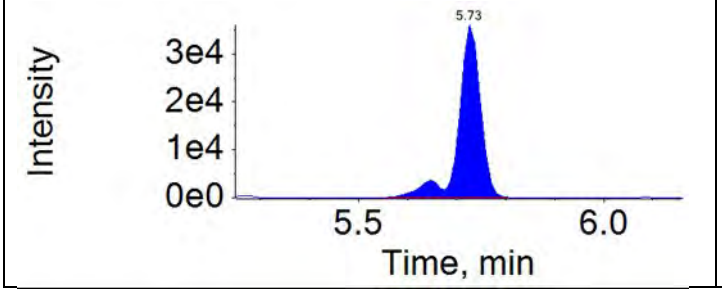
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

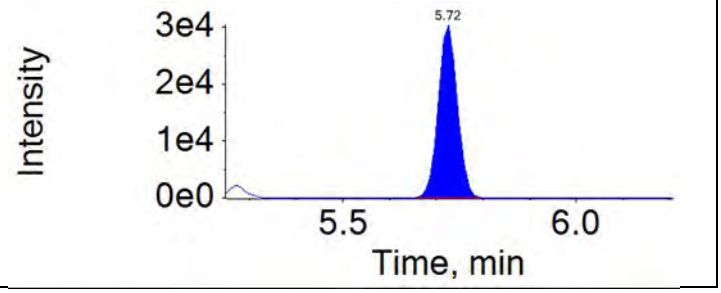
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



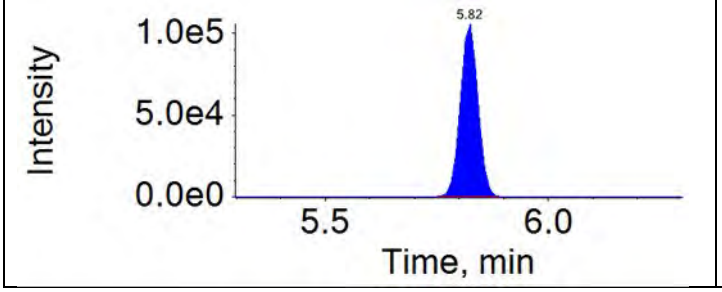


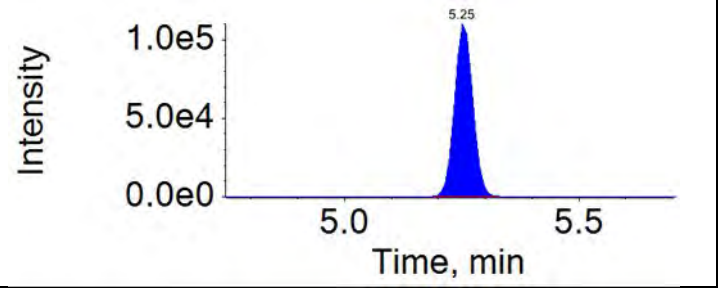
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



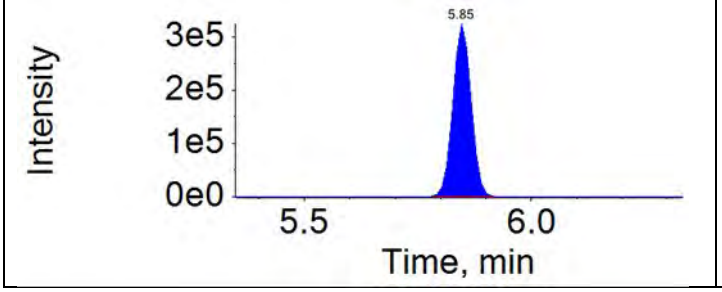


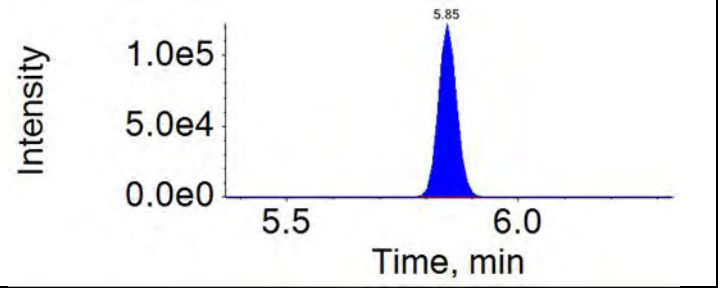
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



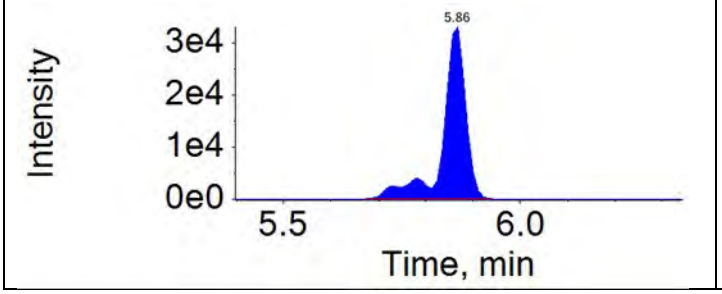


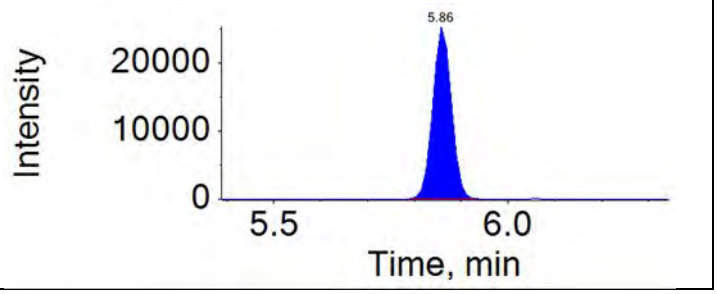
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

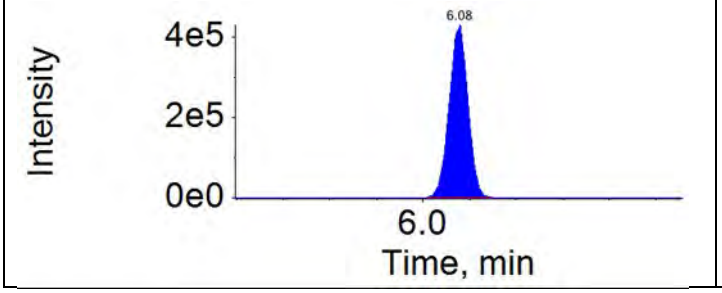
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

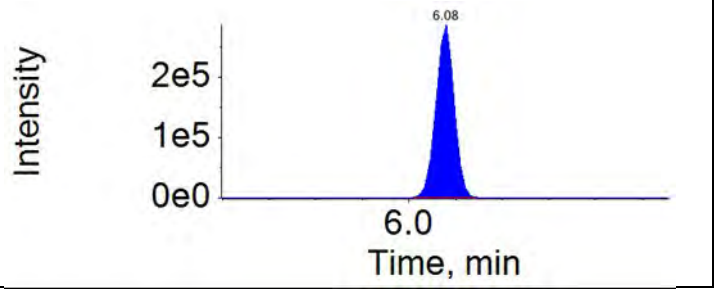
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



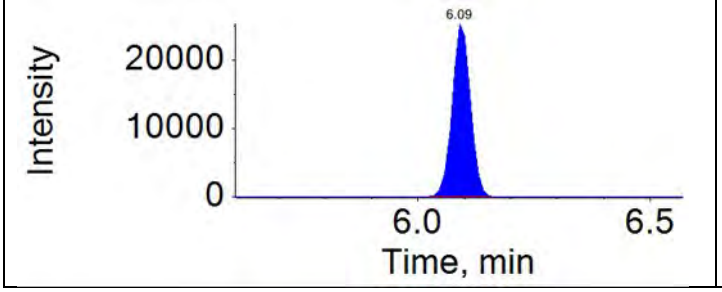


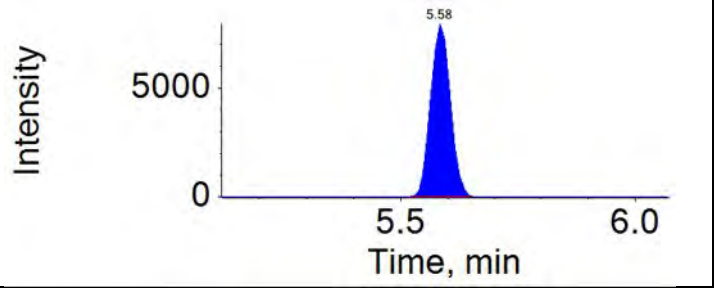
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



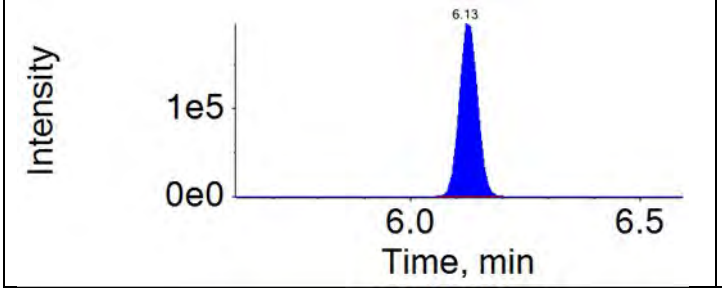


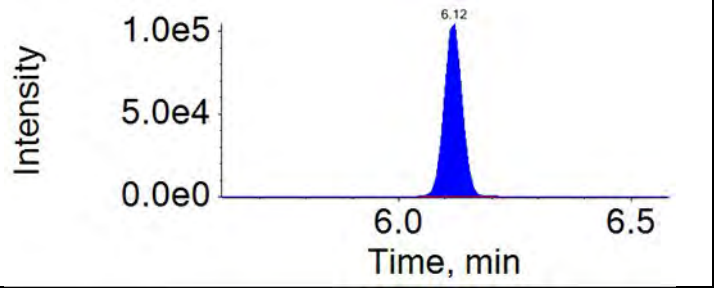
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



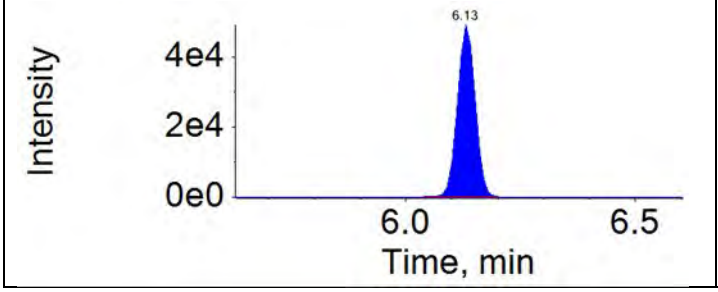


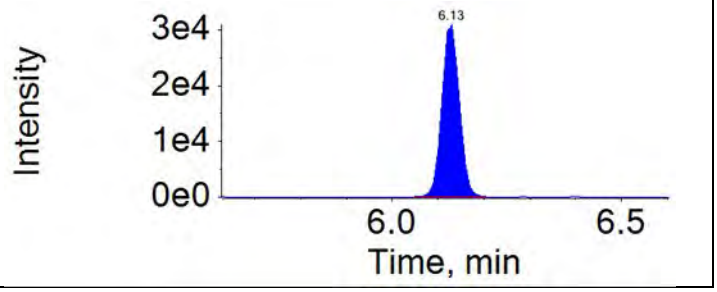
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

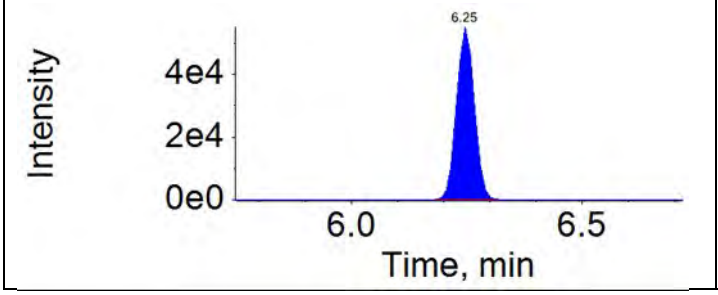
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

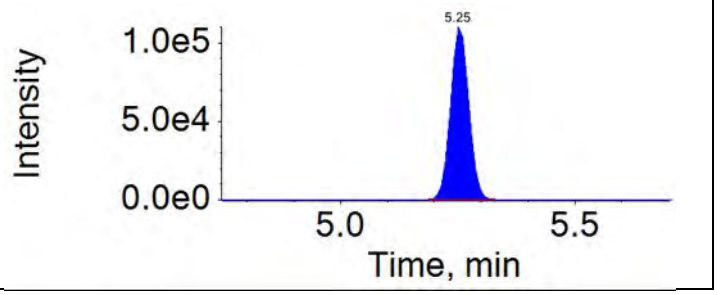
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



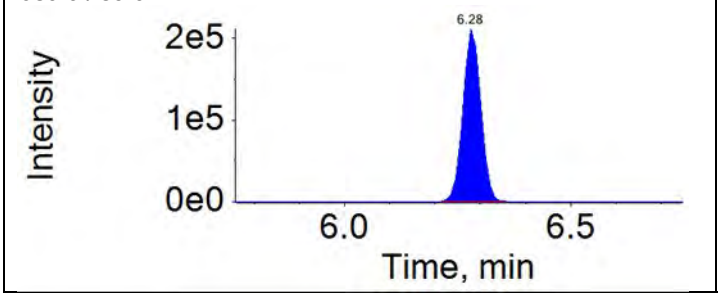


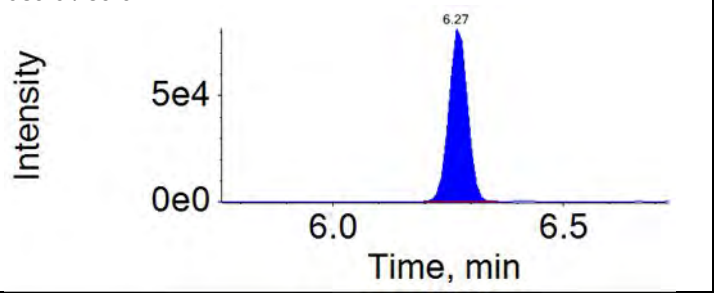
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



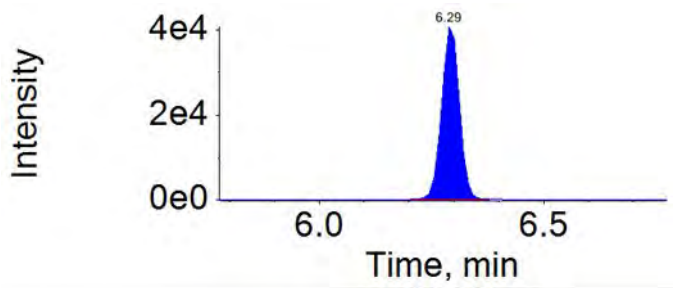


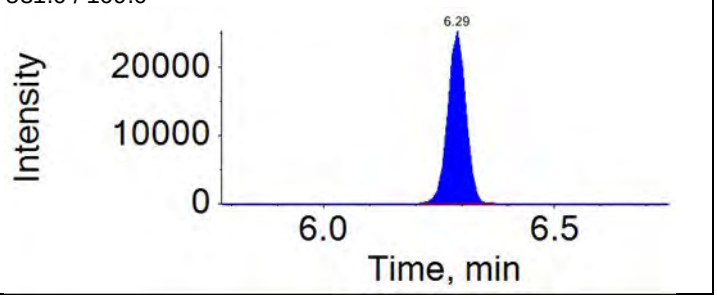
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

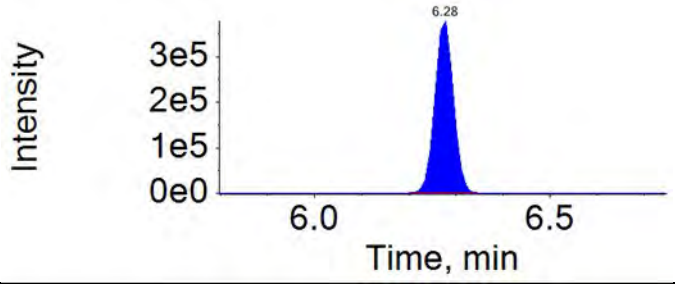
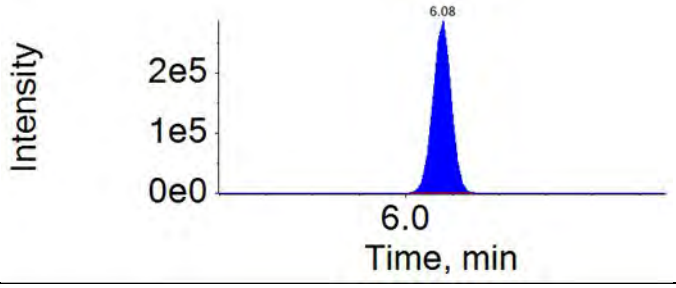


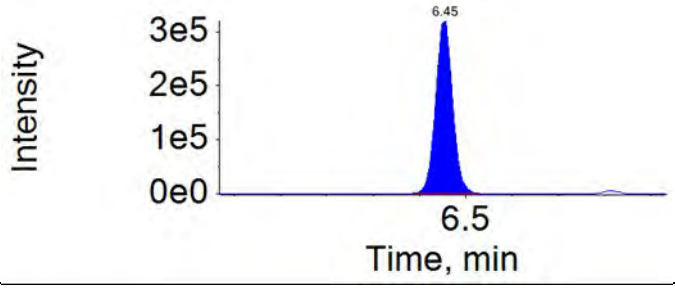
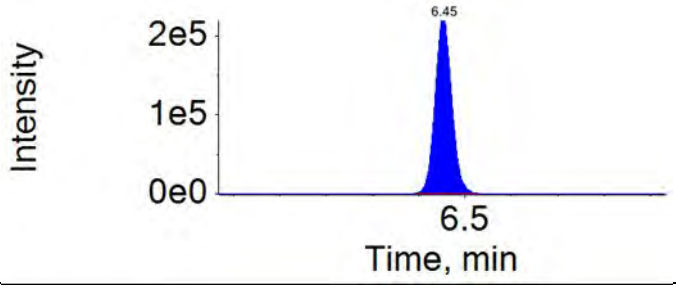


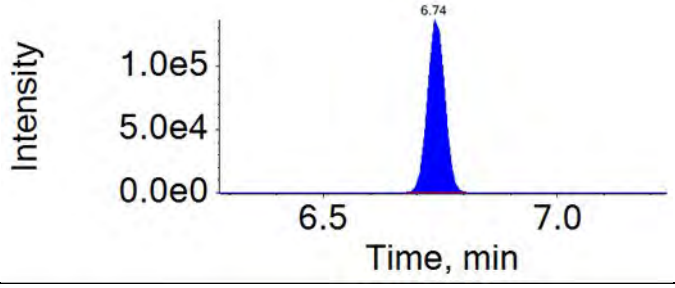
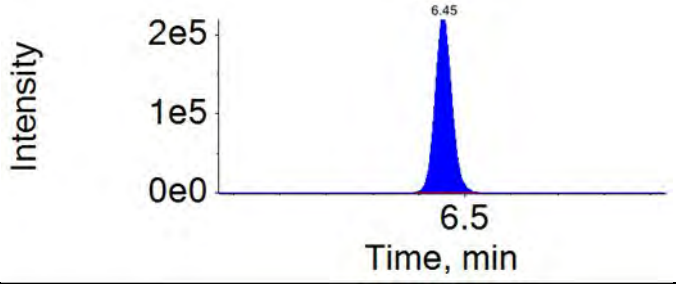
APPROVED
By MSM at 1:53 pm, 12/7/18

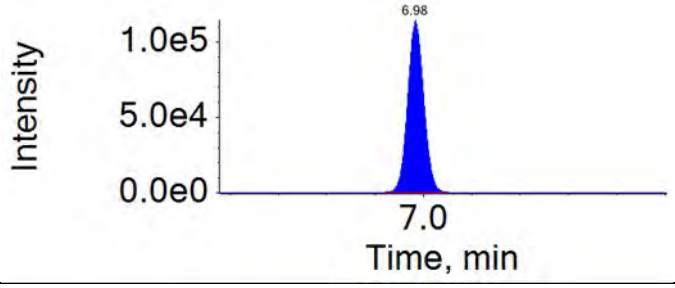
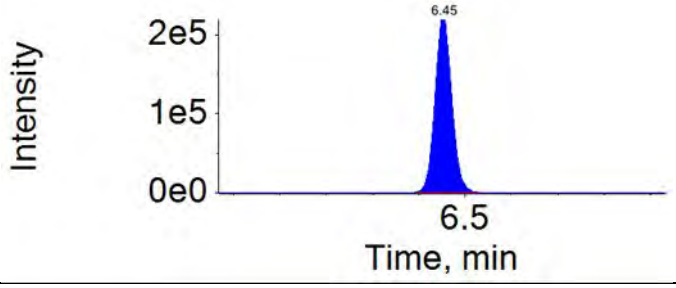
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

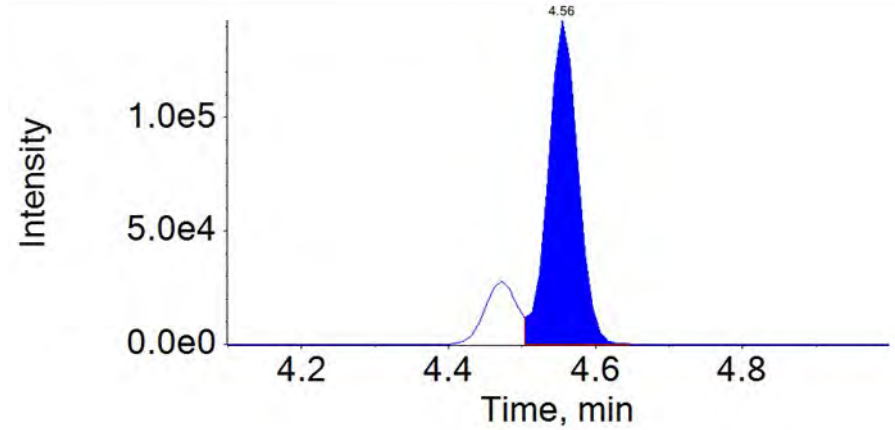
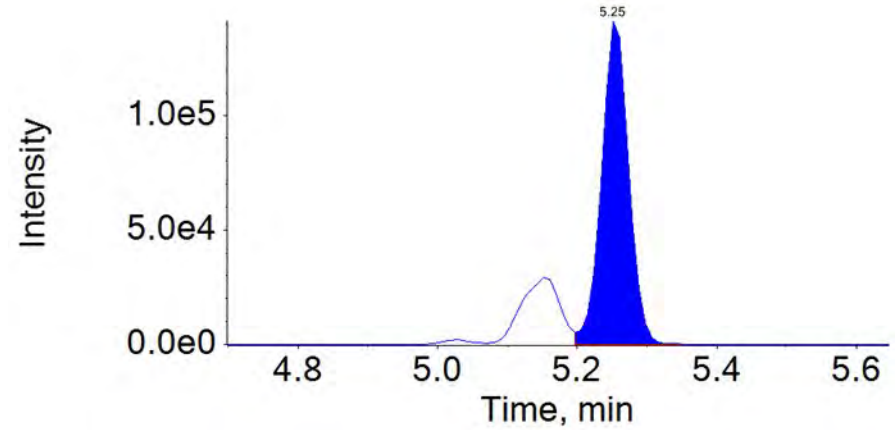
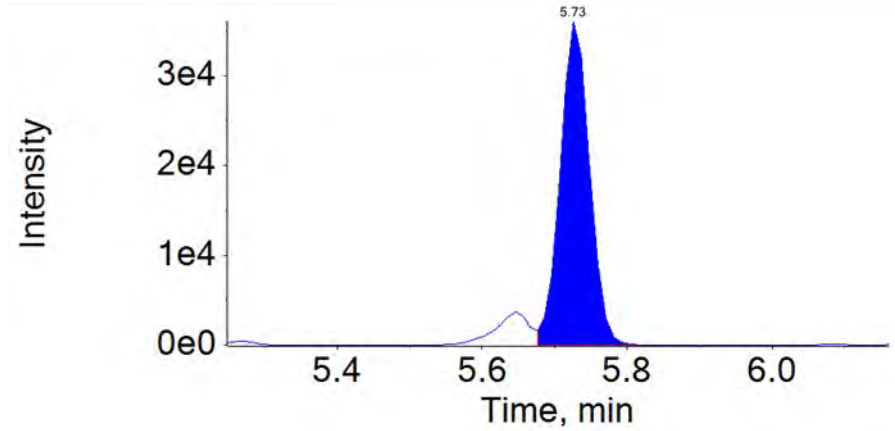
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

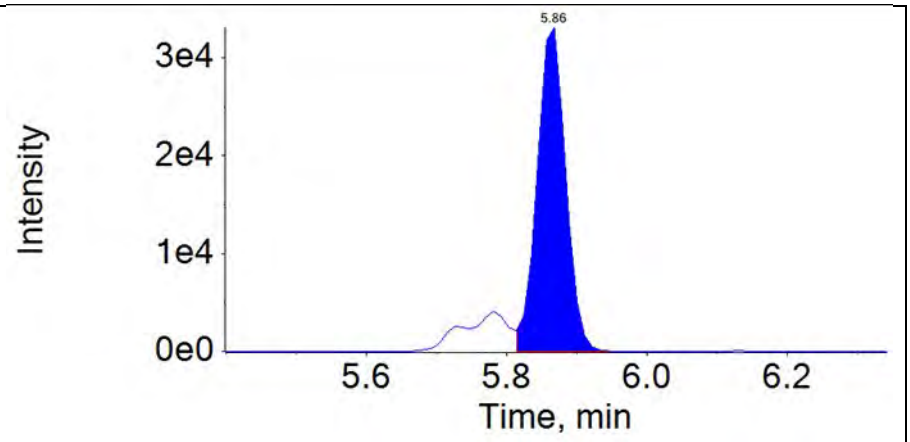
Component Name: PFHxS **RT (min.):** 4.56 **Peak Area:** 403401.71 **Mass Range:** 399.0 / 80.0 **File Name:** 18DEC06DCAL-28.wiff **Sample Name:** CAL4	 **Integration Comment:** incorrect integration
Component Name: PFOS **RT (min.):** 5.25 **Peak Area:** 381410.57 **Mass Range:** 499.0 / 80.0 **File Name:** 18DEC06DCAL-28.wiff **Sample Name:** CAL4	 **Integration Comment:** incorrect integration
Component Name: NMeFOSAA **RT (min.):** 5.73 **Peak Area:** 101244.25 **Mass Range:** 570.0 / 419.0 **File Name:** 18DEC06DCAL-28.wiff **Sample Name:** CAL4	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

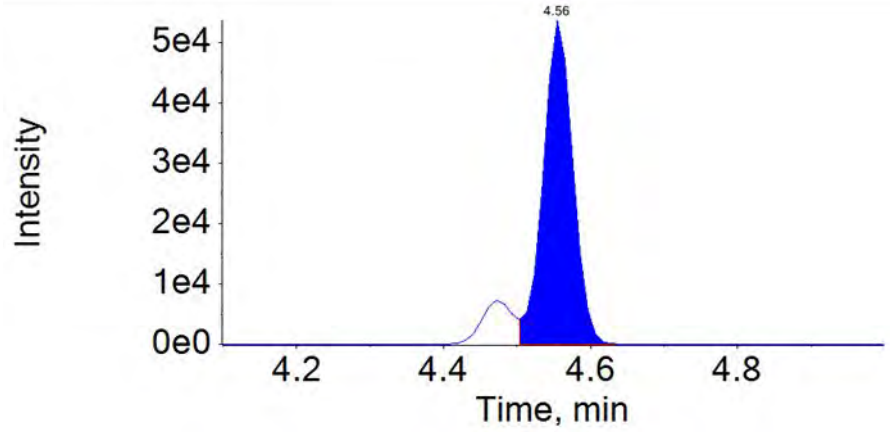
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.86
Peak Area:
94101.51
Mass Range:
584.0 / 419.0
File Name:
18DEC06DCAL-28.wiff
Sample Name:
CAL4



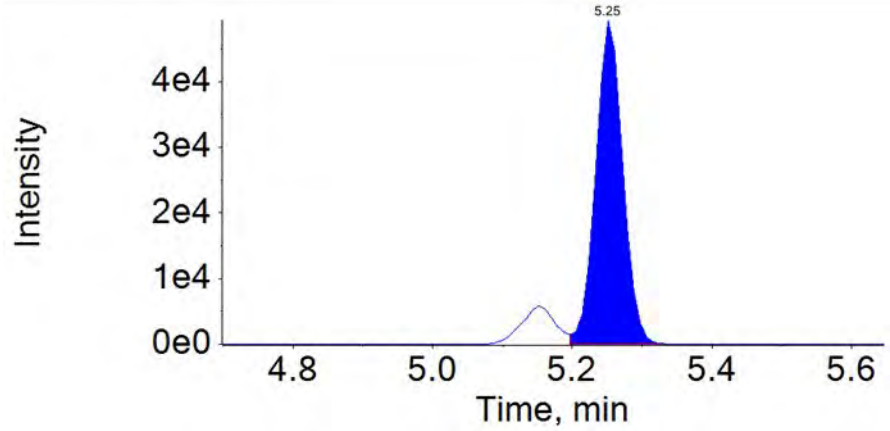
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
150831.78
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-28.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
132958.38
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-28.wiff
Sample Name:
CAL4



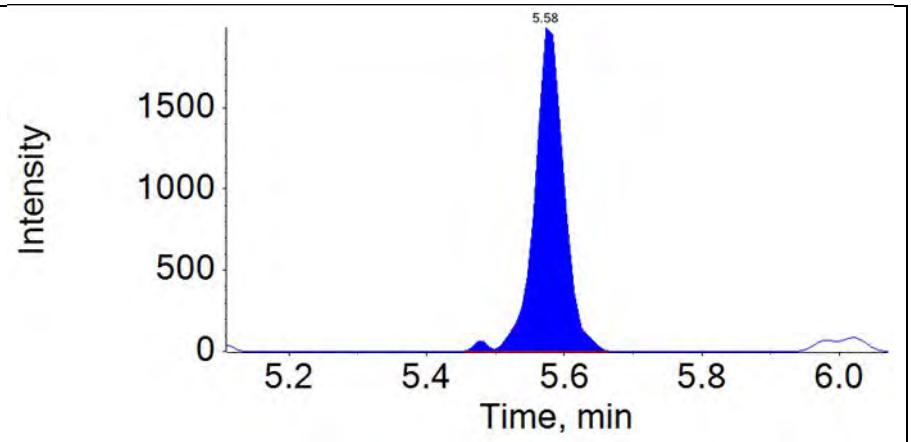
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

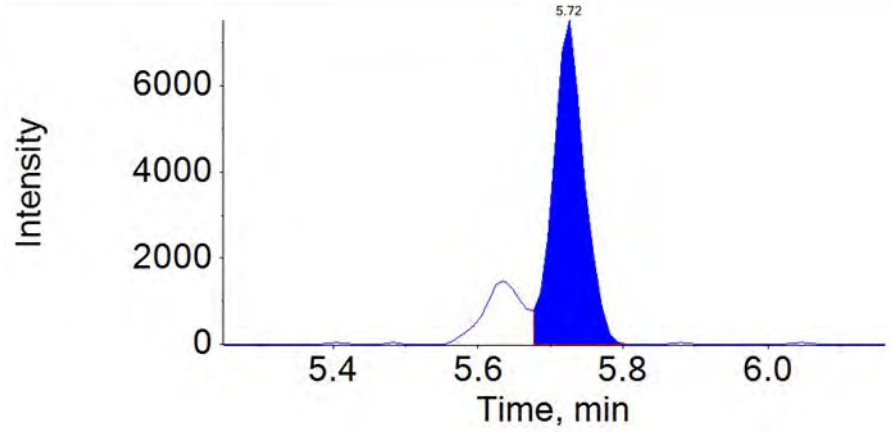
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
5.58
Peak Area:
5977.39
Mass Range:
513.0 / 169.0
File Name:
18DEC06DCAL-28.wiff
Sample Name:
CAL4



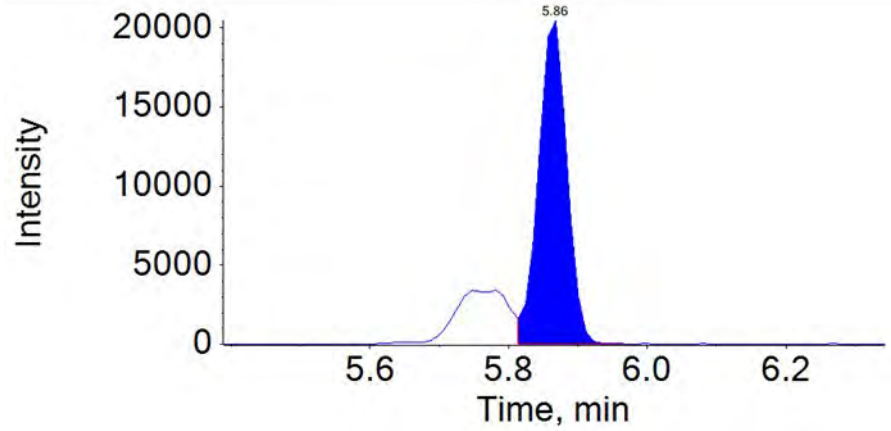
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
22303.27
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-28.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
58534.66
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-28.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Ion Ratio Report

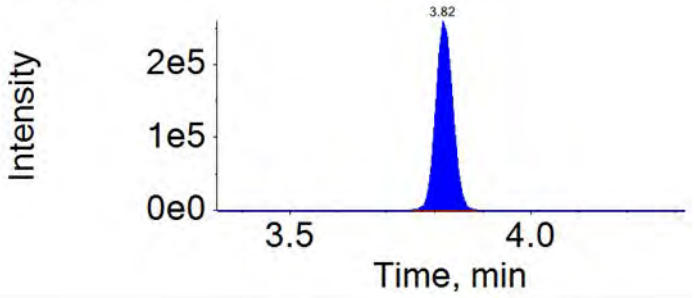
Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-28.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	641650.74	A	1.0000	1.0000			
PFBS_2	3.82	1.00	233199.18	A	0.3627	0.3634	0	50	
4:2-FTS	4.13	1.00	148072.82	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	92618.82	A	0.6542	0.6255	-4	50	
PFHxA	4.17	1.00	1336811.10	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	14402.09	A	0.0097	0.0108	11	50	
PFPeS	4.19	1.10	330977.55	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	171284.90	A	0.5262	0.5175	-2	50	
PFHpA	4.55	1.00	1312251.02	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	73217.19	A	0.0565	0.0558	-1	50	
PFHxS	4.56	1.00	486027.42	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	172186.82	M	0.3645	0.3543	-3	50	
6:2-FTS	4.91	1.00	108350.61	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	67977.03	A	0.6273	0.6274	0	50	
PFHpS	4.92	1.08	475629.59	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	189242.72	A	0.4162	0.3979	-4	50	
PFOA	4.92	1.00	1259378.83	A	1.0000	1.0000			
PFOA_2	4.92	1.00	75979.90	A	0.0616	0.0603	-2	50	
PFOS	5.25	1.00	499514.66	M	1.0000	1.0000			
PFOS_2	5.25	1.00	152723.72	M	0.3021	0.3057	1	50	
PFNA	5.27	1.00	1095142.56	A	1.0000	1.0000			
PFNA_2	5.27	1.00	20893.87	A	0.0192	0.0191	-1	50	
PFNS	5.56	1.06	364043.01	A	1.0000	1.0000			
PFNS_2	5.56	1.06	162563.48	A	0.4845	0.4466	-8	50	
PFDA	5.58	1.00	911932.08	A	1.0000	1.0000			
PFDA_2	5.58	1.00	5879.06	M	0.0096	0.0064	-33	50	
8:2-FTS	5.58	1.00	80381.54	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	49434.26	A	0.6117	0.6150	1	50	
NMeFOSAA	5.73	1.00	113391.52	M	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	27920.58	M	0.2673	0.2462	-8	50	
PFDS	5.82	1.11	290693.23	A	1.0000	1.0000			
PFDS_2	5.82	1.11	140839.99	A	0.4952	0.4845	-2	50	
PFUnDA	5.85	1.00	899827.44	A	1.0000	1.0000			
PFUnDA_2	5.85	1.00	2795.14	A	0.0041	0.0031	-24	50	
NEtFOSAA	5.86	1.00	112530.30	M	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	76785.73	M	0.6726	0.6824	1	50	
PFDoDA	6.08	1.00	1203364.64	A	1.0000	1.0000			
PFDoDA_2	6.08	1.00	14171.27	A	0.0133	0.0118	-12	50	
10:2-FTS	6.09	1.09	68099.46	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	52642.81	A	0.6969	0.7730	11	50	
PFTrDA	6.28	1.03	1039364.46	A	1.0000	1.0000			
PFTrDA_2	6.28	1.03	8849.02	A	0.0075	0.0085	13	50	
PFTeDA	6.45	1.00	814575.84	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	4817.92	A	0.0066	0.0059	-11	50	
PFHxDA	6.74	1.04	349067.59	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	20892.57	A	0.0616	0.0599	-3	50	
PFODA	6.98	1.08	262292.75	A	1.0000	1.0000			
PFODA_2	6.98	1.08	6843.13	A	0.0272	0.0261	-4	50	

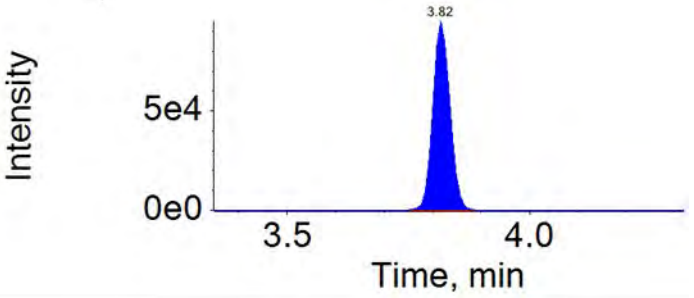
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

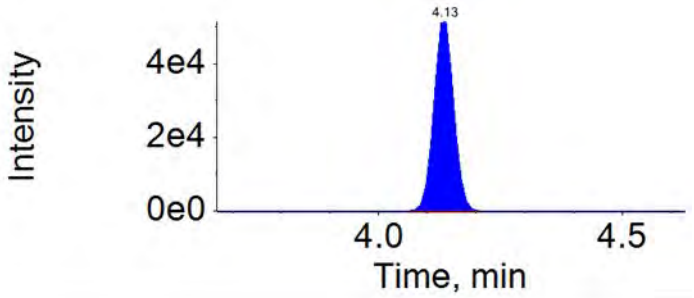
Component: PFBS
Primary Mass: 299.0 / 80.0



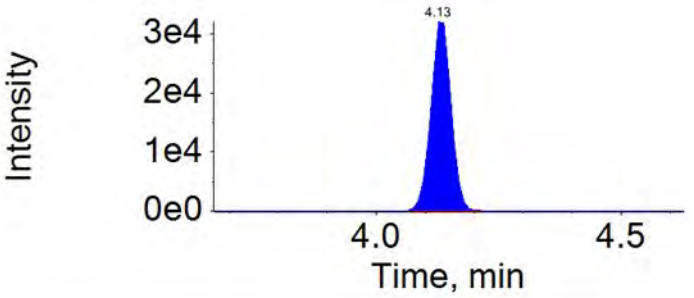
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



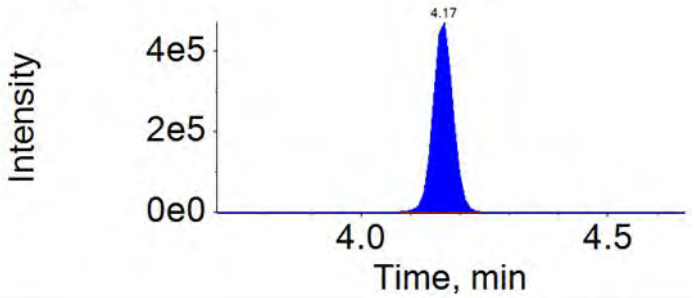
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



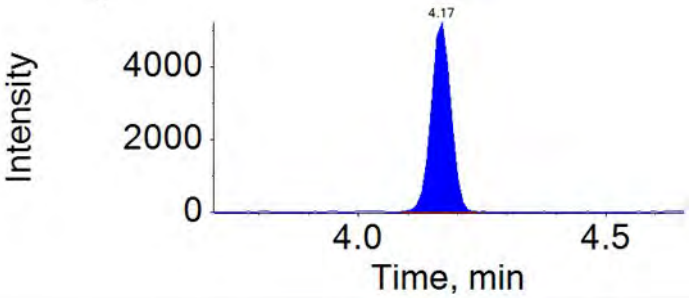
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



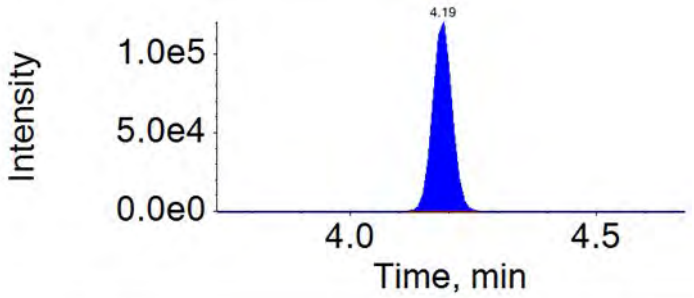
Component: PFHxA
Primary Mass: 313.0 / 269.0



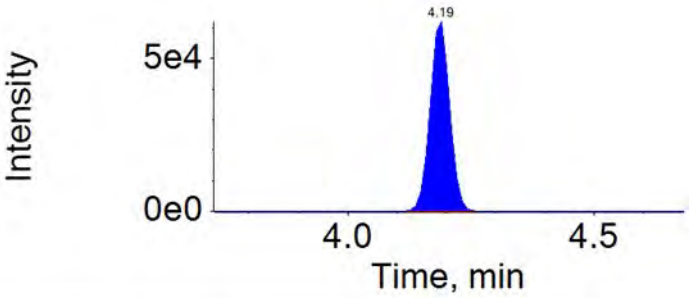
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



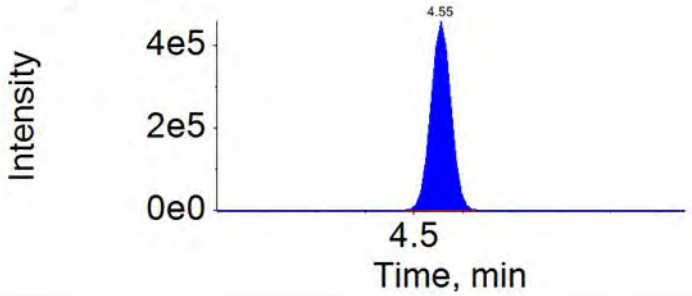
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



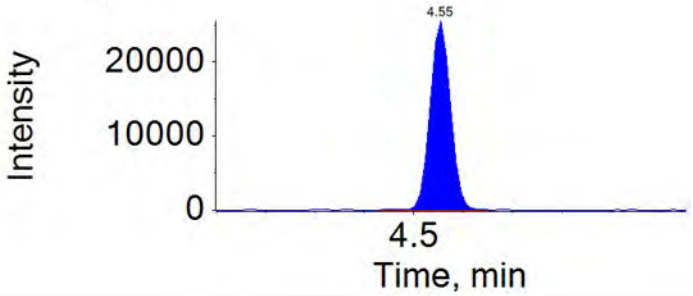
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

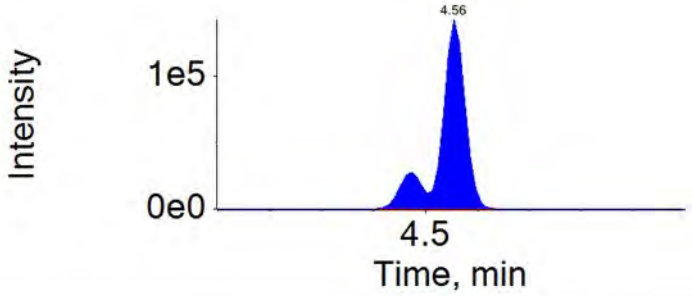
Component: PFHpA
Primary Mass: 363.0 / 319.0



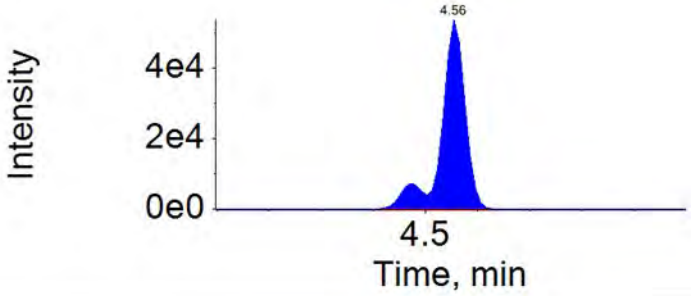
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



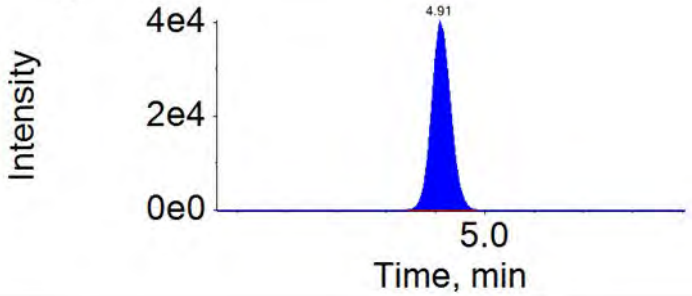
Component: PFHxS
Primary Mass: 399.0 / 80.0



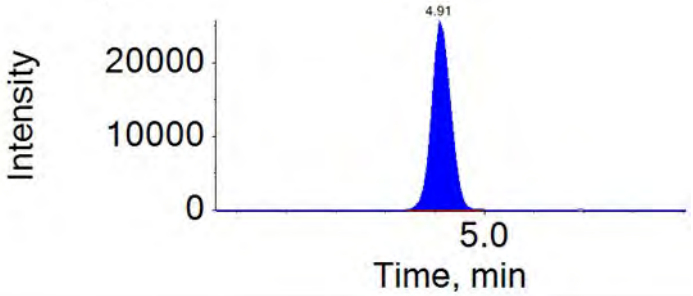
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



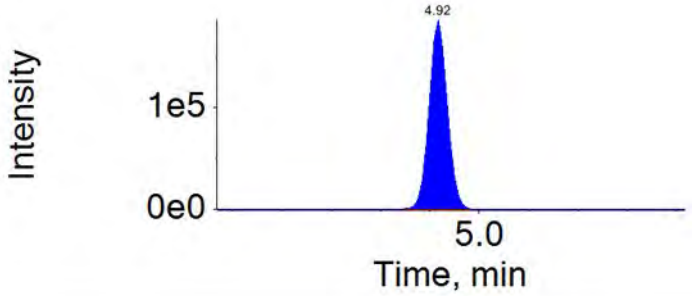
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



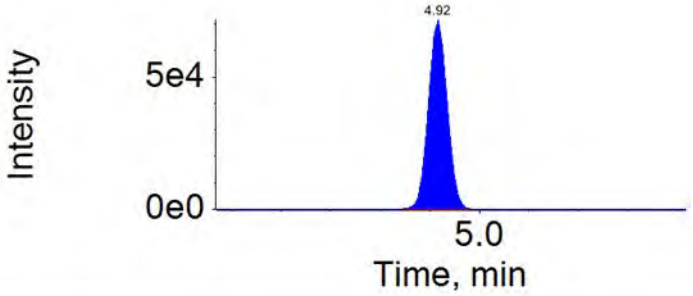
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



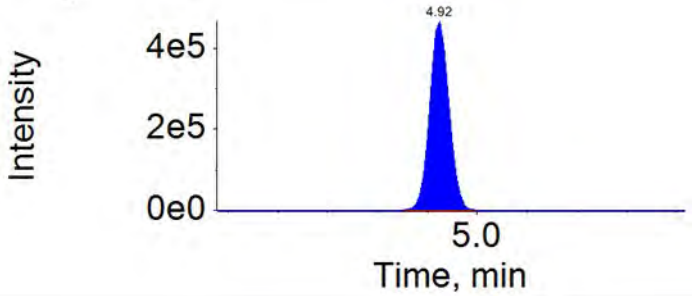
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



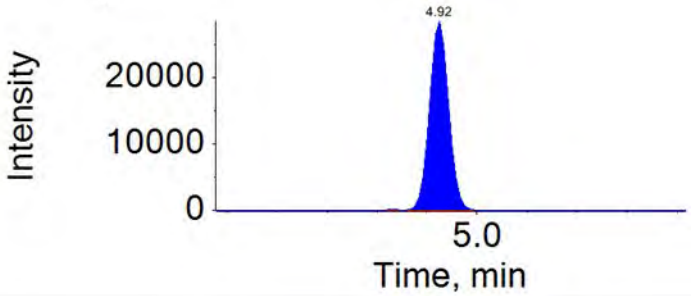
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

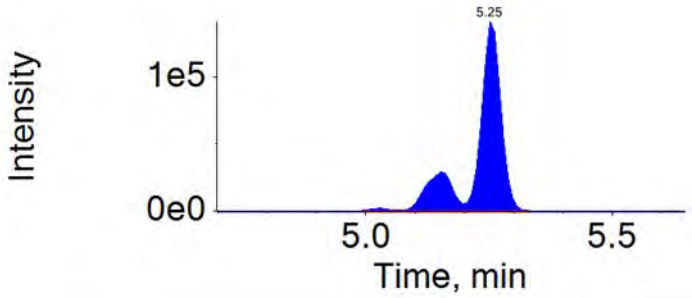
Component: PFOA
Primary Mass: 413.0 / 369.0



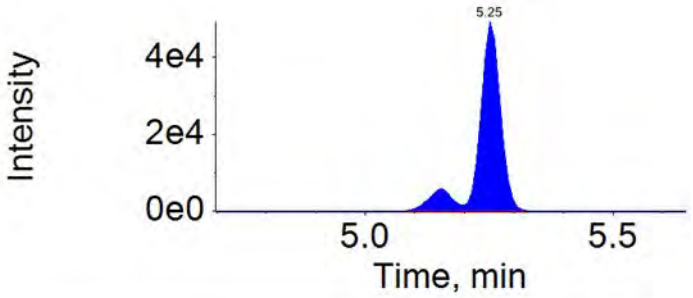
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



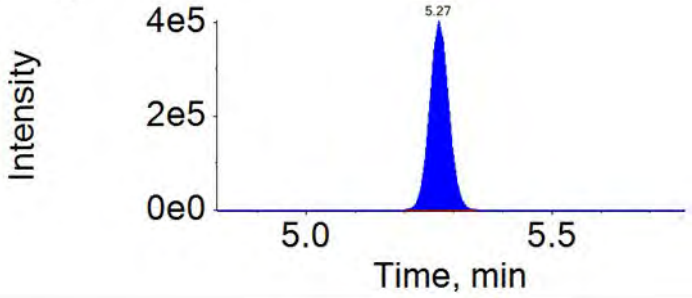
Component: PFOS
Primary Mass: 499.0 / 80.0



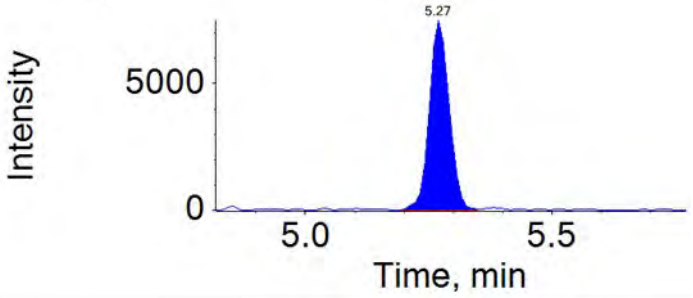
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



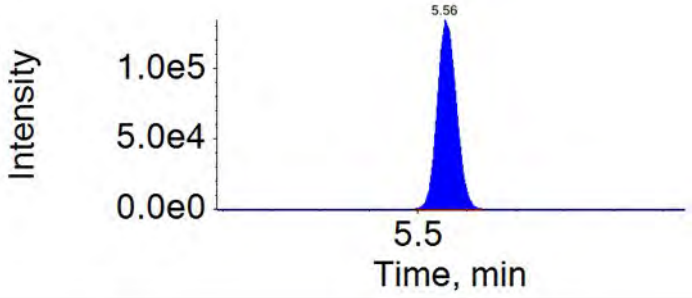
Component: PFNA
Primary Mass: 463.0 / 419.0



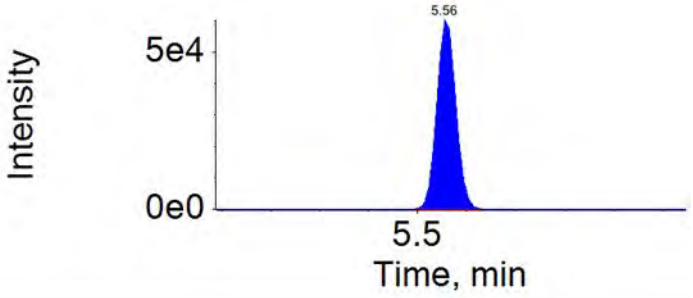
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



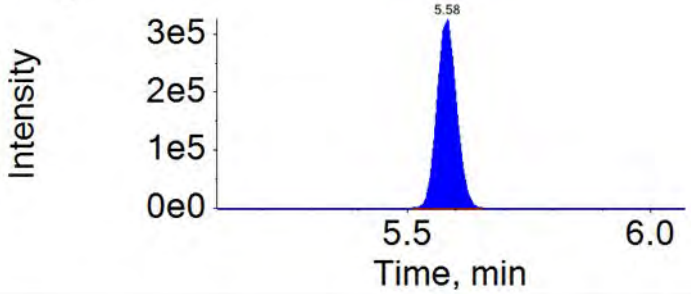
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



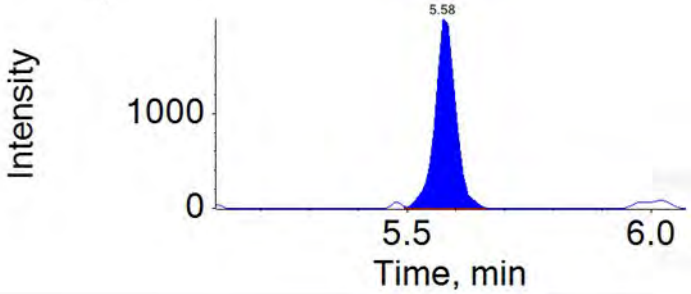
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

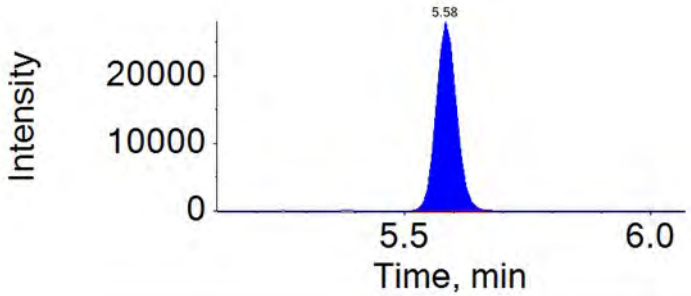
Component: PFDA
Primary Mass: 513.0 / 469.0



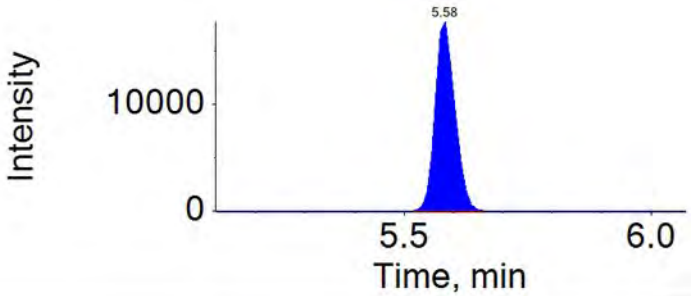
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



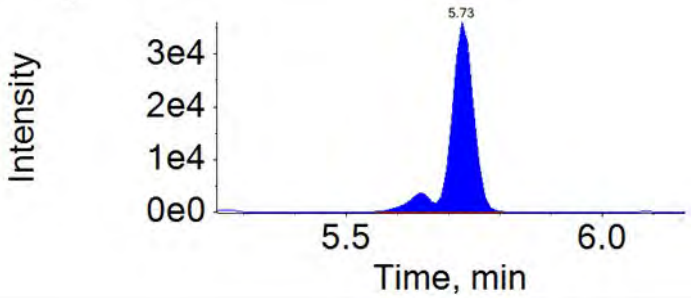
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



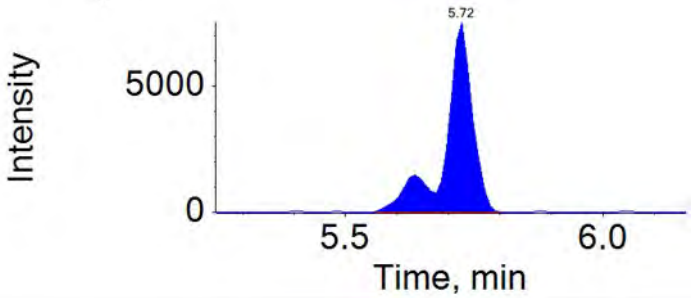
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



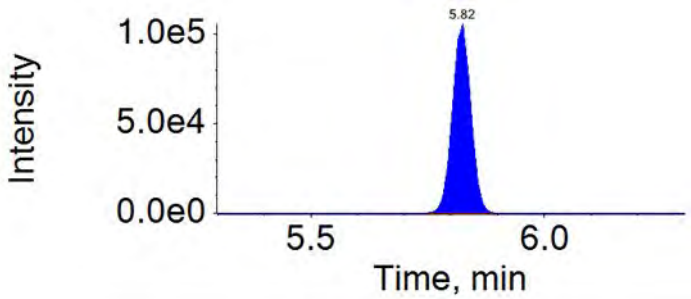
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



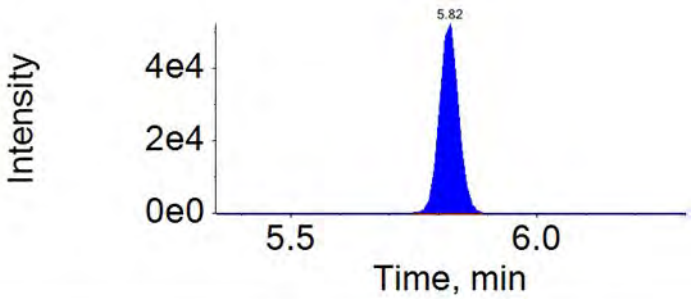
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



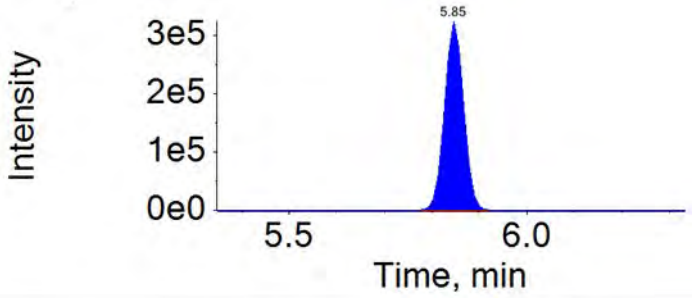
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



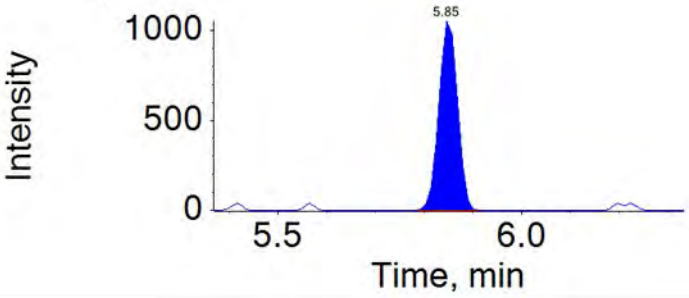
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

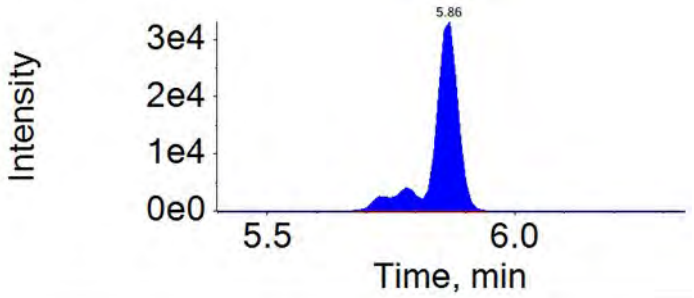
Component: PFUnDA
Primary Mass: 563.0 / 519.0



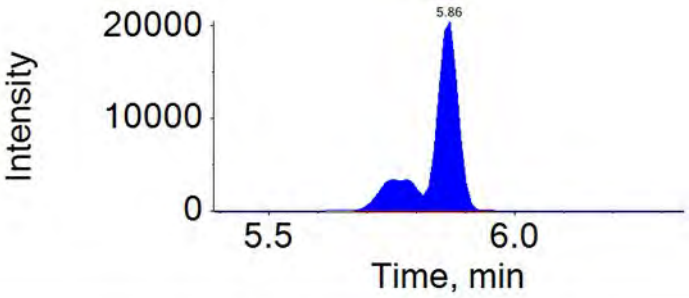
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



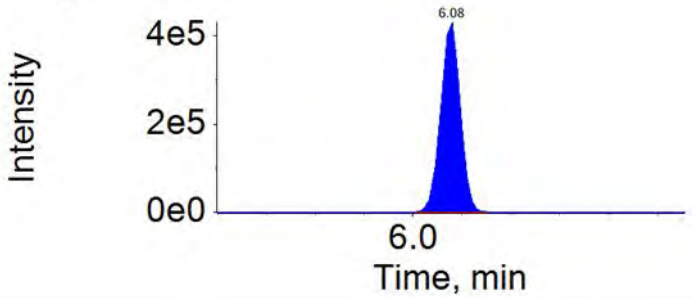
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



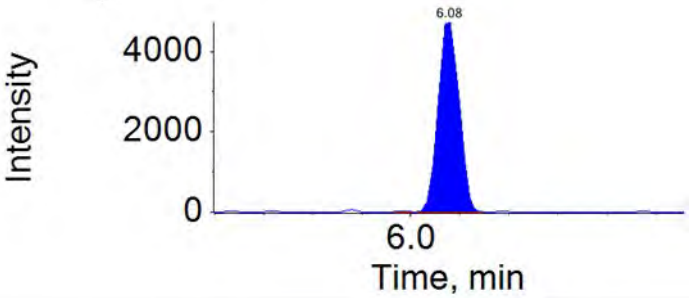
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



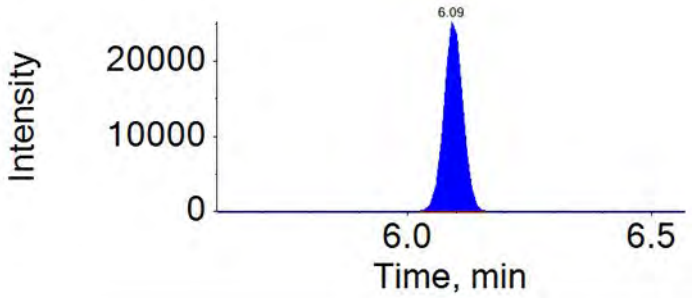
Component: PFDoDA
Primary Mass: 613.0 / 569.0



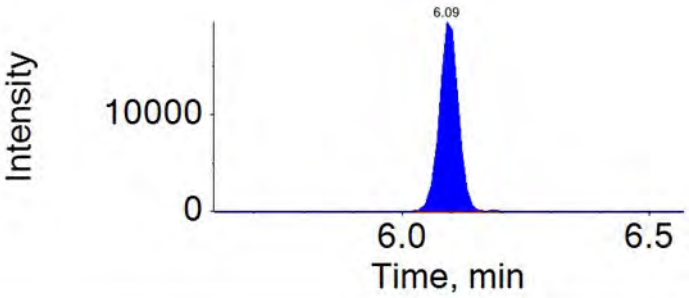
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



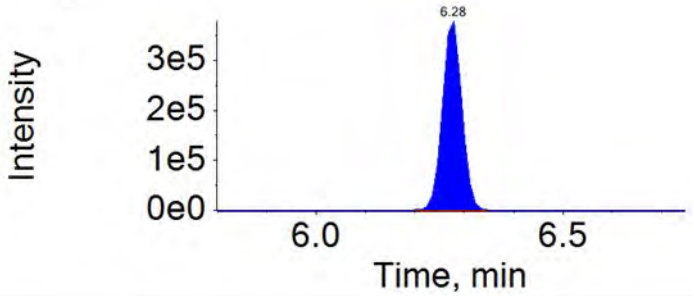
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



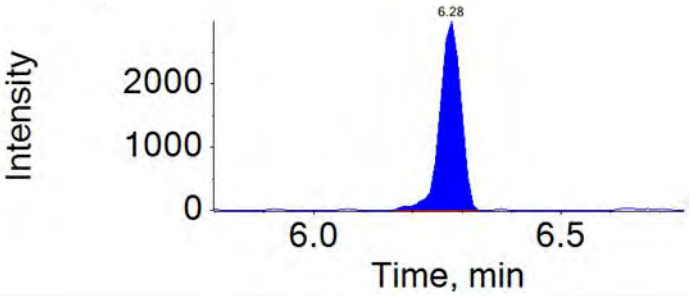
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



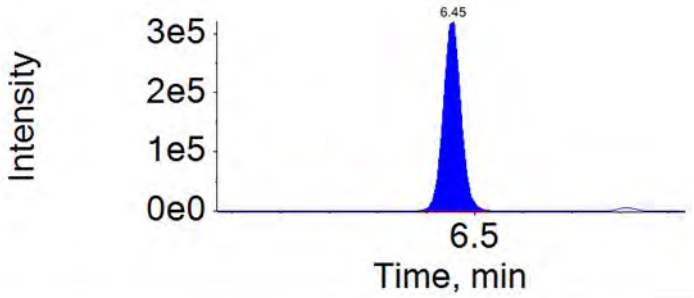
Component: PFTrDA
Primary Mass: 663.0 / 619.0



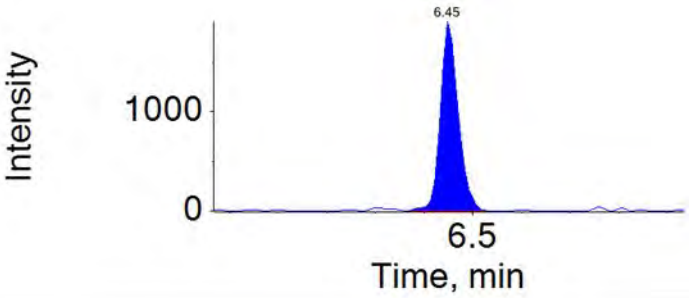
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



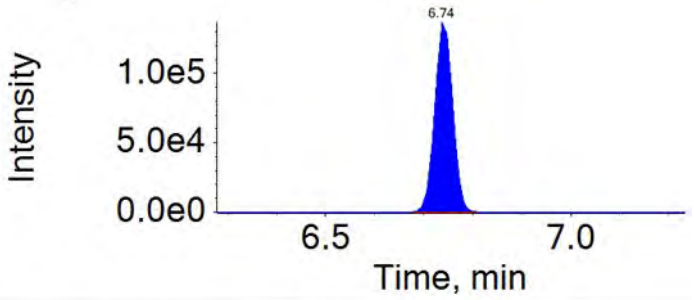
Component: PFTeDA
Primary Mass: 713.0 / 669.0



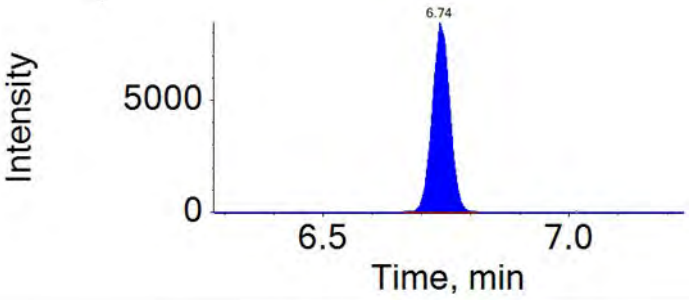
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



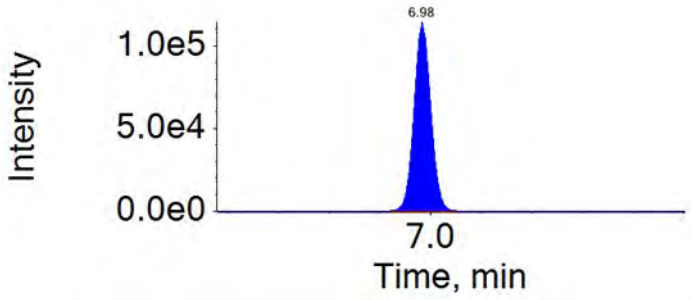
Component: PFHxDA
Primary Mass: 813.0 / 769.0



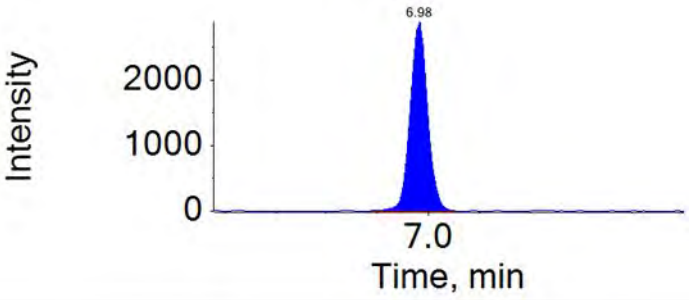
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL5			**Data File:**		18DEC06DCAL-29.wiff
Sample ID:	CALBRN51833B			**Acquis Date:**		2018-12-07T00:13:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	7			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	764407.0	825688.9	-7	50	
13C2-PFOA	5.0	422543.9	449802.8	-6	50	
13C4-PFOS	4.8	261977.4	276858.3	-5	50	
13C2-PFDA	5.0	286526.0	315428.3	-9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	852222.8	13C3-PFBA	764407.0	1.115	5.000	4.934	99	70-130	
E13C5-PFPeA	807458.3	13C3-PFBA	764407.0	1.056	5.000	5.017	100	70-130	
E13C3-PFBS	415721.1	13C3-PFBA	764407.0	0.544	4.650	4.610	99	70-130	
E13C2-4:2-FTS	49011.4	13C2-PFOA	422543.9	0.116	4.670	4.545	97	70-130	
E13C5-PFHxA	650822.8	13C2-PFOA	422543.9	1.540	5.000	5.171	103	70-130	
E13C3-PFHxS	328924.3	13C2-PFOA	422543.9	0.778	4.730	4.993	106	70-130	
E13C4-PFHpA	506360.3	13C2-PFOA	422543.9	1.198	5.000	5.095	102	70-130	
E13C2-6:2-FTS	31346.8	13C2-PFOA	422543.9	0.074	4.750	4.596	97	70-130	
E13C8-PFOA	739531.4	13C2-PFOA	422543.9	1.750	5.000	4.947	99	70-130	
E13C8-PFOS	286479.9	13C4-PFOS	261977.4	1.094	4.780	4.908	103	70-130	
E13C9-PFNA	459963.4	13C4-PFOS	261977.4	1.756	5.000	4.961	99	70-130	
E13C6-PFDA	550668.3	13C2-PFDA	286526.0	1.922	5.000	5.093	102	70-130	
E13C2-8:2-FTS	18960.2	13C2-PFDA	286526.0	0.066	4.790	4.320	90	70-130	
E13C8-PFOSA	617622.8	13C2-PFDA	286526.0	2.156	5.000	5.098	102	70-130	
Ed3-NMeFOSAA	83194.5	13C2-PFDA	286526.0	0.290	5.000	5.146	103	70-130	
E13C7-PFUnDA	305265.8	13C2-PFDA	286526.0	1.065	5.000	5.226	105	70-130	
Ed5-NEtFOSAA	67520.9	13C2-PFDA	286526.0	0.236	5.000	5.202	104	70-130	
E13C2-PFDoDA	706411.1	13C2-PFDA	286526.0	2.465	5.000	5.174	103	70-130	
Ed7-NMePFOSAE	244218.5	13C2-PFDA	286526.0	0.852	5.000	4.910	98	70-130	
Ed3-NMePFOSA	84514.9	13C2-PFDA	286526.0	0.295	5.000	5.374	107	70-130	
Ed9-NEtPFOSAE	215847.0	13C2-PFDA	286526.0	0.753	5.000	5.195	104	70-130	
Ed5-NEtPFOSA	65432.9	13C2-PFDA	286526.0	0.228	5.000	5.139	103	70-130	
E13C2-PFTeDA	520852.4	13C2-PFDA	286526.0	1.818	5.000	5.395	108	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

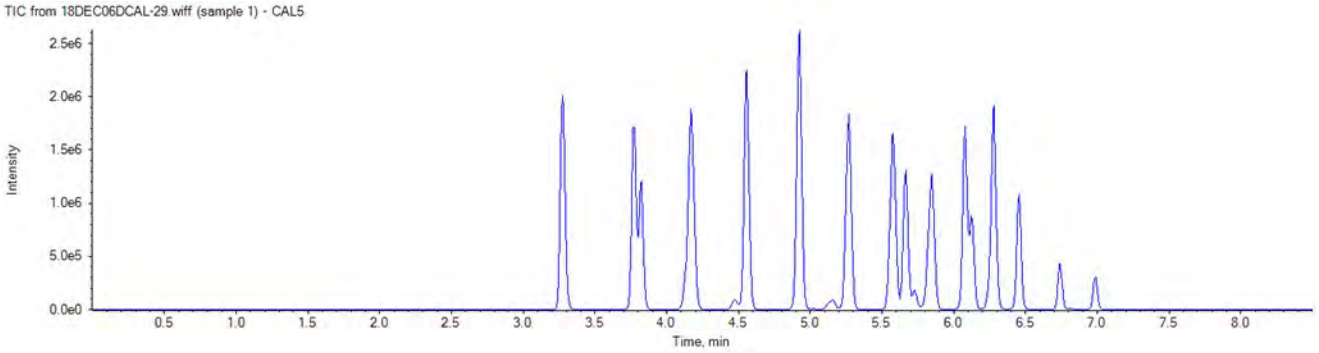
Analyte Quantitation Peak Table

Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-29.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	3186861.8		A	13C4-PFBA	3.27	852222.8	3.739	20.632
PFPeA	3.77	1.000	3191751.1		A	13C5-PFPeA	3.77	807458.3	3.953	20.794
PFBS	3.82	1.000	1560425.1		A	13C3-PFBS	3.82	415721.1	3.754	18.605
4:2-FTS	4.13	1.000	374067.1		A	13C2-4:2-FTS	4.13	49011.4	7.632	20.457
PFHxA	4.17	1.000	3100313.2		A	13C5-PFHxA	4.17	650822.8	4.764	20.758
PFPeS	4.19	1.100	825391.6		A	13C3-PFBS	3.82	415721.1	1.985	19.660
PFHpA	4.56	1.000	3016454.0		A	13C4-PFHpA	4.56	506360.3	5.957	19.614
PFHxS	4.56	1.000	1191013.5		M	13C3-PFHxS	4.56	328924.3	3.621	17.156
6:2-FTS	4.91	1.000	243777.5		A	13C2-6:2-FTS	4.91	31346.8	7.777	19.310
PFHpS	4.92	1.080	1127510.8		A	13C3-PFHxS	4.56	328924.3	3.428	18.817
PFOA	4.93	1.000	2945282.0		A	13C8-PFOA	4.93	739531.4	3.983	21.765
PFOS	5.26	1.000	1193441.8		M	13C8-PFOS	5.26	286479.9	4.166	17.279
PFNA	5.27	1.000	2562019.3		A	13C9-PFNA	5.27	459963.4	5.570	20.527
PFNS	5.56	1.060	868436.2		A	13C8-PFOS	5.26	286479.9	3.031	19.506
PFDA	5.58	1.000	2165925.6		A	13C6-PFDA	5.58	550668.3	3.933	22.139
8:2-FTS	5.58	1.000	180667.1		A	13C2-8:2-FTS	5.58	18960.2	9.529	20.646
PFOSA	5.66	1.000	2495160.4		A	13C8-PFOSA	5.67	617622.8	4.040	20.959
NMeFOSAA	5.73	1.000	273175.2		M	d3-NMeFOSAA	5.72	83194.5	3.284	21.719
PFDS	5.82	1.110	656687.7		A	13C8-PFOS	5.26	286479.9	2.292	18.534
PFUnDA	5.85	1.000	2053634.1		A	13C7-PFUnDA	5.85	305265.8	6.727	20.598
NEtFOSAA	5.86	1.000	261138.2		M	d5-NEtFOSAA	5.86	67520.9	3.868	19.546
PFDoDA	6.08	1.000	2804098.5		A	13C2-PFDoDA	6.08	706411.1	3.969	20.895
10:2-FTS	6.09	1.090	178277.7		A	13C2-8:2-FTS	5.58	18960.2	9.403	24.907
NMePFOSAE	6.13	1.000	1300871.8		A	d7-NMePFOSAE	6.12	244218.5	5.327	23.147
NMePFOSA	6.13	1.000	340769.0		A	d3-NMePFOSA	6.13	84514.9	4.032	20.344
PFDoS	6.25	1.190	357990.6		A	13C8-PFOS	5.26	286479.9	1.250	19.051
NEtPFOSAE	6.28	1.000	1386117.7		A	d9-NEtPFOSAE	6.27	215847.0	6.422	21.516
NEtPFOSA	6.29	1.000	295448.6		A	d5-NEtPFOSA	6.29	65432.9	4.515	21.615
PFTrDA	6.28	1.030	2289996.0		A	13C2-PFDoDA	6.08	706411.1	3.242	21.232
PFTeDA	6.45	1.000	1865922.9		A	13C2-PFTeDA	6.45	520852.4	3.582	20.486
PFHxDA	6.74	1.040	856972.0		A	13C2-PFTeDA	6.45	520852.4	1.645	20.605
PFODA	6.99	1.080	651553.0		A	13C2-PFTeDA	6.45	520852.4	1.251	20.081

Total Ion Chromatogram

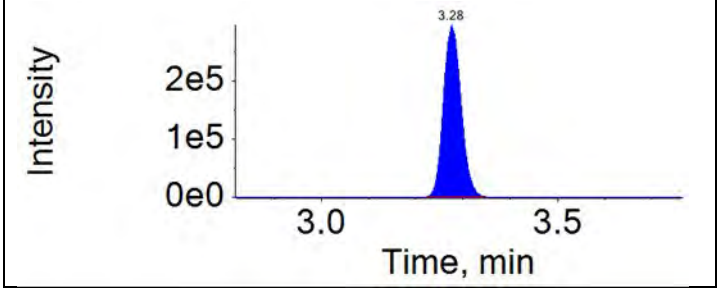


APPROVED
By MSM at 1:53 pm, 12/7/18

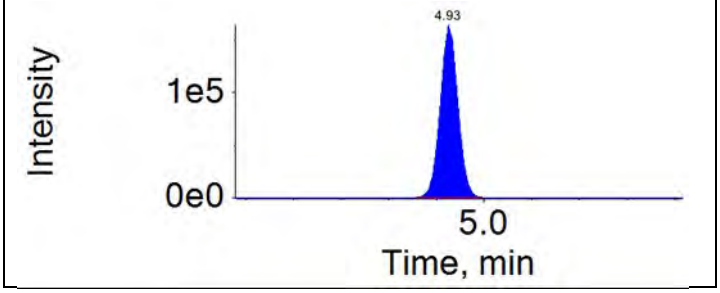
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

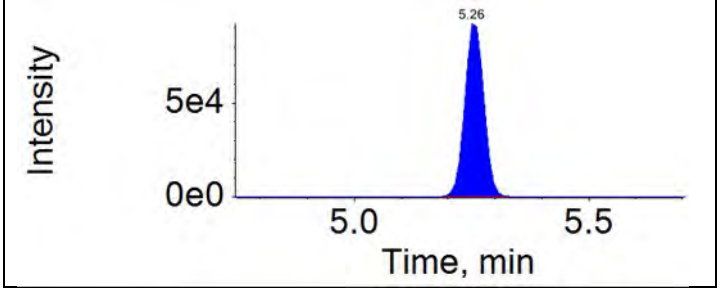
Injection Standard: 13C3-PFBA
216.0 / 172.0



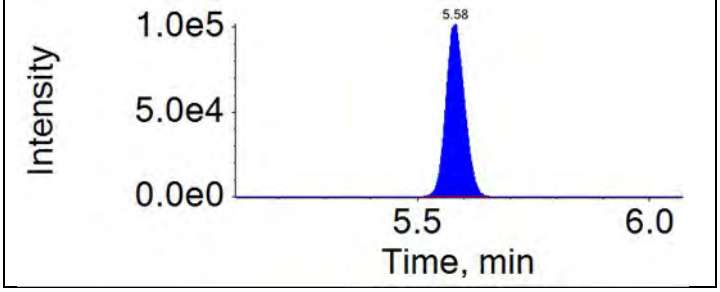
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

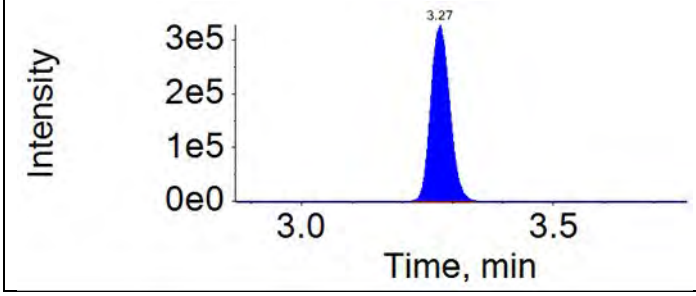


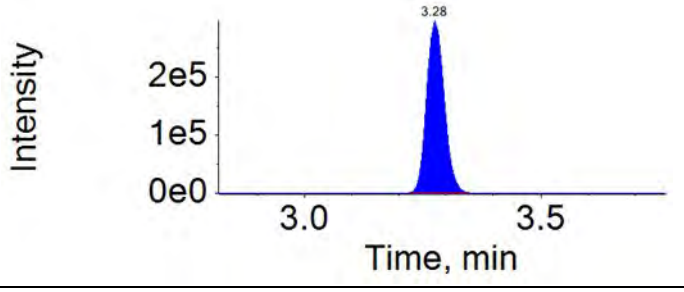
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

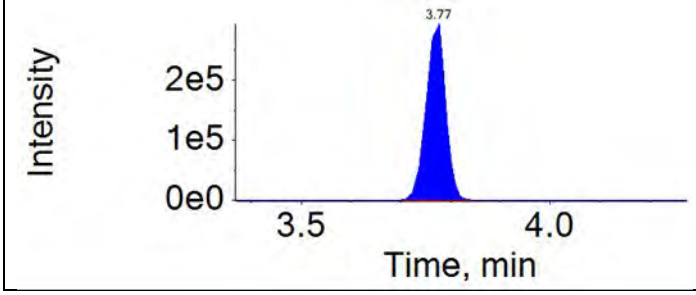
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

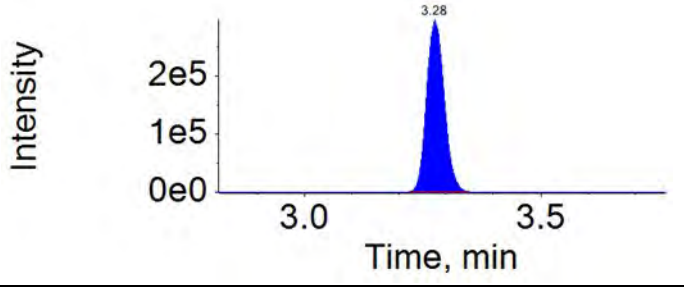
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



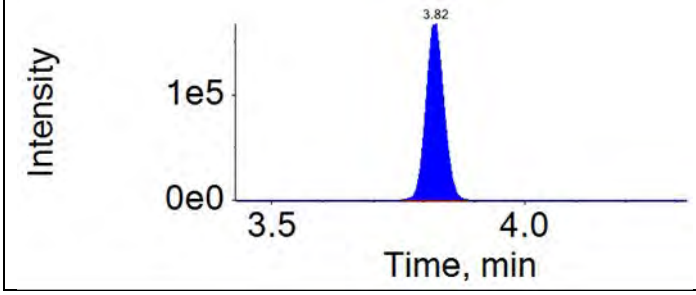


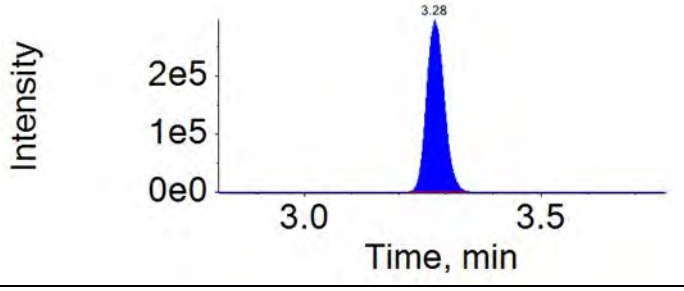
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



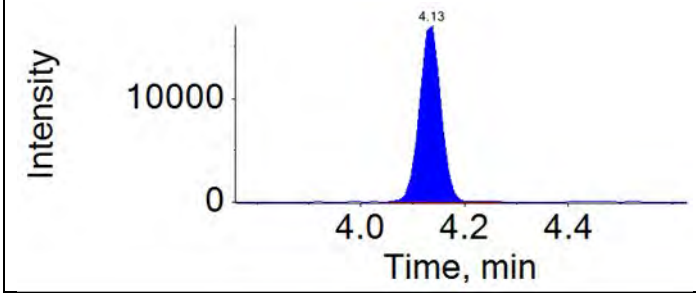


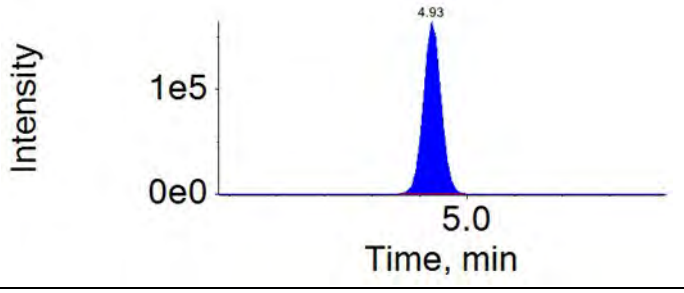
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



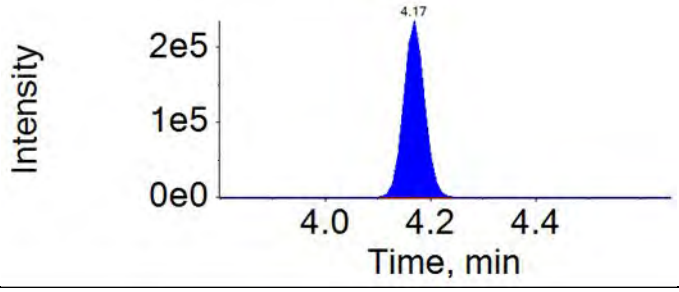


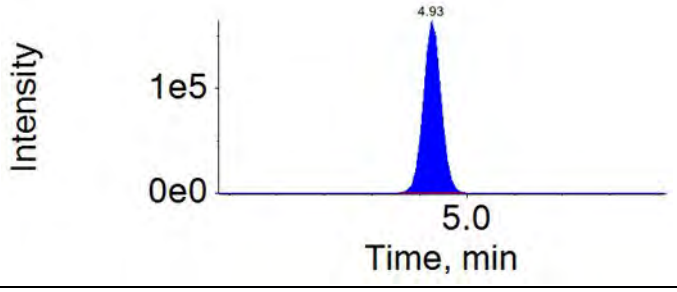
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

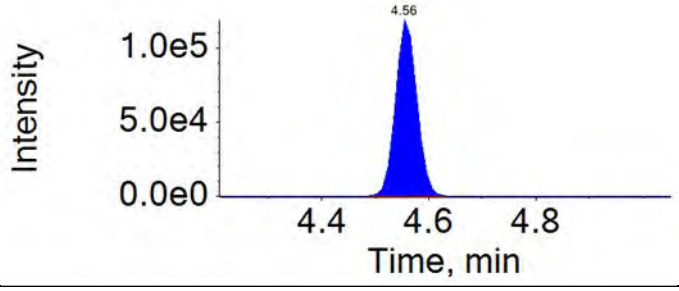
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

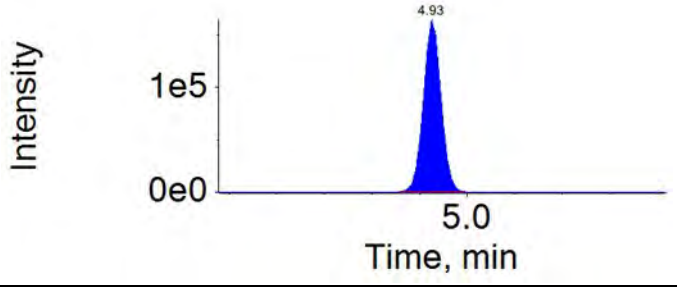
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



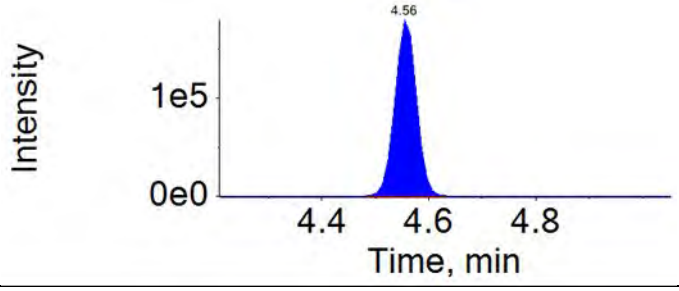


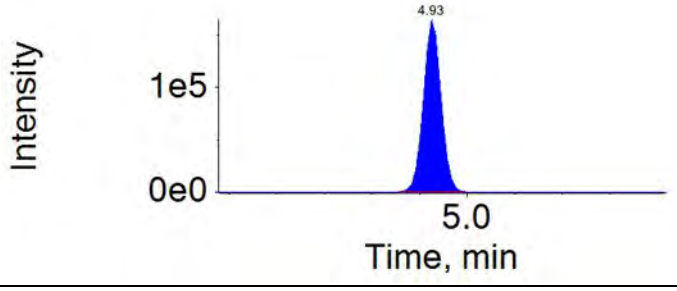
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



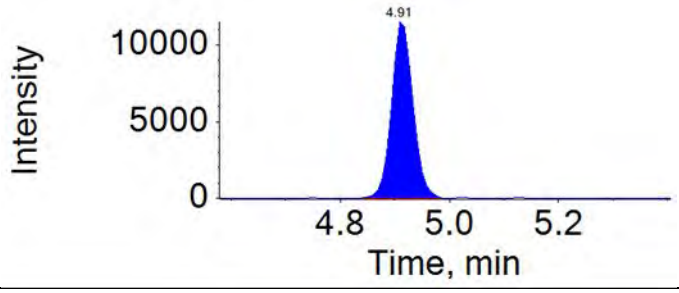


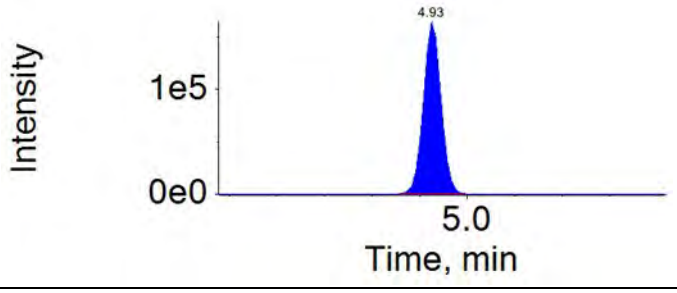
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



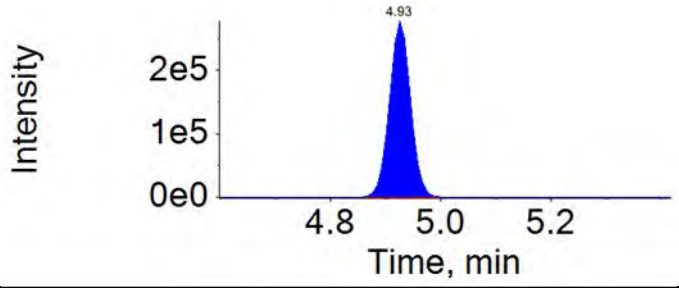


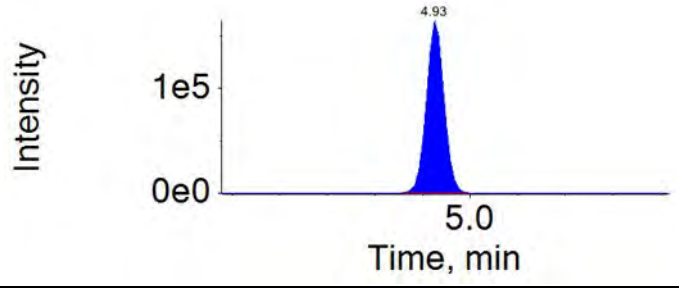
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

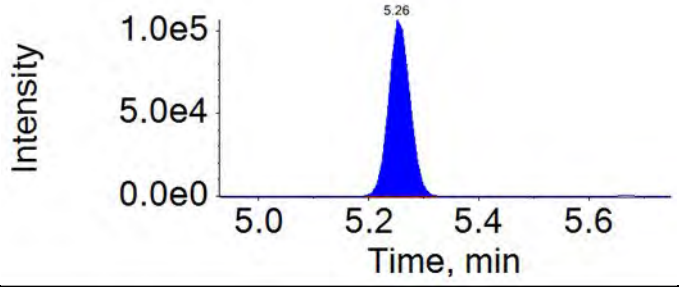
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

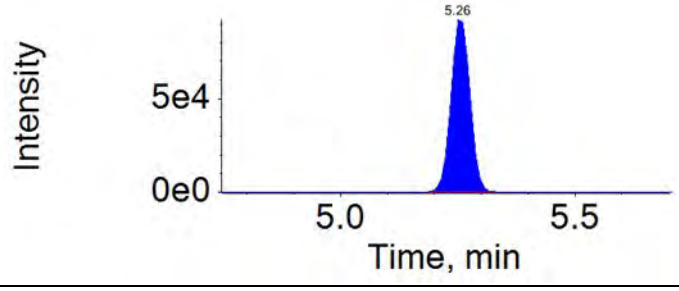
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



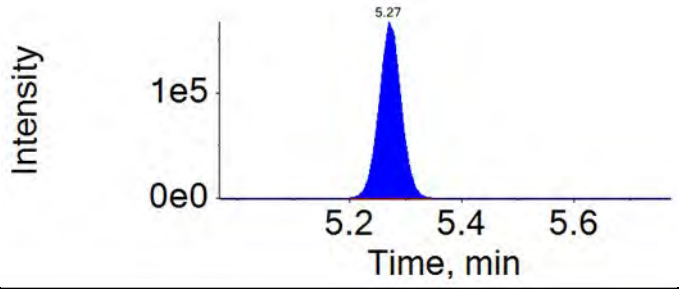


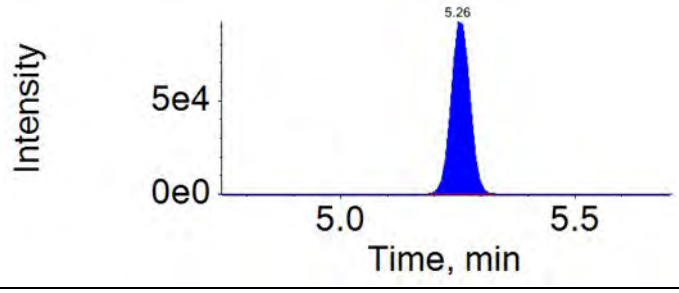
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



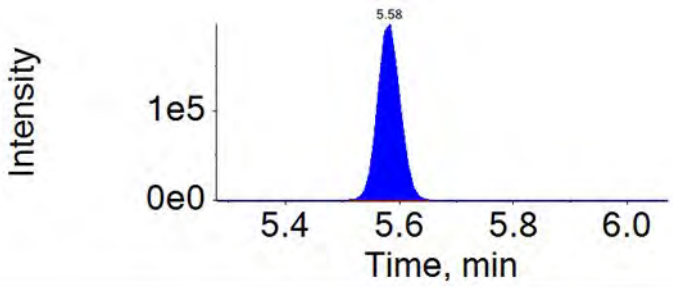


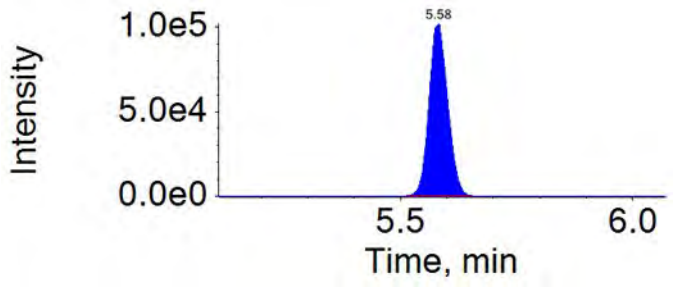
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



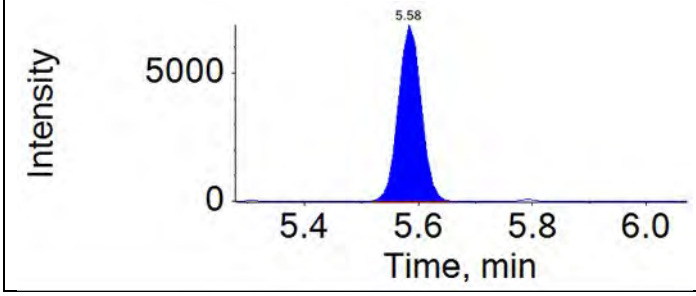


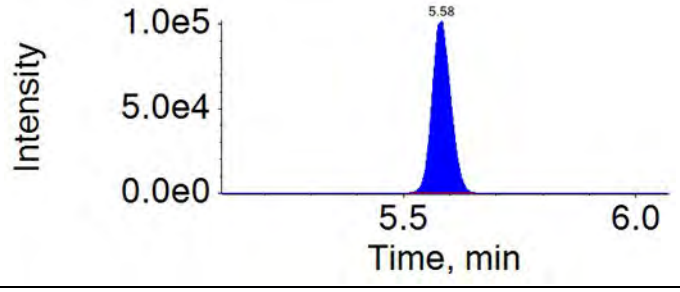
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

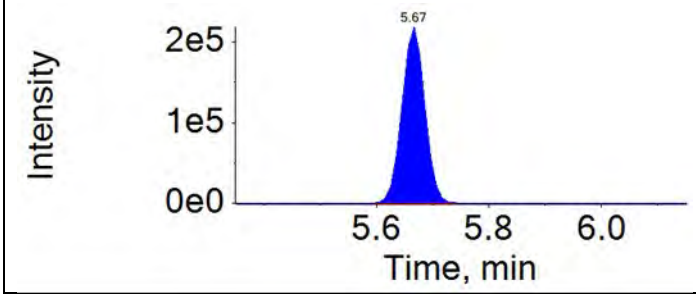
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

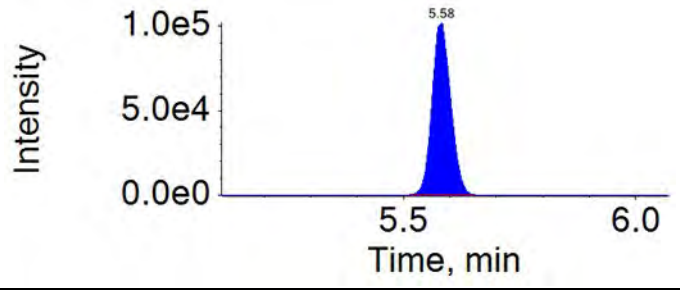
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



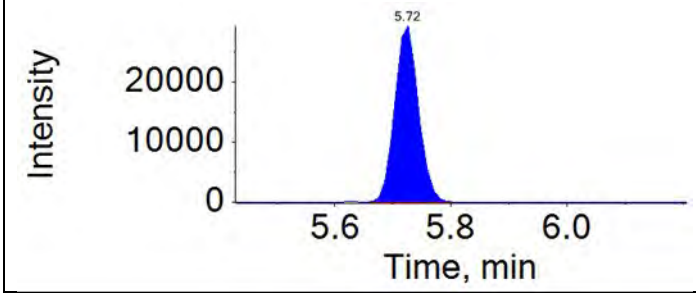


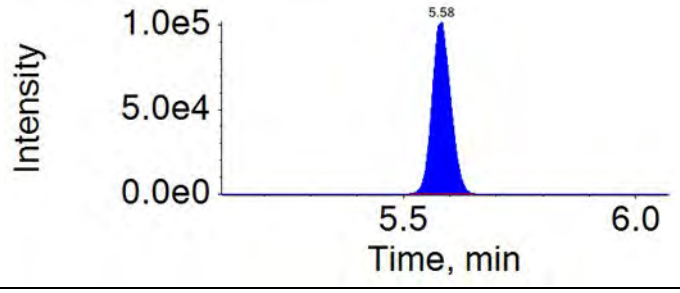
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



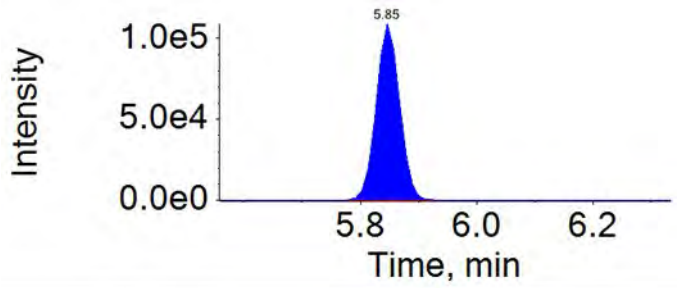


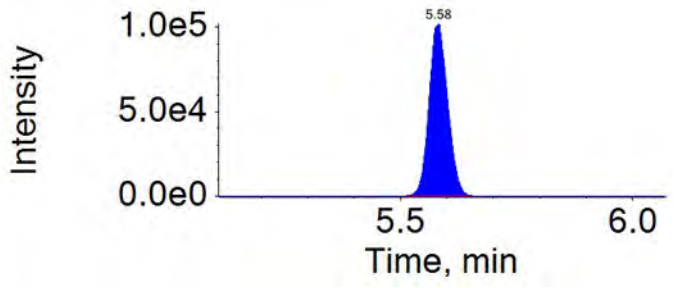
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



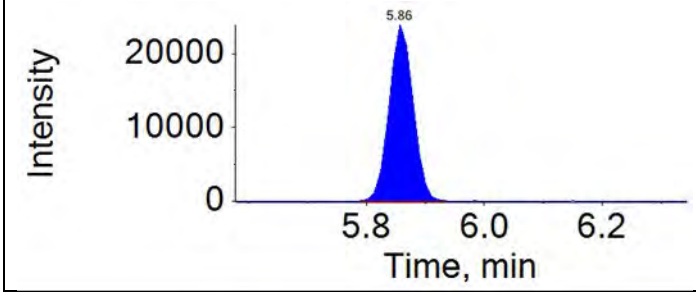


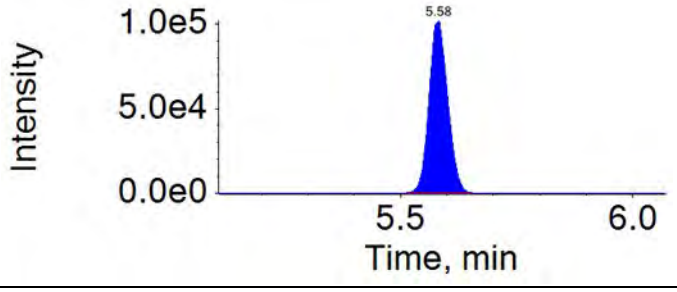
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

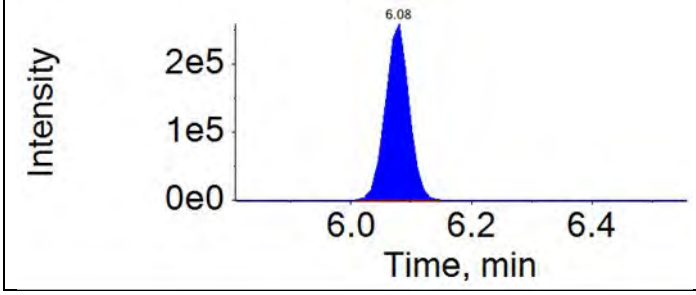
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

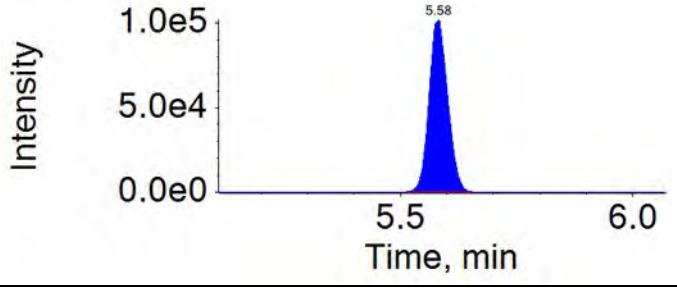
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



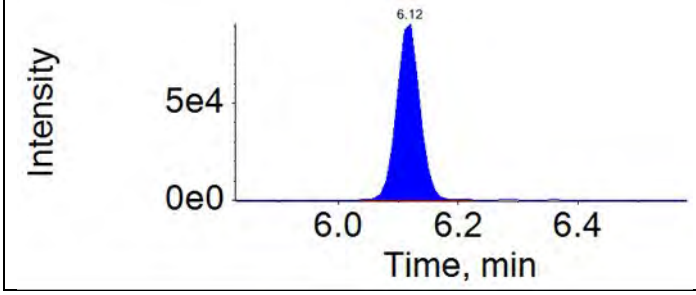


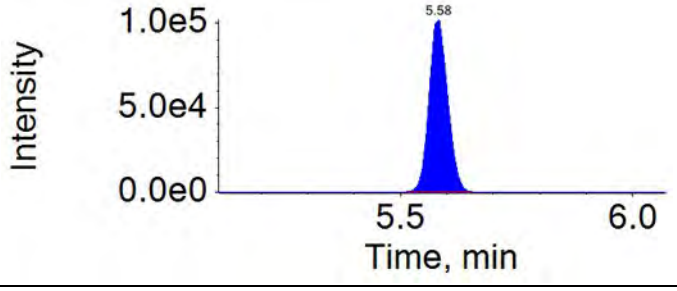
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



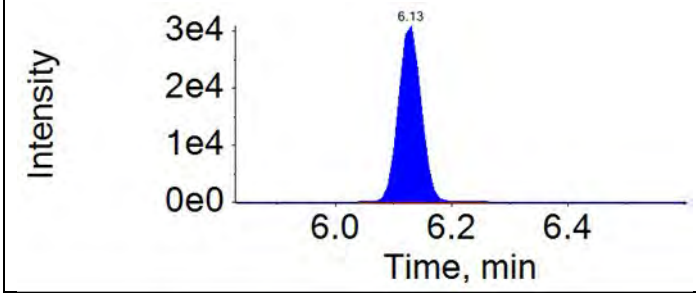


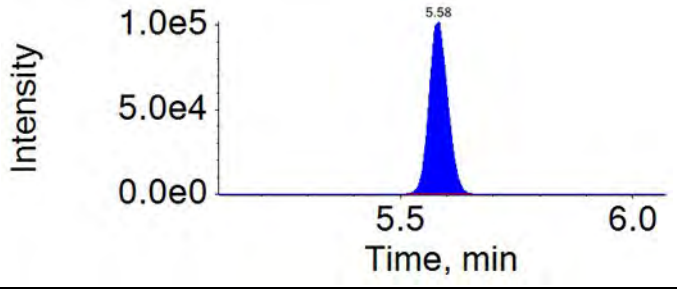
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



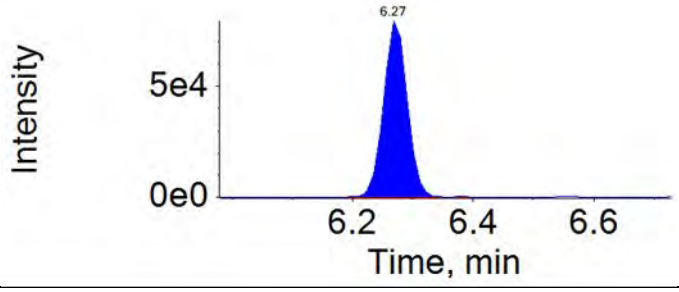


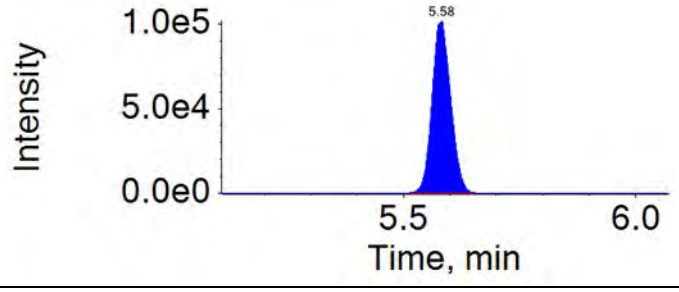
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

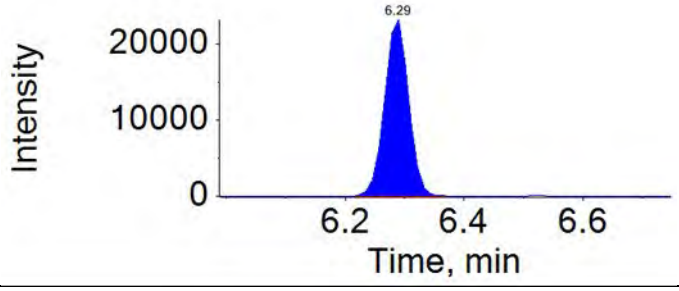
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

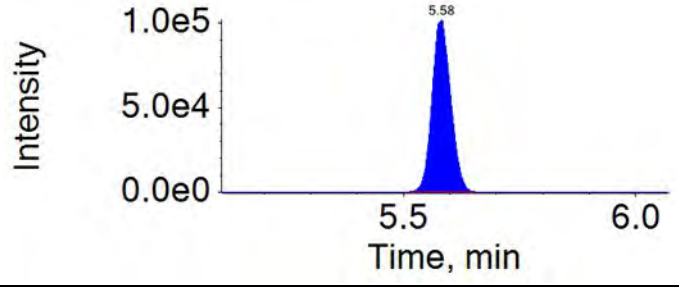
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



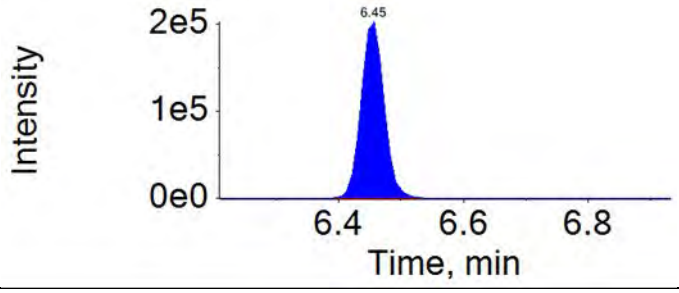


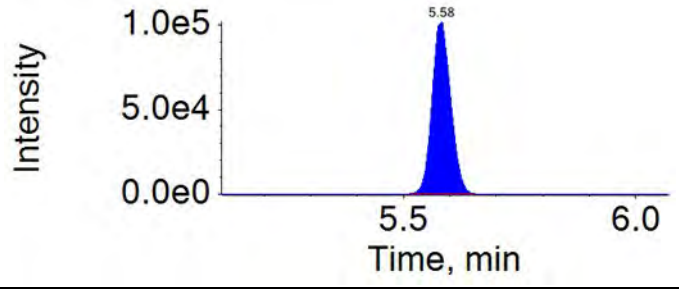
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



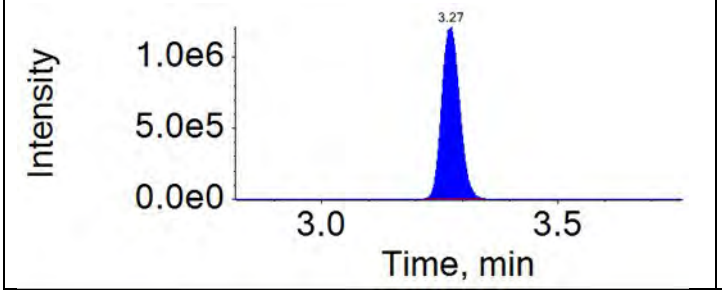


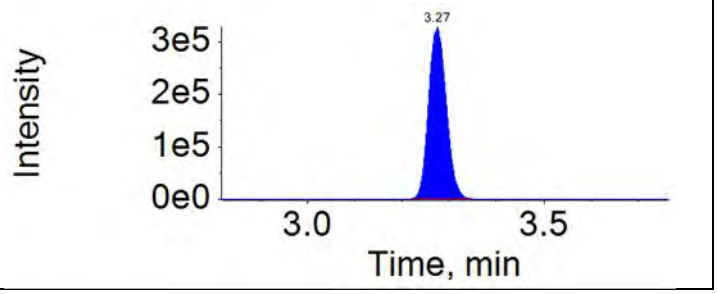
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

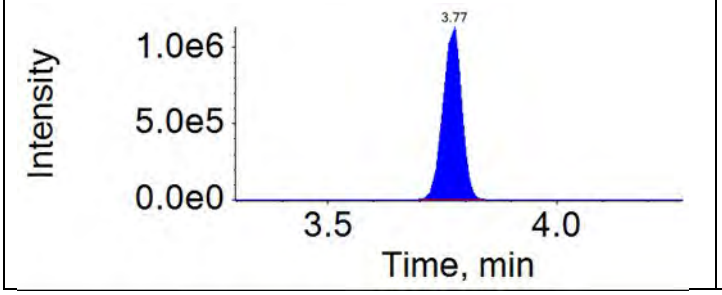
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

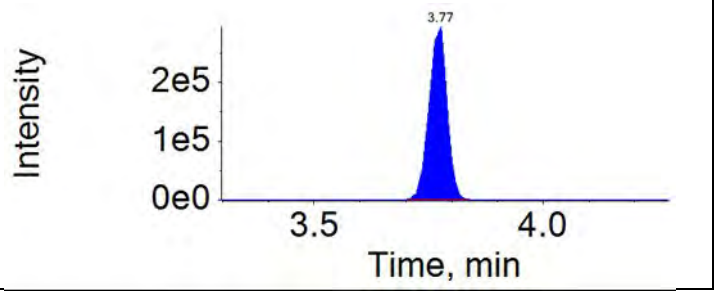
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



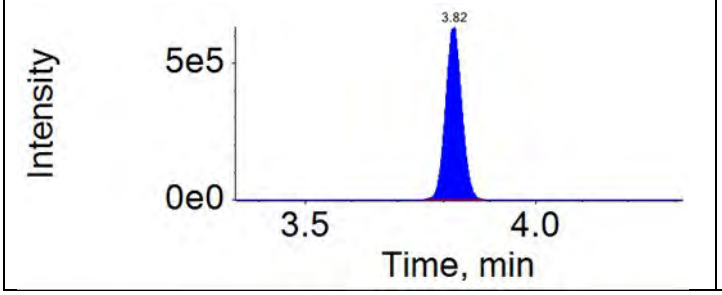


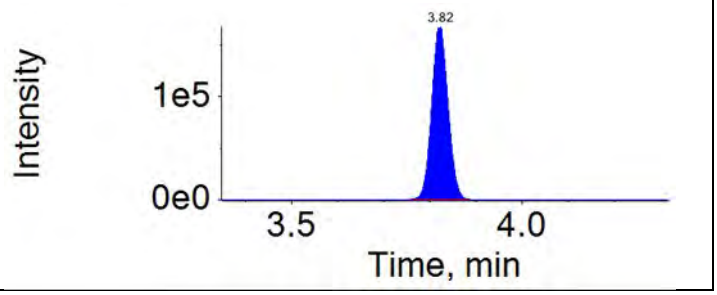
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



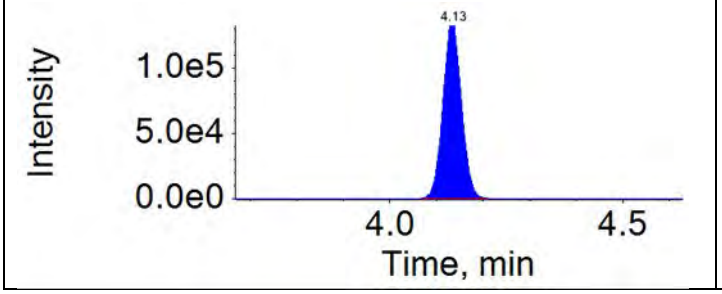


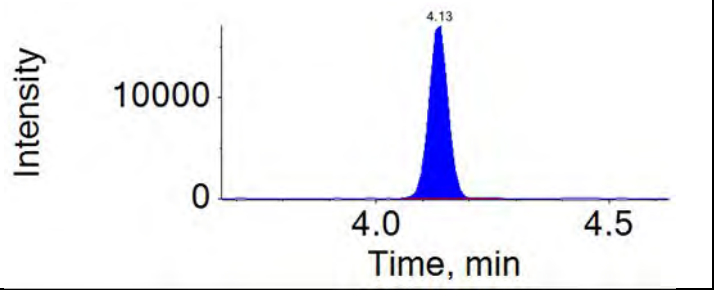
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



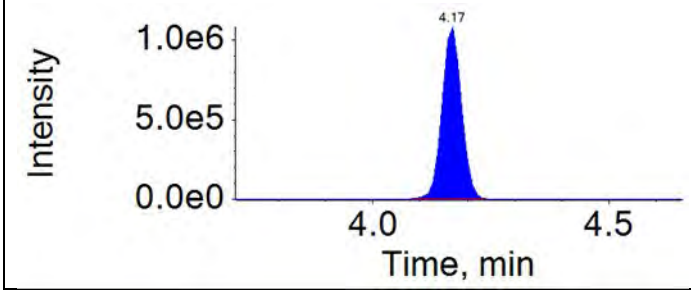


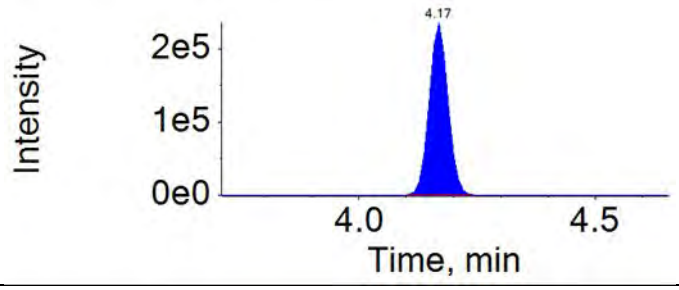
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

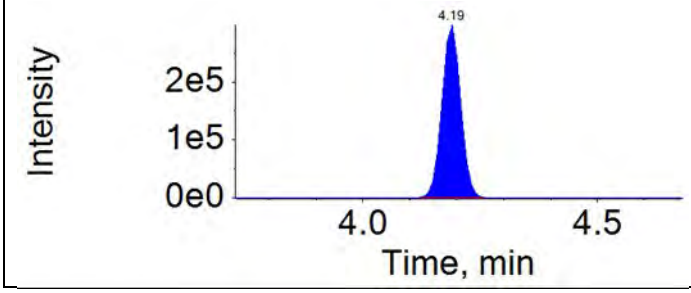
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

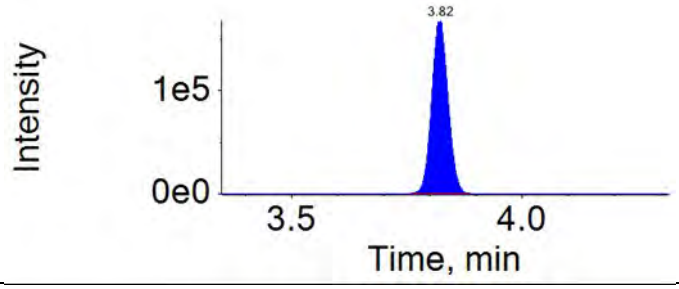
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



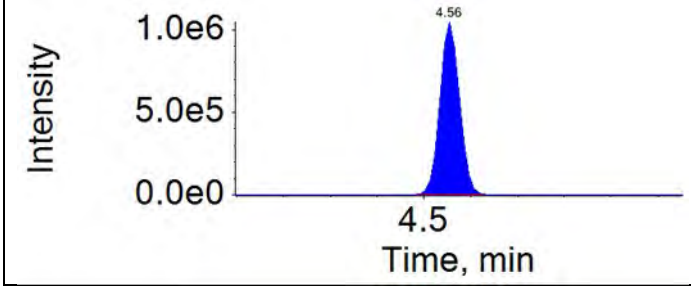


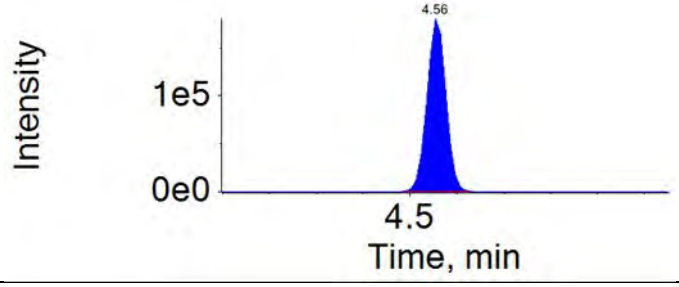
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



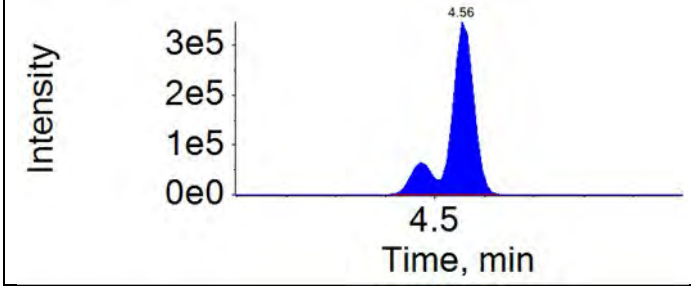


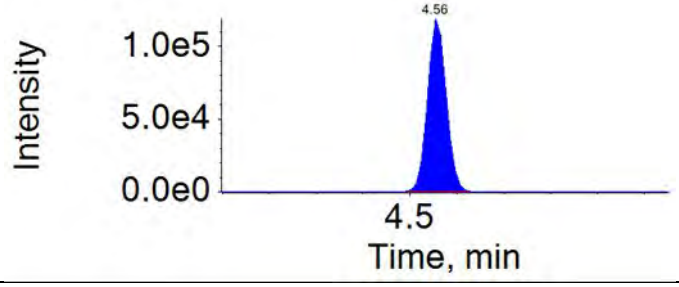
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



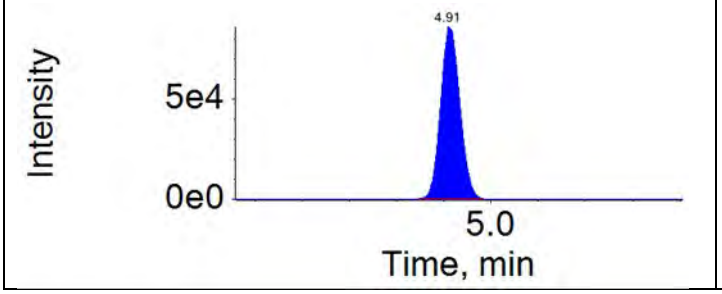


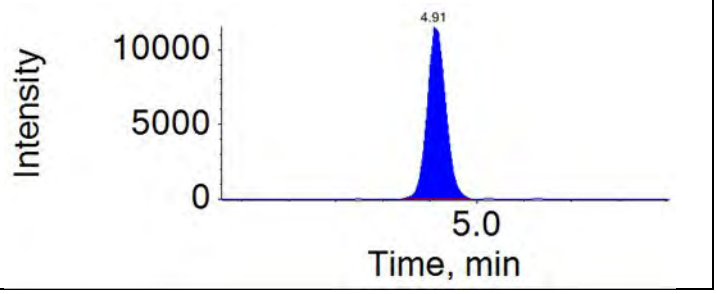
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

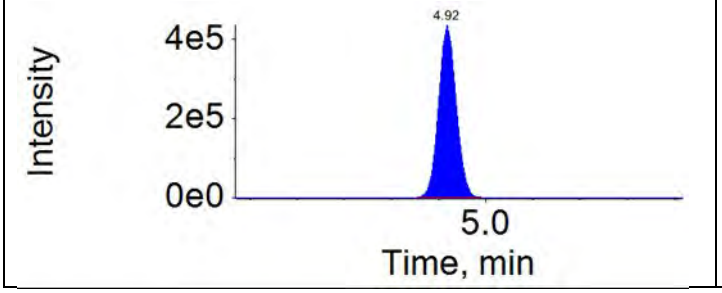
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

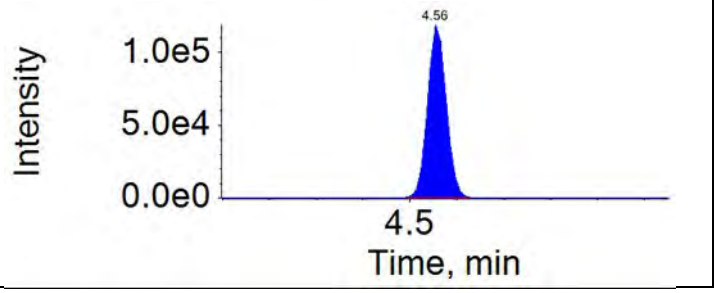
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



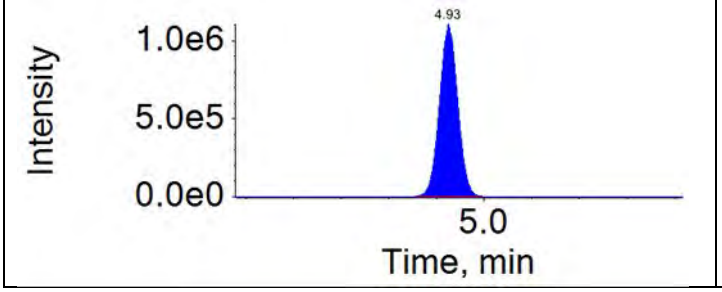


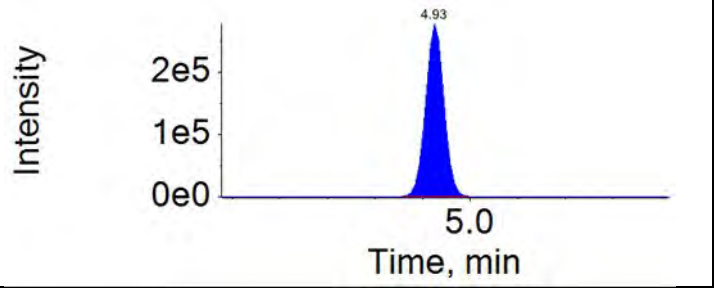
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



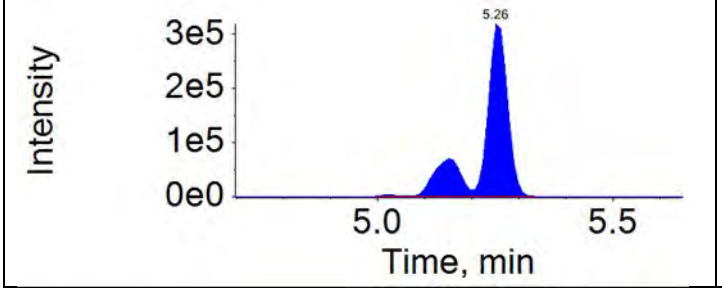


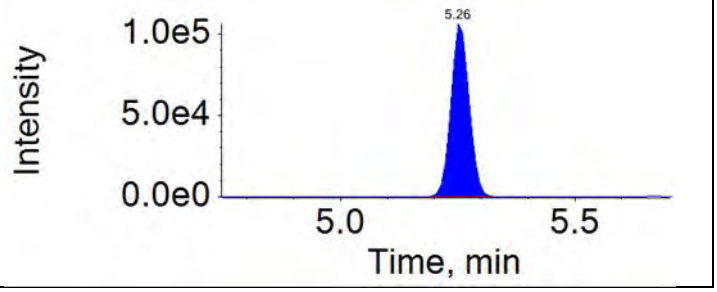
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



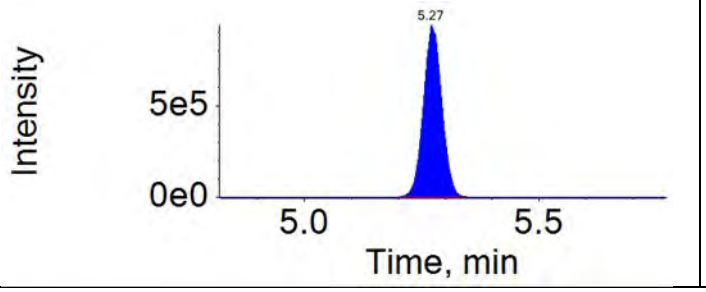


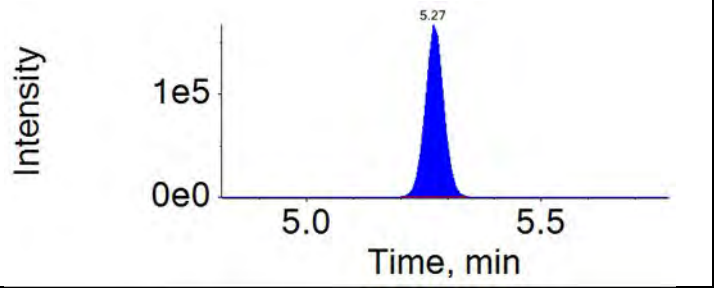
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

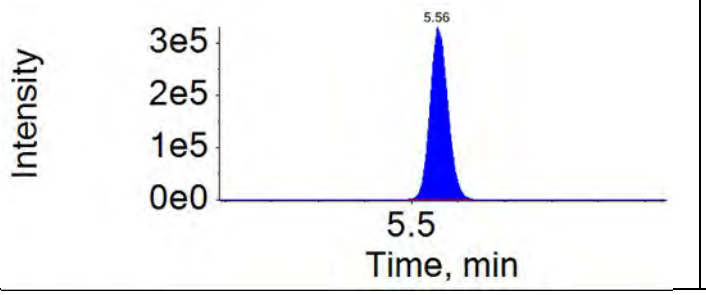
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

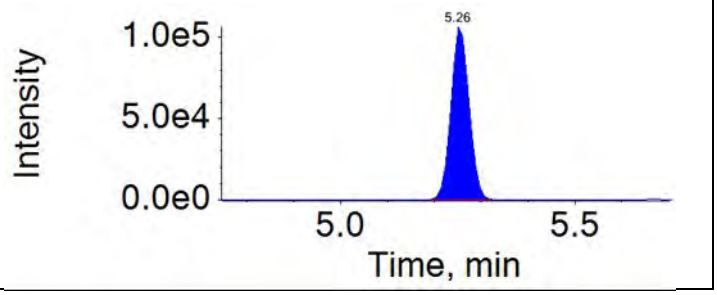
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



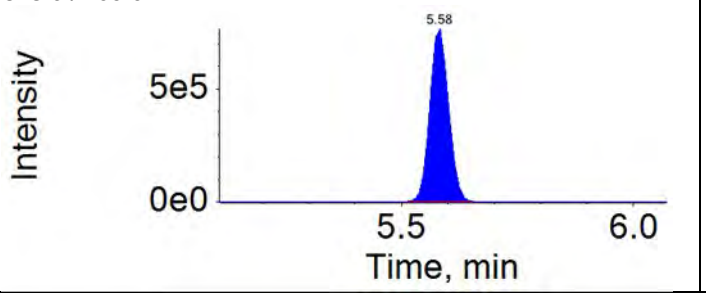


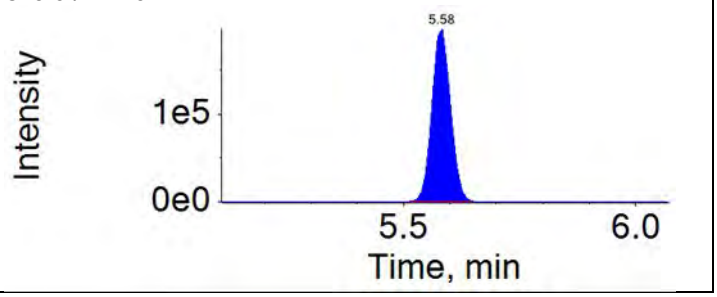
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



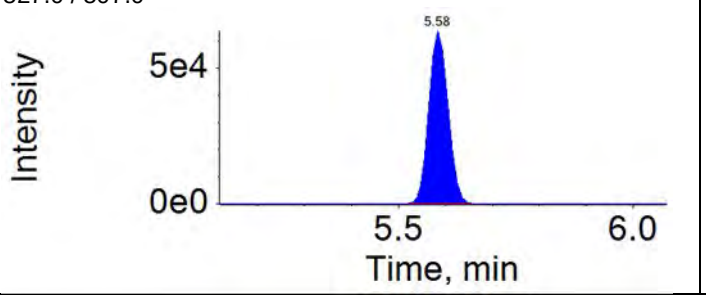


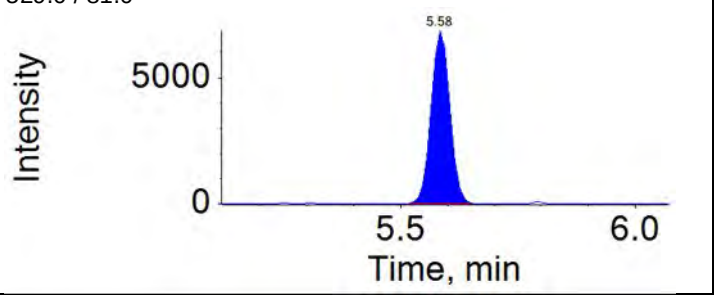
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



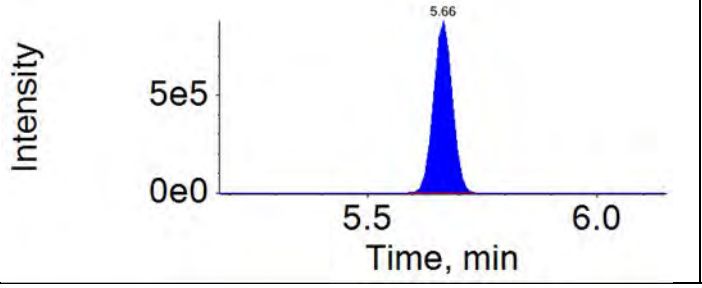


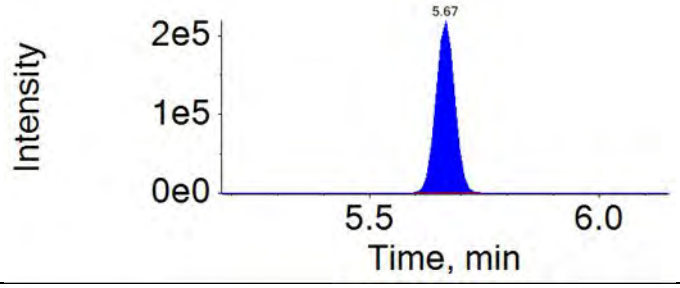
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

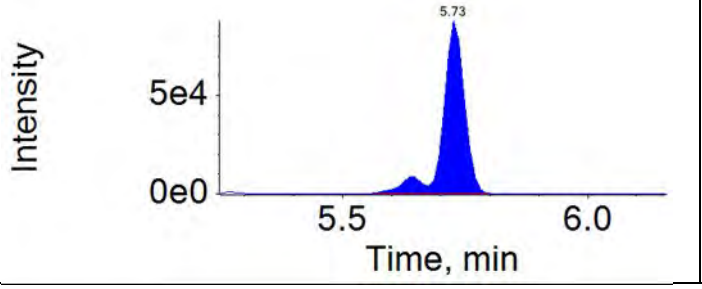
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

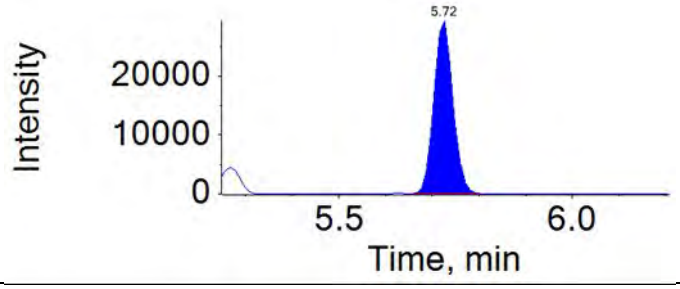
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



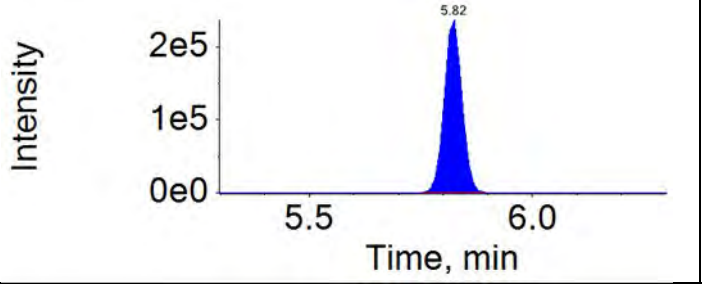


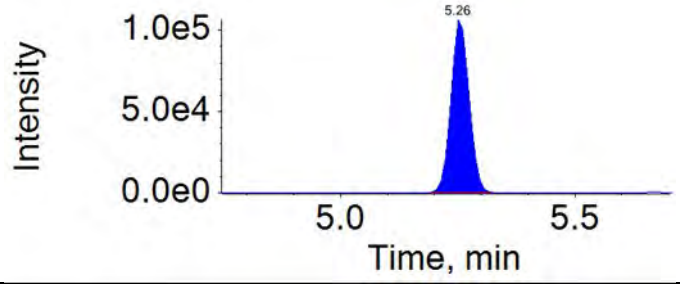
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



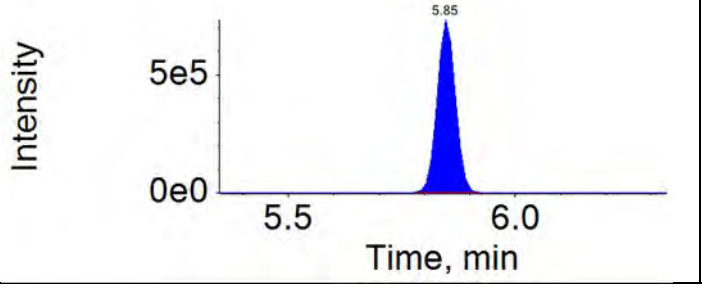


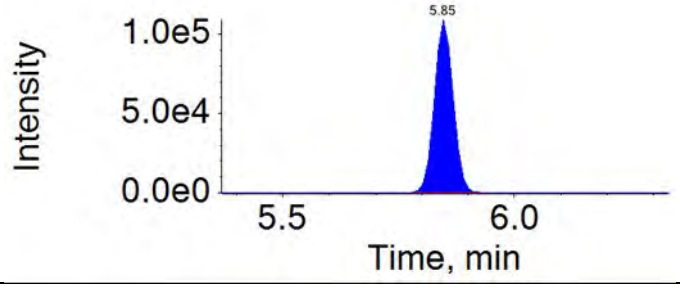
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



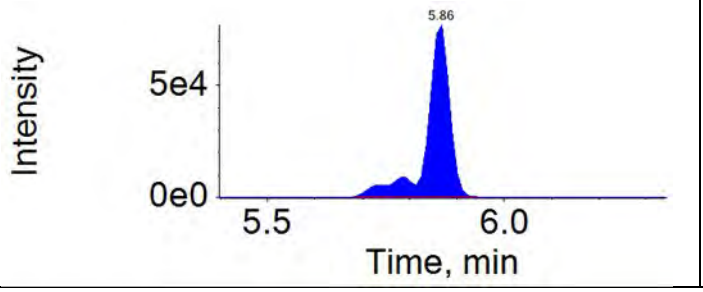


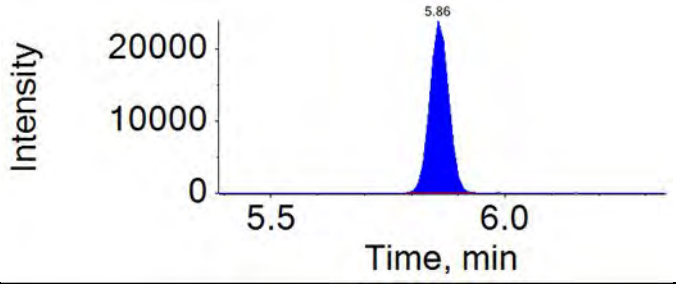
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

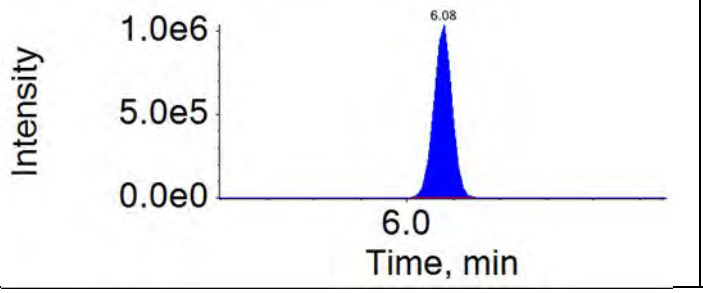
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

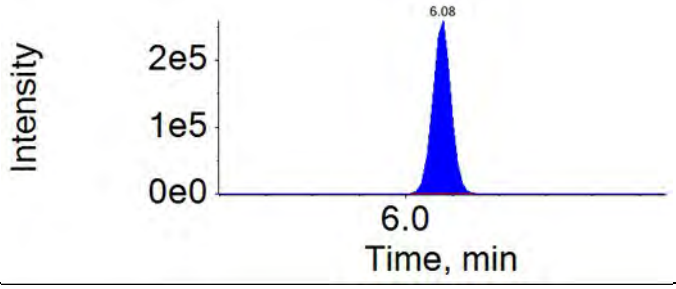
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



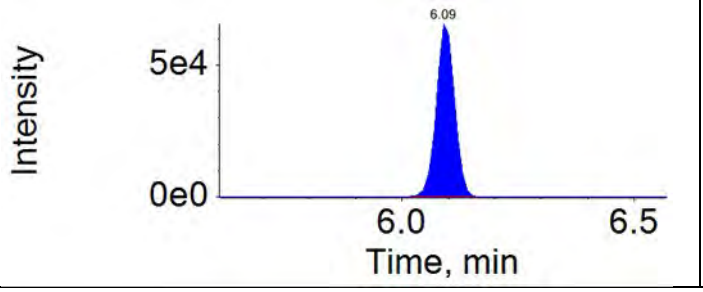


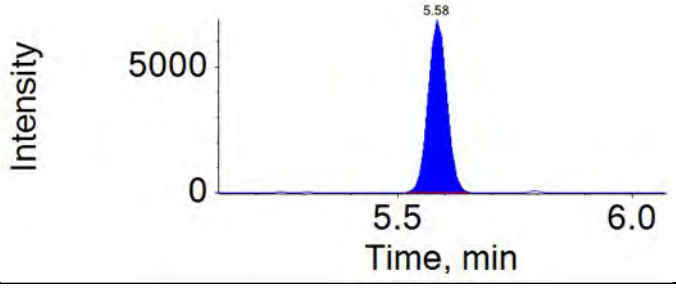
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



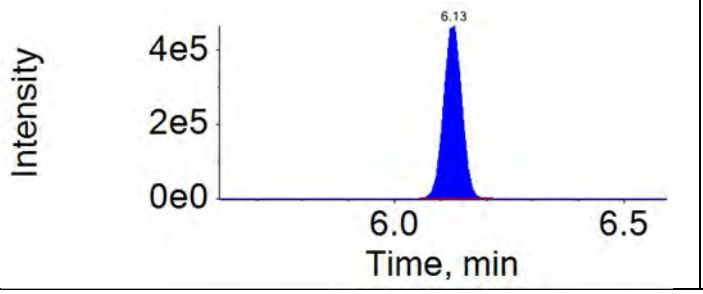


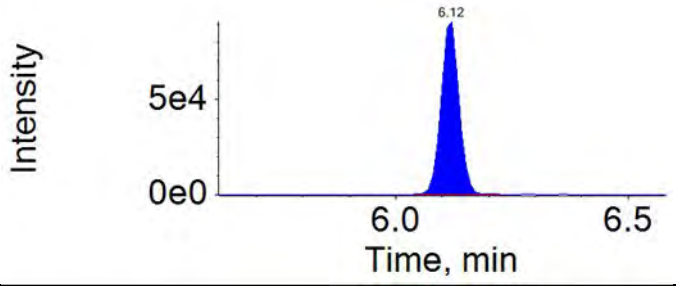
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



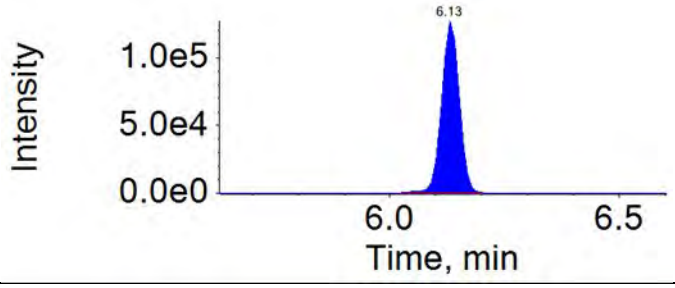


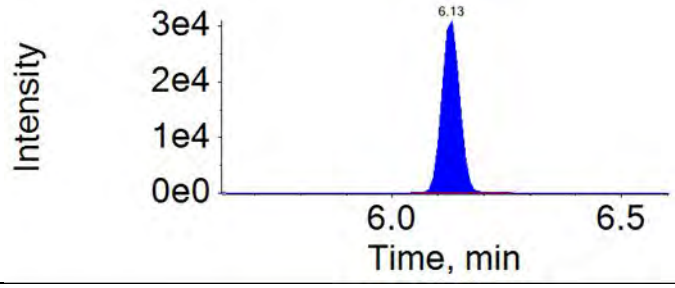
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

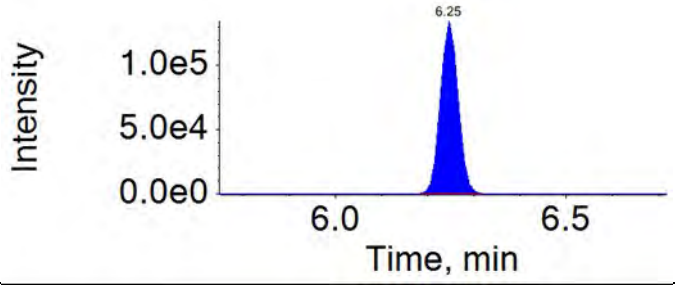
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

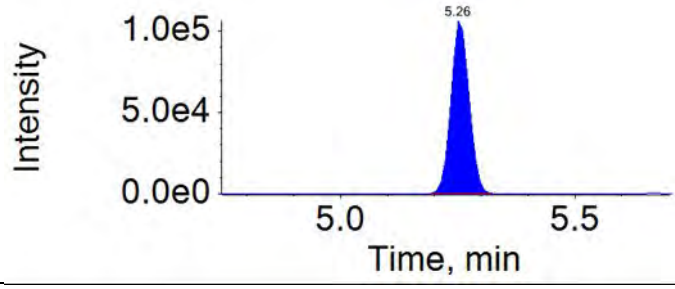
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



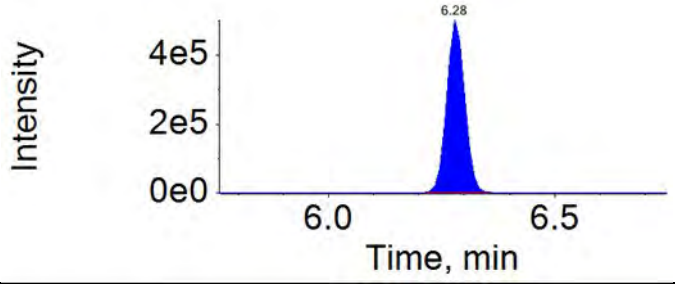


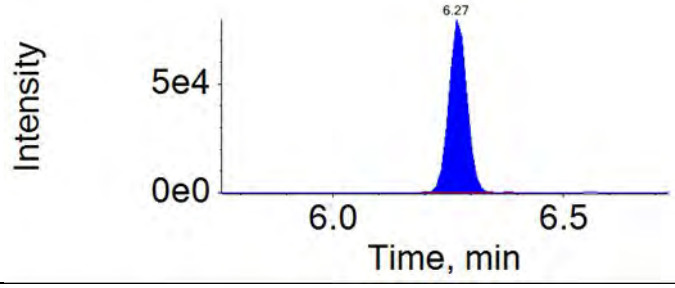
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



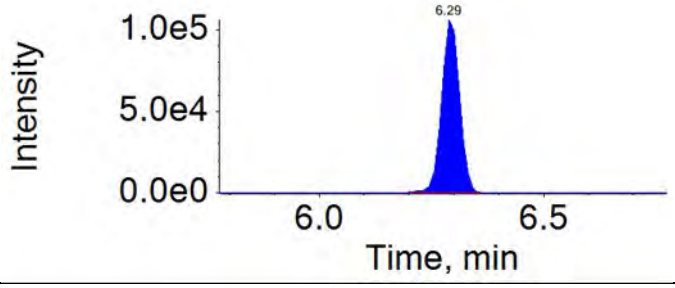


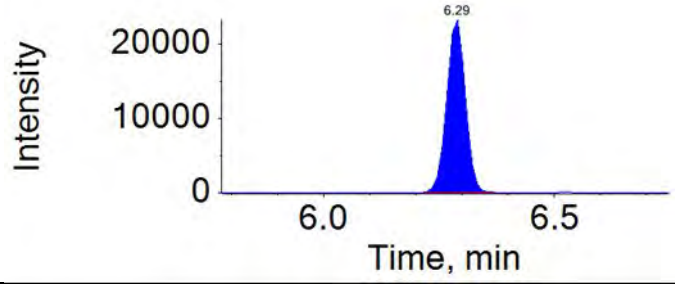
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



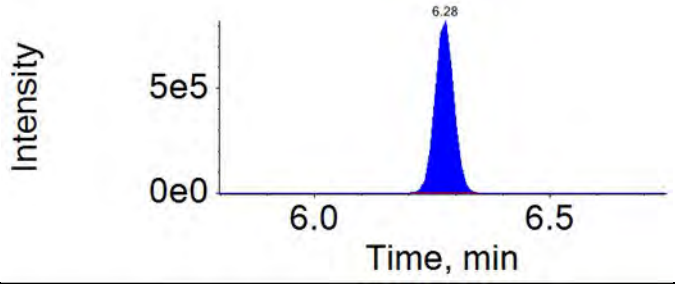


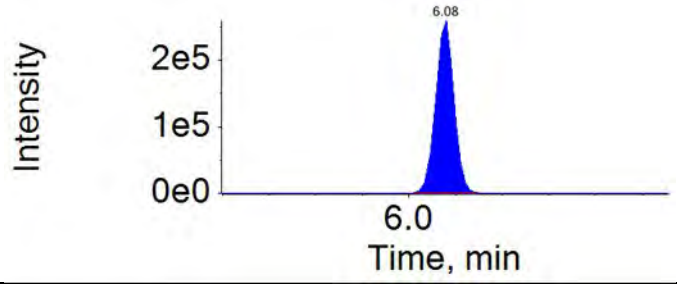
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

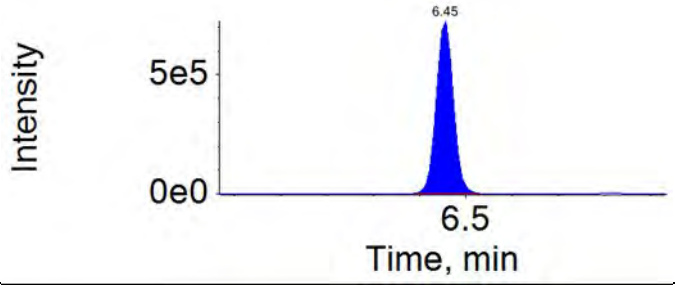
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

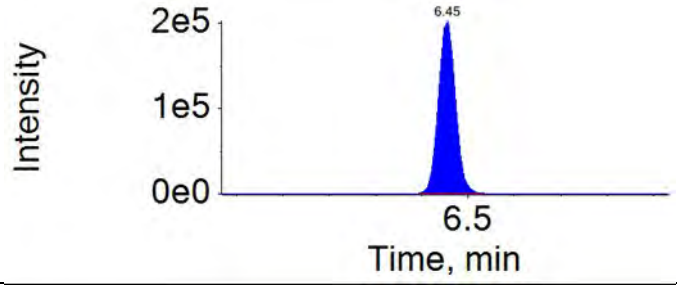
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



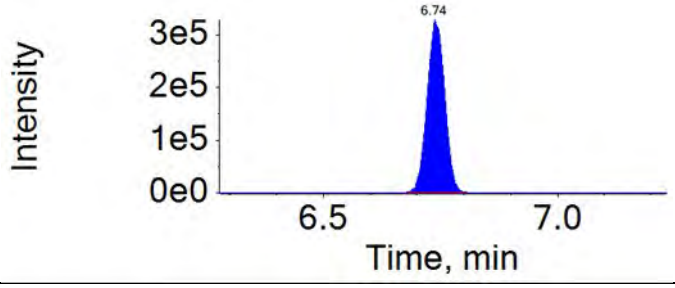


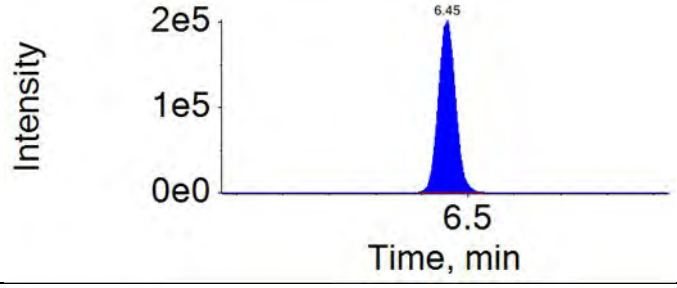
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



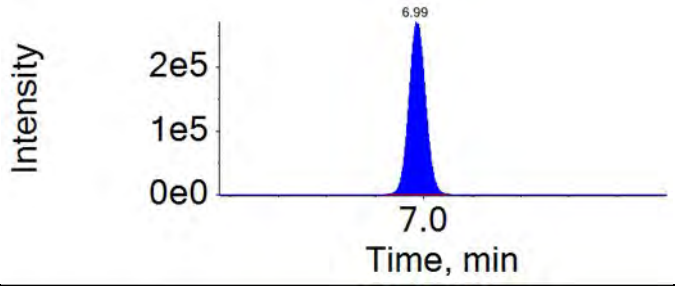


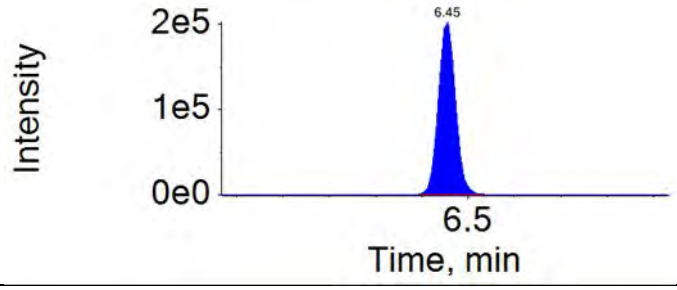
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





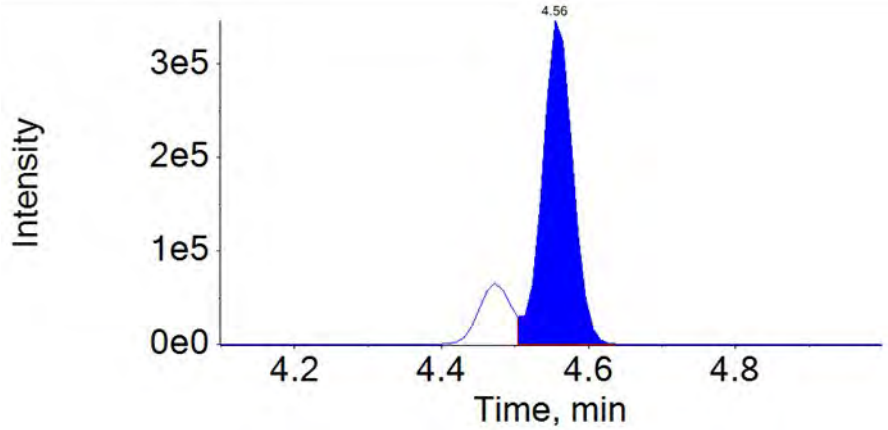
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

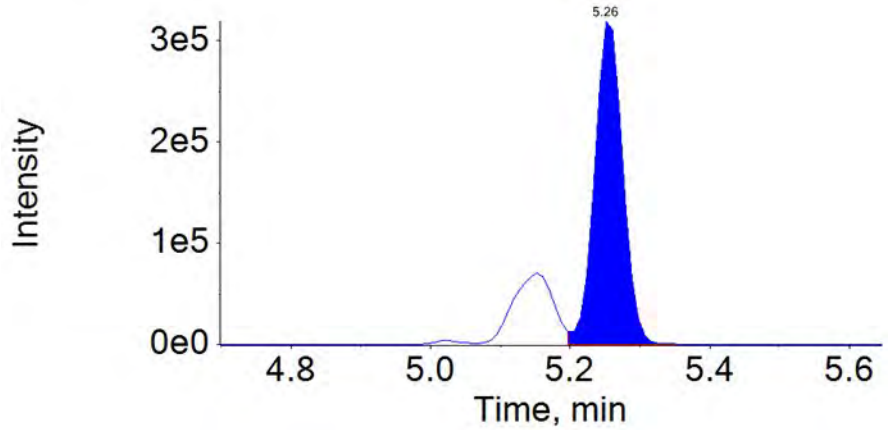
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
998689.07
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



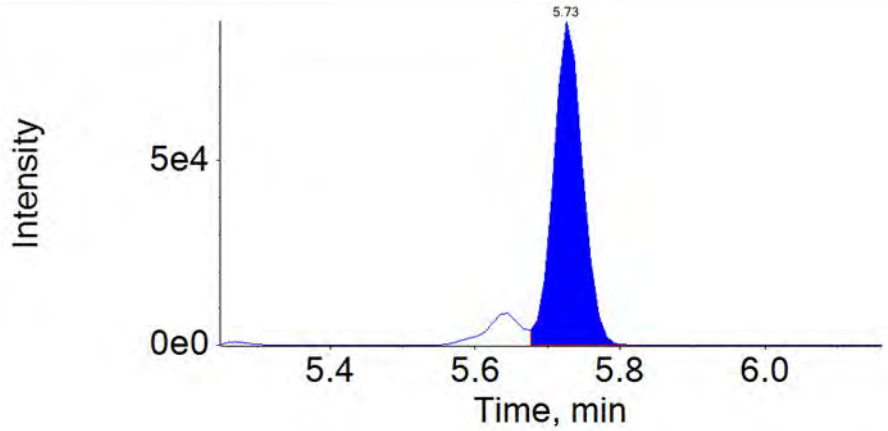
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.26
Peak Area:
900269.42
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.73
Peak Area:
243696.30
Mass Range:
570.0 / 419.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



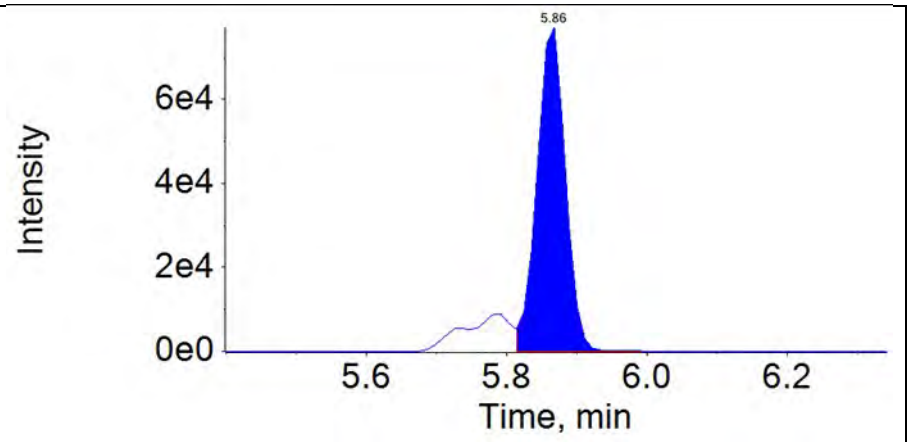
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

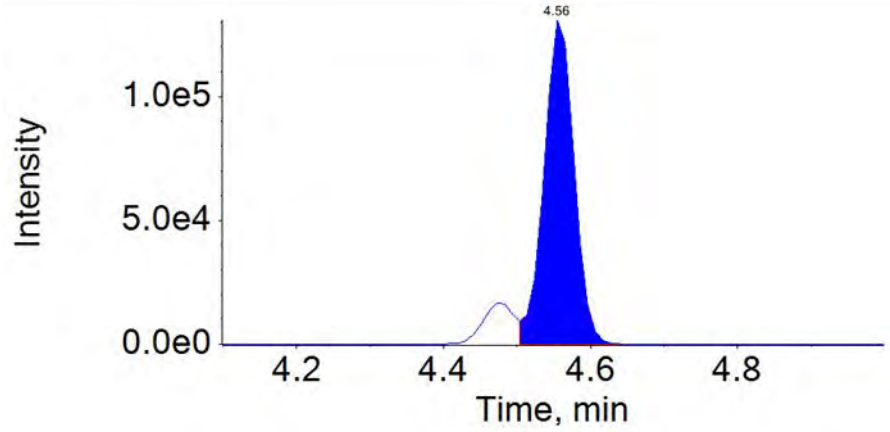
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.86
Peak Area:
218953.21
Mass Range:
584.0 / 419.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



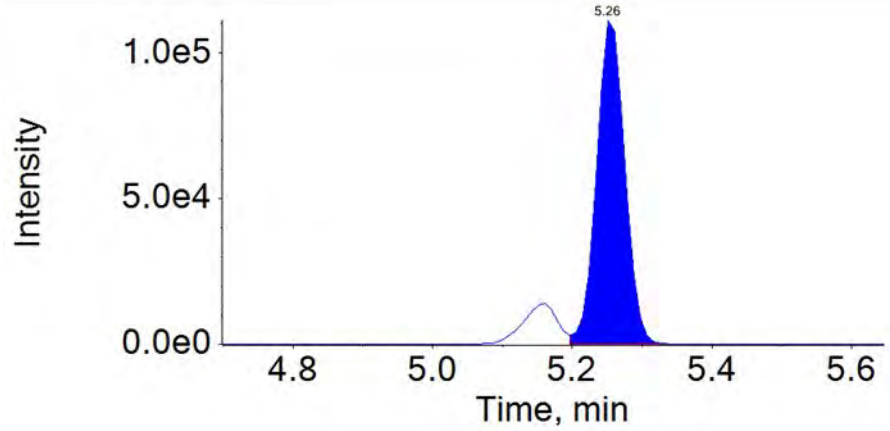
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
374706.74
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.26
Peak Area:
313694.80
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



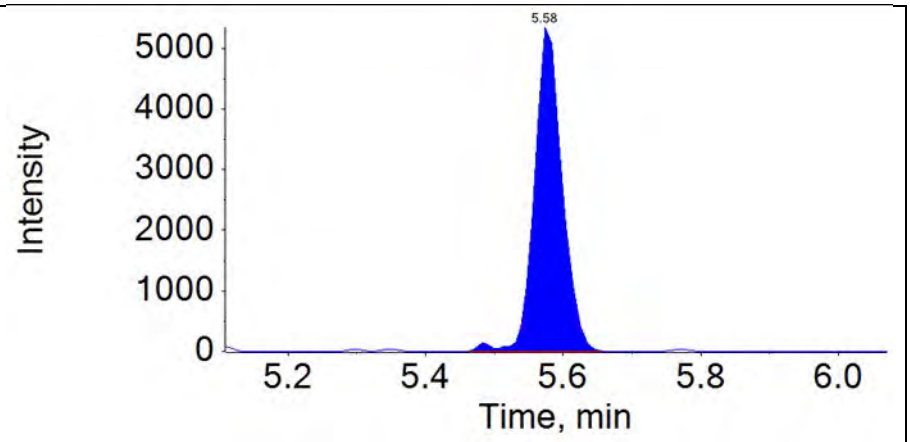
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

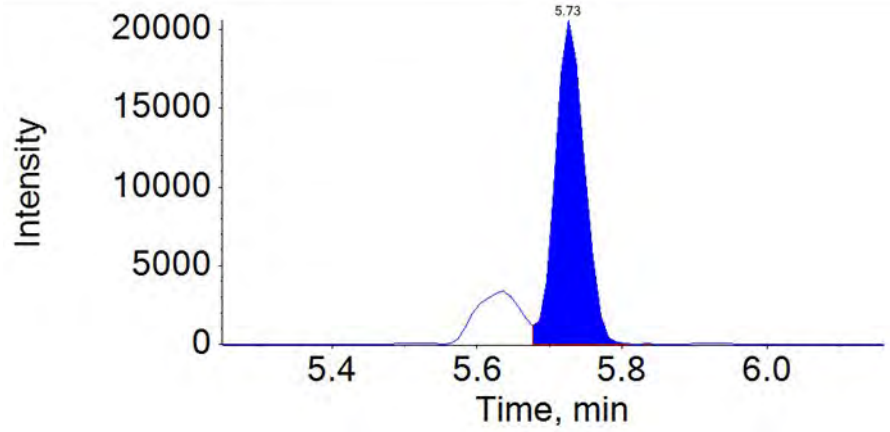
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
5.58
Peak Area:
15033.53
Mass Range:
513.0 / 169.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



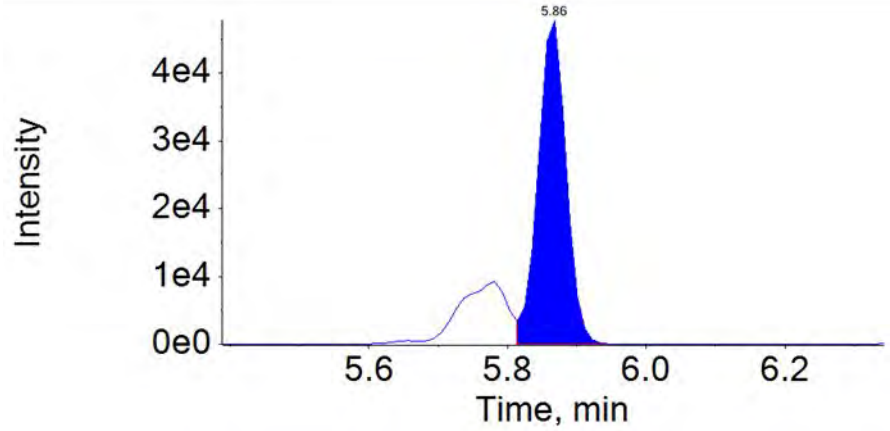
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.73
Peak Area:
57799.70
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
134534.36
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-29.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Ion Ratio Report

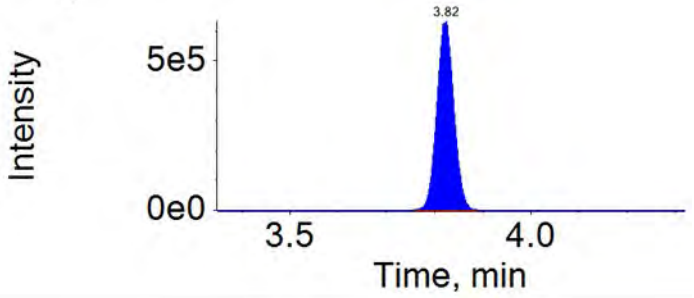
Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-29.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	1560425.11	A	1.0000	1.0000			
PFBS_2	3.82	1.00	555472.10	A	0.3627	0.3560	-2	50	
4:2-FTS	4.13	1.00	374067.13	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	223628.02	A	0.6542	0.5978	-9	50	
PFHxA	4.17	1.00	3100313.22	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	33272.26	A	0.0097	0.0107	11	50	
PFPeS	4.19	1.10	825391.64	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	418523.26	A	0.5262	0.5071	-4	50	
PFHpA	4.56	1.00	3016454.01	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	169832.77	A	0.0565	0.0563	0	50	
PFHxS	4.56	1.00	1191013.53	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	423394.72	M	0.3645	0.3555	-2	50	
6:2-FTS	4.91	1.00	243777.52	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	161589.36	A	0.6273	0.6629	6	50	
PFHpS	4.92	1.08	1127510.75	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	461784.24	A	0.4162	0.4096	-2	50	
PFOA	4.93	1.00	2945282.04	A	1.0000	1.0000			
PFOA_2	4.93	1.00	171051.71	A	0.0616	0.0581	-6	50	
PFOS	5.26	1.00	1193441.80	M	1.0000	1.0000			
PFOS_2	5.26	1.00	361837.23	M	0.3021	0.3032	0	50	
PFNA	5.27	1.00	2562019.26	A	1.0000	1.0000			
PFNA_2	5.27	1.00	50952.71	A	0.0192	0.0199	3	50	
PFNS	5.56	1.06	868436.21	A	1.0000	1.0000			
PFNS_2	5.56	1.06	405294.79	A	0.4845	0.4667	-4	50	
PFDA	5.58	1.00	2165925.64	A	1.0000	1.0000			
PFDA_2	5.58	1.00	14850.29	M	0.0096	0.0069	-29	50	
8:2-FTS	5.58	1.00	180667.13	A	1.0000	1.0000			
8:2-FTS_2	5.59	1.00	114489.18	A	0.6117	0.6337	4	50	
NMeFOSAA	5.73	1.00	273175.18	M	1.0000	1.0000			
NMeFOSAA_2	5.73	1.00	72263.23	M	0.2673	0.2645	-1	50	
PFDS	5.82	1.11	656687.67	A	1.0000	1.0000			
PFDS_2	5.82	1.11	332927.54	A	0.4952	0.5070	2	50	
PFUnDA	5.85	1.00	2053634.11	A	1.0000	1.0000			
PFUnDA_2	5.85	1.00	9041.78	A	0.0041	0.0044	7	50	
NEtFOSAA	5.86	1.00	261138.15	M	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	179526.32	M	0.6726	0.6875	2	50	
PFDoDA	6.08	1.00	2804098.45	A	1.0000	1.0000			
PFDoDA_2	6.08	1.00	38761.37	A	0.0133	0.0138	4	50	
10:2-FTS	6.09	1.09	178277.68	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	118471.68	A	0.6969	0.6645	-5	50	
PFTrDA	6.28	1.03	2289995.99	A	1.0000	1.0000			
PFTrDA_2	6.28	1.03	18323.66	A	0.0075	0.0080	6	50	
PFTeDA	6.45	1.00	1865922.85	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	10732.53	A	0.0066	0.0058	-13	50	
PFHxDA	6.74	1.04	856971.96	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	53401.51	A	0.0616	0.0623	1	50	
PFODA	6.99	1.08	651552.95	A	1.0000	1.0000			
PFODA_2	6.98	1.08	16332.39	A	0.0272	0.0251	-8	50	

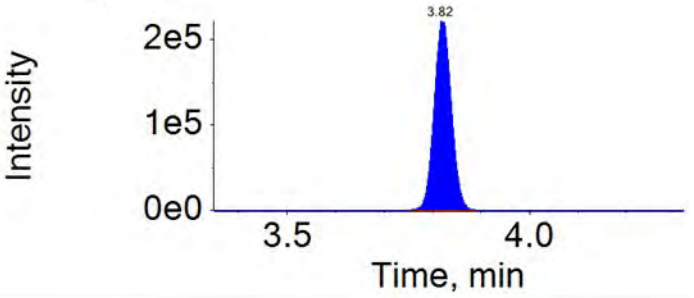
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

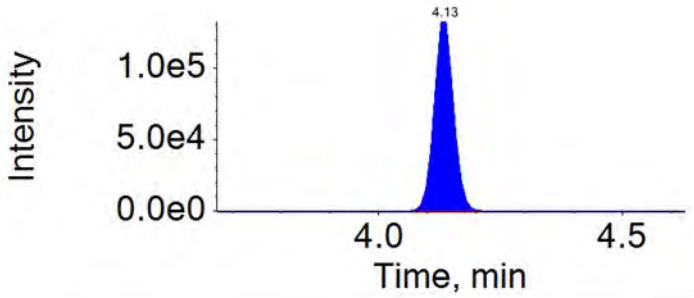
Component: PFBS
Primary Mass: 299.0 / 80.0



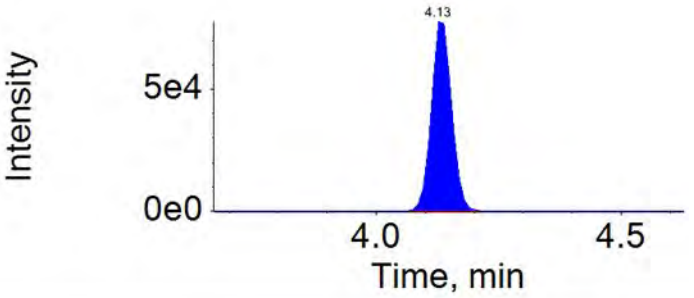
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



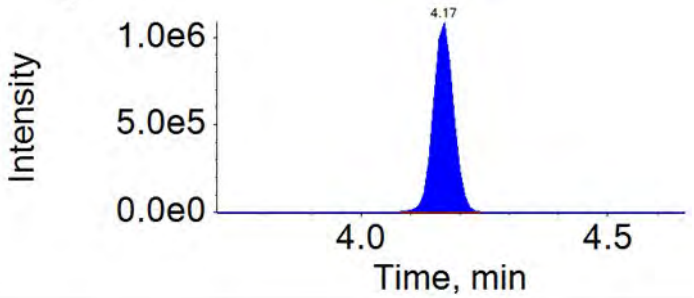
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



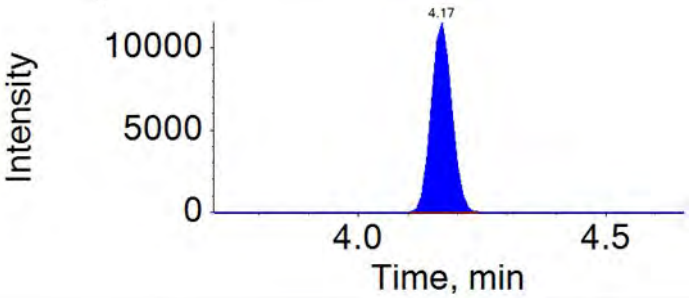
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



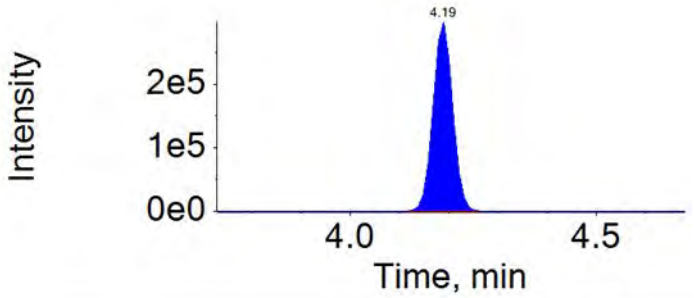
Component: PFHxA
Primary Mass: 313.0 / 269.0



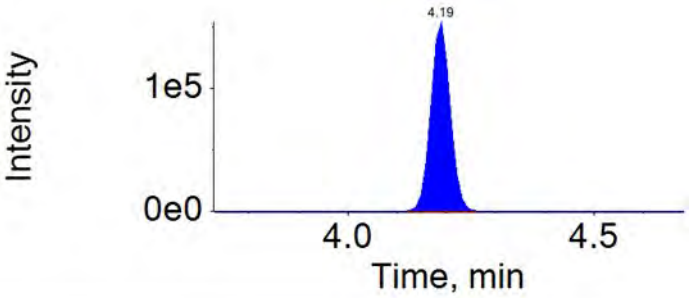
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



APPROVED
By MSM at 1:53 pm, 12/7/18

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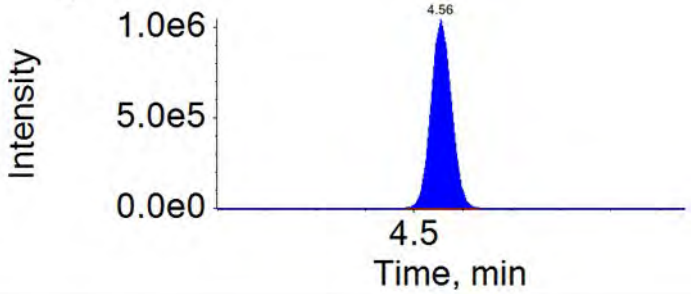
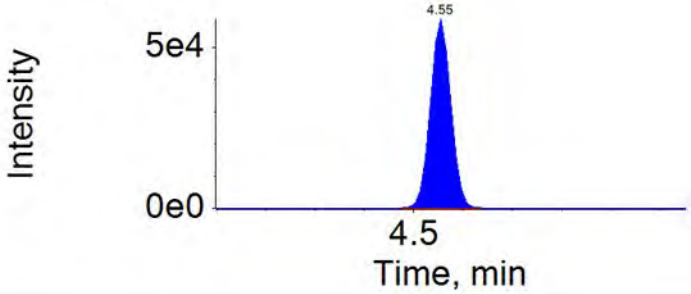
By HMK at 1:54 pm, 12/9/18

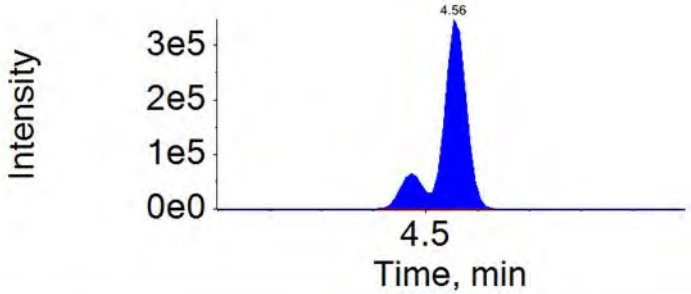
Component: PFHpA
Primary Mass: 363.0 / 319.0



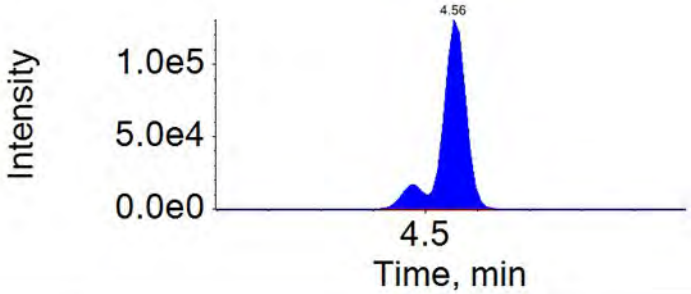
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



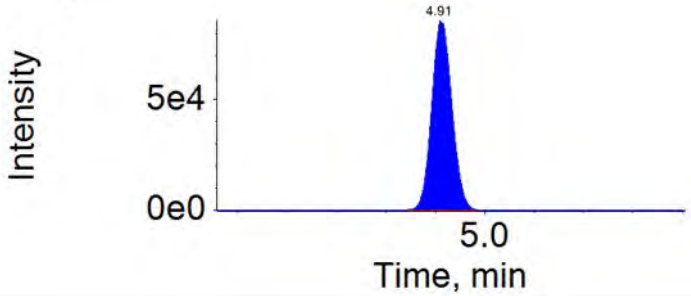
Component: PFHxS
Primary Mass: 399.0 / 80.0



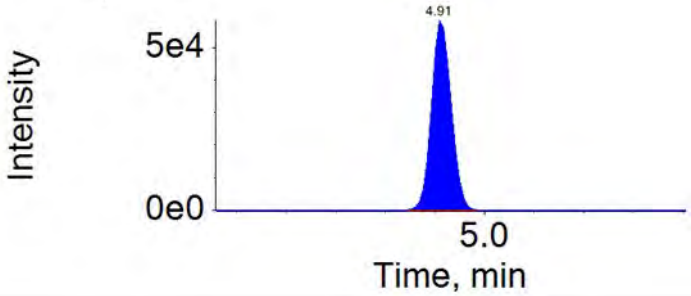
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



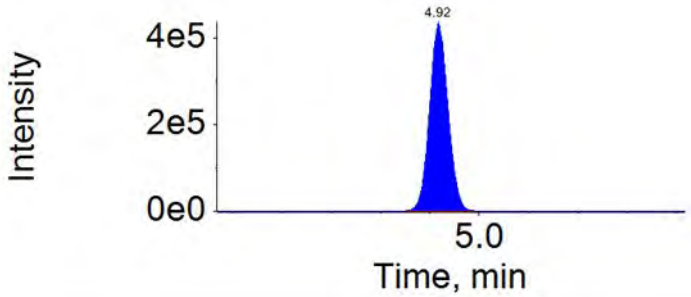
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



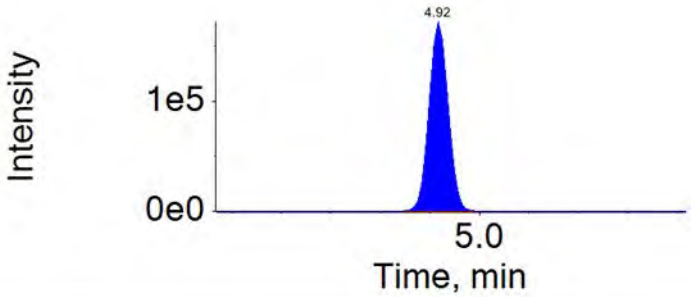
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



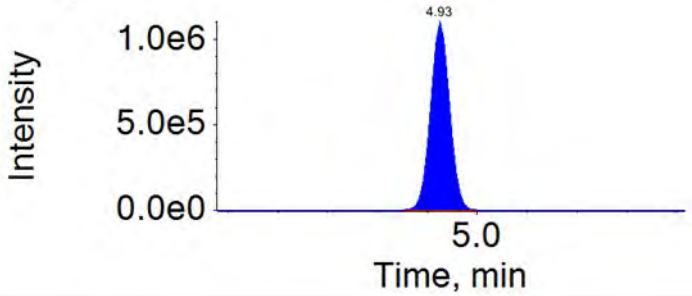
Component: PFHpS
Primary Mass: 449.0 / 80.0



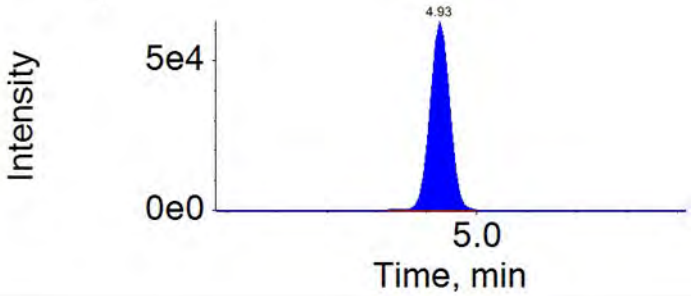
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



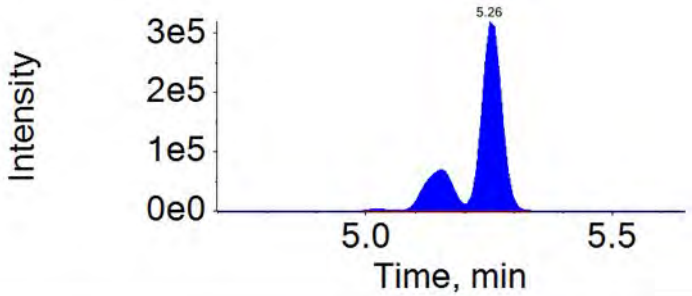
Component: PFOA
Primary Mass: 413.0 / 369.0



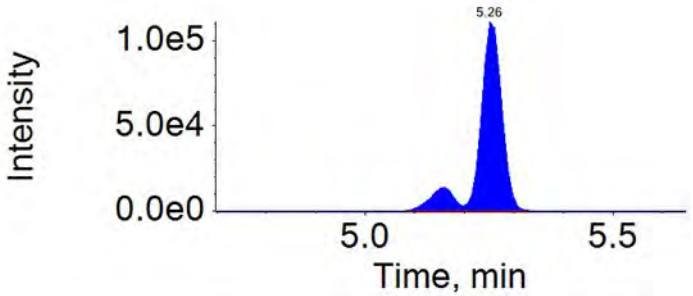
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



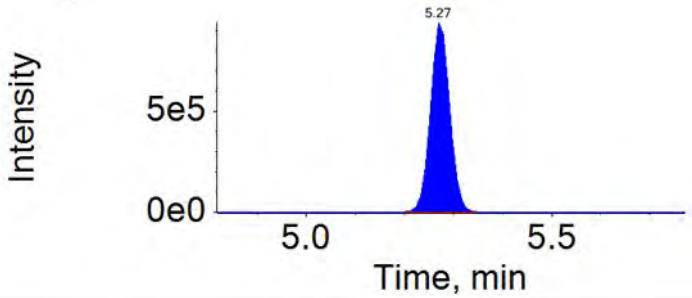
Component: PFOS
Primary Mass: 499.0 / 80.0



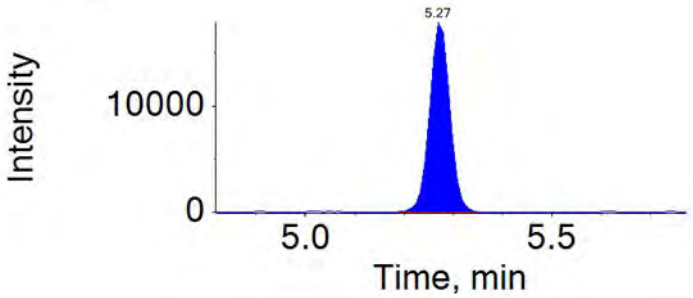
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



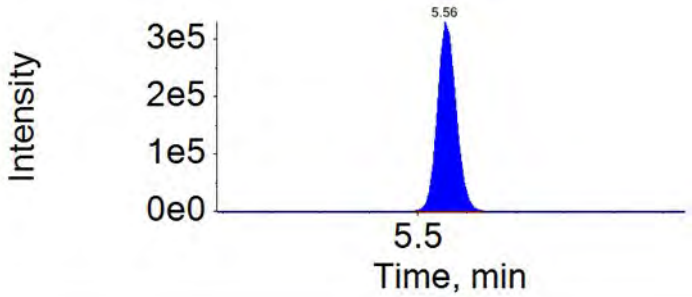
Component: PFNA
Primary Mass: 463.0 / 419.0



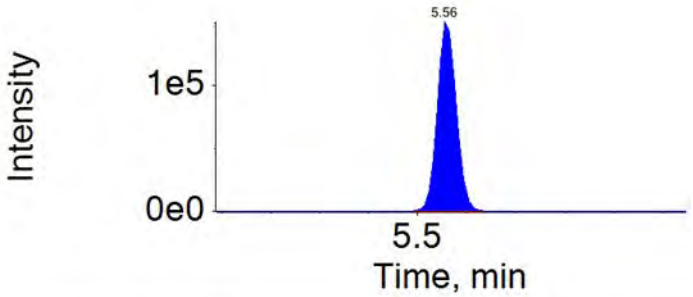
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



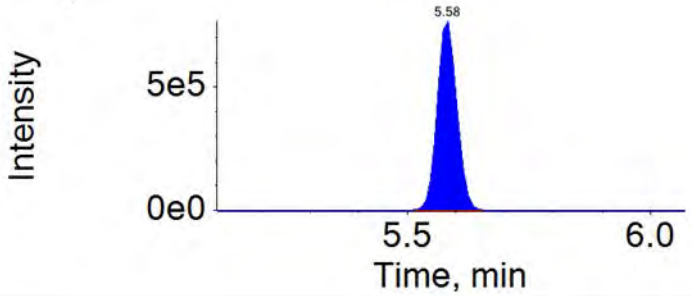
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



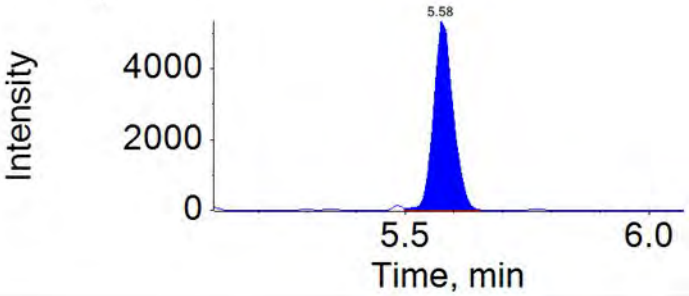
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

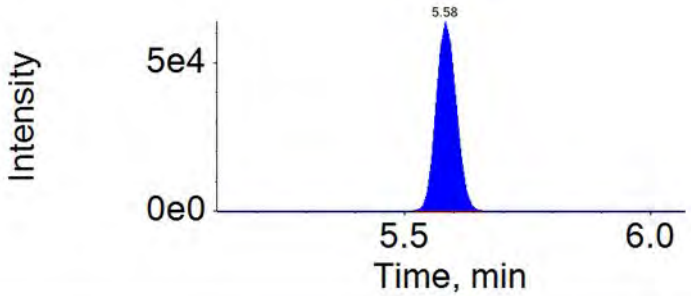
Component: PFDA
Primary Mass: 513.0 / 469.0



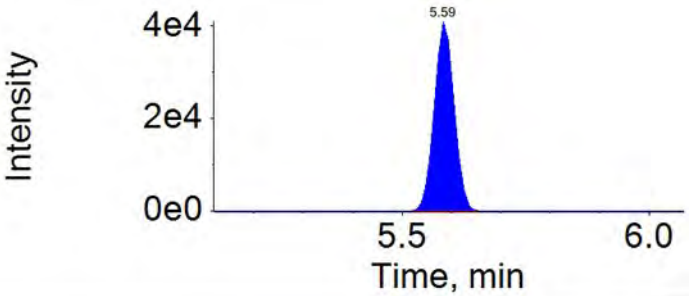
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



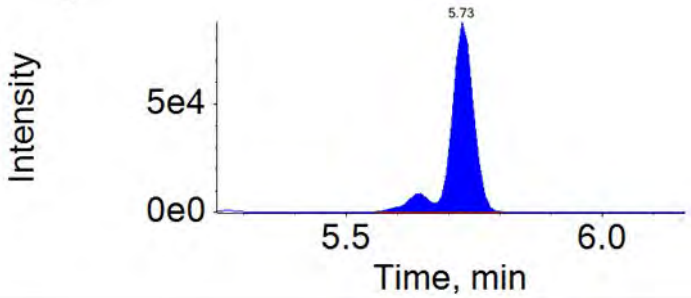
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



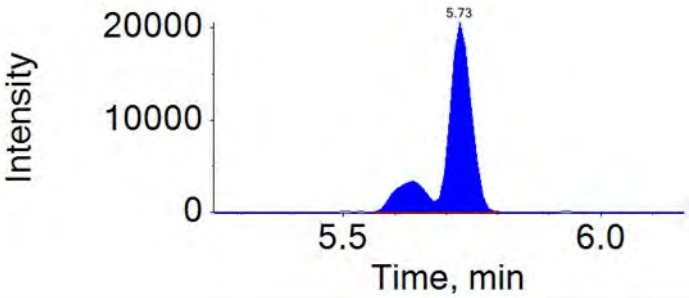
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



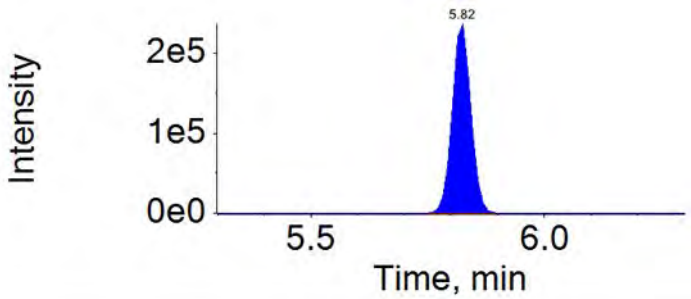
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



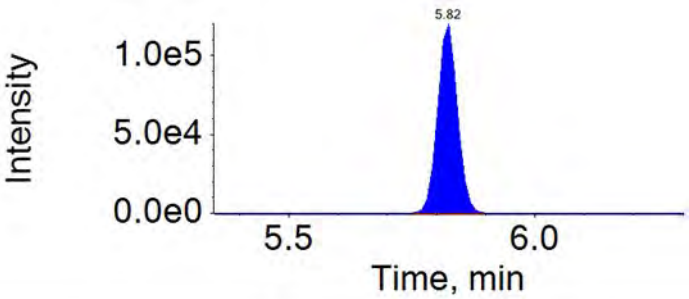
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



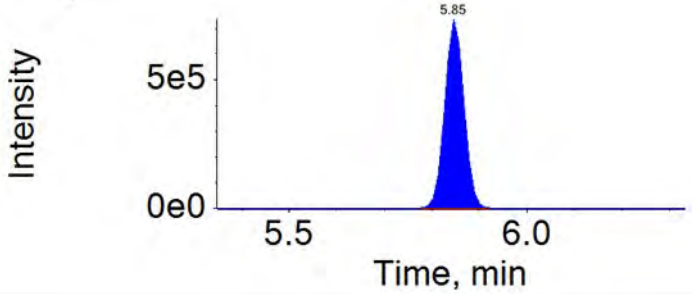
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



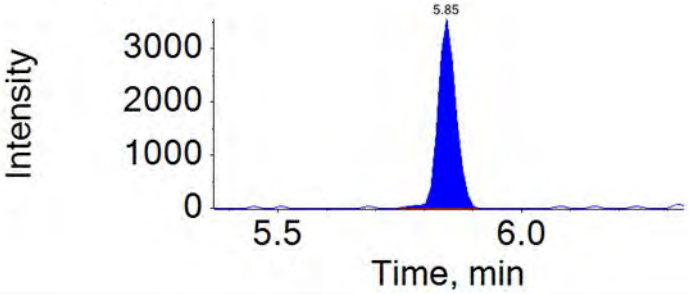
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

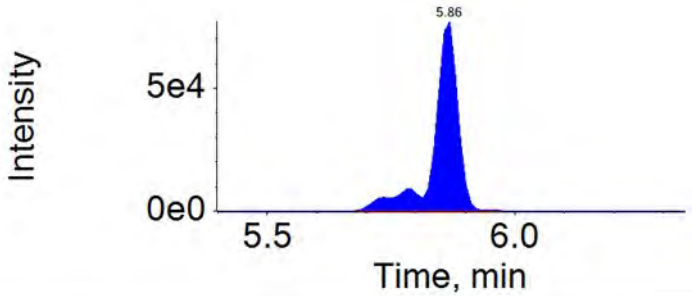
Component: PFUnDA
Primary Mass: 563.0 / 519.0



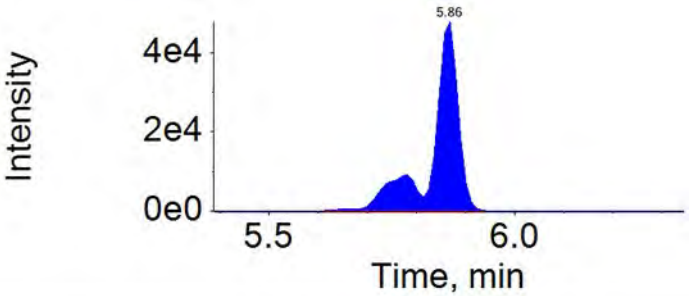
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



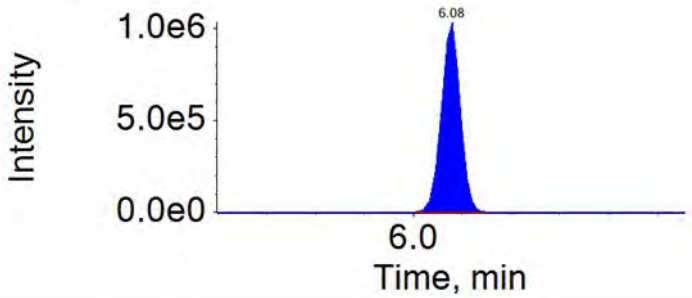
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



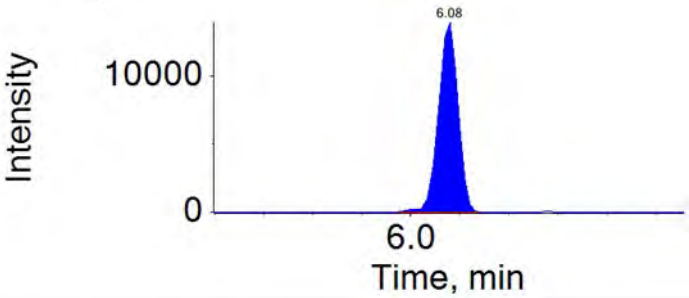
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



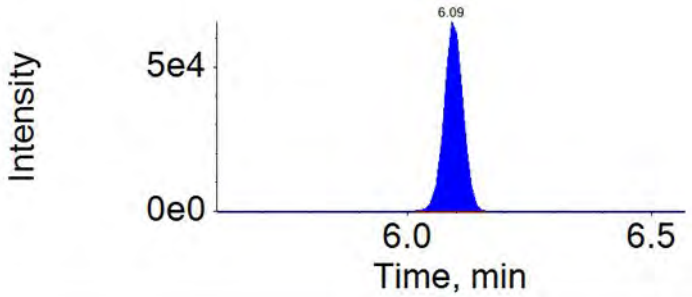
Component: PFDoDA
Primary Mass: 613.0 / 569.0



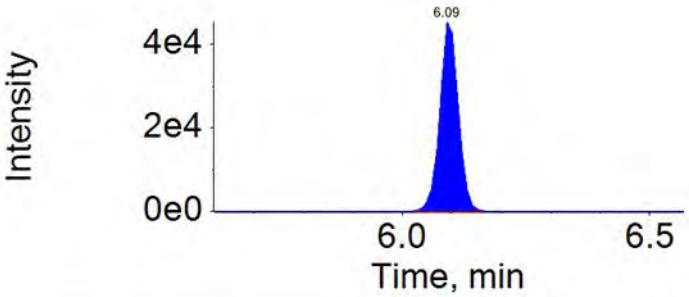
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



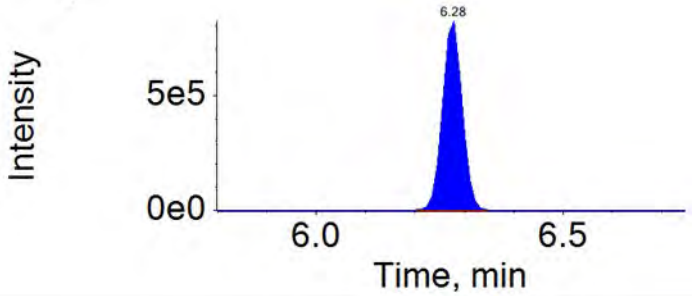
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



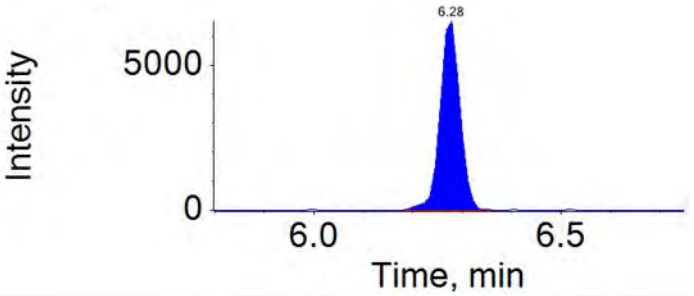
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

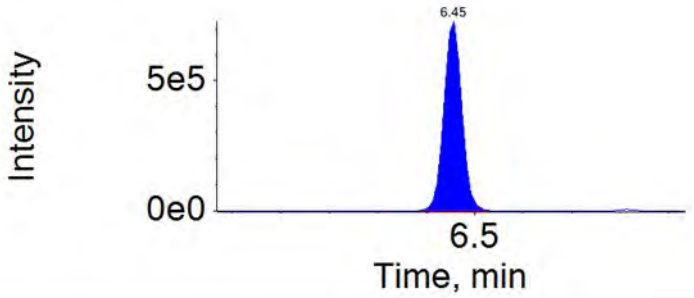
Component: PFTrDA
Primary Mass: 663.0 / 619.0



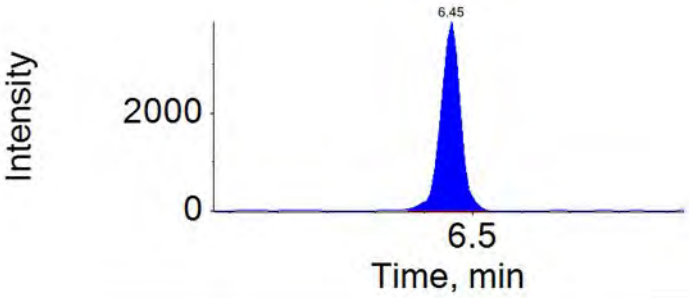
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



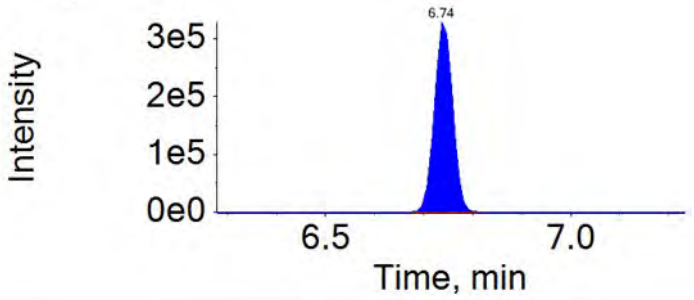
Component: PFTeDA
Primary Mass: 713.0 / 669.0



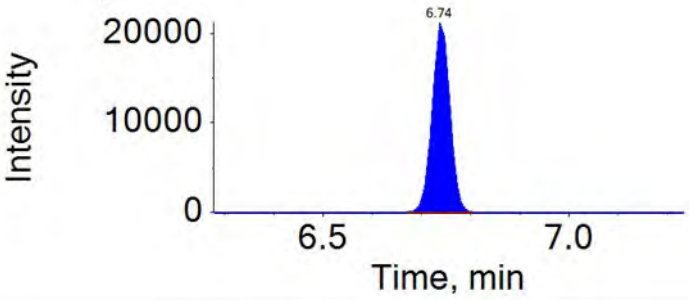
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



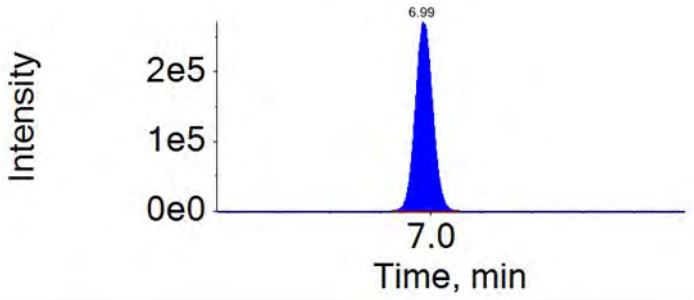
Component: PFHxDA
Primary Mass: 813.0 / 769.0



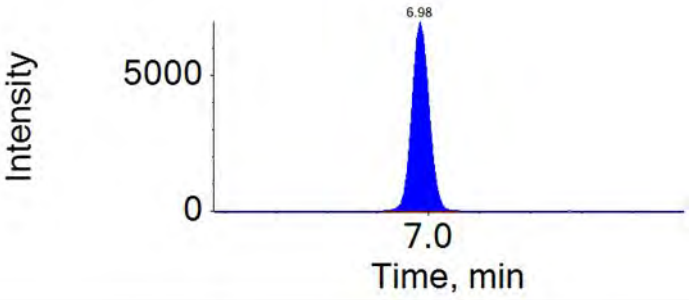
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL6			**Data File:**		18DEC06DCAL-30.wiff
Sample ID:	CALBRN61833B			**Acquis Date:**		2018-12-07T00:22:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	8			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	677846.0	825688.9	-18	50	
13C2-PFOA	5.0	407328.5	449802.8	-9	50	
13C4-PFOS	4.8	247949.8	276858.3	-10	50	
13C2-PFDA	5.0	272997.0	315428.3	-13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	779560.6	13C3-PFBA	677846.0	1.150	5.000	5.090	102	70-130	
E13C5-PFPeA	735887.1	13C3-PFBA	677846.0	1.086	5.000	5.156	103	70-130	
E13C3-PFBS	392877.3	13C3-PFBA	677846.0	0.580	4.650	4.913	106	70-130	
E13C2-4:2-FTS	49555.0	13C2-PFOA	407328.5	0.122	4.670	4.767	102	70-130	
E13C5-PFHxA	606649.2	13C2-PFOA	407328.5	1.489	5.000	5.000	100	70-130	
E13C3-PFHxS	295455.6	13C2-PFOA	407328.5	0.725	4.730	4.652	98	70-130	
E13C4-PFHpA	489476.9	13C2-PFOA	407328.5	1.202	5.000	5.109	102	70-130	
E13C2-6:2-FTS	27234.8	13C2-PFOA	407328.5	0.067	4.750	4.142	87	70-130	
E13C8-PFOA	664219.2	13C2-PFOA	407328.5	1.631	5.000	4.609	92	70-130	
E13C8-PFOS	255714.8	13C4-PFOS	247949.8	1.031	4.780	4.628	97	70-130	
E13C9-PFNA	445443.1	13C4-PFOS	247949.8	1.797	5.000	5.077	102	70-130	
E13C6-PFDA	541153.2	13C2-PFDA	272997.0	1.982	5.000	5.253	105	70-130	
E13C2-8:2-FTS	20179.0	13C2-PFDA	272997.0	0.074	4.790	4.826	101	70-130	
E13C8-PFOSA	576971.5	13C2-PFDA	272997.0	2.113	5.000	4.999	100	70-130	
Ed3-NMeFOSAA	86838.4	13C2-PFDA	272997.0	0.318	5.000	5.637	113	70-130	
E13C7-PFUnDA	297859.0	13C2-PFDA	272997.0	1.091	5.000	5.352	107	70-130	
Ed5-NEtFOSAA	64805.9	13C2-PFDA	272997.0	0.237	5.000	5.240	105	70-130	
E13C2-PFDoDA	670197.9	13C2-PFDA	272997.0	2.455	5.000	5.152	103	70-130	
Ed7-NMePFOSAE	260658.2	13C2-PFDA	272997.0	0.955	5.000	5.500	110	70-130	
Ed3-NMePFOSA	82601.0	13C2-PFDA	272997.0	0.303	5.000	5.513	110	70-130	
Ed9-NEtPFOSAE	214650.5	13C2-PFDA	272997.0	0.786	5.000	5.422	108	70-130	
Ed5-NEtPFOSA	65686.6	13C2-PFDA	272997.0	0.241	5.000	5.415	108	70-130	
E13C2-PFTeDA	481845.9	13C2-PFDA	272997.0	1.765	5.000	5.239	105	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

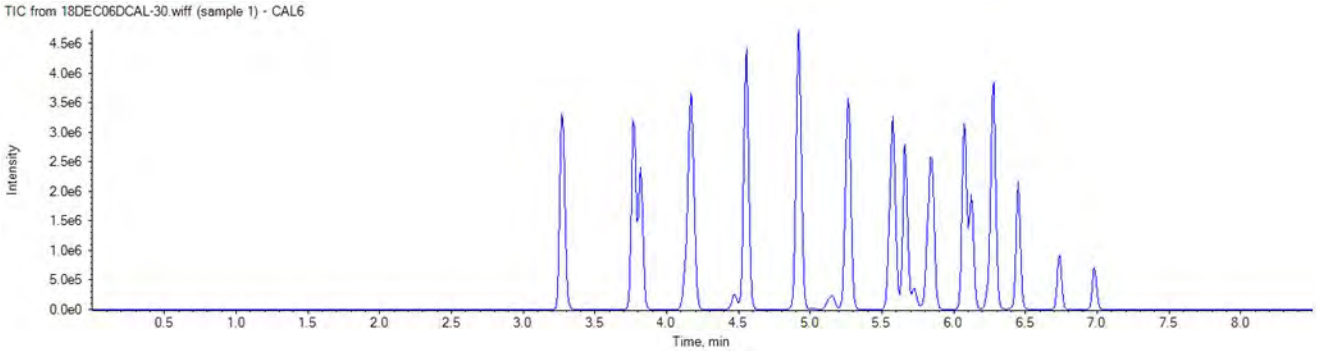
Analyte Quantitation Peak Table

Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-30.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	6933920.3		A	13C4-PFBA	3.27	779560.6	8.895	49.074
PFPeA	3.77	1.000	6852617.3		A	13C5-PFPeA	3.77	735887.1	9.312	48.987
PFBS	3.82	1.000	3497912.0		A	13C3-PFBS	3.82	392877.3	8.903	44.131
4:2-FTS	4.13	1.000	825733.7		A	13C2-4:2-FTS	4.13	49555.0	16.663	44.662
PFHxA	4.16	1.000	6667267.4		A	13C5-PFHxA	4.16	606649.2	10.990	47.890
PFPeS	4.19	1.100	1887536.7		A	13C3-PFBS	3.82	392877.3	4.804	47.573
PFHpA	4.55	1.000	6544306.5		A	13C4-PFHpA	4.55	489476.9	13.370	44.021
PFHxS	4.56	1.000	2776076.0		M	13C3-PFHxS	4.56	295455.6	9.396	44.518
6:2-FTS	4.91	1.000	513358.2		A	13C2-6:2-FTS	4.91	27234.8	18.849	46.805
PFHpS	4.91	1.080	2478350.6		A	13C3-PFHxS	4.56	295455.6	8.388	46.046
PFOA	4.92	1.000	6289920.1		A	13C8-PFOA	4.92	664219.2	9.470	51.751
PFOS	5.25	1.000	2854538.8		M	13C8-PFOS	5.25	255714.8	11.163	46.302
PFNA	5.27	1.000	5937972.0		A	13C9-PFNA	5.27	445443.1	13.330	49.127
PFNS	5.56	1.060	1952695.3		A	13C8-PFOS	5.25	255714.8	7.636	49.137
PFDA	5.58	1.000	4838370.8		A	13C6-PFDA	5.58	541153.2	8.941	50.325
8:2-FTS	5.58	1.000	434056.1		A	13C2-8:2-FTS	5.58	20179.0	21.510	46.607
PFOSA	5.66	1.000	5808768.5		A	13C8-PFOSA	5.66	576971.5	10.068	52.230
NMeFOSAA	5.72	1.000	636332.6		M	d3-NMeFOSAA	5.72	86838.4	7.328	48.469
PFDS	5.82	1.110	1557080.1		A	13C8-PFOS	5.25	255714.8	6.089	49.234
PFUnDA	5.84	1.000	4768074.3		A	13C7-PFUnDA	5.85	297859.0	16.008	49.014
NEtFOSAA	5.86	1.000	643440.7		A	d5-NEtFOSAA	5.86	64805.9	9.929	50.179
PFDoDA	6.07	1.000	6214332.3		A	13C2-PFDoDA	6.07	670197.9	9.272	48.809
10:2-FTS	6.09	1.090	373461.1		A	13C2-8:2-FTS	5.58	20179.0	18.507	49.024
NMePFOSAE	6.12	1.000	3077102.2		A	d7-NMePFOSAE	6.11	260658.2	11.805	51.300
NMePFOSA	6.13	1.000	783375.4		A	d3-NMePFOSA	6.13	82601.0	9.484	47.852
PFDoS	6.24	1.190	815763.7		A	13C8-PFOS	5.25	255714.8	3.190	48.634
NEtPFOSAE	6.28	1.000	3150024.0		A	d9-NEtPFOSAE	6.27	214650.5	14.675	49.168
NEtPFOSA	6.29	1.000	692421.7		A	d5-NEtPFOSA	6.28	65686.6	10.541	50.462
PFTrDA	6.27	1.030	4879343.8		A	13C2-PFDoDA	6.07	670197.9	7.280	47.684
PFTeDA	6.45	1.000	4117781.1		A	13C2-PFTeDA	6.45	481845.9	8.546	48.870
PFHxDA	6.74	1.040	1913602.8		A	13C2-PFTeDA	6.45	481845.9	3.971	49.736
PFODA	6.98	1.080	1488718.8		A	13C2-PFTeDA	6.45	481845.9	3.090	49.596

Total Ion Chromatogram

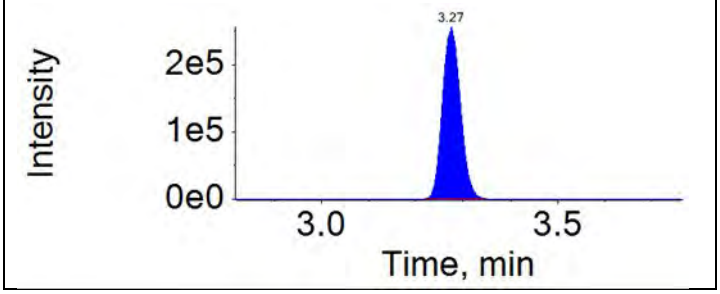


APPROVED
By MSM at 1:53 pm, 12/7/18

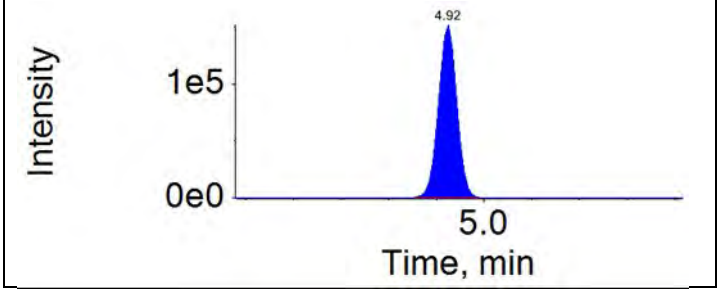
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

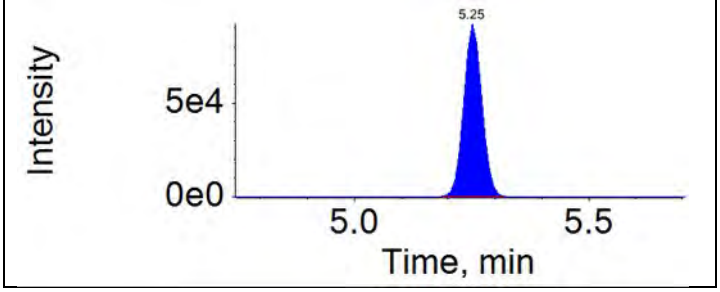
Injection Standard: 13C3-PFBA
216.0 / 172.0



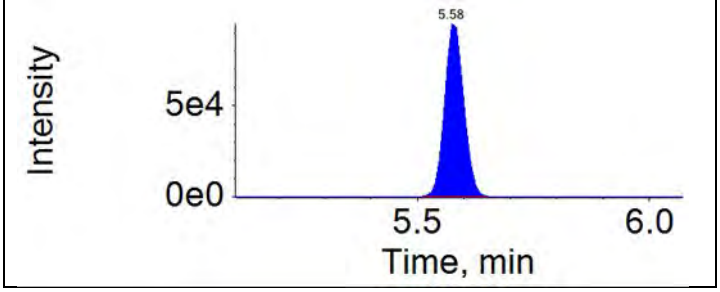
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

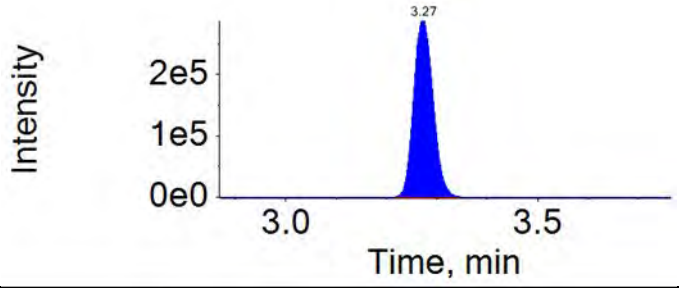


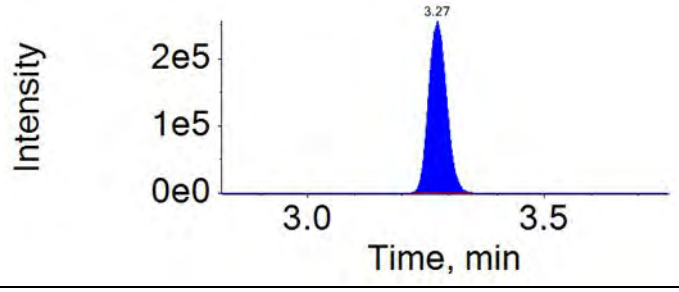
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

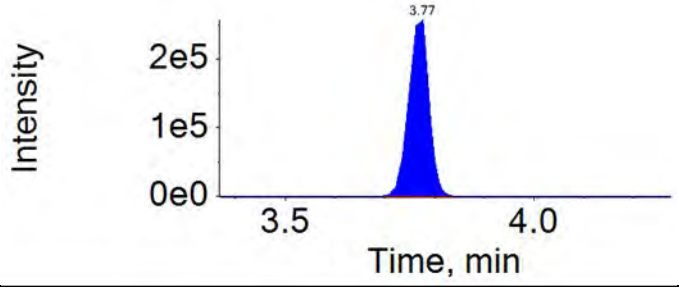
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

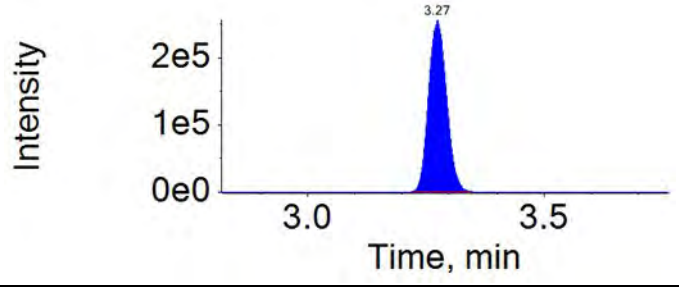
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



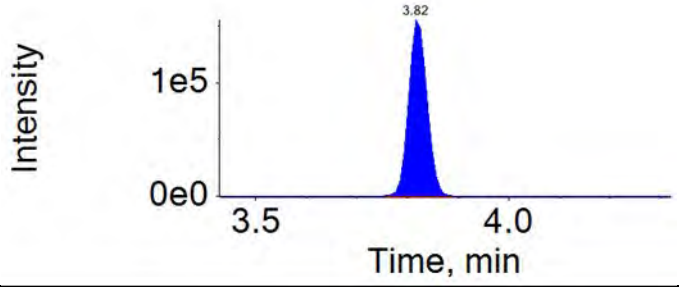


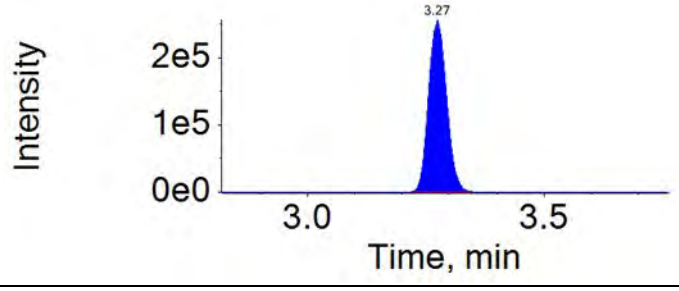
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



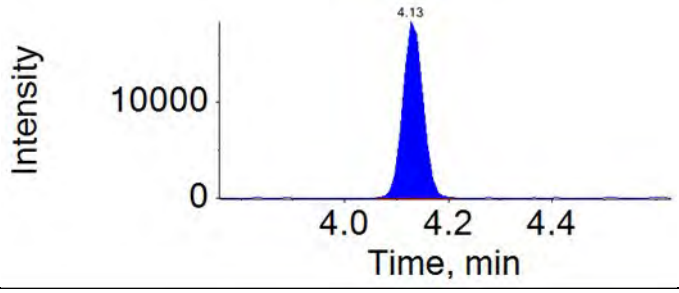


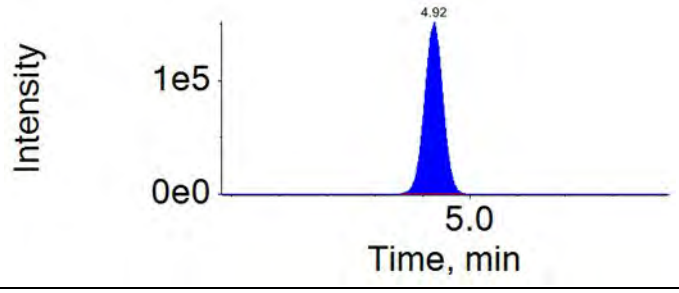
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



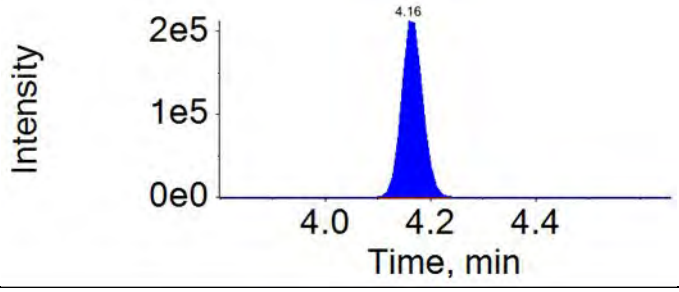


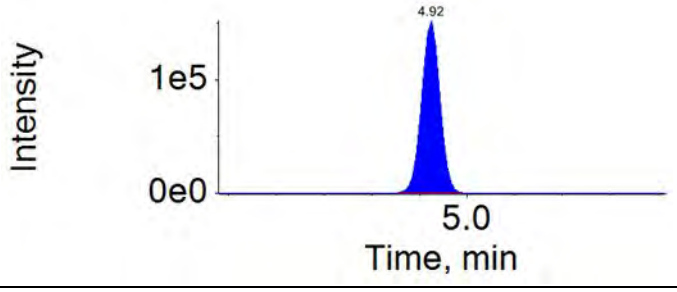
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

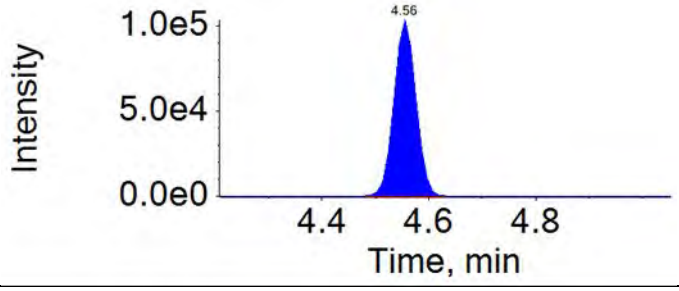
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

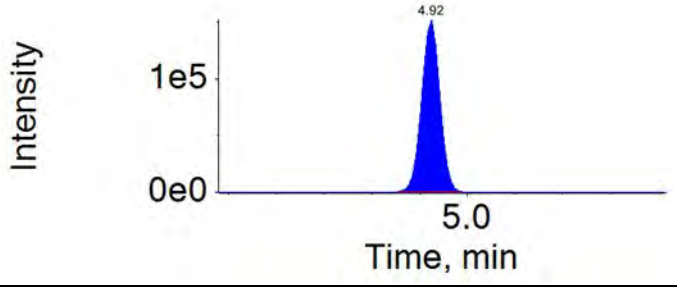
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



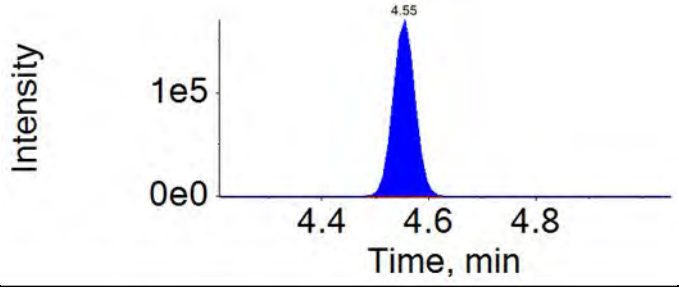


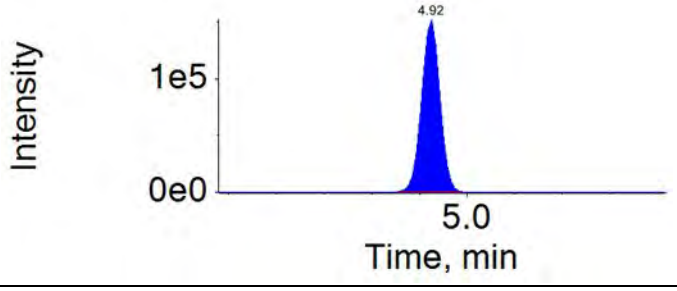
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



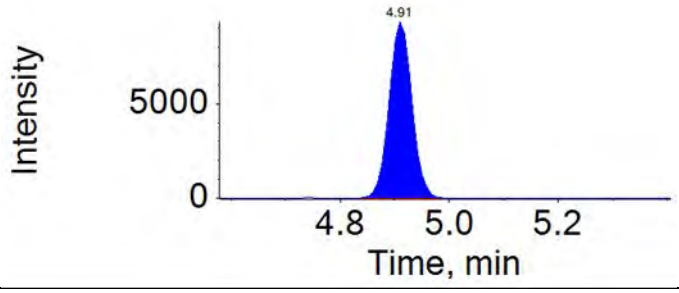


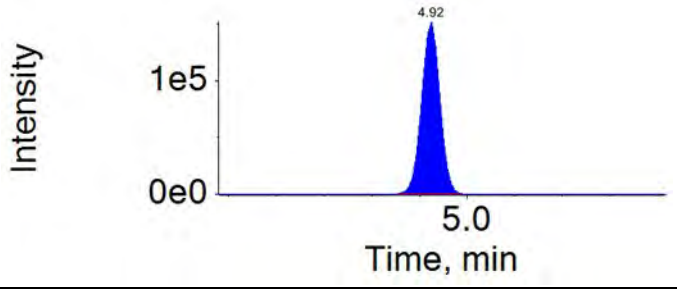
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



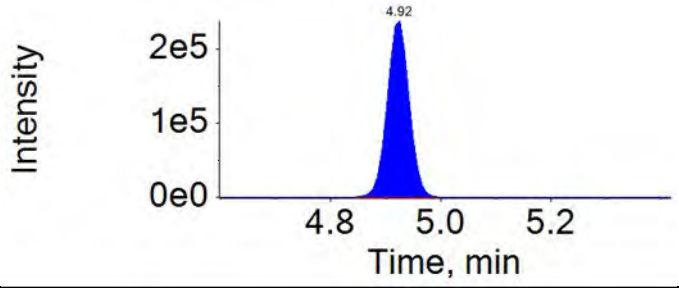


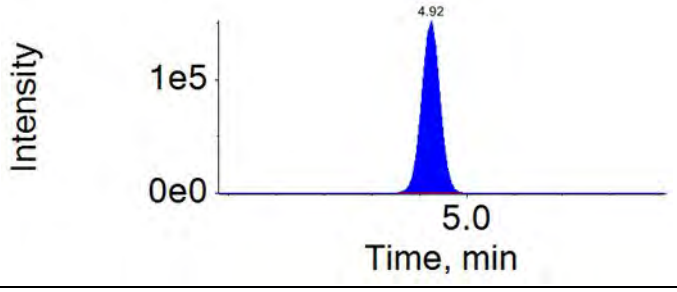
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

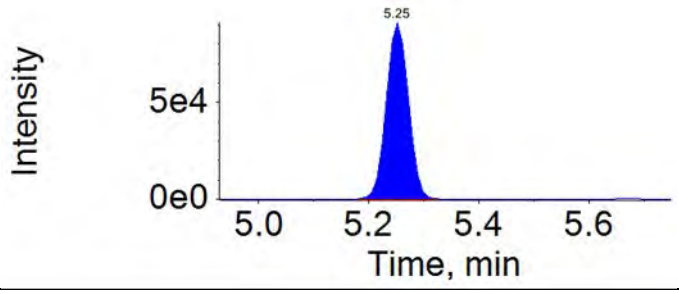
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

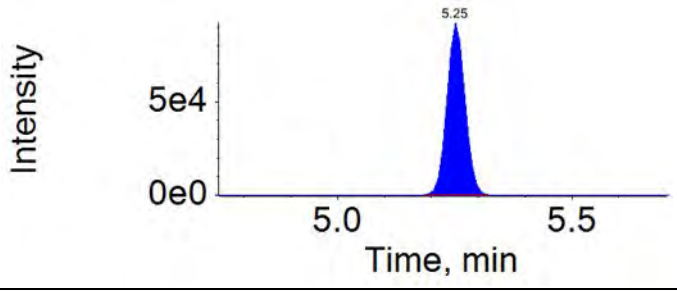
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



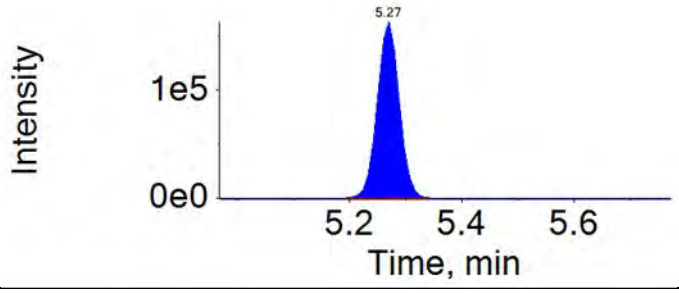


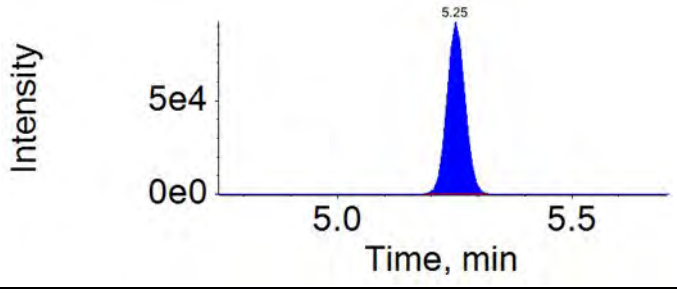
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



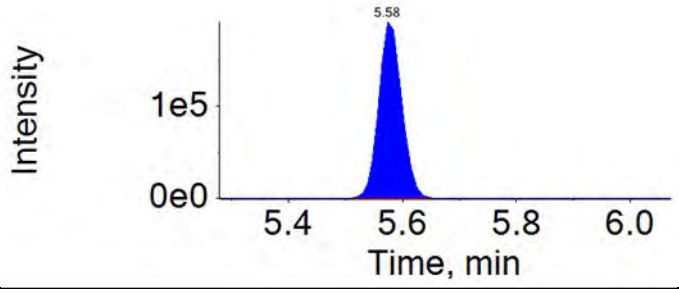


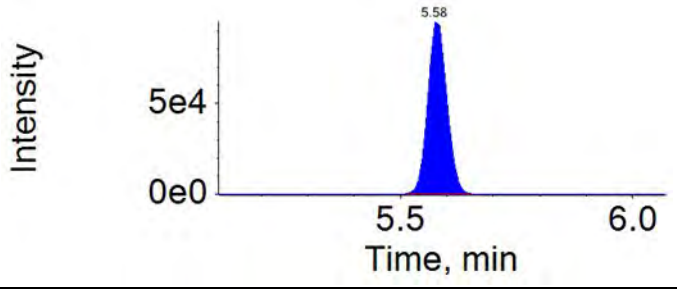
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



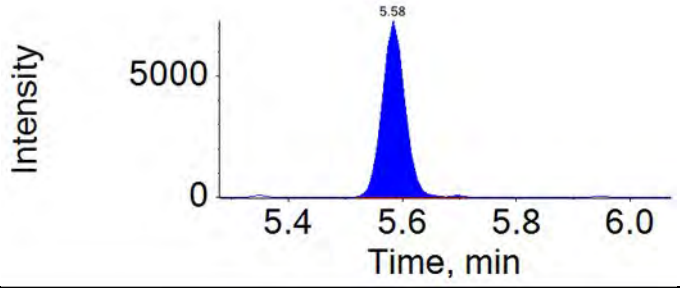


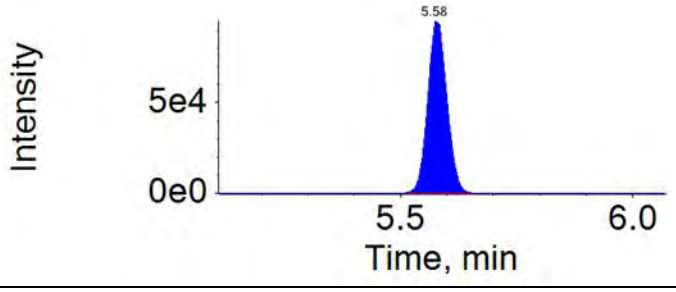
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

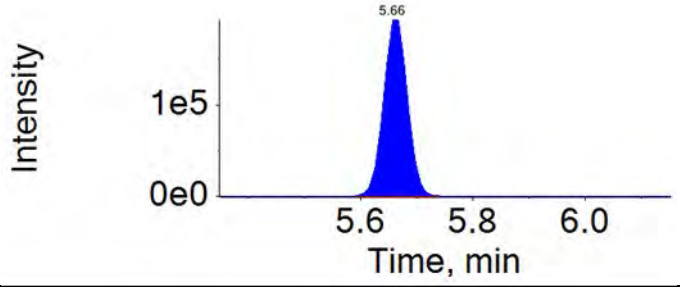
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

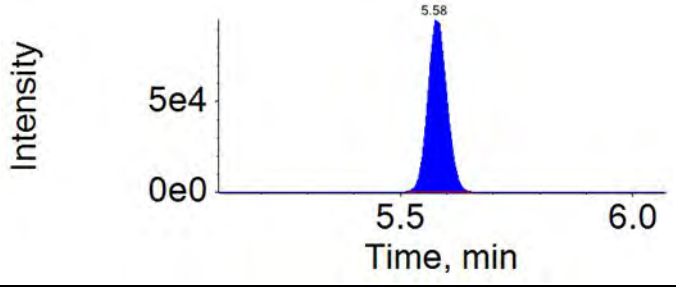
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



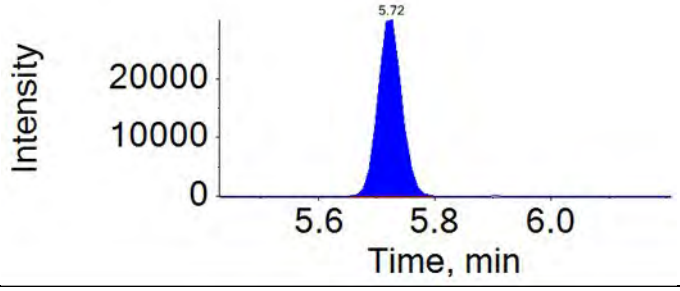


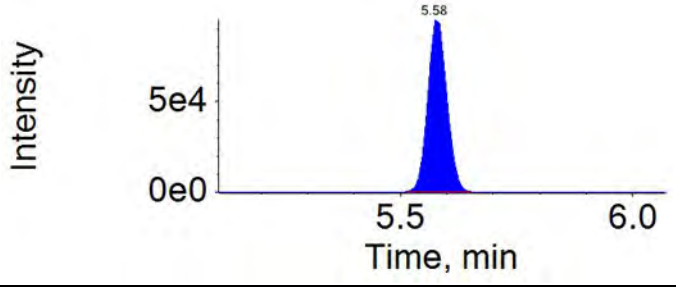
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



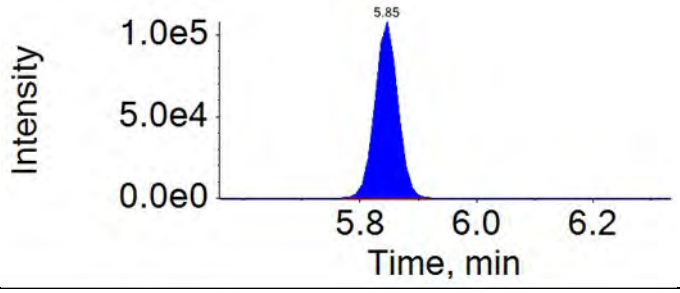


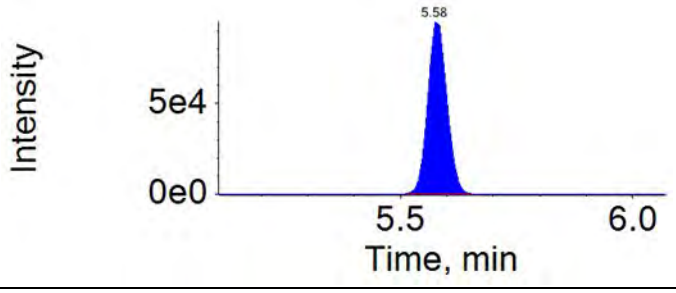
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



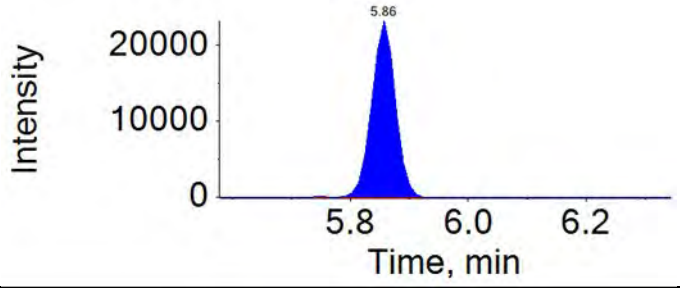


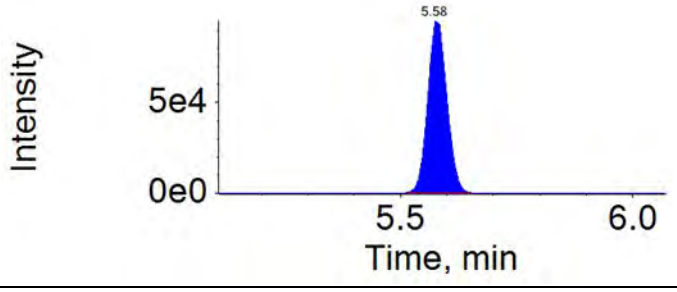
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

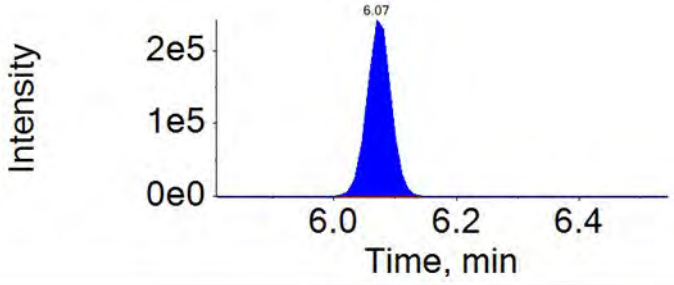
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

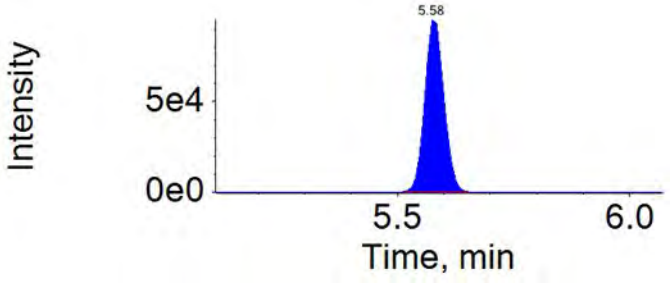
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



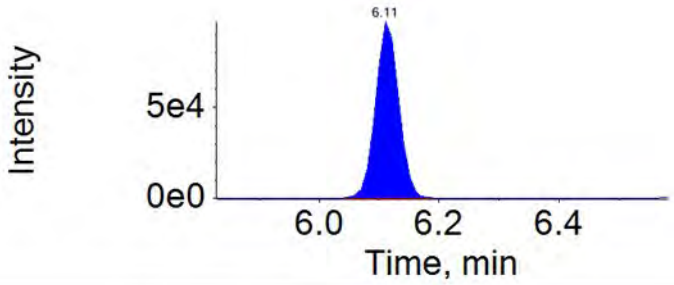


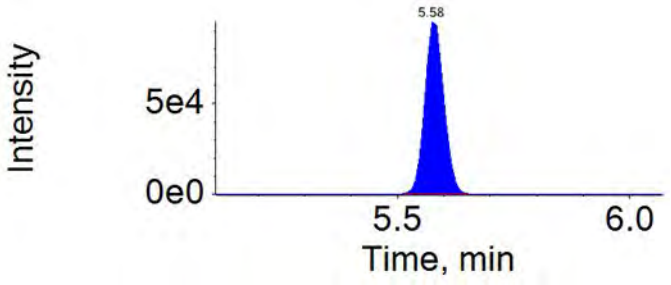
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



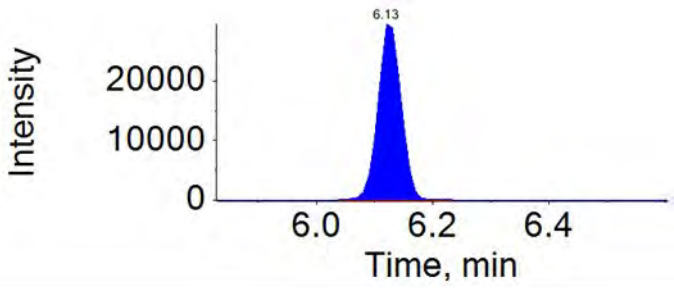


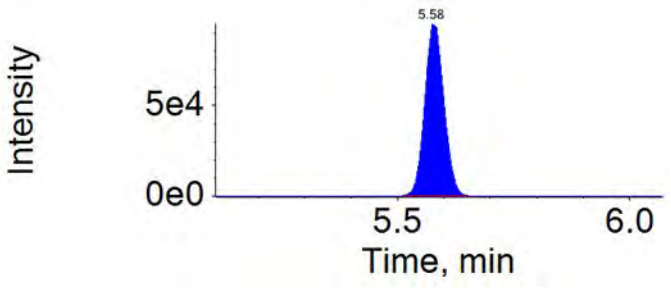
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



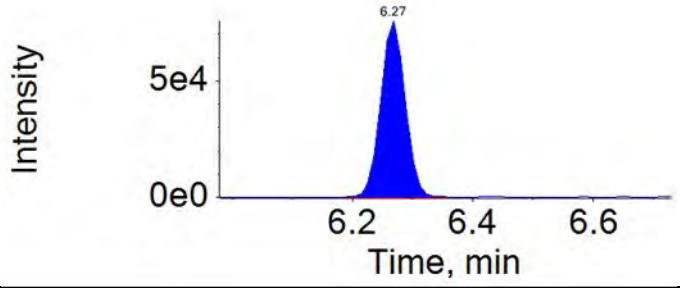


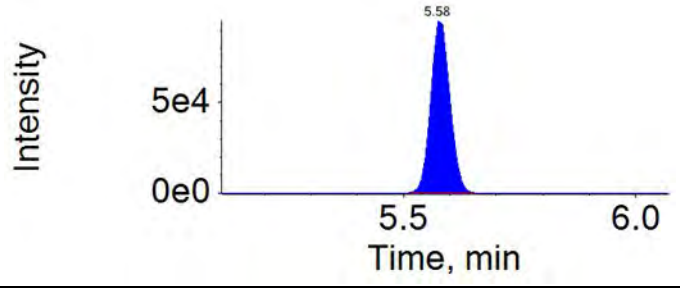
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

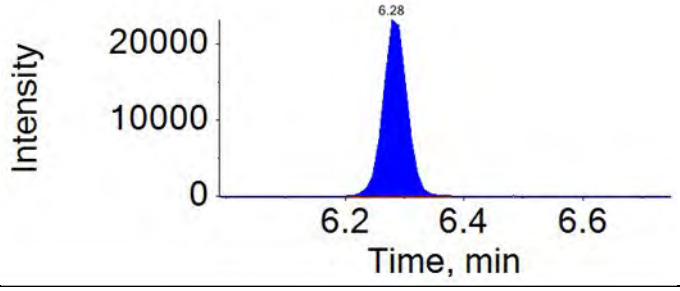
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

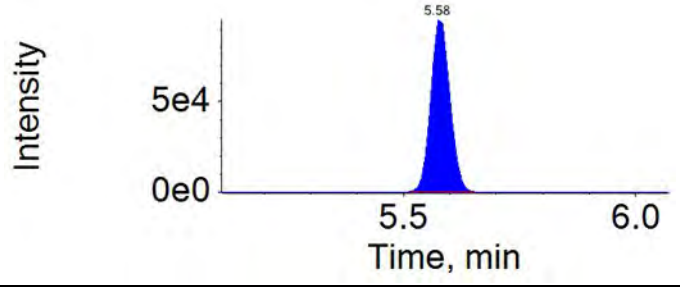
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



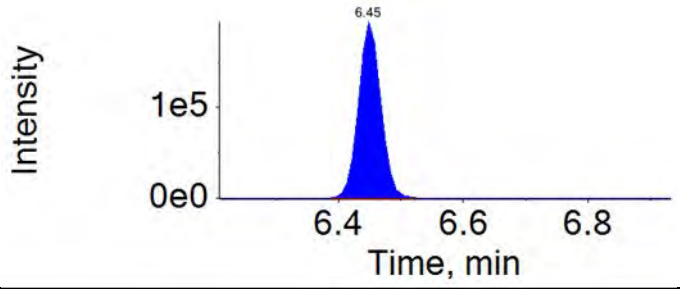


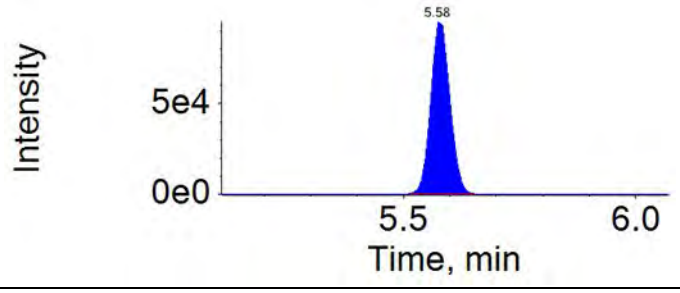
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



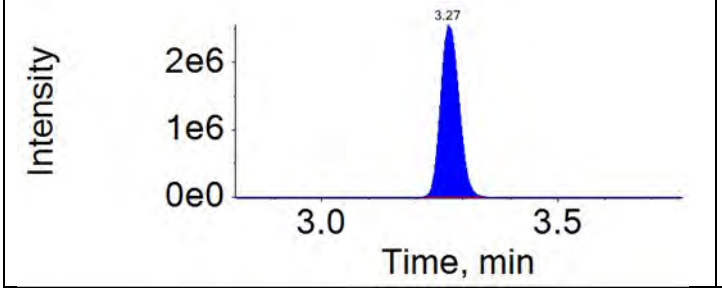


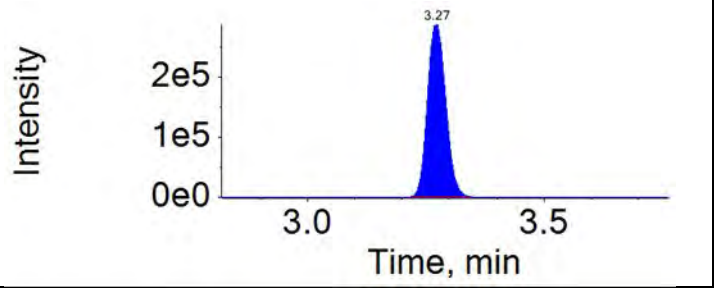
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

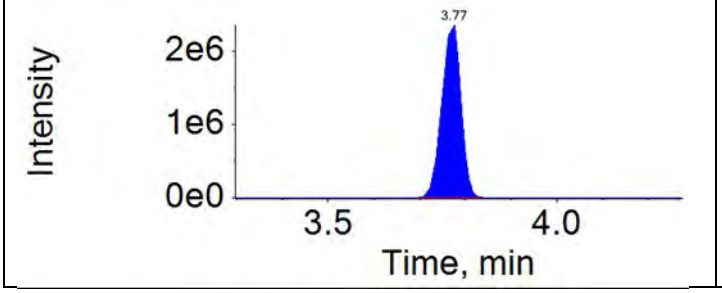
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

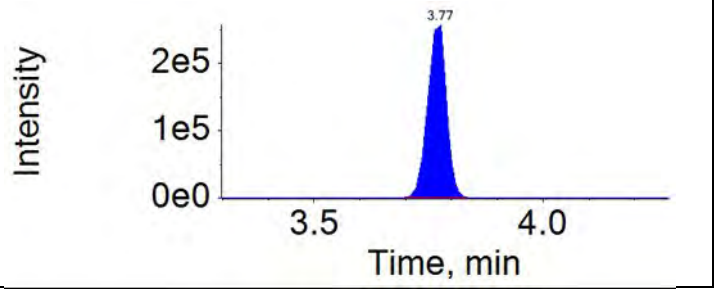
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



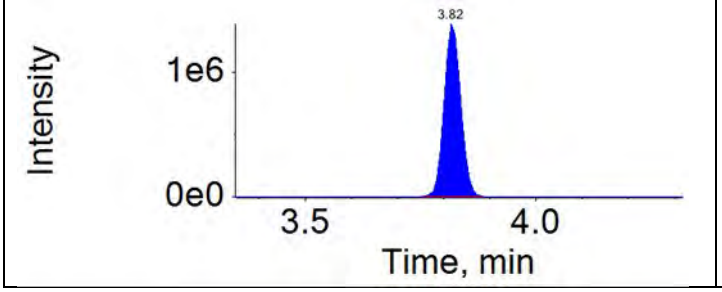


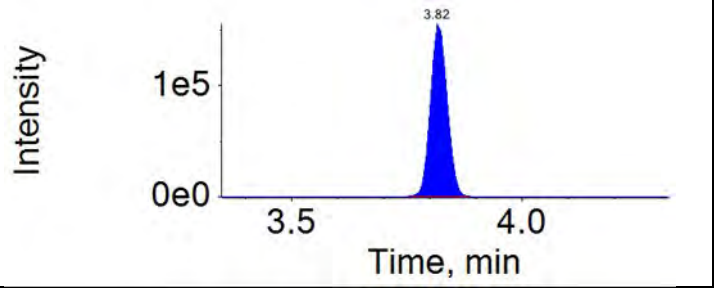
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



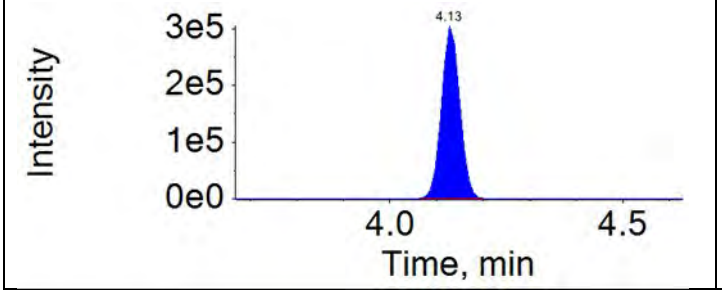


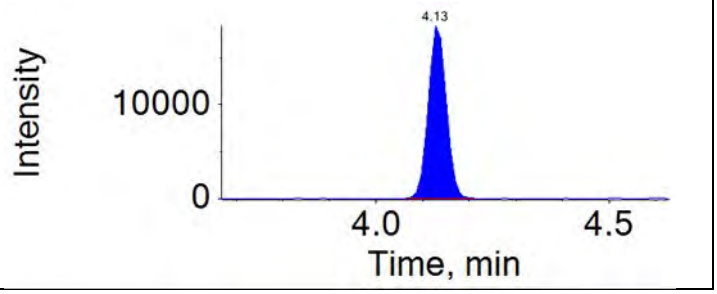
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



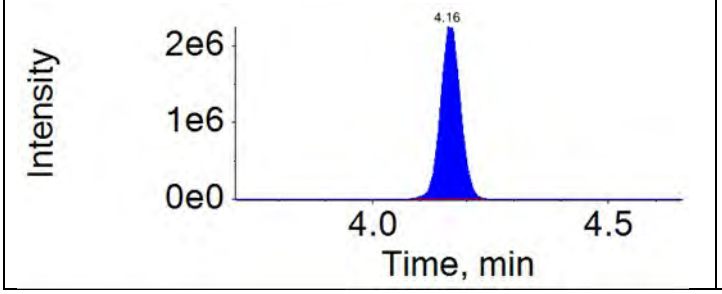


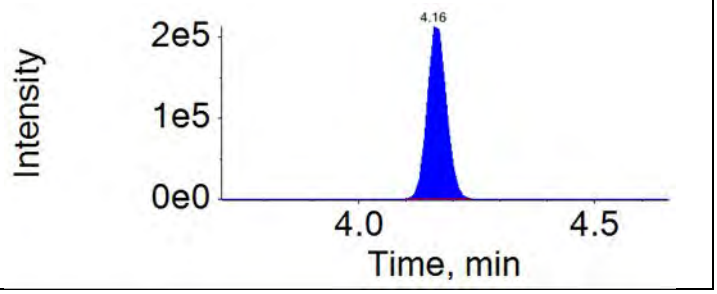
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

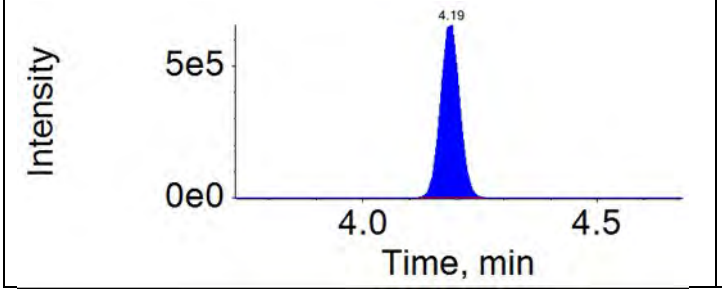
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

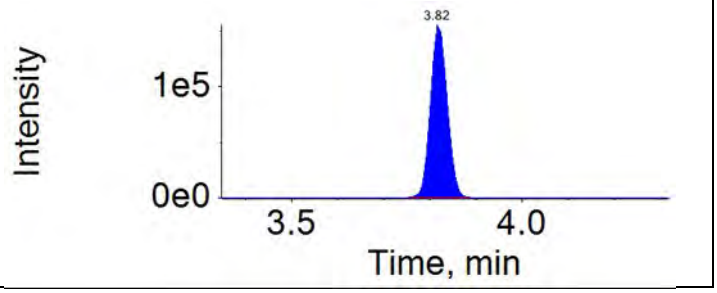
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



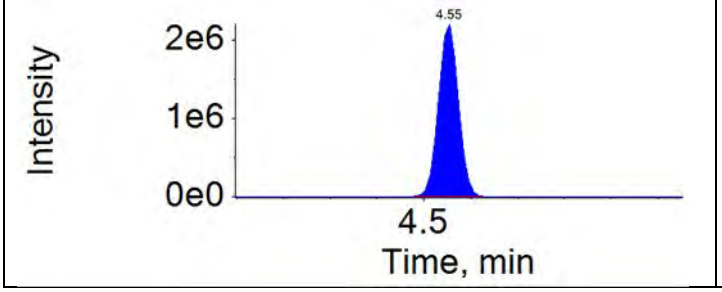


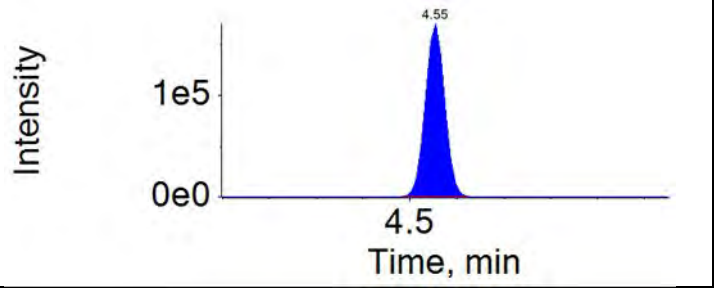
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



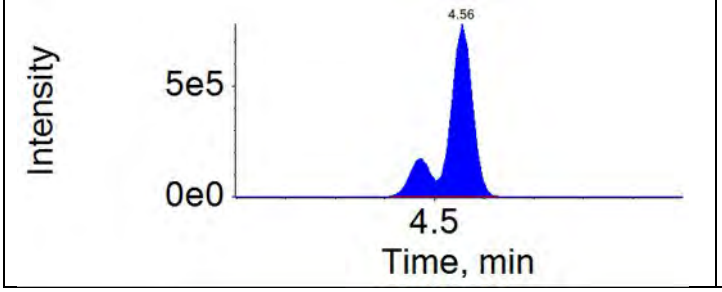


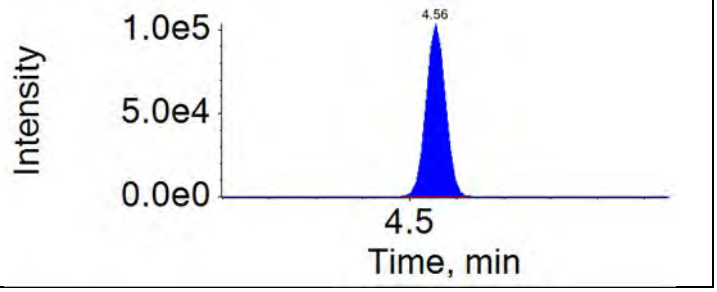
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



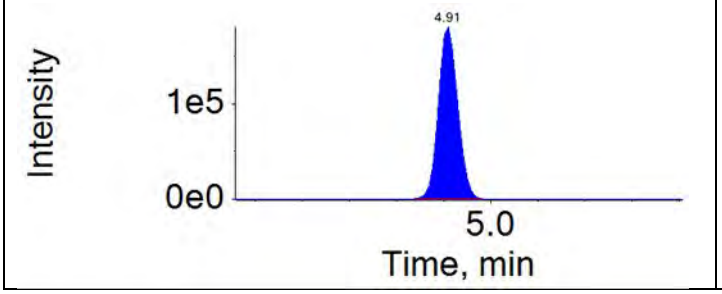


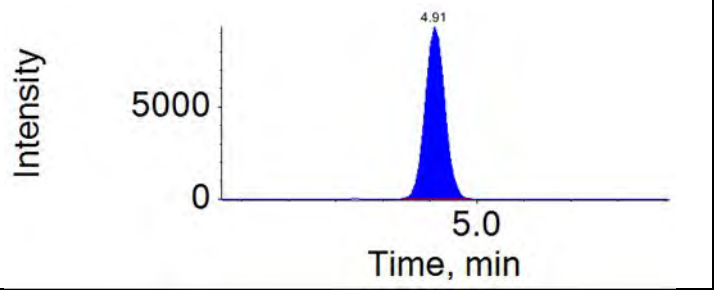
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

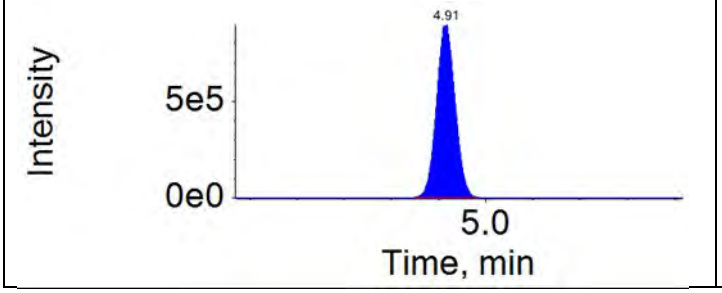
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

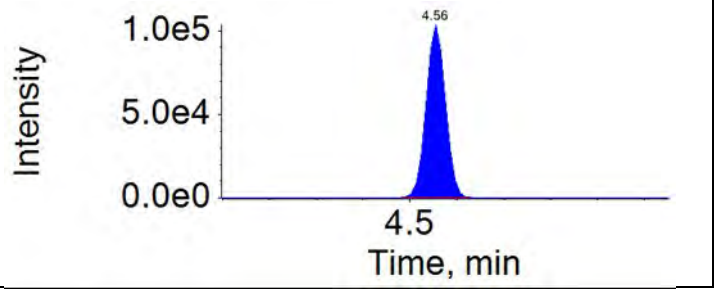
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



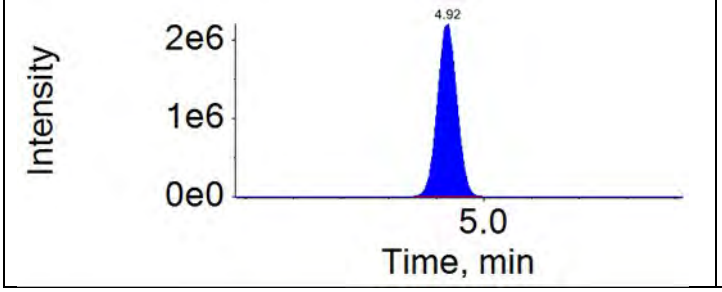


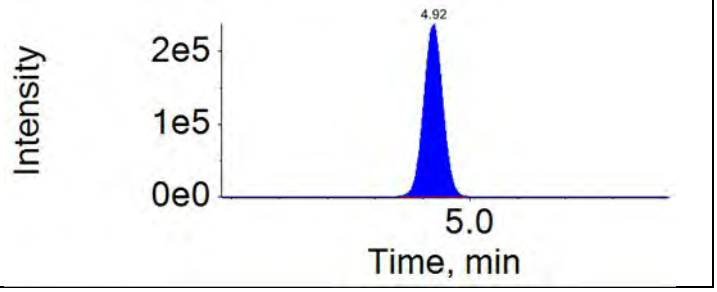
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



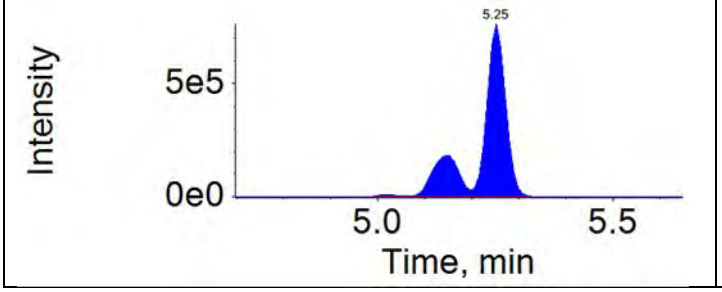


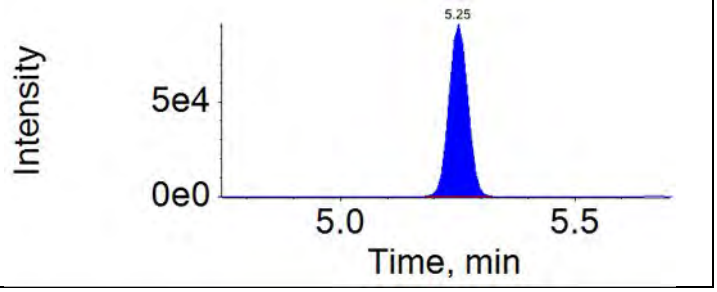
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



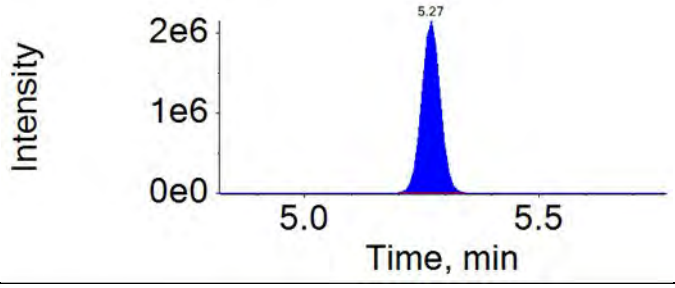


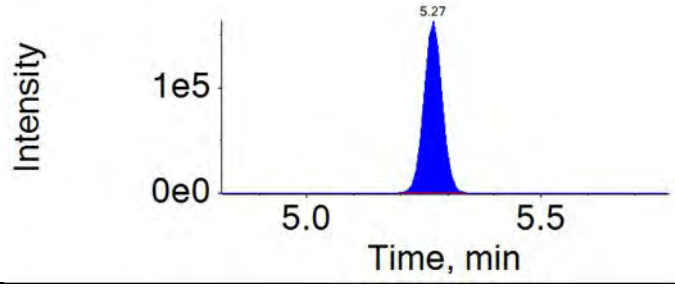
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

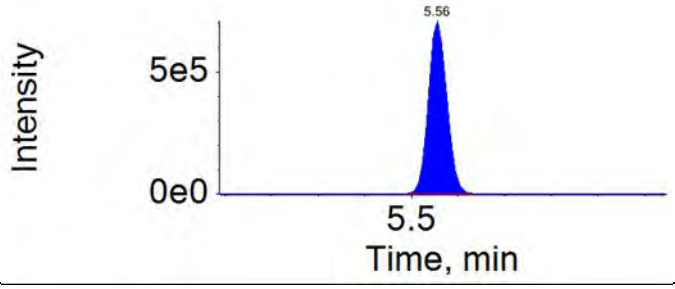
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

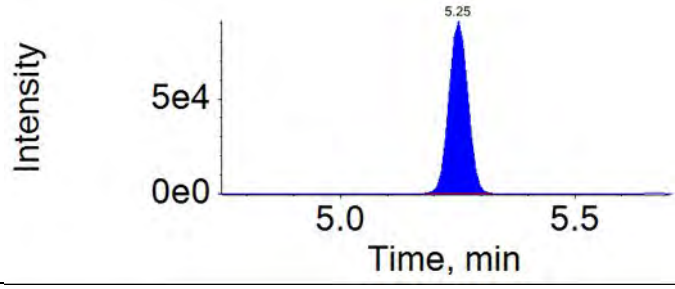
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



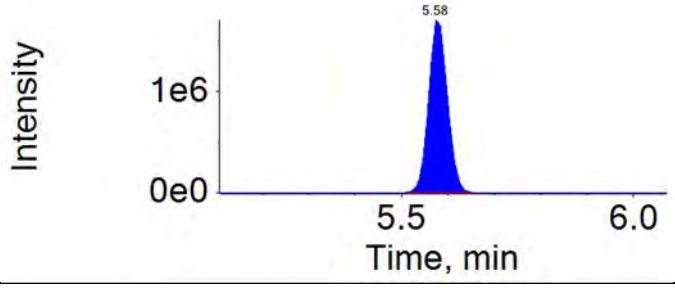


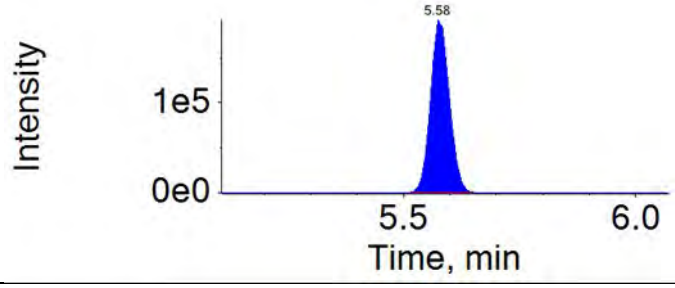
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



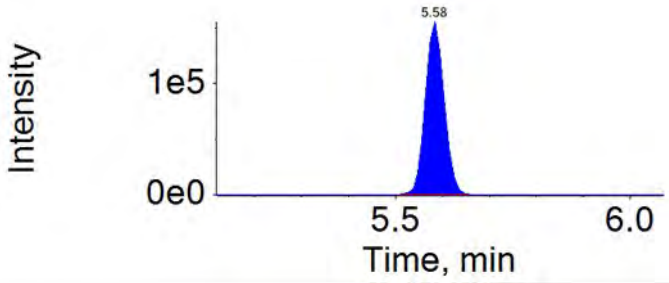


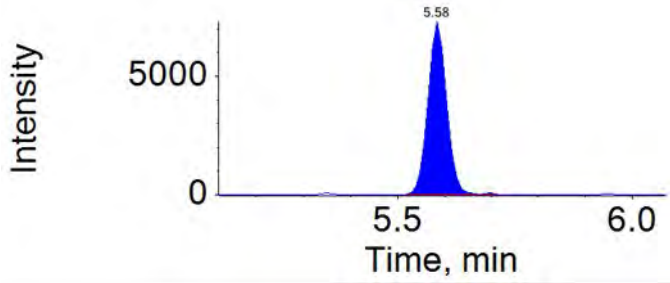
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

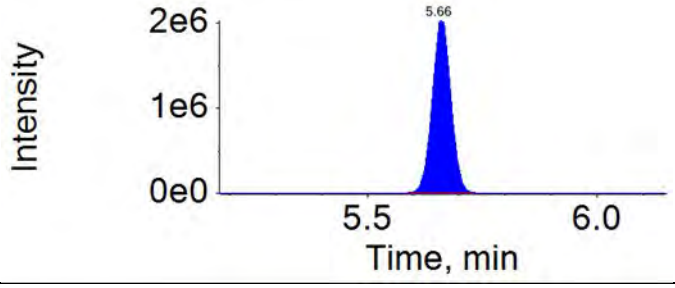
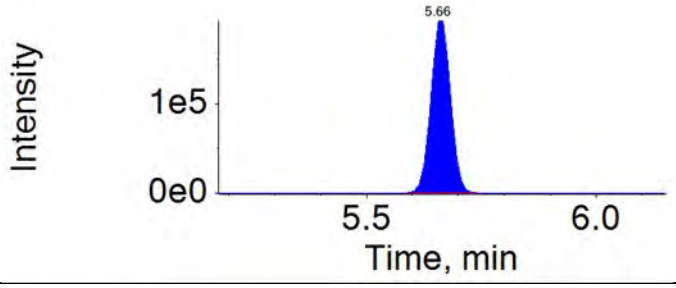


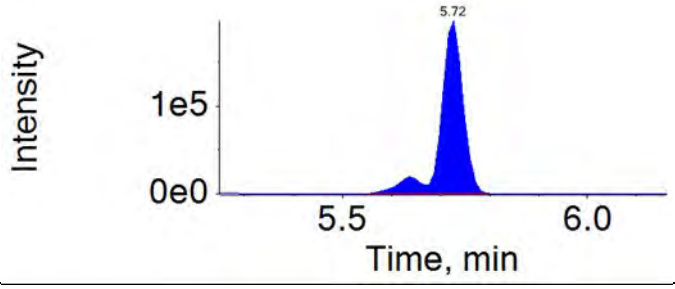
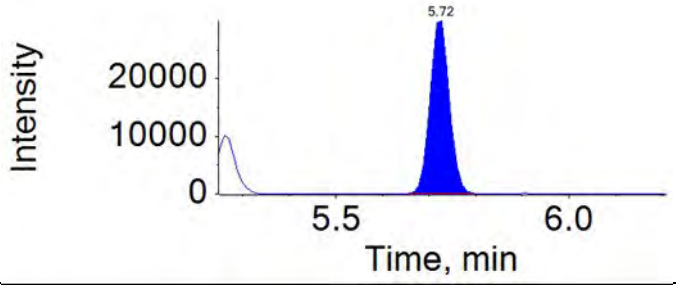


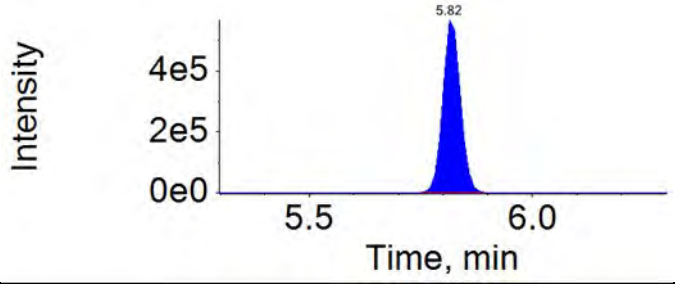
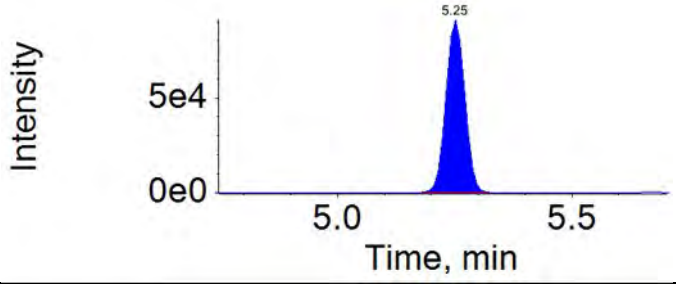
APPROVED
By MSM at 1:53 pm, 12/7/18

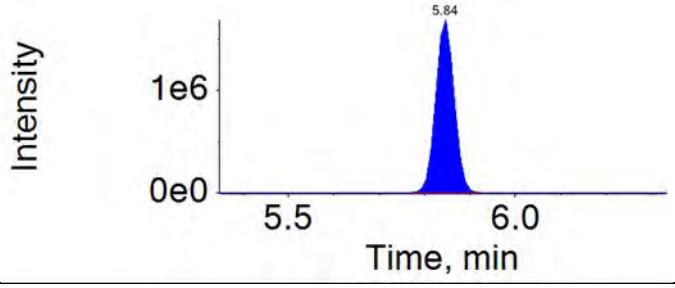
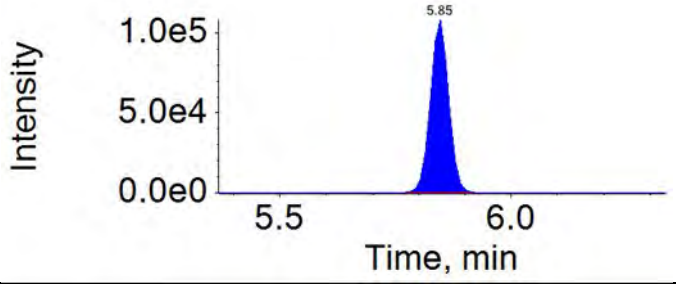
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

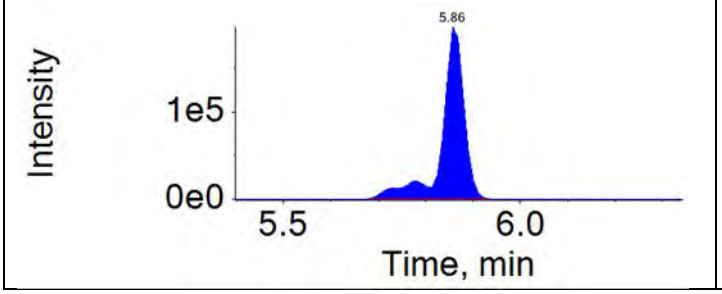
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

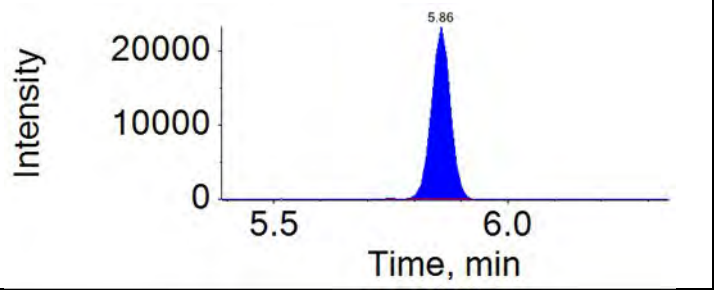
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

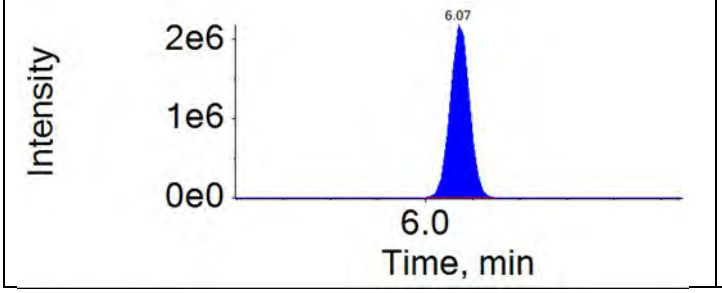
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

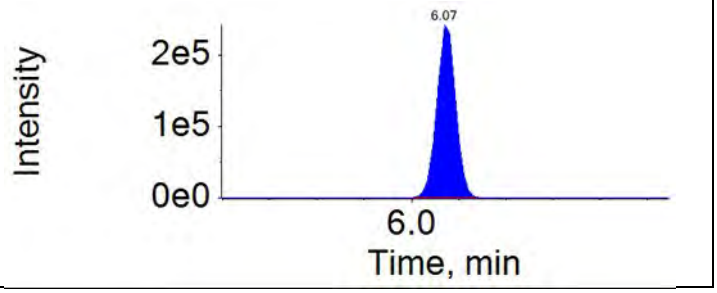
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



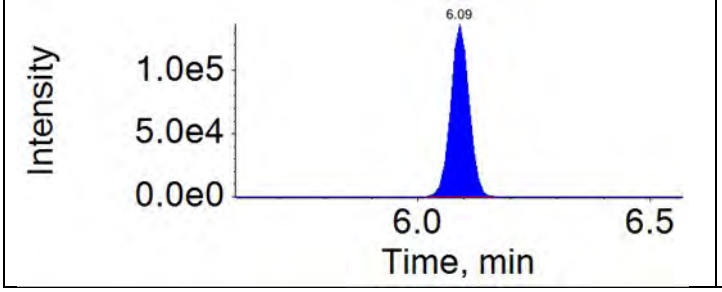


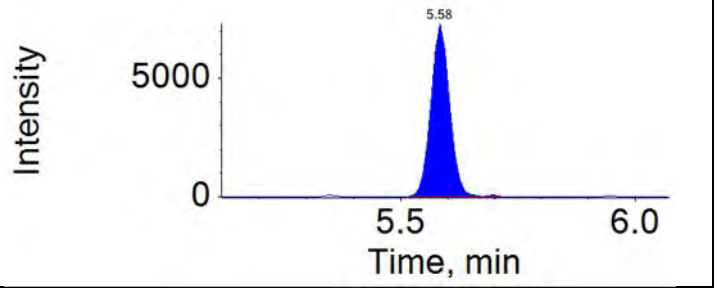
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



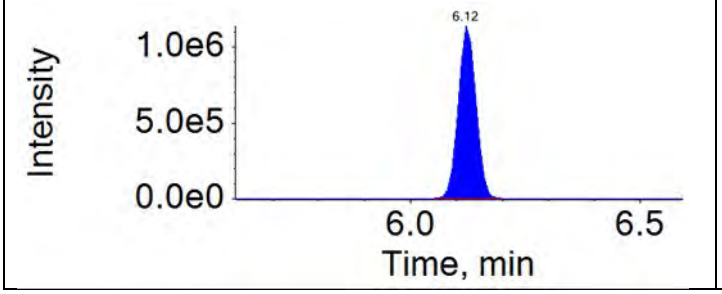


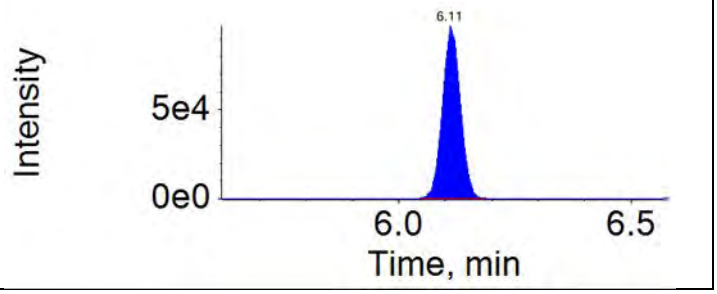
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



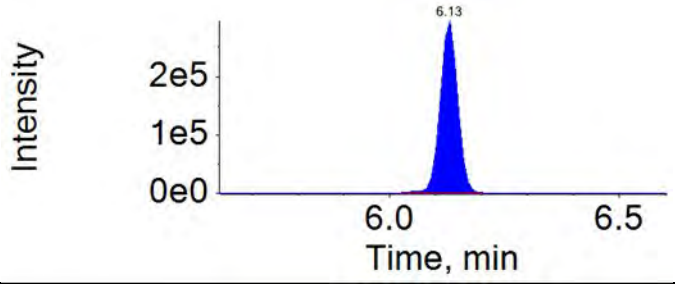


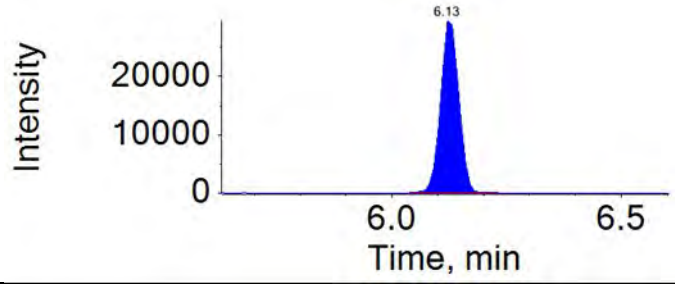
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

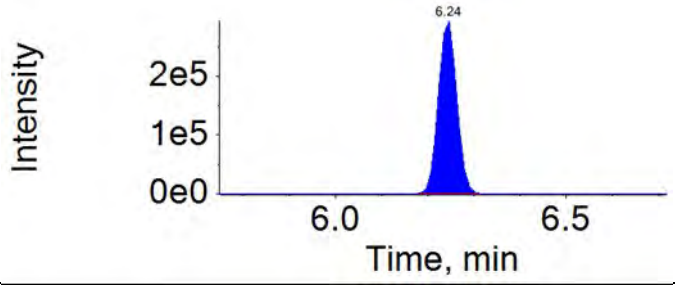
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

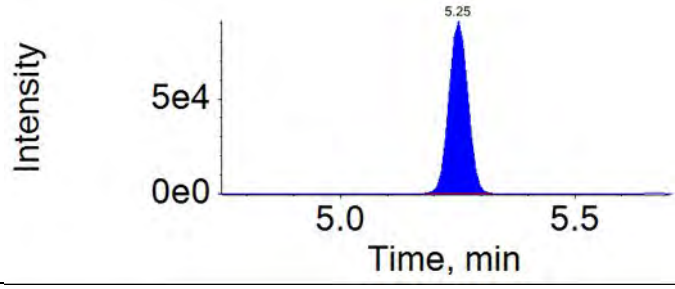
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



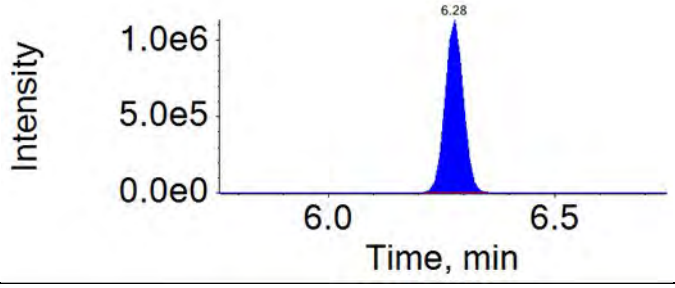


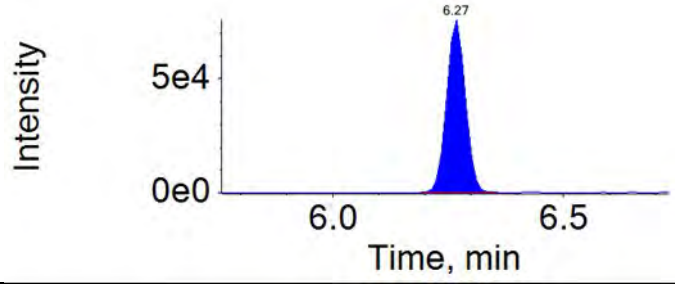
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



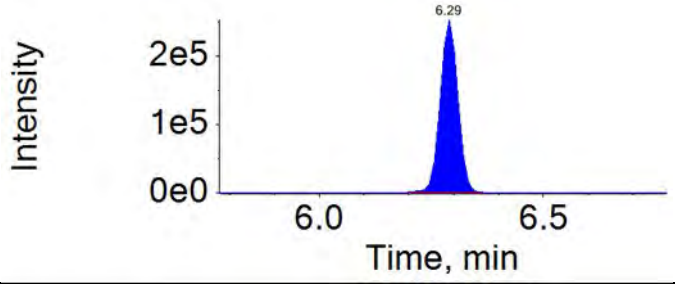


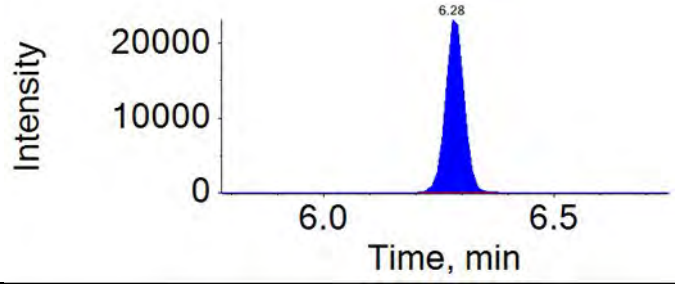
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



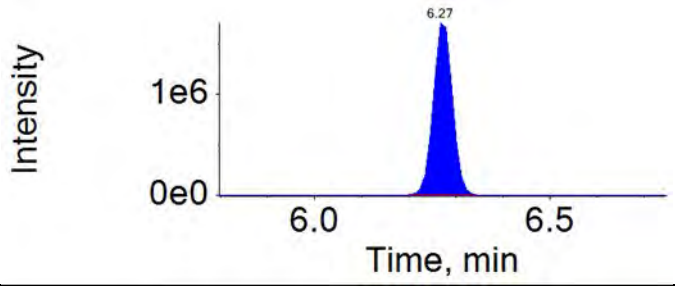


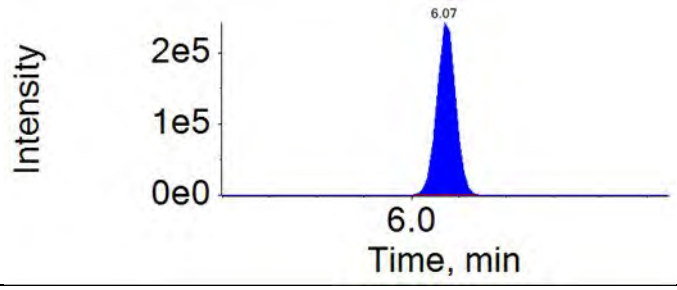
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

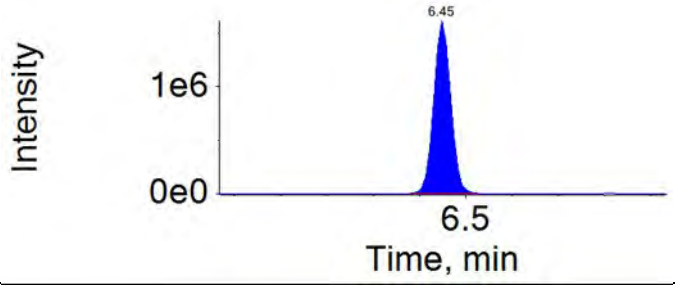
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

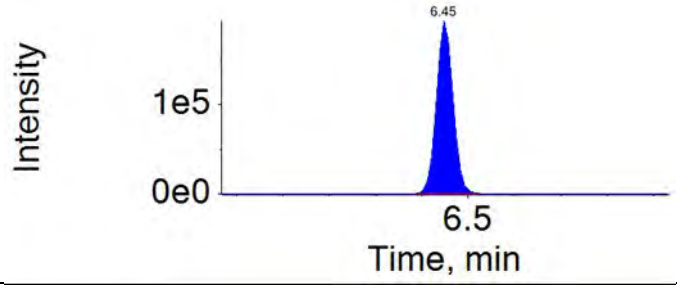
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



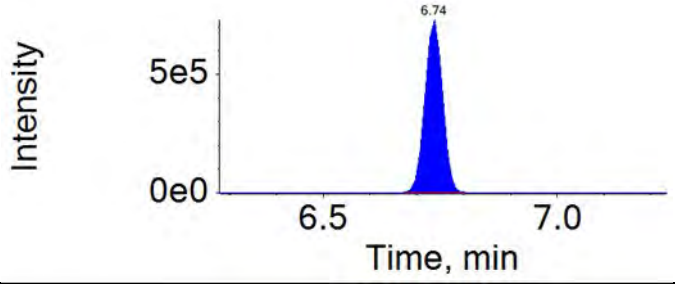


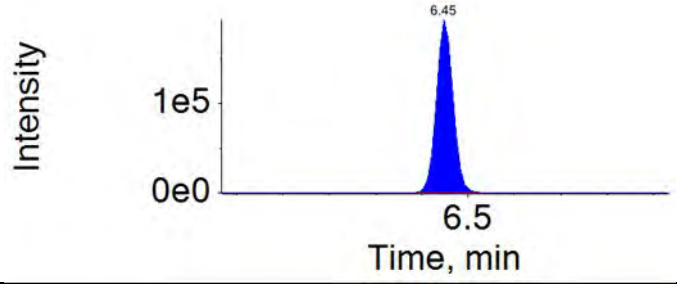
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



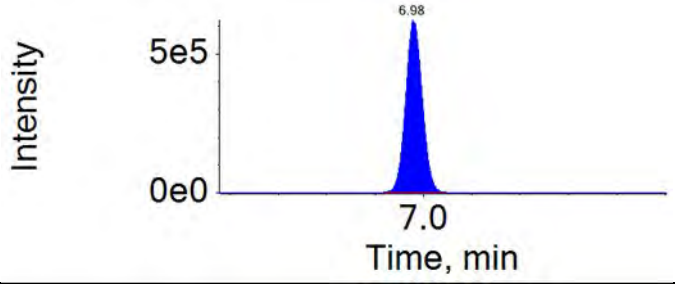


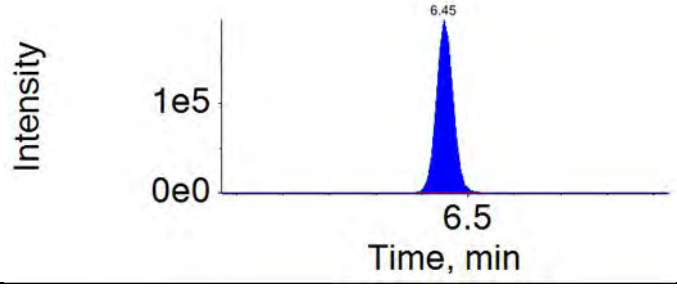
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



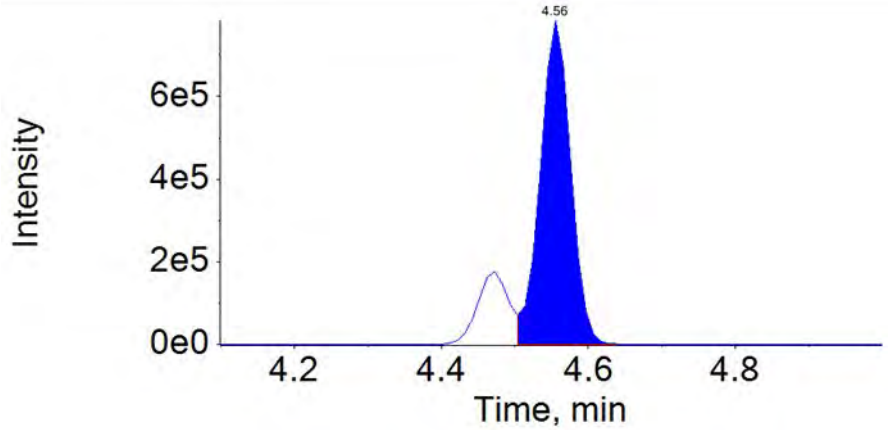


APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

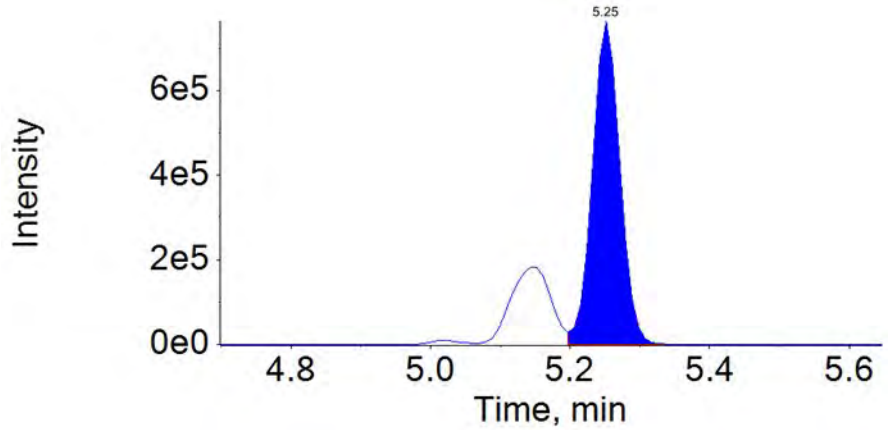
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
2261155.47
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



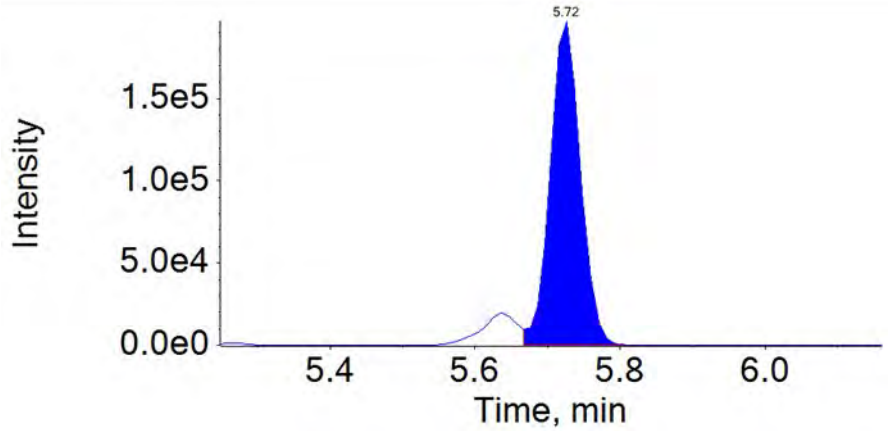
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
2093476.44
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
570238.71
Mass Range:
570.0 / 419.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



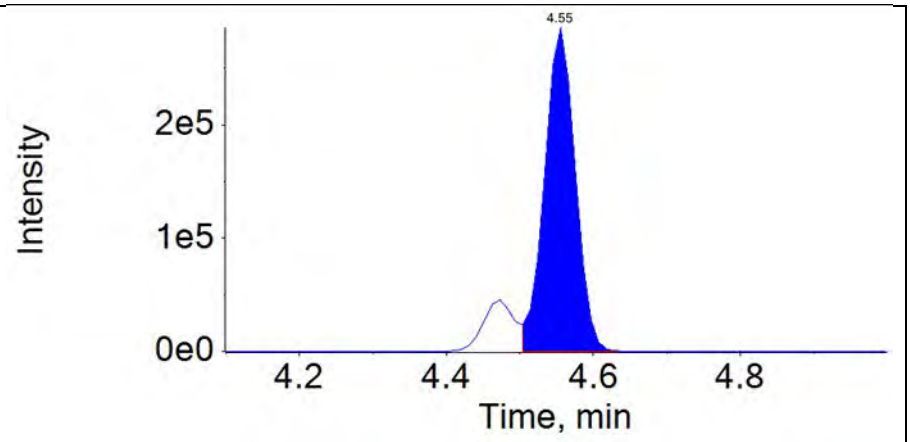
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

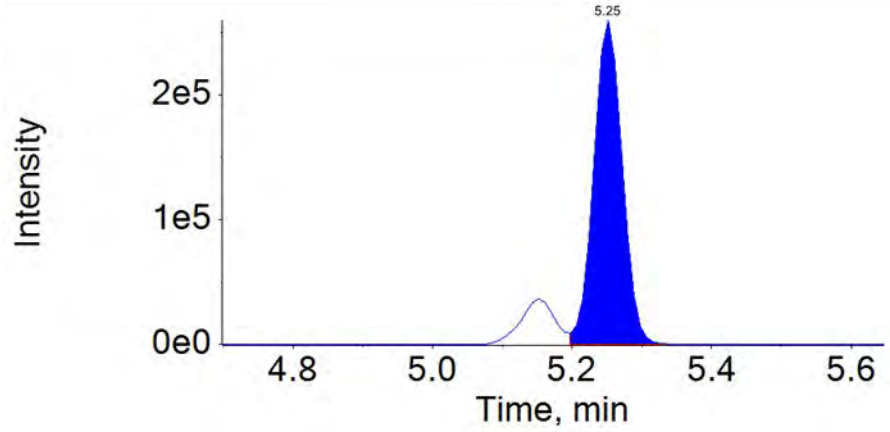
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
833341.64
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



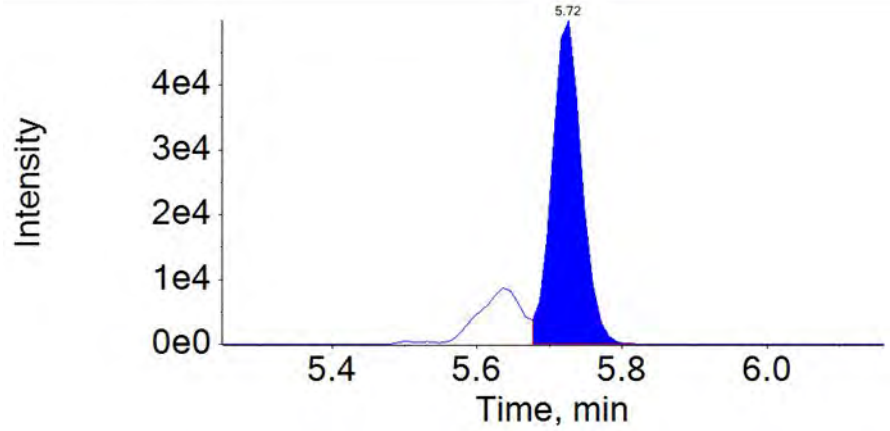
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
736714.57
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
142290.76
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

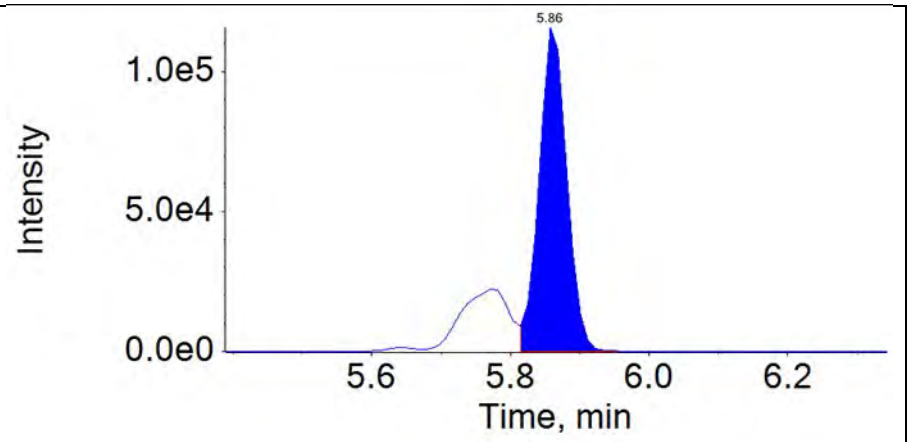
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
321671.92
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-30.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

Ion Ratio Report

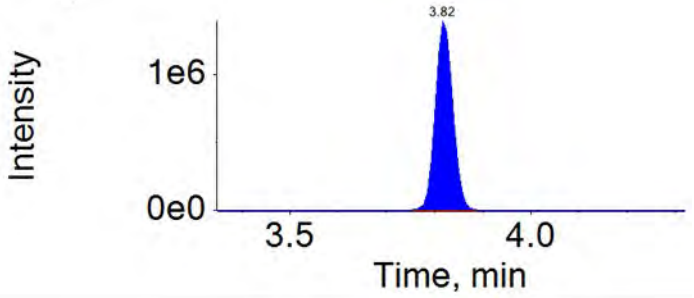
Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-30.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	3497911.96	A	1.0000	1.0000			
PFBS_2	3.82	1.00	1278491.18	A	0.3627	0.3655	1	50	
4:2-FTS	4.13	1.00	825733.73	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	521508.66	A	0.6542	0.6316	-3	50	
PFHxA	4.16	1.00	6667267.35	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	76003.03	A	0.0097	0.0114	17	50	
PFPeS	4.19	1.10	1887536.71	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	978361.30	A	0.5262	0.5183	-1	50	
PFHpA	4.55	1.00	6544306.50	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	373504.77	A	0.0565	0.0571	1	50	
PFHxS	4.56	1.00	2776076.01	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	965694.50	M	0.3645	0.3479	-5	50	
6:2-FTS	4.91	1.00	513358.22	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	326991.44	A	0.6273	0.6370	2	50	
PFHpS	4.91	1.08	2478350.56	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	1035767.36	A	0.4162	0.4179	0	50	
PFOA	4.92	1.00	6289920.12	A	1.0000	1.0000			
PFOA_2	4.92	1.00	372201.11	A	0.0616	0.0592	-4	50	
PFOS	5.25	1.00	2854538.75	M	1.0000	1.0000			
PFOS_2	5.25	1.00	861234.48	M	0.3021	0.3017	0	50	
PFNA	5.27	1.00	5937971.99	A	1.0000	1.0000			
PFNA_2	5.27	1.00	117948.24	A	0.0192	0.0199	3	50	
PFNS	5.56	1.06	1952695.25	A	1.0000	1.0000			
PFNS_2	5.55	1.06	878403.63	A	0.4845	0.4498	-7	50	
PFDA	5.58	1.00	4838370.82	A	1.0000	1.0000			
PFDA_2	5.58	1.00	33749.49	A	0.0096	0.0070	-28	50	
8:2-FTS	5.58	1.00	434056.07	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	248832.47	A	0.6117	0.5733	-6	50	
NMeFOSAA	5.72	1.00	636332.60	M	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	177297.12	M	0.2673	0.2786	4	50	
PFDS	5.82	1.11	1557080.12	A	1.0000	1.0000			
PFDS_2	5.82	1.11	785473.26	A	0.4952	0.5045	2	50	
PFUnDA	5.84	1.00	4768074.33	A	1.0000	1.0000			
PFUnDA_2	5.85	1.00	18411.21	A	0.0041	0.0039	-6	50	
NEtFOSAA	5.86	1.00	643440.74	A	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	428857.37	M	0.6726	0.6665	-1	50	
PFDoDA	6.07	1.00	6214332.27	A	1.0000	1.0000			
PFDoDA_2	6.07	1.00	77512.80	A	0.0133	0.0125	-6	50	
10:2-FTS	6.09	1.09	373461.12	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	275107.59	A	0.6969	0.7366	6	50	
PFTrDA	6.27	1.03	4879343.81	A	1.0000	1.0000			
PFTrDA_2	6.27	1.03	43132.10	A	0.0075	0.0088	17	50	
PFTeDA	6.45	1.00	4117781.14	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	26641.55	A	0.0066	0.0065	-2	50	
PFHxDA	6.74	1.04	1913602.75	A	1.0000	1.0000			
PFHxDA_2	6.73	1.04	125292.33	A	0.0616	0.0655	6	50	
PFODA	6.98	1.08	1488718.76	A	1.0000	1.0000			
PFODA_2	6.98	1.08	39725.29	A	0.0272	0.0267	-2	50	

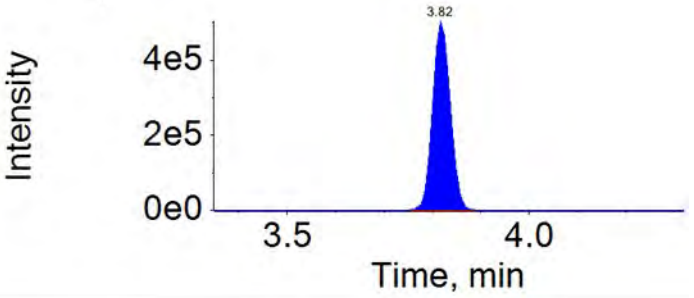
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

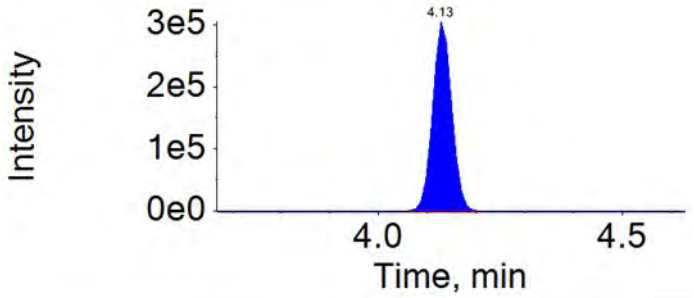
Component: PFBS
Primary Mass: 299.0 / 80.0



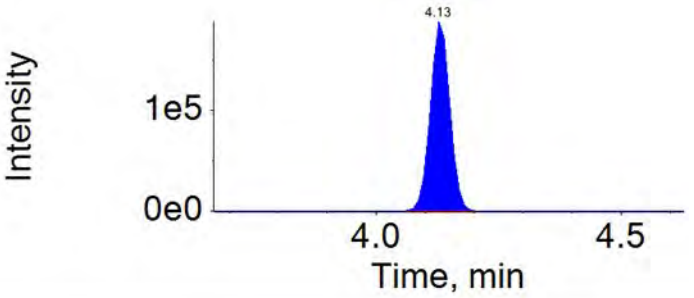
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



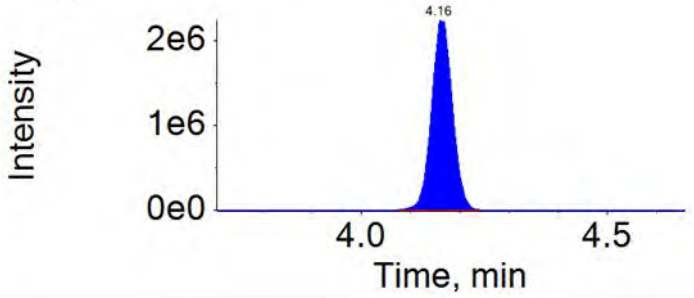
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



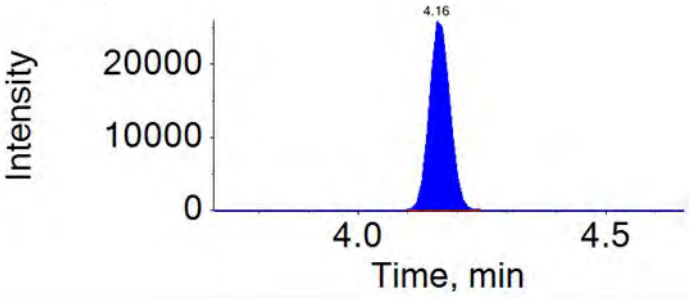
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



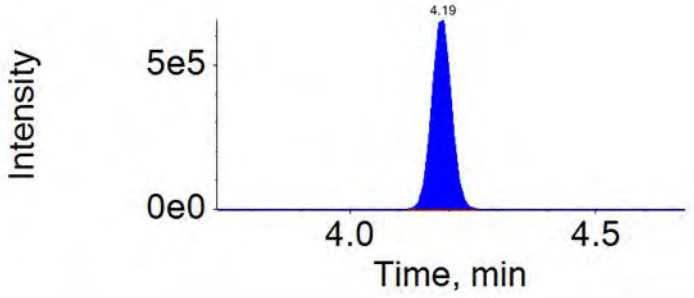
Component: PFHxA
Primary Mass: 313.0 / 269.0



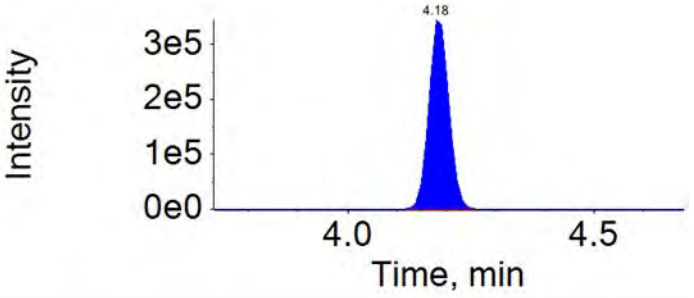
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



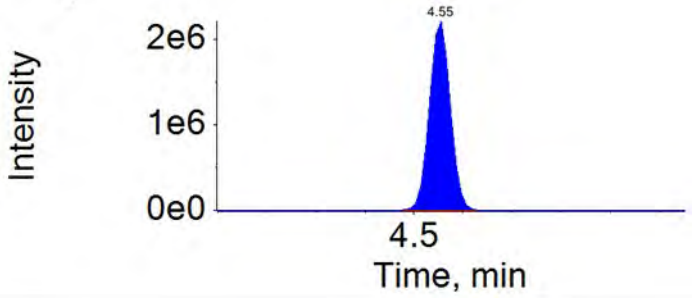
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



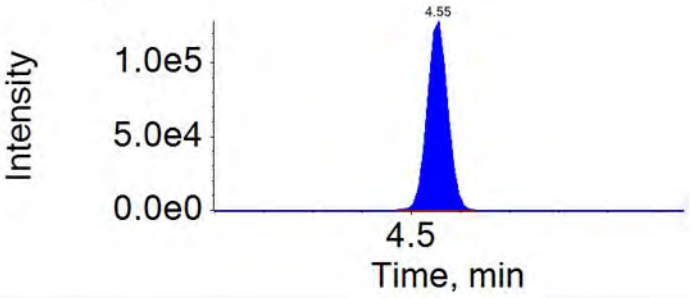
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

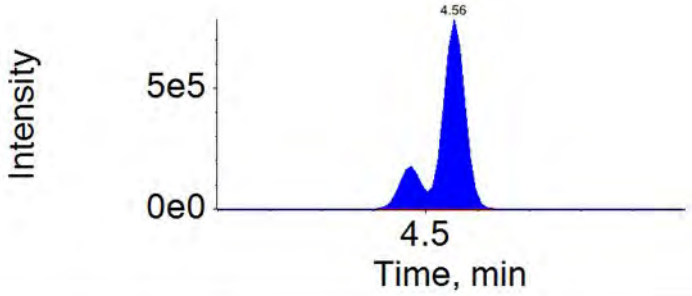
Component: PFHpA
Primary Mass: 363.0 / 319.0



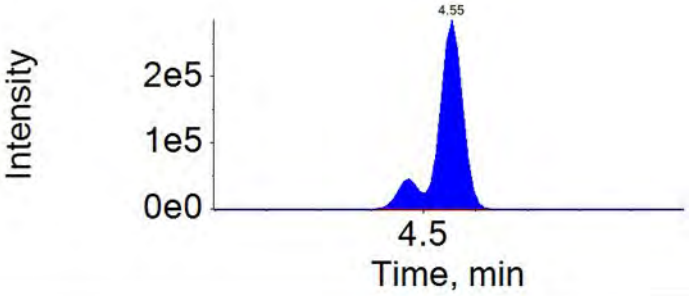
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



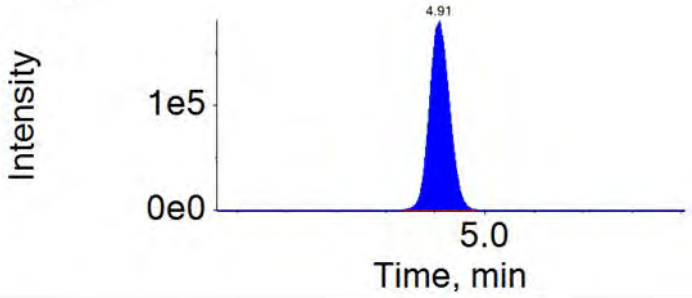
Component: PFHxS
Primary Mass: 399.0 / 80.0



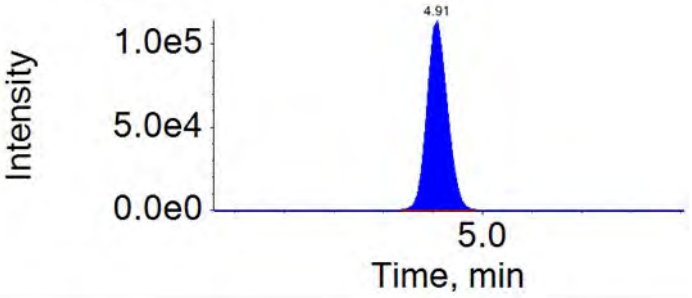
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



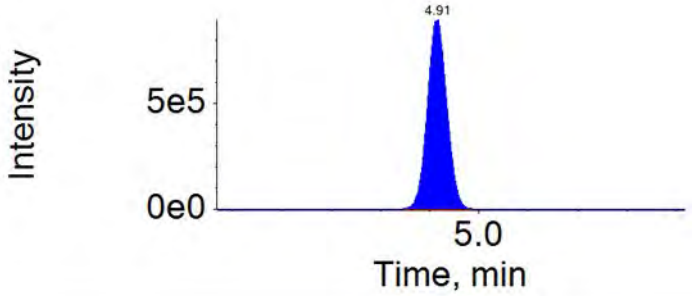
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



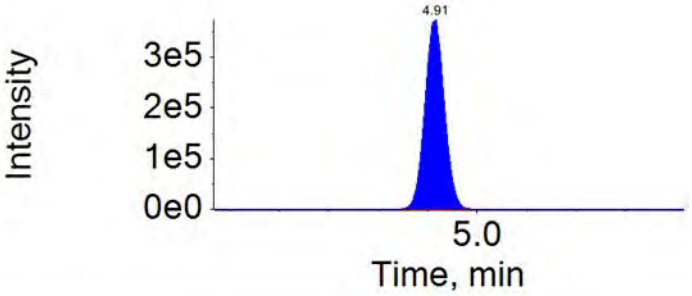
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



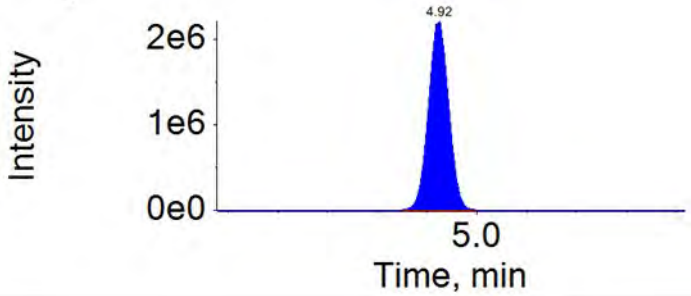
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



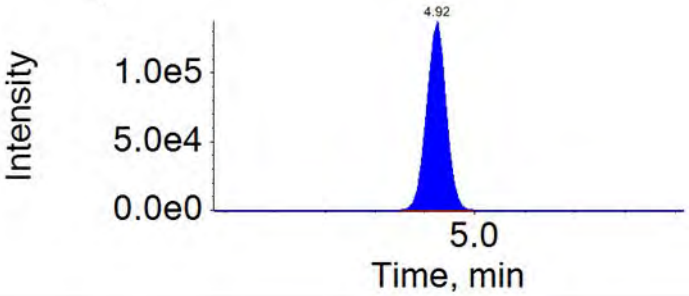
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

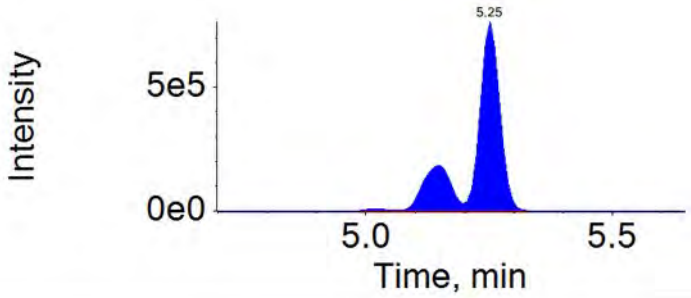
Component: PFOA
Primary Mass: 413.0 / 369.0



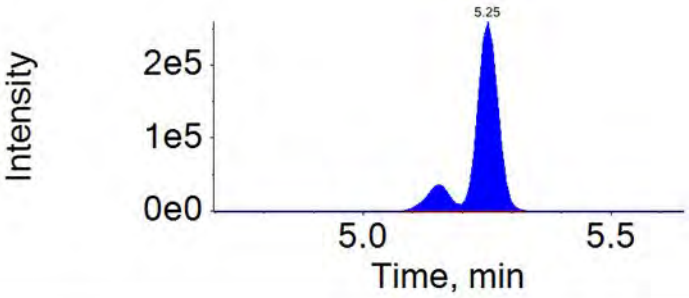
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



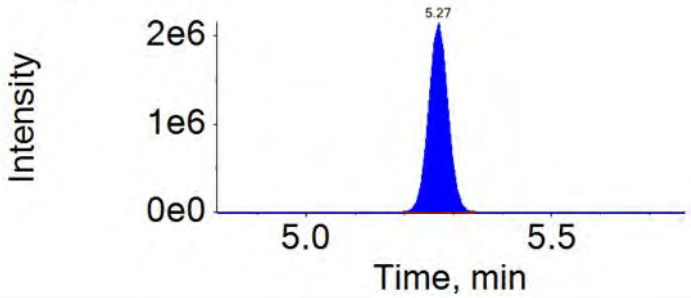
Component: PFOS
Primary Mass: 499.0 / 80.0



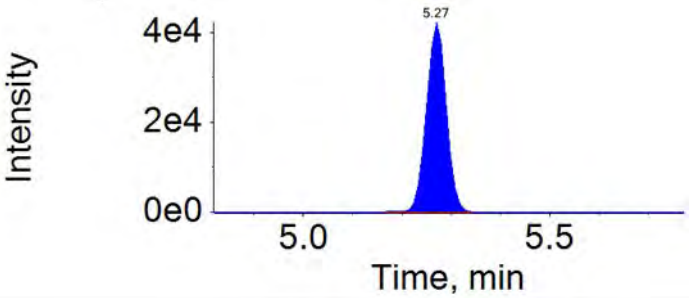
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



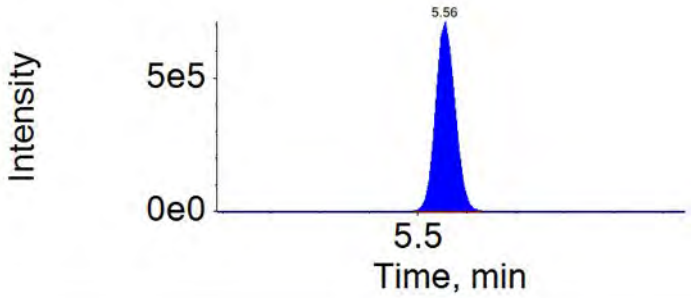
Component: PFNA
Primary Mass: 463.0 / 419.0



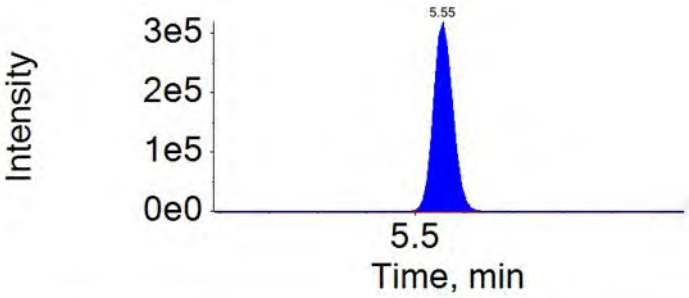
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



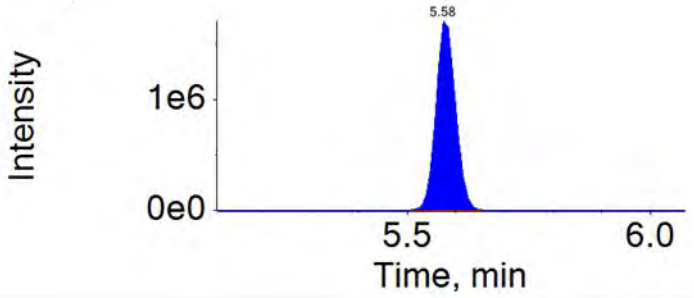
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



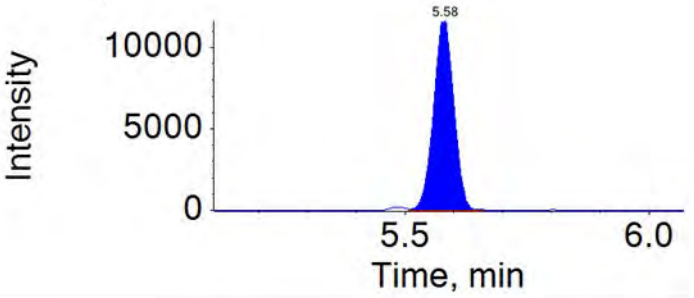
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

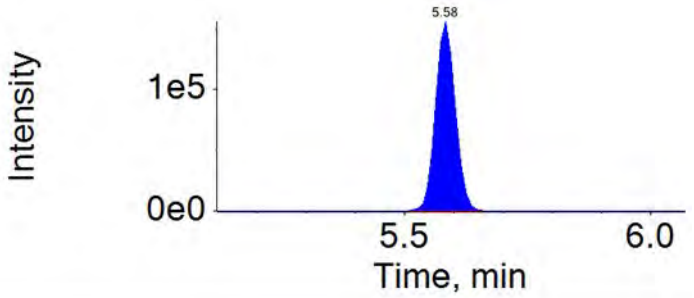
Component: PFDA
Primary Mass: 513.0 / 469.0



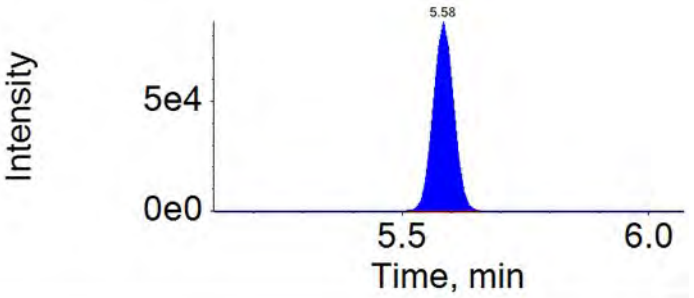
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



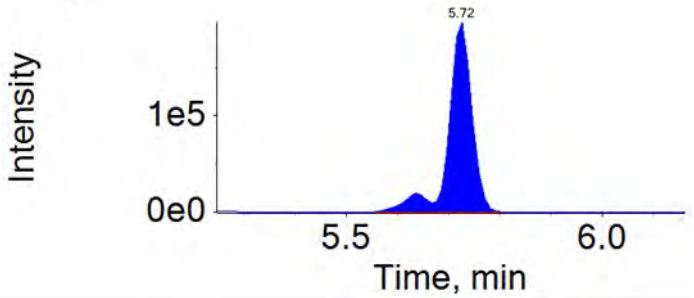
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



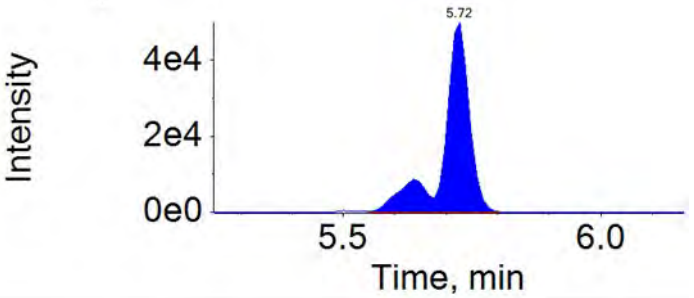
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



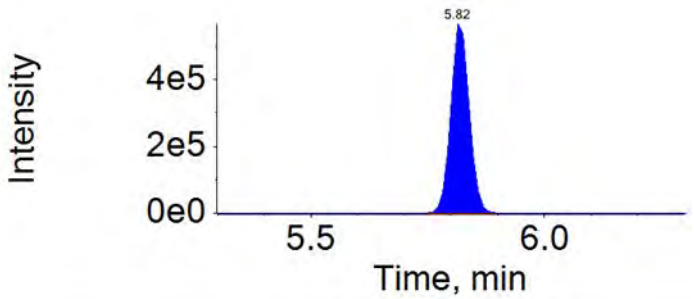
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



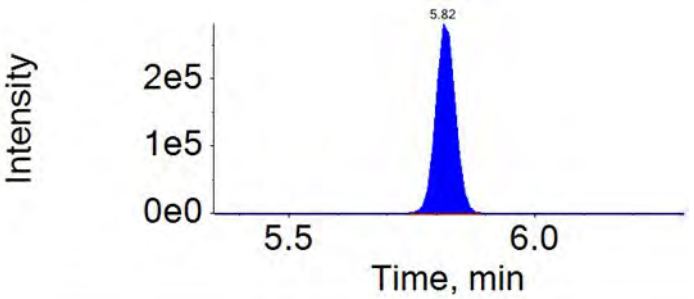
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



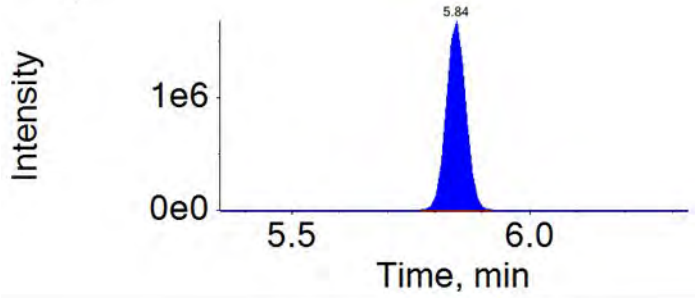
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



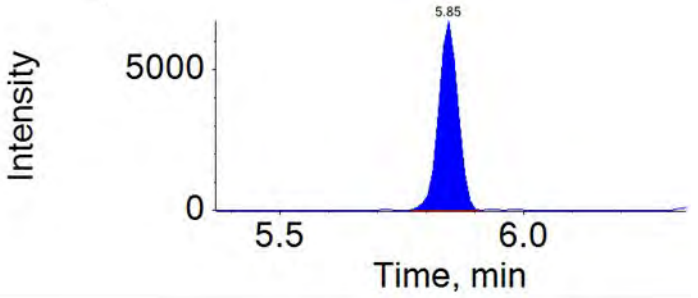
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

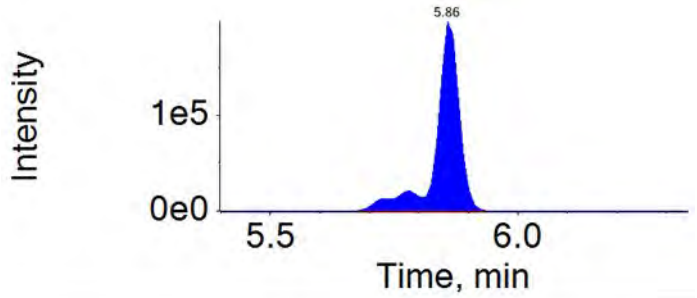
Component: PFUnDA
Primary Mass: 563.0 / 519.0



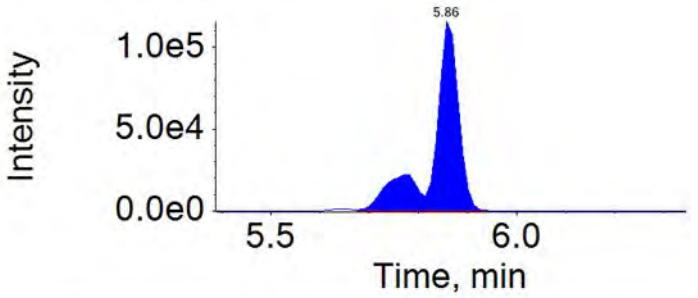
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



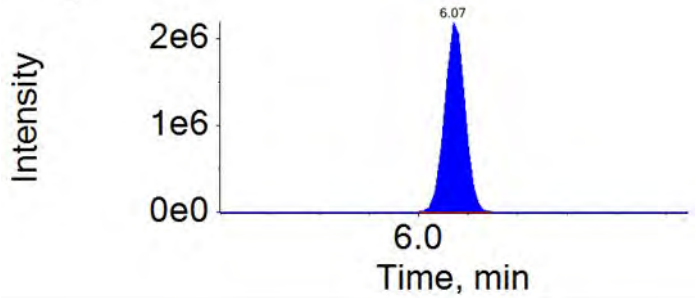
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



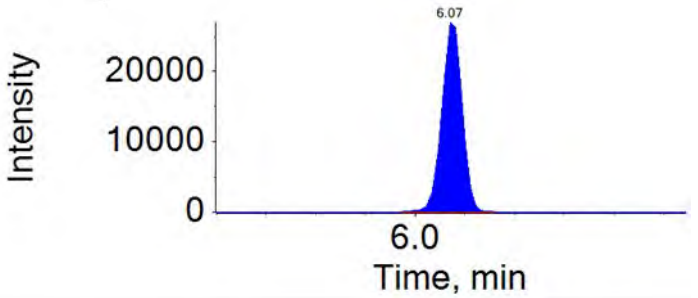
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



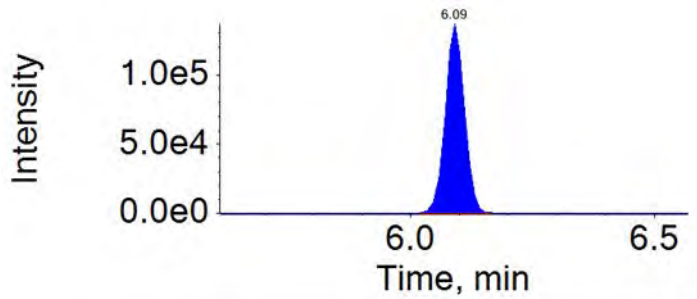
Component: PFDoDA
Primary Mass: 613.0 / 569.0



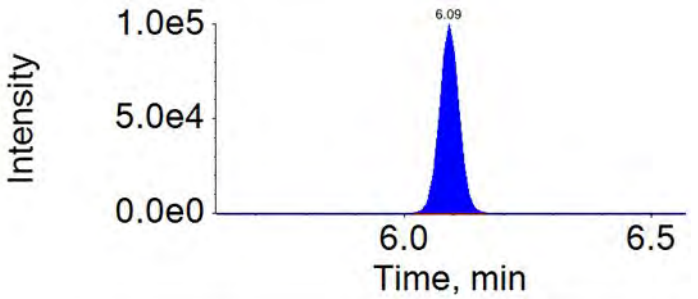
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



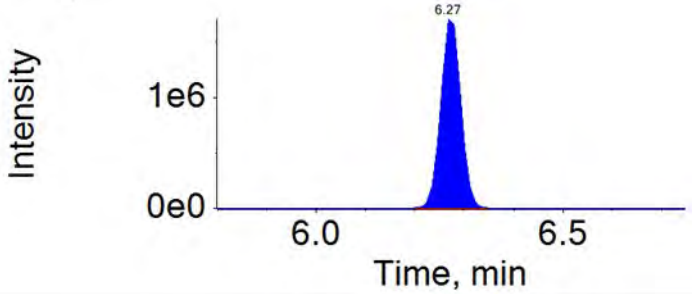
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



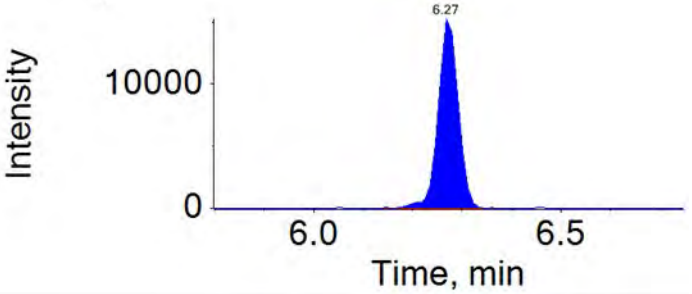
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

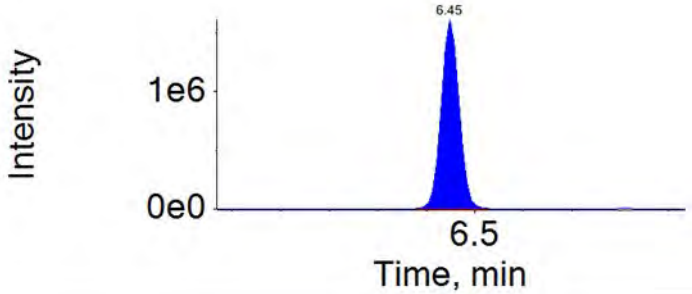
Component: PFTrDA
Primary Mass: 663.0 / 619.0



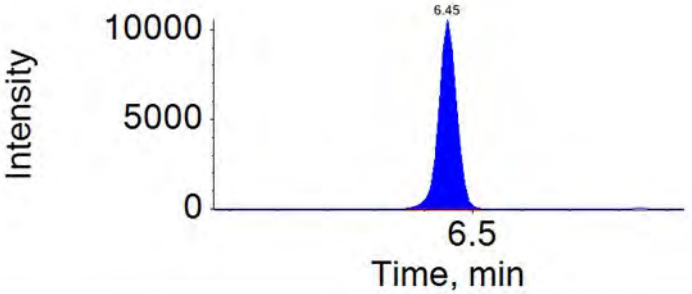
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



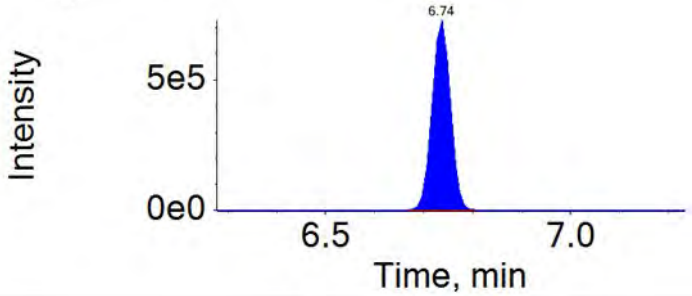
Component: PFTeDA
Primary Mass: 713.0 / 669.0



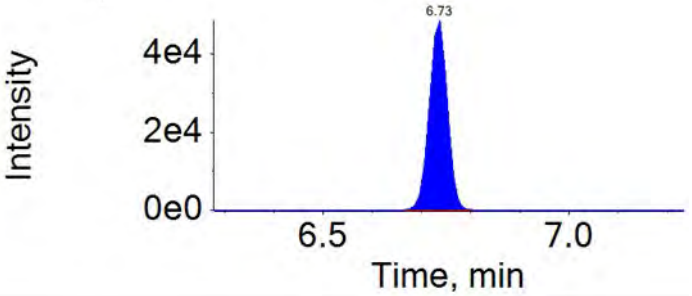
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



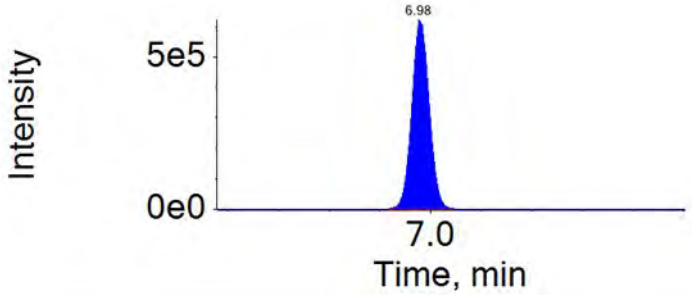
Component: PFHxDA
Primary Mass: 813.0 / 769.0



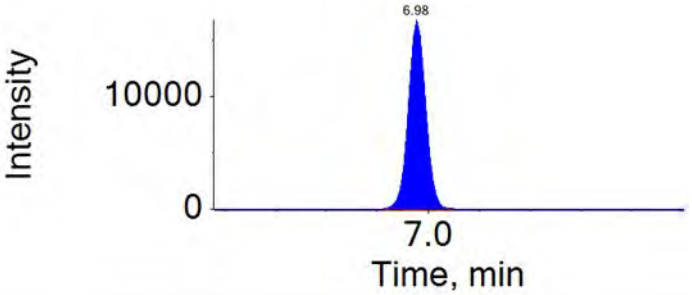
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL7			**Data File:**		18DEC06DCAL-31.wiff
Sample ID:	CALBRN71833B			**Acquis Date:**		2018-12-07T00:31:34
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	9			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	601926.9	825688.9	-27	50	
13C2-PFOA	5.0	387778.1	449802.8	-14	50	
13C4-PFOS	4.8	216503.6	276858.3	-22	50	
13C2-PFDA	5.0	267511.1	315428.3	-15	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	674364.9	13C3-PFBA	601926.9	1.120	5.000	4.958	99	70-130	
E13C5-PFPeA	649808.3	13C3-PFBA	601926.9	1.080	5.000	5.127	103	70-130	
E13C3-PFBS	343547.9	13C3-PFBA	601926.9	0.571	4.650	4.838	104	70-130	
E13C2-4:2-FTS	49950.5	13C2-PFOA	387778.1	0.129	4.670	5.047	108	70-130	
E13C5-PFHxA	549743.2	13C2-PFOA	387778.1	1.418	5.000	4.760	95	70-130	
E13C3-PFHxS	246441.2	13C2-PFOA	387778.1	0.636	4.730	4.076	86	70-130	
E13C4-PFHpA	435799.6	13C2-PFOA	387778.1	1.124	5.000	4.778	96	70-130	
E13C2-6:2-FTS	27219.5	13C2-PFOA	387778.1	0.070	4.750	4.349	92	70-130	
E13C8-PFOA	608500.4	13C2-PFOA	387778.1	1.569	5.000	4.436	89	70-130	
E13C8-PFOS	231168.3	13C4-PFOS	216503.6	1.068	4.780	4.792	100	70-130	
E13C9-PFNA	415771.2	13C4-PFOS	216503.6	1.920	5.000	5.427	109	70-130	
E13C6-PFDA	491017.3	13C2-PFDA	267511.1	1.836	5.000	4.864	97	70-130	
E13C2-8:2-FTS	20381.4	13C2-PFDA	267511.1	0.076	4.790	4.974	104	70-130	
E13C8-PFOSA	544579.3	13C2-PFDA	267511.1	2.036	5.000	4.815	96	70-130	
Ed3-NMeFOSAA	84863.1	13C2-PFDA	267511.1	0.317	5.000	5.622	112	70-130	
E13C7-PFUnDA	249018.7	13C2-PFDA	267511.1	0.931	5.000	4.566	91	70-130	
Ed5-NEtFOSAA	64018.9	13C2-PFDA	267511.1	0.239	5.000	5.283	106	70-130	
E13C2-PFDoDA	593609.9	13C2-PFDA	267511.1	2.219	5.000	4.657	93	70-130	
Ed7-NMePFOSAE	256769.2	13C2-PFDA	267511.1	0.960	5.000	5.529	111	70-130	
Ed3-NMePFOSA	73831.6	13C2-PFDA	267511.1	0.276	5.000	5.029	101	70-130	
Ed9-NEtPFOSAE	199424.7	13C2-PFDA	267511.1	0.745	5.000	5.141	103	70-130	
Ed5-NEtPFOSA	65852.5	13C2-PFDA	267511.1	0.246	5.000	5.540	111	70-130	
E13C2-PFTeDA	451368.8	13C2-PFDA	267511.1	1.687	5.000	5.008	100	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

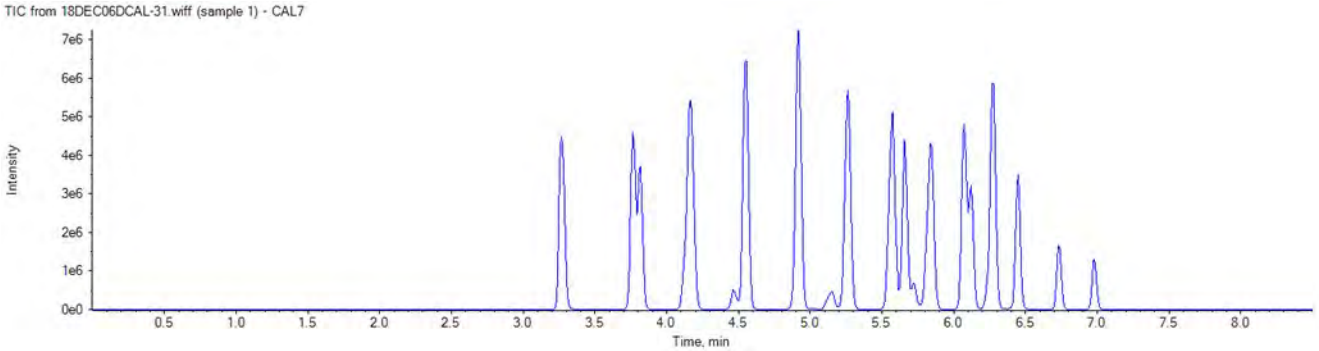
Analyte Quantitation Peak Table

Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-31.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	11149178.6		A	13C4-PFBA	3.27	674364.9	16.533	91.216
PFPeA	3.77	1.000	10952335.1		A	13C5-PFPeA	3.77	649808.3	16.855	88.666
PFBS	3.82	1.000	6058196.4		A	13C3-PFBS	3.82	343547.9	17.634	87.407
4:2-FTS	4.13	1.000	1541772.1		A	13C2-4:2-FTS	4.13	49950.5	30.866	82.731
PFHxA	4.16	1.000	11064156.5		A	13C5-PFHxA	4.16	549743.2	20.126	87.699
PFPeS	4.18	1.100	3202799.2		A	13C3-PFBS	3.82	343547.9	9.323	92.314
PFHpA	4.55	1.000	11333940.4		A	13C4-PFHpA	4.55	435799.6	26.007	85.629
PFHxS	4.55	1.000	4864366.5		M	13C3-PFHxS	4.55	246441.2	19.738	93.522
6:2-FTS	4.91	1.000	852701.2		A	13C2-6:2-FTS	4.91	27219.5	31.327	77.787
PFHpS	4.91	1.080	4320784.8		A	13C3-PFHxS	4.55	246441.2	17.533	96.244
PFOA	4.92	1.000	10664235.9		A	13C8-PFOA	4.92	608500.4	17.525	95.776
PFOS	5.25	1.000	5255335.2		M	13C8-PFOS	5.25	231168.3	22.734	94.295
PFNA	5.27	1.000	10109257.9		A	13C9-PFNA	5.27	415771.2	24.314	89.607
PFNS	5.55	1.060	3387582.4		A	13C8-PFOS	5.25	231168.3	14.654	94.295
PFDA	5.58	1.000	8449610.5		A	13C6-PFDA	5.58	491017.3	17.208	96.860
8:2-FTS	5.58	1.000	758920.2		A	13C2-8:2-FTS	5.58	20381.4	37.236	80.681
PFOSA	5.66	1.000	10135588.9		A	13C8-PFOSA	5.66	544579.3	18.612	96.557
NMeFOSAA	5.72	1.000	1268339.7		M	d3-NMeFOSAA	5.72	84863.1	14.946	98.856
PFDS	5.82	1.110	2738545.0		A	13C8-PFOS	5.25	231168.3	11.847	95.786
PFUnDA	5.84	1.000	8122821.3		A	13C7-PFUnDA	5.84	249018.7	32.619	99.876
NEtFOSAA	5.86	1.000	1198896.2		A	d5-NEtFOSAA	5.85	64018.9	18.727	94.646
PFDoDA	6.07	1.000	10417166.0		A	13C2-PFDoDA	6.07	593609.9	17.549	92.376
10:2-FTS	6.09	1.090	691305.0		A	13C2-8:2-FTS	5.58	20381.4	33.918	89.846
NMePFOSAE	6.12	1.000	5604299.9		A	d7-NMePFOSAE	6.11	256769.2	21.826	94.847
NMePFOSA	6.13	1.000	1487707.2		A	d3-NMePFOSA	6.12	73831.6	20.150	101.669
PFDoS	6.24	1.190	1472050.7		A	13C8-PFOS	5.25	231168.3	6.368	97.080
NEtPFOSAE	6.28	1.000	5855586.8		A	d9-NEtPFOSAE	6.27	199424.7	29.362	98.377
NEtPFOSA	6.29	1.000	1345368.4		A	d5-NEtPFOSA	6.28	65852.5	20.430	97.801
PFTrDA	6.27	1.030	7688079.4		A	13C2-PFDoDA	6.07	593609.9	12.951	84.826
PFTeDA	6.45	1.000	7609017.2		A	13C2-PFTeDA	6.45	451368.8	16.858	96.401
PFHxDA	6.73	1.040	3585505.0		A	13C2-PFTeDA	6.45	451368.8	7.944	99.483
PFODA	6.98	1.080	2832373.9		A	13C2-PFTeDA	6.45	451368.8	6.275	100.731

Total Ion Chromatogram

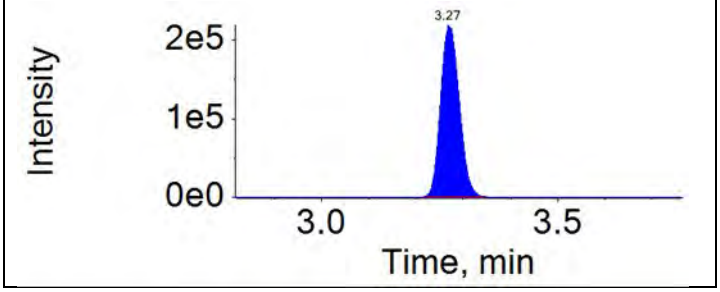


APPROVED
By MSM at 1:53 pm, 12/7/18

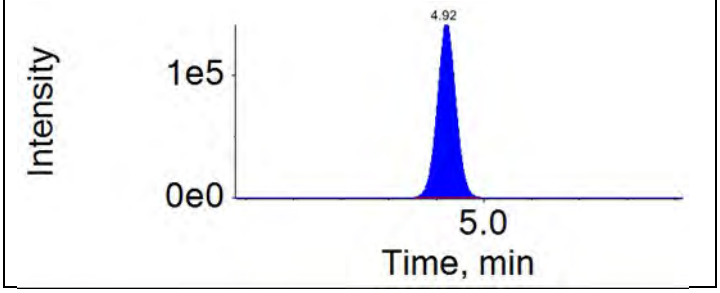
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

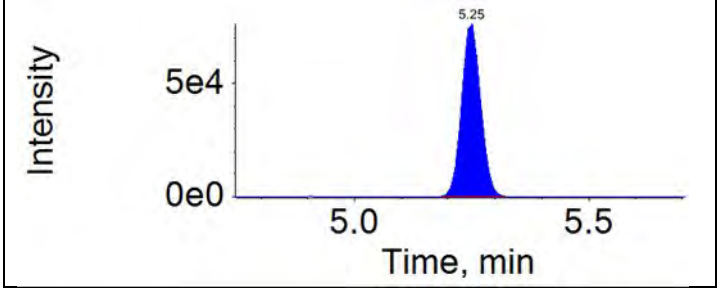
Injection Standard: 13C3-PFBA
216.0 / 172.0



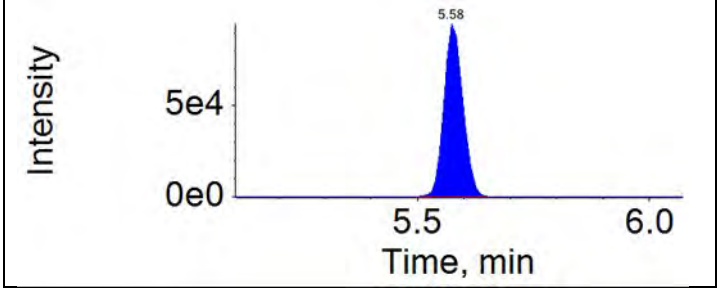
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

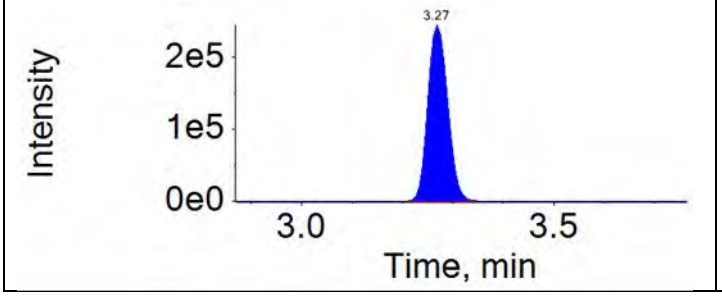


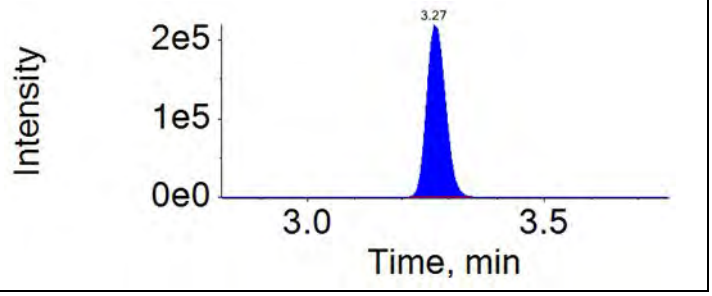
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

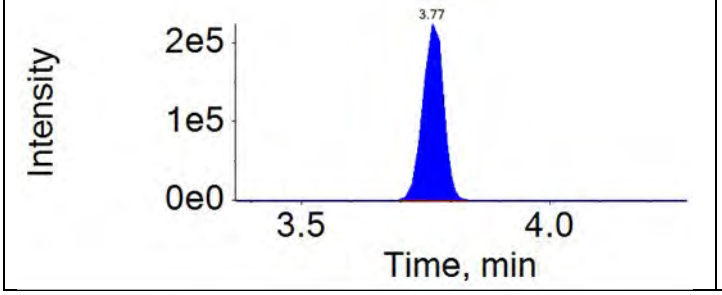
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

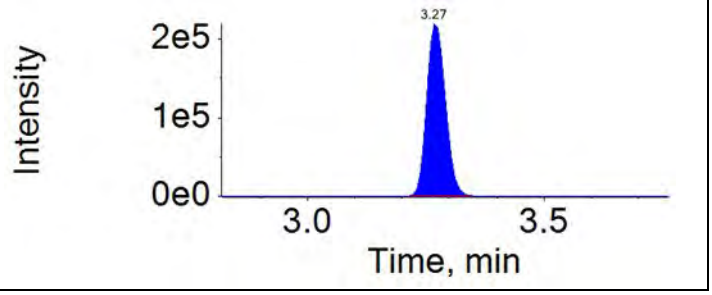
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



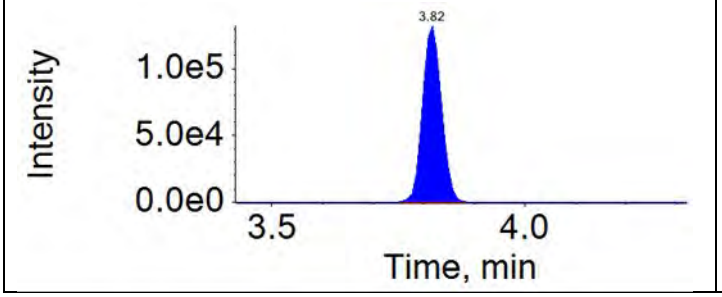


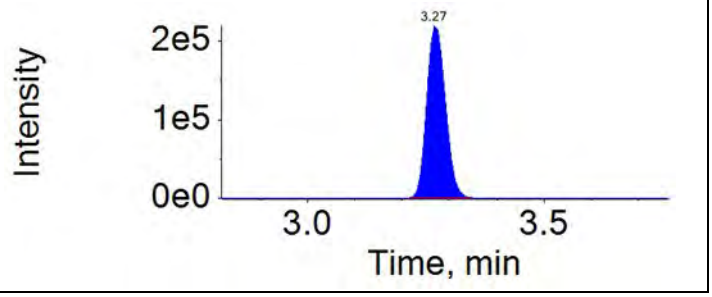
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



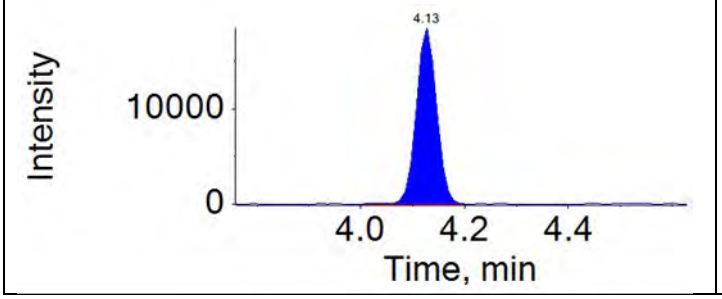


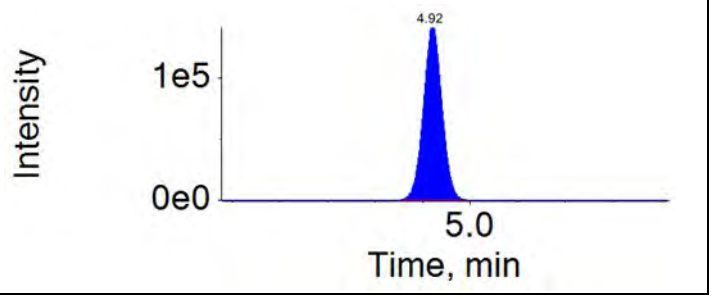
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



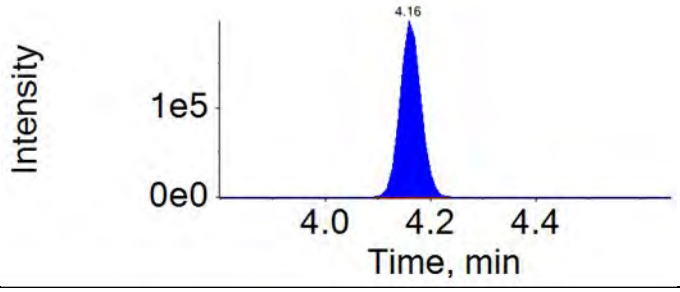


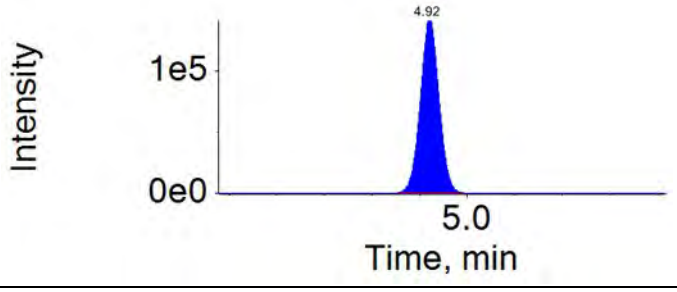
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

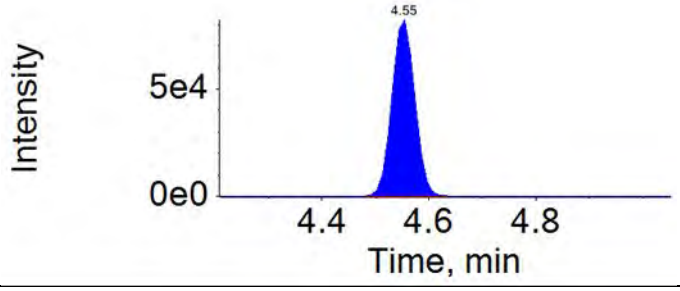
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

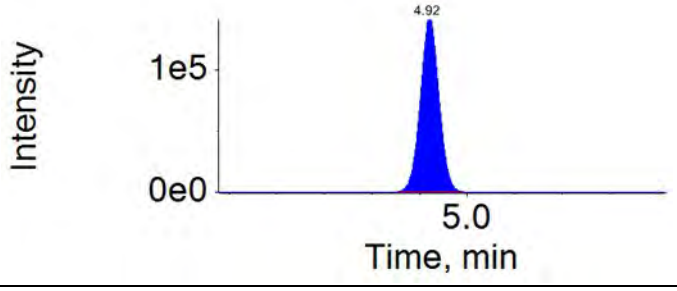
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



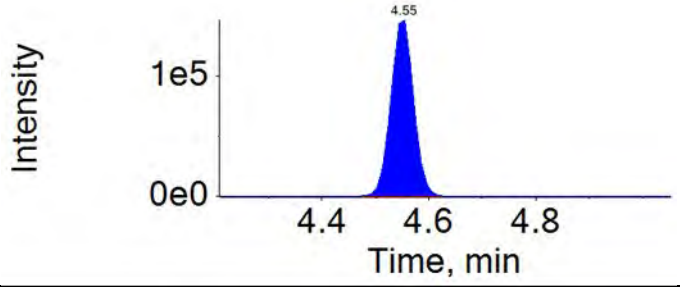


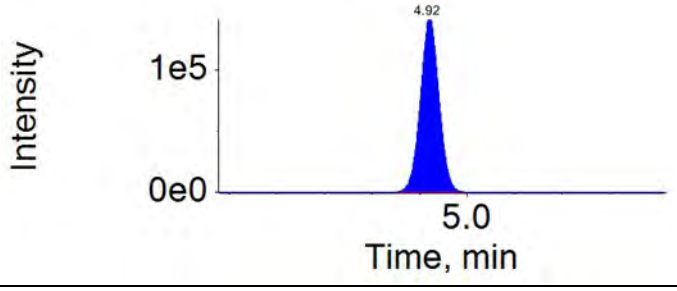
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



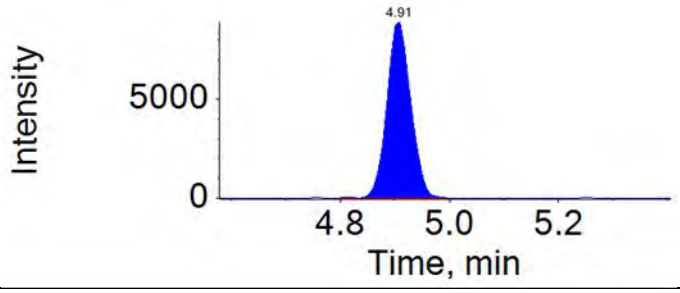


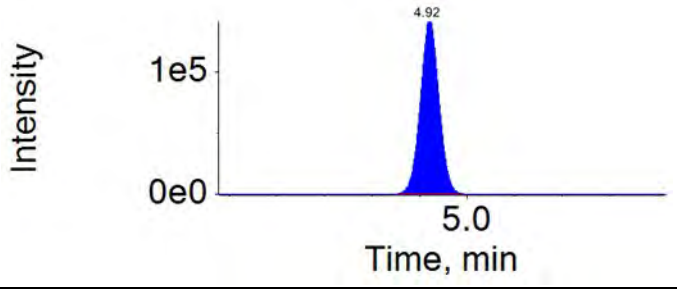
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



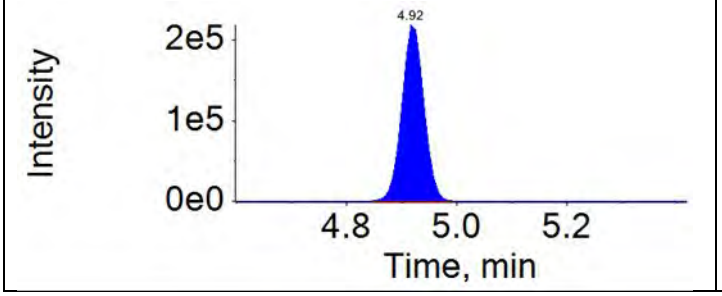


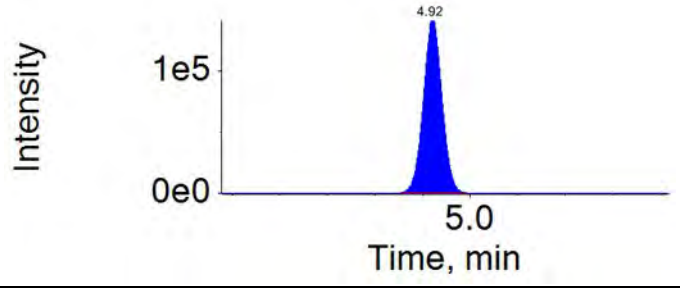
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

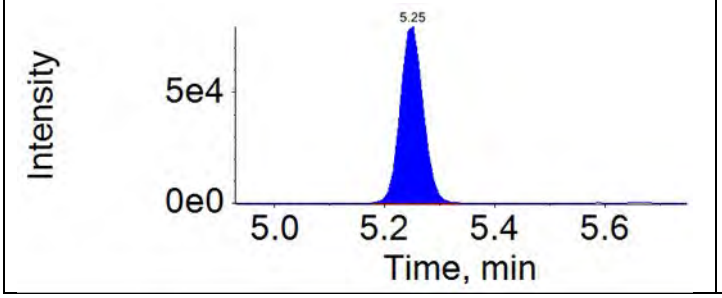
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

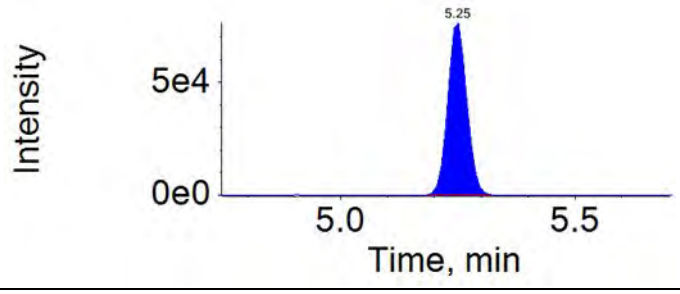
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



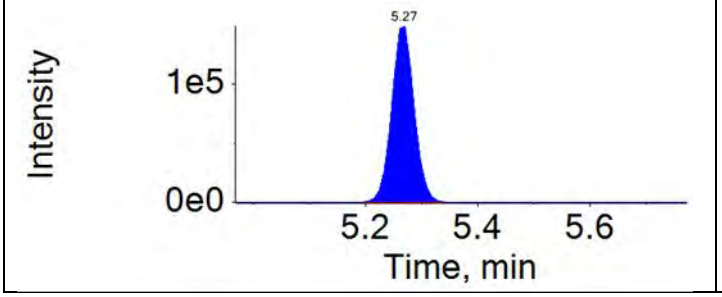


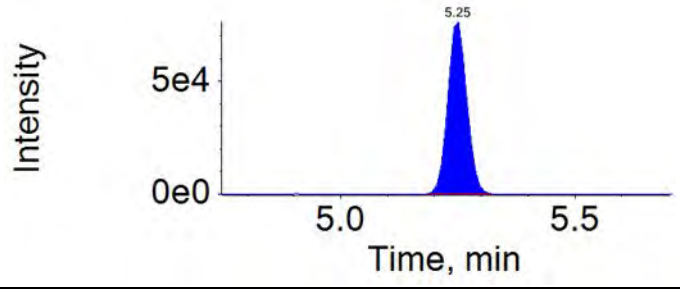
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



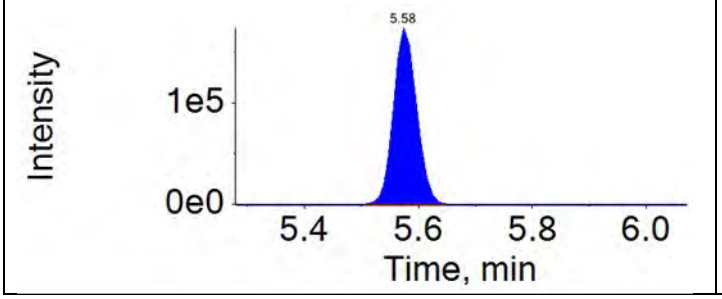


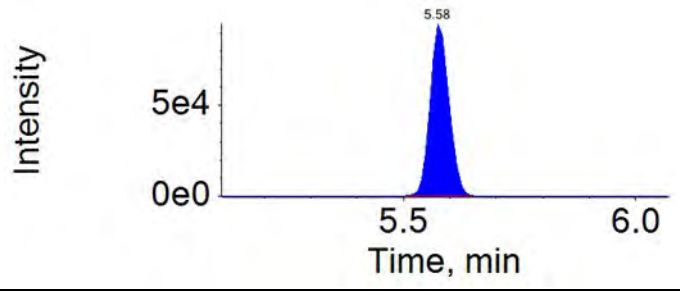
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



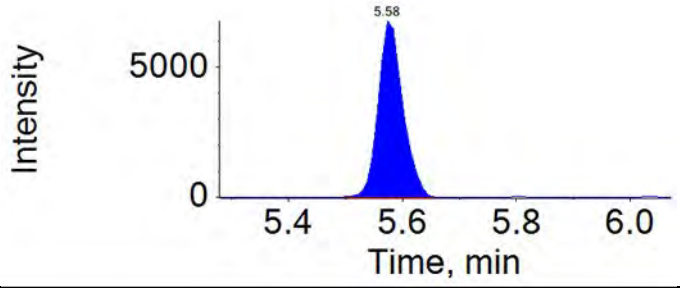


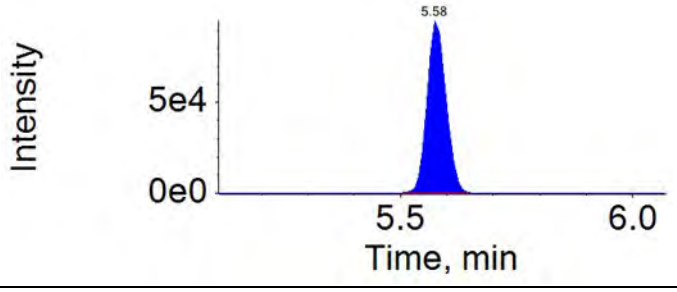
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

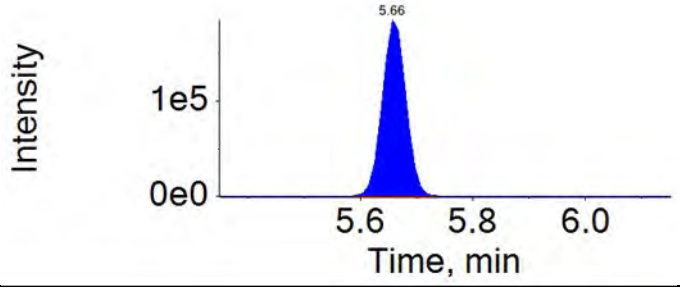
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

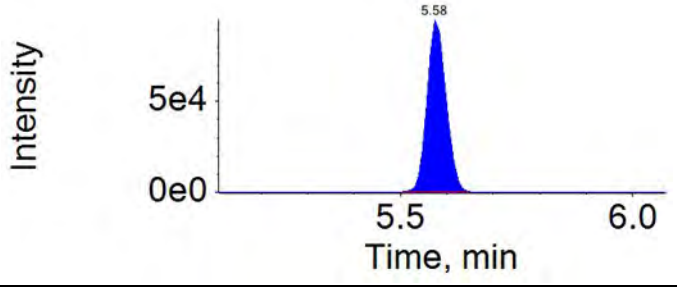
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



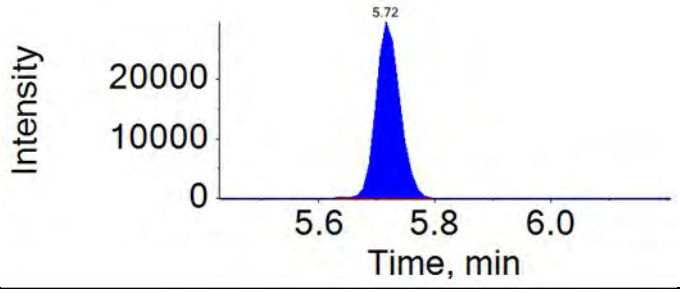


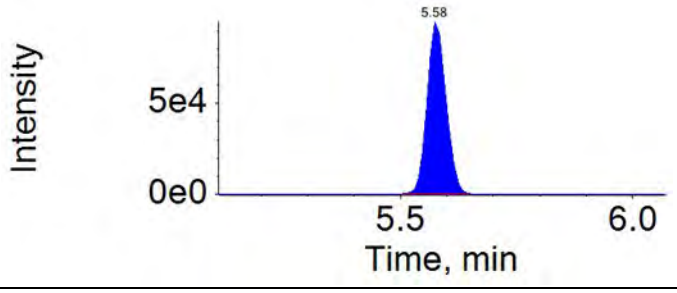
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



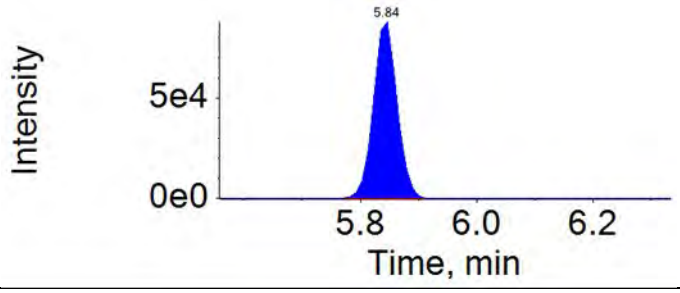


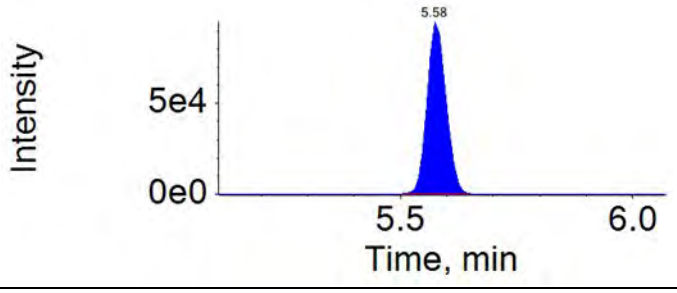
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



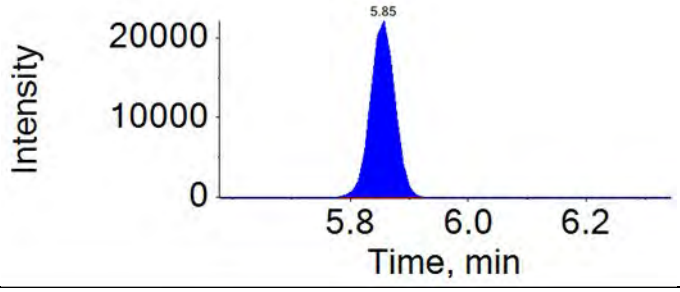


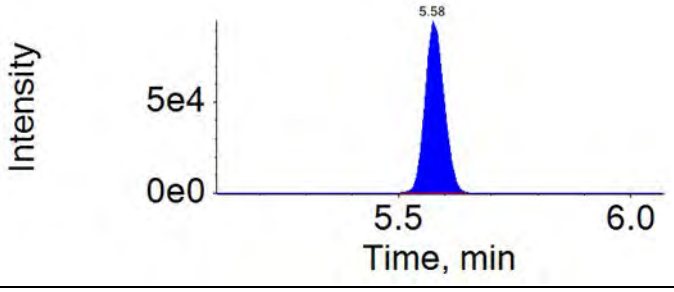
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

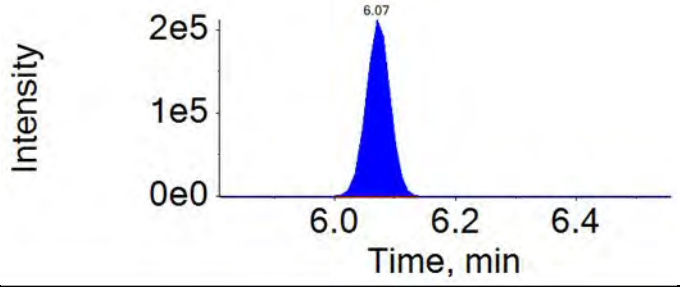
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

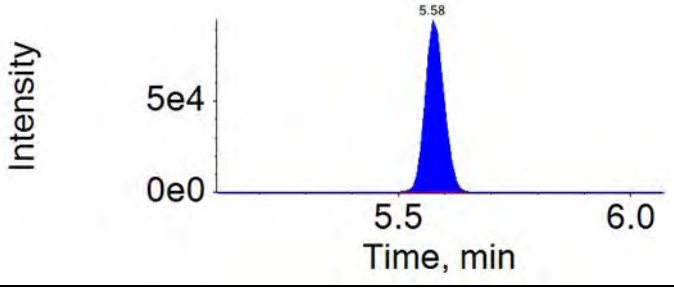
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



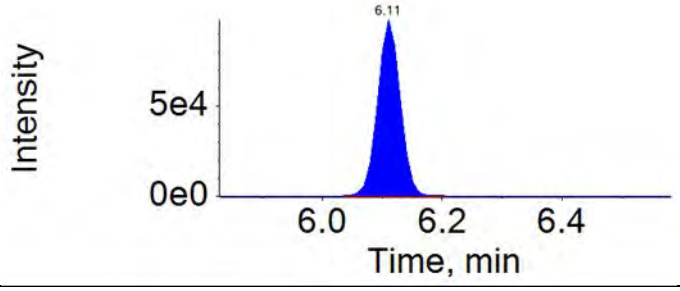


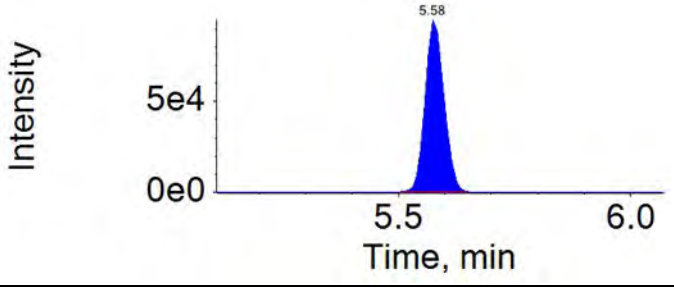
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



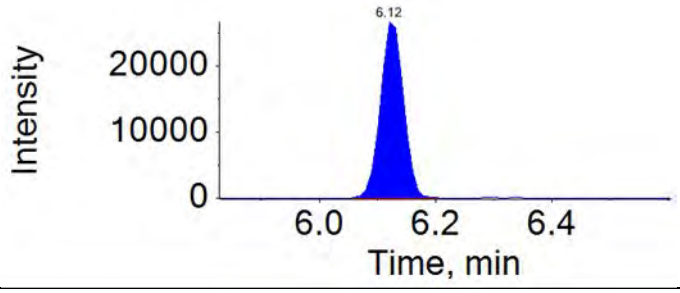


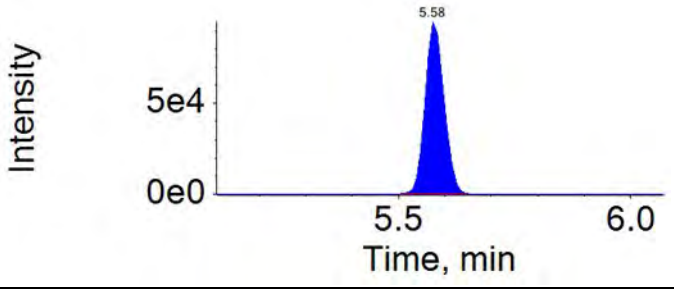
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





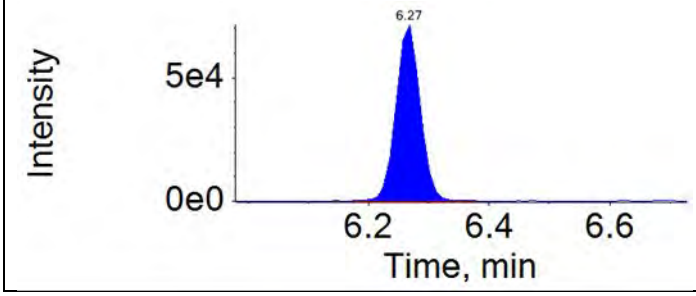
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

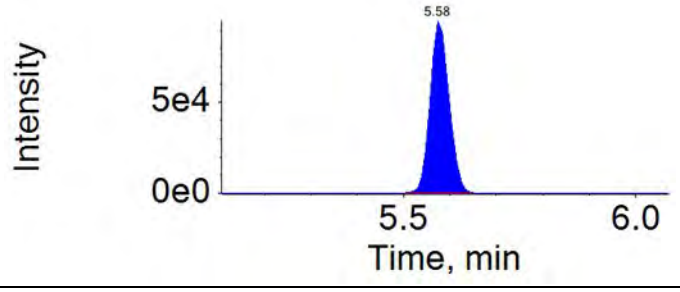




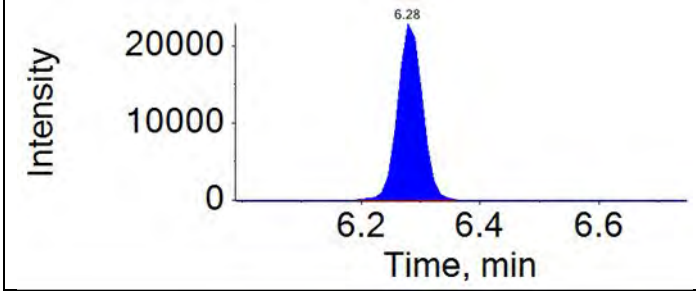
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

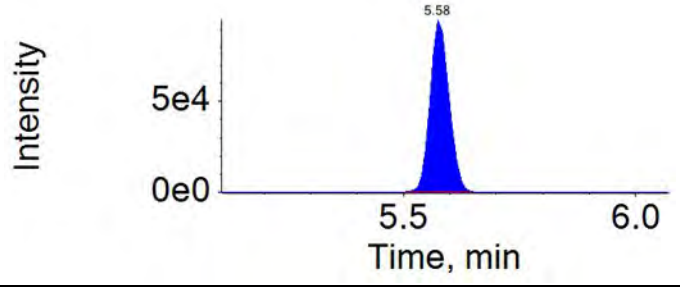
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



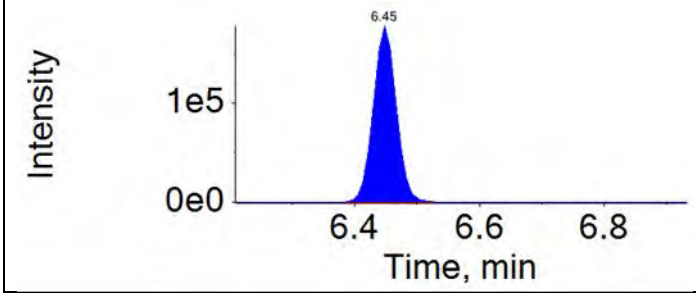


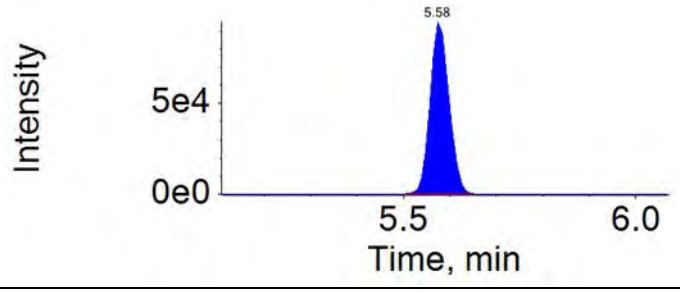
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



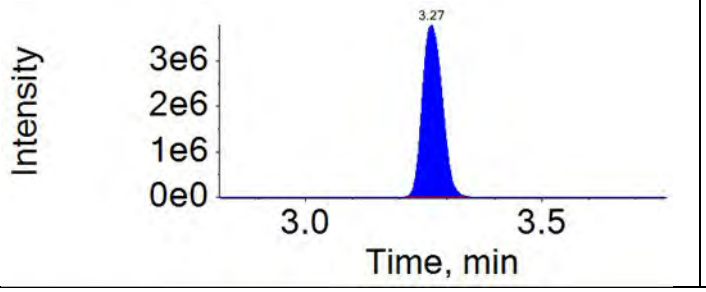


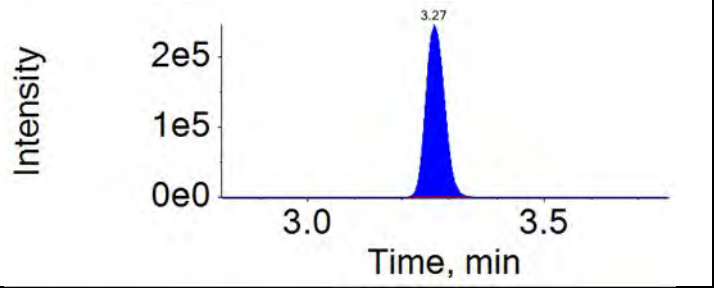
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

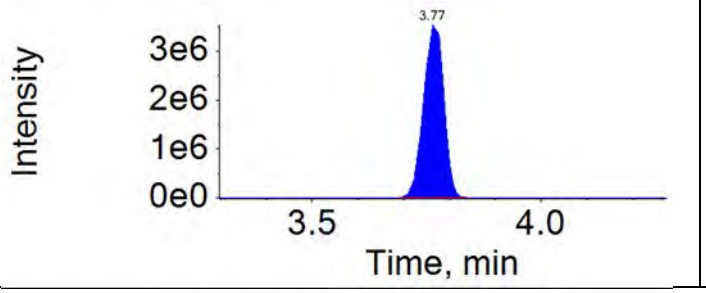
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

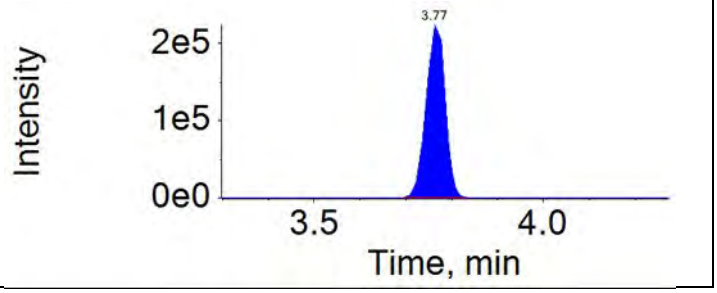
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



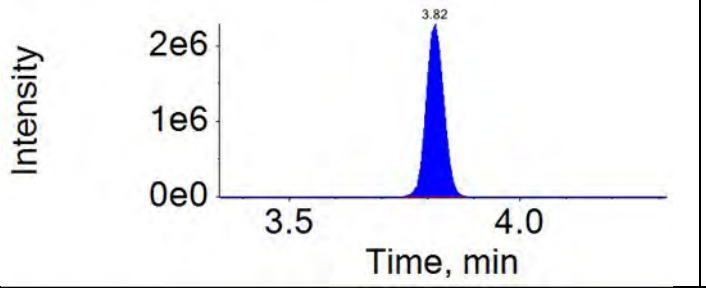


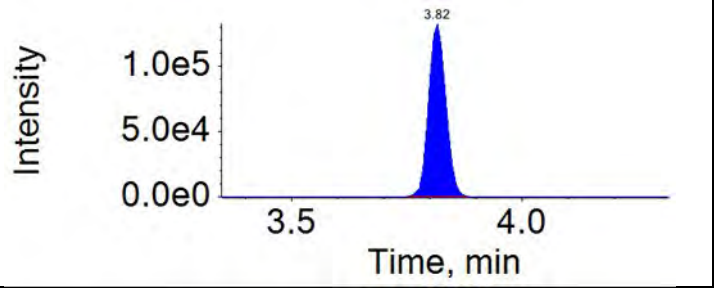
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



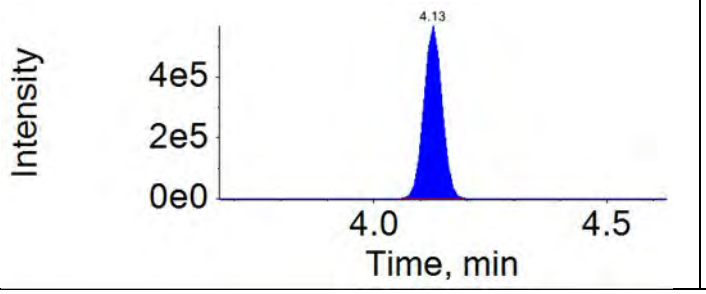


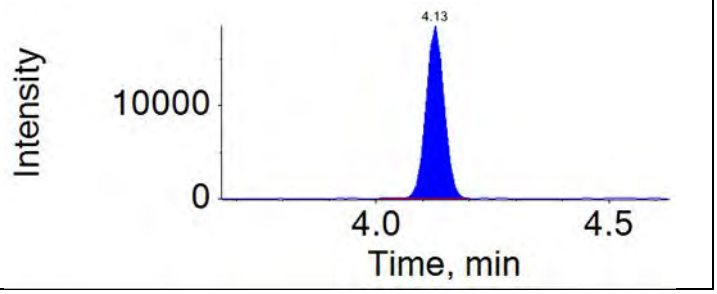
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



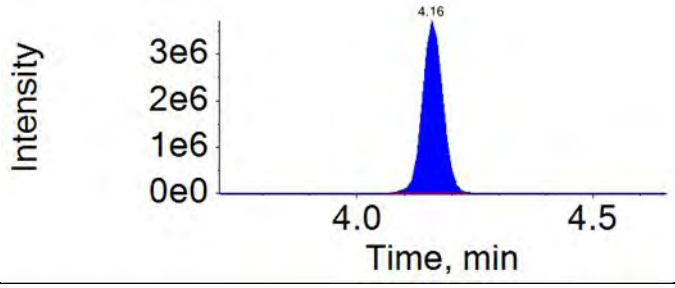


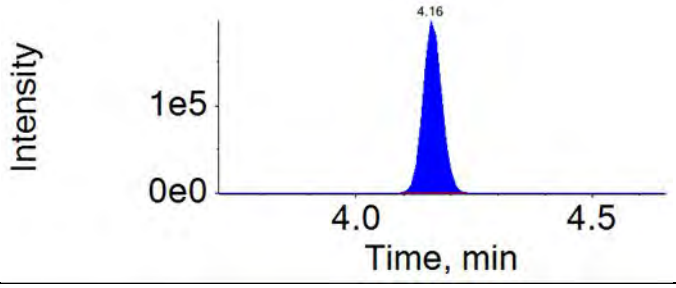
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

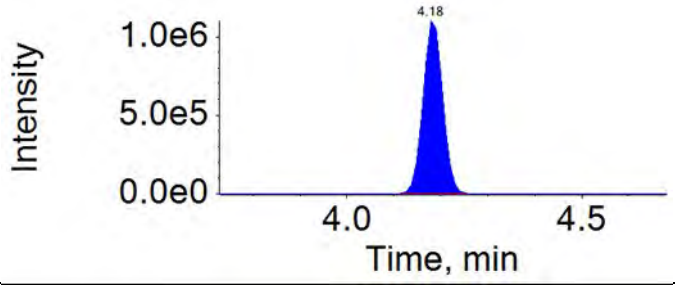
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

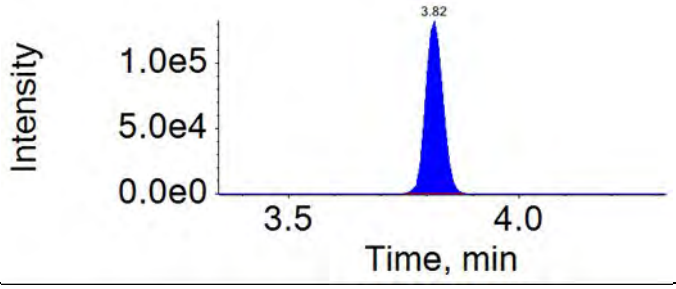
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



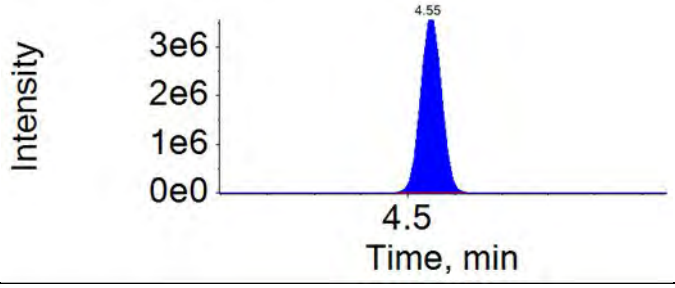


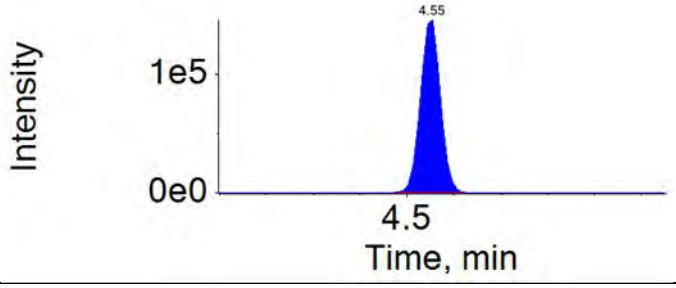
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



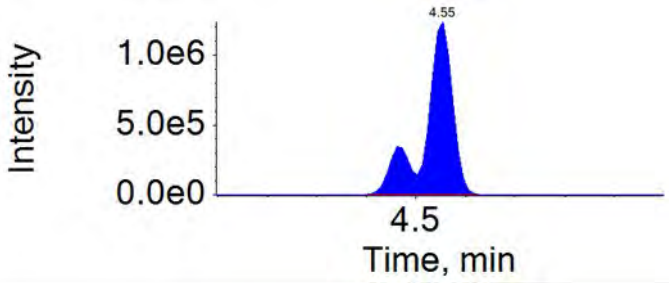


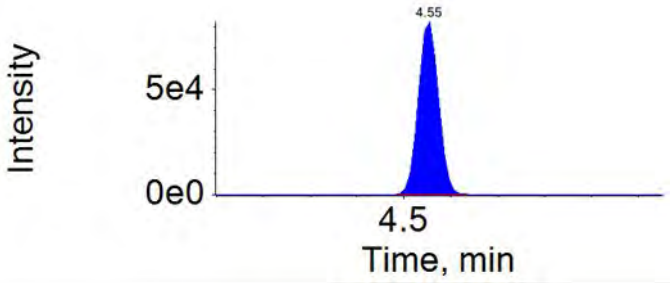
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

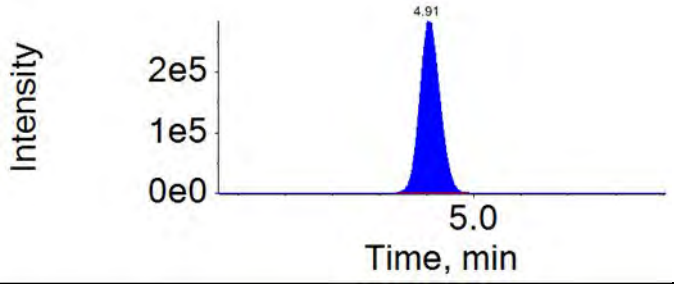
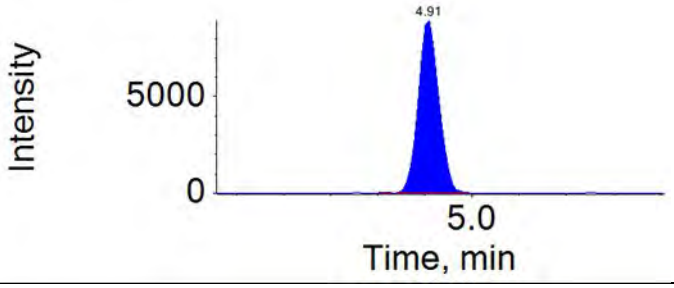


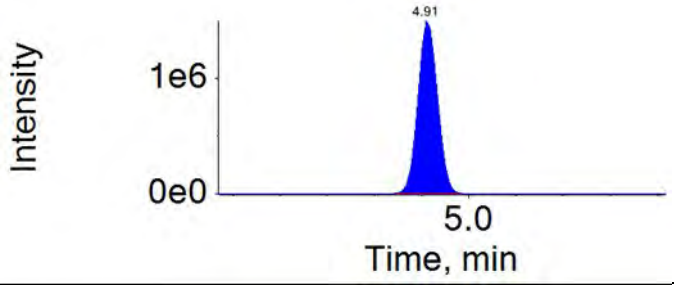
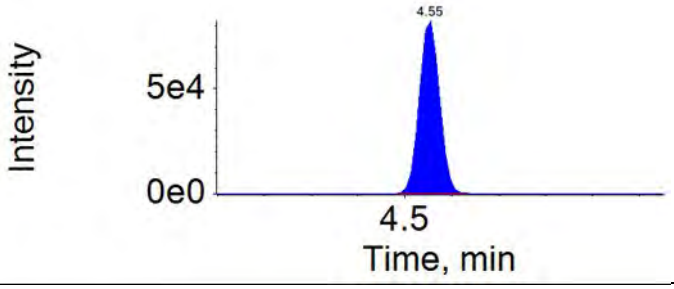


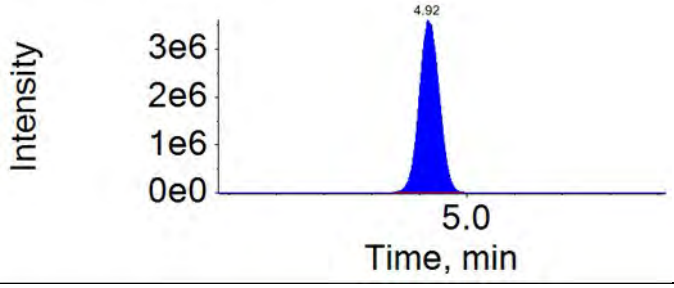
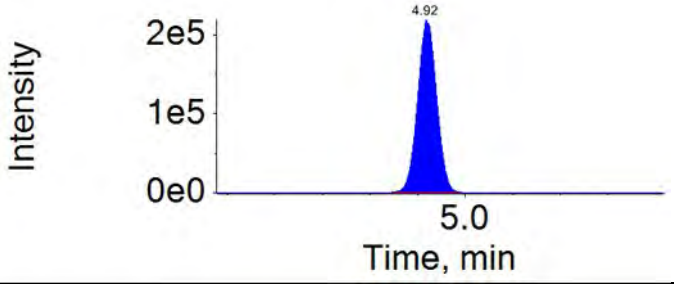
APPROVED
By MSM at 1:53 pm, 12/7/18

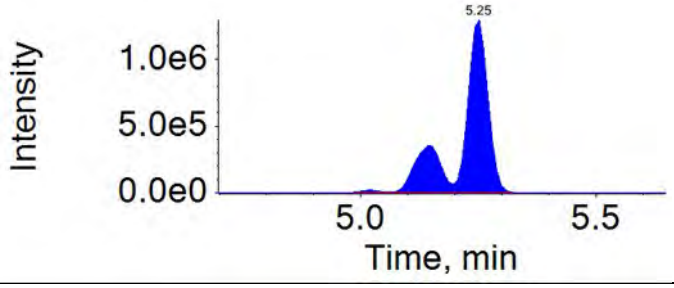
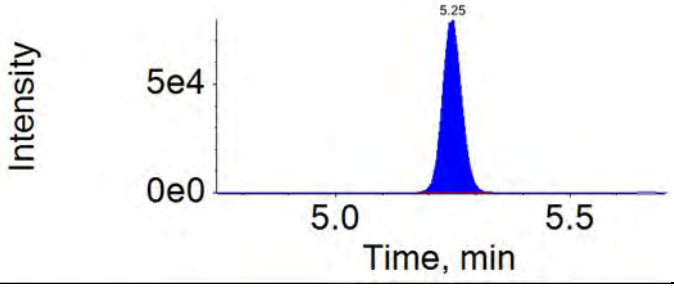
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

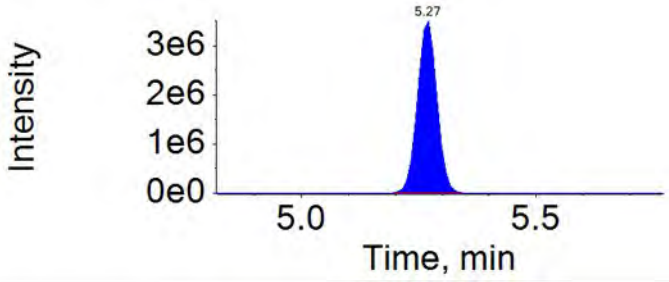
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

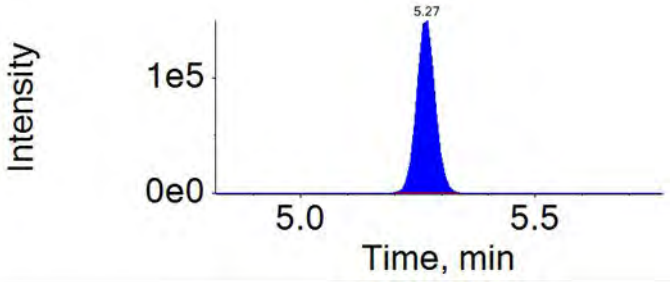
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

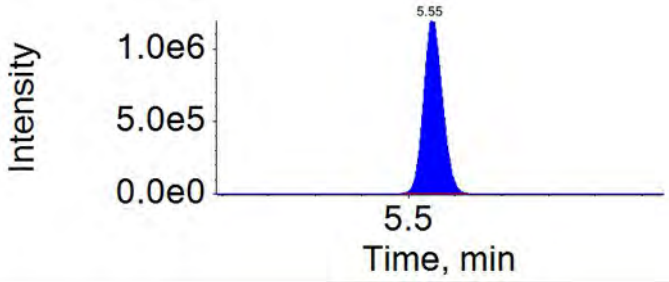
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

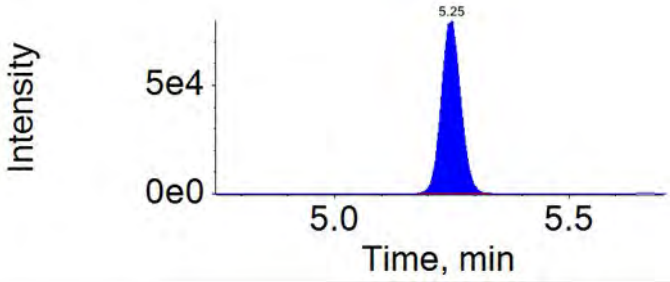
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



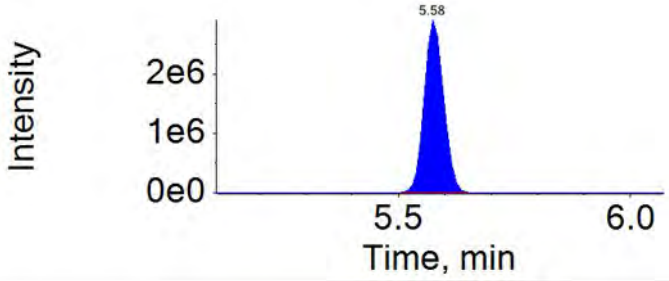


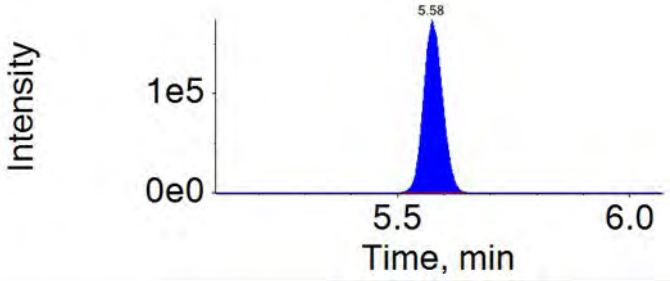
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



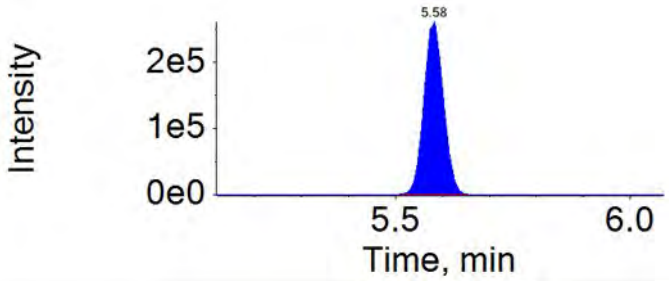


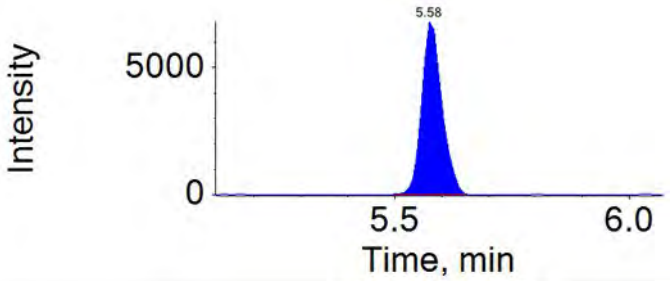
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

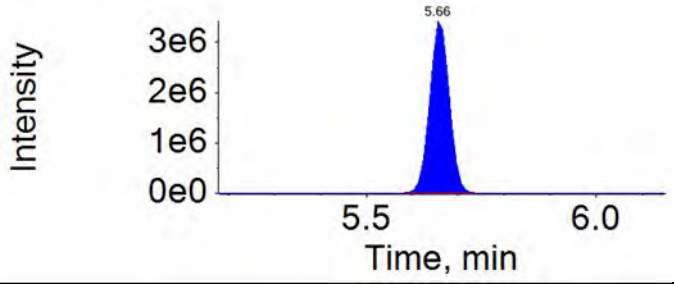
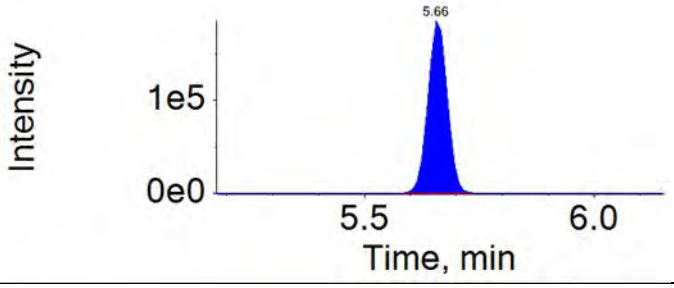


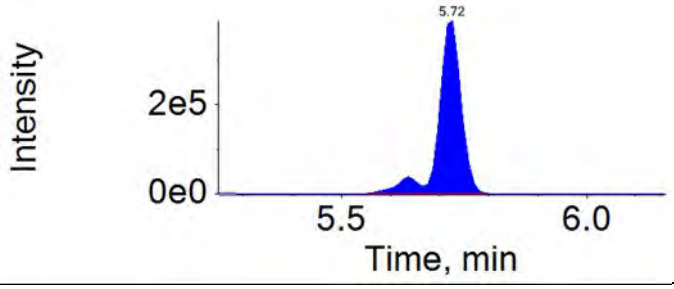
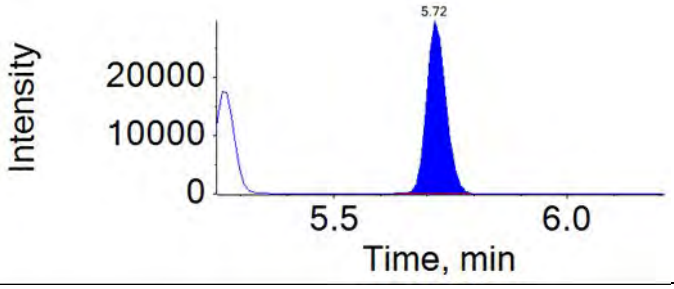


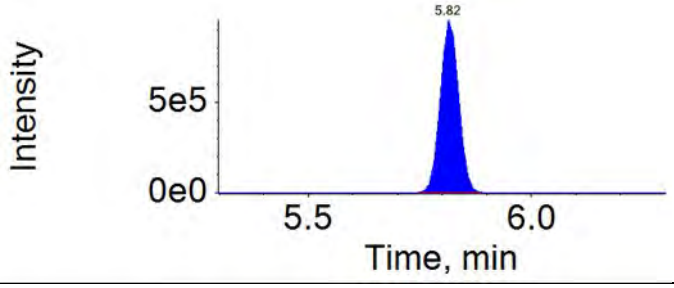
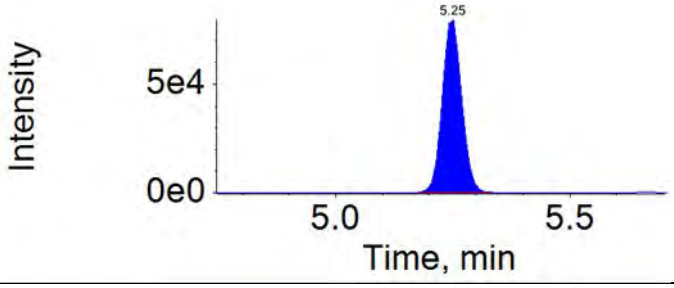
APPROVED
By MSM at 1:53 pm, 12/7/18

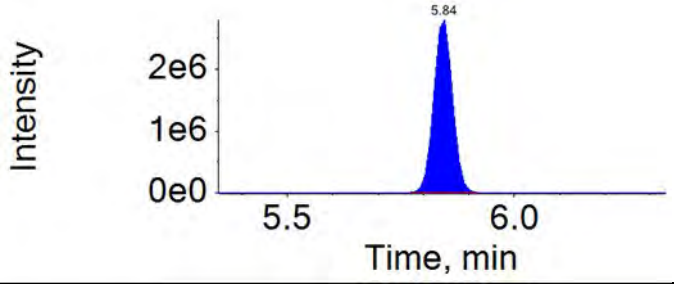
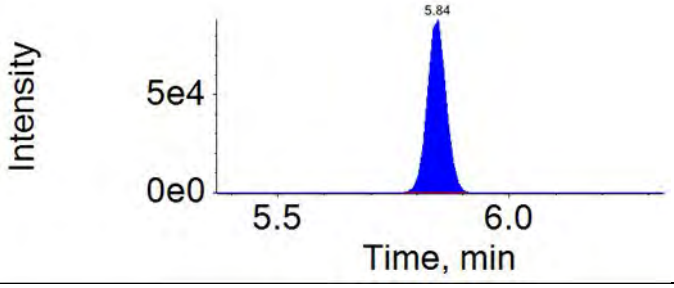
REVIEWED
By HMK at 1:54 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

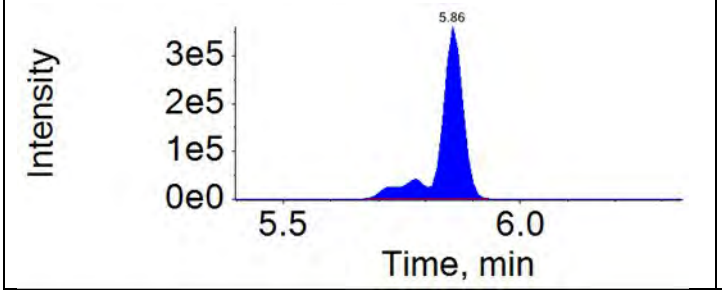
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

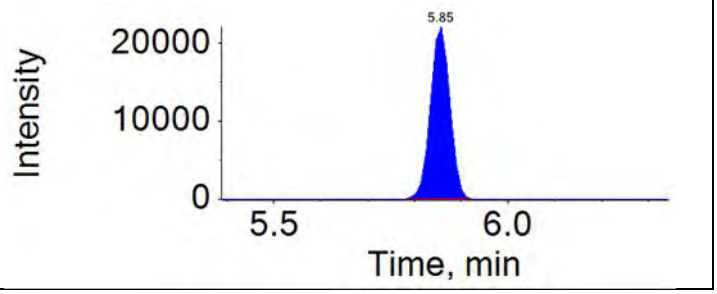
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

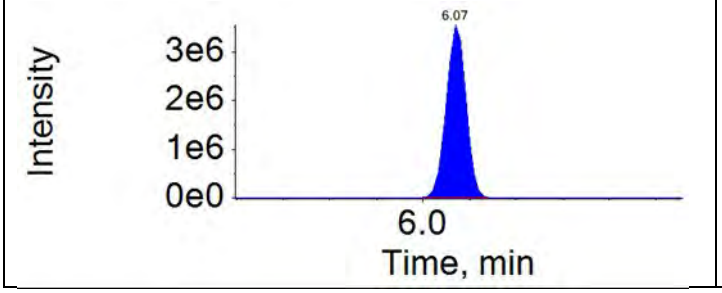
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

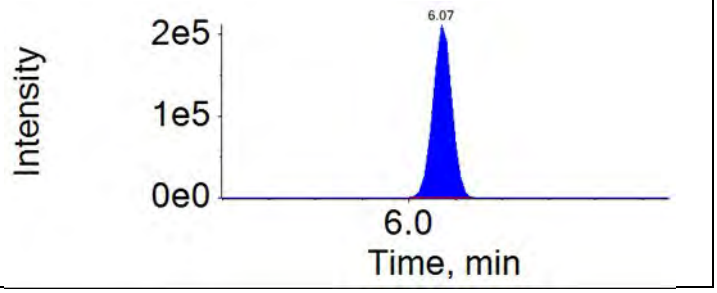
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



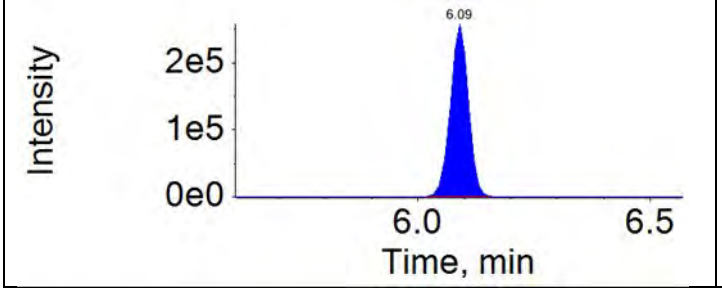


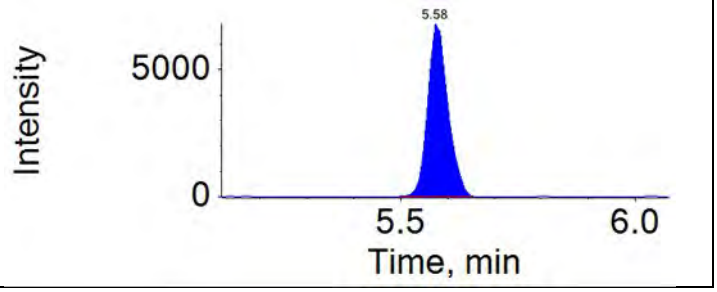
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



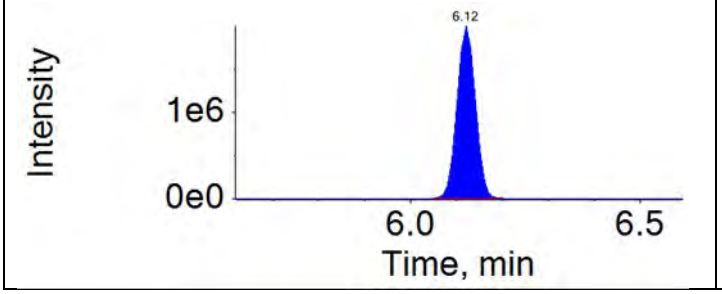


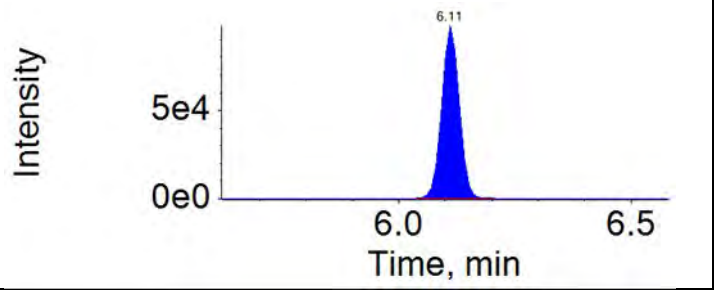
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



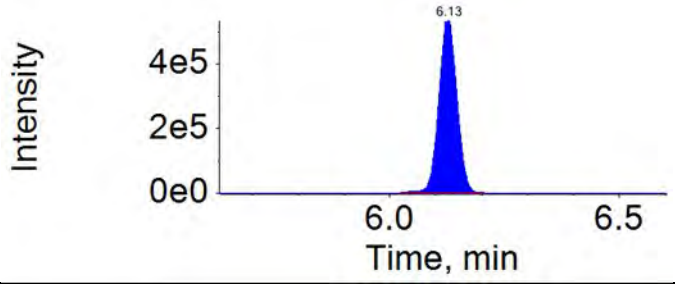


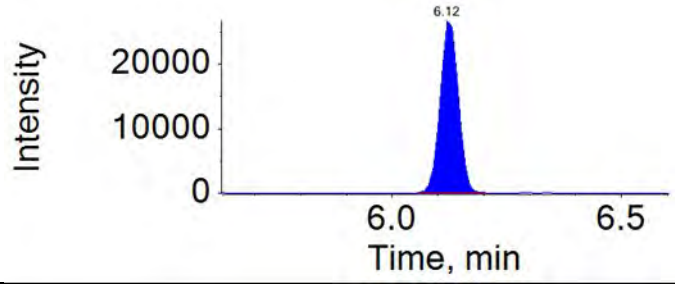
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

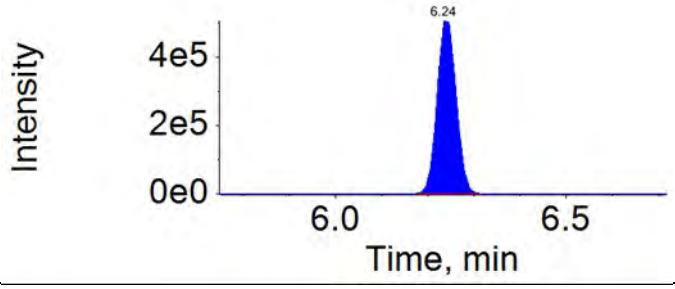
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

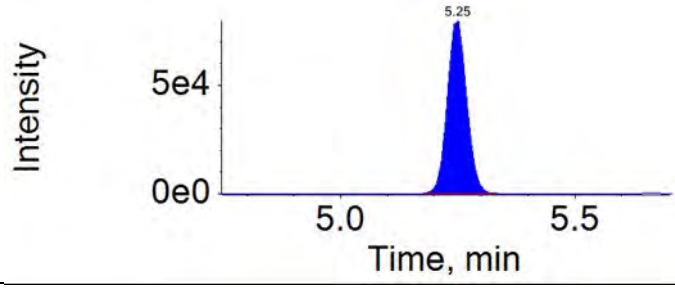
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



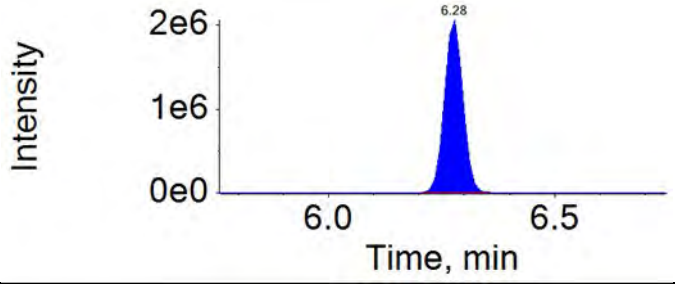


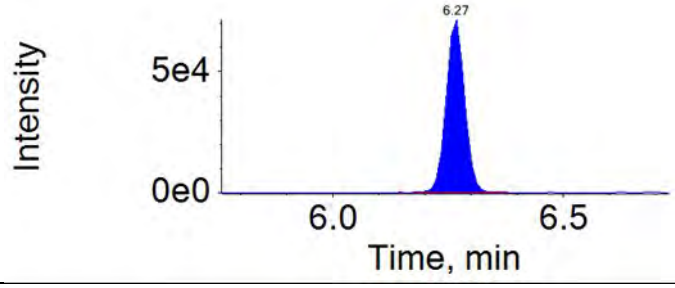
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



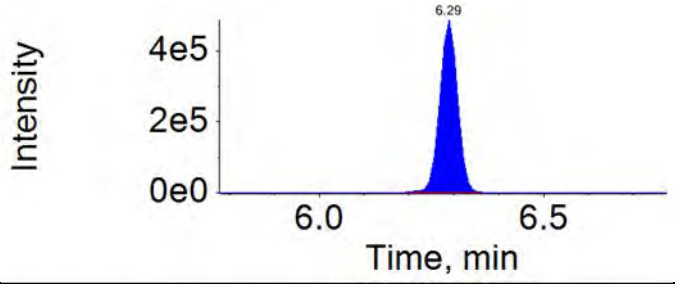


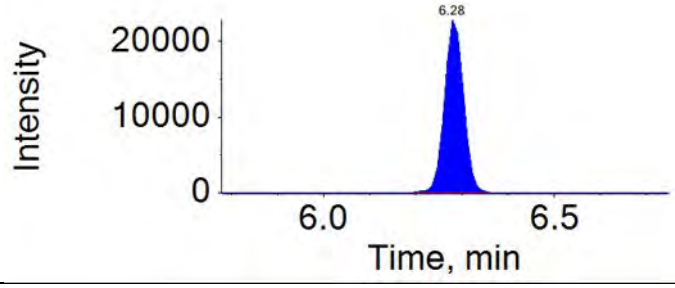
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



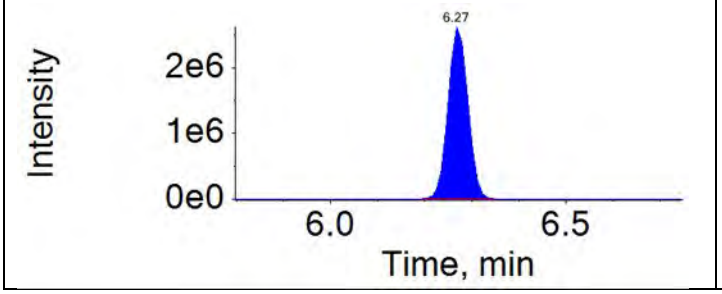


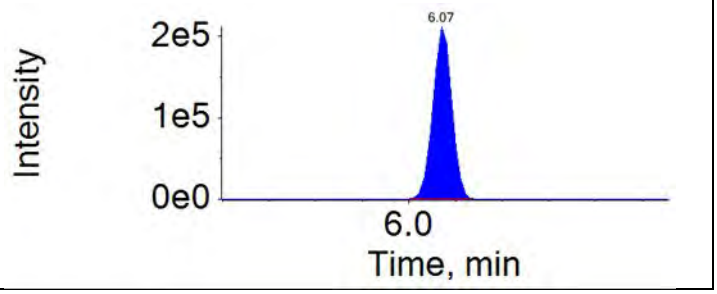
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:54 pm, 12/9/18

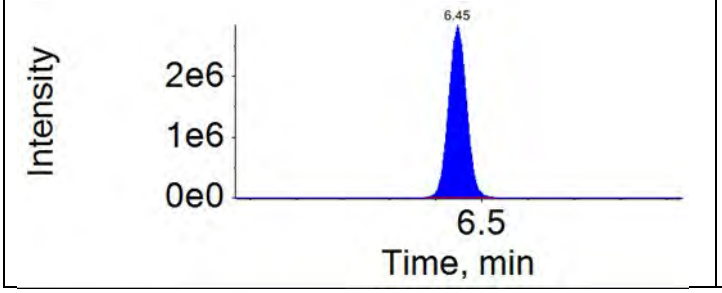
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

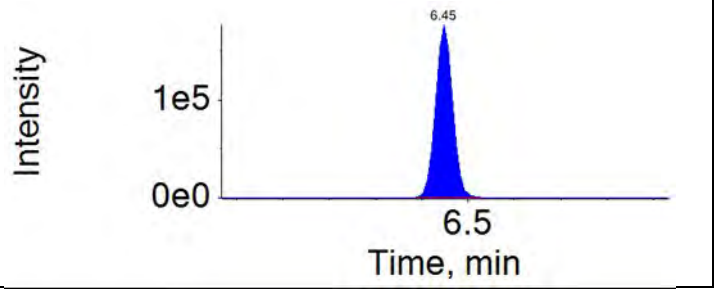
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



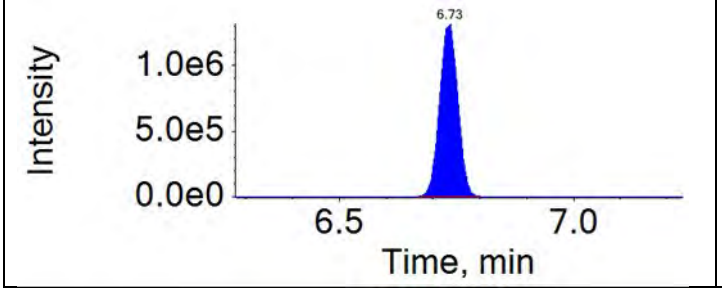


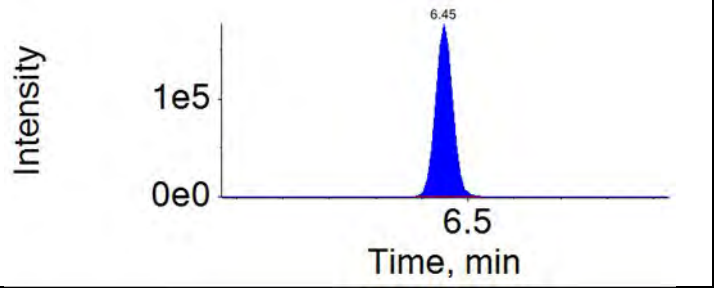
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



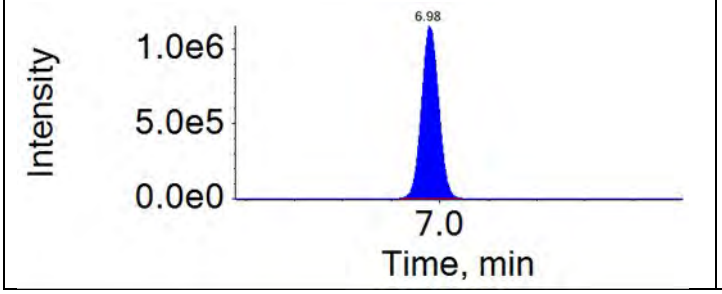


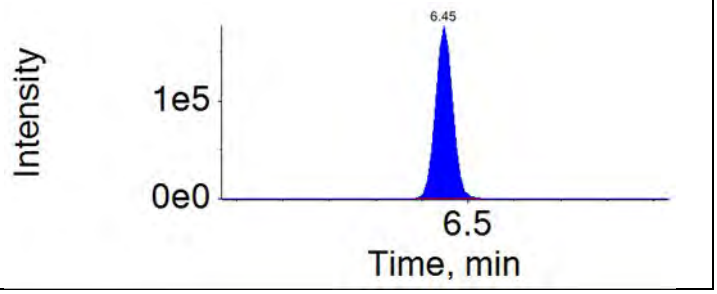
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





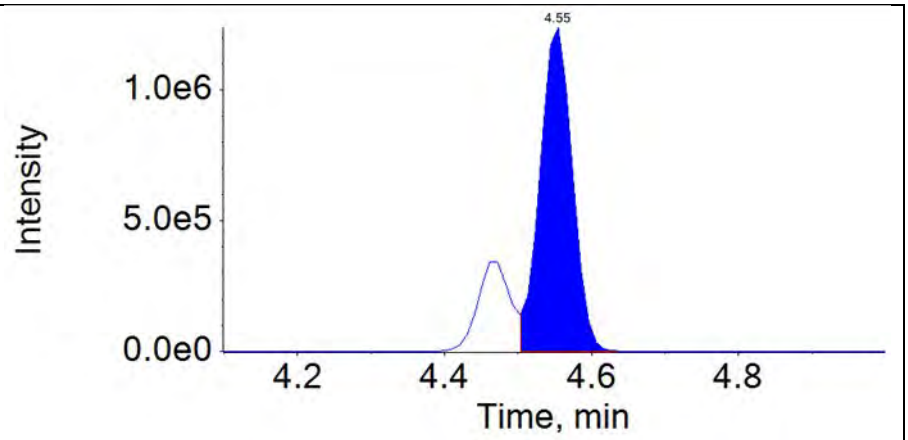
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

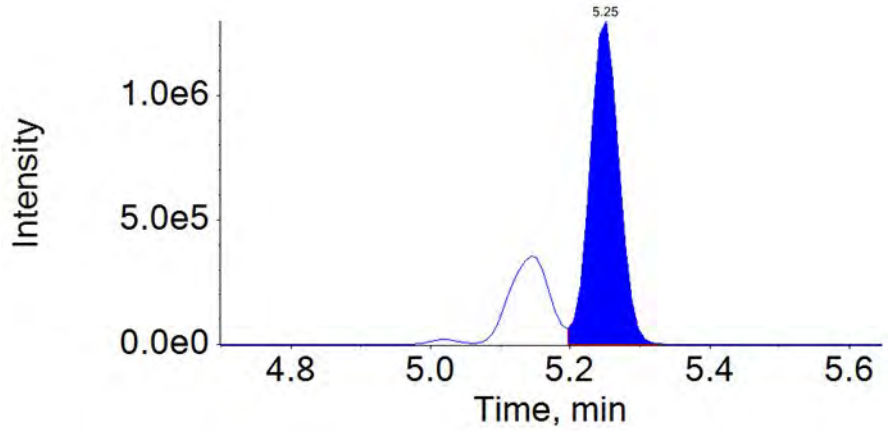
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
3811087.56
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



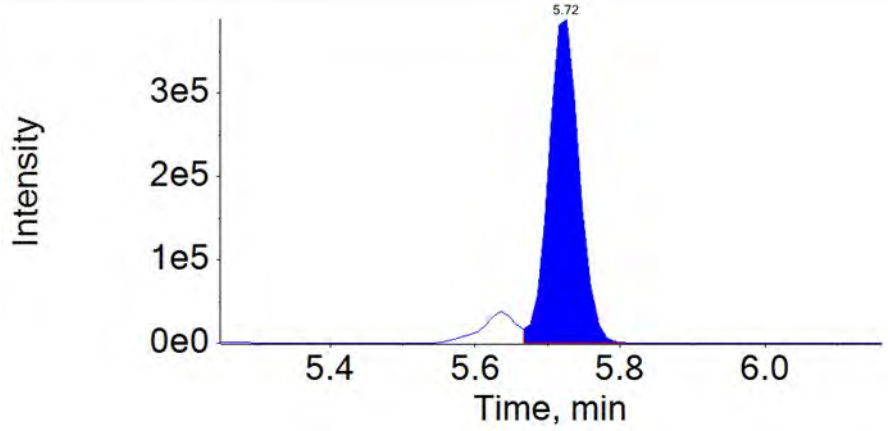
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
3774881.94
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
1144274.55
Mass Range:
570.0 / 419.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



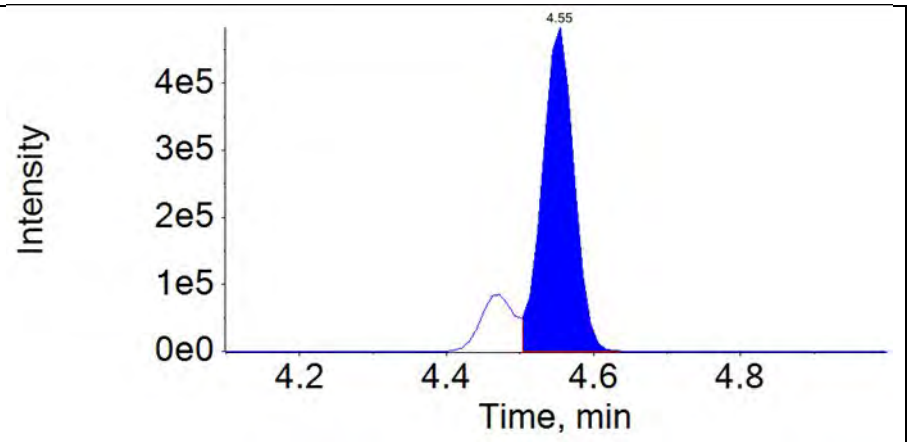
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

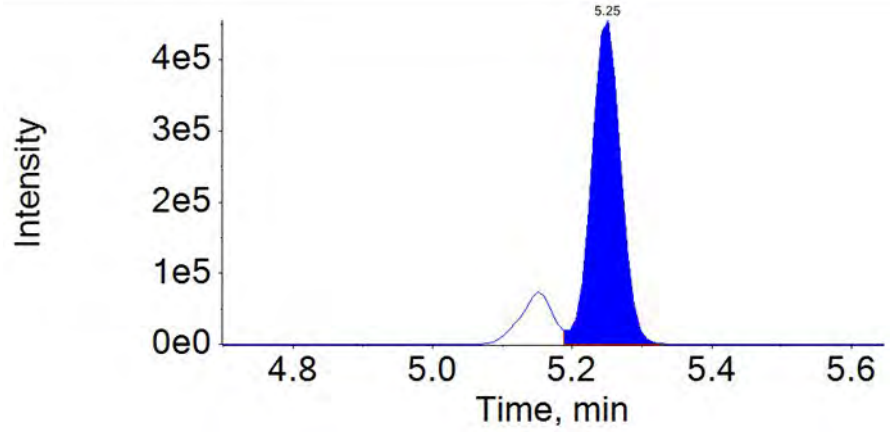
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
1449398.73
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



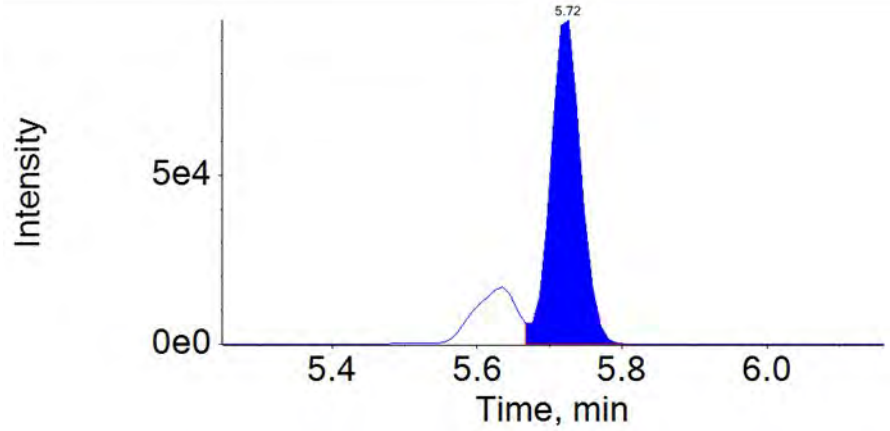
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
1331804.65
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
280791.64
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



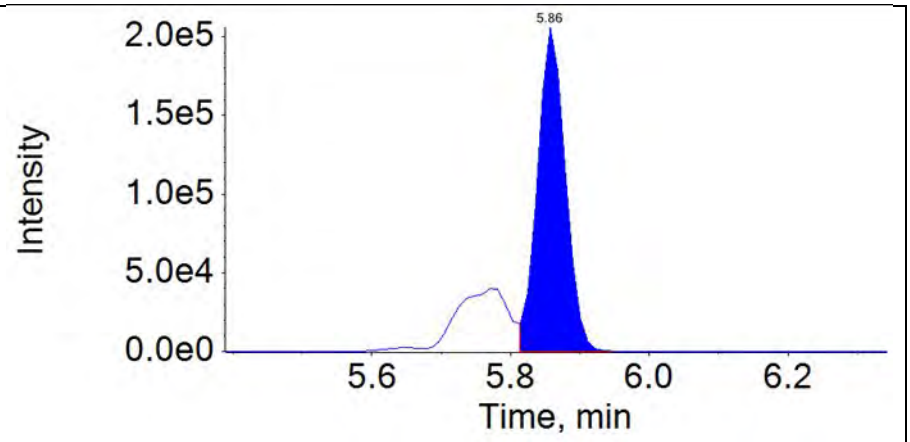
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
575428.55
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-31.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Ion Ratio Report

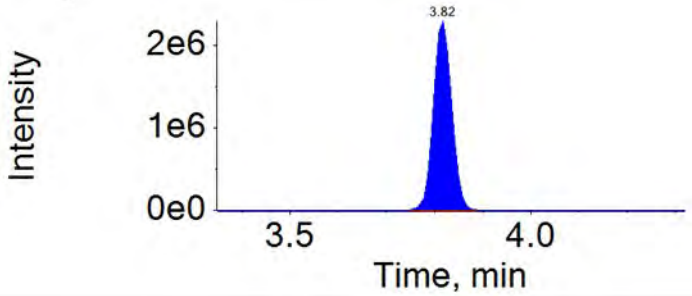
Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-31.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	6058196.36	A	1.0000	1.0000			
PFBS_2	3.81	1.00	2278418.91	A	0.3627	0.3761	4	50	
4:2-FTS	4.13	1.00	1541772.12	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	995700.47	A	0.6542	0.6458	-1	50	
PFHxA	4.16	1.00	11064156.53	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	132572.09	A	0.0097	0.0120	23	50	
PFPeS	4.18	1.10	3202799.19	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	1694418.00	A	0.5262	0.5290	1	50	
PFHpA	4.55	1.00	11333940.43	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	661610.70	A	0.0565	0.0584	3	50	
PFHxS	4.55	1.00	4864366.46	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	1718220.31	M	0.3645	0.3532	-3	50	
6:2-FTS	4.91	1.00	852701.24	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	567919.20	A	0.6273	0.6660	6	50	
PFHpS	4.91	1.08	4320784.79	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	1768526.05	A	0.4162	0.4093	-2	50	
PFOA	4.92	1.00	10664235.85	A	1.0000	1.0000			
PFOA_2	4.92	1.00	675344.83	A	0.0616	0.0633	3	50	
PFOS	5.25	1.00	5255335.21	M	1.0000	1.0000			
PFOS_2	5.25	1.00	1570936.44	M	0.3021	0.2989	-1	50	
PFNA	5.27	1.00	10109257.93	A	1.0000	1.0000			
PFNA_2	5.27	1.00	212056.71	A	0.0192	0.0210	9	50	
PFNS	5.55	1.06	3387582.43	A	1.0000	1.0000			
PFNS_2	5.55	1.06	1533093.35	A	0.4845	0.4526	-7	50	
PFDA	5.58	1.00	8449610.52	A	1.0000	1.0000			
PFDA_2	5.57	1.00	64517.32	A	0.0096	0.0076	-21	50	
8:2-FTS	5.58	1.00	758920.24	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	428711.02	A	0.6117	0.5649	-8	50	
NMeFOSAA	5.72	1.00	1268339.66	M	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	348626.55	M	0.2673	0.2749	3	50	
PFDS	5.82	1.11	2738544.97	A	1.0000	1.0000			
PFDS_2	5.82	1.11	1292263.94	A	0.4952	0.4719	-5	50	
PFUnDA	5.84	1.00	8122821.30	A	1.0000	1.0000			
PFUnDA_2	5.84	1.00	32295.67	A	0.0041	0.0040	-3	50	
NEtFOSAA	5.86	1.00	1198896.19	A	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	779169.56	M	0.6726	0.6499	-3	50	
PFDoDA	6.07	1.00	10417166.00	A	1.0000	1.0000			
PFDoDA_2	6.07	1.00	145771.88	A	0.0133	0.0140	5	50	
10:2-FTS	6.09	1.09	691304.98	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	470658.47	A	0.6969	0.6808	-2	50	
PFTrDA	6.27	1.03	7688079.44	A	1.0000	1.0000			
PFTrDA_2	6.27	1.03	73486.23	A	0.0075	0.0096	27	50	
PFTeDA	6.45	1.00	7609017.15	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	48594.29	A	0.0066	0.0064	-3	50	
PFHxDA	6.73	1.04	3585505.03	A	1.0000	1.0000			
PFHxDA_2	6.73	1.04	228129.16	A	0.0616	0.0636	3	50	
PFODA	6.98	1.08	2832373.93	A	1.0000	1.0000			
PFODA_2	6.98	1.08	74183.64	A	0.0272	0.0262	-4	50	

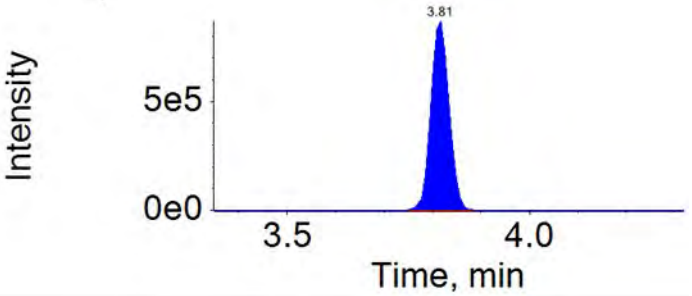
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

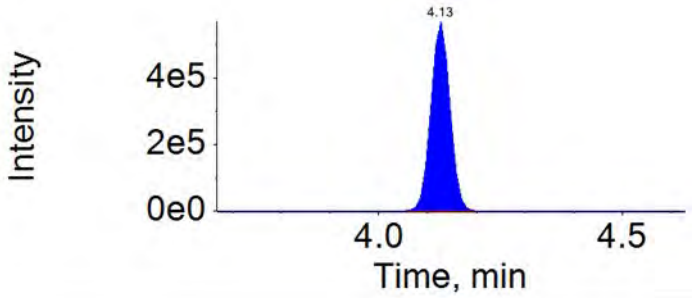
Component: PFBS
Primary Mass: 299.0 / 80.0



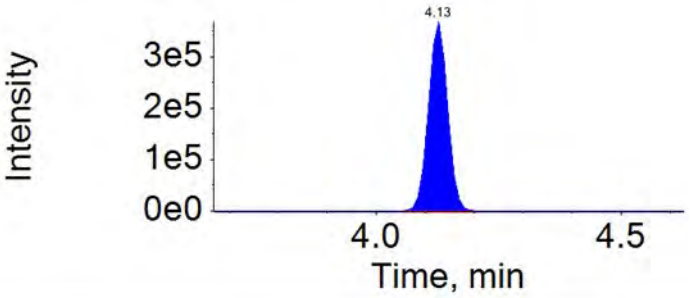
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



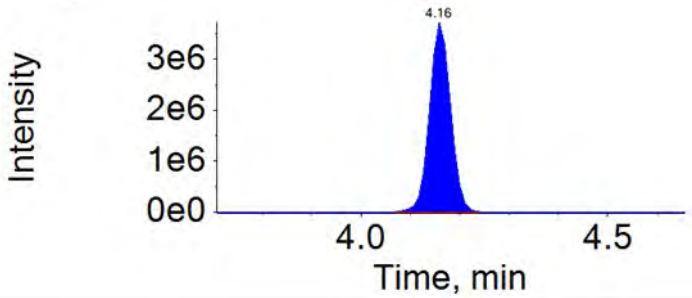
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



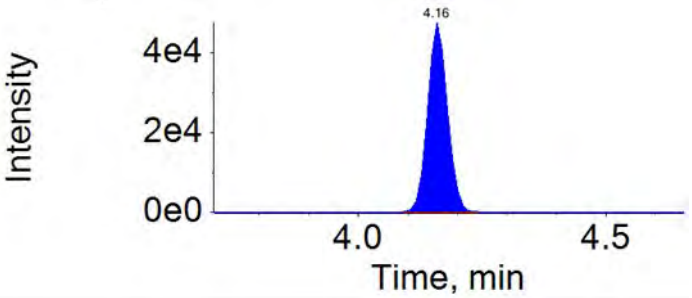
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



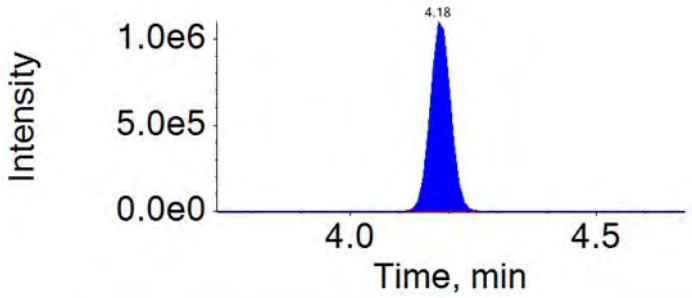
Component: PFHxA
Primary Mass: 313.0 / 269.0



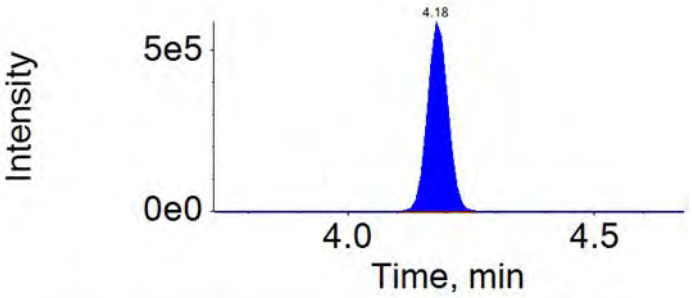
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



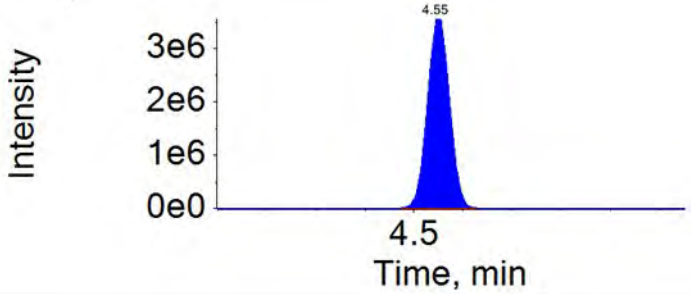
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



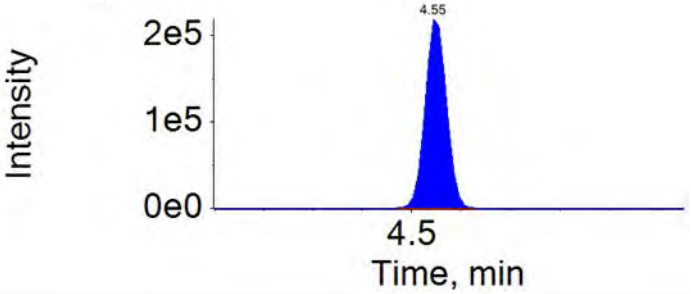
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

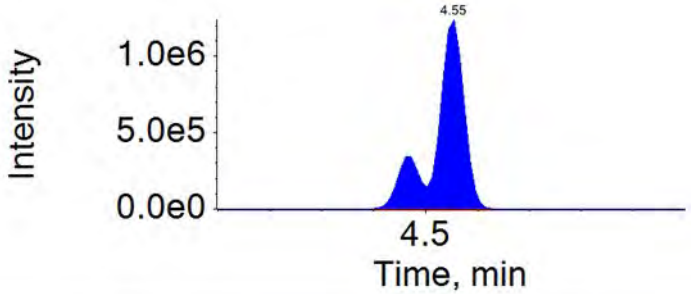
Component: PFHpA
Primary Mass: 363.0 / 319.0



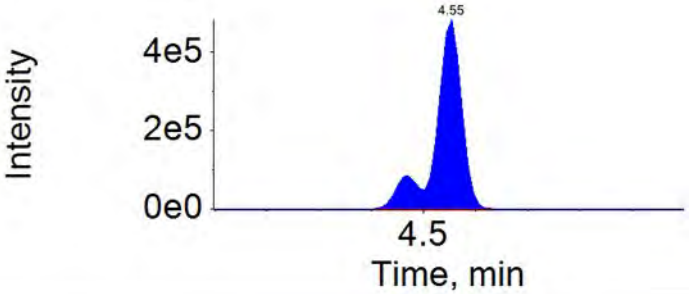
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



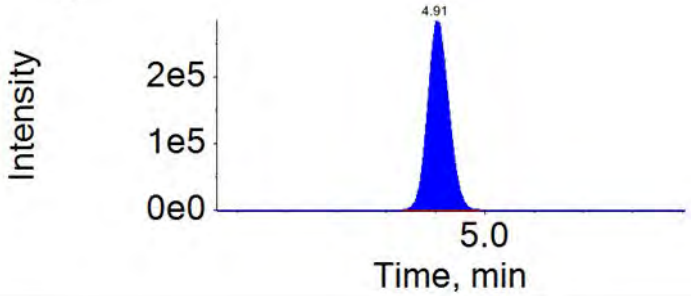
Component: PFHxS
Primary Mass: 399.0 / 80.0



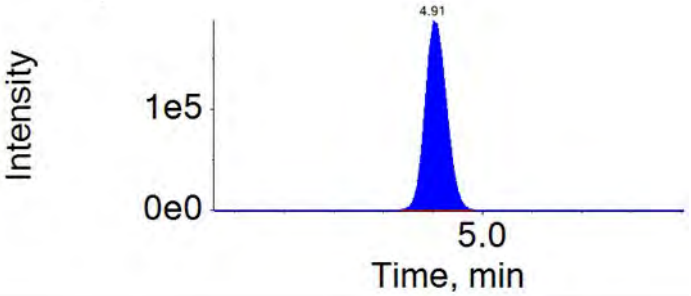
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



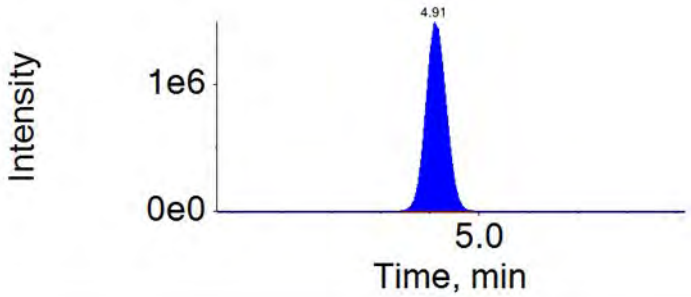
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



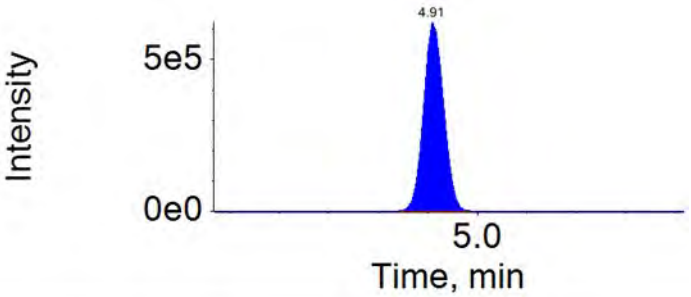
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



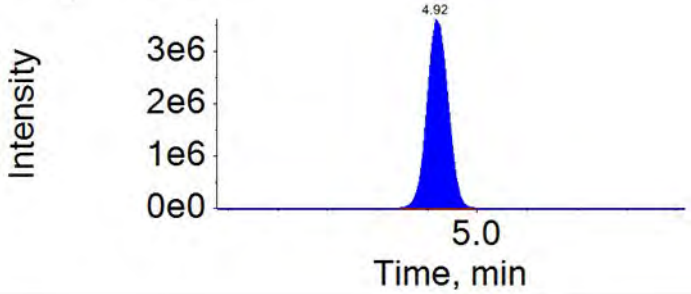
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



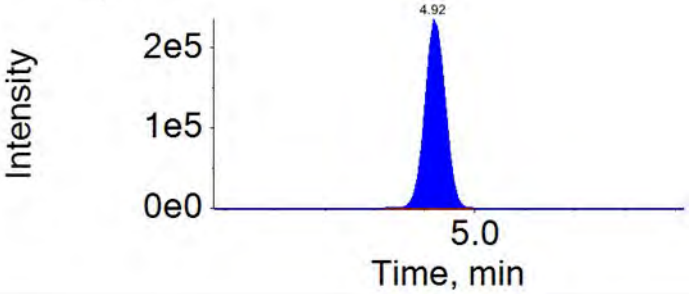
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

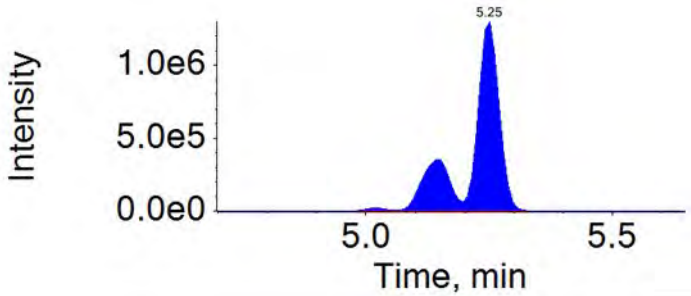
Component: PFOA
Primary Mass: 413.0 / 369.0



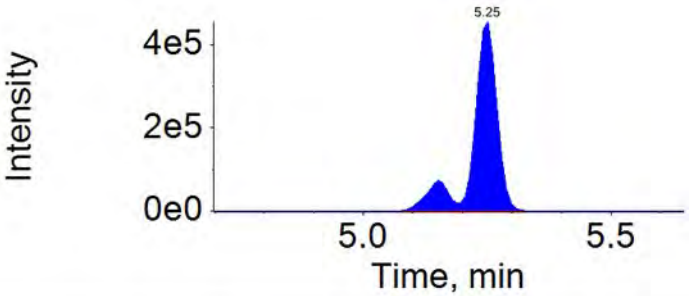
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



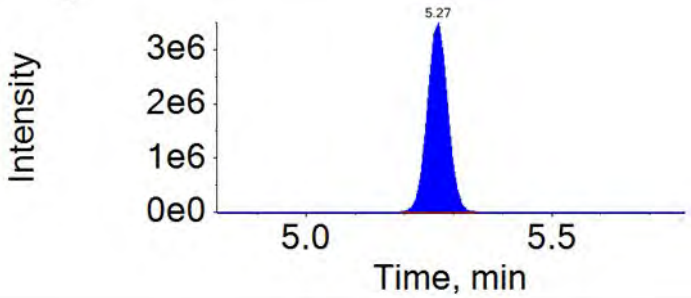
Component: PFOS
Primary Mass: 499.0 / 80.0



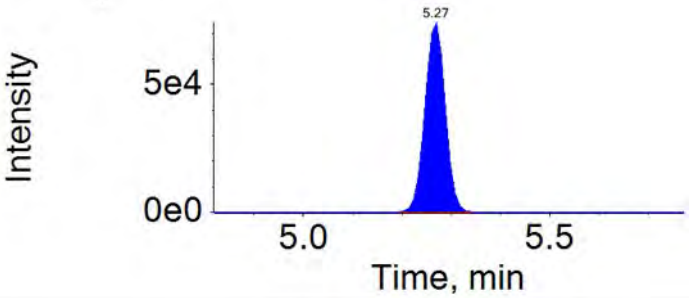
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



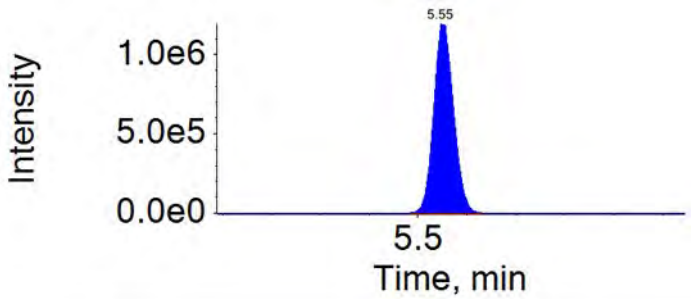
Component: PFNA
Primary Mass: 463.0 / 419.0



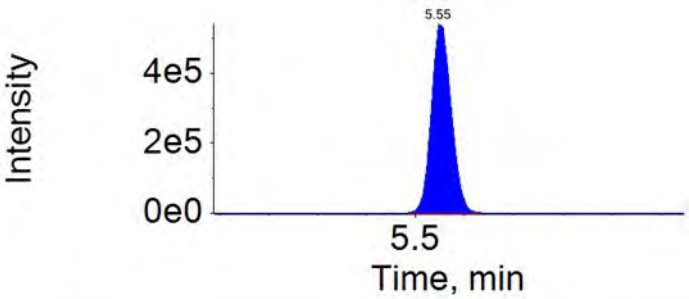
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



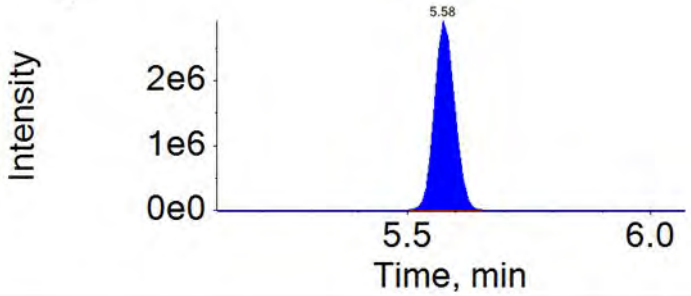
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



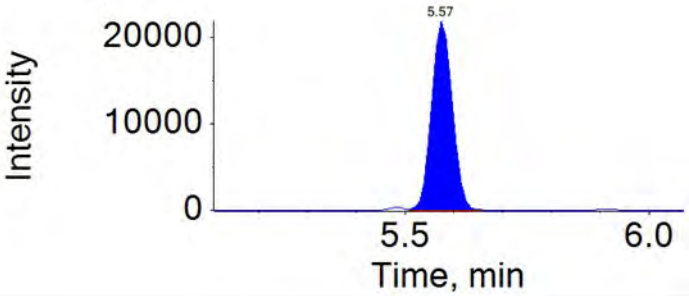
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

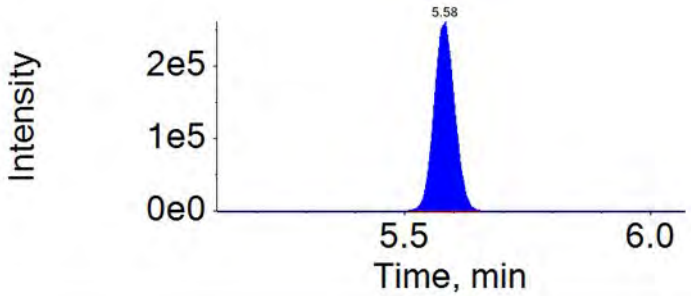
Component: PFDA
Primary Mass: 513.0 / 469.0



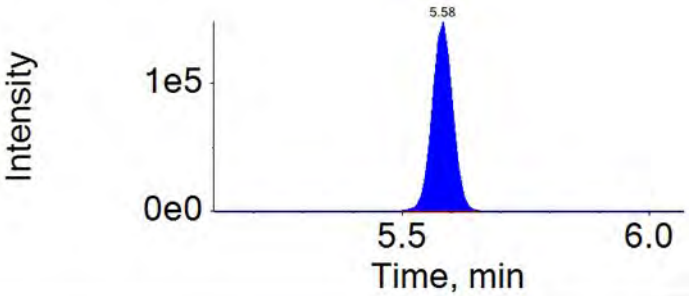
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



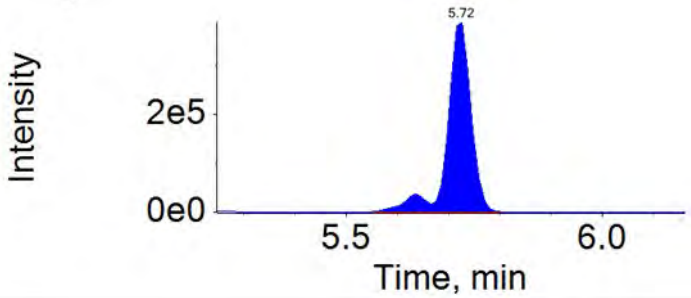
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



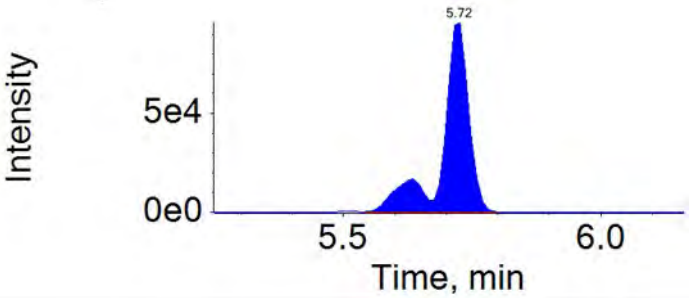
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



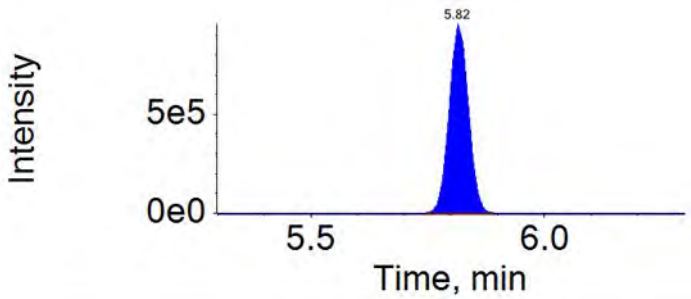
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



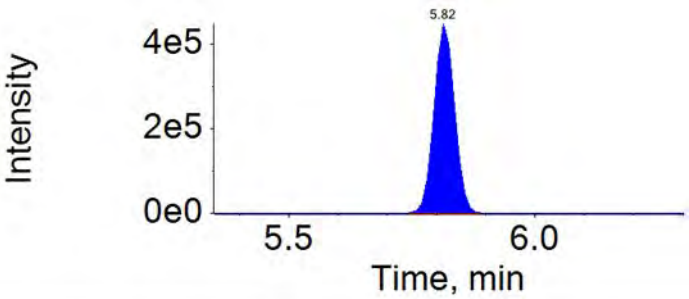
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



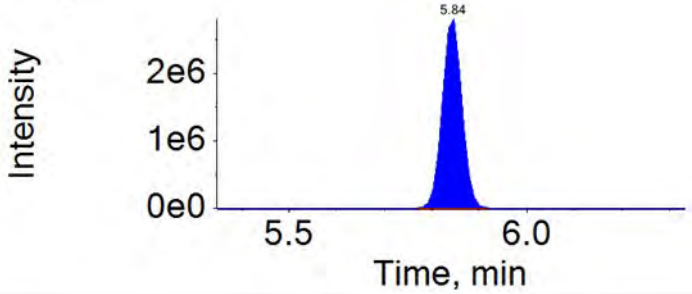
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



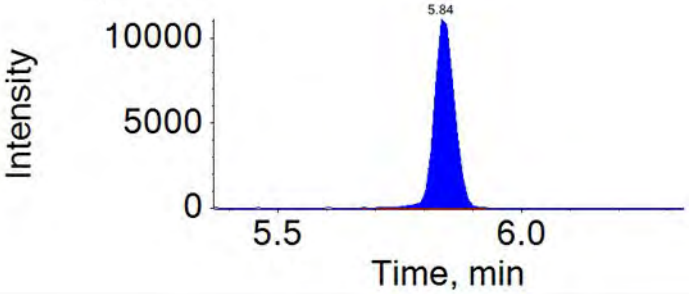
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

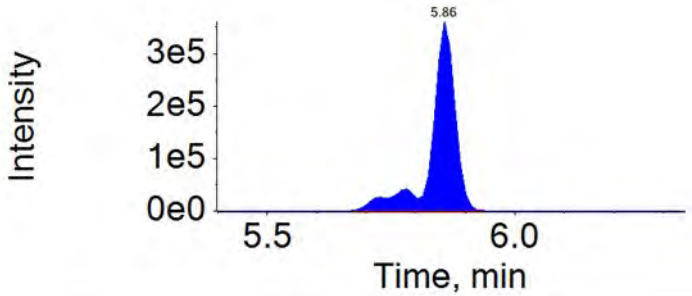
Component: PFUnDA
Primary Mass: 563.0 / 519.0



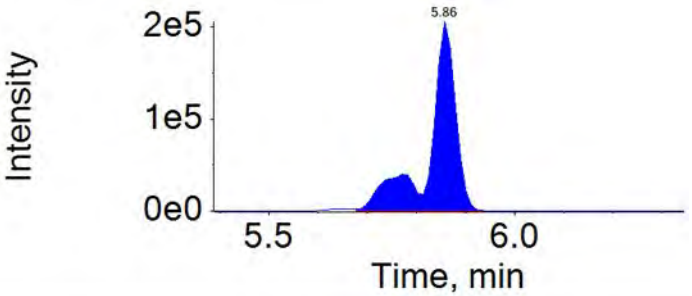
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



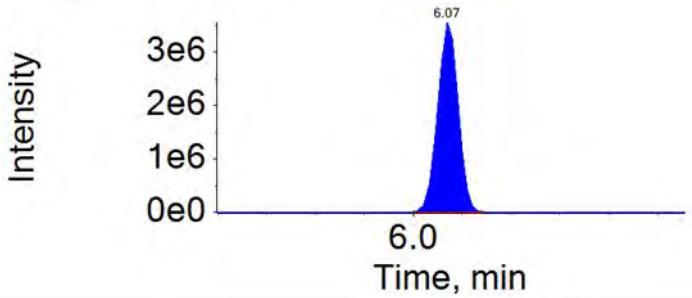
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



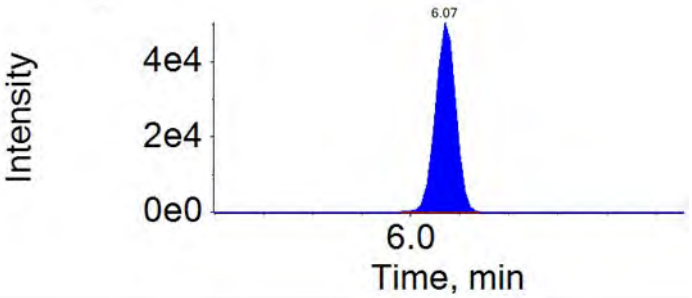
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



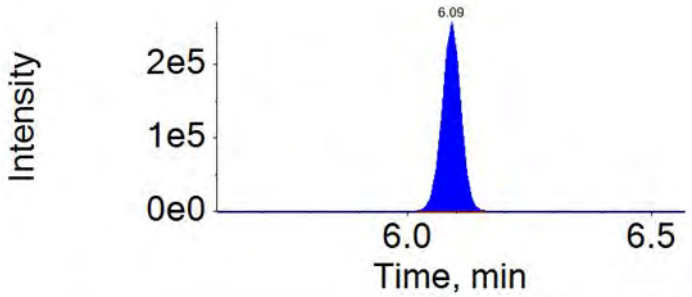
Component: PFDoDA
Primary Mass: 613.0 / 569.0



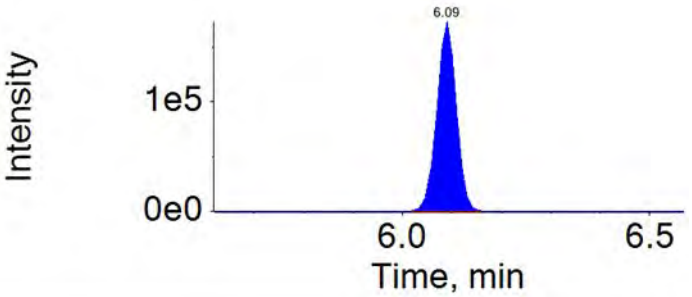
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



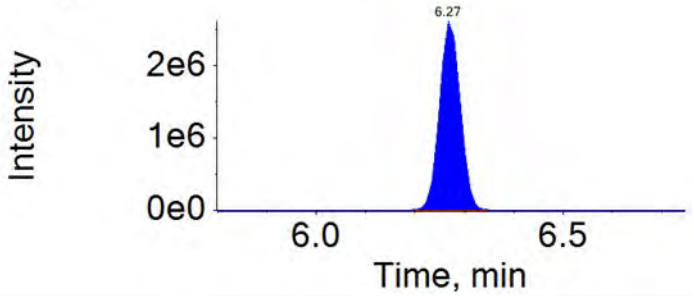
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



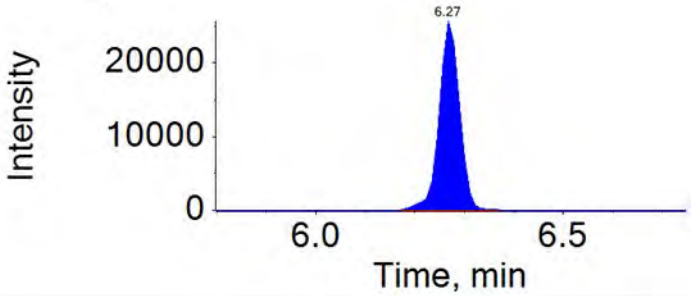
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

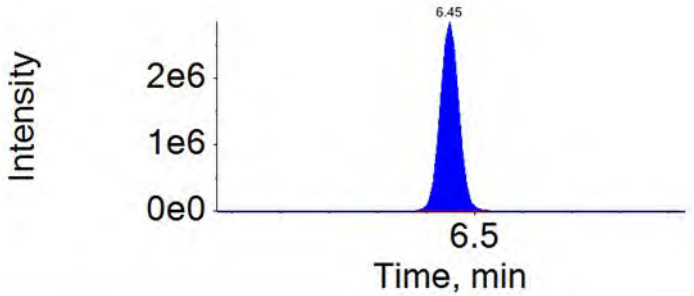
Component: PFTrDA
Primary Mass: 663.0 / 619.0



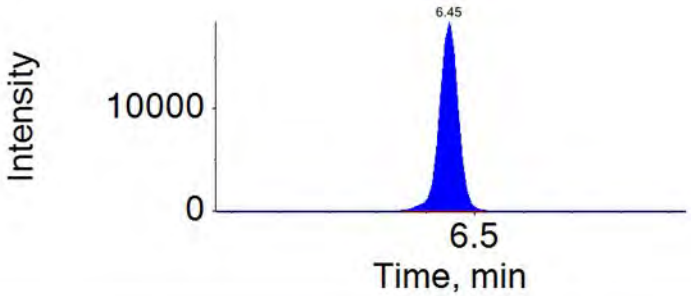
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



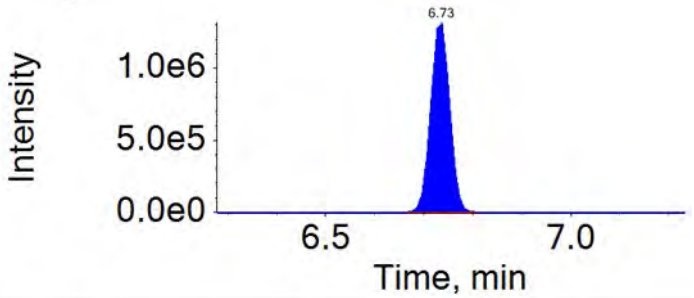
Component: PFTeDA
Primary Mass: 713.0 / 669.0



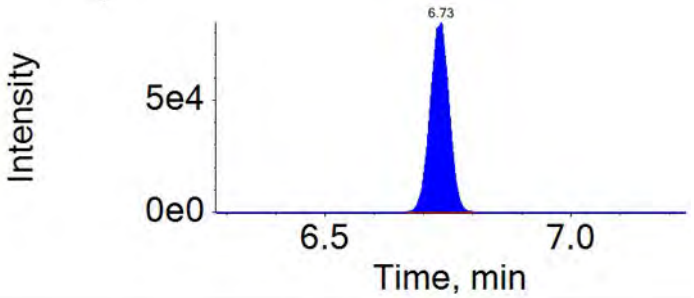
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



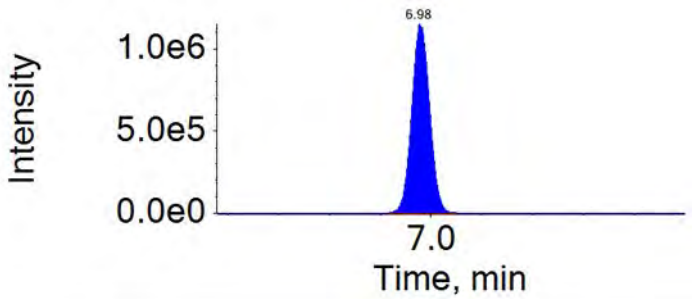
Component: PFHxDA
Primary Mass: 813.0 / 769.0



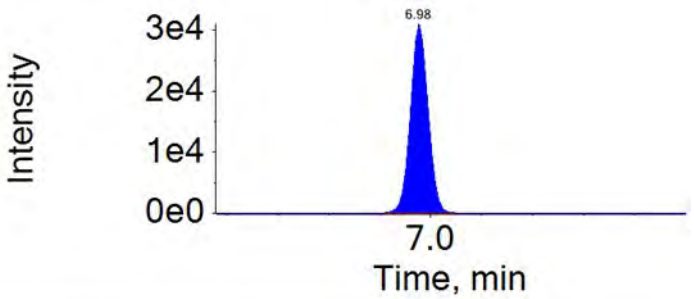
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	MDL			**Data File:**		18DEC06DCAL-24.wiff
Sample ID:	MDLMODX1833F			**Acquis Date:**		2018-12-06T23:28:31
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	2			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	781764.8	825688.9	-5	50	
13C2-PFOA	5.0	406191.5	449802.8	-10	50	
13C4-PFOS	4.8	261160.4	276858.3	-6	50	
13C2-PFDA	5.0	296994.7	315428.3	-6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	874090.9	13C3-PFBA	781764.8	1.118	5.000	4.948	99	70-130	
E13C5-PFPeA	797687.0	13C3-PFBA	781764.8	1.020	5.000	4.846	97	70-130	
E13C3-PFBS	404902.0	13C3-PFBA	781764.8	0.518	4.650	4.390	94	70-130	
E13C2-4:2-FTS	45704.4	13C2-PFOA	406191.5	0.113	4.670	4.409	94	70-130	
E13C5-PFHxA	643875.5	13C2-PFOA	406191.5	1.585	5.000	5.322	106	70-130	
E13C3-PFHxS	319753.7	13C2-PFOA	406191.5	0.787	4.730	5.049	107	70-130	
E13C4-PFHpA	497682.3	13C2-PFOA	406191.5	1.225	5.000	5.209	104	70-130	
E13C2-6:2-FTS	31781.6	13C2-PFOA	406191.5	0.078	4.750	4.847	102	70-130	
E13C8-PFOA	777569.6	13C2-PFOA	406191.5	1.914	5.000	5.411	108	70-130	
E13C8-PFOS	277632.0	13C4-PFOS	261160.4	1.063	4.780	4.771	100	70-130	
E13C9-PFNA	464951.0	13C4-PFOS	261160.4	1.780	5.000	5.031	101	70-130	
E13C6-PFDA	609678.1	13C2-PFDA	296994.7	2.053	5.000	5.440	109	70-130	
E13C2-8:2-FTS	17995.4	13C2-PFDA	296994.7	0.061	4.790	3.956	83	70-130	
E13C8-PFOSA	615805.3	13C2-PFDA	296994.7	2.073	5.000	4.904	98	70-130	
Ed3-NMeFOSAA	72142.9	13C2-PFDA	296994.7	0.243	5.000	4.305	86	70-130	
E13C7-PFUnDA	324748.7	13C2-PFDA	296994.7	1.093	5.000	5.364	107	70-130	
Ed5-NEtFOSAA	63782.9	13C2-PFDA	296994.7	0.215	5.000	4.741	95	70-130	
E13C2-PFDoDA	738488.8	13C2-PFDA	296994.7	2.487	5.000	5.218	104	70-130	
Ed7-NMePFOSAE	248907.8	13C2-PFDA	296994.7	0.838	5.000	4.828	97	70-130	
Ed3-NMePFOSA	76397.4	13C2-PFDA	296994.7	0.257	5.000	4.687	94	70-130	
Ed9-NEtPFOSAE	207844.7	13C2-PFDA	296994.7	0.700	5.000	4.826	97	70-130	
Ed5-NEtPFOSA	62333.6	13C2-PFDA	296994.7	0.210	5.000	4.723	94	70-130	
E13C2-PFTeDA	506654.6	13C2-PFDA	296994.7	1.706	5.000	5.063	101	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

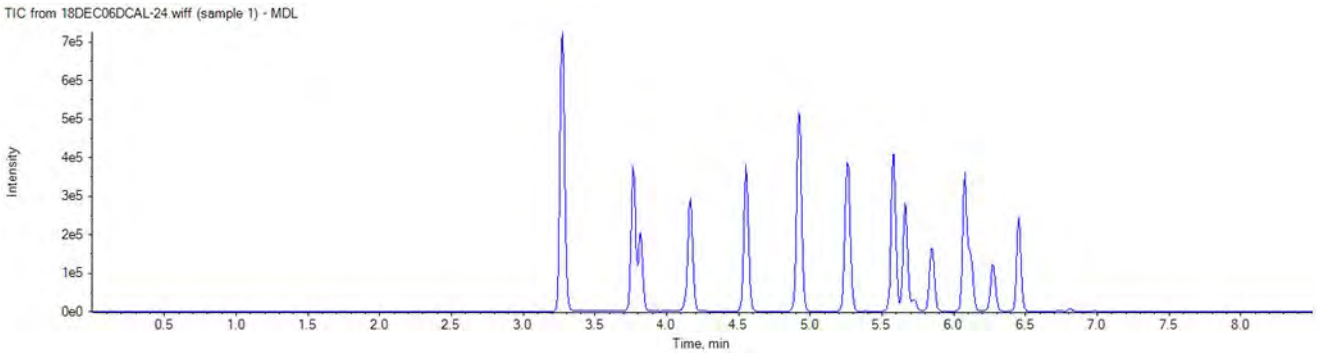
Analyte Quantitation Peak Table

Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-24.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	27886.6		A	13C4-PFBA	3.27	874090.9	0.032	0.176
PFPeA	3.77	1.000	21593.9		A	13C5-PFPeA	3.77	797687.0	0.027	0.142
PFBS	3.82	1.000	9483.0		A	13C3-PFBS	3.82	404902.0	0.023	0.116
4:2-FTS	4.13	1.000	2106.2		A	13C2-4:2-FTS	4.13	45704.4	0.046	0.124
PFHxA	4.16	1.000	18868.9		A	13C5-PFHxA	4.16	643875.5	0.029	0.128
PFPeS	4.18	1.100	4848.5		A	13C3-PFBS	3.82	404902.0	0.012	0.119
PFHpA	4.55	1.000	24063.1		A	13C4-PFHpA	4.55	497682.3	0.048	0.159
PFHxS	4.55	1.000	7938.6		A	13C3-PFHxS	4.56	319753.7	0.025	0.118
6:2-FTS	4.92	1.000	1327.1		A	13C2-6:2-FTS	4.91	31781.6	0.042	0.104
PFHpS	4.92	1.080	7210.3		A	13C3-PFHxS	4.56	319753.7	0.023	0.124
PFOA	4.92	1.000	22109.9		A	13C8-PFOA	4.92	777569.6	0.028	0.155
PFOS	5.25	1.000	7643.1		M	13C8-PFOS	5.25	277632.0	0.028	0.114
PFNA	5.27	1.000	16084.7		A	13C9-PFNA	5.27	464951.0	0.035	0.127
PFNS	5.56	1.060	2968.0		A	13C8-PFOS	5.25	277632.0	0.011	0.069
PFDA	5.58	1.000	14132.4		A	13C6-PFDA	5.58	609678.1	0.023	0.130
8:2-FTS	5.58	1.000	998.6		A	13C2-8:2-FTS	5.58	17995.4	0.055	0.120
PFOSA	5.66	1.000	13817.9		A	13C8-PFOSA	5.66	615805.3	0.022	0.116
NMeFOSAA	5.73	1.000	2310.5		A	d3-NMeFOSAA	5.72	72142.9	0.032	0.212
PFDS	5.82	1.110	4986.7		A	13C8-PFOS	5.25	277632.0	0.018	0.145
PFUnDA	5.85	1.000	14382.1		A	13C7-PFUnDA	5.85	324748.7	0.044	0.136
NEtFOSAA	5.86	1.000	2137.1		A	d5-NEtFOSAA	5.86	63782.9	0.034	0.169
PFDoDA	6.08	1.000	21098.8		A	13C2-PFDoDA	6.08	738488.8	0.029	0.150
10:2-FTS	6.10	1.090	884.4		A	13C2-8:2-FTS	5.58	17995.4	0.049	0.130
NMePFOSAE	6.13	1.000	7300.2		A	d7-NMePFOSAE	6.12	248907.8	0.029	0.127
NMePFOSA	6.13	1.000	1664.8		A	d3-NMePFOSA	6.13	76397.4	0.022	0.110
PFDoS	6.25	1.190	1896.9		A	13C8-PFOS	5.25	277632.0	0.007	0.104
NEtPFOSAE	6.28	1.000	7732.7		A	d9-NEtPFOSAE	6.27	207844.7	0.037	0.125
NEtPFOSA	6.29	1.000	1459.9		A	d5-NEtPFOSA	6.29	62333.6	0.023	0.112
PFTrDA	6.28	1.030	16926.7		A	13C2-PFDoDA	6.08	738488.8	0.023	0.150
PFTeDA	6.45	1.000	13246.8		A	13C2-PFTeDA	6.45	506654.6	0.026	0.150
PFHxDA	6.74	1.040	5459.8		A	13C2-PFTeDA	6.45	506654.6	0.011	0.135
PFODA	6.98	1.080	3730.7		A	13C2-PFTeDA	6.45	506654.6	0.007	0.118

Total Ion Chromatogram

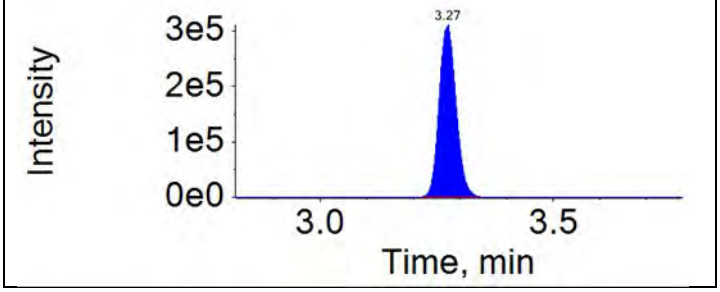


APPROVED
By MSM at 1:53 pm, 12/7/18

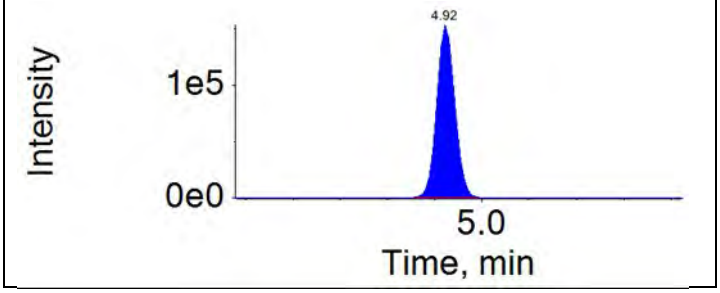
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

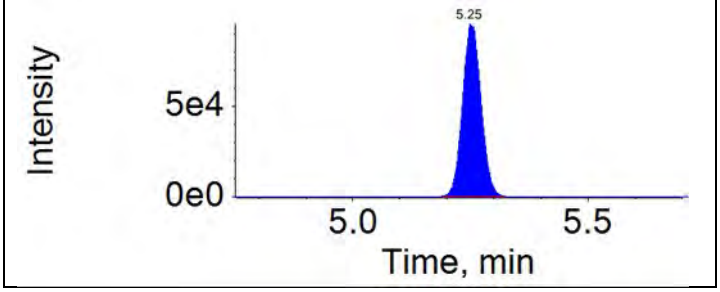
Injection Standard: 13C3-PFBA
216.0 / 172.0



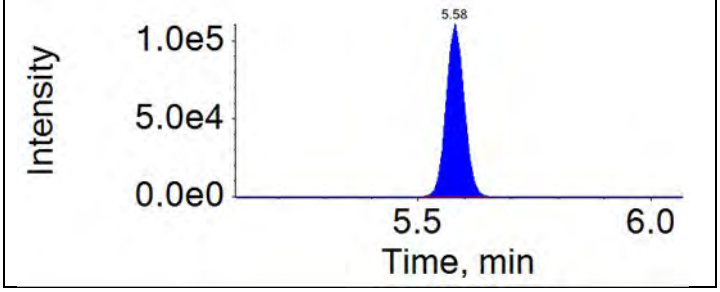
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

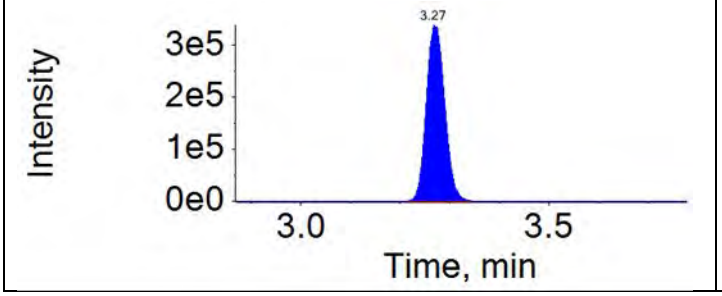


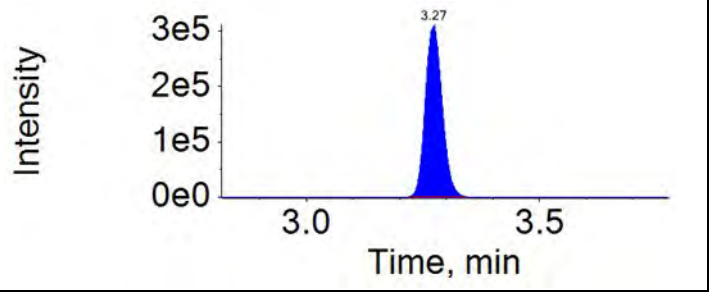
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

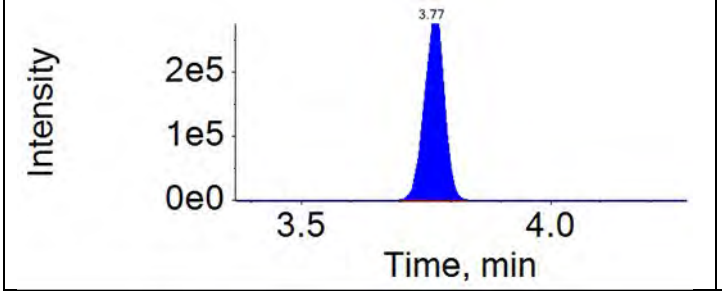
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

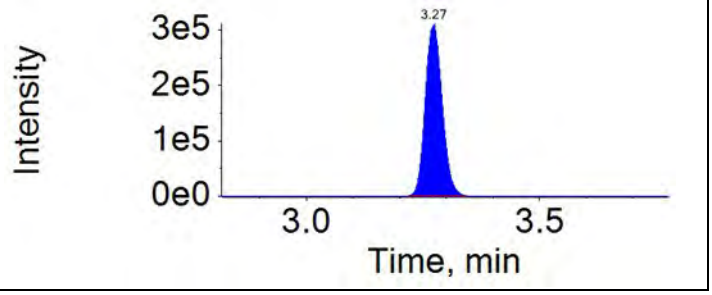
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



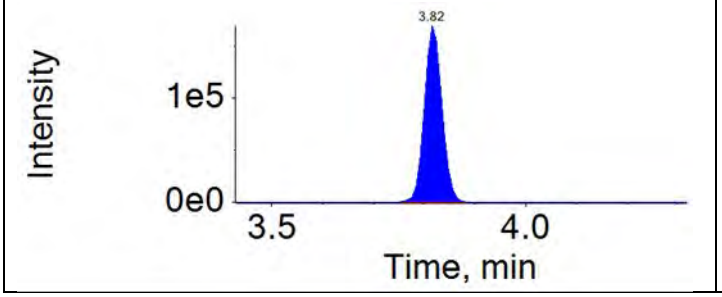


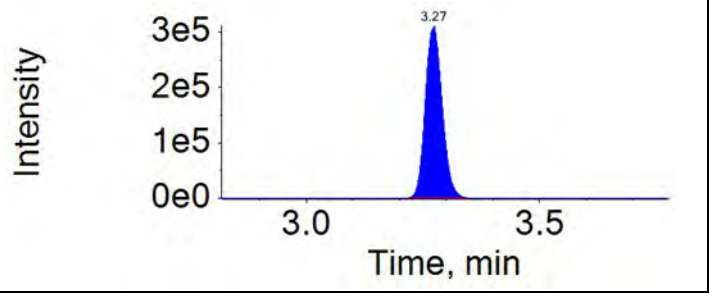
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



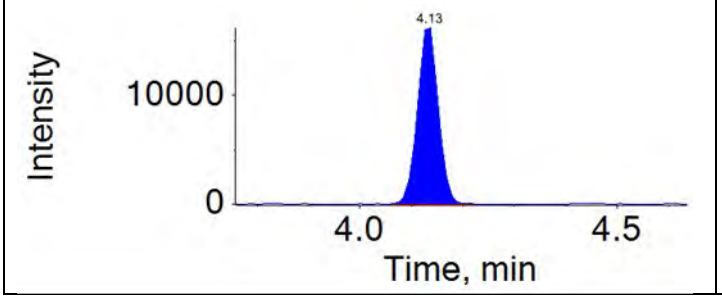


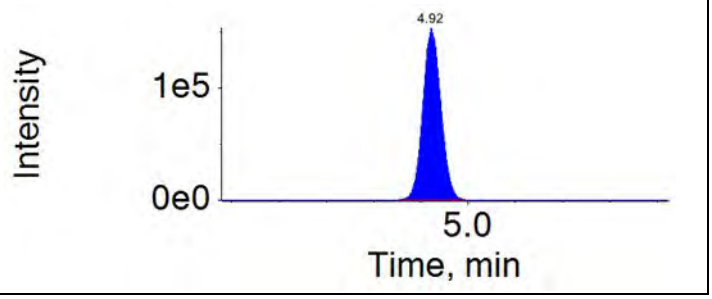
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



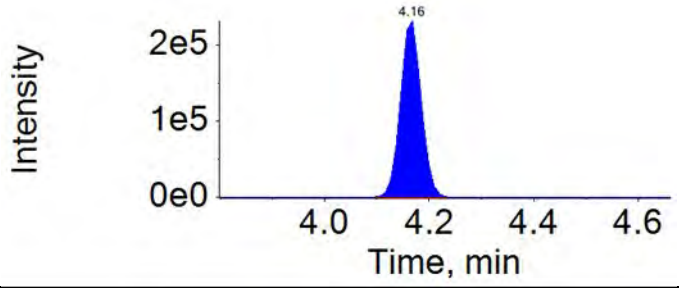


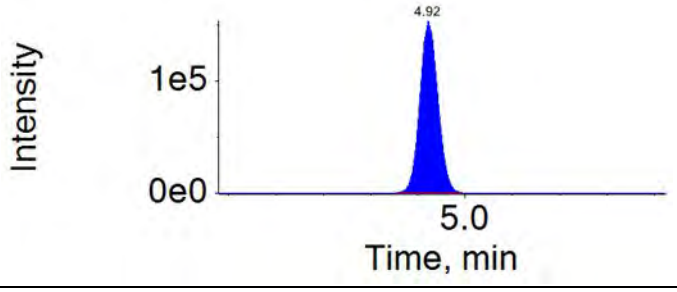
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

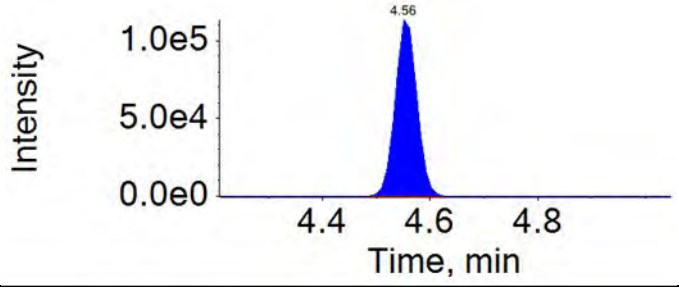
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

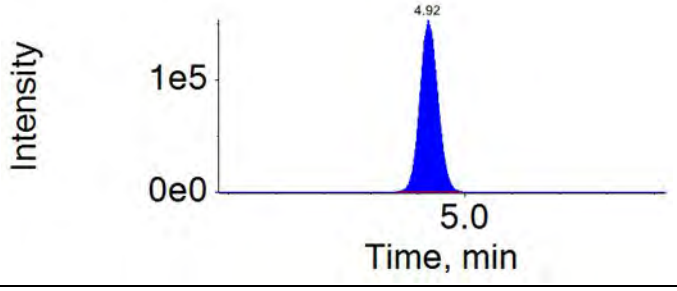
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



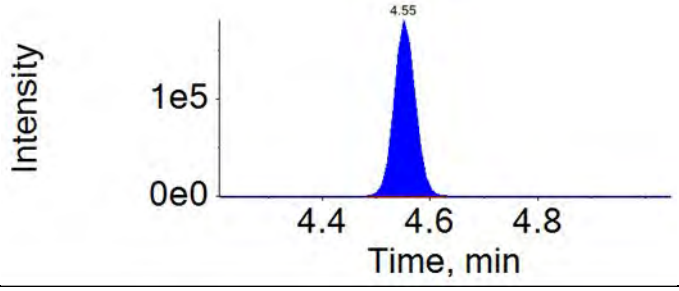


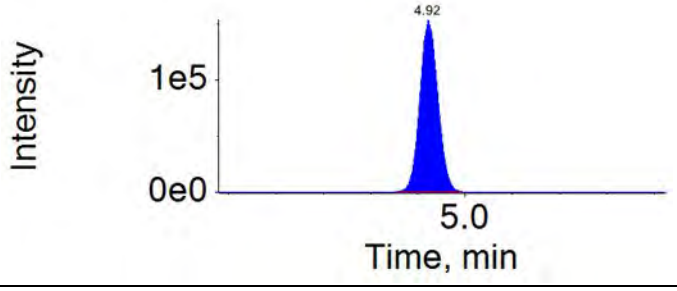
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



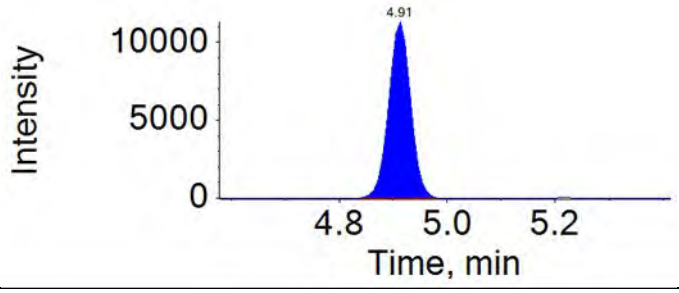


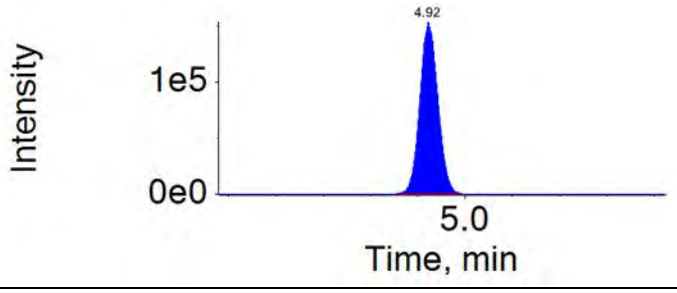
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



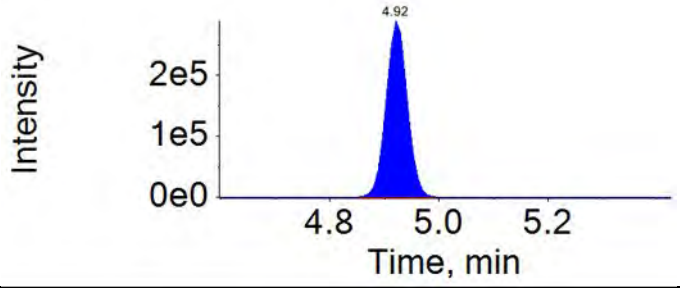


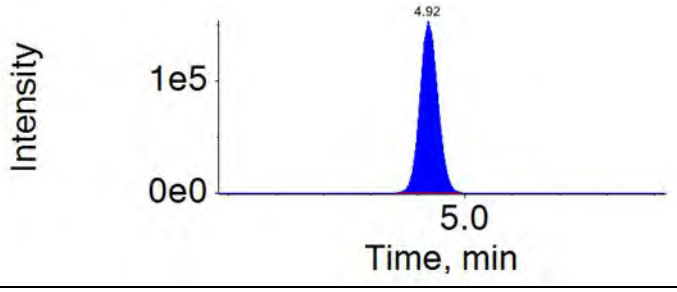
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

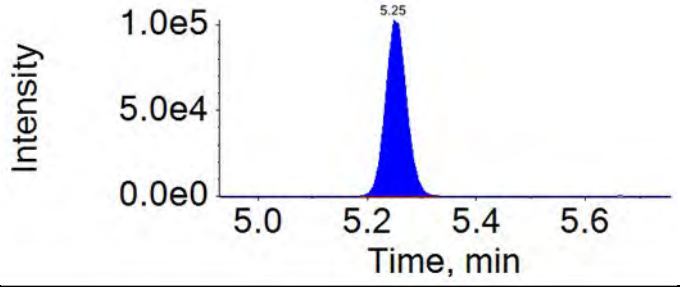
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

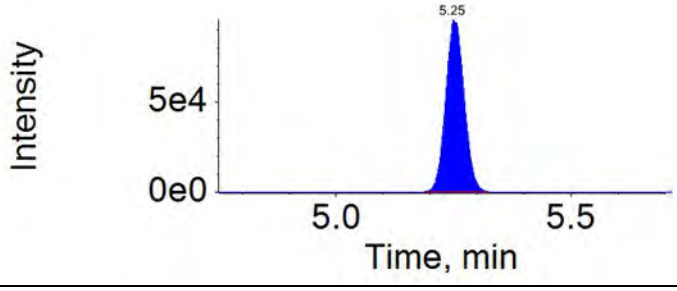
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



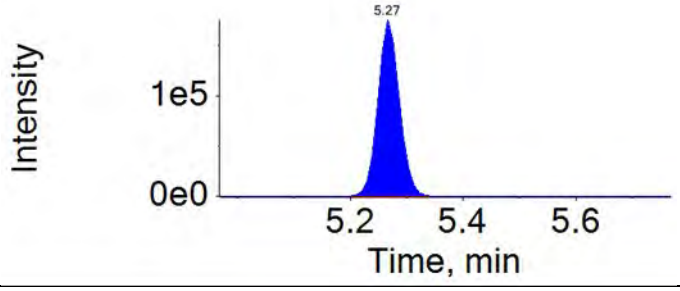


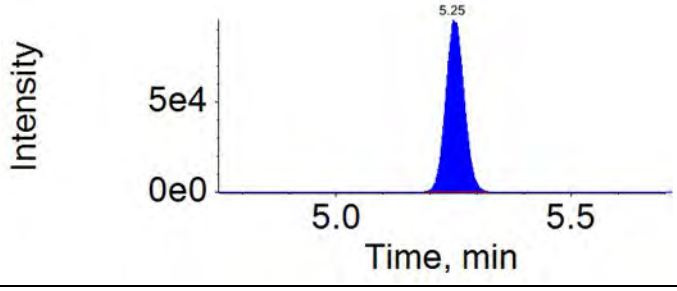
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



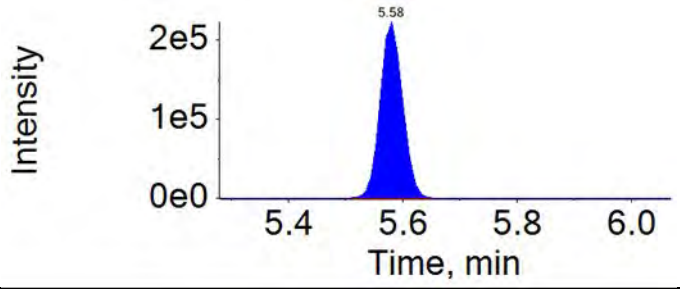


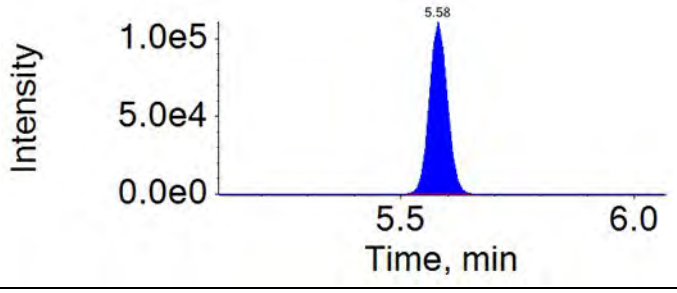
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

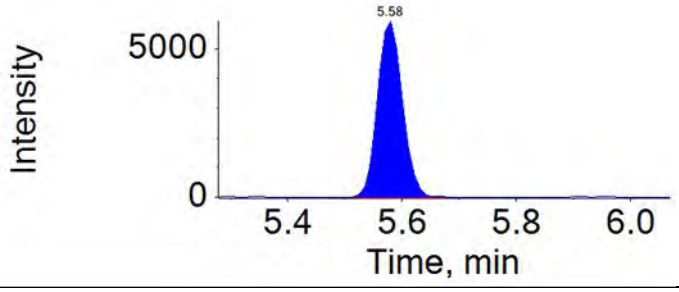
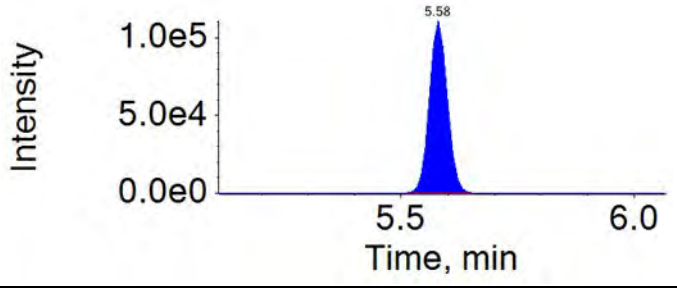


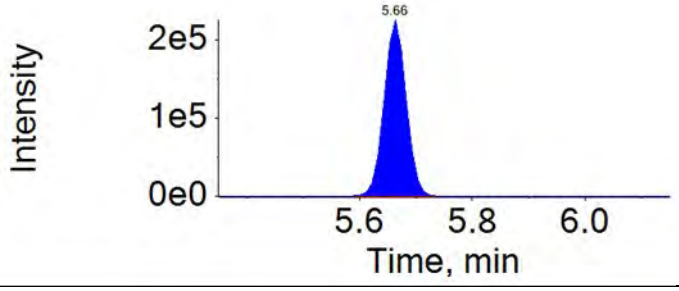
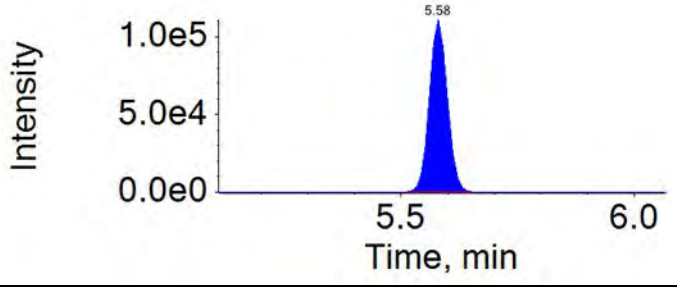


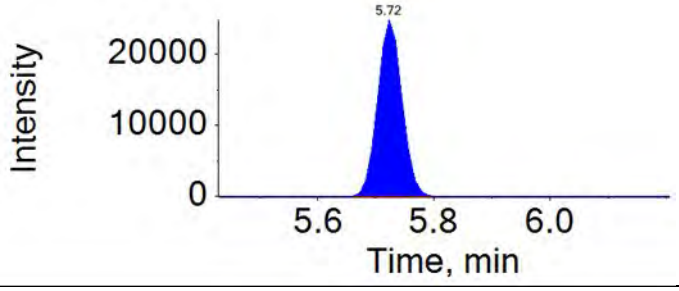
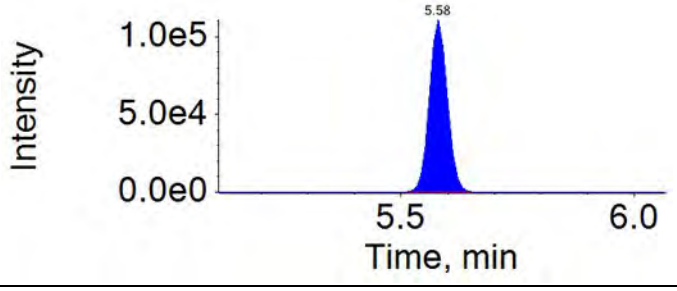
APPROVED
By MSM at 1:53 pm, 12/7/18

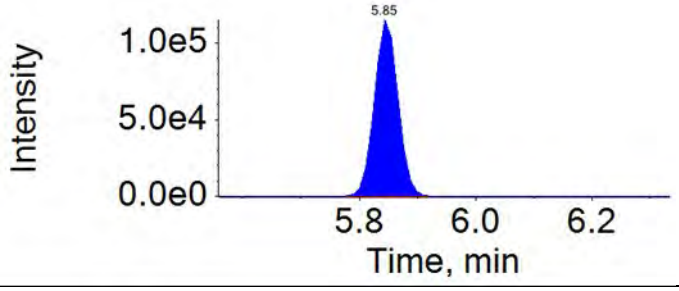
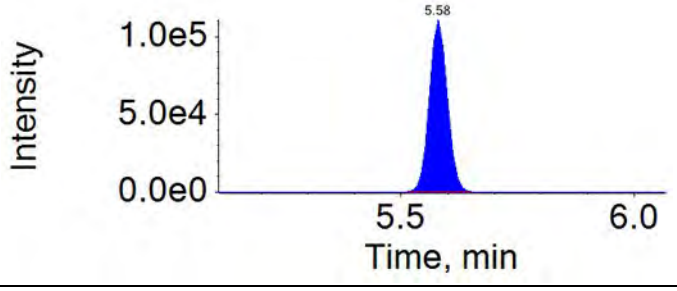
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

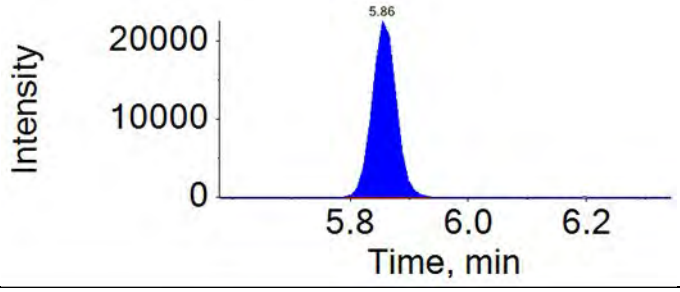
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

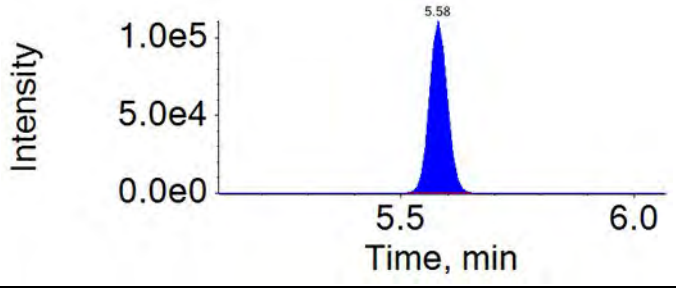
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

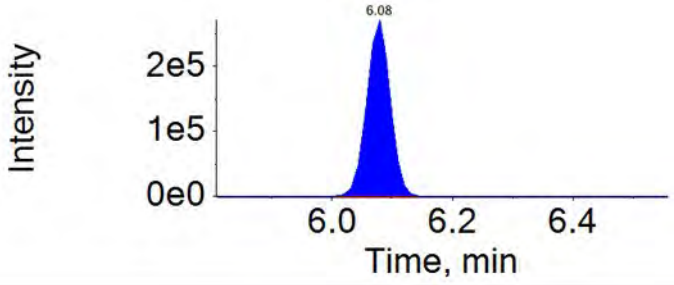
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

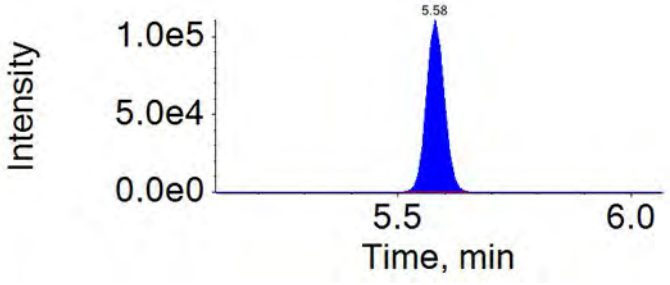
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



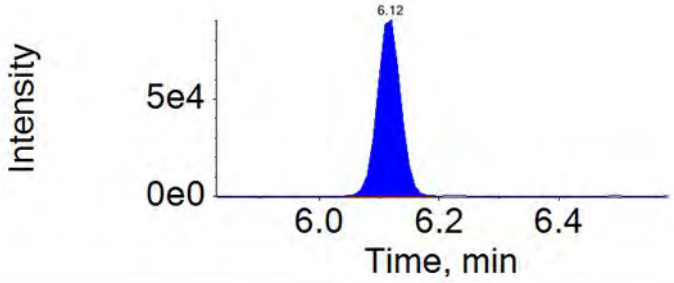


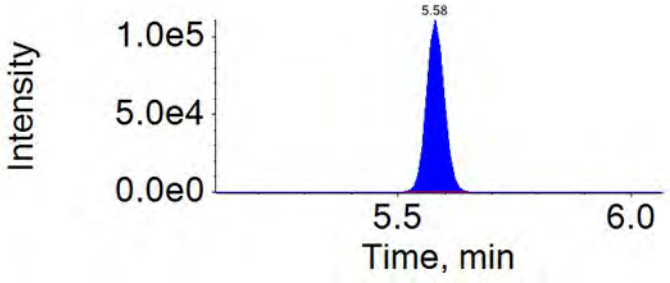
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



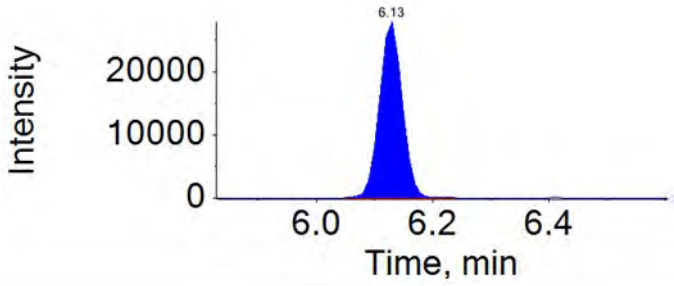


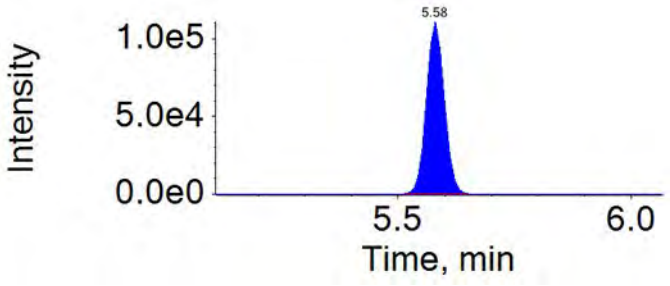
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



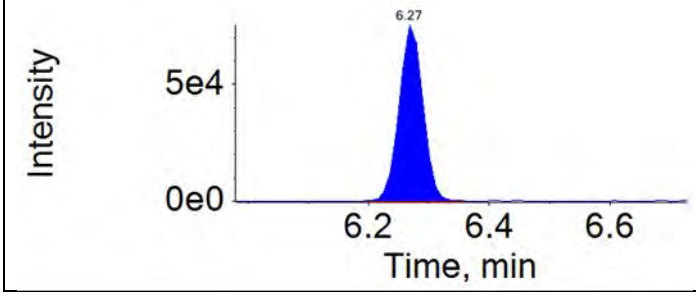


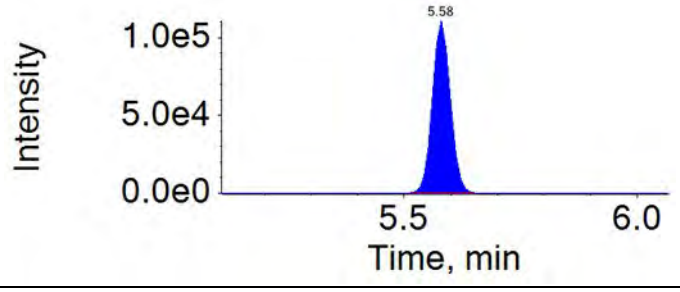
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

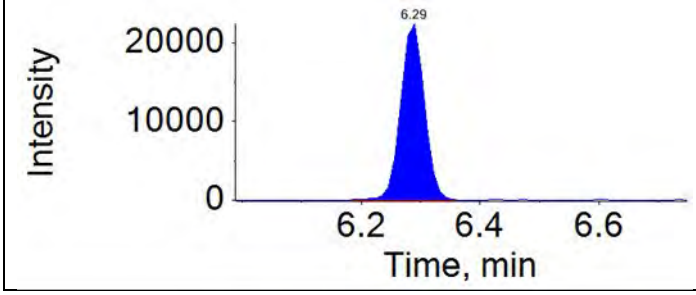
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

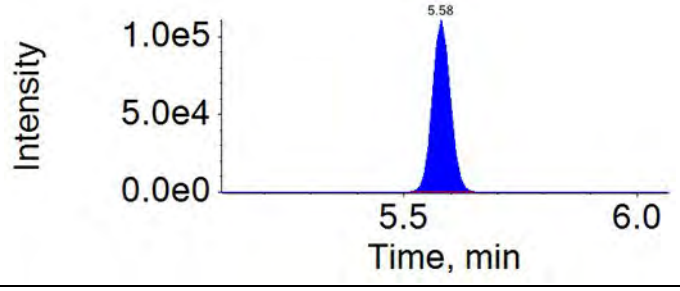
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



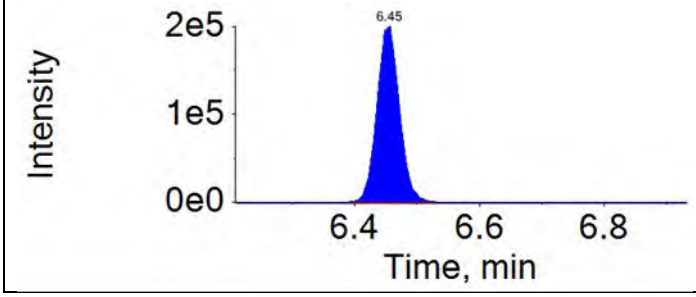


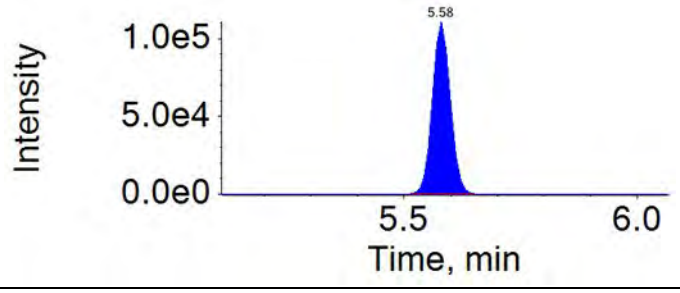
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



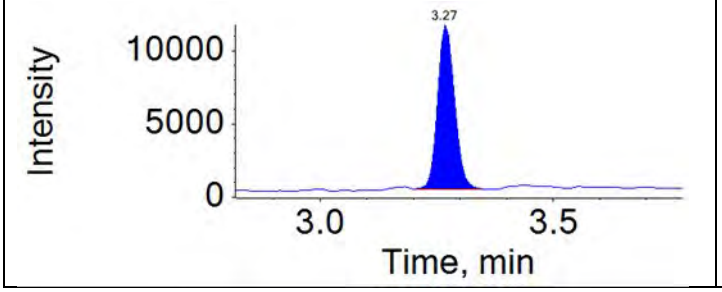


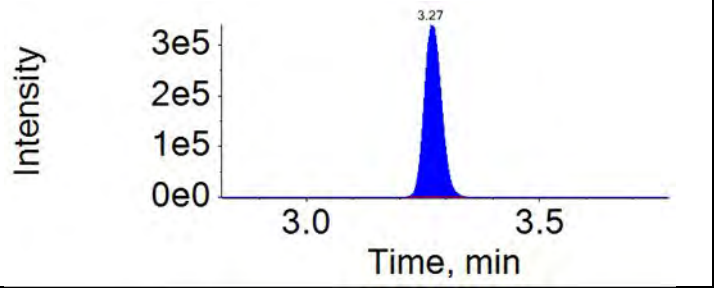
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

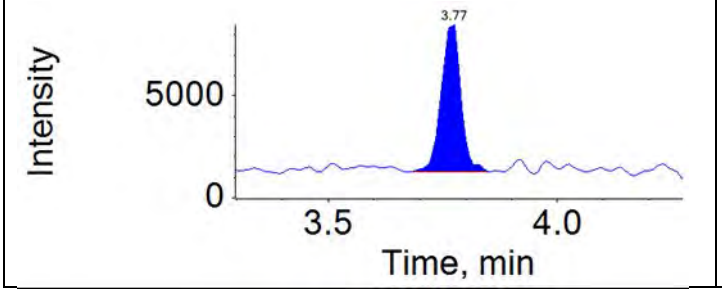
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

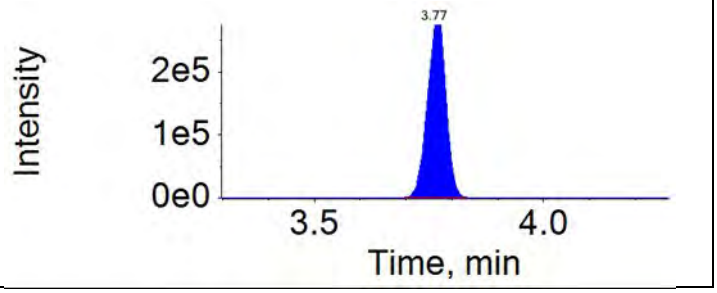
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



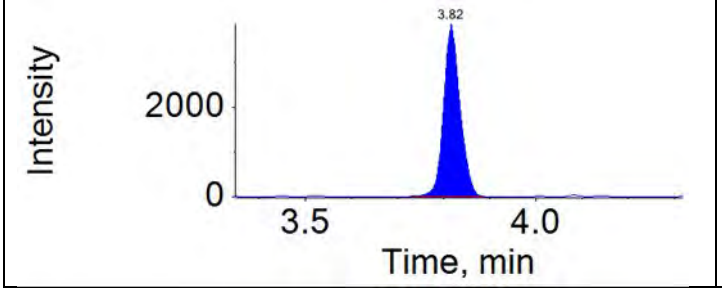


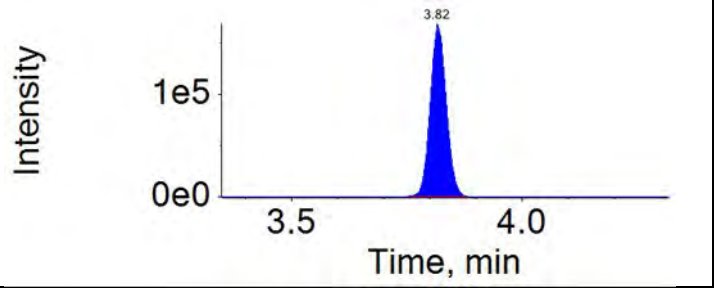
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



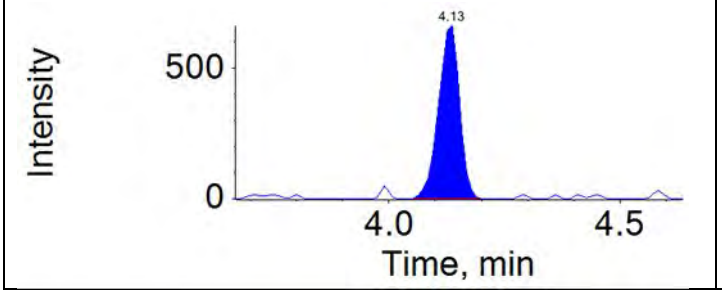


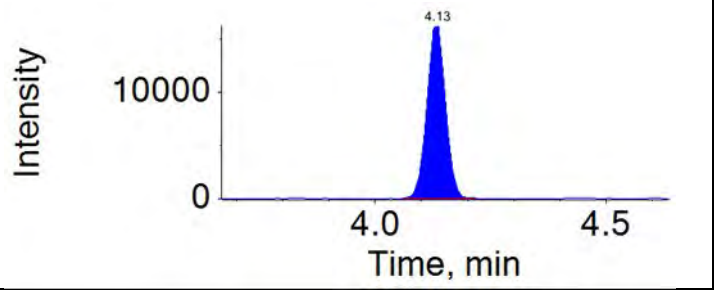
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



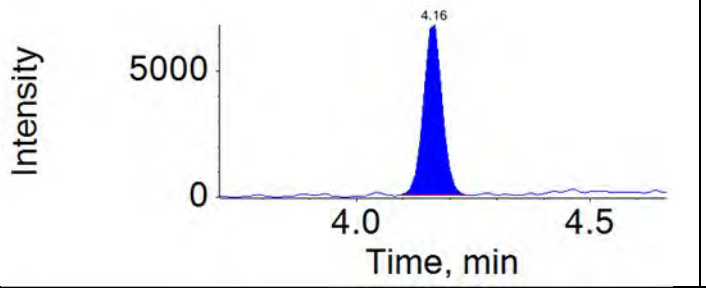


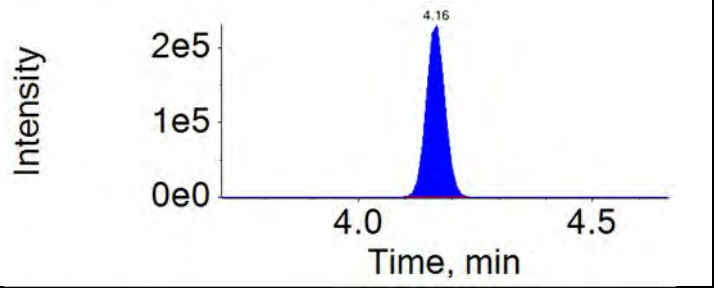
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

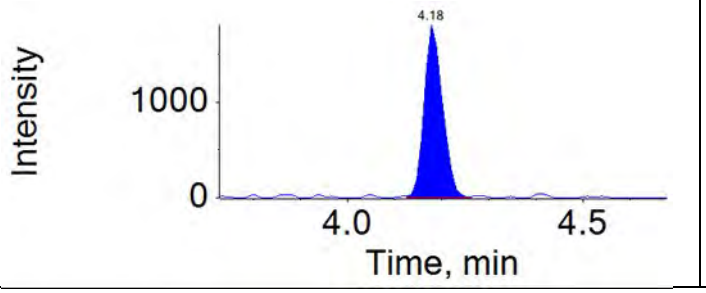
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

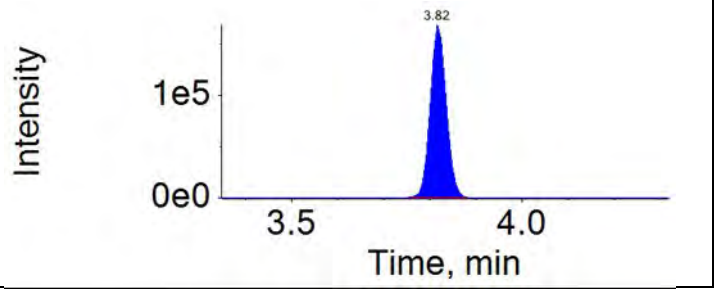
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



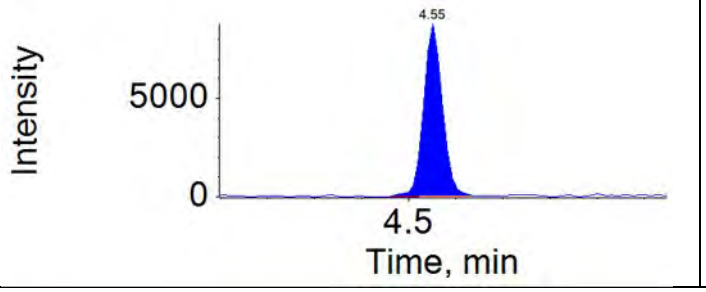


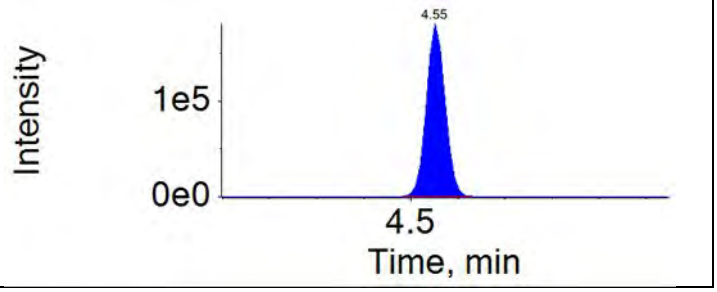
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



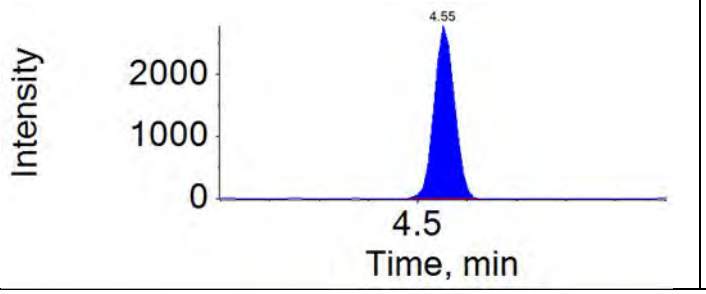


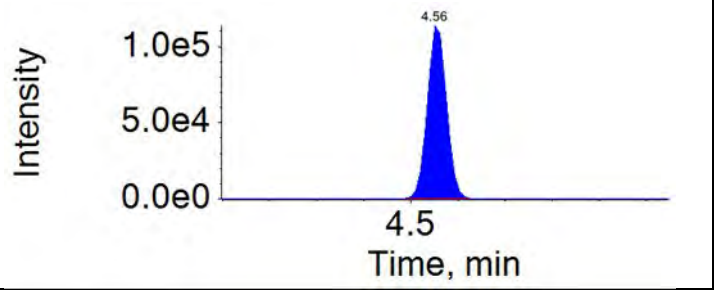
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

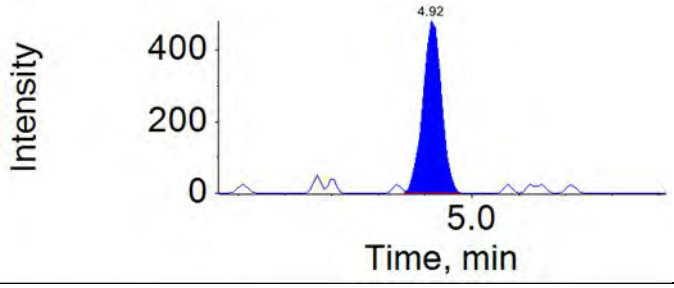
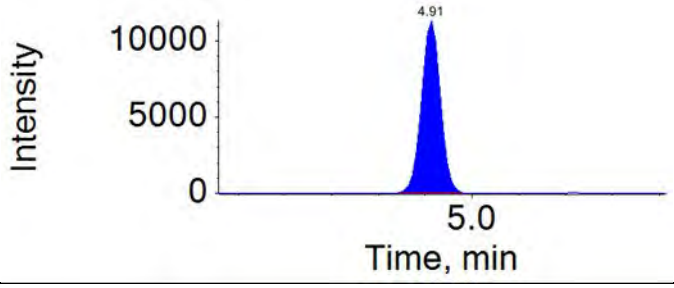


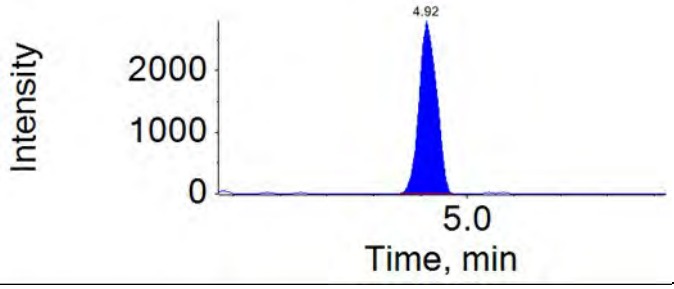
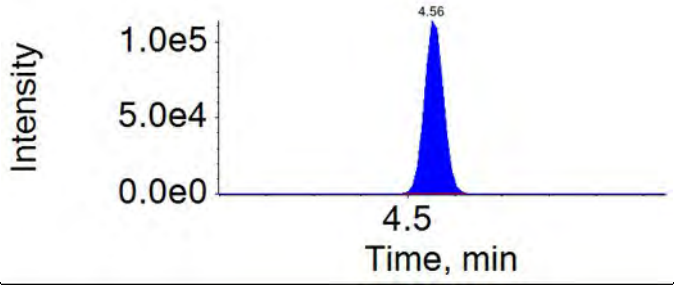


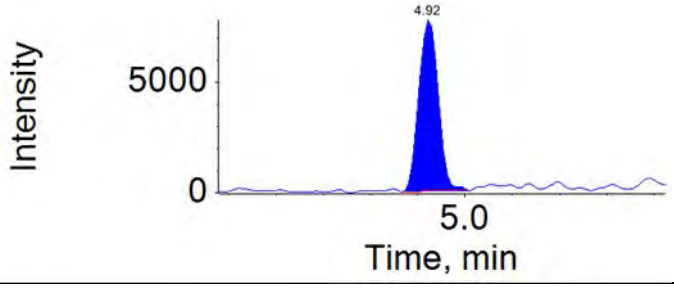
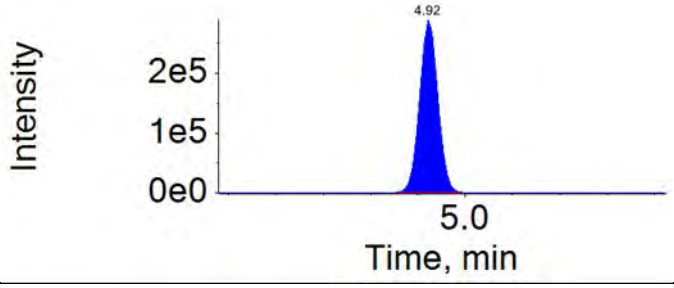
APPROVED
By MSM at 1:53 pm, 12/7/18

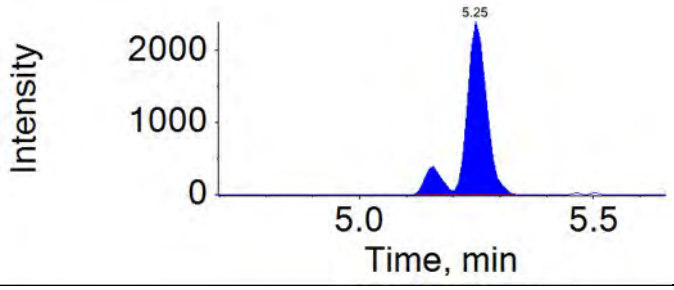
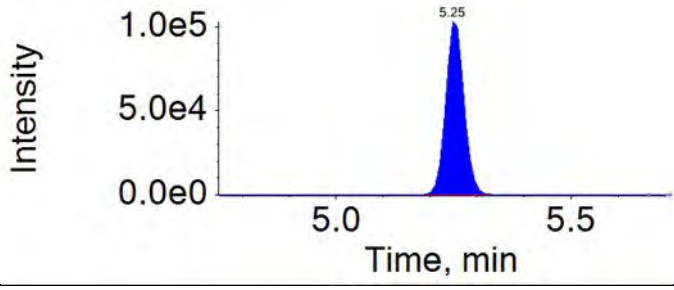
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

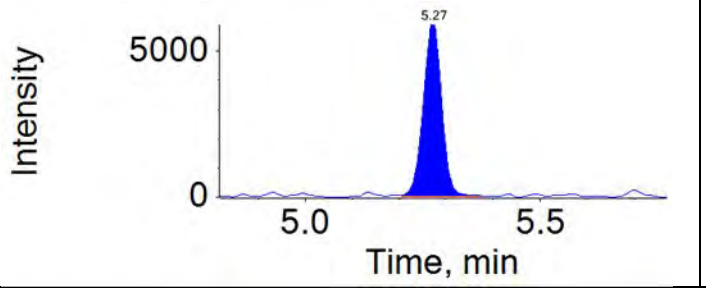
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

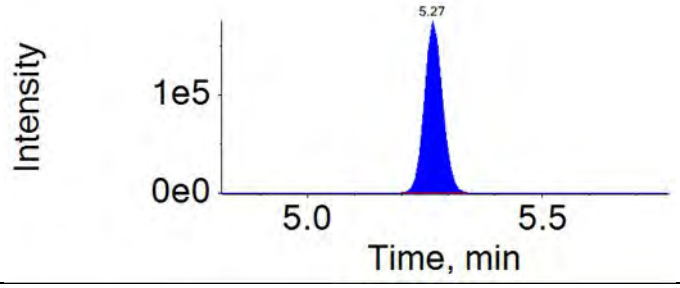
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

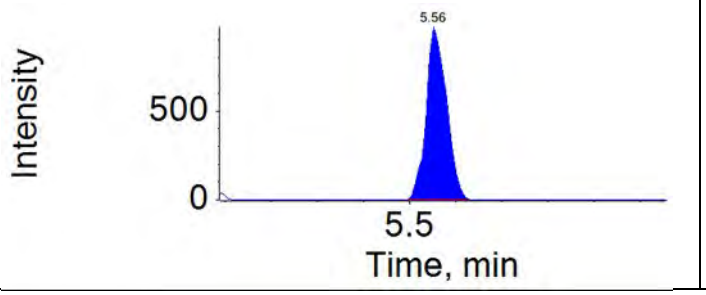
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

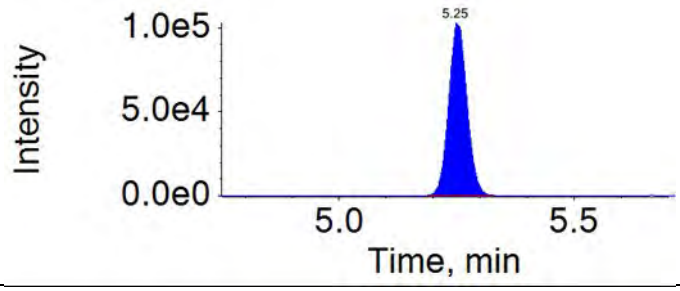
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



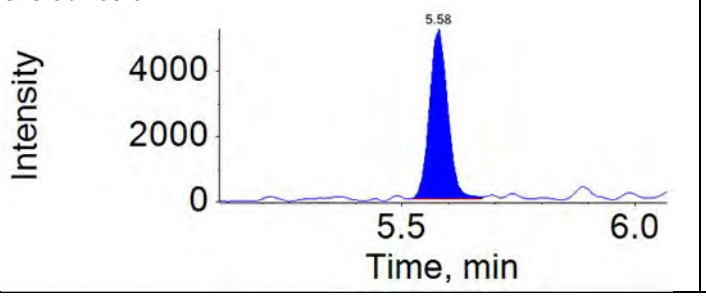


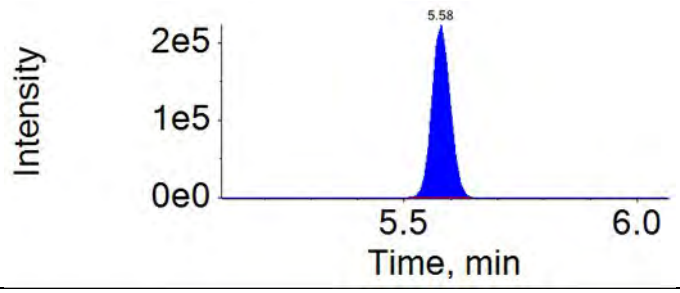
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



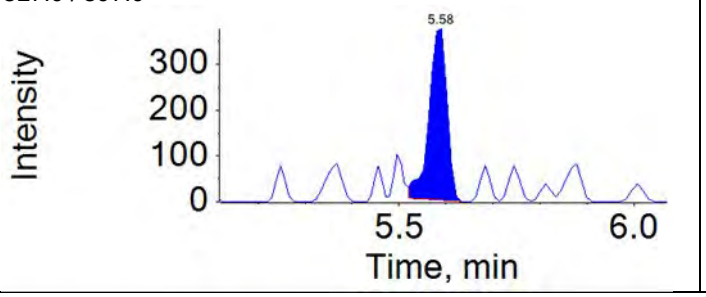


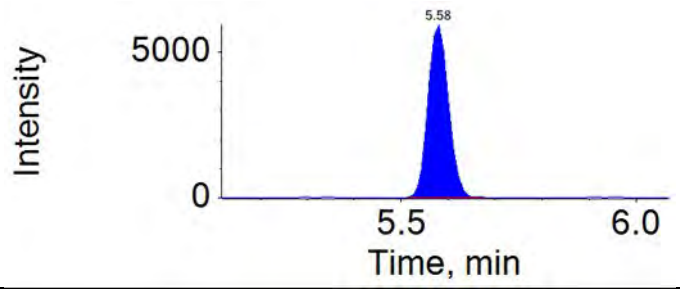
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



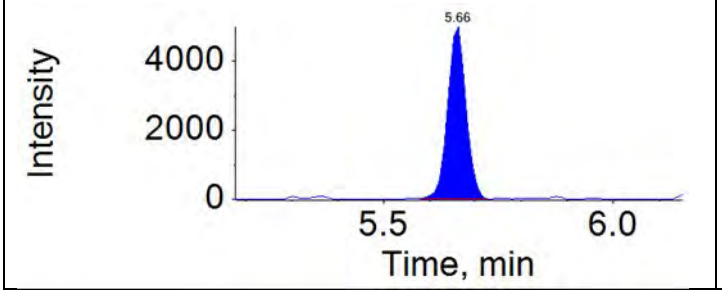


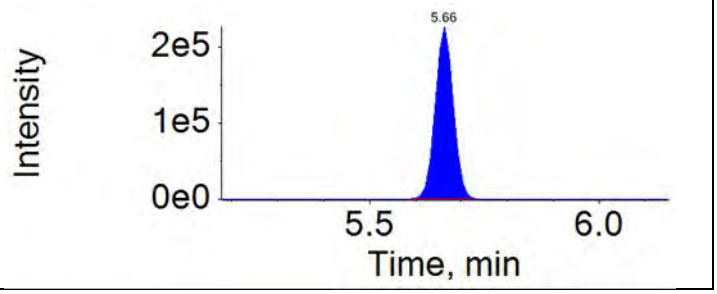
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

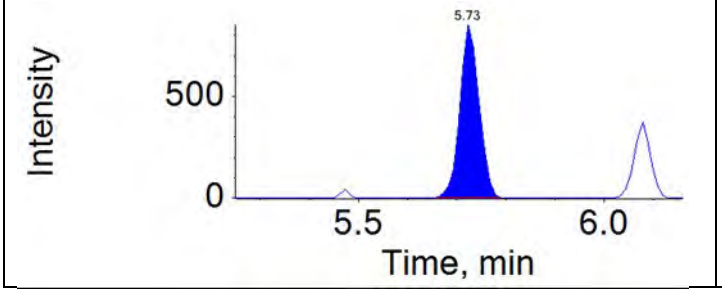
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

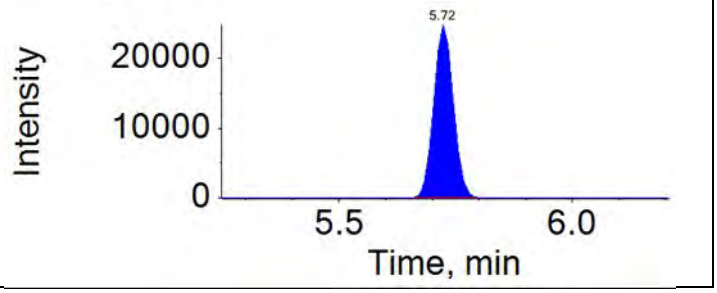
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



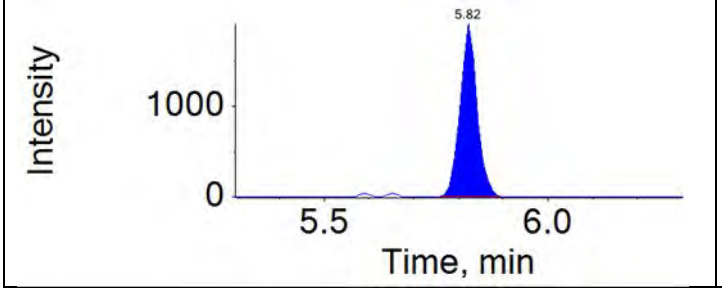


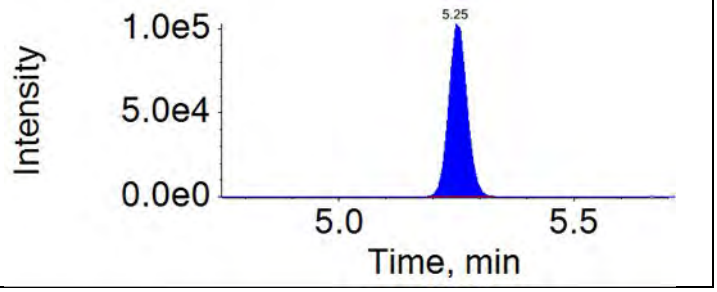
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



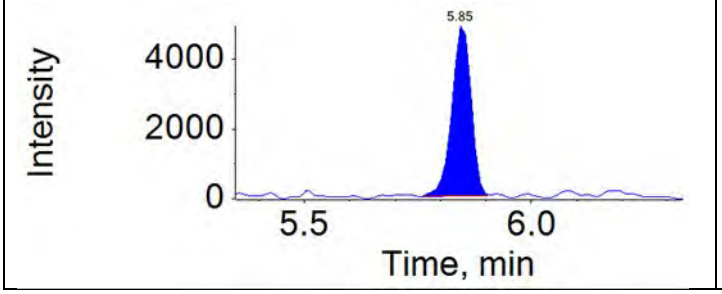


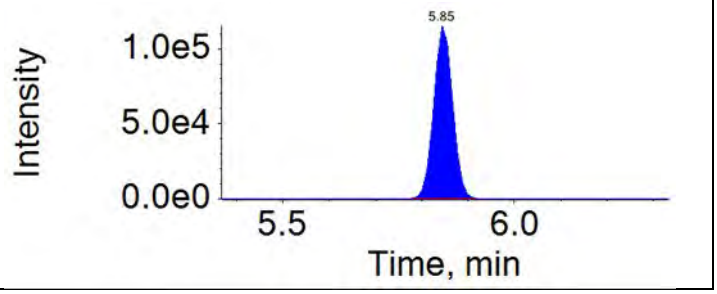
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



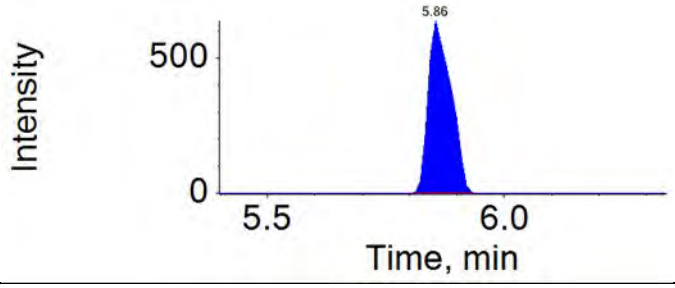


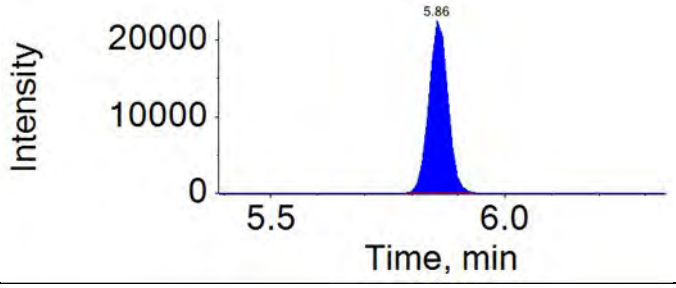
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

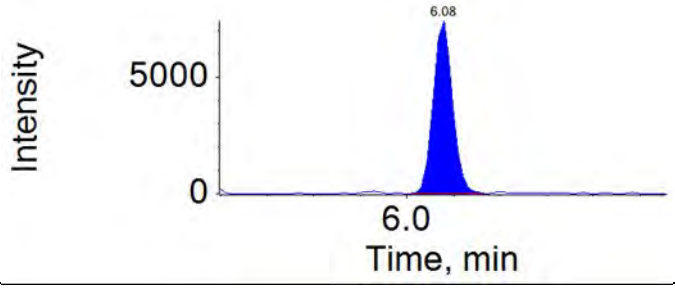
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

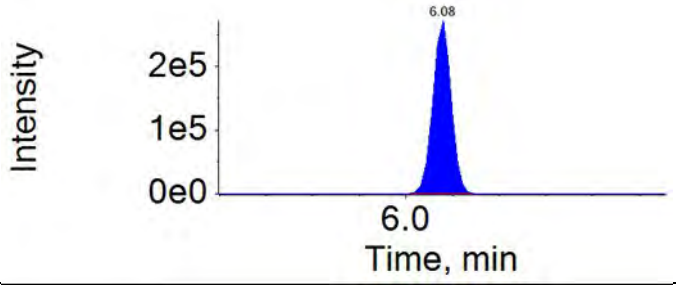
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



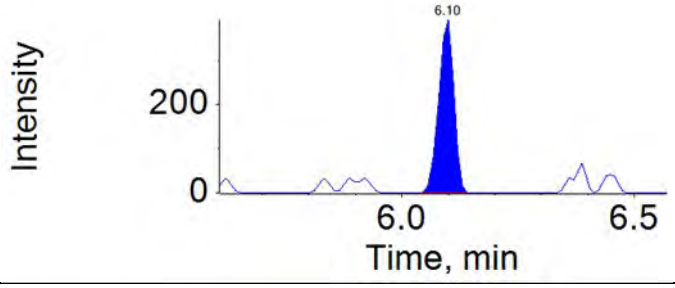


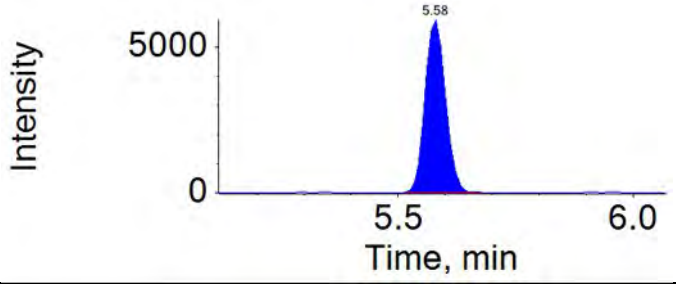
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



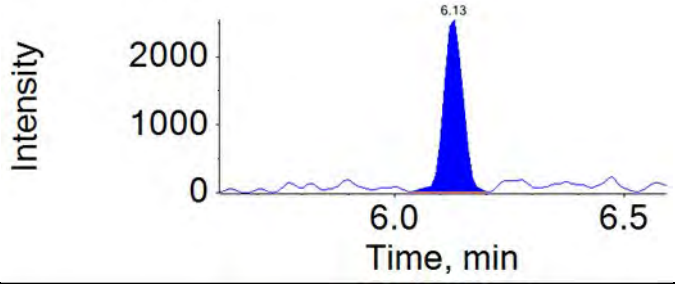


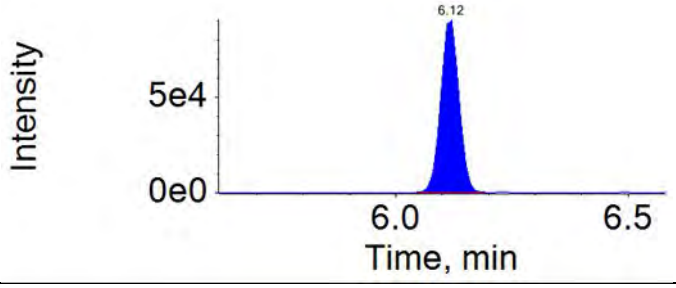
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



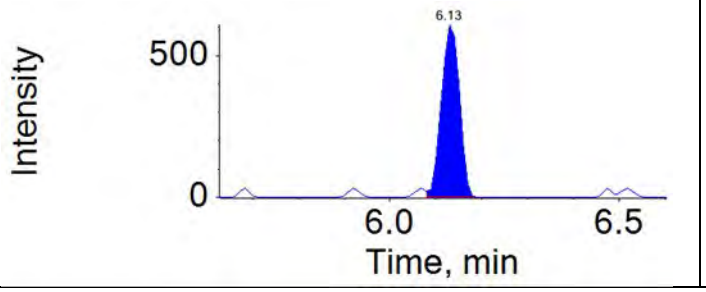


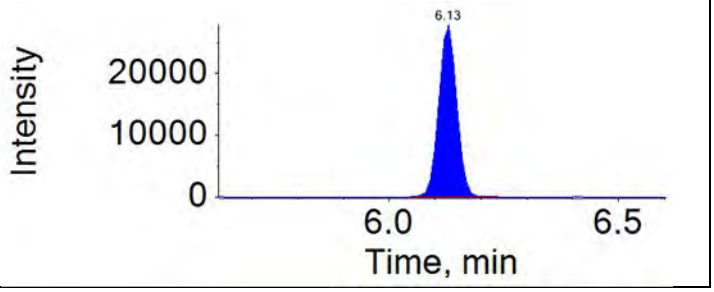
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

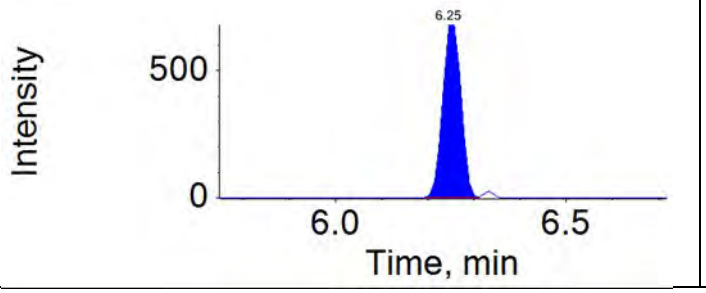
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

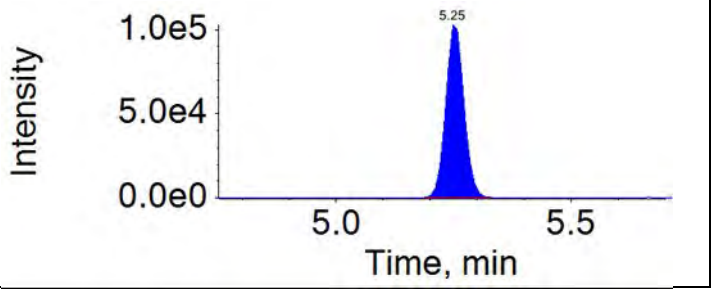
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



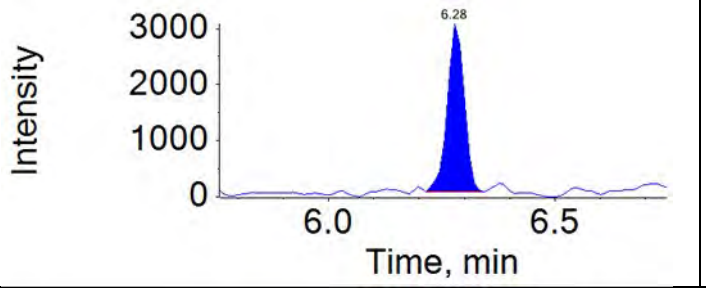


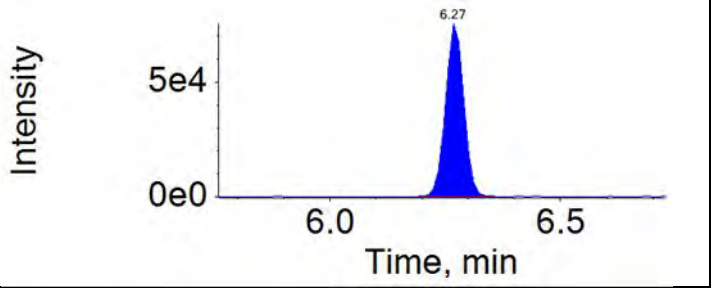
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



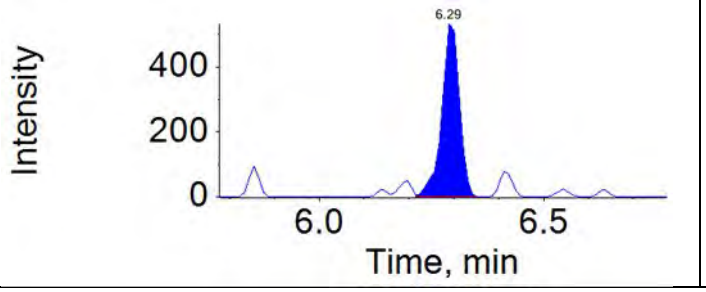


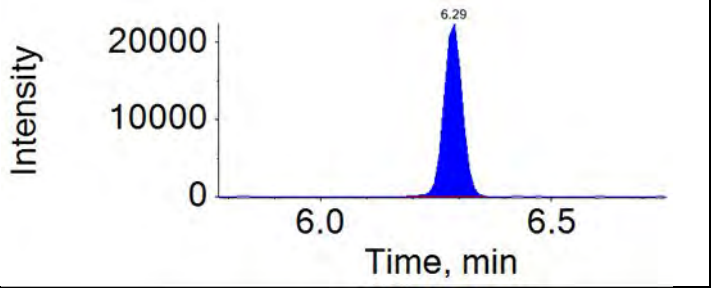
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

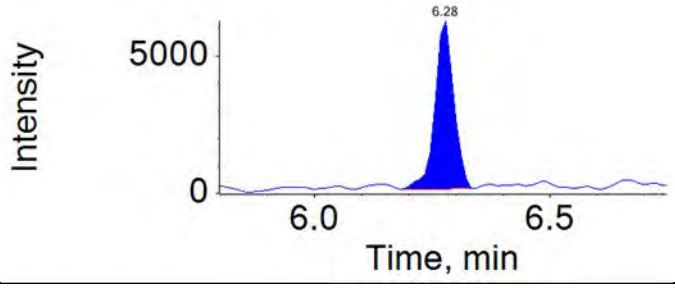
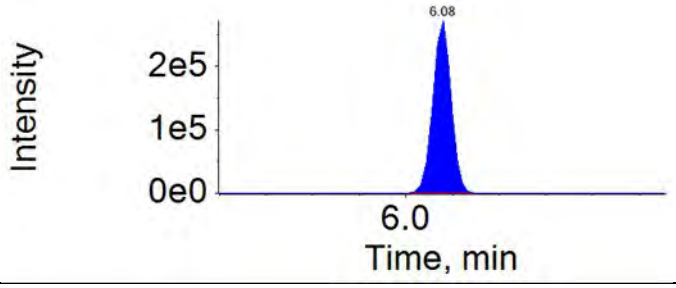


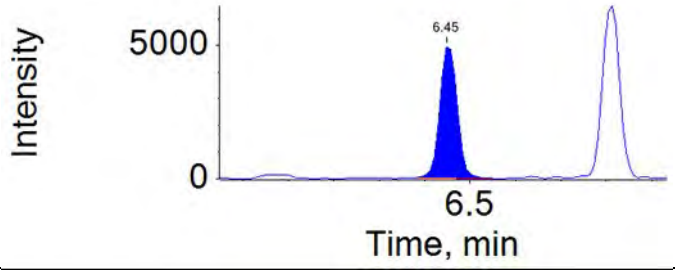
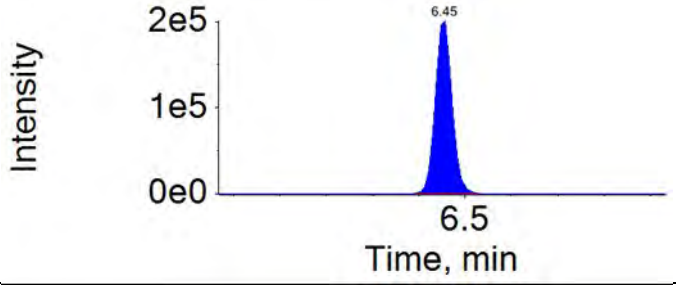


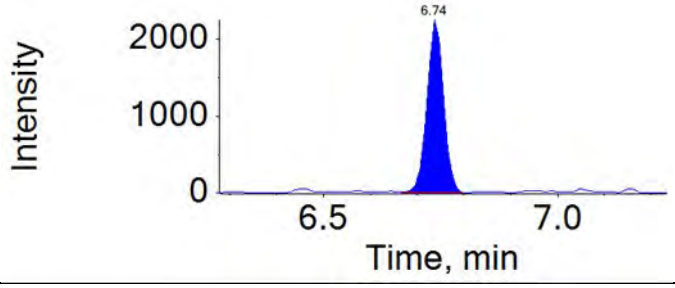
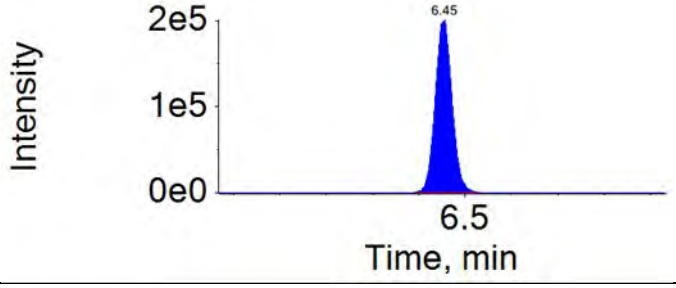
APPROVED
By MSM at 1:53 pm, 12/7/18

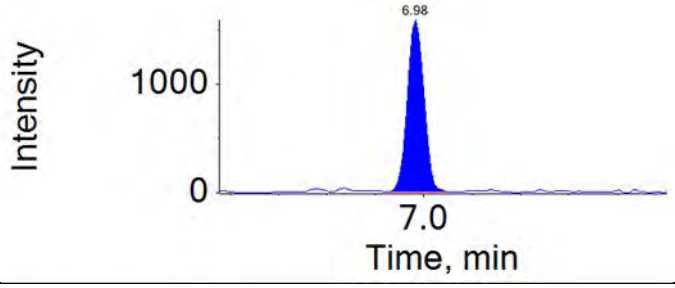
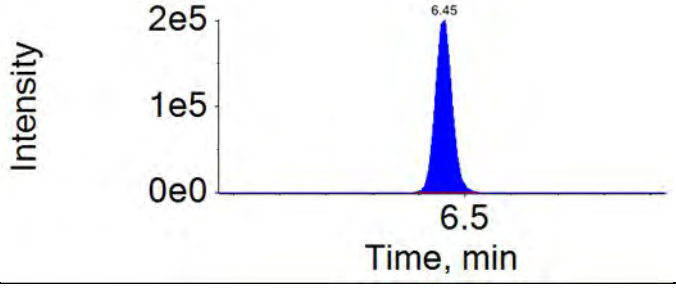
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

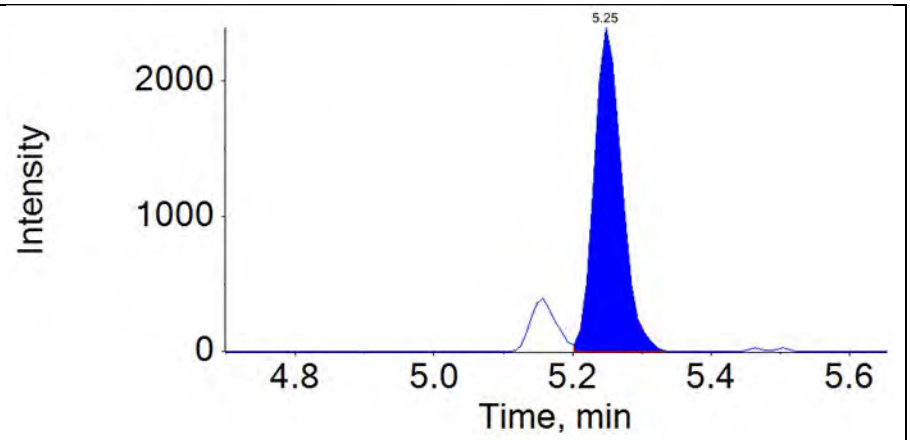
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

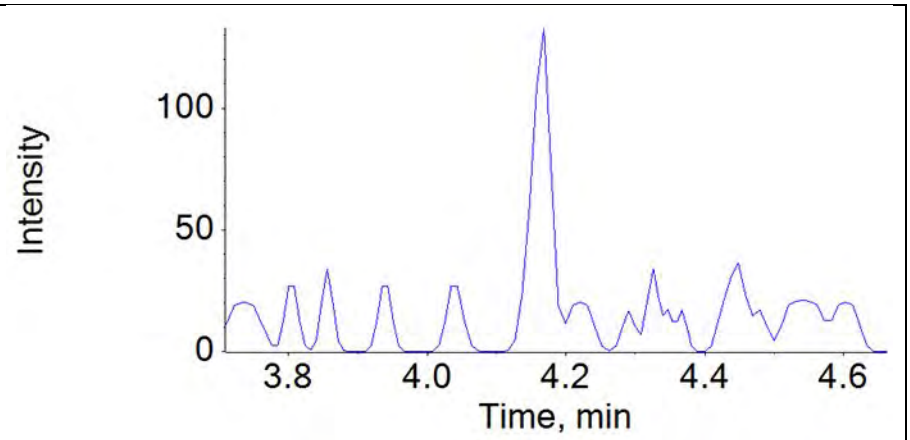
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
6638.77
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



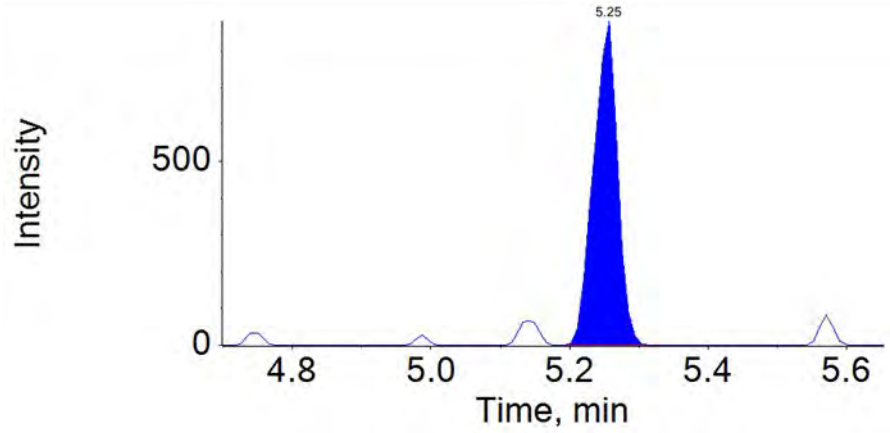
Integration Comment: incorrect integration

Component Name:
PFHxA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
313.0 / 119.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
2124.44
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



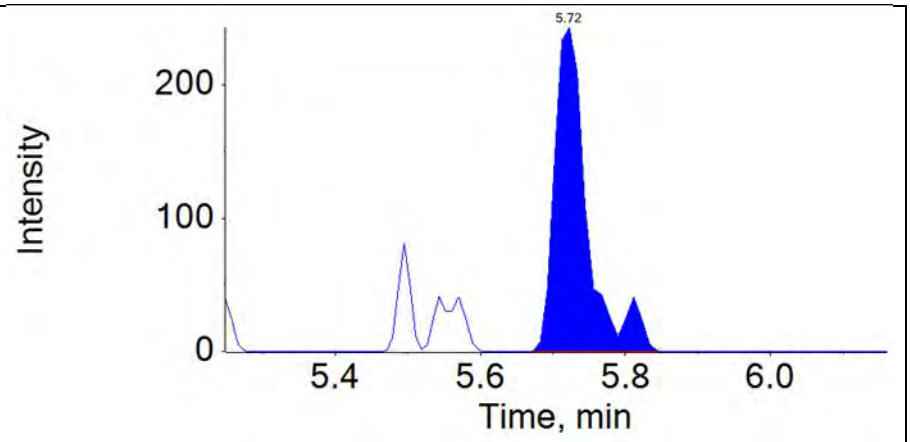
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

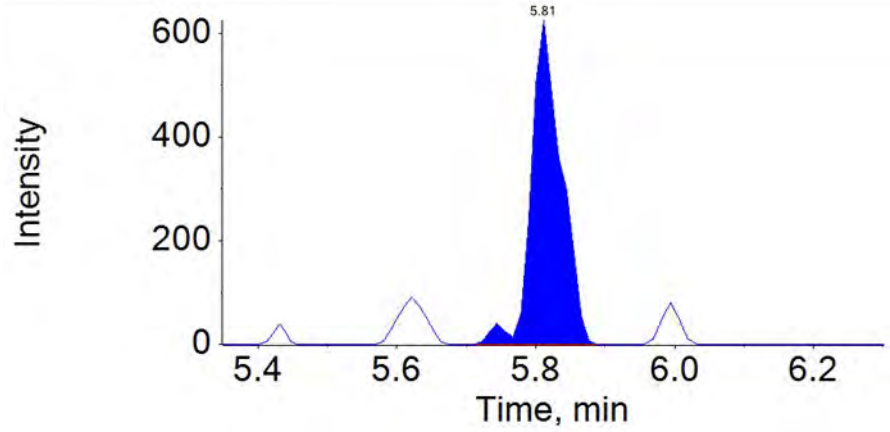
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
770.13
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



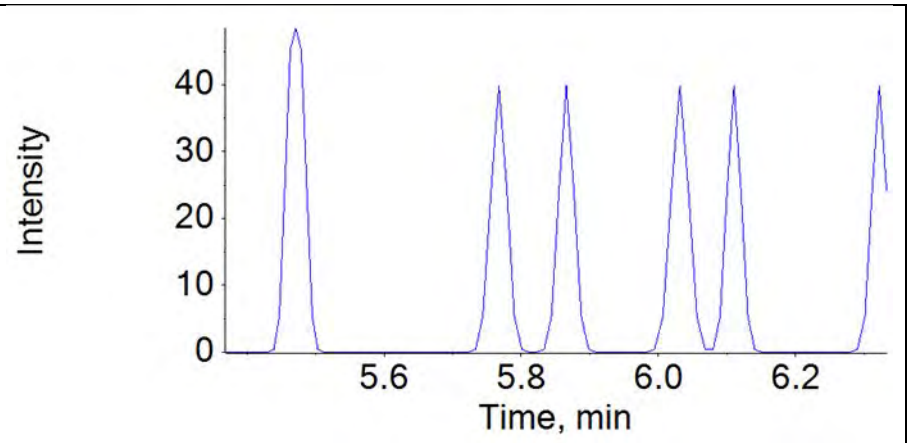
Integration Comment: incorrect integration

Component Name:
PFDS_2
RT (min.):
5.81
Peak Area:
1904.94
Mass Range:
599.0 / 99.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



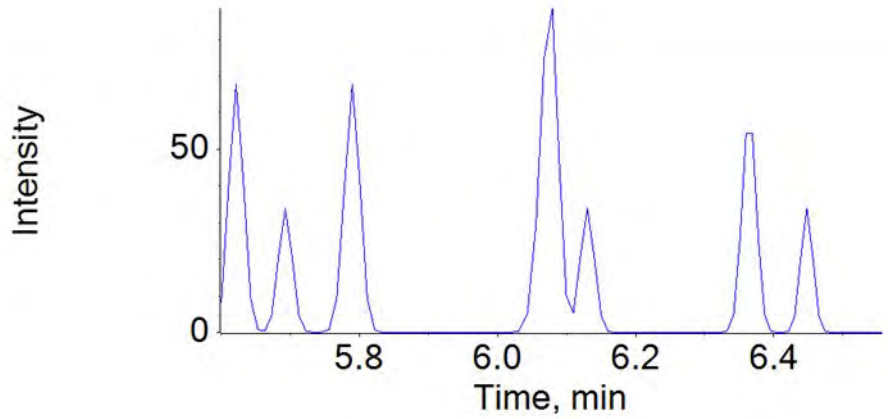
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

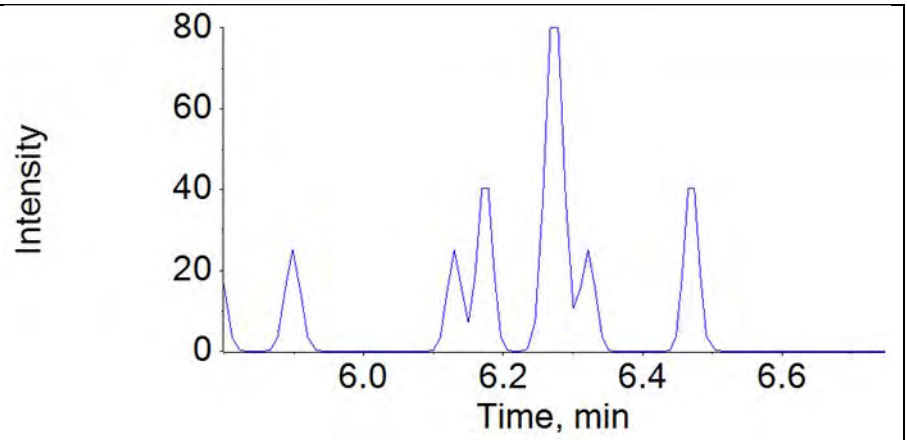
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDoDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
613.0 / 169.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



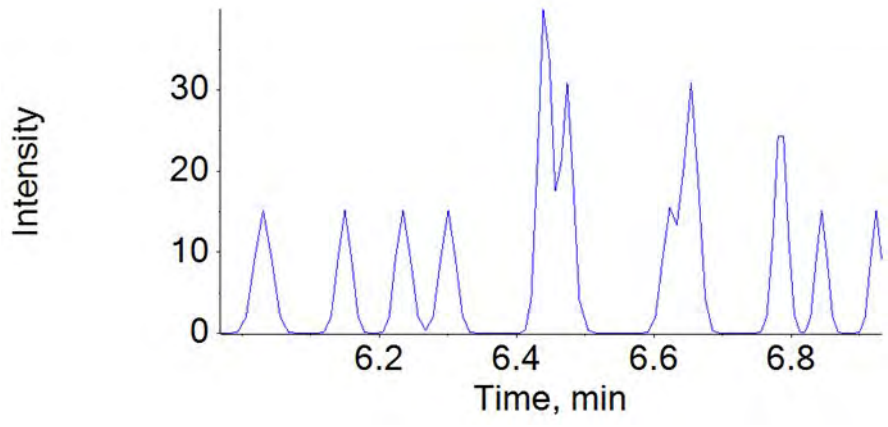
Integration Comment: incorrect integration

Component Name:
PFTrDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
663.0 / 169.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

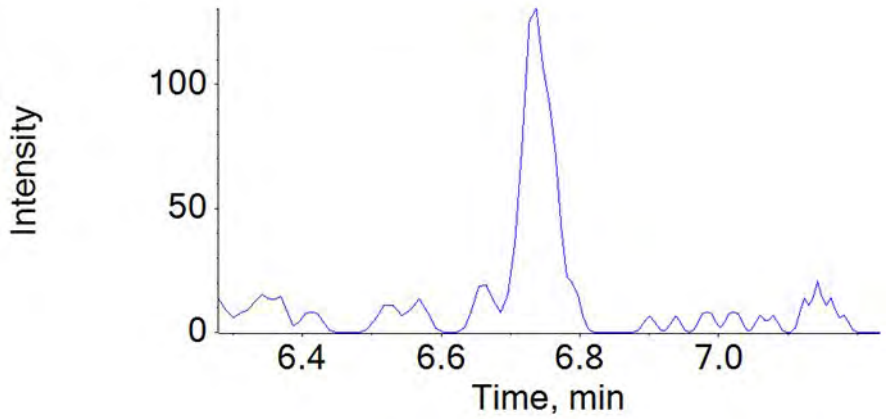
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

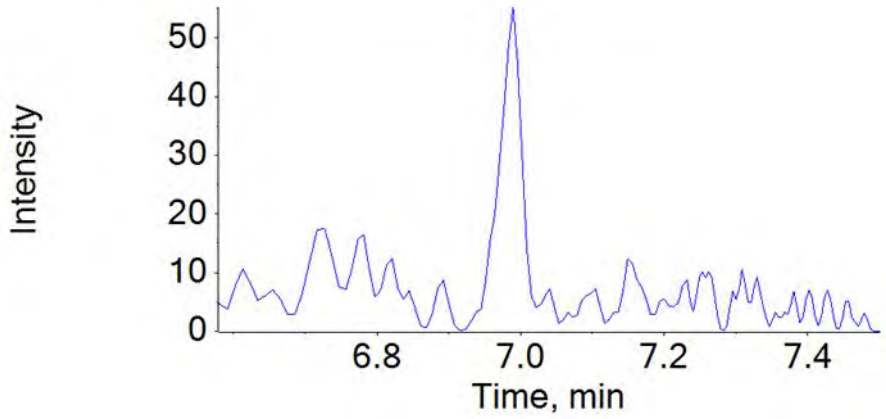
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
813.0 / 169.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFODA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
913.0 / 169.0
File Name:
18DEC06DCAL-24.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

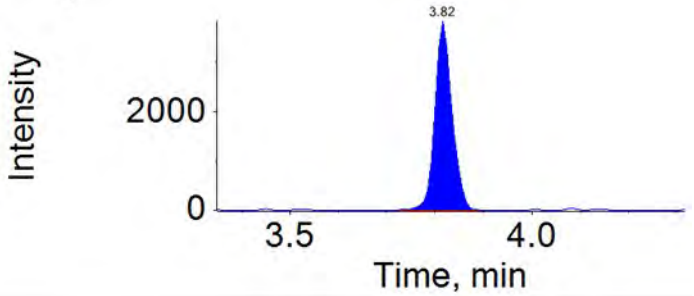
Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-24.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	9483.02	A	1.0000	1.0000			
PFBS_2	3.82	1.00	3971.02	A	0.3627	0.4188	15	50	
4:2-FTS	4.13	1.00	2106.21	A	1.0000	1.0000			
4:2-FTS_2	4.14	1.00	1244.02	A	0.6542	0.5906	-10	50	
PFHxA	4.16	1.00	18868.89	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	269.03	M	0.0097	0.0143	47	50	
PFPeS	4.18	1.10	4848.46	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	1610.34	A	0.5262	0.3321	-37	50	
PFHpA	4.55	1.00	24063.05	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	1413.73	A	0.0565	0.0588	4	50	
PFHxS	4.55	1.00	7938.60	A	1.0000	1.0000			
PFHxS_2	4.56	1.00	2798.64	A	0.3645	0.3525	-3	50	
6:2-FTS	4.92	1.00	1327.07	A	1.0000	1.0000			
6:2-FTS_2	4.92	1.00	956.20	A	0.6273	0.7205	15	50	
PFHpS	4.92	1.08	7210.33	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	2872.51	A	0.4162	0.3984	-4	50	
PFOA	4.92	1.00	22109.92	A	1.0000	1.0000			
PFOA_2	4.92	1.00	1287.38	A	0.0616	0.0582	-5	50	
PFOS	5.25	1.00	7643.10	M	1.0000	1.0000			
PFOS_2	5.25	1.00	2260.94	M	0.3021	0.2958	-2	50	
PFNA	5.27	1.00	16084.65	A	1.0000	1.0000			
PFNA_2	5.27	1.00	466.23	A	0.0192	0.0290	51	50	OOS
PFNS	5.56	1.06	2967.97	A	1.0000	1.0000			
PFNS_2	5.56	1.06	1822.01	A	0.4845	0.6139	27	50	
PFDA	5.58	1.00	14132.39	A	1.0000	1.0000			
PFDA_2	5.58	1.00	174.83	A	0.0096	0.0124	28	50	
8:2-FTS	5.58	1.00	998.61	A	1.0000	1.0000			
8:2-FTS_2	5.59	1.00	357.51	A	0.6117	0.3580	-41	50	
NMeFOSAA	5.73	1.00	2310.53	A	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	703.50	M	0.2673	0.3045	14	50	
PFDS	5.82	1.11	4986.65	A	1.0000	1.0000			
PFDS_2	5.81	1.11	1836.26	M	0.4952	0.3682	-26	50	
PFUnDA	5.85	1.00	14382.10	A	1.0000	1.0000			
PFUnDA_2	5.87	1.00	64.84	M	0.0041	0.0045	10	50	
NEtFOSAA	5.86	1.00	2137.13	A	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	1681.95	A	0.6726	0.7870	17	50	
PFDoDA	6.08	1.00	21098.75	A	1.0000	1.0000			
PFDoDA_2	6.08	1.00	172.67	M	0.0133	0.0082	-39	50	
10:2-FTS	6.10	1.09	884.39	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	804.58	A	0.6969	0.9098	31	50	
PFTrDA	6.28	1.03	16926.65	A	1.0000	1.0000			
PFTrDA_2	6.27	1.03	162.33	M	0.0075	0.0096	27	50	
PFTeDA	6.45	1.00	13246.77	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	101.20	M	0.0066	0.0076	16	50	
PFHxDA	6.74	1.04	5459.79	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	430.83	M	0.0616	0.0789	28	50	
PFODA	6.98	1.08	3730.74	A	1.0000	1.0000			
PFODA_2	6.99	1.08	122.88	M	0.0272	0.0329	21	50	

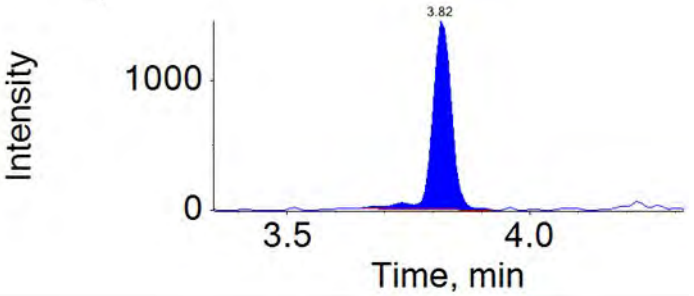
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

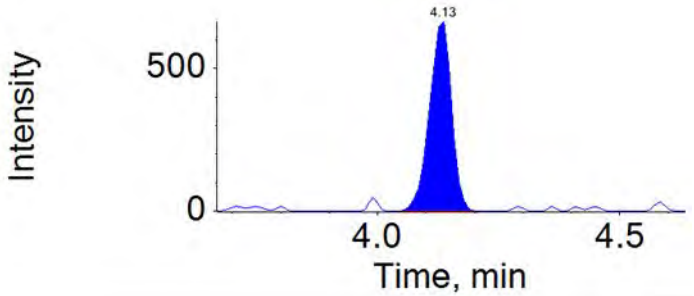
Component: PFBS
Primary Mass: 299.0 / 80.0



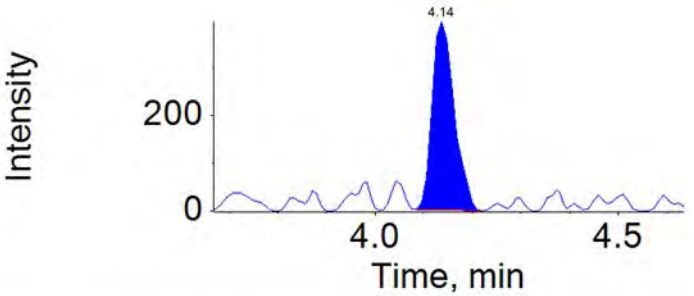
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



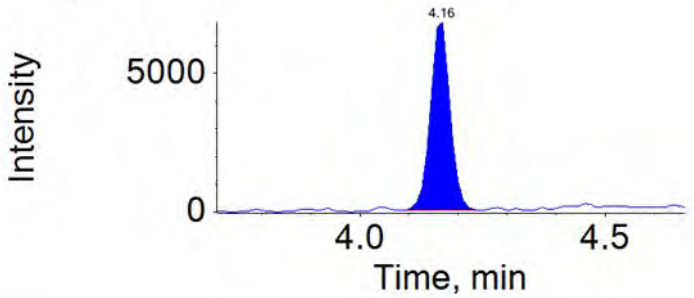
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



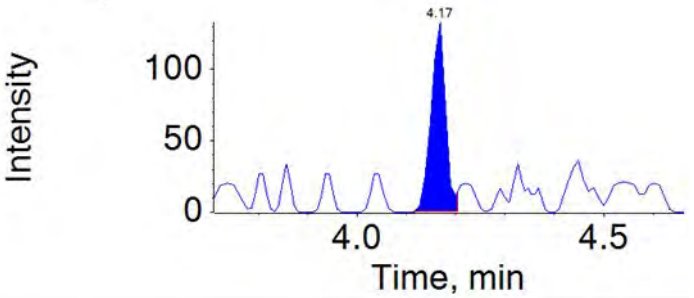
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



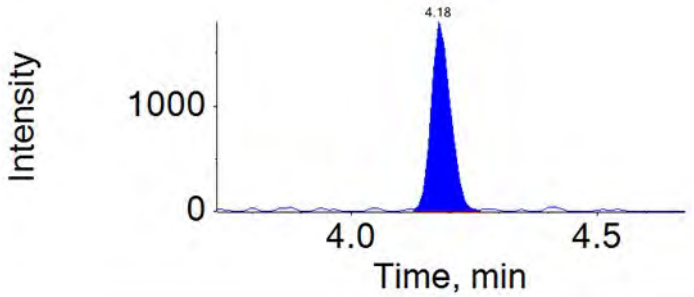
Component: PFHxA
Primary Mass: 313.0 / 269.0



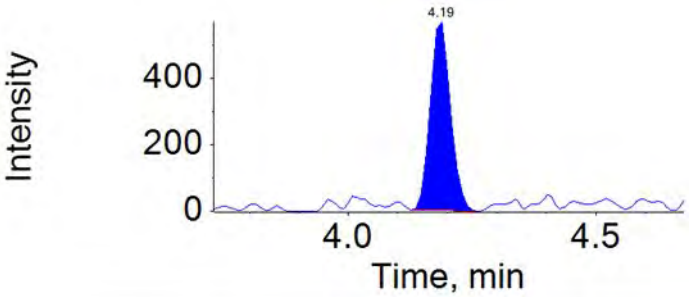
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



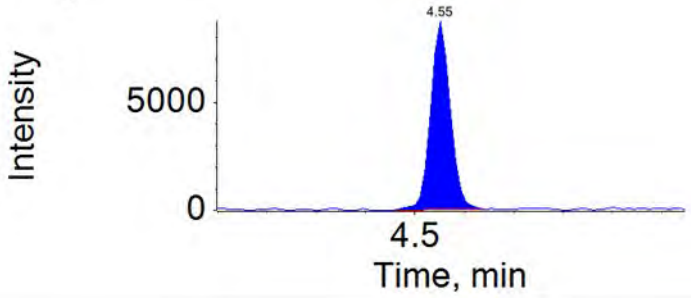
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



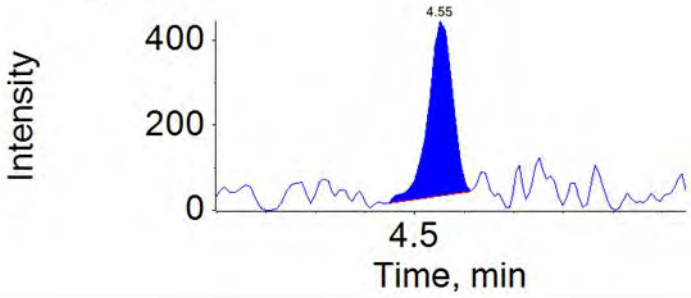
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

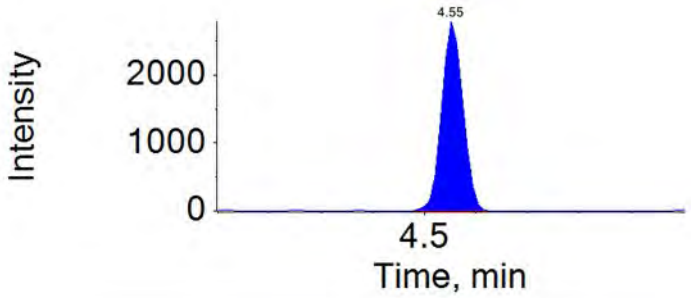
Component: PFHpA
Primary Mass: 363.0 / 319.0



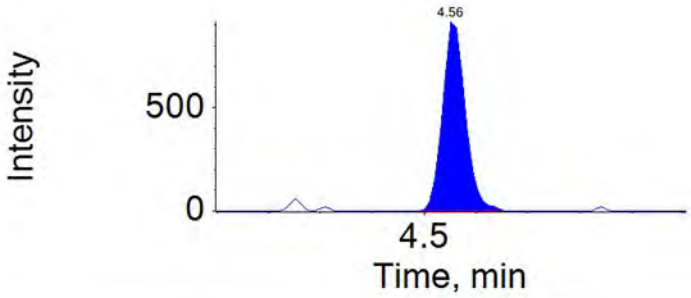
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



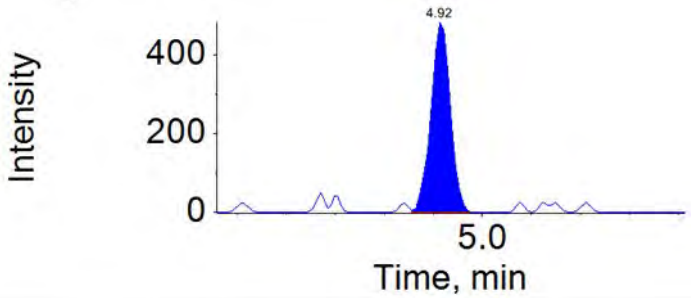
Component: PFHxS
Primary Mass: 399.0 / 80.0



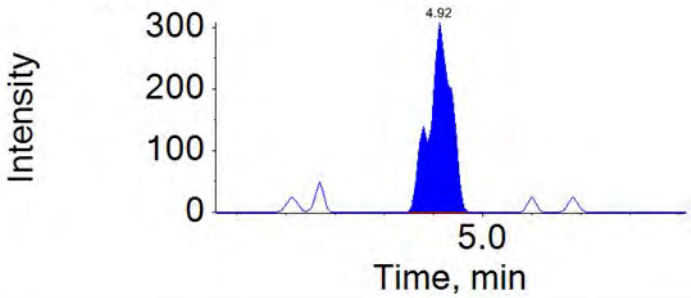
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



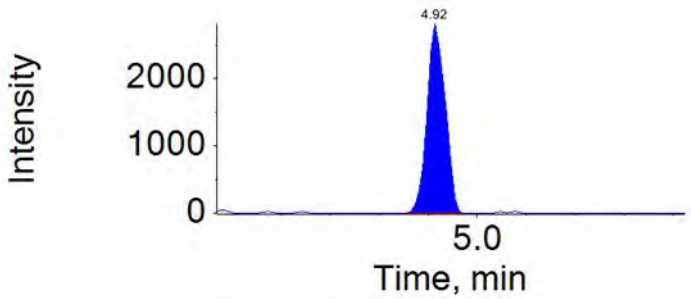
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



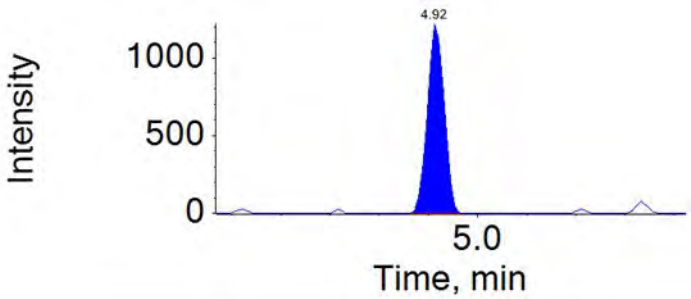
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



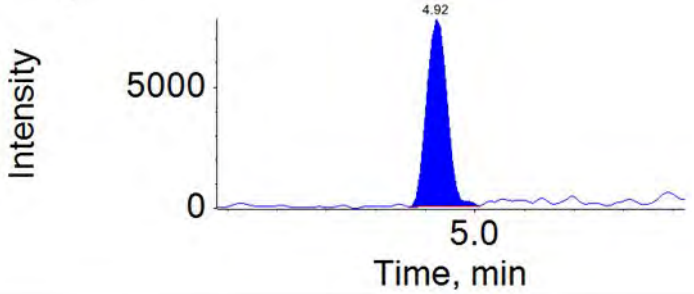
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



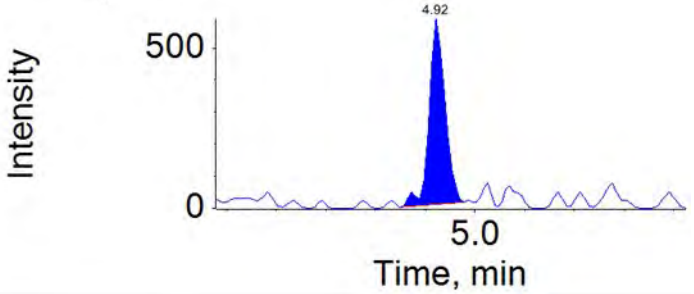
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

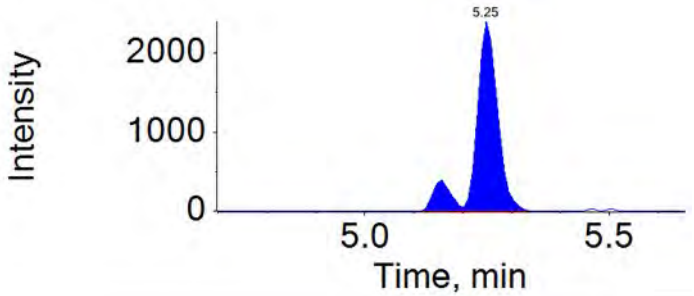
Component: PFOA
Primary Mass: 413.0 / 369.0



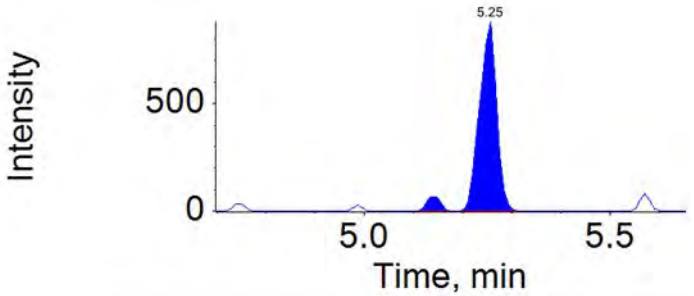
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



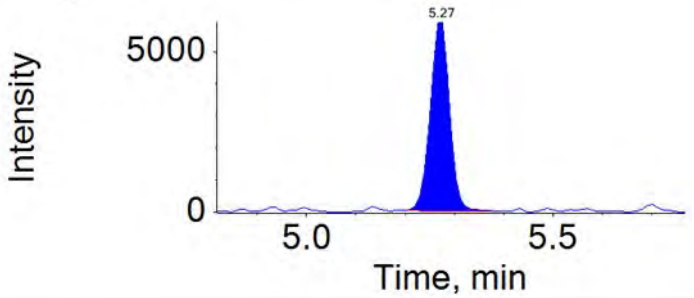
Component: PFOS
Primary Mass: 499.0 / 80.0



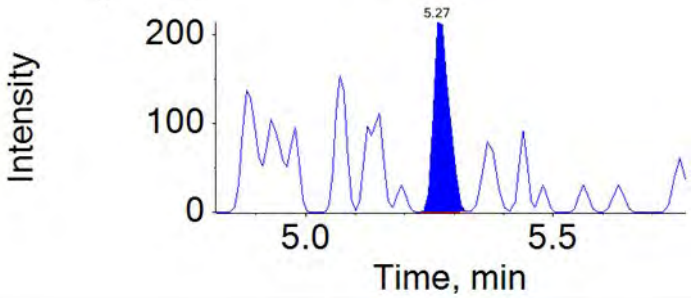
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



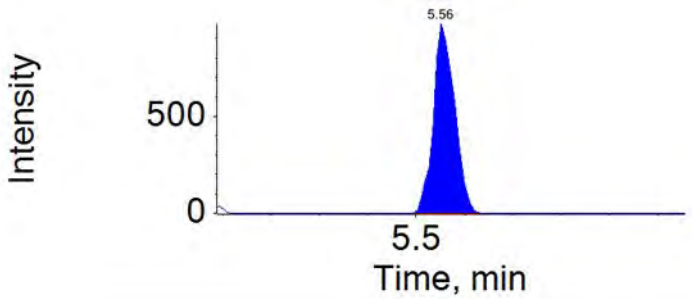
Component: PFNA
Primary Mass: 463.0 / 419.0



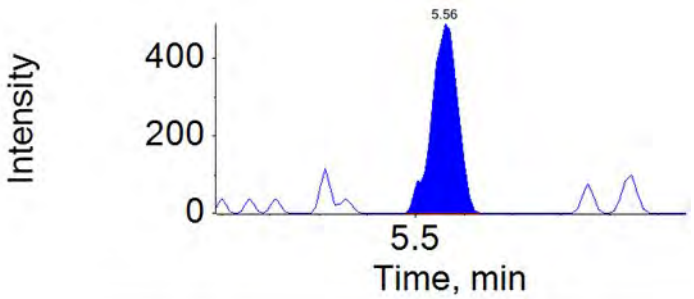
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



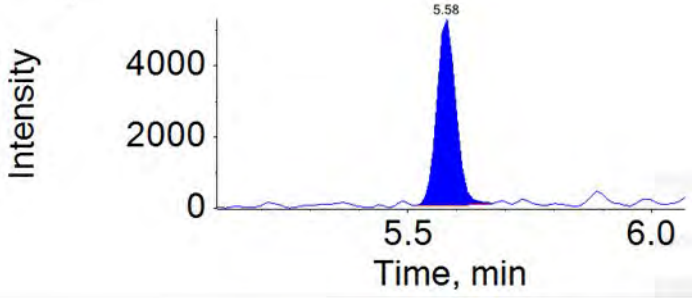
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



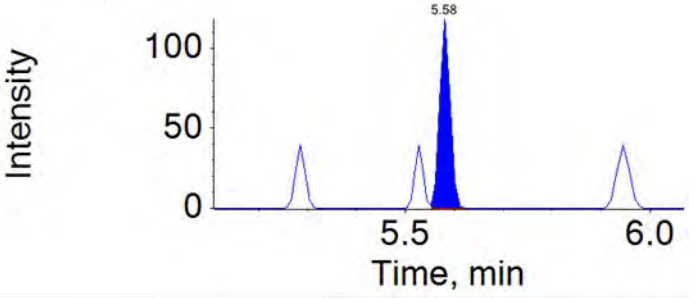
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

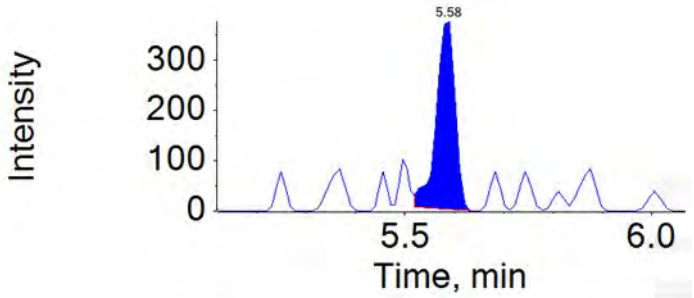
Component: PFDA
Primary Mass: 513.0 / 469.0



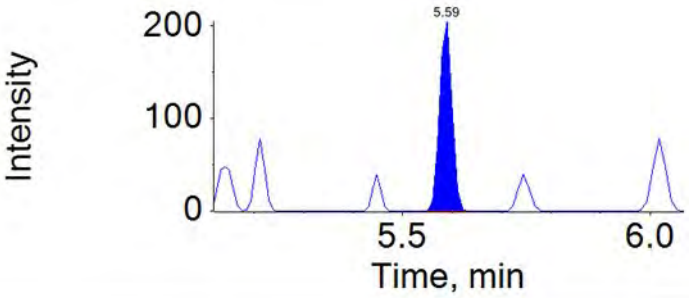
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



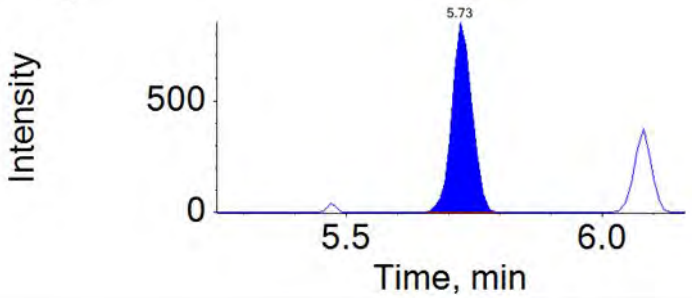
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



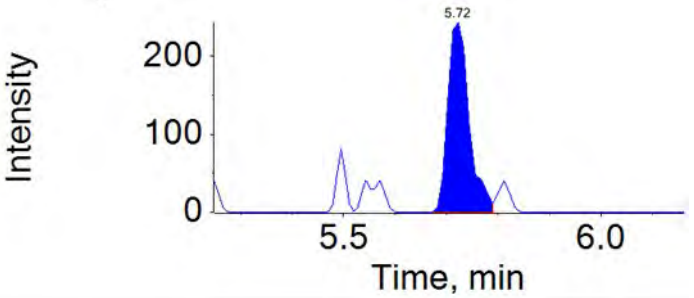
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



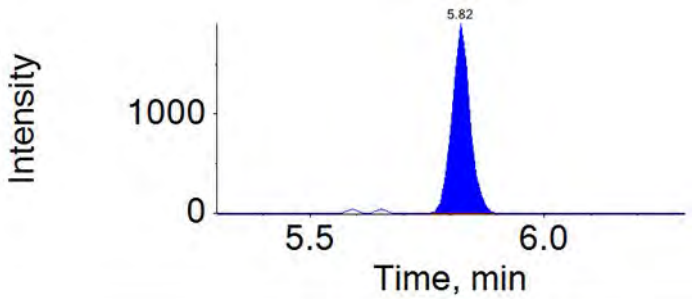
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



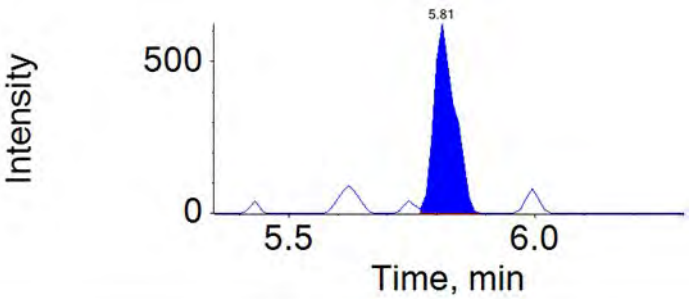
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



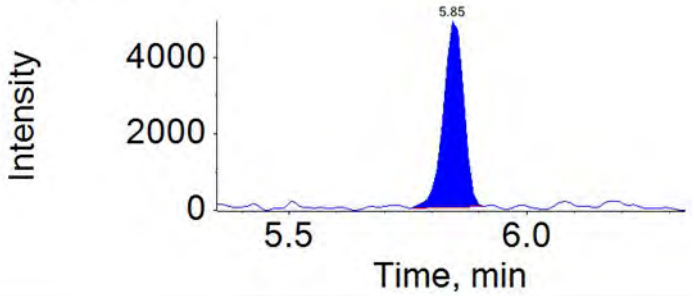
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



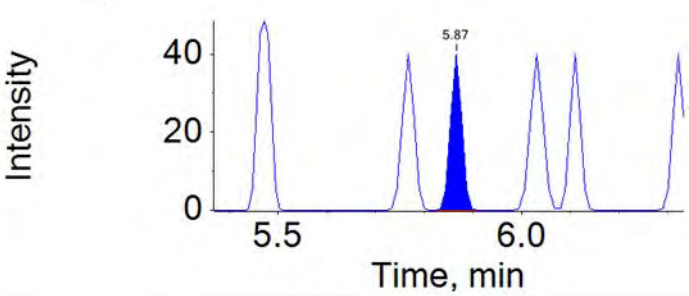
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

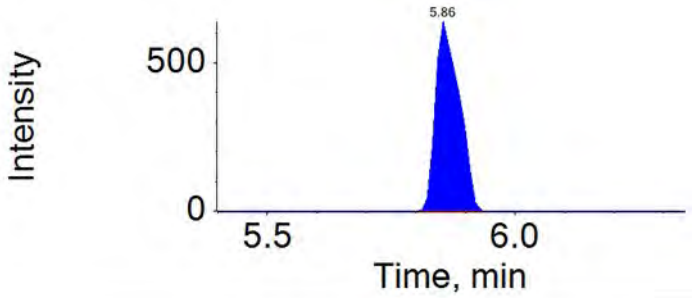
Component: PFUnDA
Primary Mass: 563.0 / 519.0



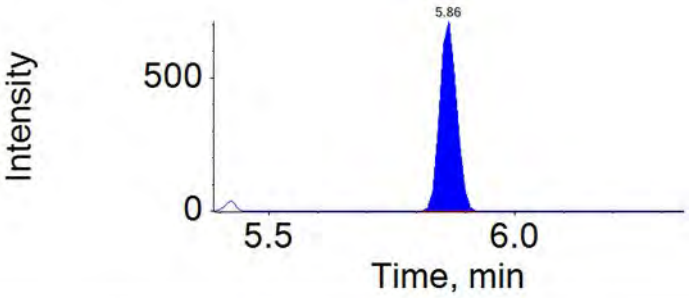
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



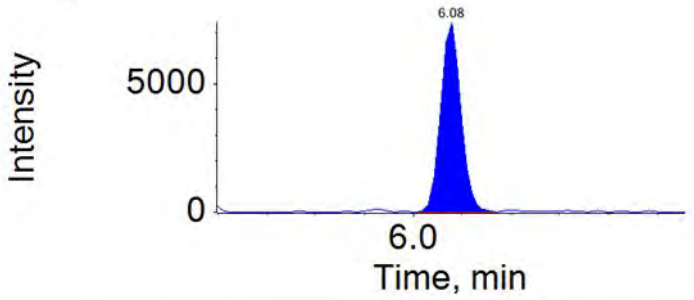
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



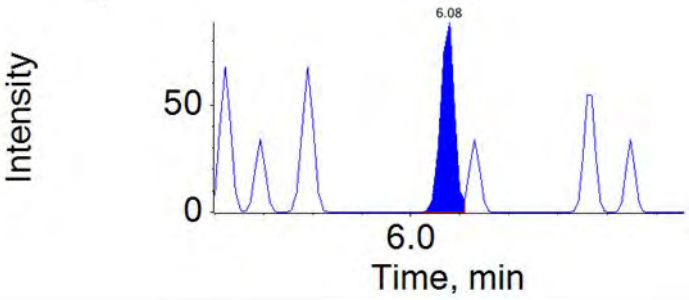
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



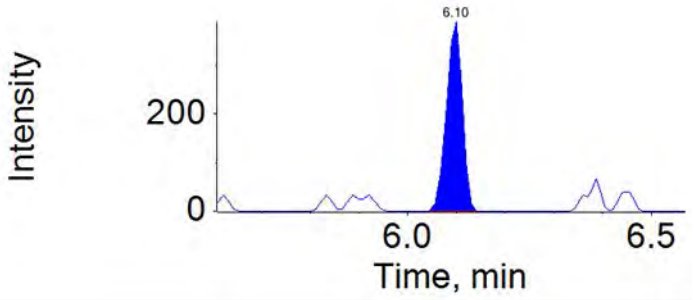
Component: PFDoDA
Primary Mass: 613.0 / 569.0



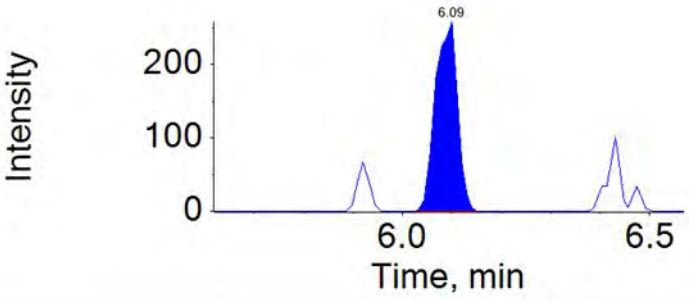
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



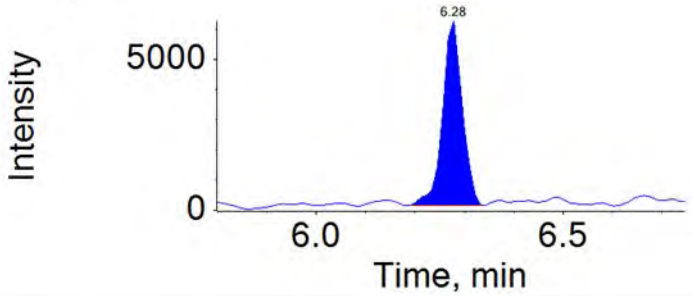
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



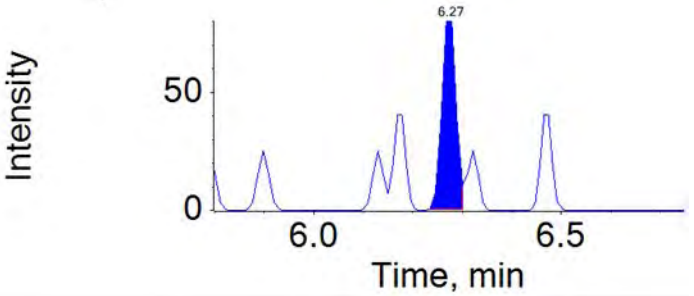
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

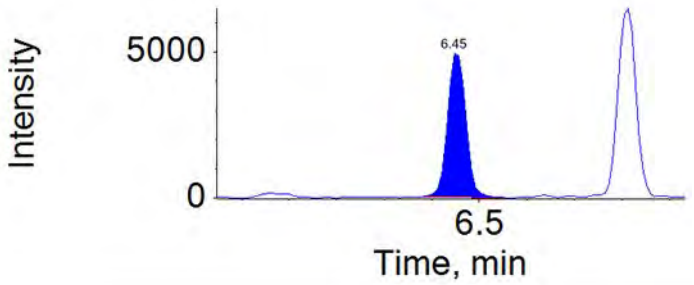
Component: PFTrDA
Primary Mass: 663.0 / 619.0



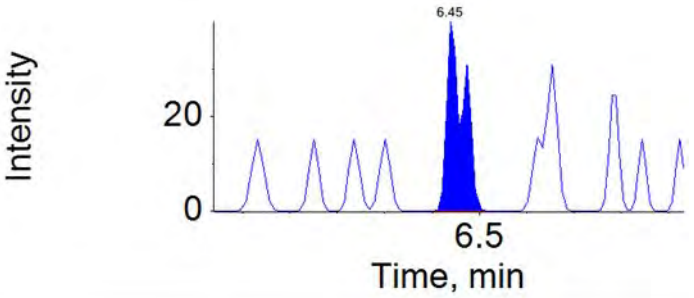
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



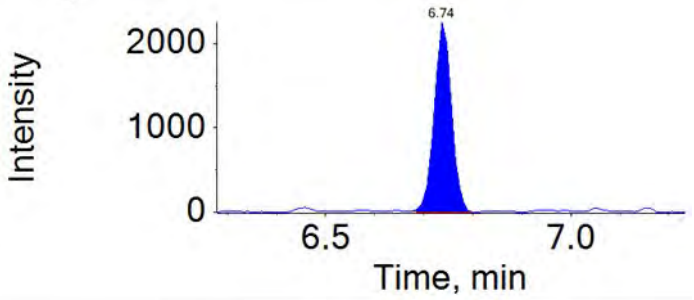
Component: PFTeDA
Primary Mass: 713.0 / 669.0



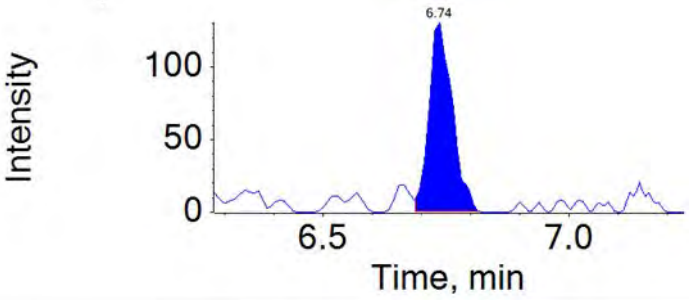
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



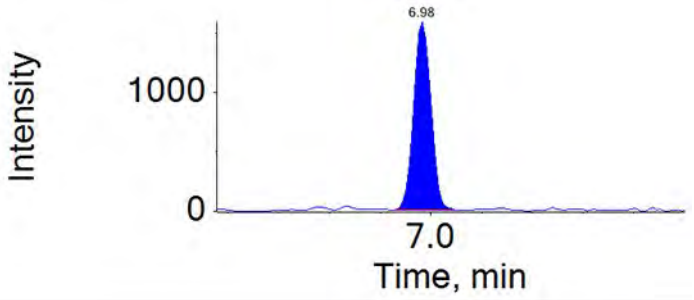
Component: PFHxDA
Primary Mass: 813.0 / 769.0



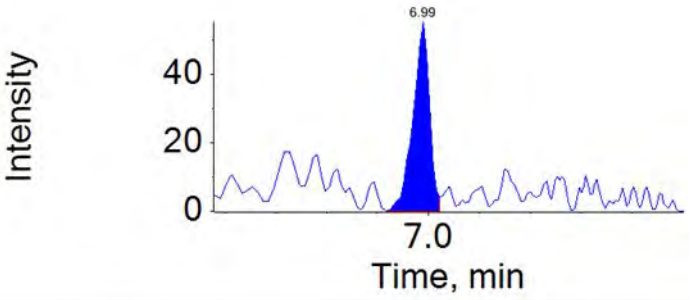
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC06DCAL-32.wiff
Sample ID:	methanol + labels			**Acquis Date:**		2018-12-07T00:40:37
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	965353.3	825688.9	17	50	
13C2-PFOA	5.0	501345.2	449802.8	11	50	
13C4-PFOS	4.8	333797.5	276858.3	21	50	
13C2-PFDA	5.0	376986.4	315428.3	20	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1052340.0	13C3-PFBA	965353.3	1.090	5.000	4.825	96	70-130	
E13C5-PFPeA	980835.5	13C3-PFBA	965353.3	1.016	5.000	4.826	97	70-130	
E13C3-PFBS	467385.4	13C3-PFBA	965353.3	0.484	4.650	4.104	88	70-130	
E13C2-4:2-FTS	66601.8	13C2-PFOA	501345.2	0.133	4.670	5.205	111	70-130	
E13C5-PFHxA	734638.7	13C2-PFOA	501345.2	1.465	5.000	4.920	98	70-130	
E13C3-PFHxS	376775.1	13C2-PFOA	501345.2	0.752	4.730	4.820	102	70-130	
E13C4-PFHpA	568544.0	13C2-PFOA	501345.2	1.134	5.000	4.821	96	70-130	
E13C2-6:2-FTS	46582.6	13C2-PFOA	501345.2	0.093	4.750	5.756	121	70-130	
E13C8-PFOA	943293.5	13C2-PFOA	501345.2	1.882	5.000	5.319	106	70-130	
E13C8-PFOS	344947.2	13C4-PFOS	333797.5	1.033	4.780	4.638	97	70-130	
E13C9-PFNA	544328.1	13C4-PFOS	333797.5	1.631	5.000	4.608	92	70-130	
E13C6-PFDA	705816.3	13C2-PFDA	376986.4	1.872	5.000	4.961	99	70-130	
E13C2-8:2-FTS	28916.1	13C2-PFDA	376986.4	0.077	4.790	5.008	105	70-130	
E13C8-PFOSA	771390.5	13C2-PFDA	376986.4	2.046	5.000	4.839	97	70-130	
Ed3-NMeFOSAA	117345.7	13C2-PFDA	376986.4	0.311	5.000	5.516	110	70-130	
E13C7-PFUnDA	385077.2	13C2-PFDA	376986.4	1.021	5.000	5.011	100	70-130	
Ed5-NEtFOSAA	78461.4	13C2-PFDA	376986.4	0.208	5.000	4.594	92	70-130	
E13C2-PFDoDA	860769.4	13C2-PFDA	376986.4	2.283	5.000	4.792	96	70-130	
Ed7-NMePFOSAE	308677.0	13C2-PFDA	376986.4	0.819	5.000	4.717	94	70-130	
Ed3-NMePFOSA	96489.2	13C2-PFDA	376986.4	0.256	5.000	4.664	93	70-130	
Ed9-NEtPFOSAE	261907.7	13C2-PFDA	376986.4	0.695	5.000	4.791	96	70-130	
Ed5-NEtPFOSA	82337.2	13C2-PFDA	376986.4	0.218	5.000	4.915	98	70-130	
E13C2-PFTeDA	599932.4	13C2-PFDA	376986.4	1.591	5.000	4.723	94	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

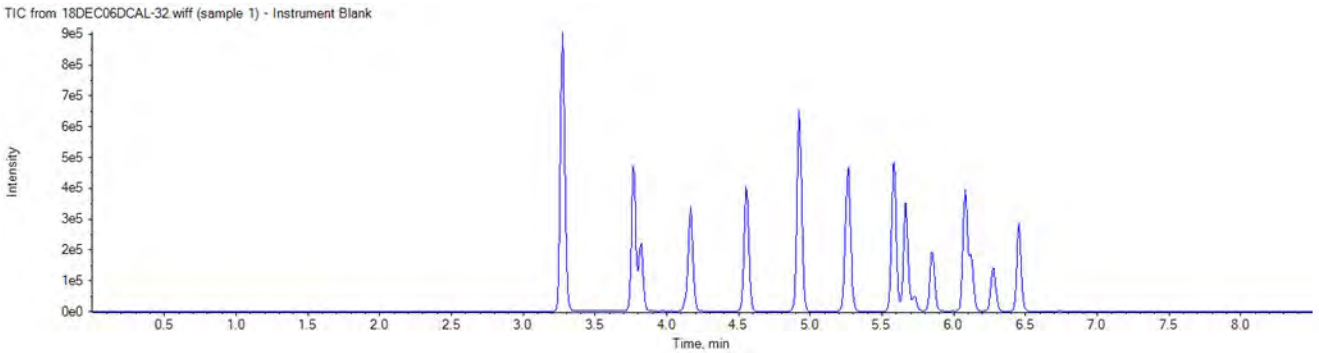
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-32.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.27	1052340.0	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	980835.5	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	467385.4	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	66601.8	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.17	734638.7	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	467385.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	568544.0	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	376775.1	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	46582.6	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	376775.1	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	943293.5	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	344947.2	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.27	544328.1	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	344947.2	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.58	705816.3	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.59	28916.1	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.67	771390.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.73	117345.7	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	344947.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.85	385077.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.86	78461.4	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.08	860769.4	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.59	28916.1	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.12	308677.0	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.13	96489.2	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	344947.2	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.27	261907.7	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.29	82337.2	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.08	860769.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	599932.4	N/A	
PFHxDA	6.74	1.040	3753.2		A	13C2-PFTeDA	6.45	599932.4	0.006	0.078
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	599932.4	N/A	

Total Ion Chromatogram

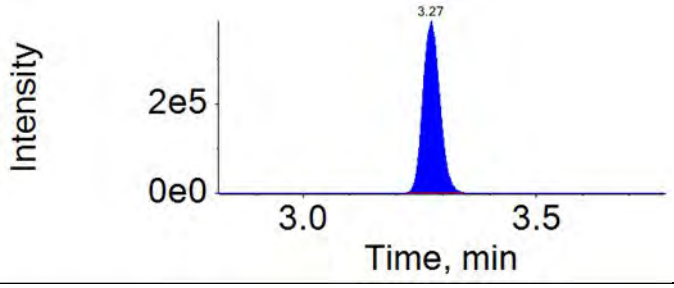


APPROVED
By MSM at 1:53 pm, 12/7/18

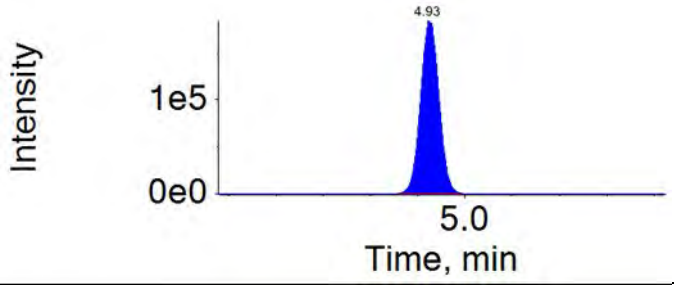
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

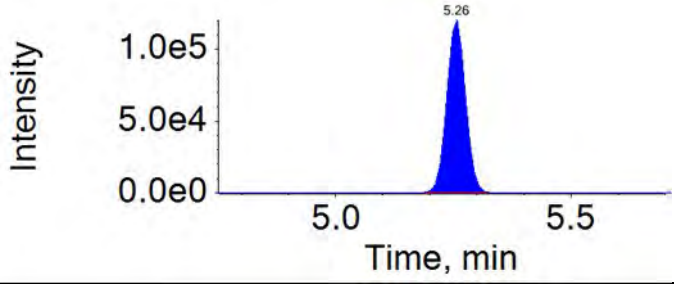
Injection Standard: 13C3-PFBA
216.0 / 172.0



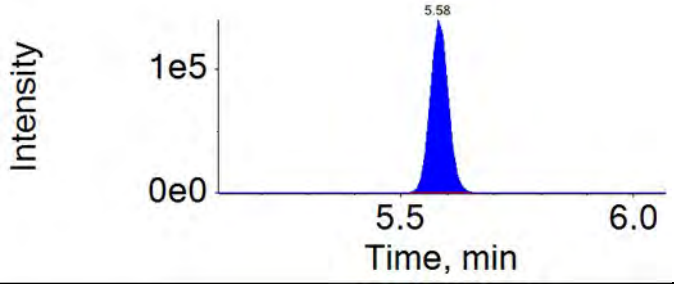
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



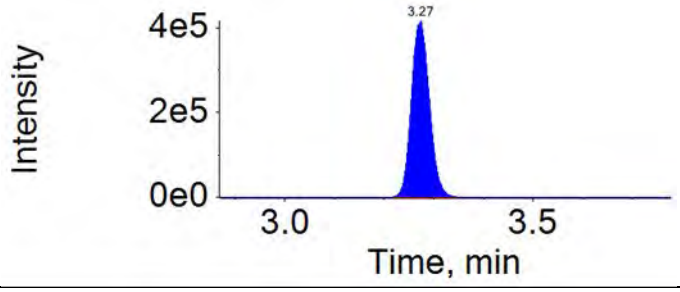
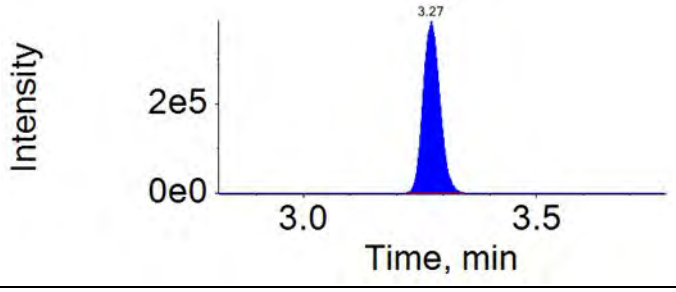
Injection Standard: 13C2-PFDA
515.0 / 470.0

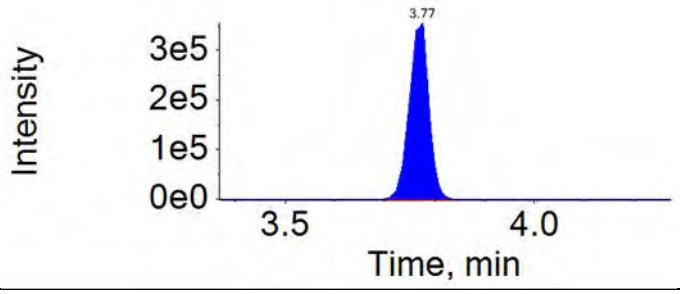
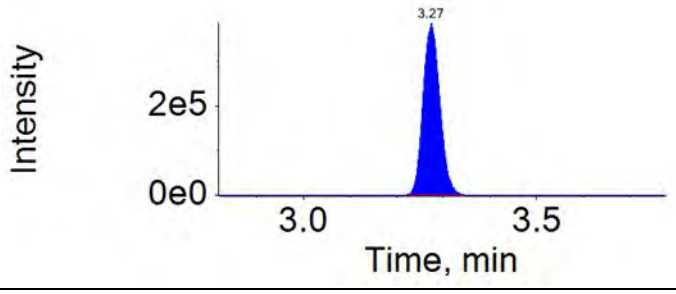


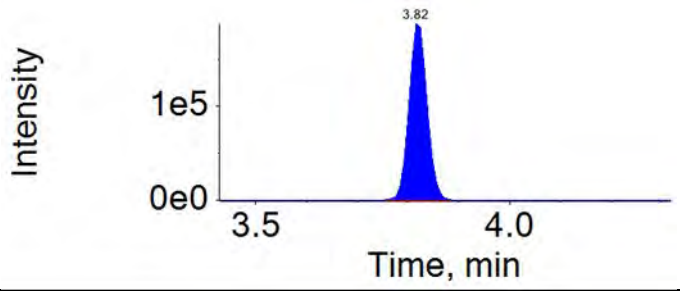
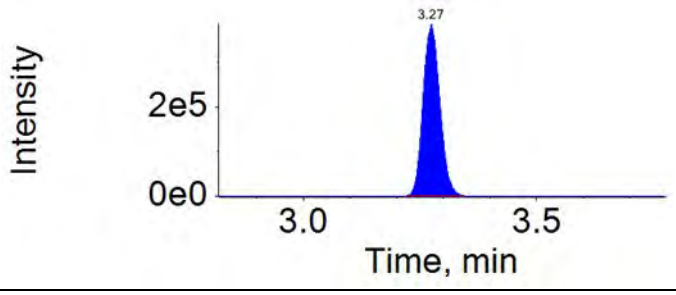
APPROVED
By MSM at 1:53 pm, 12/7/18

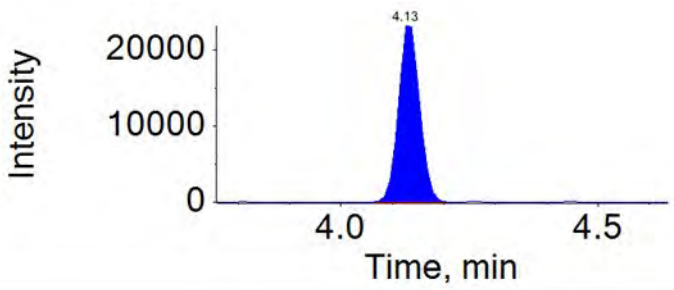
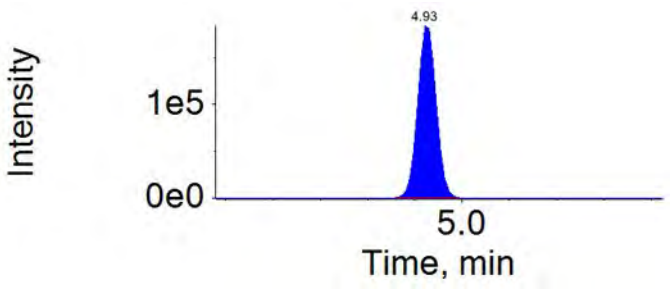
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

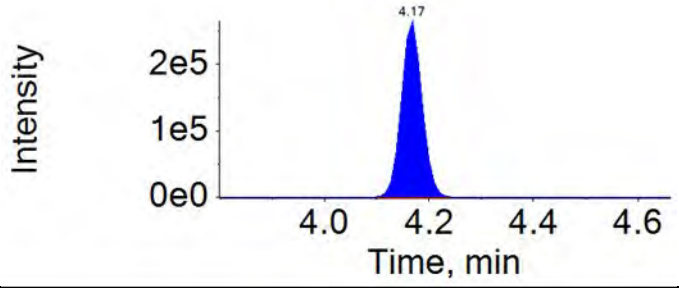
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

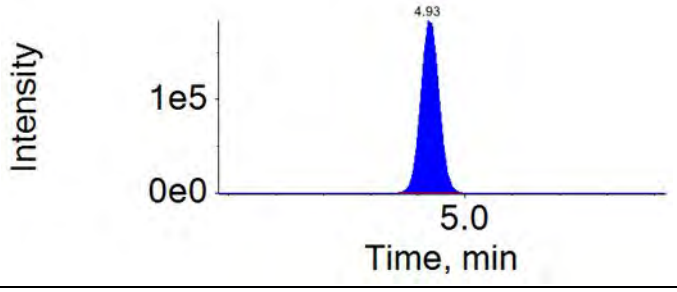
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

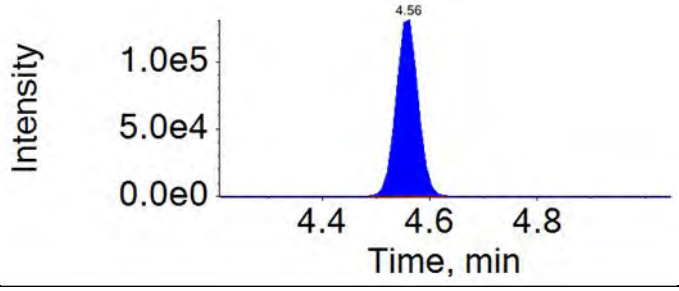
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

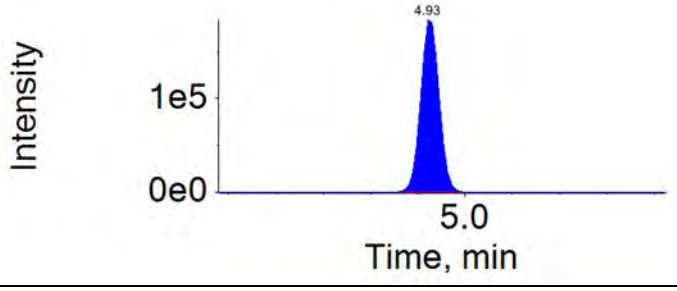
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



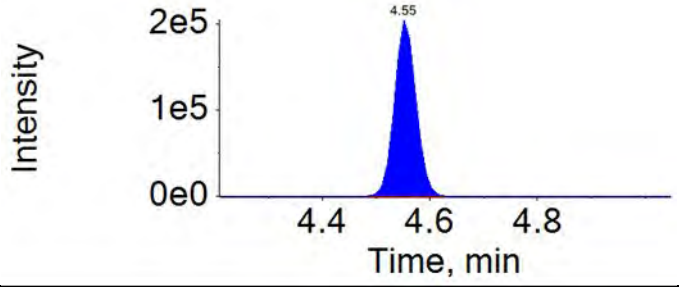


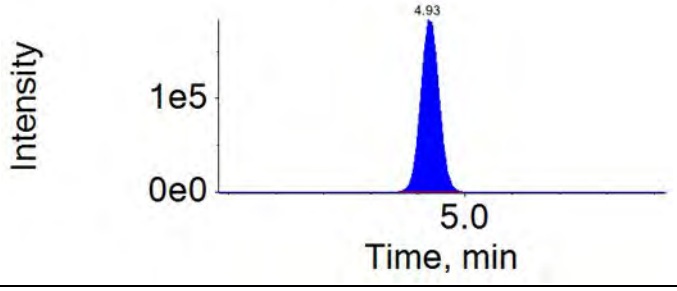
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



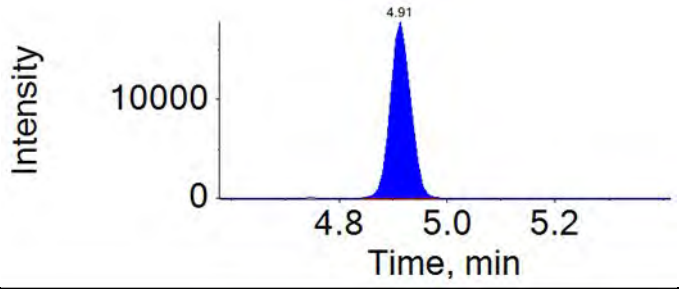


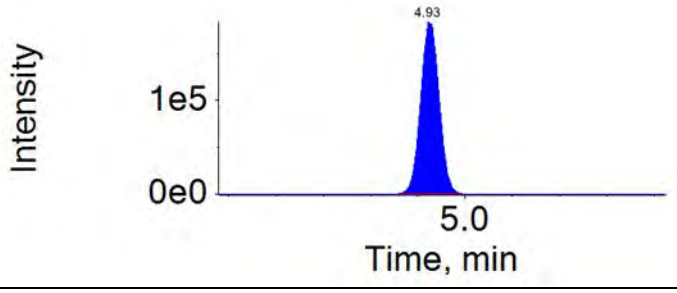
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



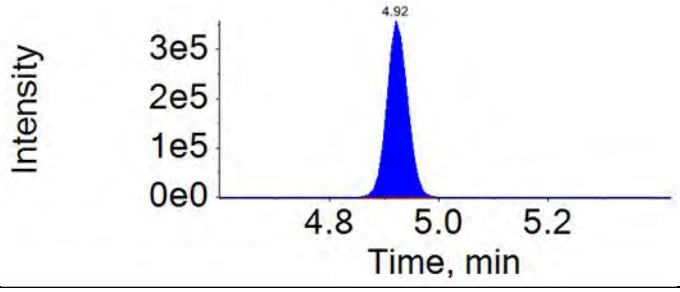


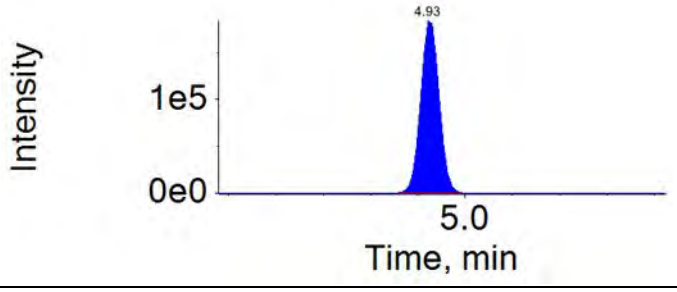
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

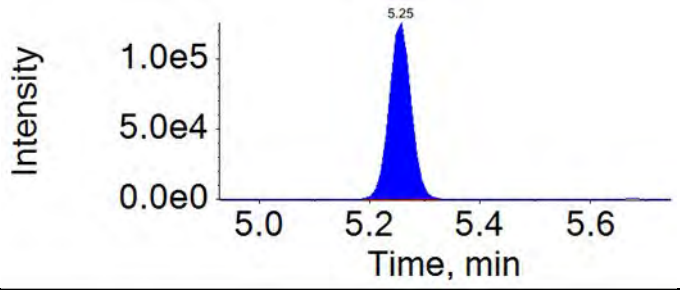
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

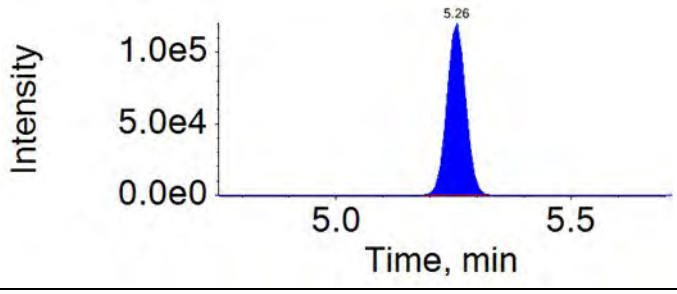
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



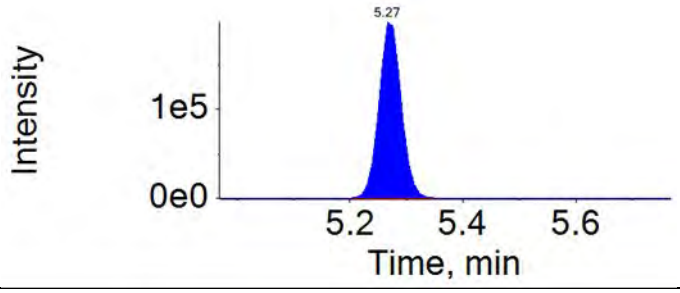


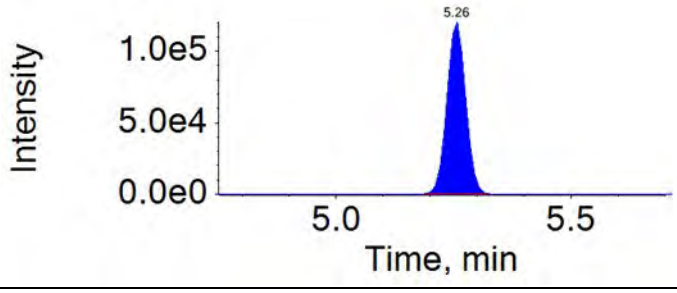
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



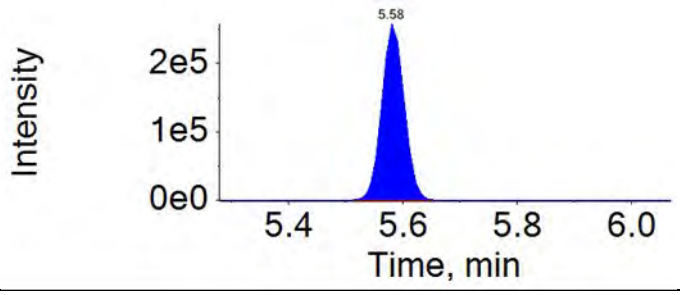


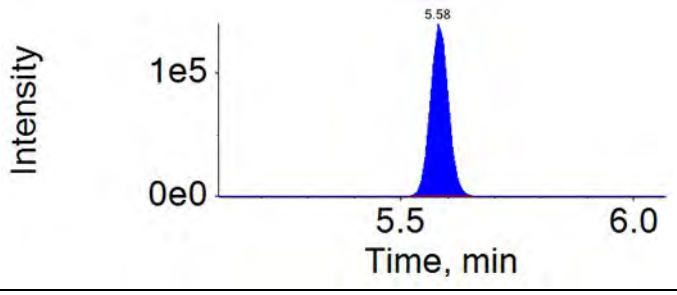
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



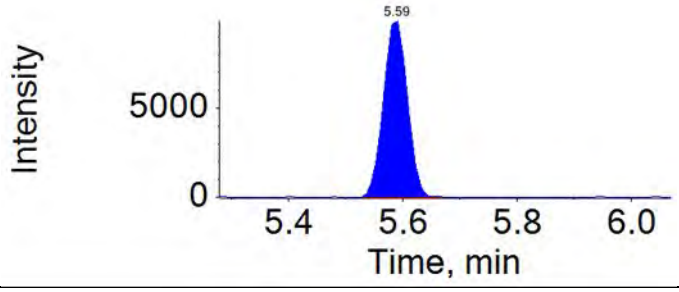


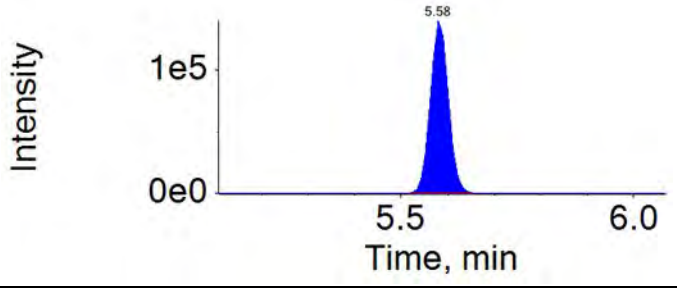
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

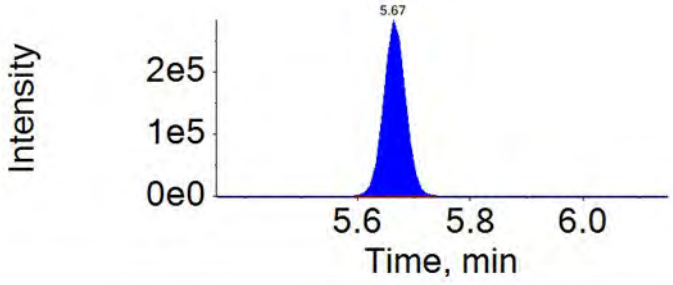
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

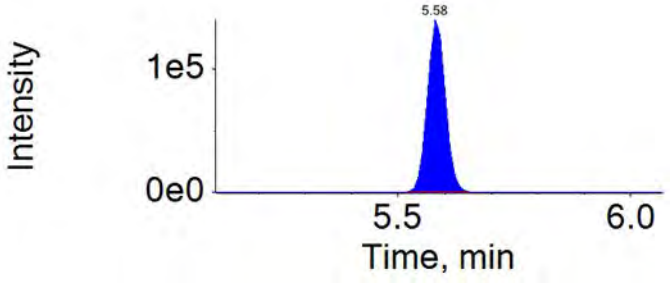
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



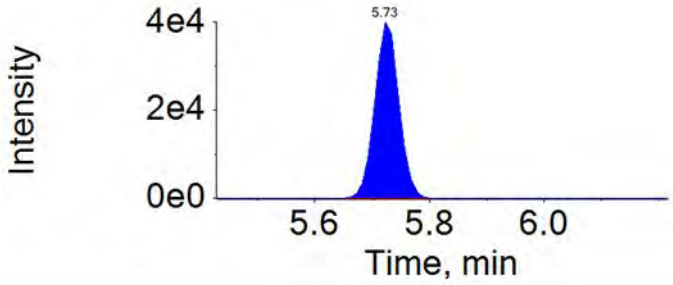


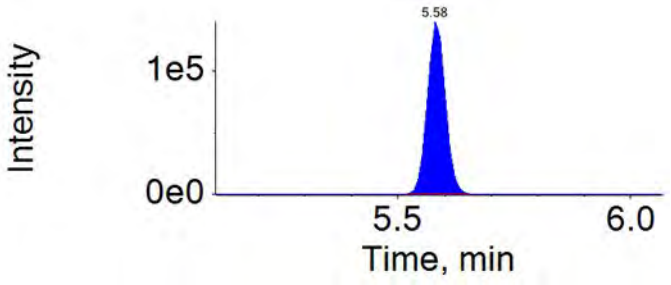
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



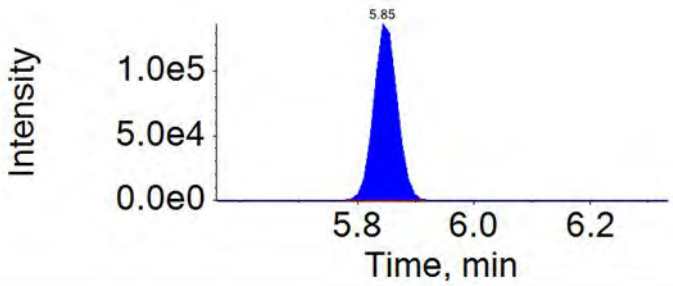


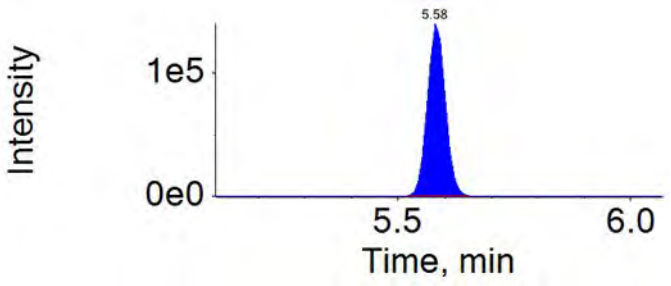
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



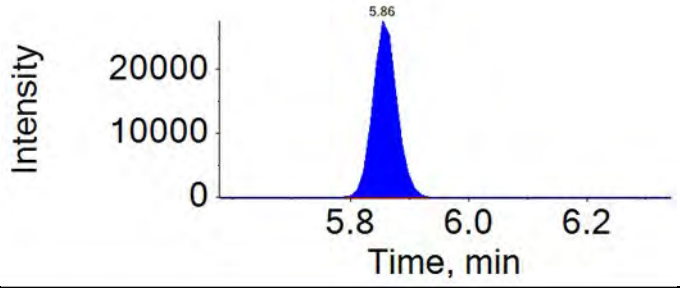


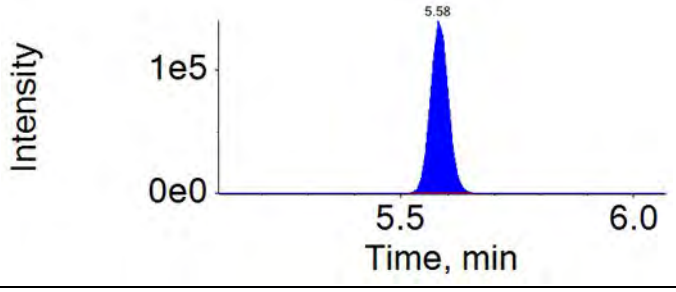
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

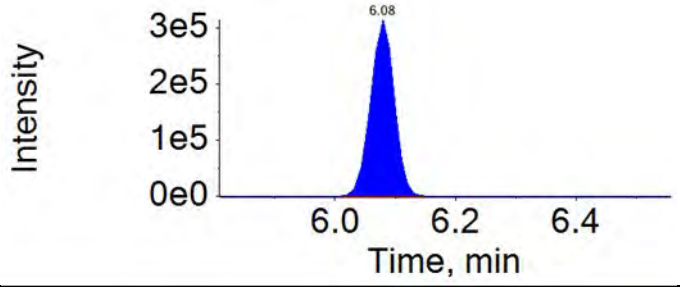
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

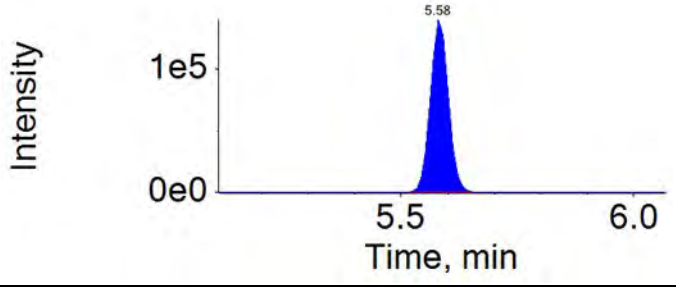
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



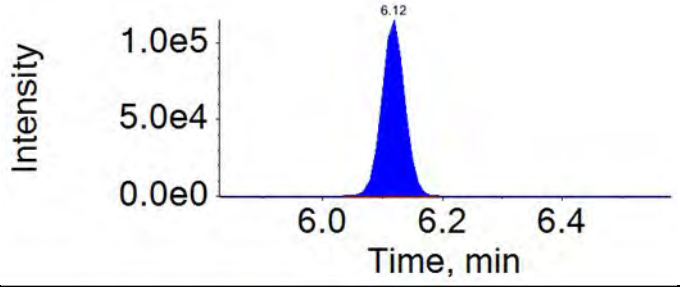


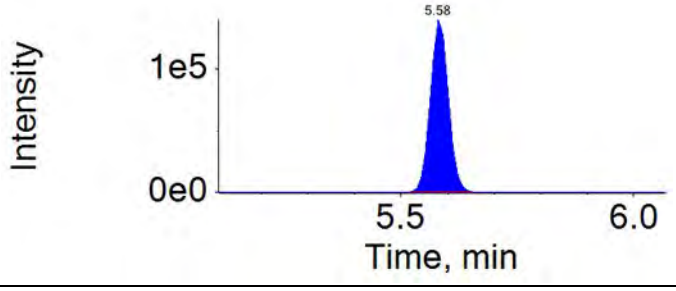
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



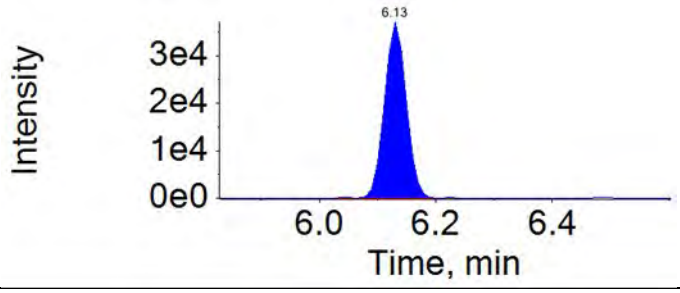


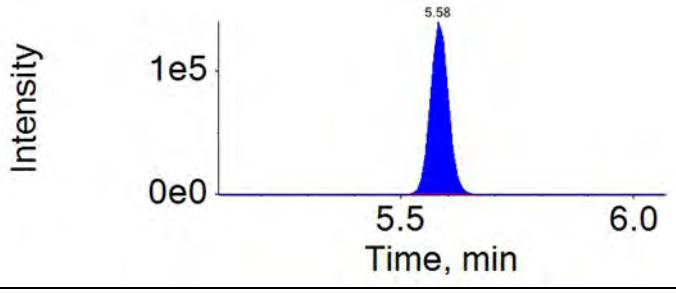
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



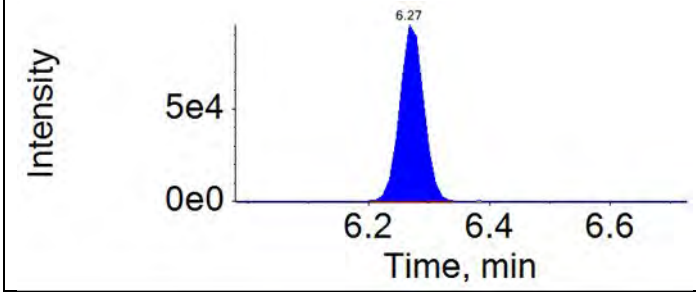


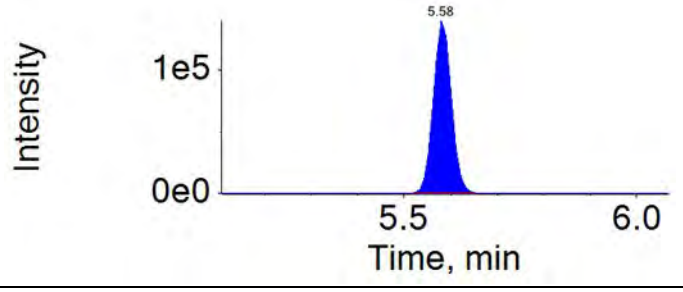
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

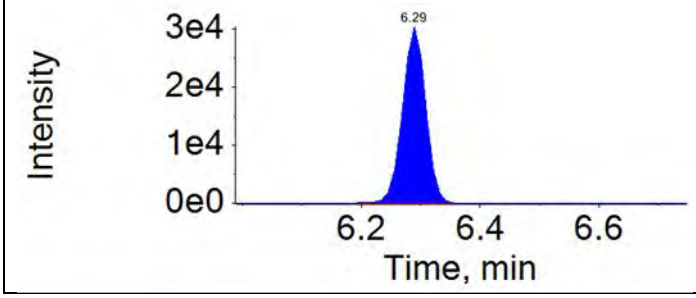
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

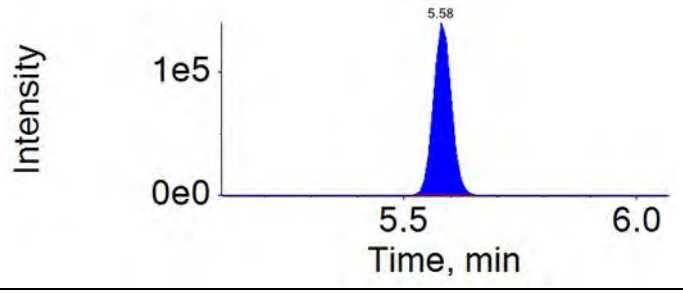
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



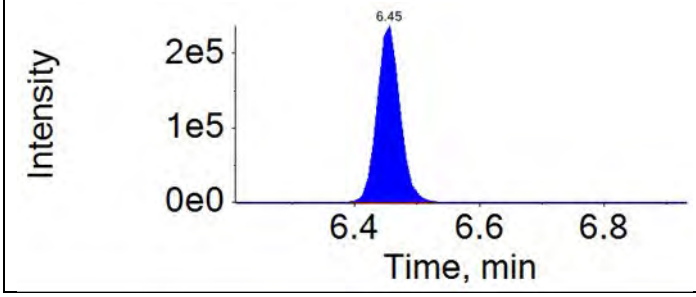


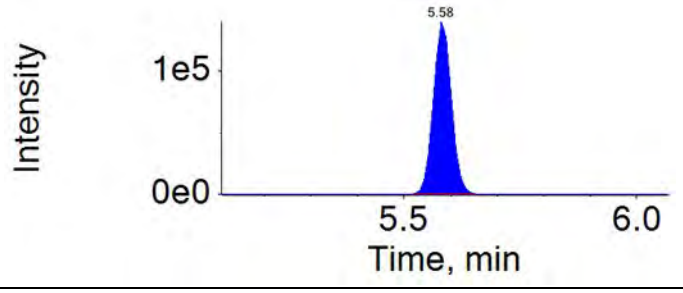
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



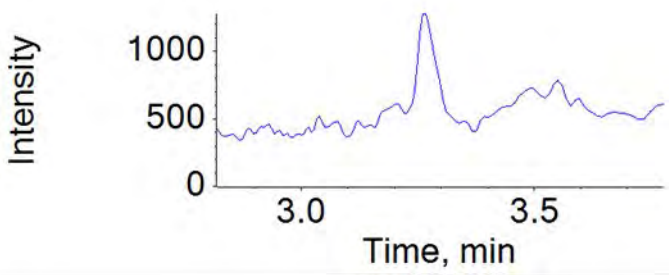


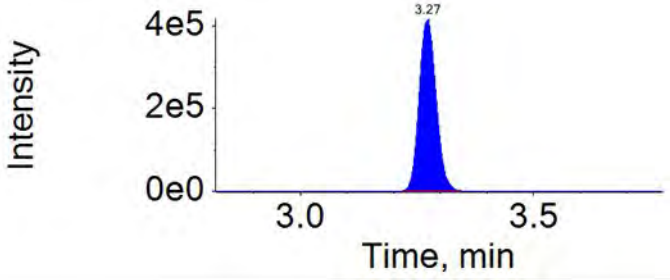
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

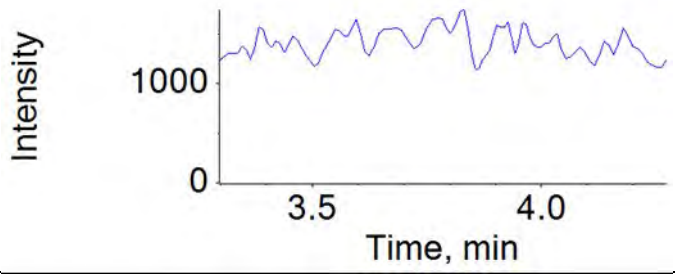
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

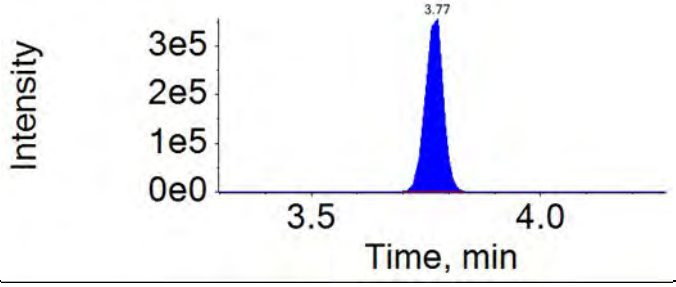
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



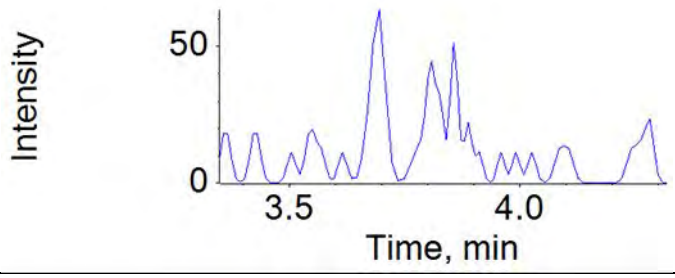


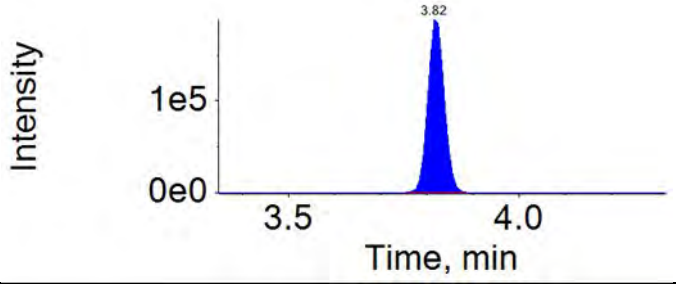
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



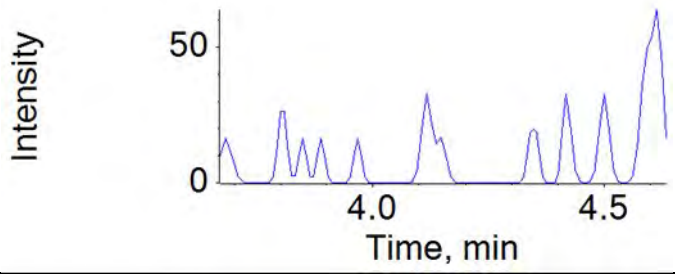


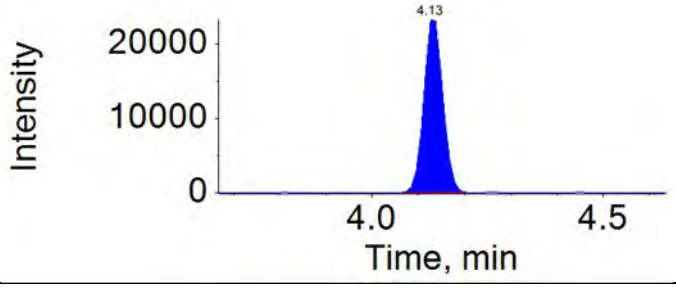
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



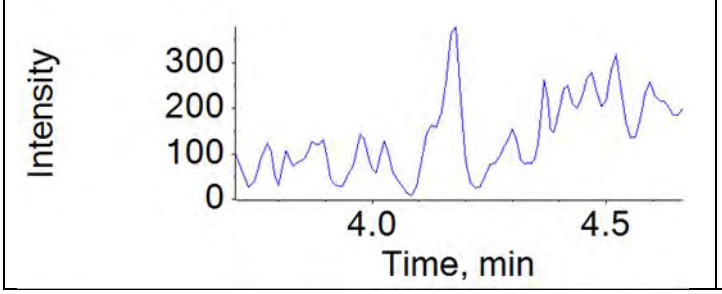


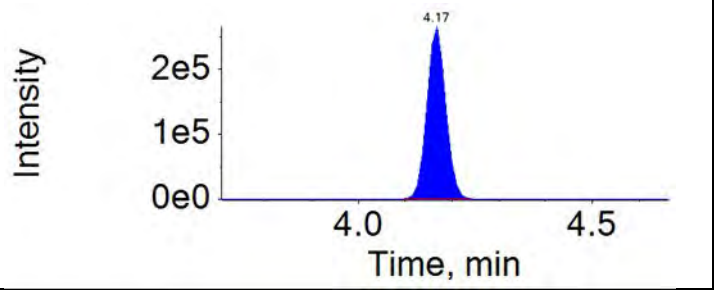
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

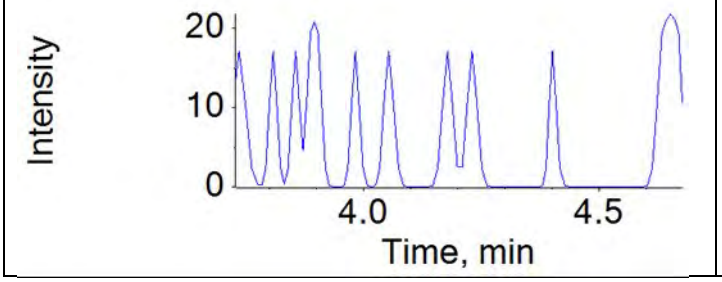
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

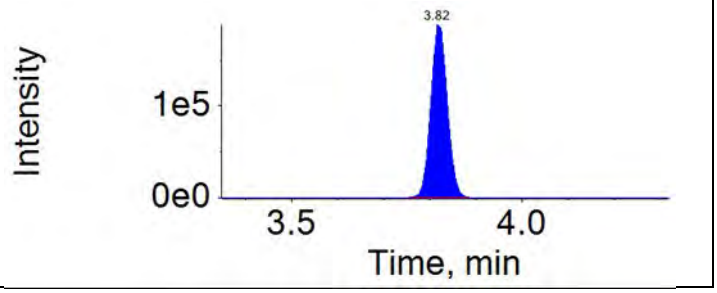
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



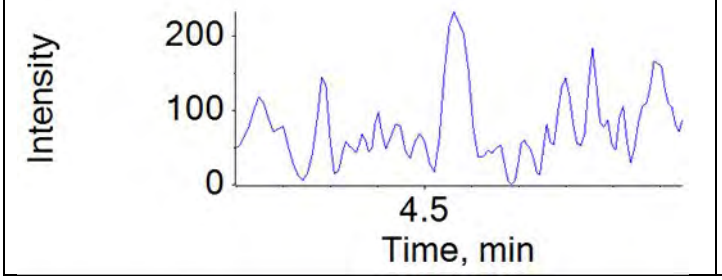


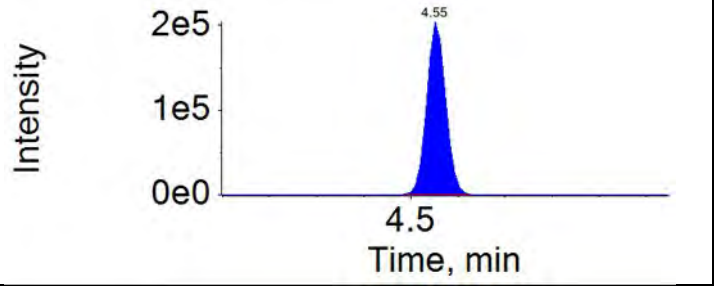
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



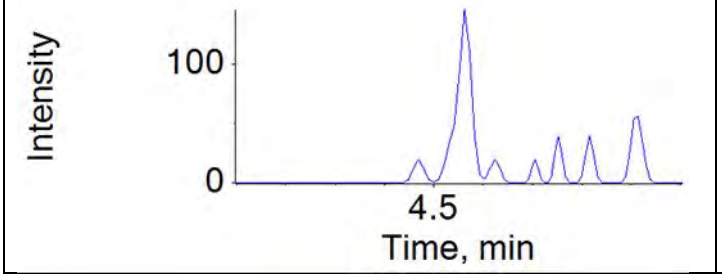


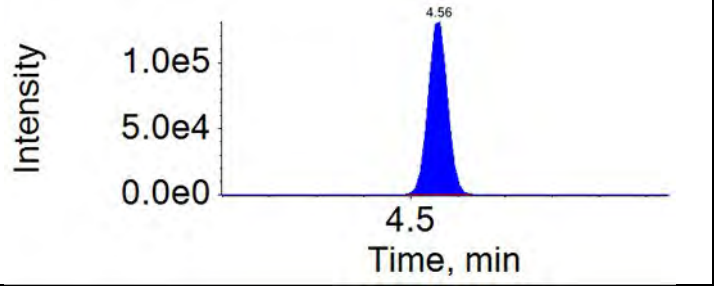
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



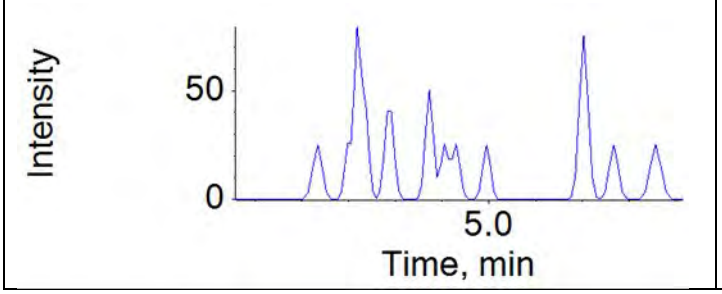


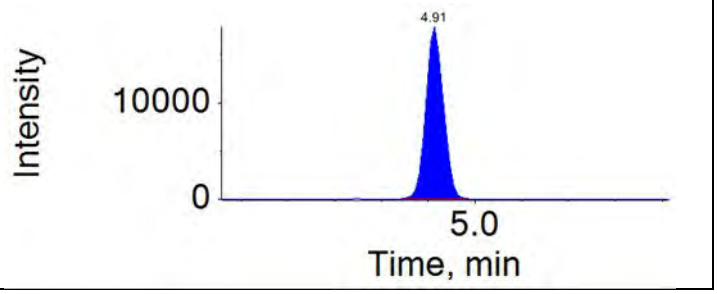
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

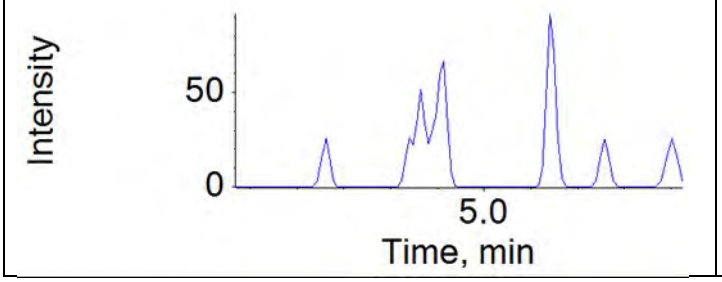
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

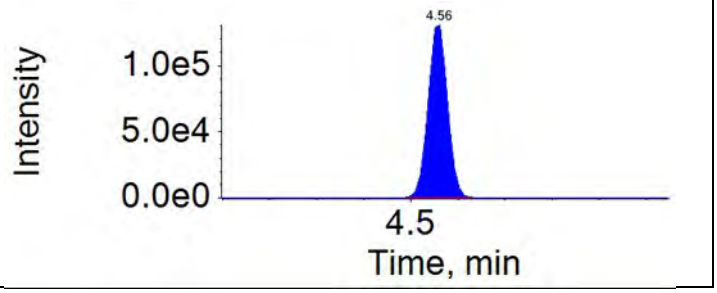
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



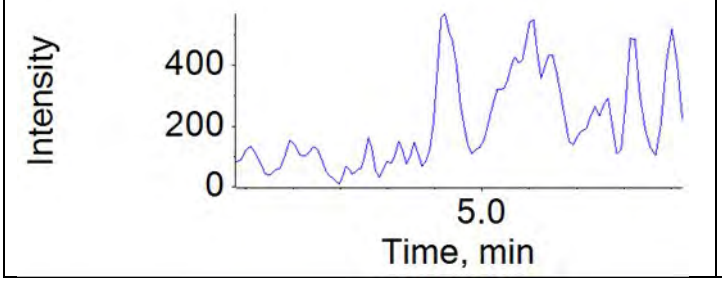


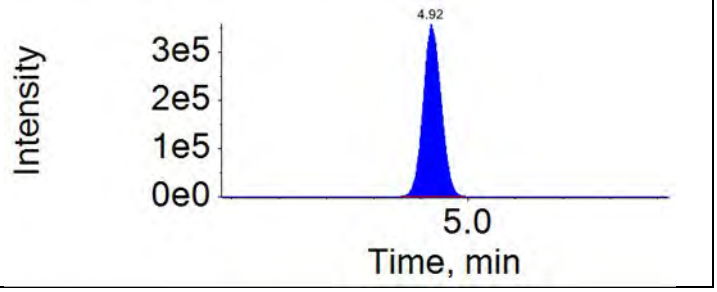
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



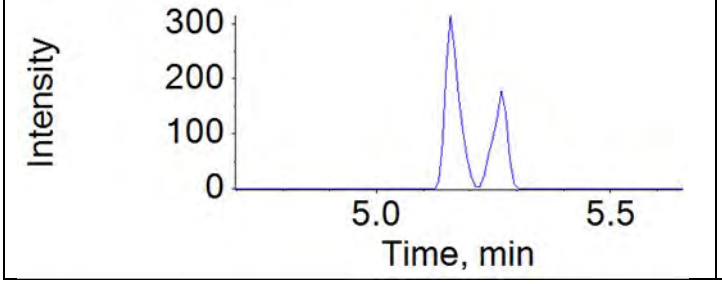


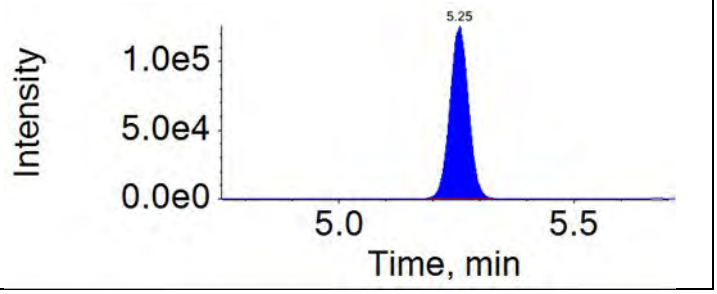
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



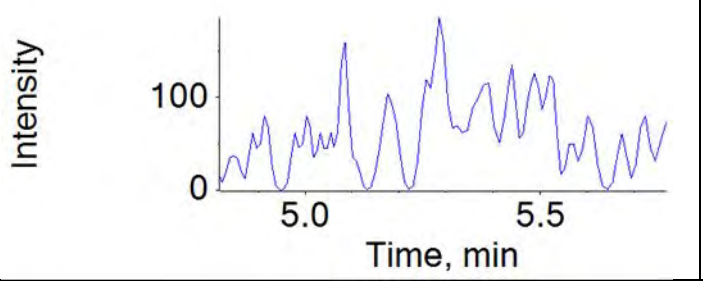


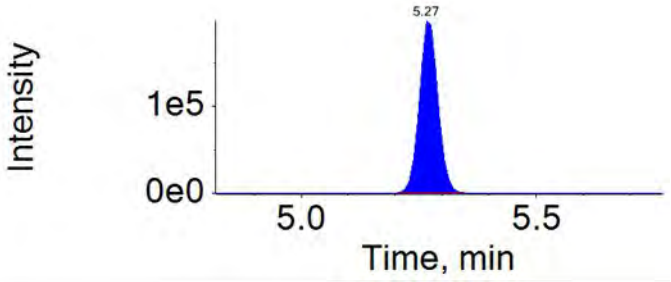
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

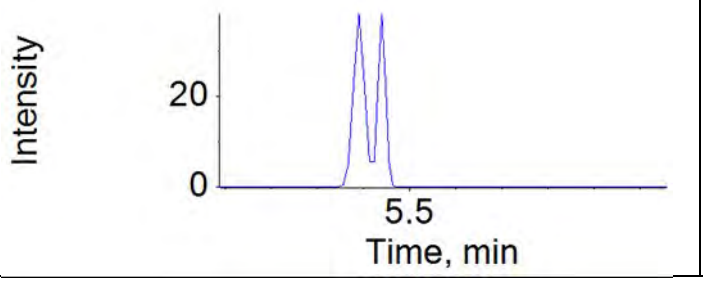
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

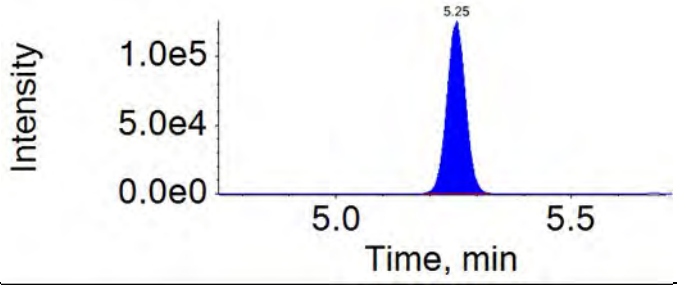
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



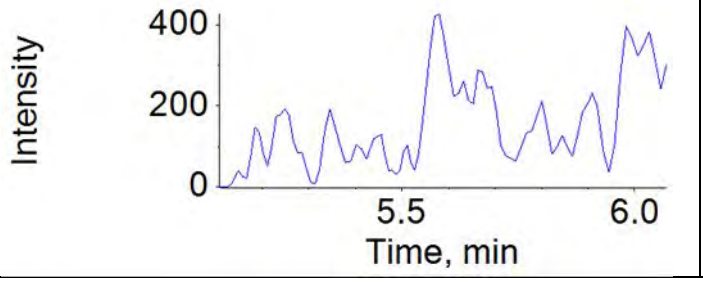


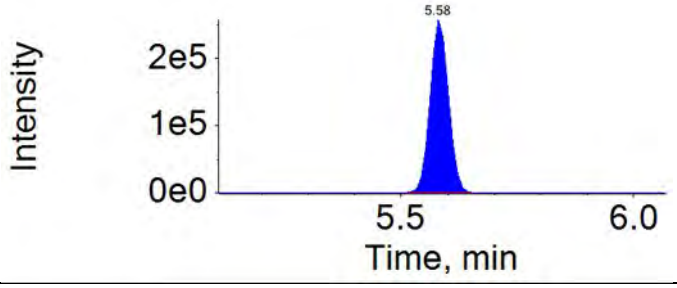
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



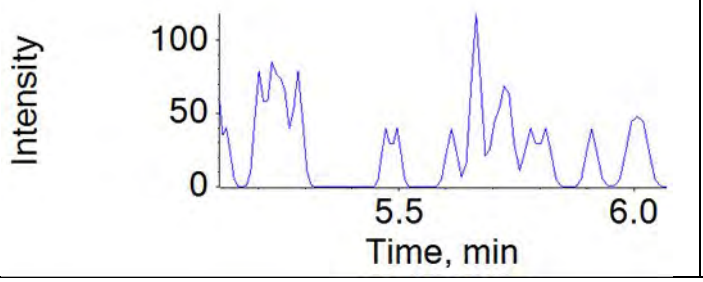


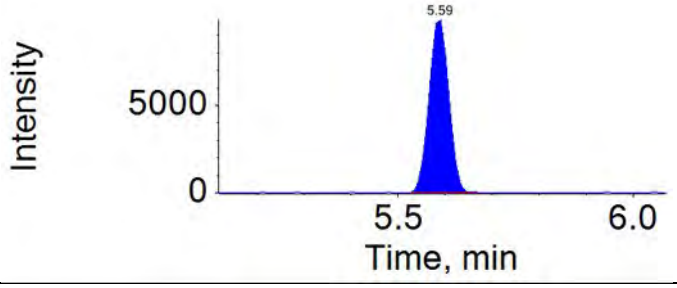
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



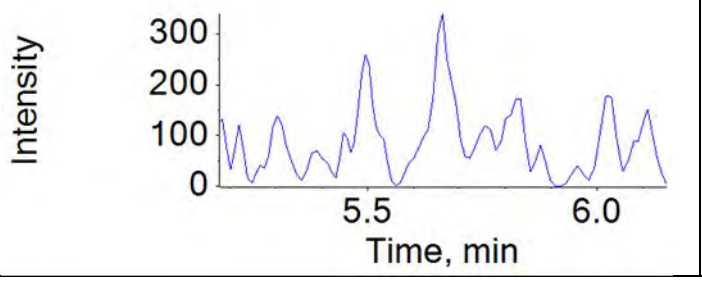


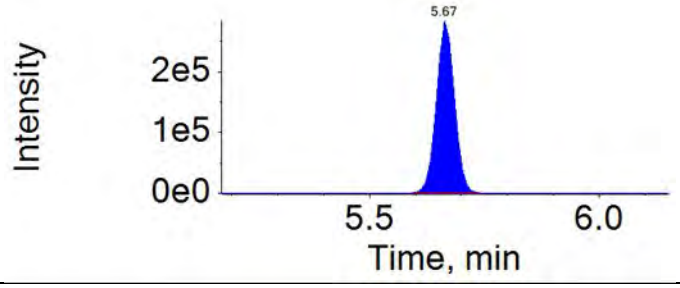
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

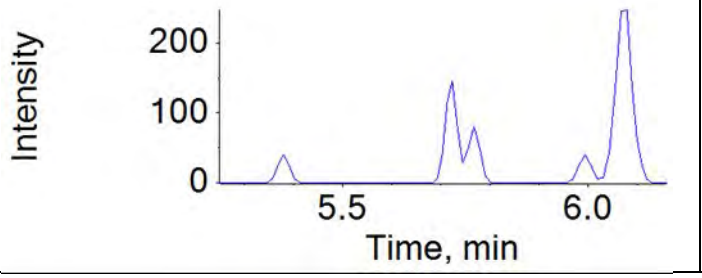
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

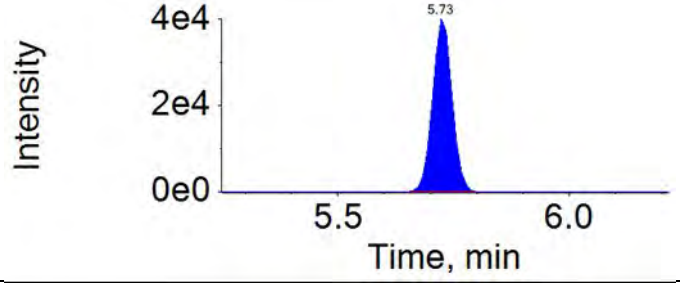
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



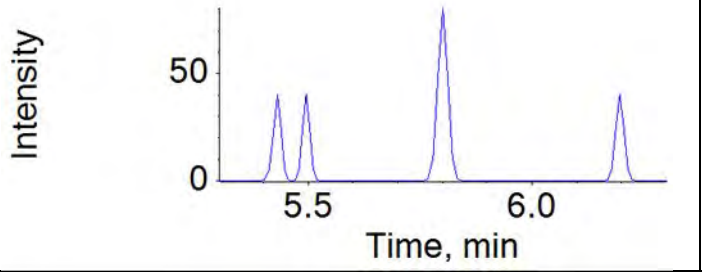


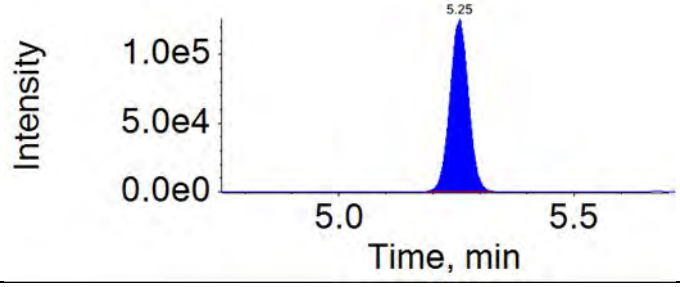
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



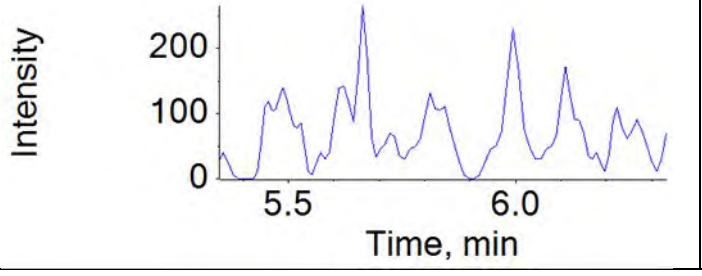


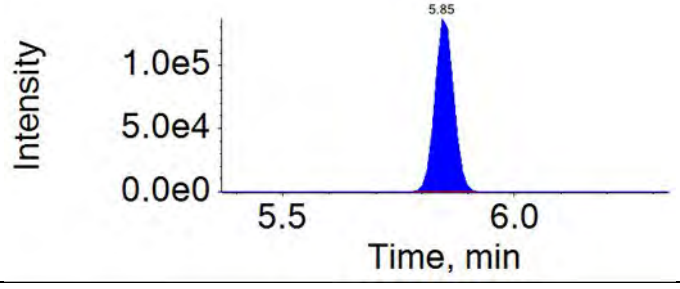
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



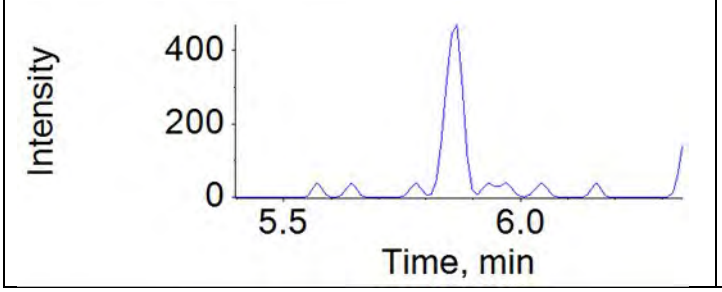


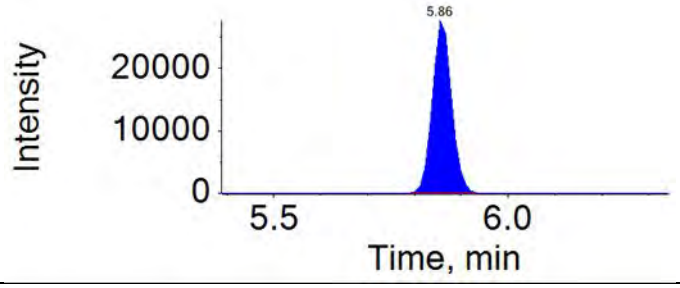
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

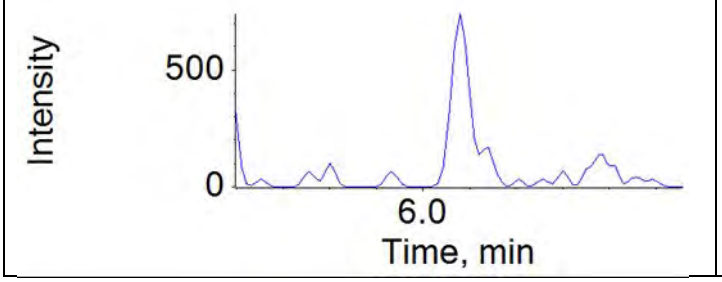
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

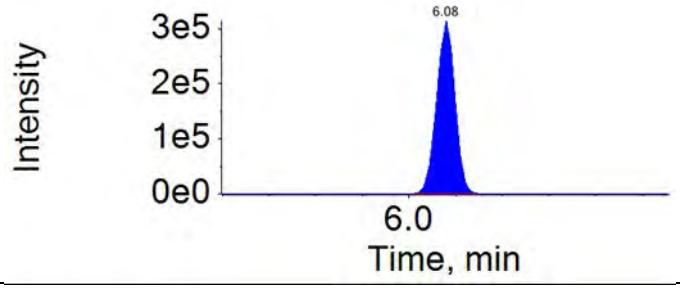
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



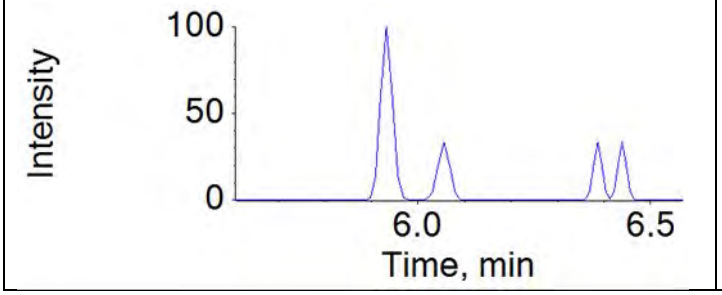


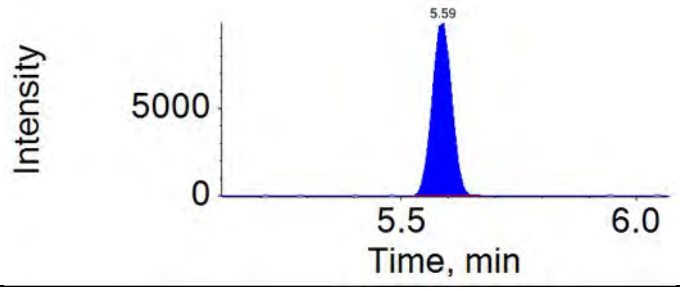
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



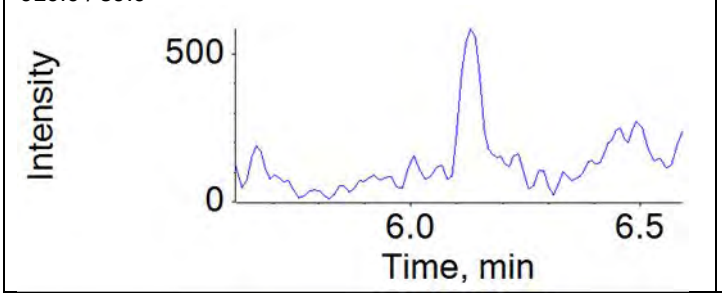


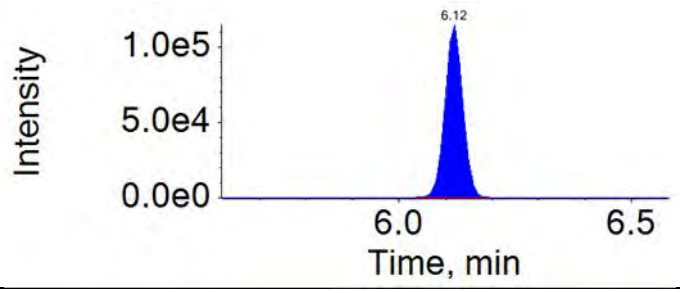
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



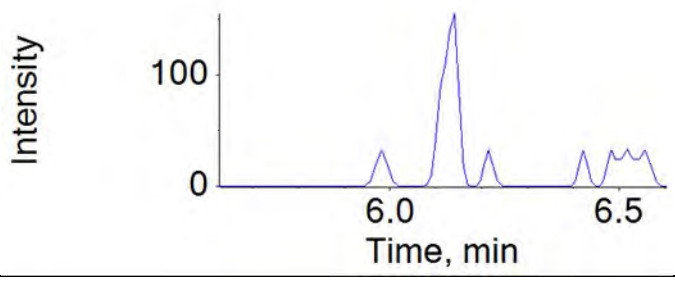


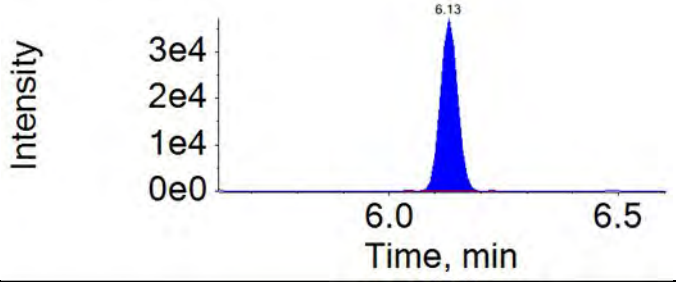
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

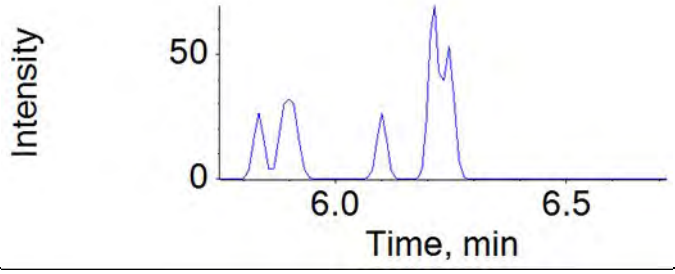
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

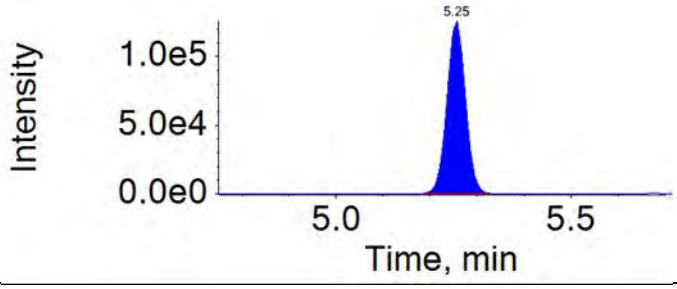
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



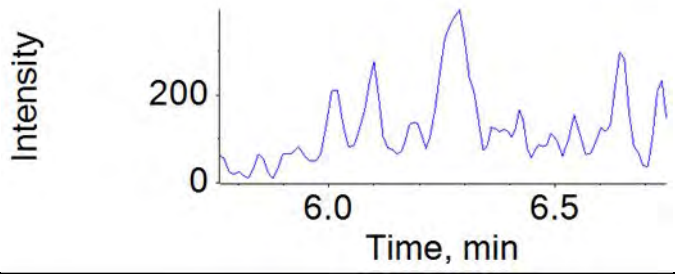


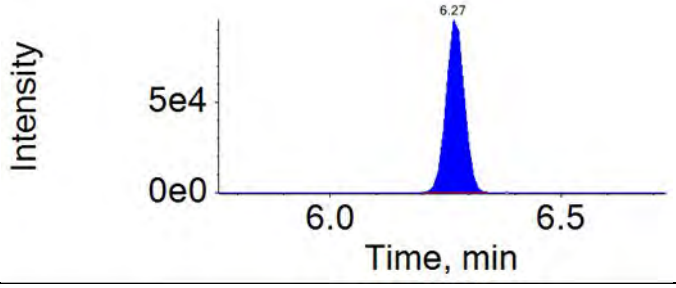
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



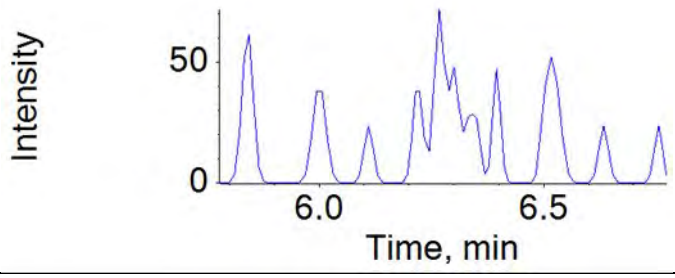


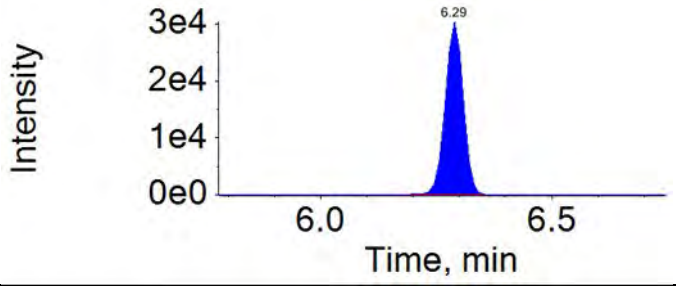
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



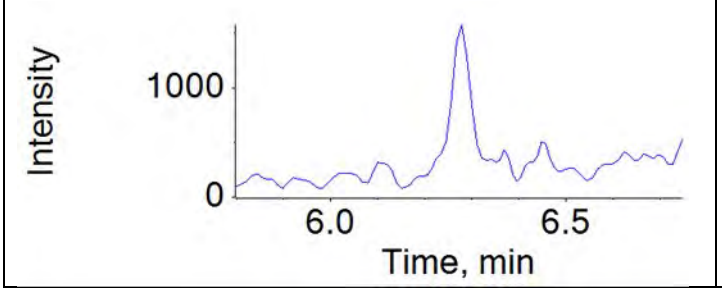


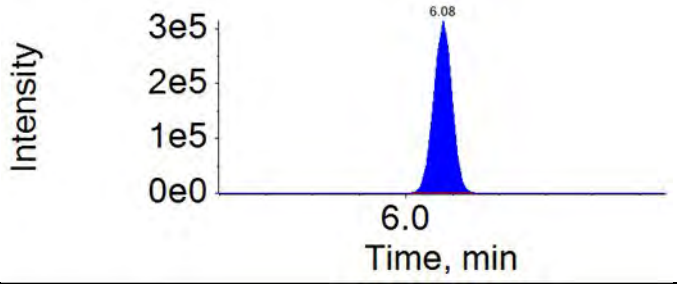
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

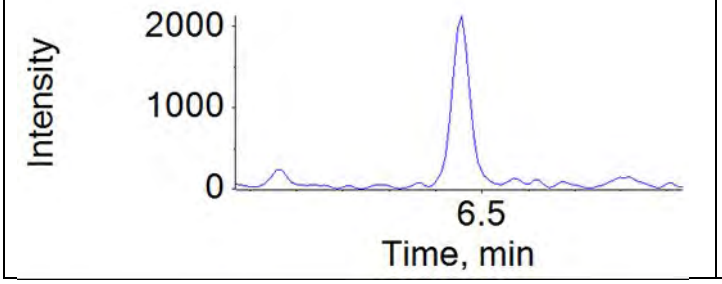
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

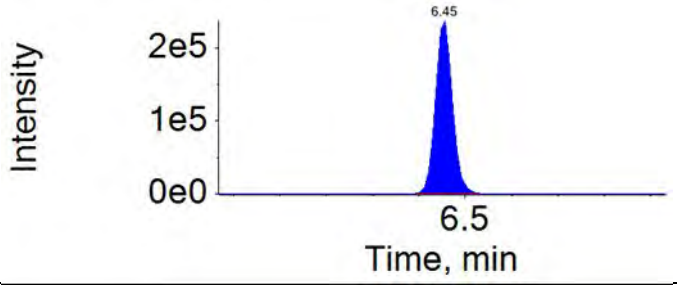
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



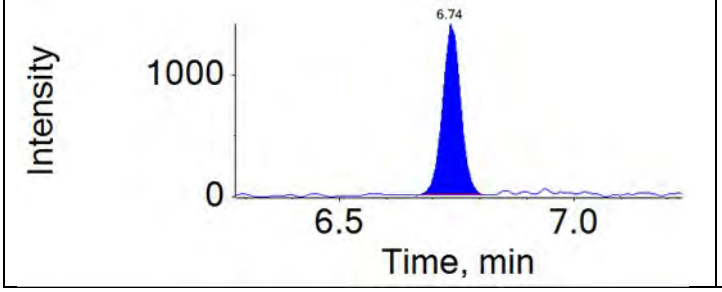


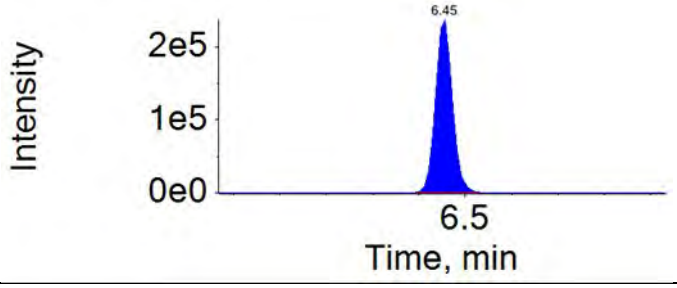
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



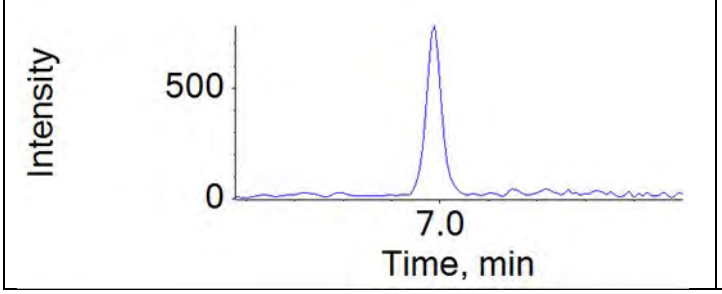


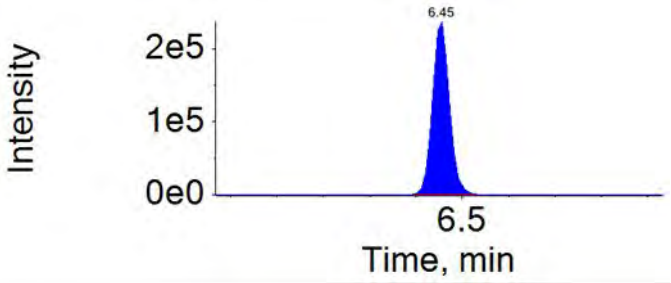
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Ion Ratio Report

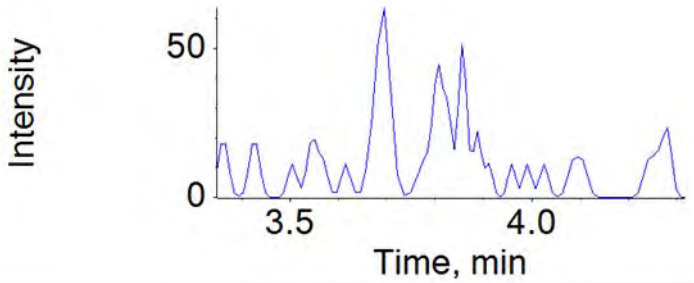
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-32.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3627	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6542	N/A		50	
PFHxA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxA_2	N/A	N/A	N/A	A	0.0097	N/A		50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5262	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0565	N/A		50	
PFHxS	N/A	N/A	N/A	A	1.0000	N/A			
PFHxS_2	N/A	N/A	N/A	A	0.3645	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6273	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.4162	N/A		50	
PFOA	N/A	N/A	N/A	A	1.0000	N/A			
PFOA_2	N/A	N/A	N/A	A	0.0616	N/A		50	
PFOS	N/A	N/A	N/A	A	1.0000	N/A			
PFOS_2	N/A	N/A	N/A	A	0.3021	N/A		50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0192	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4845	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0096	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.6117	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2673	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4952	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0041	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6726	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0133	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.6969	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0075	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0066	N/A		50	
PFHxDA	6.74	1.04	3753.15	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	261.52	M	0.0616	0.0697	13	50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0272	N/A		50	

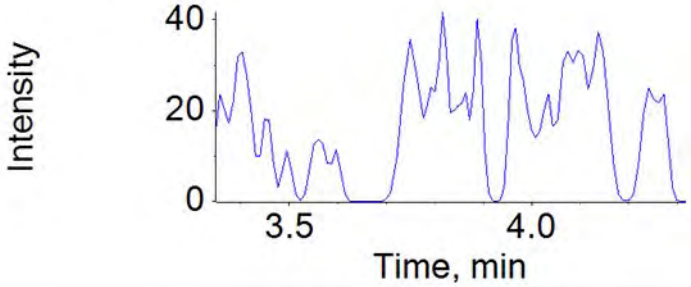
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

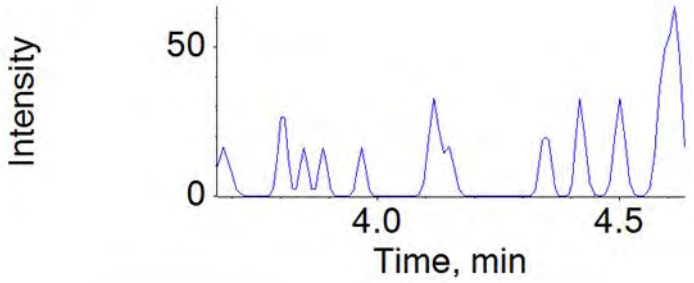
Component: PFBS
Primary Mass: 299.0 / 80.0



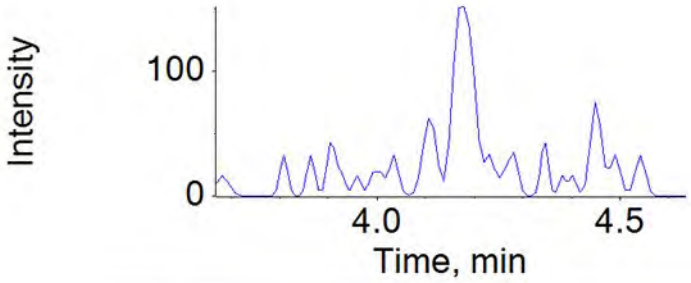
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



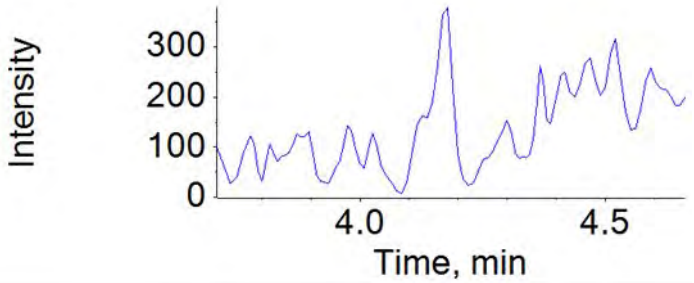
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



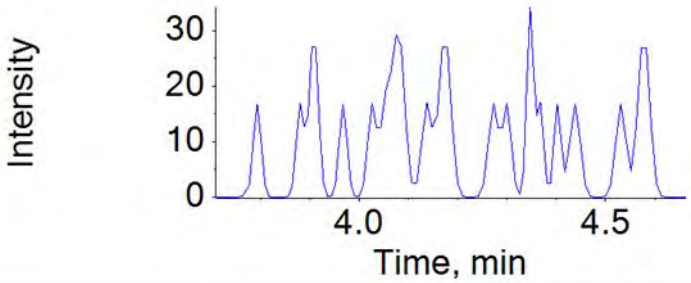
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



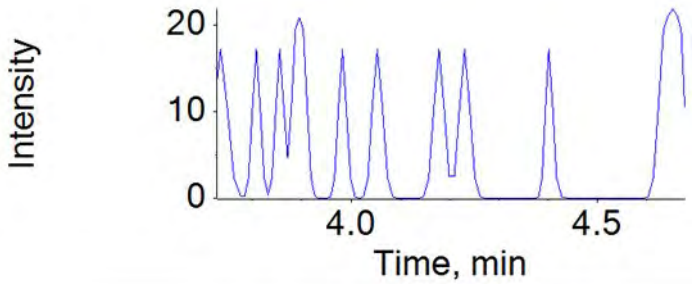
Component: PFHxA
Primary Mass: 313.0 / 269.0



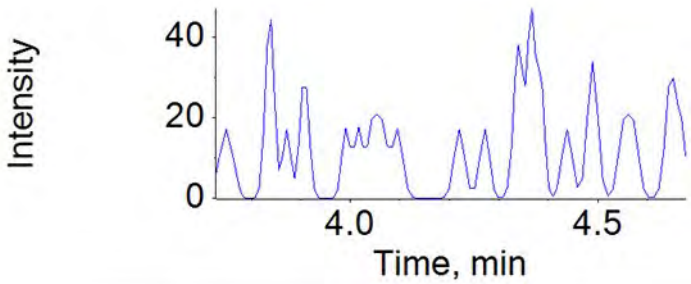
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



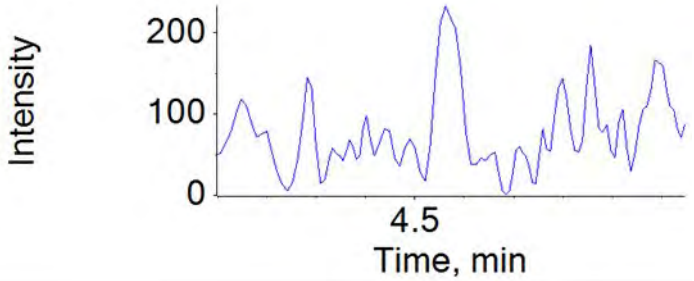
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



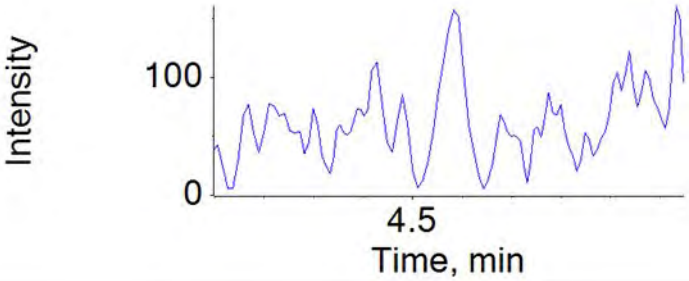
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

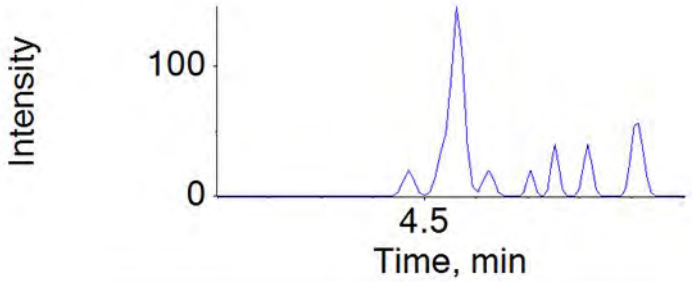
Component: PFHpA
Primary Mass: 363.0 / 319.0



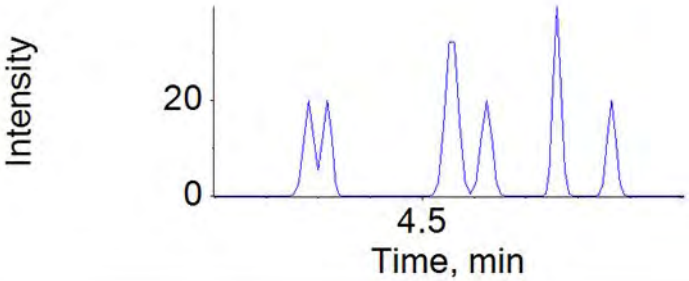
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



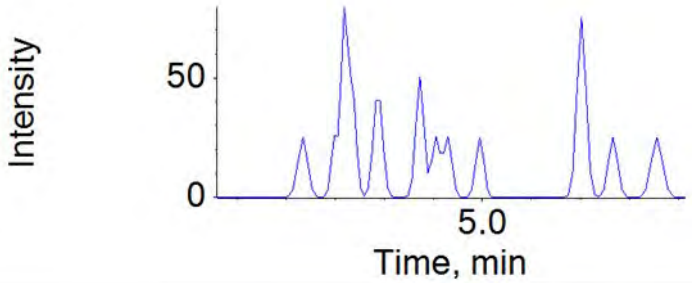
Component: PFHxS
Primary Mass: 399.0 / 80.0



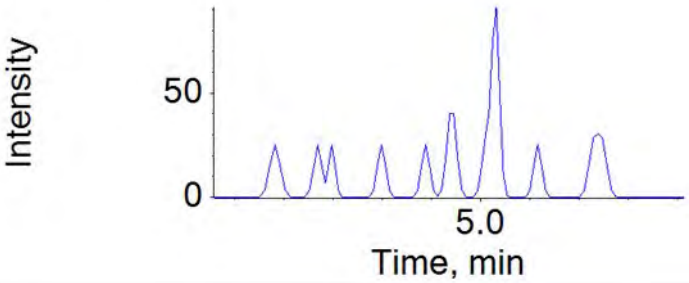
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



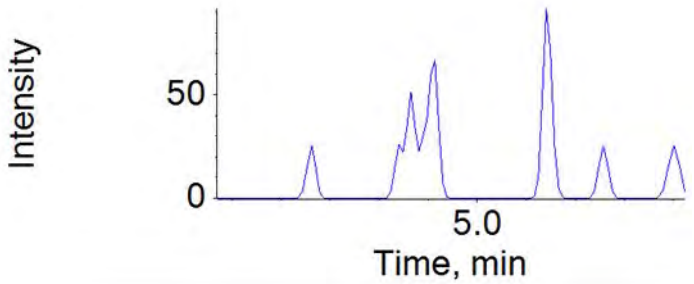
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



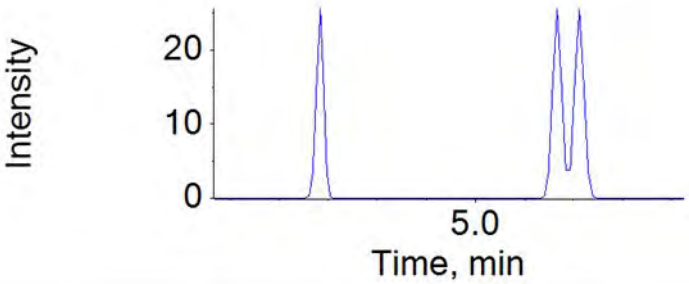
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



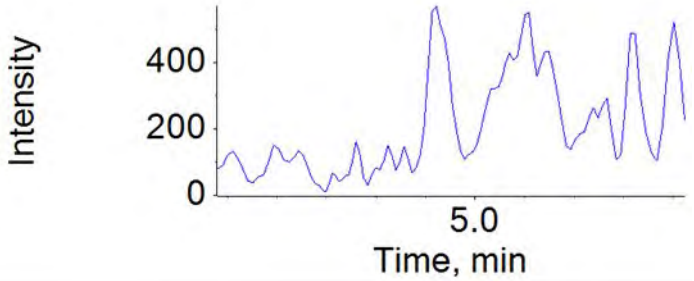
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



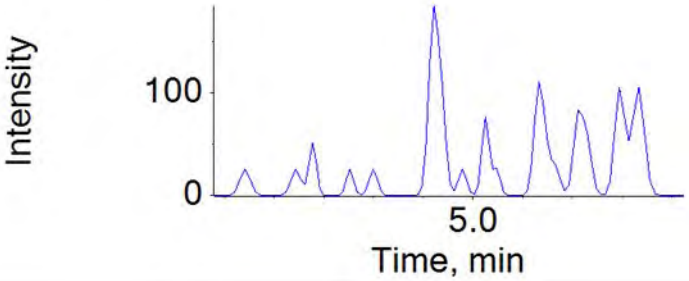
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

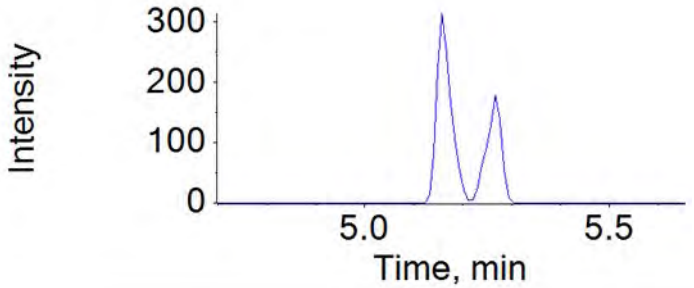
Component: PFOA
Primary Mass: 413.0 / 369.0



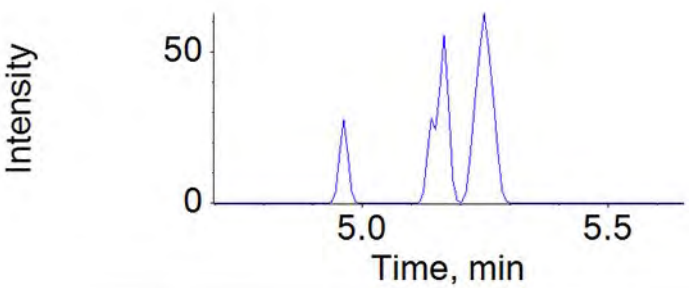
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



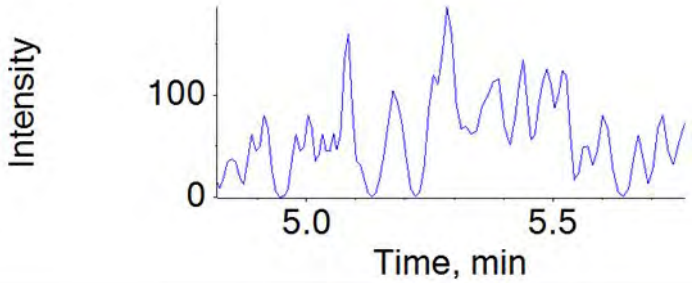
Component: PFOS
Primary Mass: 499.0 / 80.0



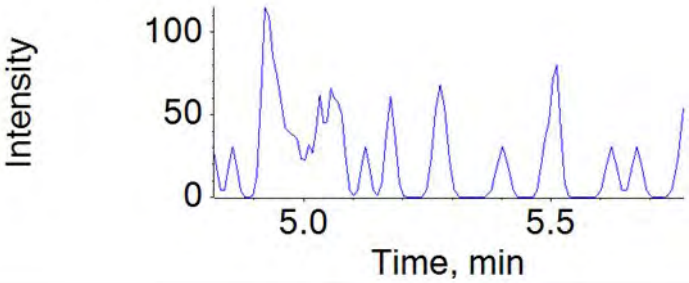
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



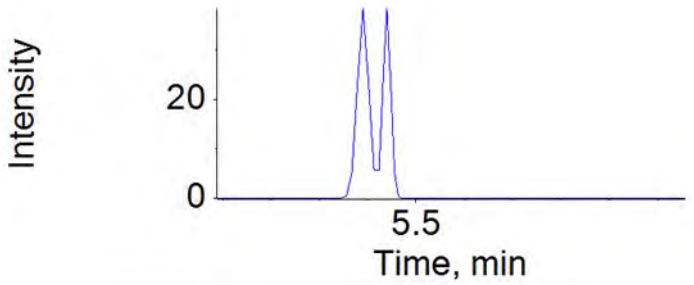
Component: PFNA
Primary Mass: 463.0 / 419.0



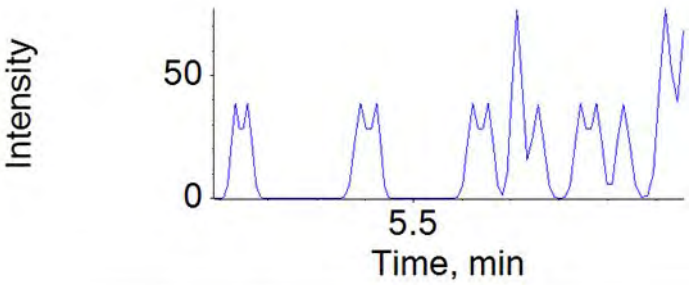
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



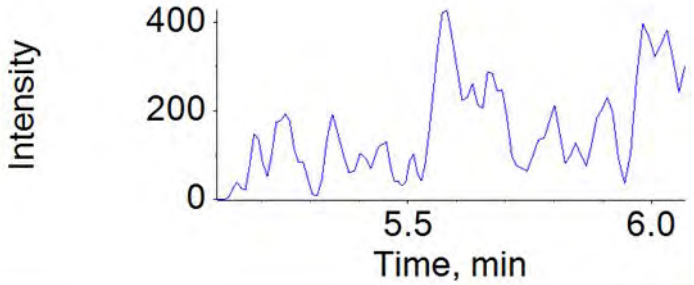
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



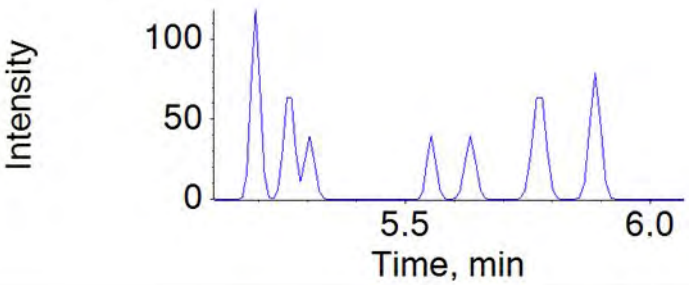
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

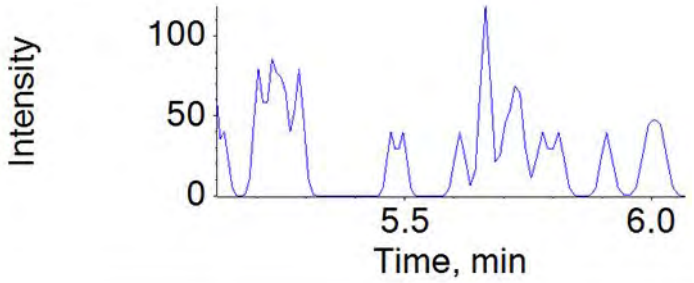
Component: PFDA
Primary Mass: 513.0 / 469.0



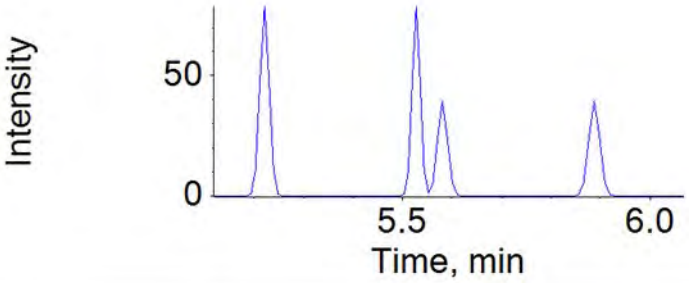
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



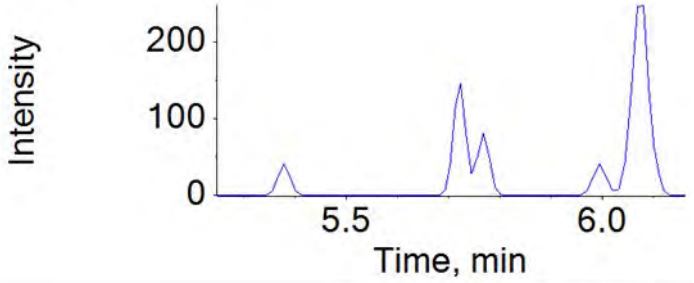
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



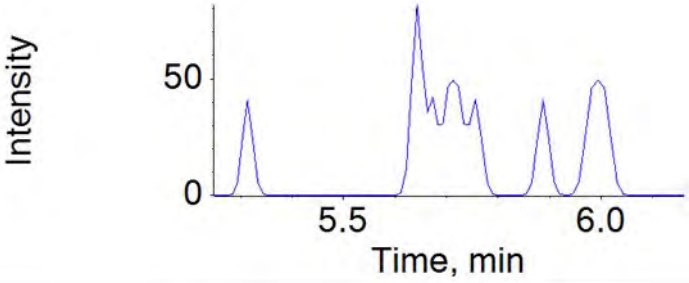
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



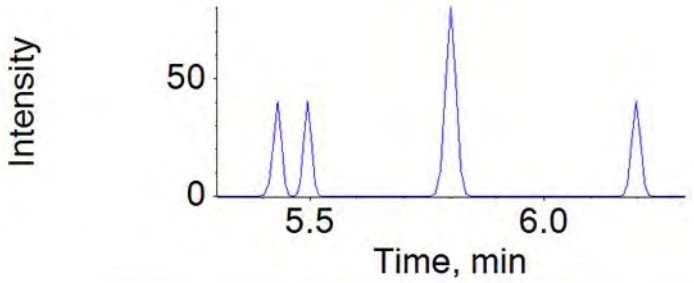
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



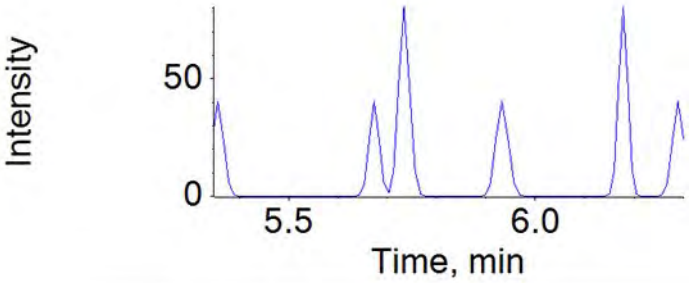
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



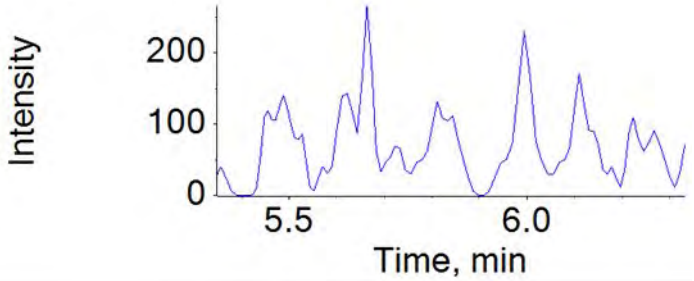
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



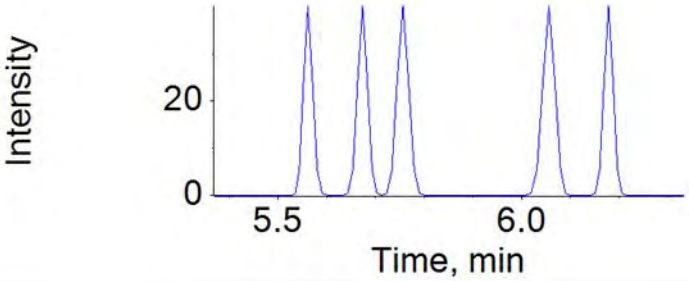
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

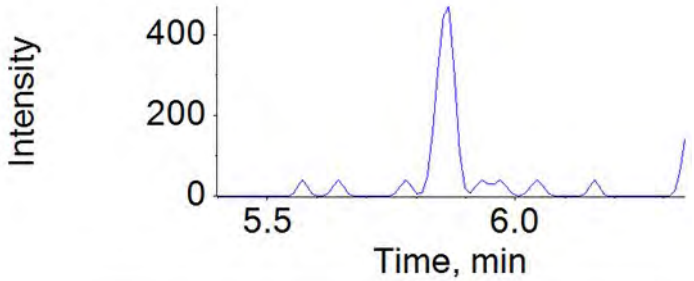
Component: PFUnDA
Primary Mass: 563.0 / 519.0



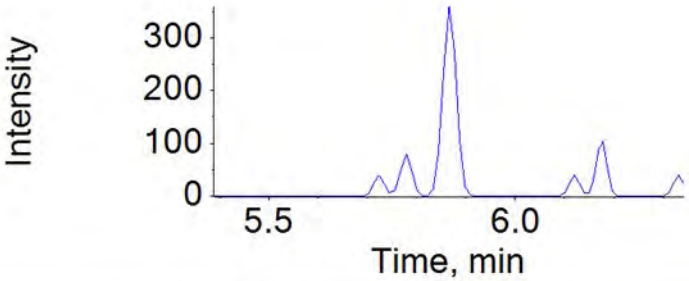
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



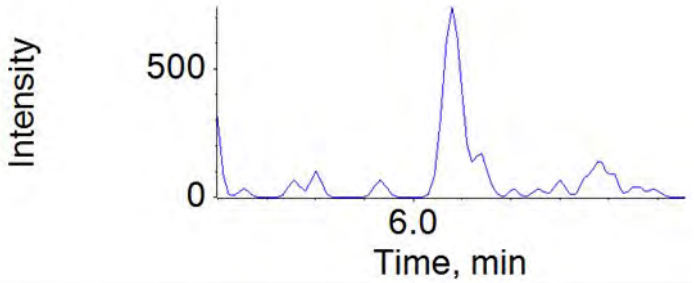
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



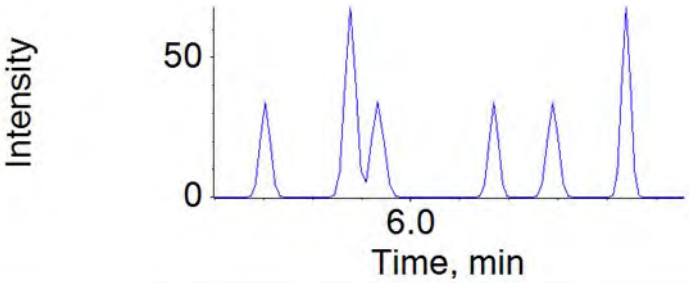
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



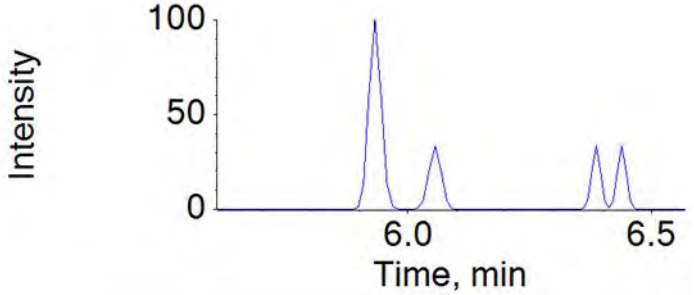
Component: PFDoDA
Primary Mass: 613.0 / 569.0



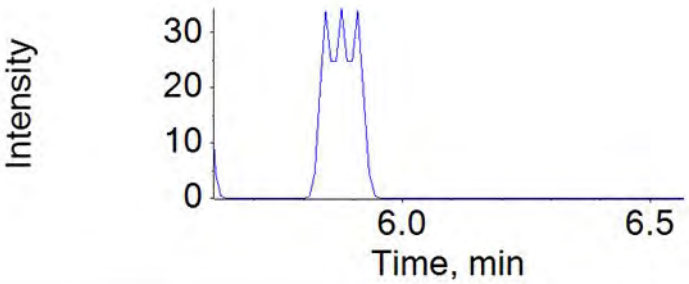
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



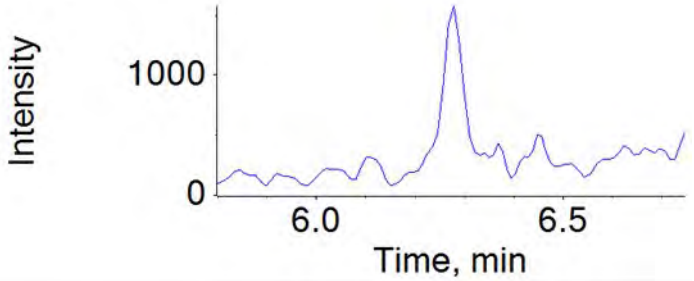
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



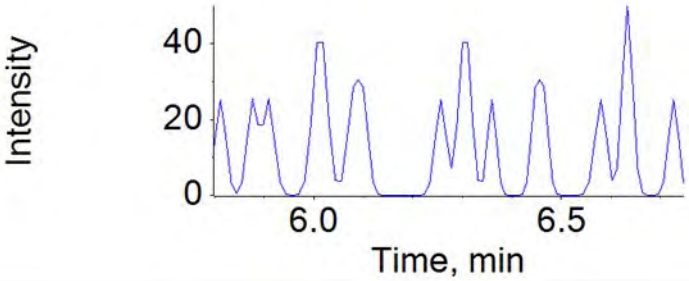
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

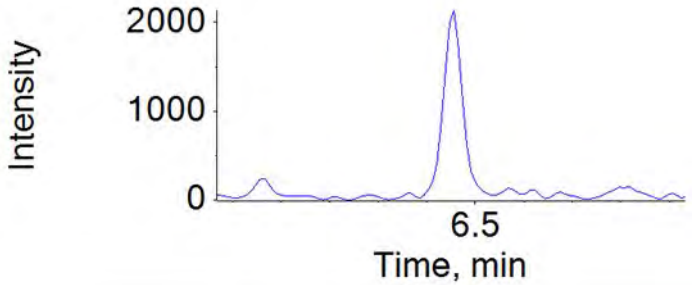
Component: PFTrDA
Primary Mass: 663.0 / 619.0



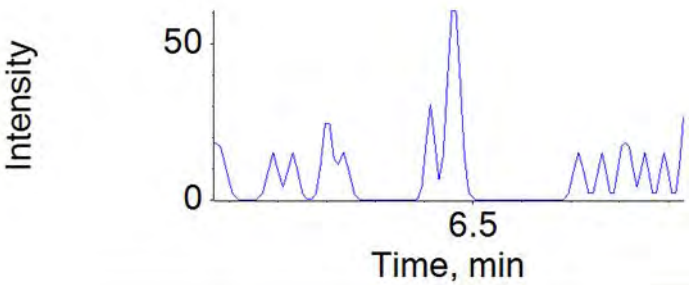
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



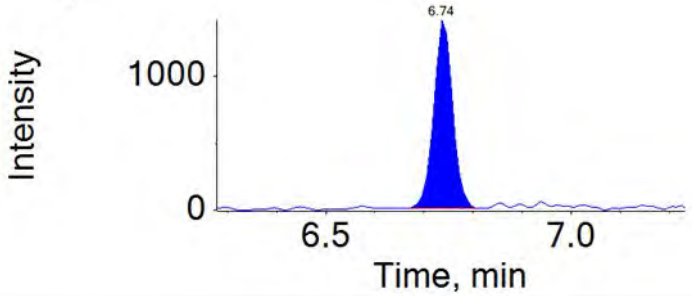
Component: PFTeDA
Primary Mass: 713.0 / 669.0



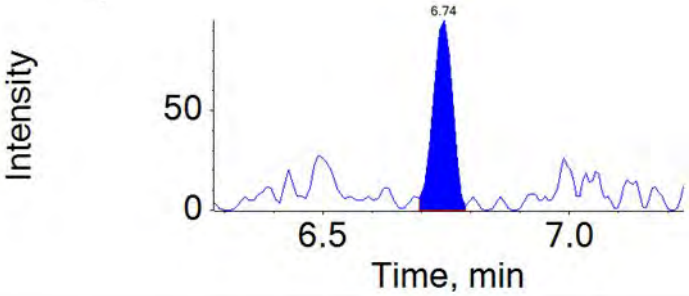
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



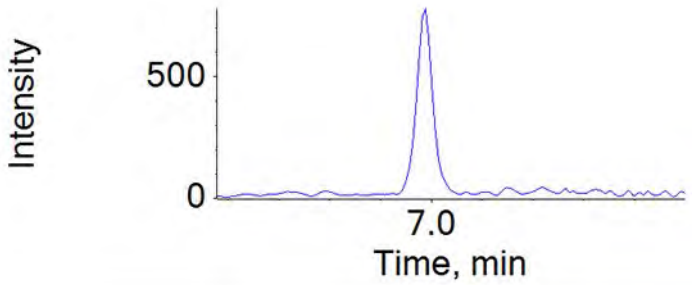
Component: PFHxDA
Primary Mass: 813.0 / 769.0



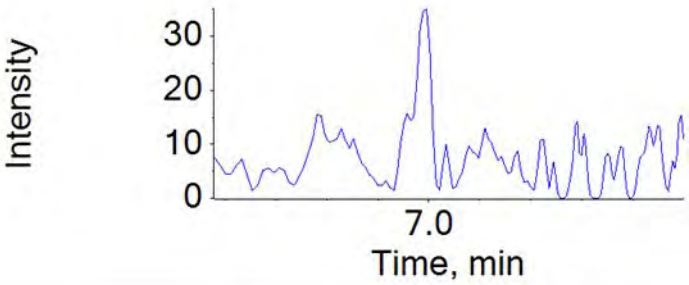
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	ICV			**Data File:**		18DEC06DCAL-33.wiff
Sample ID:	ICVMODX1833G			**Acquis Date:**		2018-12-07T00:49:37
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	10			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	862809.8	825688.9	4	50	
13C2-PFOA	5.0	440385.4	449802.8	-2	50	
13C4-PFOS	4.8	289133.3	276858.3	4	50	
13C2-PFDA	5.0	325898.3	315428.3	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	949191.0	13C3-PFBA	862809.8	1.100	5.000	4.869	97	70-130	
E13C5-PFPeA	881736.1	13C3-PFBA	862809.8	1.022	5.000	4.854	97	70-130	
E13C3-PFBS	445541.7	13C3-PFBA	862809.8	0.516	4.650	4.377	94	70-130	
E13C2-4:2-FTS	56764.7	13C2-PFOA	440385.4	0.129	4.670	5.051	108	70-130	
E13C5-PFHxA	656636.4	13C2-PFOA	440385.4	1.491	5.000	5.006	100	70-130	
E13C3-PFHxS	350861.3	13C2-PFOA	440385.4	0.797	4.730	5.110	108	70-130	
E13C4-PFHpA	518050.9	13C2-PFOA	440385.4	1.176	5.000	5.001	100	70-130	
E13C2-6:2-FTS	35235.4	13C2-PFOA	440385.4	0.080	4.750	4.957	104	70-130	
E13C8-PFOA	819462.1	13C2-PFOA	440385.4	1.861	5.000	5.260	105	70-130	
E13C8-PFOS	301700.5	13C4-PFOS	289133.3	1.043	4.780	4.683	98	70-130	
E13C9-PFNA	506111.7	13C4-PFOS	289133.3	1.750	5.000	4.946	99	70-130	
E13C6-PFDA	616493.9	13C2-PFDA	325898.3	1.892	5.000	5.013	100	70-130	
E13C2-8:2-FTS	24386.0	13C2-PFDA	325898.3	0.075	4.790	4.885	102	70-130	
E13C8-PFOSA	701268.4	13C2-PFDA	325898.3	2.152	5.000	5.089	102	70-130	
Ed3-NMeFOSAA	87605.1	13C2-PFDA	325898.3	0.269	5.000	4.764	95	70-130	
E13C7-PFUnDA	336301.0	13C2-PFDA	325898.3	1.032	5.000	5.062	101	70-130	
Ed5-NEtFOSAA	71167.6	13C2-PFDA	325898.3	0.218	5.000	4.821	96	70-130	
E13C2-PFDoDA	765392.7	13C2-PFDA	325898.3	2.349	5.000	4.928	99	70-130	
Ed7-NMePFOSAE	282158.8	13C2-PFDA	325898.3	0.866	5.000	4.987	100	70-130	
Ed3-NMePFOSA	89779.4	13C2-PFDA	325898.3	0.275	5.000	5.019	100	70-130	
Ed9-NEtPFOSAE	228783.4	13C2-PFDA	325898.3	0.702	5.000	4.841	97	70-130	
Ed5-NEtPFOSA	72087.8	13C2-PFDA	325898.3	0.221	5.000	4.978	100	70-130	
E13C2-PFTeDA	545334.4	13C2-PFDA	325898.3	1.673	5.000	4.967	99	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

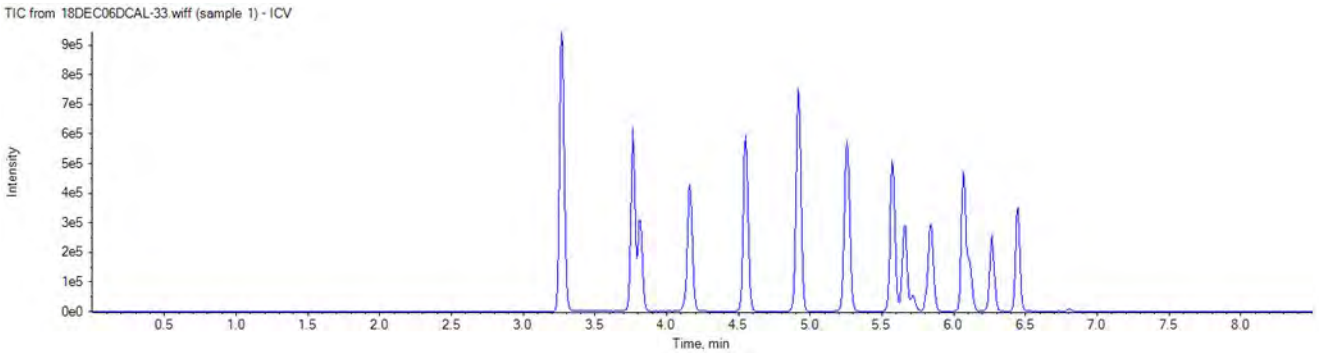
Analyte Quantitation Peak Table

Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-33.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	365740.6		A	13C4-PFBA	3.27	949191.0	0.385	2.126
PFPeA	3.77	1.000	343574.5		A	13C5-PFPeA	3.77	881736.1	0.390	2.050
PFBS	3.81	1.000	162266.0		A	13C3-PFBS	3.82	445541.7	0.364	1.805
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	56764.7	N/A	
PFHxA	4.16	1.000	339202.1		A	13C5-PFHxA	4.16	656636.4	0.517	2.251
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	445541.7	N/A	
PFHpA	4.55	1.000	342255.0		A	13C4-PFHpA	4.55	518050.9	0.661	2.175
PFHxS	4.55	1.000	125645.8		A	13C3-PFHxS	4.55	350861.3	0.358	1.697
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	35235.4	N/A	
PFHpS	4.91	1.080	124002.4		A	13C3-PFHxS	4.55	350861.3	0.353	1.940
PFOA	4.92	1.000	320848.4		A	13C8-PFOA	4.92	819462.1	0.392	2.140
PFOS	5.25	1.000	119330.2		A	13C8-PFOS	5.25	301700.5	0.396	1.641
PFNA	5.26	1.000	281622.4		A	13C9-PFNA	5.26	506111.7	0.556	2.051
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	301700.5	N/A	
PFDA	5.57	1.000	241839.3		A	13C6-PFDA	5.57	616493.9	0.392	2.208
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.58	24386.0	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.66	701268.4	N/A	
NMeFOSAA	5.72	1.000	33150.5		A	d3-NMeFOSAA	5.72	87605.1	0.378	2.503
PFDS	5.81	1.110	72651.6		A	13C8-PFOS	5.25	301700.5	0.241	1.947
PFUnDA	5.84	1.000	236810.3		A	13C7-PFUnDA	5.84	336301.0	0.704	2.156
NEtFOSAA	5.86	1.000	28610.4		A	d5-NEtFOSAA	5.85	71167.6	0.402	2.032
PFDoDA	6.07	1.000	282836.3		A	13C2-PFDoDA	6.07	765392.7	0.370	1.945
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.58	24386.0	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.11	282158.8	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.12	89779.4	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	301700.5	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.26	228783.4	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.28	72087.8	N/A	
PFTrDA	6.27	1.030	269624.2		A	13C2-PFDoDA	6.07	765392.7	0.352	2.307
PFTeDA	6.44	1.000	203997.3		A	13C2-PFTeDA	6.45	545334.4	0.374	2.139
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	545334.4	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	545334.4	N/A	

Total Ion Chromatogram

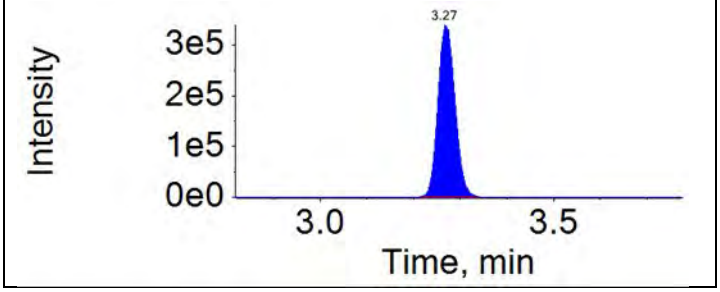


APPROVED
By MSM at 1:53 pm, 12/7/18

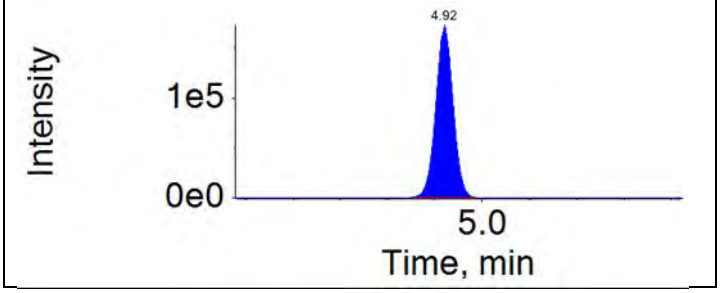
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

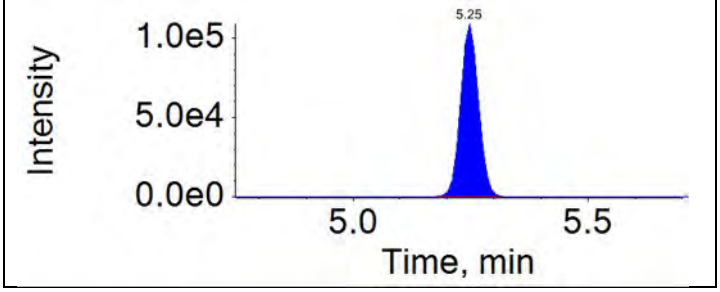
Injection Standard: 13C3-PFBA
216.0 / 172.0



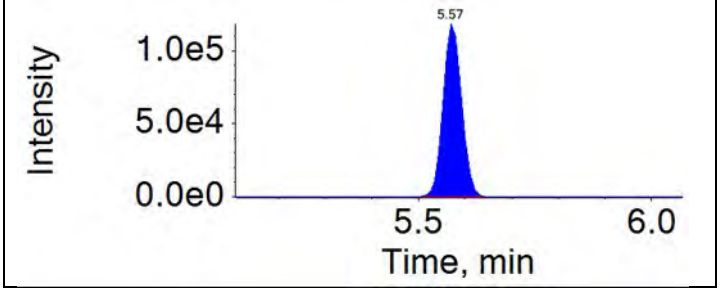
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



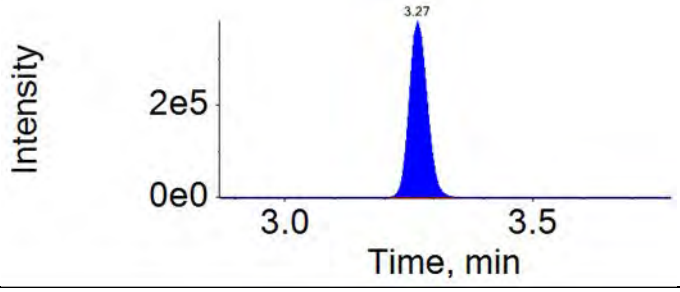
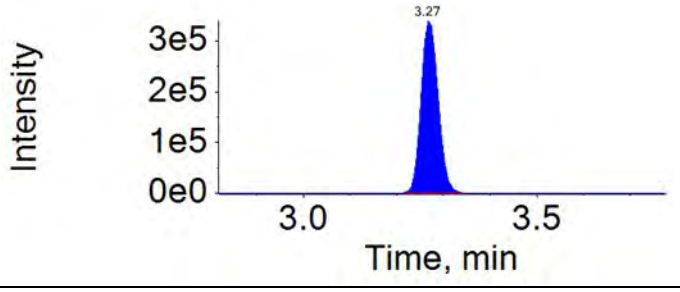
Injection Standard: 13C2-PFDA
515.0 / 470.0

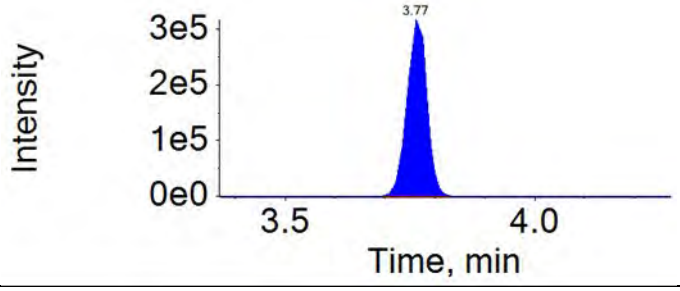
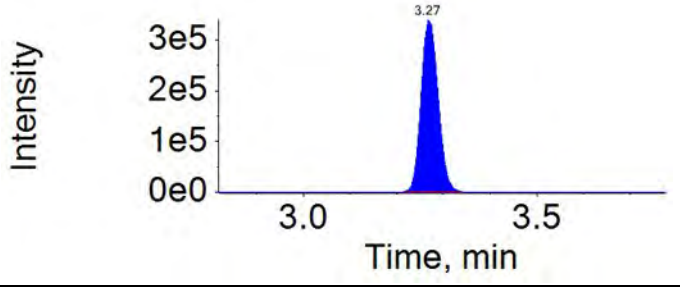


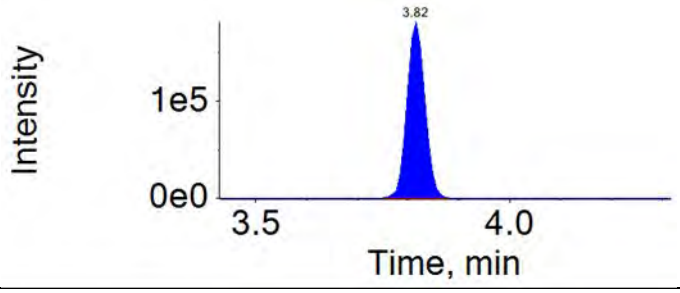
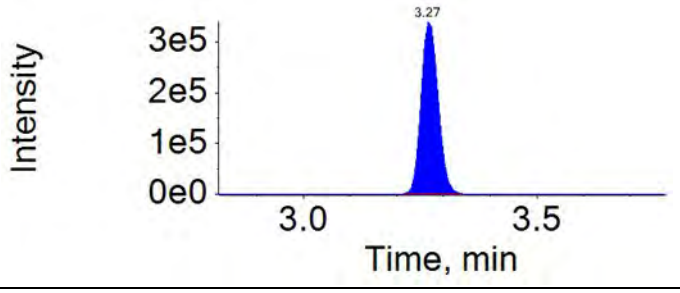
APPROVED
By MSM at 1:53 pm, 12/7/18

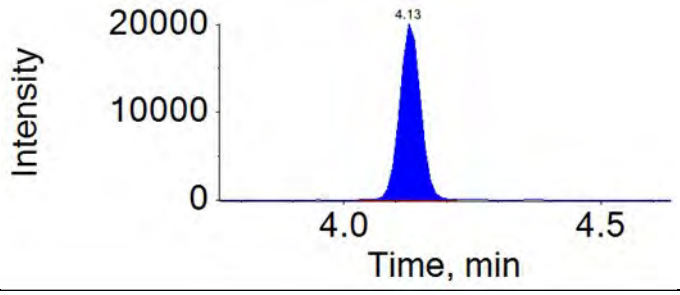
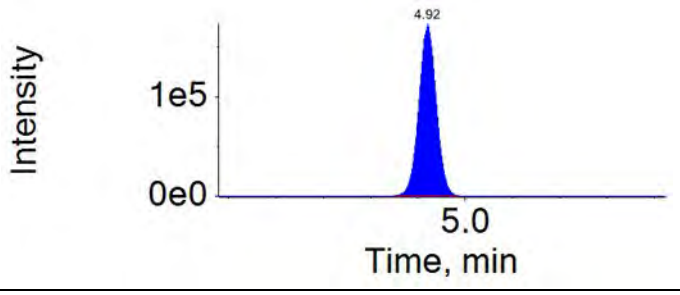
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

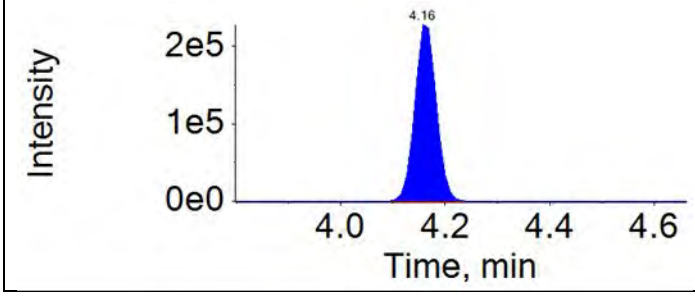
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

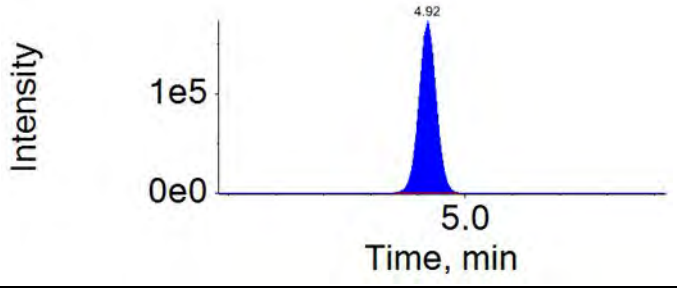
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

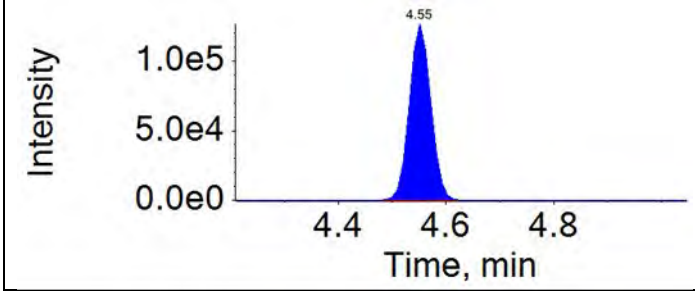
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

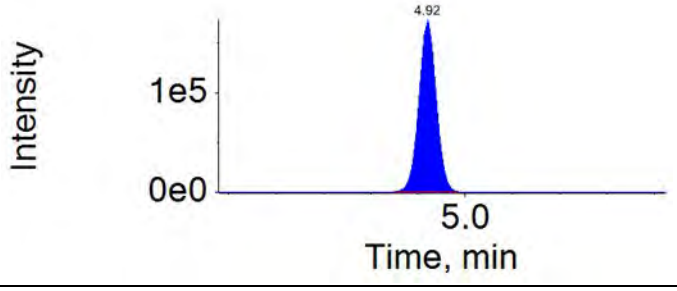
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



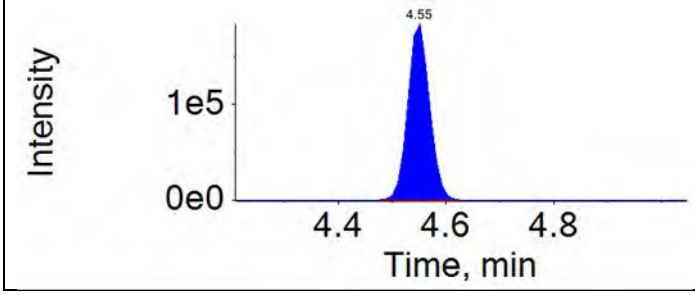


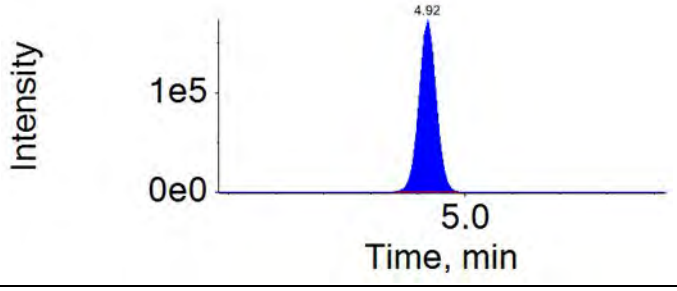
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



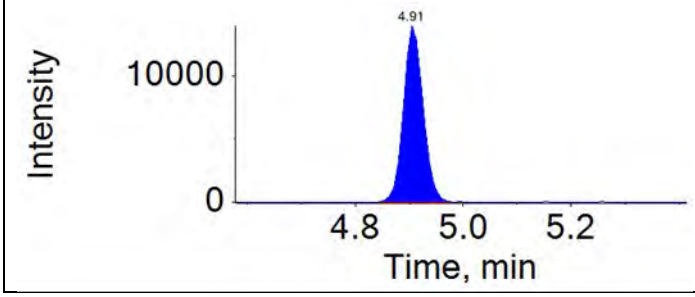


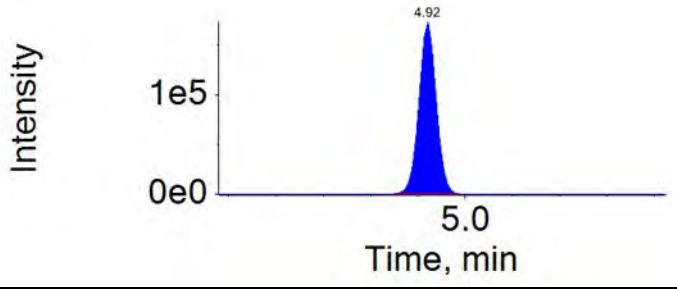
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



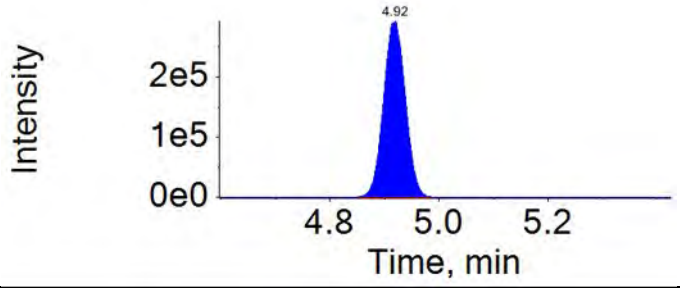


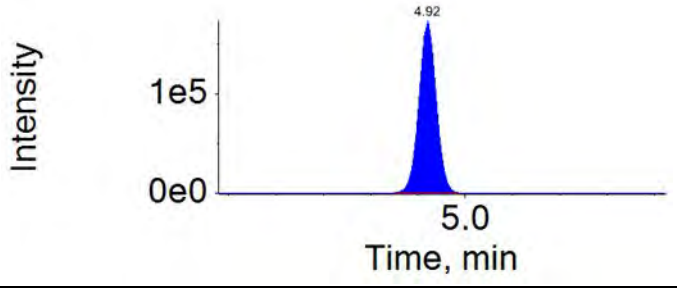
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

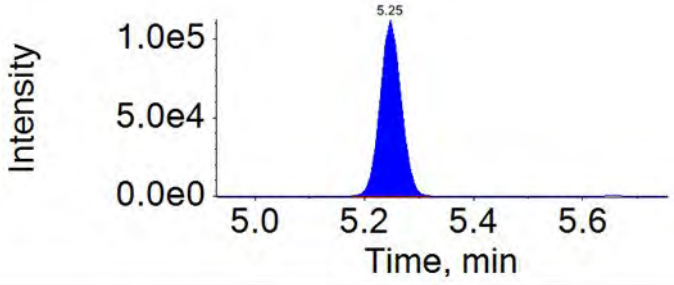
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

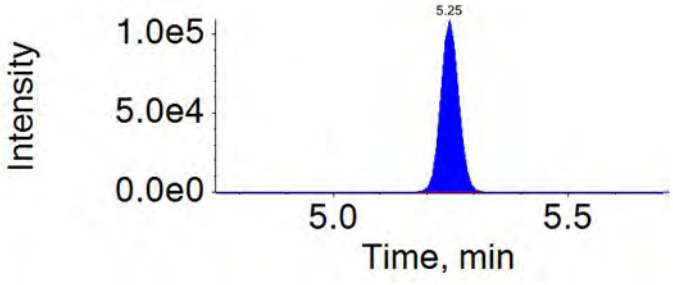
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



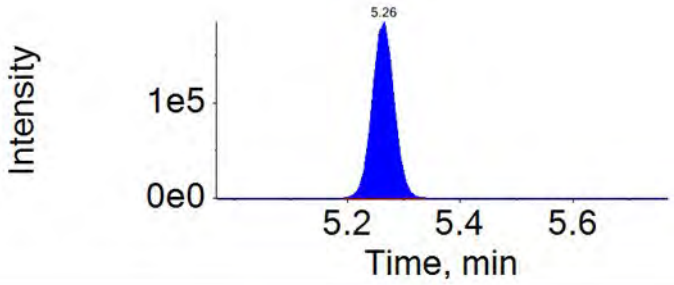


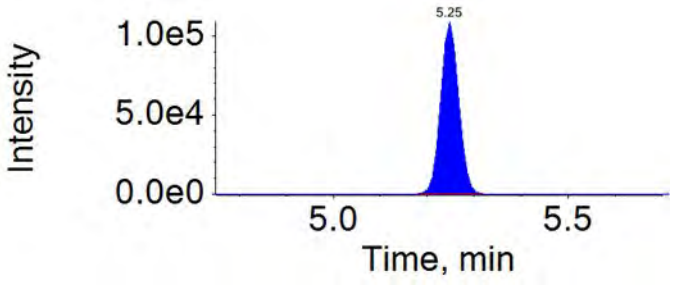
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



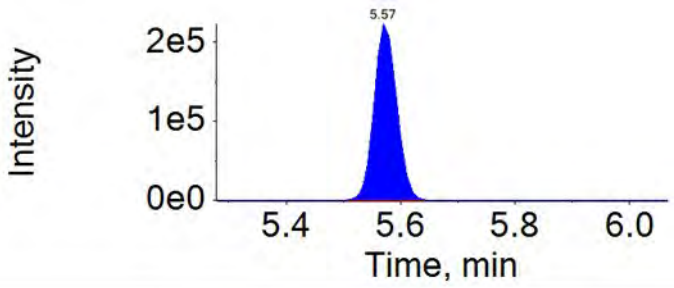


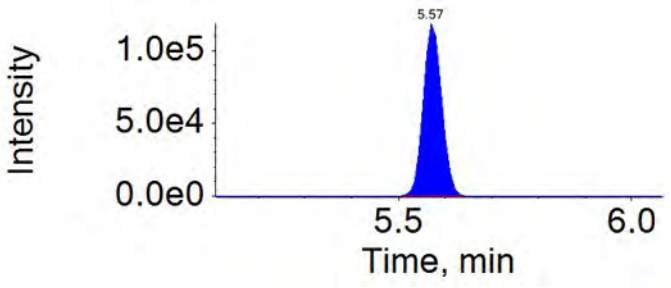
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



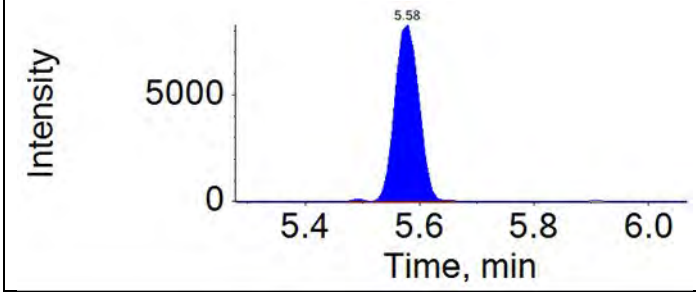


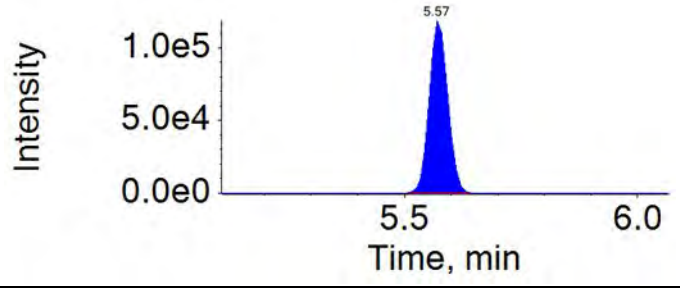
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

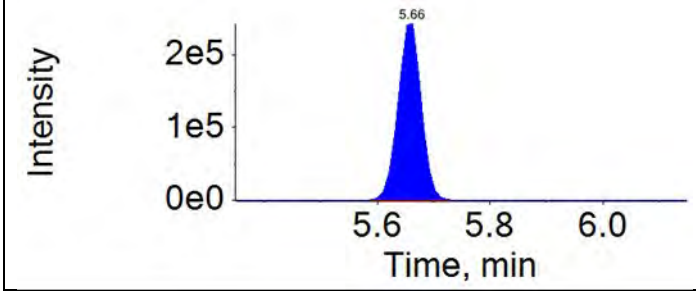
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

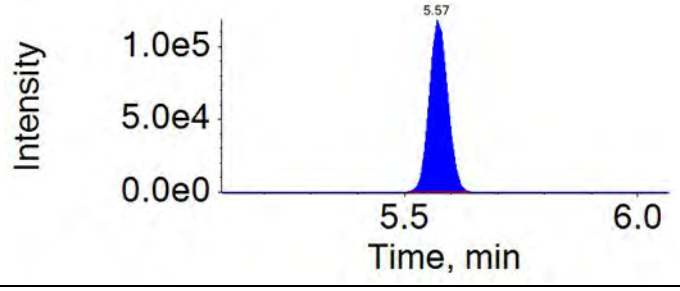
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



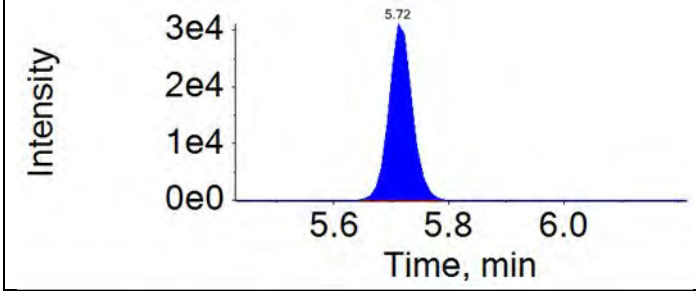


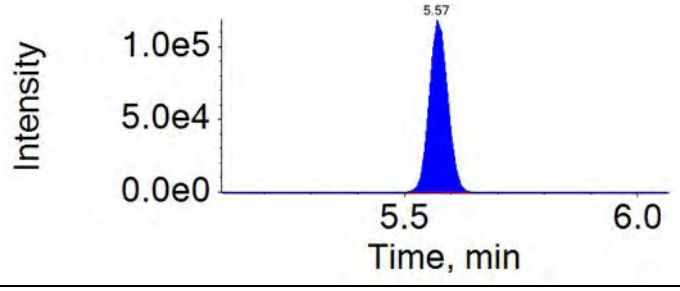
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



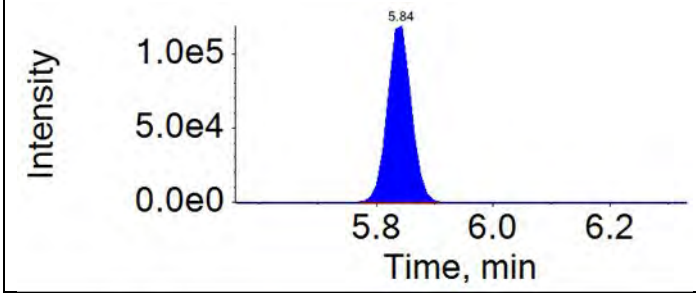


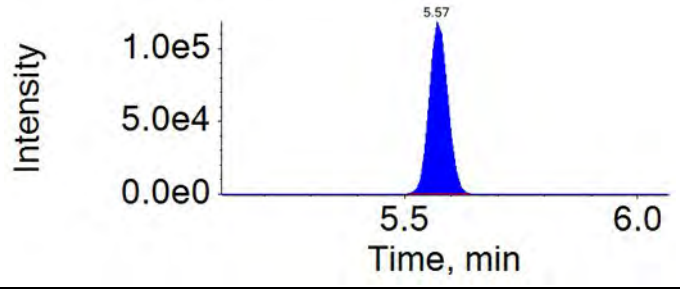
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

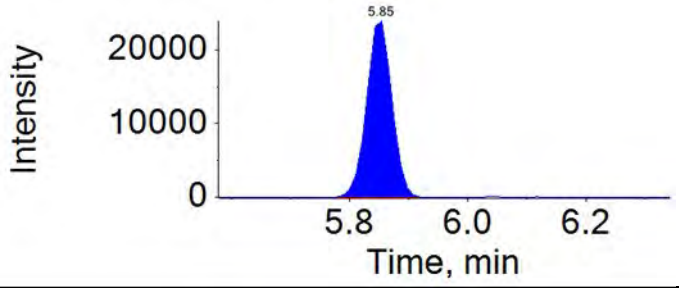
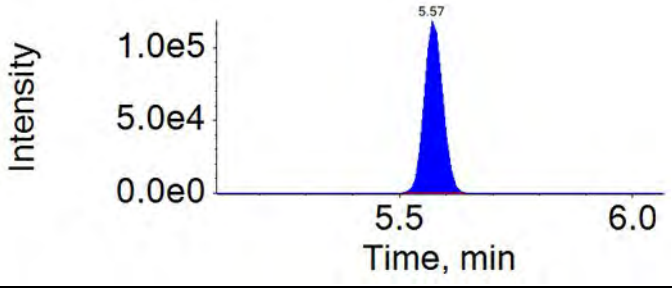


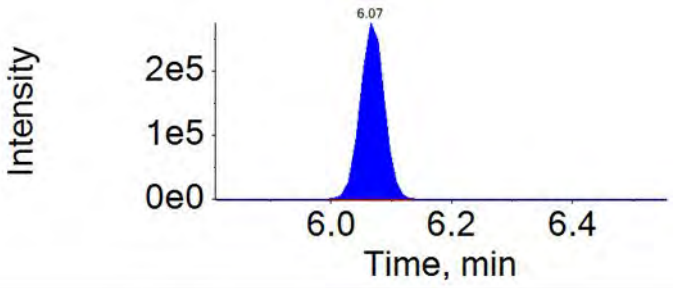
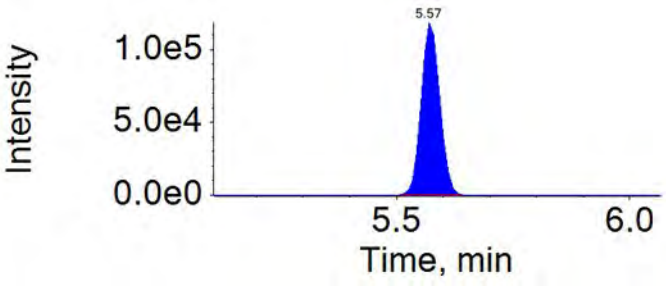


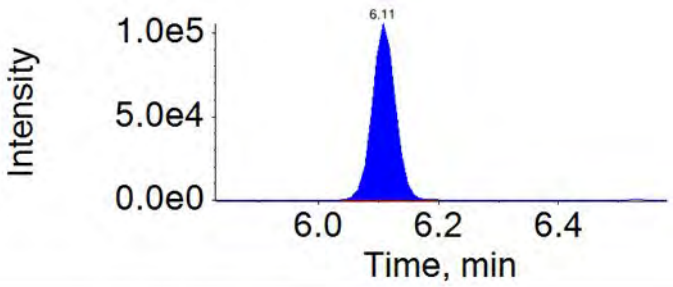
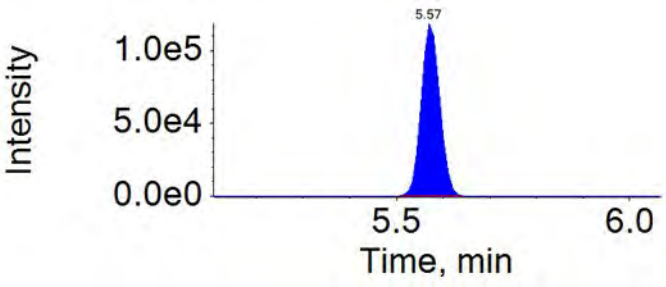
APPROVED
By MSM at 1:53 pm, 12/7/18

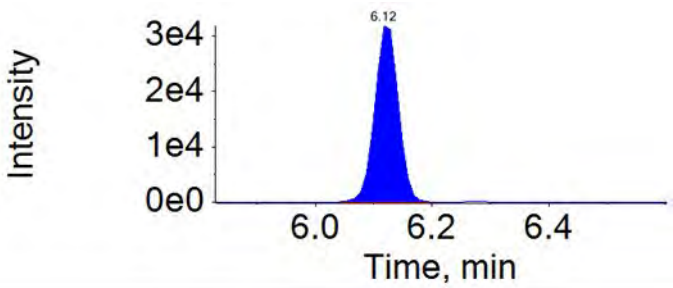
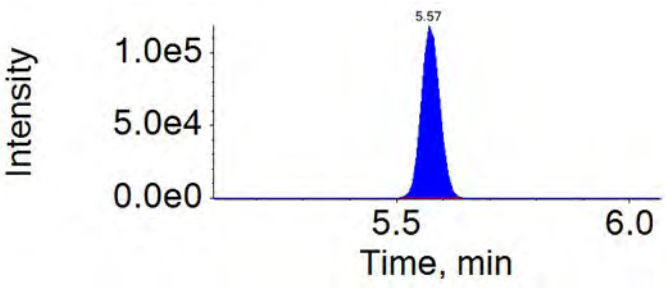
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

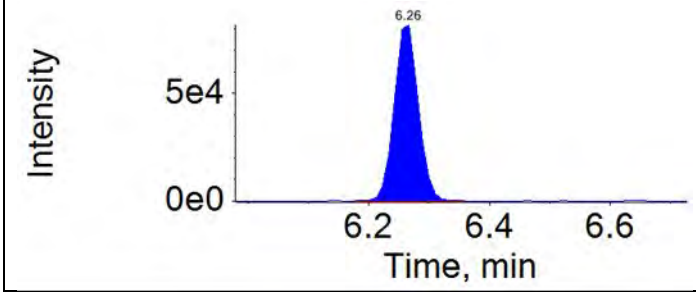
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

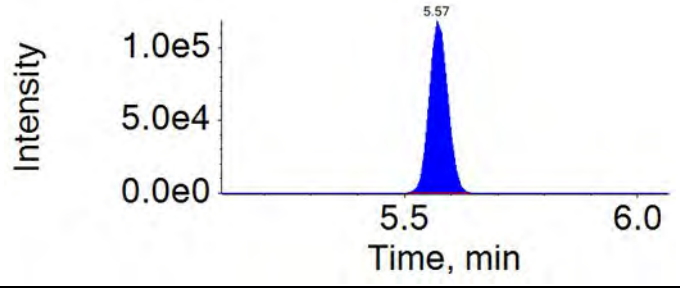
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

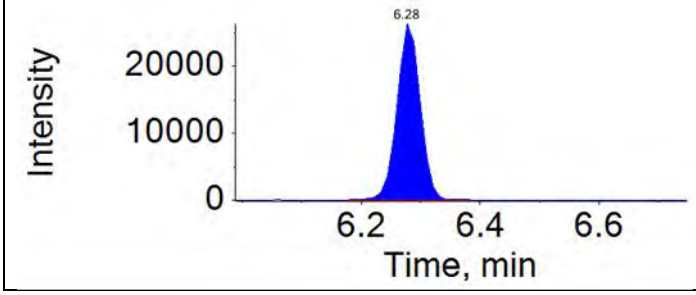
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

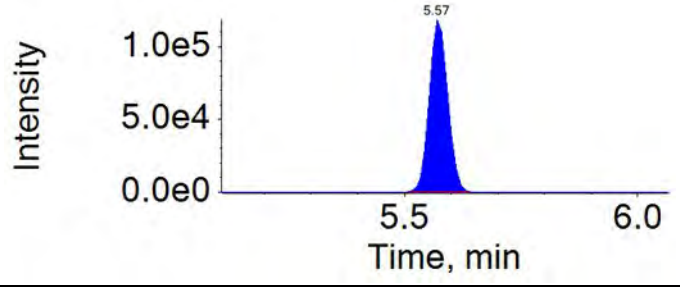
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



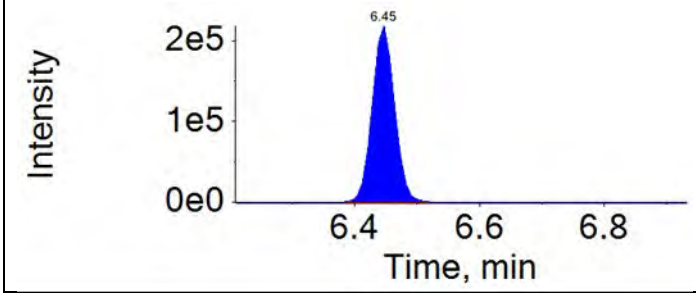


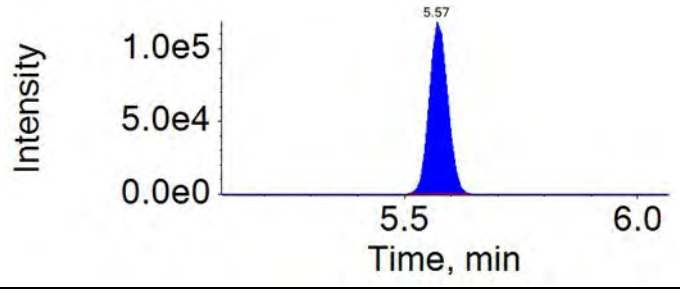
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



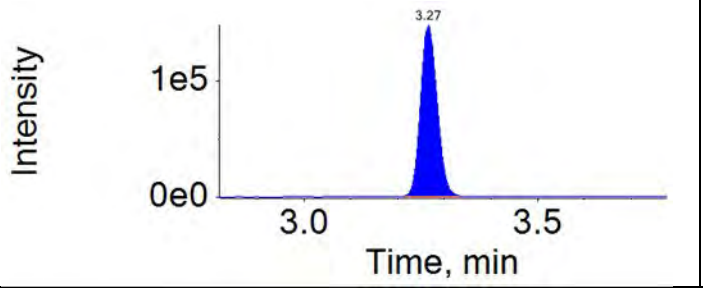


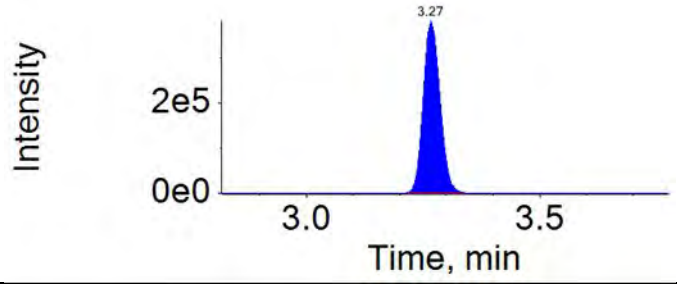
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

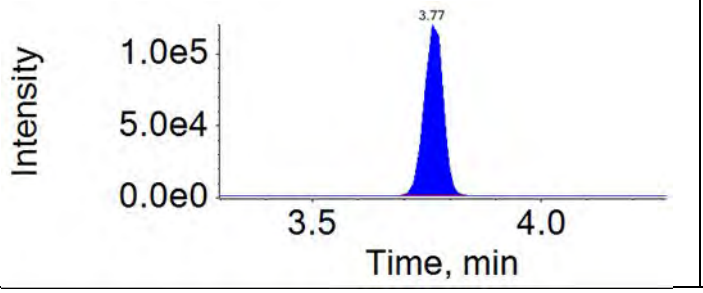
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

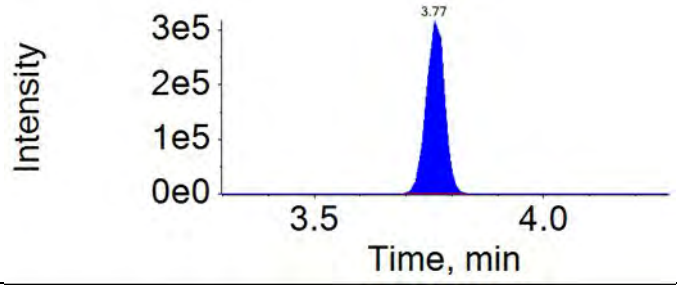
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



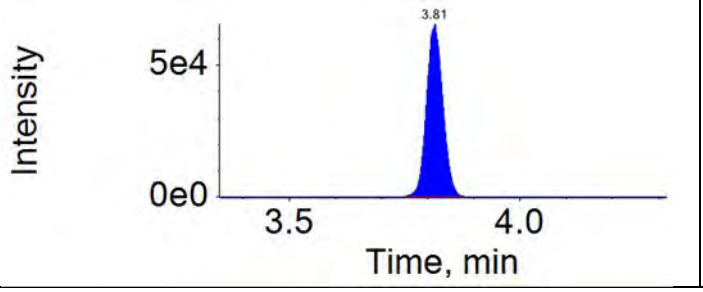


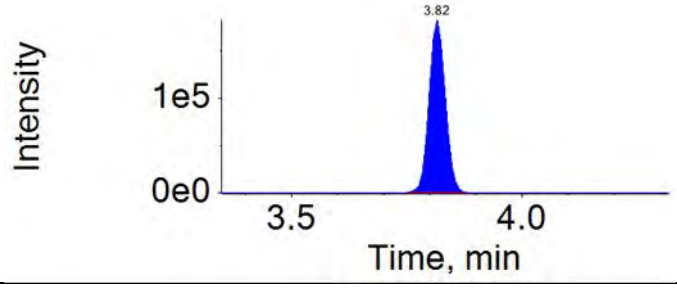
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



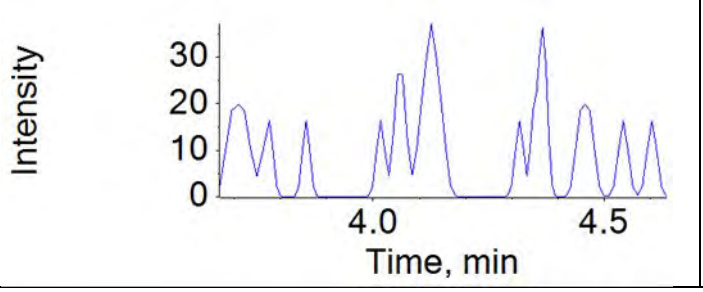


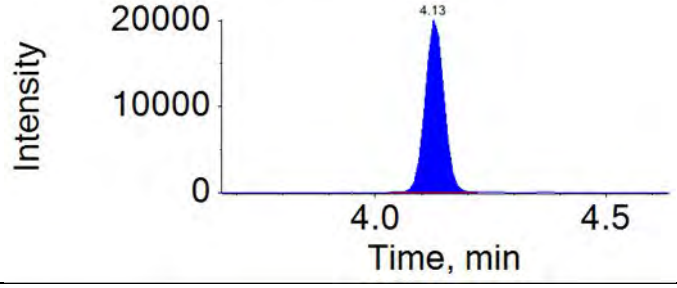
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



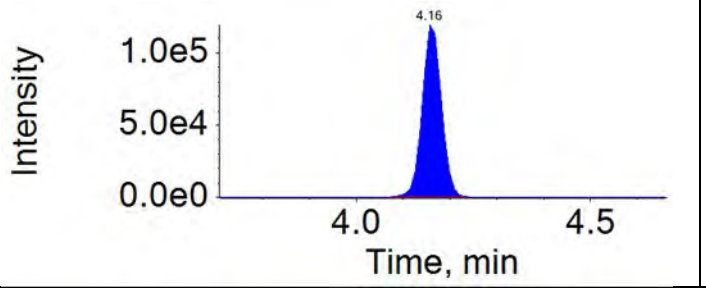


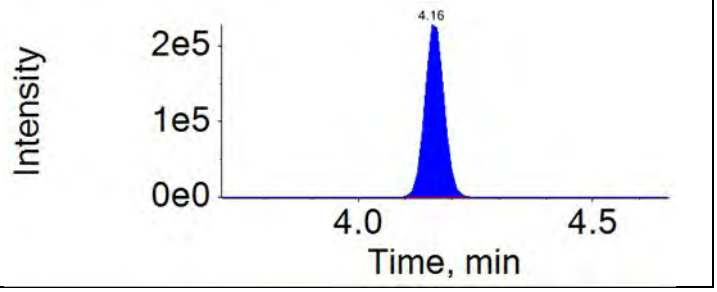
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

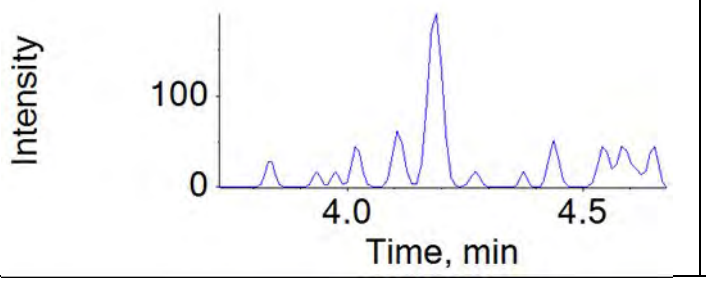
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

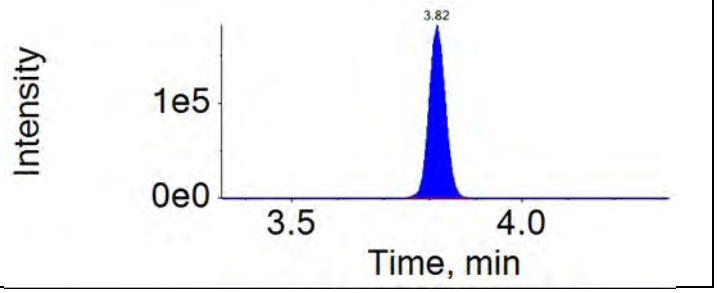
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



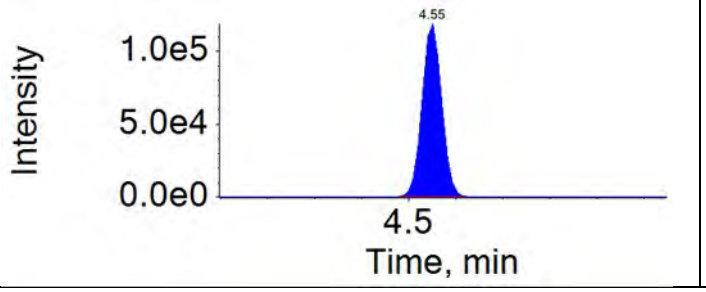


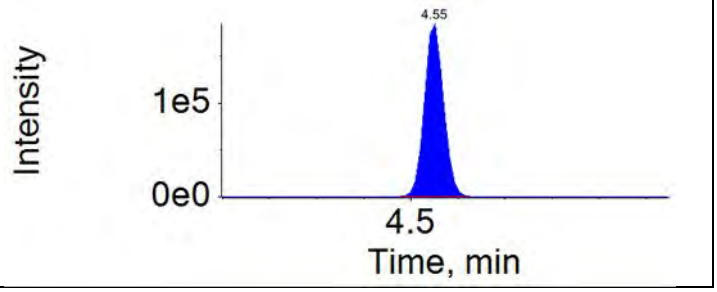
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



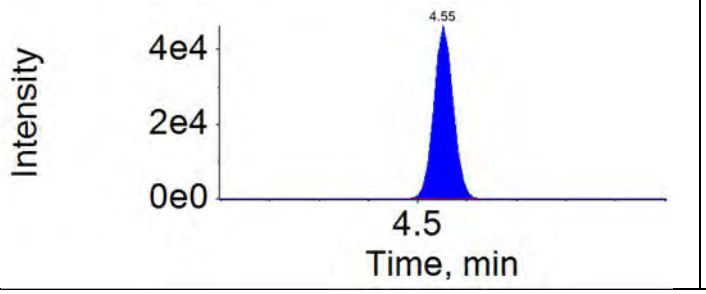


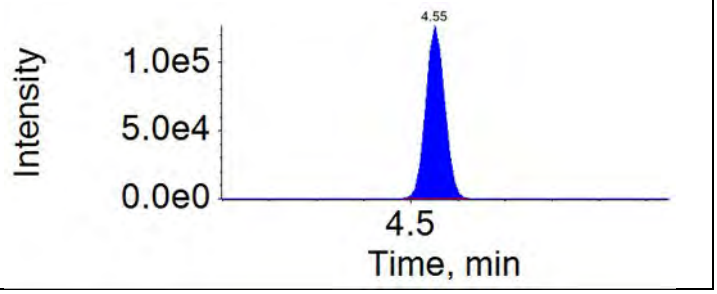
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



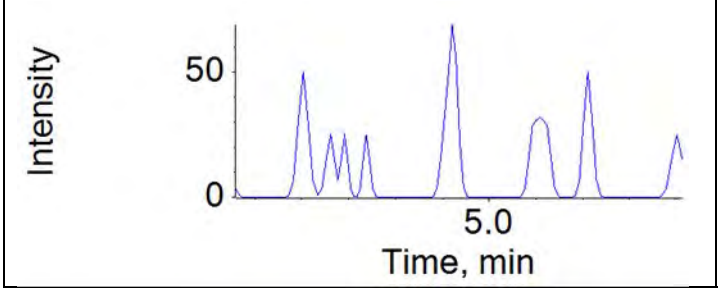


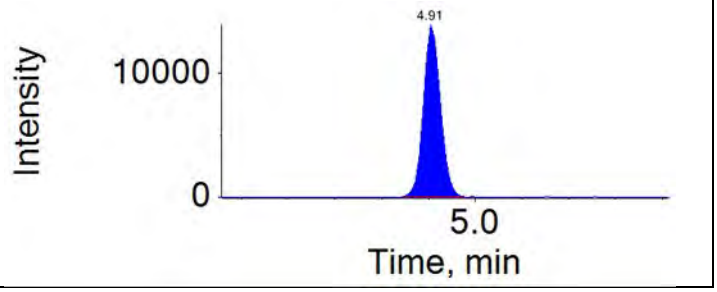
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

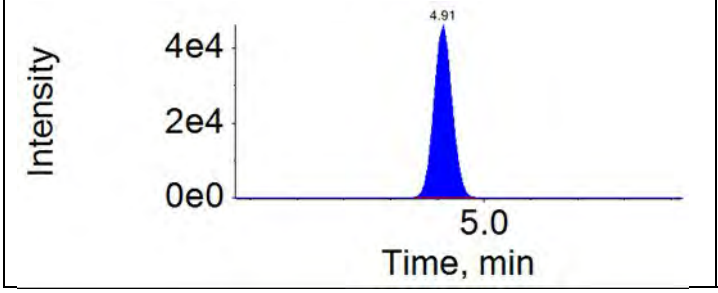
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

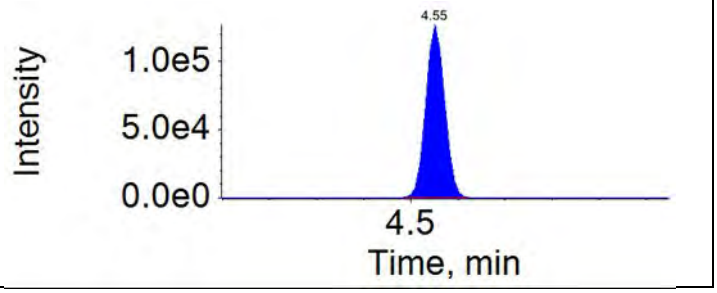
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



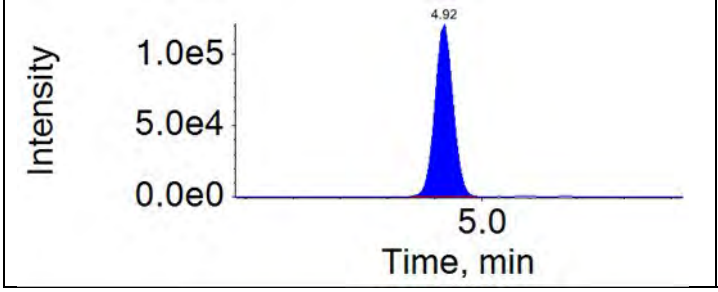


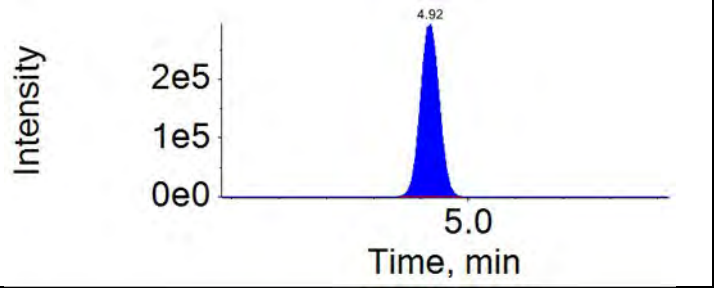
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



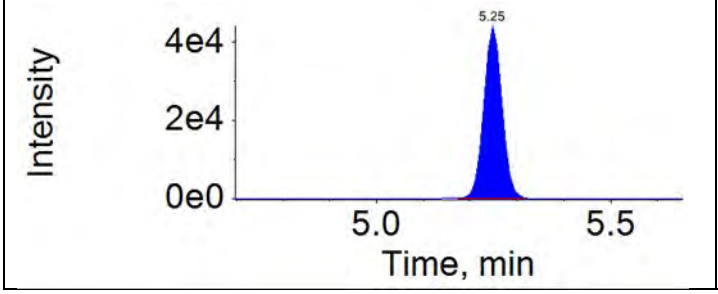


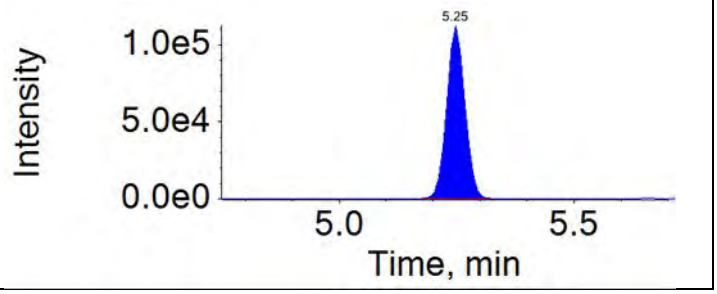
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



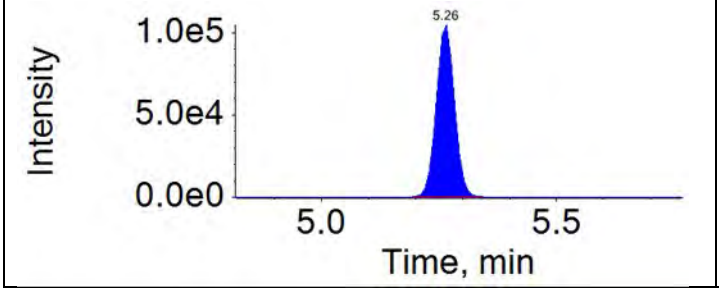


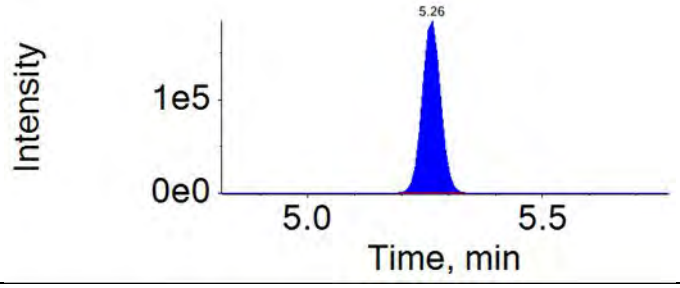
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

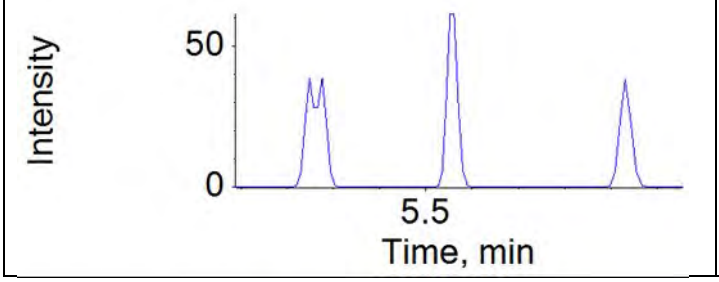
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

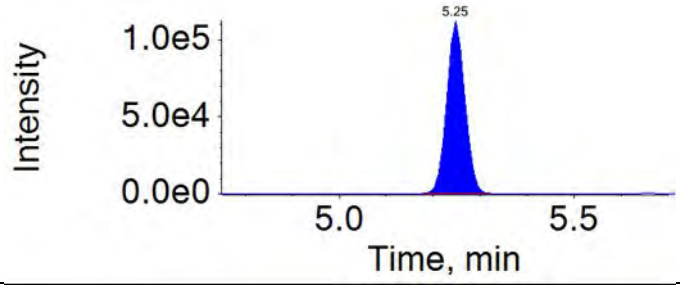
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



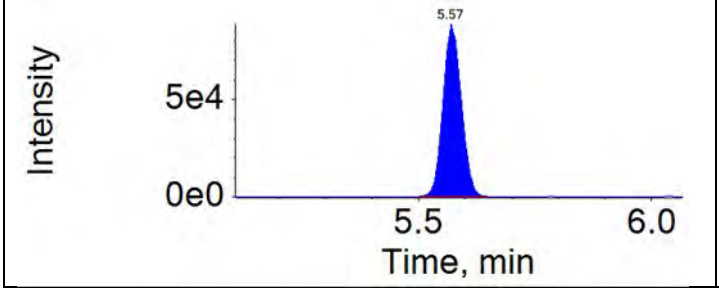


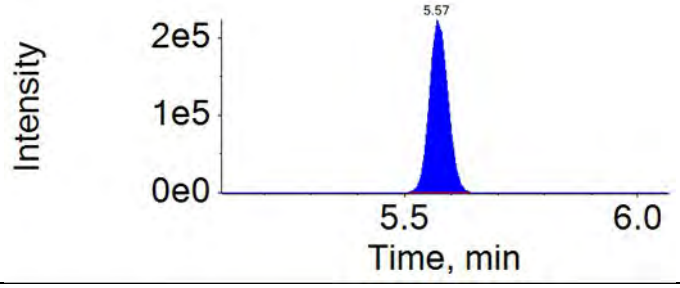
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



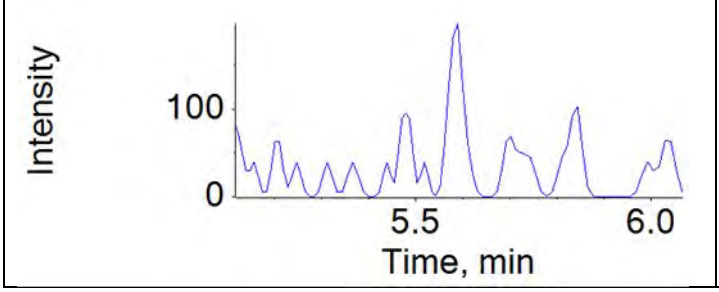


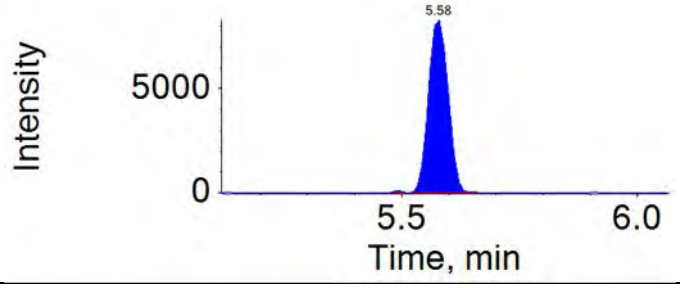
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



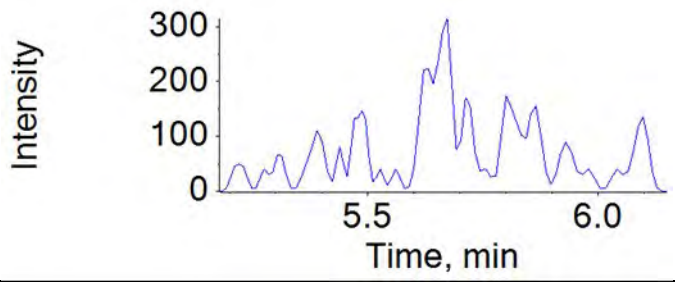


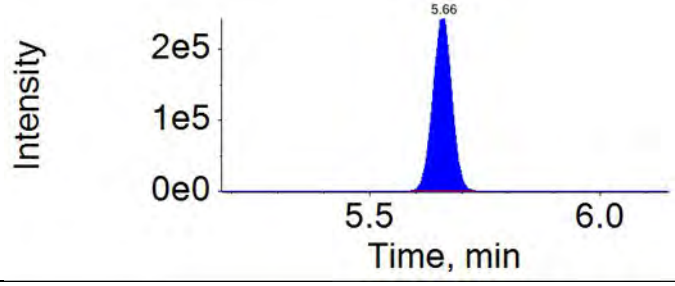
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

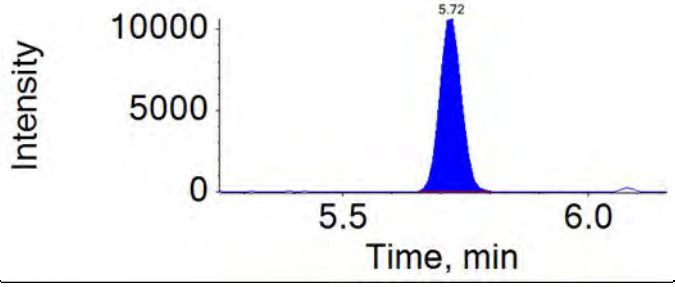
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

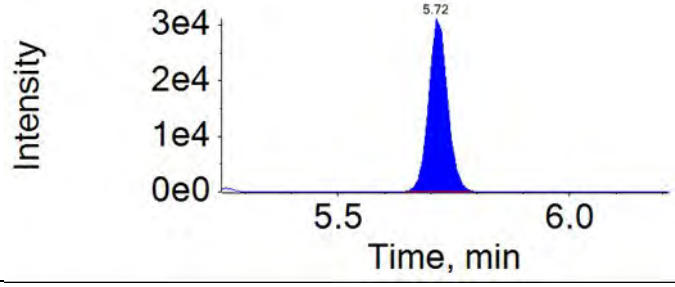
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



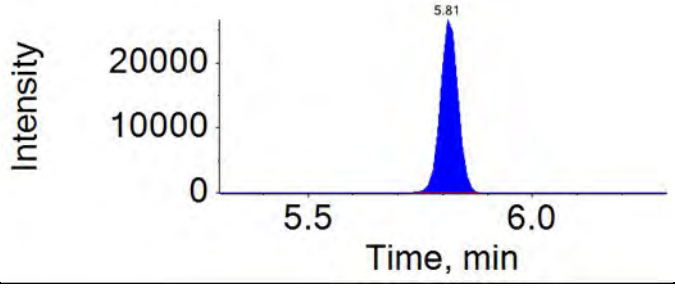


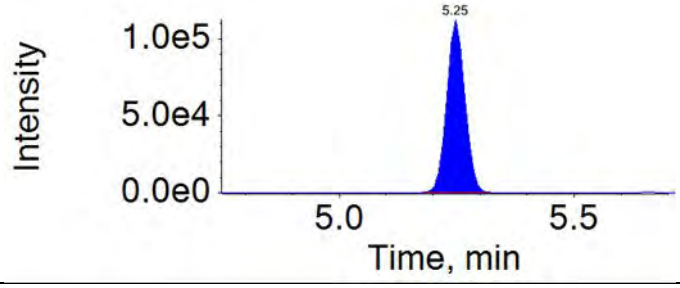
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



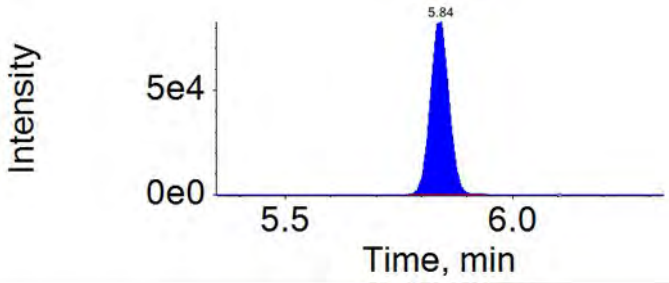


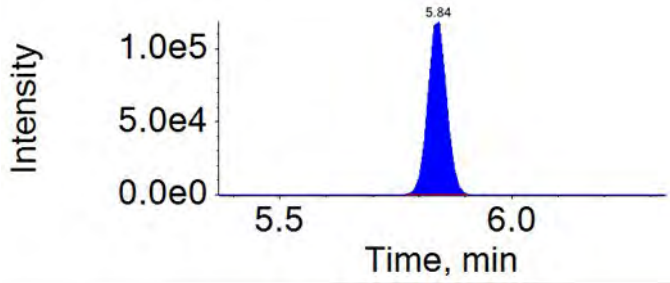
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



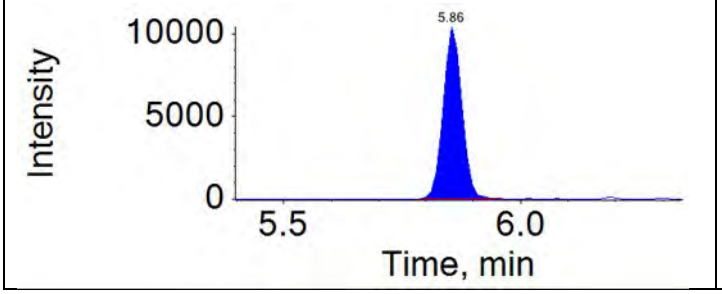


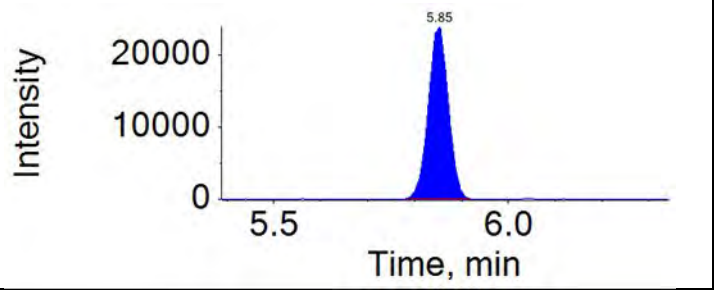
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

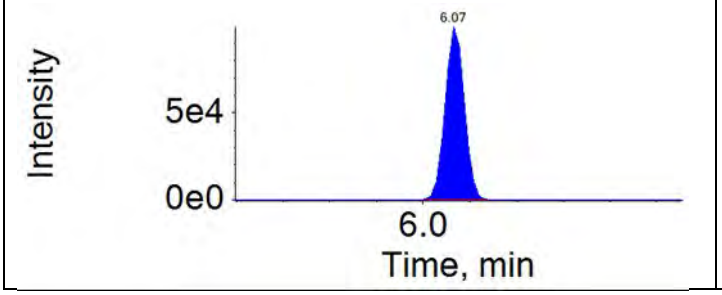
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

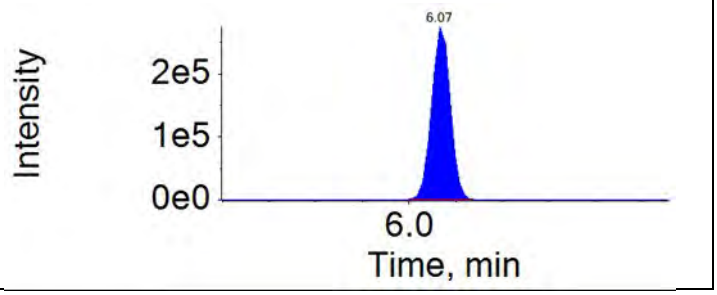
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



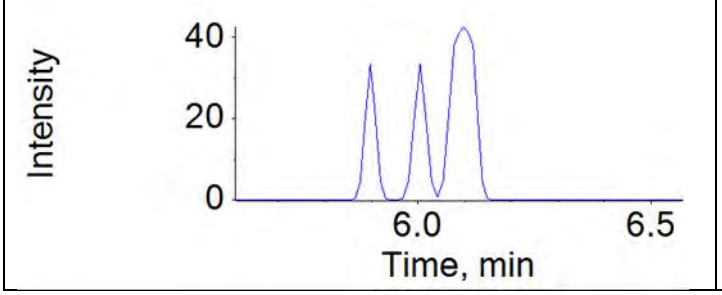


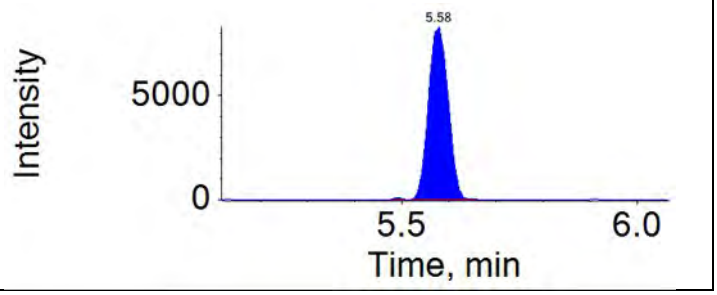
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



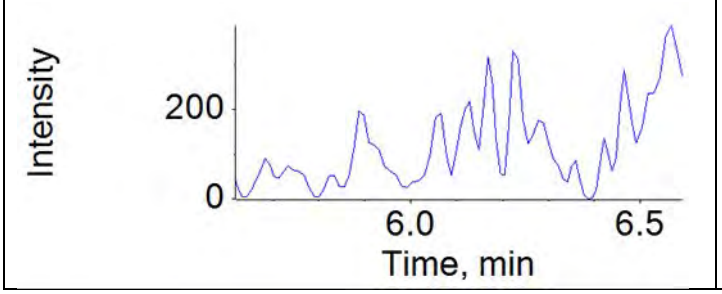


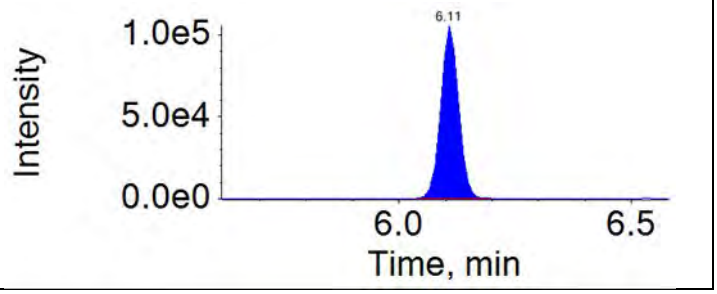
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



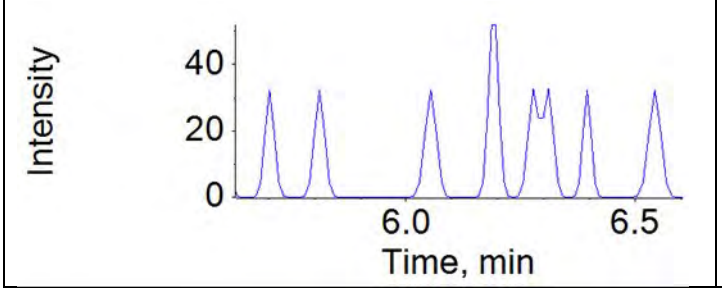


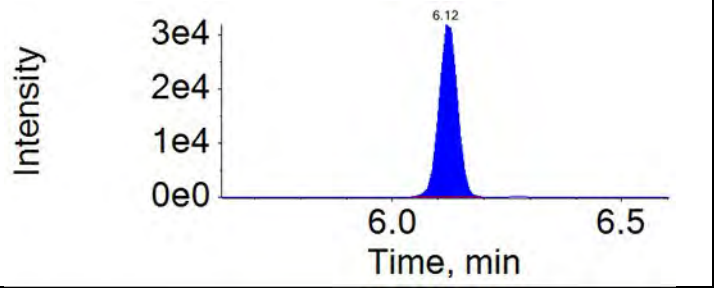
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

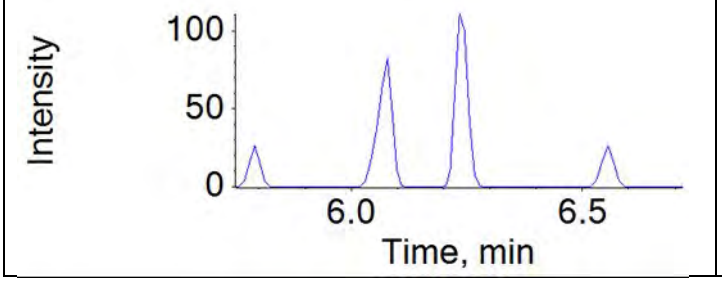
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

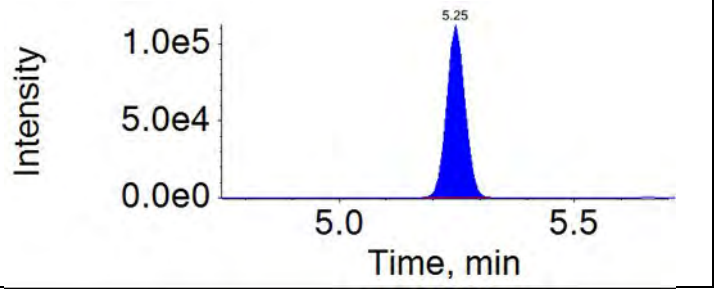
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



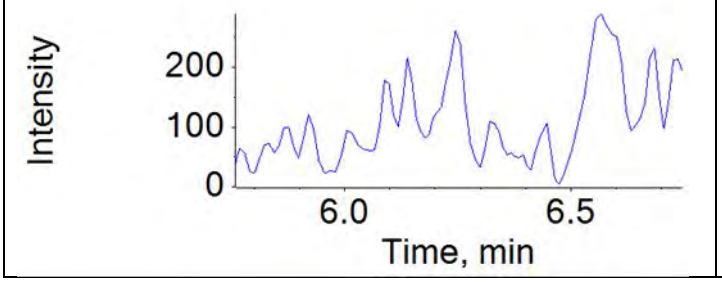


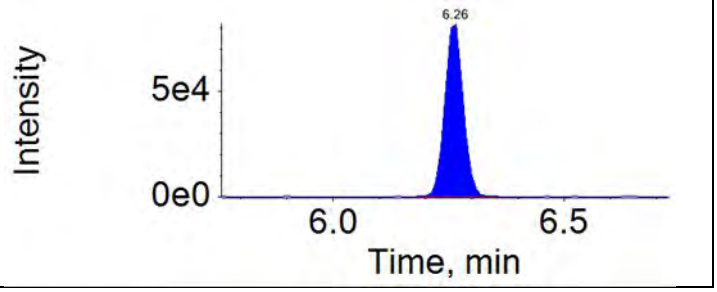
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



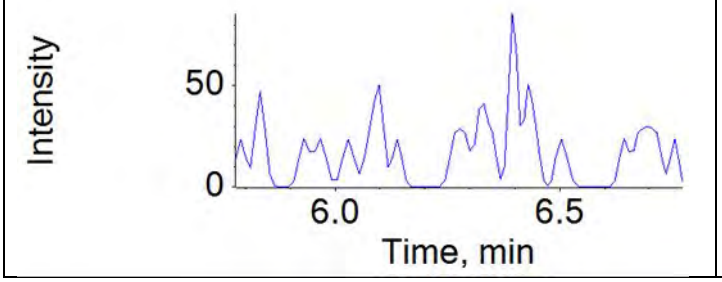


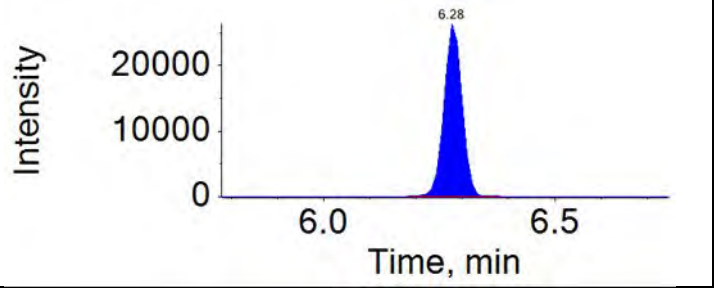
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



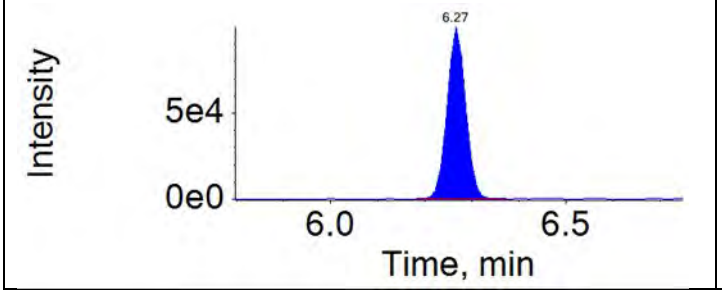


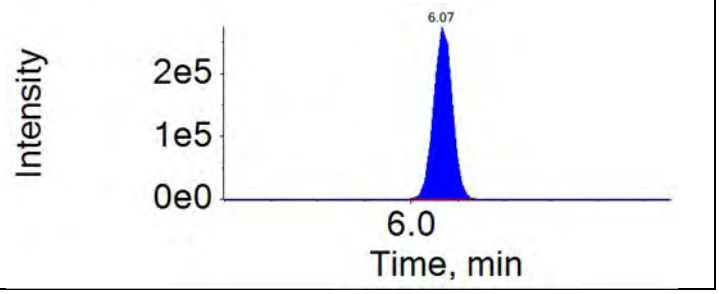
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

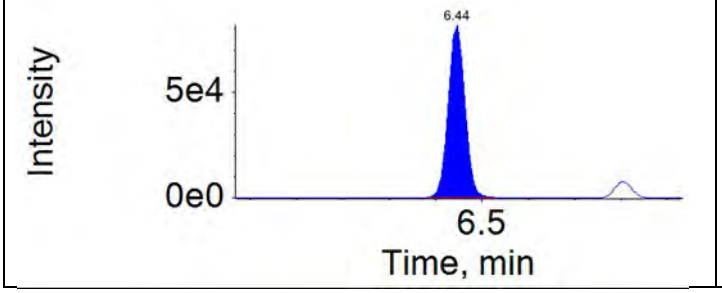
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

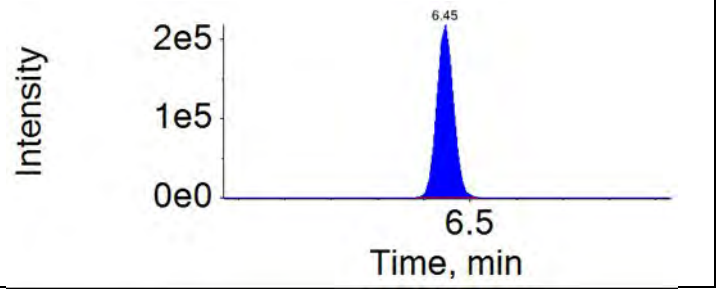
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



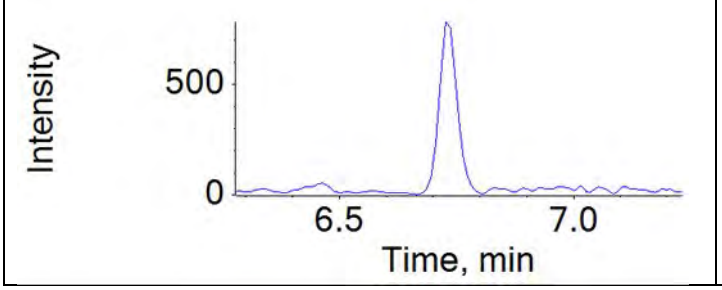


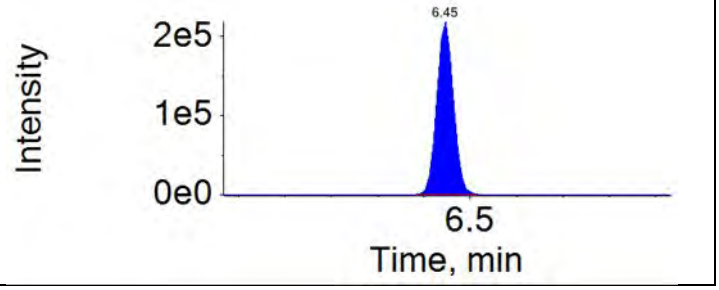
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



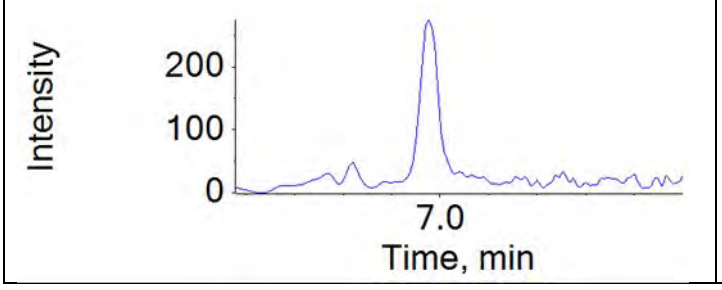


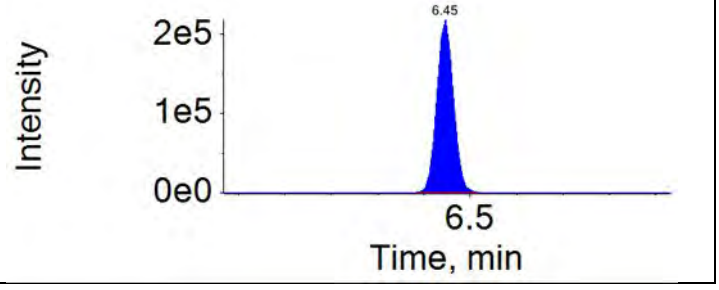
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





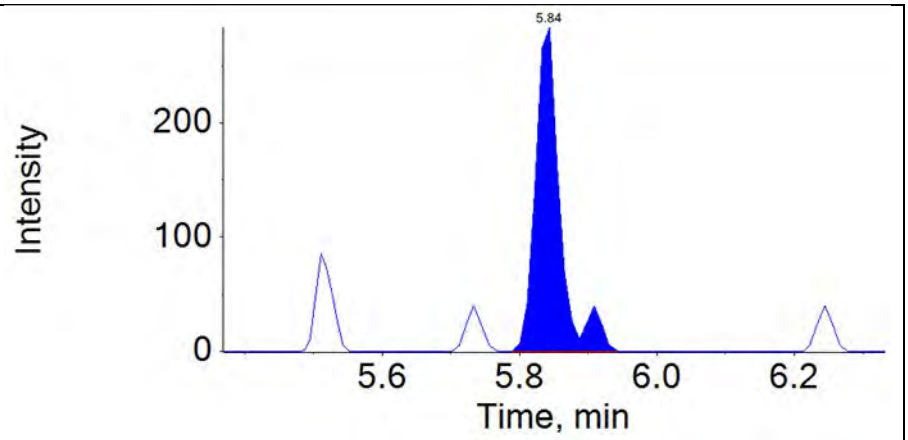
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFUnDA_2
RT (min.):
5.84
Peak Area:
714.73
Mass Range:
563.0 / 169.0
File Name:
18DEC06DCAL-33.wiff
Sample Name:
ICV



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Ion Ratio Report

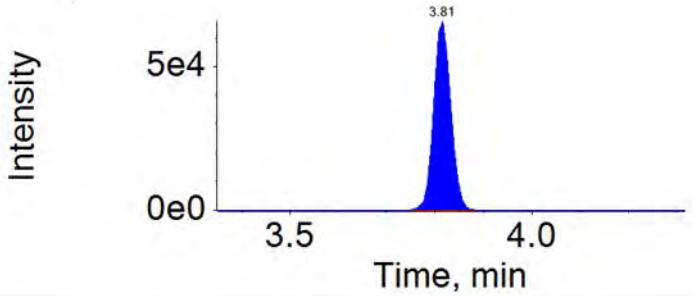
Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-33.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	162265.95	A	1.0000	1.0000			
PFBS_2	3.81	1.00	57547.59	A	0.3627	0.3546	-2	50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6542	N/A		50	
PFHxA	4.16	1.00	339202.11	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	3379.41	A	0.0097	0.0100	3	50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5262	N/A		50	
PFHpA	4.55	1.00	342255.00	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	19041.36	A	0.0565	0.0556	-1	50	
PFHxS	4.55	1.00	125645.75	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	46123.78	A	0.3645	0.3671	1	50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6273	N/A		50	
PFHpS	4.91	1.08	124002.40	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	50219.29	A	0.4162	0.4050	-3	50	
PFOA	4.92	1.00	320848.38	A	1.0000	1.0000			
PFOA_2	4.92	1.00	18413.87	A	0.0616	0.0574	-7	50	
PFOS	5.25	1.00	119330.15	A	1.0000	1.0000			
PFOS_2	5.25	1.00	40226.42	A	0.3021	0.3371	12	50	
PFNA	5.26	1.00	281622.36	A	1.0000	1.0000			
PFNA_2	5.27	1.00	5132.36	A	0.0192	0.0182	-5	50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4845	N/A		50	
PFDA	5.57	1.00	241839.27	A	1.0000	1.0000			
PFDA_2	5.57	1.00	1957.34	A	0.0096	0.0081	-16	50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.6117	N/A		50	
NMeFOSAA	5.72	1.00	33150.53	A	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	7600.79	A	0.2673	0.2293	-14	50	
PFDS	5.81	1.11	72651.57	A	1.0000	1.0000			
PFDS_2	5.81	1.11	34376.40	A	0.4952	0.4732	-4	50	
PFUnDA	5.84	1.00	236810.29	A	1.0000	1.0000			
PFUnDA_2	5.84	1.00	649.73	M	0.0041	0.0027	-33	50	
NEtFOSAA	5.86	1.00	28610.36	A	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	17404.13	A	0.6726	0.6083	-10	50	
PFDoDA	6.07	1.00	282836.29	A	1.0000	1.0000			
PFDoDA_2	6.07	1.00	1889.03	A	0.0133	0.0067	-50	50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.6969	N/A		50	
PFTrDA	6.27	1.03	269624.15	A	1.0000	1.0000			
PFTrDA_2	6.27	1.03	1886.82	A	0.0075	0.0070	-7	50	
PFTeDA	6.44	1.00	203997.28	A	1.0000	1.0000			
PFTeDA_2	6.44	1.00	1315.57	A	0.0066	0.0064	-2	50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0616	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0272	N/A		50	

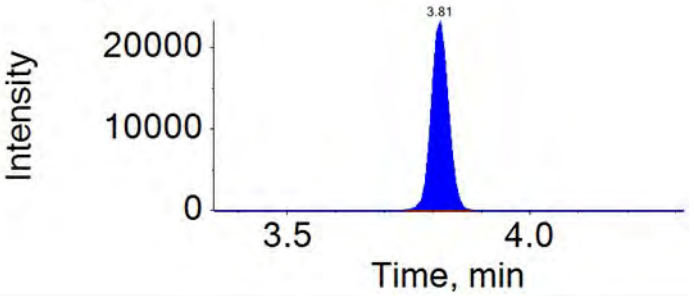
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

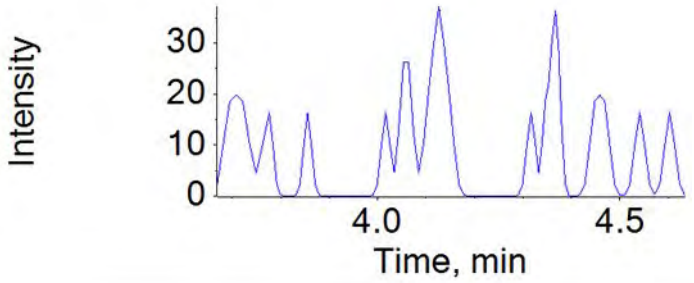
Component: PFBS
Primary Mass: 299.0 / 80.0



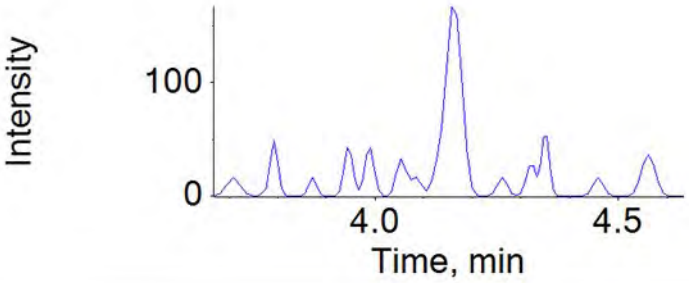
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



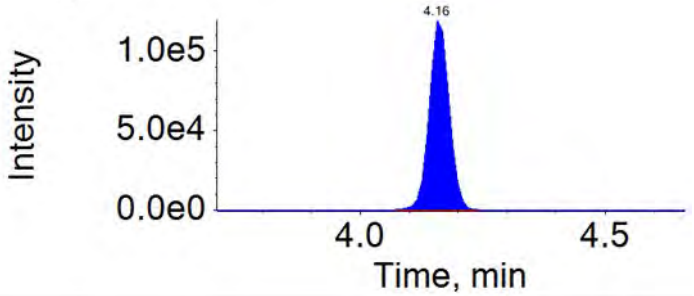
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



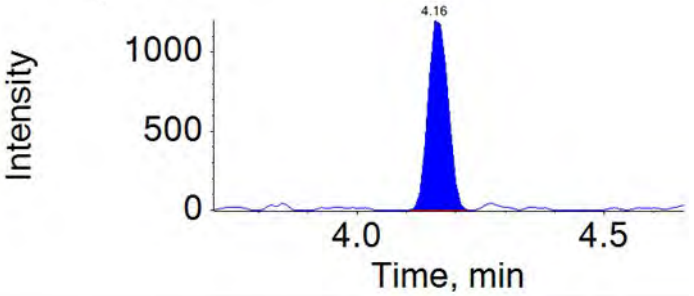
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



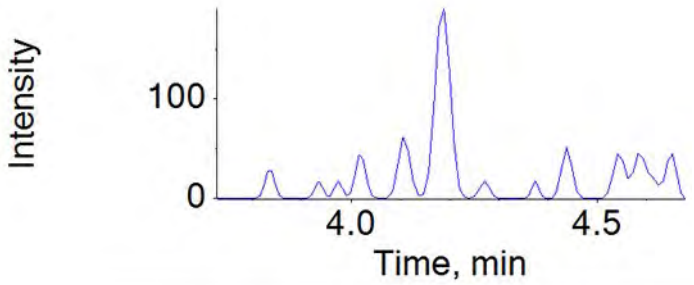
Component: PFHxA
Primary Mass: 313.0 / 269.0



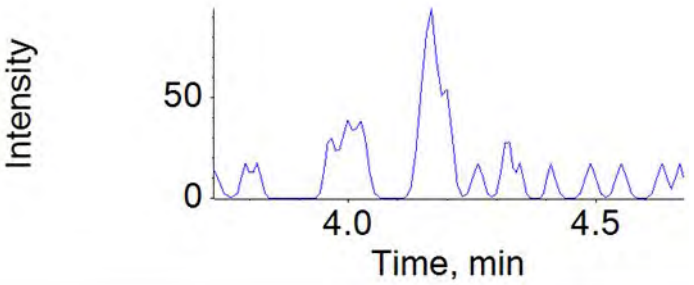
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



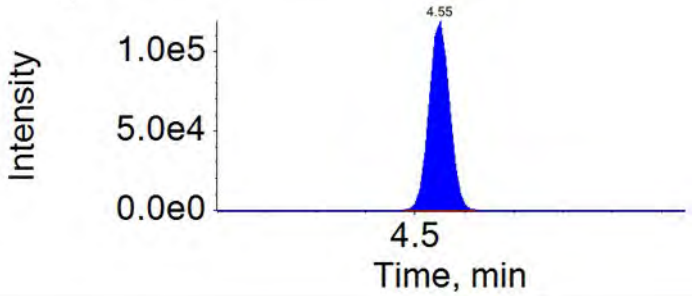
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



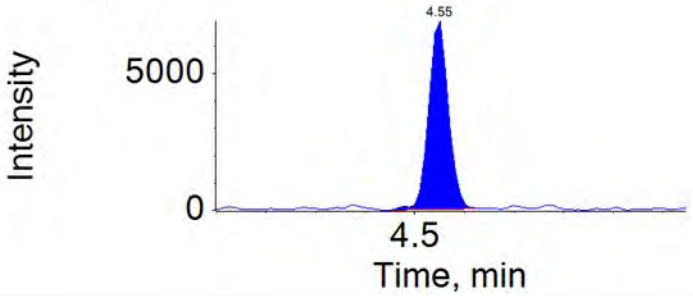
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

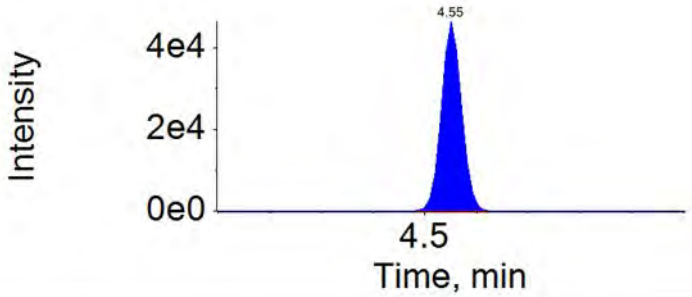
Component: PFHpA
Primary Mass: 363.0 / 319.0



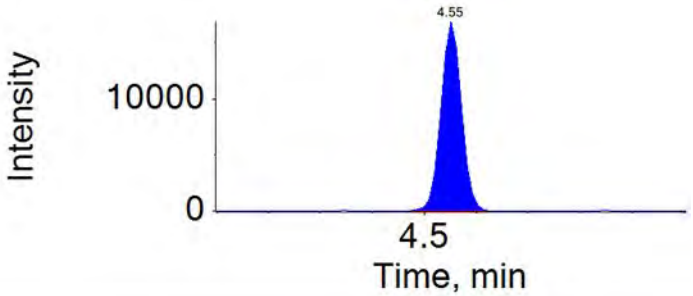
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



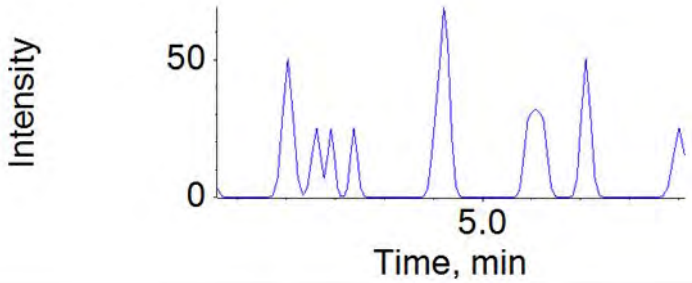
Component: PFHxS
Primary Mass: 399.0 / 80.0



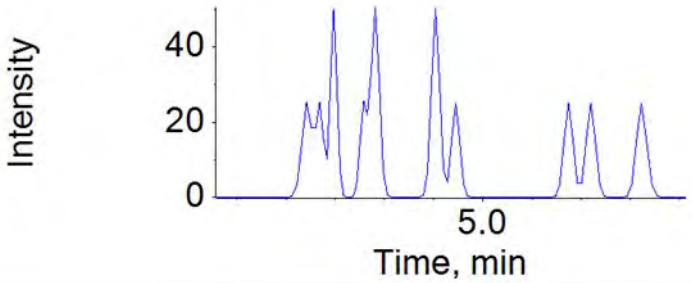
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



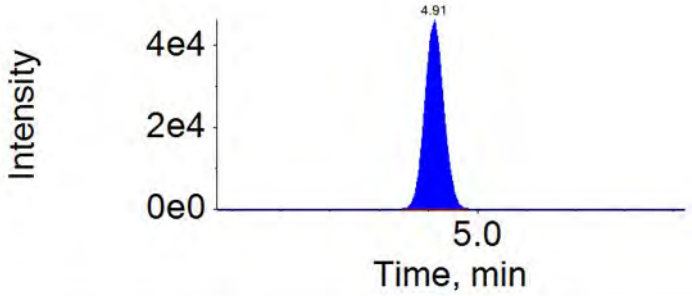
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



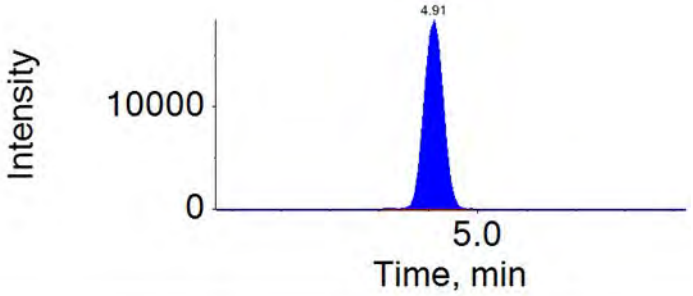
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



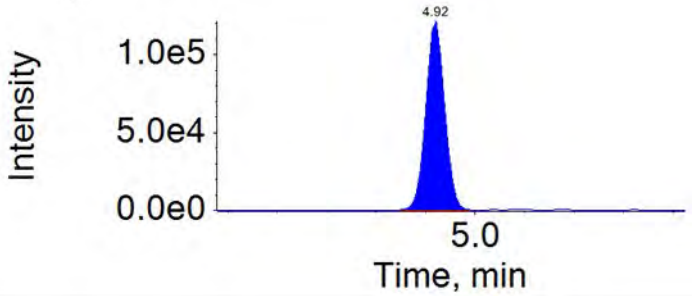
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



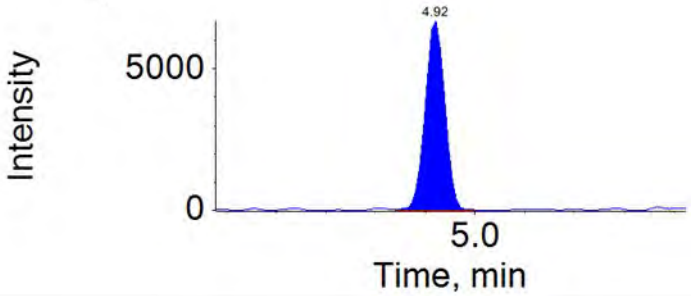
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

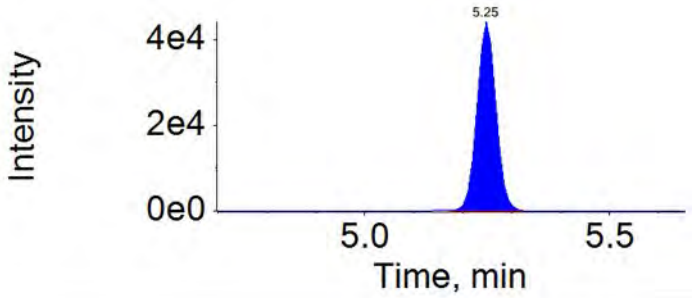
Component: PFOA
Primary Mass: 413.0 / 369.0



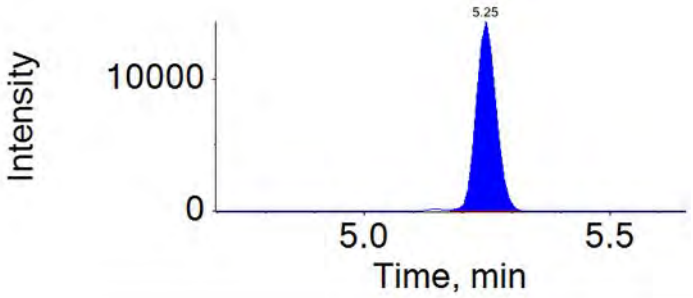
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



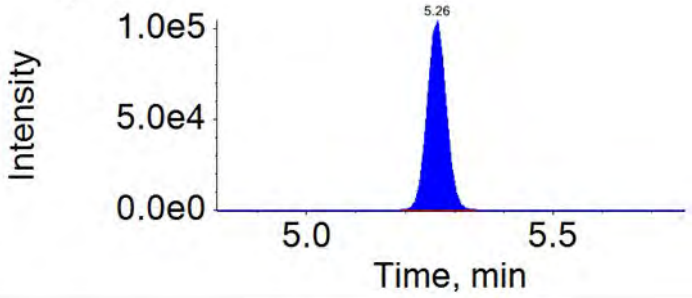
Component: PFOS
Primary Mass: 499.0 / 80.0



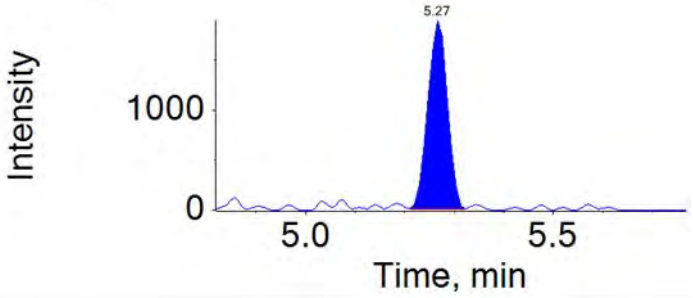
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



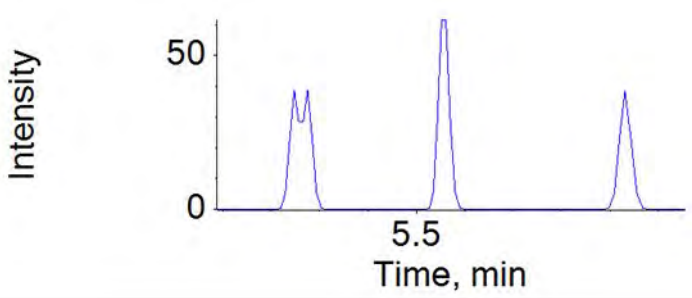
Component: PFNA
Primary Mass: 463.0 / 419.0



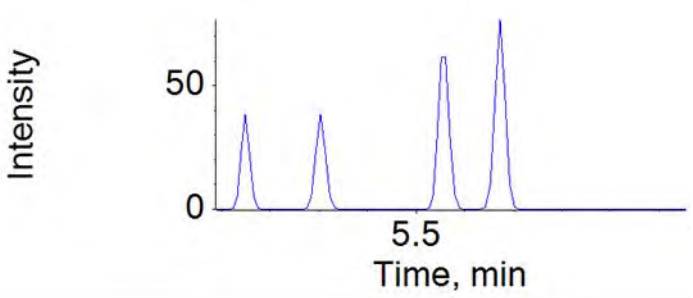
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



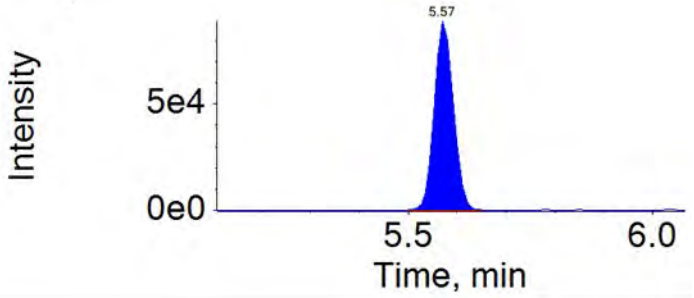
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



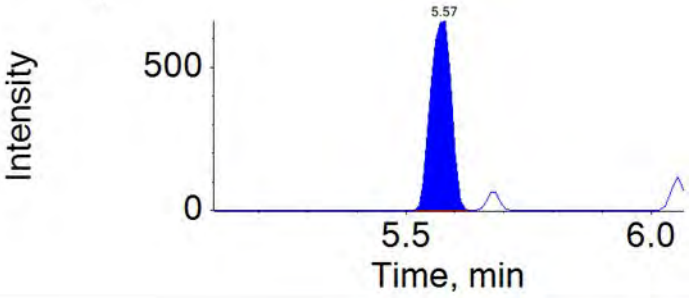
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

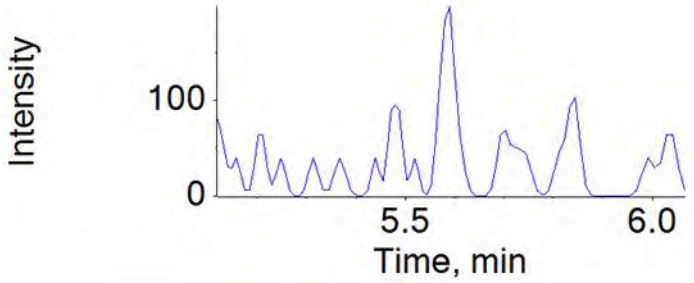
Component: PFDA
Primary Mass: 513.0 / 469.0



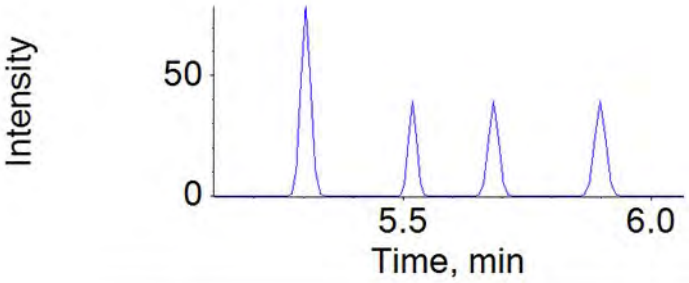
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



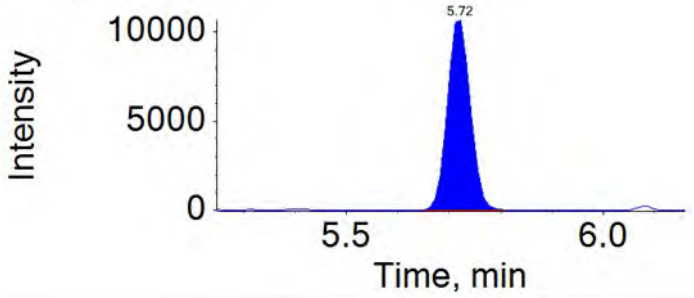
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



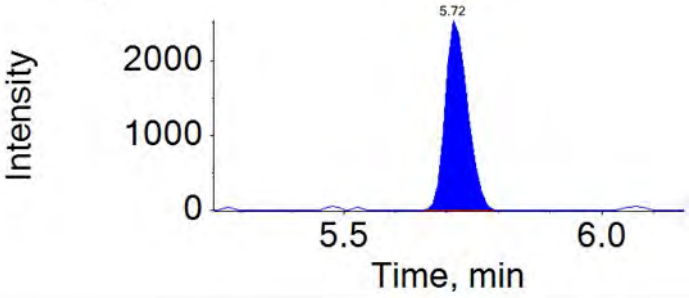
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



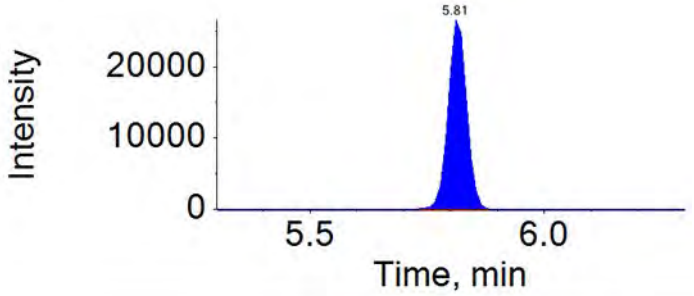
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



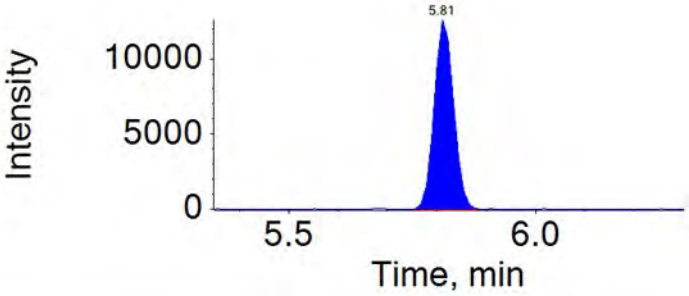
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



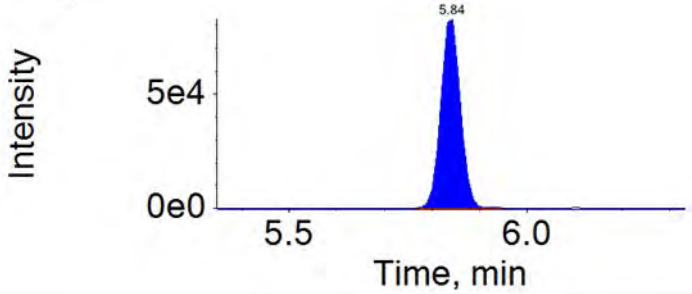
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



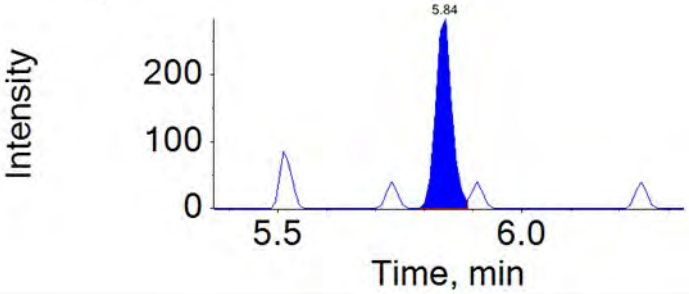
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

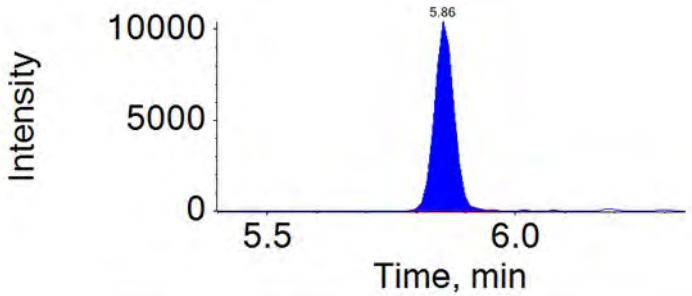
Component: PFUnDA
Primary Mass: 563.0 / 519.0



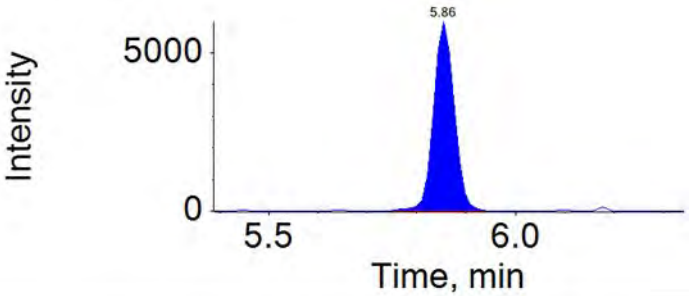
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



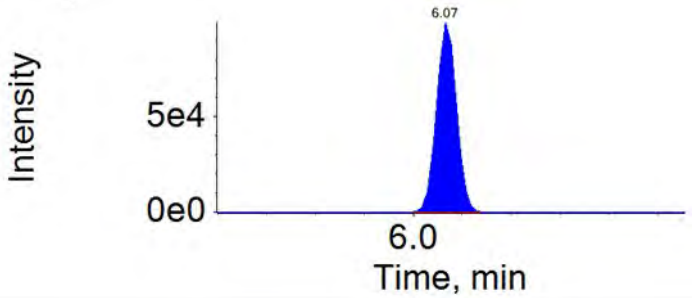
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



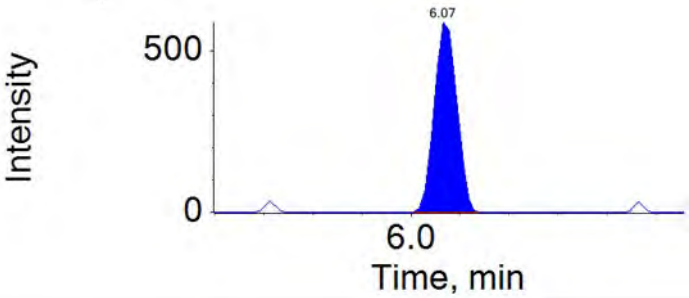
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



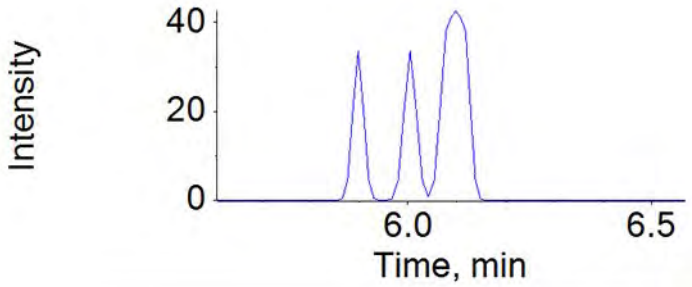
Component: PFDoDA
Primary Mass: 613.0 / 569.0



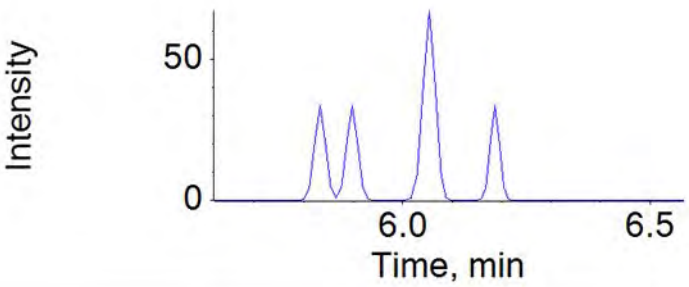
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



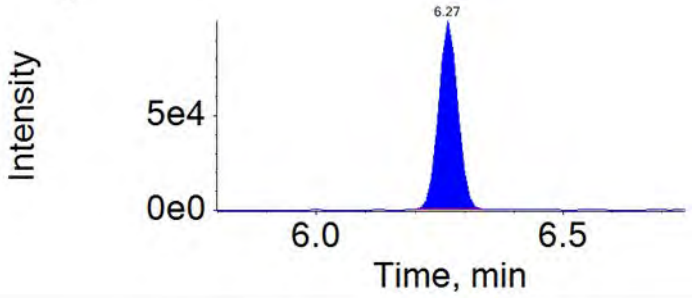
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



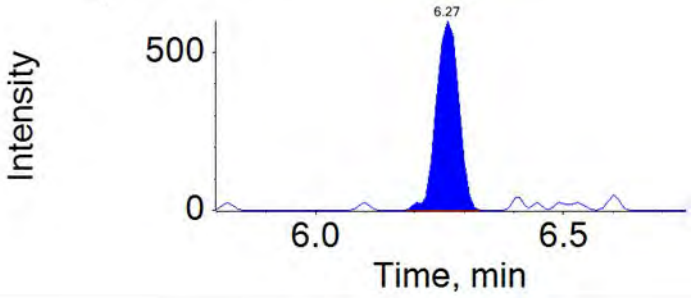
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

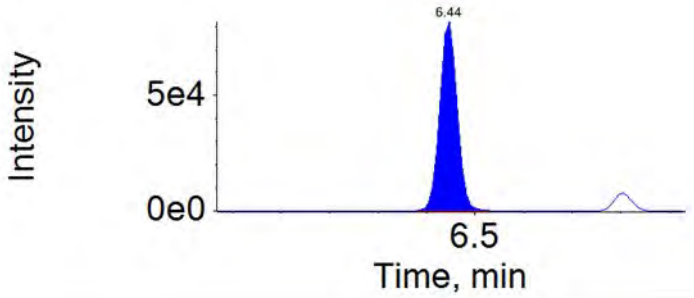
Component: PFTrDA
Primary Mass: 663.0 / 619.0



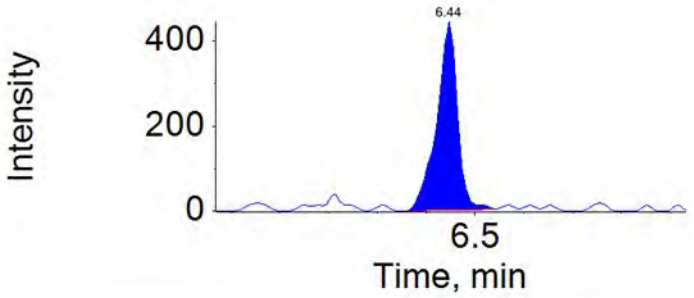
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



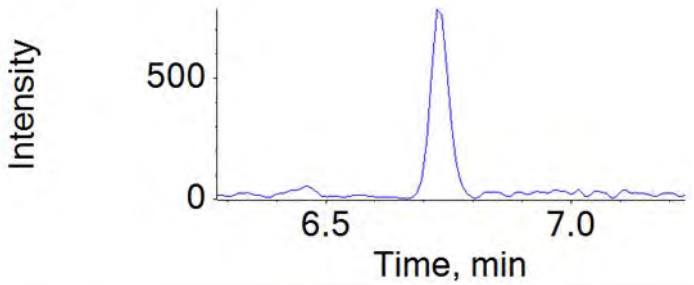
Component: PFTeDA
Primary Mass: 713.0 / 669.0



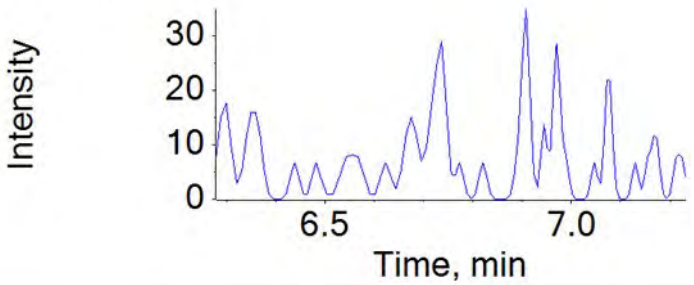
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



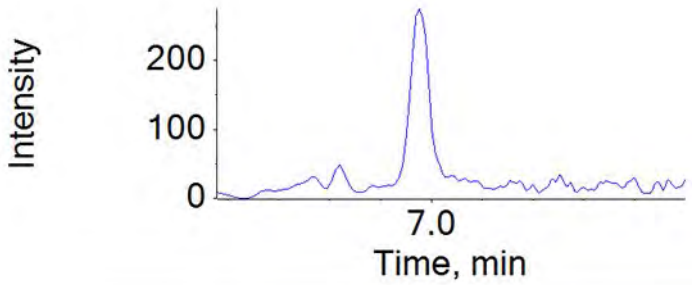
Component: PFHxDA
Primary Mass: 813.0 / 769.0



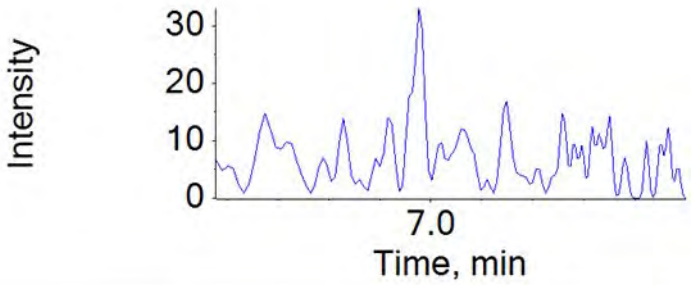
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	L+B CAL3			**Data File:**		18DEC06DCAL-34.wiff
Sample ID:	LBMODX1833D			**Acquis Date:**		2018-12-07T00:58:37
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	11			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	844235.2	825688.9	2	50	
13C2-PFOA	5.0	408558.7	449802.8	-9	50	
13C4-PFOS	4.8	280801.6	276858.3	1	50	
13C2-PFDA	5.0	312700.9	315428.3	-1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	919022.2	13C3-PFBA	844235.2	1.089	5.000	4.818	96	70-130	
E13C5-PFPeA	829061.6	13C3-PFBA	844235.2	0.982	5.000	4.664	93	70-130	
E13C3-PFBS	418825.8	13C3-PFBA	844235.2	0.496	4.650	4.205	90	70-130	
E13C2-4:2-FTS	54344.7	13C2-PFOA	408558.7	0.133	4.670	5.212	112	70-130	
E13C5-PFHxA	646116.7	13C2-PFOA	408558.7	1.581	5.000	5.310	106	70-130	
E13C3-PFHxS	334616.7	13C2-PFOA	408558.7	0.819	4.730	5.253	111	70-130	
E13C4-PFHpA	488776.0	13C2-PFOA	408558.7	1.196	5.000	5.086	102	70-130	
E13C2-6:2-FTS	32797.0	13C2-PFOA	408558.7	0.080	4.750	4.973	105	70-130	
E13C8-PFOA	776387.7	13C2-PFOA	408558.7	1.900	5.000	5.372	107	70-130	
E13C8-PFOS	305095.5	13C4-PFOS	280801.6	1.087	4.780	4.876	102	70-130	
E13C9-PFNA	462590.0	13C4-PFOS	280801.6	1.647	5.000	4.655	93	70-130	
E13C6-PFDA	583654.2	13C2-PFDA	312700.9	1.866	5.000	4.946	99	70-130	
E13C2-8:2-FTS	26851.5	13C2-PFDA	312700.9	0.086	4.790	5.606	117	70-130	
E13C8-PFOSA	661654.7	13C2-PFDA	312700.9	2.116	5.000	5.004	100	70-130	
Ed3-NMeFOSAA	88321.1	13C2-PFDA	312700.9	0.282	5.000	5.005	100	70-130	
E13C7-PFUnDA	327159.9	13C2-PFDA	312700.9	1.046	5.000	5.132	103	70-130	
Ed5-NEtFOSAA	68718.6	13C2-PFDA	312700.9	0.220	5.000	4.851	97	70-130	
E13C2-PFDoDA	735764.7	13C2-PFDA	312700.9	2.353	5.000	4.938	99	70-130	
Ed7-NMePFOSAE	262335.5	13C2-PFDA	312700.9	0.839	5.000	4.833	97	70-130	
Ed3-NMePFOSA	85478.0	13C2-PFDA	312700.9	0.273	5.000	4.981	100	70-130	
Ed9-NEtPFOSAE	218308.0	13C2-PFDA	312700.9	0.698	5.000	4.814	96	70-130	
Ed5-NEtPFOSA	69312.9	13C2-PFDA	312700.9	0.222	5.000	4.988	100	70-130	
E13C2-PFTeDA	512997.4	13C2-PFDA	312700.9	1.641	5.000	4.869	97	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

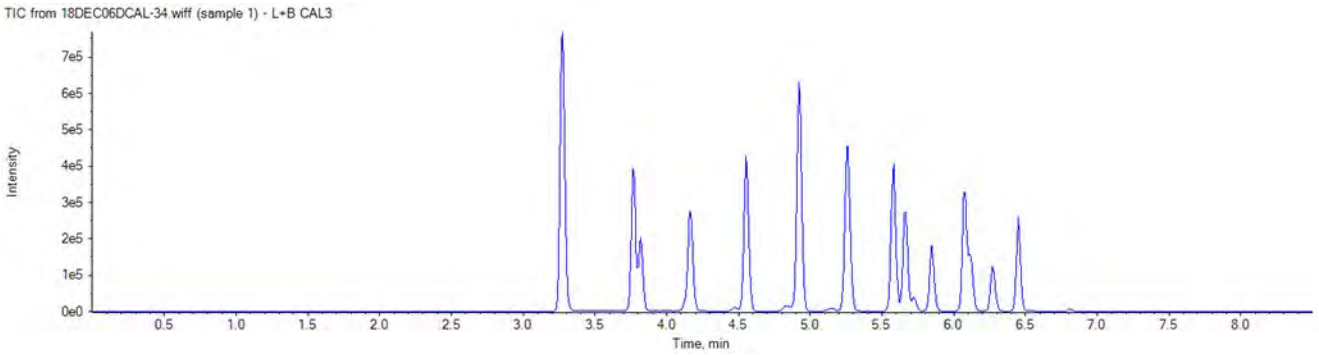
Analyte Quantitation Peak Table

Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-34.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	4484.4		A	13C4-PFBA	3.27	919022.2	0.005	0.027
PFPeA	3.76	1.000	1505.7		A	13C5-PFPeA	3.77	829061.6	0.002	0.010
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	418825.8	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	54344.7	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	646116.7	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	418825.8	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	488776.0	N/A	
PFHxS	4.56	1.000	129352.3		M	13C3-PFHxS	4.56	334616.7	0.387	1.832
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	32797.0	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	334616.7	N/A	
PFOA	4.92	1.000	280874.3		M	13C8-PFOA	4.92	776387.7	0.362	1.977
PFOS	5.25	1.000	116707.6		M	13C8-PFOS	5.25	305095.5	0.383	1.587
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.27	462590.0	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	305095.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.58	583654.2	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.58	26851.5	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.66	661654.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.72	88321.1	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	305095.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.85	327159.9	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.86	68718.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.08	735764.7	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.58	26851.5	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.12	262335.5	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.13	85478.0	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	305095.5	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.27	218308.0	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.29	69312.9	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.08	735764.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	512997.4	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	512997.4	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	512997.4	N/A	

Total Ion Chromatogram

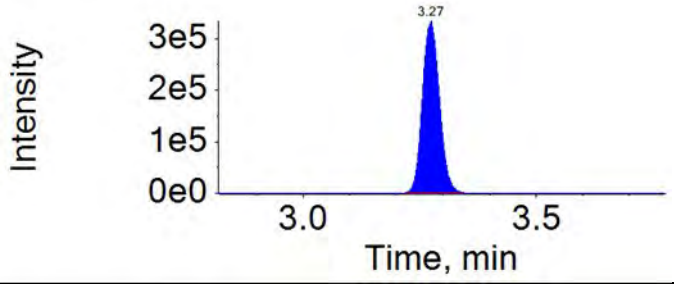


APPROVED
By MSM at 1:53 pm, 12/7/18

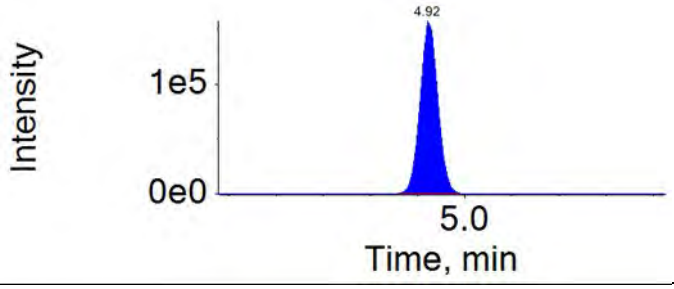
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

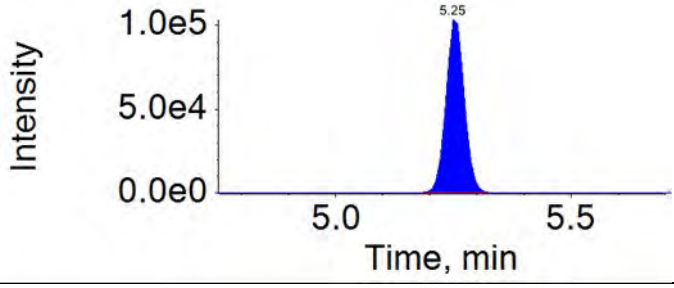
Injection Standard: 13C3-PFBA
216.0 / 172.0



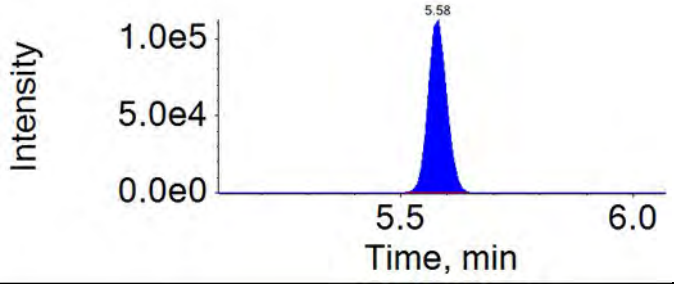
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



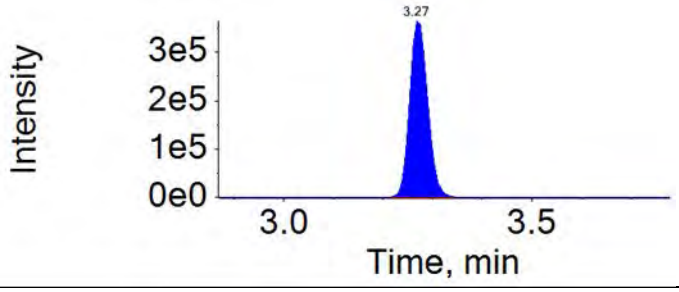
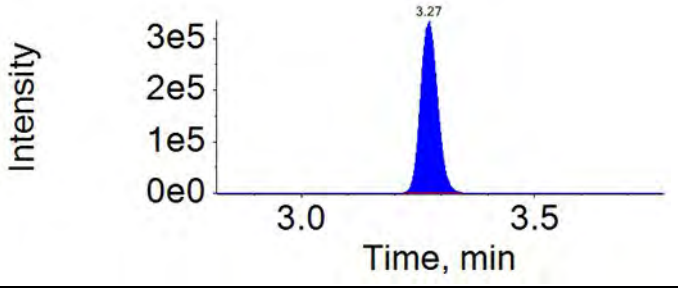
Injection Standard: 13C2-PFDA
515.0 / 470.0

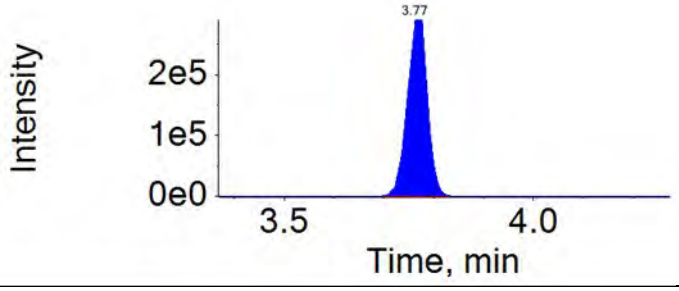
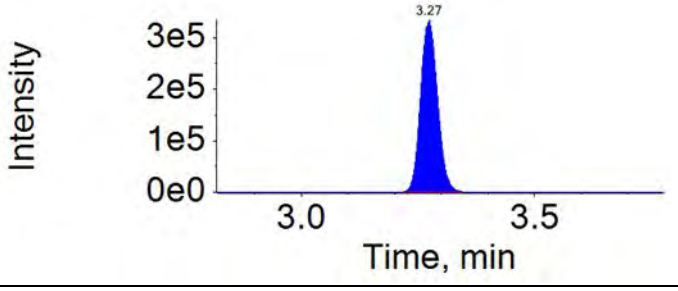


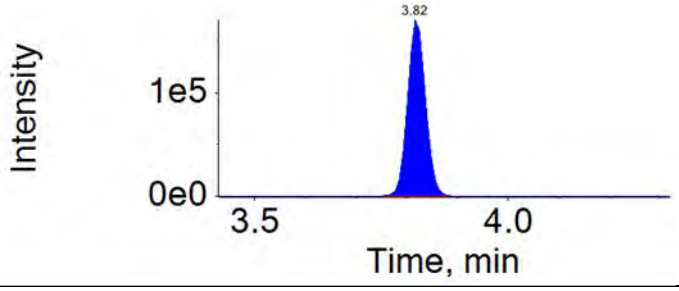
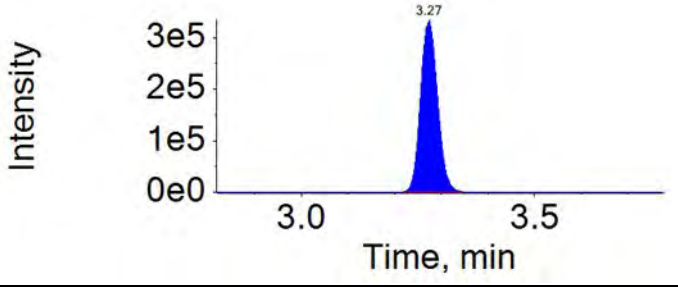
APPROVED
By MSM at 1:53 pm, 12/7/18

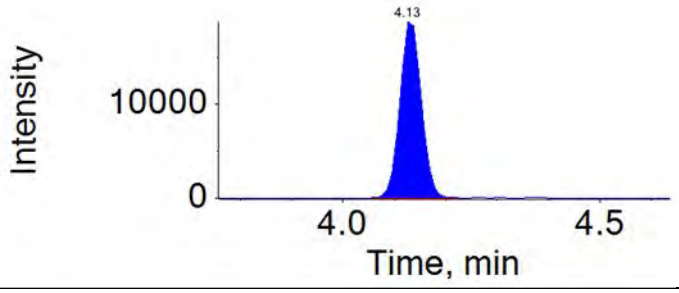
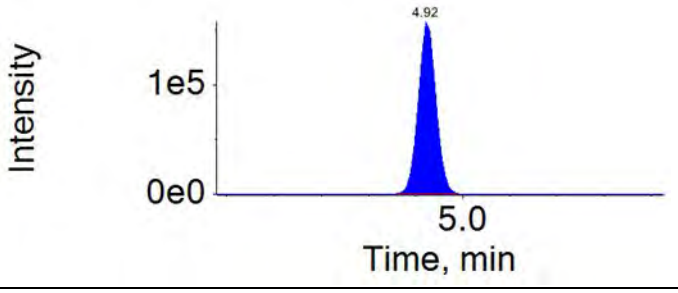
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

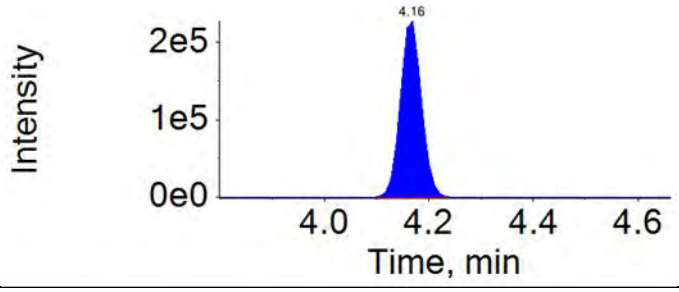
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

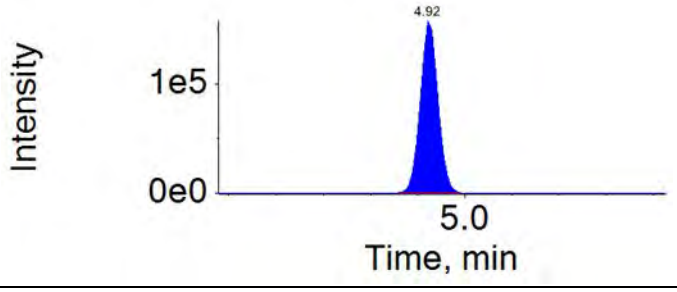
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

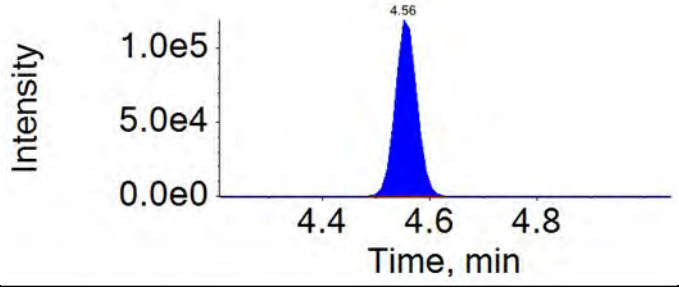
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

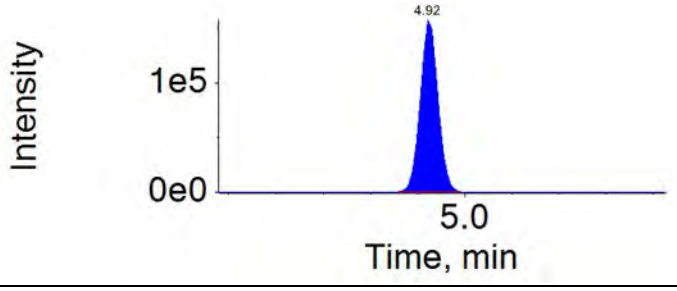
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



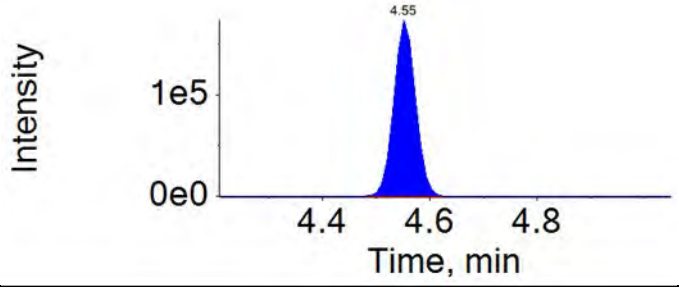


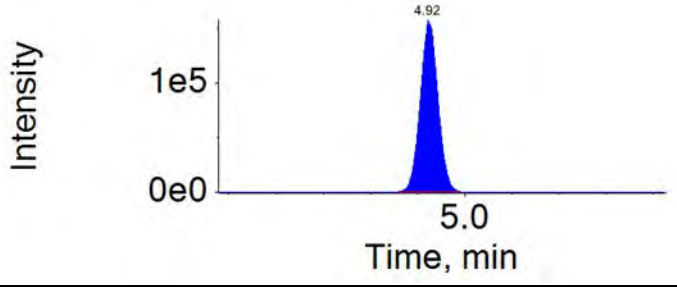
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



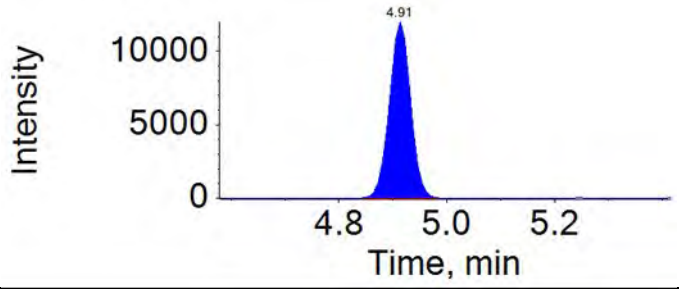


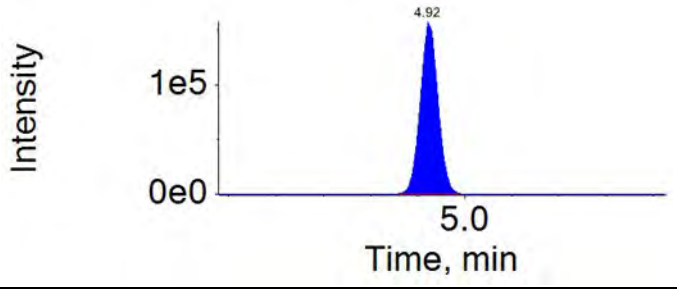
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



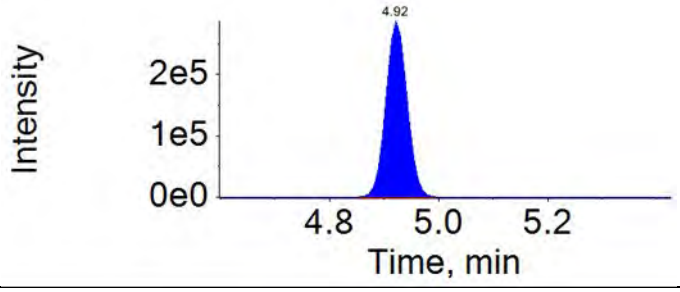


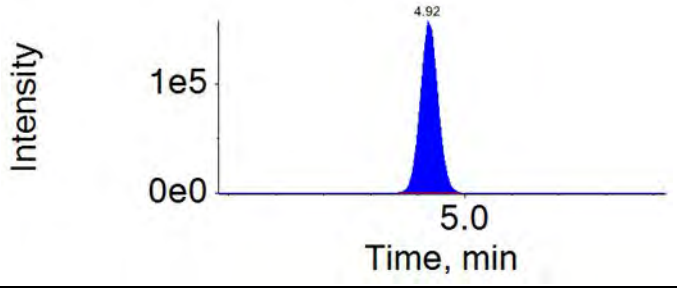
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

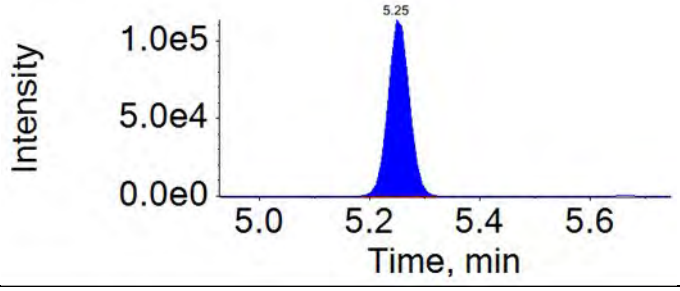
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

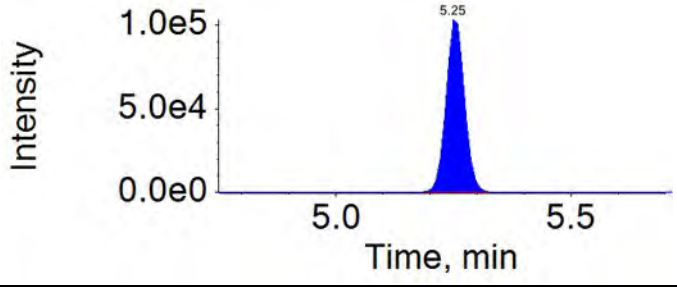
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



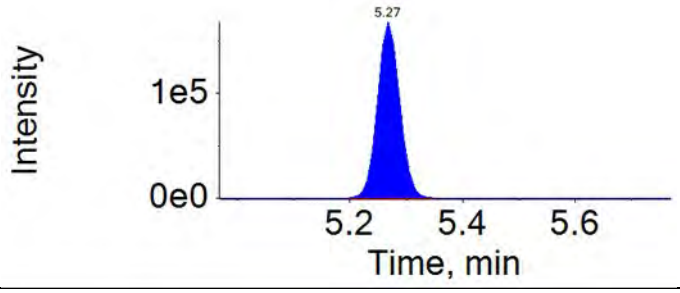


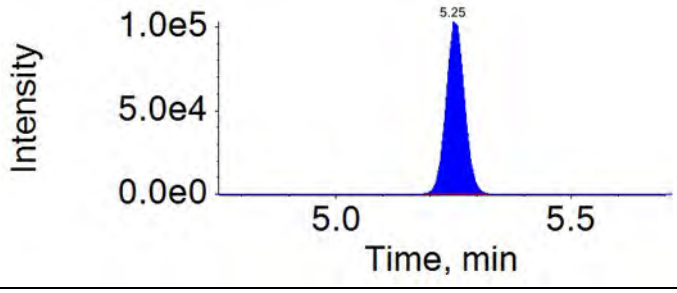
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



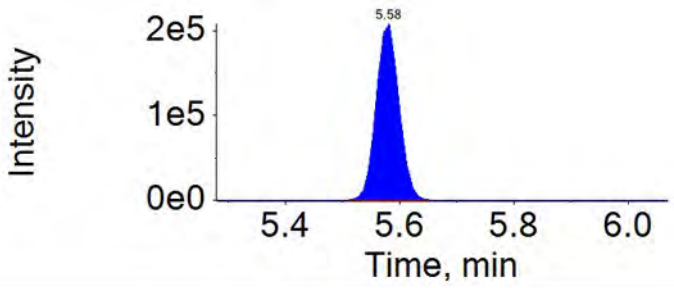


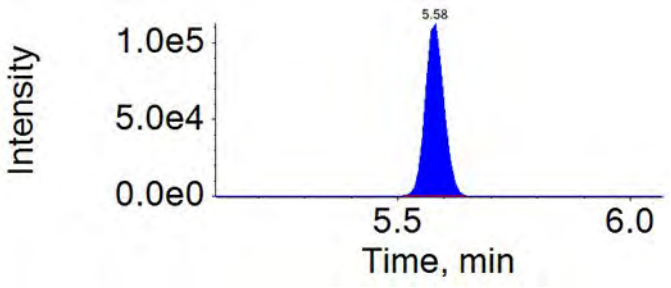
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

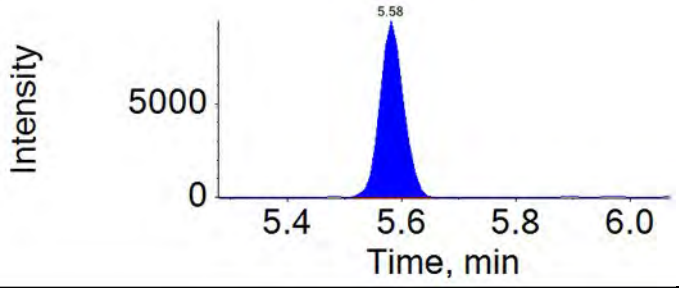
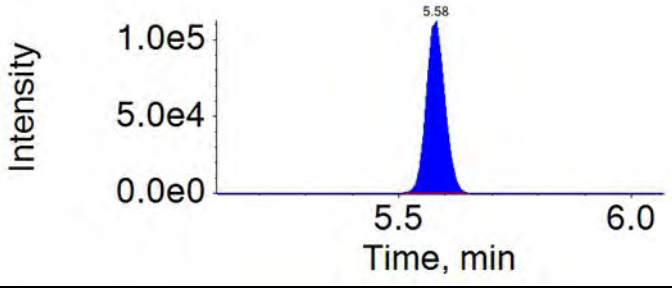


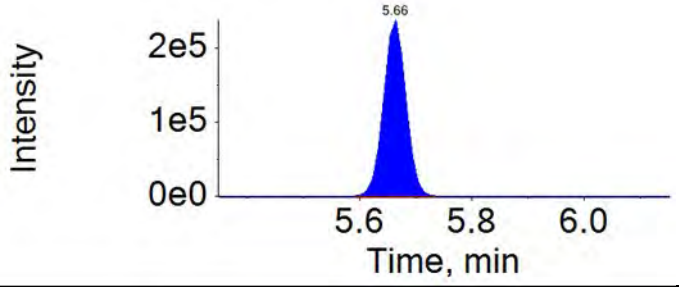
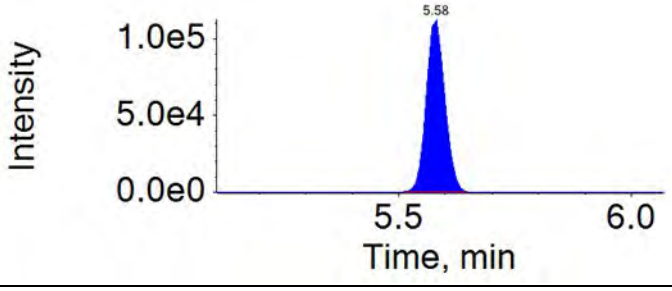


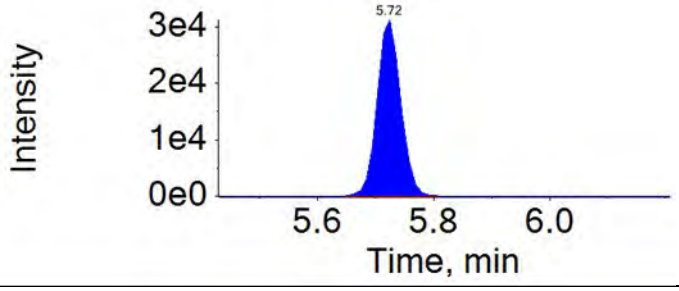
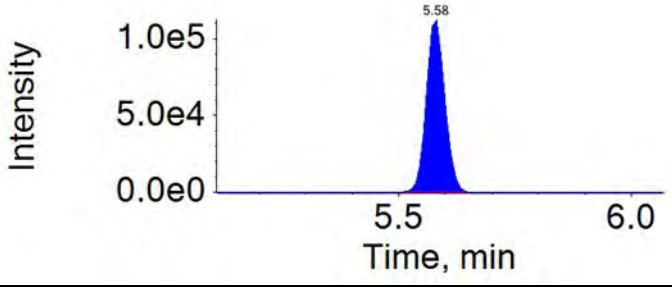
APPROVED
By MSM at 1:53 pm, 12/7/18

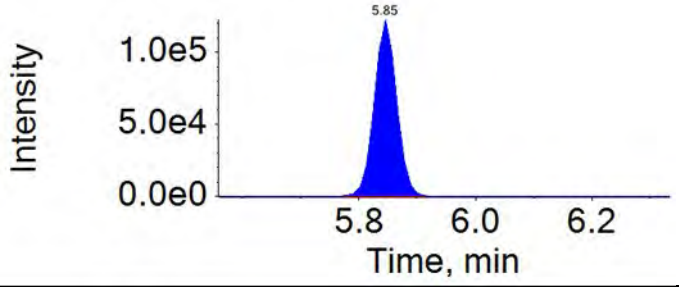
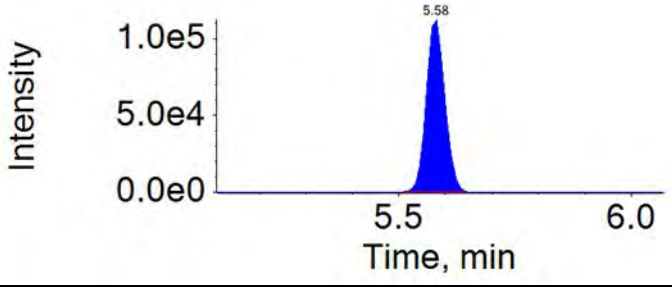
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

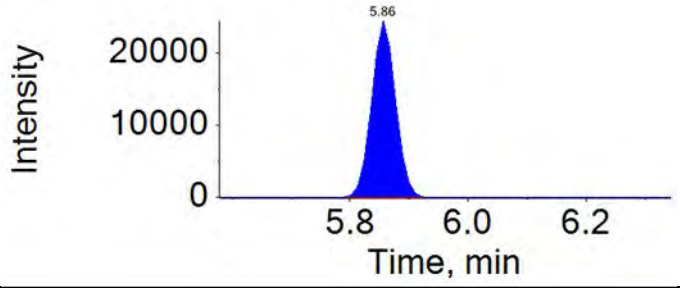
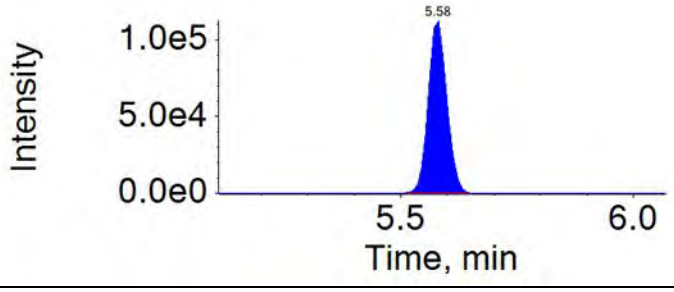
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

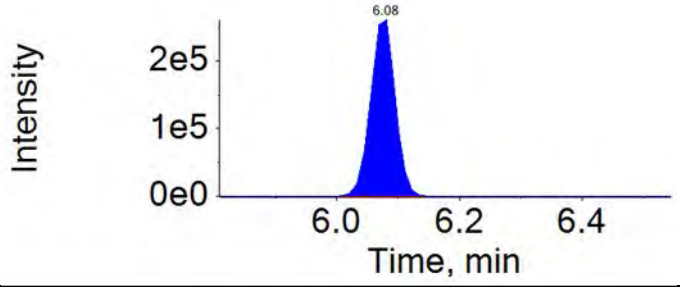
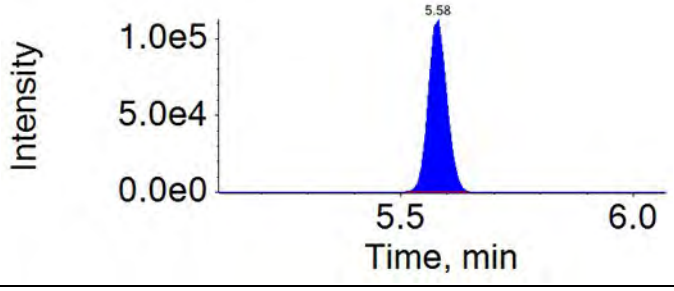
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

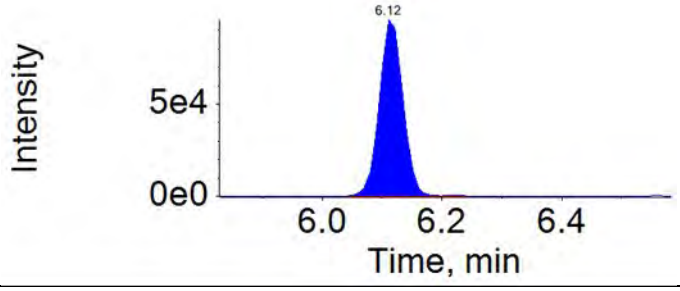
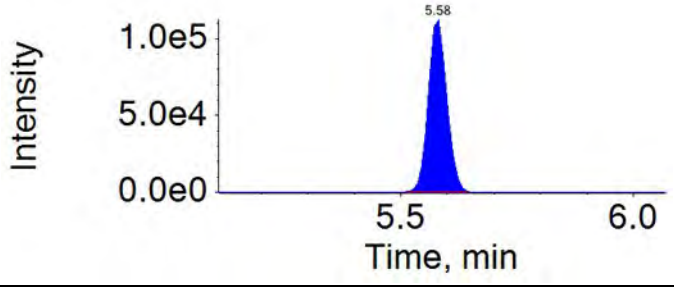
APPROVED
By MSM at 1:53 pm, 12/7/18

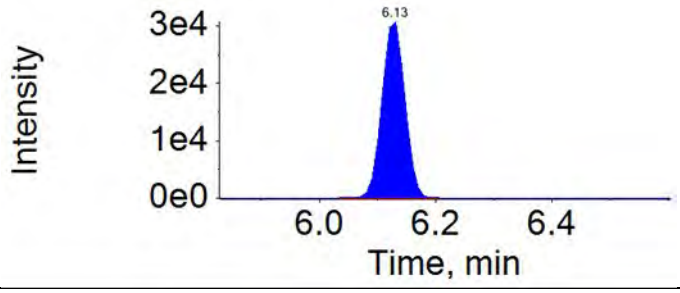
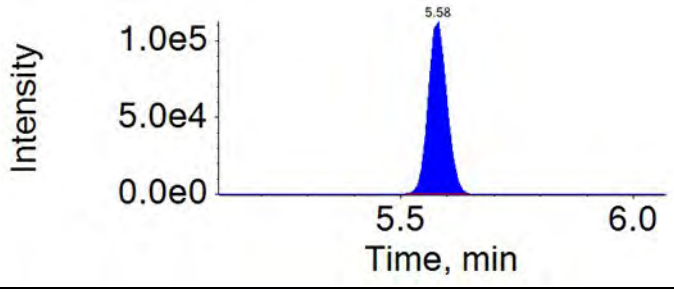
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

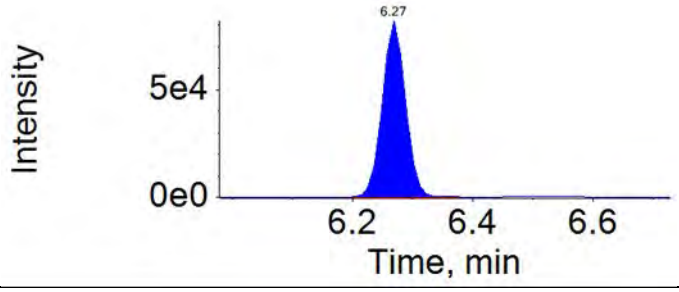
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

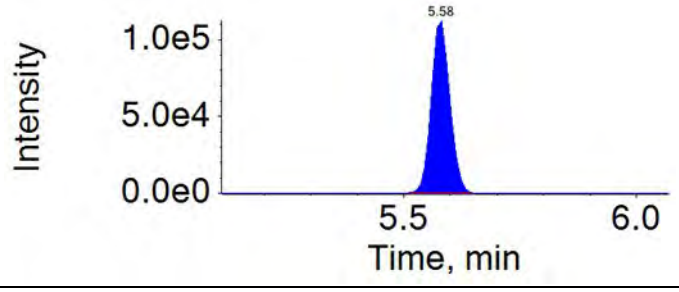
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

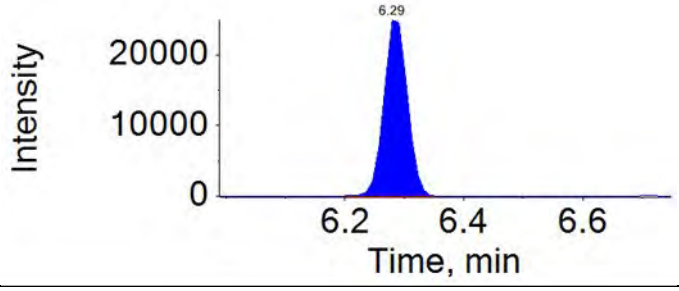
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

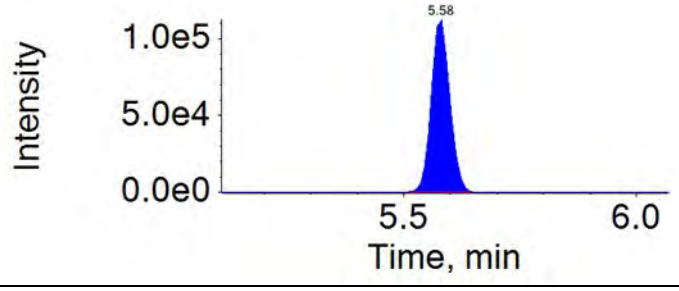
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



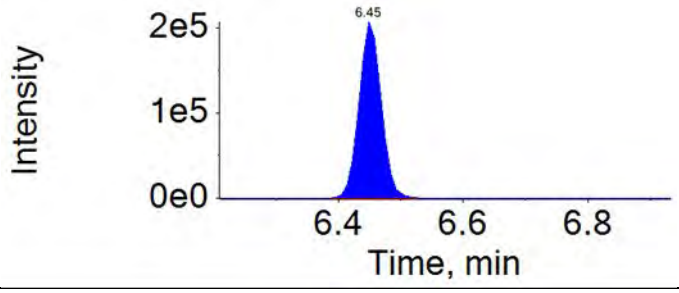


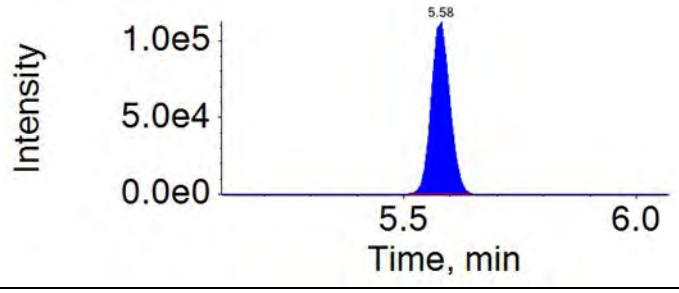
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



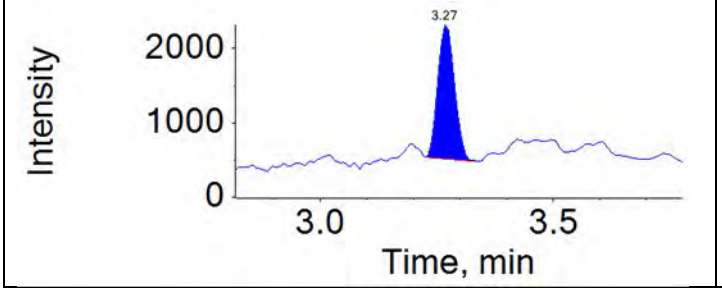


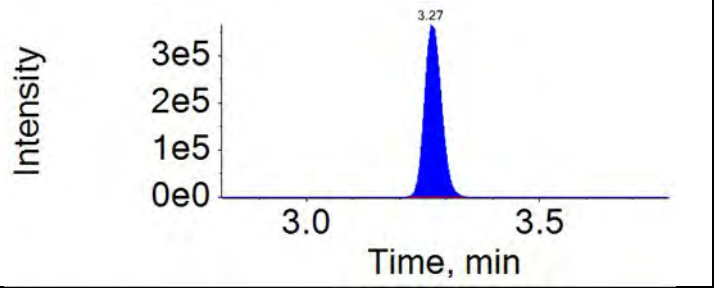
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

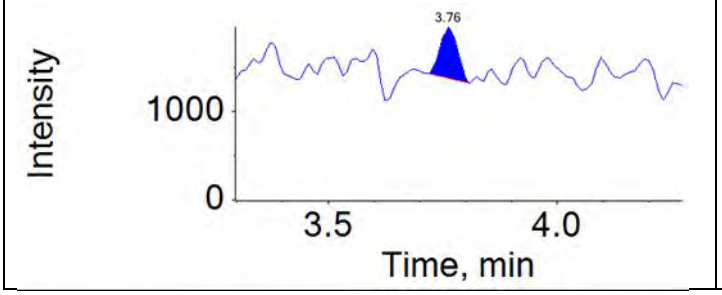
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

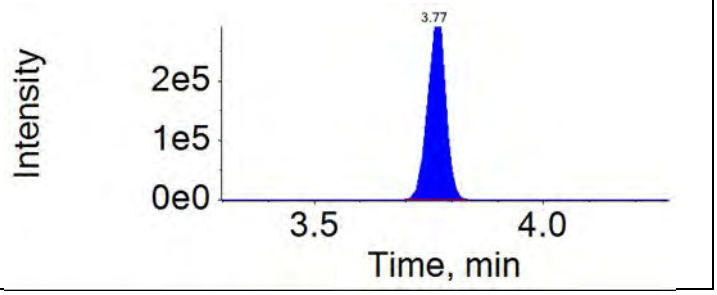
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



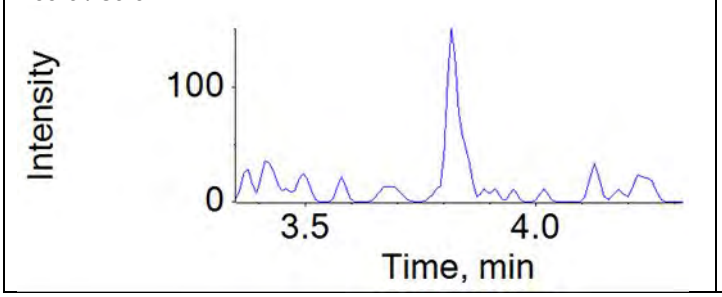


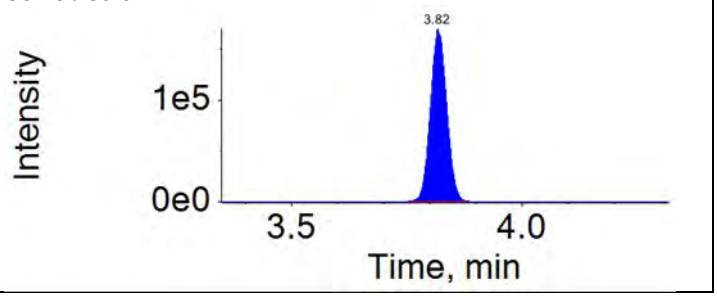
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



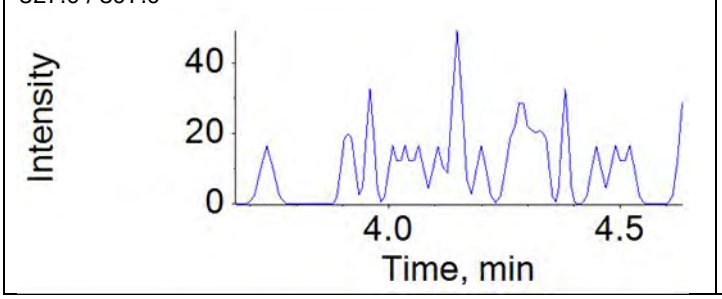


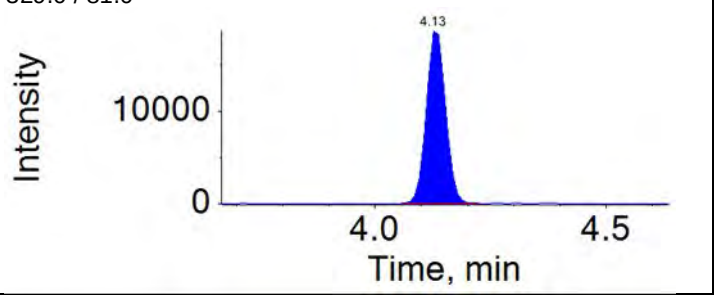
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



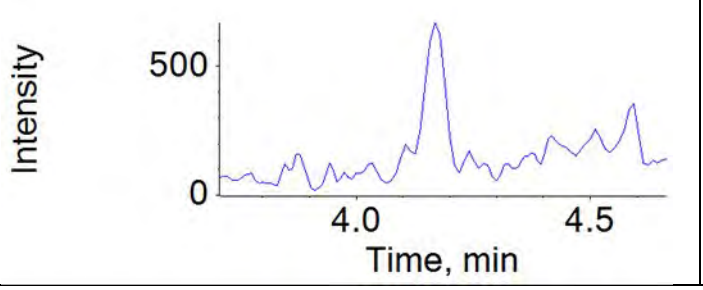


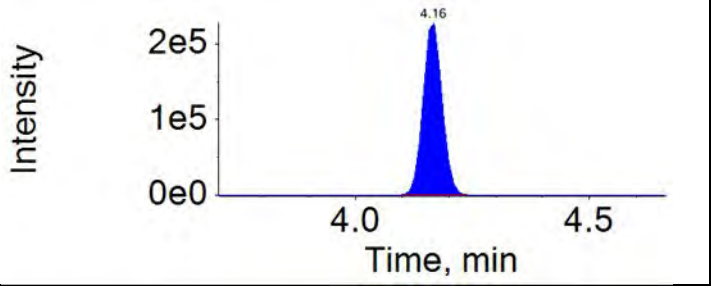
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

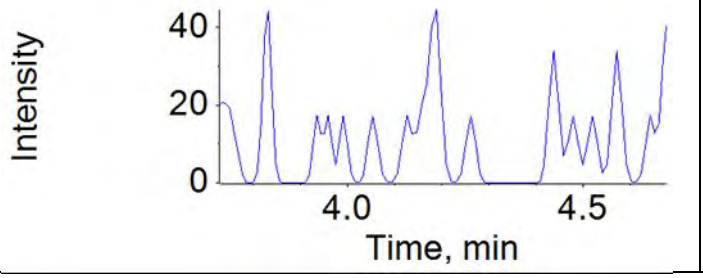
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

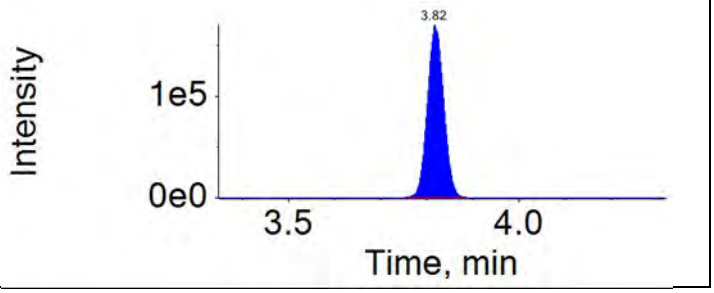
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



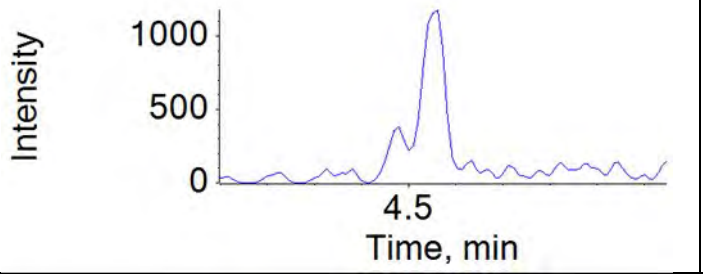


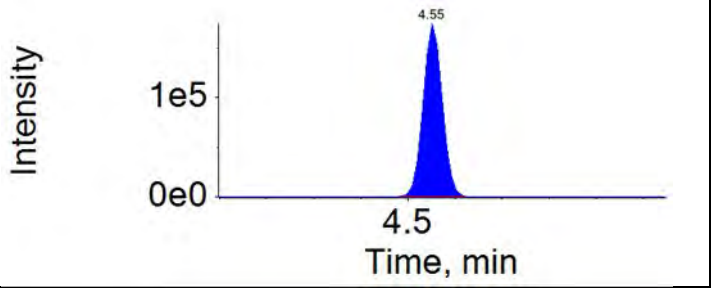
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



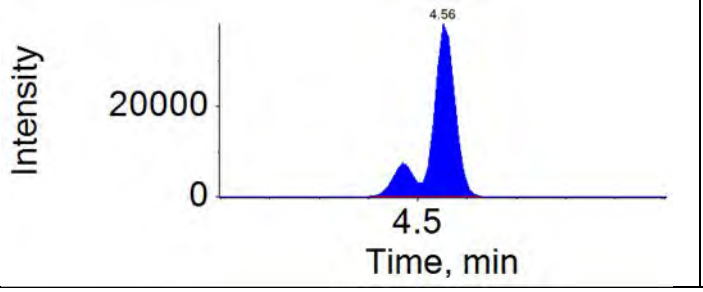


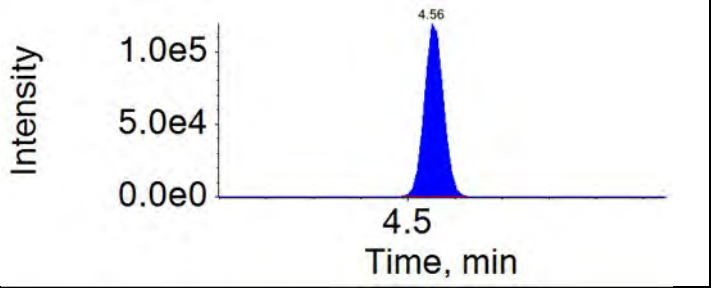
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





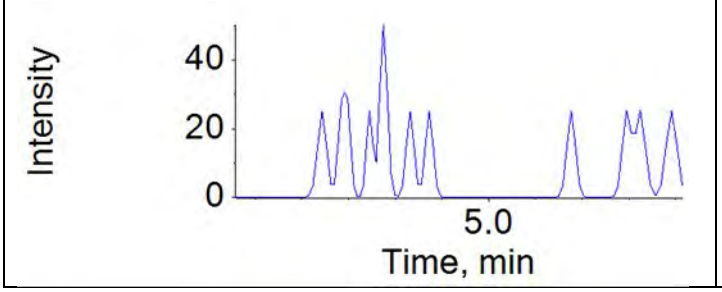
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

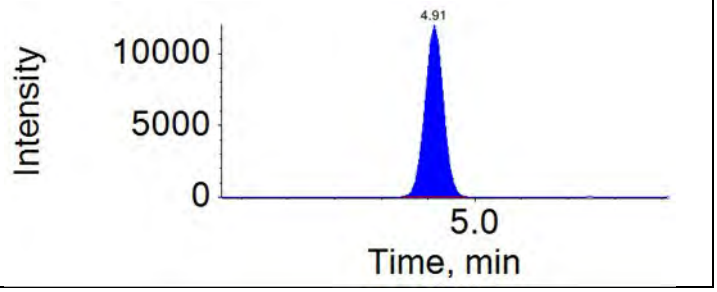




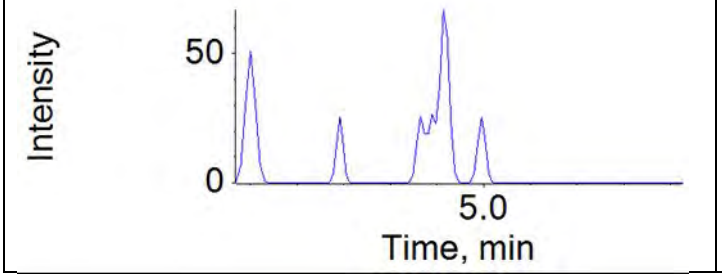
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

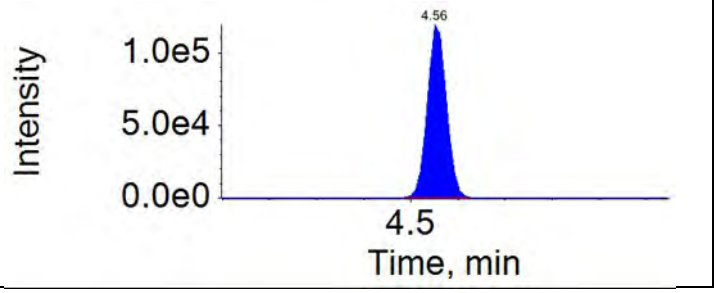
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



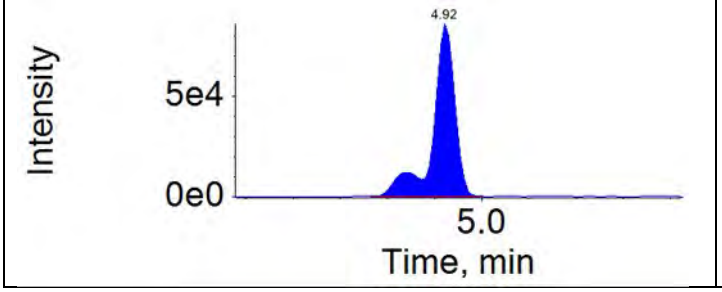


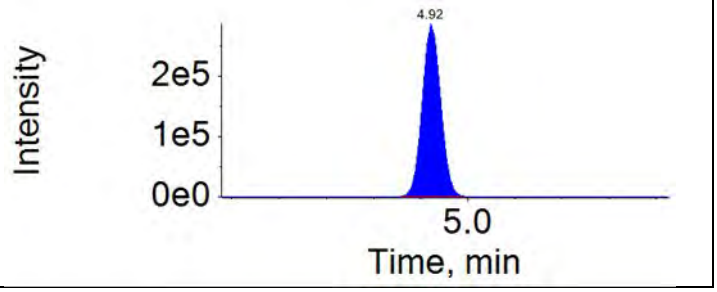
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



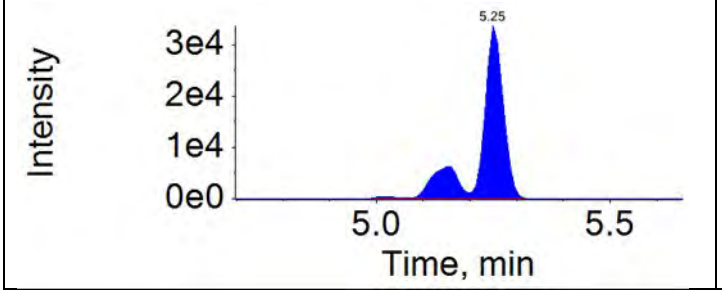


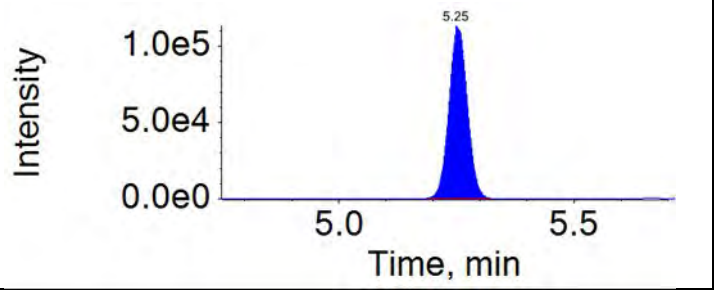
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



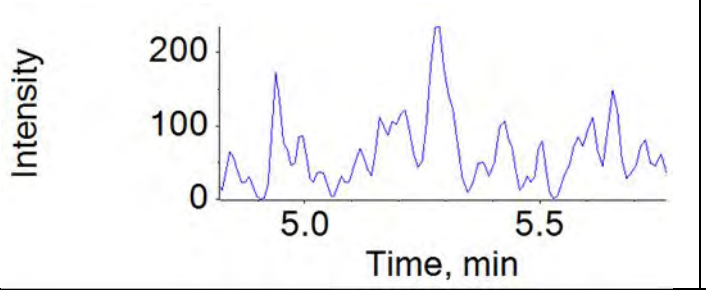


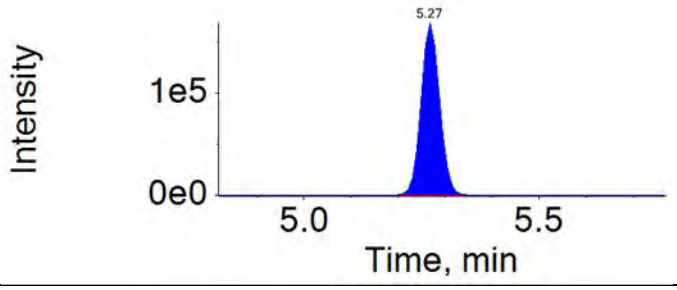
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

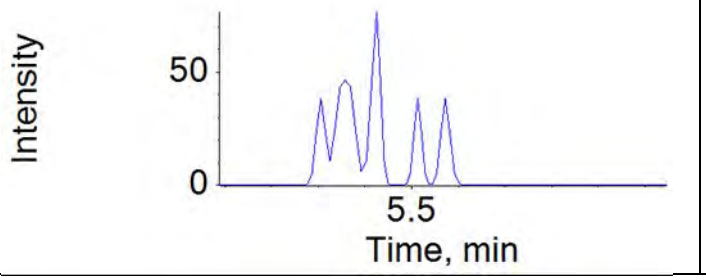
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

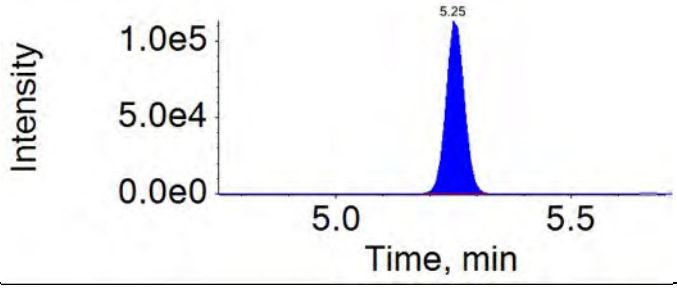
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



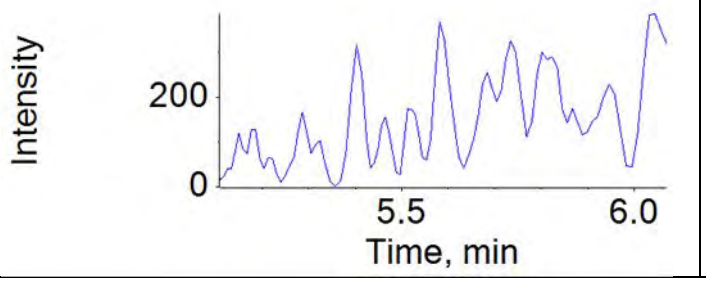


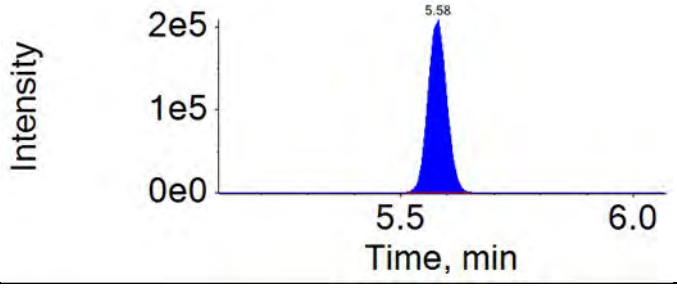
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



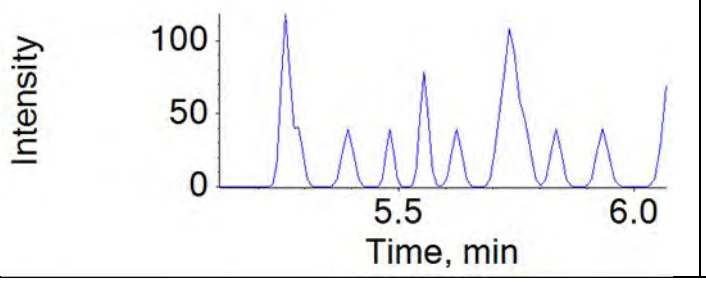


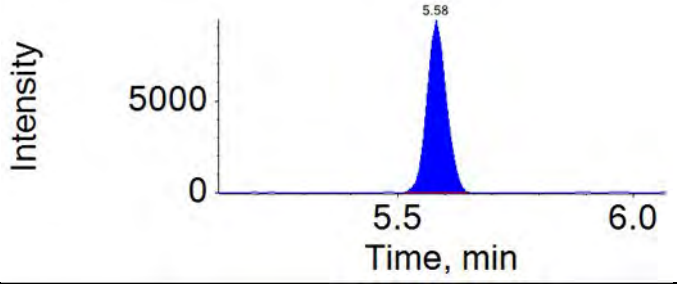
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



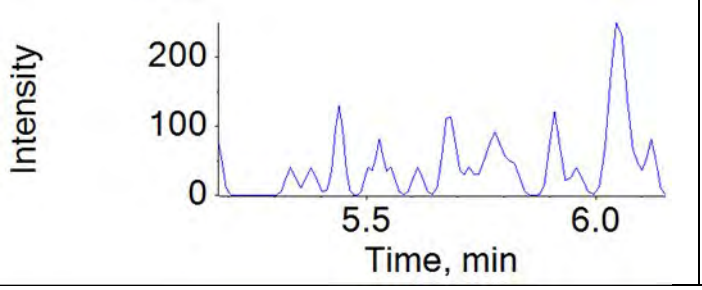


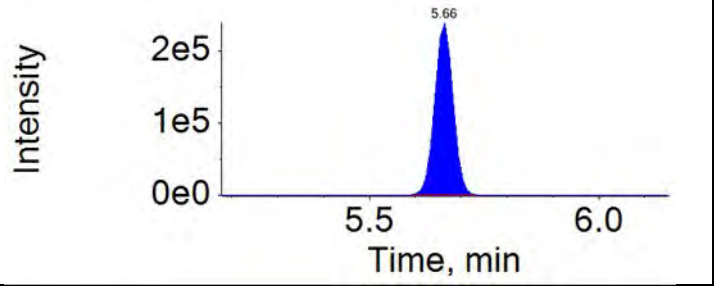
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

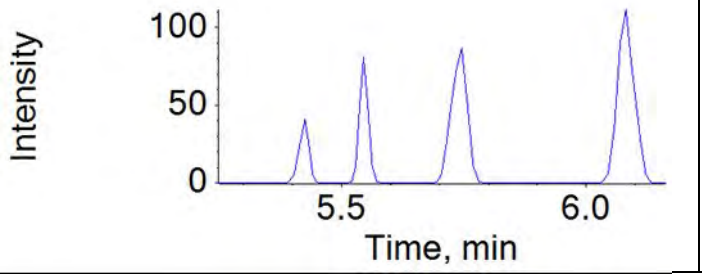
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

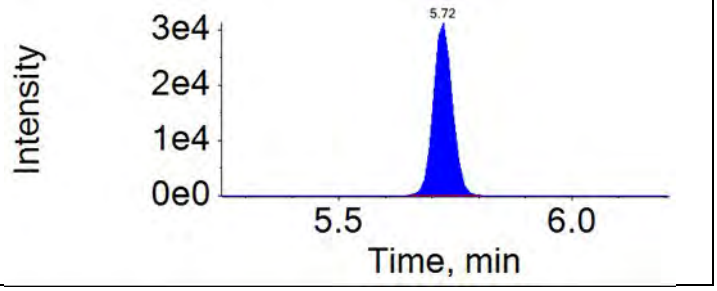
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



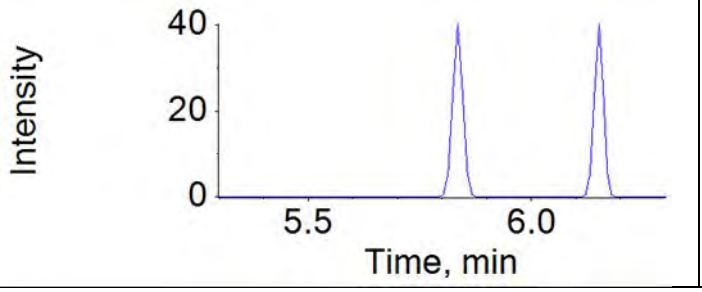


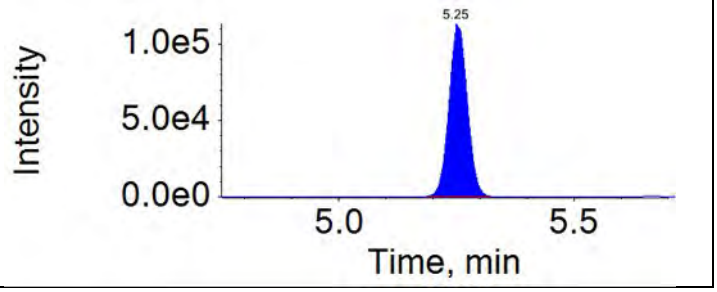
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



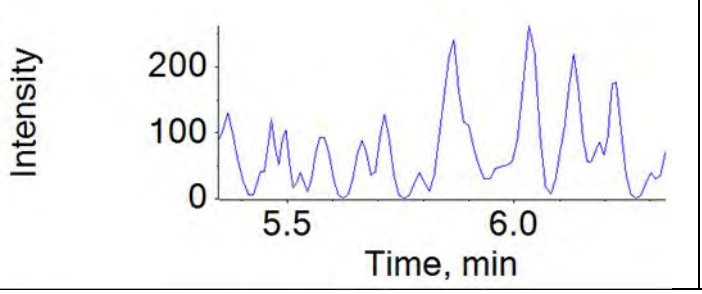


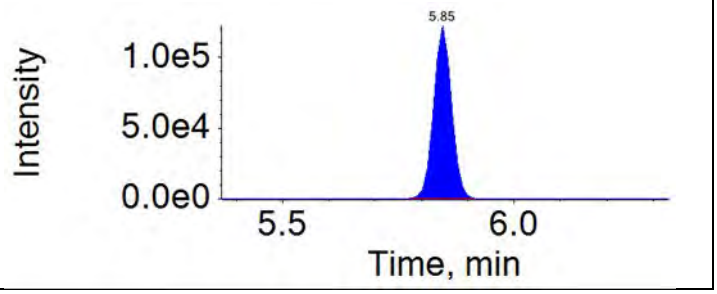
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



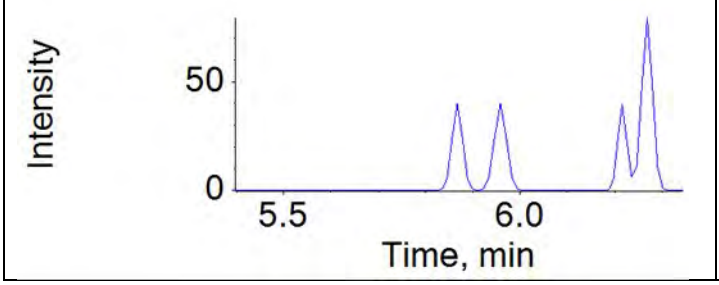


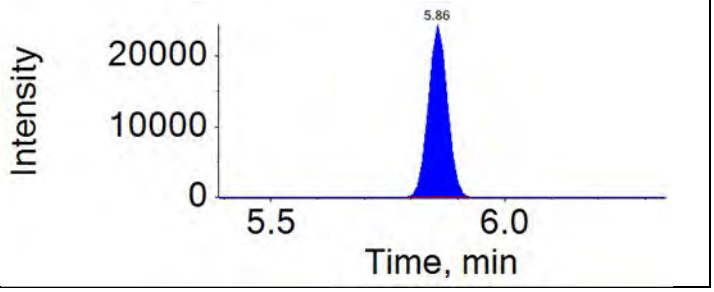
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

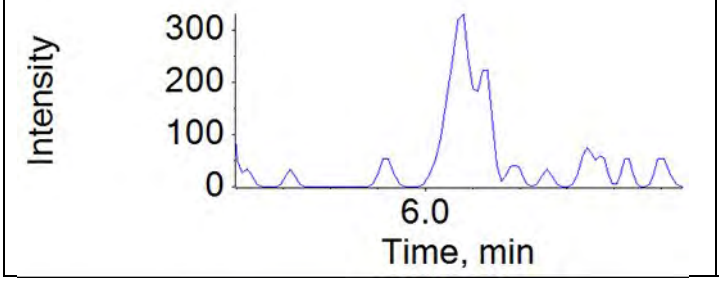
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

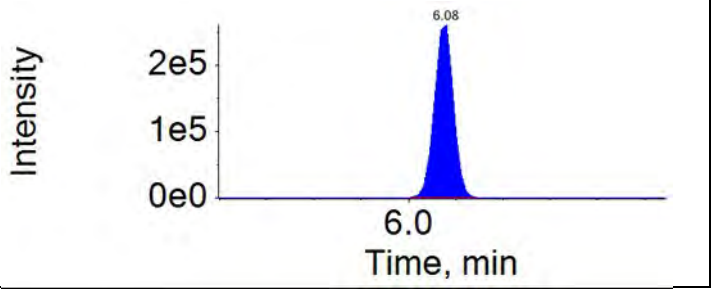
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



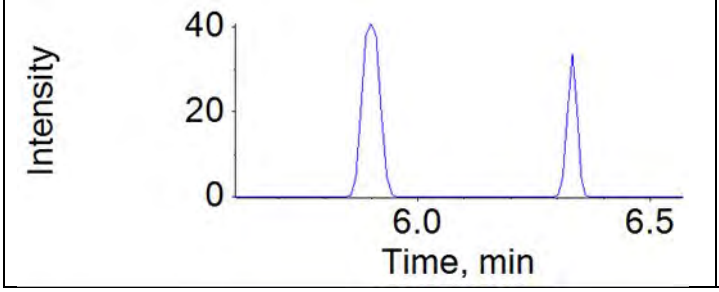


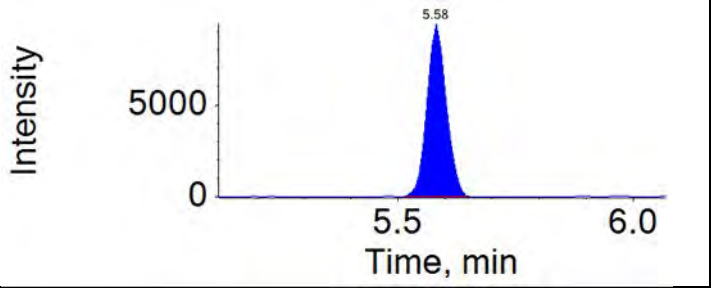
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



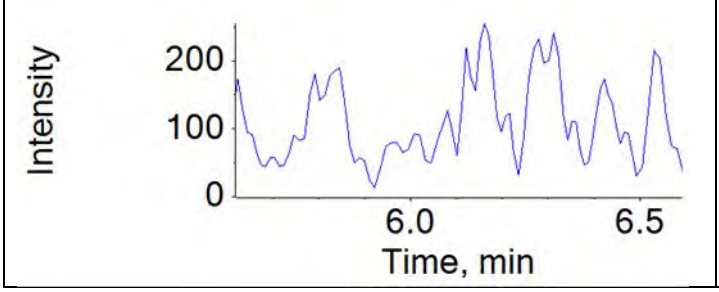


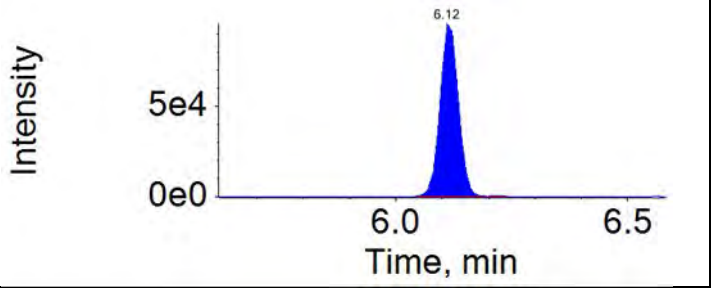
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



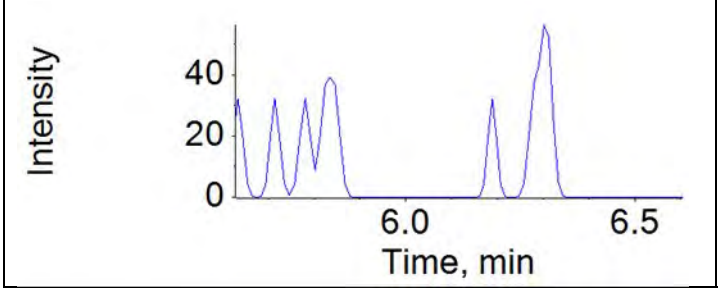


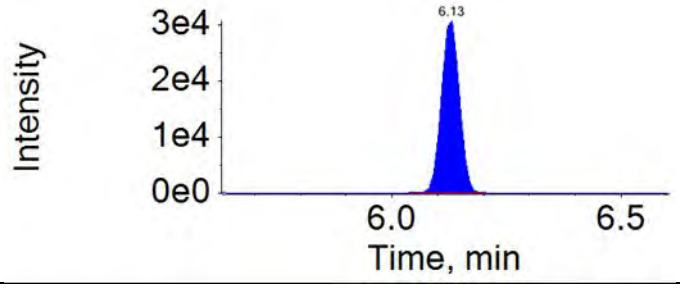
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

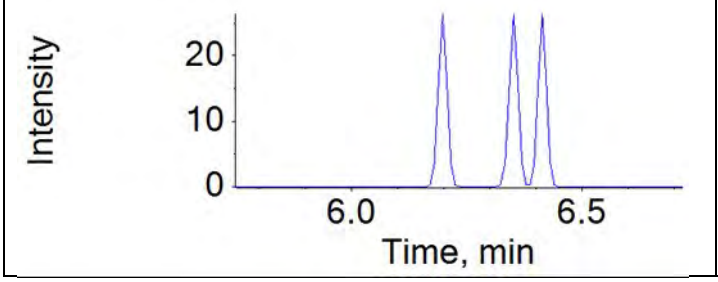
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

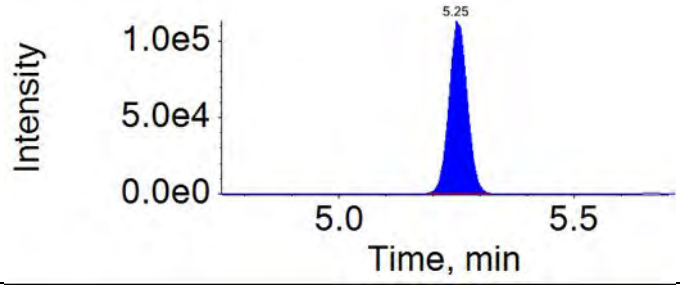
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



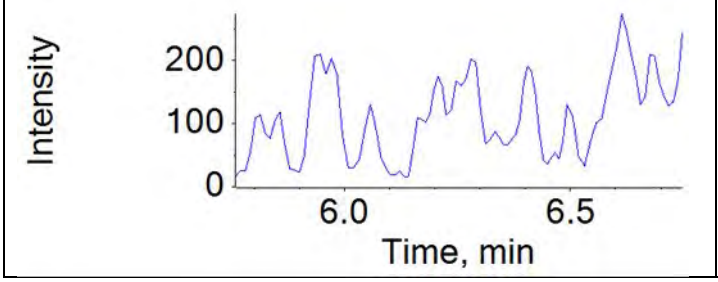


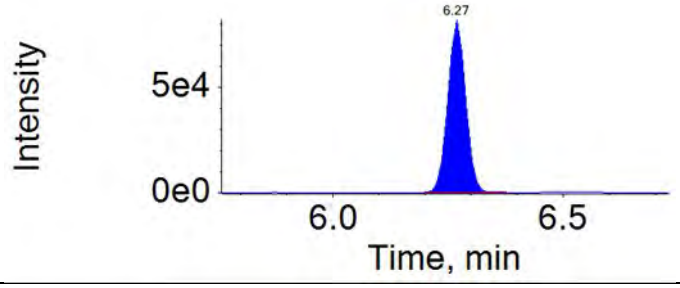
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



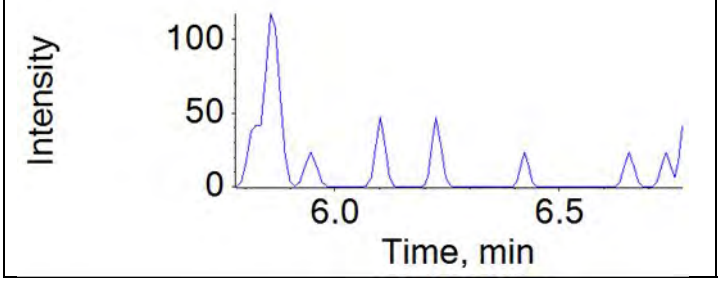


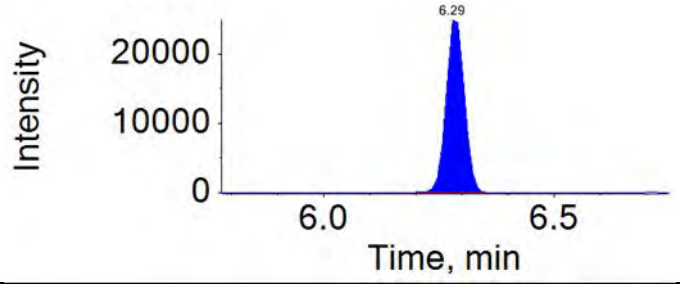
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



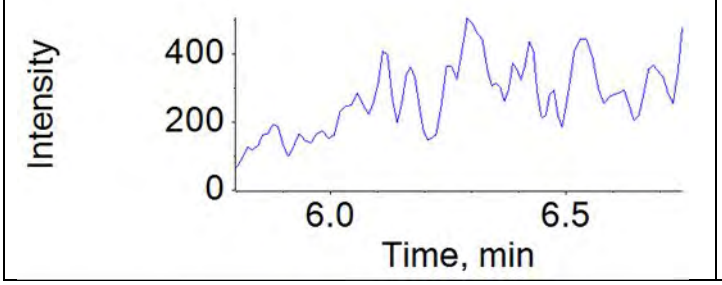


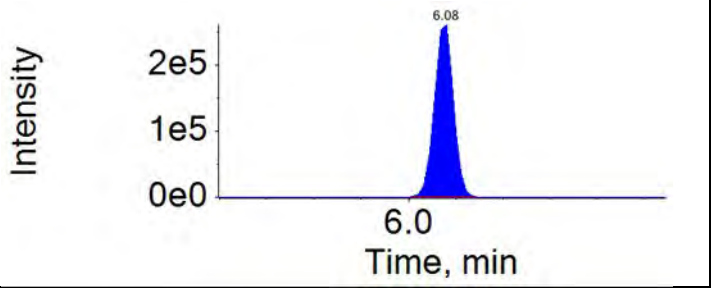
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

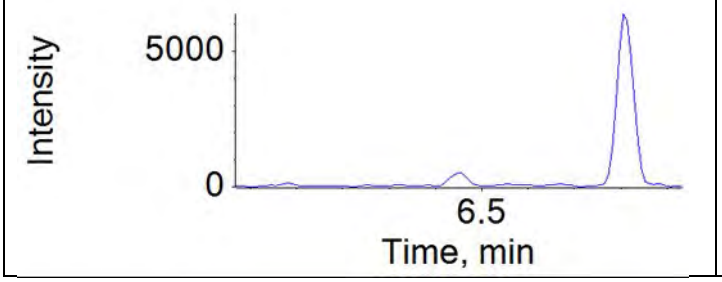
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

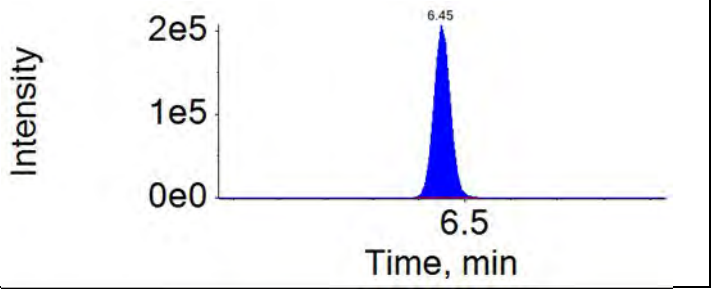
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



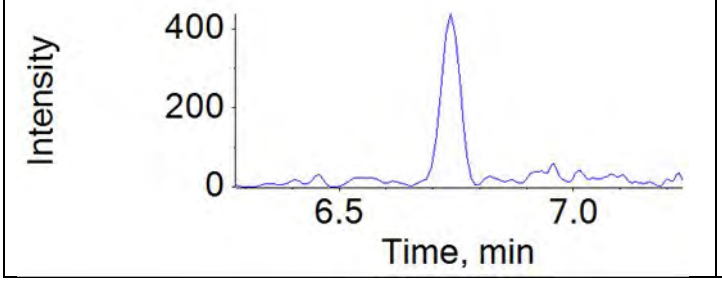


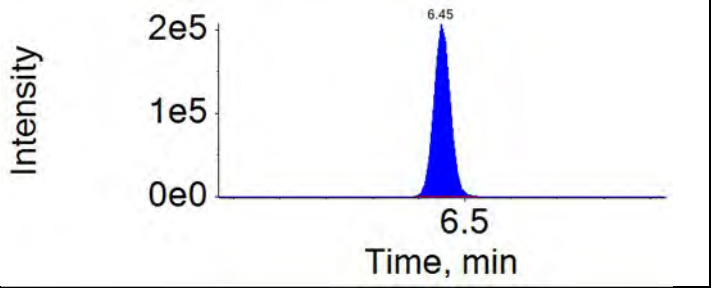
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



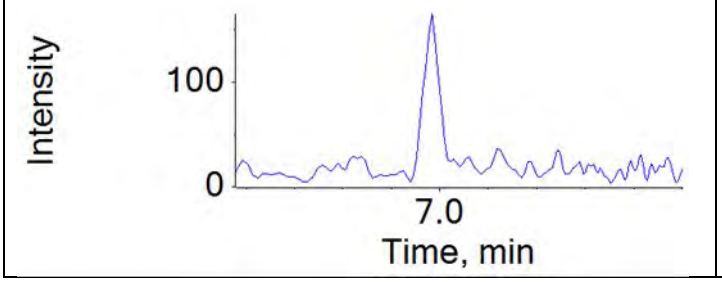


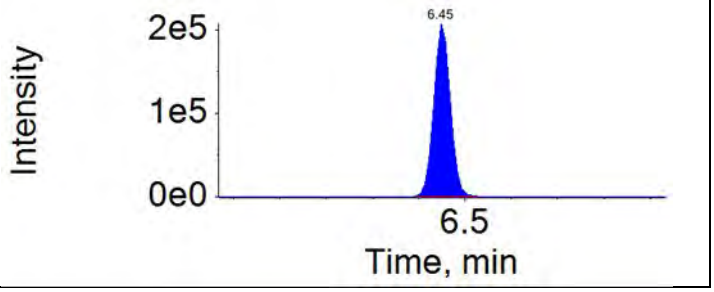
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



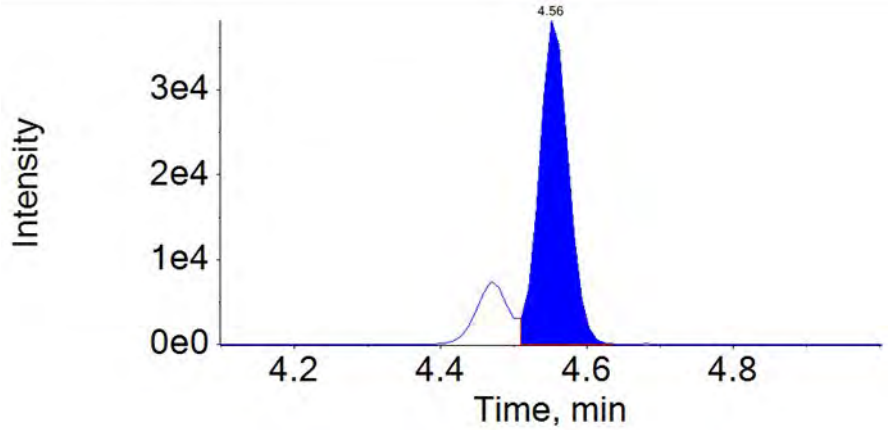


APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

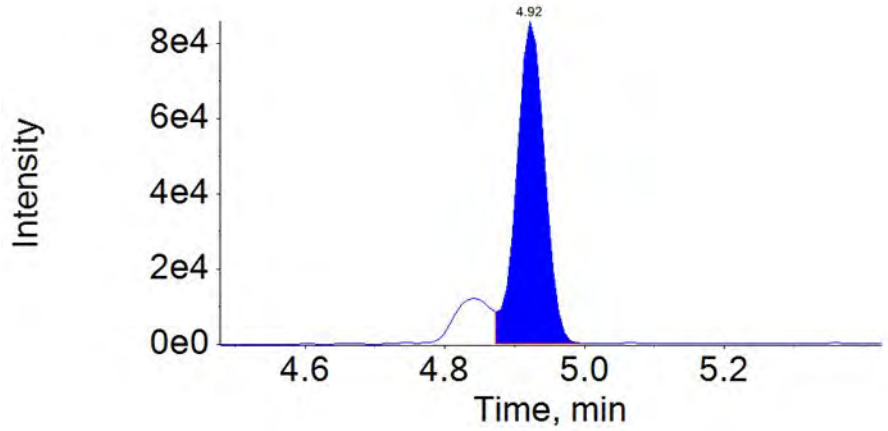
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
106250.89
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-34.wiff
Sample Name:
L+B CAL3



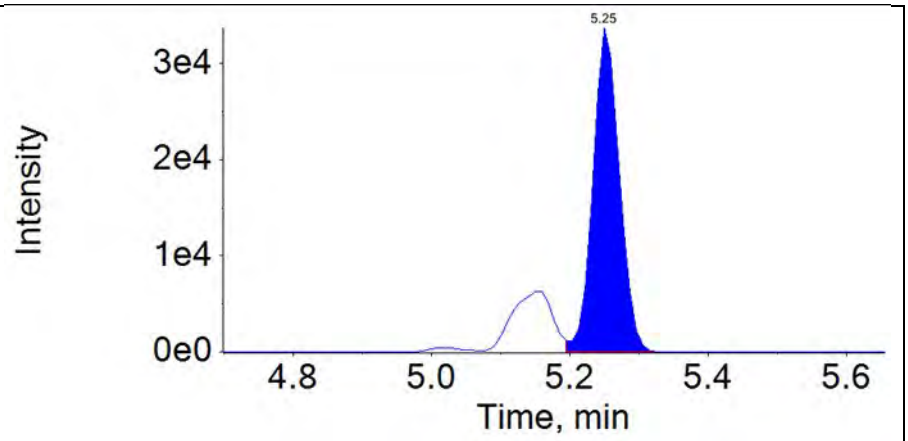
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
237709.65
Mass Range:
413.0 / 369.0
File Name:
18DEC06DCAL-34.wiff
Sample Name:
L+B CAL3



Integration Comment:

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
89819.41
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-34.wiff
Sample Name:
L+B CAL3



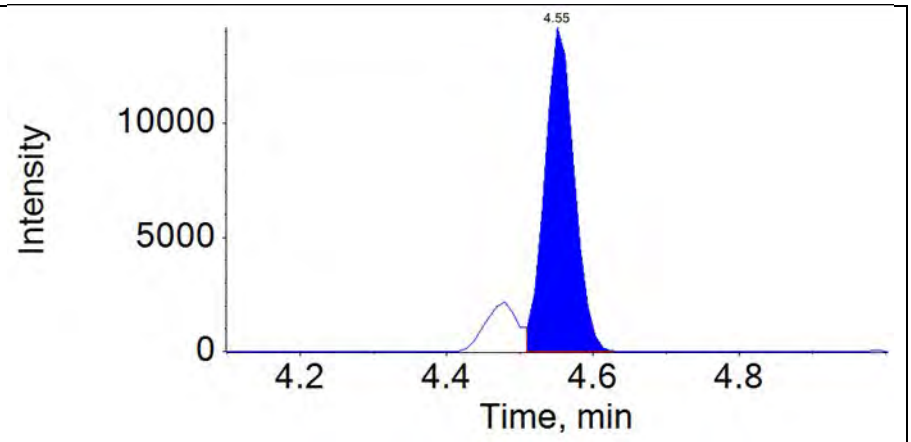
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

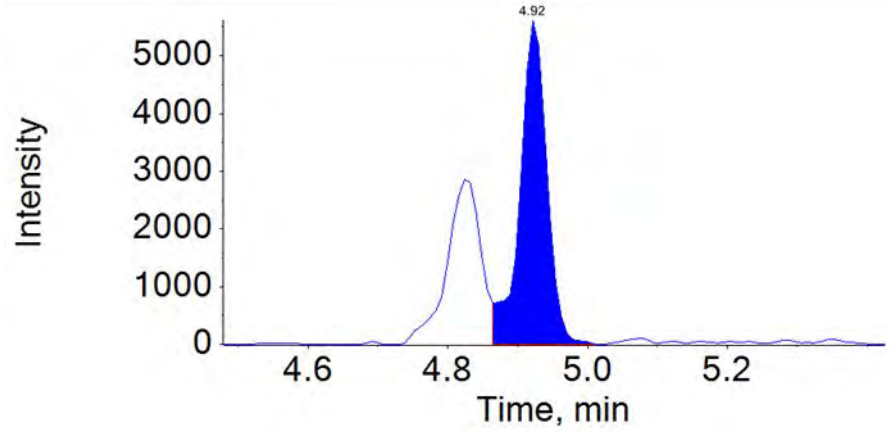
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
39459.93
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-34.wiff
Sample Name:
L+B CAL3



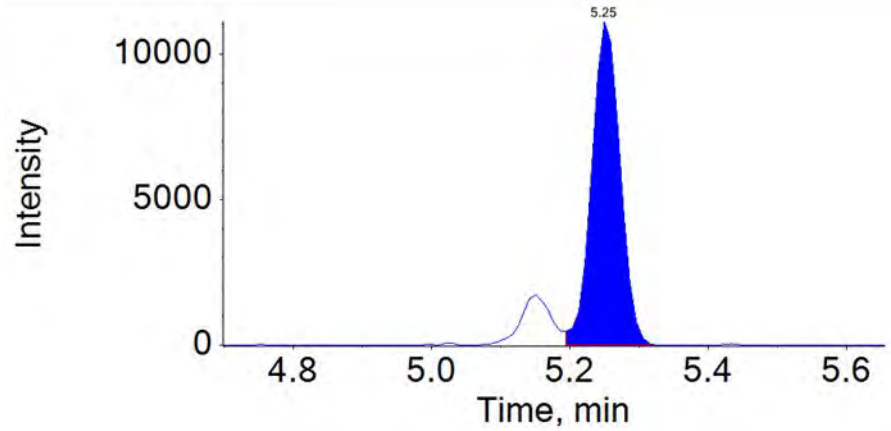
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
15053.22
Mass Range:
413.0 / 169.0
File Name:
18DEC06DCAL-34.wiff
Sample Name:
L+B CAL3



Integration Comment:

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
31708.15
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-34.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Ion Ratio Report

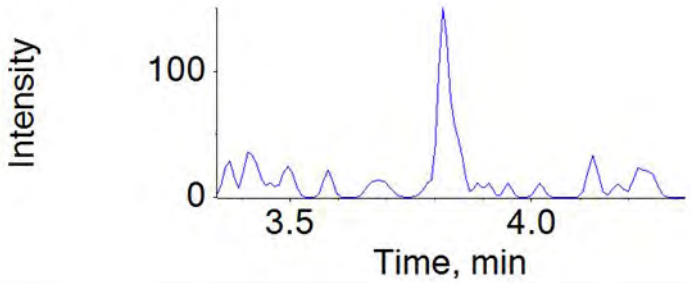
Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-34.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3627	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6542	N/A		50	
PFHxA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxA_2	N/A	N/A	N/A	A	0.0097	N/A		50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5262	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0565	N/A		50	
PFHxS	4.56	1.00	129352.28	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	46074.18	M	0.3645	0.3562	-2	50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6273	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.4162	N/A		50	
PFOA	4.92	1.00	280874.33	M	1.0000	1.0000			
PFOA_2	4.92	1.00	24631.30	M	0.0616	0.0877	42	50	
PFOS	5.25	1.00	116707.64	M	1.0000	1.0000			
PFOS_2	5.25	1.00	37180.49	M	0.3021	0.3186	5	50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0192	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4845	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0096	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.6117	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2673	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4952	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0041	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6726	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0133	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.6969	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0075	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0066	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0616	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0272	N/A		50	

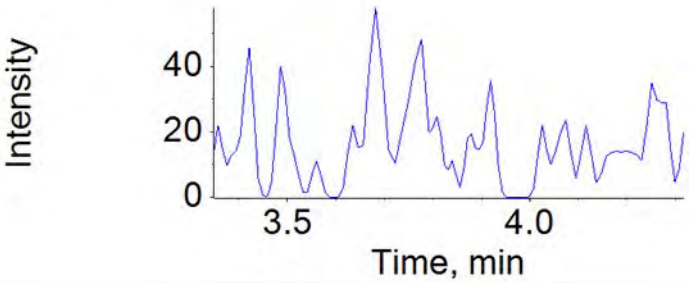
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

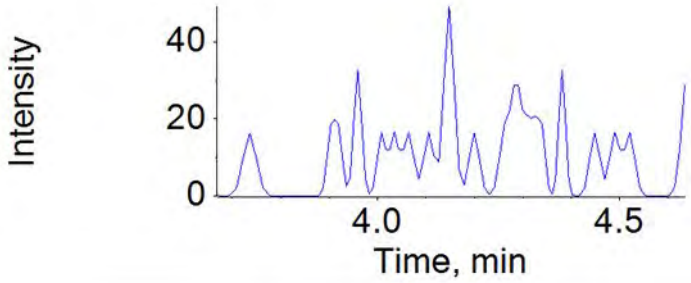
Component: PFBS
Primary Mass: 299.0 / 80.0



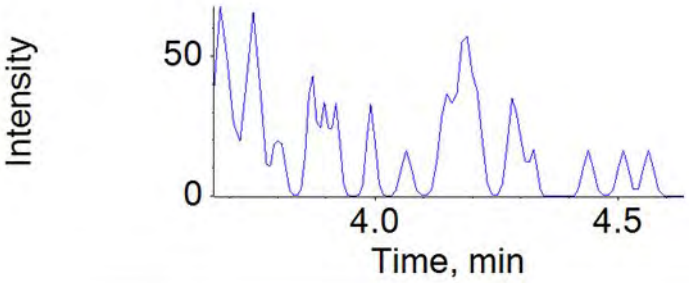
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



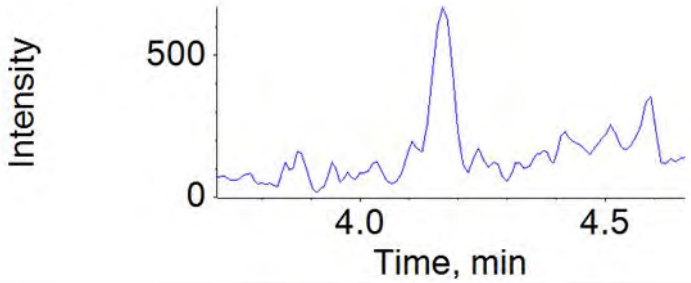
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



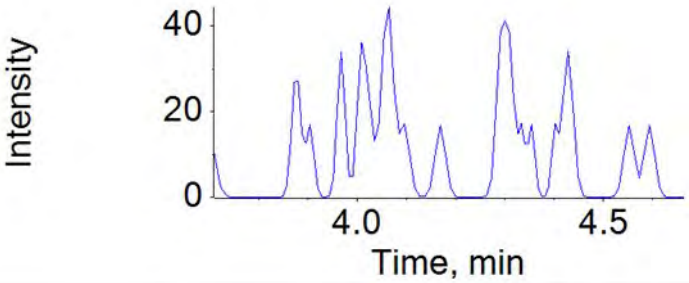
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



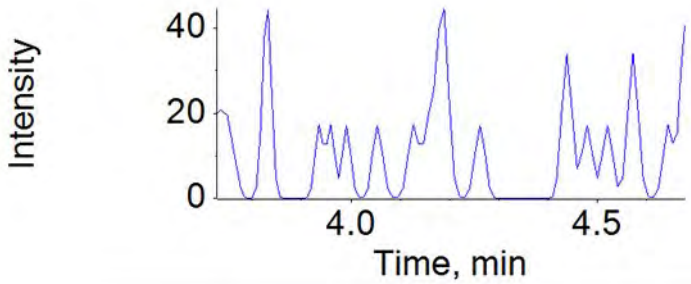
Component: PFHxA
Primary Mass: 313.0 / 269.0



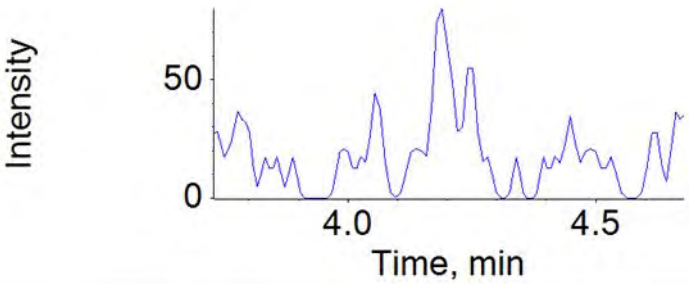
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



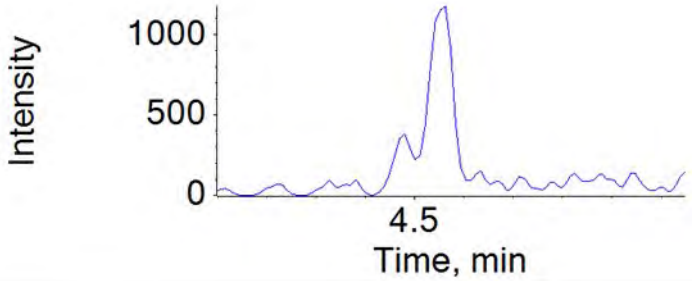
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



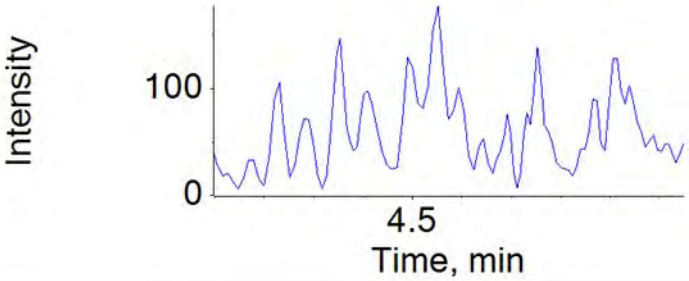
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

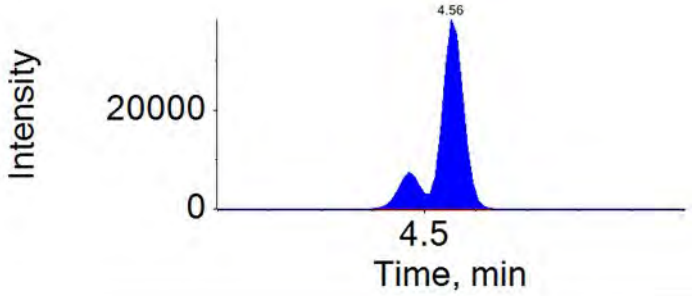
Component: PFHpA
Primary Mass: 363.0 / 319.0



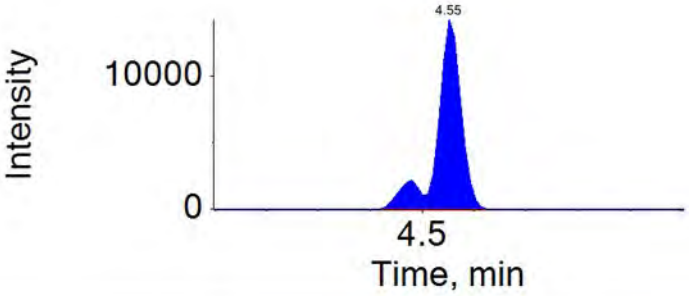
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



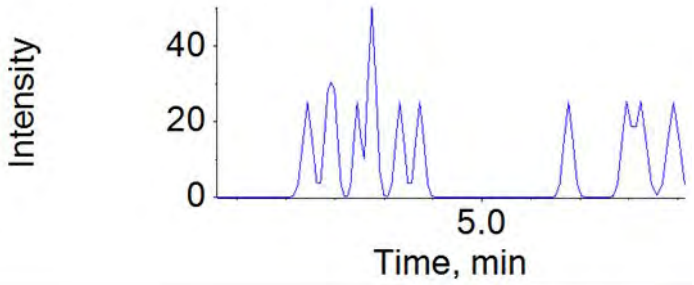
Component: PFHxS
Primary Mass: 399.0 / 80.0



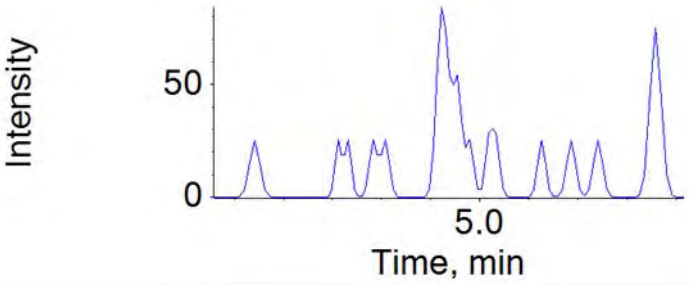
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



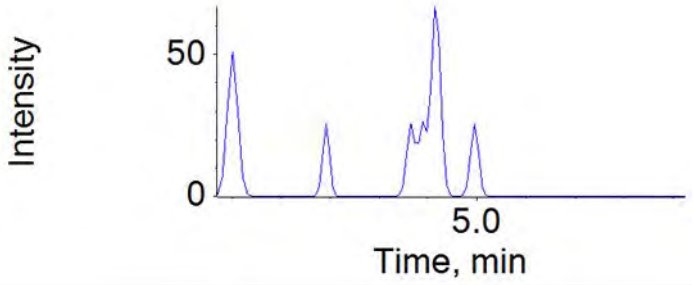
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



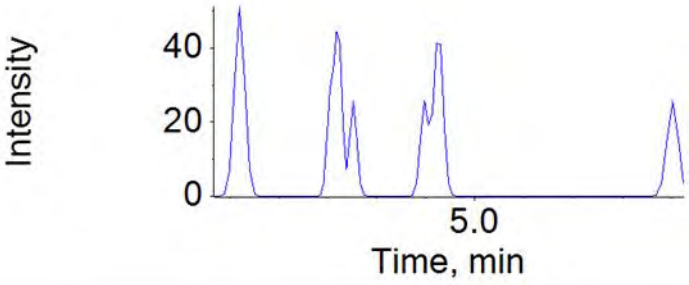
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



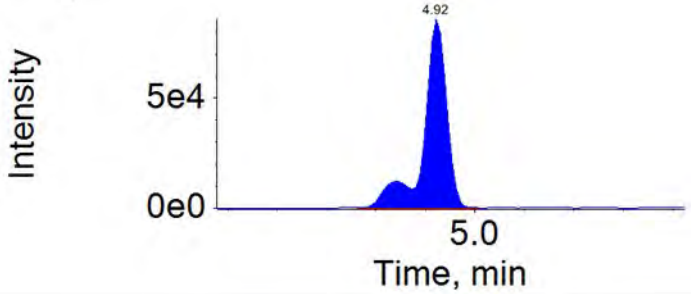
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



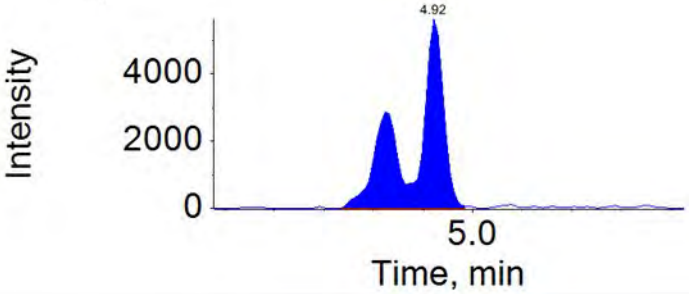
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

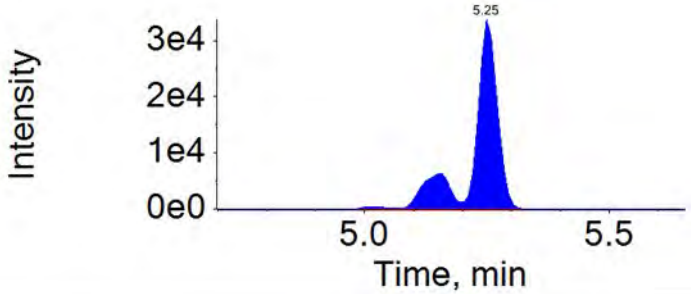
Component: PFOA
Primary Mass: 413.0 / 369.0



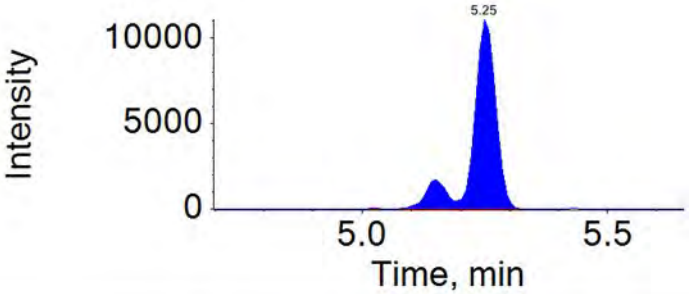
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



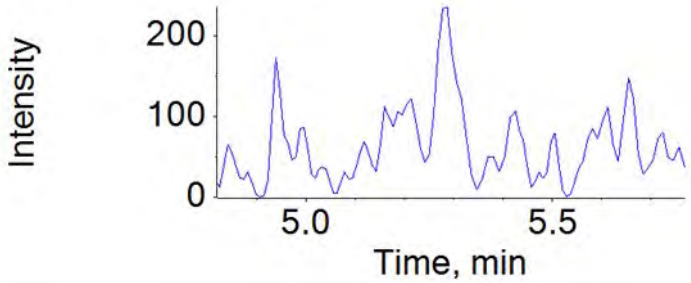
Component: PFOS
Primary Mass: 499.0 / 80.0



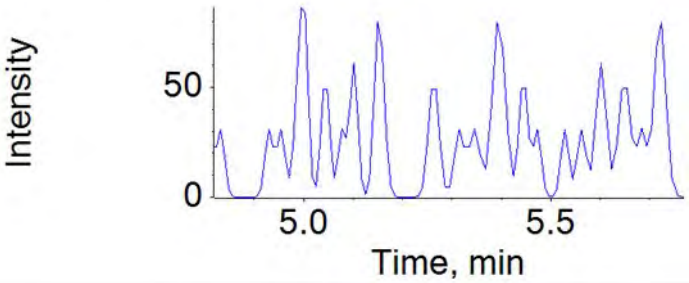
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



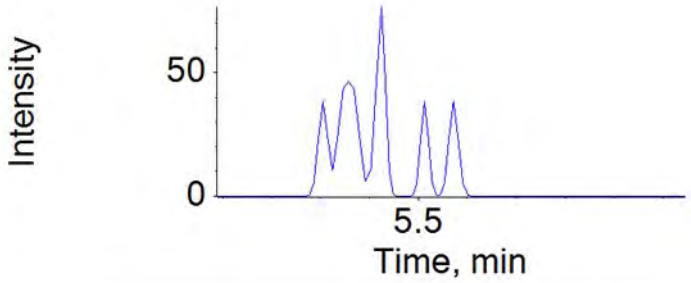
Component: PFNA
Primary Mass: 463.0 / 419.0



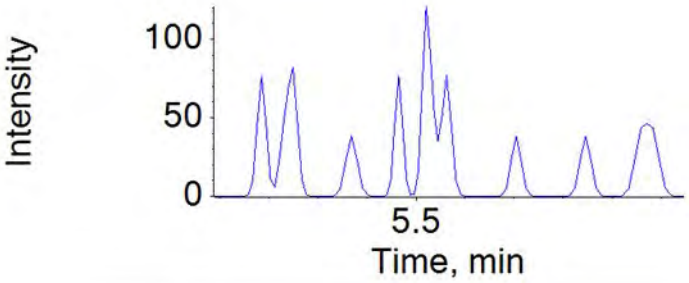
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



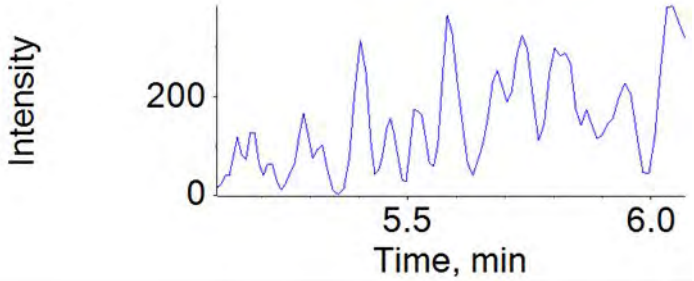
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



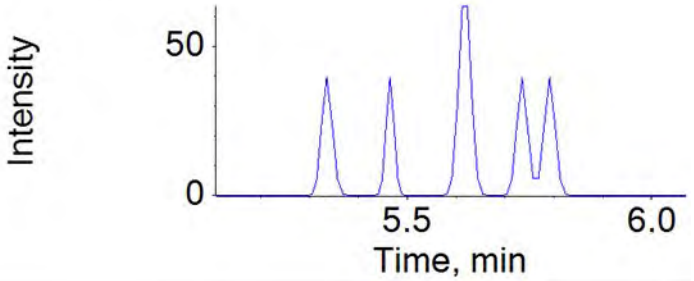
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

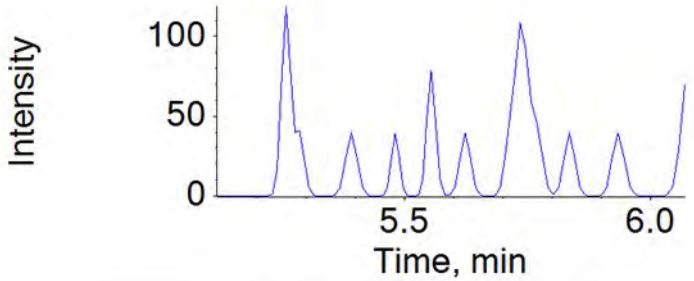
Component: PFDA
Primary Mass: 513.0 / 469.0



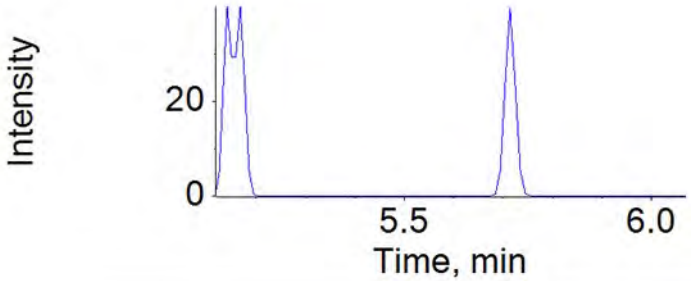
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



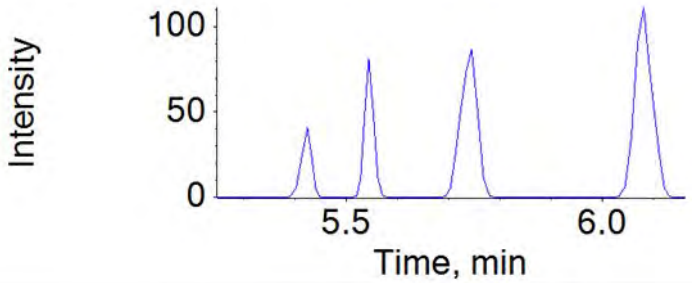
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



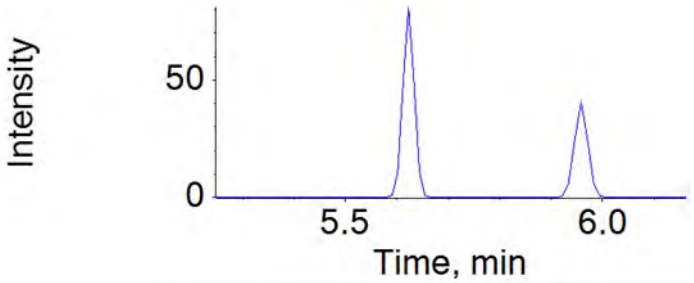
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



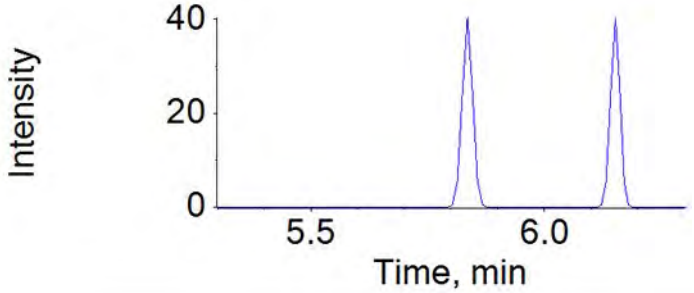
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



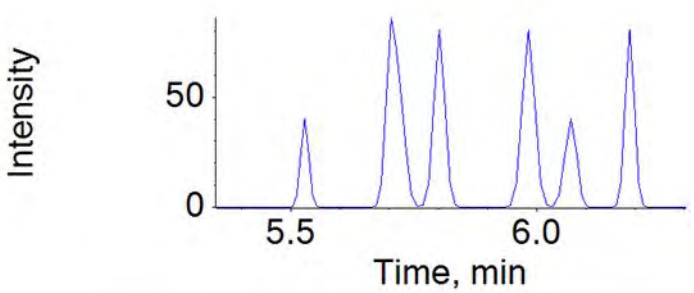
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



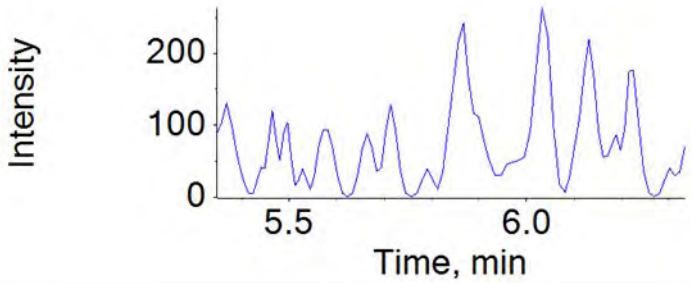
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



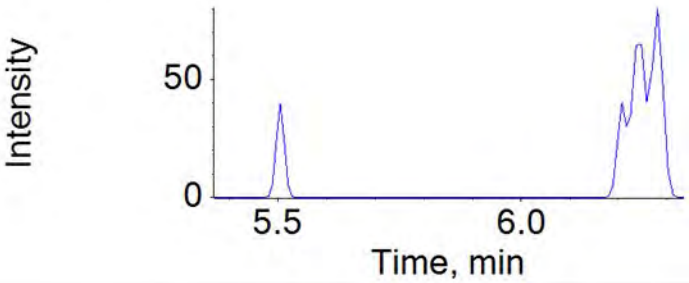
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

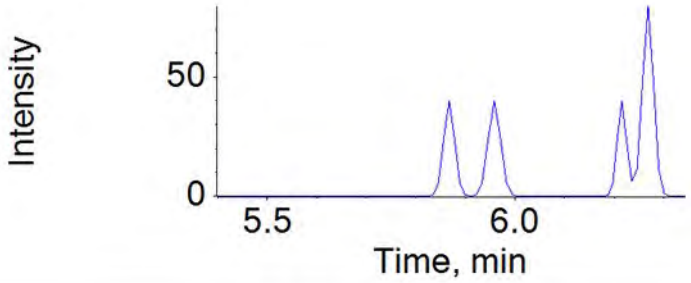
Component: PFUnDA
Primary Mass: 563.0 / 519.0



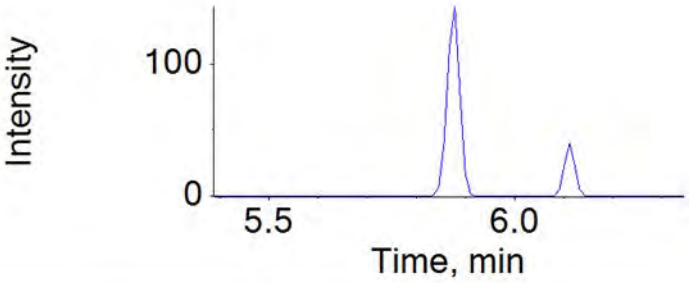
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



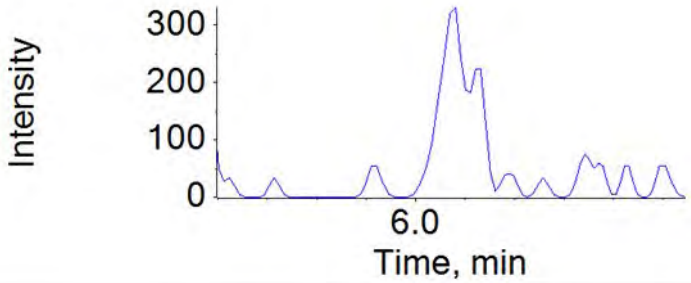
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



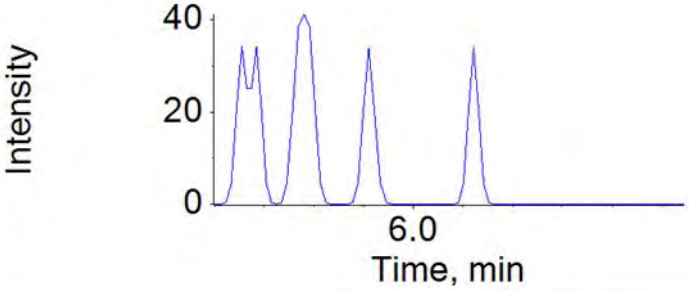
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



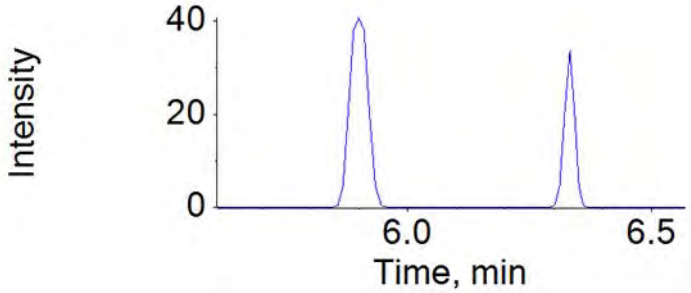
Component: PFDoDA
Primary Mass: 613.0 / 569.0



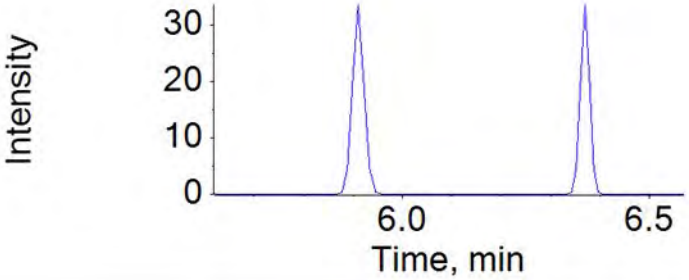
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



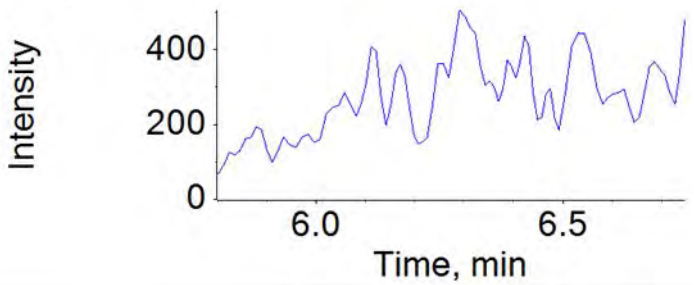
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



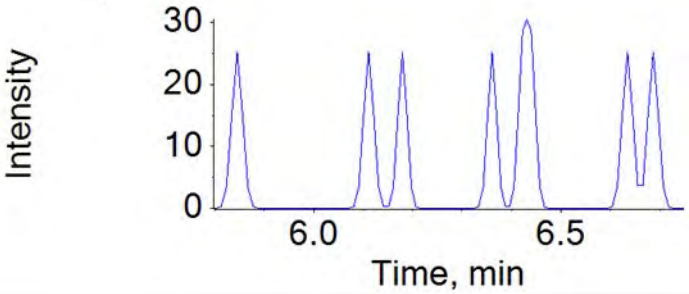
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

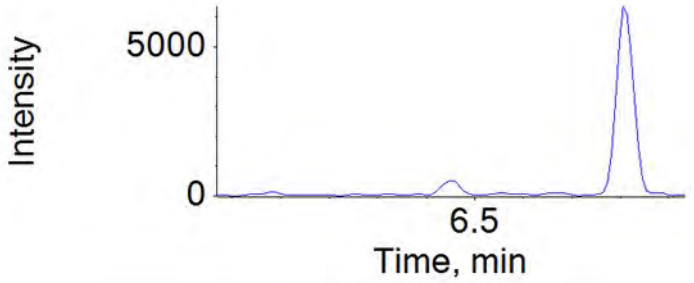
Component: PFTrDA
Primary Mass: 663.0 / 619.0



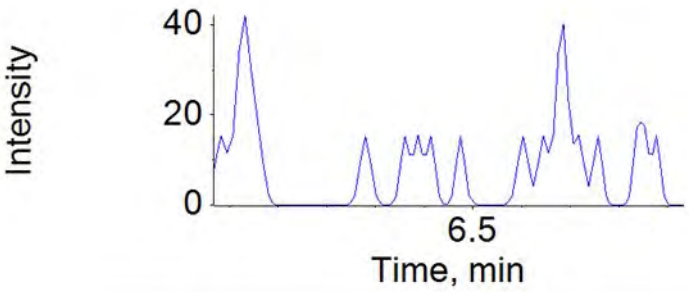
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



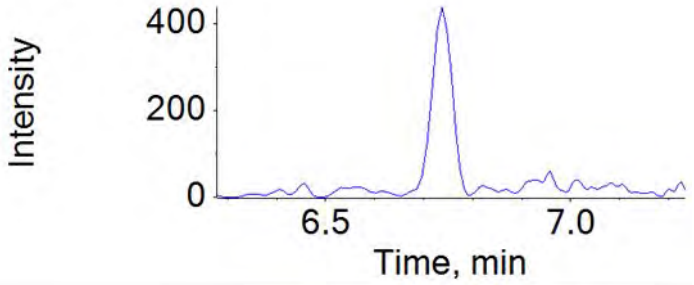
Component: PFTeDA
Primary Mass: 713.0 / 669.0



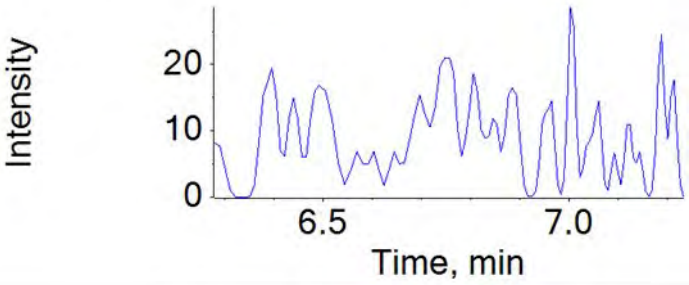
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



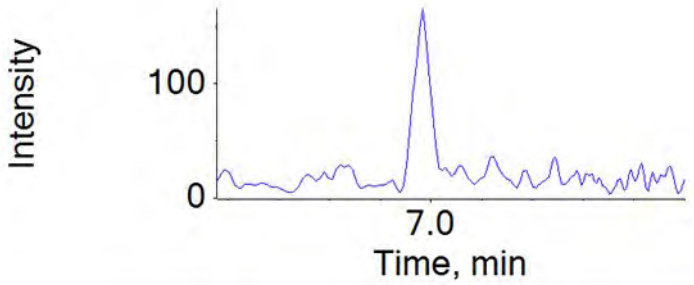
Component: PFHxDA
Primary Mass: 813.0 / 769.0



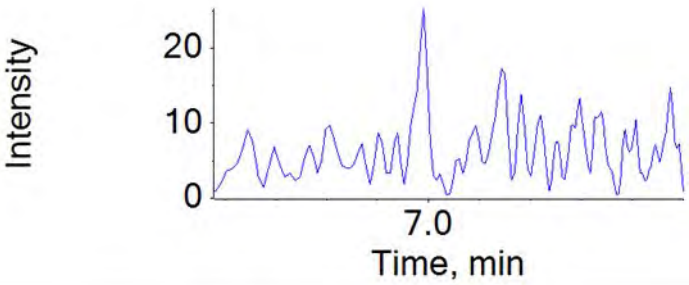
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



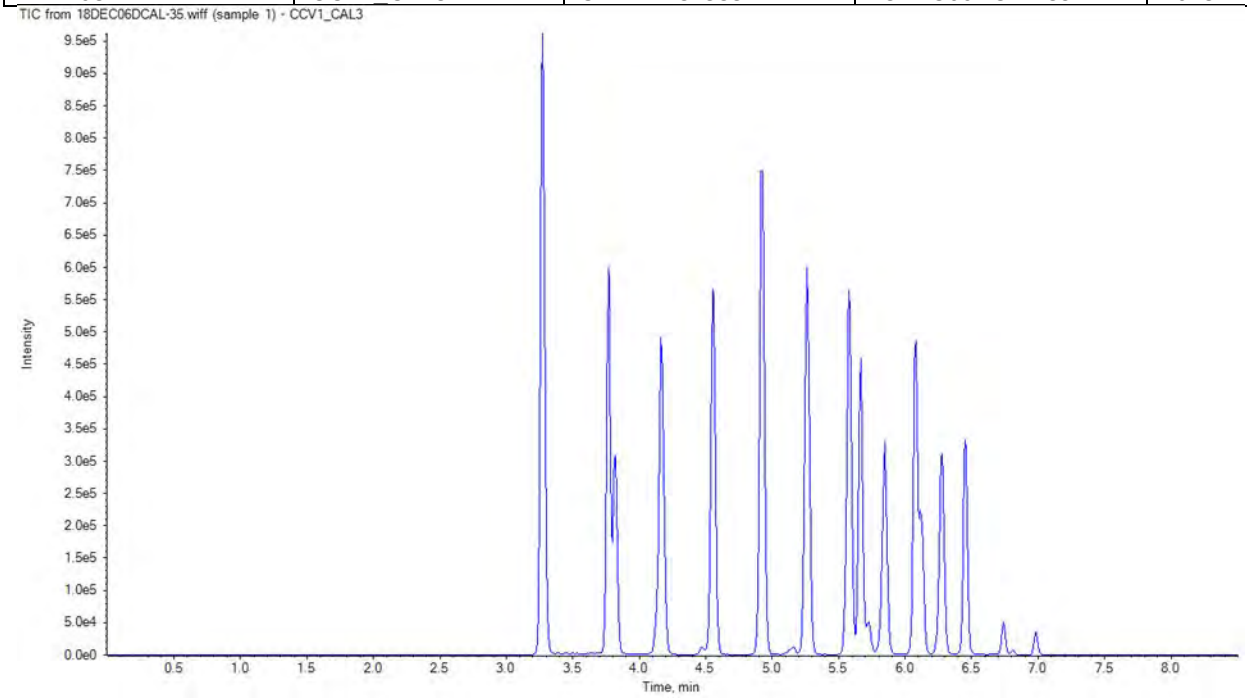
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 8:56:27 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALBRN31833B	18DEC06DCAL-35.wiff	2018-12-07T01:07:40



Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	847486.0	825688.9	3	50	
13C2-PFOA	5.0	443685.5	449802.8	-1	50	
13C4-PFOS	4.8	282653.1	276858.3	2	50	
13C2-PFDA	5.0	327322.0	315428.3	4	50	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 8:56:27 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALBRN31833B	18DEC06DCAL-35.wiff	2018-12-07T01:07:40

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	391054.0	10	13C4-PFBA	954567.4	5.0	0.410	3.27	1.000	2.000	2.260	13	30	
PFPeA	378225.7	11	13C5-PFPeA	848993.9	5.0	0.445	3.77	1.000	2.000	2.344	17	30	
PFBS	173695.9	10	13C3-PFBS	425102.1	4.7	0.409	3.82	1.000	1.770	2.025	14	30	
4:2-FTS	42557.4	11	13C2-4:2-FTS	55048.7	4.7	0.773	4.13	1.000	1.870	2.072	11	30	
PFHxA	374525.9	11	13C5-PFHxA	674805.4	5.0	0.555	4.17	1.000	2.000	2.418	21	30	
PFPeS	91544.9	11	13C3-PFBS	425102.1	4.7	0.215	4.19	1.100	1.880	2.132	13	30	
PFHpA	347211.5	12	13C4-PFHpA	507221.8	5.0	0.685	4.55	1.000	2.000	2.254	13	30	
PFHxS	135162.8	18	13C3-PFHxS	341737.8	4.7	0.396	4.56	1.000	1.820	1.874	3	30	
6:2-FTS	26737.4	11	13C2-6:2-FTS	34462.5	4.8	0.776	4.91	1.000	1.900	1.926	1	30	
PFHpS	127495.7	11	13C3-PFHxS	341737.8	4.7	0.373	4.92	1.080	1.900	2.048	8	30	
PFOA	357974.4	11	13C8-PFOA	803005.1	5.0	0.446	4.92	1.000	2.000	2.436	22	30	
PFOS	137724.2	22	13C8-PFOS	300833.5	4.8	0.458	5.25	1.000	1.850	1.899	3	30	
PFNA	312861.8	11	13C9-PFNA	495092.4	5.0	0.632	5.27	1.000	2.000	2.329	16	30	
PFNS	98923.8	11	13C8-PFOS	300833.5	4.8	0.329	5.56	1.060	1.920	2.116	10	30	
PFDA	258354.8	11	13C6-PFDA	622132.6	5.0	0.415	5.58	1.000	2.000	2.337	17	30	
8:2-FTS	22216.1	11	13C2-8:2-FTS	22372.6	4.8	0.993	5.58	1.000	1.920	2.152	12	30	
PFOSA	288939.4	11	13C8-PFOSA	713853.0	5.0	0.405	5.66	1.000	2.000	2.100	5	30	
NMeFOSAA	32010.4	20	d3-NMeFOSAA	87837.9	5.0	0.364	5.72	1.000	2.000	2.410	21	30	
PFDS	74927.4	11	13C8-PFOS	300833.5	4.8	0.249	5.82	1.110	1.930	2.014	4	30	
PFUnDA	257851.3	11	13C7-PFUnDA	332918.2	5.0	0.775	5.85	1.000	2.000	2.371	19	30	
NEtFOSAA	31269.0	21	d5-NEtFOSAA	69333.4	5.0	0.451	5.86	1.000	2.000	2.279	14	30	
PFDoDA	325910.1	11	13C2-PFDoDA	749102.5	5.0	0.435	6.08	1.000	2.000	2.290	15	30	
10:2-FTS	19161.0	11	13C2-8:2-FTS	22372.6	4.8	0.856	6.09	1.090	1.930	2.269	18	30	
NMePFOSAE	135167.9	11	d7-NMePFOSAE	258227.3	5.0	0.523	6.13	1.000	2.000	2.275	14	30	
NMePFOSA	34829.3	11	d3-NMePFOSA	81343.7	5.0	0.428	6.13	1.000	2.000	2.160	8	30	
PFDoS	41296.2	11	13C8-PFOS	300833.5	4.8	0.137	6.25	1.190	1.940	2.093	8	30	
NEtPFOSAE	154304.5	11	d9-NEtPFOSAE	225582.4	5.0	0.684	6.28	1.000	2.000	2.292	15	30	
NEtPFOSA	32802.5	11	d5-NEtPFOSA	73020.7	5.0	0.449	6.29	1.000	2.000	2.150	8	30	
PFTrDA	281452.0	11	13C2-PFDoDA	749102.5	5.0	0.376	6.27	1.030	2.000	2.461	23	30	
PFTeDA	216594.6	11	13C2-PFTeDA	518061.6	5.0	0.418	6.45	1.000	2.000	2.391	20	30	
PFHxDA	96416.0	10	13C2-PFTeDA	518061.6	5.0	0.186	6.74	1.040	2.000	2.331	17	30	
PFODA	70777.1	10	13C2-PFTeDA	518061.6	5.0	0.137	6.98	1.080	2.000	2.193	10	30	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC06DCAL 12/7/2018 8:56:27 AM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_CAL3			**Data File:**		18DEC06DCAL-35.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-07T01:07:40
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC06DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC06DCAL-27

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	847486.0	825688.9	3	50	
13C2-PFOA	5.0	443685.5	449802.8	-1	50	
13C4-PFOS	4.8	282653.1	276858.3	2	50	
13C2-PFDA	5.0	327322.0	315428.3	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	954567.4	13C3-PFBA	847486.0	1.126	5.000	4.985	100	70-130	
E13C5-PFPeA	848993.9	13C3-PFBA	847486.0	1.002	5.000	4.758	95	70-130	
E13C3-PFBS	425102.1	13C3-PFBA	847486.0	0.502	4.650	4.252	91	70-130	
E13C2-4:2-FTS	55048.7	13C2-PFOA	443685.5	0.124	4.670	4.862	104	70-130	
E13C5-PFHxA	674805.4	13C2-PFOA	443685.5	1.521	5.000	5.106	102	70-130	
E13C3-PFHxS	341737.8	13C2-PFOA	443685.5	0.770	4.730	4.940	104	70-130	
E13C4-PFHpA	507221.8	13C2-PFOA	443685.5	1.143	5.000	4.860	97	70-130	
E13C2-6:2-FTS	34462.5	13C2-PFOA	443685.5	0.078	4.750	4.812	101	70-130	
E13C8-PFOA	803005.1	13C2-PFOA	443685.5	1.810	5.000	5.116	102	70-130	
E13C8-PFOS	300833.5	13C4-PFOS	282653.1	1.064	4.780	4.776	100	70-130	
E13C9-PFNA	495092.4	13C4-PFOS	282653.1	1.752	5.000	4.950	99	70-130	
E13C6-PFDA	622132.6	13C2-PFDA	327322.0	1.901	5.000	5.037	101	70-130	
E13C2-8:2-FTS	22372.6	13C2-PFDA	327322.0	0.068	4.790	4.462	93	70-130	
E13C8-PFOSA	713853.0	13C2-PFDA	327322.0	2.181	5.000	5.158	103	70-130	
Ed3-NMeFOSAA	87837.9	13C2-PFDA	327322.0	0.268	5.000	4.756	95	70-130	
E13C7-PFUnDA	332918.2	13C2-PFDA	327322.0	1.017	5.000	4.989	100	70-130	
Ed5-NEtFOSAA	69333.4	13C2-PFDA	327322.0	0.212	5.000	4.676	94	70-130	
E13C2-PFDoDA	749102.5	13C2-PFDA	327322.0	2.289	5.000	4.803	96	70-130	
Ed7-NMePFOSAE	258227.3	13C2-PFDA	327322.0	0.789	5.000	4.545	91	70-130	
Ed3-NMePFOSA	81343.7	13C2-PFDA	327322.0	0.249	5.000	4.528	91	70-130	
Ed9-NEtPFOSAE	225582.4	13C2-PFDA	327322.0	0.689	5.000	4.752	95	70-130	
Ed5-NEtPFOSA	73020.7	13C2-PFDA	327322.0	0.223	5.000	5.020	100	70-130	
E13C2-PFTeDA	518061.6	13C2-PFDA	327322.0	1.583	5.000	4.698	94	70-130	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

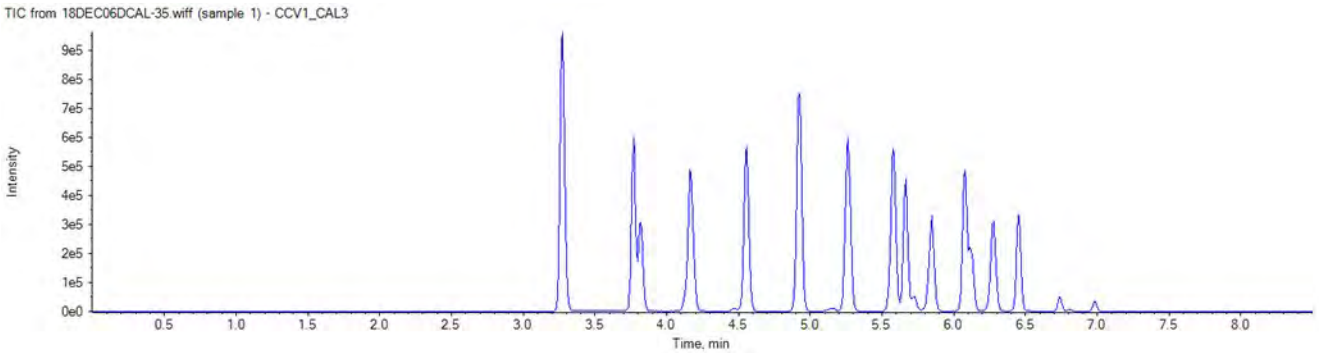
Analyte Quantitation Peak Table

Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-35.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	391054.0		A	13C4-PFBA	3.27	954567.4	0.410	2.260
PFPeA	3.77	1.000	378225.7		A	13C5-PFPeA	3.77	848993.9	0.445	2.344
PFBS	3.82	1.000	173695.9		A	13C3-PFBS	3.82	425102.1	0.409	2.025
4:2-FTS	4.13	1.000	42557.4		A	13C2-4:2-FTS	4.13	55048.7	0.773	2.072
PFHxA	4.17	1.000	374525.9		A	13C5-PFHxA	4.17	674805.4	0.555	2.418
PFPeS	4.19	1.100	91544.9		A	13C3-PFBS	3.82	425102.1	0.215	2.132
PFHpA	4.55	1.000	347211.5		A	13C4-PFHpA	4.55	507221.8	0.685	2.254
PFHxS	4.56	1.000	135162.8		M	13C3-PFHxS	4.56	341737.8	0.396	1.874
6:2-FTS	4.91	1.000	26737.4		A	13C2-6:2-FTS	4.91	34462.5	0.776	1.926
PFHpS	4.92	1.080	127495.7		A	13C3-PFHxS	4.56	341737.8	0.373	2.048
PFOA	4.92	1.000	357974.4		A	13C8-PFOA	4.92	803005.1	0.446	2.436
PFOS	5.25	1.000	137724.2		M	13C8-PFOS	5.25	300833.5	0.458	1.899
PFNA	5.27	1.000	312861.8		A	13C9-PFNA	5.27	495092.4	0.632	2.329
PFNS	5.56	1.060	98923.8		A	13C8-PFOS	5.25	300833.5	0.329	2.116
PFDA	5.58	1.000	258354.8		A	13C6-PFDA	5.58	622132.6	0.415	2.337
8:2-FTS	5.58	1.000	22216.1		A	13C2-8:2-FTS	5.58	22372.6	0.993	2.152
PFOSA	5.66	1.000	288939.4		A	13C8-PFOSA	5.66	713853.0	0.405	2.100
NMeFOSAA	5.72	1.000	32010.4		M	d3-NMeFOSAA	5.72	87837.9	0.364	2.410
PFDS	5.82	1.110	74927.4		A	13C8-PFOS	5.25	300833.5	0.249	2.014
PFUnDA	5.85	1.000	257851.3		A	13C7-PFUnDA	5.85	332918.2	0.775	2.371
NEtFOSAA	5.86	1.000	31269.0		M	d5-NEtFOSAA	5.86	69333.4	0.451	2.279
PFDoDA	6.08	1.000	325910.1		A	13C2-PFDoDA	6.08	749102.5	0.435	2.290
10:2-FTS	6.09	1.090	19161.0		A	13C2-8:2-FTS	5.58	22372.6	0.856	2.269
NMePFOSAE	6.13	1.000	135167.9		A	d7-NMePFOSAE	6.12	258227.3	0.523	2.275
NMePFOSA	6.13	1.000	34829.3		A	d3-NMePFOSA	6.13	81343.7	0.428	2.160
PFDoS	6.25	1.190	41296.2		A	13C8-PFOS	5.25	300833.5	0.137	2.093
NEtPFOSAE	6.28	1.000	154304.5		A	d9-NEtPFOSAE	6.27	225582.4	0.684	2.292
NEtPFOSA	6.29	1.000	32802.5		A	d5-NEtPFOSA	6.29	73020.7	0.449	2.150
PFTrDA	6.27	1.030	281452.0		A	13C2-PFDoDA	6.08	749102.5	0.376	2.461
PFTeDA	6.45	1.000	216594.6		A	13C2-PFTeDA	6.45	518061.6	0.418	2.391
PFHxDA	6.74	1.040	96416.0		A	13C2-PFTeDA	6.45	518061.6	0.186	2.331
PFODA	6.98	1.080	70777.1		A	13C2-PFTeDA	6.45	518061.6	0.137	2.193

Total Ion Chromatogram

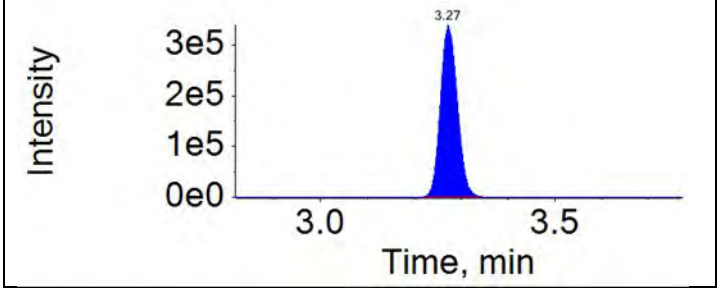


APPROVED
By MSM at 1:53 pm, 12/7/18

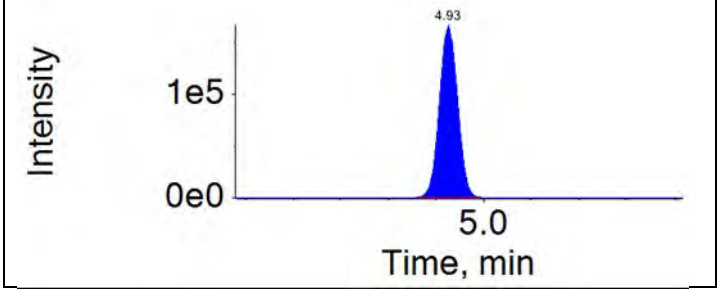
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

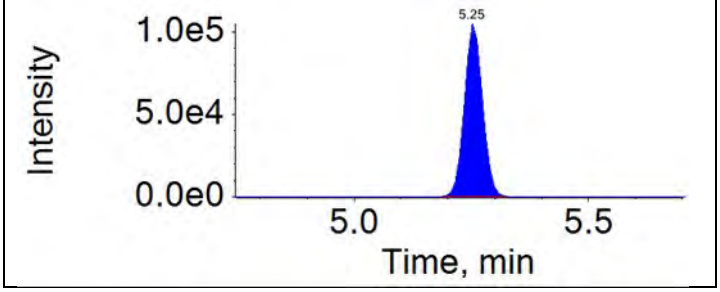
Injection Standard: 13C3-PFBA
216.0 / 172.0



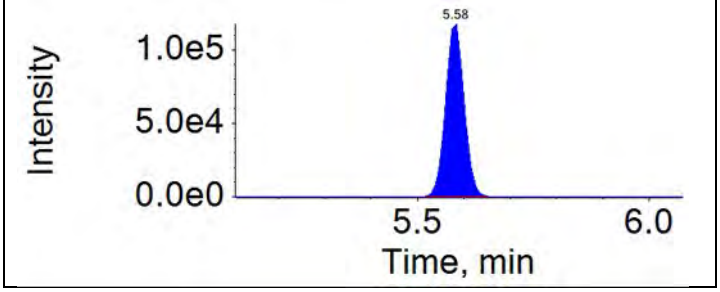
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

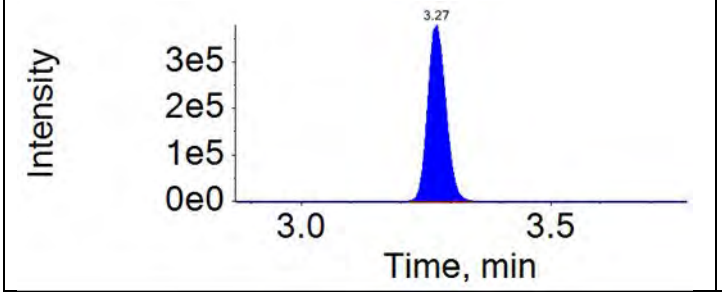


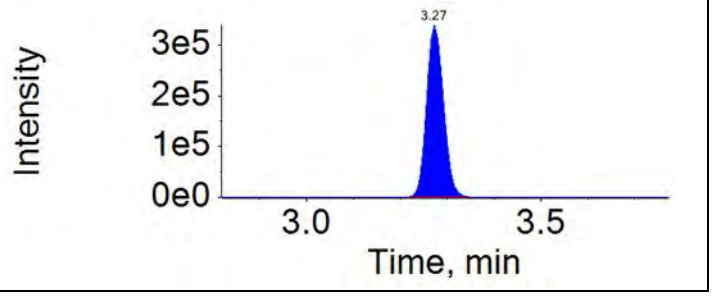
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

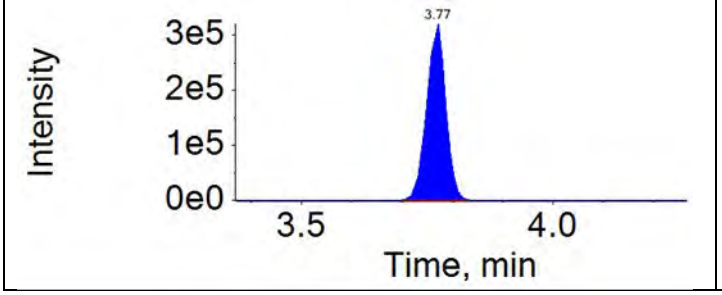
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

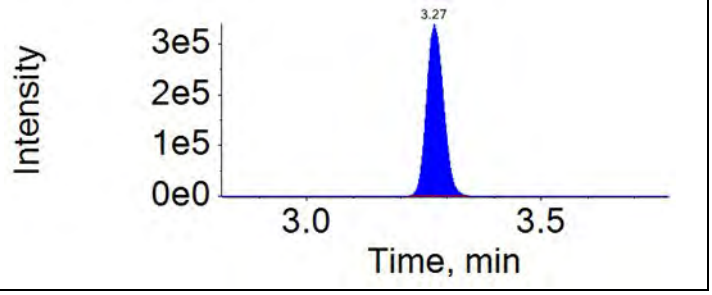
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



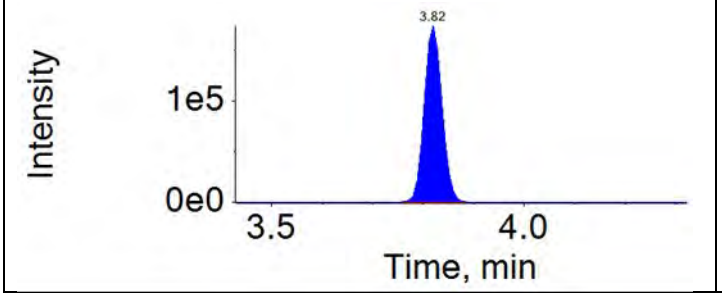


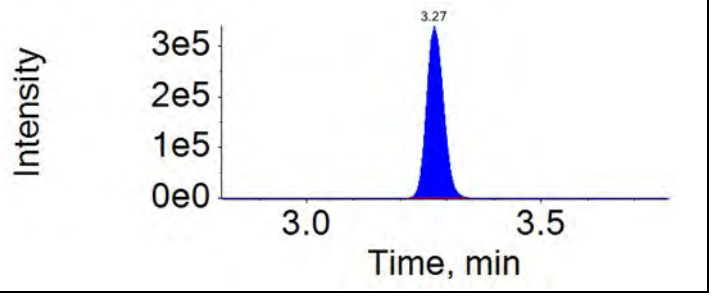
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



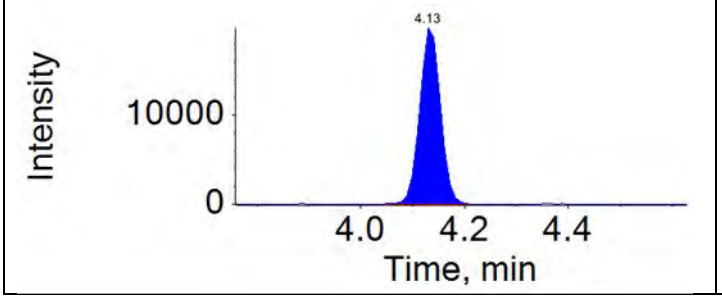


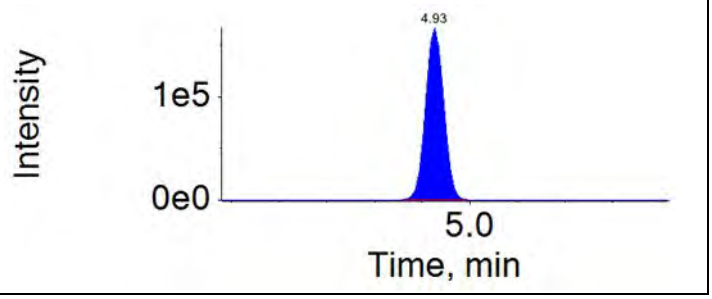
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



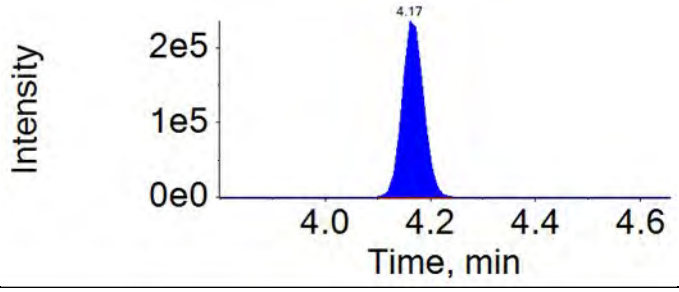


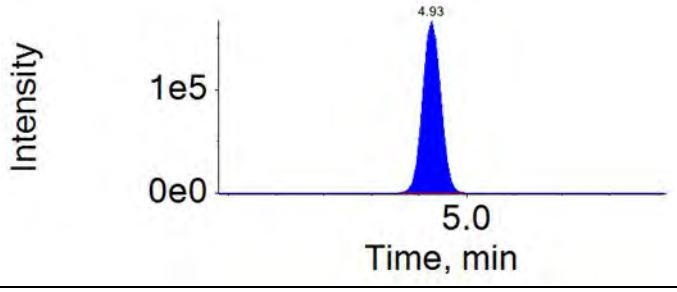
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

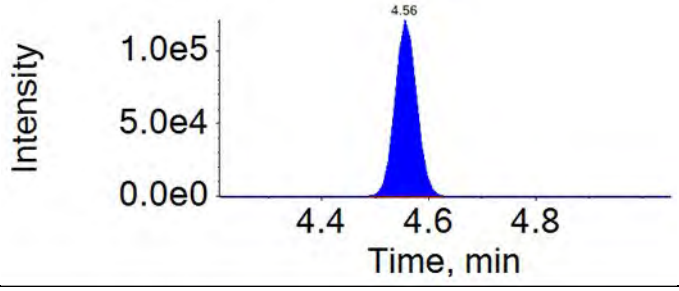
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

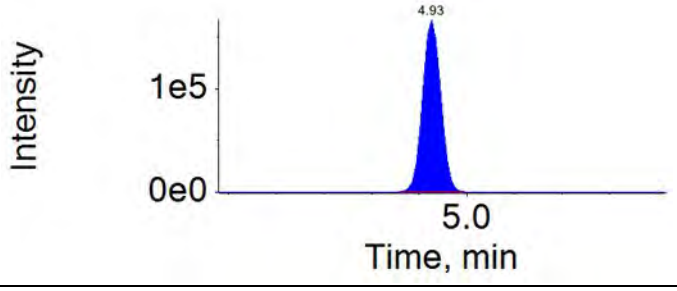
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



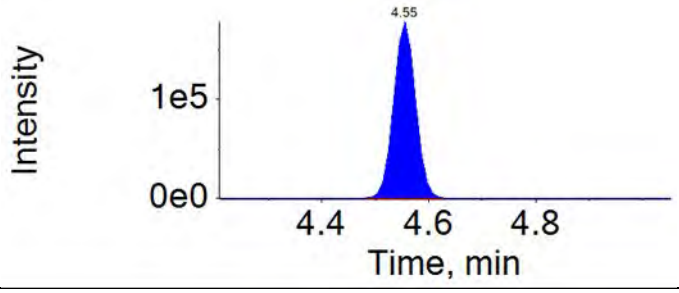


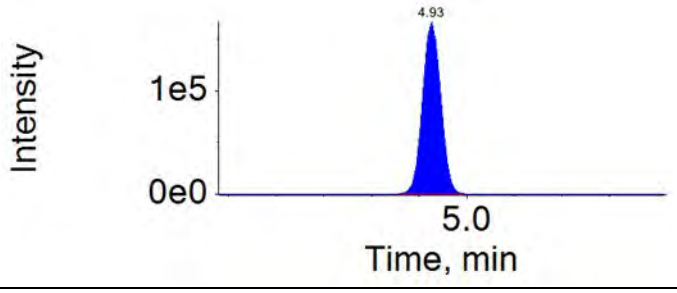
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



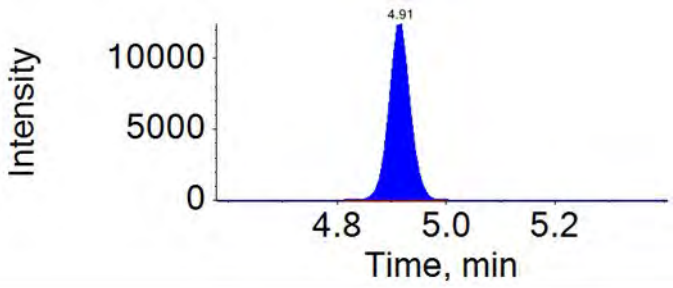


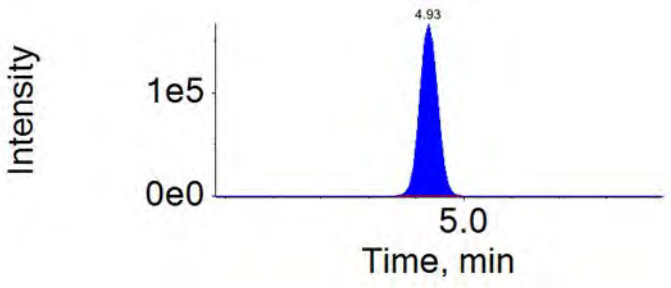
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



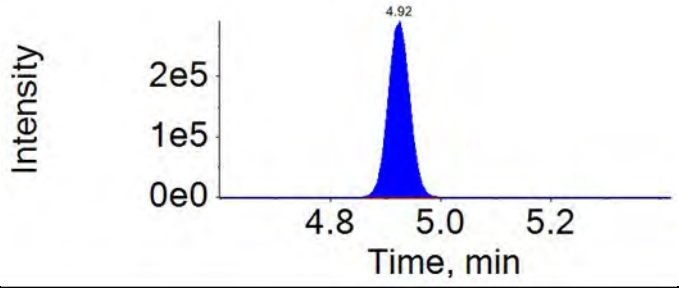


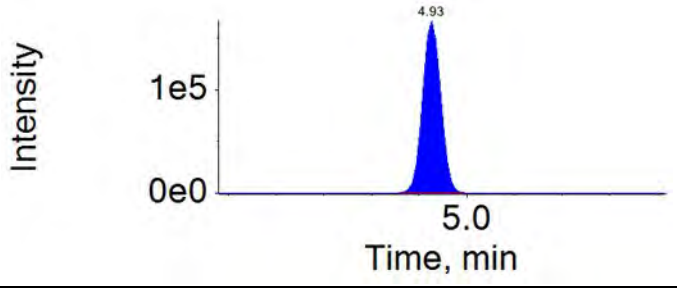
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

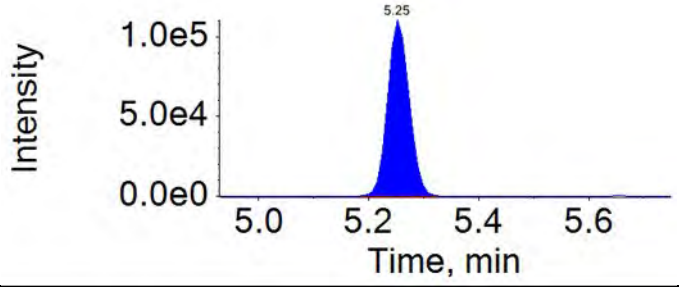
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

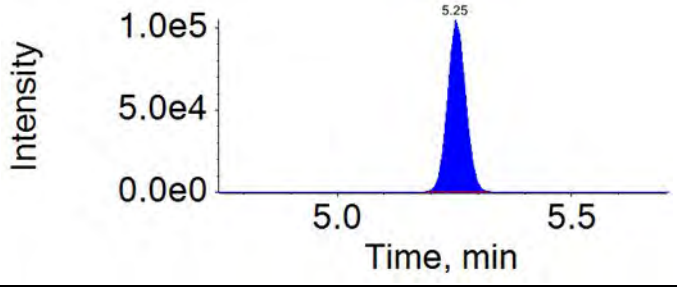
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



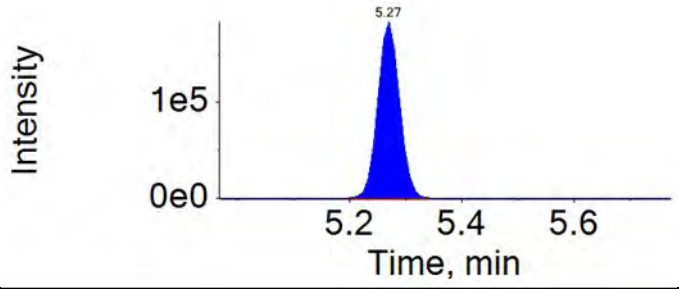


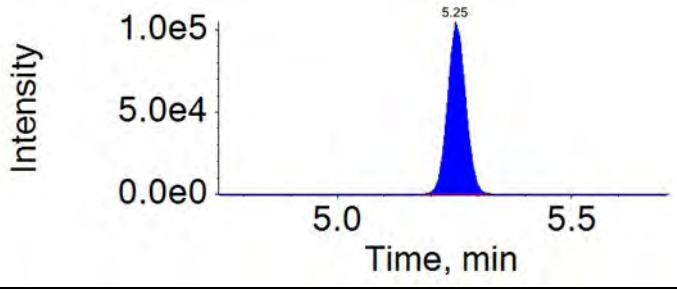
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



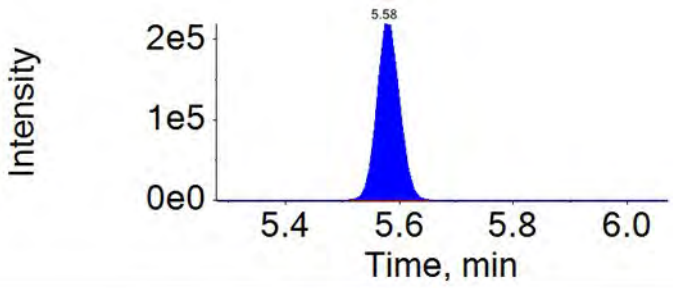


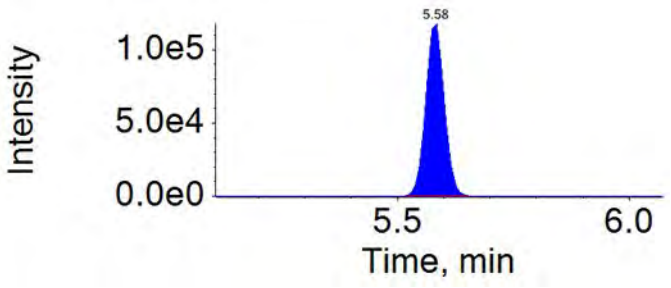
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



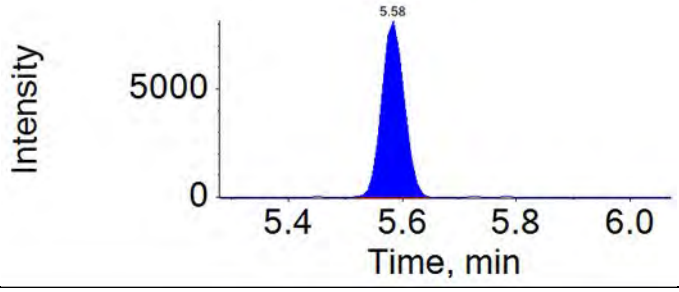


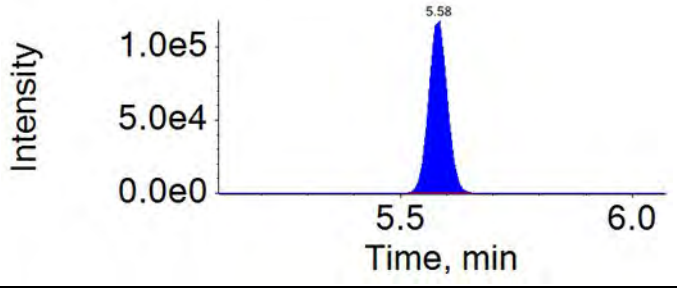
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

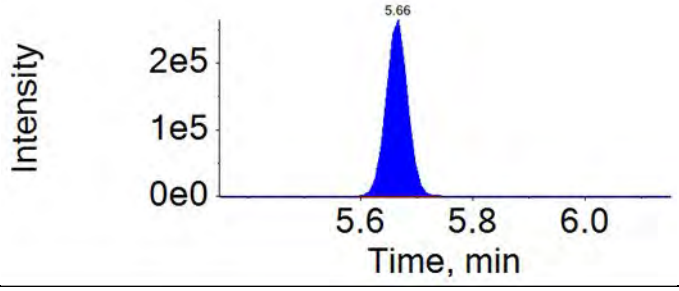
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

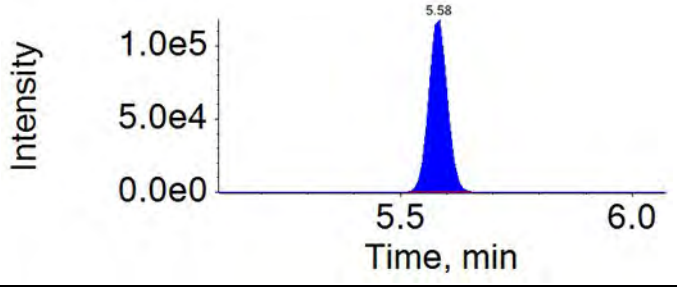
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



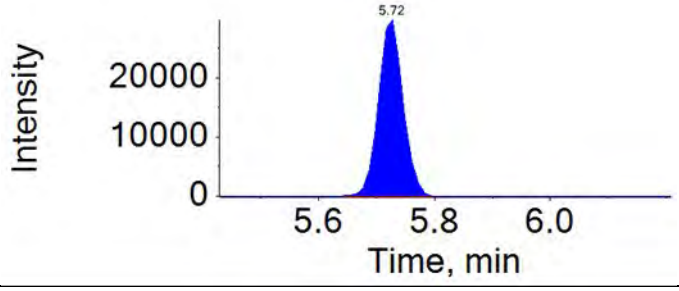


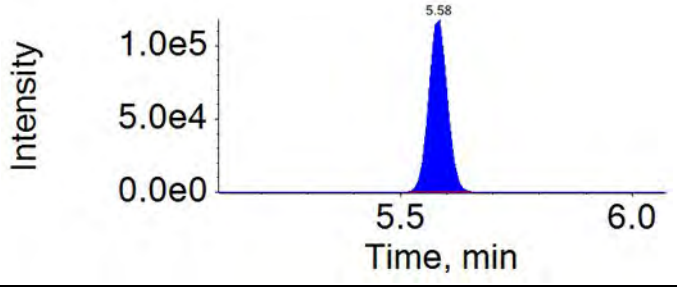
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



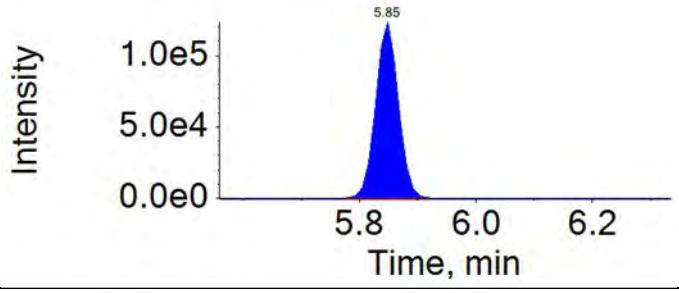


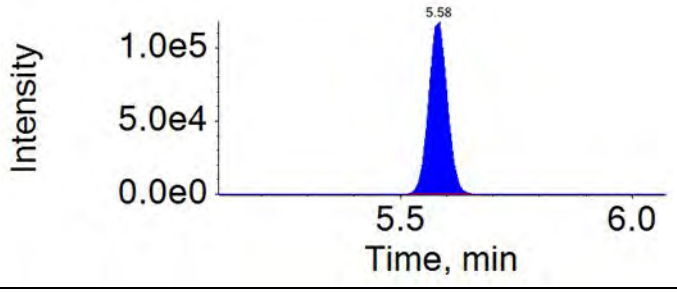
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

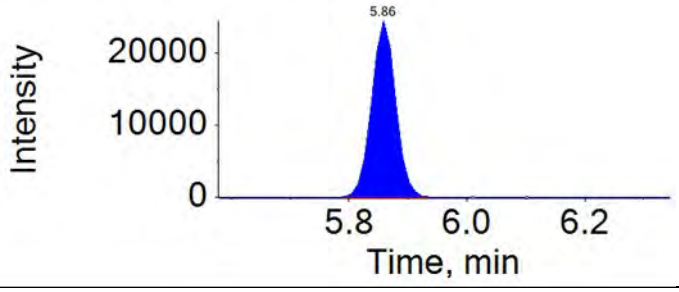
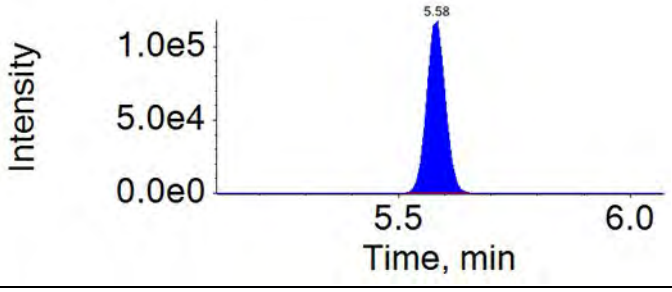


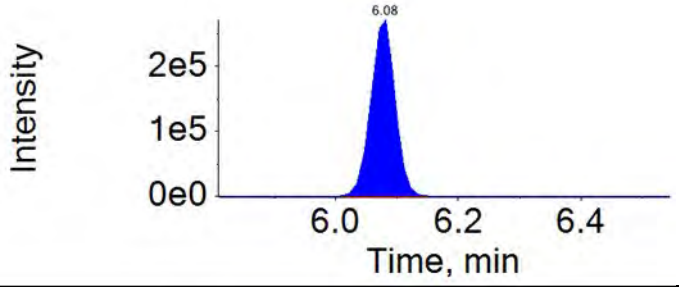
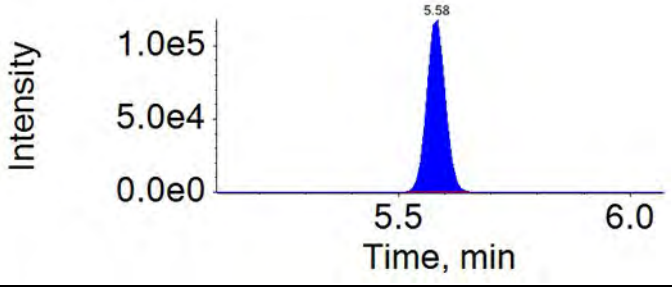


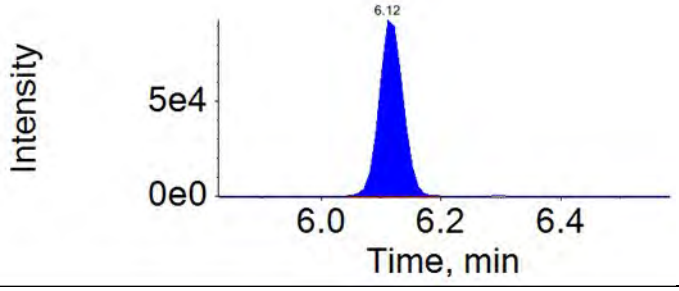
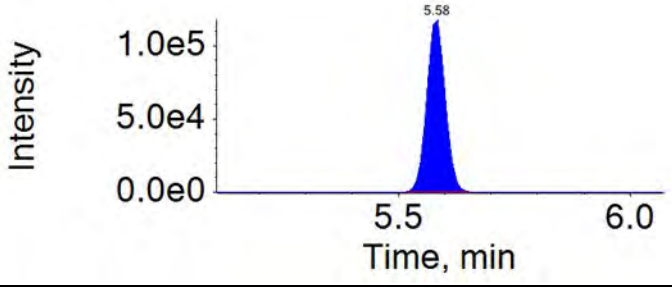
APPROVED
By MSM at 1:53 pm, 12/7/18

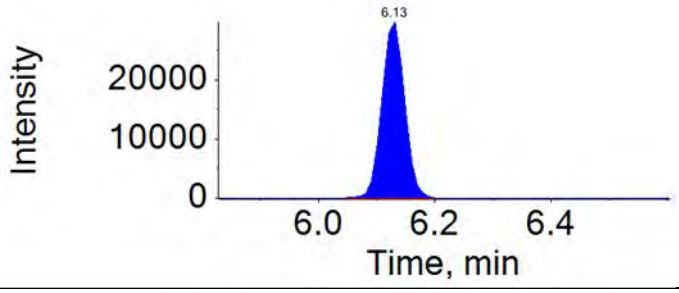
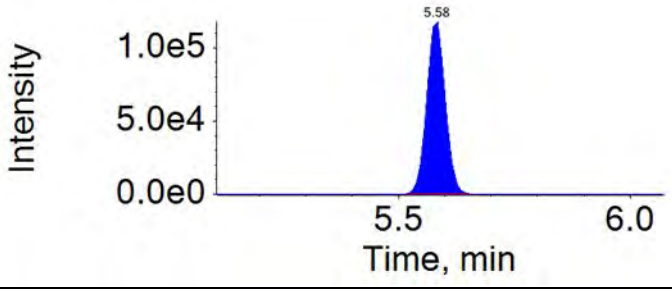
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

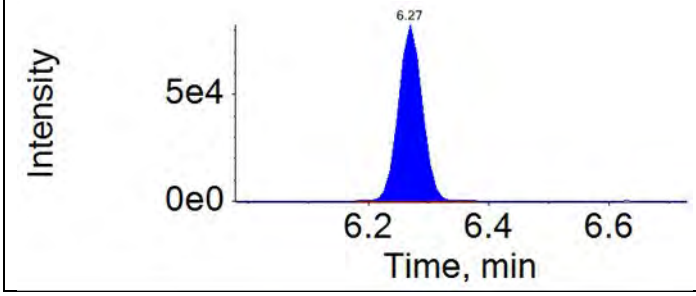
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

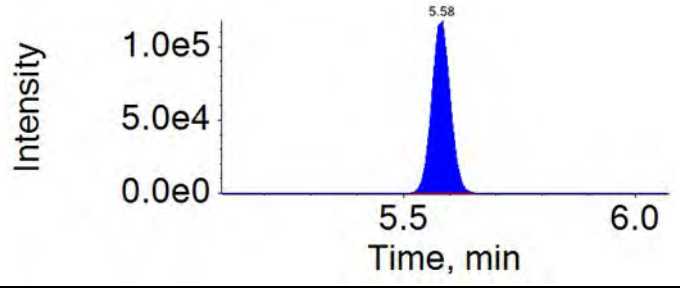
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

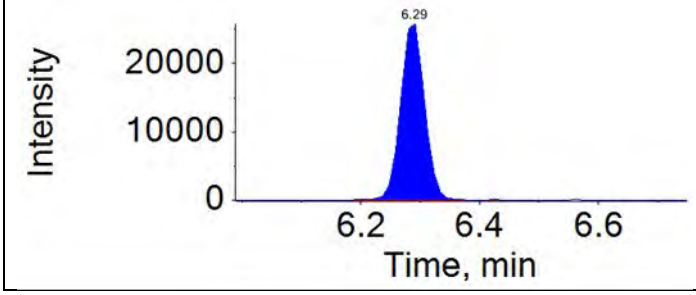
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

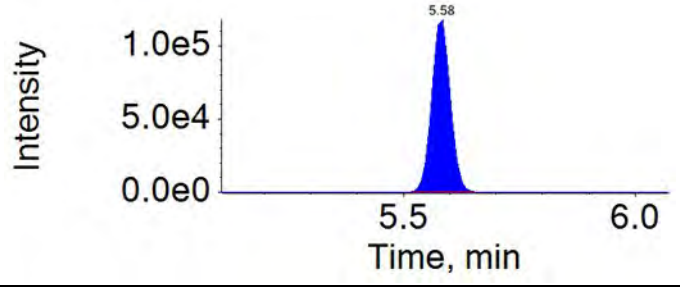
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



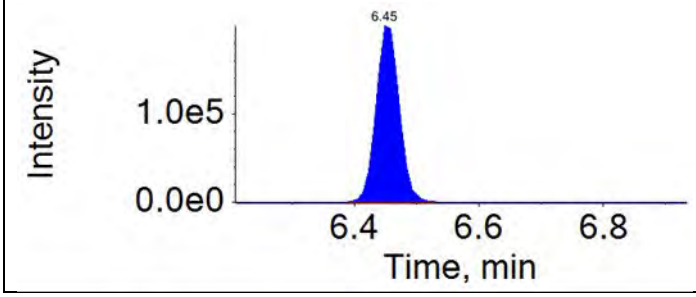


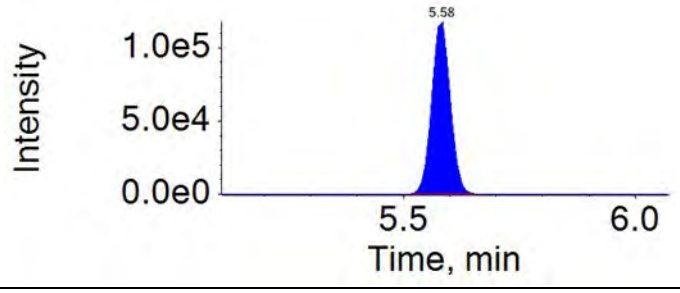
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



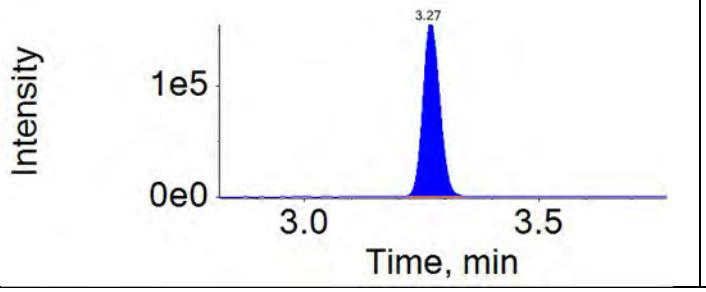


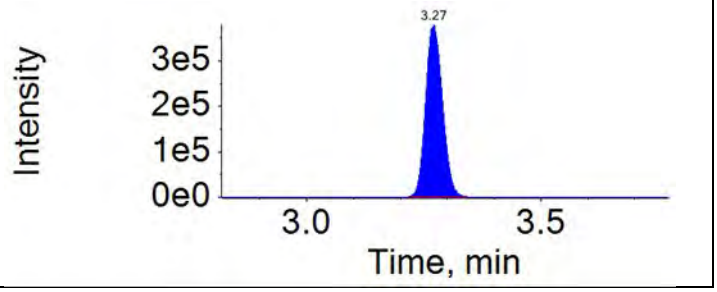
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

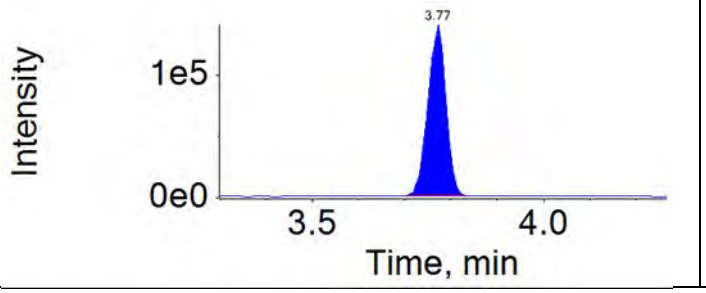
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

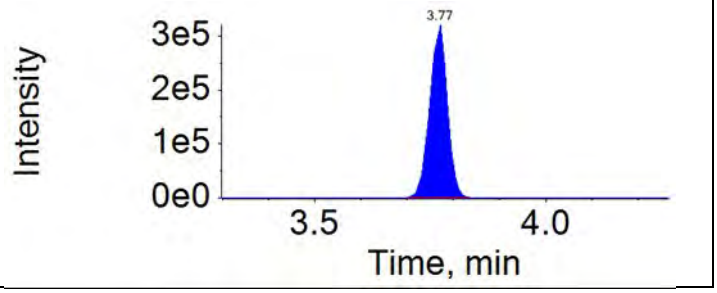
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



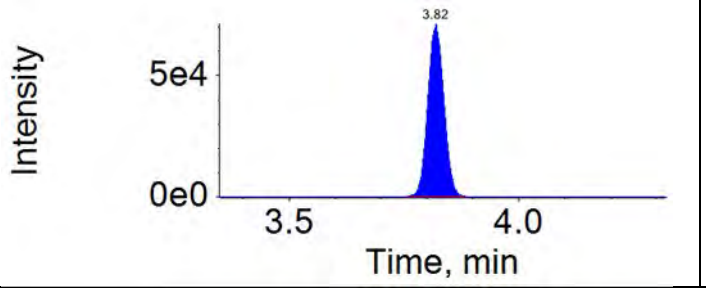


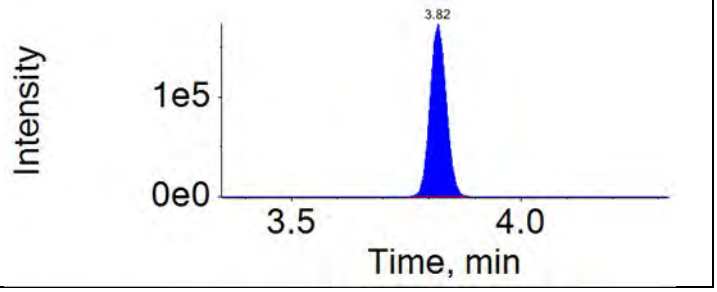
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



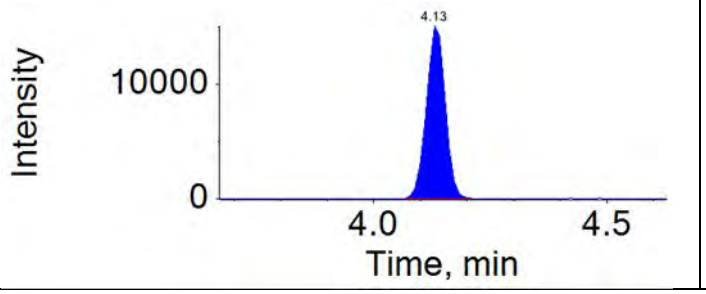


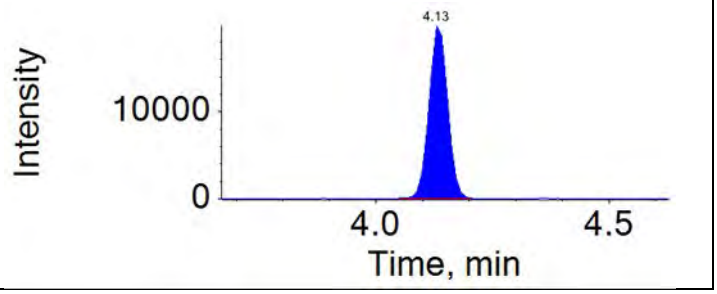
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



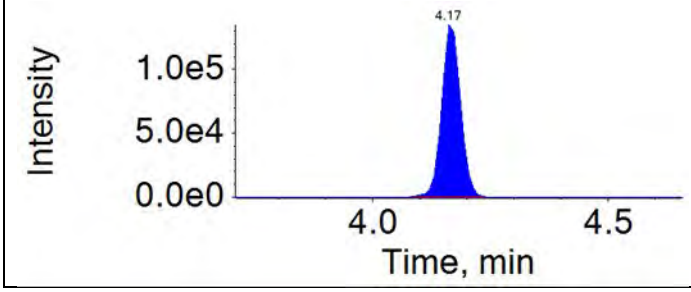


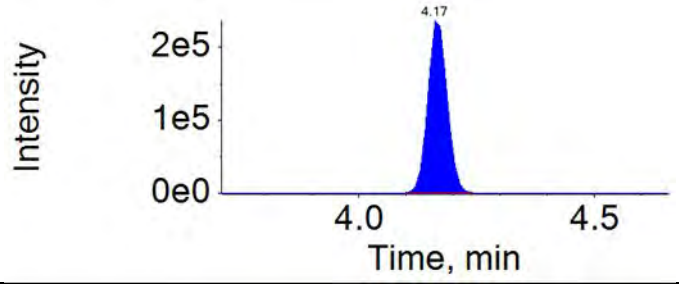
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

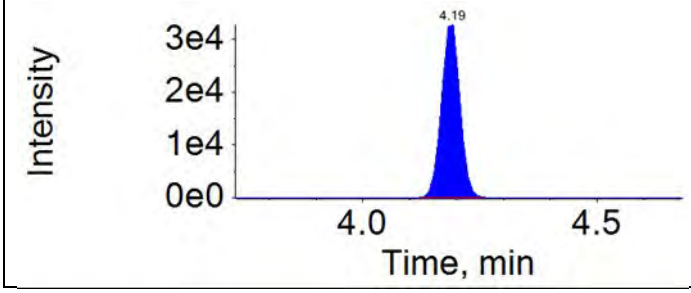
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

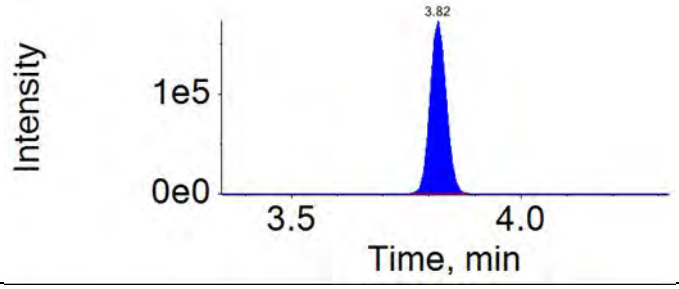
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



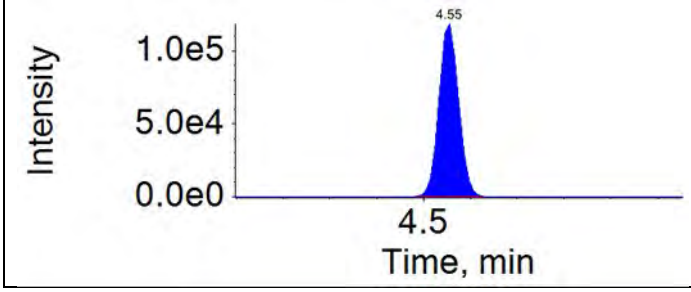


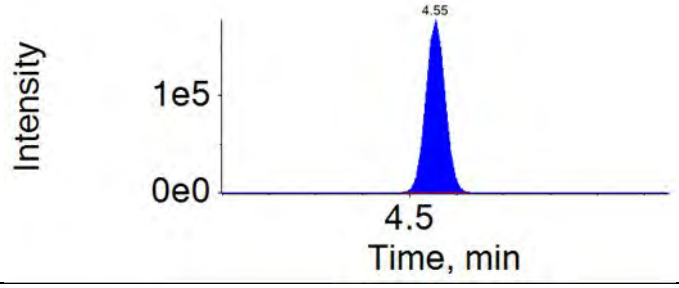
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



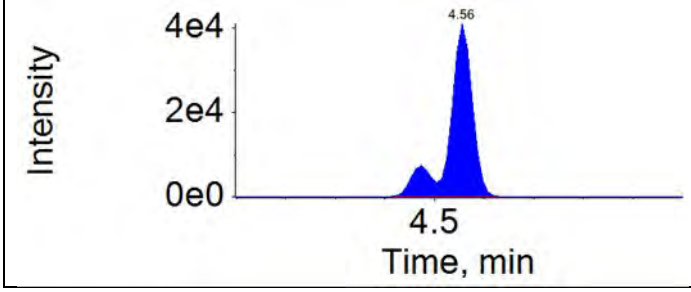


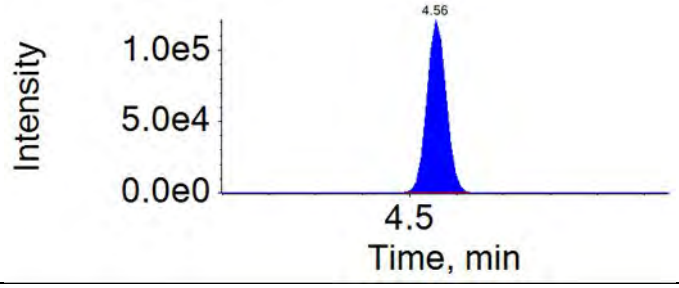
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



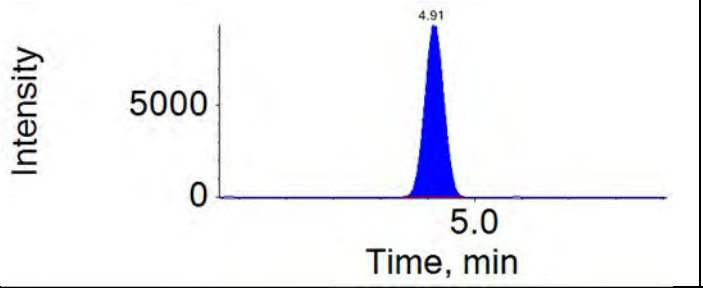


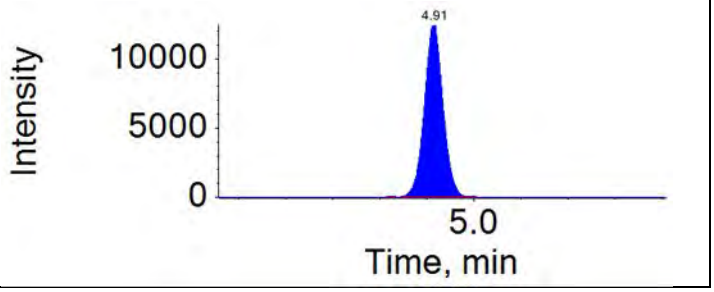
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

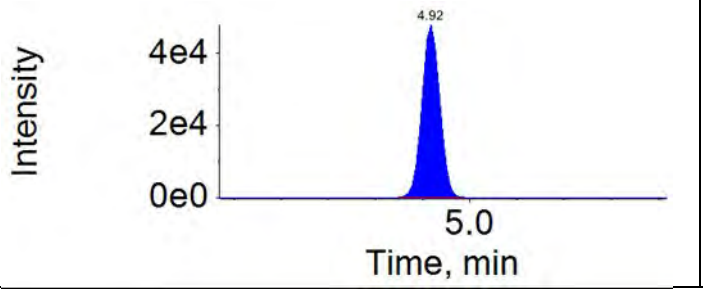
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

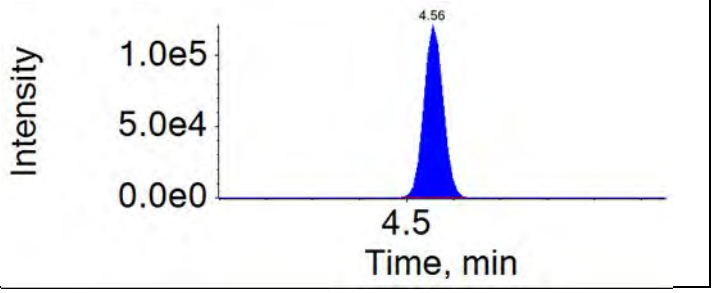
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



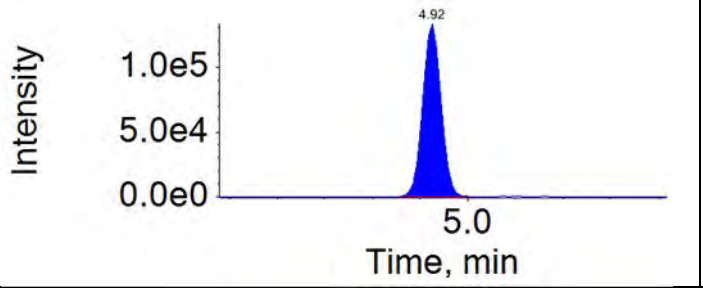


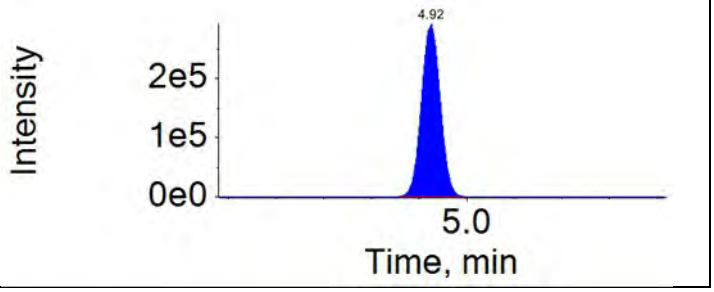
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



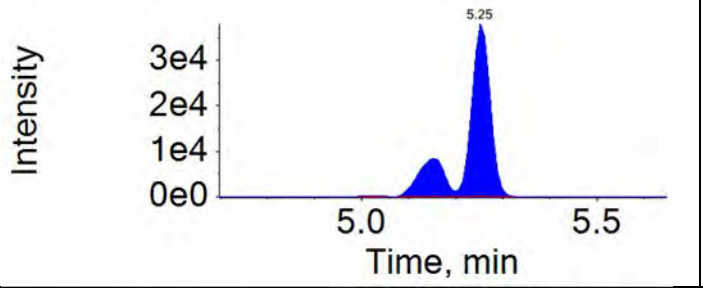


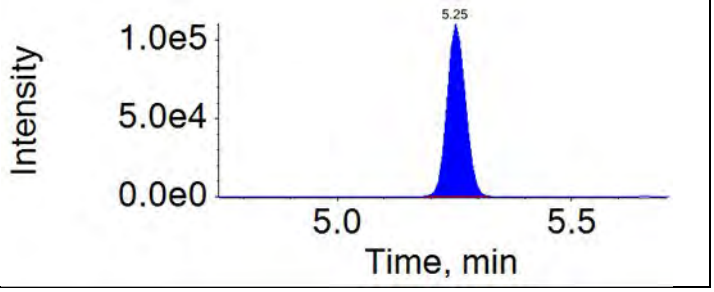
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



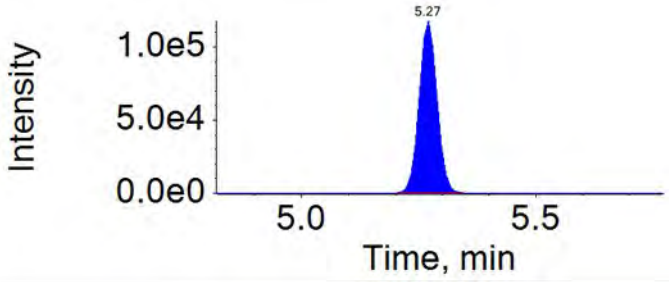


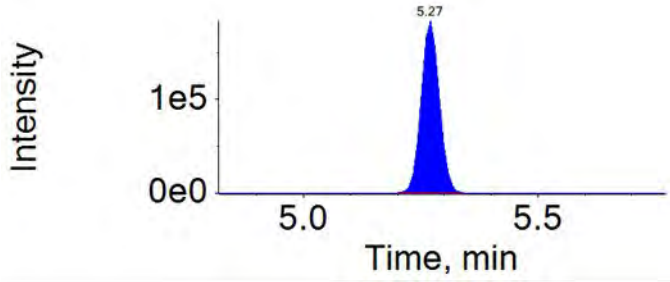
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

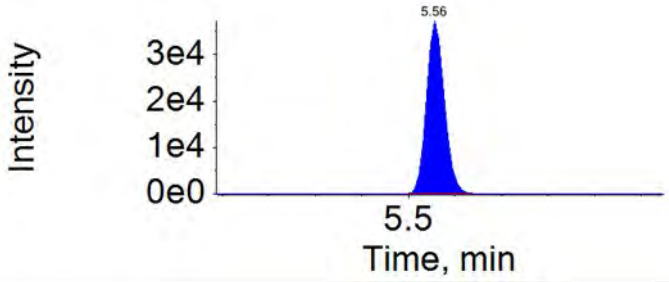
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

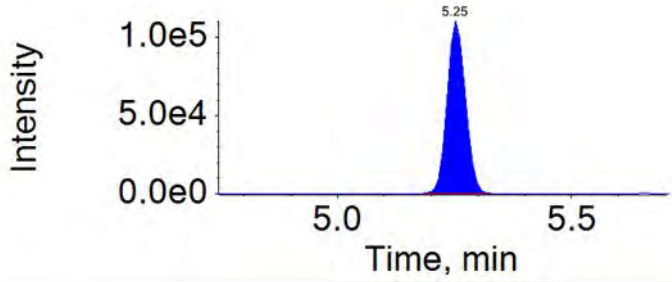
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



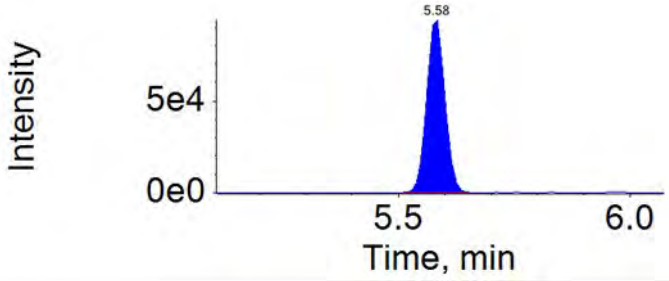


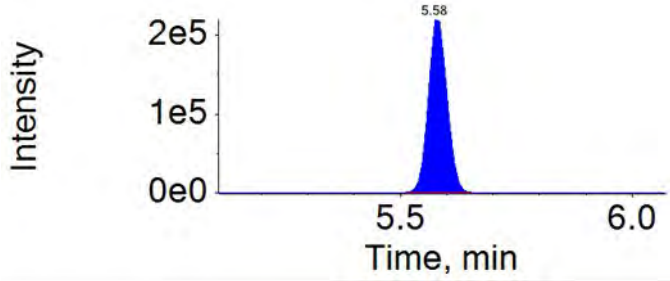
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



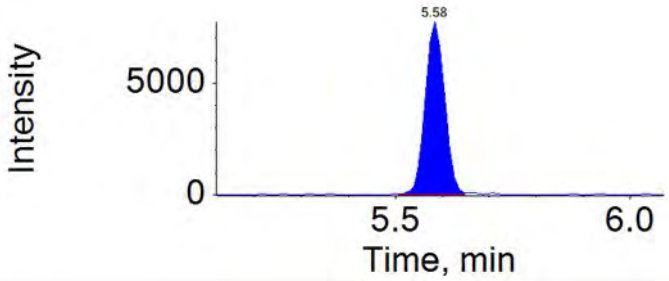


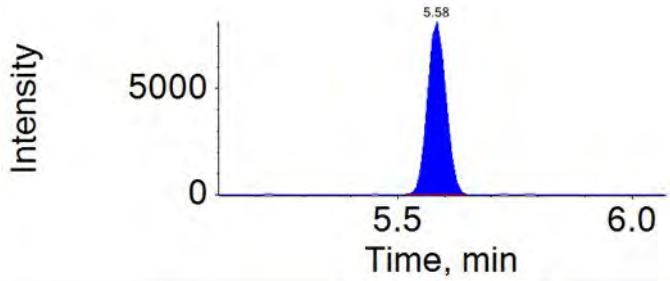
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

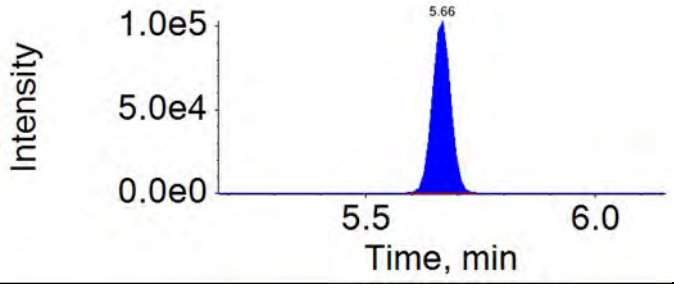
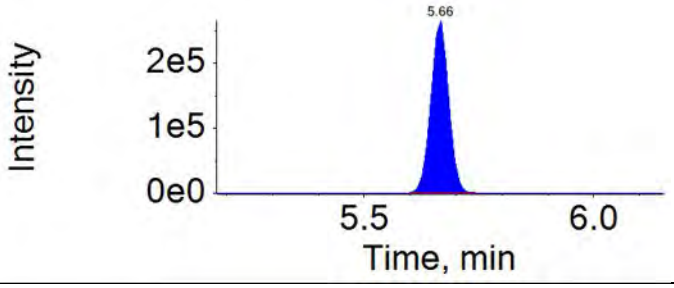


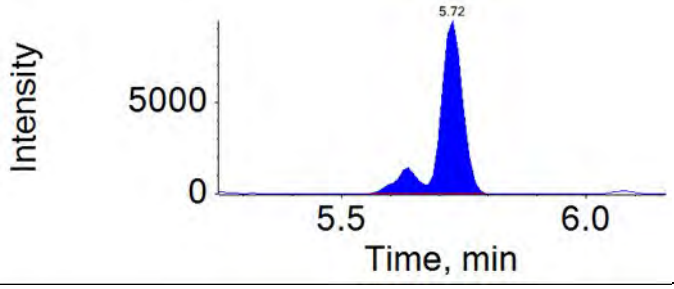
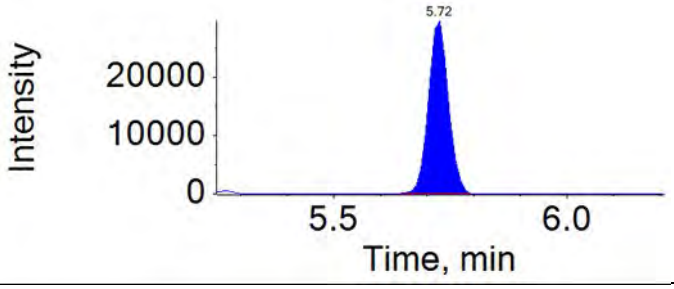


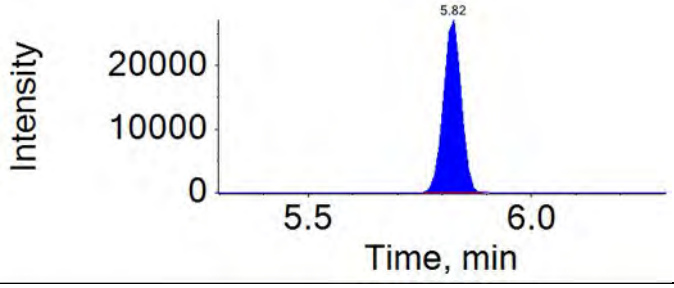
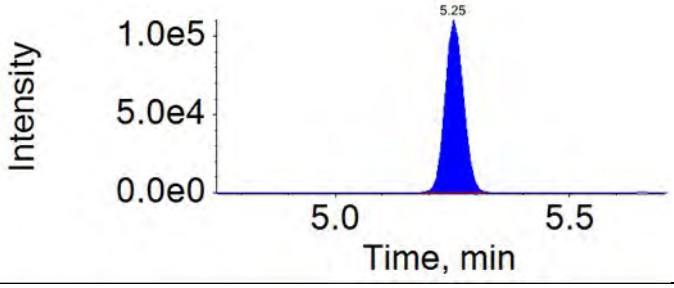
APPROVED
By MSM at 1:53 pm, 12/7/18

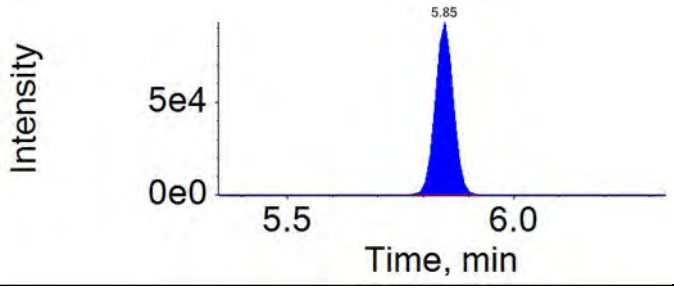
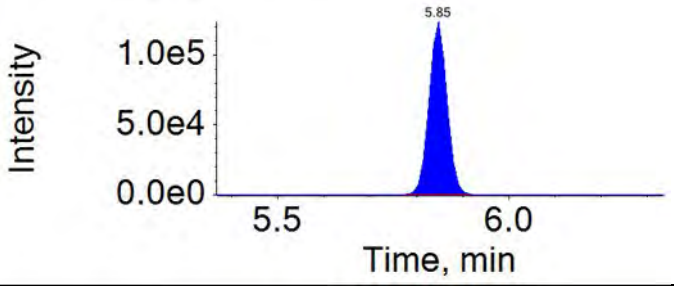
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

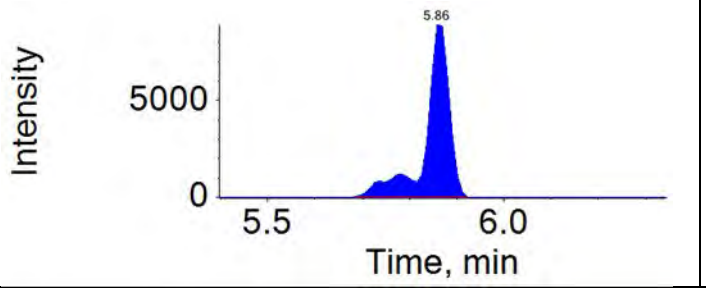
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

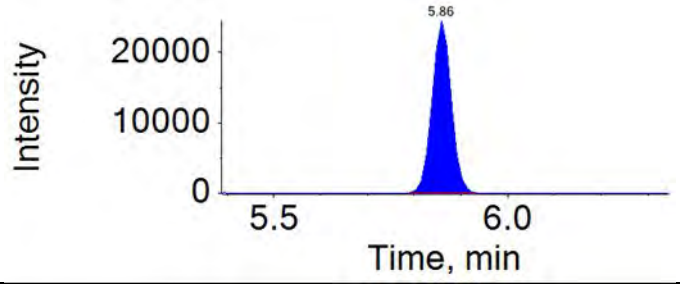
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

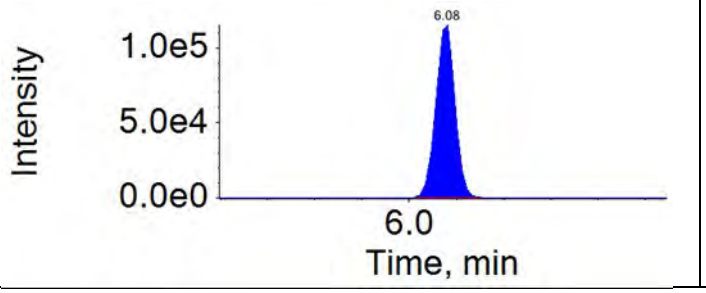
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

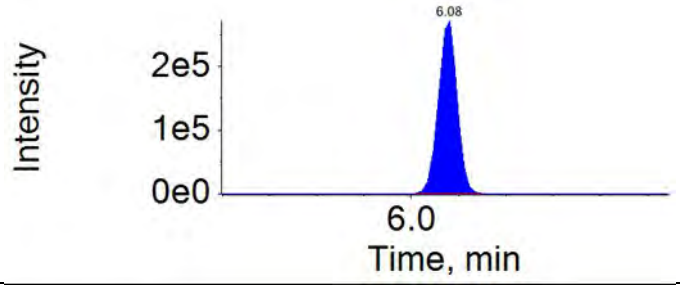
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



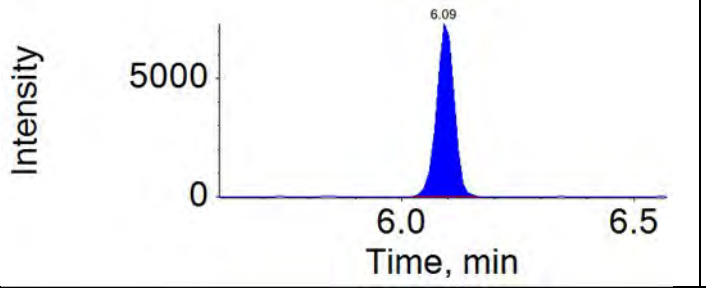


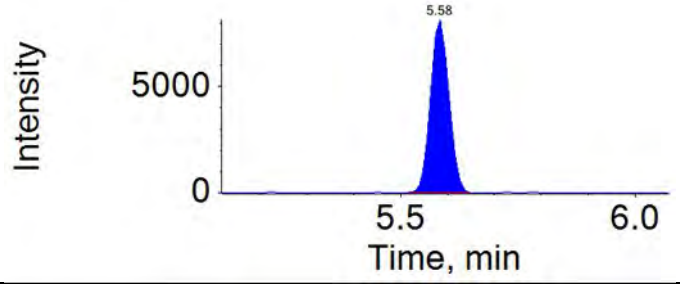
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



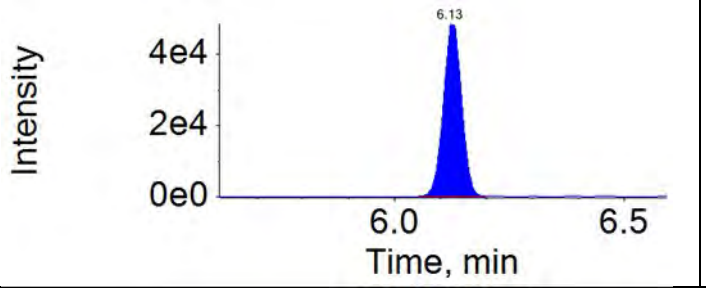


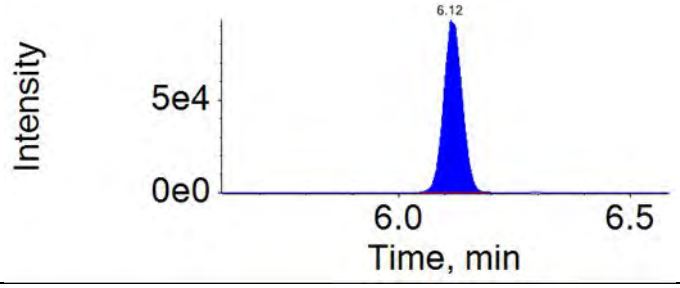
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



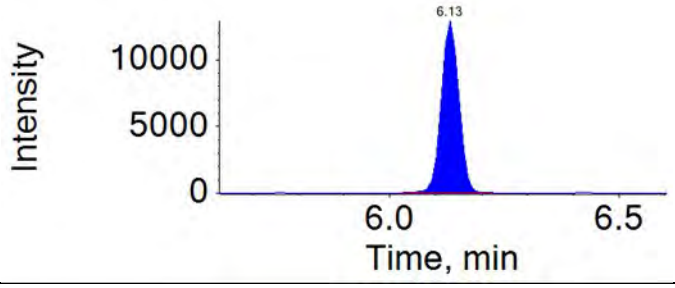


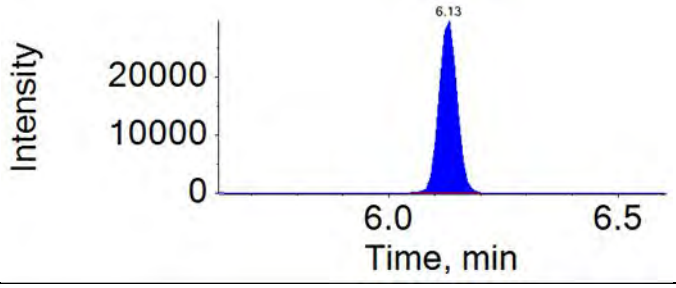
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

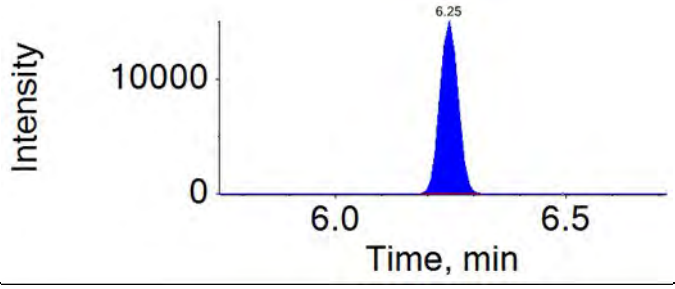
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

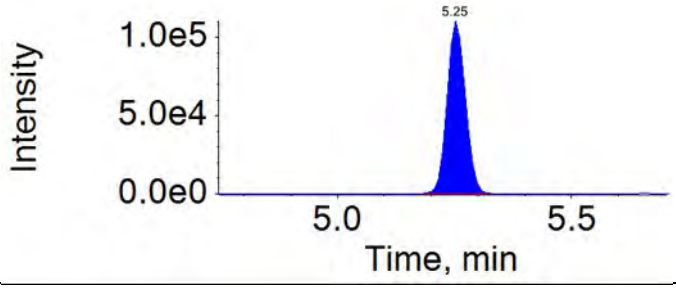
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



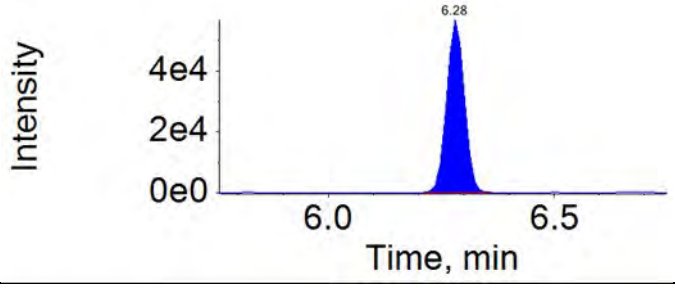


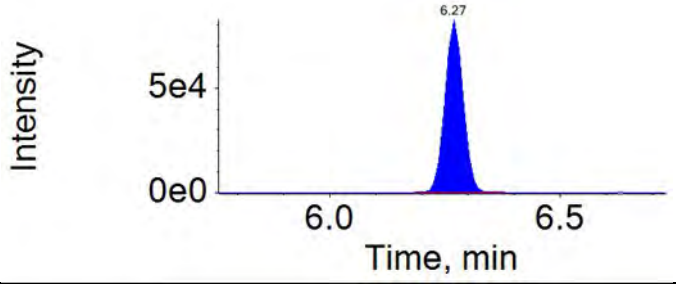
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



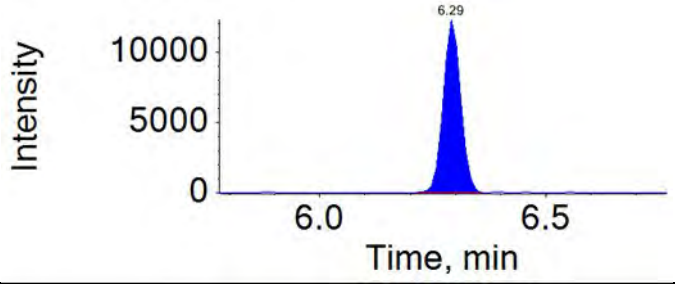


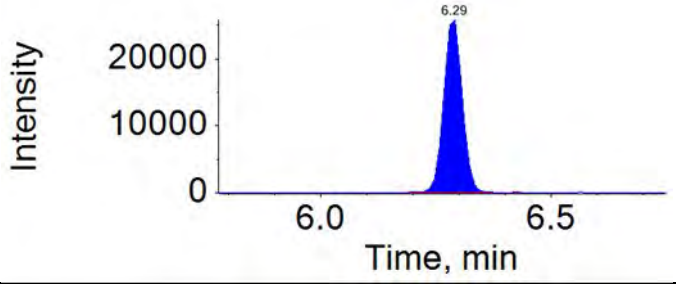
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

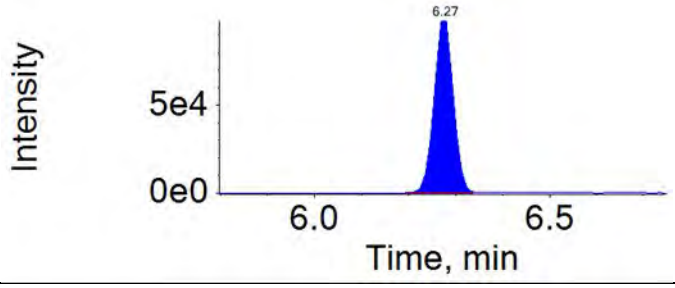
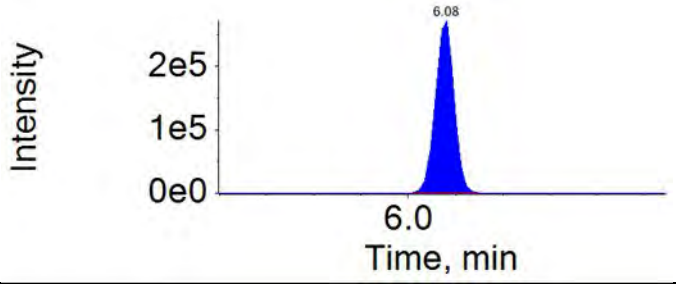


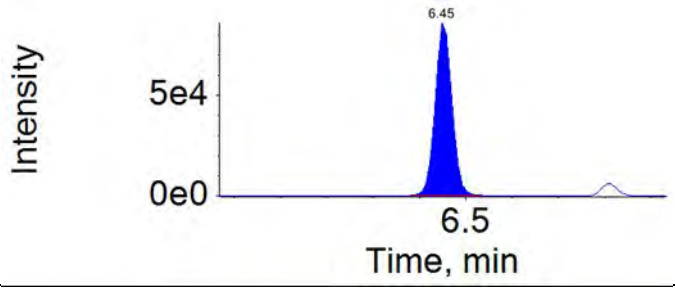
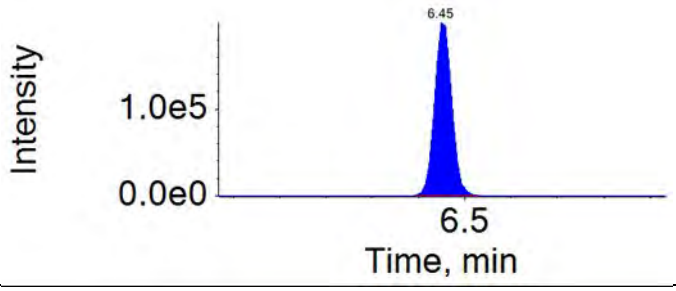


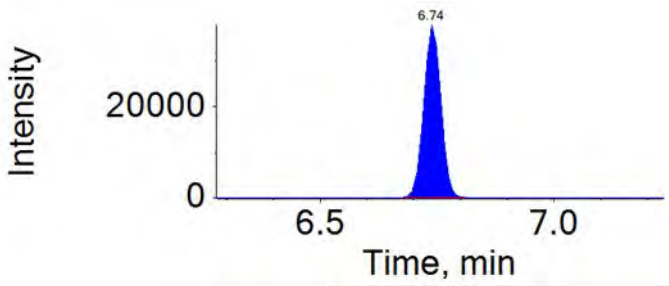
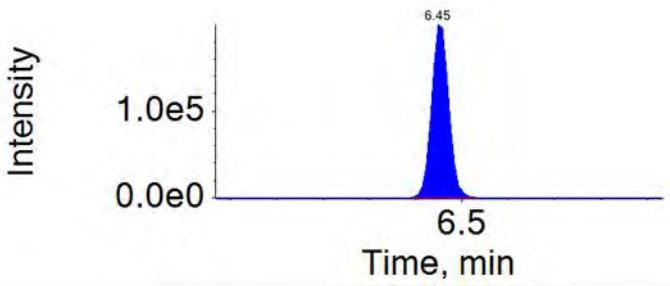
APPROVED
By MSM at 1:53 pm, 12/7/18

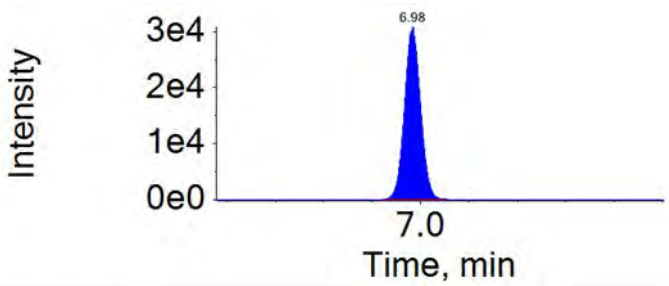
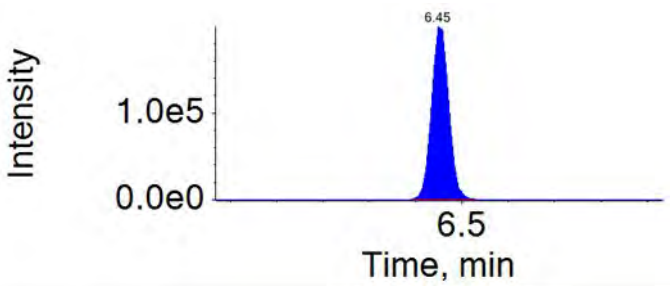
REVIEWED
By HMK at 1:55 pm, 12/9/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC06DCAL 12/7/2018 1:13:23 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

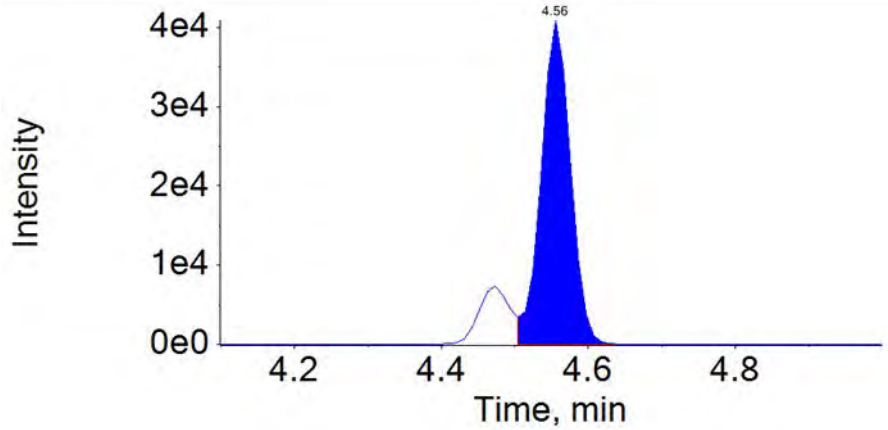
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

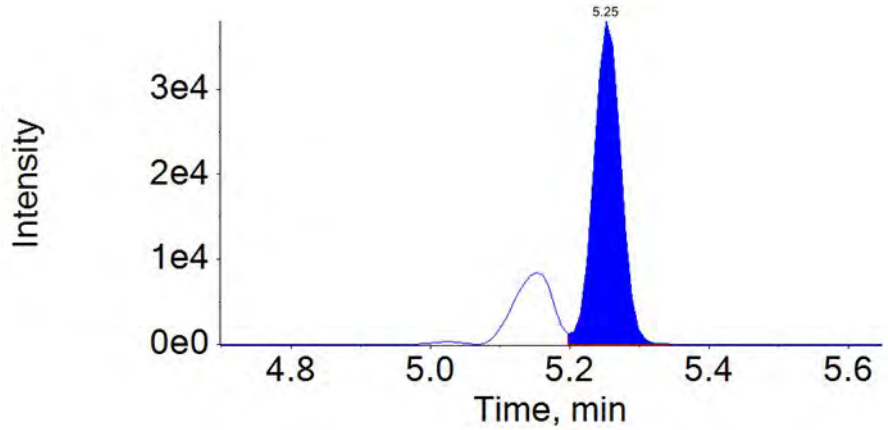
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
114019.77
Mass Range:
399.0 / 80.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



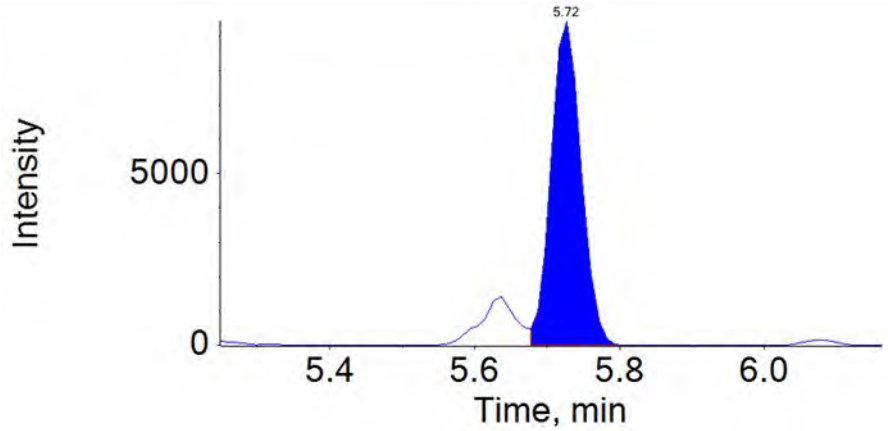
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
103545.89
Mass Range:
499.0 / 80.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
27249.14
Mass Range:
570.0 / 419.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



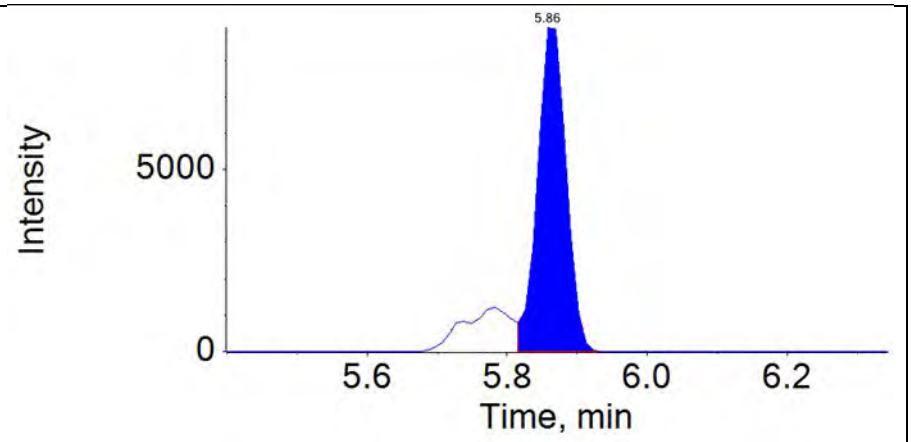
Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

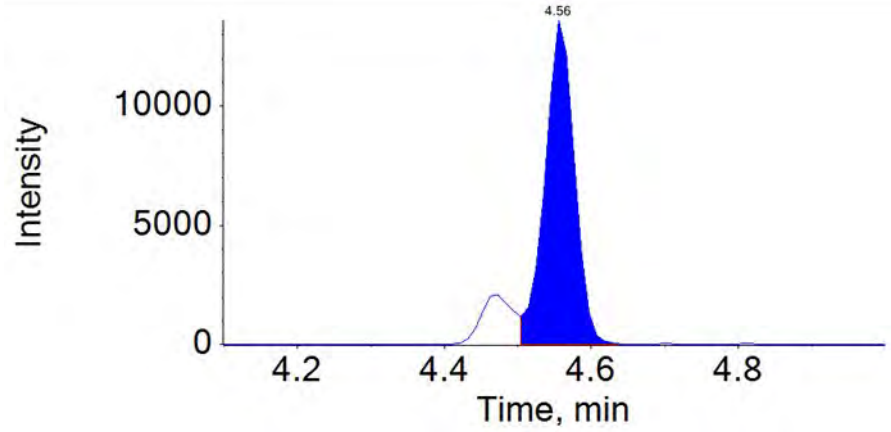
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.86
Peak Area:
25426.02
Mass Range:
584.0 / 419.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



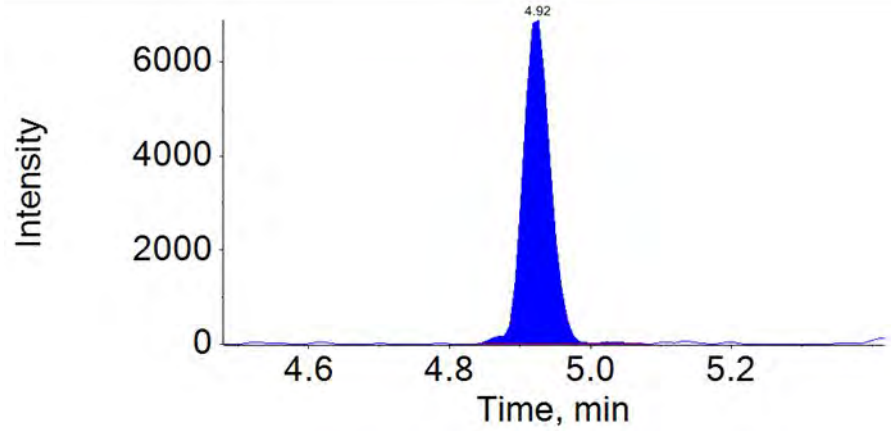
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
38093.00
Mass Range:
399.0 / 99.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
18835.26
Mass Range:
413.0 / 169.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



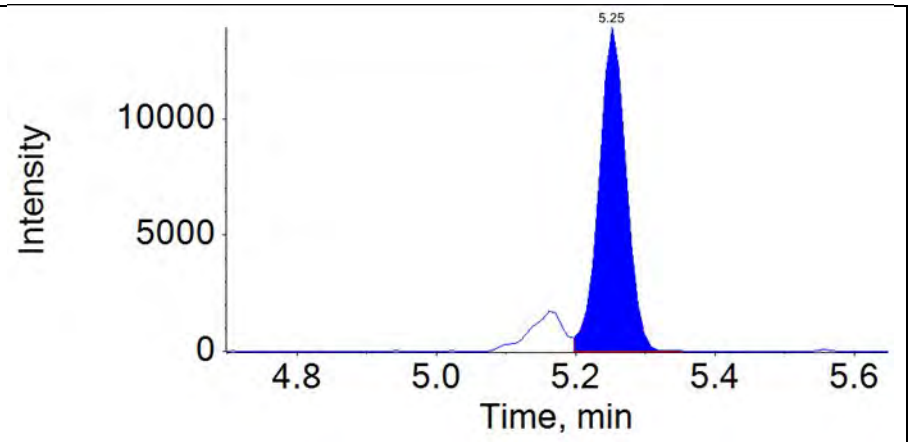
Integration Comment:

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

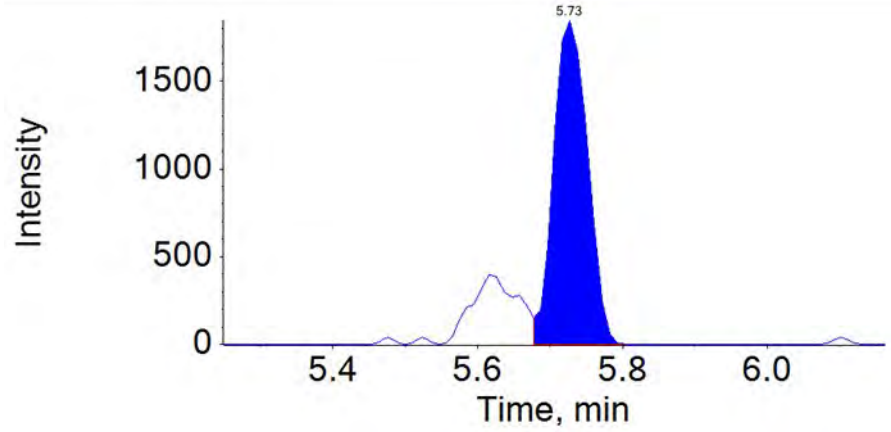
Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
37653.14
Mass Range:
499.0 / 99.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



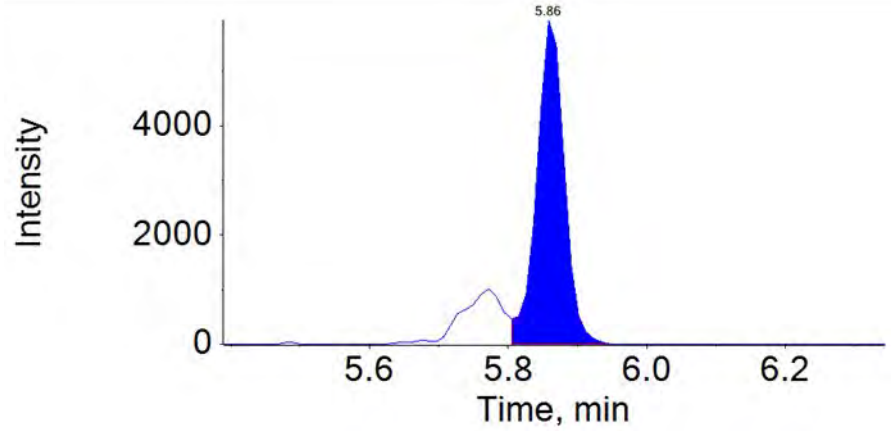
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.73
Peak Area:
6067.09
Mass Range:
570.0 / 483.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
16500.43
Mass Range:
584.0 / 526.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

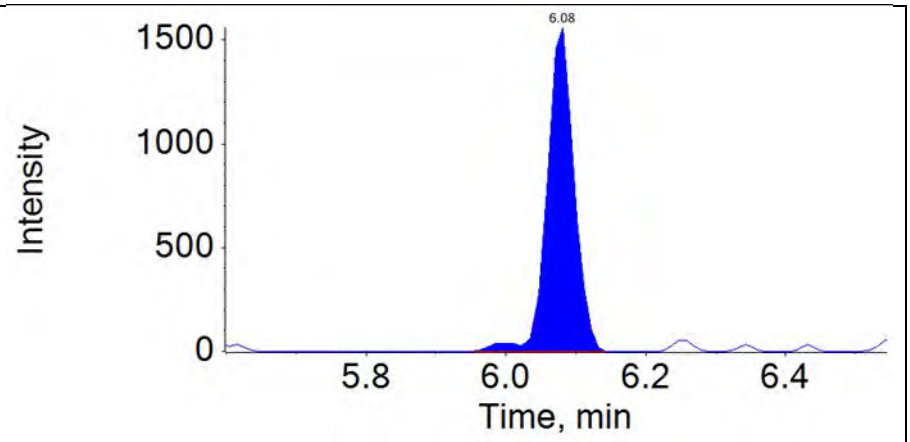
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDoDA_2
RT (min.):
6.08
Peak Area:
4212.53
Mass Range:
613.0 / 169.0
File Name:
18DEC06DCAL-35.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Results Table Name: 18DEC06DCAL
Results Table Date: 12/7/2018 1:17:11 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

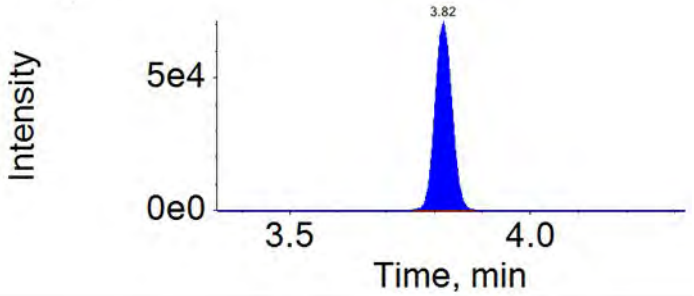
Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC06DCAL-35.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	173695.93	A	1.0000	1.0000			
PFBS_2	3.82	1.00	62572.82	A	0.3627	0.3602	-1	50	
4:2-FTS	4.13	1.00	42557.42	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	26508.37	A	0.6542	0.6229	-5	50	
PFHxA	4.17	1.00	374525.94	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	3867.43	A	0.0097	0.0103	6	50	
PFPeS	4.19	1.10	91544.93	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	49023.54	A	0.5262	0.5355	2	50	
PFHpA	4.55	1.00	347211.47	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	20171.01	A	0.0565	0.0581	3	50	
PFHxS	4.56	1.00	135162.77	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	44425.88	M	0.3645	0.3287	-10	50	
6:2-FTS	4.91	1.00	26737.44	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	19128.13	A	0.6273	0.7154	14	50	
PFHpS	4.92	1.08	127495.71	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	49652.35	A	0.4162	0.3894	-6	50	
PFOA	4.92	1.00	357974.42	A	1.0000	1.0000			
PFOA_2	4.92	1.00	18509.86	M	0.0616	0.0517	-16	50	
PFOS	5.25	1.00	137724.22	M	1.0000	1.0000			
PFOS_2	5.25	1.00	43422.03	M	0.3021	0.3153	4	50	
PFNA	5.27	1.00	312861.77	A	1.0000	1.0000			
PFNA_2	5.27	1.00	5395.38	A	0.0192	0.0172	-10	50	
PFNS	5.56	1.06	98923.75	A	1.0000	1.0000			
PFNS_2	5.56	1.06	39194.37	A	0.4845	0.3962	-18	50	
PFDA	5.58	1.00	258354.81	A	1.0000	1.0000			
PFDA_2	5.58	1.00	1937.21	A	0.0096	0.0075	-22	50	
8:2-FTS	5.58	1.00	22216.05	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	13387.28	A	0.6117	0.6026	-1	50	
NMeFOSAA	5.72	1.00	32010.42	M	1.0000	1.0000			
NMeFOSAA_2	5.73	1.00	7837.03	M	0.2673	0.2448	-8	50	
PFDS	5.82	1.11	74927.38	A	1.0000	1.0000			
PFDS_2	5.82	1.11	40517.44	A	0.4952	0.5408	9	50	
PFUnDA	5.85	1.00	257851.31	A	1.0000	1.0000			
PFUnDA_2	5.85	1.00	1364.56	A	0.0041	0.0053	29	50	
NEtFOSAA	5.86	1.00	31269.03	M	1.0000	1.0000			
NEtFOSAA_2	5.86	1.00	20469.75	M	0.6726	0.6546	-3	50	
PFDoDA	6.08	1.00	325910.13	A	1.0000	1.0000			
PFDoDA_2	6.08	1.00	4093.56	M	0.0133	0.0126	-6	50	
10:2-FTS	6.09	1.09	19161.01	A	1.0000	1.0000			
10:2-FTS_2	6.09	1.09	13834.66	A	0.6969	0.7220	4	50	
PFTrDA	6.27	1.03	281452.00	A	1.0000	1.0000			
PFTrDA_2	6.28	1.03	2435.67	A	0.0075	0.0087	15	50	
PFTeDA	6.45	1.00	216594.56	A	1.0000	1.0000			
PFTeDA_2	6.45	1.00	1478.81	A	0.0066	0.0068	3	50	
PFHxDA	6.74	1.04	96416.02	A	1.0000	1.0000			
PFHxDA_2	6.74	1.04	5839.29	A	0.0616	0.0606	-2	50	
PFODA	6.98	1.08	70777.09	A	1.0000	1.0000			
PFODA_2	6.98	1.08	2034.23	A	0.0272	0.0287	6	50	

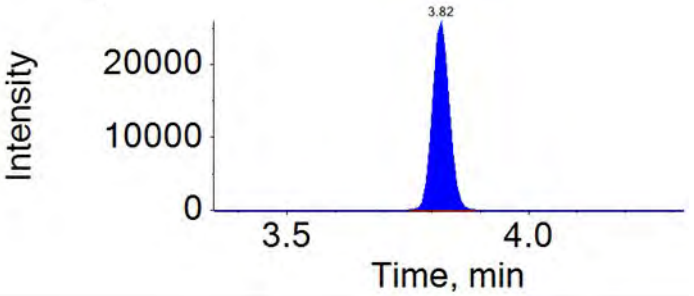
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

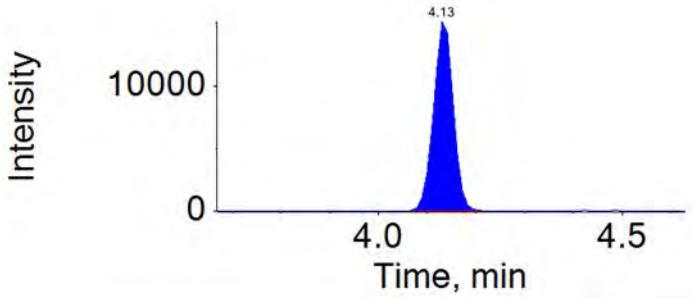
Component: PFBS
Primary Mass: 299.0 / 80.0



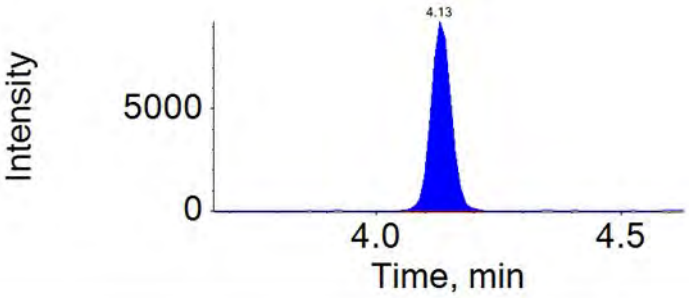
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



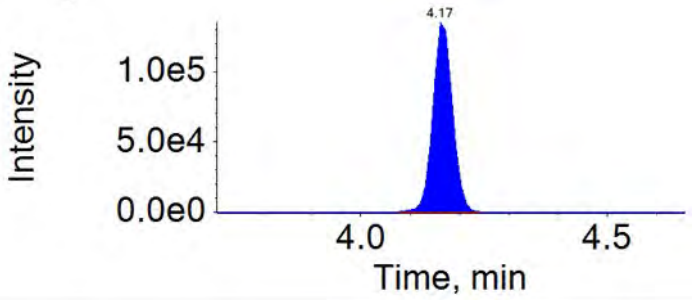
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



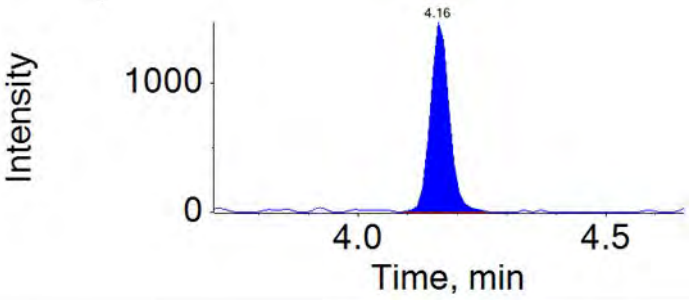
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



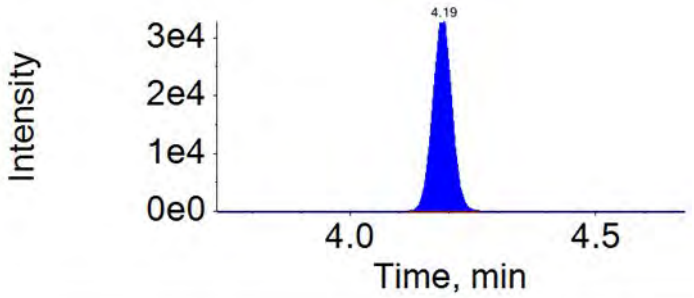
Component: PFHxA
Primary Mass: 313.0 / 269.0



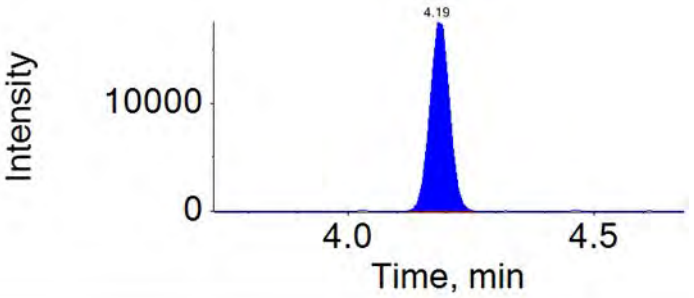
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



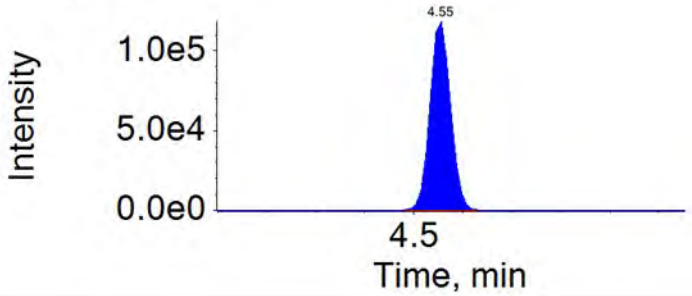
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



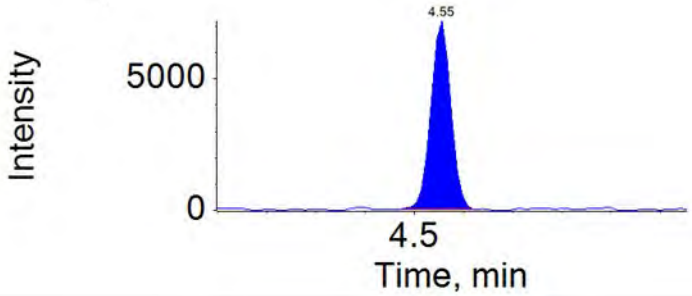
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

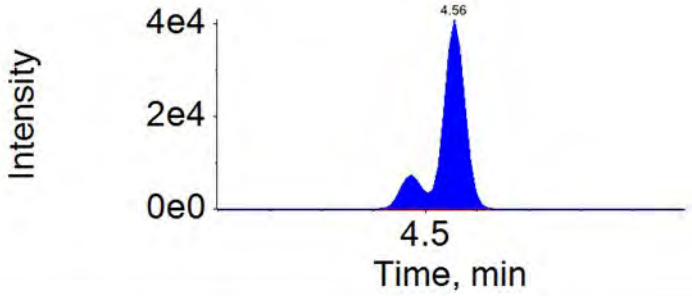
Component: PFHpA
Primary Mass: 363.0 / 319.0



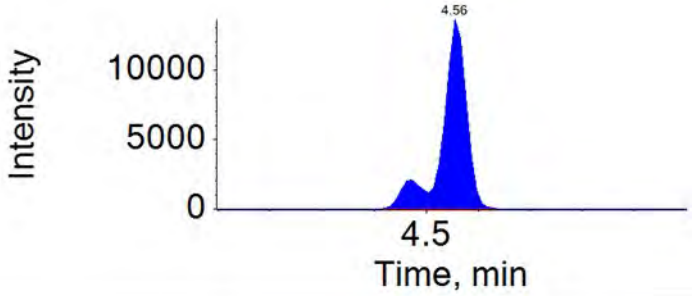
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



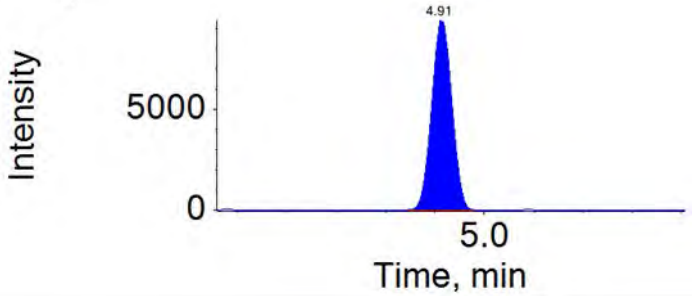
Component: PFHxS
Primary Mass: 399.0 / 80.0



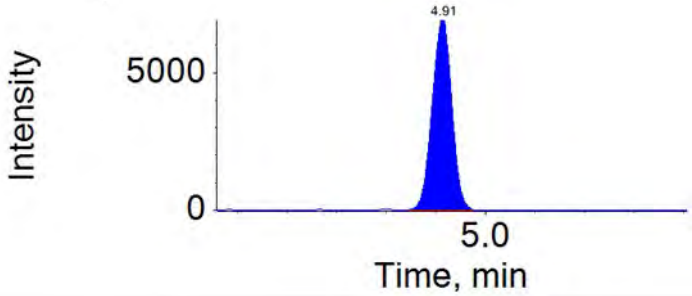
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



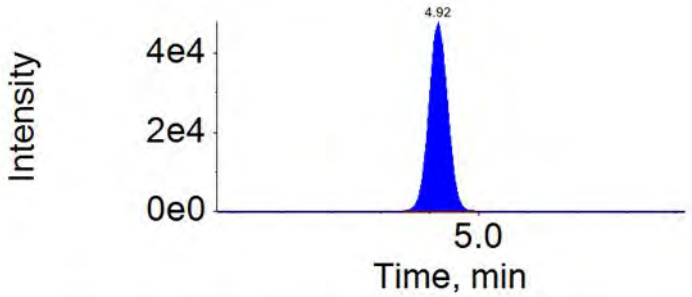
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



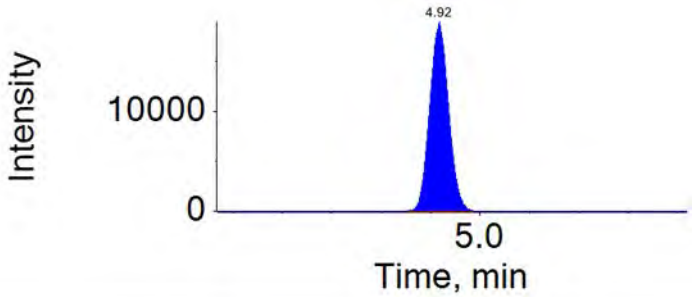
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



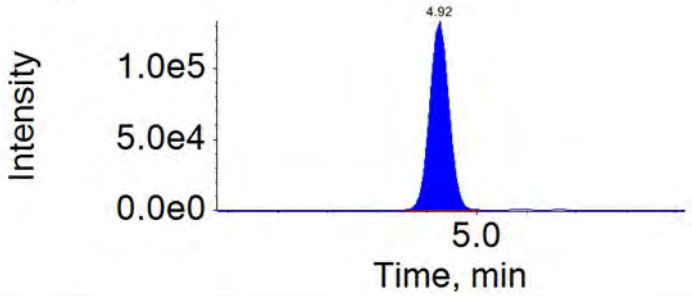
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



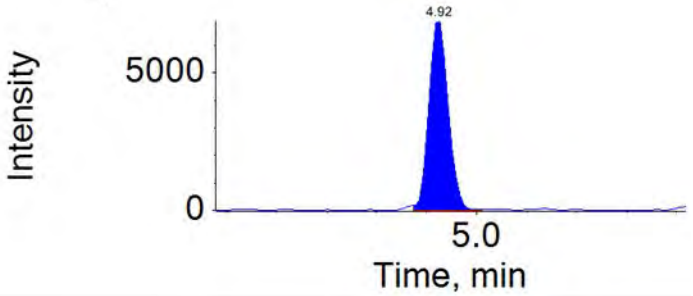
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

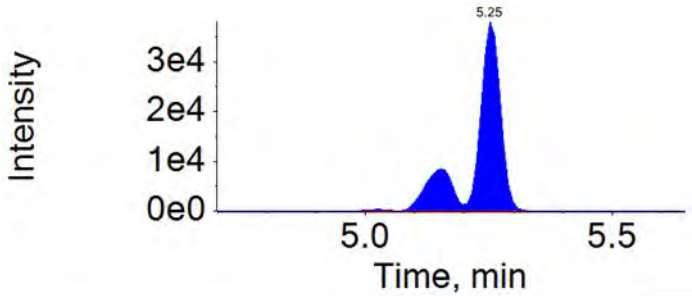
Component: PFOA
Primary Mass: 413.0 / 369.0



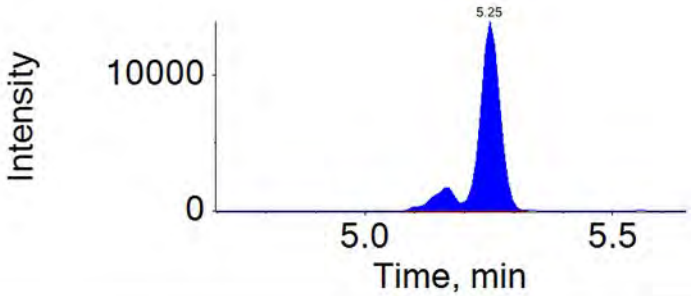
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



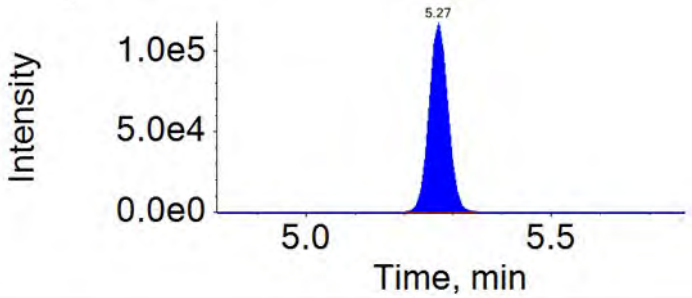
Component: PFOS
Primary Mass: 499.0 / 80.0



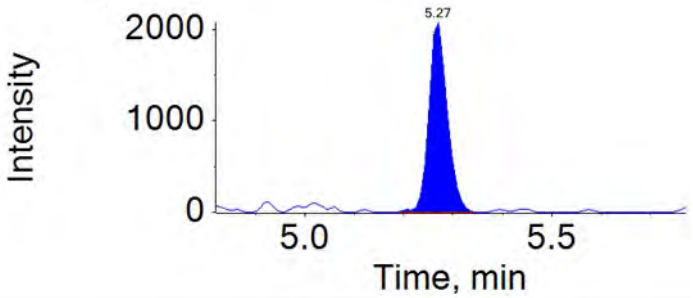
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



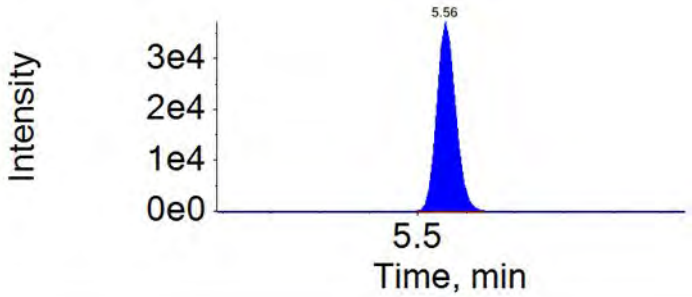
Component: PFNA
Primary Mass: 463.0 / 419.0



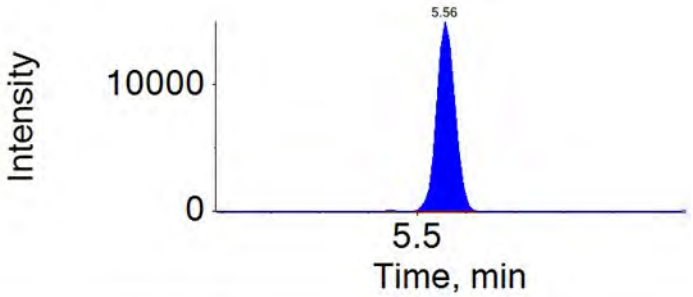
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



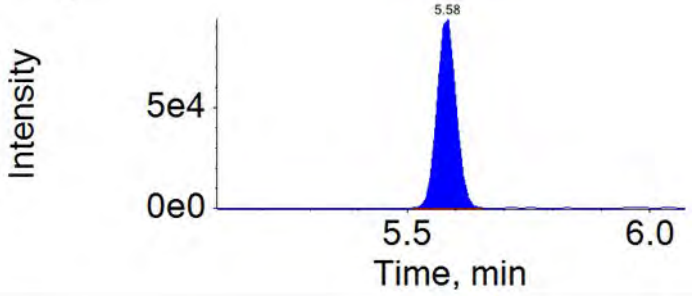
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



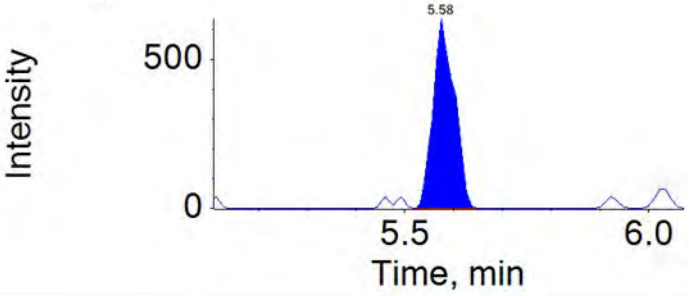
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

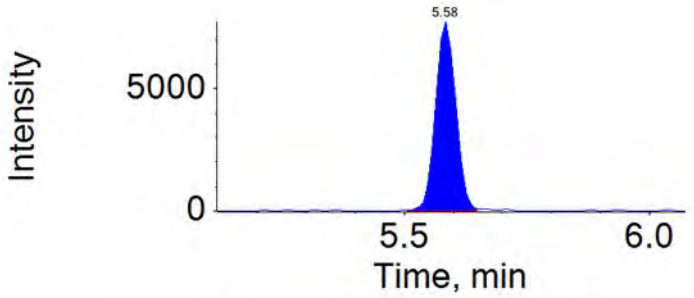
Component: PFDA
Primary Mass: 513.0 / 469.0



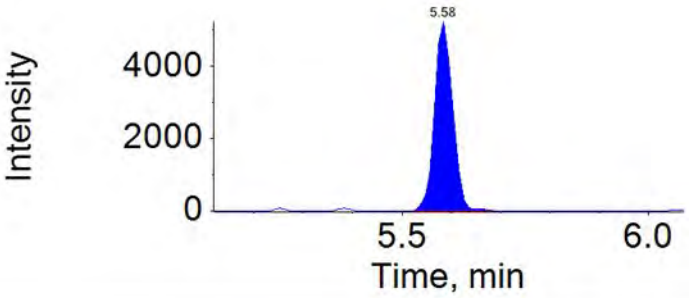
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



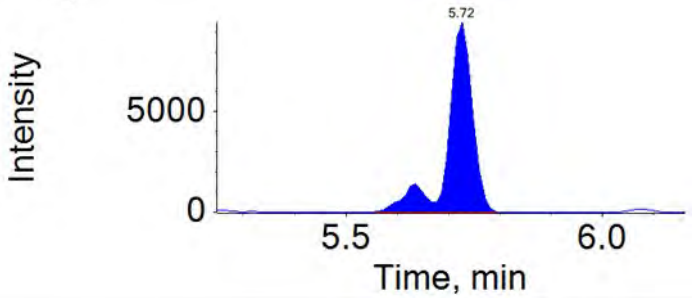
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



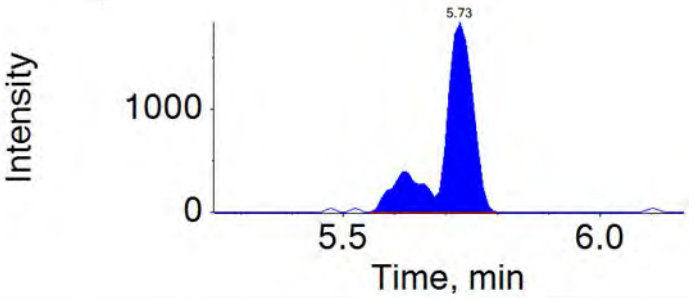
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



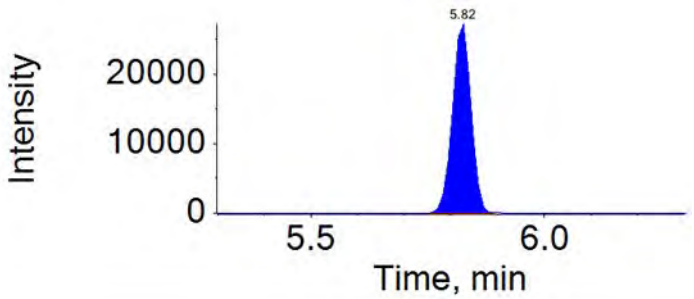
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



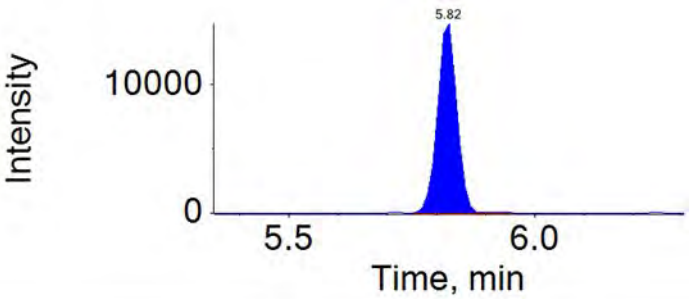
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



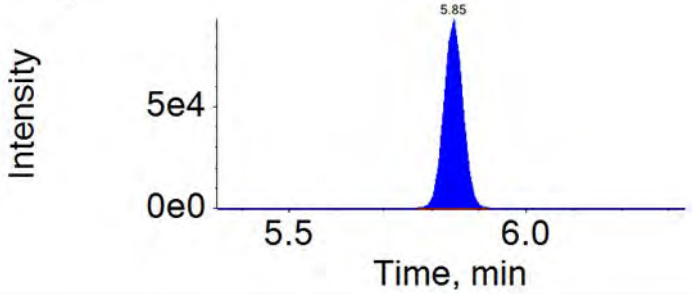
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



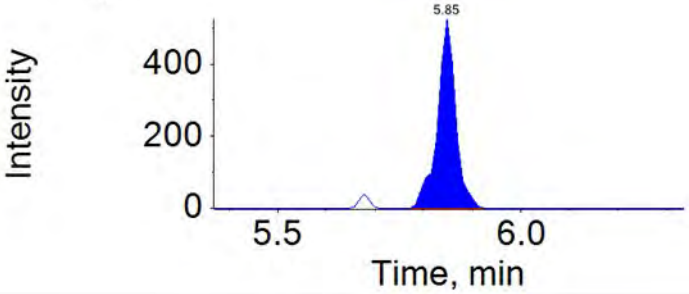
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

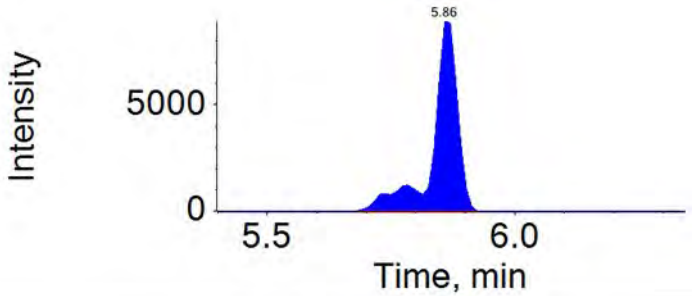
Component: PFUnDA
Primary Mass: 563.0 / 519.0



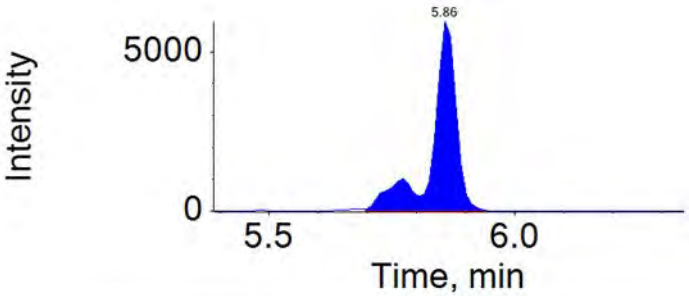
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



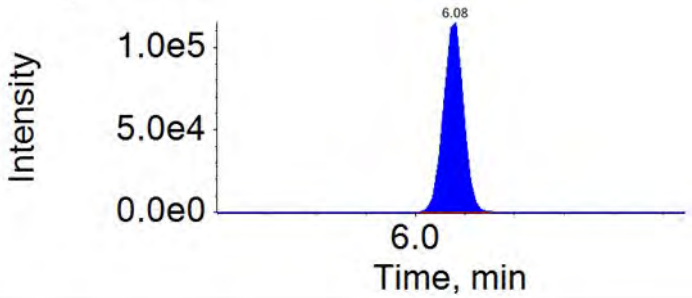
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



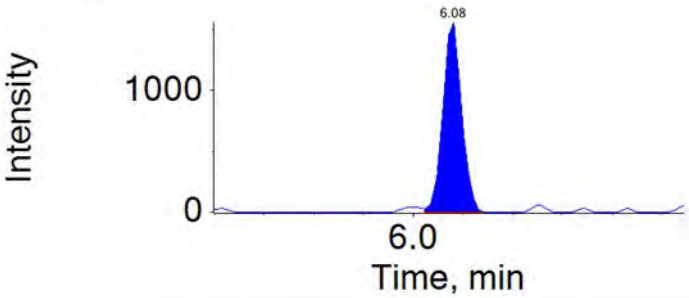
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



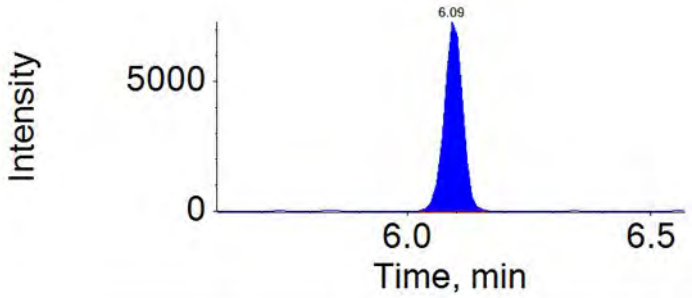
Component: PFDoDA
Primary Mass: 613.0 / 569.0



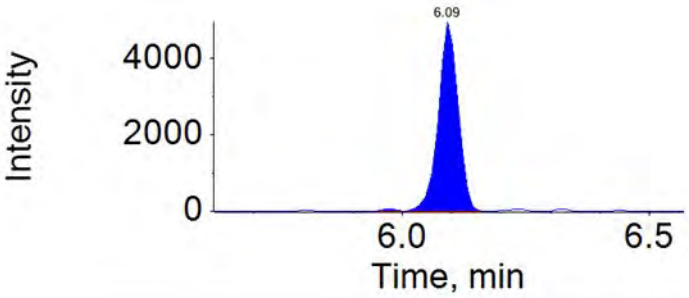
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



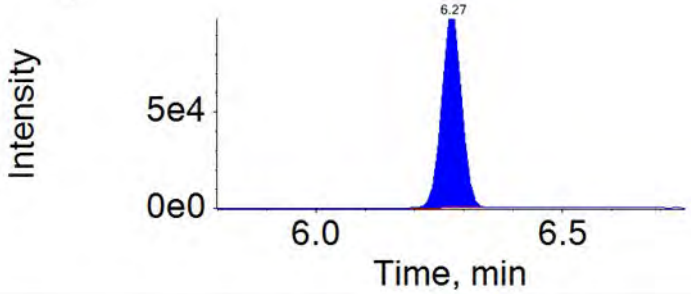
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



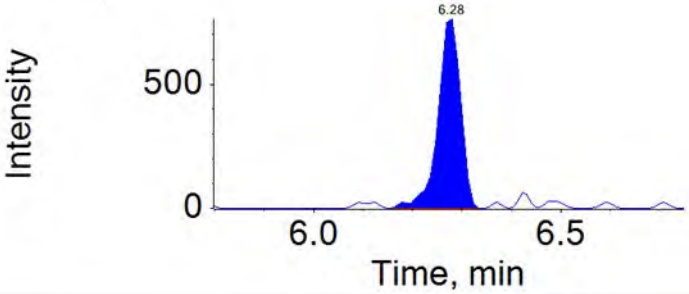
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

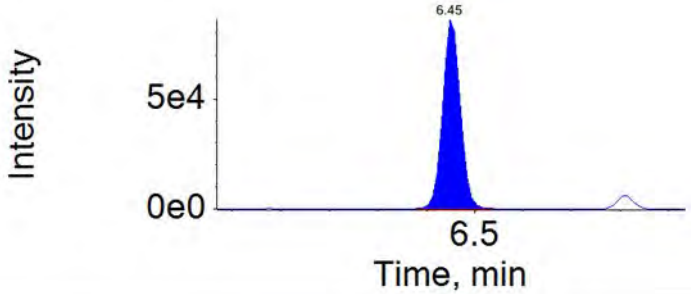
Component: PFTrDA
Primary Mass: 663.0 / 619.0



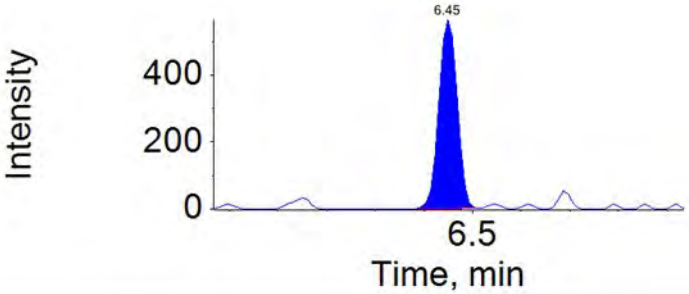
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



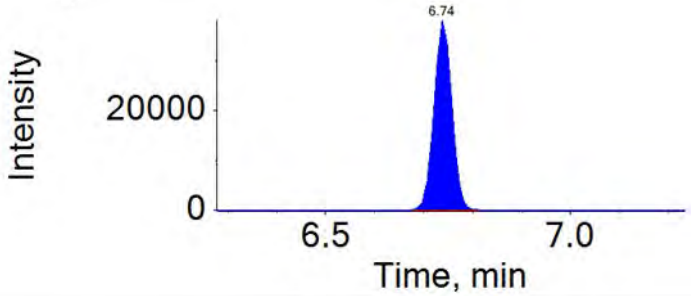
Component: PFTeDA
Primary Mass: 713.0 / 669.0



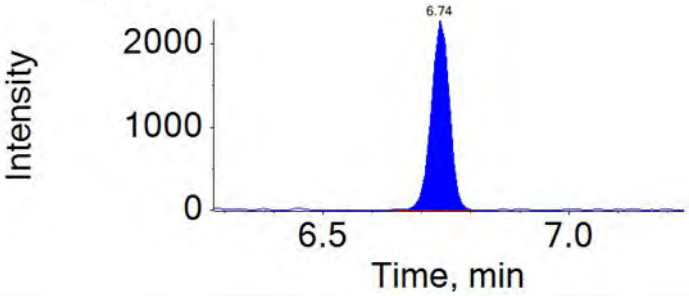
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



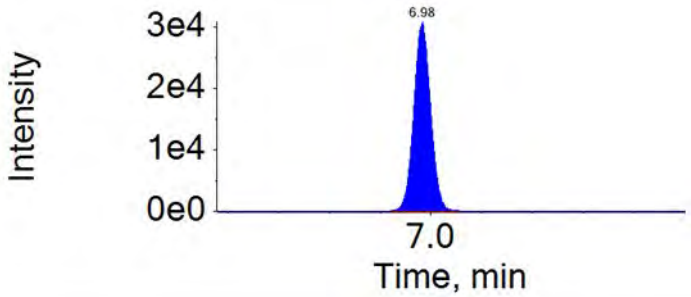
Component: PFHxDA
Primary Mass: 813.0 / 769.0



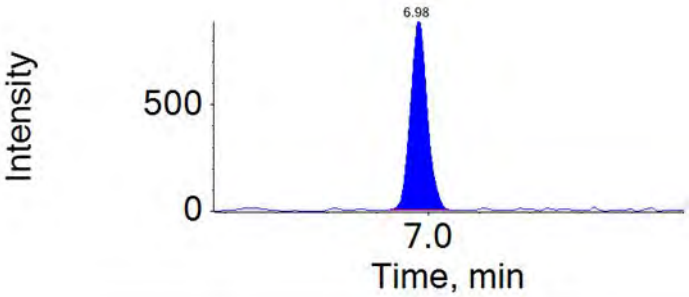
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



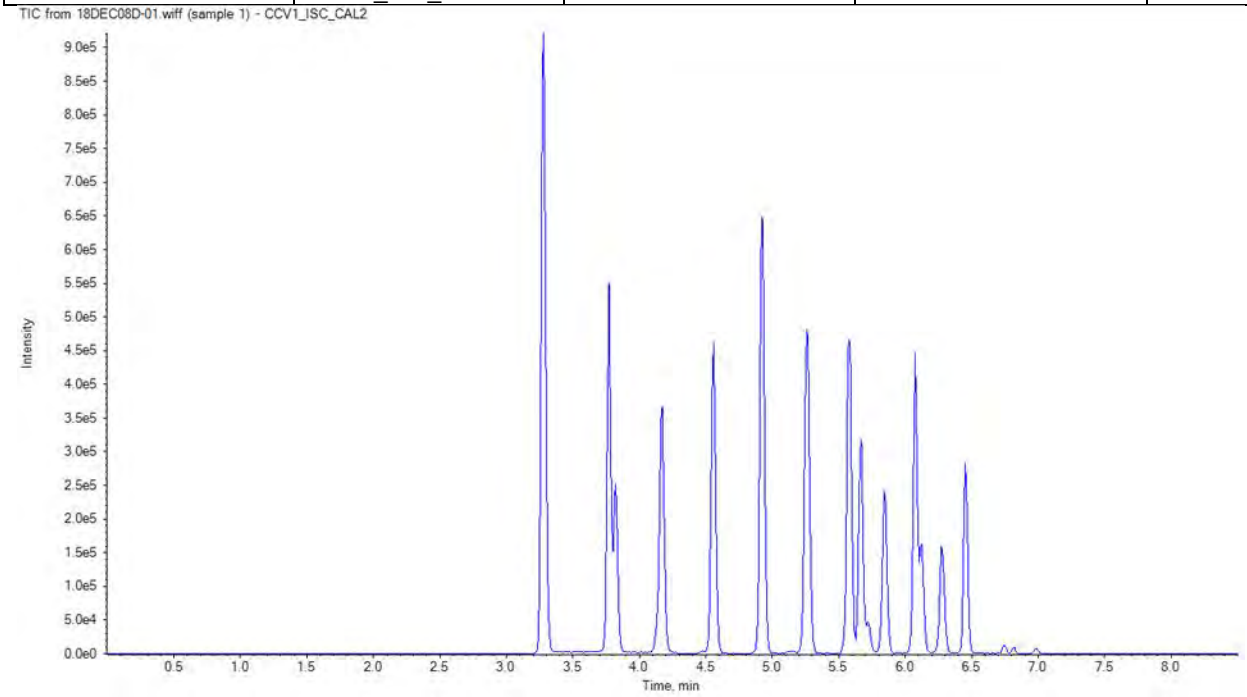
APPROVED
By MSM at 1:53 pm, 12/7/18

REVIEWED
By HMK at 1:55 pm, 12/9/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC08D-01.wiff	2018-12-08T08:07:22



Injection Standard Area Reference File: 18DEC07D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	936973.7	899323.8	4	50	
13C2-PFOA	5.0	474841.3	455854.7	4	50	
13C4-PFOS	4.8	294668.0	291727.2	1	50	
13C2-PFDA	5.0	373990.9	319927.1	17	50	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC08D-01.wiff	2018-12-08T08:07:22

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	113724.9	10	13C4-PFBA	1076718.0	5.0	0.106	3.28	1.000	0.600	0.583	-3	30	
PFPeA	106973.1	11	13C5-PFPeA	968830.6	5.0	0.110	3.78	1.000	0.600	0.581	-3	30	
PFBS	45574.0	10	13C3-PFBS	455976.5	4.7	0.100	3.82	1.000	0.531	0.495	-7	30	
4:2-FTS	11558.6	11	13C2-4:2-FTS	56229.1	4.7	0.206	4.14	1.000	0.560	0.551	-2	30	
PFHxA	94126.3	11	13C5-PFHxA	740087.5	5.0	0.127	4.17	1.000	0.600	0.554	-8	30	
PFPeS	23286.2	11	13C3-PFBS	455976.5	4.7	0.051	4.19	1.100	0.563	0.506	-10	30	
PFHpA	102709.3	11	13C4-PFHpA	559784.7	5.0	0.183	4.56	1.000	0.600	0.604	1	30	
PFHxS	35473.6	18	13C3-PFHxS	369108.5	4.7	0.096	4.56	1.000	0.547	0.455	-17	30	
6:2-FTS	8761.1	11	13C2-6:2-FTS	43875.0	4.8	0.200	4.91	1.000	0.569	0.496	-13	30	
PFHpS	35328.6	10	13C3-PFHxS	369108.5	4.7	0.096	4.92	1.080	0.571	0.525	-8	30	
PFOA	96315.6	11	13C8-PFOA	875788.3	5.0	0.110	4.92	1.000	0.600	0.601	0	30	
PFOS	37785.9	22	13C8-PFOS	326704.0	4.8	0.116	5.25	1.000	0.555	0.480	-14	30	
PFNA	81187.8	12	13C9-PFNA	562564.4	5.0	0.144	5.27	1.000	0.600	0.532	-11	30	
PFNS	24154.6	11	13C8-PFOS	326704.0	4.8	0.074	5.56	1.060	0.576	0.476	-17	30	
PFDA	67315.9	11	13C6-PFDA	694460.6	5.0	0.097	5.58	1.000	0.600	0.546	-9	30	
8:2-FTS	7035.9	13	13C2-8:2-FTS	31038.0	4.8	0.227	5.59	1.000	0.575	0.491	-15	30	
PFOSA	73399.9	11	13C8-PFOSA	665538.2	5.0	0.110	5.67	1.000	0.600	0.572	-5	30	
NMeFOSAA	8903.9	20	d3-NMeFOSAA	97819.4	5.0	0.091	5.73	1.000	0.600	0.602	0	30	
PFDS	22499.5	11	13C8-PFOS	326704.0	4.8	0.069	5.82	1.110	0.578	0.557	-4	30	
PFUnDA	66063.5	11	13C7-PFUnDA	404920.7	5.0	0.163	5.84	1.000	0.600	0.500	-17	30	
NEtFOSAA	8703.9	21	d5-NEtFOSAA	77223.9	5.0	0.113	5.86	1.000	0.600	0.570	-5	30	
PFDoDA	88249.3	12	13C2-PFDoDA	818728.6	5.0	0.108	6.08	1.000	0.600	0.567	-5	30	
10:2-FTS	5268.5	12	13C2-8:2-FTS	31038.0	4.8	0.170	6.09	1.090	0.578	0.450	-22	30	
NMePFOSAE	33443.7	11	d7-NMePFOSAE	245610.7	5.0	0.136	6.13	1.000	0.600	0.592	-1	30	
NMePFOSA	9558.6	11	d3-NMePFOSA	83428.3	5.0	0.115	6.13	1.000	0.600	0.578	-4	30	
PFDoS	9298.5	11	13C8-PFOS	326704.0	4.8	0.028	6.25	1.190	0.581	0.434	-25	30	
NEtPFOSAE	33036.2	11	d9-NEtPFOSAE	203426.6	5.0	0.162	6.28	1.000	0.600	0.544	-9	30	
NEtPFOSA	8566.9	12	d5-NEtPFOSA	70028.6	5.0	0.122	6.29	1.000	0.600	0.586	-2	30	
PFTrDA	78062.9	11	13C2-PFDoDA	818728.6	5.0	0.095	6.27	1.030	0.600	0.624	4	30	
PFTeDA	56448.8	10	13C2-PFTeDA	551246.4	5.0	0.102	6.45	1.000	0.600	0.586	-2	30	
PFHxDA	24495.9	11	13C2-PFTeDA	551246.4	5.0	0.044	6.75	1.050	0.600	0.557	-7	30	
PFODA	16915.5	10	13C2-PFTeDA	551246.4	5.0	0.031	6.98	1.080	0.600	0.493	-18	30	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_ISC_CAL2			**Data File:**		18DEC08D-01.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-08T08:07:22
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC08DCCV1-6
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC07D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	936973.7	899323.8	4	50	
13C2-PFOA	5.0	474841.3	455854.7	4	50	
13C4-PFOS	4.8	294668.0	291727.2	1	50	
13C2-PFDA	5.0	373990.9	319927.1	17	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1076718.0	13C3-PFBA	936973.7	1.149	5.000	5.086	102	70-130	
E13C5-PFPeA	968830.6	13C3-PFBA	936973.7	1.034	5.000	4.911	98	70-130	
E13C3-PFBS	455976.5	13C3-PFBA	936973.7	0.487	4.650	4.125	89	70-130	
E13C2-4:2-FTS	56229.1	13C2-PFOA	474841.3	0.118	4.670	4.640	99	70-130	
E13C5-PFHxA	740087.5	13C2-PFOA	474841.3	1.559	5.000	5.233	105	70-130	
E13C3-PFHxS	369108.5	13C2-PFOA	474841.3	0.777	4.730	4.986	105	70-130	
E13C4-PFHpA	559784.7	13C2-PFOA	474841.3	1.179	5.000	5.012	100	70-130	
E13C2-6:2-FTS	43875.0	13C2-PFOA	474841.3	0.092	4.750	5.724	121	70-130	
E13C8-PFOA	875788.3	13C2-PFOA	474841.3	1.844	5.000	5.214	104	70-130	
E13C8-PFOS	326704.0	13C4-PFOS	294668.0	1.109	4.780	4.976	104	70-130	
E13C9-PFNA	562564.4	13C4-PFOS	294668.0	1.909	5.000	5.395	108	70-130	
E13C6-PFDA	694460.6	13C2-PFDA	373990.9	1.857	5.000	4.921	98	70-130	
E13C2-8:2-FTS	31038.0	13C2-PFDA	373990.9	0.083	4.790	5.418	113	70-130	
E13C8-PFOSA	665538.2	13C2-PFDA	373990.9	1.780	5.000	4.209	84	70-130	
Ed3-NMeFOSAA	97819.4	13C2-PFDA	373990.9	0.262	5.000	4.635	93	70-130	
E13C7-PFUnDA	404920.7	13C2-PFDA	373990.9	1.083	5.000	5.311	106	70-130	
Ed5-NEtFOSAA	77223.9	13C2-PFDA	373990.9	0.206	5.000	4.558	91	70-130	
E13C2-PFDoDA	818728.6	13C2-PFDA	373990.9	2.189	5.000	4.594	92	70-130	
Ed7-NMePFOSAE	245610.7	13C2-PFDA	373990.9	0.657	5.000	3.783	76	70-130	
Ed3-NMePFOSA	83428.3	13C2-PFDA	373990.9	0.223	5.000	4.065	81	70-130	
Ed9-NEtPFOSAE	203426.6	13C2-PFDA	373990.9	0.544	5.000	3.751	75	70-130	
Ed5-NEtPFOSA	70028.6	13C2-PFDA	373990.9	0.187	5.000	4.214	84	70-130	
E13C2-PFTeDA	551246.4	13C2-PFDA	373990.9	1.474	5.000	4.375	87	70-130	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

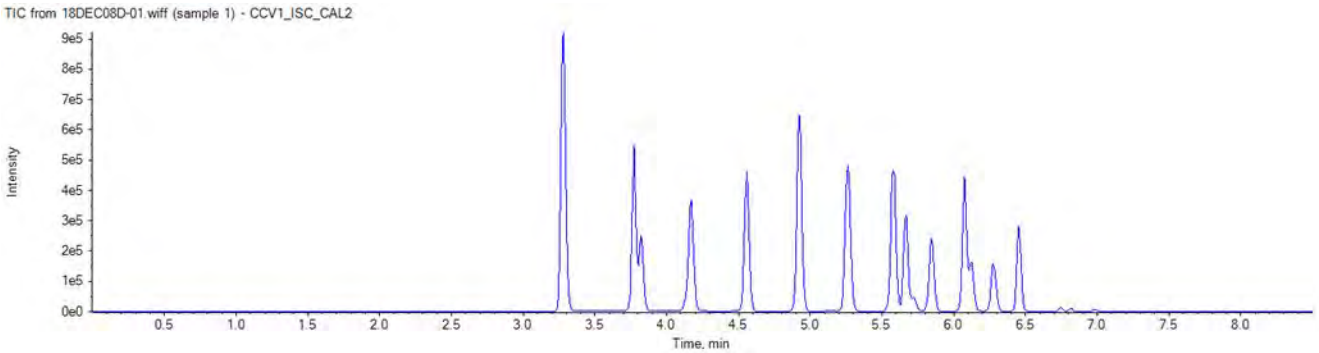
Analyte Quantitation Peak Table

Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC08D-01.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.28	1.000	113724.9		A	13C4-PFBA	3.28	1076718.0	0.106	0.583
PFPeA	3.78	1.000	106973.1		A	13C5-PFPeA	3.77	968830.6	0.110	0.581
PFBS	3.82	1.000	45574.0		A	13C3-PFBS	3.82	455976.5	0.100	0.495
4:2-FTS	4.14	1.000	11558.6		A	13C2-4:2-FTS	4.13	56229.1	0.206	0.551
PFHxA	4.17	1.000	94126.3		A	13C5-PFHxA	4.17	740087.5	0.127	0.554
PFPeS	4.19	1.100	23286.2		A	13C3-PFBS	3.82	455976.5	0.051	0.506
PFHpA	4.56	1.000	102709.3		A	13C4-PFHpA	4.56	559784.7	0.183	0.604
PFHxS	4.56	1.000	35473.6		M	13C3-PFHxS	4.56	369108.5	0.096	0.455
6:2-FTS	4.91	1.000	8761.1		A	13C2-6:2-FTS	4.91	43875.0	0.200	0.496
PFHpS	4.92	1.080	35328.6		A	13C3-PFHxS	4.56	369108.5	0.096	0.525
PFOA	4.92	1.000	96315.6		A	13C8-PFOA	4.92	875788.3	0.110	0.601
PFOS	5.25	1.000	37785.9		M	13C8-PFOS	5.25	326704.0	0.116	0.480
PFNA	5.27	1.000	81187.8		A	13C9-PFNA	5.27	562564.4	0.144	0.532
PFNS	5.56	1.060	24154.6		A	13C8-PFOS	5.25	326704.0	0.074	0.476
PFDA	5.58	1.000	67315.9		A	13C6-PFDA	5.58	694460.6	0.097	0.546
8:2-FTS	5.59	1.000	7035.9		A	13C2-8:2-FTS	5.58	31038.0	0.227	0.491
PFOSA	5.67	1.000	73399.9		A	13C8-PFOSA	5.67	665538.2	0.110	0.572
NMeFOSAA	5.73	1.000	8903.9		M	d3-NMeFOSAA	5.72	97819.4	0.091	0.602
PFDS	5.82	1.110	22499.5		A	13C8-PFOS	5.25	326704.0	0.069	0.557
PFUnDA	5.84	1.000	66063.5		A	13C7-PFUnDA	5.84	404920.7	0.163	0.500
NEtFOSAA	5.86	1.000	8703.9		M	d5-NEtFOSAA	5.86	77223.9	0.113	0.570
PFDoDA	6.08	1.000	88249.3		A	13C2-PFDoDA	6.08	818728.6	0.108	0.567
10:2-FTS	6.09	1.090	5268.5		A	13C2-8:2-FTS	5.58	31038.0	0.170	0.450
NMePFOSAE	6.13	1.000	33443.7		A	d7-NMePFOSAE	6.12	245610.7	0.136	0.592
NMePFOSA	6.13	1.000	9558.6		A	d3-NMePFOSA	6.13	83428.3	0.115	0.578
PFDoS	6.25	1.190	9298.5		A	13C8-PFOS	5.25	326704.0	0.028	0.434
NEtPFOSAE	6.28	1.000	33036.2		A	d9-NEtPFOSAE	6.27	203426.6	0.162	0.544
NEtPFOSA	6.29	1.000	8566.9		A	d5-NEtPFOSA	6.29	70028.6	0.122	0.586
PFTrDA	6.27	1.030	78062.9		A	13C2-PFDoDA	6.08	818728.6	0.095	0.624
PFTeDA	6.45	1.000	56448.8		A	13C2-PFTeDA	6.45	551246.4	0.102	0.586
PFHxDA	6.75	1.050	24495.9		A	13C2-PFTeDA	6.45	551246.4	0.044	0.557
PFODA	6.98	1.080	16915.5		A	13C2-PFTeDA	6.45	551246.4	0.031	0.493

Total Ion Chromatogram

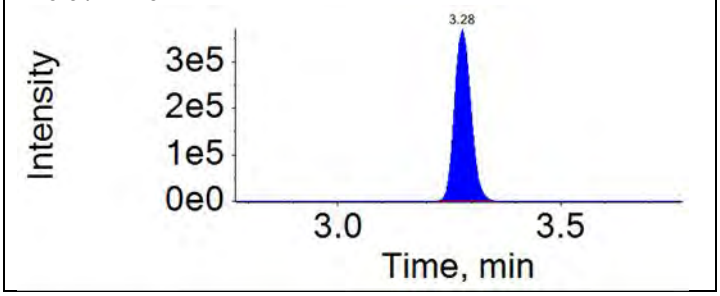


APPROVED
By JPT at 2:52 pm, 12/10/18

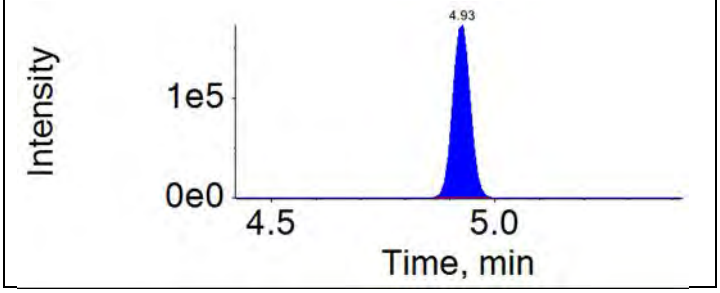
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

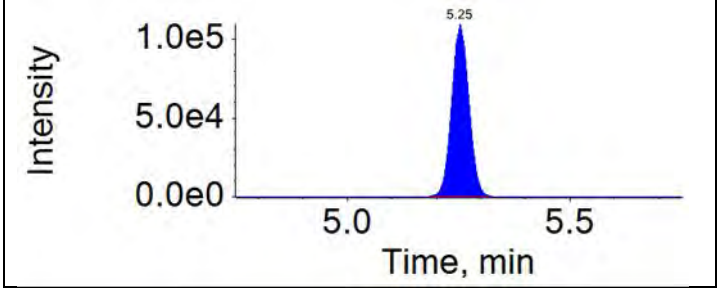
Injection Standard: 13C3-PFBA
216.0 / 172.0



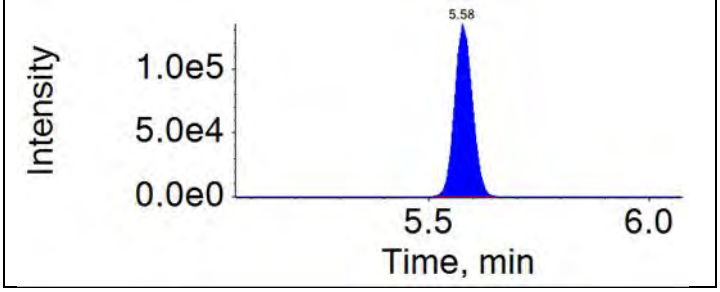
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

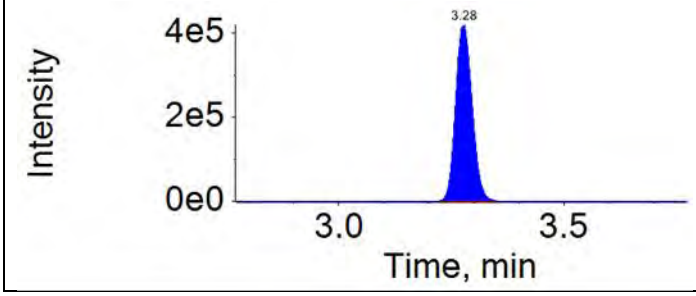


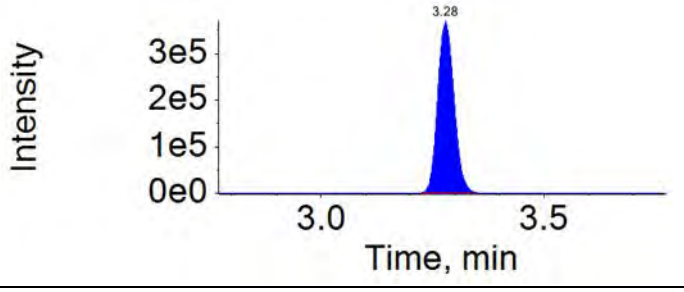
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

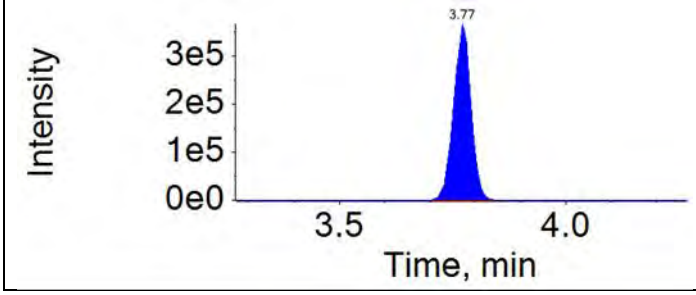
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

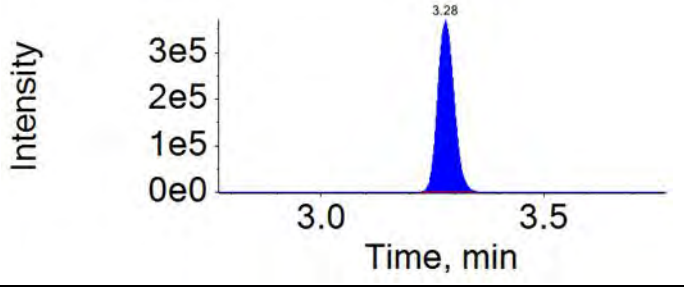
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



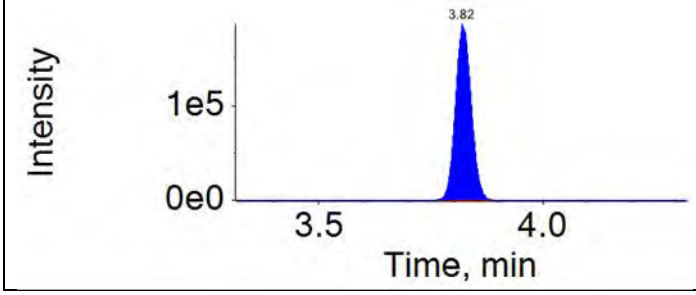


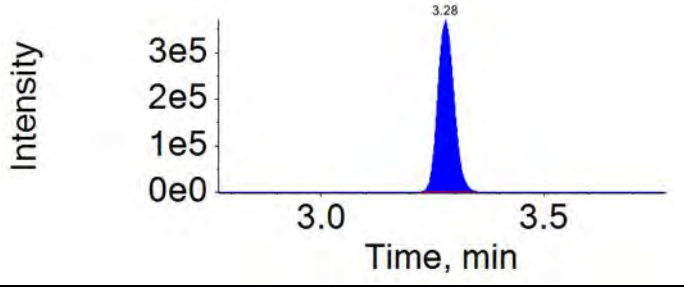
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



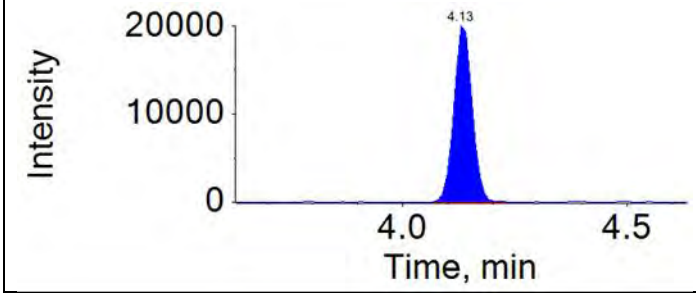


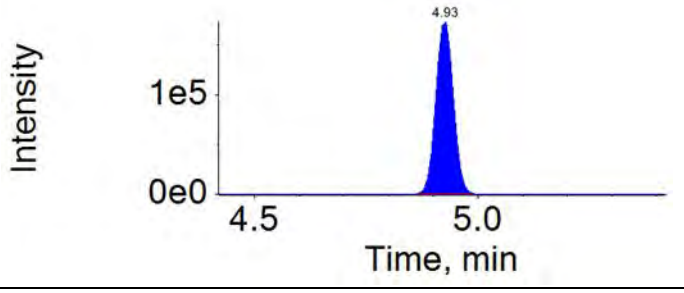
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



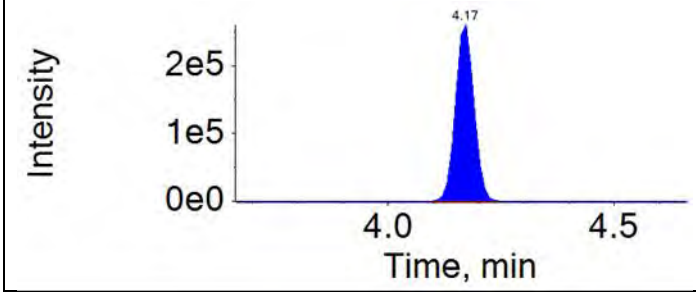
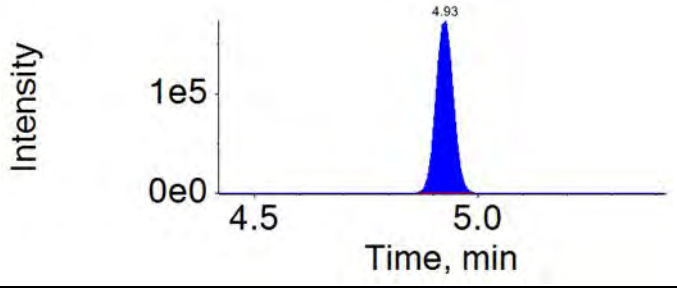


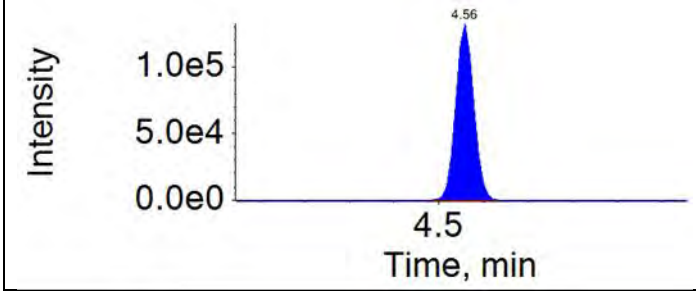
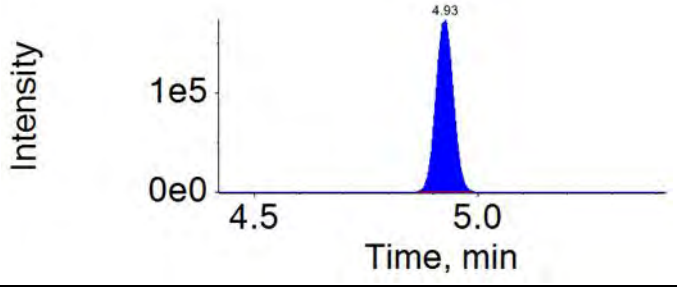
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

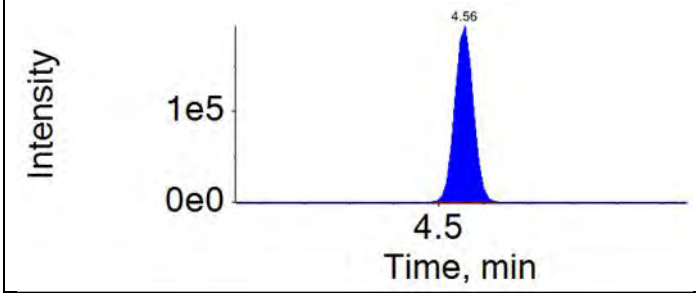
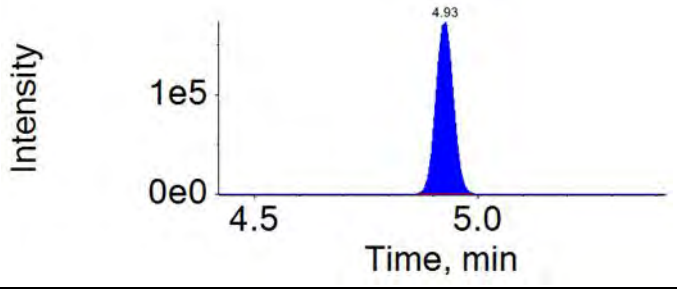


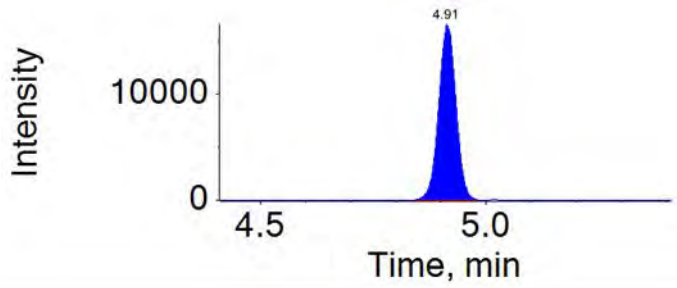
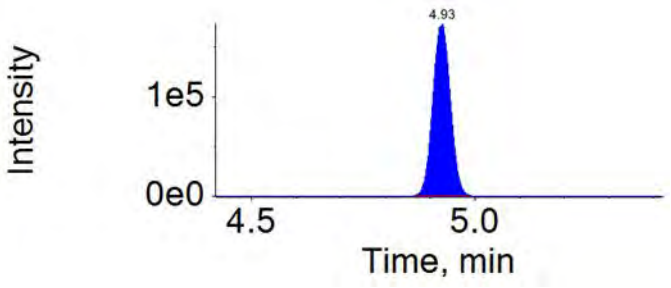


ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

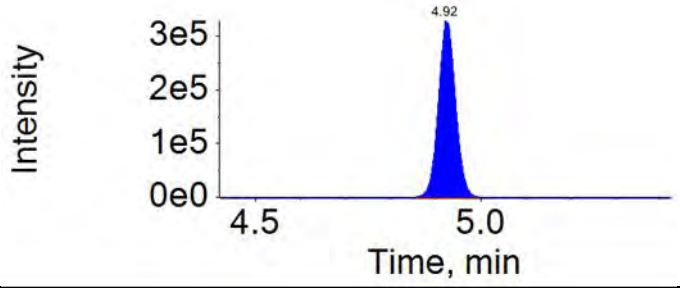
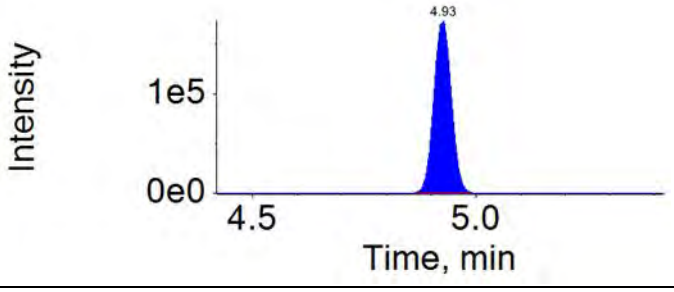
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

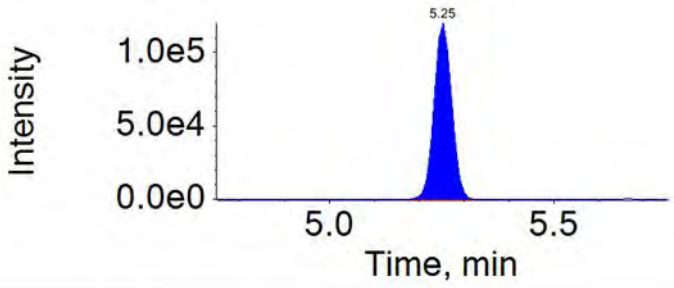
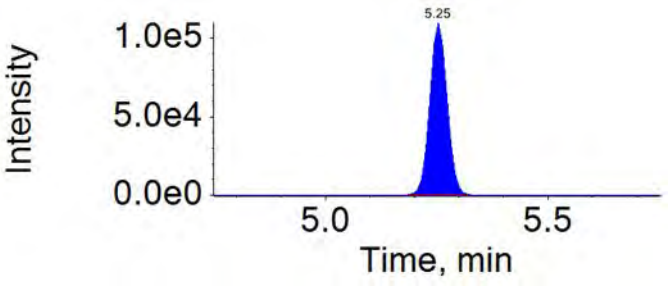
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

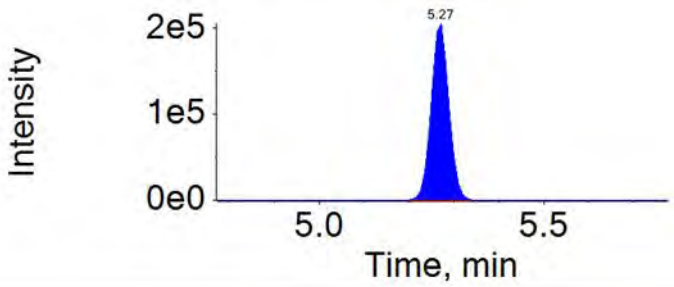
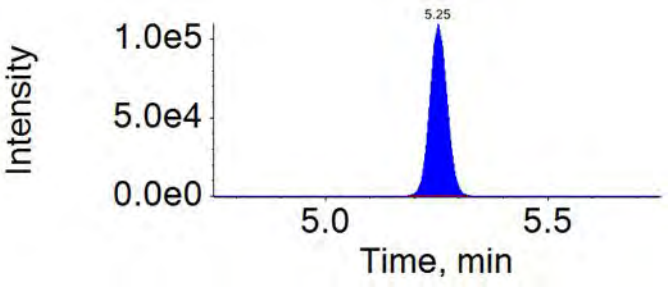
APPROVED
By JPT at 2:52 pm, 12/10/18

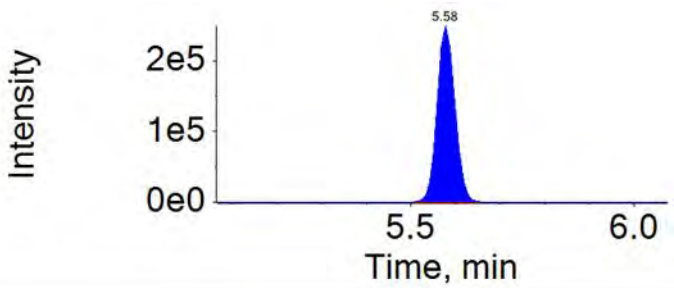
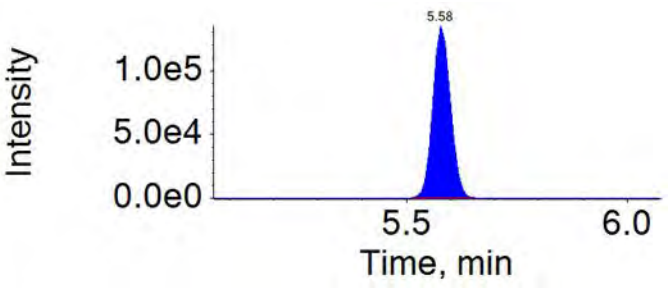
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

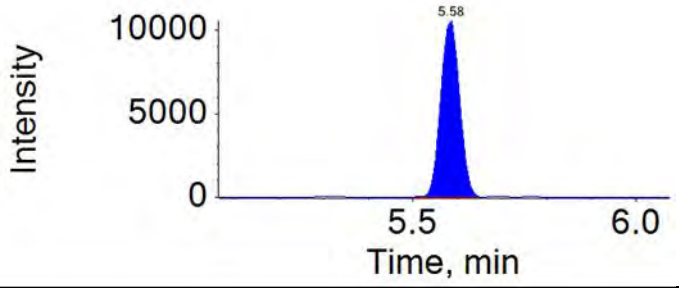
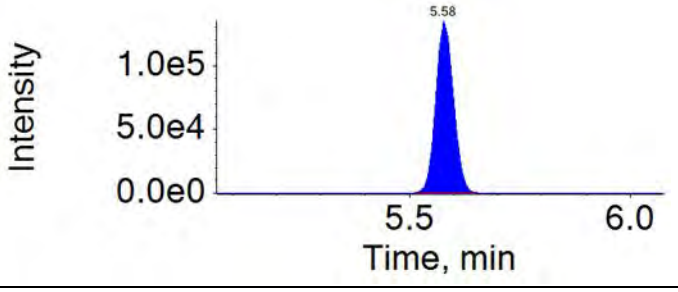
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

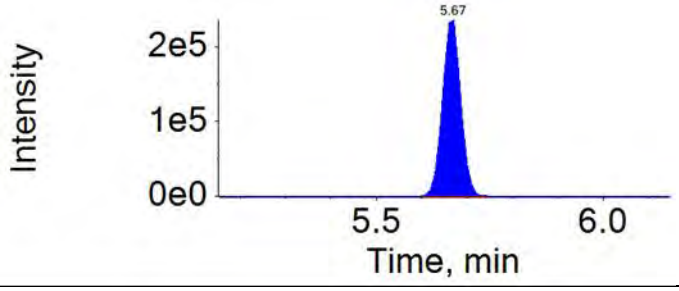
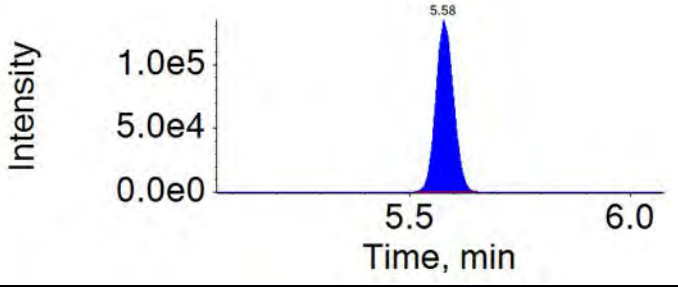
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

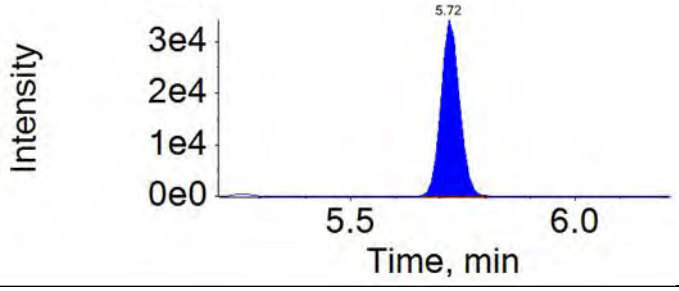
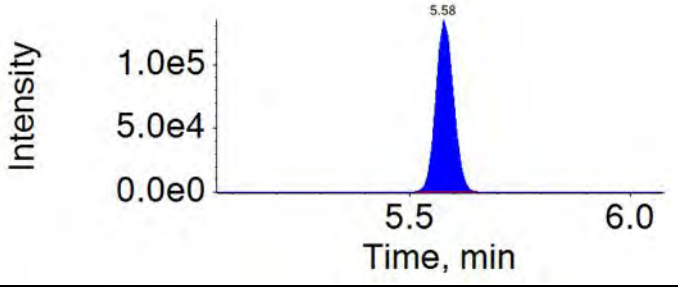
APPROVED
By JPT at 2:52 pm, 12/10/18

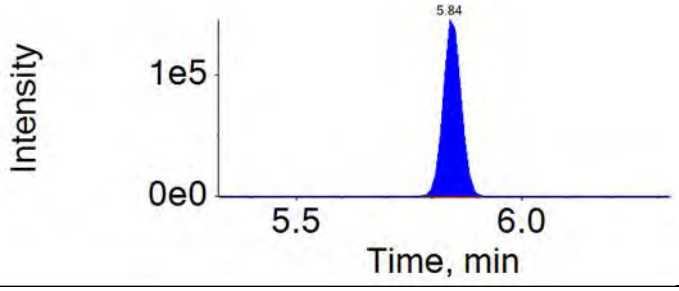
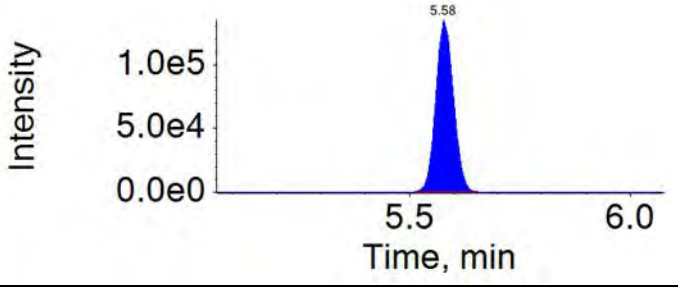
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

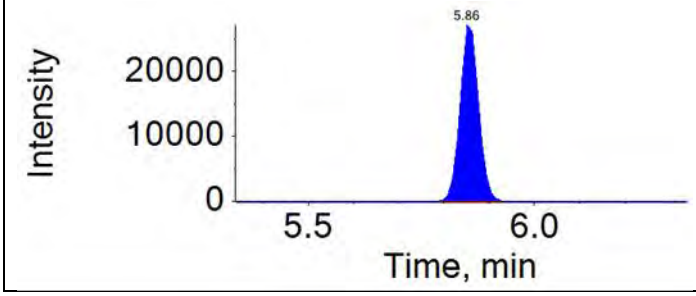
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

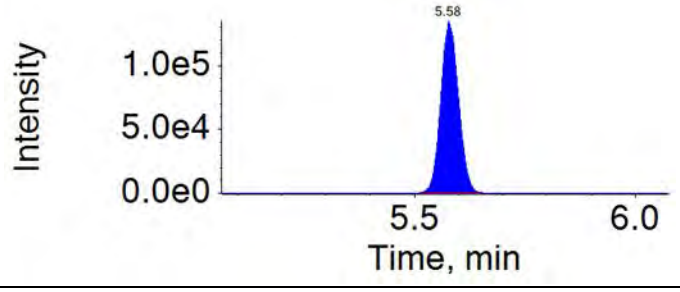
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

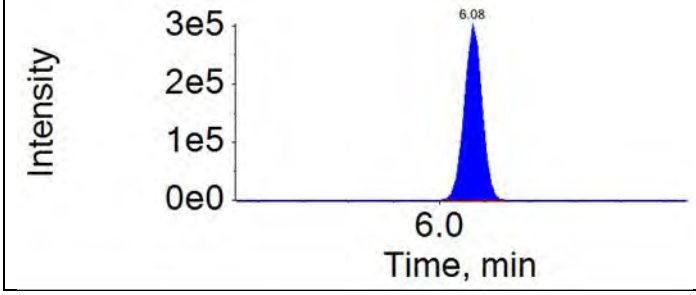
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

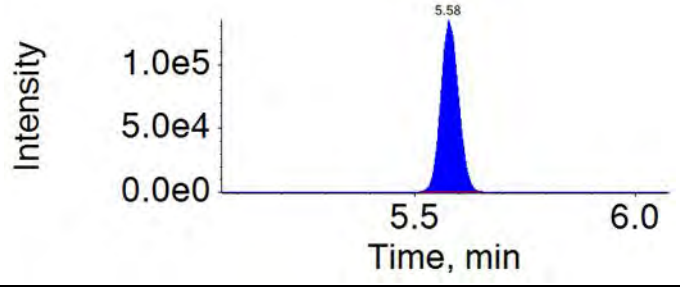
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



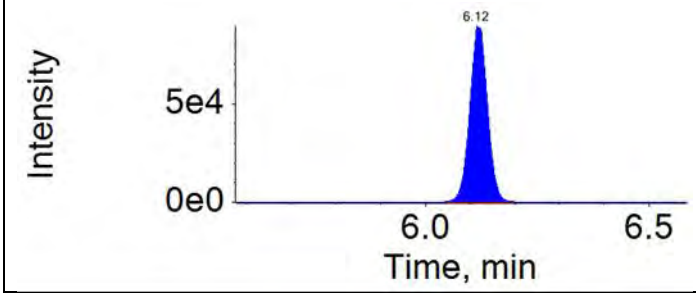


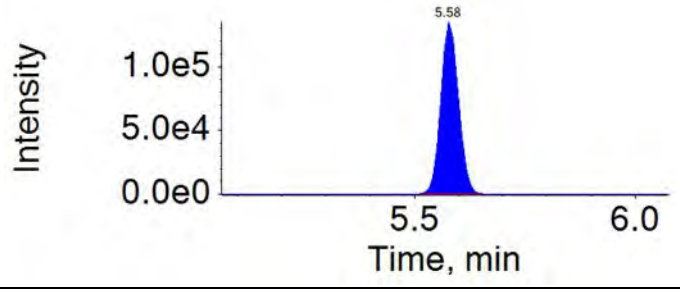
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



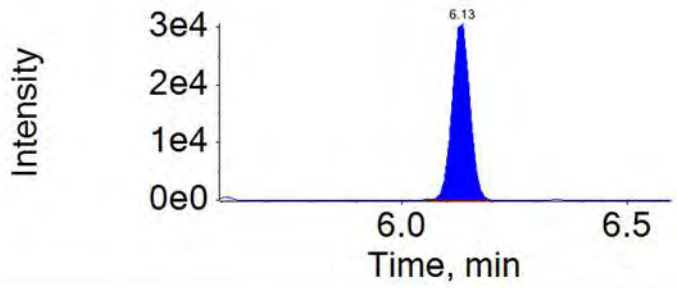


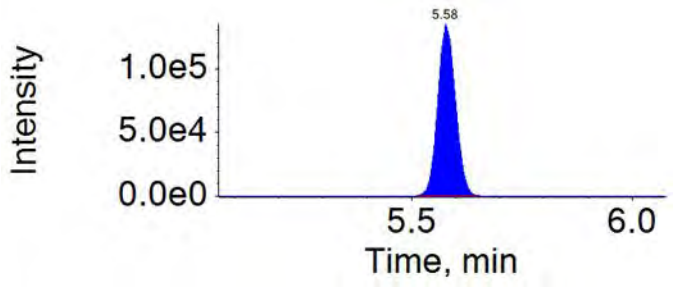
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



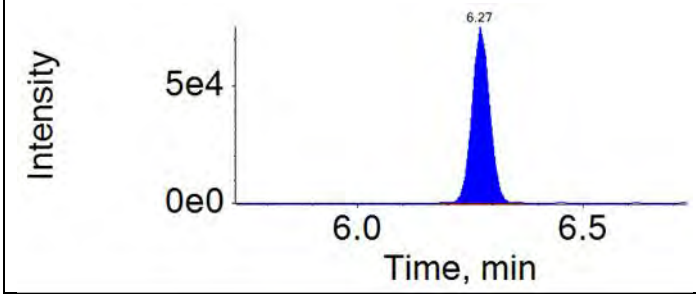


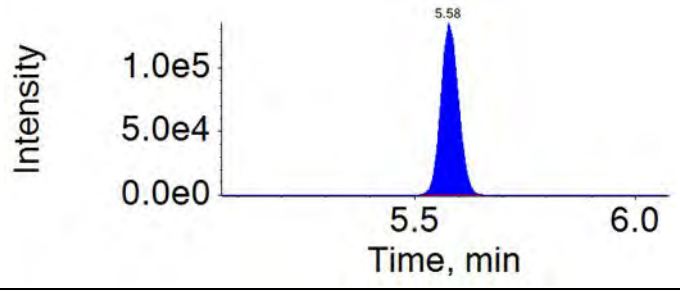
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

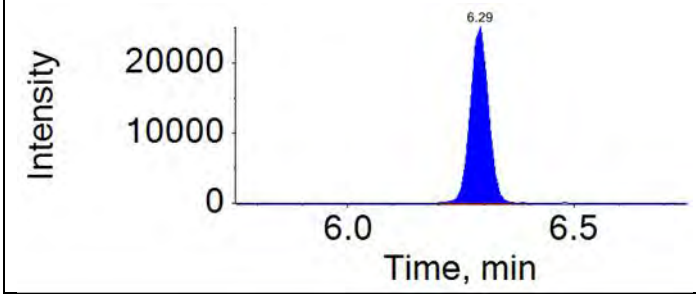
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

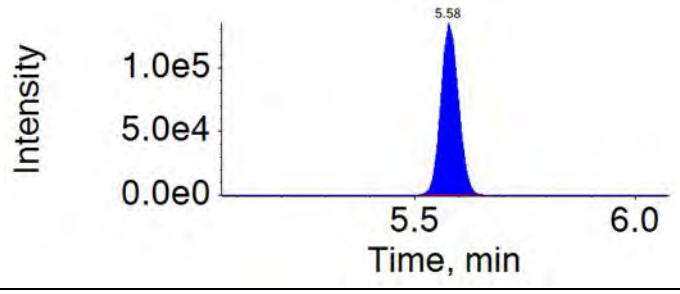
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



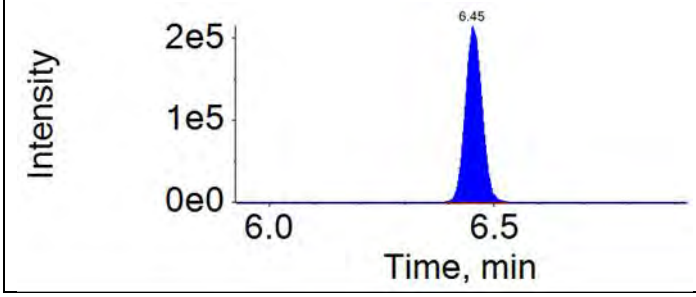


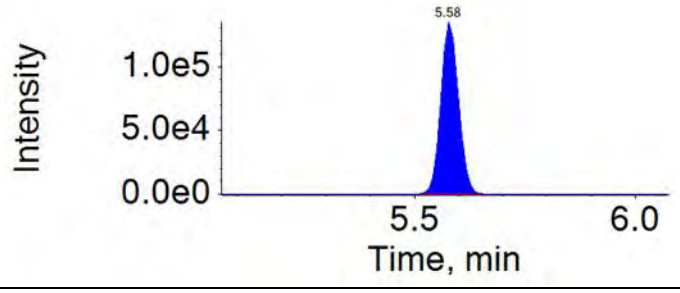
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



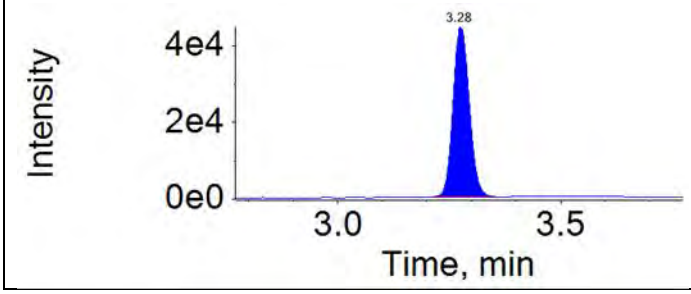


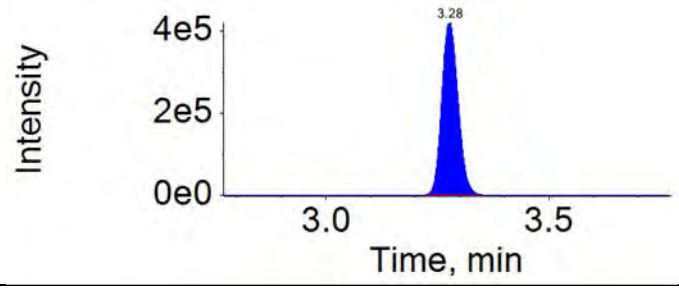
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

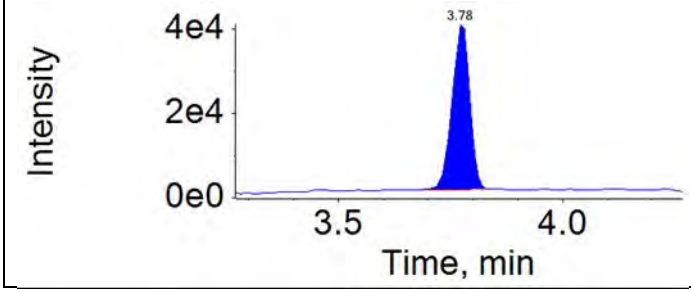
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

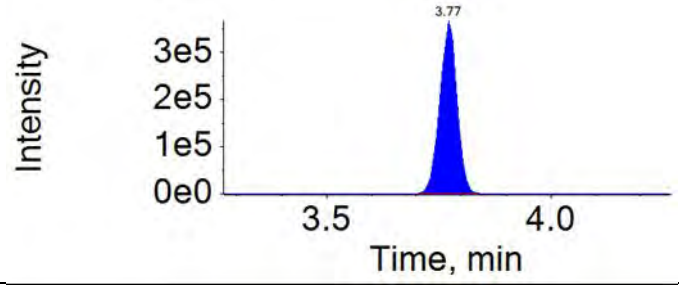
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



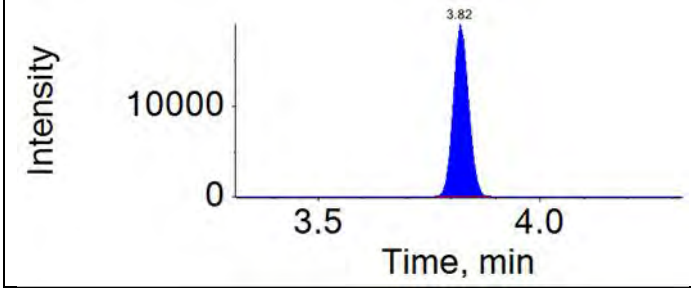


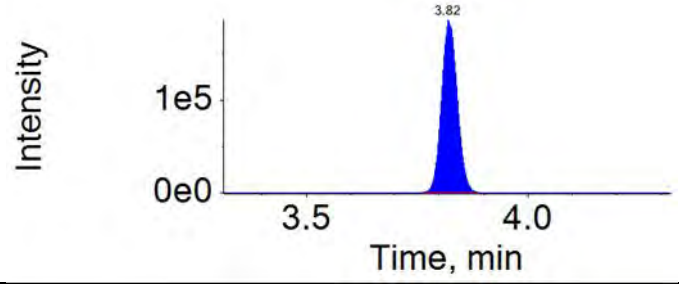
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



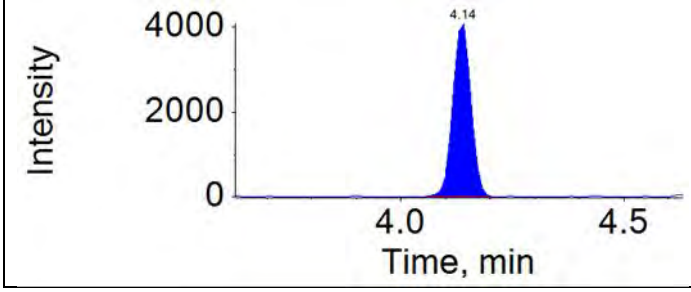


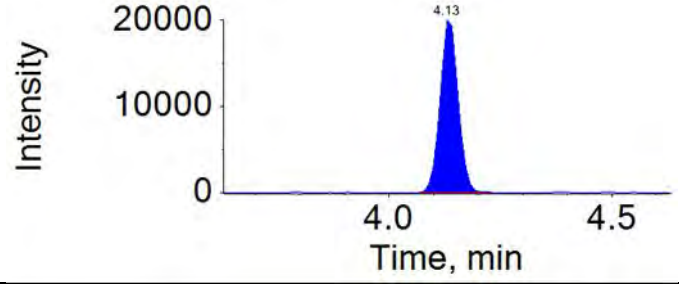
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

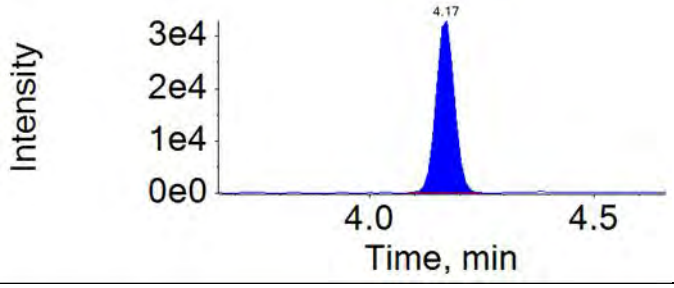
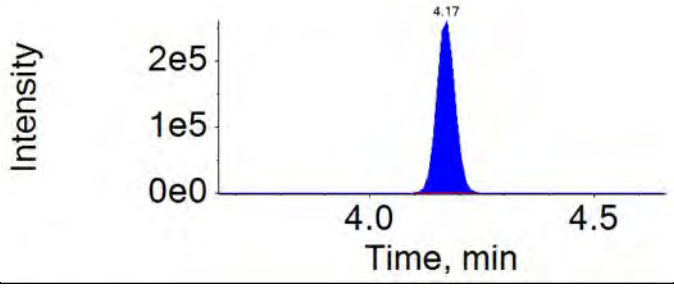


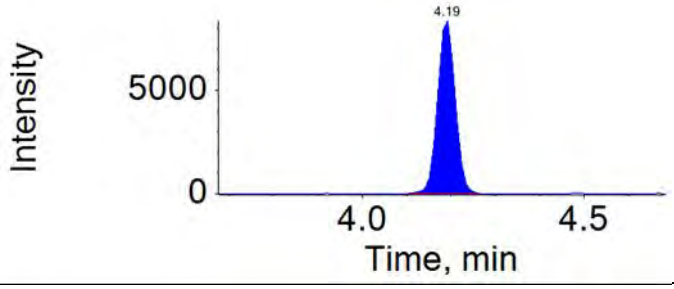
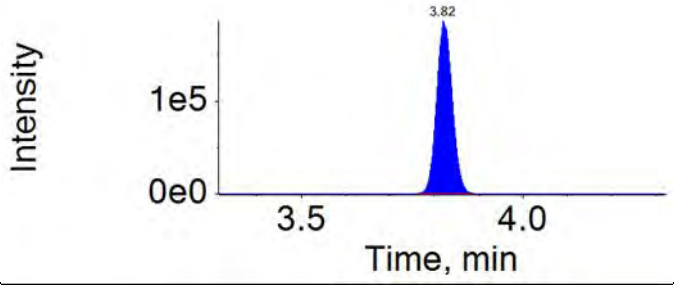


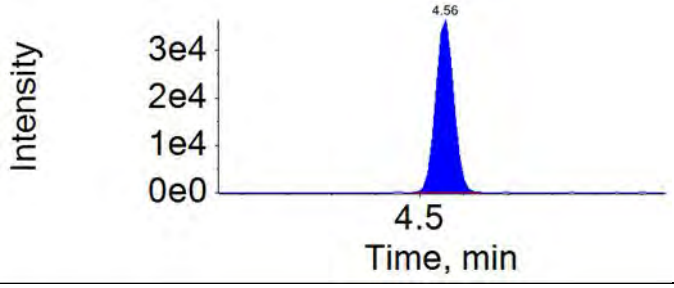
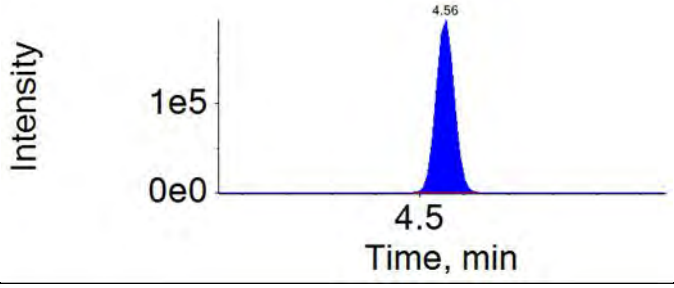
APPROVED
By JPT at 2:52 pm, 12/10/18

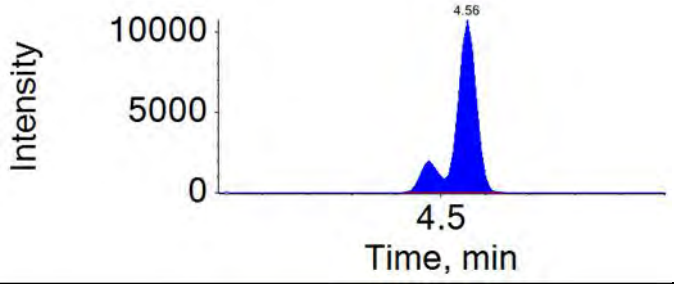
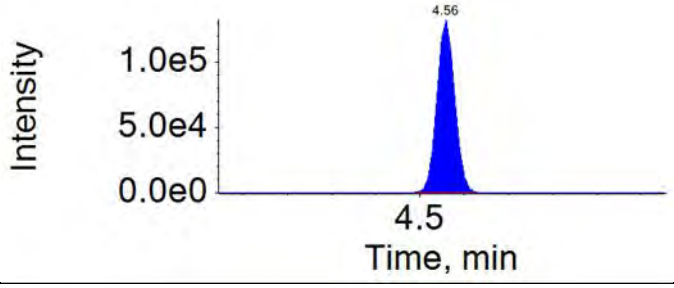
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

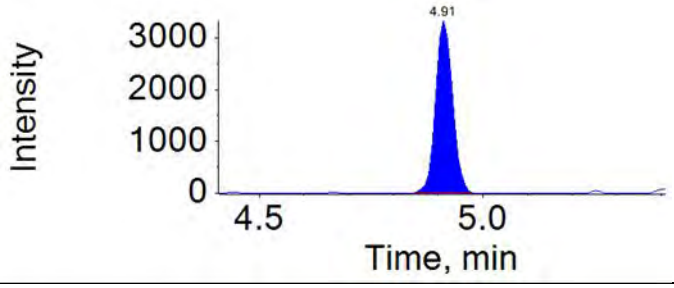
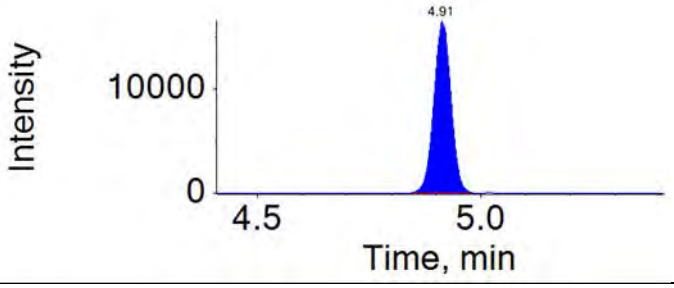
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

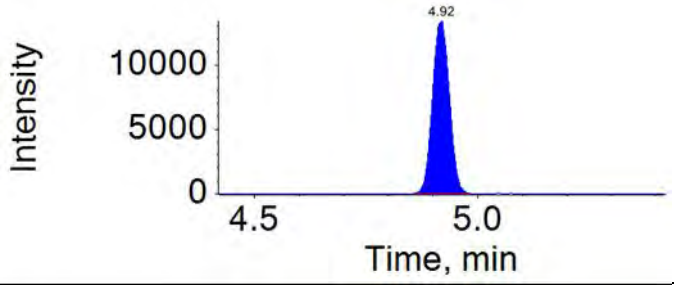
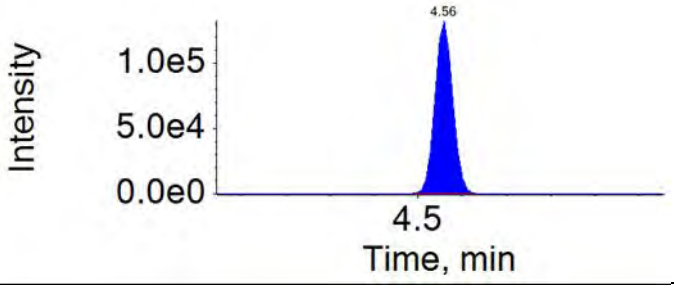
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

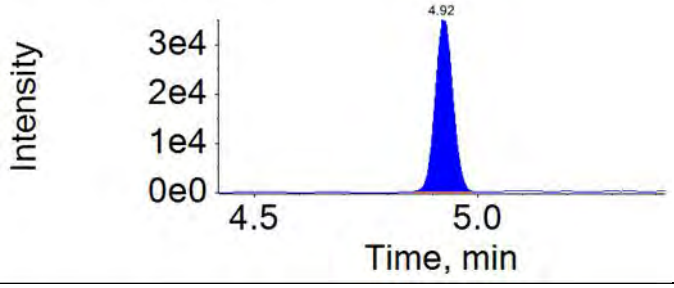
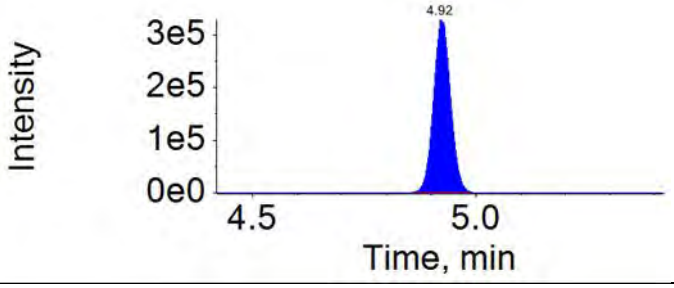
APPROVED
By JPT at 2:52 pm, 12/10/18

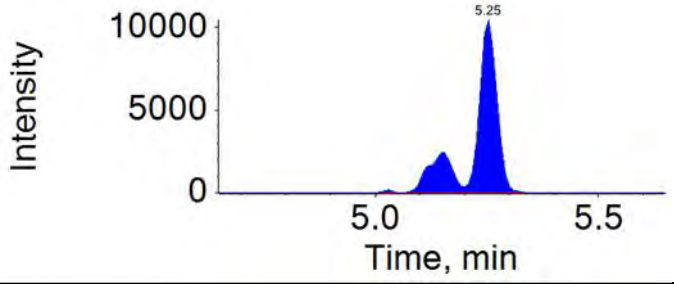
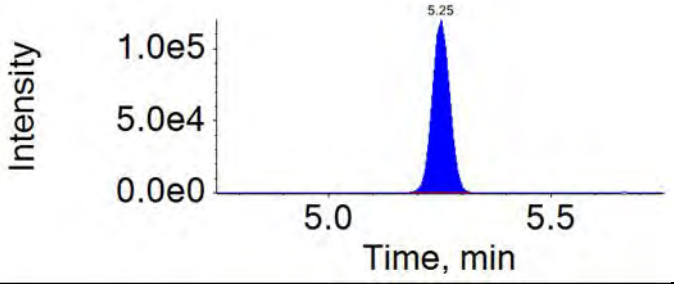
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

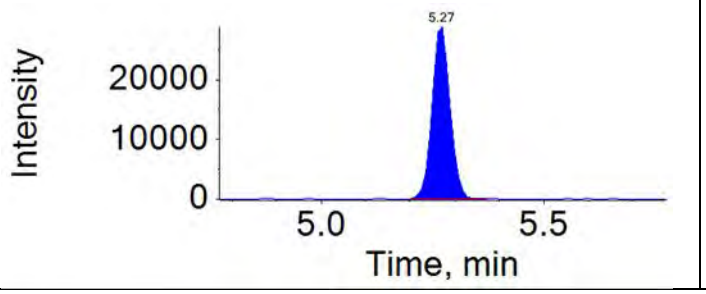
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

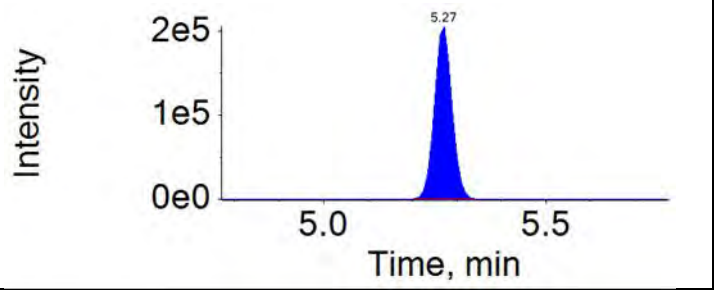
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

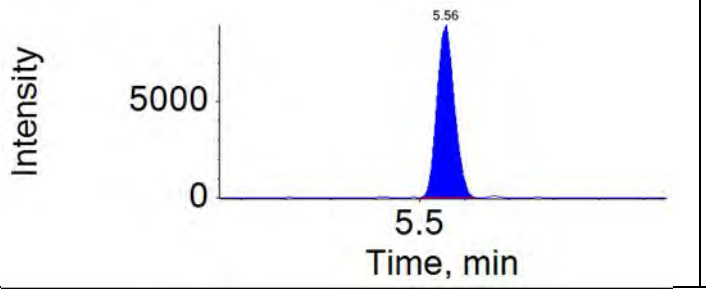
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

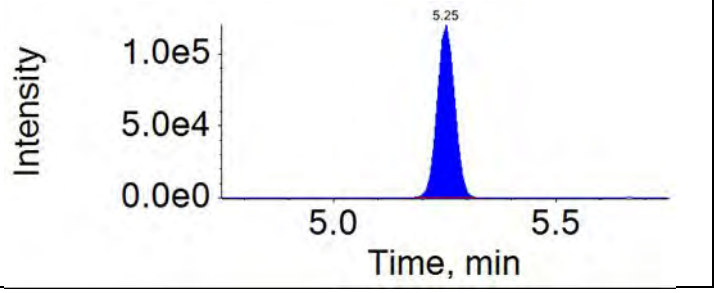
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



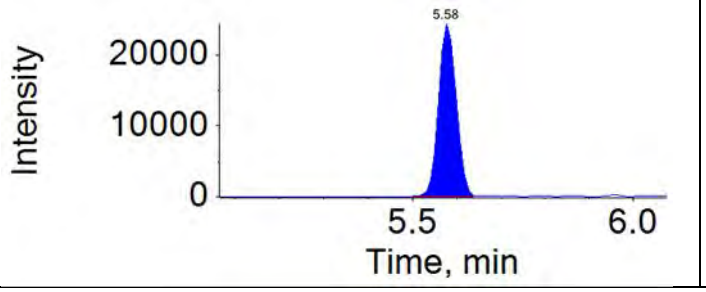


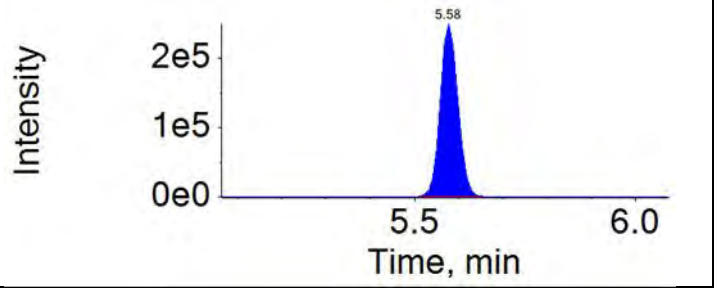
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



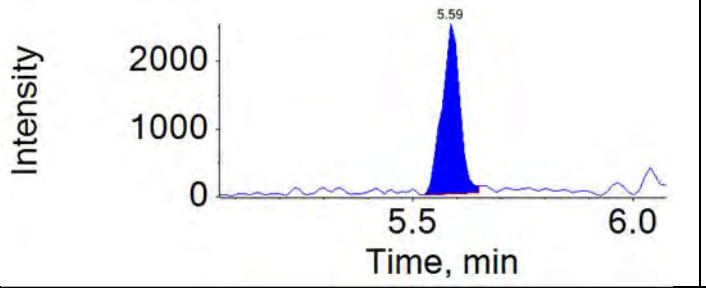


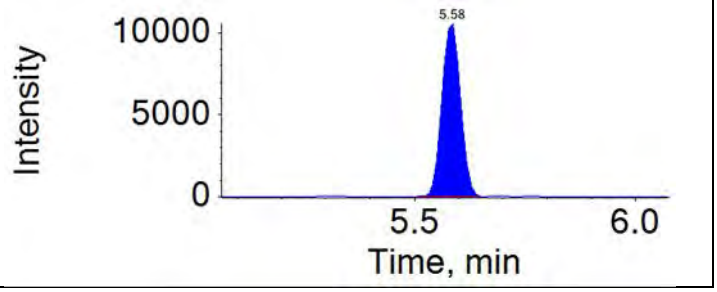
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

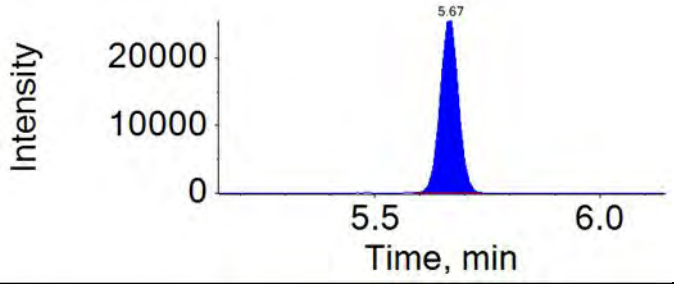
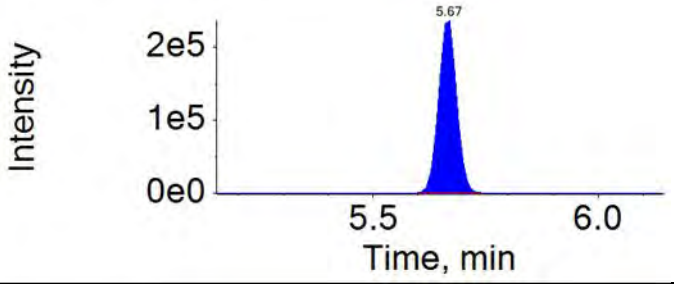


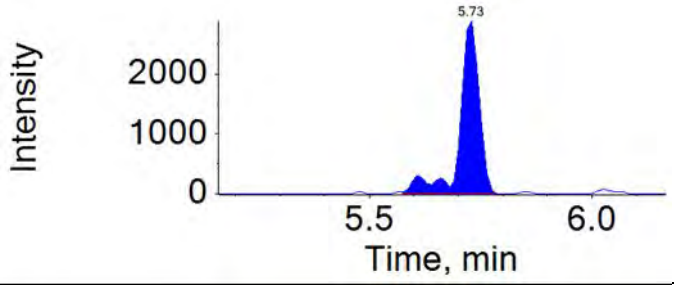
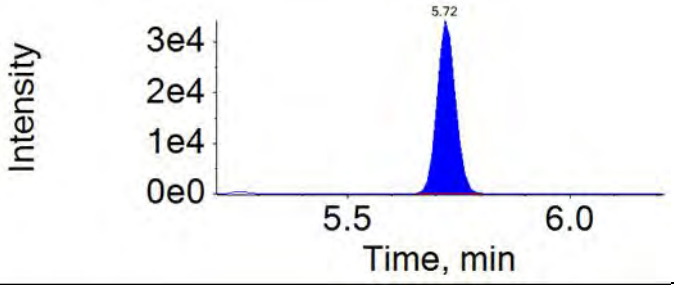


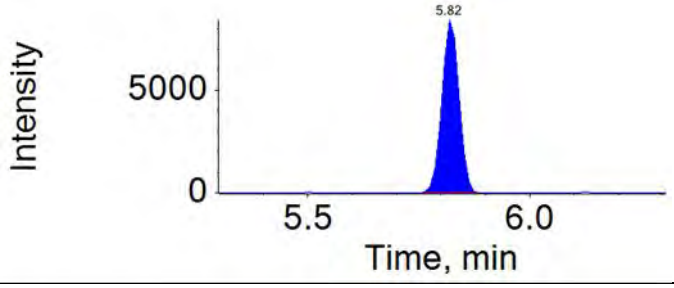
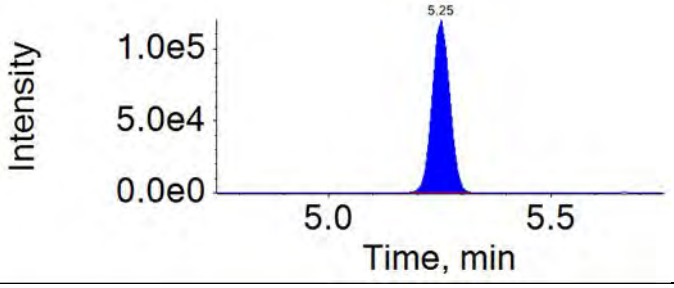
APPROVED
By JPT at 2:52 pm, 12/10/18

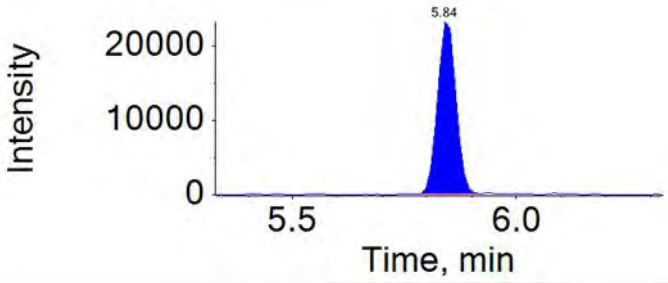
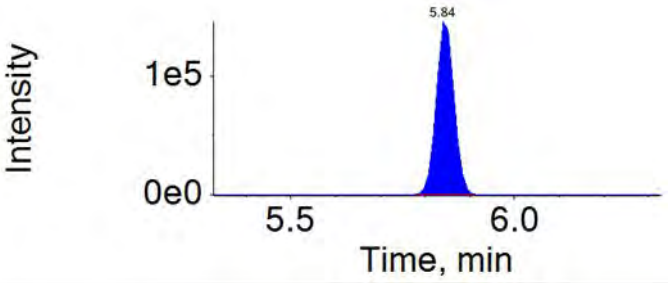
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

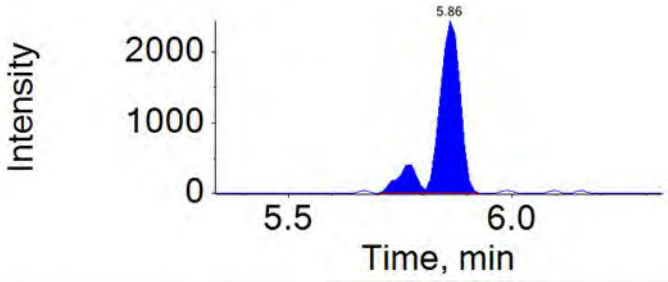
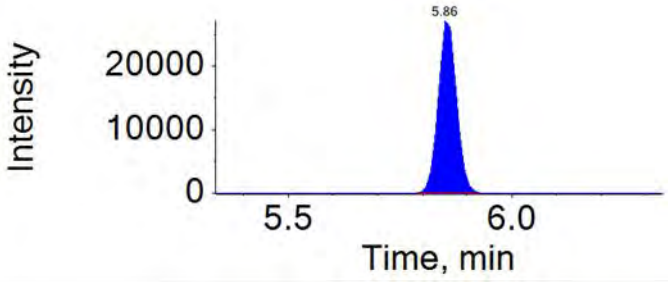
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

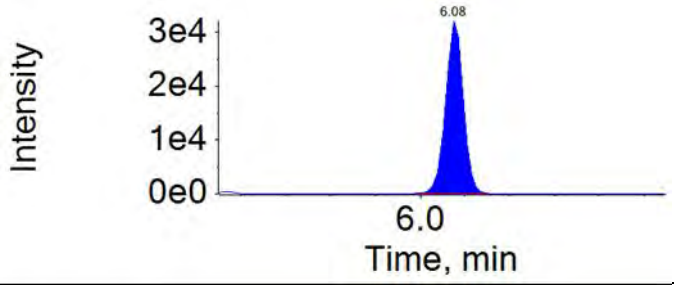
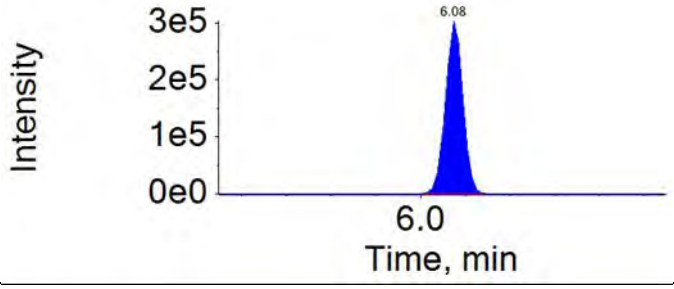
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

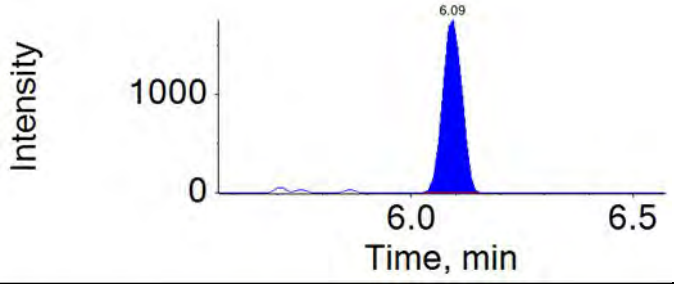
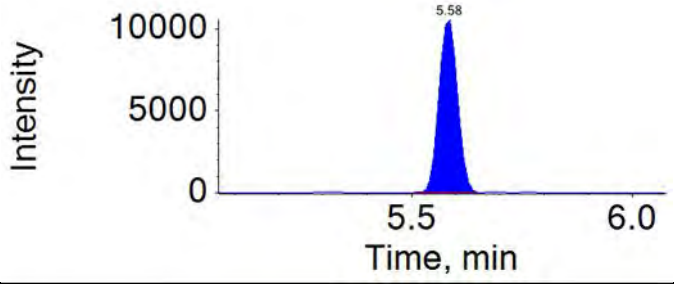
APPROVED
By JPT at 2:52 pm, 12/10/18

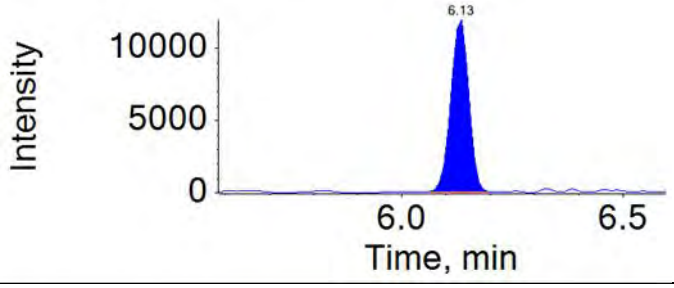
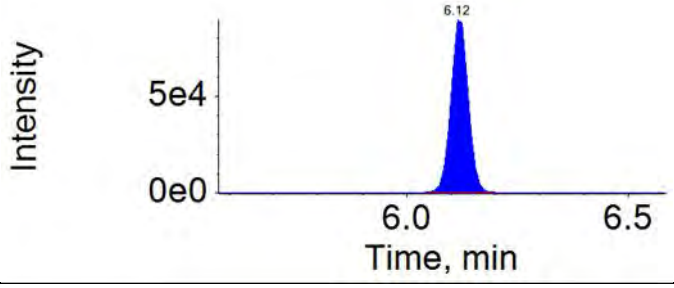
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

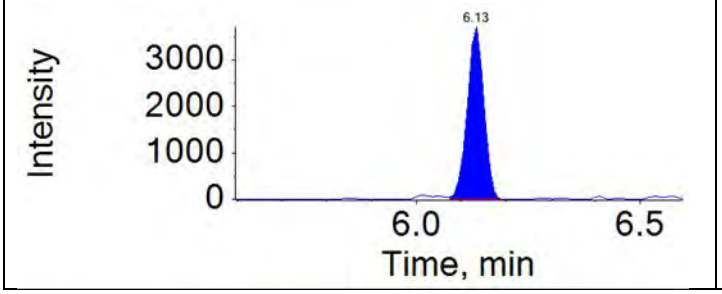
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

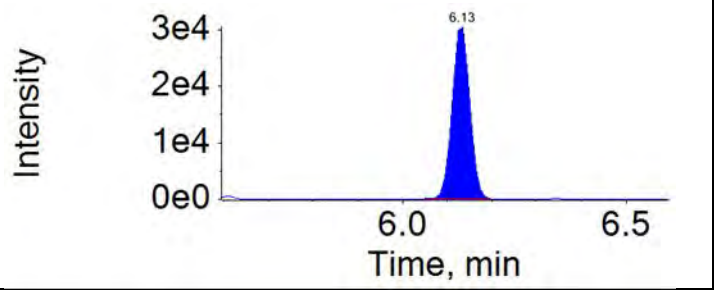
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

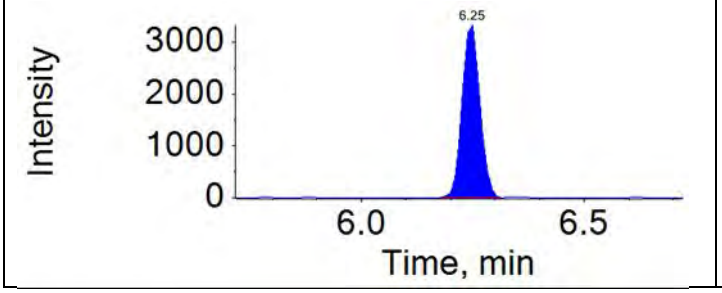
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

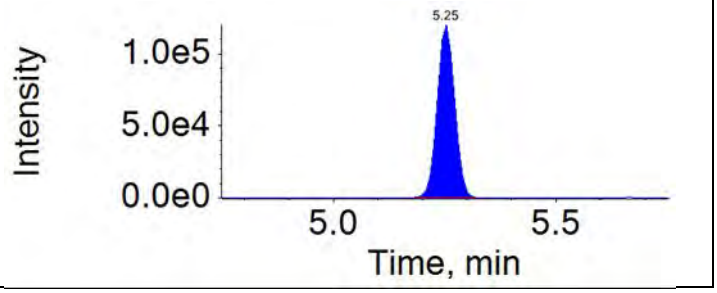
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



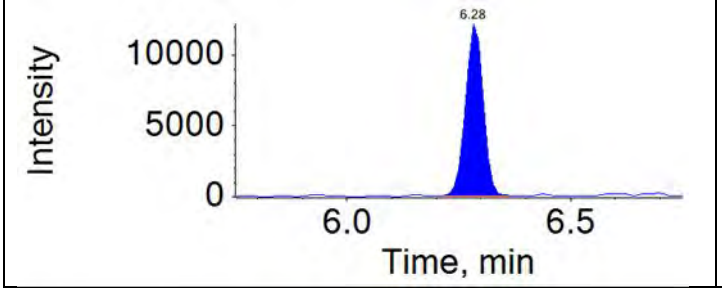


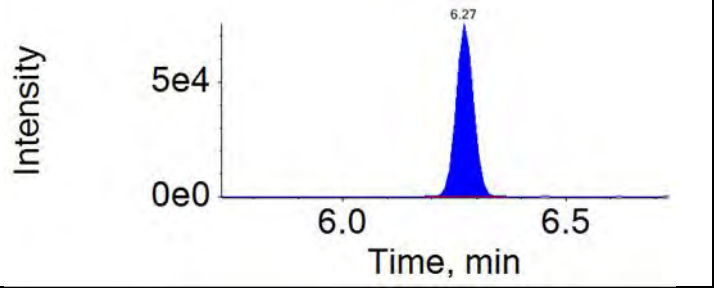
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



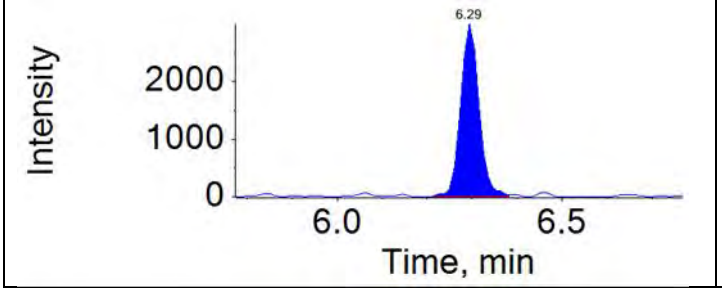


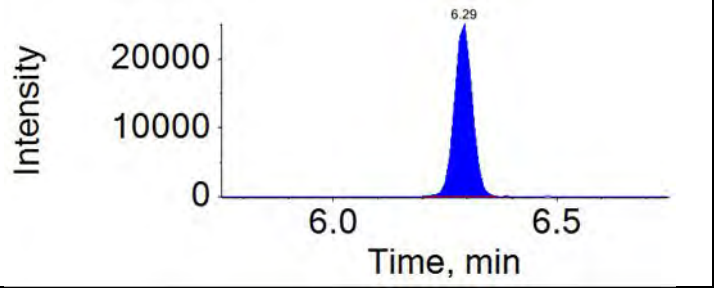
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



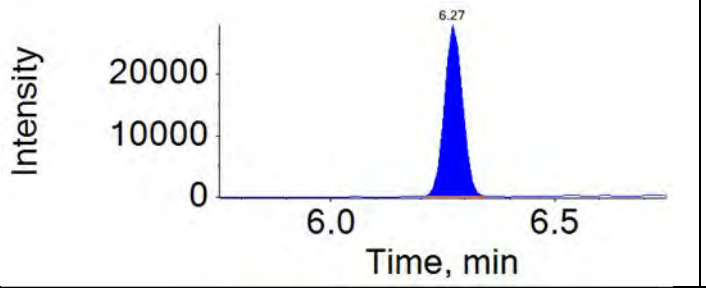


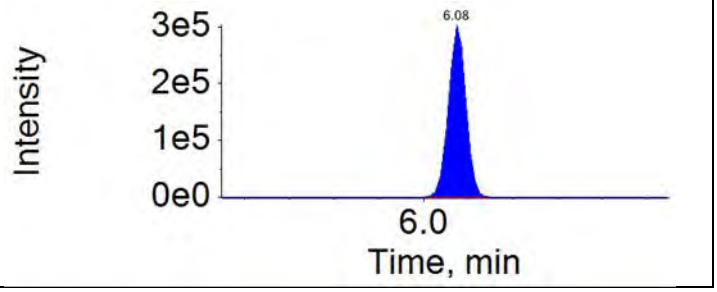
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

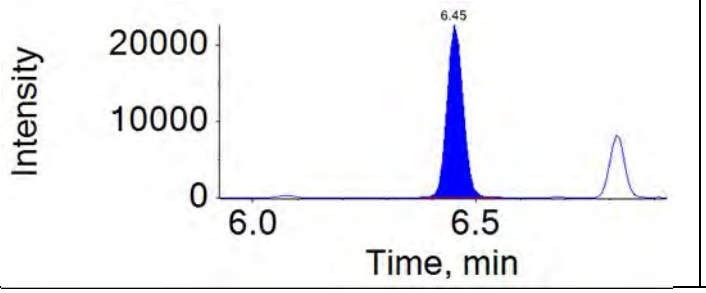
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

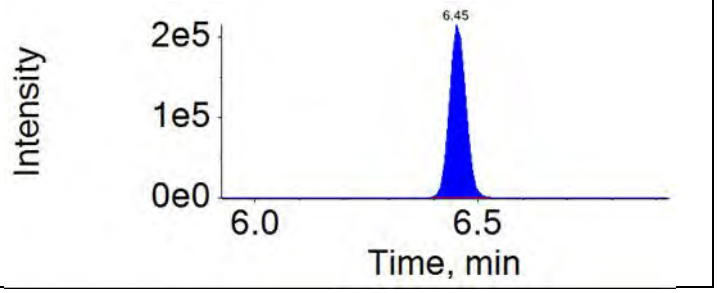
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



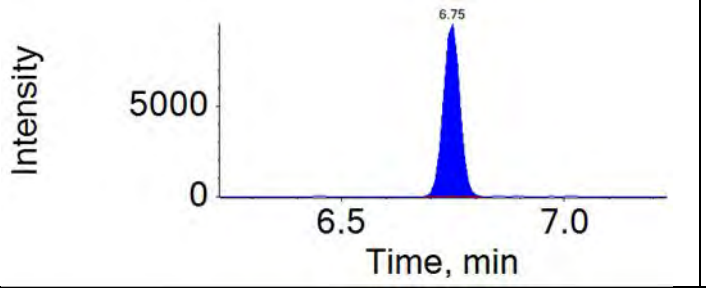


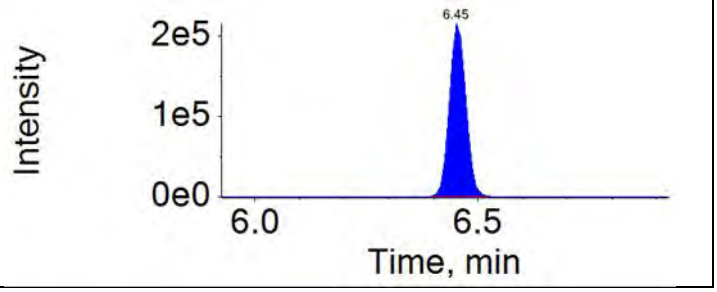
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



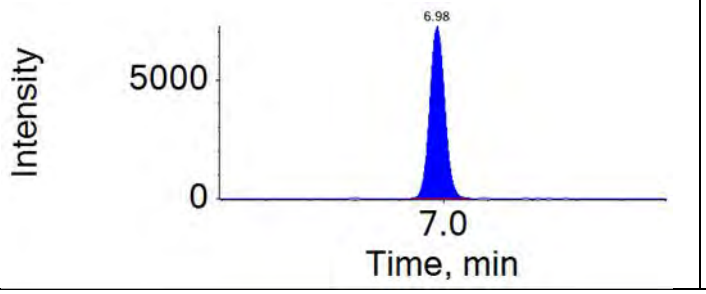


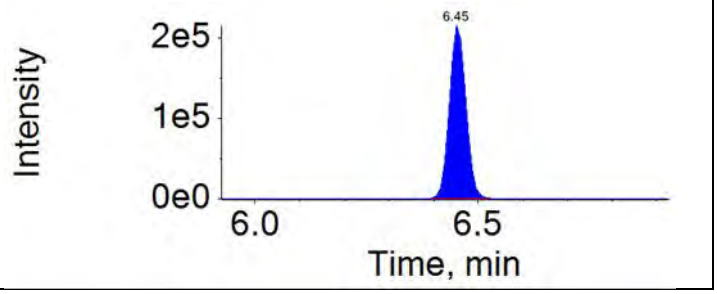
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



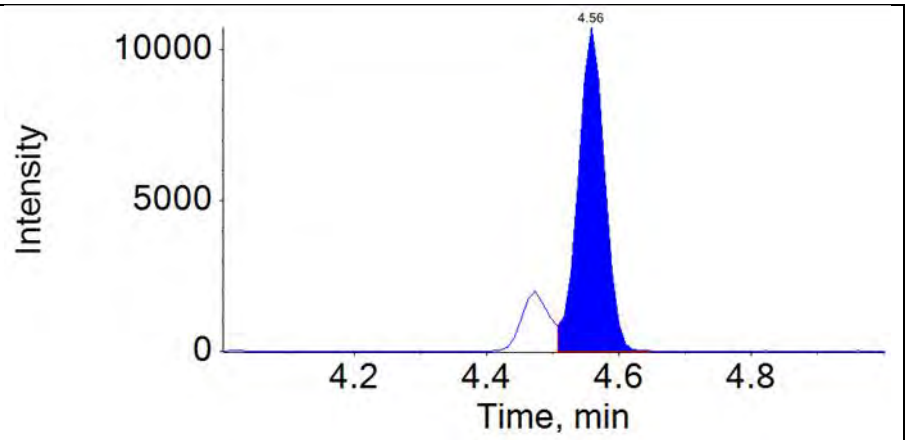


APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

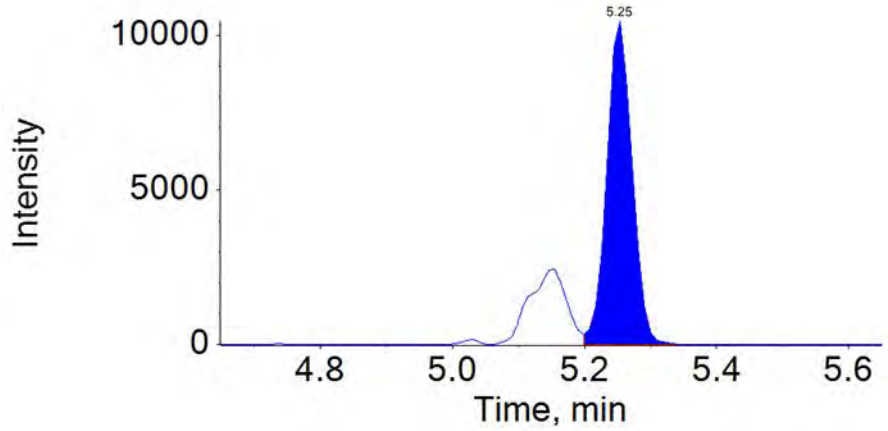
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
29848.7
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



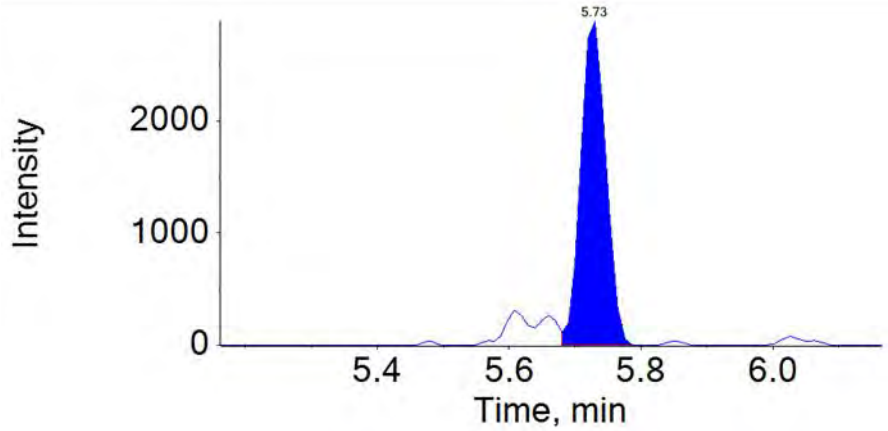
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
27923.3
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.73
Peak Area:
7664.9
Mass Range:
570.0 / 419.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

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REVIEWED
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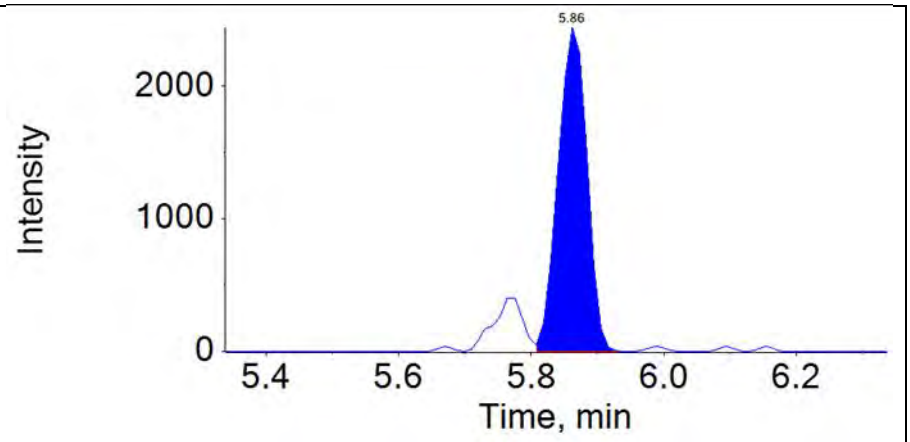
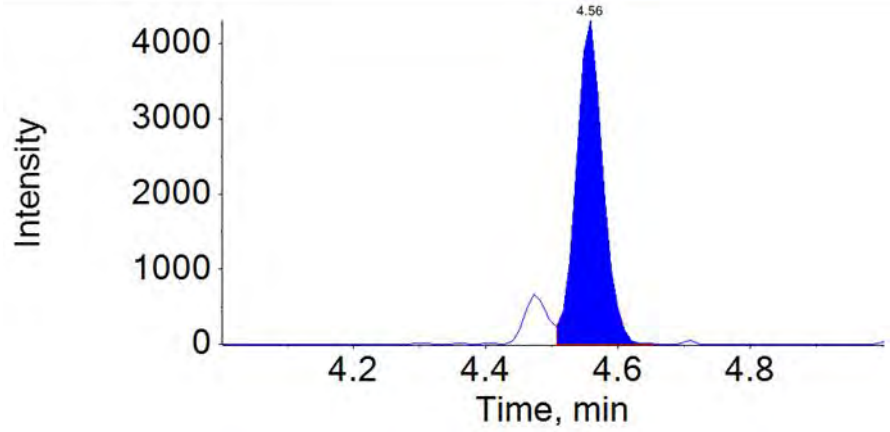
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.86
Peak Area:
7424.4
Mass Range:
584.0 / 419.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



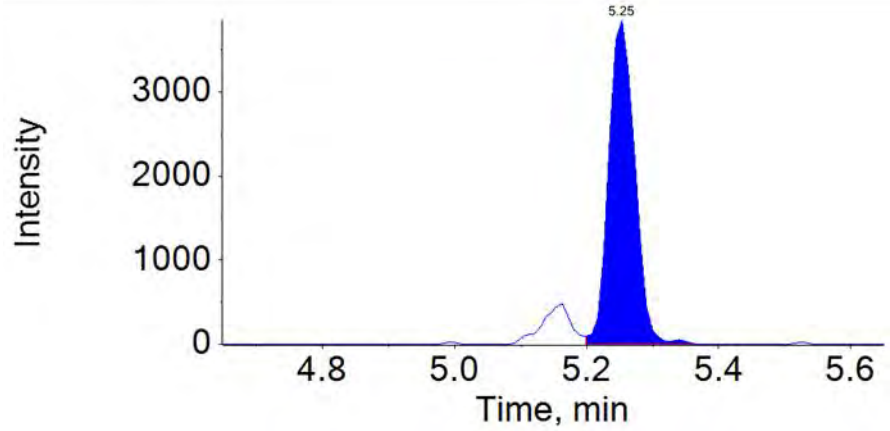
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
12076.5
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
10641.8
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

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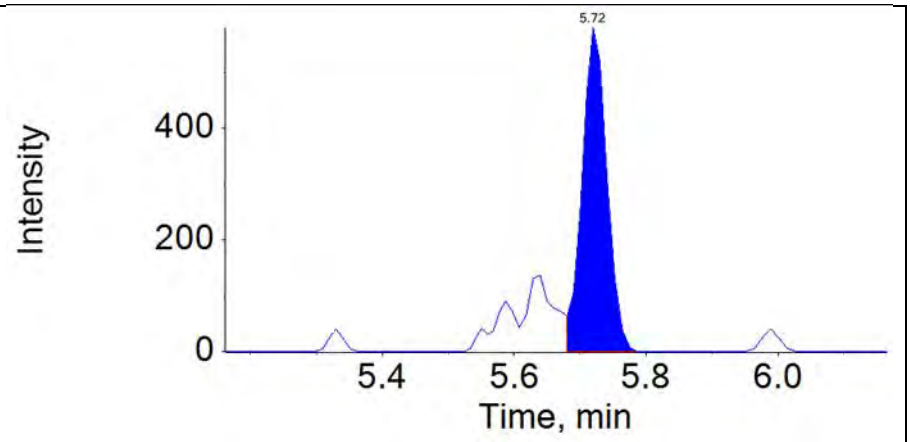
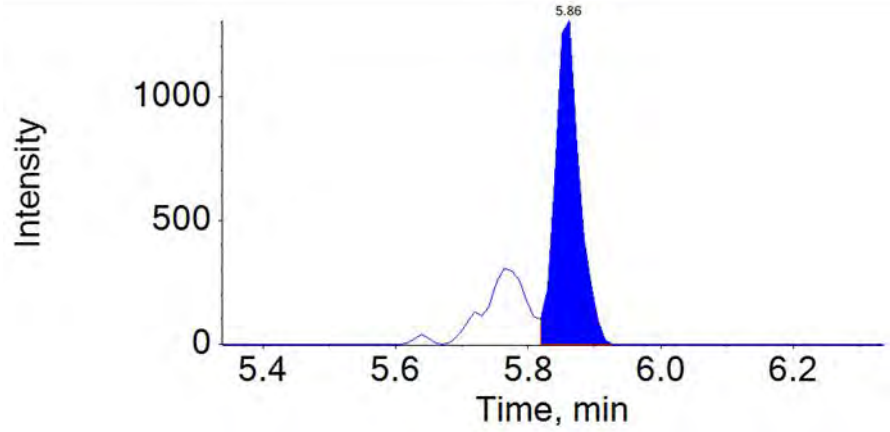
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
1513.1
Mass Range:
570.0 / 483.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



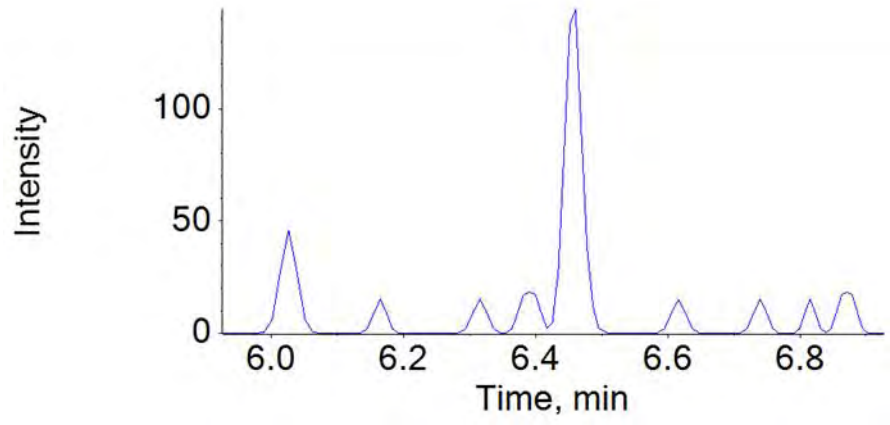
Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
3333.0
Mass Range:
584.0 / 526.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC08D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

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By JPT at 2:52 pm, 12/10/18

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By HMK at 12:26 pm, 12/13/18

Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Ion Ratio Report

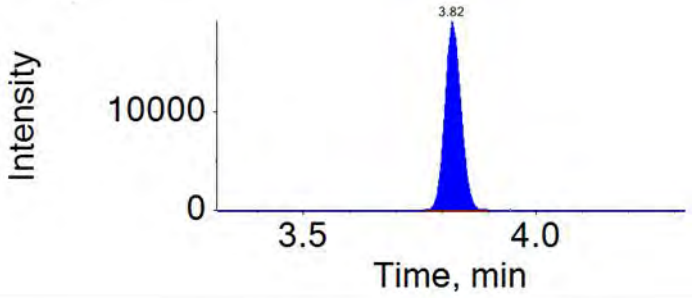
Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC08D-01.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	45574.0	A	N/A	1.0000			
PFBS_2	3.82	1.00	16752.7	A	N/A	0.3676	1	50	
4:2-FTS	4.14	1.00	11558.6	A	N/A	1.0000			
4:2-FTS_2	4.14	1.00	6895.5	A	N/A	0.5966	-9	50	
PFHxA	4.17	1.00	94126.3	A	N/A	1.0000			
PFHxA_2	4.17	1.00	1345.1	A	N/A	0.0143	47	50	
PFPeS	4.19	1.10	23286.2	A	N/A	1.0000			
PFPeS_2	4.19	1.10	13956.1	A	N/A	0.5993	14	50	
PFHpA	4.56	1.00	102709.3	A	N/A	1.0000			
PFHpA_2	4.56	1.00	5716.2	A	N/A	0.0557	-1	50	
PFHxS	4.56	1.00	35473.6	M	N/A	1.0000			
PFHxS_2	4.56	1.00	13658.9	M	N/A	0.3850	6	50	
6:2-FTS	4.91	1.00	8761.1	A	N/A	1.0000			
6:2-FTS_2	4.91	1.00	6970.8	A	N/A	0.7957	27	50	
PFHpS	4.92	1.08	35328.6	A	N/A	1.0000			
PFHpS_2	4.92	1.08	13107.4	A	N/A	0.3710	-11	50	
PFOA	4.92	1.00	96315.6	A	N/A	1.0000			
PFOA_2	4.92	1.00	6717.5	A	N/A	0.0697	13	50	
PFOS	5.25	1.00	37785.9	M	N/A	1.0000			
PFOS_2	5.25	1.00	12030.4	M	N/A	0.3184	5	50	
PFNA	5.27	1.00	81187.8	A	N/A	1.0000			
PFNA_2	5.26	1.00	1829.4	A	N/A	0.0225	17	50	
PFNS	5.56	1.06	24154.6	A	N/A	1.0000			
PFNS_2	5.55	1.06	10150.4	A	N/A	0.4202	-13	50	
PFDA	5.58	1.00	67315.9	A	N/A	1.0000			
PFDA_2	5.58	1.00	626.7	A	N/A	0.0093	-3	50	
8:2-FTS	5.59	1.00	7035.9	A	N/A	1.0000			
8:2-FTS_2	5.59	1.00	4876.7	A	N/A	0.6931	13	50	
NMeFOSAA	5.73	1.00	8903.9	M	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	2128.3	M	N/A	0.2390	-11	50	
PFDS	5.82	1.11	22499.5	A	N/A	1.0000			
PFDS_2	5.82	1.11	8848.1	A	N/A	0.3933	-21	50	
PFUnDA	5.84	1.00	66063.5	A	N/A	1.0000			
PFUnDA_2	5.85	1.00	259.2	A	N/A	0.0039	-4	50	
NEtFOSAA	5.86	1.00	8703.9	M	N/A	1.0000			
NEtFOSAA_2	5.86	1.00	4678.0	M	N/A	0.5375	-20	50	
PFDoDA	6.08	1.00	88249.3	A	N/A	1.0000			
PFDoDA_2	6.08	1.00	1261.7	A	N/A	0.0143	7	50	
10:2-FTS	6.09	1.09	5268.5	A	N/A	1.0000			
10:2-FTS_2	6.09	1.09	3518.7	A	N/A	0.6679	-4	50	
PFTrDA	6.27	1.03	78062.9	A	N/A	1.0000			
PFTrDA_2	6.27	1.03	1127.9	A	N/A	0.0144	91	50	OOS
PFTeDA	6.45	1.00	56448.8	A	N/A	1.0000			
PFTeDA_2	6.46	1.00	281.7	M	N/A	0.0050	-25	50	
PFHxDA	6.75	1.05	24495.9	A	N/A	1.0000			
PFHxDA_2	6.74	1.04	1344.2	A	N/A	0.0549	-11	50	
PFODA	6.98	1.08	16915.5	A	N/A	1.0000			
PFODA_2	6.98	1.08	519.5	A	N/A	0.0307	13	50	

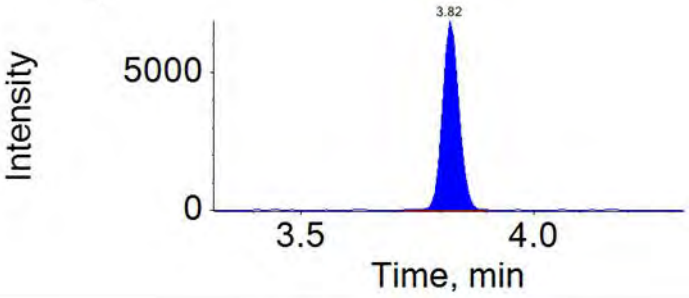
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

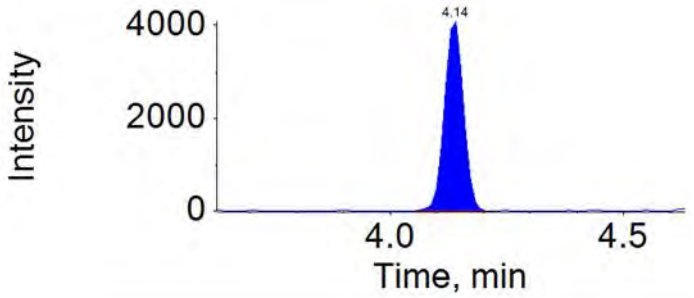
Component: PFBS
Primary Mass: 299.0 / 80.0



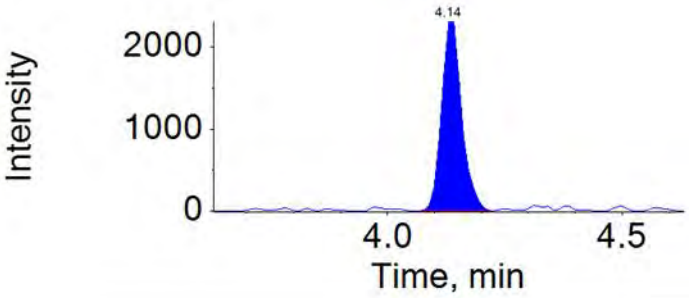
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



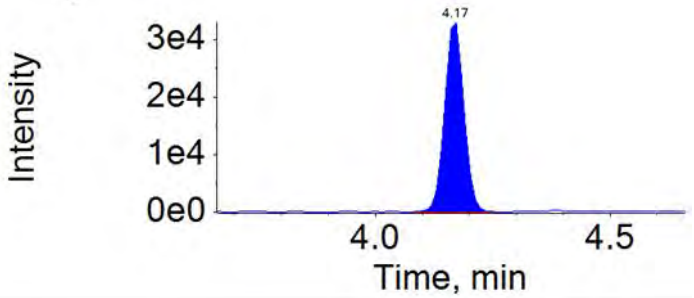
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



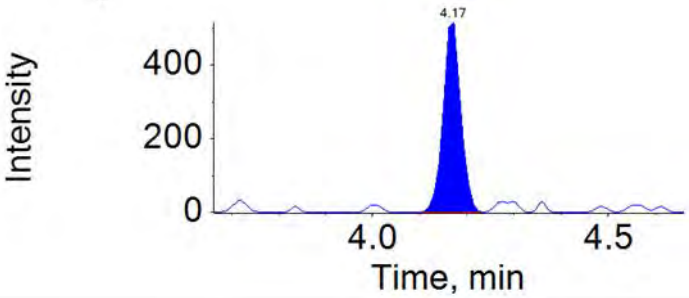
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



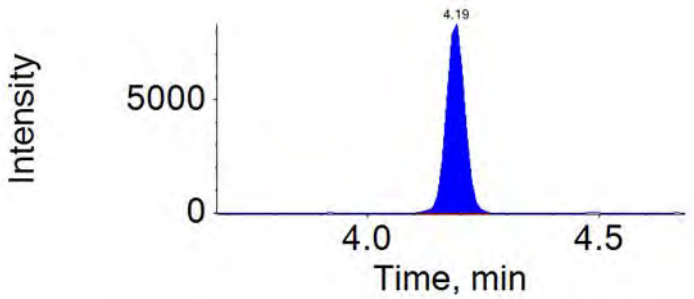
Component: PFHxA
Primary Mass: 313.0 / 269.0



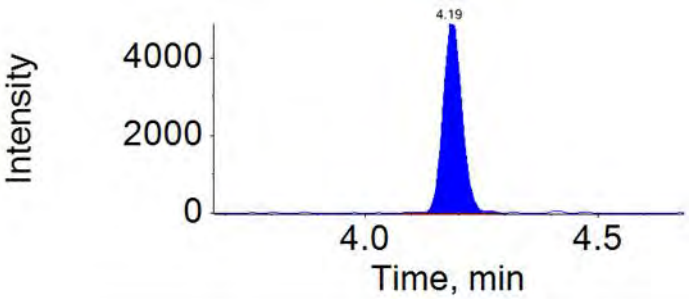
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



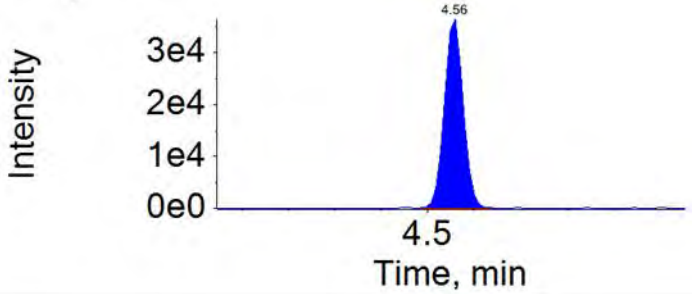
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



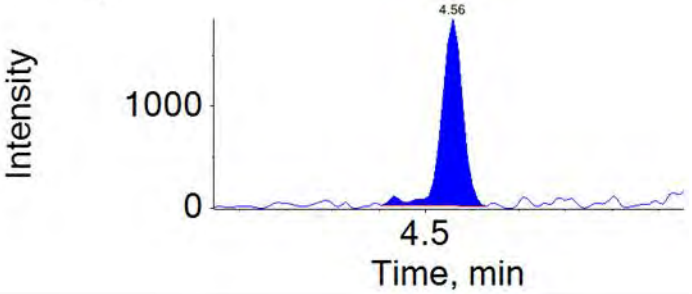
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

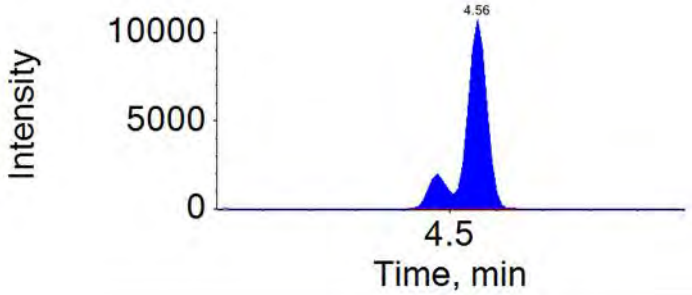
Component: PFHpA
Primary Mass: 363.0 / 319.0



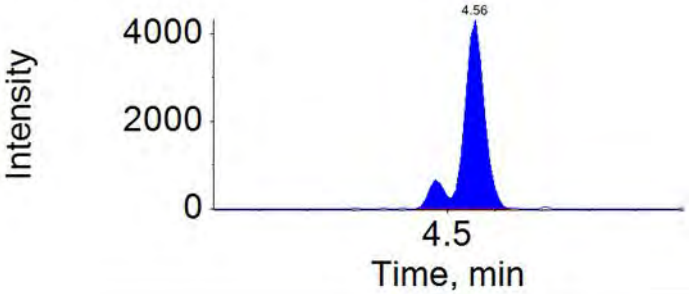
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



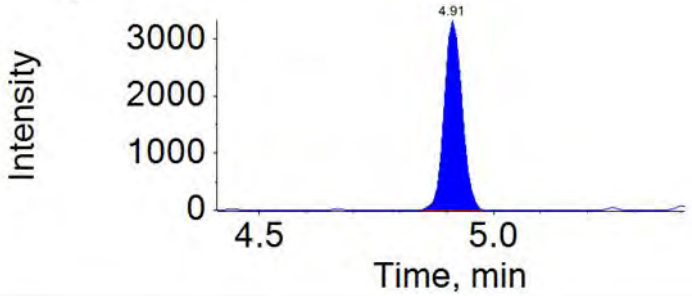
Component: PFHxS
Primary Mass: 399.0 / 80.0



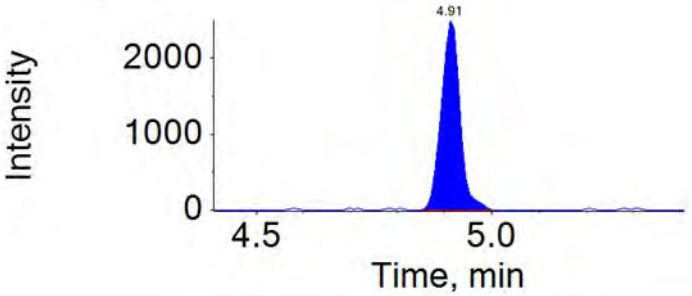
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



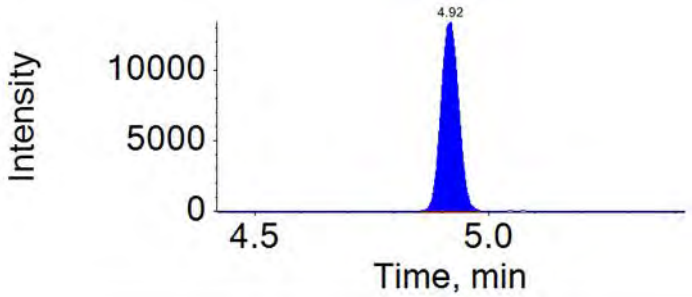
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



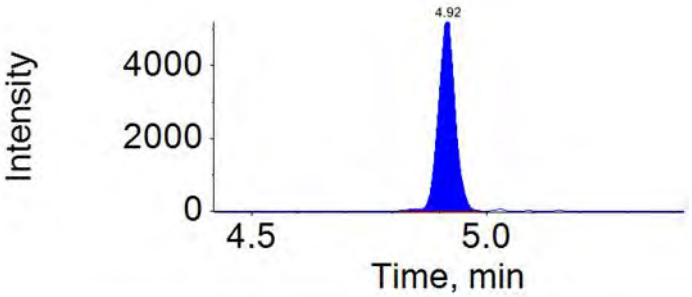
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



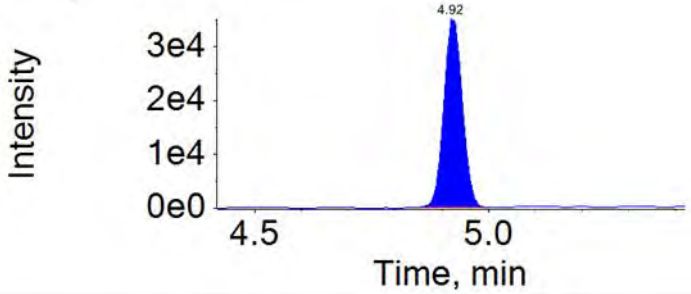
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



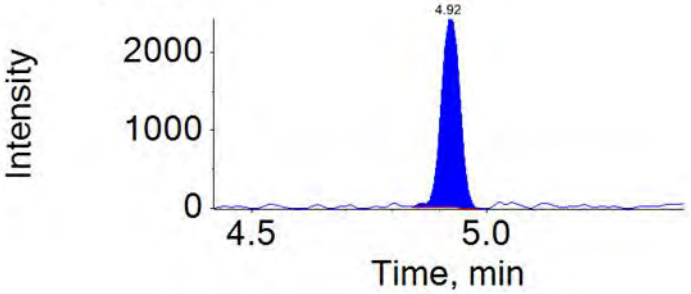
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

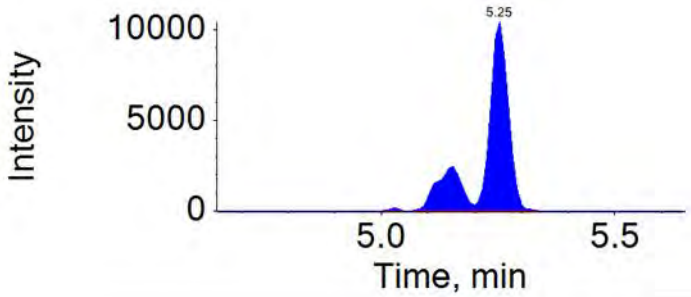
Component: PFOA
Primary Mass: 413.0 / 369.0



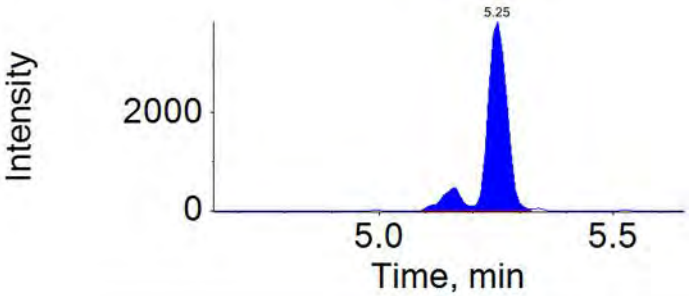
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



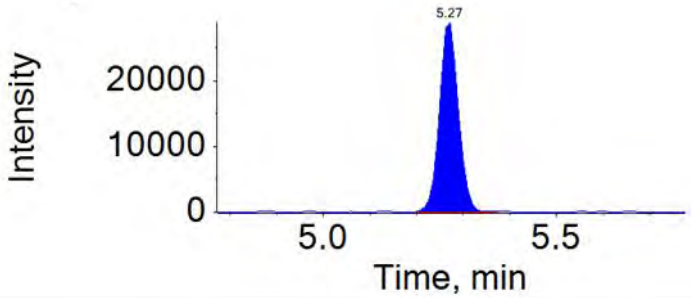
Component: PFOS
Primary Mass: 499.0 / 80.0



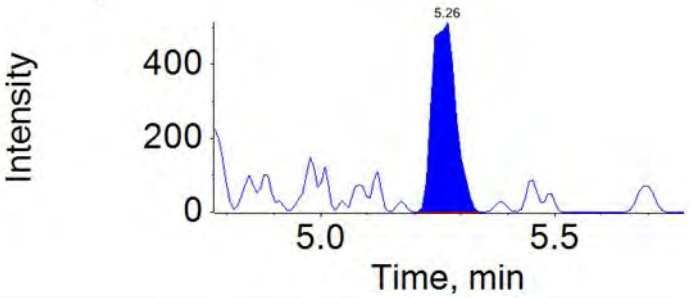
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



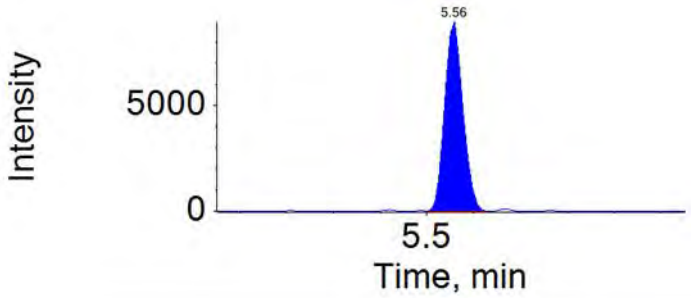
Component: PFNA
Primary Mass: 463.0 / 419.0



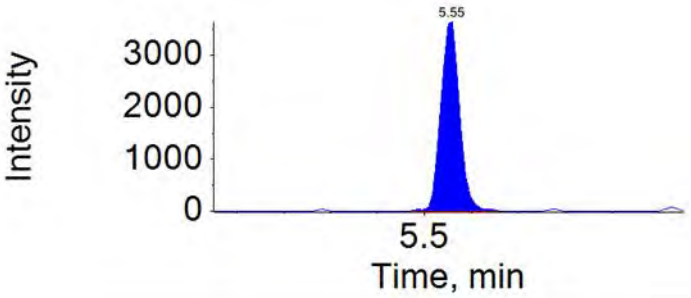
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



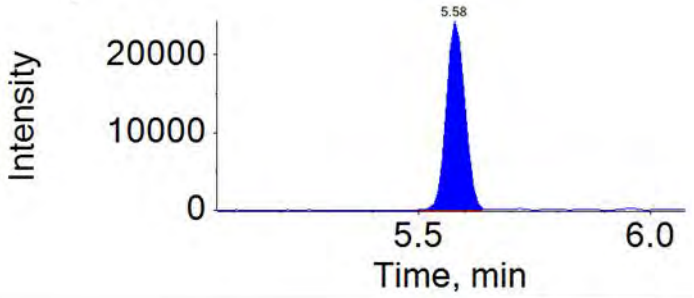
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



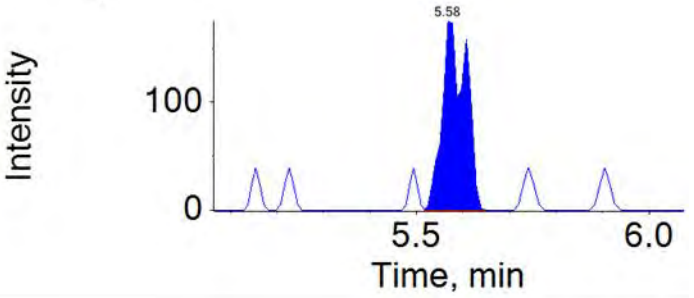
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

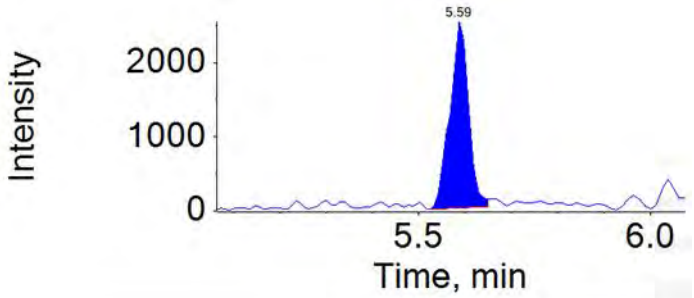
Component: PFDA
Primary Mass: 513.0 / 469.0



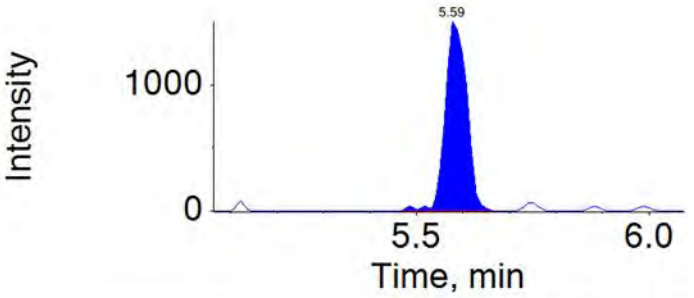
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



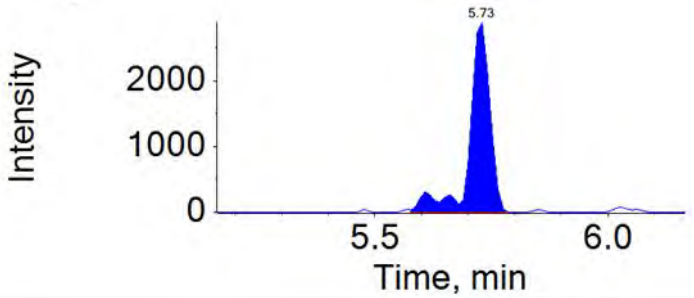
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



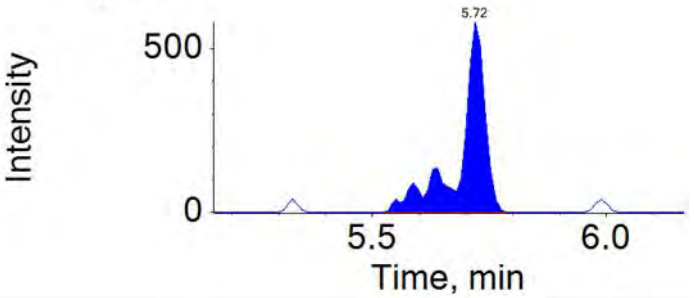
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



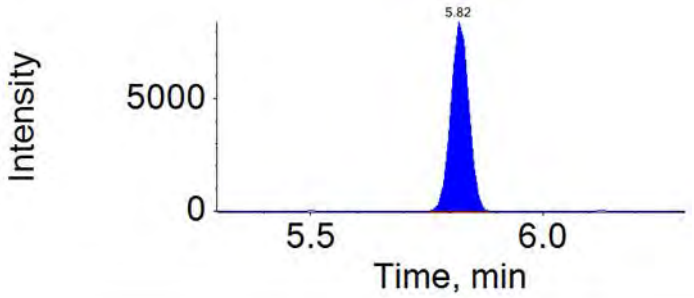
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



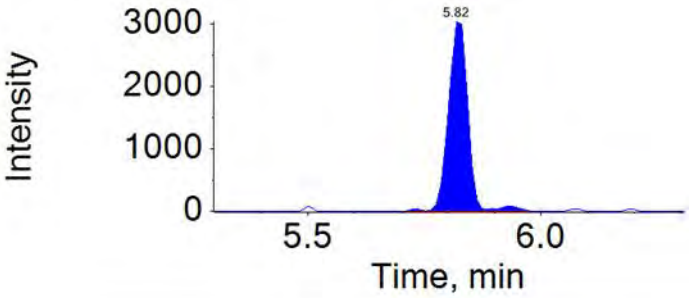
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



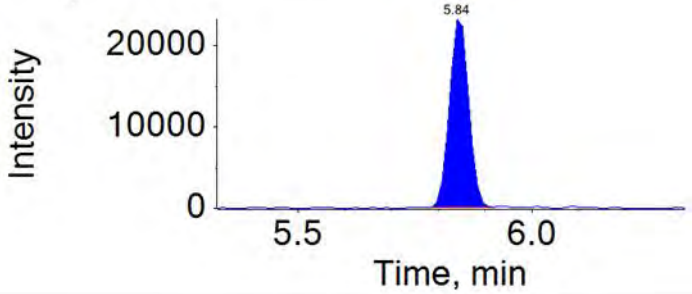
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



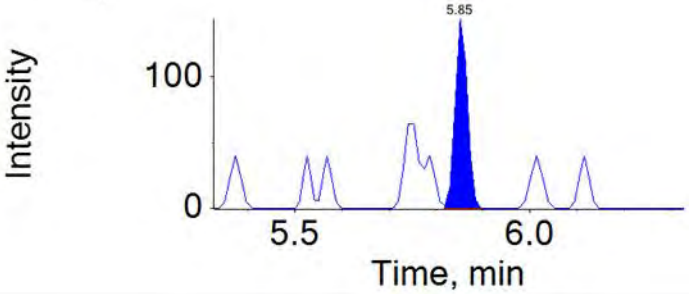
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

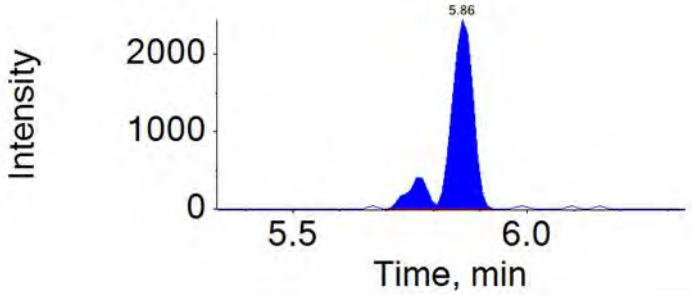
Component: PFUnDA
Primary Mass: 563.0 / 519.0



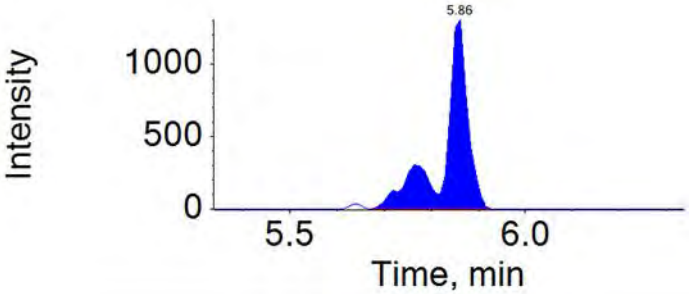
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



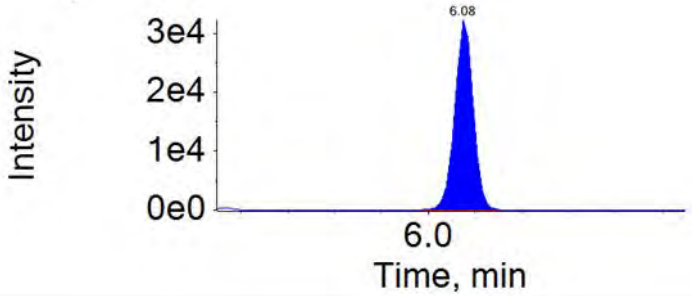
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



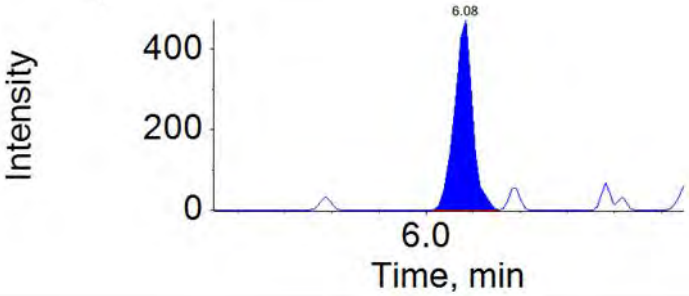
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



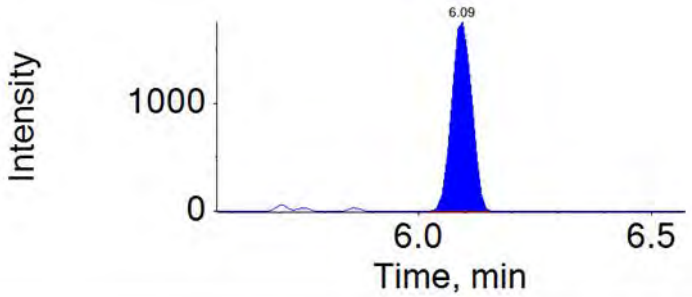
Component: PFDoDA
Primary Mass: 613.0 / 569.0



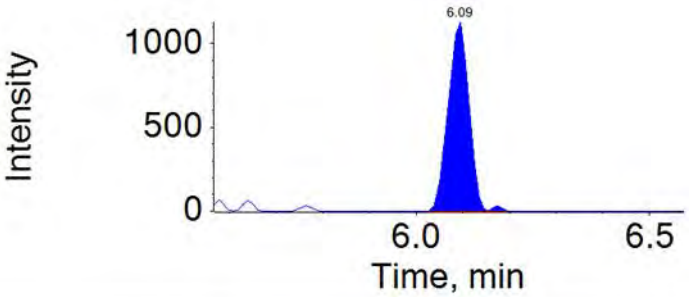
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



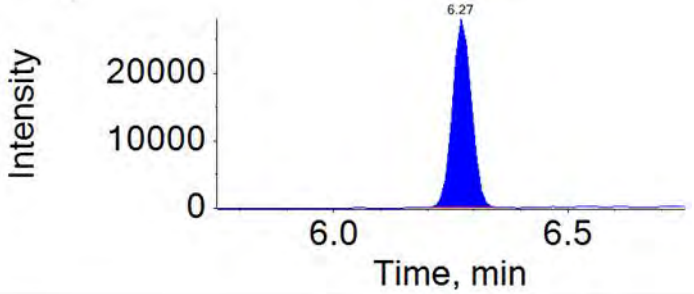
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



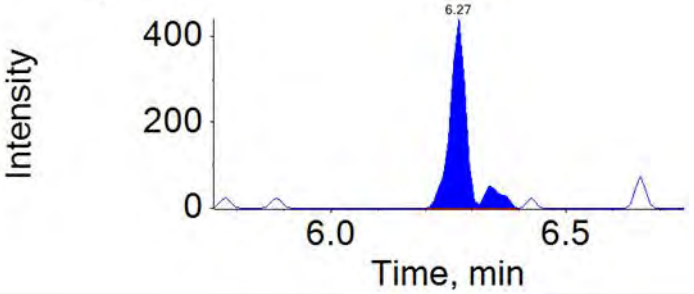
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



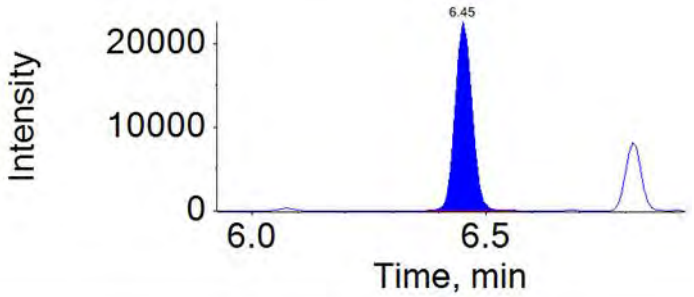
Component: PFTrDA
Primary Mass: 663.0 / 619.0



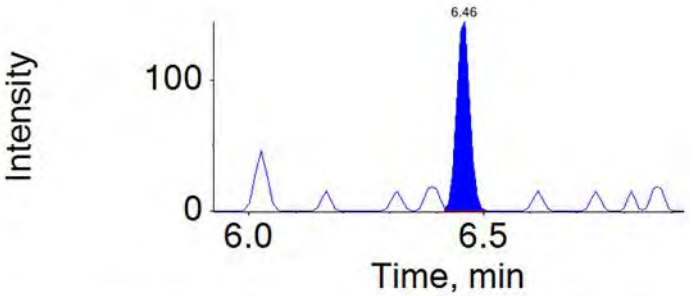
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



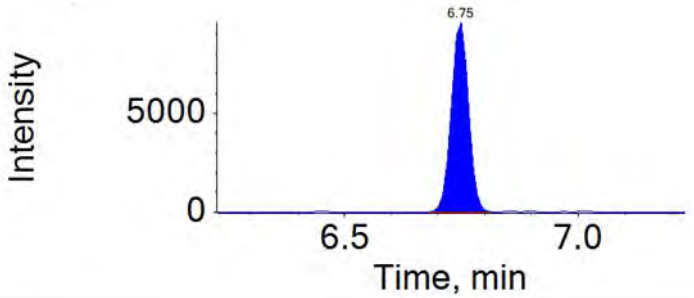
Component: PFTeDA
Primary Mass: 713.0 / 669.0



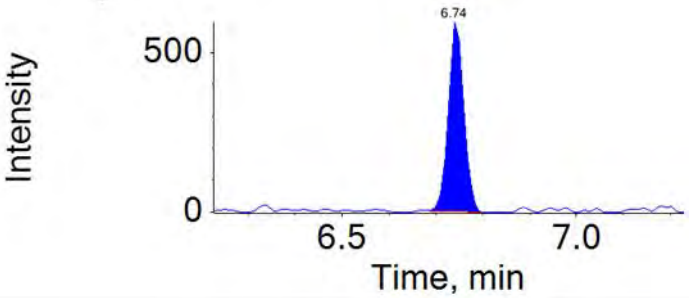
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



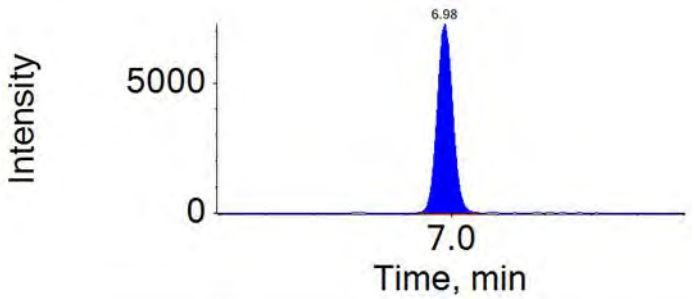
Component: PFHxDA
Primary Mass: 813.0 / 769.0



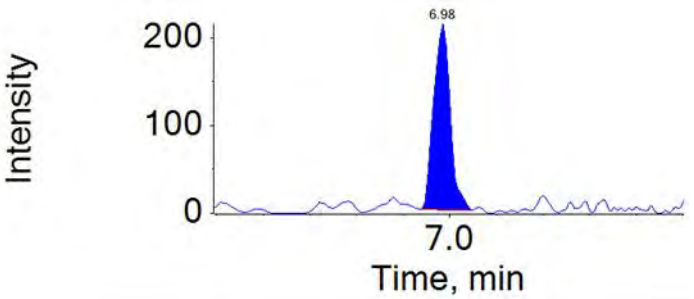
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC08D-02.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-12-08T08:16:21
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC08DCCV1-6
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1081568.5	936973.7	15	50	
13C2-PFOA	5.0	525894.5	474841.3	11	50	
13C4-PFOS	4.8	328043.6	294668.0	11	50	
13C2-PFDA	5.0	412378.9	373990.9	10	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1161295.0	13C3-PFBA	1081568.5	1.074	5.000	4.752	95	70-130	
E13C5-PFPeA	1051601.7	13C3-PFBA	1081568.5	0.972	5.000	4.618	92	70-130	
E13C3-PFBS	460870.3	13C3-PFBA	1081568.5	0.426	4.650	3.612	78	70-130	
E13C2-4:2-FTS	66229.8	13C2-PFOA	525894.5	0.126	4.670	4.935	106	70-130	
E13C5-PFHxA	761126.9	13C2-PFOA	525894.5	1.447	5.000	4.859	97	70-130	
E13C3-PFHxS	372437.3	13C2-PFOA	525894.5	0.708	4.730	4.542	96	70-130	
E13C4-PFHpA	581210.3	13C2-PFOA	525894.5	1.105	5.000	4.698	94	70-130	
E13C2-6:2-FTS	53405.1	13C2-PFOA	525894.5	0.102	4.750	6.291	132	70-130	OOS
E13C8-PFOA	963842.9	13C2-PFOA	525894.5	1.833	5.000	5.181	104	70-130	
E13C8-PFOS	352937.8	13C4-PFOS	328043.6	1.076	4.780	4.828	101	70-130	
E13C9-PFNA	630648.4	13C4-PFOS	328043.6	1.922	5.000	5.432	109	70-130	
E13C6-PFDA	705088.0	13C2-PFDA	412378.9	1.710	5.000	4.531	91	70-130	
E13C2-8:2-FTS	34592.9	13C2-PFDA	412378.9	0.084	4.790	5.477	114	70-130	
E13C8-PFOSA	755542.7	13C2-PFDA	412378.9	1.832	5.000	4.333	87	70-130	
Ed3-NMeFOSAA	138092.4	13C2-PFDA	412378.9	0.335	5.000	5.934	119	70-130	
E13C7-PFUnDA	419271.9	13C2-PFDA	412378.9	1.017	5.000	4.987	100	70-130	
Ed5-NEtFOSAA	77046.1	13C2-PFDA	412378.9	0.187	5.000	4.124	82	70-130	
E13C2-PFDoDA	879752.9	13C2-PFDA	412378.9	2.133	5.000	4.477	90	70-130	
Ed7-NMePFOSAE	279656.9	13C2-PFDA	412378.9	0.678	5.000	3.907	78	70-130	
Ed3-NMePFOSA	93808.8	13C2-PFDA	412378.9	0.227	5.000	4.145	83	70-130	
Ed9-NEtPFOSAE	219656.3	13C2-PFDA	412378.9	0.533	5.000	3.673	73	70-130	
Ed5-NEtPFOSA	78580.8	13C2-PFDA	412378.9	0.191	5.000	4.288	86	70-130	
E13C2-PFTeDA	575883.7	13C2-PFDA	412378.9	1.396	5.000	4.145	83	70-130	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

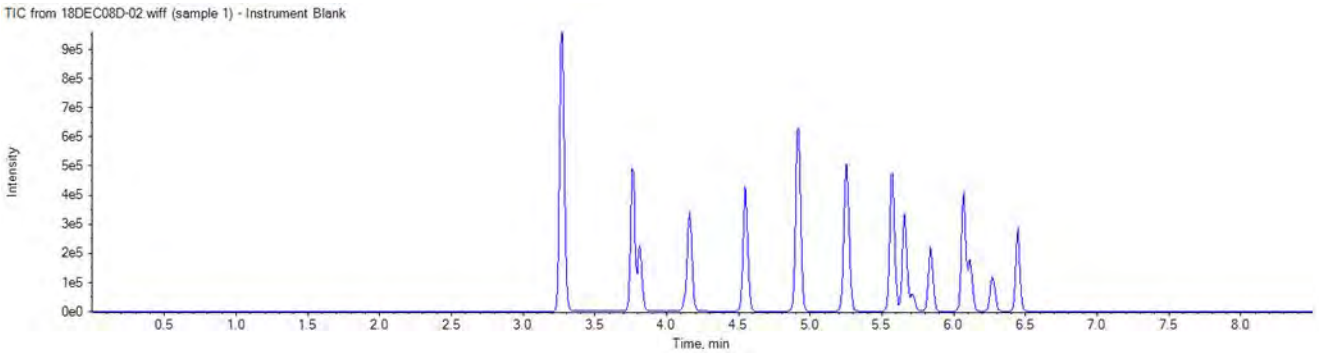
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC08D-02.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.27	1161295.0	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	1051601.7	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	460870.3	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	66229.8	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	761126.9	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	460870.3	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	581210.3	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	372437.3	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	53405.1	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	372437.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	963842.9	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	352937.8	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	630648.4	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	352937.8	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	705088.0	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	34592.9	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.66	755542.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	138092.4	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	352937.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	419271.9	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	77046.1	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	879752.9	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	34592.9	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.11	279656.9	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.12	93808.8	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	352937.8	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.27	219656.3	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.28	78580.8	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	879752.9	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	575883.7	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	575883.7	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	575883.7	N/A	

Total Ion Chromatogram

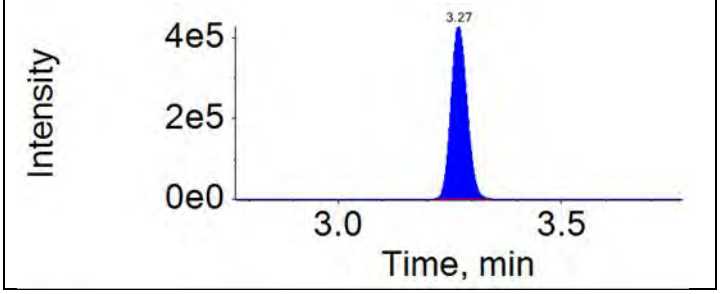


APPROVED
By JPT at 2:52 pm, 12/10/18

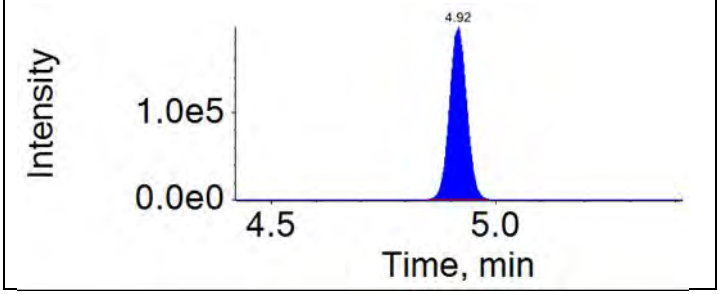
REVIEWED
By UCMR at 12:18 pm, 12/24/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

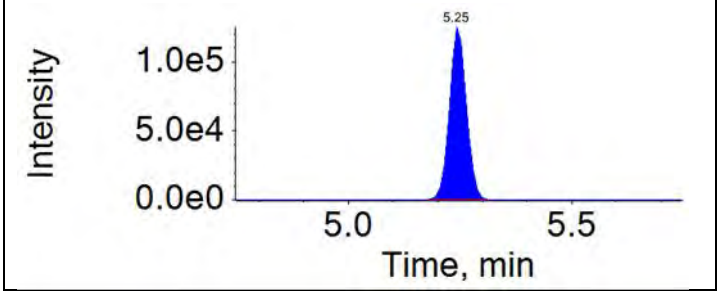
Injection Standard: 13C3-PFBA
216.0 / 172.0



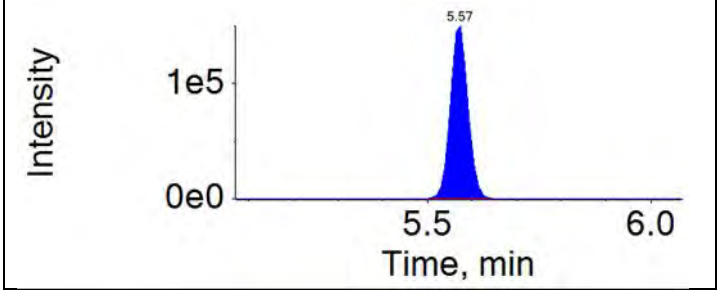
Injection Standard: 13C2-PFOA
415.0 / 370.0



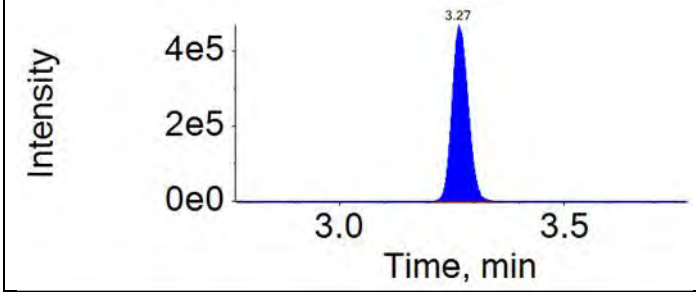
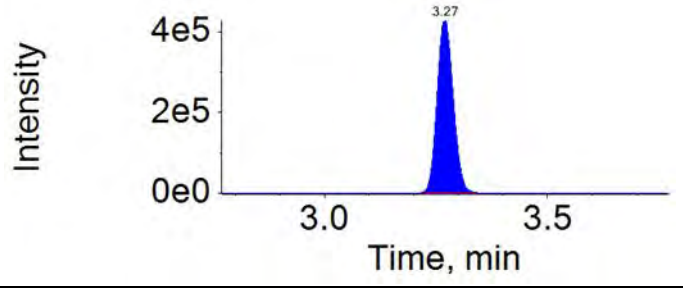
Injection Standard: 13C4-PFOS
503.0 / 80.0

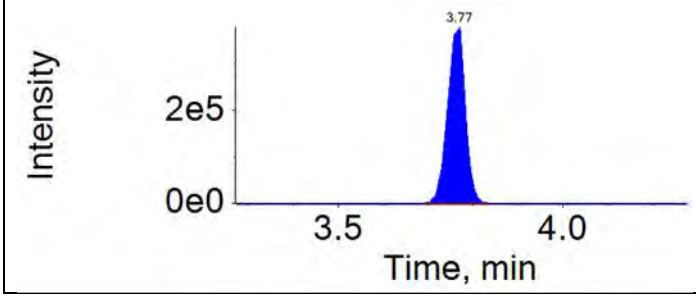
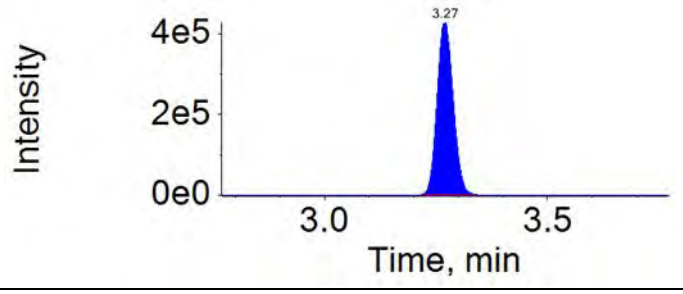


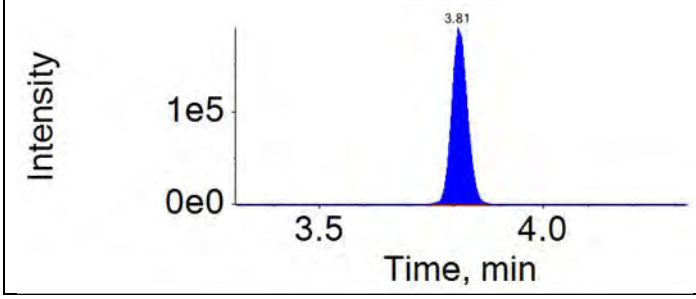
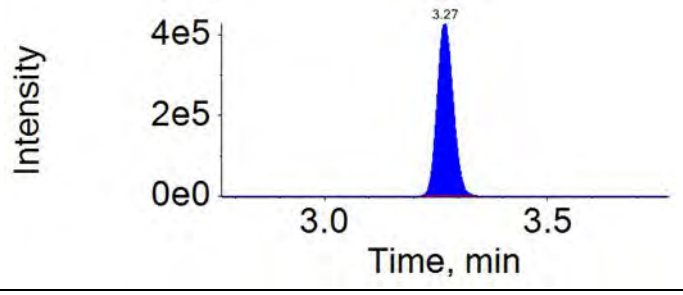
Injection Standard: 13C2-PFDA
515.0 / 470.0

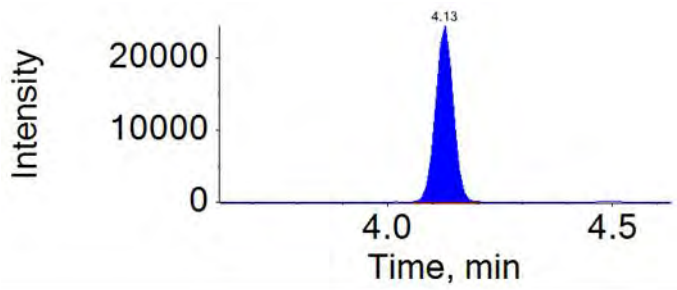
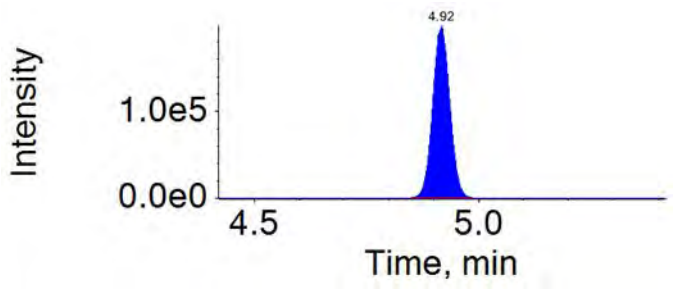


ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

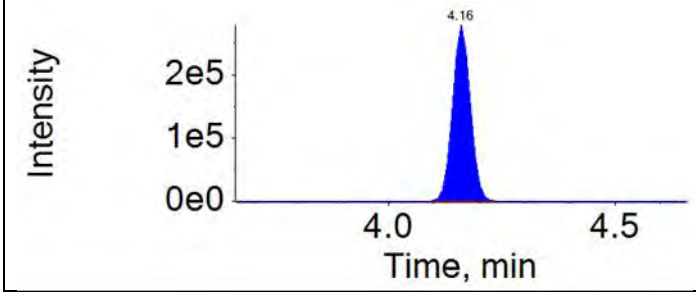
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

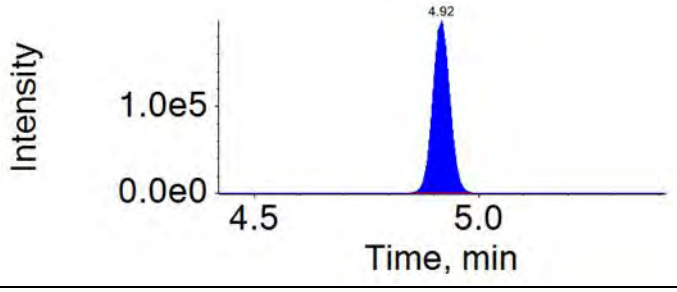
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

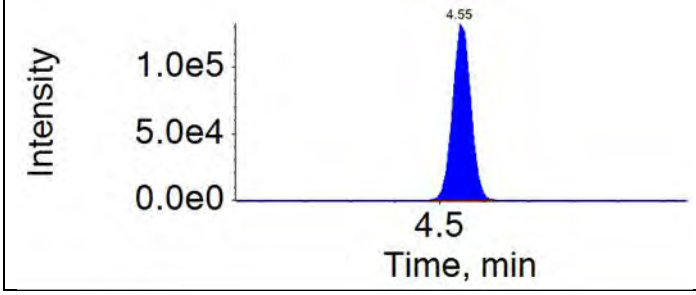
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

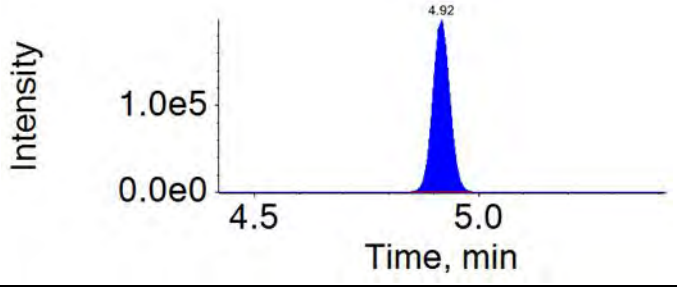
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



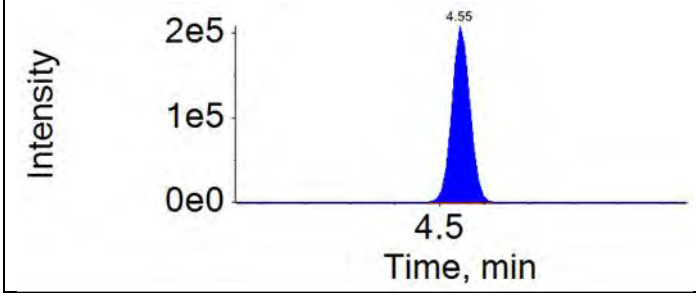


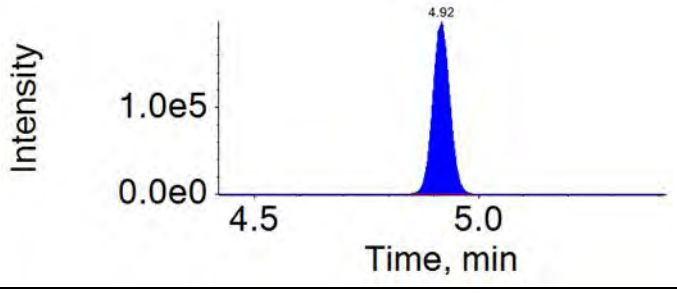
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



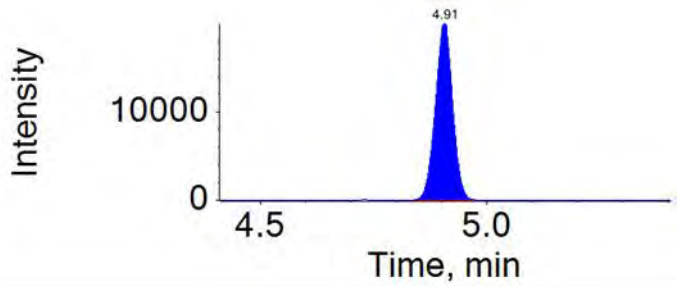


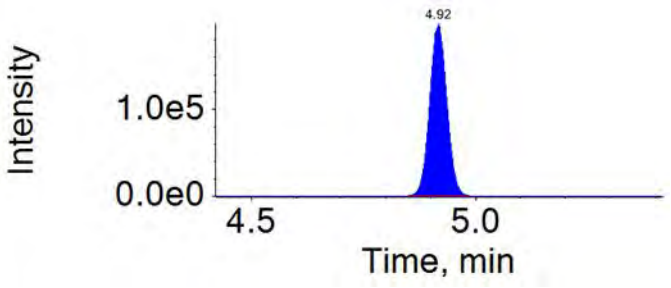
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

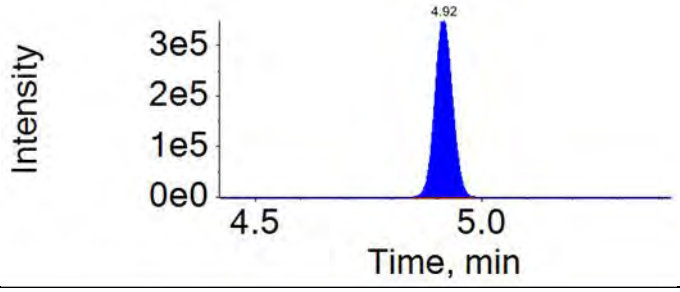
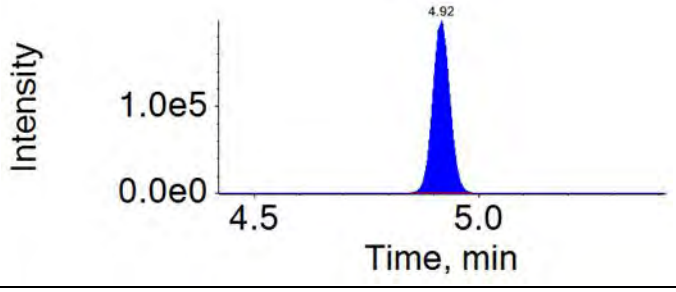


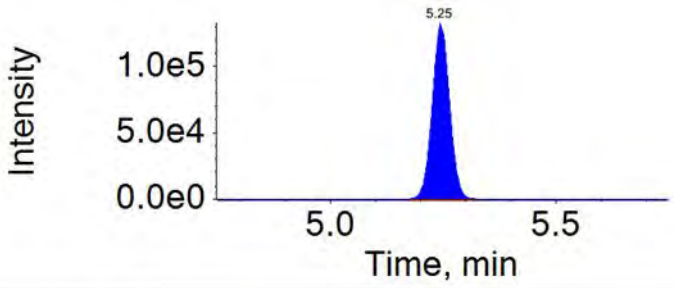
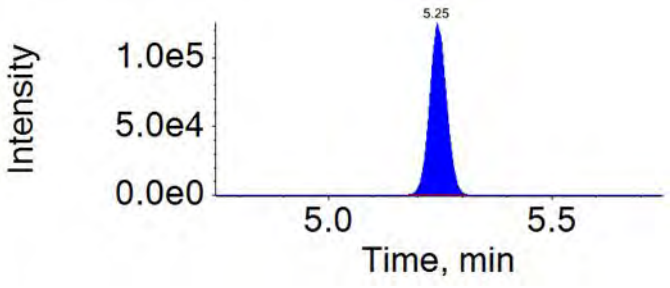


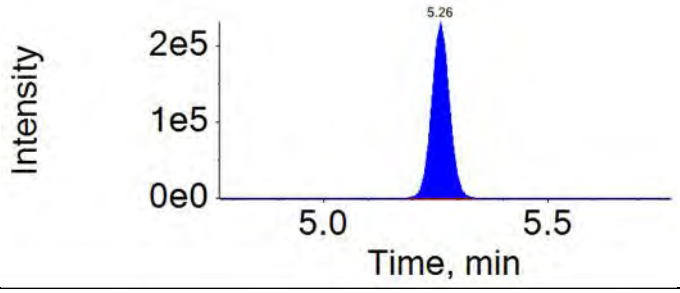
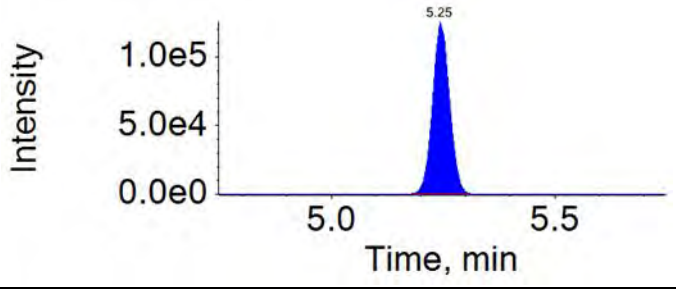
APPROVED
By JPT at 2:52 pm, 12/10/18

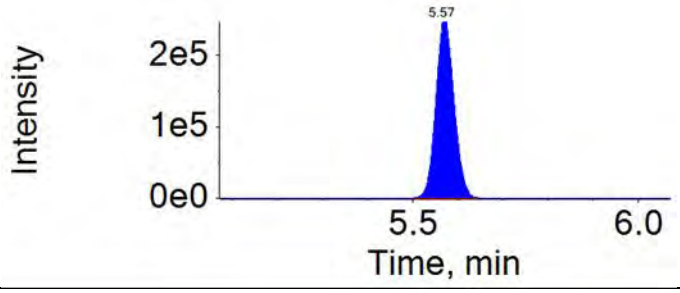
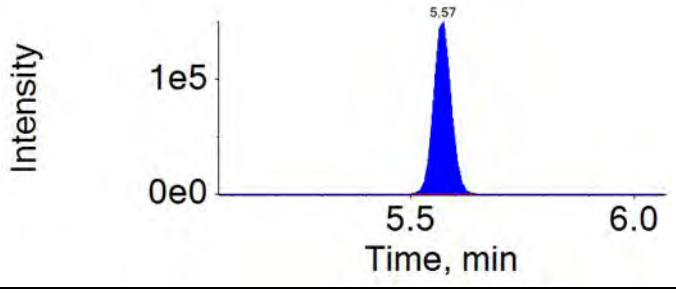
REVIEWED
By UCMR at 12:18 pm, 12/24/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

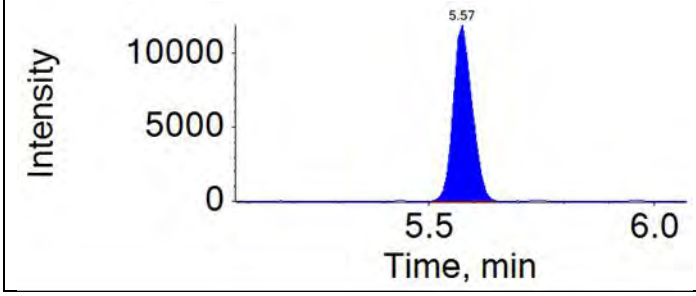
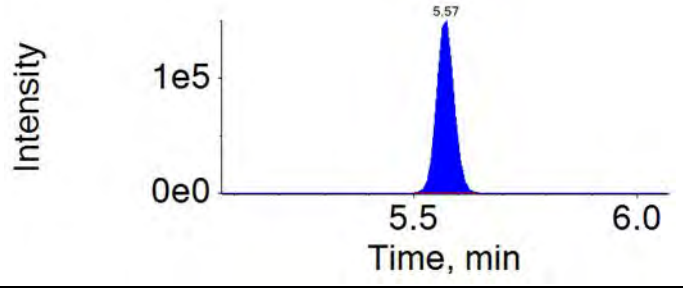
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

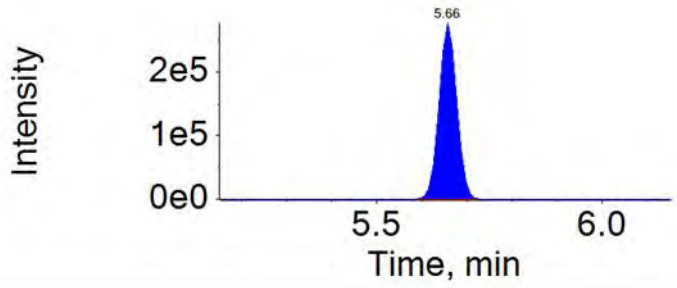
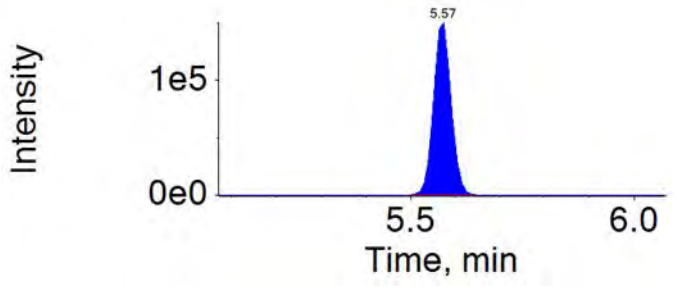
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

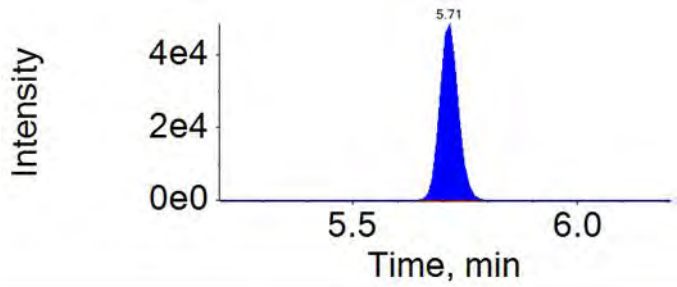
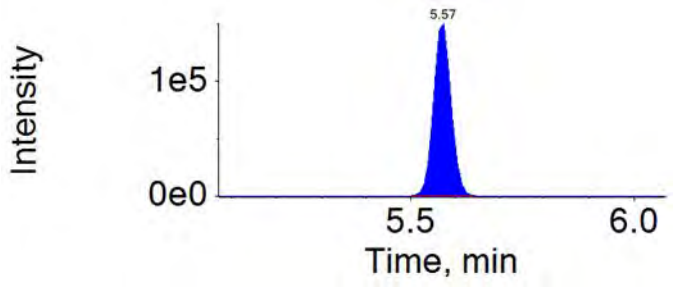
APPROVED
By JPT at 2:52 pm, 12/10/18

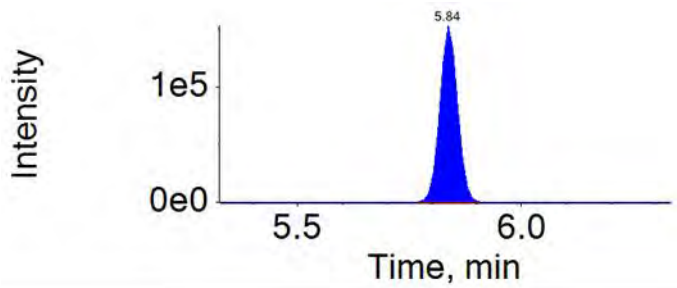
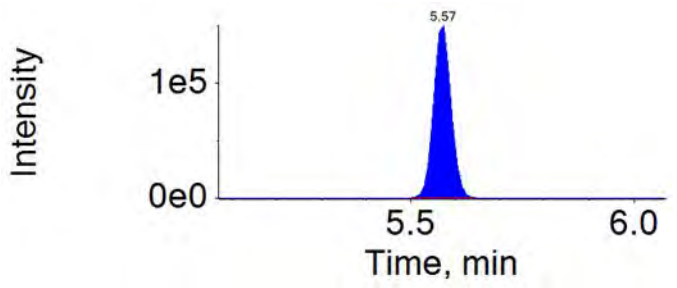
REVIEWED
By UCMR at 12:18 pm, 12/24/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

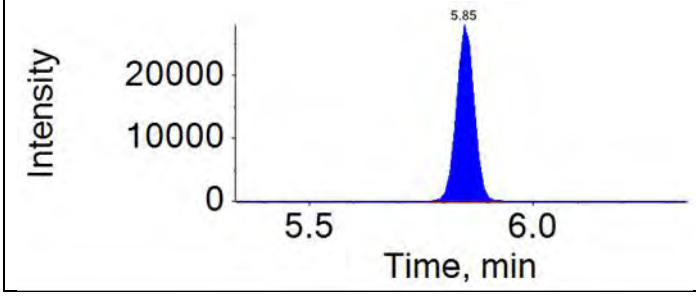
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

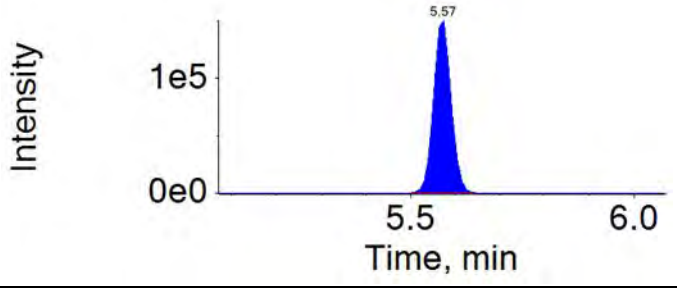
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

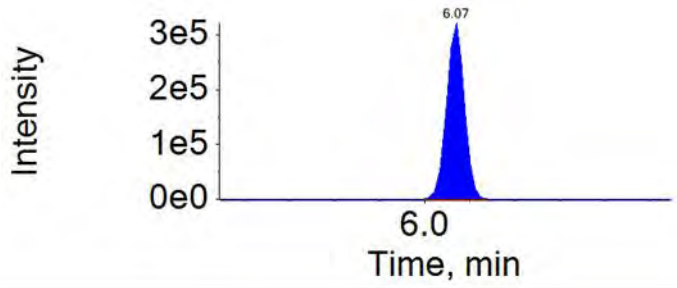
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

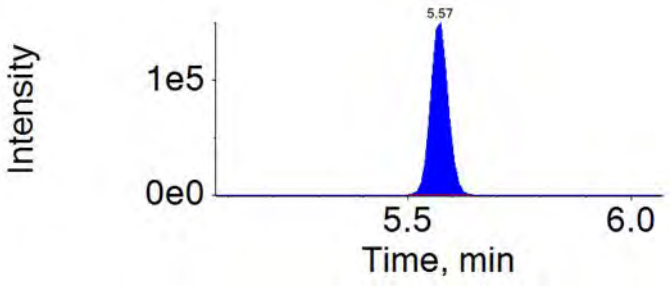
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



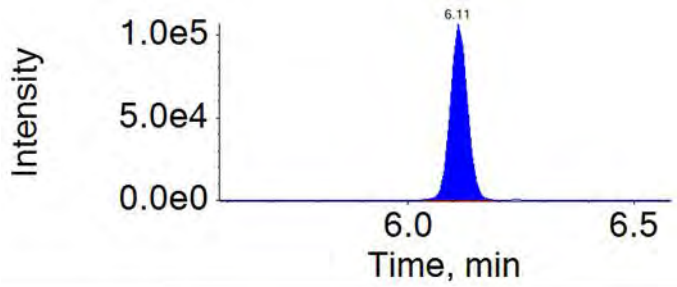


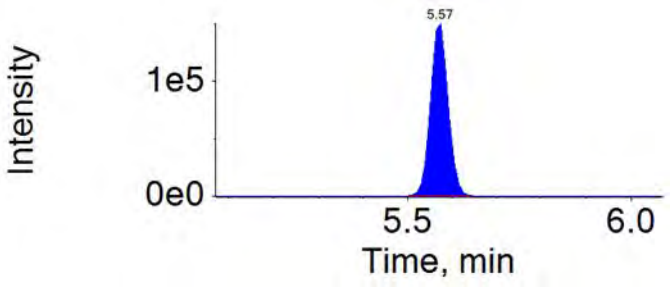
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



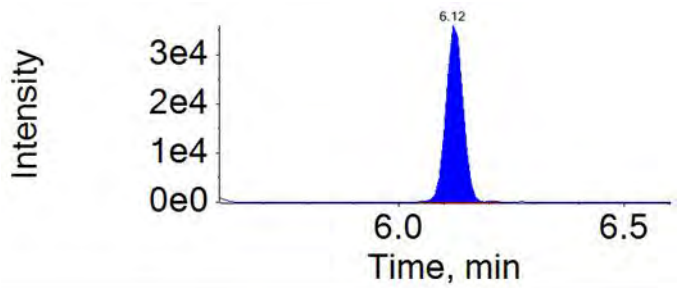


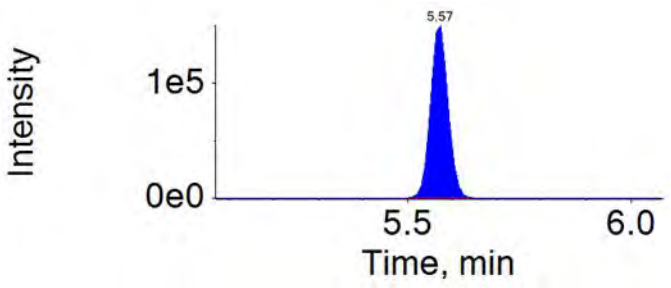
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0





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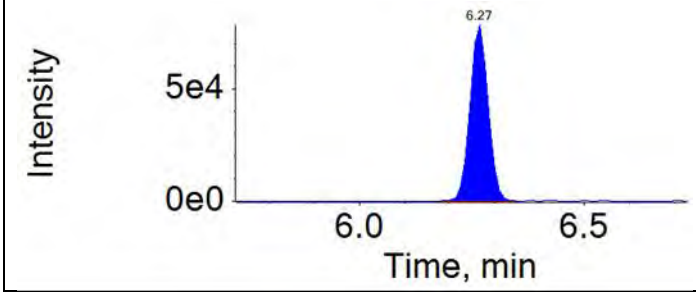
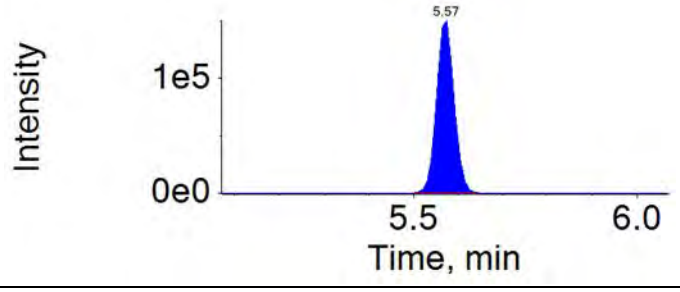
By UCMR at 12:18 pm, 12/24/18

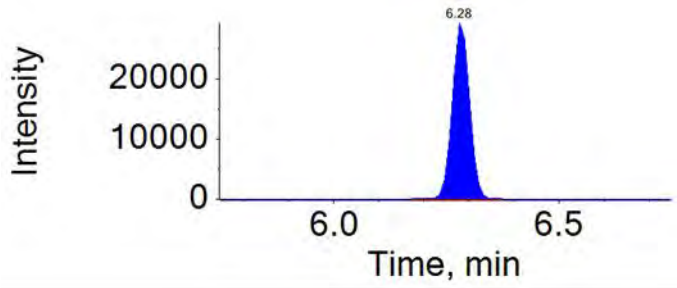
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

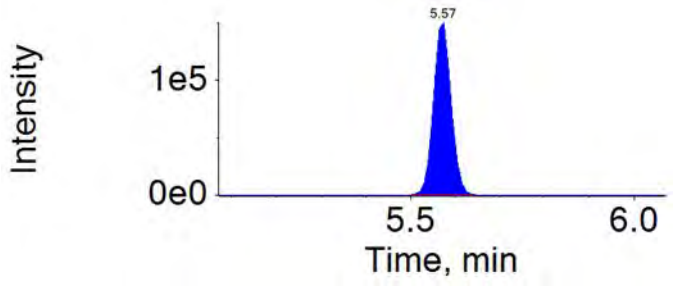
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



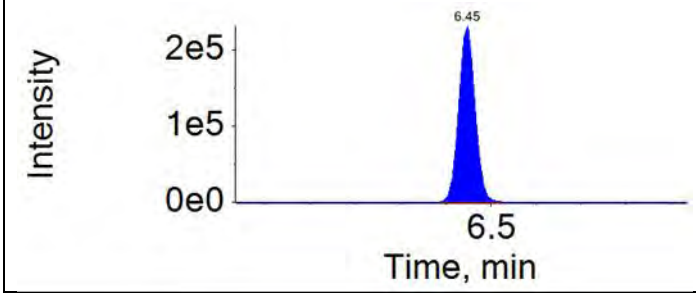


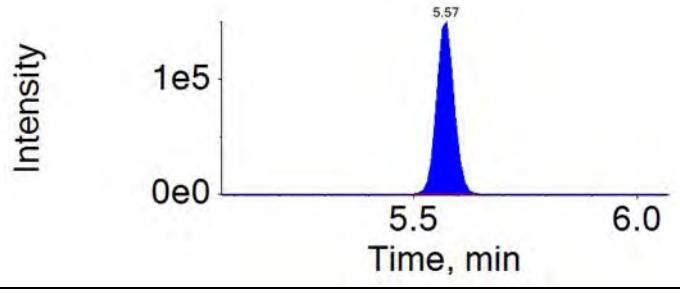
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0





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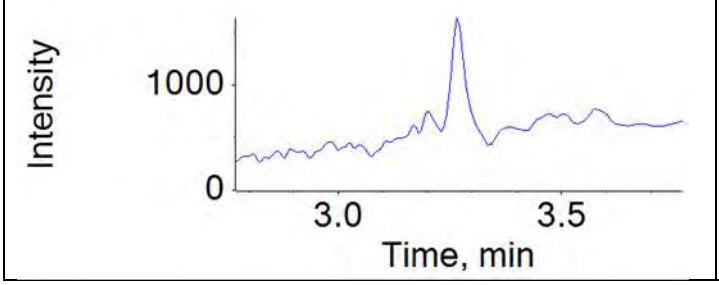
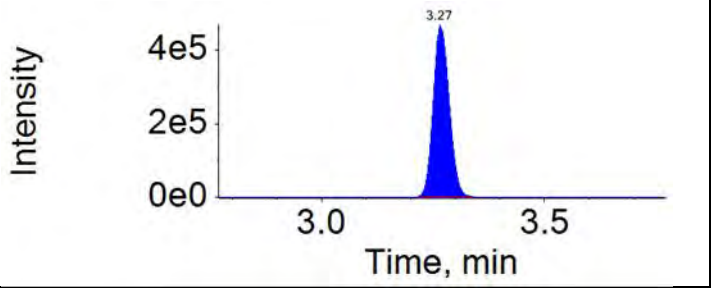
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

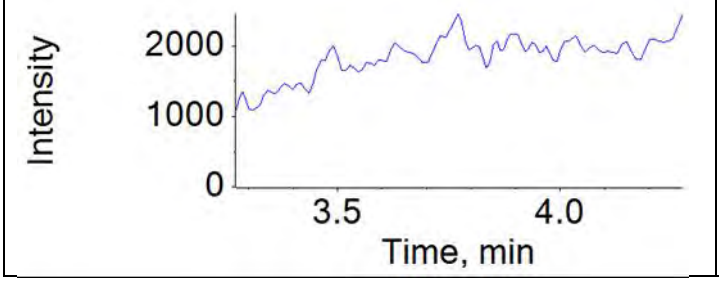
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

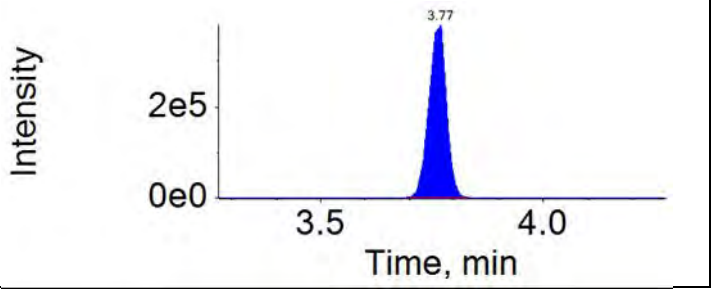
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



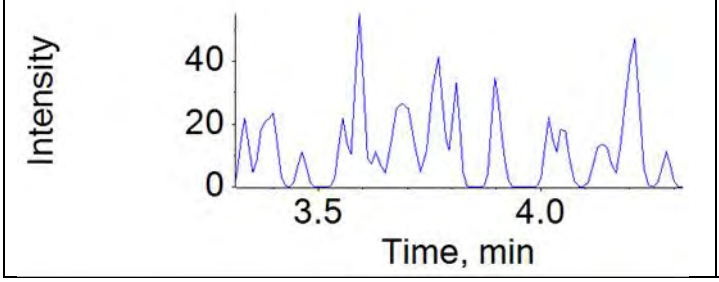


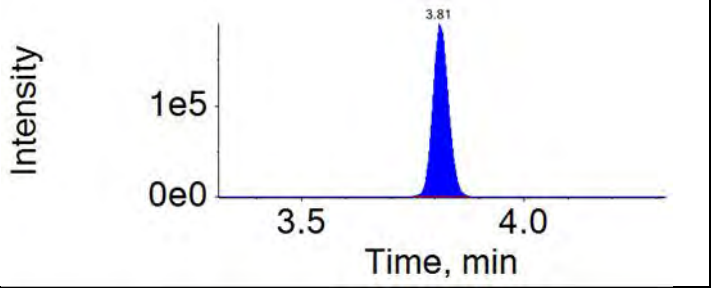
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



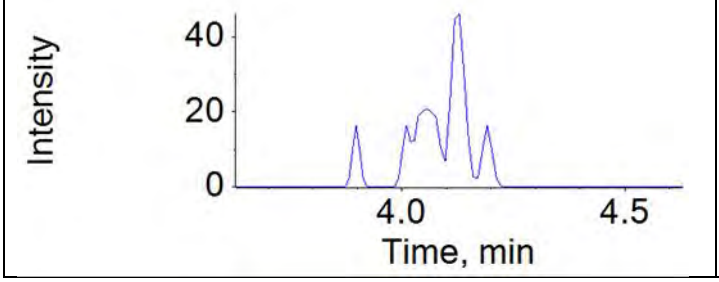


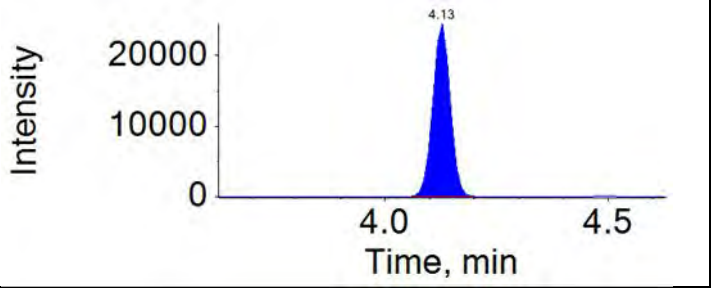
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0





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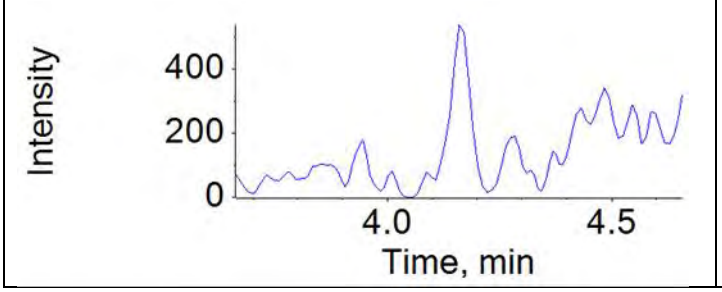
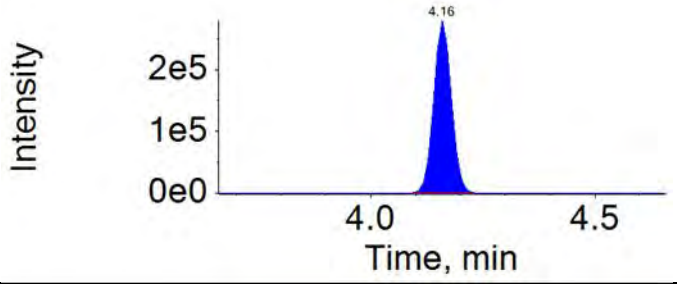
By UCMR at 12:18 pm, 12/24/18

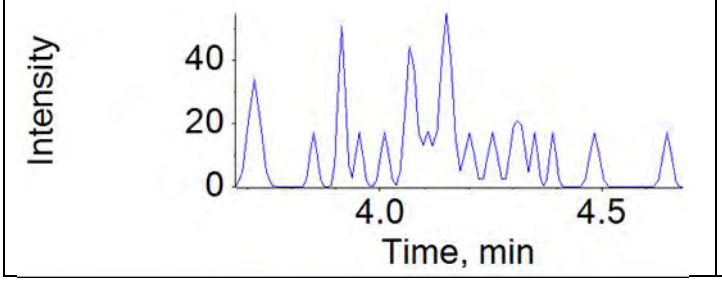
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

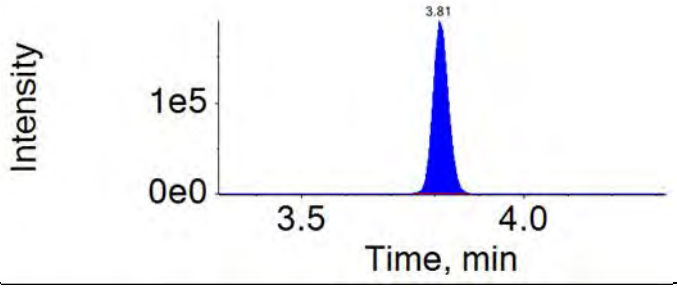
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



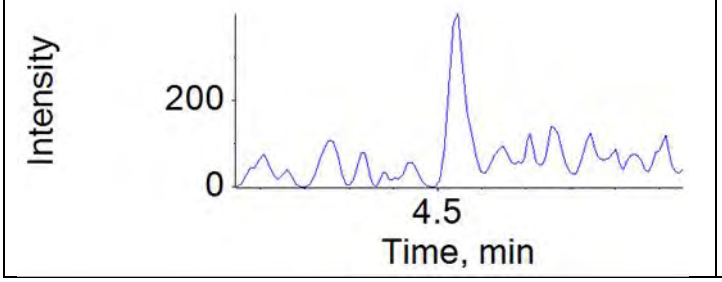


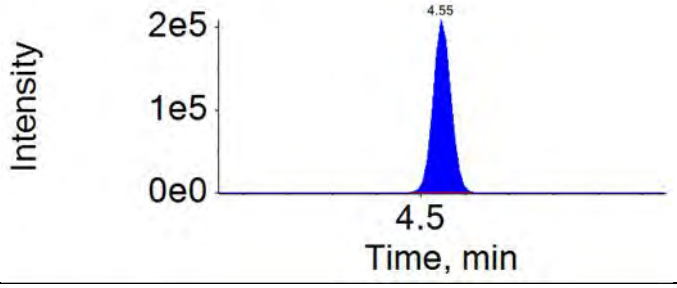
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



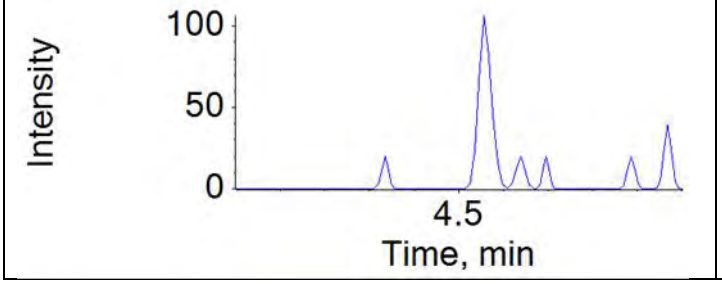


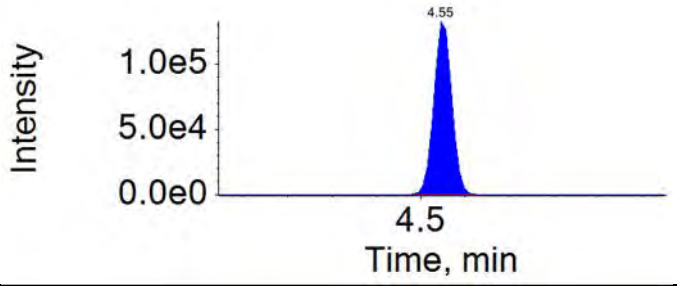
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





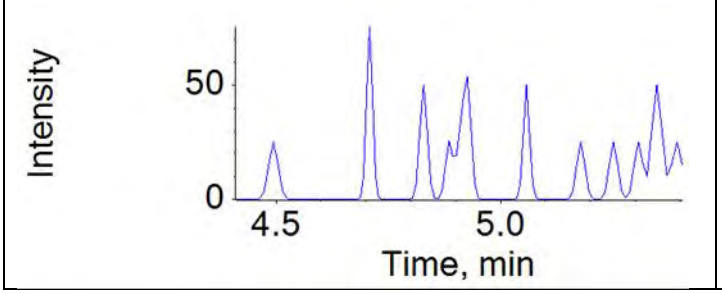
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

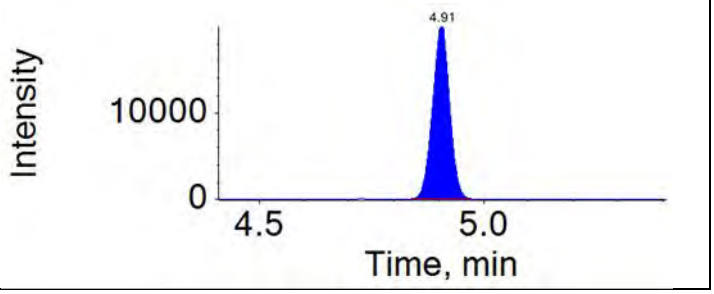




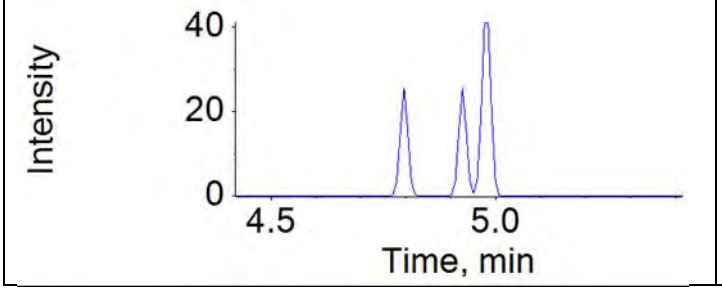
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

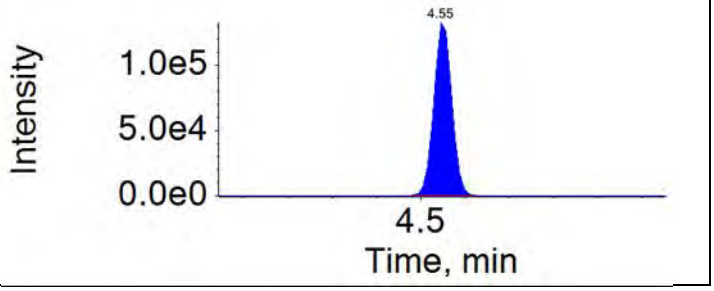
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



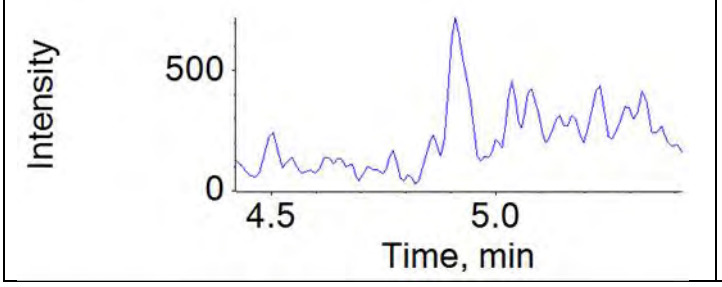


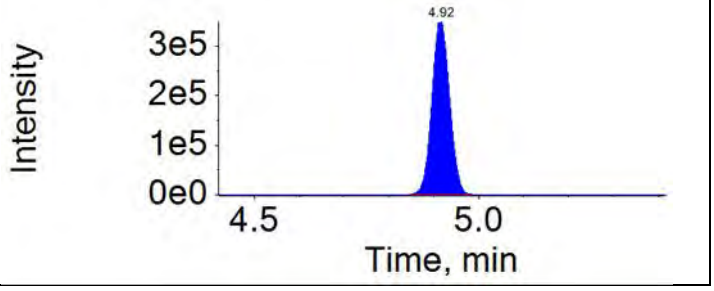
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



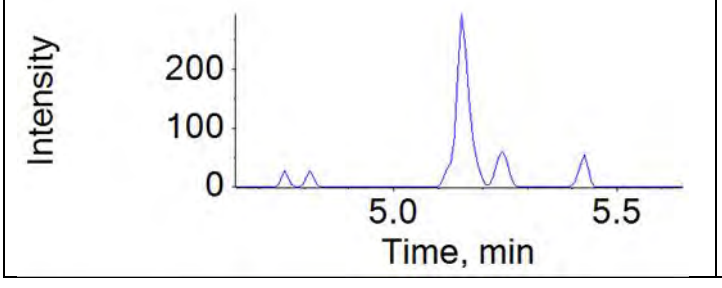


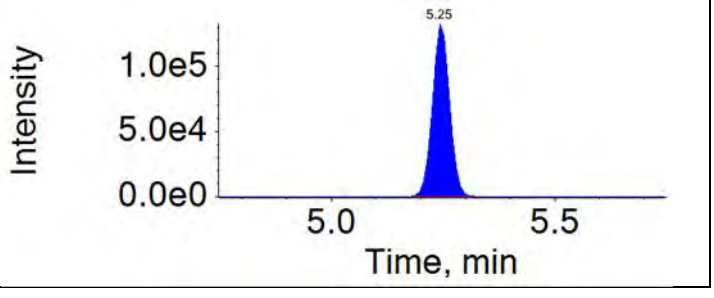
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





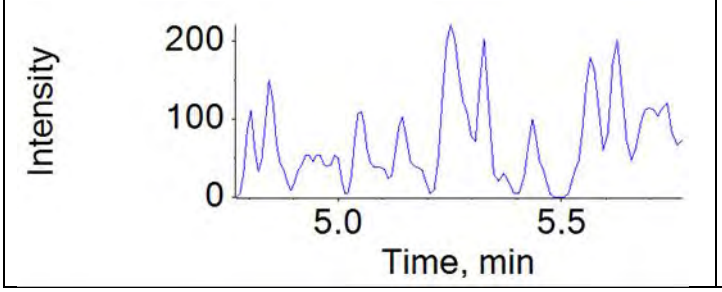
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

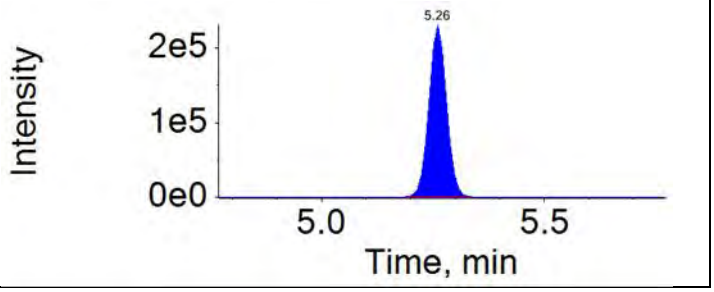




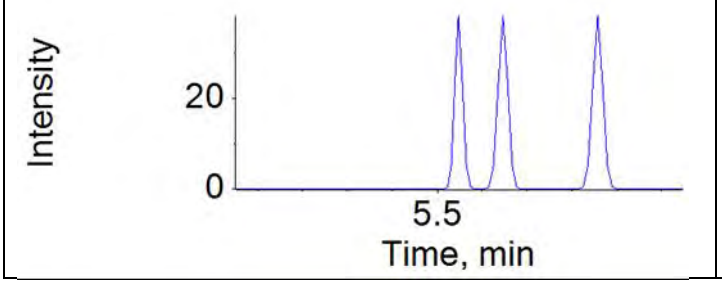
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

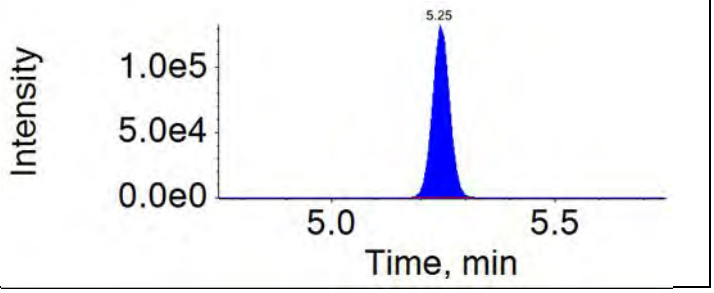
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



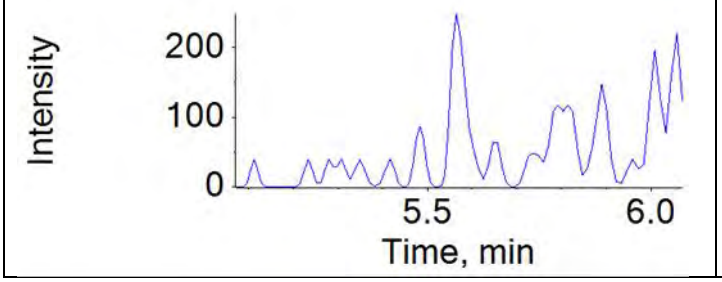


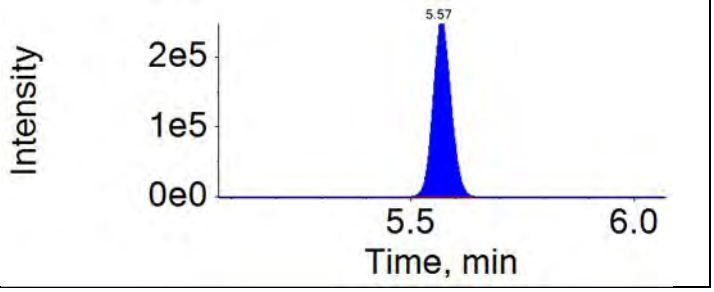
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



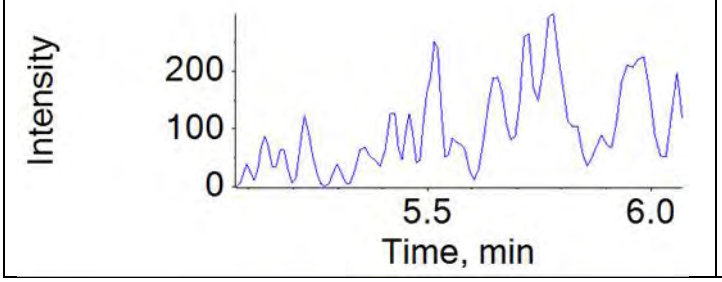


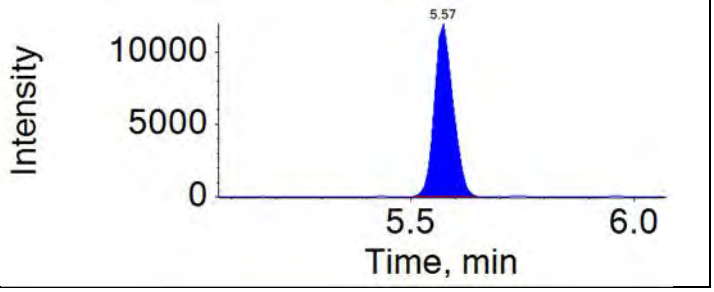
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





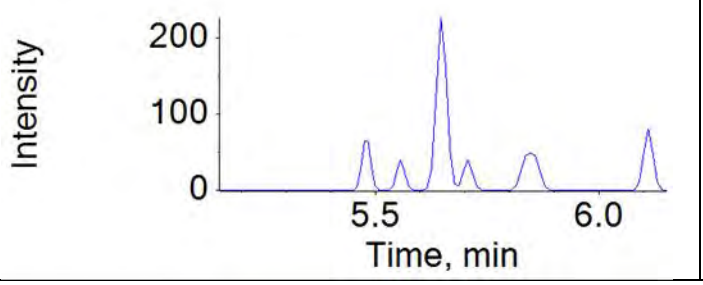
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

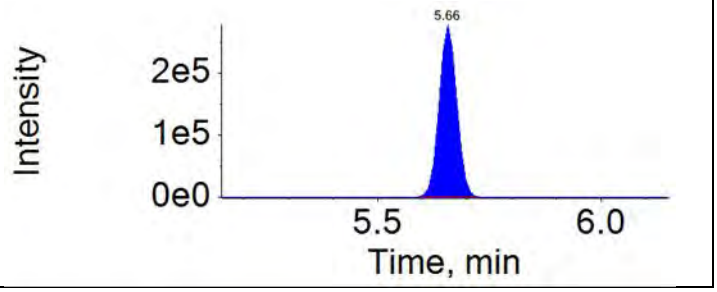




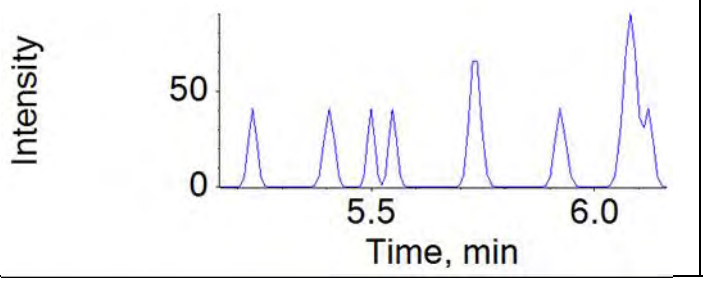
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

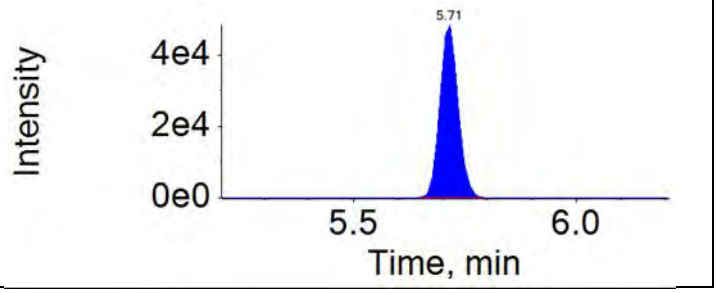
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



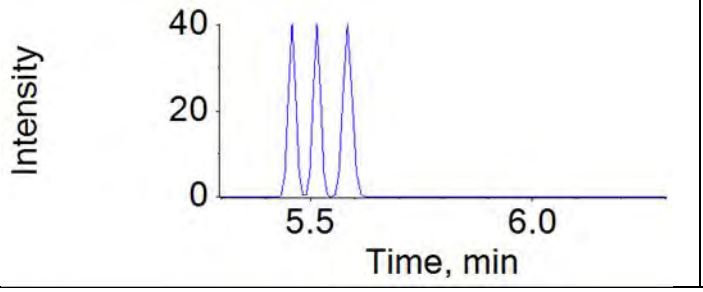


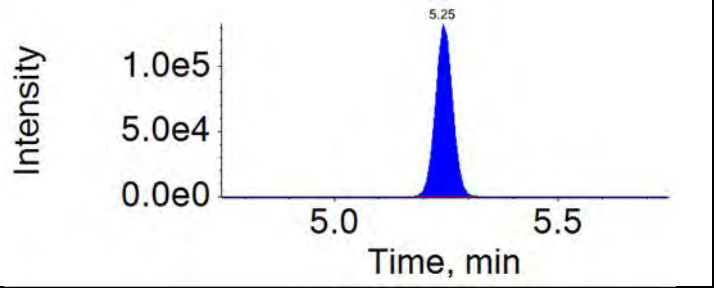
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



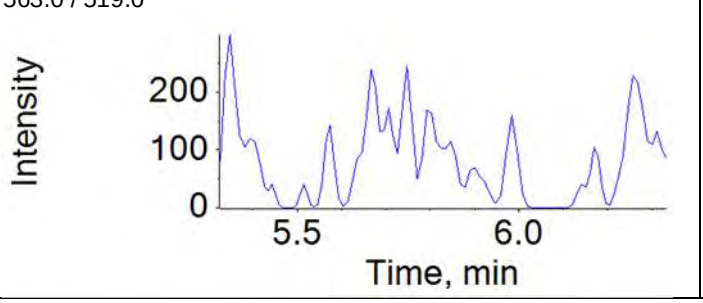


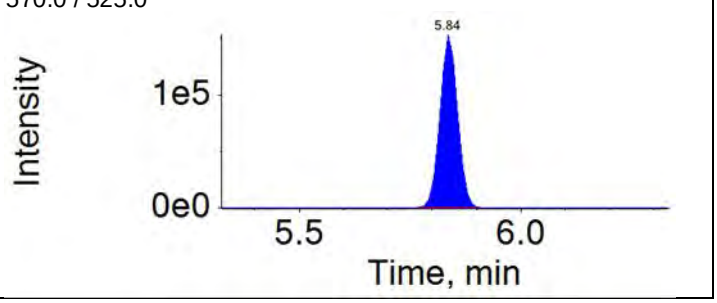
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



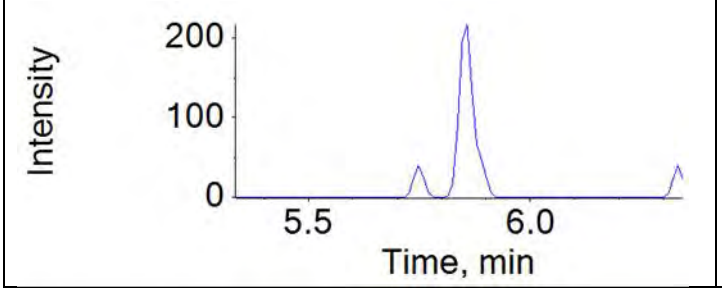


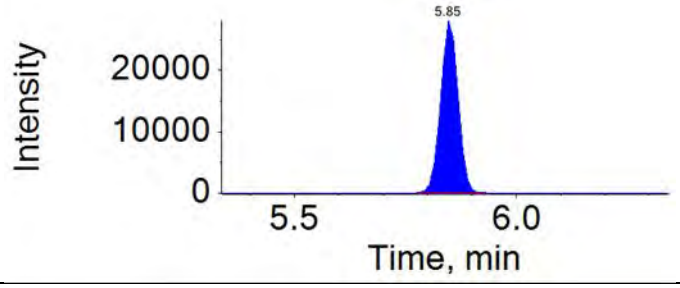
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

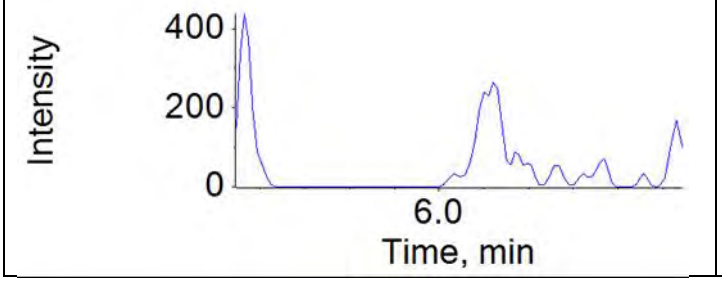
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

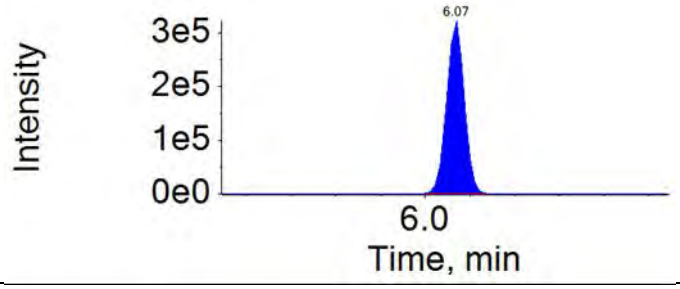
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



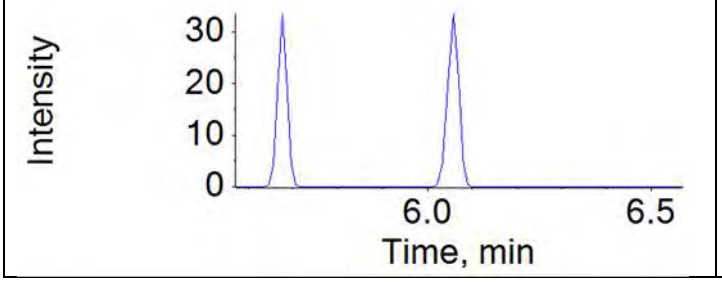


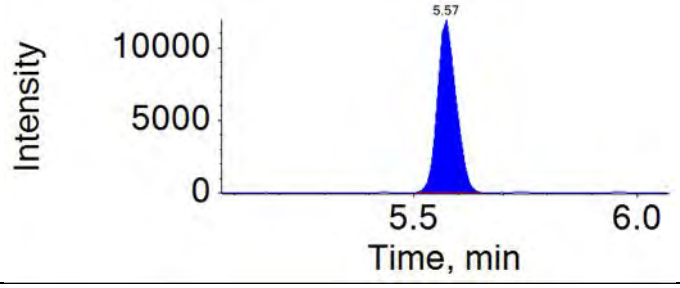
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



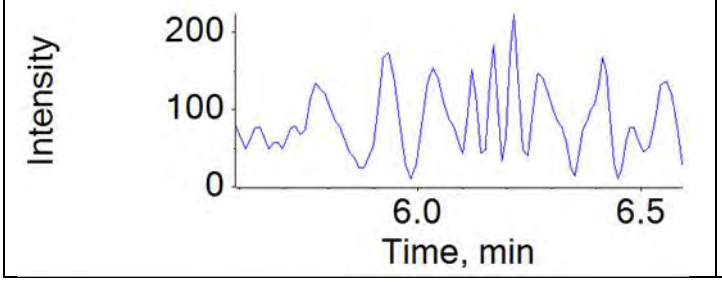


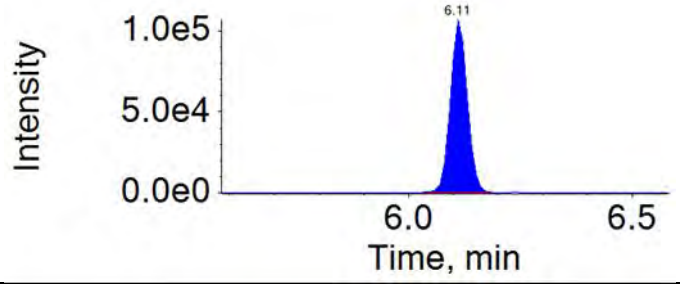
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



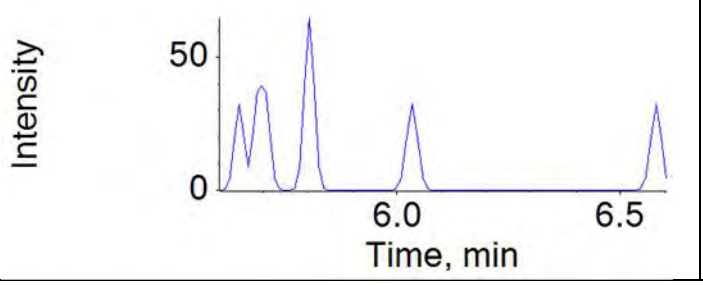


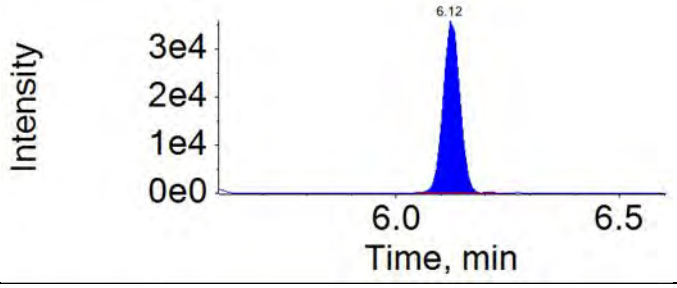
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

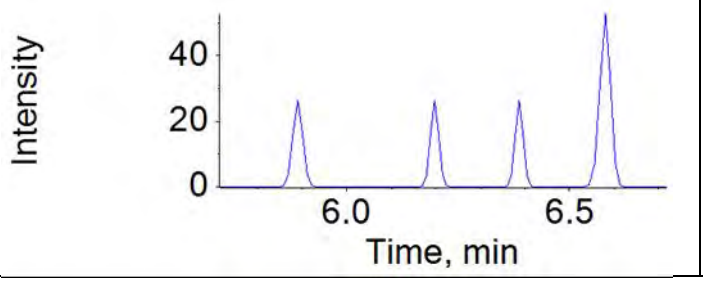
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

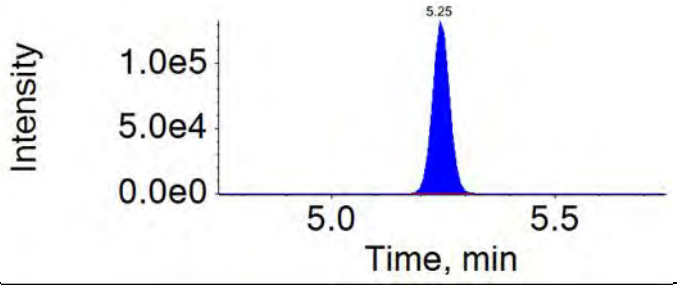
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



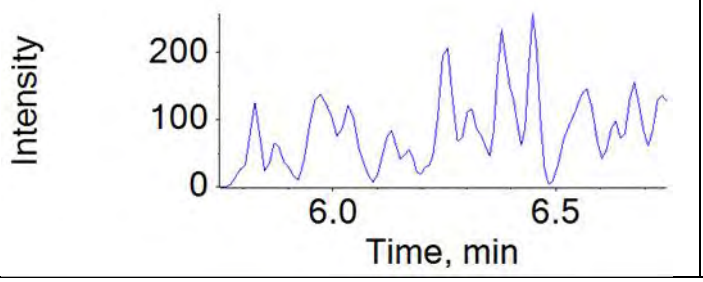


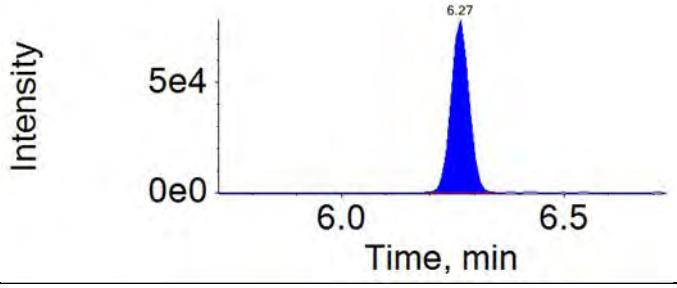
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



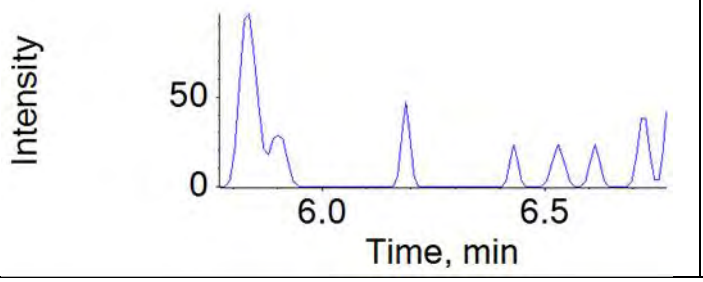


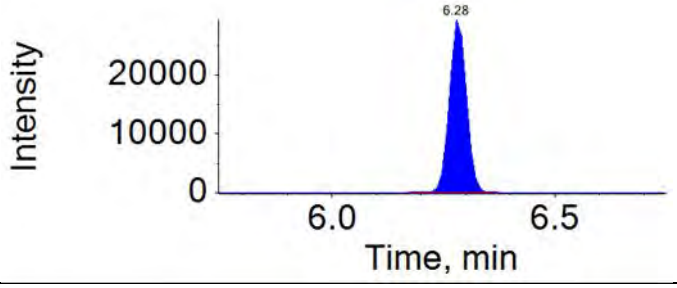
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



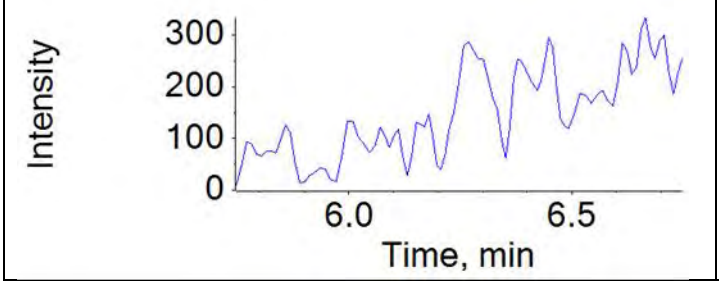


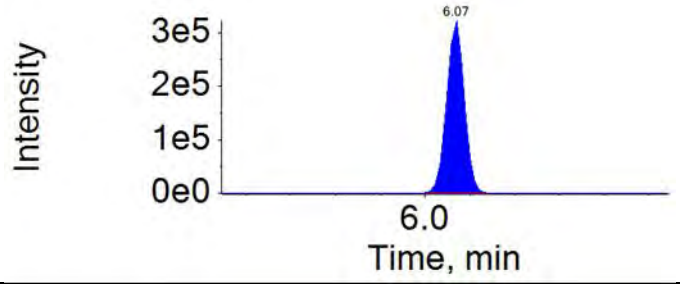
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

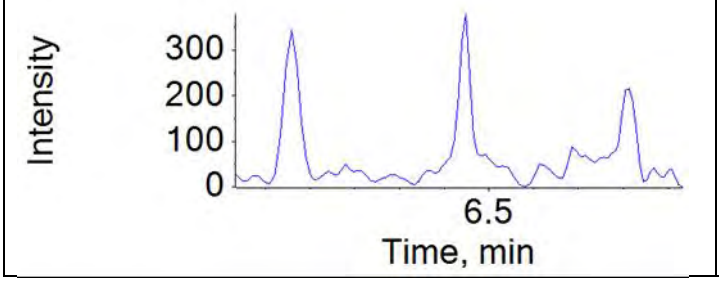
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

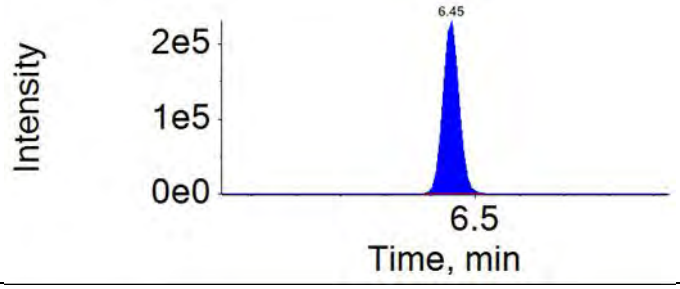
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



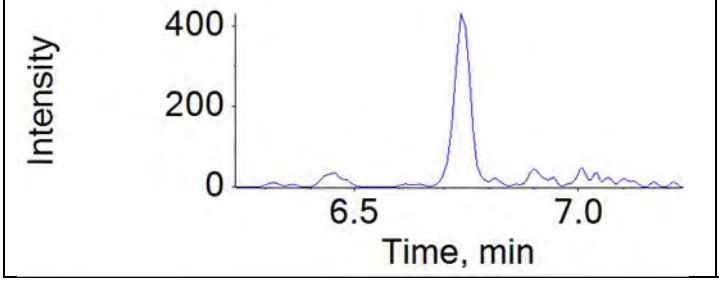


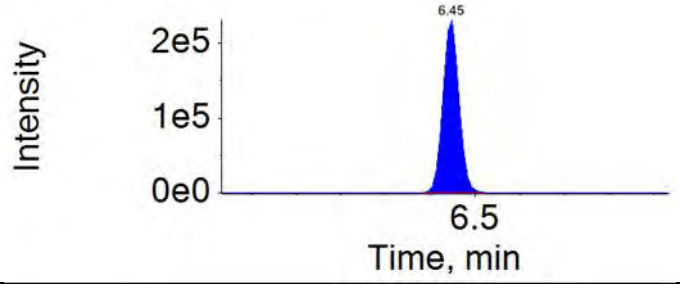
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



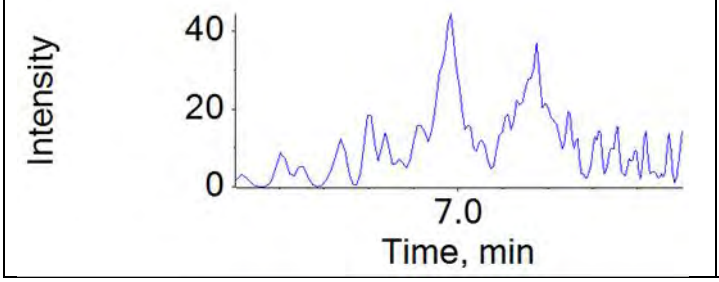


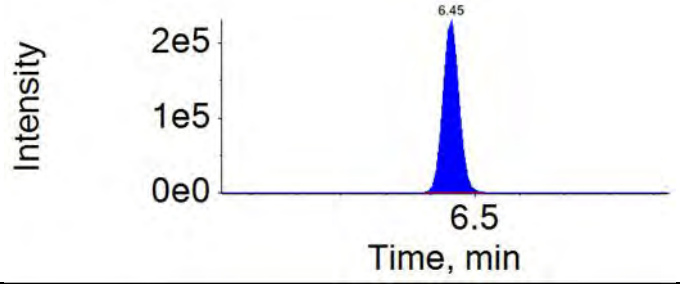
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

Ion Ratio Report

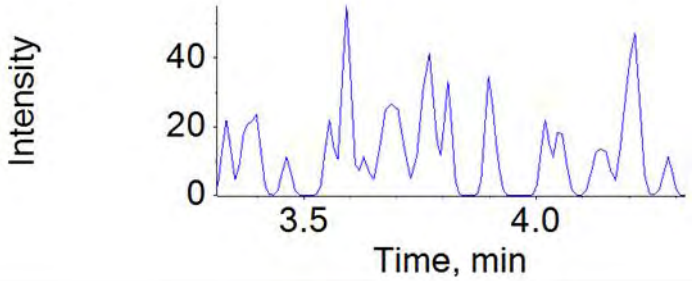
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC08D-02.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

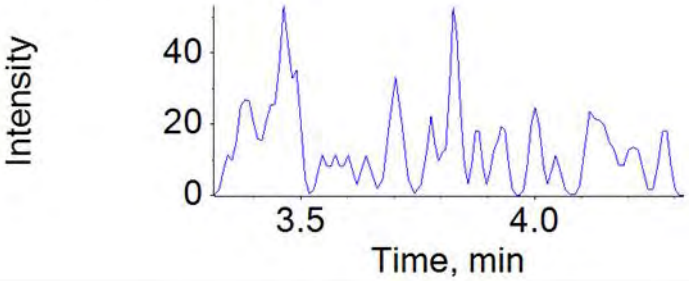
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

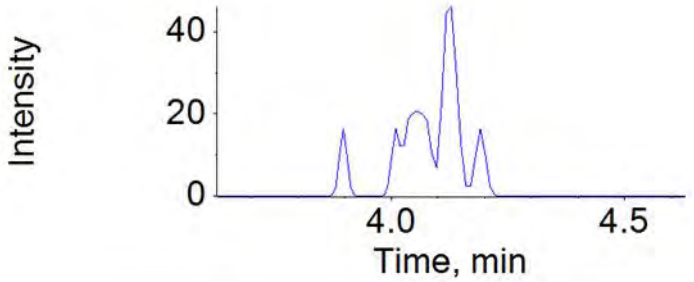
Component: PFBS
Primary Mass: 299.0 / 80.0



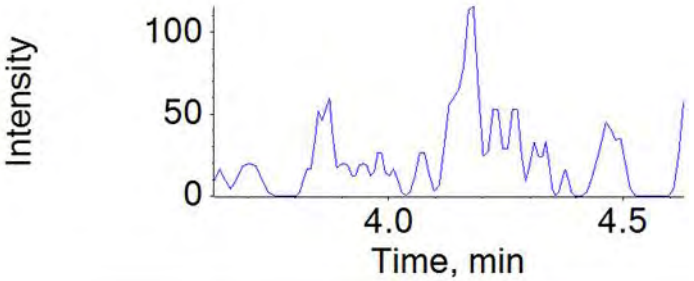
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



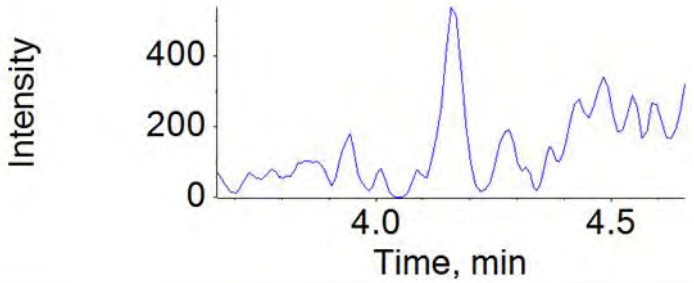
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



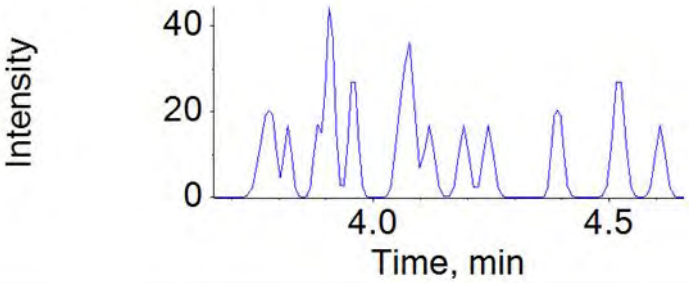
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



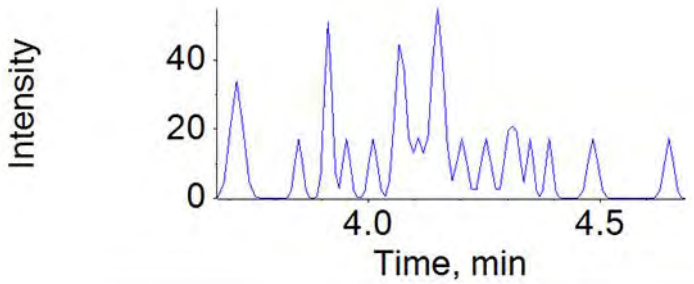
Component: PFHxA
Primary Mass: 313.0 / 269.0



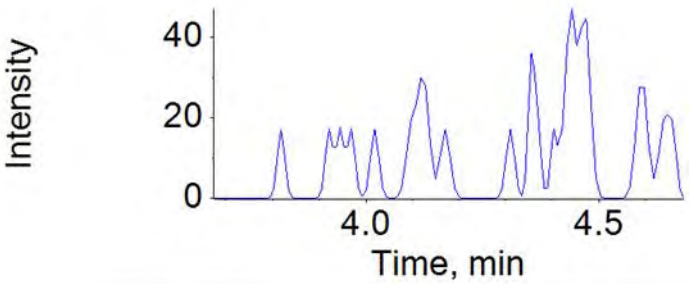
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



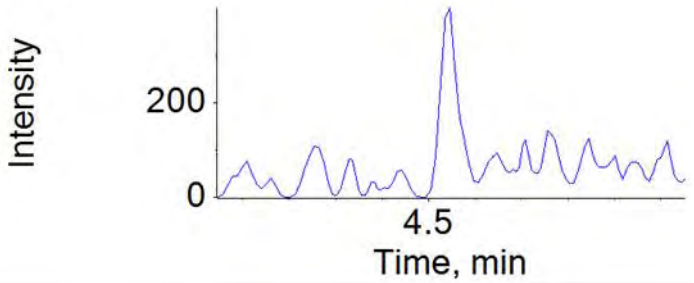
Component: PFPeS
Primary Mass: 349.0 / 80.0



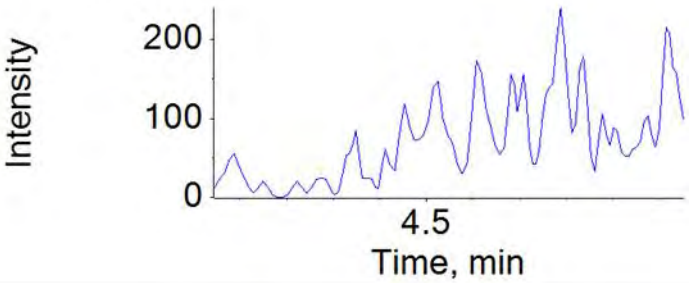
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



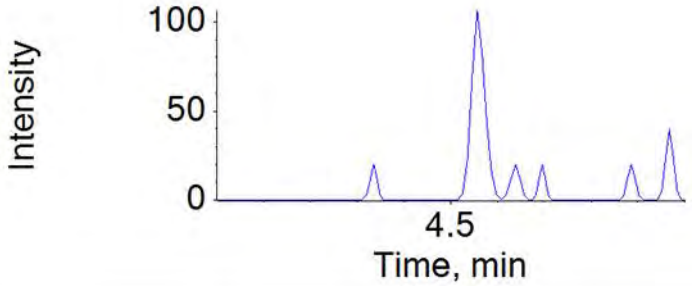
Component: PFHpA
Primary Mass: 363.0 / 319.0



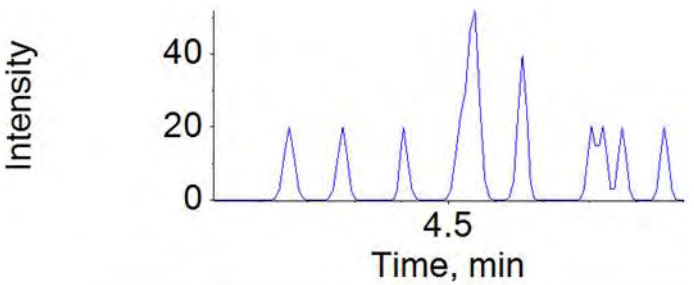
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



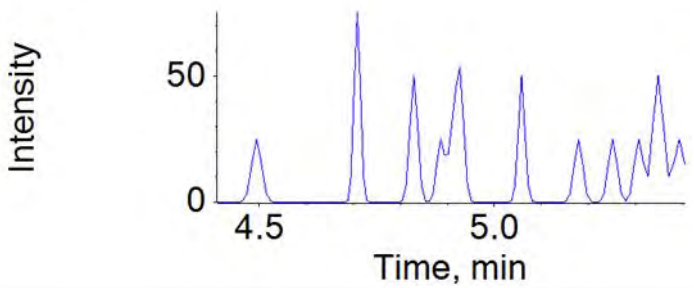
Component: PFHxS
Primary Mass: 399.0 / 80.0



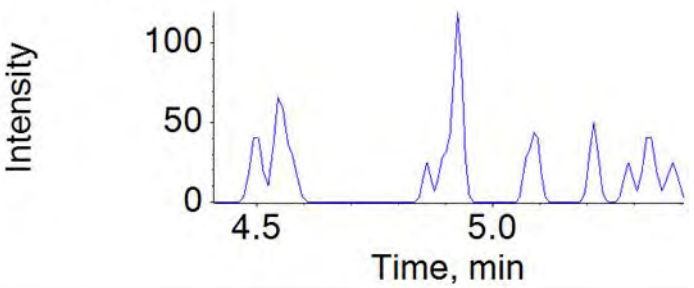
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



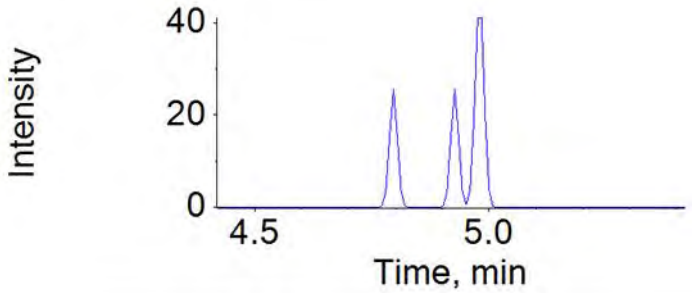
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



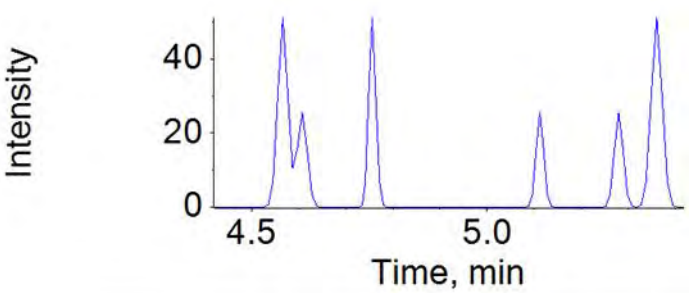
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



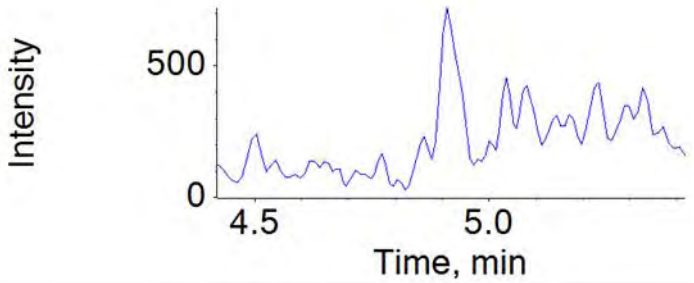
Component: PFHpS
Primary Mass: 449.0 / 80.0



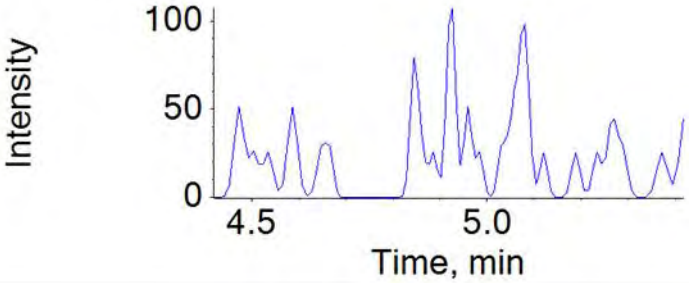
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



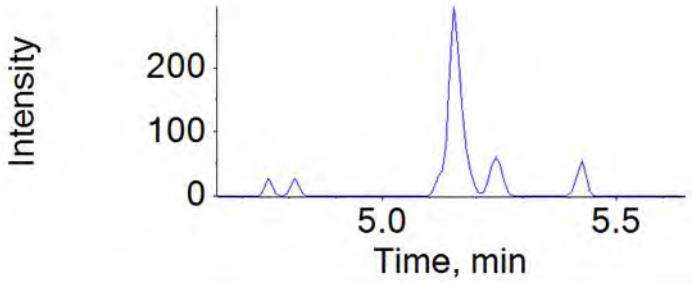
Component: PFOA
Primary Mass: 413.0 / 369.0



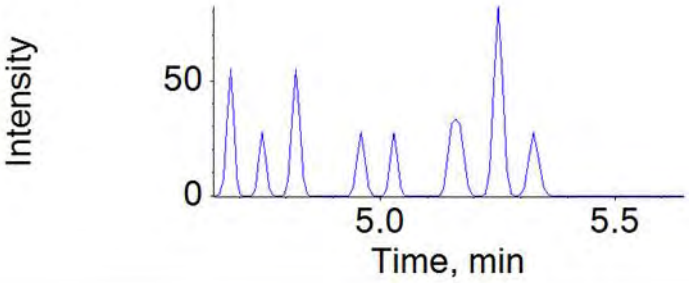
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



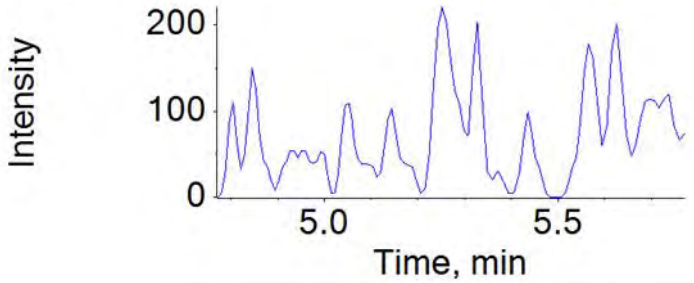
Component: PFOS
Primary Mass: 499.0 / 80.0



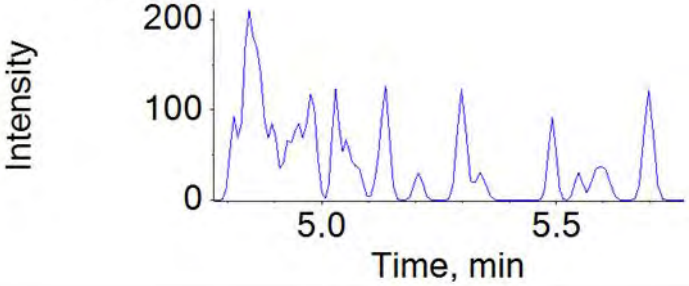
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



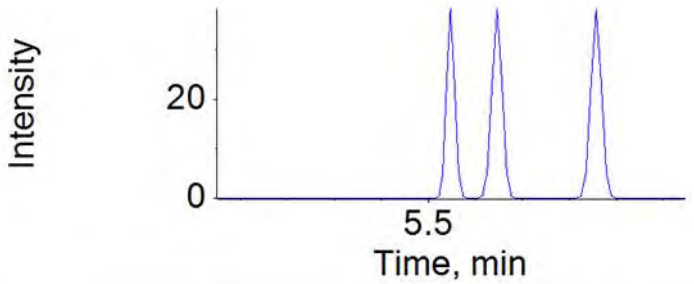
Component: PFNA
Primary Mass: 463.0 / 419.0



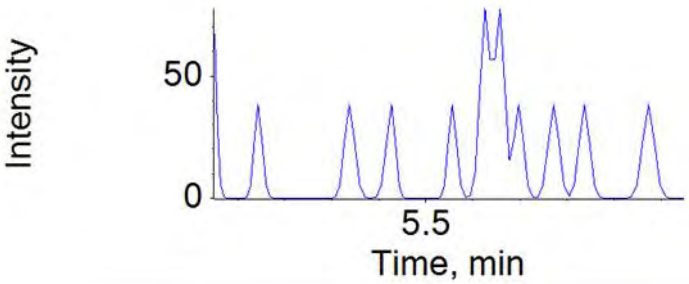
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



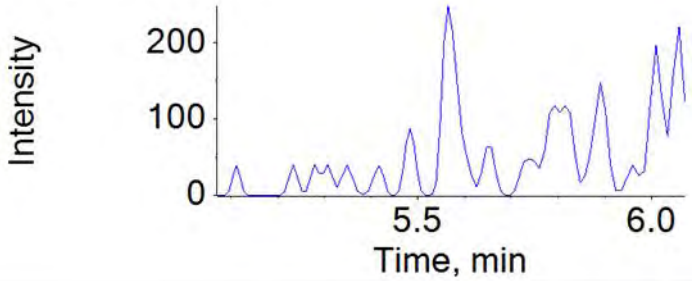
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



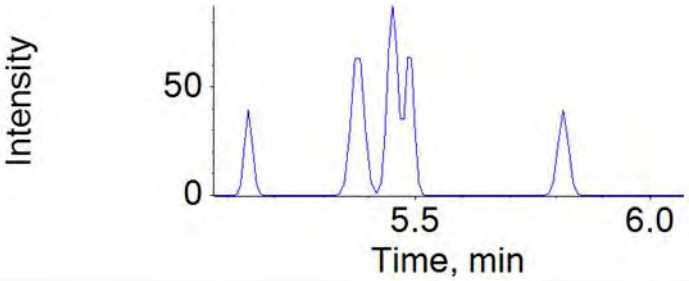
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

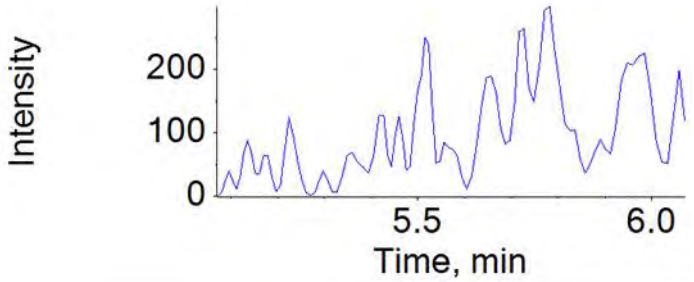
Component: PFDA
Primary Mass: 513.0 / 469.0



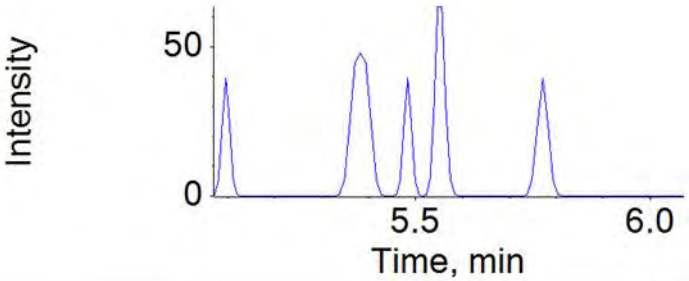
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



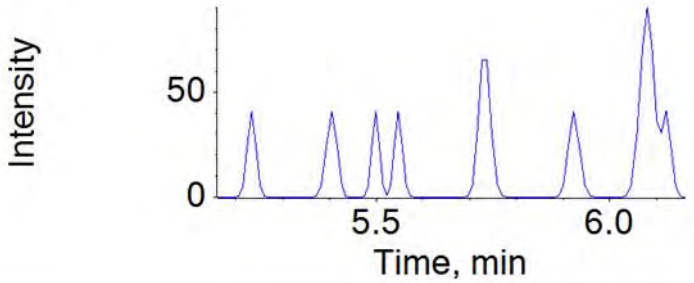
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



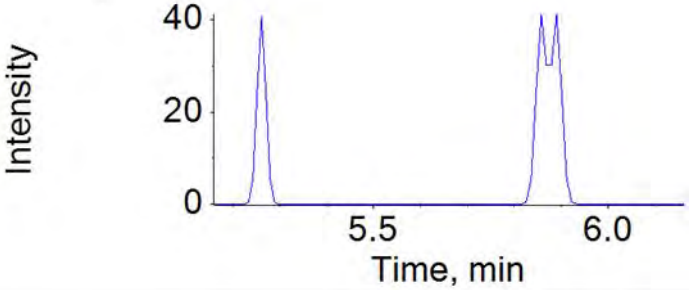
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



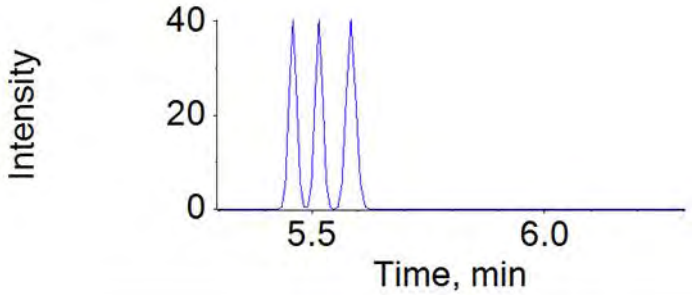
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



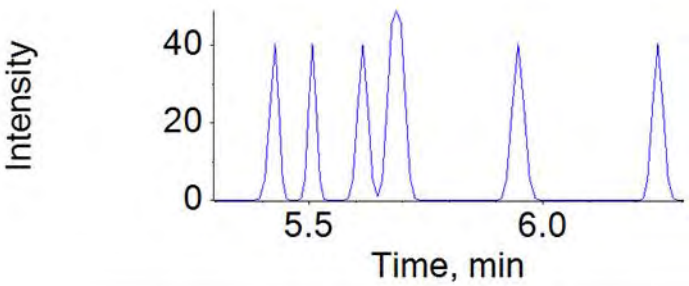
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



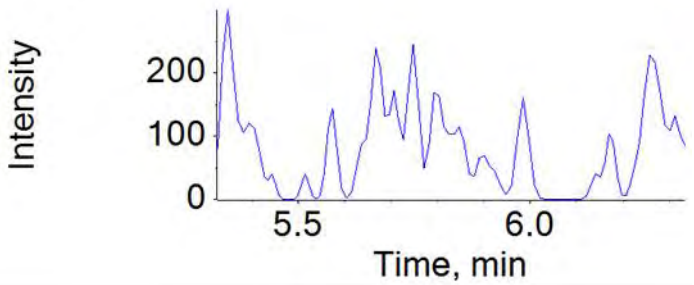
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



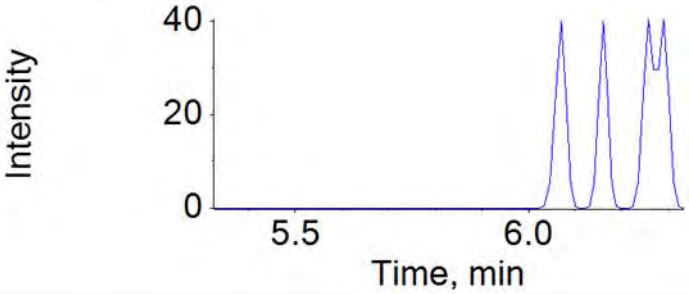
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

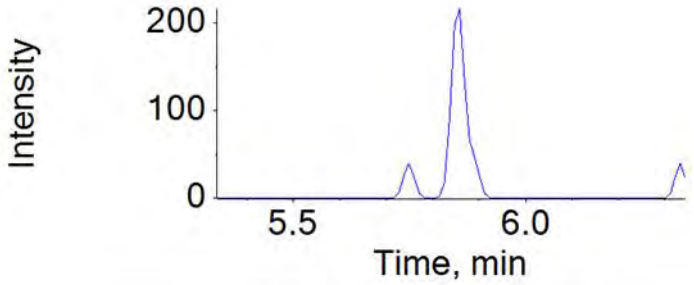
Component: PFUnDA
Primary Mass: 563.0 / 519.0



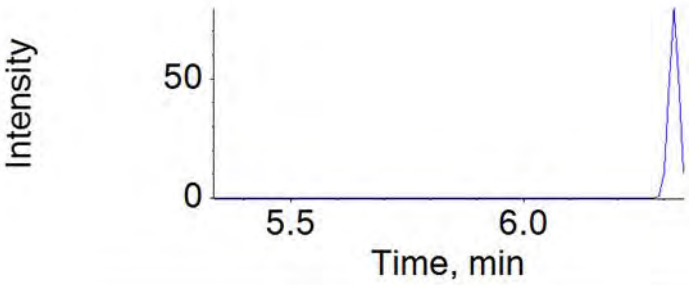
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



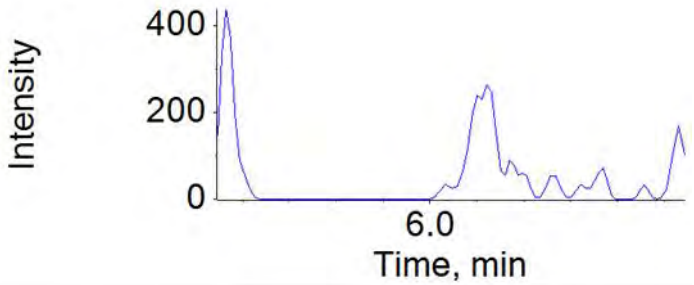
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



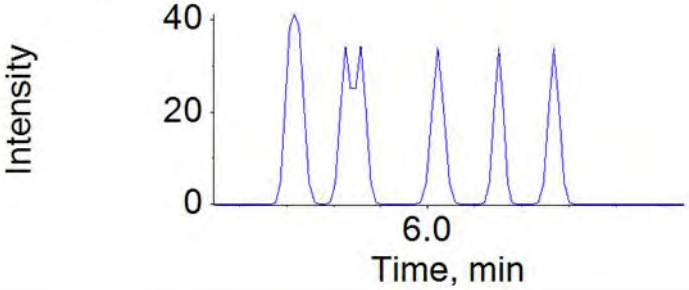
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



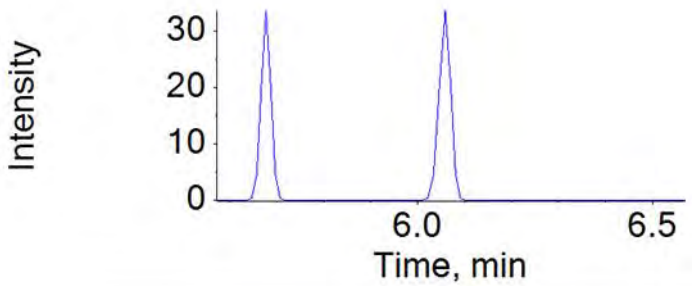
Component: PFDoDA
Primary Mass: 613.0 / 569.0



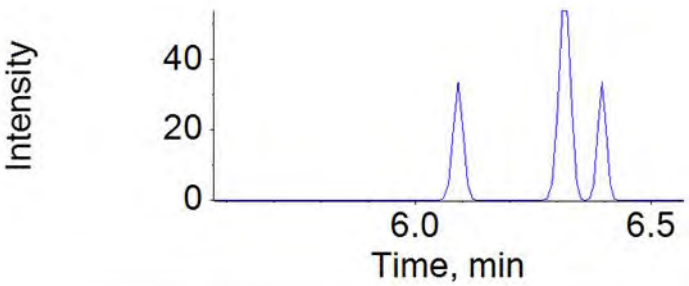
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



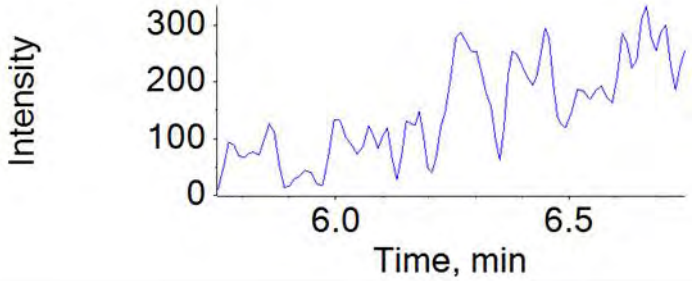
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



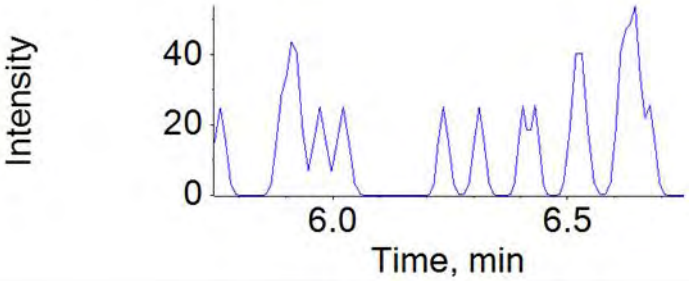
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



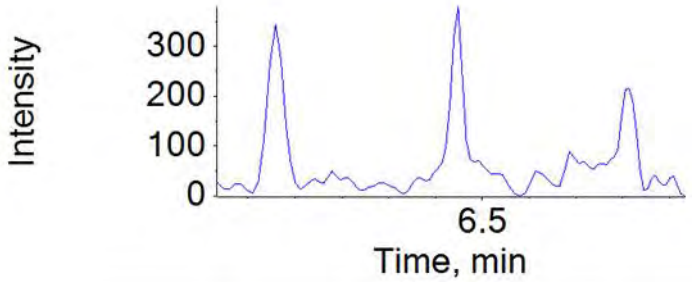
Component: PFTrDA
Primary Mass: 663.0 / 619.0



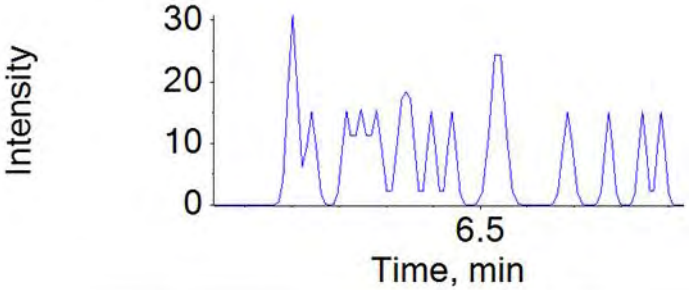
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



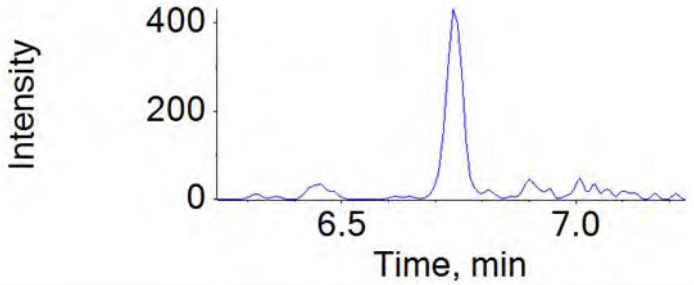
Component: PFTeDA
Primary Mass: 713.0 / 669.0



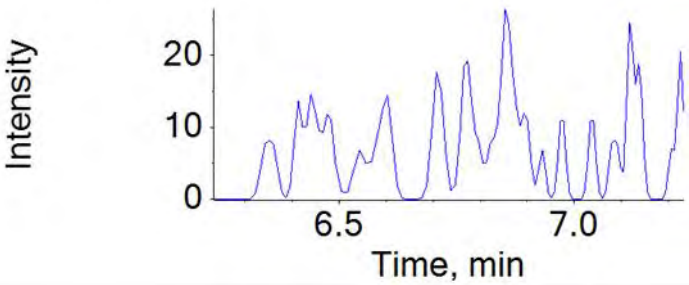
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



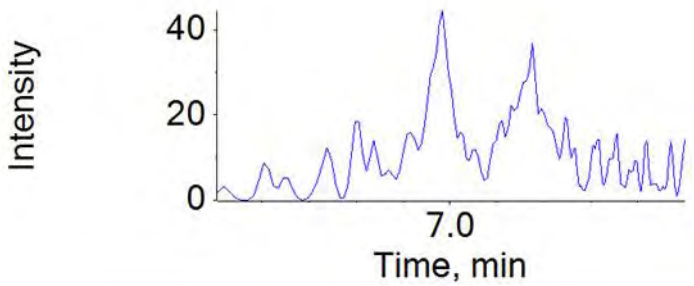
Component: PFHxDA
Primary Mass: 813.0 / 769.0



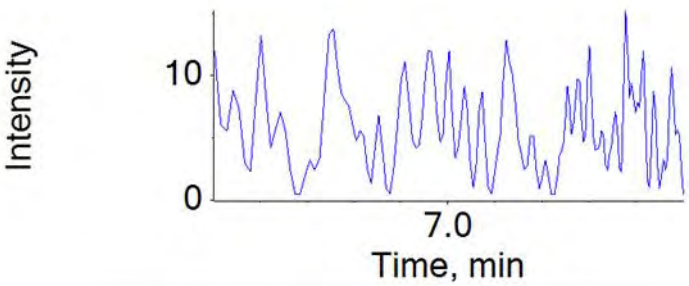
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



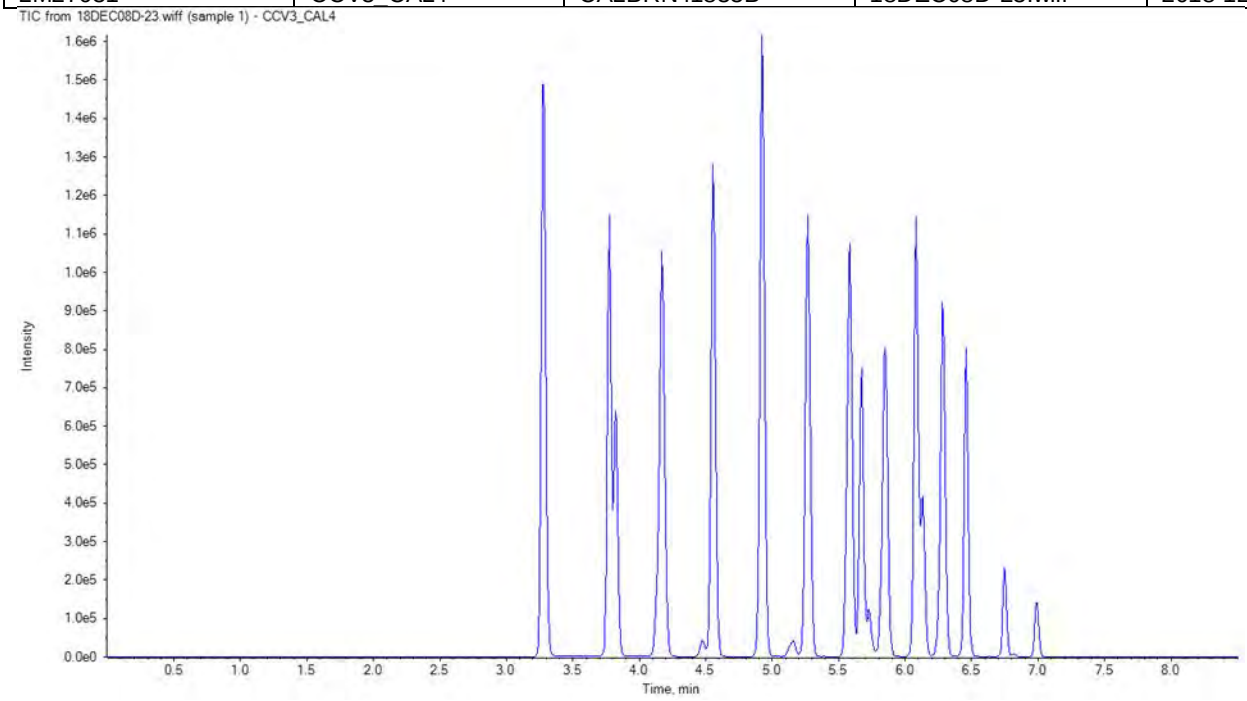
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By UCMR at 12:18 pm, 12/24/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV3_CAL4	CALBRN41833B	18DEC08D-23.wiff	2018-12-08T11:25:45



Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	933558.8	936973.7	0	50	
13C2-PFOA	5.0	530398.9	474841.3	12	50	
13C4-PFOS	4.8	304066.4	294668.0	3	50	
13C2-PFDA	5.0	399466.4	373990.9	7	50	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV3_CAL4	CALBRN41833B	18DEC08D-23.wiff	2018-12-08T11:25:45

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	1529586.4	11	13C4-PFBA	1038669.5	5.0	1.473	3.28	1.000	8.000	8.125	2	30	
PFPeA	1497988.7	11	13C5-PFPeA	939844.0	5.0	1.594	3.78	1.000	8.000	8.385	5	30	
PFBS	649889.3	10	13C3-PFBS	448452.5	4.7	1.449	3.82	1.000	7.080	7.183	1	30	
4:2-FTS	172034.9	11	13C2-4:2-FTS	64638.2	4.7	2.662	4.14	1.000	7.470	7.134	-5	30	
PFHxA	1372946.9	12	13C5-PFHxA	719543.8	5.0	1.908	4.17	1.000	8.000	8.314	4	30	
PFPeS	360599.8	11	13C3-PFBS	448452.5	4.7	0.804	4.19	1.100	7.500	7.962	6	30	
PFHpA	1449474.8	12	13C4-PFHpA	584896.3	5.0	2.478	4.56	1.000	8.000	8.159	2	30	
PFHxS	510115.8	19	13C3-PFHxS	346336.4	4.7	1.473	4.56	1.000	7.300	6.979	-4	30	
6:2-FTS	174175.0	11	13C2-6:2-FTS	53182.6	4.8	3.275	4.92	1.000	7.580	8.132	7	30	
PFHpS	488345.3	11	13C3-PFHxS	346336.4	4.7	1.410	4.92	1.080	7.610	7.740	2	30	
PFOA	1350555.3	11	13C8-PFOA	884689.4	5.0	1.527	4.93	1.000	8.000	8.343	4	30	
PFOS	528312.7	22	13C8-PFOS	325089.0	4.8	1.625	5.26	1.000	7.400	6.741	-9	30	
PFNA	1193679.8	11	13C9-PFNA	583668.9	5.0	2.045	5.27	1.000	8.000	7.537	-6	30	
PFNS	375521.9	11	13C8-PFOS	325089.0	4.8	1.155	5.56	1.060	7.680	7.433	-3	30	
PFDA	955714.1	11	13C6-PFDA	684132.2	5.0	1.397	5.59	1.000	8.000	7.863	-2	30	
8:2-FTS	145773.7	11	13C2-8:2-FTS	38520.2	4.8	3.784	5.59	1.000	7.660	8.200	7	30	
PFOSA	1029579.4	11	13C8-PFOSA	680450.0	5.0	1.513	5.67	1.000	8.000	7.850	-2	30	
NMeFOSAA	133795.7	19	d3-NMeFOSAA	110628.6	5.0	1.209	5.73	1.000	8.000	7.999	0	30	
PFDS	290286.3	11	13C8-PFOS	325089.0	4.8	0.893	5.83	1.110	7.700	7.220	-6	30	
PFUnDA	1132641.6	11	13C7-PFUnDA	447716.8	5.0	2.530	5.85	1.000	8.000	7.746	-3	30	
NEtFOSAA	134451.1	22	d5-NEtFOSAA	91691.2	5.0	1.466	5.87	1.000	8.000	7.411	-7	30	
PFDoDA	1442106.2	11	13C2-PFDoDA	928748.2	5.0	1.553	6.08	1.000	8.000	8.174	2	30	
10:2-FTS	111946.0	11	13C2-8:2-FTS	38520.2	4.8	2.906	6.10	1.090	7.710	7.698	0	30	
NMePFOSAE	462140.6	11	d7-NMePFOSAE	242727.2	5.0	1.904	6.14	1.000	8.000	8.274	3	30	
NMePFOSA	123599.0	11	d3-NMePFOSA	78063.5	5.0	1.583	6.14	1.000	8.000	7.989	0	30	
PFDoS	153184.4	11	13C8-PFOS	325089.0	4.8	0.471	6.25	1.190	7.740	7.184	-7	30	
NEtPFOSAE	509965.2	11	d9-NEtPFOSAE	206582.9	5.0	2.469	6.29	1.000	8.000	8.271	3	30	
NEtPFOSA	113184.4	11	d5-NEtPFOSA	66789.4	5.0	1.695	6.30	1.000	8.000	8.112	1	30	
PFTrDA	1259676.9	11	13C2-PFDoDA	928748.2	5.0	1.356	6.28	1.030	8.000	8.883	11	30	
PFTeDA	988030.8	11	13C2-PFTeDA	687652.1	5.0	1.437	6.46	1.000	8.000	8.216	3	30	
PFHxDA	440883.3	10	13C2-PFTeDA	687652.1	5.0	0.641	6.75	1.040	8.000	8.029	0	30	
PFODA	305690.3	10	13C2-PFTeDA	687652.1	5.0	0.445	6.99	1.080	8.000	7.136	-11	30	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV3_CAL4			**Data File:**		18DEC08D-23.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-08T11:25:45
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC08DCCV1-6
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	933558.8	936973.7	0	50	
13C2-PFOA	5.0	530398.9	474841.3	12	50	
13C4-PFOS	4.8	304066.4	294668.0	3	50	
13C2-PFDA	5.0	399466.4	373990.9	7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1038669.5	13C3-PFBA	933558.8	1.113	5.000	4.924	98	70-130	
E13C5-PFPeA	939844.0	13C3-PFBA	933558.8	1.007	5.000	4.781	96	70-130	
E13C3-PFBS	448452.5	13C3-PFBA	933558.8	0.480	4.650	4.072	88	70-130	
E13C2-4:2-FTS	64638.2	13C2-PFOA	530398.9	0.122	4.670	4.775	102	70-130	
E13C5-PFHxA	719543.8	13C2-PFOA	530398.9	1.357	5.000	4.555	91	70-130	
E13C3-PFHxS	346336.4	13C2-PFOA	530398.9	0.653	4.730	4.188	89	70-130	
E13C4-PFHpA	584896.3	13C2-PFOA	530398.9	1.103	5.000	4.688	94	70-130	
E13C2-6:2-FTS	53182.6	13C2-PFOA	530398.9	0.100	4.750	6.212	131	70-130	OOS
E13C8-PFOA	884689.4	13C2-PFOA	530398.9	1.668	5.000	4.715	94	70-130	
E13C8-PFOS	325089.0	13C4-PFOS	304066.4	1.069	4.780	4.798	100	70-130	
E13C9-PFNA	583668.9	13C4-PFOS	304066.4	1.920	5.000	5.424	108	70-130	
E13C6-PFDA	684132.2	13C2-PFDA	399466.4	1.713	5.000	4.538	91	70-130	
E13C2-8:2-FTS	38520.2	13C2-PFDA	399466.4	0.096	4.790	6.296	131	70-130	OOS
E13C8-PFOSA	680450.0	13C2-PFDA	399466.4	1.703	5.000	4.029	81	70-130	
Ed3-NMeFOSAA	110628.6	13C2-PFDA	399466.4	0.277	5.000	4.908	98	70-130	
E13C7-PFUnDA	447716.8	13C2-PFDA	399466.4	1.121	5.000	5.498	110	70-130	
Ed5-NEtFOSAA	91691.2	13C2-PFDA	399466.4	0.230	5.000	5.067	101	70-130	
E13C2-PFDoDA	928748.2	13C2-PFDA	399466.4	2.325	5.000	4.879	98	70-130	
Ed7-NMePFOSAE	242727.2	13C2-PFDA	399466.4	0.608	5.000	3.500	70	70-130	
Ed3-NMePFOSA	78063.5	13C2-PFDA	399466.4	0.195	5.000	3.561	71	70-130	
Ed9-NEtPFOSAE	206582.9	13C2-PFDA	399466.4	0.517	5.000	3.566	71	70-130	
Ed5-NEtPFOSA	66789.4	13C2-PFDA	399466.4	0.167	5.000	3.763	75	70-130	
E13C2-PFTeDA	687652.1	13C2-PFDA	399466.4	1.721	5.000	5.109	102	70-130	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

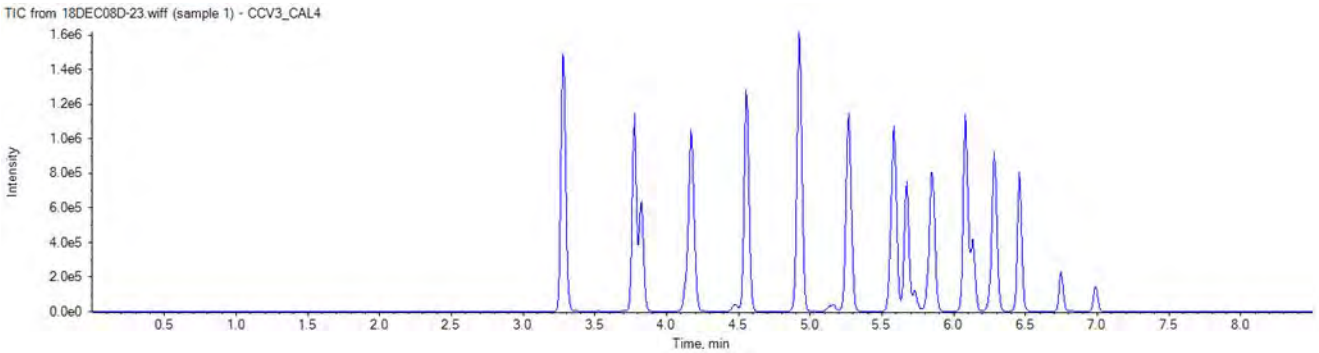
Analyte Quantitation Peak Table

Sample Name: CCV3_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC08D-23.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.28	1.000	1529586.4		A	13C4-PFBA	3.28	1038669.5	1.473	8.125
PFPeA	3.78	1.000	1497988.7		A	13C5-PFPeA	3.78	939844.0	1.594	8.385
PFBS	3.82	1.000	649889.3		A	13C3-PFBS	3.82	448452.5	1.449	7.183
4:2-FTS	4.14	1.000	172034.9		A	13C2-4:2-FTS	4.14	64638.2	2.662	7.134
PFHxA	4.17	1.000	1372946.9		A	13C5-PFHxA	4.17	719543.8	1.908	8.314
PFPeS	4.19	1.100	360599.8		A	13C3-PFBS	3.82	448452.5	0.804	7.962
PFHpA	4.56	1.000	1449474.8		A	13C4-PFHpA	4.56	584896.3	2.478	8.159
PFHxS	4.56	1.000	510115.8		M	13C3-PFHxS	4.56	346336.4	1.473	6.979
6:2-FTS	4.92	1.000	174175.0		A	13C2-6:2-FTS	4.92	53182.6	3.275	8.132
PFHpS	4.92	1.080	488345.3		A	13C3-PFHxS	4.56	346336.4	1.410	7.740
PFOA	4.93	1.000	1350555.3		A	13C8-PFOA	4.93	884689.4	1.527	8.343
PFOS	5.26	1.000	528312.7		M	13C8-PFOS	5.26	325089.0	1.625	6.741
PFNA	5.27	1.000	1193679.8		A	13C9-PFNA	5.27	583668.9	2.045	7.537
PFNS	5.56	1.060	375521.9		A	13C8-PFOS	5.26	325089.0	1.155	7.433
PFDA	5.59	1.000	955714.1		A	13C6-PFDA	5.59	684132.2	1.397	7.863
8:2-FTS	5.59	1.000	145773.7		A	13C2-8:2-FTS	5.59	38520.2	3.784	8.200
PFOSA	5.67	1.000	1029579.4		A	13C8-PFOSA	5.67	680450.0	1.513	7.850
NMeFOSAA	5.73	1.000	133795.7		M	d3-NMeFOSAA	5.73	110628.6	1.209	7.999
PFDS	5.83	1.110	290286.3		A	13C8-PFOS	5.26	325089.0	0.893	7.220
PFUnDA	5.85	1.000	1132641.6		A	13C7-PFUnDA	5.85	447716.8	2.530	7.746
NEtFOSAA	5.87	1.000	134451.1		A	d5-NEtFOSAA	5.86	91691.2	1.466	7.411
PFDoDA	6.08	1.000	1442106.2		A	13C2-PFDoDA	6.08	928748.2	1.553	8.174
10:2-FTS	6.10	1.090	111946.0		A	13C2-8:2-FTS	5.59	38520.2	2.906	7.698
NMePFOSAE	6.14	1.000	462140.6		A	d7-NMePFOSAE	6.13	242727.2	1.904	8.274
NMePFOSA	6.14	1.000	123599.0		A	d3-NMePFOSA	6.14	78063.5	1.583	7.989
PFDoS	6.25	1.190	153184.4		A	13C8-PFOS	5.26	325089.0	0.471	7.184
NEtPFOSAE	6.29	1.000	509965.2		A	d9-NEtPFOSAE	6.28	206582.9	2.469	8.271
NEtPFOSA	6.30	1.000	113184.4		A	d5-NEtPFOSA	6.30	66789.4	1.695	8.112
PFTrDA	6.28	1.030	1259676.9		A	13C2-PFDoDA	6.08	928748.2	1.356	8.883
PFTeDA	6.46	1.000	988030.8		A	13C2-PFTeDA	6.46	687652.1	1.437	8.216
PFHxDA	6.75	1.040	440883.3		A	13C2-PFTeDA	6.46	687652.1	0.641	8.029
PFODA	6.99	1.080	305690.3		A	13C2-PFTeDA	6.46	687652.1	0.445	7.136

Total Ion Chromatogram

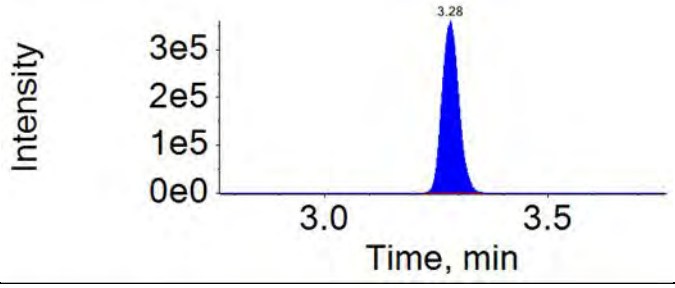


APPROVED
By JPT at 2:52 pm, 12/10/18

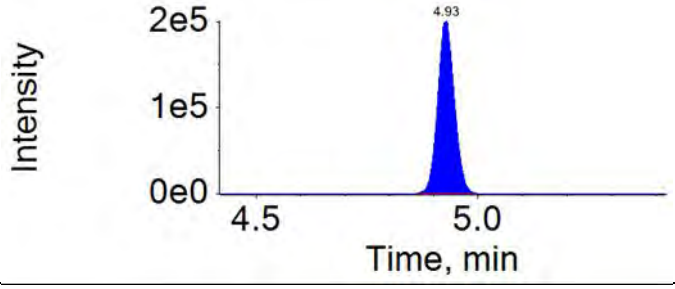
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

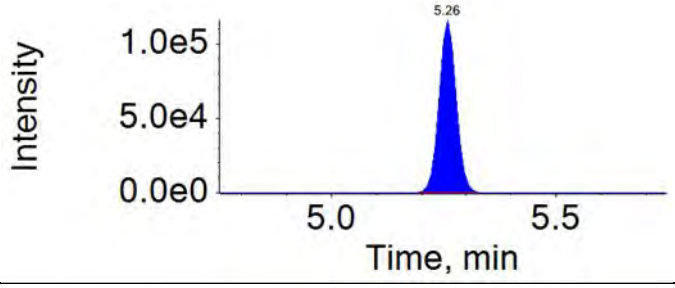
Injection Standard: 13C3-PFBA
216.0 / 172.0



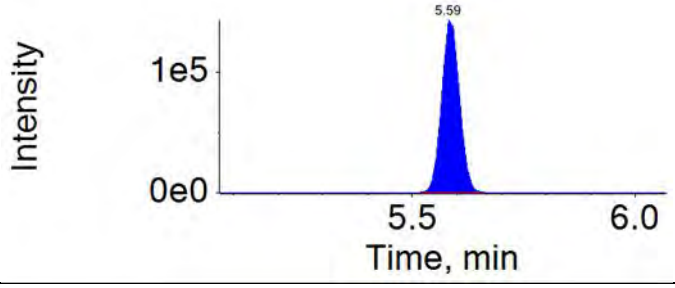
Injection Standard: 13C2-PFOA
415.0 / 370.0



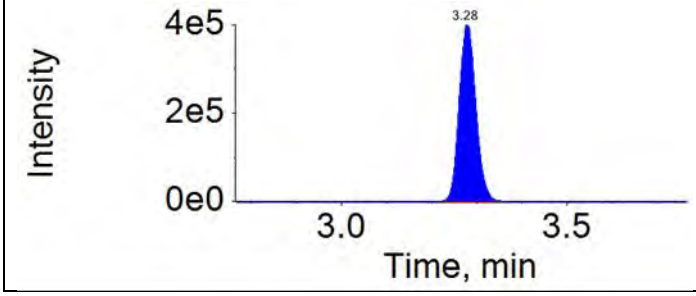
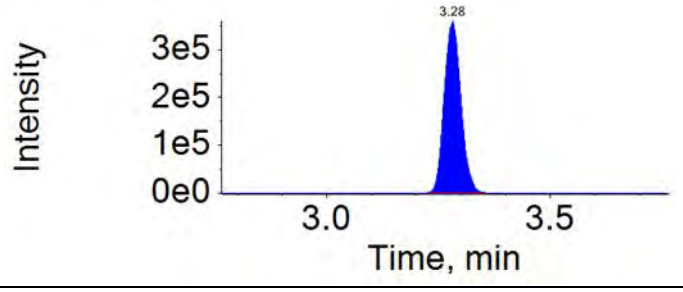
Injection Standard: 13C4-PFOS
503.0 / 80.0

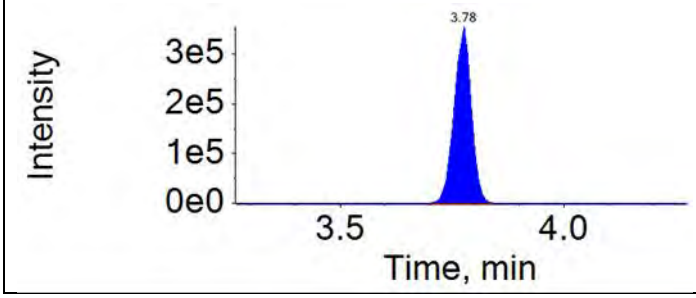
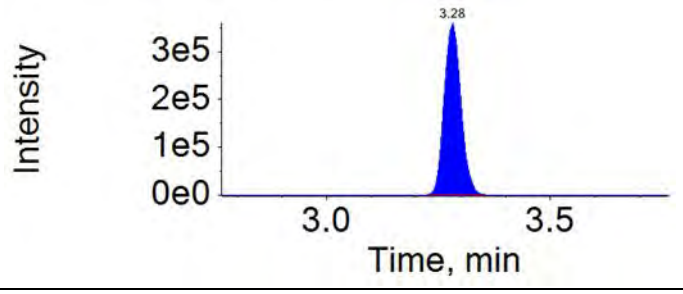


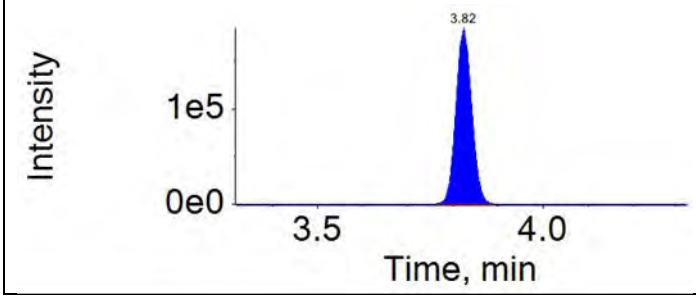
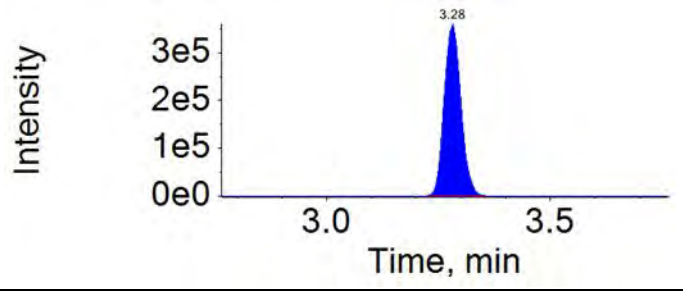
Injection Standard: 13C2-PFDA
515.0 / 470.0

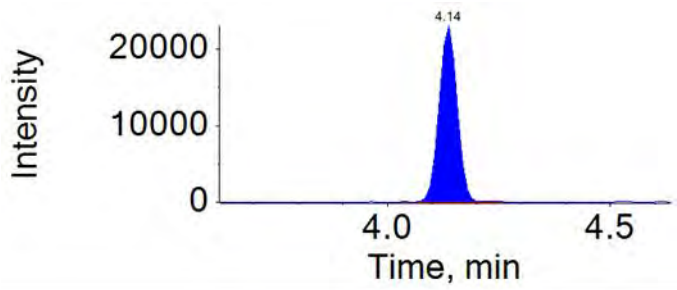
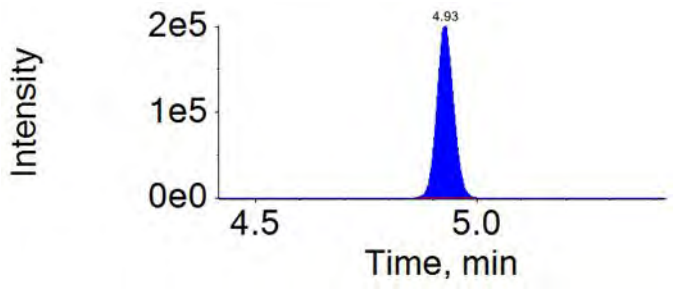


ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

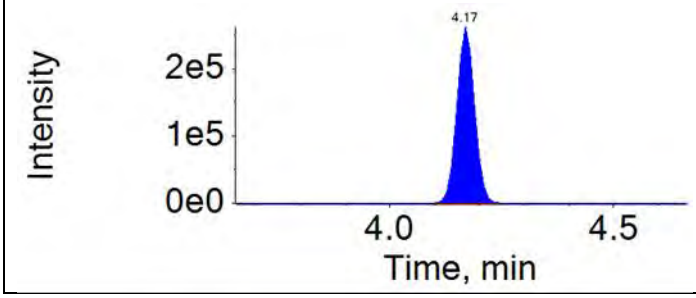
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

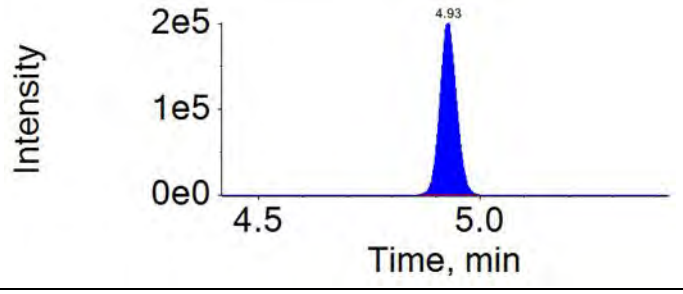
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

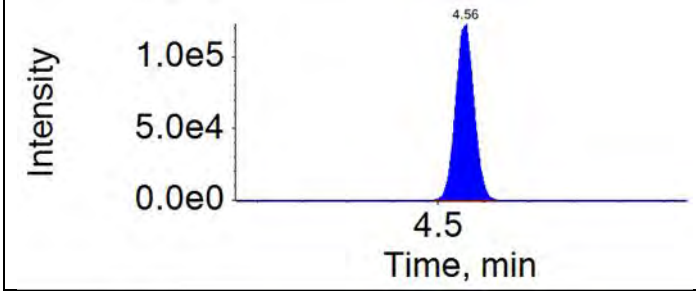
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

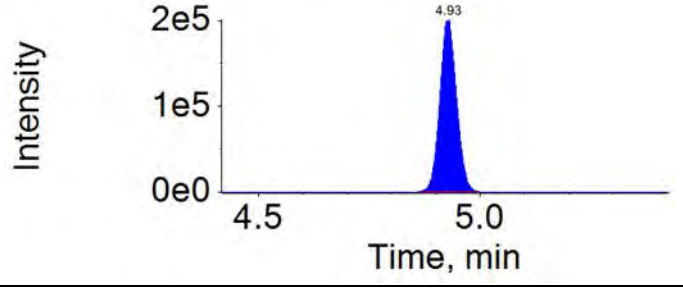
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



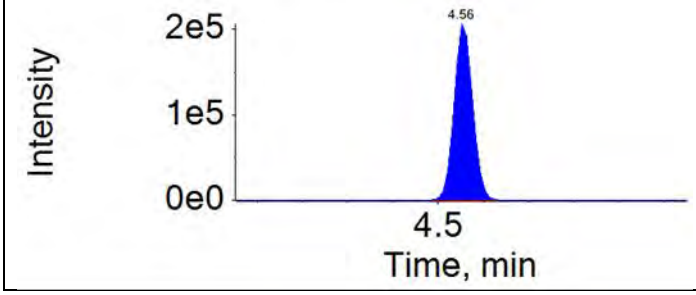


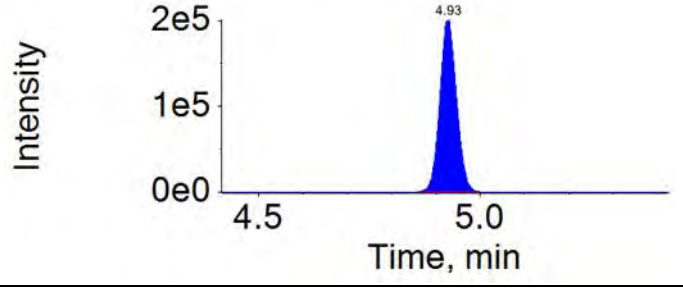
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



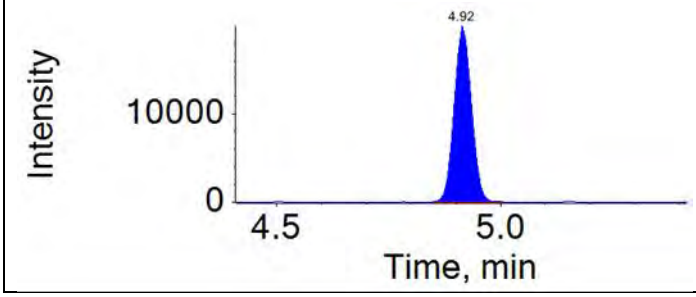


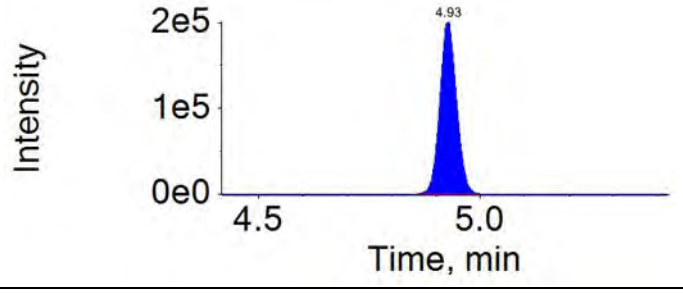
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

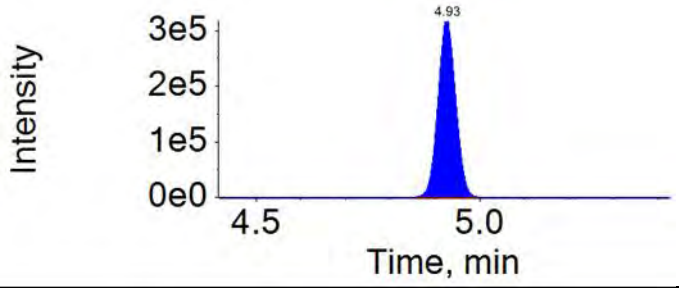
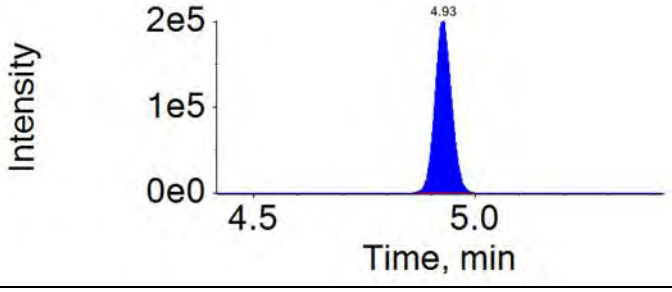


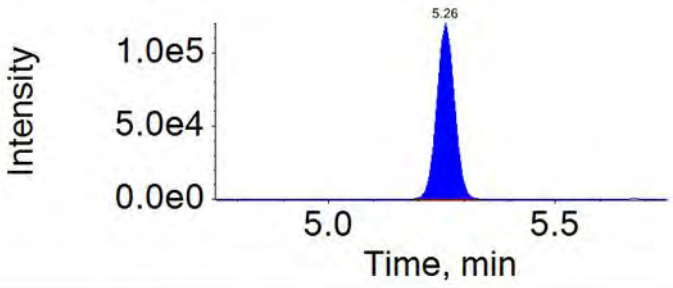
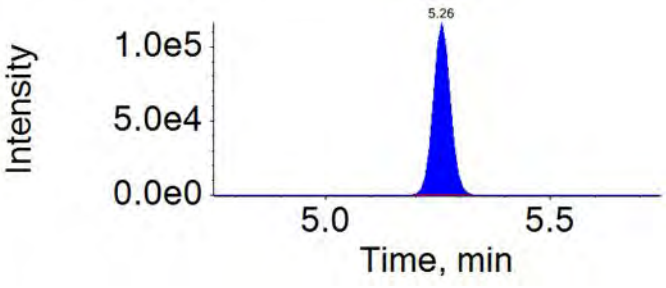


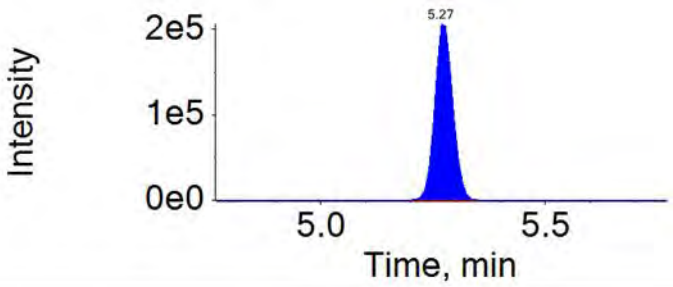
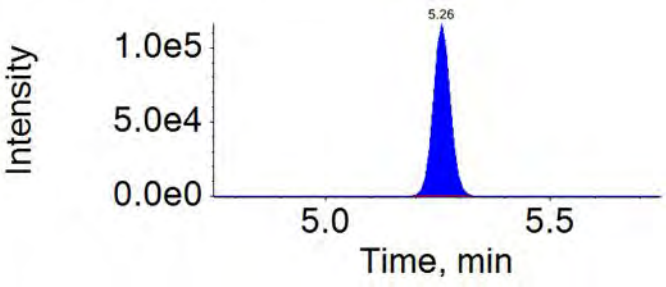
APPROVED
By JPT at 2:52 pm, 12/10/18

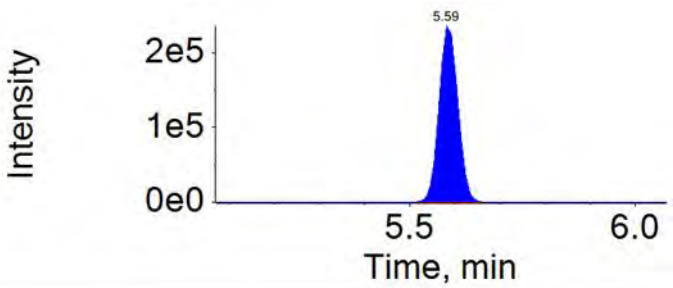
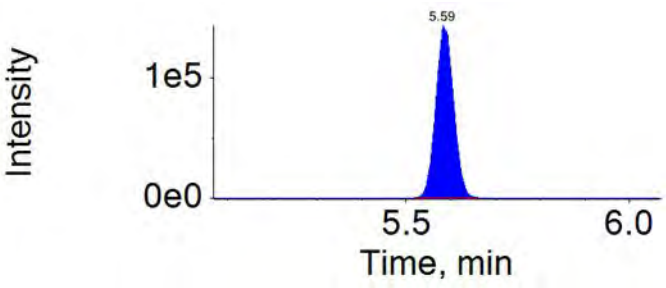
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

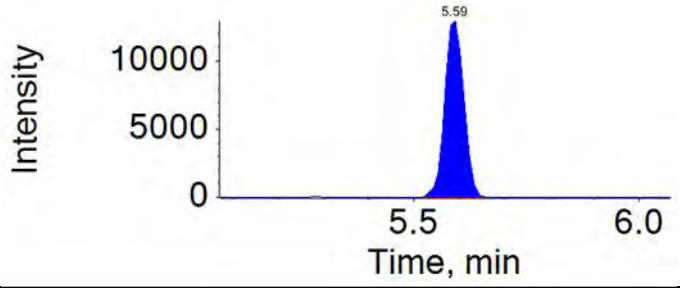
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

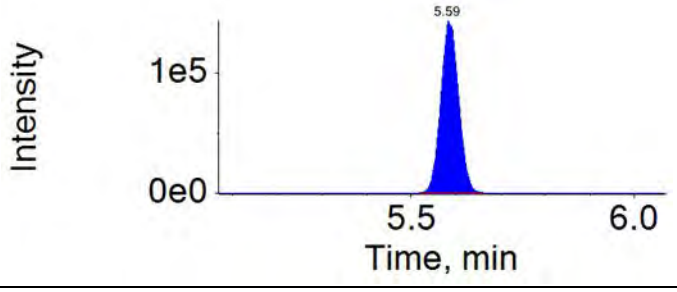
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

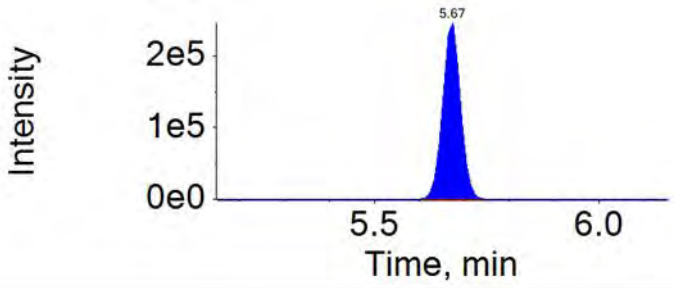
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

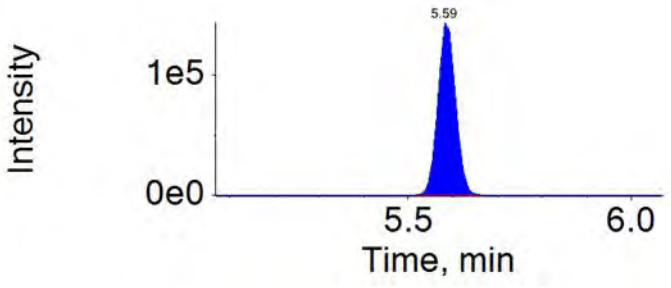
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



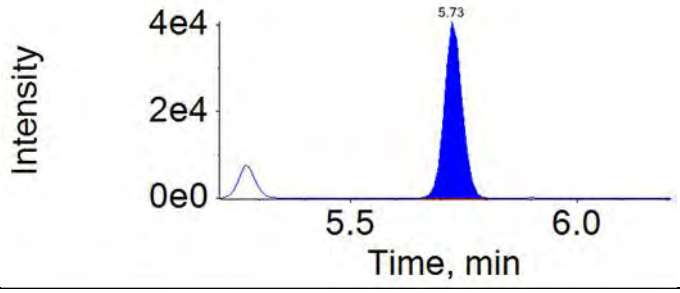


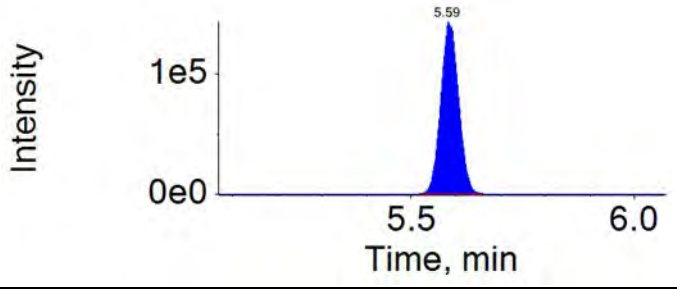
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



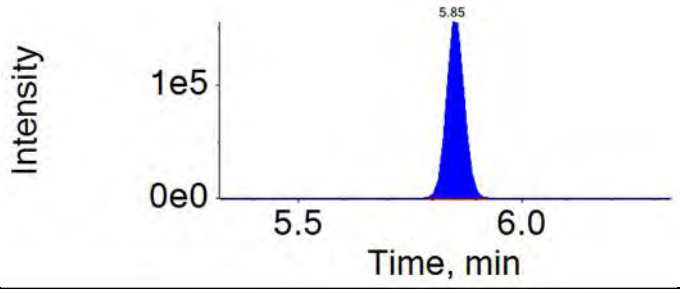


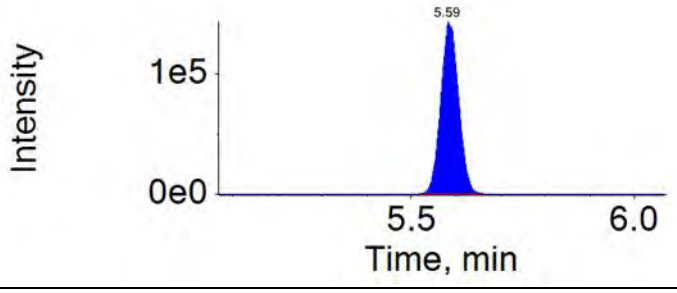
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



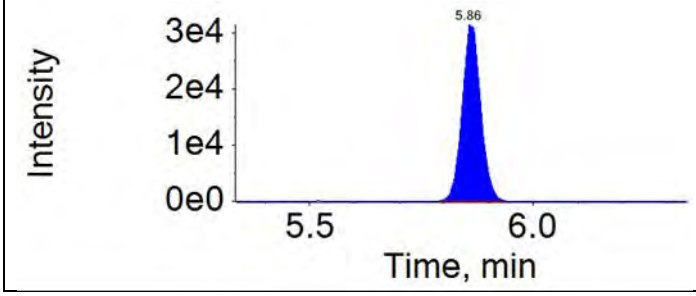


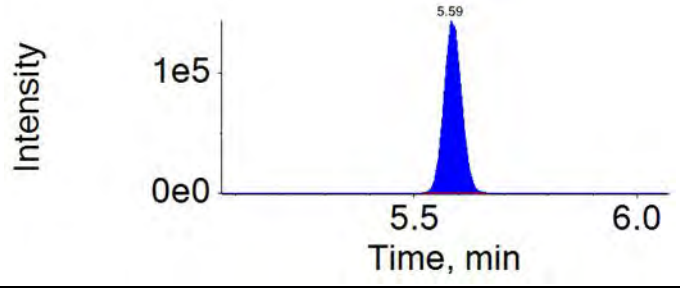
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

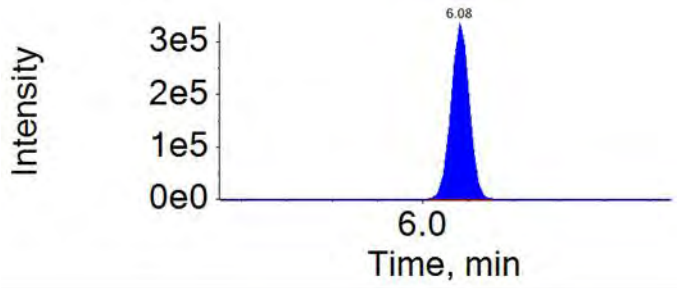
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

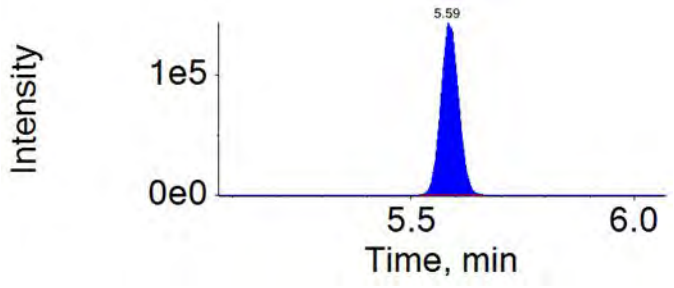
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



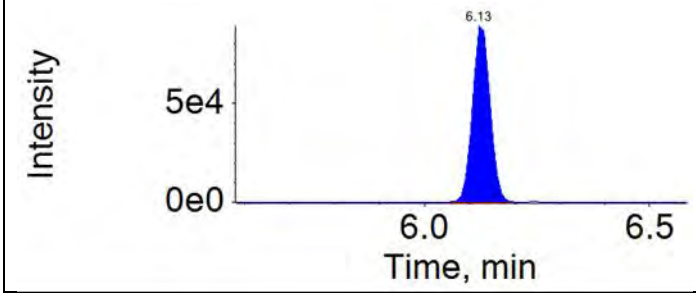


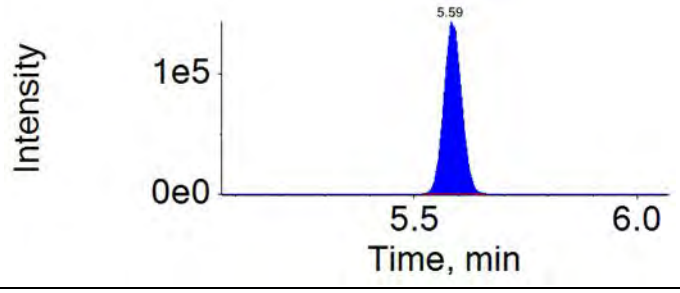
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



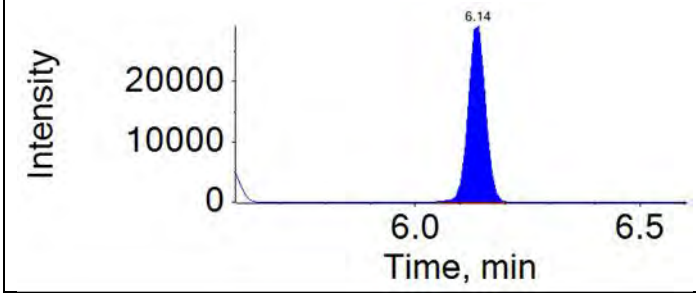


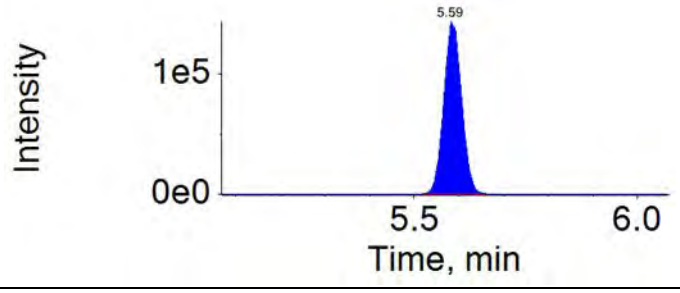
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



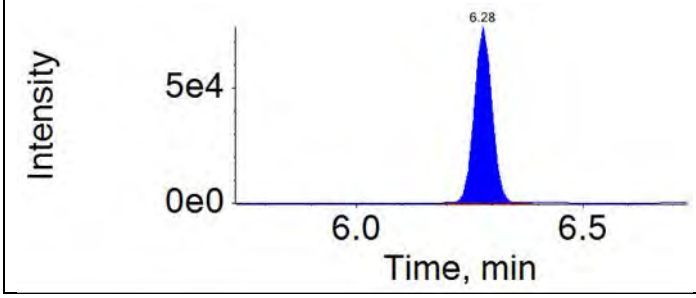


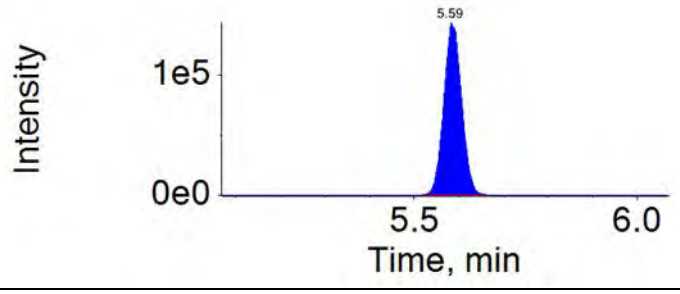
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

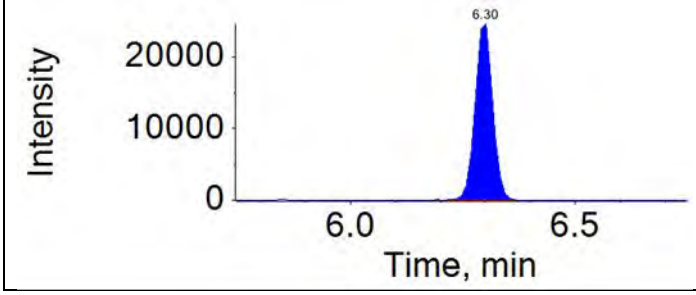
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

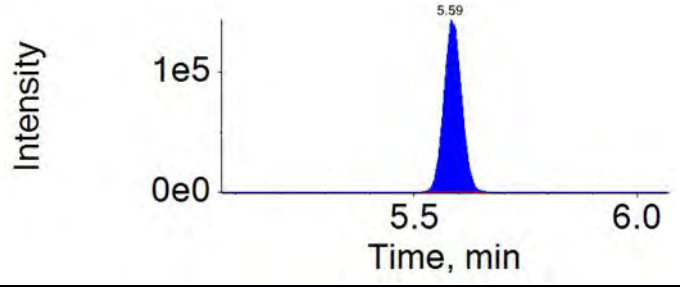
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



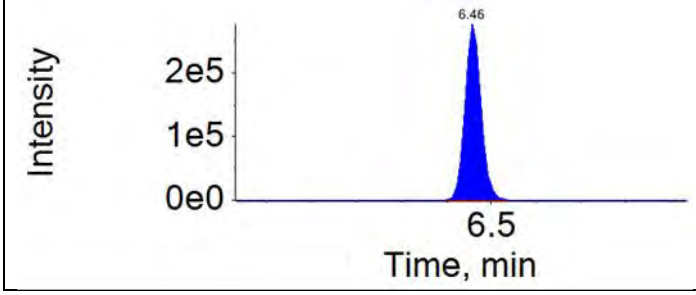


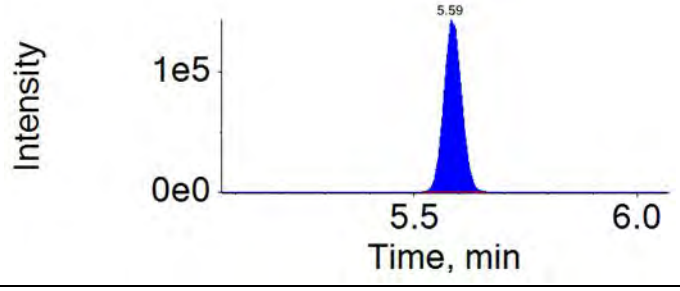
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



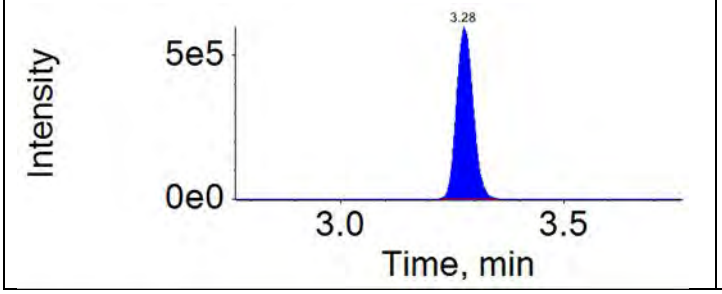


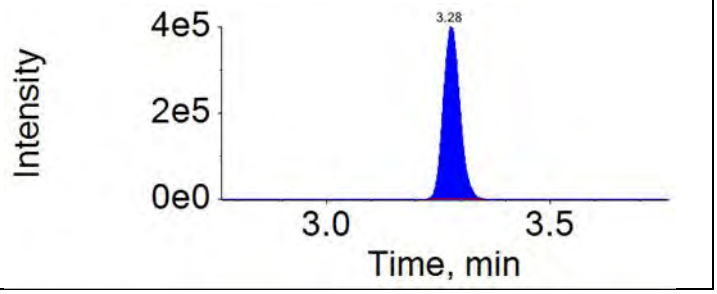
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

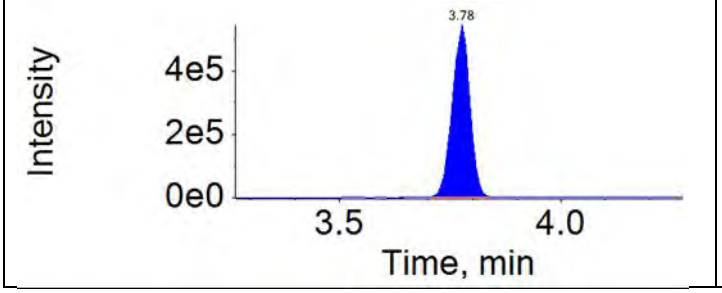
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

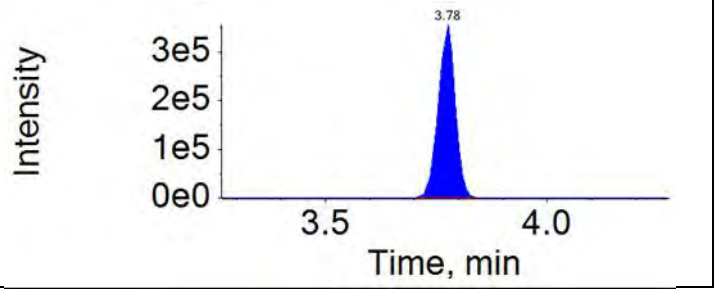
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



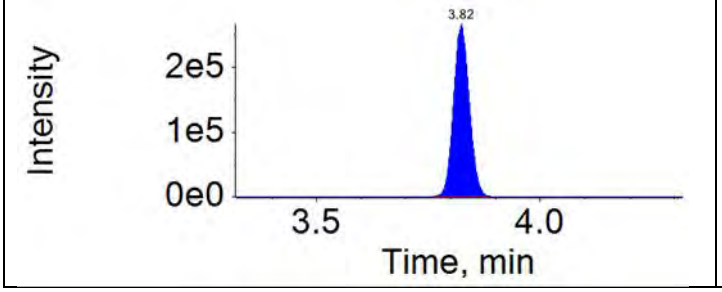


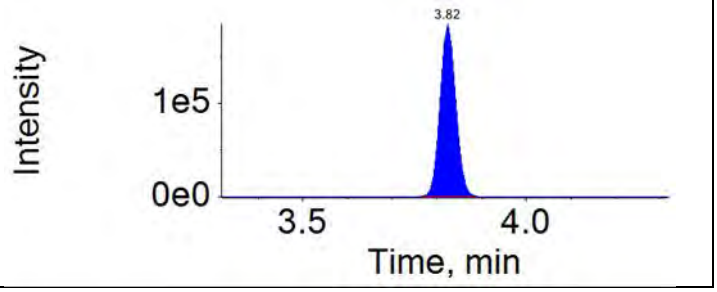
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



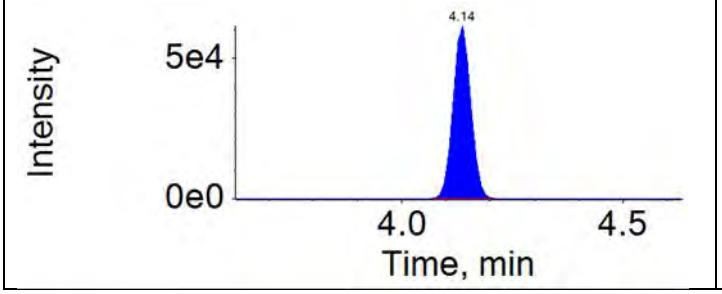


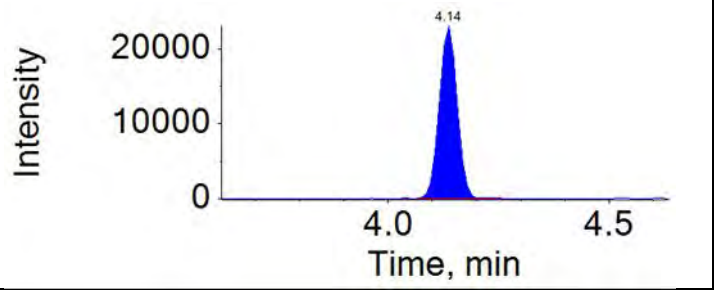
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



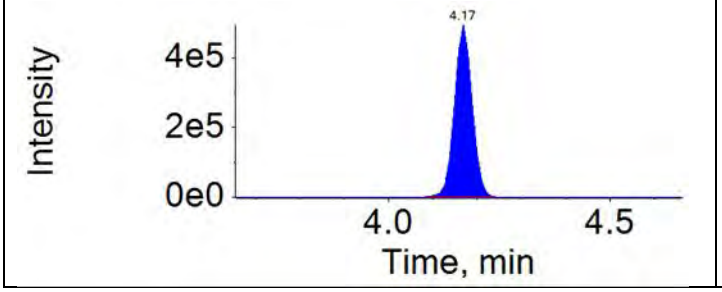


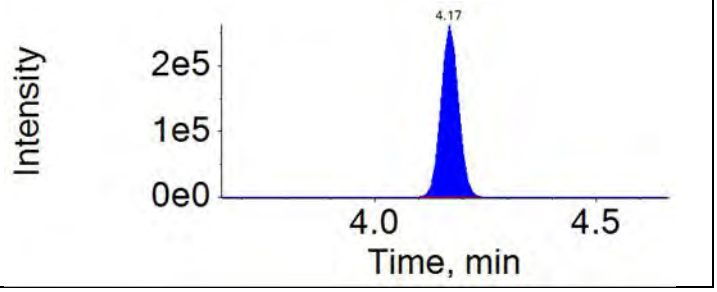
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

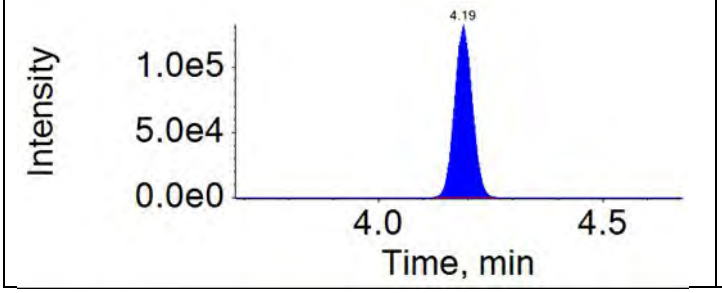
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

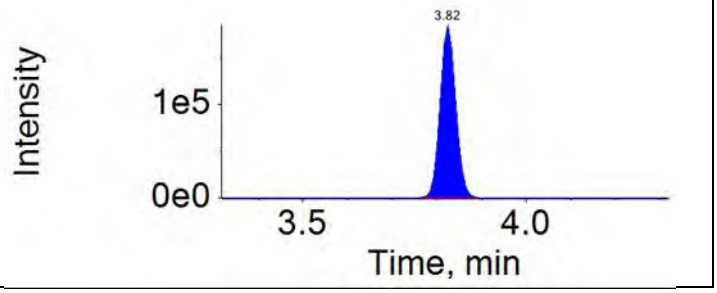
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



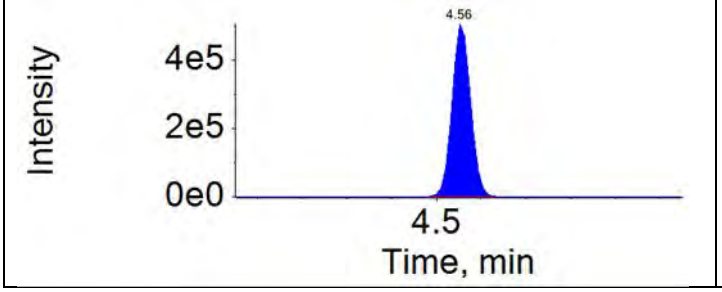


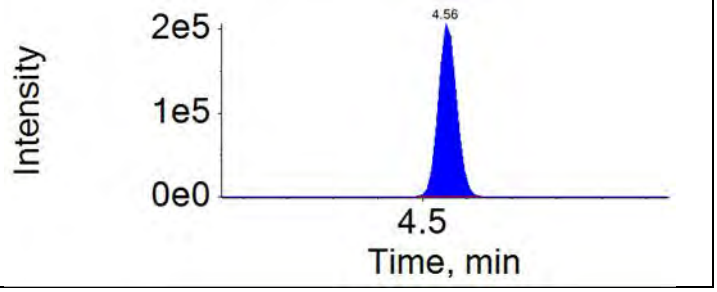
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



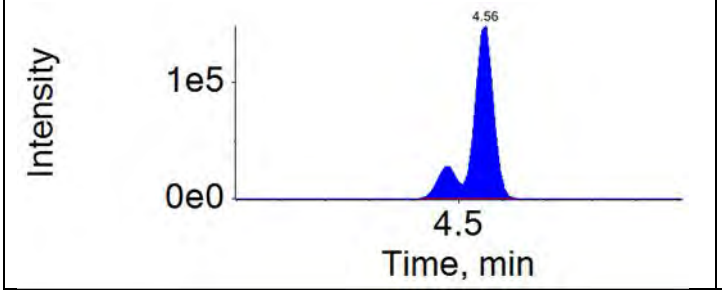


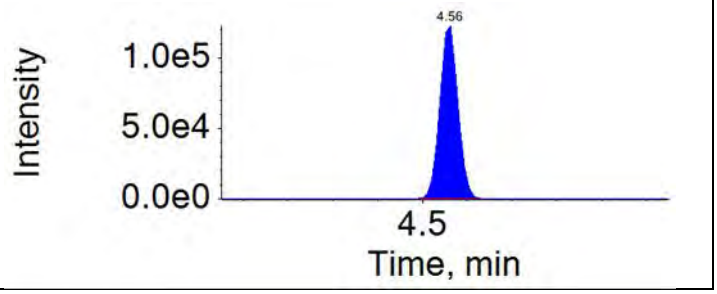
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



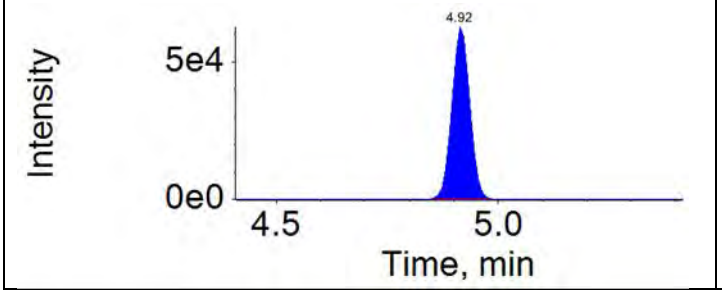


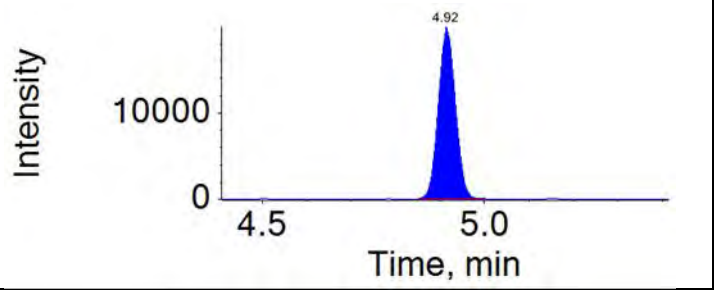
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

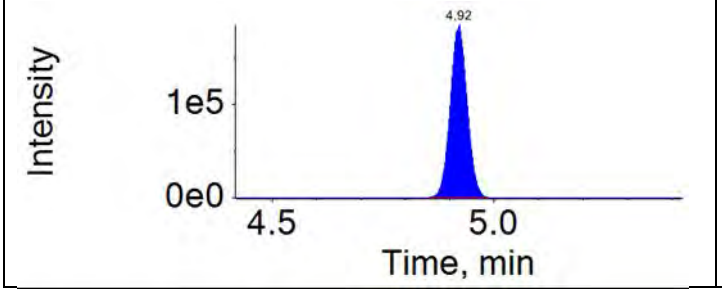
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

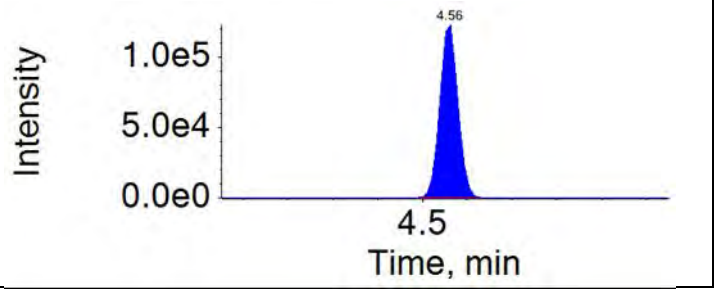
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



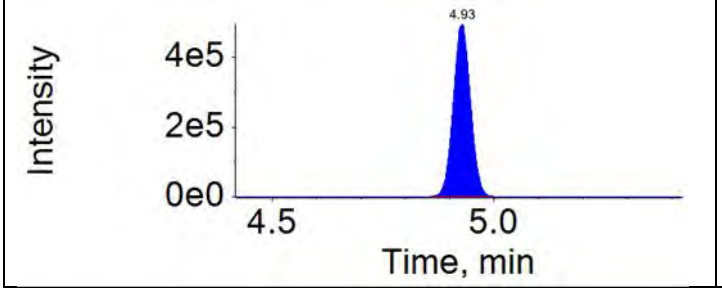


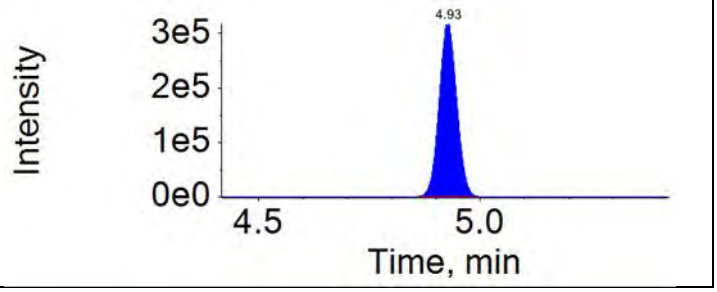
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



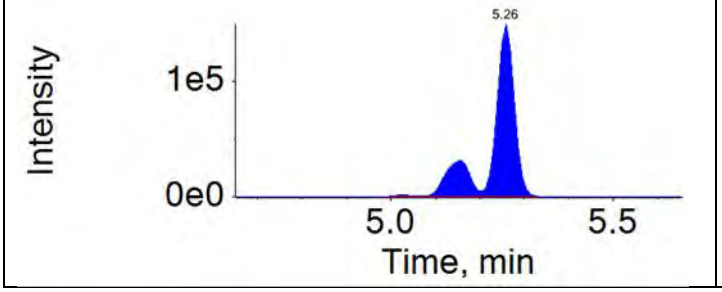


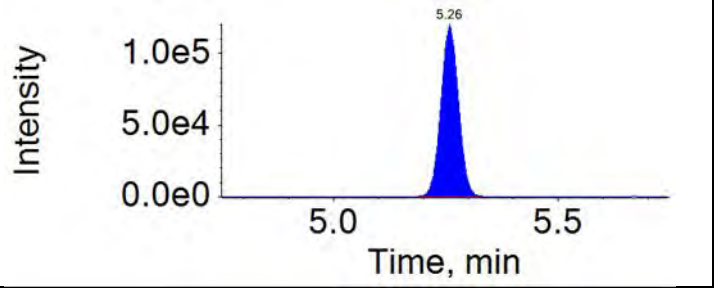
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



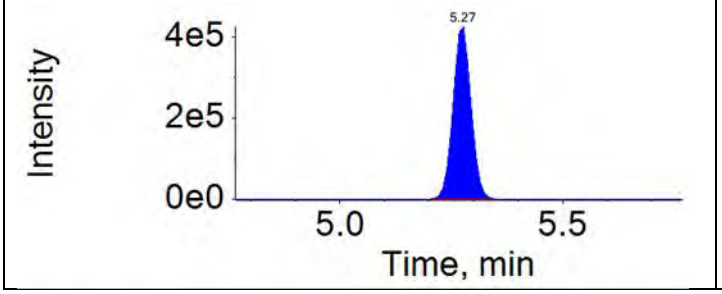


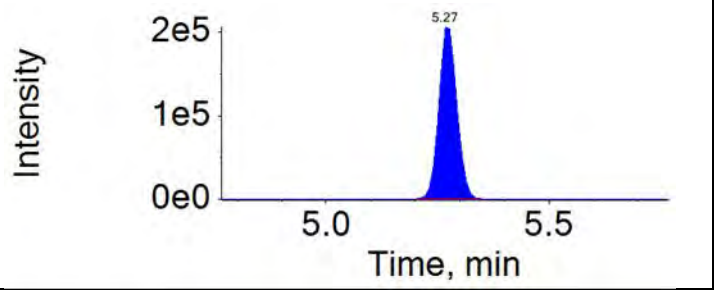
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

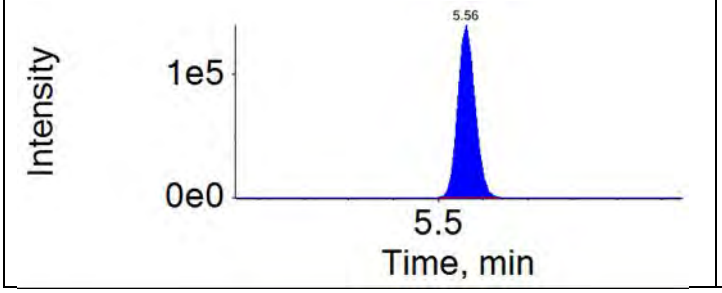
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

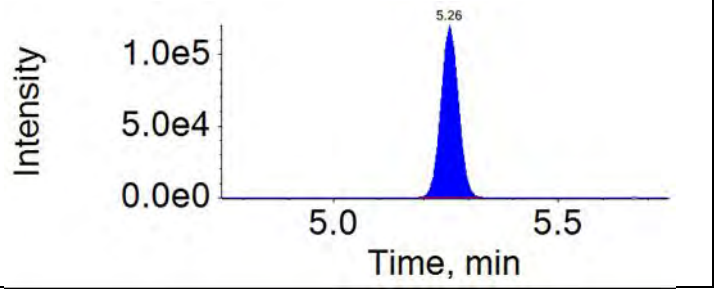
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



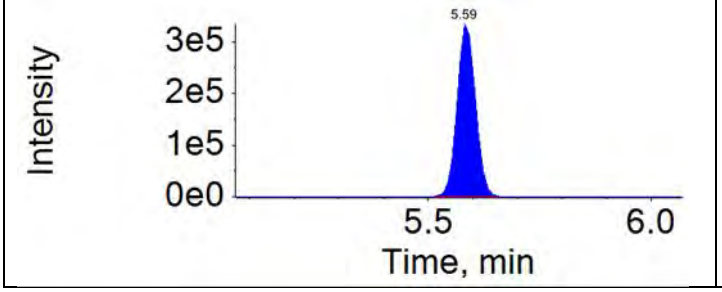


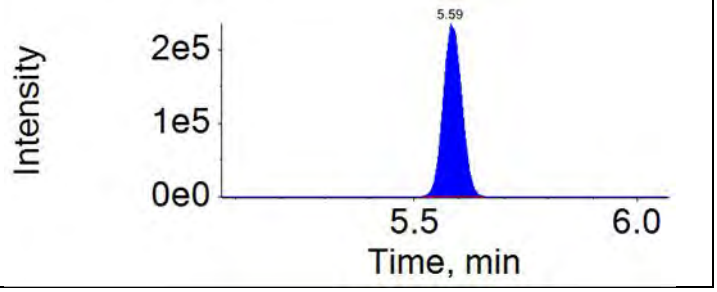
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



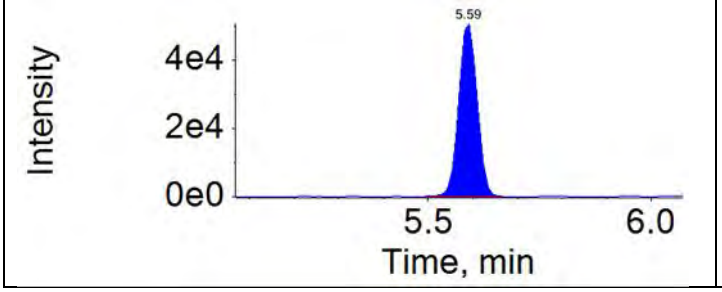


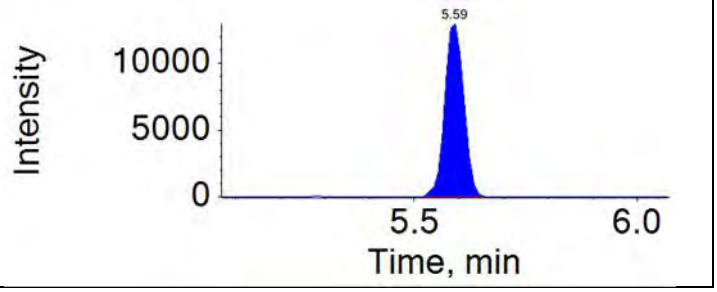
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



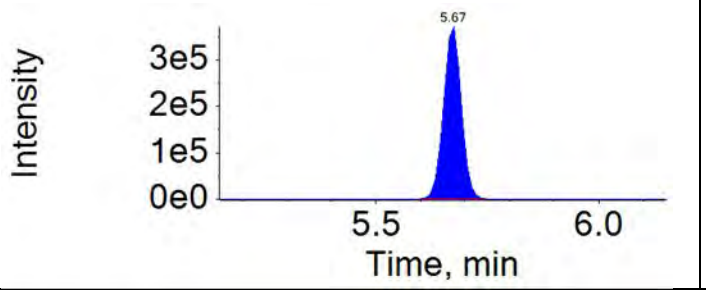


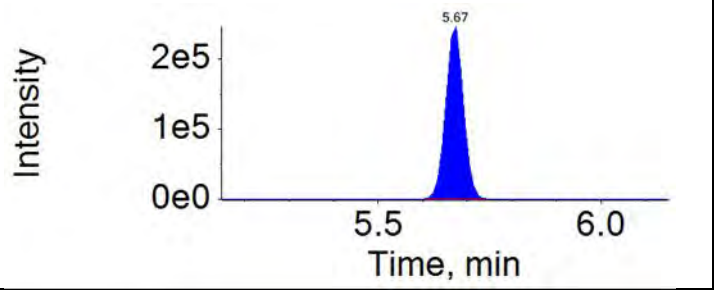
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

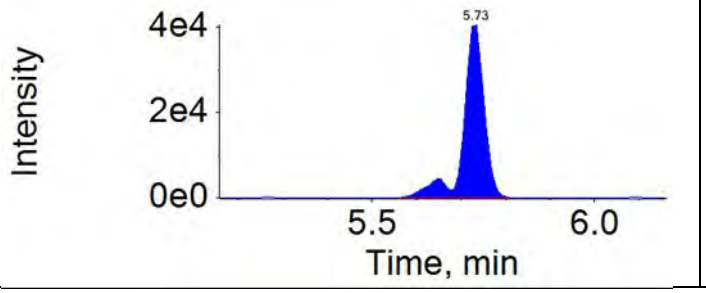
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

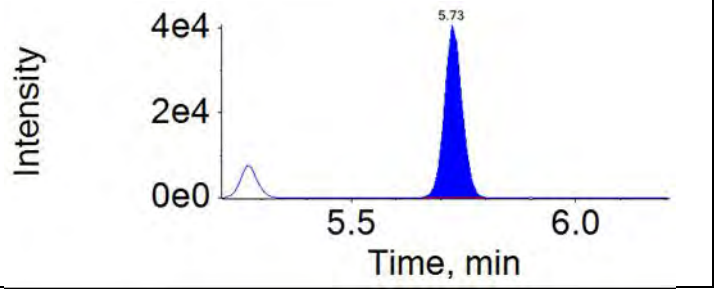
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



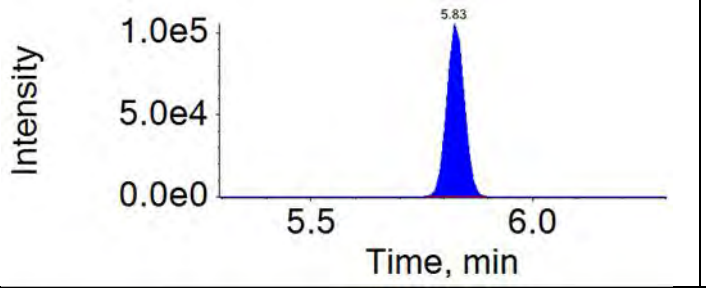


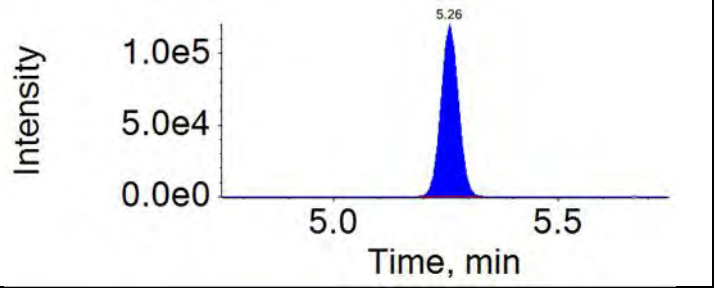
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



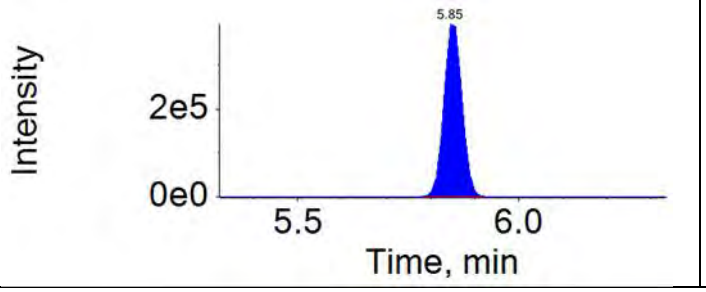


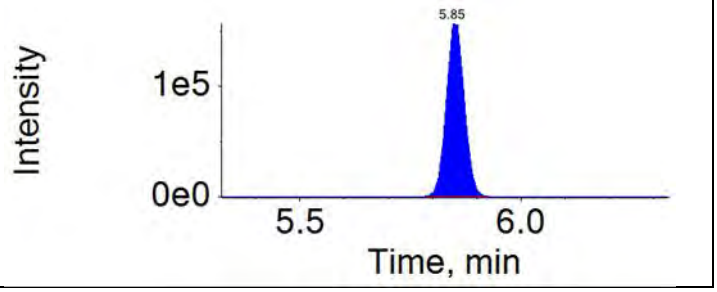
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



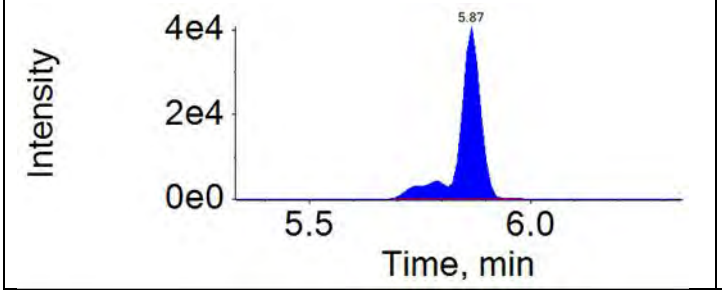


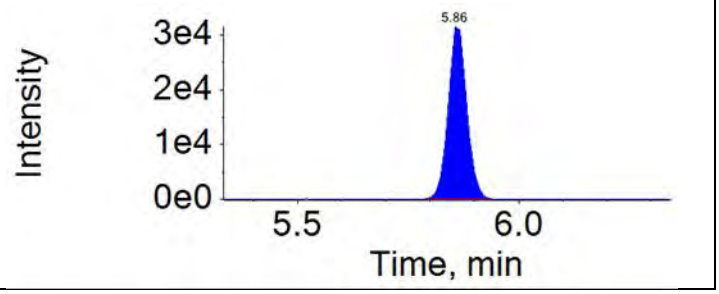
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

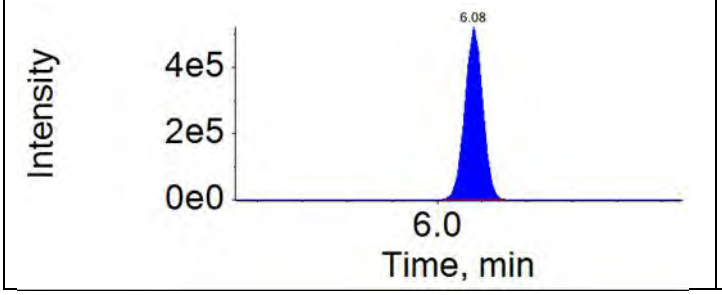
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

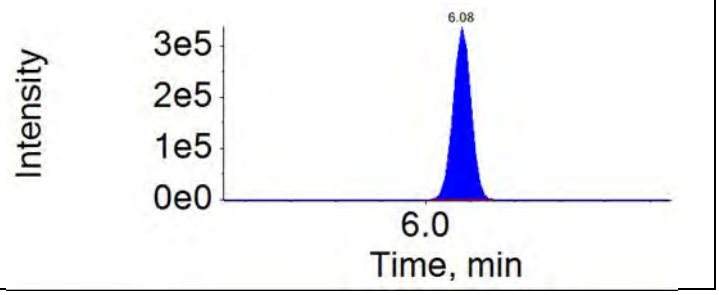
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



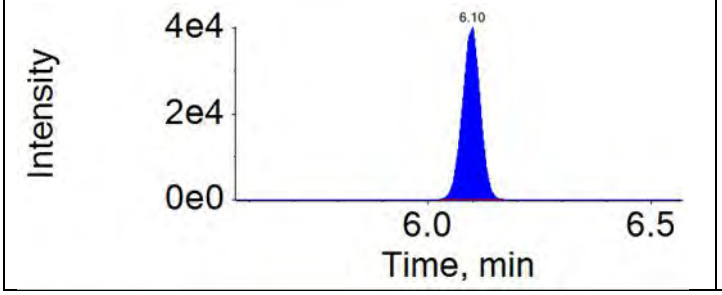


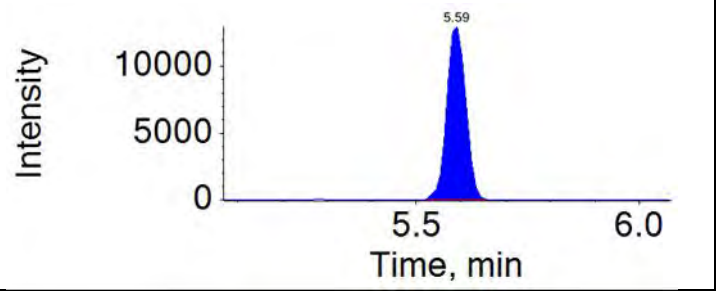
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



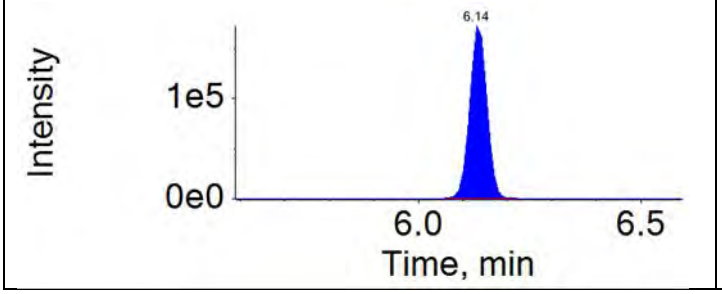


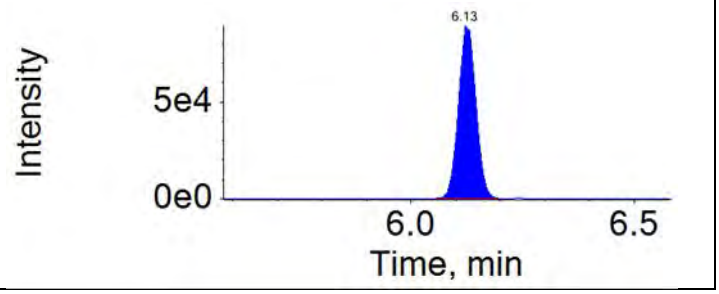
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



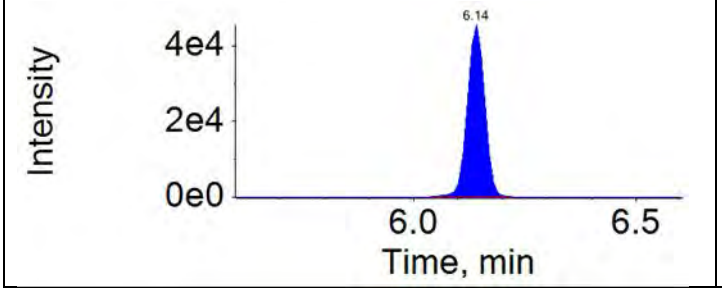


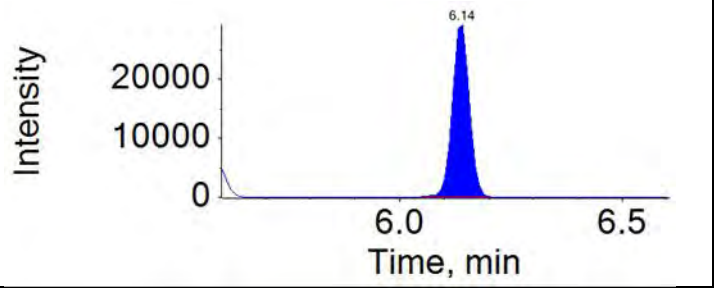
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

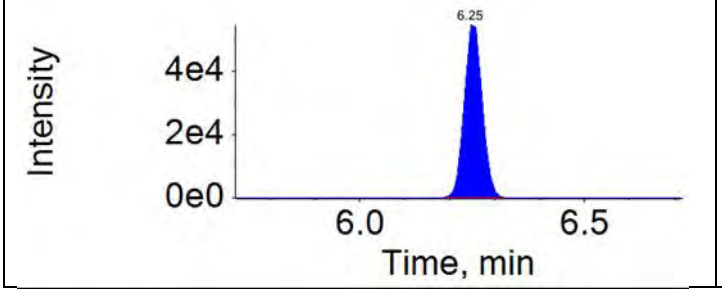
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

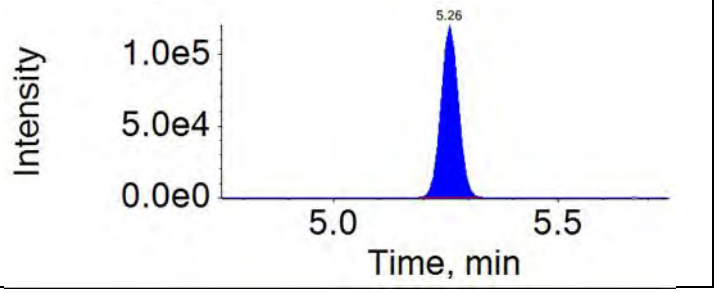
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



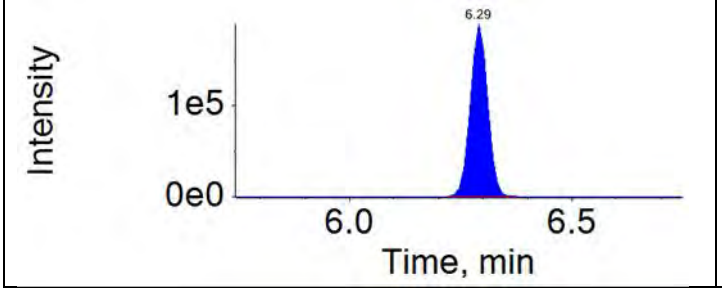


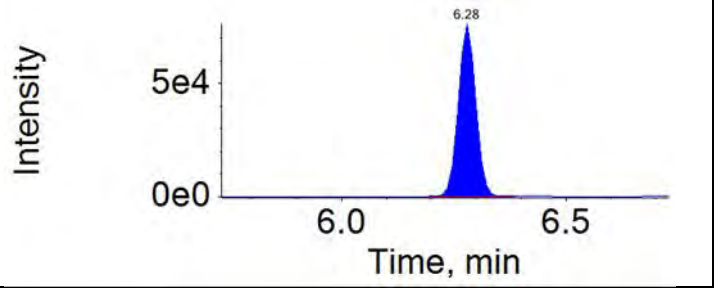
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



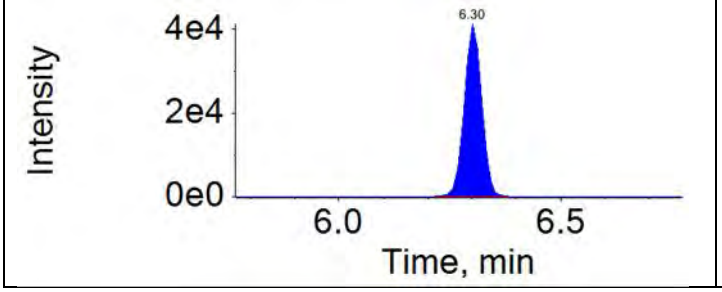


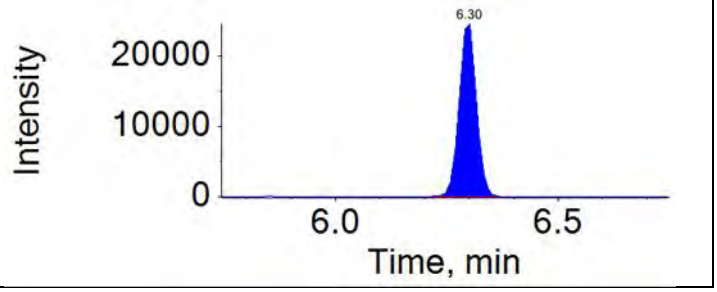
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



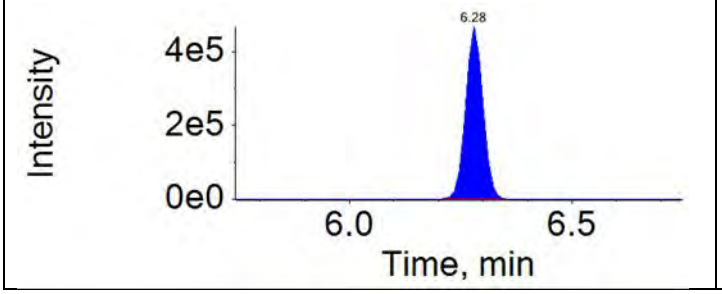


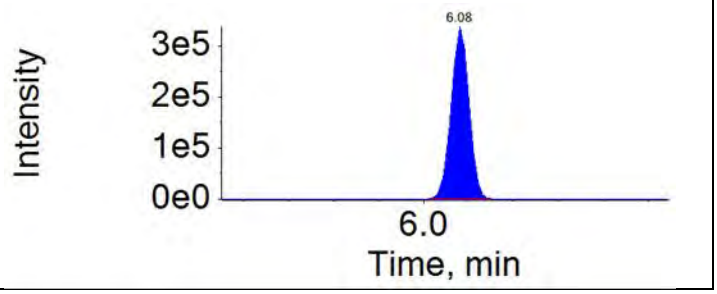
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

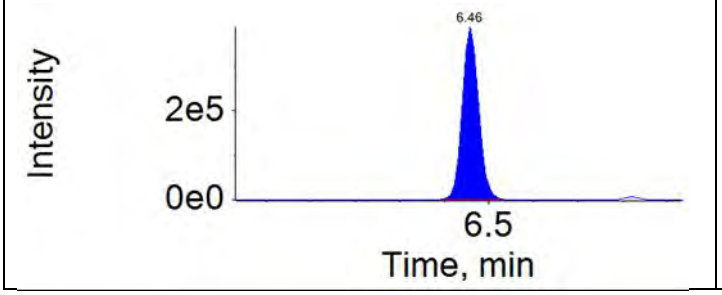
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

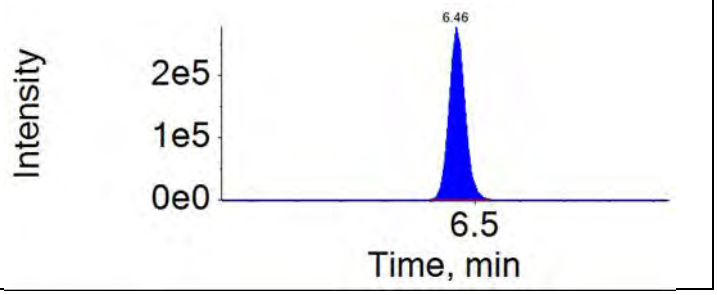
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



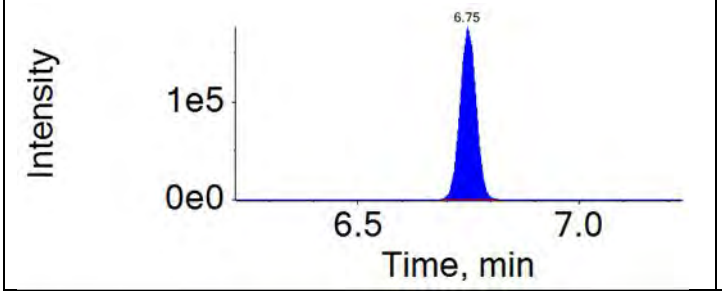


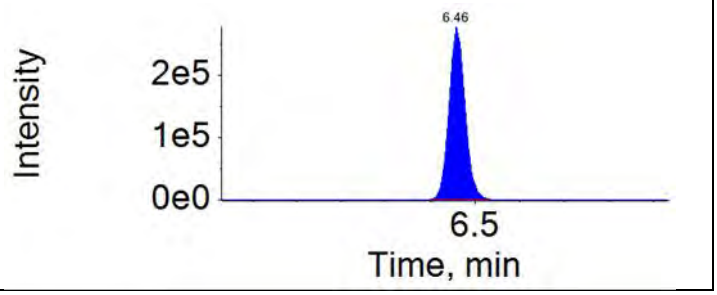
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



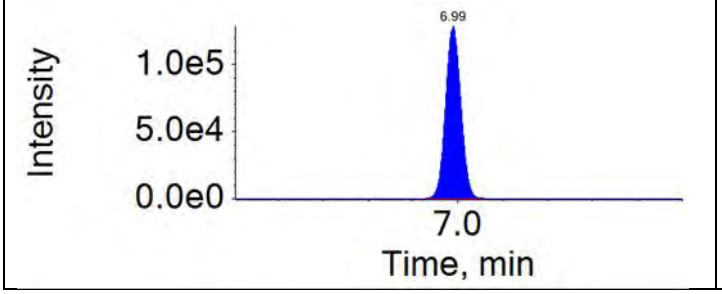


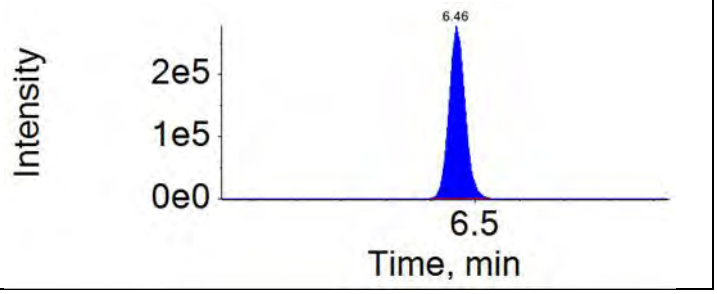
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



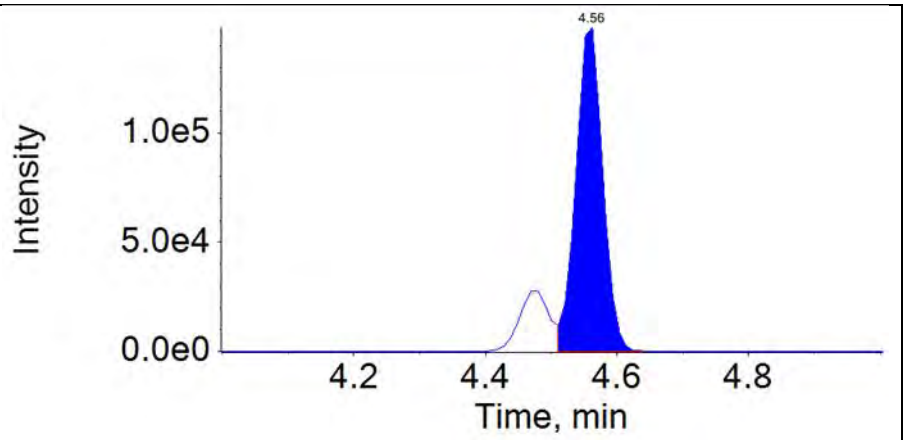


APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

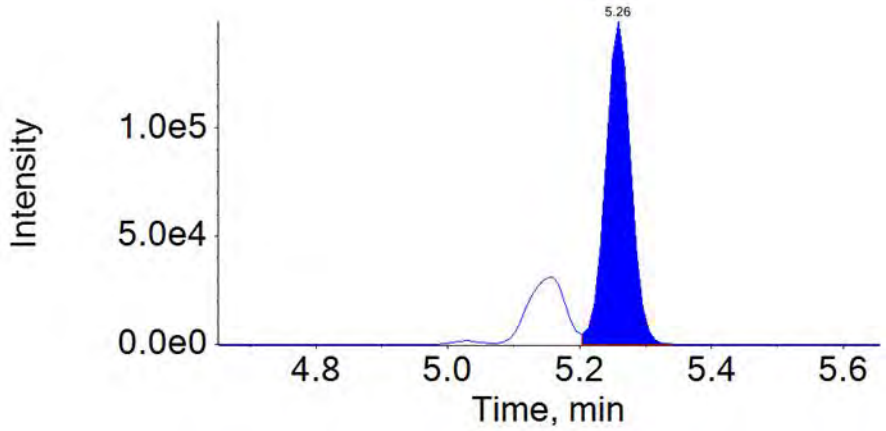
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
422213.3
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-23.wiff
Sample Name:
CCV3_CAL4



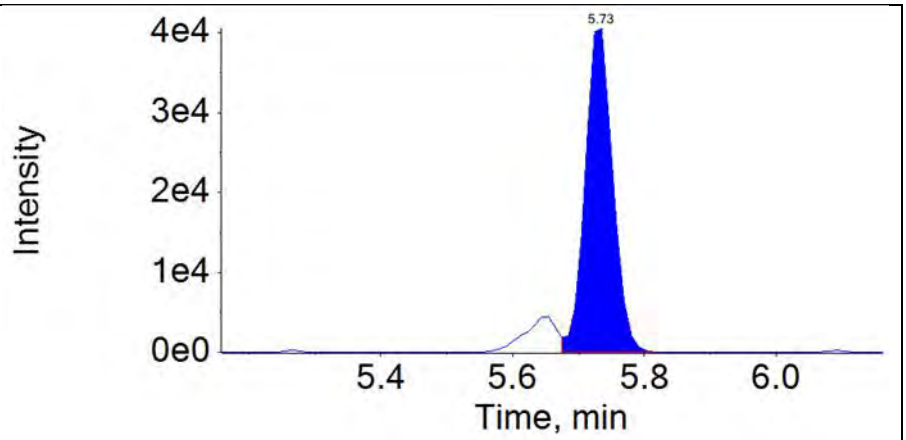
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.26
Peak Area:
399233.1
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-23.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.73
Peak Area:
118805.2
Mass Range:
570.0 / 419.0
File Name:
18DEC08D-23.wiff
Sample Name:
CCV3_CAL4



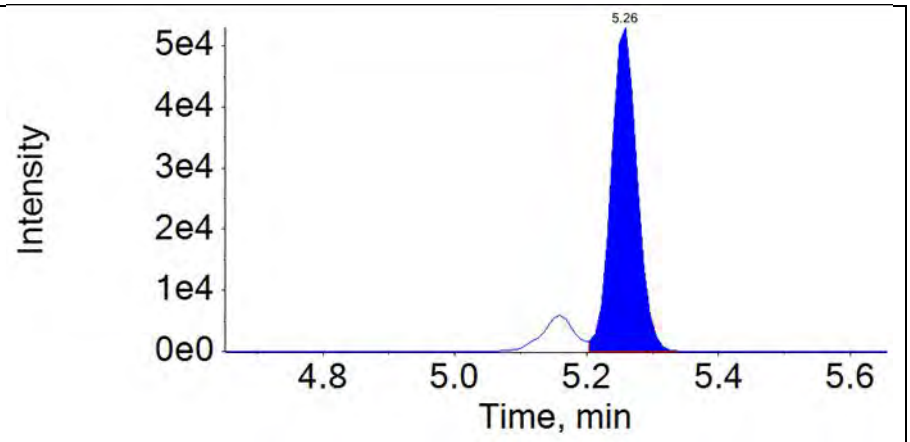
Integration Comment: incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

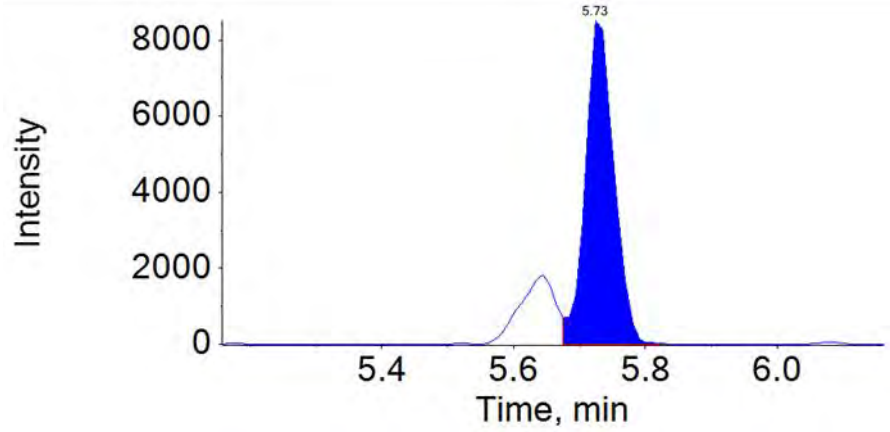
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.26
Peak Area:
145130.6
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-23.wiff
Sample Name:
CCV3_CAL4



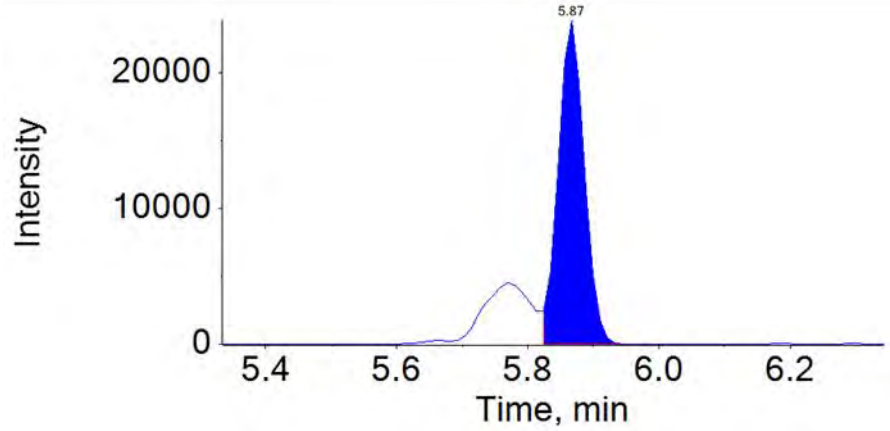
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.73
Peak Area:
25785.2
Mass Range:
570.0 / 483.0
File Name:
18DEC08D-23.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.87
Peak Area:
65838.4
Mass Range:
584.0 / 526.0
File Name:
18DEC08D-23.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Ion Ratio Report

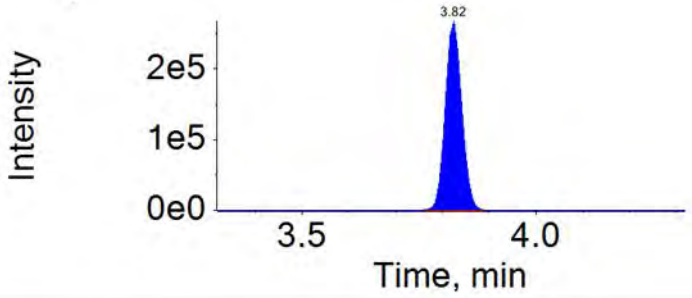
Sample Name: CCV3_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC08D-23.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	649889.3	A	N/A	1.0000			
PFBS_2	3.82	1.00	235005.2	A	N/A	0.3616	0	50	
4:2-FTS	4.14	1.00	172034.9	A	N/A	1.0000			
4:2-FTS_2	4.13	1.00	115533.8	A	N/A	0.6716	3	50	
PFHxA	4.17	1.00	1372946.9	A	N/A	1.0000			
PFHxA_2	4.17	1.00	15494.0	A	N/A	0.0113	16	50	
PFPeS	4.19	1.10	360599.8	A	N/A	1.0000			
PFPeS_2	4.19	1.10	187332.5	A	N/A	0.5195	-1	50	
PFHpA	4.56	1.00	1449474.8	A	N/A	1.0000			
PFHpA_2	4.56	1.00	76733.1	A	N/A	0.0529	-6	50	
PFHxS	4.56	1.00	510115.8	M	N/A	1.0000			
PFHxS_2	4.56	1.00	176474.9	A	N/A	0.3460	-5	50	
6:2-FTS	4.92	1.00	174175.0	A	N/A	1.0000			
6:2-FTS_2	4.92	1.00	116524.6	A	N/A	0.6690	7	50	
PFHpS	4.92	1.08	488345.3	A	N/A	1.0000			
PFHpS_2	4.92	1.08	202727.5	A	N/A	0.4151	0	50	
PFOA	4.93	1.00	1350555.3	A	N/A	1.0000			
PFOA_2	4.93	1.00	73894.7	A	N/A	0.0547	-11	50	
PFOS	5.26	1.00	528312.7	M	N/A	1.0000			
PFOS_2	5.26	1.00	165557.1	M	N/A	0.3134	4	50	
PFNA	5.27	1.00	1193679.8	A	N/A	1.0000			
PFNA_2	5.27	1.00	23584.0	A	N/A	0.0198	3	50	
PFNS	5.56	1.06	375521.9	A	N/A	1.0000			
PFNS_2	5.56	1.06	173894.7	A	N/A	0.4631	-4	50	
PFDA	5.59	1.00	955714.1	A	N/A	1.0000			
PFDA_2	5.59	1.00	6777.3	A	N/A	0.0071	-26	50	
8:2-FTS	5.59	1.00	145773.7	A	N/A	1.0000			
8:2-FTS_2	5.59	1.00	90134.5	A	N/A	0.6183	1	50	
NMeFOSAA	5.73	1.00	133795.7	M	N/A	1.0000			
NMeFOSAA_2	5.73	1.00	32471.3	M	N/A	0.2427	-9	50	
PFDS	5.83	1.11	290286.3	A	N/A	1.0000			
PFDS_2	5.83	1.11	145797.6	A	N/A	0.5023	1	50	
PFUnDA	5.85	1.00	1132641.6	A	N/A	1.0000			
PFUnDA_2	5.85	1.00	3510.0	A	N/A	0.0031	-24	50	
NEtFOSAA	5.87	1.00	134451.1	A	N/A	1.0000			
NEtFOSAA_2	5.87	1.00	88731.5	M	N/A	0.6600	-2	50	
PFDoDA	6.08	1.00	1442106.2	A	N/A	1.0000			
PFDoDA_2	6.08	1.00	17435.7	A	N/A	0.0121	-9	50	
10:2-FTS	6.10	1.09	111946.0	A	N/A	1.0000			
10:2-FTS_2	6.10	1.09	81070.0	A	N/A	0.7242	4	50	
PFTrDA	6.28	1.03	1259676.9	A	N/A	1.0000			
PFTrDA_2	6.28	1.03	10154.5	A	N/A	0.0081	7	50	
PFTeDA	6.46	1.00	988030.8	A	N/A	1.0000			
PFTeDA_2	6.46	1.00	6381.2	A	N/A	0.0065	-2	50	
PFHxDA	6.75	1.04	440883.3	A	N/A	1.0000			
PFHxDA_2	6.75	1.04	28921.8	A	N/A	0.0656	7	50	
PFODA	6.99	1.08	305690.3	A	N/A	1.0000			
PFODA_2	6.99	1.08	8167.8	A	N/A	0.0267	-2	50	

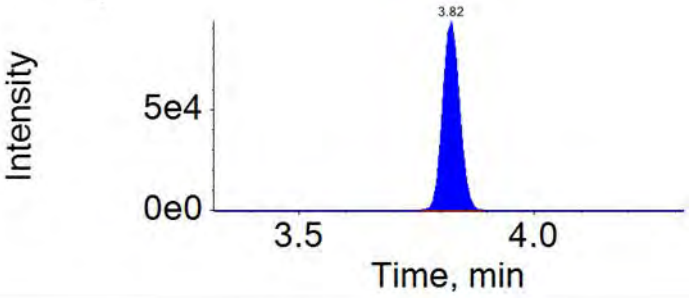
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

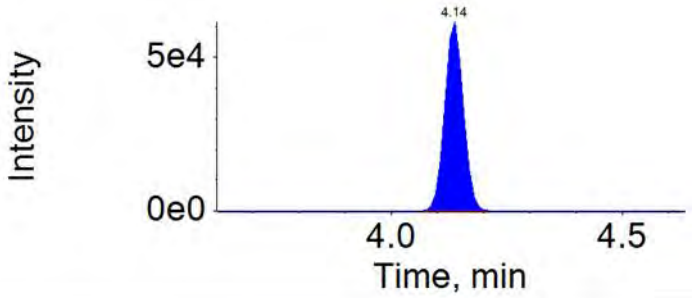
Component: PFBS
Primary Mass: 299.0 / 80.0



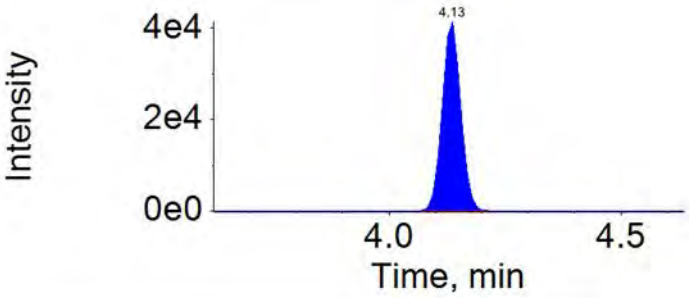
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



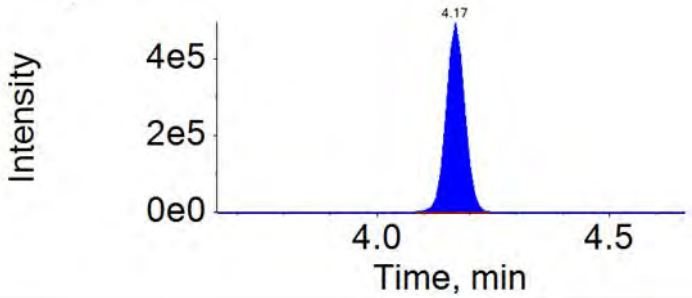
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



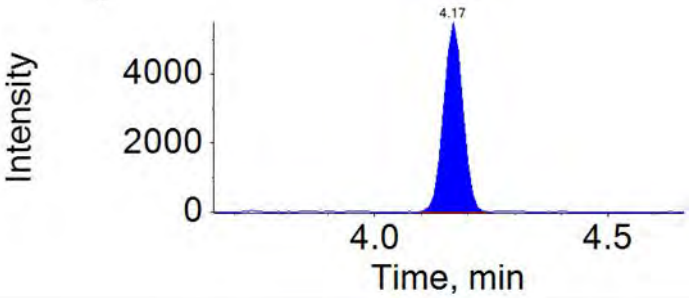
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



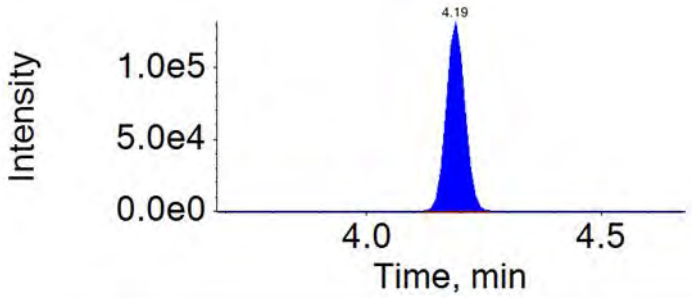
Component: PFHxA
Primary Mass: 313.0 / 269.0



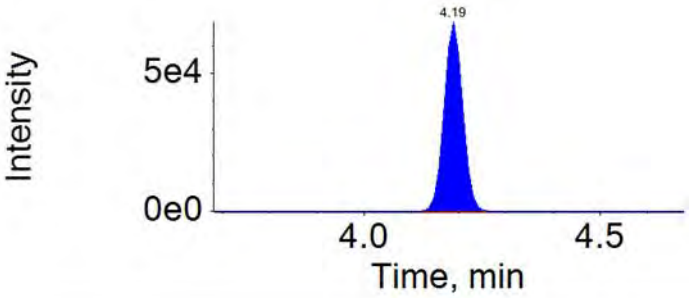
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



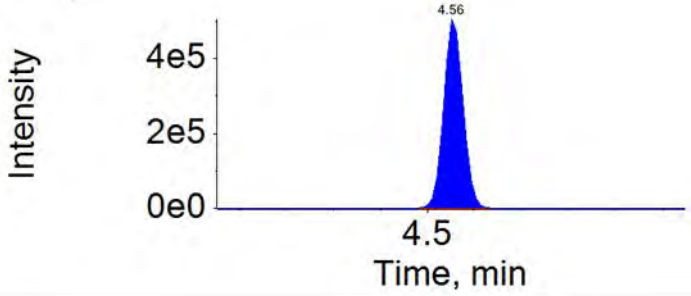
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



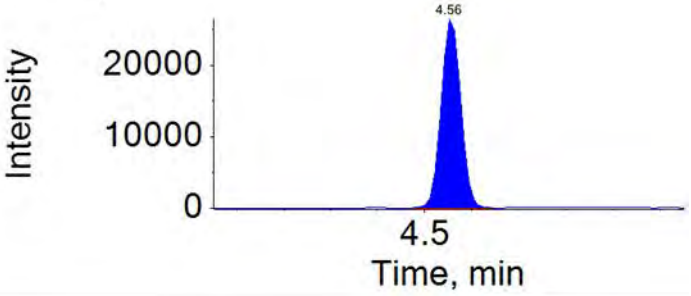
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

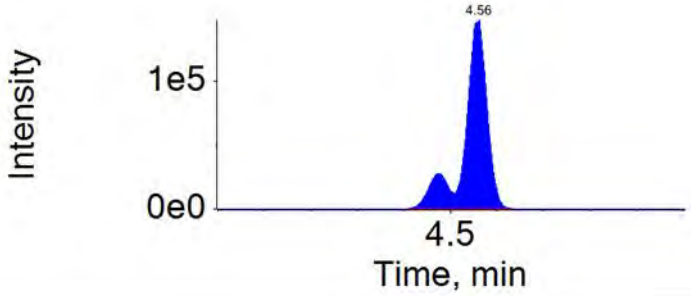
Component: PFHpA
Primary Mass: 363.0 / 319.0



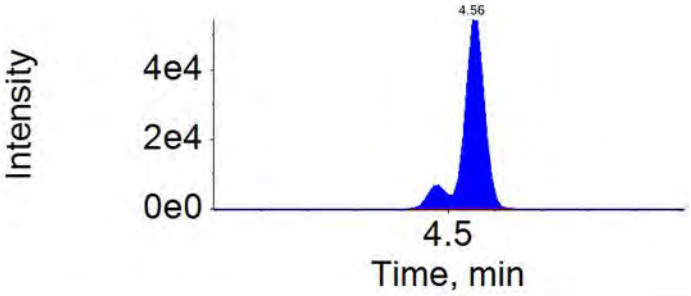
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



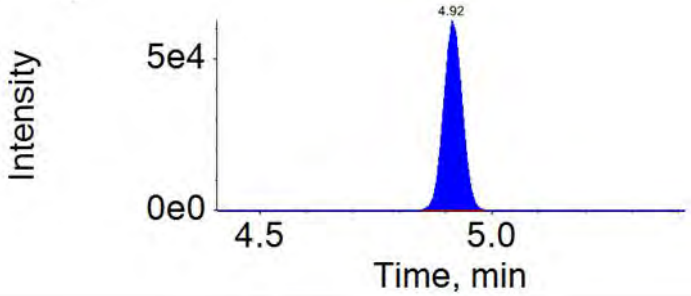
Component: PFHxS
Primary Mass: 399.0 / 80.0



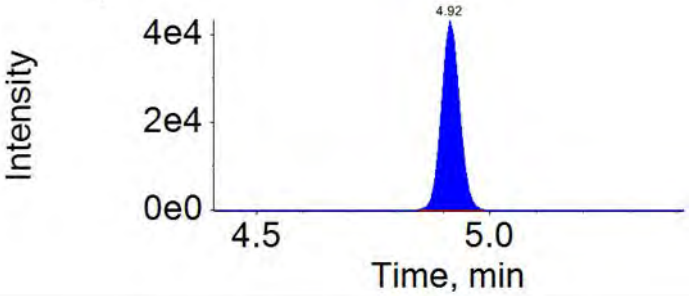
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



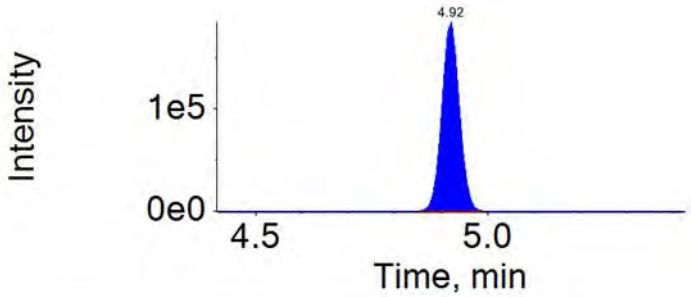
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



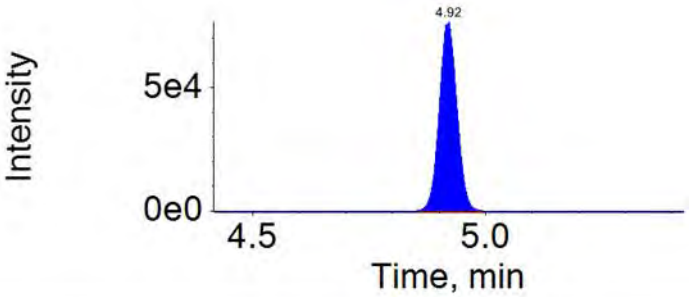
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



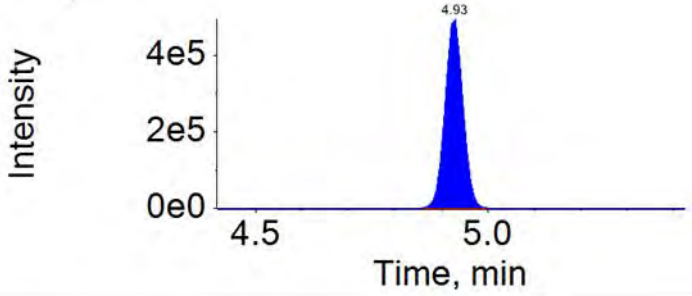
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



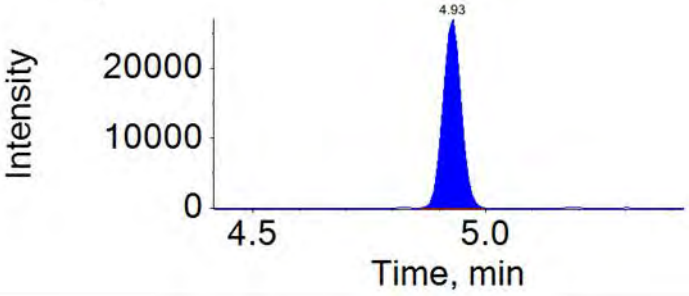
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

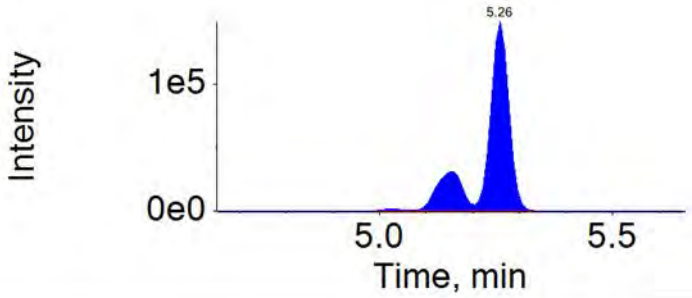
Component: PFOA
Primary Mass: 413.0 / 369.0



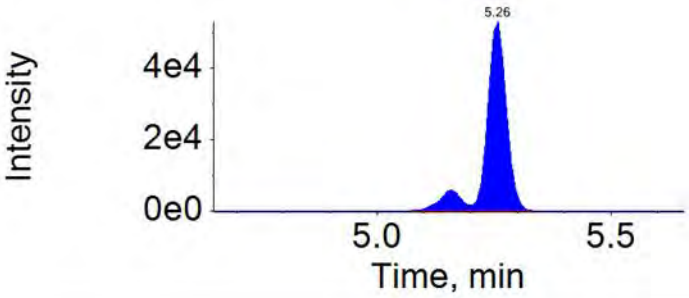
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



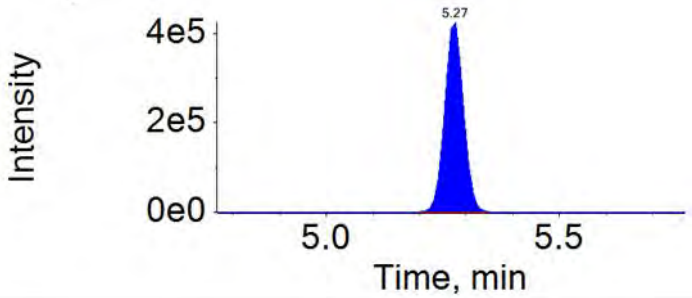
Component: PFOS
Primary Mass: 499.0 / 80.0



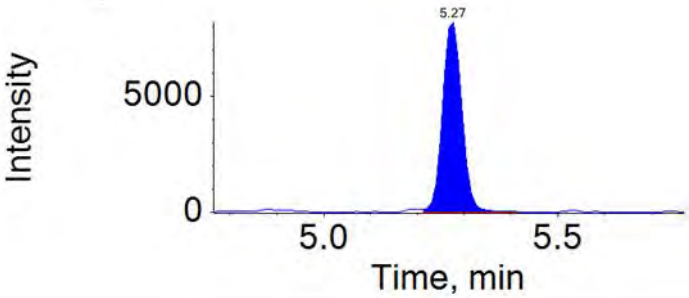
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



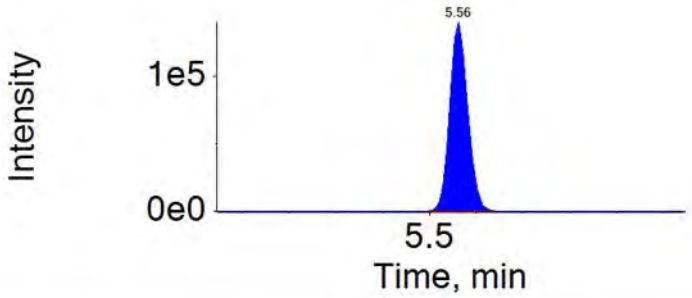
Component: PFNA
Primary Mass: 463.0 / 419.0



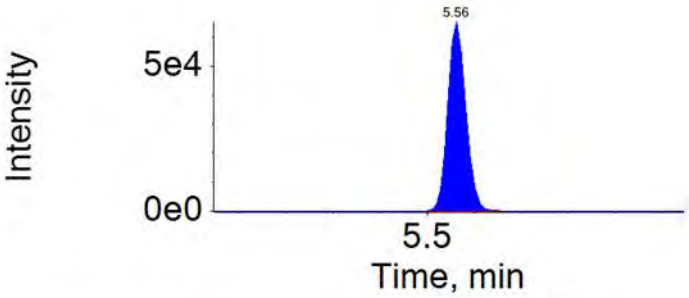
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



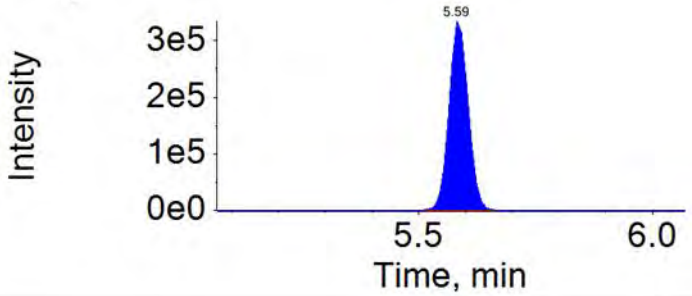
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



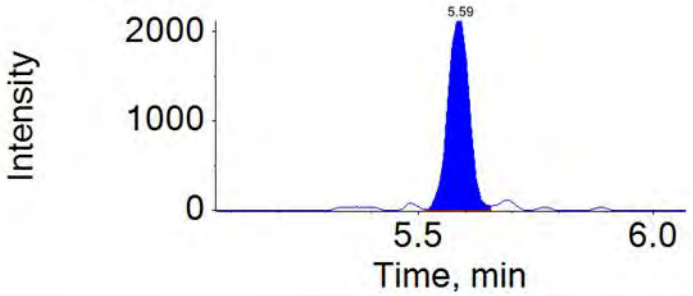
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

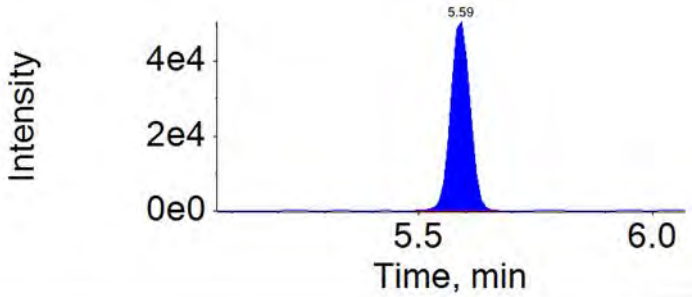
Component: PFDA
Primary Mass: 513.0 / 469.0



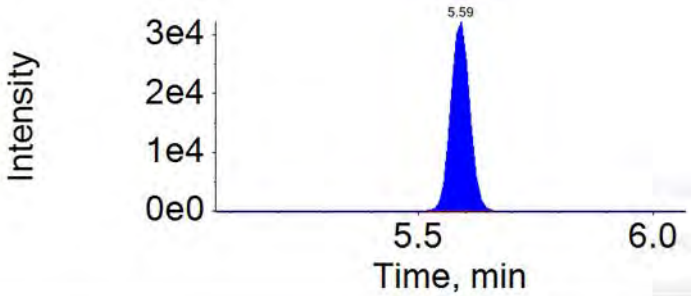
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



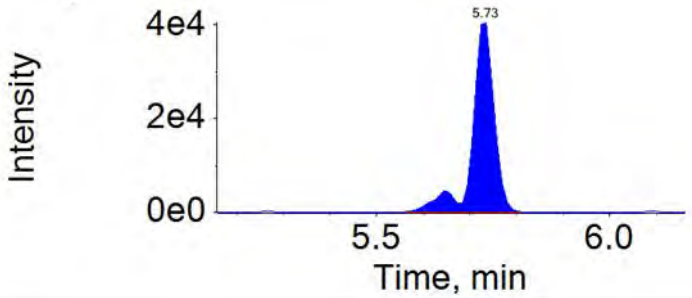
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



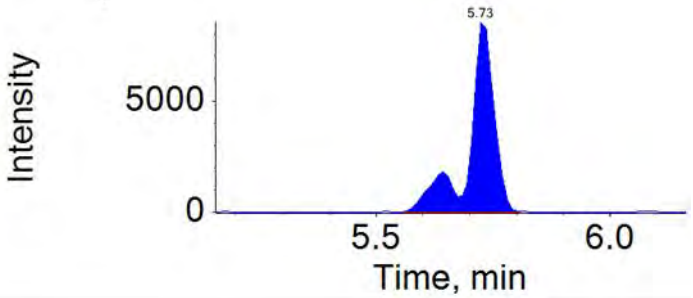
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



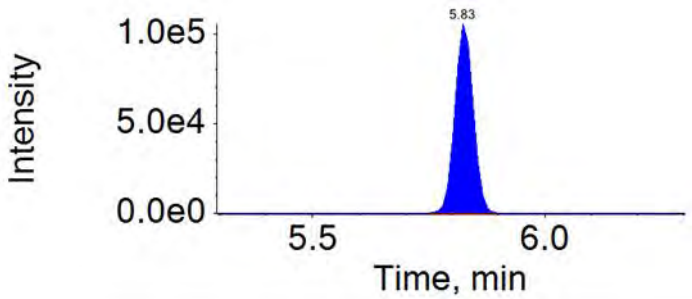
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



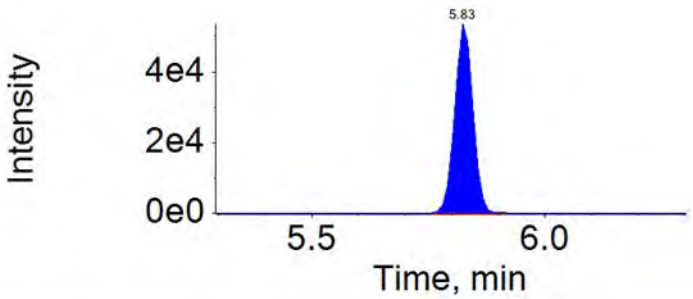
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



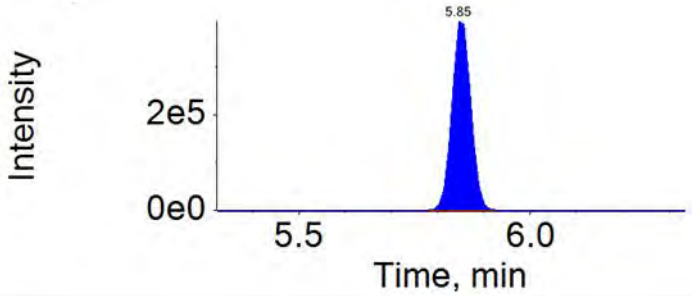
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



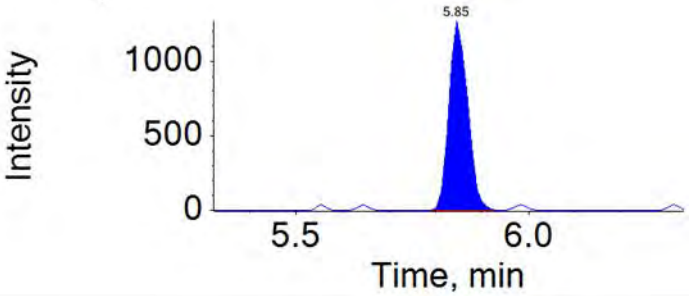
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

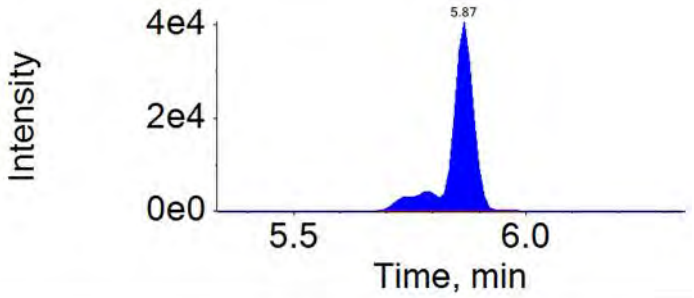
Component: PFUnDA
Primary Mass: 563.0 / 519.0



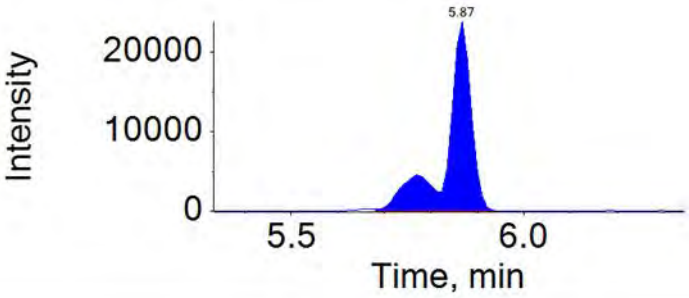
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



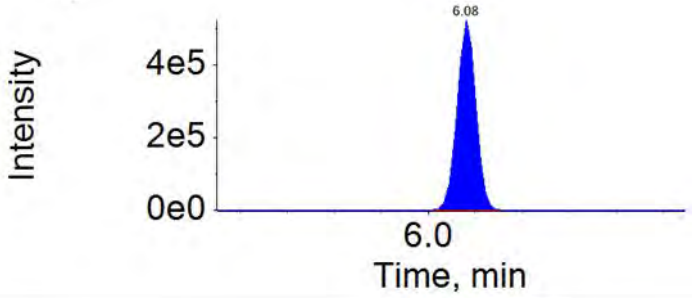
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



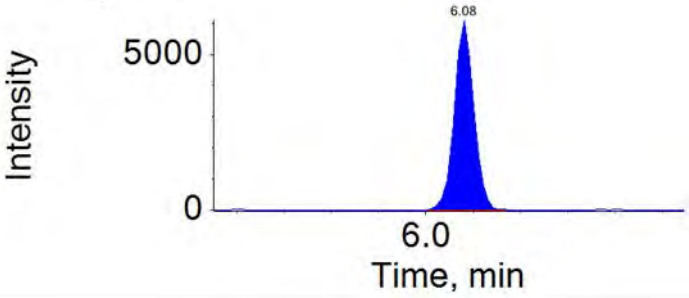
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



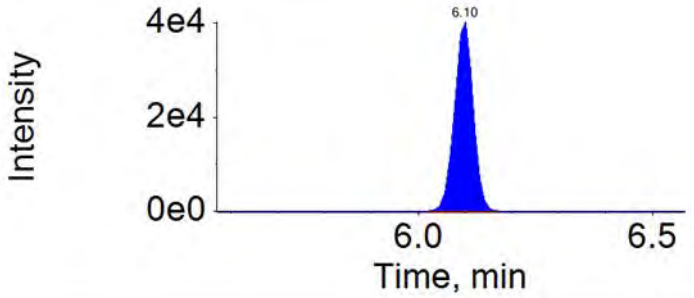
Component: PFDoDA
Primary Mass: 613.0 / 569.0



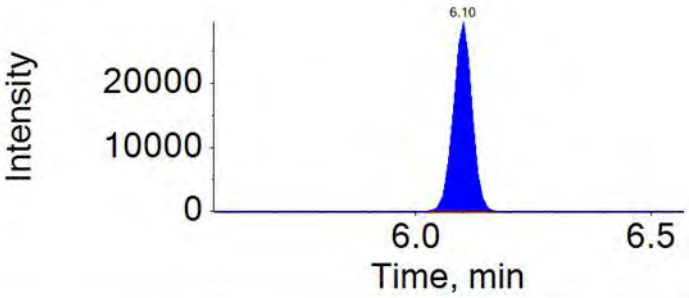
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



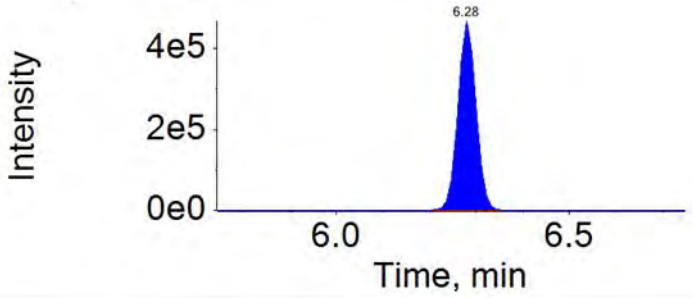
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



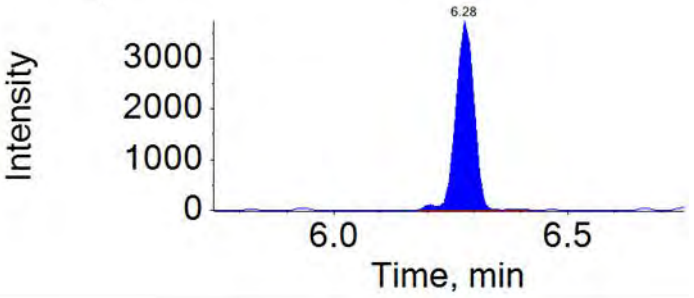
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

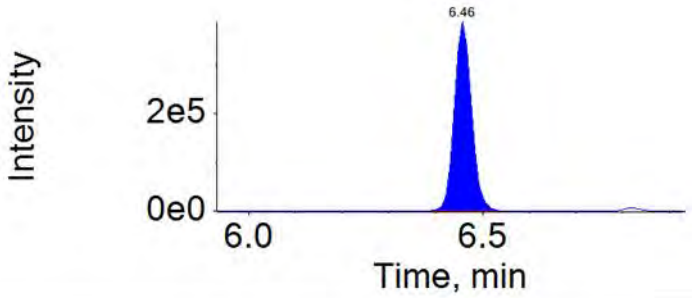
Component: PFTrDA
Primary Mass: 663.0 / 619.0



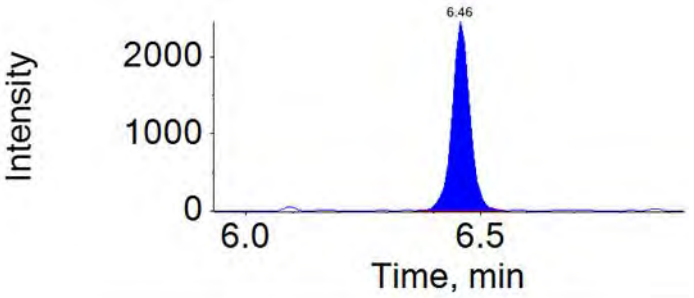
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



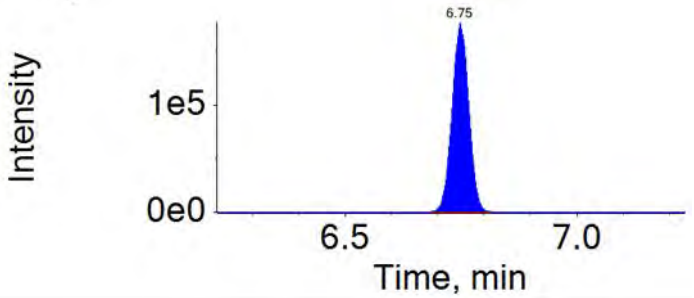
Component: PFTeDA
Primary Mass: 713.0 / 669.0



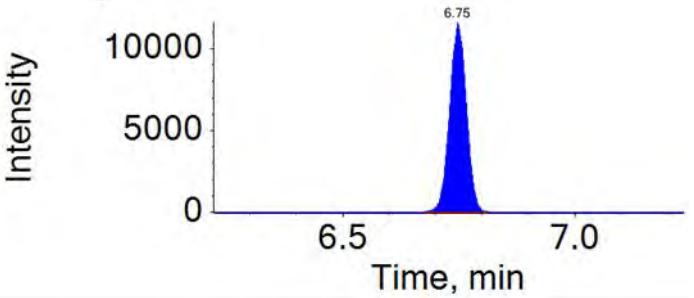
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



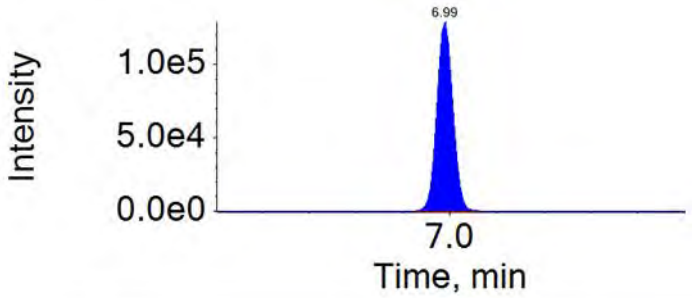
Component: PFHxDA
Primary Mass: 813.0 / 769.0



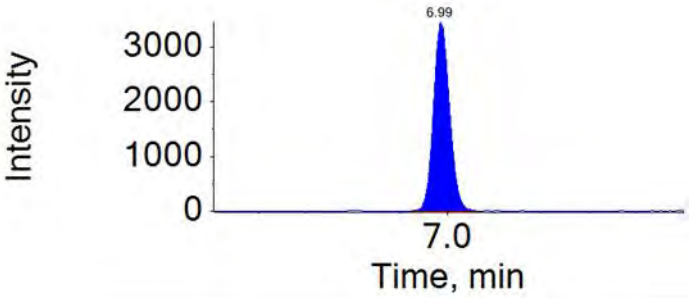
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



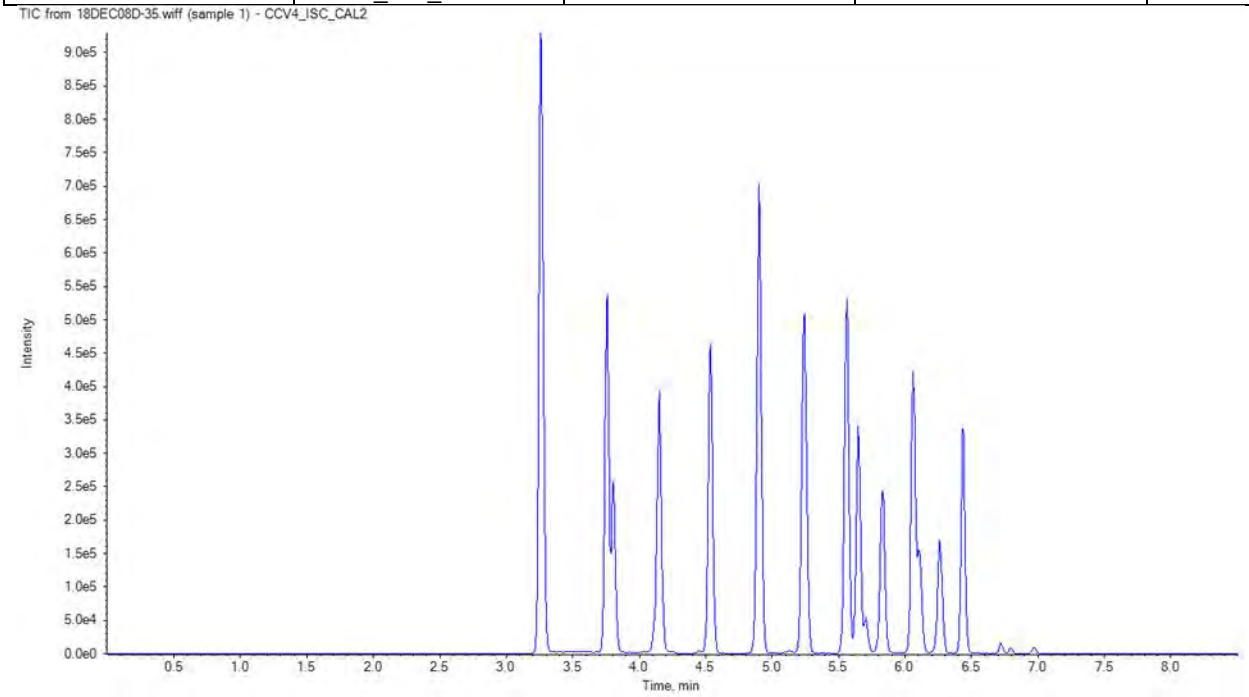
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV4_ISC_CAL2	CALBRN21833C	18DEC08D-35.wiff	2018-12-08T13:14:00



Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	941865.9	936973.7	1	50	
13C2-PFOA	5.0	486856.7	474841.3	3	50	
13C4-PFOS	4.8	302580.0	294668.0	3	50	
13C2-PFDA	5.0	385629.7	373990.9	3	50	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV4_ISC_CAL2	CALBRN21833C	18DEC08D-35.wiff	2018-12-08T13:14:00

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	115027.5	10	13C4-PFBA	1072063.6	5.0	0.107	3.26	1.000	0.600	0.592	-1	30	
PFPeA	105238.5	12	13C5-PFPeA	997664.0	5.0	0.105	3.76	1.000	0.600	0.555	-8	30	
PFBS	44047.7	11	13C3-PFBS	459491.7	4.7	0.096	3.81	1.000	0.531	0.475	-11	30	
4:2-FTS	10767.2	11	13C2-4:2-FTS	56180.7	4.7	0.192	4.11	1.000	0.560	0.514	-8	30	
PFHxA	102604.1	11	13C5-PFHxA	711286.6	5.0	0.144	4.15	1.000	0.600	0.629	5	30	
PFPeS	23764.4	11	13C3-PFBS	459491.7	4.7	0.052	4.17	1.100	0.563	0.512	-9	30	
PFHpA	99747.1	11	13C4-PFHpA	574466.2	5.0	0.174	4.54	1.000	0.600	0.572	-5	30	
PFHxS	36372.4	19	13C3-PFHxS	356188.1	4.7	0.102	4.54	1.000	0.547	0.484	-12	30	
6:2-FTS	10924.5	11	13C2-6:2-FTS	45063.2	4.8	0.242	4.89	1.000	0.569	0.602	6	30	
PFHpS	36420.8	10	13C3-PFHxS	356188.1	4.7	0.102	4.90	1.080	0.571	0.561	-2	30	
PFOA	93468.5	11	13C8-PFOA	871589.3	5.0	0.107	4.90	1.000	0.600	0.586	-2	30	
PFOS	35162.2	22	13C8-PFOS	328328.5	4.8	0.107	5.23	1.000	0.555	0.444	-20	30	
PFNA	82603.5	11	13C9-PFNA	583741.1	5.0	0.142	5.25	1.000	0.600	0.521	-13	30	
PFNS	25033.4	11	13C8-PFOS	328328.5	4.8	0.076	5.54	1.060	0.576	0.491	-15	30	
PFDA	70715.3	11	13C6-PFDA	722916.2	5.0	0.098	5.56	1.000	0.600	0.551	-8	30	
8:2-FTS	8673.2	13	13C2-8:2-FTS	32955.4	4.8	0.263	5.56	1.000	0.575	0.570	-1	30	
PFOSA	72692.2	11	13C8-PFOSA	693262.6	5.0	0.105	5.65	1.000	0.600	0.544	-9	30	
NMeFOSAA	9206.6	18	d3-NMeFOSAA	102528.1	5.0	0.090	5.71	1.000	0.600	0.594	-1	30	
PFDS	20674.3	12	13C8-PFOS	328328.5	4.8	0.063	5.80	1.110	0.578	0.509	-12	30	
PFUnDA	71823.8	11	13C7-PFUnDA	425407.4	5.0	0.169	5.83	1.000	0.600	0.517	-14	30	
NEtFOSAA	8272.7	23	d5-NEtFOSAA	78133.7	5.0	0.106	5.84	1.000	0.600	0.535	-11	30	
PFDoDA	94419.8	11	13C2-PFDoDA	856746.2	5.0	0.110	6.06	1.000	0.600	0.580	-3	30	
10:2-FTS	6773.8	12	13C2-8:2-FTS	32955.4	4.8	0.206	6.08	1.090	0.578	0.544	-6	30	
NMePFOSAE	33261.9	12	d7-NMePFOSAE	242587.7	5.0	0.137	6.11	1.000	0.600	0.596	-1	30	
NMePFOSA	9812.0	11	d3-NMePFOSA	79215.7	5.0	0.124	6.12	1.000	0.600	0.625	4	30	
PFDoS	10493.1	11	13C8-PFOS	328328.5	4.8	0.032	6.23	1.190	0.581	0.487	-16	30	
NEtPFOSAE	34238.0	11	d9-NEtPFOSAE	219317.3	5.0	0.156	6.27	1.000	0.600	0.523	-13	30	
NEtPFOSA	8429.5	11	d5-NEtPFOSA	68672.4	5.0	0.123	6.28	1.000	0.600	0.588	-2	30	
PFTrDA	82539.4	11	13C2-PFDoDA	856746.2	5.0	0.096	6.26	1.030	0.600	0.631	5	30	
PFTeDA	62653.5	10	13C2-PFTeDA	627110.2	5.0	0.100	6.44	1.000	0.600	0.571	-5	30	
PFHxDA	29465.5	11	13C2-PFTeDA	627110.2	5.0	0.047	6.72	1.040	0.600	0.588	-2	30	
PFODA	18696.4	10	13C2-PFTeDA	627110.2	5.0	0.030	6.97	1.080	0.600	0.479	-20	30	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV4_ISC_CAL2			**Data File:**		18DEC08D-35.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-08T13:14:00
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC08DCCV1-6
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	941865.9	936973.7	1	50	
13C2-PFOA	5.0	486856.7	474841.3	3	50	
13C4-PFOS	4.8	302580.0	294668.0	3	50	
13C2-PFDA	5.0	385629.7	373990.9	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1072063.6	13C3-PFBA	941865.9	1.138	5.000	5.038	101	70-130	
E13C5-PFPeA	997664.0	13C3-PFBA	941865.9	1.059	5.000	5.031	101	70-130	
E13C3-PFBS	459491.7	13C3-PFBA	941865.9	0.488	4.650	4.135	89	70-130	
E13C2-4:2-FTS	56180.7	13C2-PFOA	486856.7	0.115	4.670	4.522	97	70-130	
E13C5-PFHxA	711286.6	13C2-PFOA	486856.7	1.461	5.000	4.905	98	70-130	
E13C3-PFHxS	356188.1	13C2-PFOA	486856.7	0.732	4.730	4.693	99	70-130	
E13C4-PFHpA	574466.2	13C2-PFOA	486856.7	1.180	5.000	5.016	100	70-130	
E13C2-6:2-FTS	45063.2	13C2-PFOA	486856.7	0.093	4.750	5.734	121	70-130	
E13C8-PFOA	871589.3	13C2-PFOA	486856.7	1.790	5.000	5.060	101	70-130	
E13C8-PFOS	328328.5	13C4-PFOS	302580.0	1.085	4.780	4.870	102	70-130	
E13C9-PFNA	583741.1	13C4-PFOS	302580.0	1.929	5.000	5.452	109	70-130	
E13C6-PFDA	722916.1	13C2-PFDA	385629.7	1.875	5.000	4.968	99	70-130	
E13C2-8:2-FTS	32955.4	13C2-PFDA	385629.7	0.085	4.790	5.579	116	70-130	
E13C8-PFOSA	693262.6	13C2-PFDA	385629.7	1.798	5.000	4.252	85	70-130	
Ed3-NMeFOSAA	102528.1	13C2-PFDA	385629.7	0.266	5.000	4.712	94	70-130	
E13C7-PFUnDA	425407.4	13C2-PFDA	385629.7	1.103	5.000	5.411	108	70-130	
Ed5-NEtFOSAA	78133.7	13C2-PFDA	385629.7	0.203	5.000	4.473	89	70-130	
E13C2-PFDoDA	856746.2	13C2-PFDA	385629.7	2.222	5.000	4.662	93	70-130	
Ed7-NMePFOSAE	242587.7	13C2-PFDA	385629.7	0.629	5.000	3.624	72	70-130	
Ed3-NMePFOSA	79215.7	13C2-PFDA	385629.7	0.205	5.000	3.743	75	70-130	
Ed9-NEtPFOSAE	219317.3	13C2-PFDA	385629.7	0.569	5.000	3.922	78	70-130	
Ed5-NEtPFOSA	68672.4	13C2-PFDA	385629.7	0.178	5.000	4.008	80	70-130	
E13C2-PFTeDA	627110.2	13C2-PFDA	385629.7	1.626	5.000	4.827	97	70-130	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

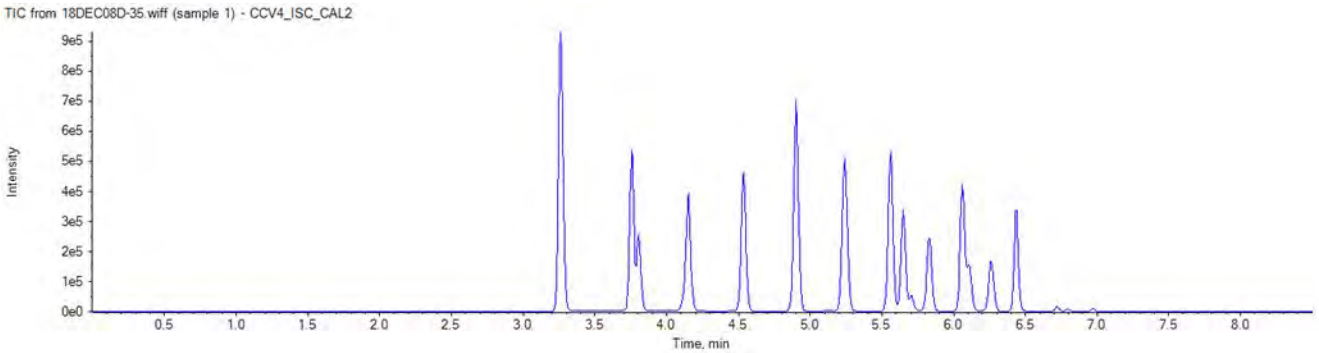
Analyte Quantitation Peak Table

Sample Name: CCV4_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC08D-35.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	115027.5		A	13C4-PFBA	3.26	1072063.6	0.107	0.592
PFPeA	3.76	1.000	105238.5		A	13C5-PFPeA	3.76	997664.0	0.105	0.555
PFBS	3.81	1.000	44047.7		A	13C3-PFBS	3.81	459491.7	0.096	0.475
4:2-FTS	4.11	1.000	10767.2		A	13C2-4:2-FTS	4.12	56180.7	0.192	0.514
PFHxA	4.15	1.000	102604.1		A	13C5-PFHxA	4.15	711286.6	0.144	0.629
PFPeS	4.17	1.100	23764.4		A	13C3-PFBS	3.81	459491.7	0.052	0.512
PFHpA	4.54	1.000	99747.1		A	13C4-PFHpA	4.53	574466.2	0.174	0.572
PFHxS	4.54	1.000	36372.4		M	13C3-PFHxS	4.54	356188.1	0.102	0.484
6:2-FTS	4.89	1.000	10924.5		A	13C2-6:2-FTS	4.89	45063.2	0.242	0.602
PFHpS	4.90	1.080	36420.8		A	13C3-PFHxS	4.54	356188.1	0.102	0.561
PFOA	4.90	1.000	93468.5		A	13C8-PFOA	4.90	871589.3	0.107	0.586
PFOS	5.23	1.000	35162.2		M	13C8-PFOS	5.23	328328.5	0.107	0.444
PFNA	5.25	1.000	82603.5		A	13C9-PFNA	5.25	583741.1	0.142	0.521
PFNS	5.54	1.060	25033.4		A	13C8-PFOS	5.23	328328.5	0.076	0.491
PFDA	5.56	1.000	70715.3		A	13C6-PFDA	5.56	722916.2	0.098	0.551
8:2-FTS	5.56	1.000	8673.2		A	13C2-8:2-FTS	5.56	32955.4	0.263	0.570
PFOSA	5.65	1.000	72692.2		A	13C8-PFOSA	5.65	693262.6	0.105	0.544
NMeFOSAA	5.71	1.000	9206.6		M	d3-NMeFOSAA	5.71	102528.1	0.090	0.594
PFDS	5.80	1.110	20674.3		A	13C8-PFOS	5.23	328328.5	0.063	0.509
PFUnDA	5.83	1.000	71823.8		A	13C7-PFUnDA	5.83	425407.4	0.169	0.517
NEtFOSAA	5.84	1.000	8272.7		M	d5-NEtFOSAA	5.84	78133.7	0.106	0.535
PFDoDA	6.06	1.000	94419.8		A	13C2-PFDoDA	6.06	856746.2	0.110	0.580
10:2-FTS	6.08	1.090	6773.8		A	13C2-8:2-FTS	5.56	32955.4	0.206	0.544
NMePFOSAE	6.11	1.000	33261.9		A	d7-NMePFOSAE	6.11	242587.7	0.137	0.596
NMePFOSA	6.12	1.000	9812.0		A	d3-NMePFOSA	6.12	79215.7	0.124	0.625
PFDoS	6.23	1.190	10493.1		A	13C8-PFOS	5.23	328328.5	0.032	0.487
NEtPFOSAE	6.27	1.000	34238.0		A	d9-NEtPFOSAE	6.26	219317.3	0.156	0.523
NEtPFOSA	6.28	1.000	8429.5		A	d5-NEtPFOSA	6.28	68672.4	0.123	0.588
PFTrDA	6.26	1.030	82539.4		A	13C2-PFDoDA	6.06	856746.2	0.096	0.631
PFTeDA	6.44	1.000	62653.5		A	13C2-PFTeDA	6.44	627110.2	0.100	0.571
PFHxDA	6.72	1.040	29465.5		A	13C2-PFTeDA	6.44	627110.2	0.047	0.588
PFODA	6.97	1.080	18696.4		A	13C2-PFTeDA	6.44	627110.2	0.030	0.479

Total Ion Chromatogram

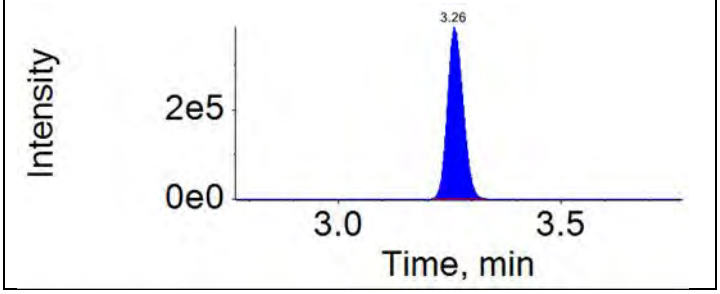


APPROVED
By JPT at 2:52 pm, 12/10/18

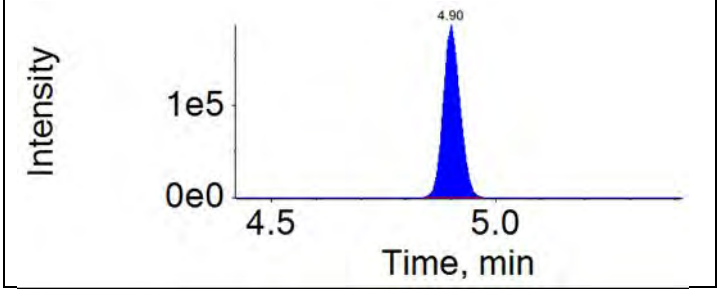
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

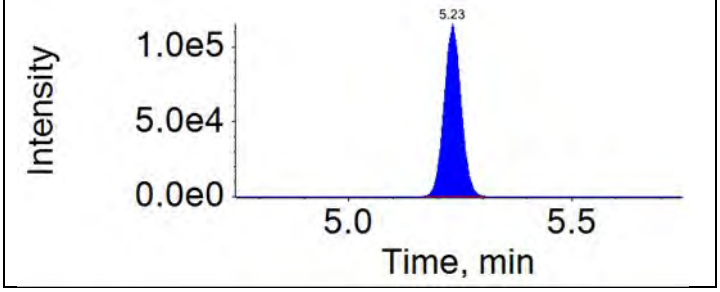
Injection Standard: 13C3-PFBA
216.0 / 172.0



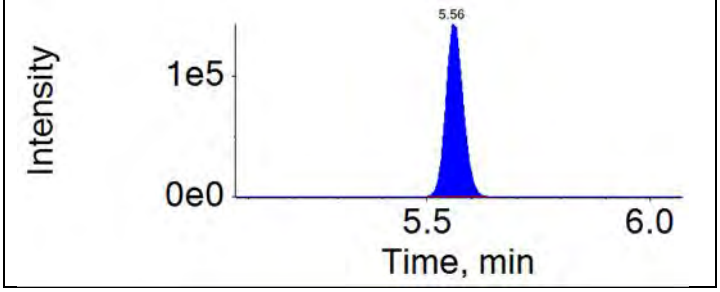
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

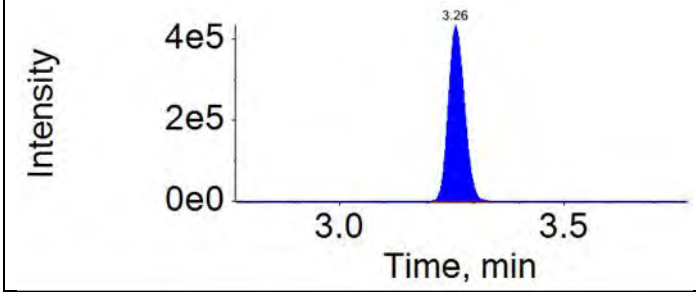


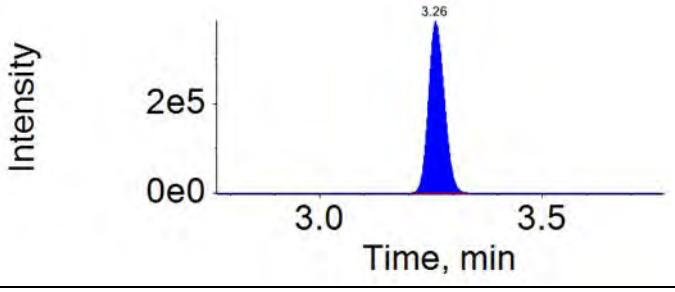
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

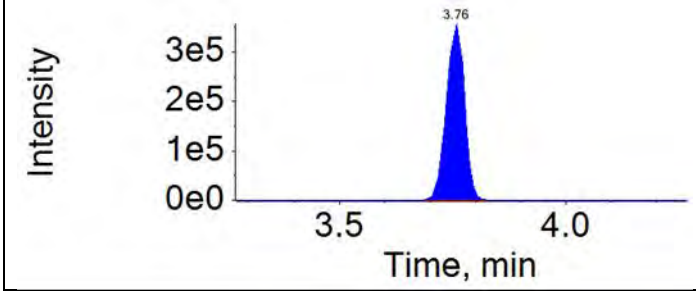
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

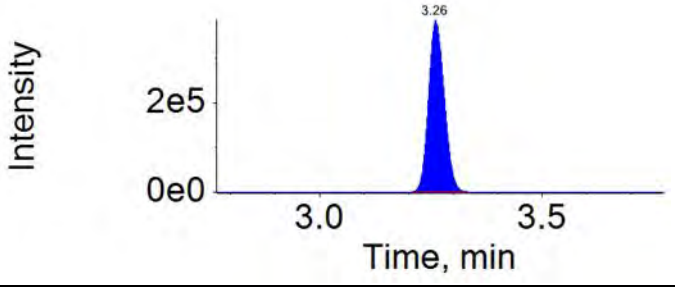
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



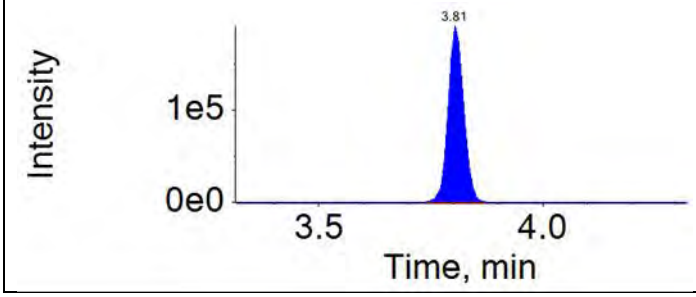


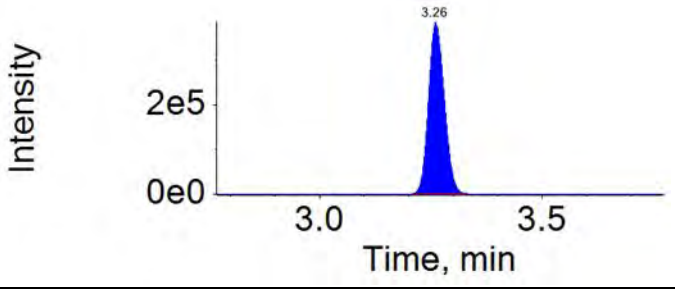
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



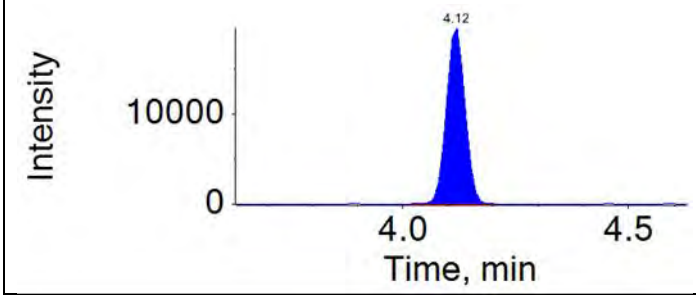


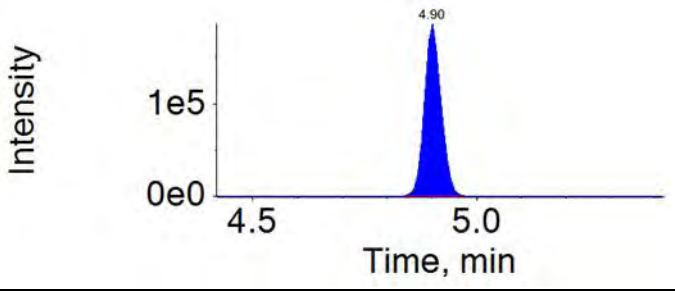
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





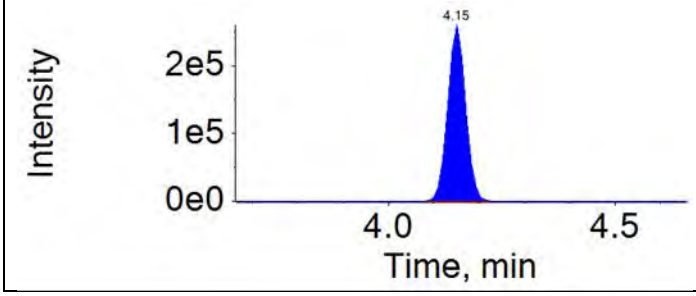
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

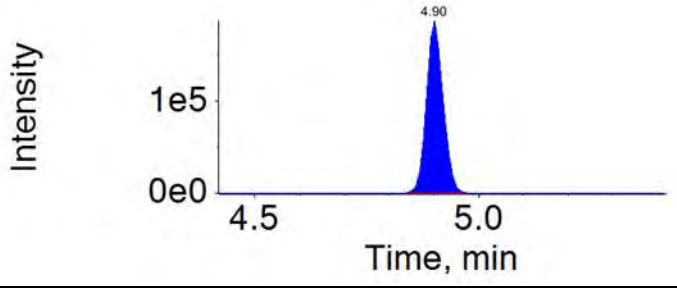




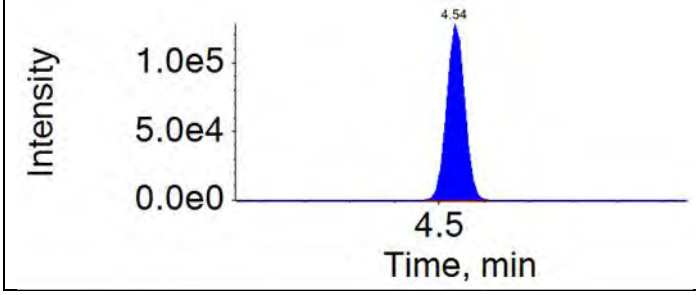
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

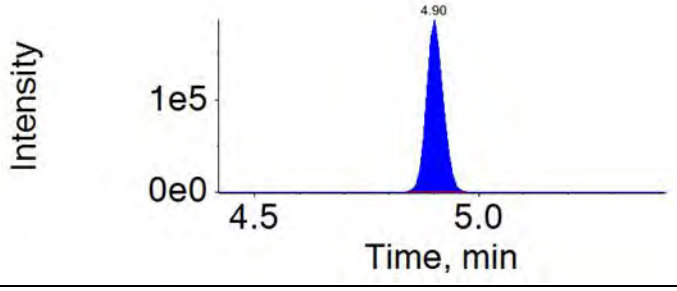
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



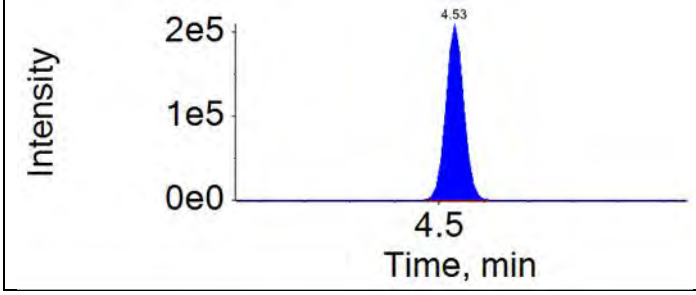


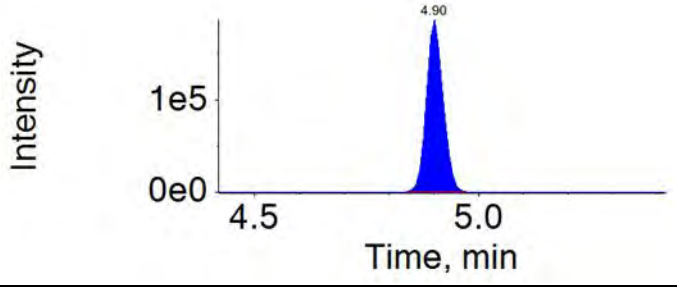
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



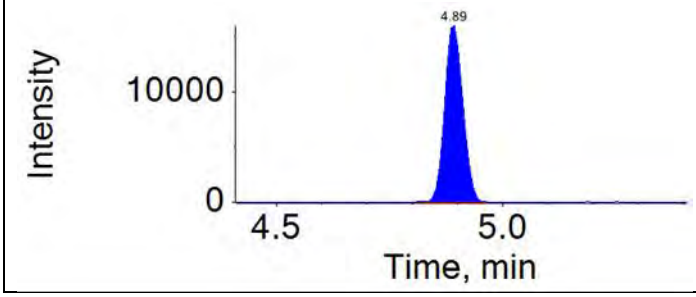


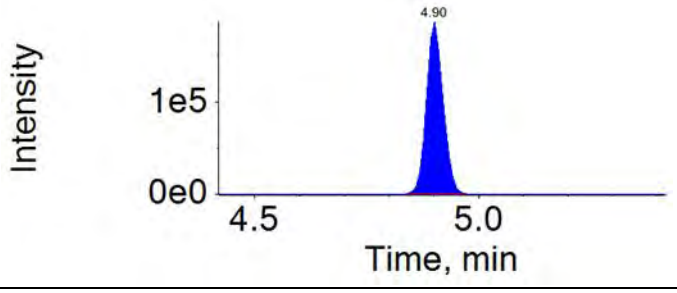
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

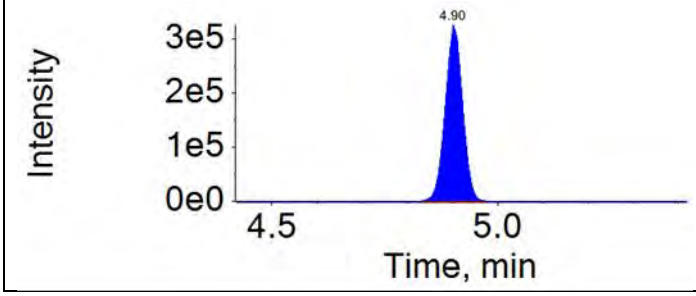
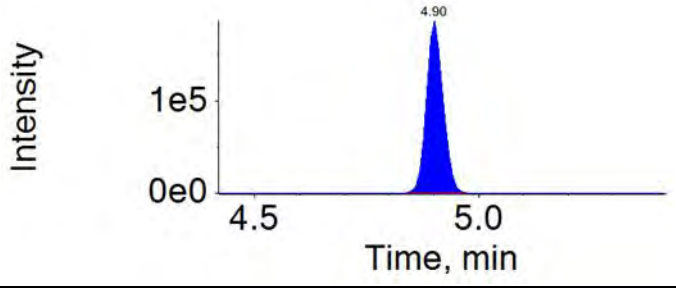


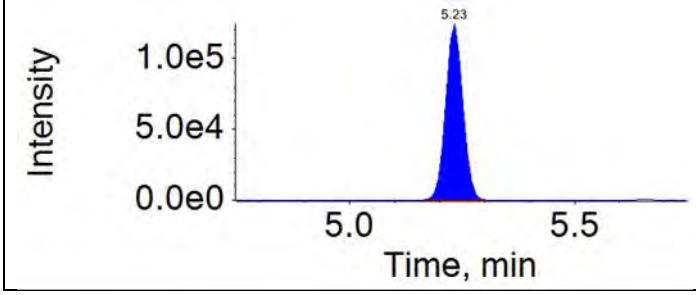
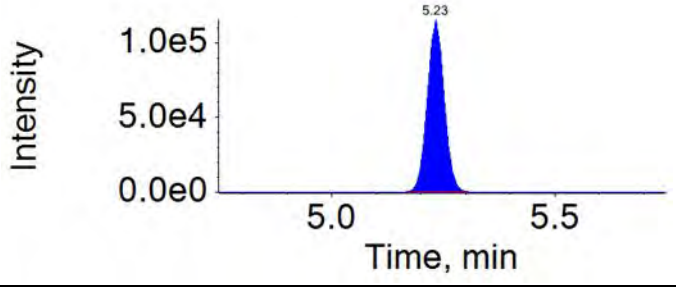


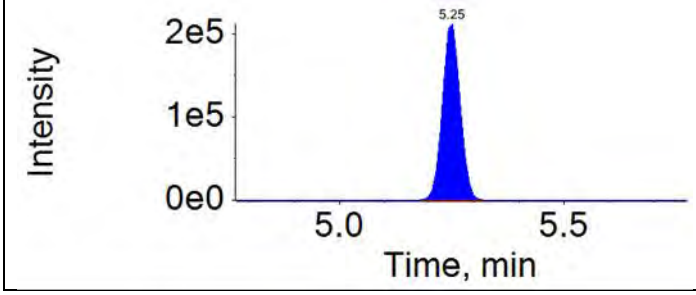
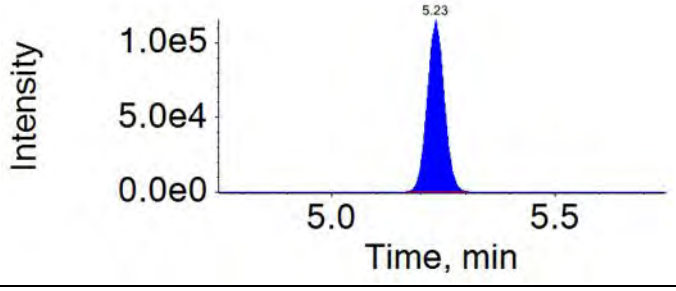
APPROVED
By JPT at 2:52 pm, 12/10/18

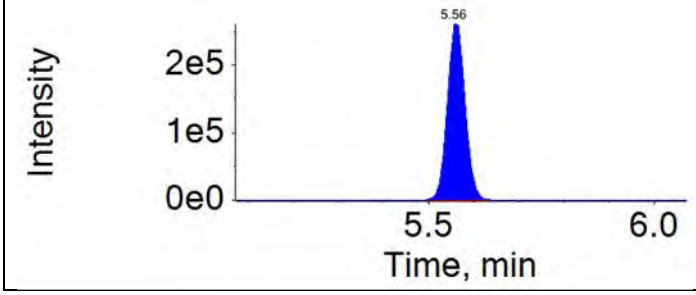
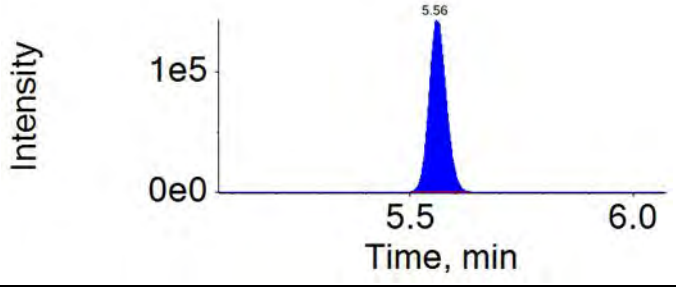
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

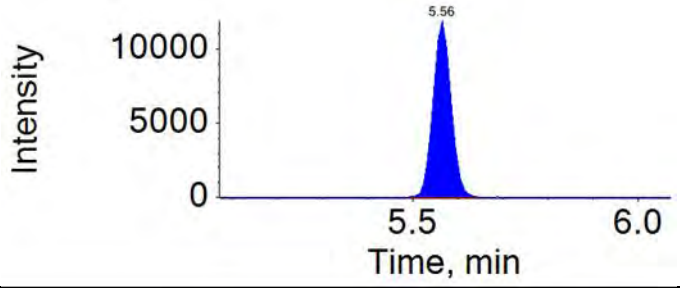
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

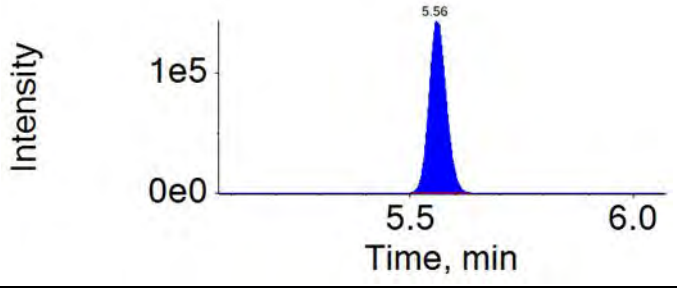
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

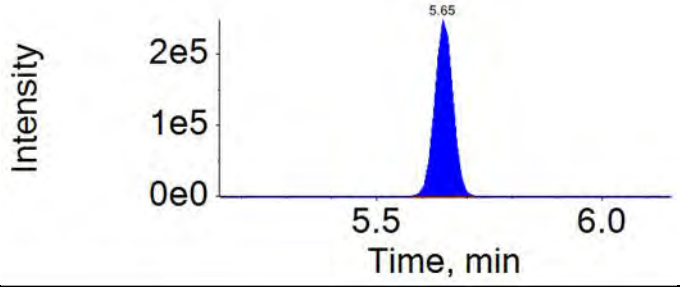
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

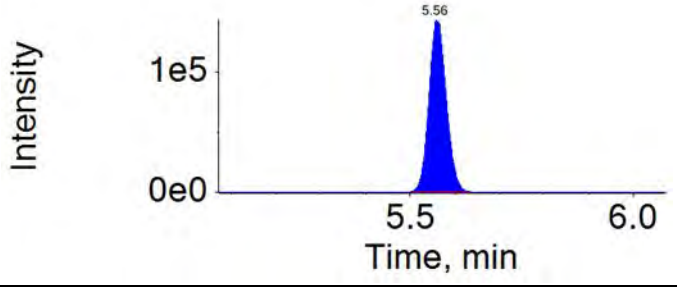
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



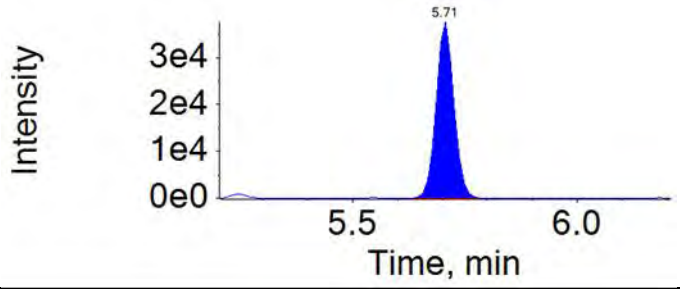


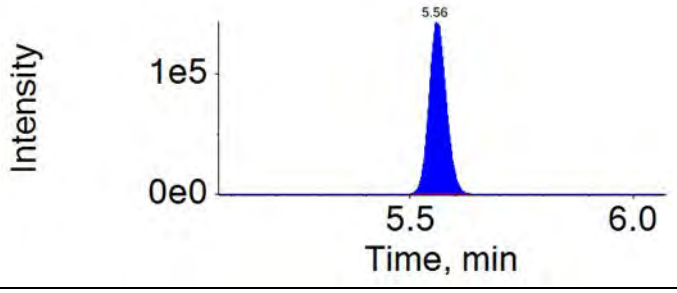
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



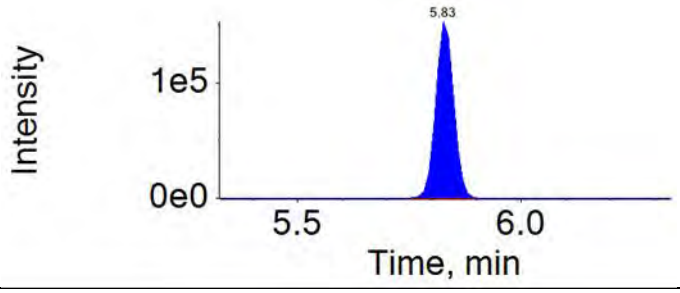


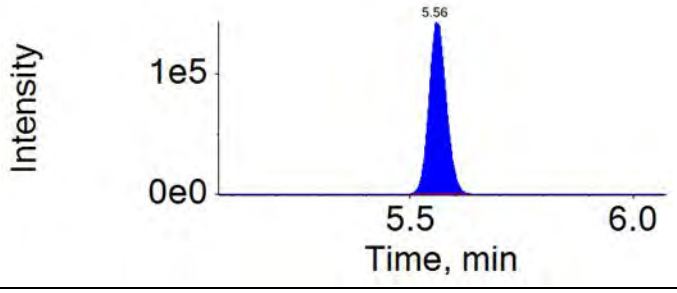
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



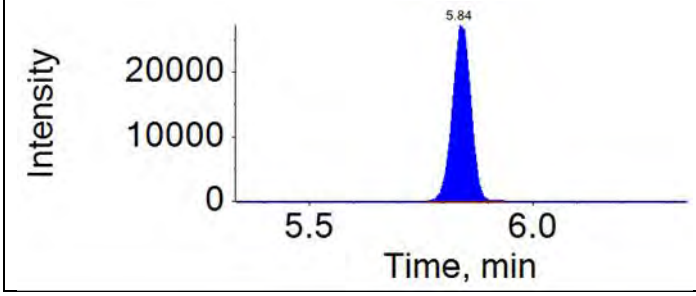


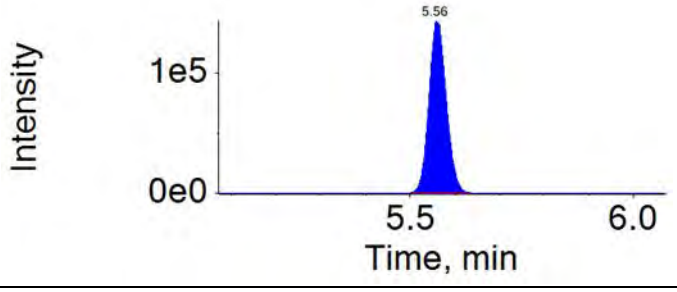
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

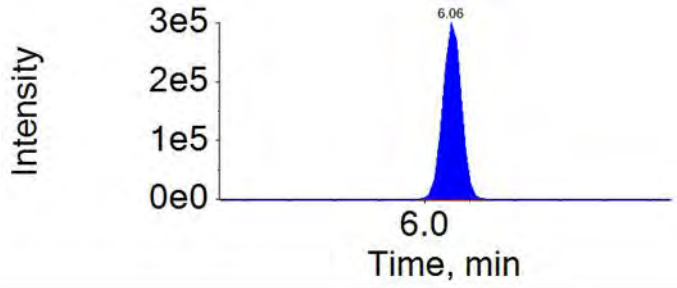
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

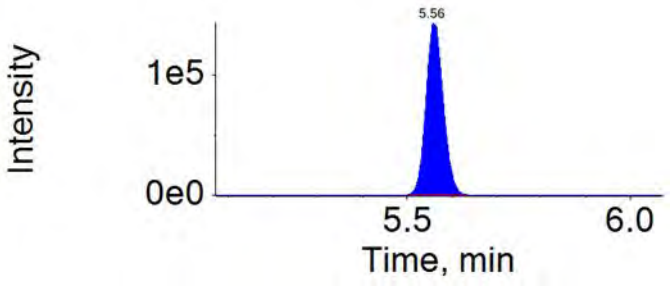
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



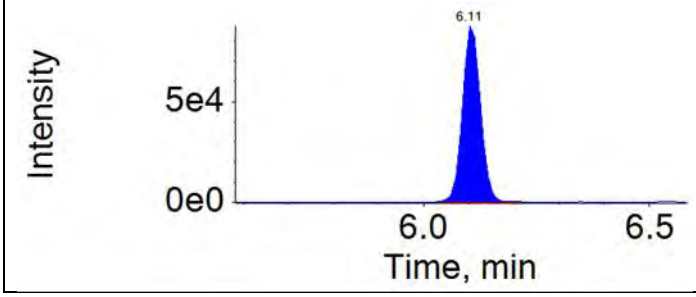


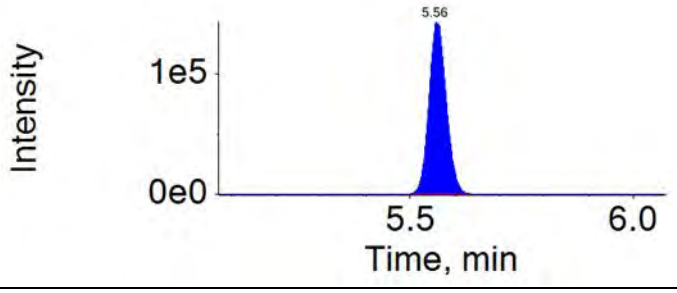
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



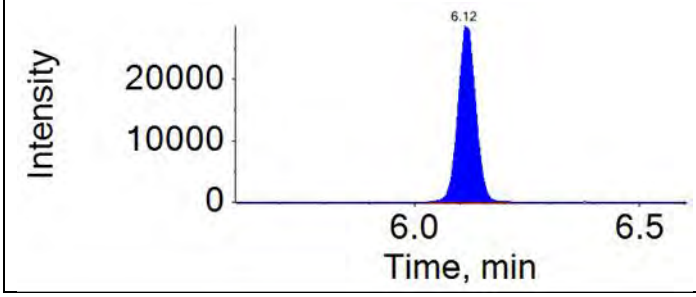


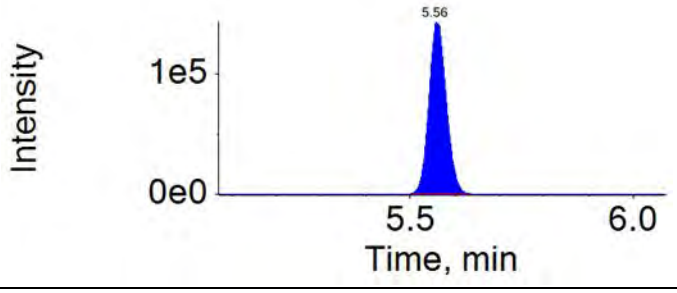
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



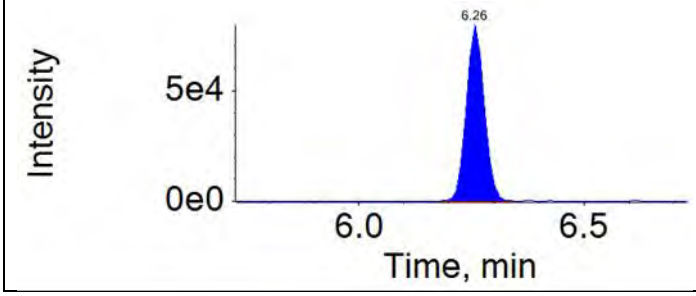


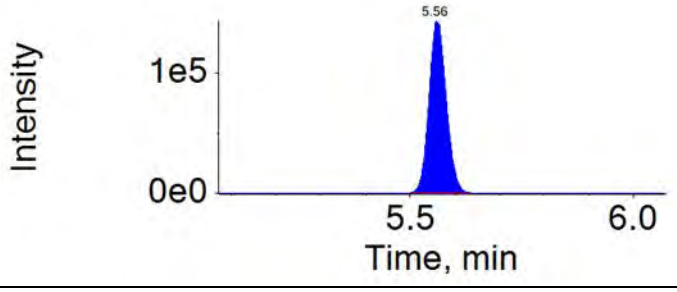
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

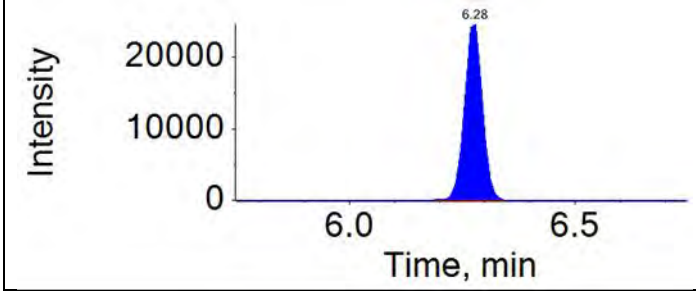
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

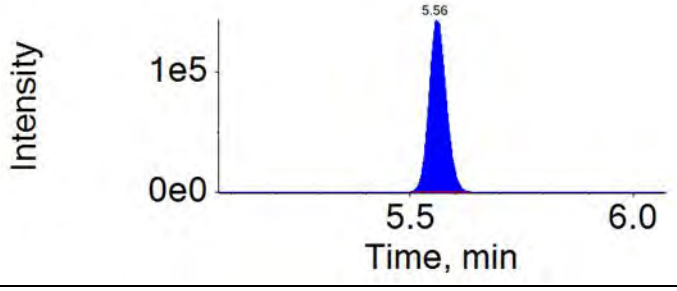
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



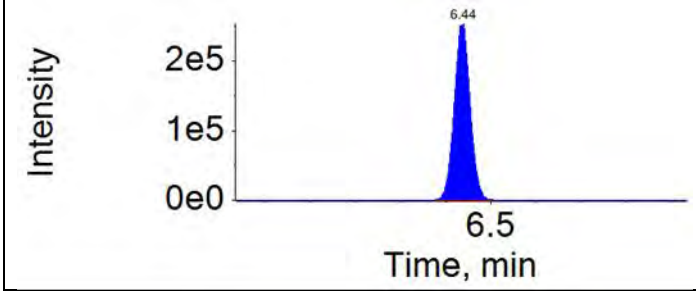


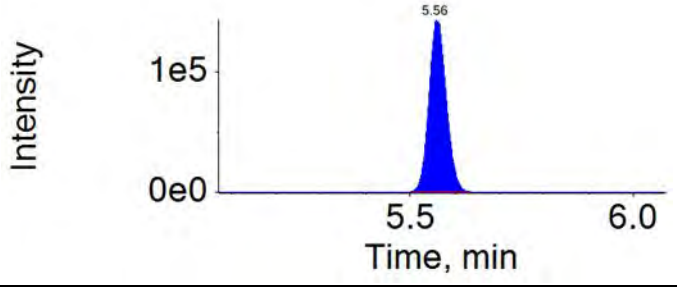
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



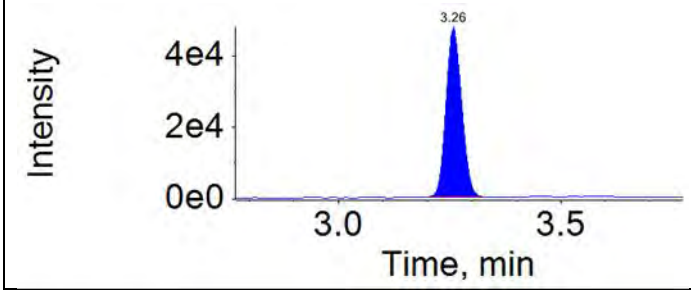


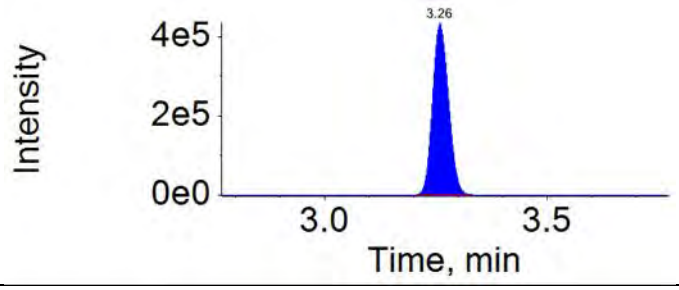
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

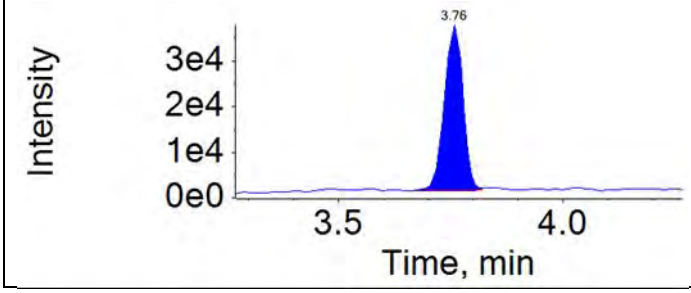
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

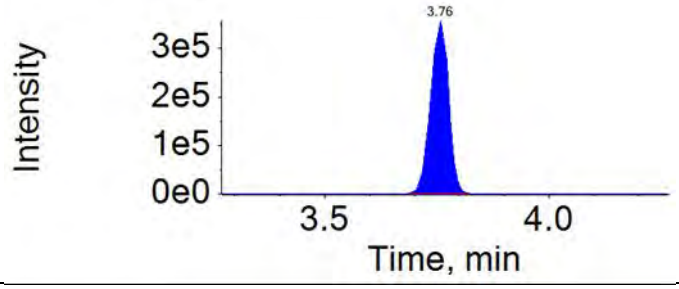
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



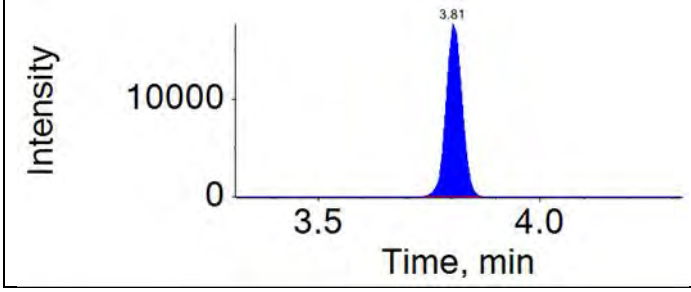


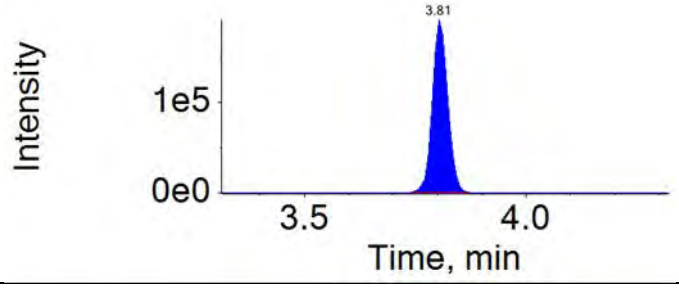
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



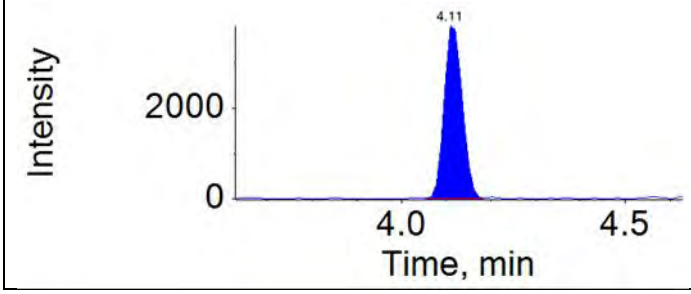


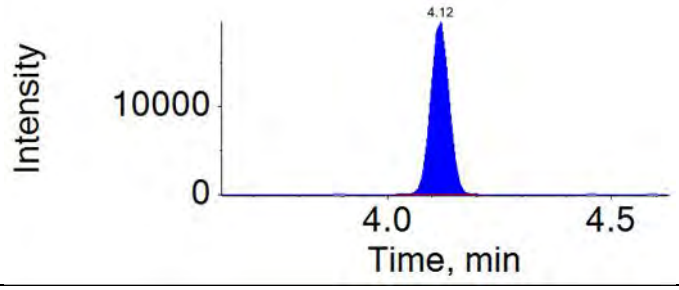
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



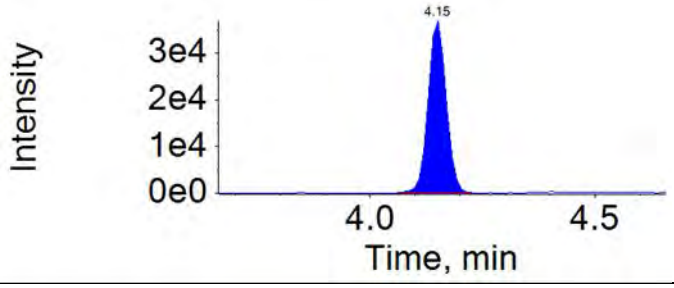
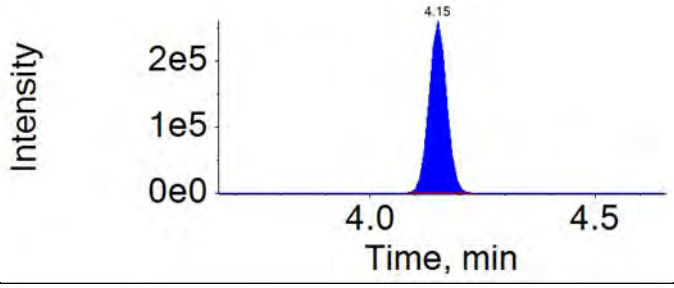


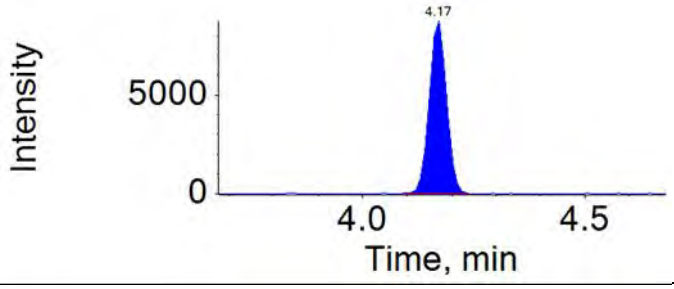
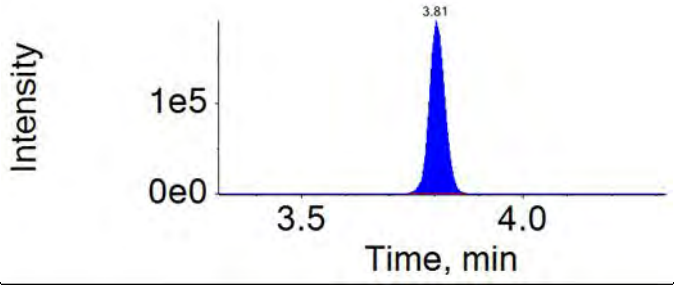
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

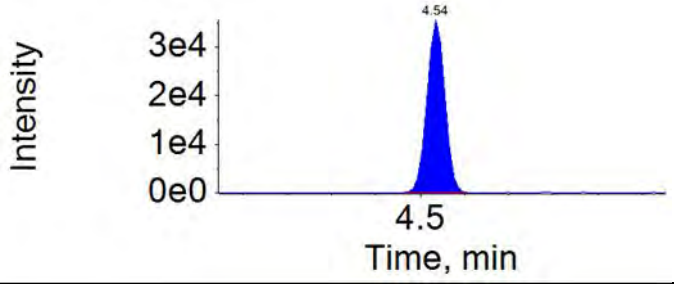
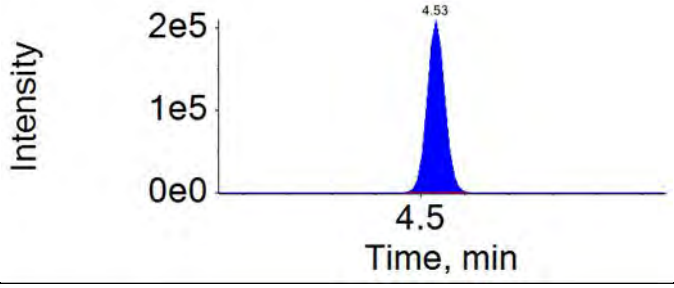


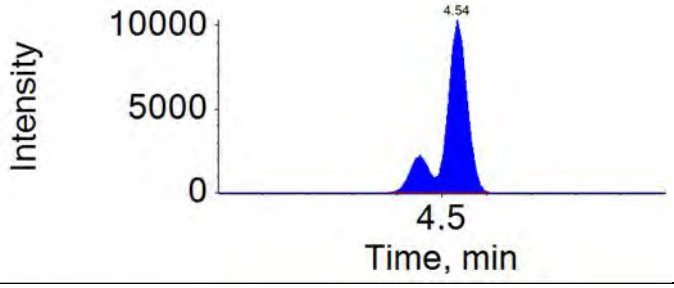
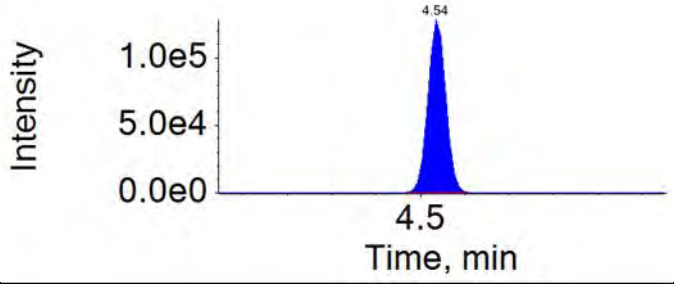


ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

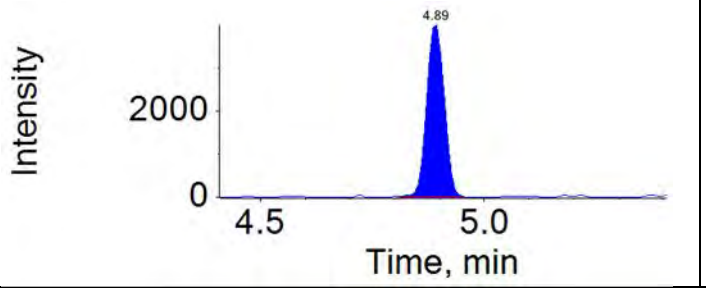
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

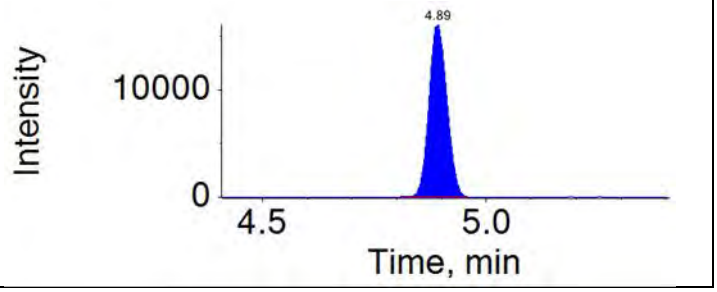
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

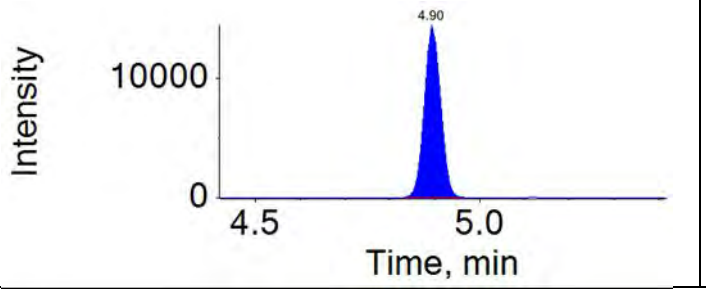
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

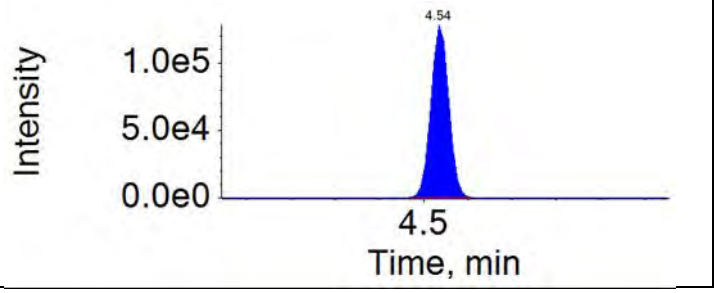
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



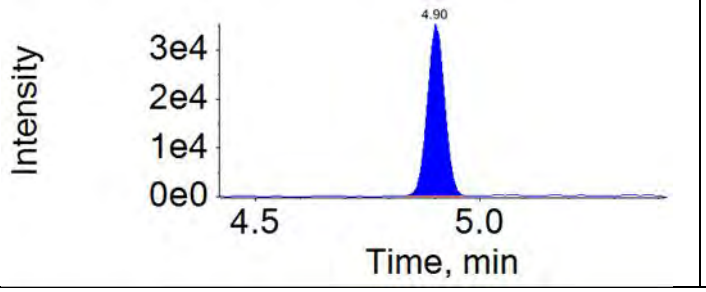


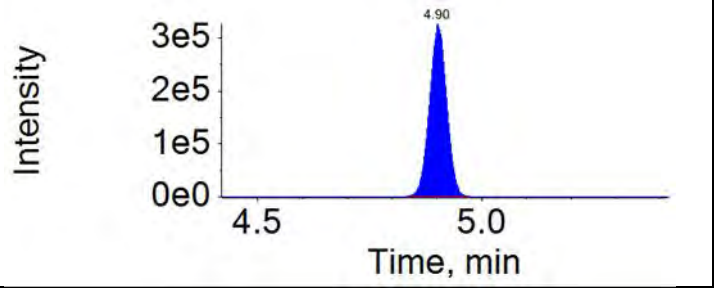
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



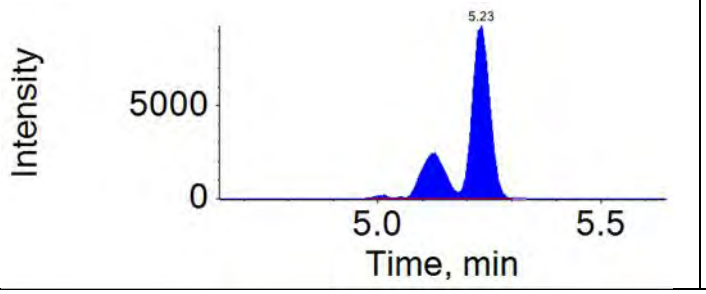


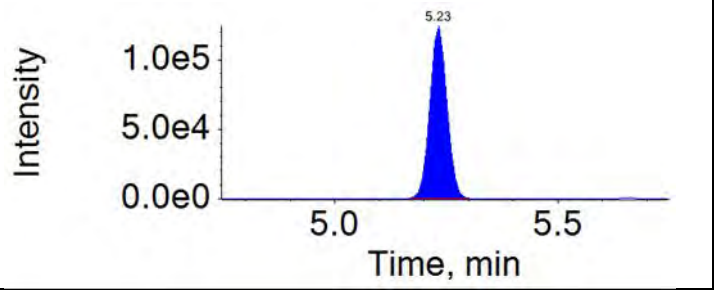
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

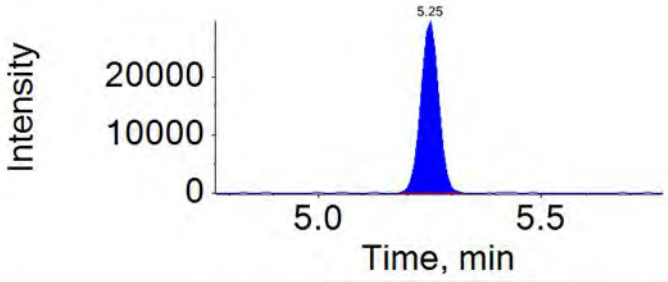
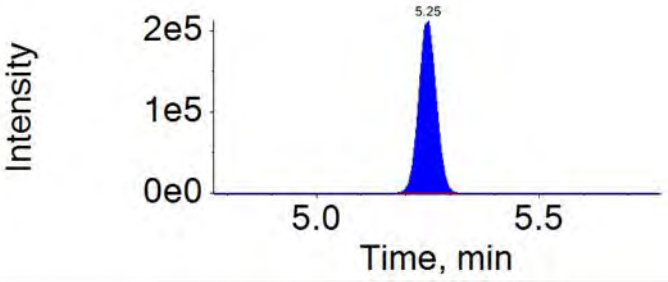


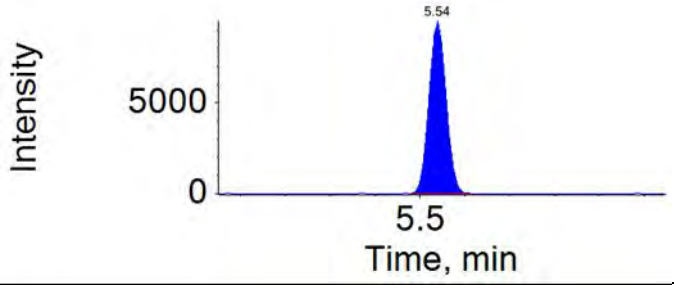
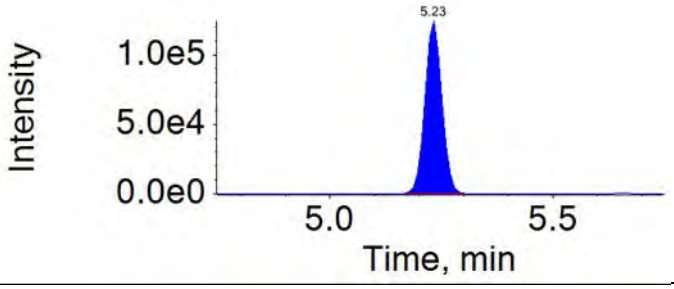


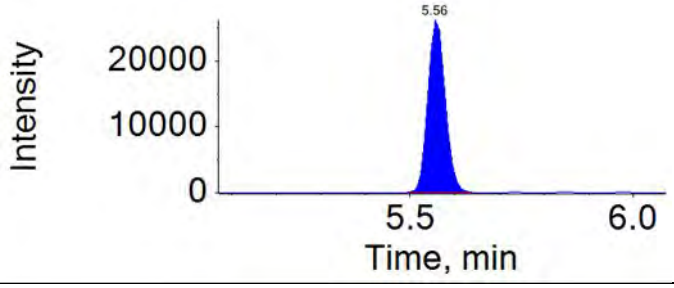
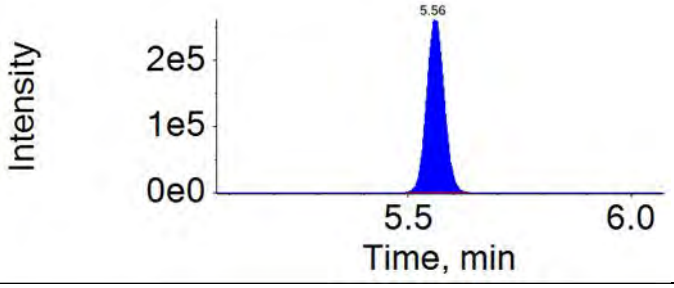
APPROVED
By JPT at 2:52 pm, 12/10/18

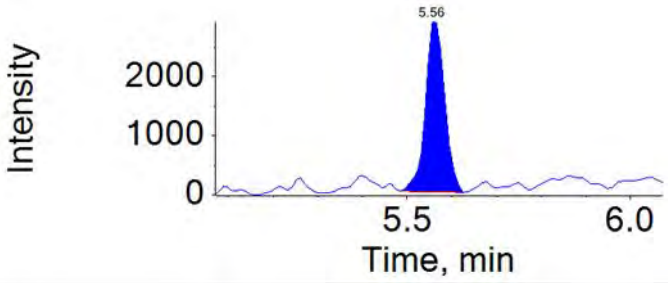
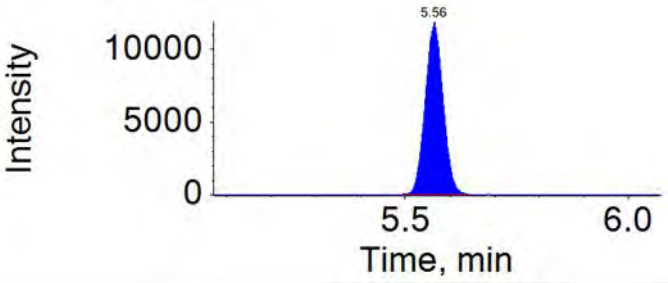
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0
	

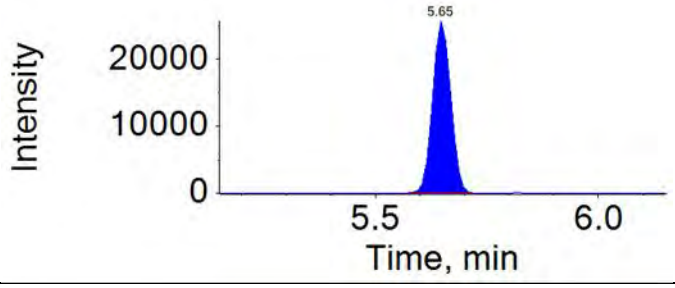
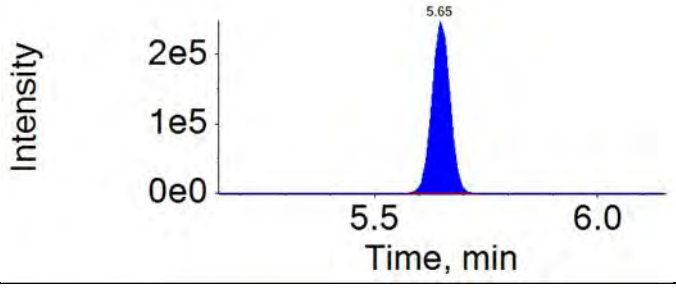
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

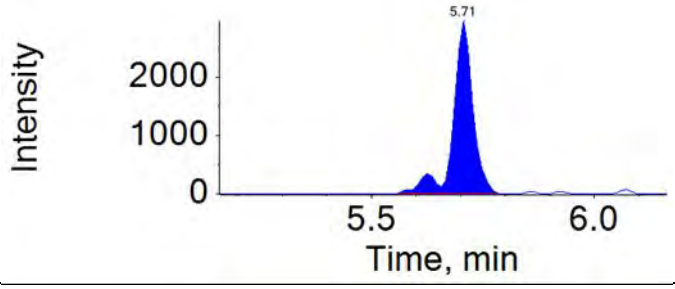
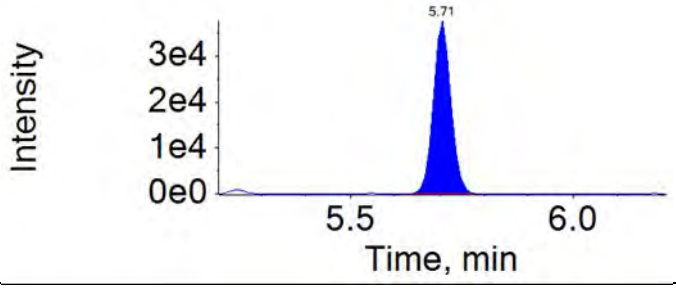
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

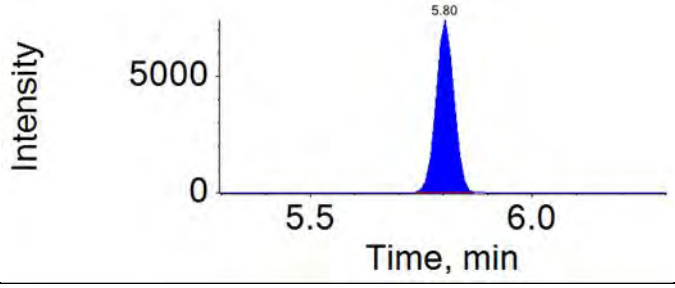
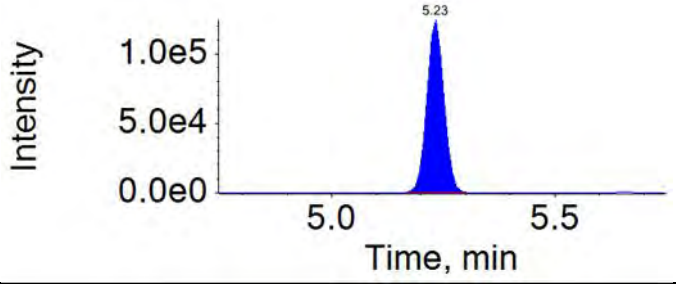
APPROVED
By JPT at 2:52 pm, 12/10/18

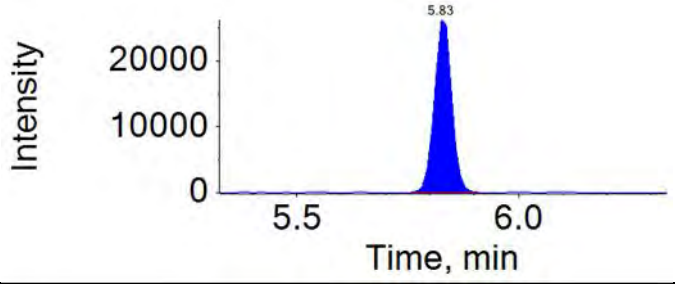
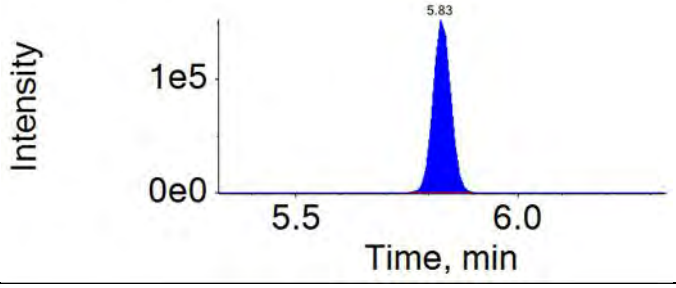
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

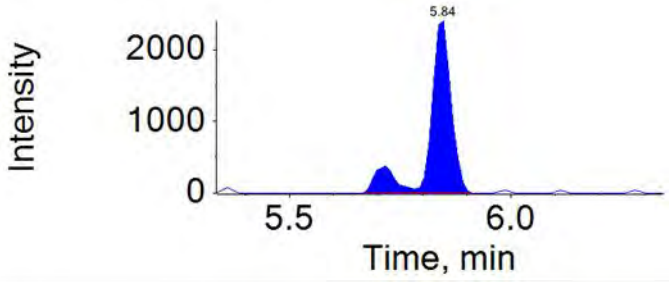
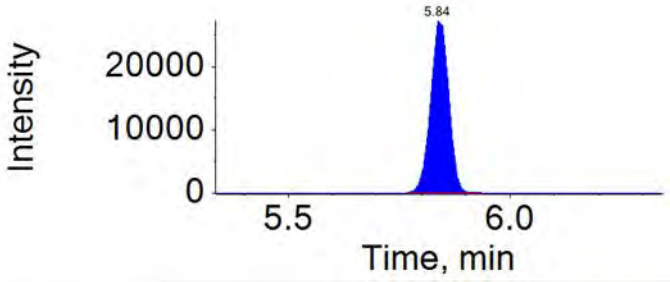
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

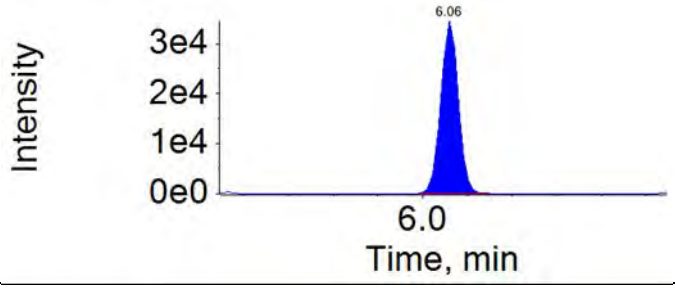
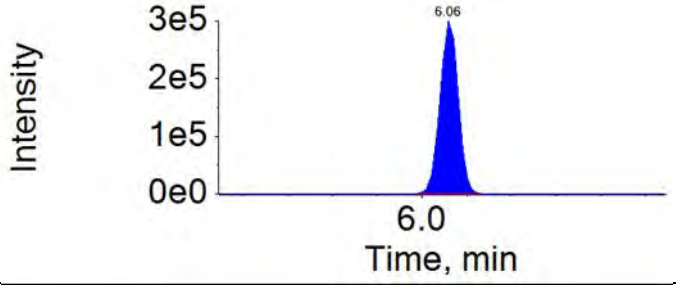
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

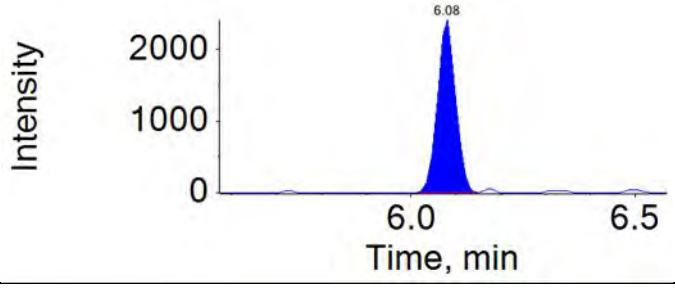
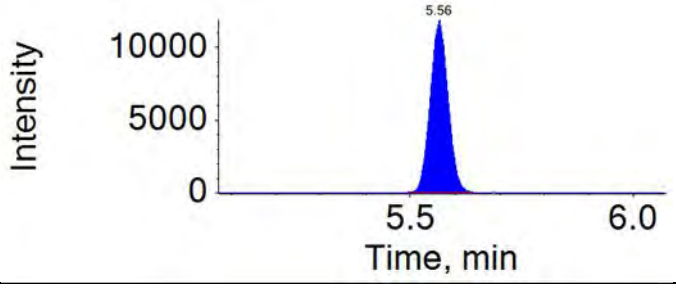
APPROVED
By JPT at 2:52 pm, 12/10/18

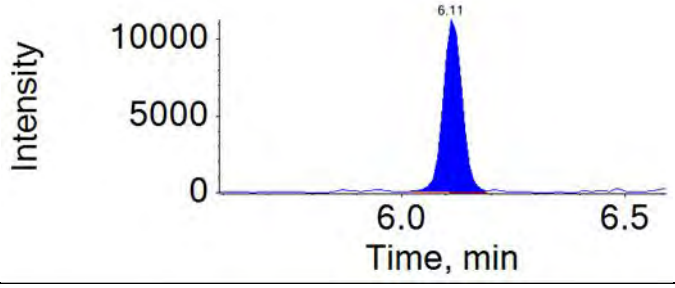
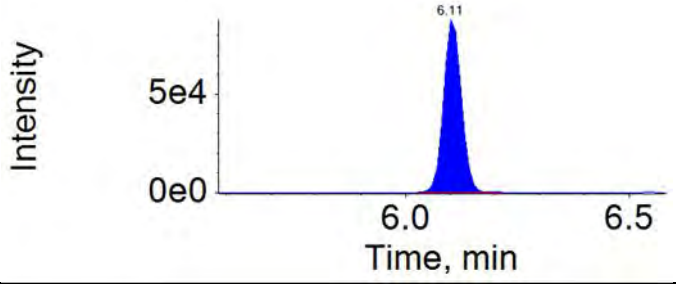
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

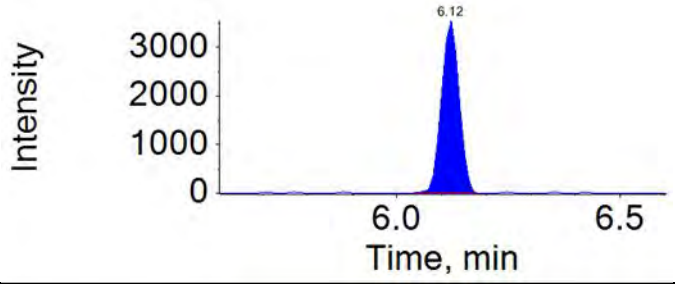
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

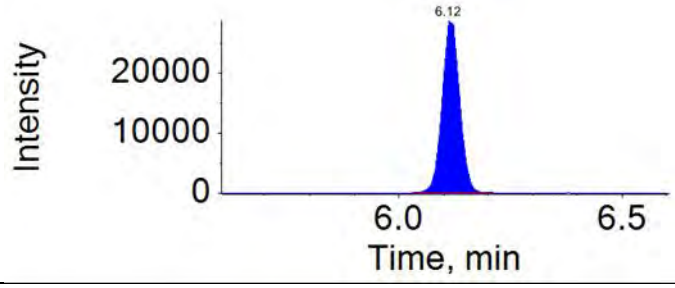
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

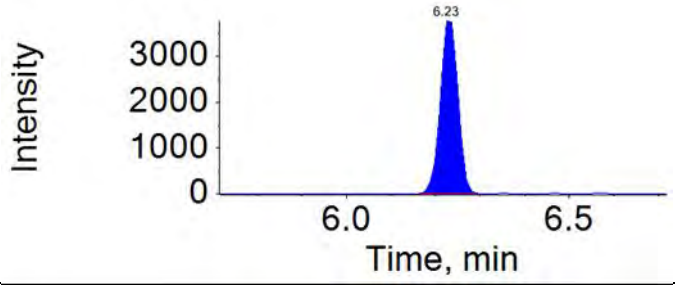
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

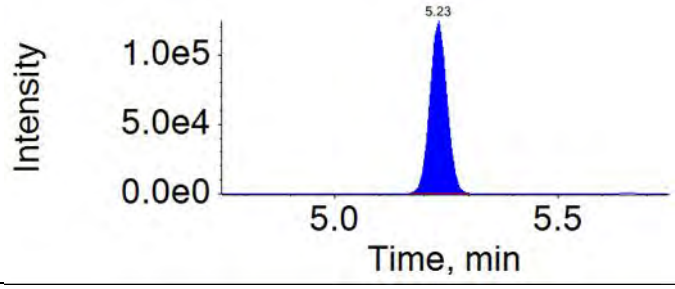
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



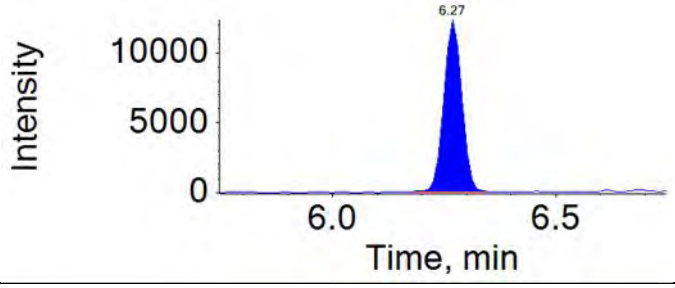


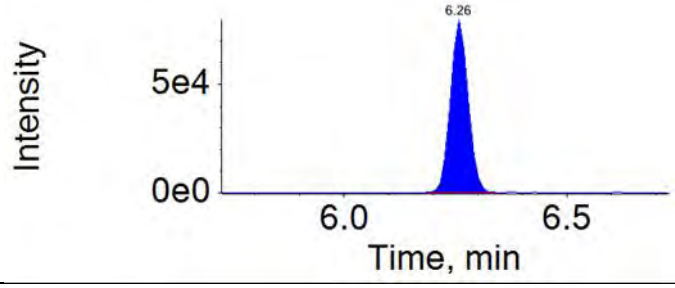
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



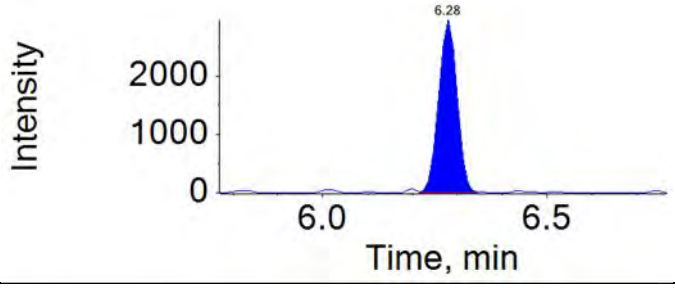


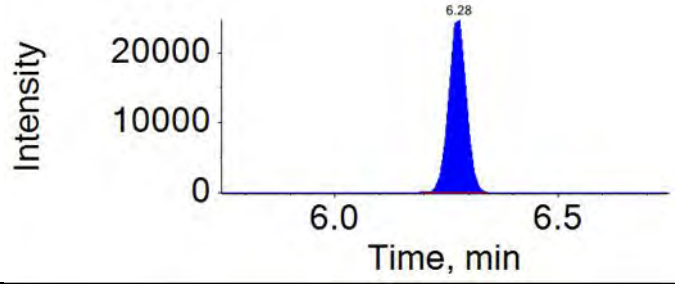
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

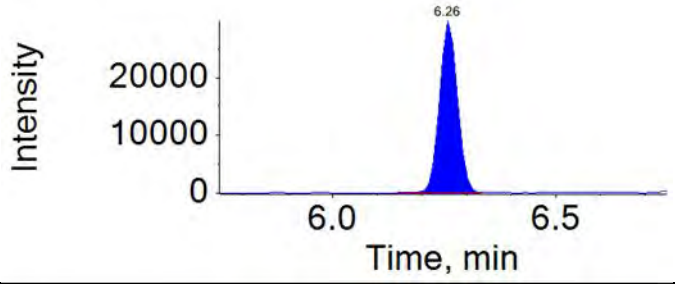
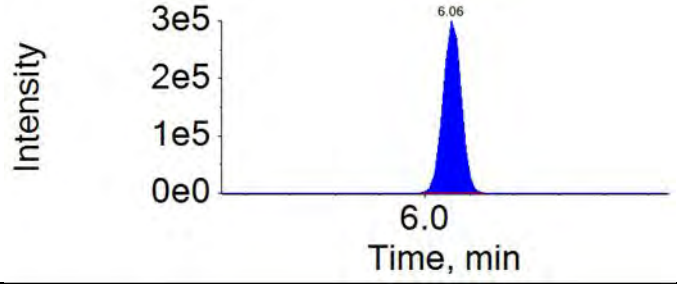


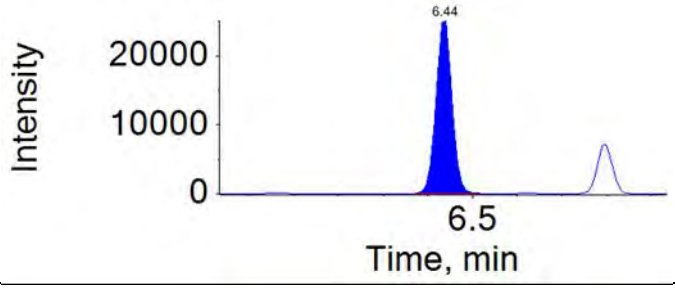
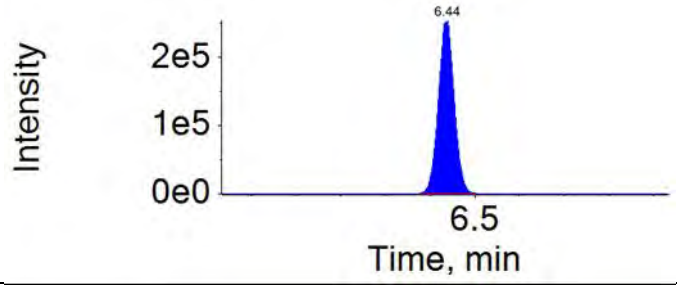


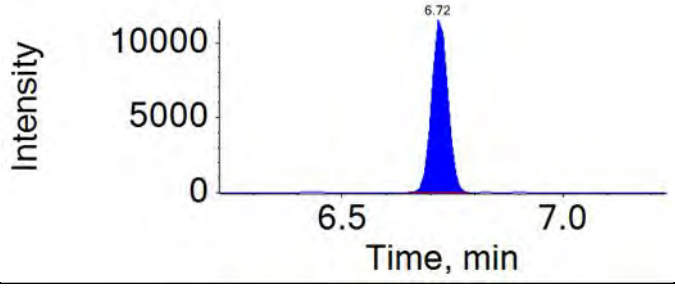
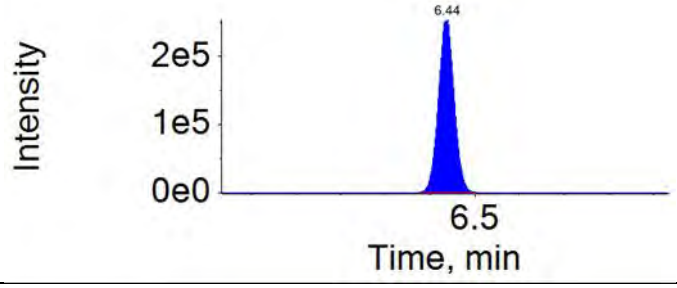
APPROVED
By JPT at 2:52 pm, 12/10/18

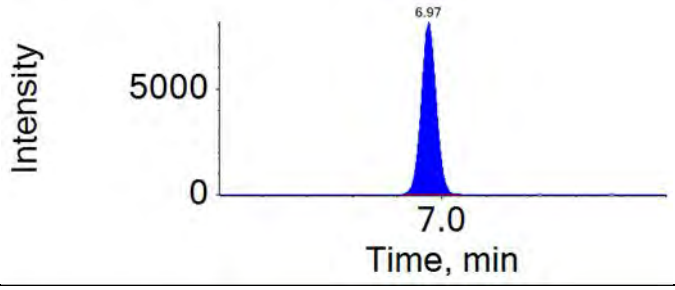
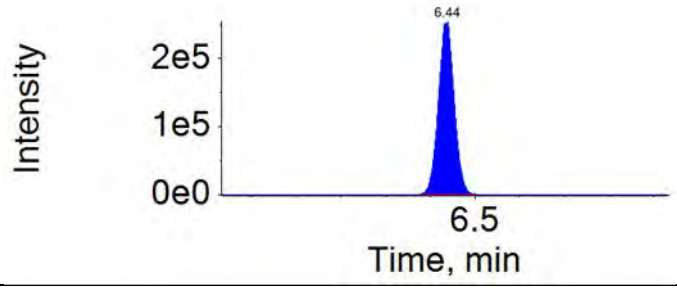
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

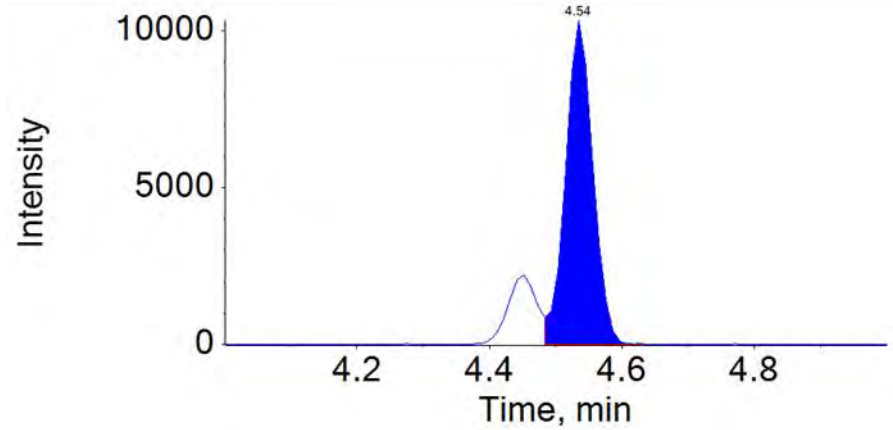
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

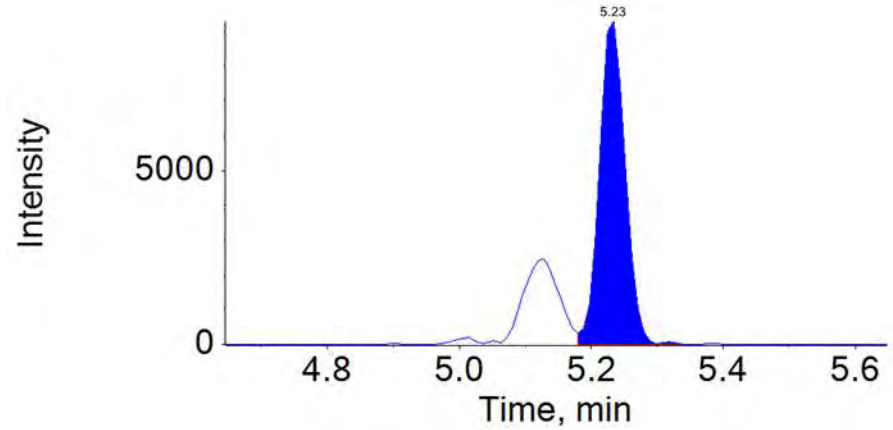
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
29798.0
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-35.wiff
Sample Name:
CCV4_ISC_CAL2



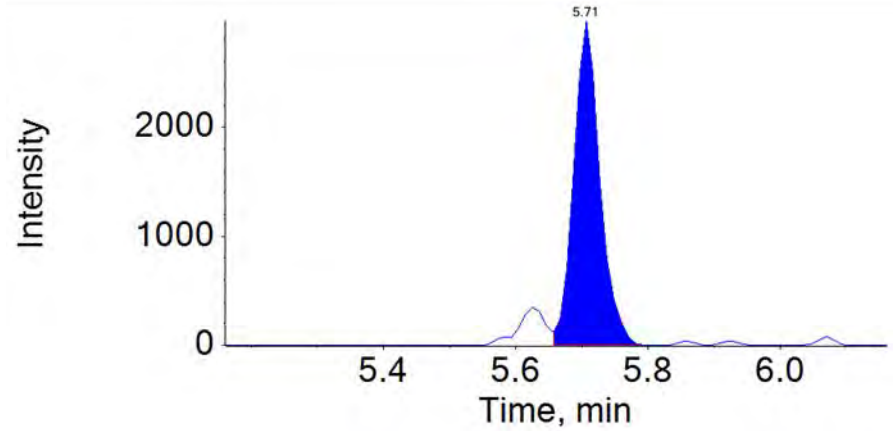
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
25461.8
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-35.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
8211.3
Mass Range:
570.0 / 419.0
File Name:
18DEC08D-35.wiff
Sample Name:
CCV4_ISC_CAL2



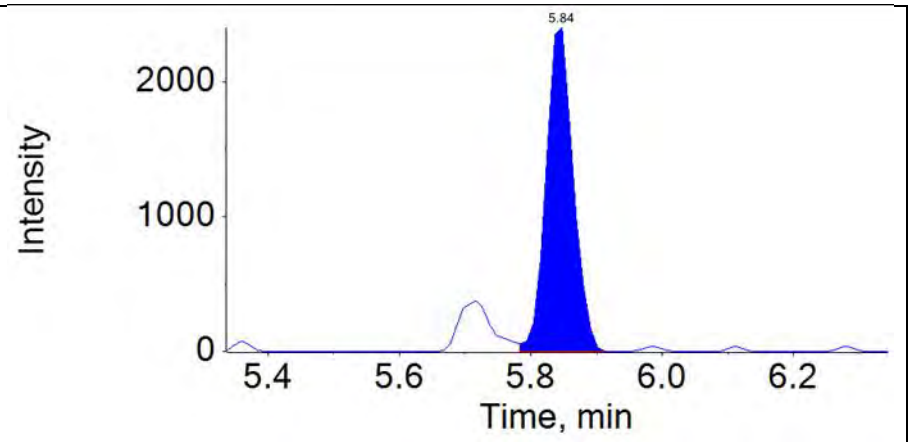
Integration Comment: incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

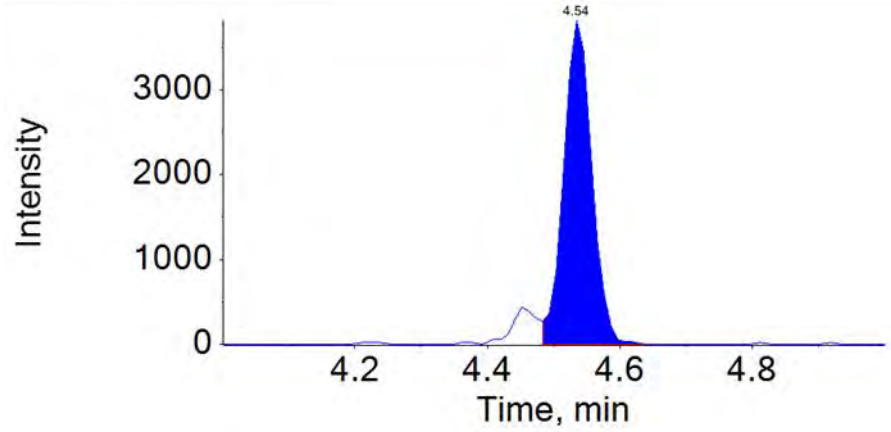
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
6952.3
Mass Range:
584.0 / 419.0
File Name:
18DEC08D-35.wiff
Sample Name:
CCV4_ISC_CAL2



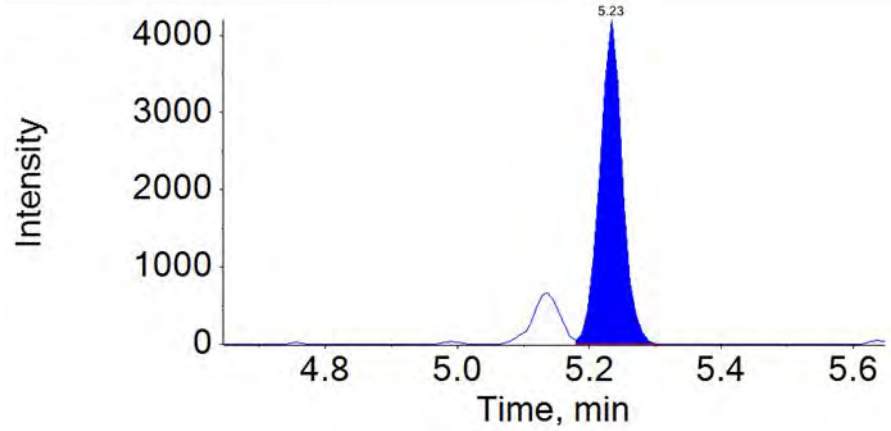
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
11338.3
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-35.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
9986.1
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-35.wiff
Sample Name:
CCV4_ISC_CAL2

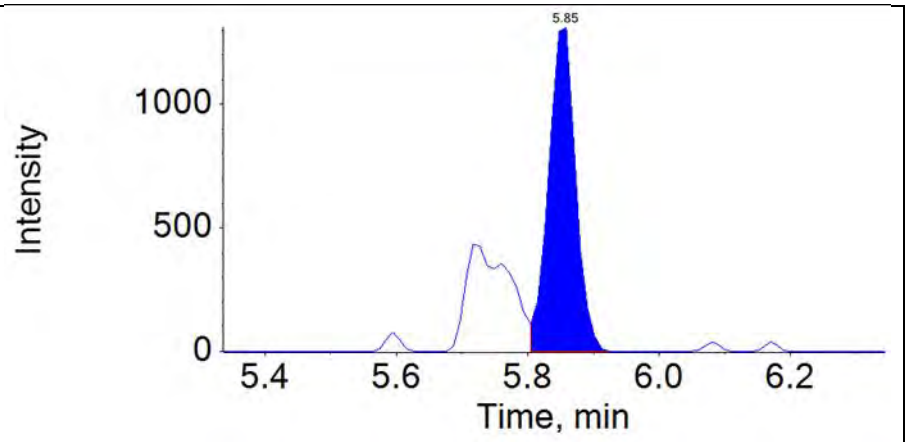


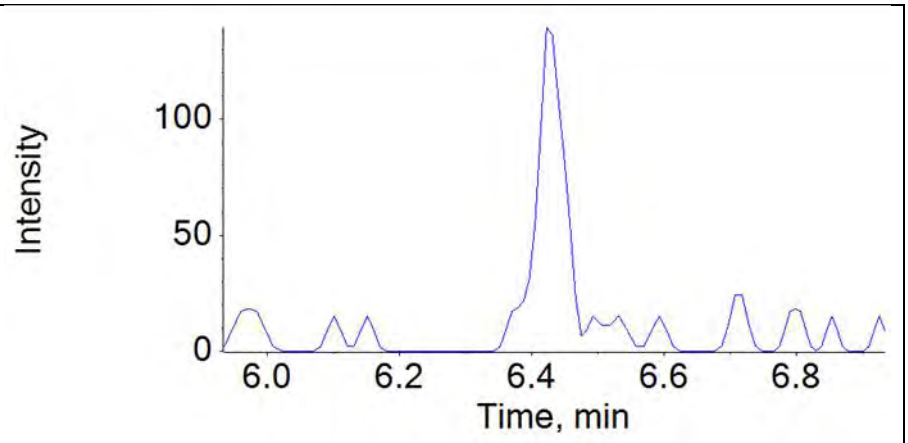
Integration Comment: incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: NEtFOSAA_2 **RT (min.):** 5.85 **Peak Area:** 3774.0 **Mass Range:** 584.0 / 526.0 **File Name:** 18DEC08D-35.wiff **Sample Name:** CCV4_ISC_CAL2	 **Integration Comment:** incorrect integration

Component Name: PFTeDA_2 **RT (min.):** N/A **Peak Area:** N/A **Mass Range:** 713.0 / 169.0 **File Name:** 18DEC08D-35.wiff **Sample Name:** CCV4_ISC_CAL2	 **Integration Comment:** incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 2:52 pm, 12/10/18

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By HMK at 12:26 pm, 12/13/18

Ion Ratio Report

Sample Name: CCV4_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC08D-35.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	44047.7	A	N/A	1.0000			
PFBS_2	3.81	1.00	16463.8	A	N/A	0.3738	3	50	
4:2-FTS	4.11	1.00	10767.2	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	6453.2	A	N/A	0.5993	-8	50	
PFHxA	4.15	1.00	102604.1	A	N/A	1.0000			
PFHxA_2	4.15	1.00	1082.4	A	N/A	0.0105	9	50	
PFPeS	4.17	1.10	23764.4	A	N/A	1.0000			
PFPeS_2	4.17	1.09	13705.5	A	N/A	0.5767	10	50	
PFHpA	4.54	1.00	99747.1	A	N/A	1.0000			
PFHpA_2	4.53	1.00	5966.6	A	N/A	0.0598	6	50	
PFHxS	4.54	1.00	36372.4	M	N/A	1.0000			
PFHxS_2	4.54	1.00	12481.7	M	N/A	0.3432	-6	50	
6:2-FTS	4.89	1.00	10924.5	A	N/A	1.0000			
6:2-FTS_2	4.89	1.00	6778.7	A	N/A	0.6205	-1	50	
PFHpS	4.90	1.08	36420.8	A	N/A	1.0000			
PFHpS_2	4.89	1.08	15005.4	A	N/A	0.4120	-1	50	
PFOA	4.90	1.00	93468.5	A	N/A	1.0000			
PFOA_2	4.90	1.00	5765.2	A	N/A	0.0617	0	50	
PFOS	5.23	1.00	35162.2	M	N/A	1.0000			
PFOS_2	5.23	1.00	11916.8	M	N/A	0.3389	12	50	
PFNA	5.25	1.00	82603.5	A	N/A	1.0000			
PFNA_2	5.24	1.00	1783.5	A	N/A	0.0216	12	50	
PFNS	5.54	1.06	25033.4	A	N/A	1.0000			
PFNS_2	5.54	1.06	11863.5	A	N/A	0.4739	-2	50	
PFDA	5.56	1.00	70715.3	A	N/A	1.0000			
PFDA_2	5.55	1.00	425.4	A	N/A	0.0060	-38	50	
8:2-FTS	5.56	1.00	8673.2	A	N/A	1.0000			
8:2-FTS_2	5.56	1.00	5386.9	A	N/A	0.6211	2	50	
NMeFOSAA	5.71	1.00	9206.6	M	N/A	1.0000			
NMeFOSAA_2	5.71	1.00	2014.9	A	N/A	0.2189	-18	50	
PFDS	5.80	1.11	20674.3	A	N/A	1.0000			
PFDS_2	5.80	1.11	7943.8	A	N/A	0.3842	-22	50	
PFUnDA	5.83	1.00	71823.8	A	N/A	1.0000			
PFUnDA_2	5.82	1.00	324.3	A	N/A	0.0045	10	50	
NEtFOSAA	5.84	1.00	8272.7	M	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	5799.1	M	N/A	0.7010	4	50	
PFDoDA	6.06	1.00	94419.8	A	N/A	1.0000			
PFDoDA_2	6.06	1.00	765.9	A	N/A	0.0081	-39	50	
10:2-FTS	6.08	1.09	6773.8	A	N/A	1.0000			
10:2-FTS_2	6.08	1.09	5075.6	A	N/A	0.7493	8	50	
PFTrDA	6.26	1.03	82539.4	A	N/A	1.0000			
PFTrDA_2	6.26	1.03	410.3	A	N/A	0.0050	-34	50	
PFTeDA	6.44	1.00	62653.5	A	N/A	1.0000			
PFTeDA_2	6.43	1.00	422.5	M	N/A	0.0067	2	50	
PFHxDA	6.72	1.04	29465.5	A	N/A	1.0000			
PFHxDA_2	6.72	1.04	1627.7	A	N/A	0.0552	-10	50	
PFODA	6.97	1.08	18696.4	A	N/A	1.0000			
PFODA_2	6.97	1.08	491.8	A	N/A	0.0263	-3	50	

APPROVED
By JPT at 2:52 pm, 12/10/18

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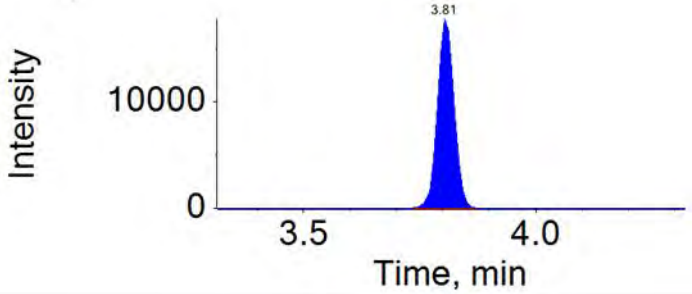
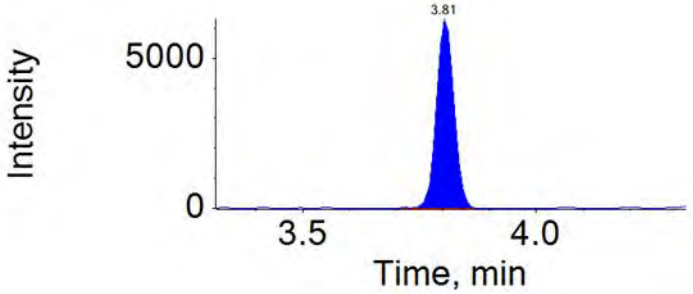
By HMK at 12:26 pm, 12/13/18

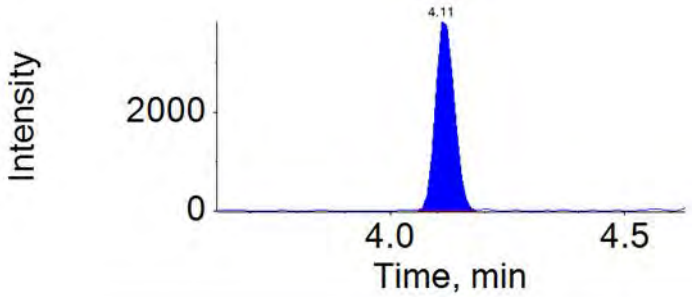
Component: PFBS
Primary Mass: 299.0 / 80.0



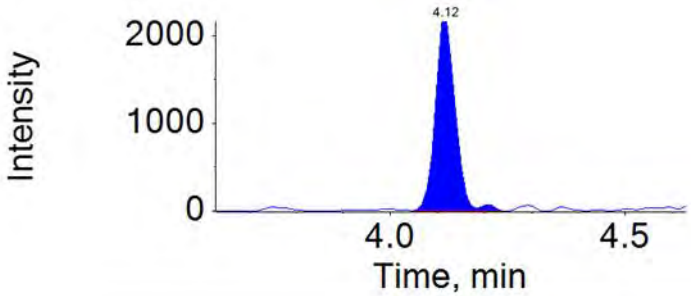
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



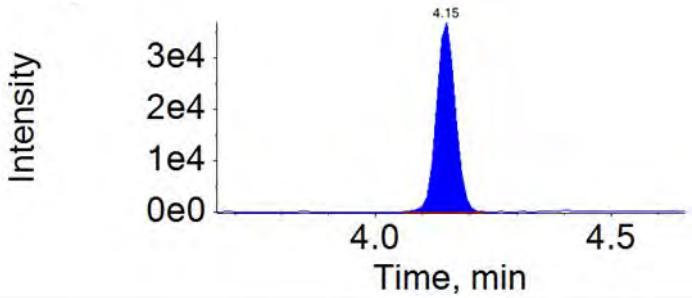
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



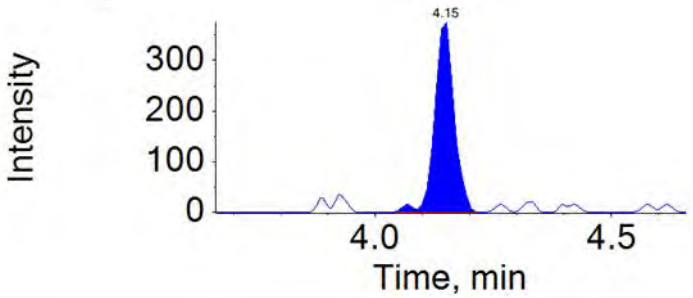
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



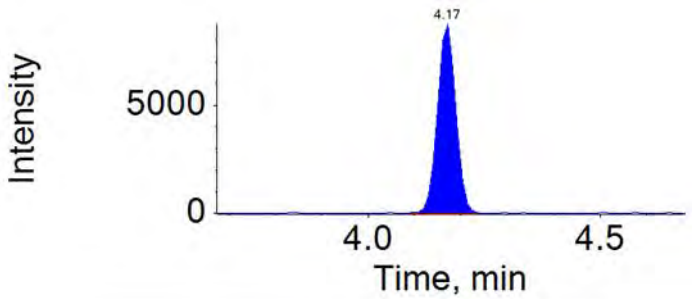
Component: PFHxA
Primary Mass: 313.0 / 269.0



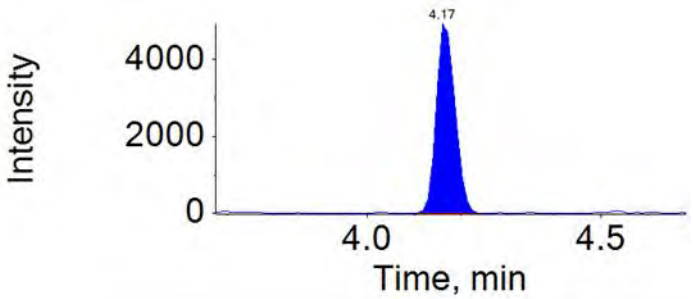
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



APPROVED
By JPT at 2:52 pm, 12/10/18

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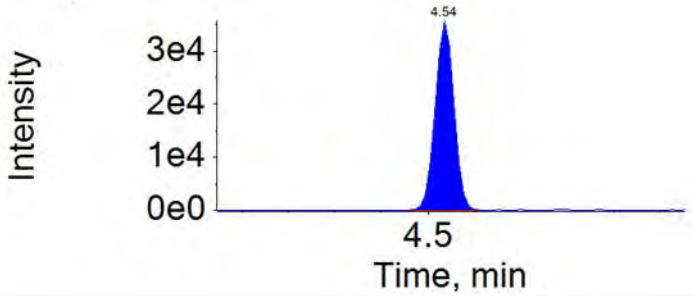
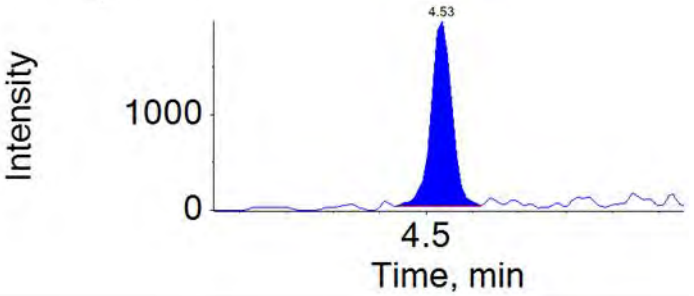
By HMK at 12:26 pm, 12/13/18

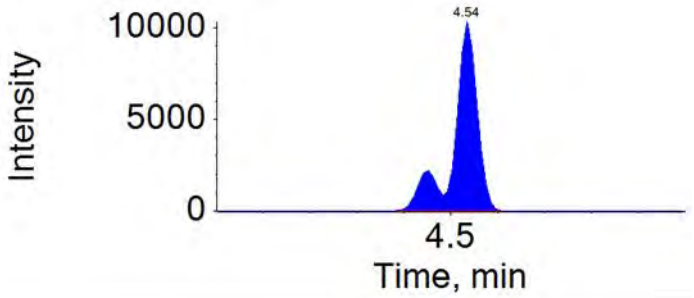
Component: PFHpA
Primary Mass: 363.0 / 319.0



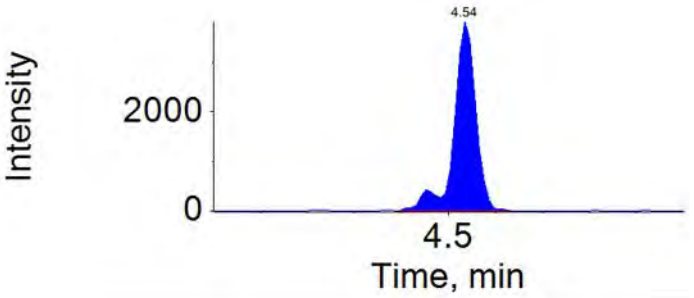
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



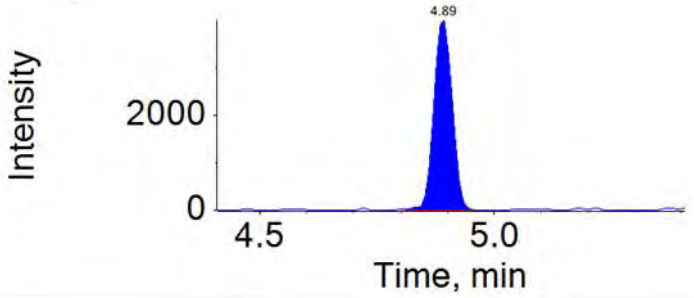
Component: PFHxS
Primary Mass: 399.0 / 80.0



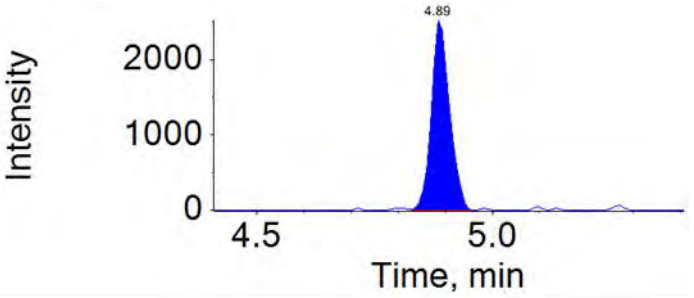
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



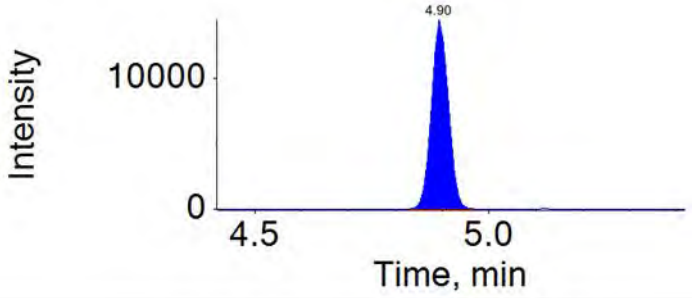
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



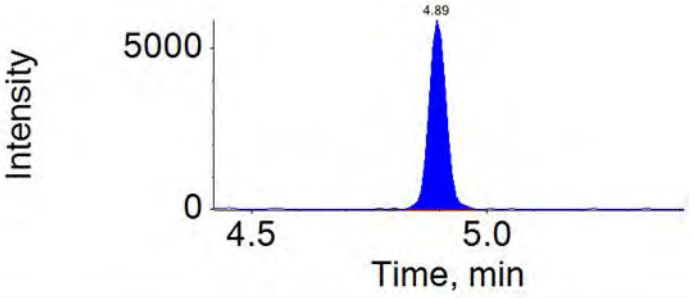
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



APPROVED
By JPT at 2:52 pm, 12/10/18

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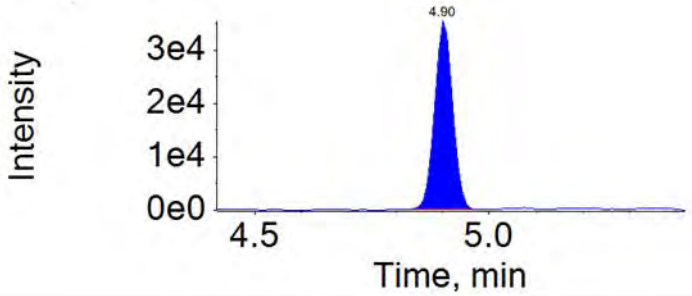
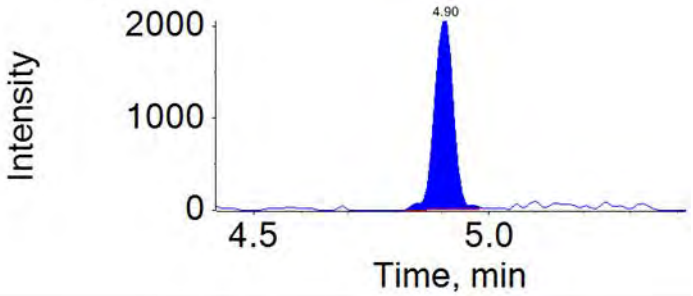
By HMK at 12:26 pm, 12/13/18

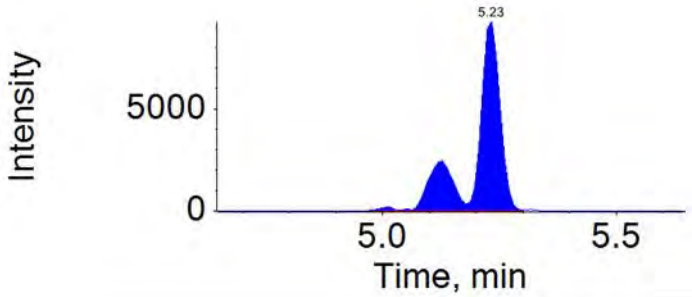
Component: PFOA
Primary Mass: 413.0 / 369.0



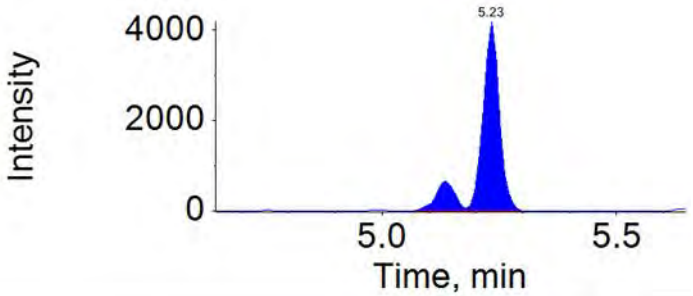
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



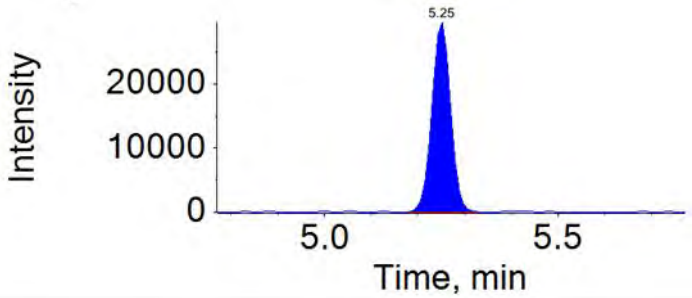
Component: PFOS
Primary Mass: 499.0 / 80.0



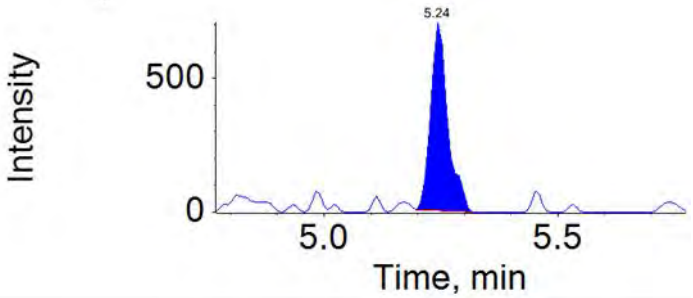
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



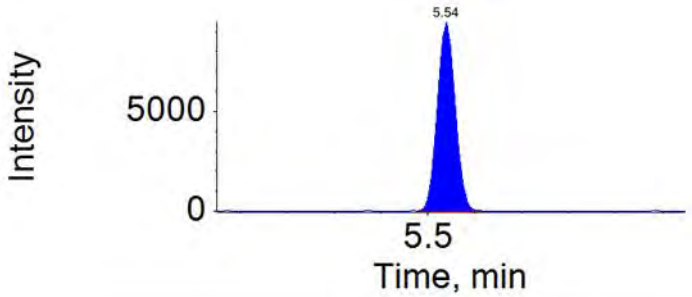
Component: PFNA
Primary Mass: 463.0 / 419.0



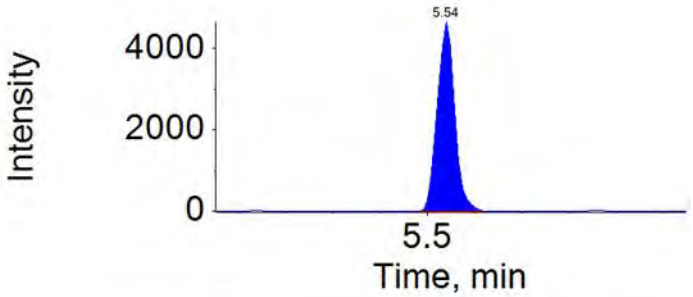
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



Component: PFNS_2
Secondary Mass: 549.0 / 99.0



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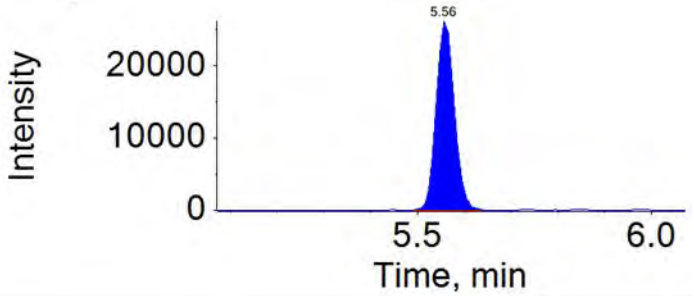
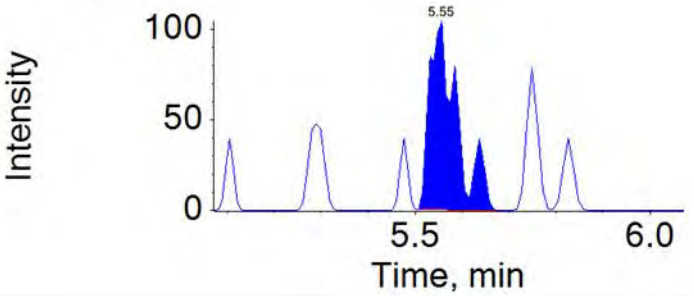
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

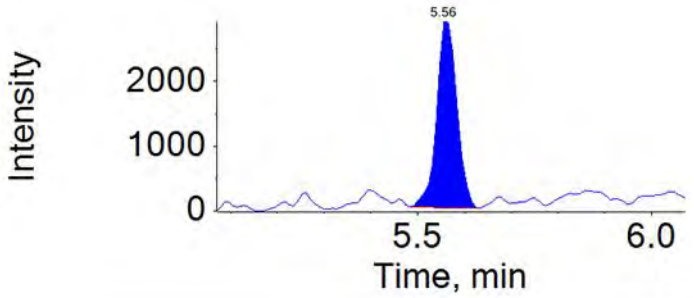
Component: PFDA
Primary Mass: 513.0 / 469.0



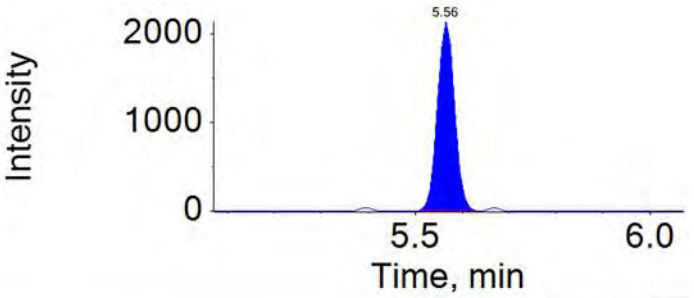
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



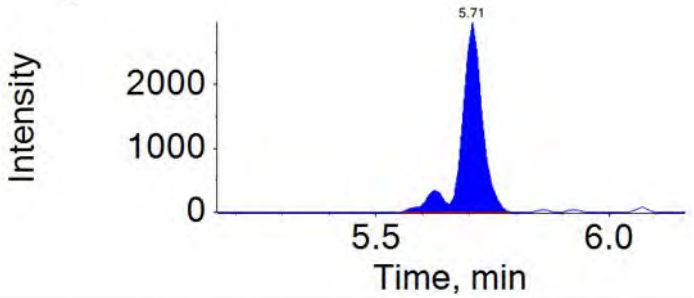
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



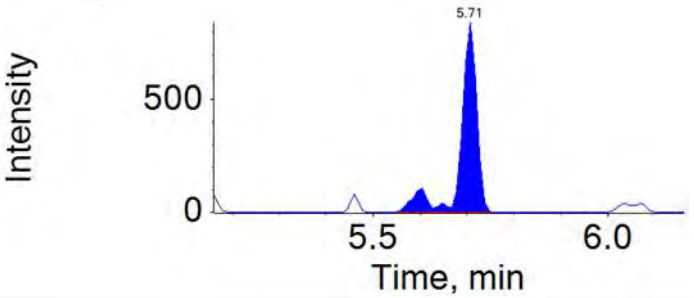
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



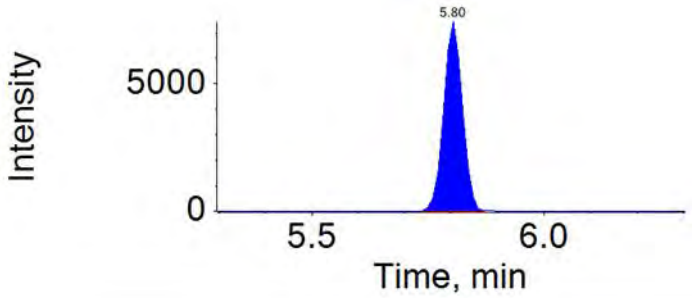
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



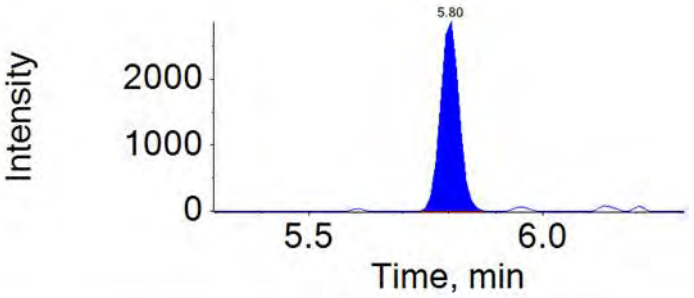
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



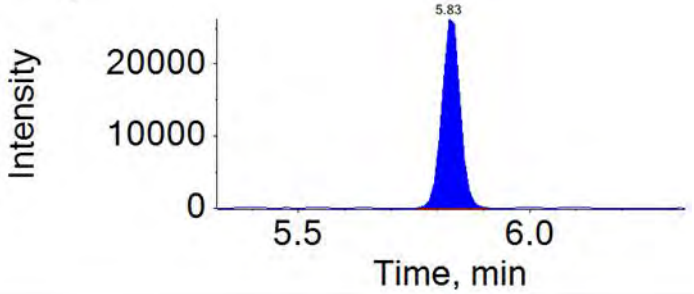
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



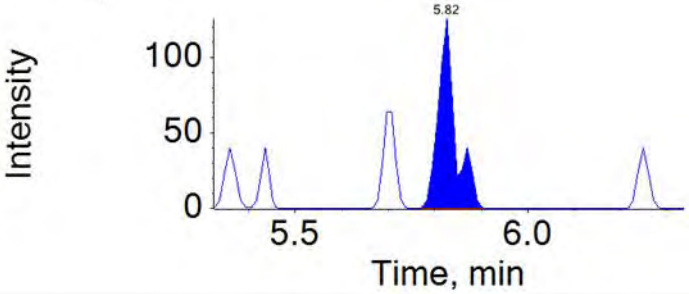
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

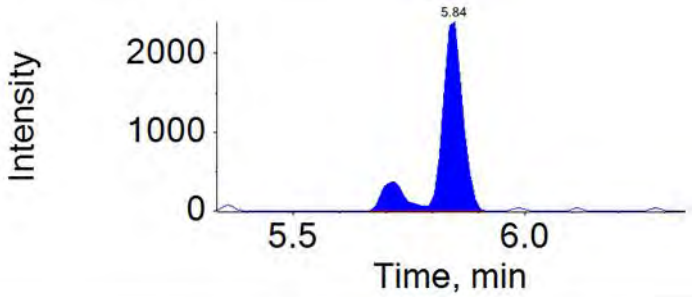
Component: PFUnDA
Primary Mass: 563.0 / 519.0



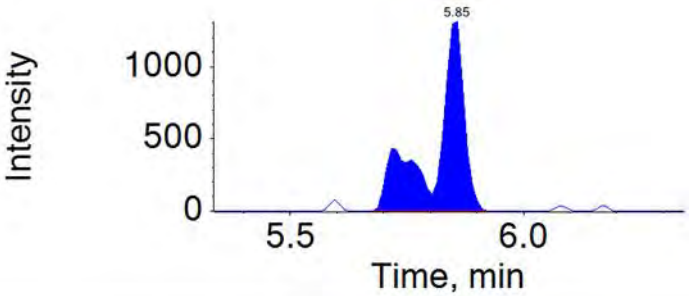
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



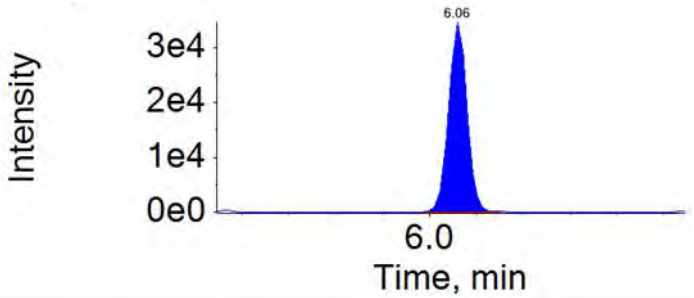
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



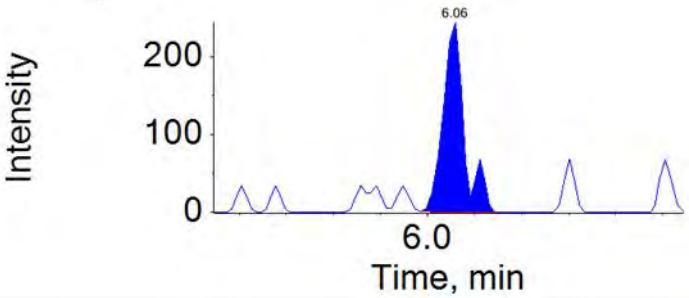
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



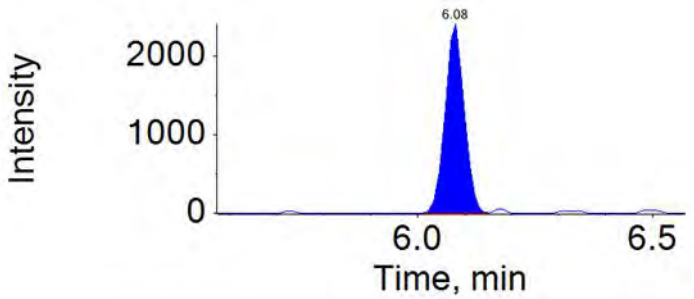
Component: PFDoDA
Primary Mass: 613.0 / 569.0



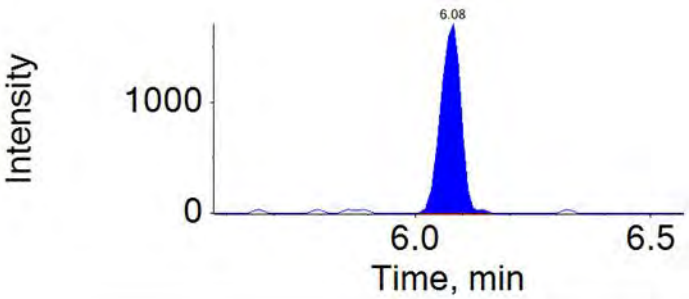
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



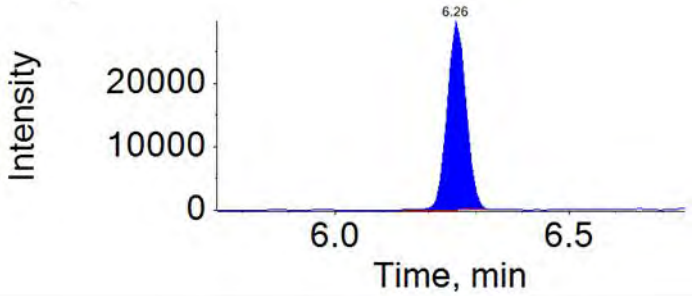
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



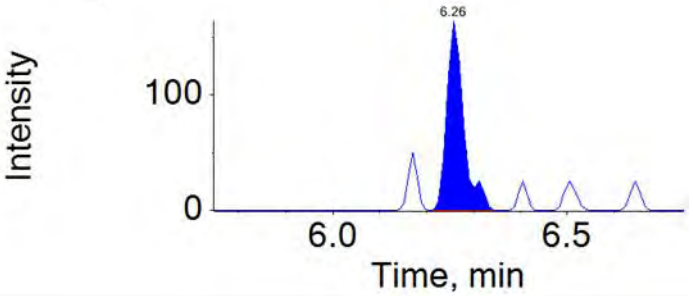
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

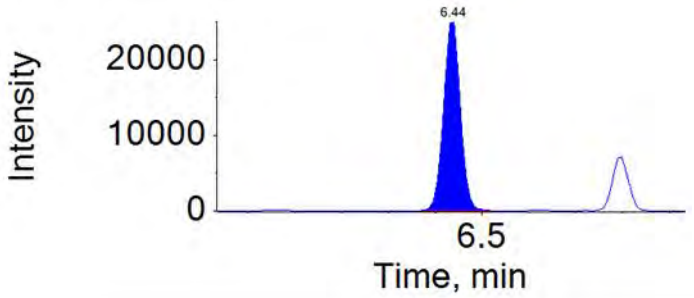
Component: PFTrDA
Primary Mass: 663.0 / 619.0



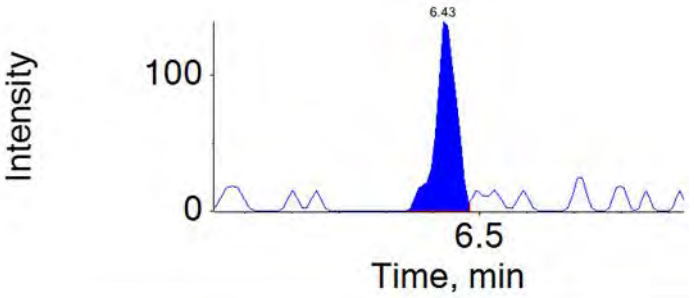
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



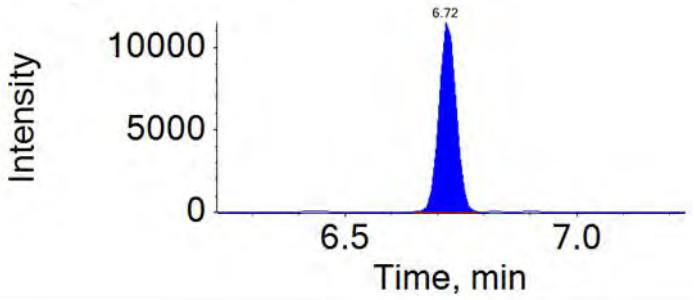
Component: PFTeDA
Primary Mass: 713.0 / 669.0



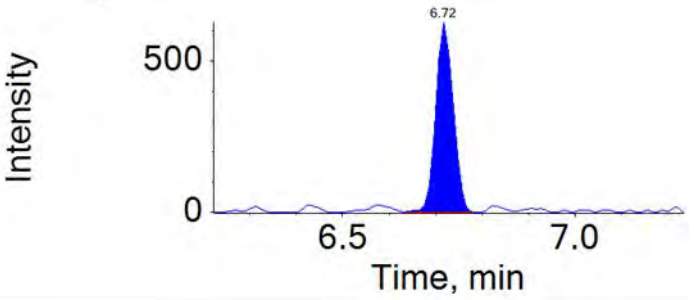
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



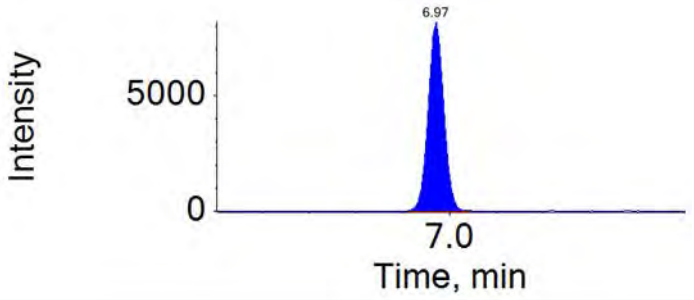
Component: PFHxDA
Primary Mass: 813.0 / 769.0



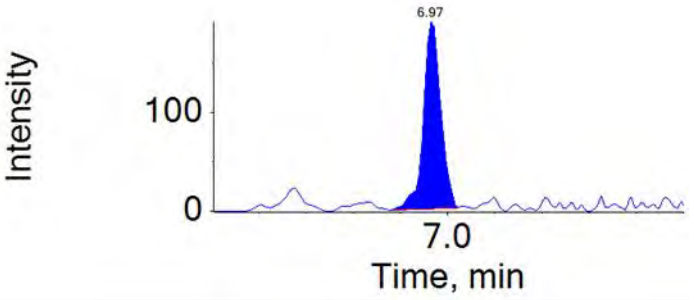
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



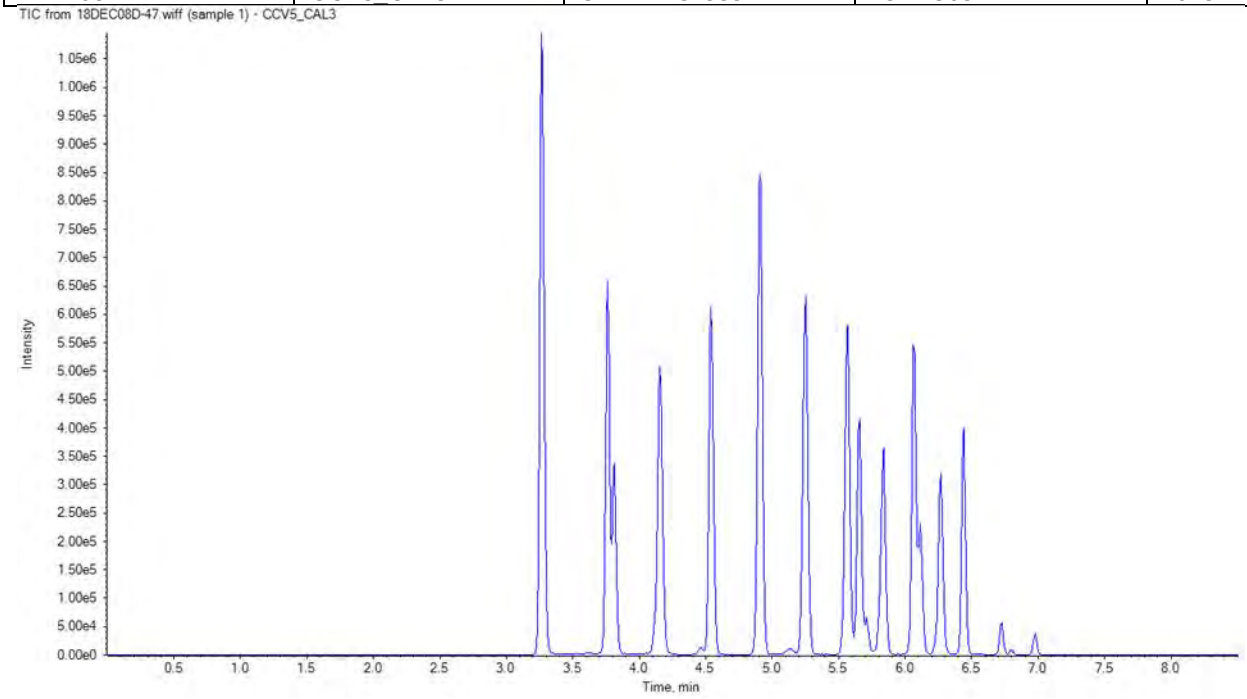
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV5_CAL3	CALBRN31833B	18DEC08D-47.wiff	2018-12-08T15:02:31



Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	955327.2	936973.7	2	50	
13C2-PFOA	5.0	468962.0	474841.3	-1	50	
13C4-PFOS	4.8	291888.3	294668.0	-1	50	
13C2-PFDA	5.0	356164.5	373990.9	-5	50	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV5_CAL3	CALBRN31833B	18DEC08D-47.wiff	2018-12-08T15:02:31

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	441704.6	10	13C4-PFBA	1063287.1	5.0	0.415	3.26	1.000	2.000	2.292	15	30	
PFPeA	411812.6	11	13C5-PFPeA	961230.5	5.0	0.428	3.76	1.000	2.000	2.254	13	30	
PFBS	177615.0	10	13C3-PFBS	436553.9	4.7	0.407	3.81	1.000	1.770	2.017	14	30	
4:2-FTS	38444.3	11	13C2-4:2-FTS	56215.1	4.7	0.684	4.12	1.000	1.870	1.833	-2	30	
PFHxA	383991.1	11	13C5-PFHxA	715825.1	5.0	0.536	4.15	1.000	2.000	2.338	17	30	
PFPeS	95125.3	11	13C3-PFBS	436553.9	4.7	0.218	4.18	1.100	1.880	2.158	15	30	
PFHpA	394839.9	12	13C4-PFHpA	565909.8	5.0	0.698	4.54	1.000	2.000	2.297	15	30	
PFHxS	135149.5	19	13C3-PFHxS	335974.6	4.7	0.402	4.54	1.000	1.820	1.906	5	30	
6:2-FTS	38935.9	11	13C2-6:2-FTS	45617.1	4.8	0.854	4.90	1.000	1.900	2.119	12	30	
PFHpS	139622.5	11	13C3-PFHxS	335974.6	4.7	0.416	4.90	1.080	1.900	2.281	20	30	
PFOA	389972.5	11	13C8-PFOA	902937.1	5.0	0.432	4.91	1.000	2.000	2.360	18	30	
PFOS	137664.4	22	13C8-PFOS	320742.3	4.8	0.429	5.24	1.000	1.850	1.780	-4	30	
PFNA	338420.2	11	13C9-PFNA	563878.2	5.0	0.600	5.26	1.000	2.000	2.212	11	30	
PFNS	98472.8	11	13C8-PFOS	320742.3	4.8	0.307	5.54	1.060	1.920	1.976	3	30	
PFDA	267728.7	11	13C6-PFDA	638104.5	5.0	0.420	5.57	1.000	2.000	2.362	18	30	
8:2-FTS	30235.9	11	13C2-8:2-FTS	31590.7	4.8	0.957	5.57	1.000	1.920	2.074	8	30	
PFOSA	288085.9	11	13C8-PFOSA	706084.9	5.0	0.408	5.65	1.000	2.000	2.117	6	30	
NMeFOSAA	30683.6	18	d3-NMeFOSAA	98879.0	5.0	0.310	5.71	1.000	2.000	2.053	3	30	
PFDS	77328.8	11	13C8-PFOS	320742.3	4.8	0.241	5.81	1.110	1.930	1.949	1	30	
PFUnDA	284621.2	11	13C7-PFUnDA	401109.0	5.0	0.710	5.83	1.000	2.000	2.173	9	30	
NEtFOSAA	33294.0	22	d5-NEtFOSAA	76951.3	5.0	0.433	5.85	1.000	2.000	2.187	9	30	
PFDoDA	367099.6	11	13C2-PFDoDA	832550.4	5.0	0.441	6.07	1.000	2.000	2.321	16	30	
10:2-FTS	25639.9	11	13C2-8:2-FTS	31590.7	4.8	0.812	6.08	1.090	1.930	2.150	11	30	
NMePFOSAE	125101.3	11	d7-NMePFOSAE	253713.0	5.0	0.493	6.12	1.000	2.000	2.143	7	30	
NMePFOSA	35650.5	11	d3-NMePFOSA	86794.3	5.0	0.411	6.12	1.000	2.000	2.072	4	30	
PFDoS	36113.3	11	13C8-PFOS	320742.3	4.8	0.113	6.23	1.190	1.940	1.717	-12	30	
NEtPFOSAE	139150.2	11	d9-NEtPFOSAE	208534.0	5.0	0.667	6.27	1.000	2.000	2.236	12	30	
NEtPFOSA	31437.2	12	d5-NEtPFOSA	70917.3	5.0	0.443	6.29	1.000	2.000	2.122	6	30	
PFTrDA	313624.3	11	13C2-PFDoDA	832550.4	5.0	0.377	6.26	1.030	2.000	2.467	23	30	
PFTeDA	229458.9	10	13C2-PFTeDA	585813.5	5.0	0.392	6.44	1.000	2.000	2.240	12	30	
PFHxDA	109027.1	11	13C2-PFTeDA	585813.5	5.0	0.186	6.72	1.040	2.000	2.331	17	30	
PFODA	73542.7	10	13C2-PFTeDA	585813.5	5.0	0.126	6.98	1.080	2.000	2.015	1	30	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV5_CAL3			**Data File:**		18DEC08D-47.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-08T15:02:31
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC08DCCV1-6
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	955327.2	936973.7	2	50	
13C2-PFOA	5.0	468962.0	474841.3	-1	50	
13C4-PFOS	4.8	291888.3	294668.0	-1	50	
13C2-PFDA	5.0	356164.5	373990.9	-5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1063287.1	13C3-PFBA	955327.2	1.113	5.000	4.926	99	70-130	
E13C5-PFPeA	961230.5	13C3-PFBA	955327.2	1.006	5.000	4.779	96	70-130	
E13C3-PFBS	436553.9	13C3-PFBA	955327.2	0.457	4.650	3.873	83	70-130	
E13C2-4:2-FTS	56215.1	13C2-PFOA	468962.0	0.120	4.670	4.697	101	70-130	
E13C5-PFHxA	715825.1	13C2-PFOA	468962.0	1.526	5.000	5.125	102	70-130	
E13C3-PFHxS	335974.6	13C2-PFOA	468962.0	0.716	4.730	4.595	97	70-130	
E13C4-PFHpA	565909.8	13C2-PFOA	468962.0	1.207	5.000	5.130	103	70-130	
E13C2-6:2-FTS	45617.1	13C2-PFOA	468962.0	0.097	4.750	6.026	127	70-130	
E13C8-PFOA	902937.1	13C2-PFOA	468962.0	1.925	5.000	5.443	109	70-130	
E13C8-PFOS	320742.3	13C4-PFOS	291888.3	1.099	4.780	4.931	103	70-130	
E13C9-PFNA	563878.2	13C4-PFOS	291888.3	1.932	5.000	5.459	109	70-130	
E13C6-PFDA	638104.5	13C2-PFDA	356164.5	1.792	5.000	4.748	95	70-130	
E13C2-8:2-FTS	31590.7	13C2-PFDA	356164.5	0.089	4.790	5.791	121	70-130	
E13C8-PFOSA	706084.9	13C2-PFDA	356164.5	1.982	5.000	4.689	94	70-130	
Ed3-NMeFOSAA	98879.0	13C2-PFDA	356164.5	0.278	5.000	4.920	98	70-130	
E13C7-PFUnDA	401109.0	13C2-PFDA	356164.5	1.126	5.000	5.524	110	70-130	
Ed5-NEtFOSAA	76951.3	13C2-PFDA	356164.5	0.216	5.000	4.769	95	70-130	
E13C2-PFDoDA	832550.4	13C2-PFDA	356164.5	2.338	5.000	4.905	98	70-130	
Ed7-NMePFOSAE	253713.0	13C2-PFDA	356164.5	0.712	5.000	4.104	82	70-130	
Ed3-NMePFOSA	86794.3	13C2-PFDA	356164.5	0.244	5.000	4.440	89	70-130	
Ed9-NEtPFOSAE	208534.0	13C2-PFDA	356164.5	0.585	5.000	4.037	81	70-130	
Ed5-NEtPFOSA	70917.3	13C2-PFDA	356164.5	0.199	5.000	4.481	90	70-130	
E13C2-PFTeDA	585813.5	13C2-PFDA	356164.5	1.645	5.000	4.882	98	70-130	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

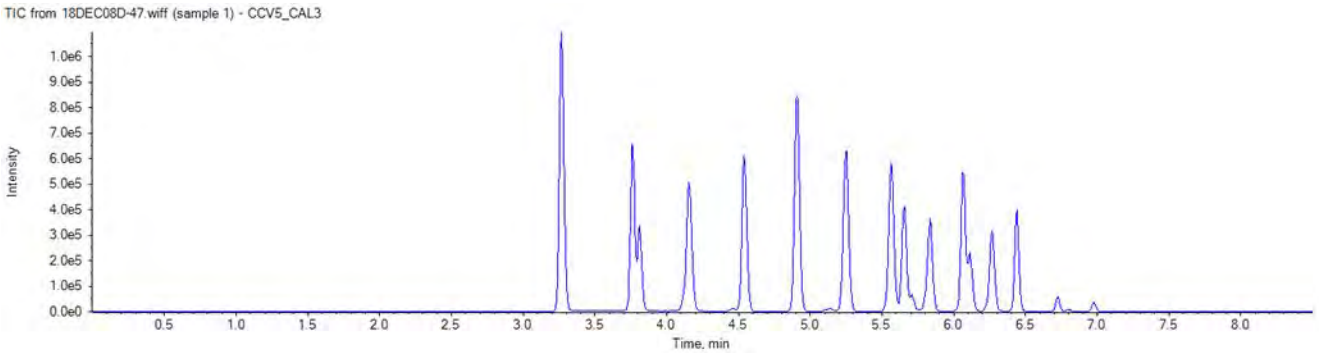
Analyte Quantitation Peak Table

Sample Name: CCV5_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC08D-47.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	441704.6		A	13C4-PFBA	3.27	1063287.1	0.415	2.292
PFPeA	3.76	1.000	411812.6		A	13C5-PFPeA	3.76	961230.5	0.428	2.254
PFBS	3.81	1.000	177615.0		A	13C3-PFBS	3.81	436553.9	0.407	2.017
4:2-FTS	4.12	1.000	38444.3		A	13C2-4:2-FTS	4.12	56215.1	0.684	1.833
PFHxA	4.15	1.000	383991.1		A	13C5-PFHxA	4.16	715825.1	0.536	2.338
PFPeS	4.18	1.100	95125.3		A	13C3-PFBS	3.81	436553.9	0.218	2.158
PFHpA	4.54	1.000	394839.9		A	13C4-PFHpA	4.54	565909.8	0.698	2.297
PFHxS	4.54	1.000	135149.5		M	13C3-PFHxS	4.54	335974.6	0.402	1.906
6:2-FTS	4.90	1.000	38935.9		A	13C2-6:2-FTS	4.90	45617.1	0.854	2.119
PFHpS	4.90	1.080	139622.5		A	13C3-PFHxS	4.54	335974.6	0.416	2.281
PFOA	4.91	1.000	389972.5		A	13C8-PFOA	4.91	902937.1	0.432	2.360
PFOS	5.24	1.000	137664.4		M	13C8-PFOS	5.24	320742.3	0.429	1.780
PFNA	5.26	1.000	338420.2		A	13C9-PFNA	5.26	563878.2	0.600	2.212
PFNS	5.54	1.060	98472.8		A	13C8-PFOS	5.24	320742.3	0.307	1.976
PFDA	5.57	1.000	267728.7		A	13C6-PFDA	5.56	638104.5	0.420	2.362
8:2-FTS	5.57	1.000	30235.9		A	13C2-8:2-FTS	5.57	31590.7	0.957	2.074
PFOSA	5.65	1.000	288085.9		A	13C8-PFOSA	5.65	706084.9	0.408	2.117
NMeFOSAA	5.71	1.000	30683.6		A	d3-NMeFOSAA	5.71	98879.0	0.310	2.053
PFDS	5.81	1.110	77328.8		A	13C8-PFOS	5.24	320742.3	0.241	1.949
PFUnDA	5.83	1.000	284621.2		A	13C7-PFUnDA	5.83	401109.0	0.710	2.173
NEtFOSAA	5.85	1.000	33294.0		M	d5-NEtFOSAA	5.85	76951.3	0.433	2.187
PFDoDA	6.07	1.000	367099.6		A	13C2-PFDoDA	6.07	832550.4	0.441	2.321
10:2-FTS	6.08	1.090	25639.9		A	13C2-8:2-FTS	5.57	31590.7	0.812	2.150
NMePFOSAE	6.12	1.000	125101.3		A	d7-NMePFOSAE	6.11	253713.0	0.493	2.143
NMePFOSA	6.12	1.000	35650.5		A	d3-NMePFOSA	6.12	86794.3	0.411	2.072
PFDoS	6.23	1.190	36113.3		A	13C8-PFOS	5.24	320742.3	0.113	1.717
NEtPFOSAE	6.27	1.000	139150.2		A	d9-NEtPFOSAE	6.26	208534.0	0.667	2.236
NEtPFOSA	6.29	1.000	31437.2		A	d5-NEtPFOSA	6.28	70917.3	0.443	2.122
PFTrDA	6.26	1.030	313624.3		A	13C2-PFDoDA	6.07	832550.4	0.377	2.467
PFTeDA	6.44	1.000	229458.9		A	13C2-PFTeDA	6.44	585813.5	0.392	2.240
PFHxDA	6.72	1.040	109027.1		A	13C2-PFTeDA	6.44	585813.5	0.186	2.331
PFODA	6.98	1.080	73542.7		A	13C2-PFTeDA	6.44	585813.5	0.126	2.015

Total Ion Chromatogram

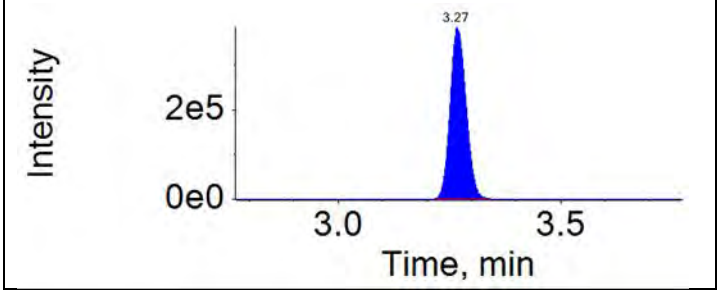


APPROVED
By JPT at 2:52 pm, 12/10/18

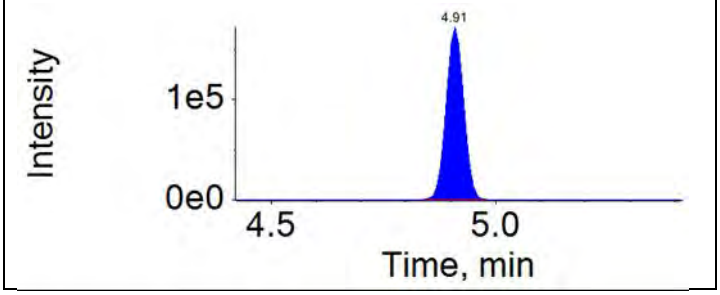
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

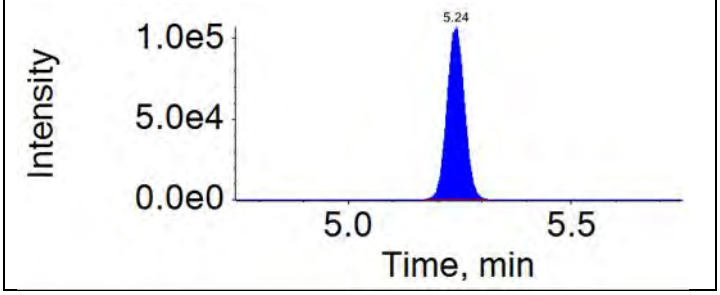
Injection Standard: 13C3-PFBA
216.0 / 172.0



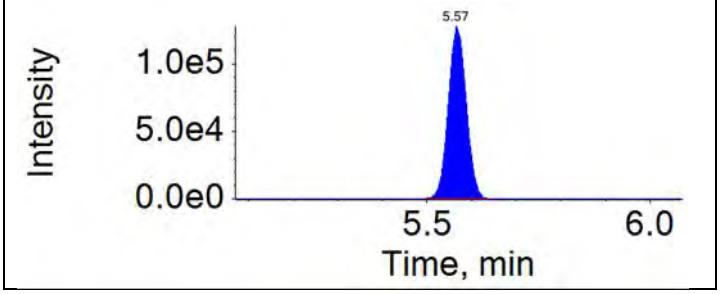
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

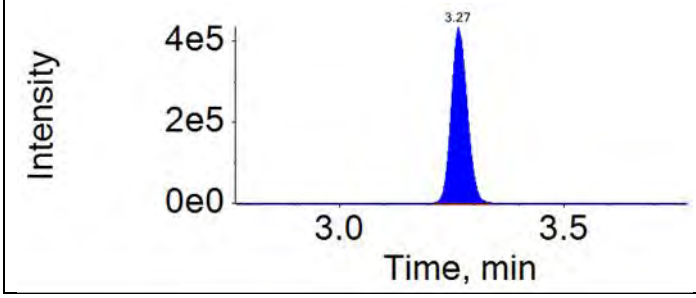


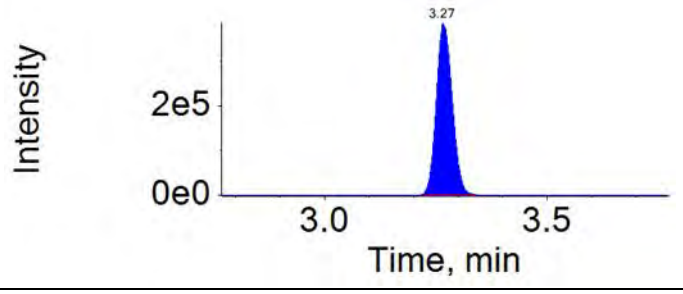
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

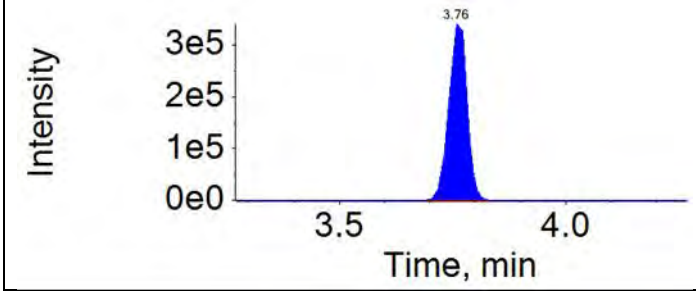
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

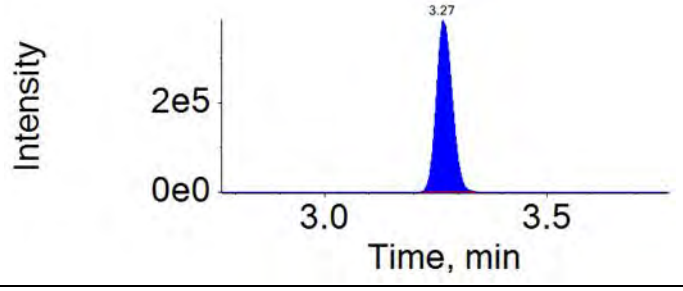
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



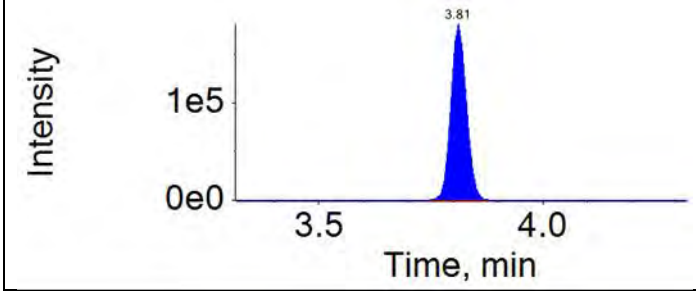


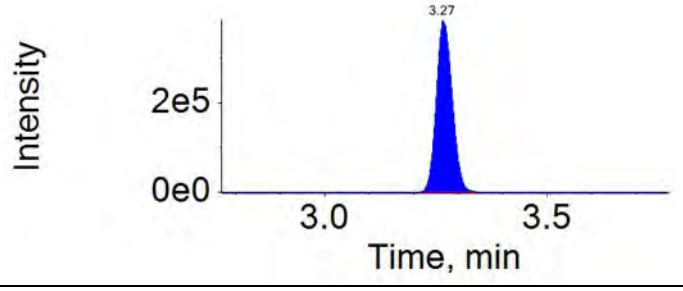
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



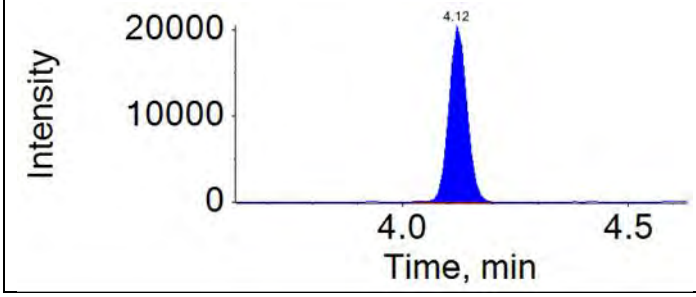


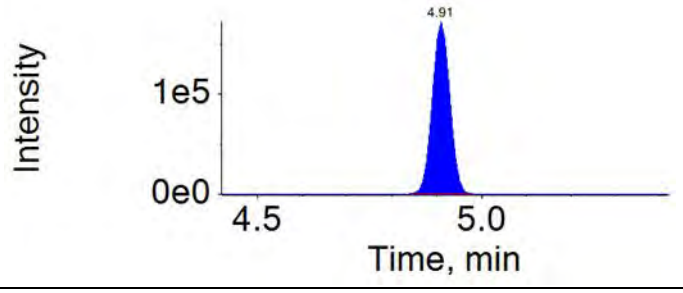
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



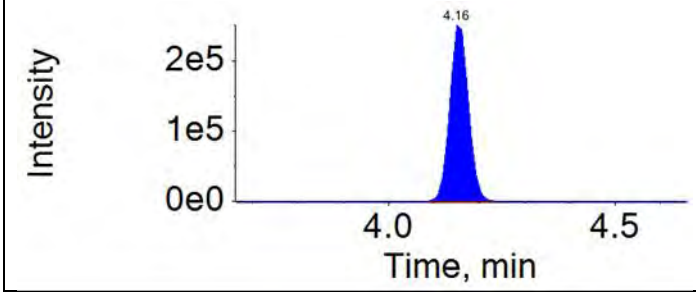


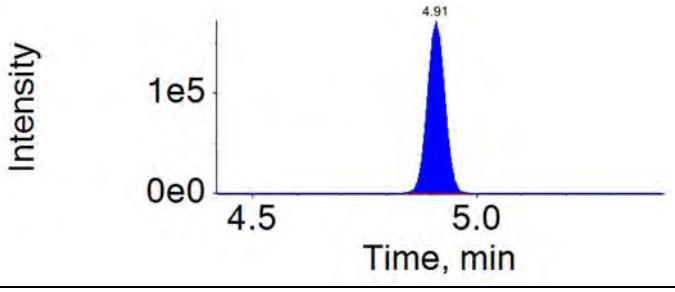
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

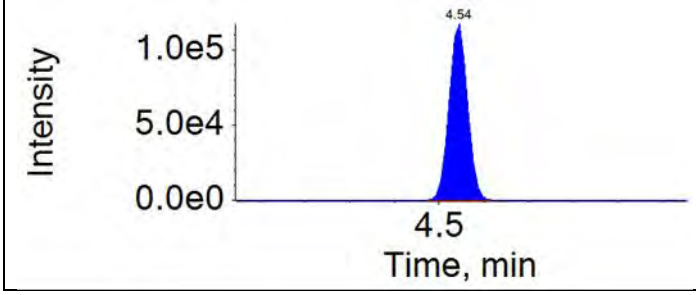
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

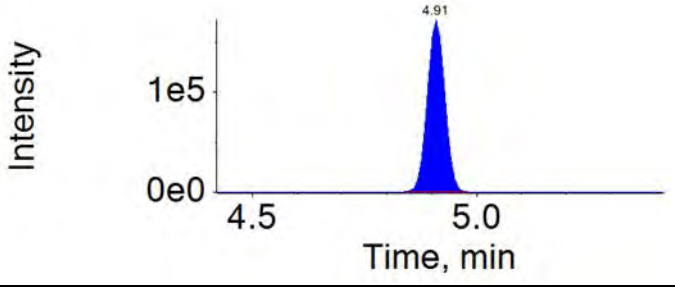
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



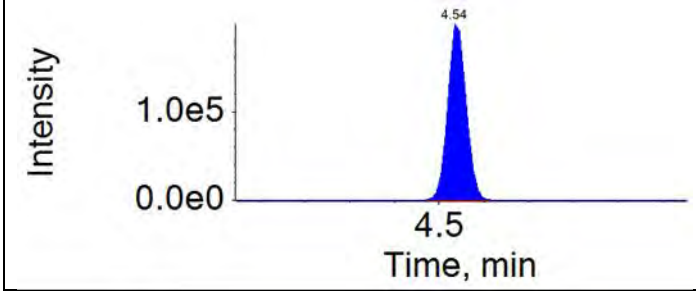


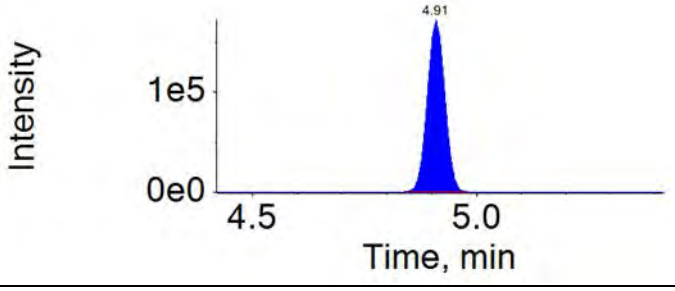
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



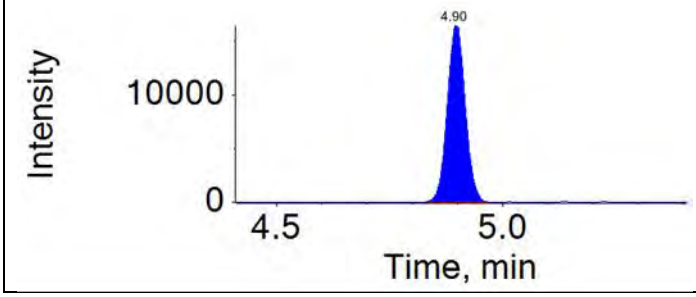


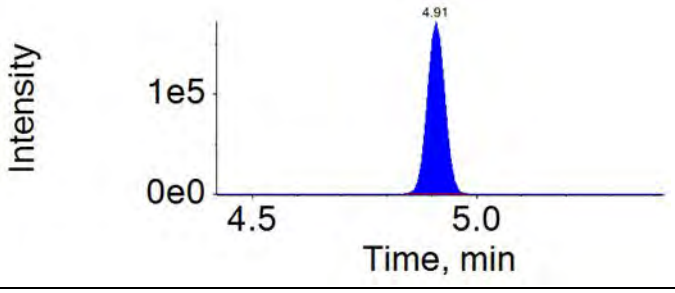
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

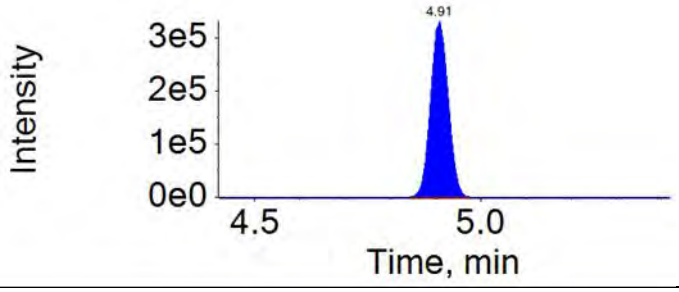
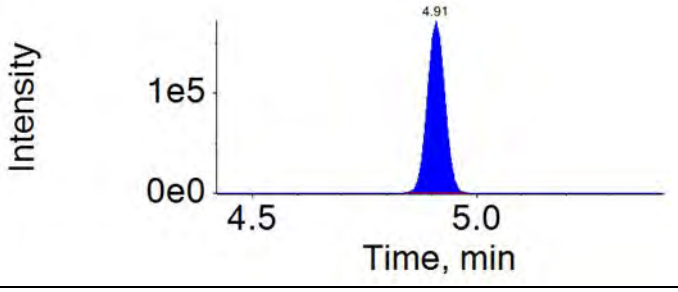


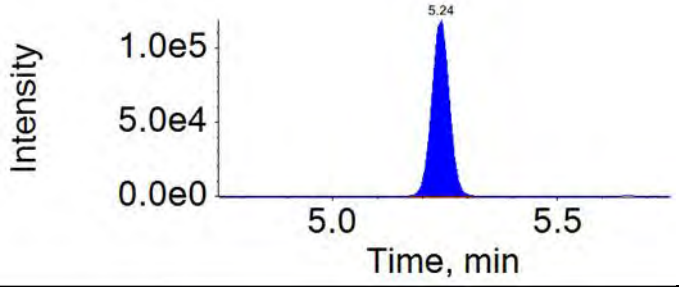
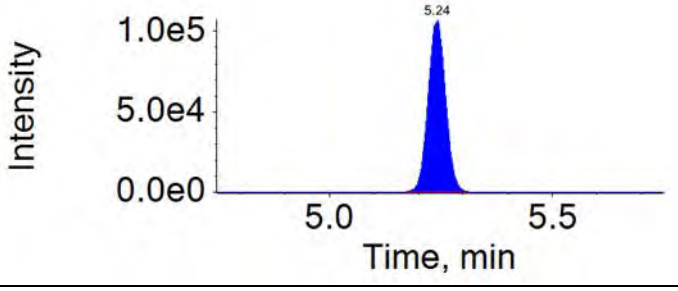


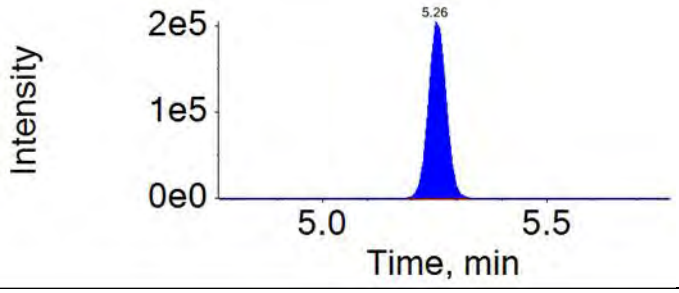
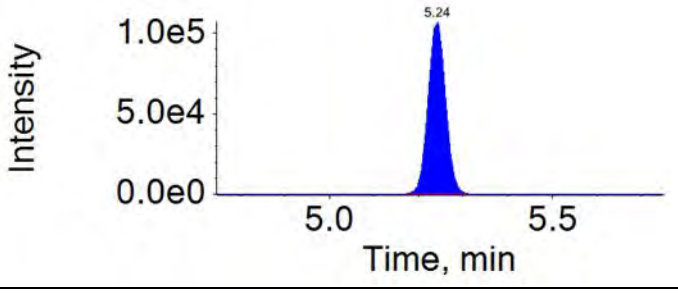
APPROVED
By JPT at 2:52 pm, 12/10/18

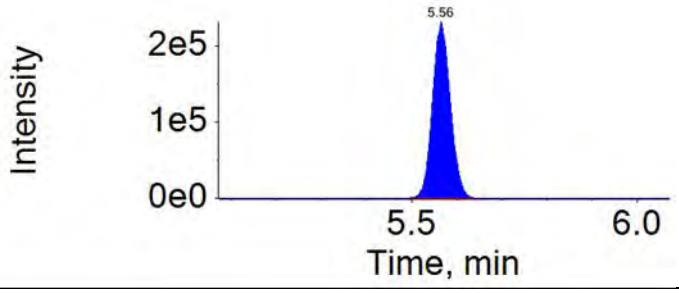
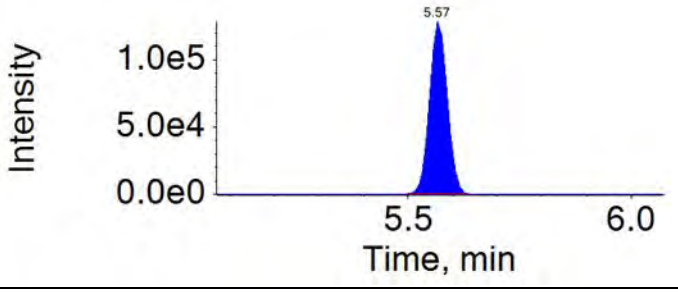
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

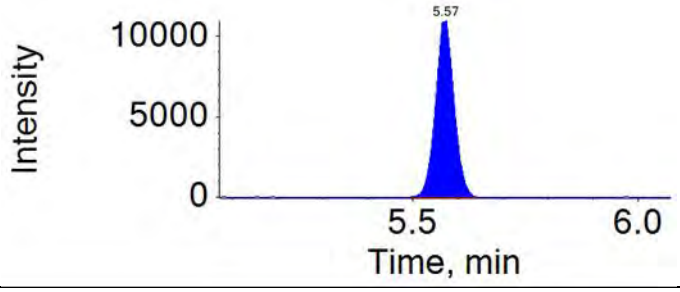
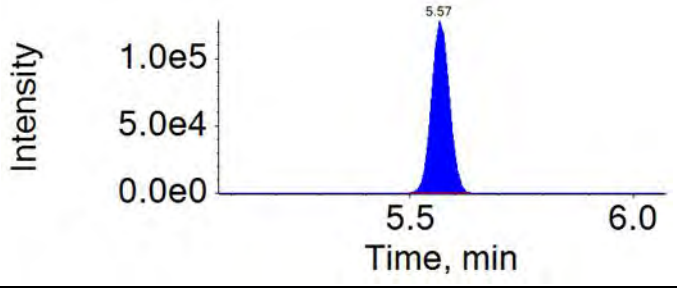
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

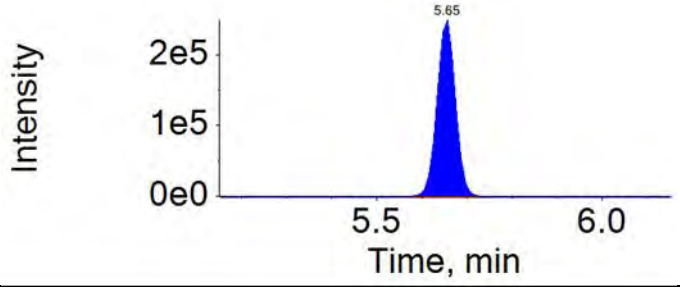
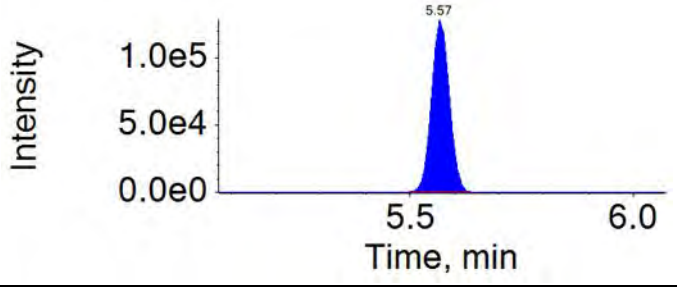
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

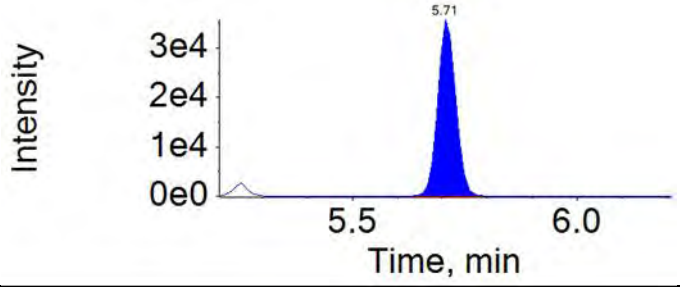
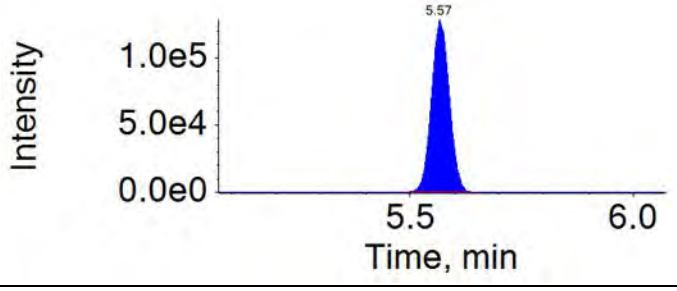
APPROVED
By JPT at 2:52 pm, 12/10/18

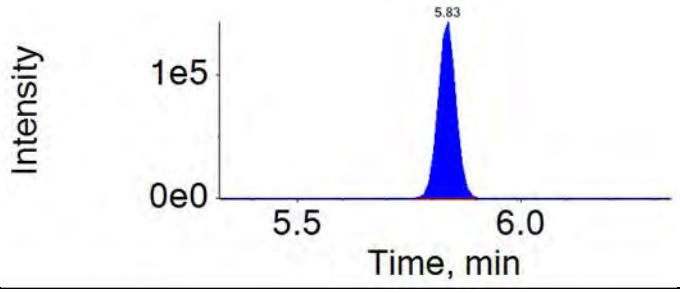
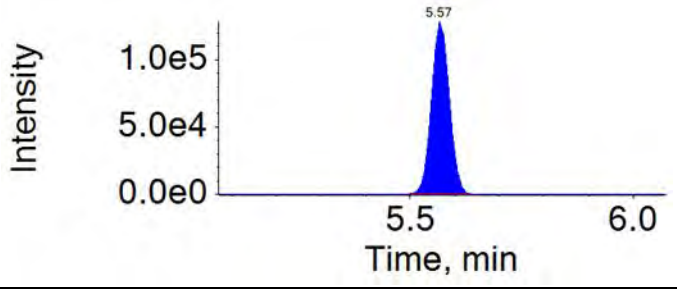
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

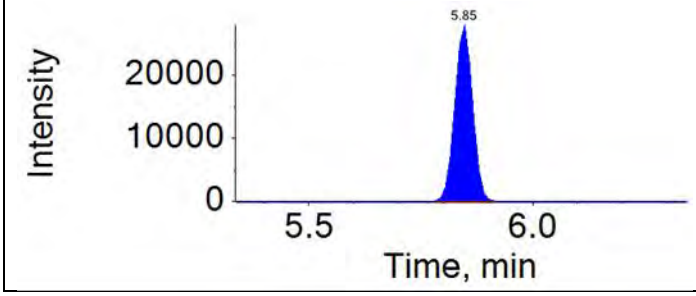
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

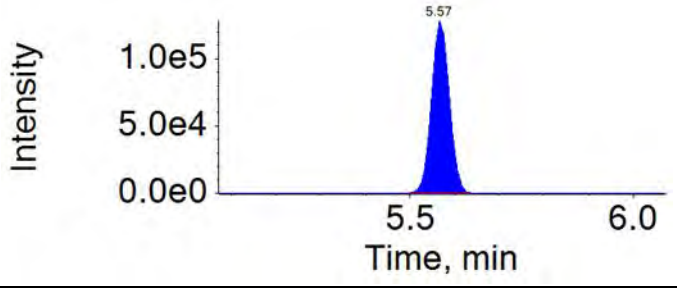
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

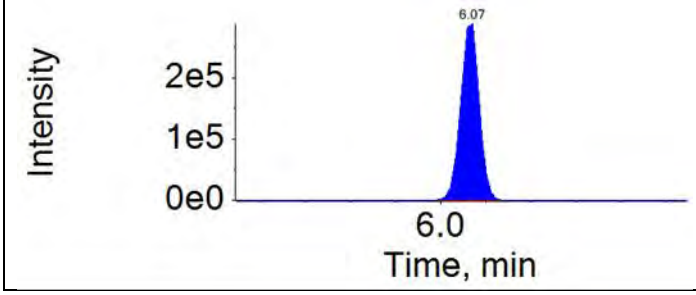
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

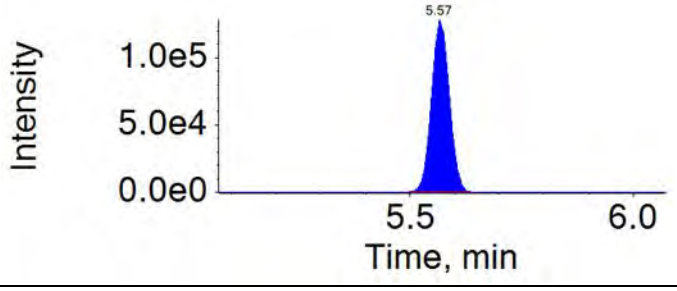
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



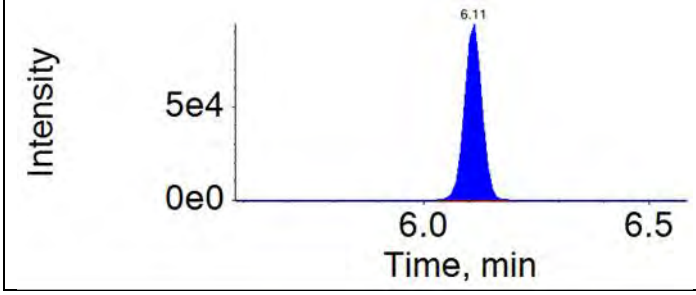


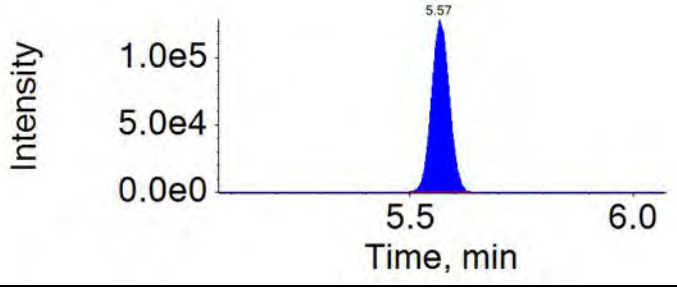
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



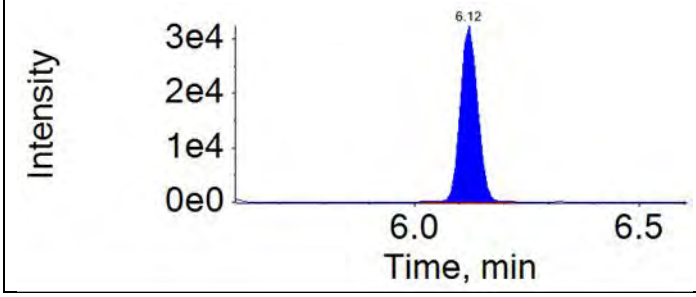


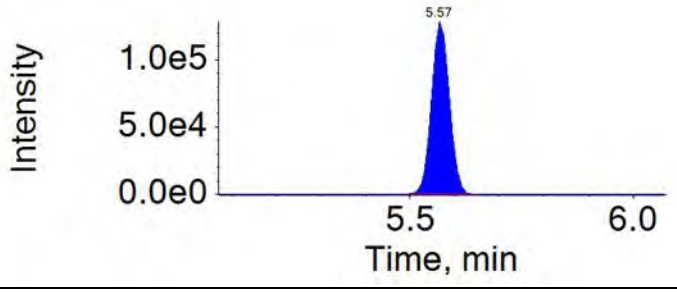
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



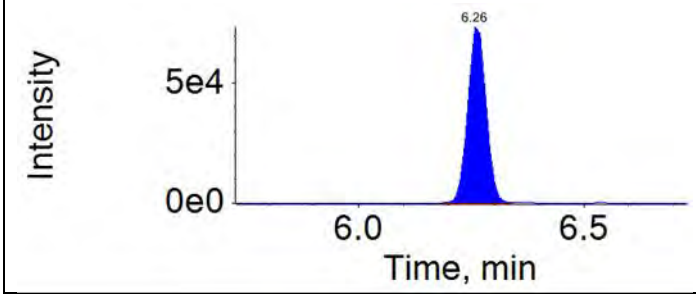


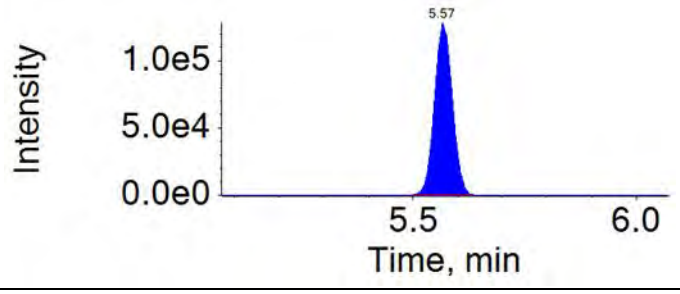
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

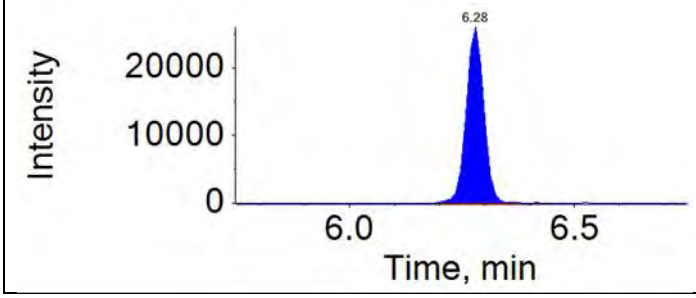
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

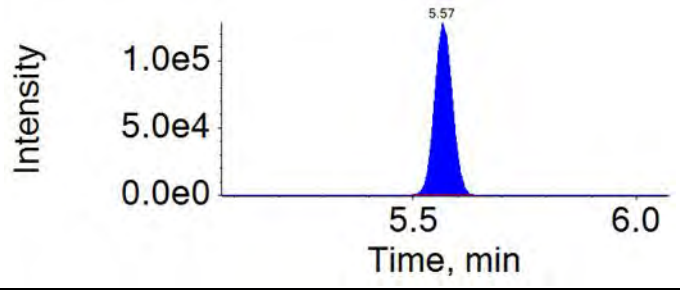
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



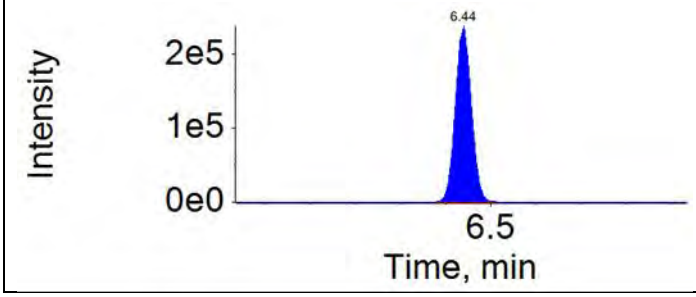


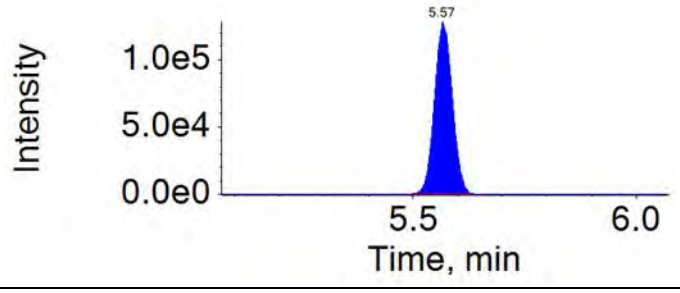
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



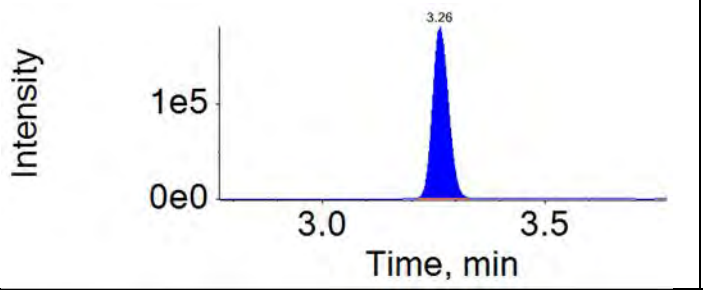


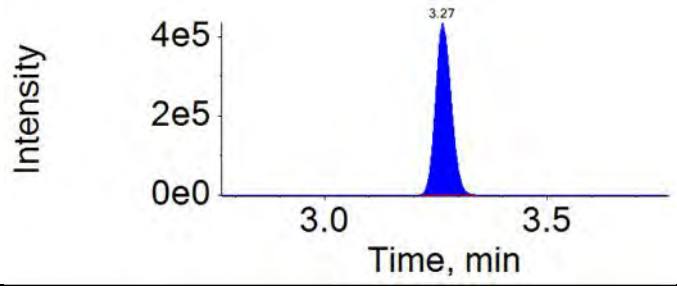
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

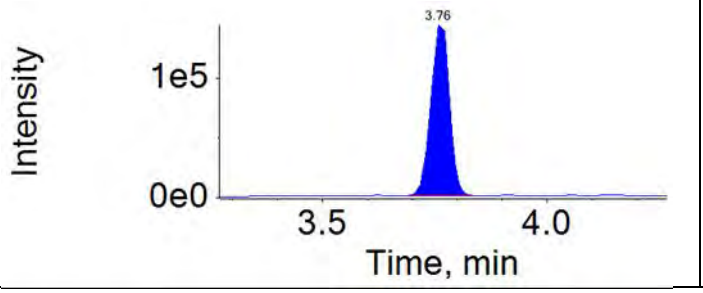
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

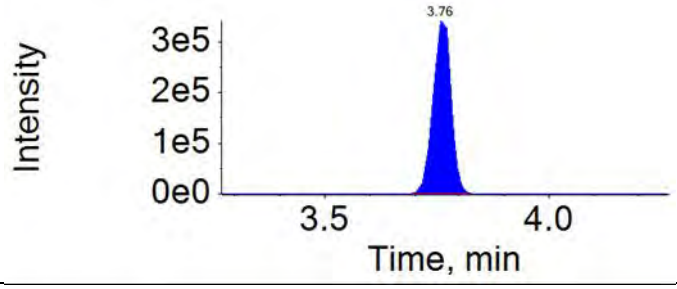
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



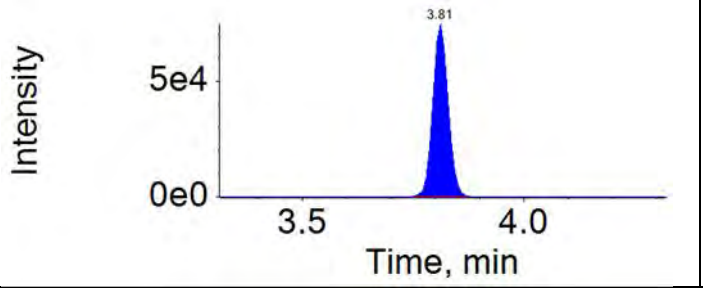


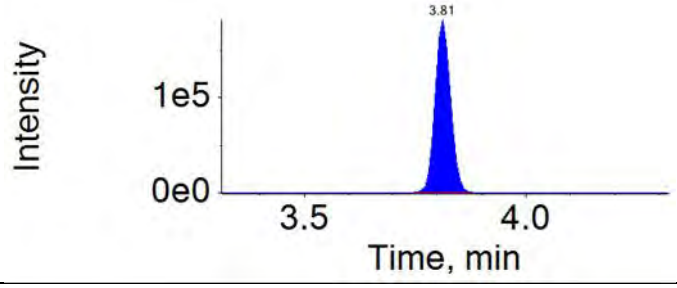
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



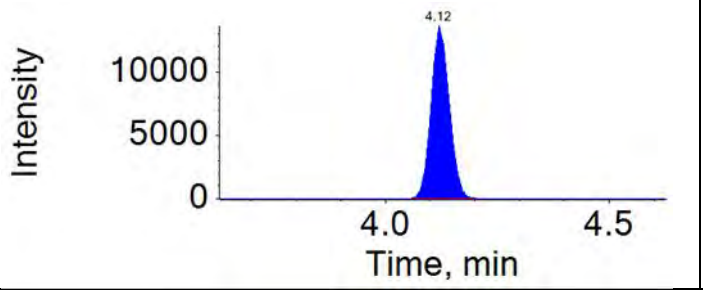


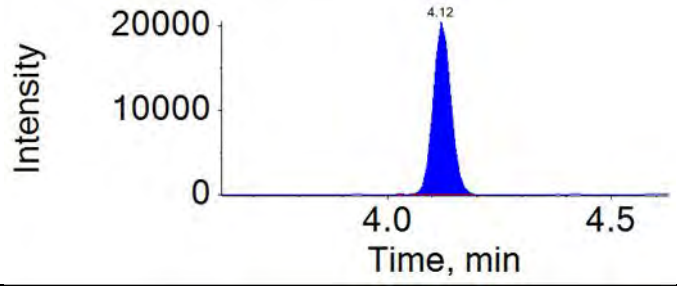
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



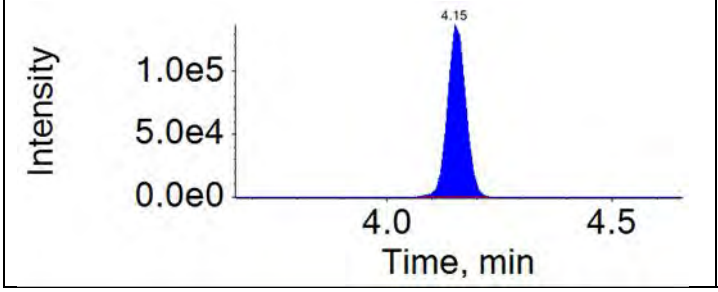


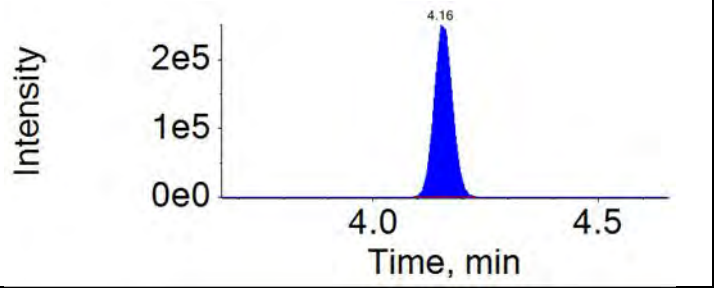
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

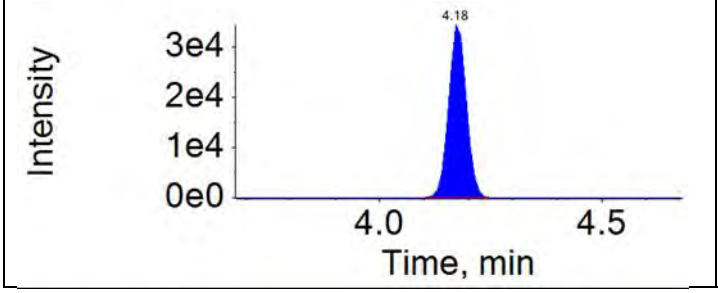
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

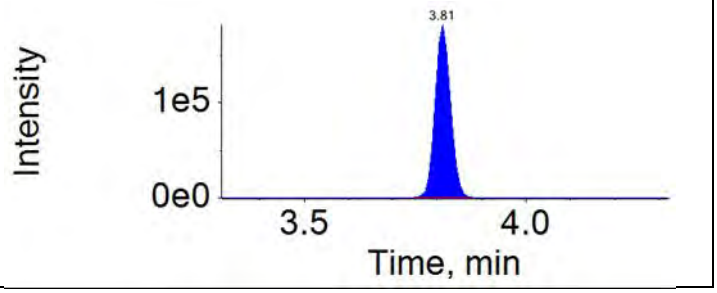
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



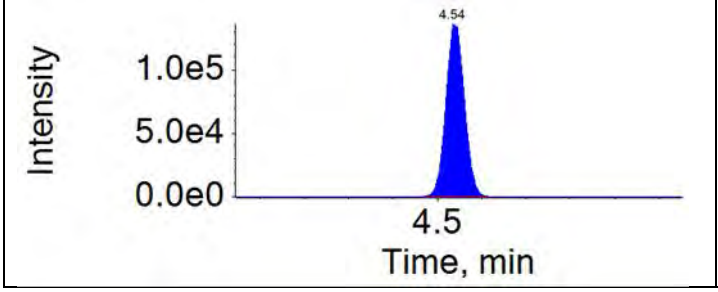


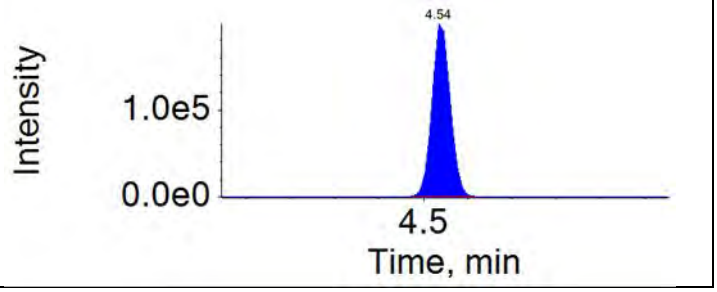
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



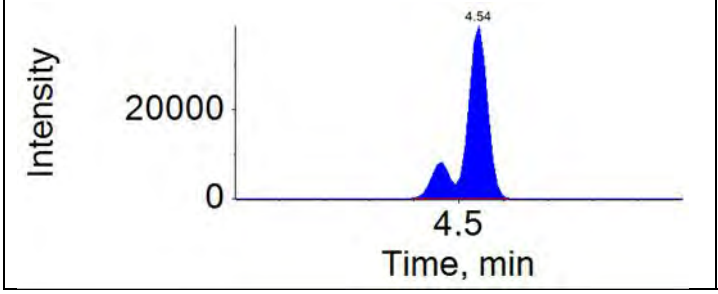


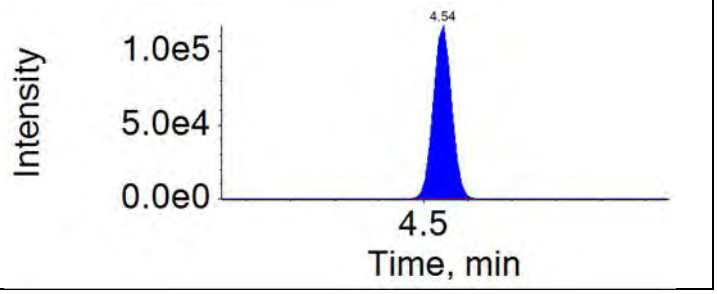
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



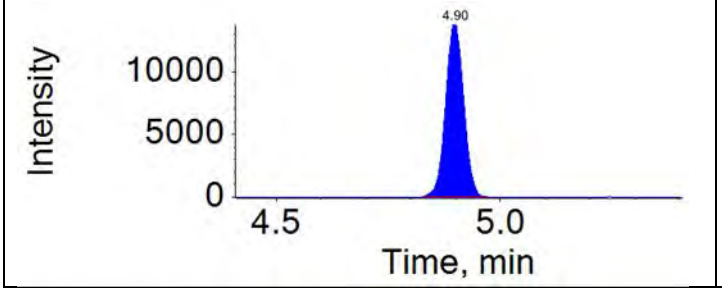


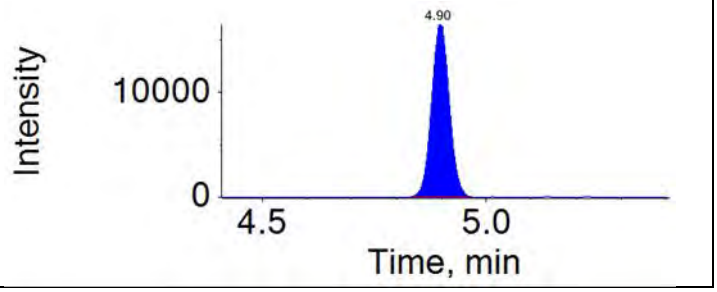
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

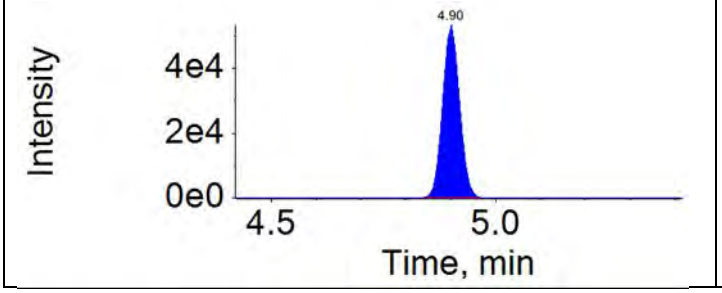
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

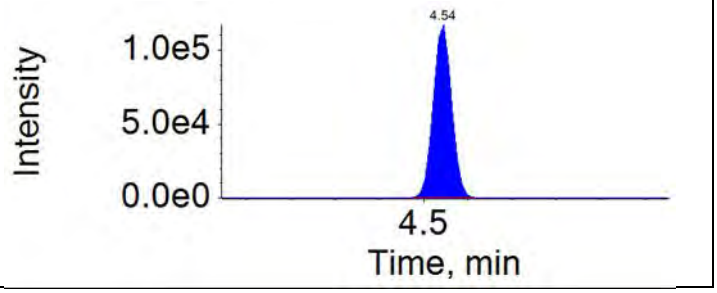
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



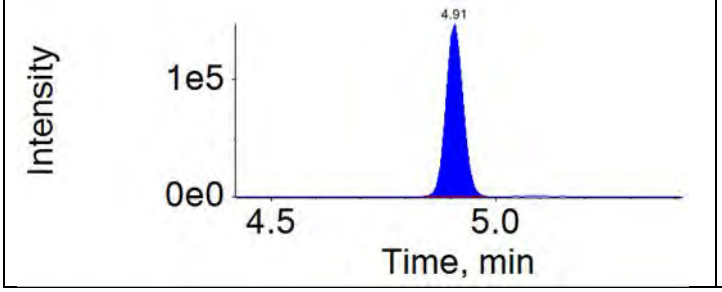


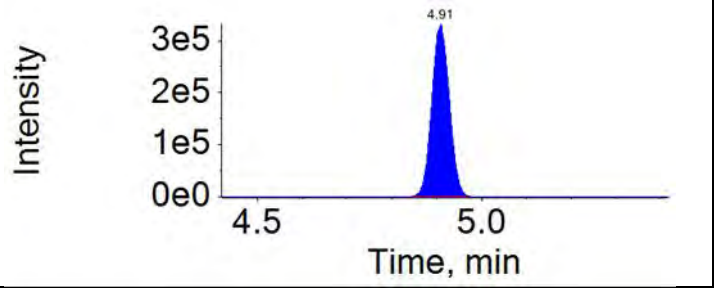
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



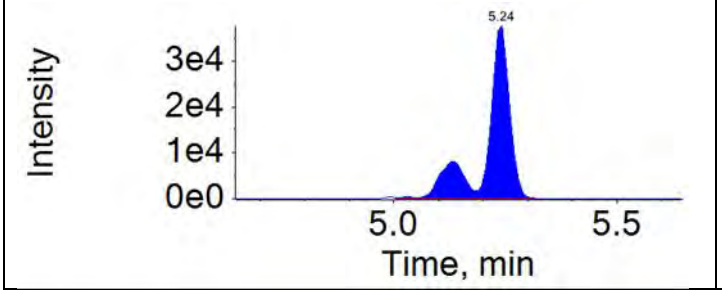


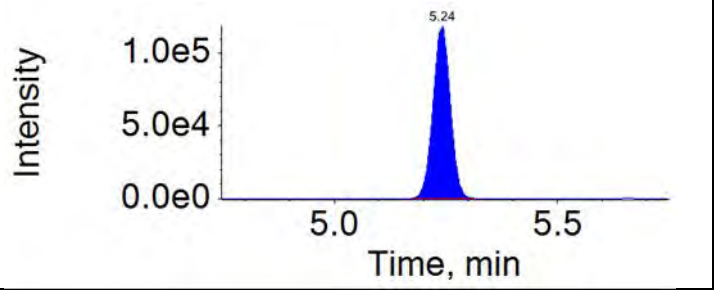
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



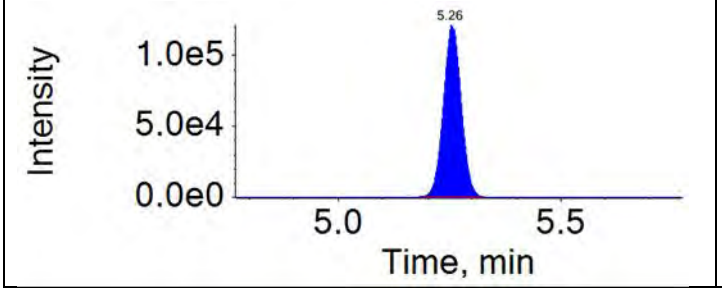


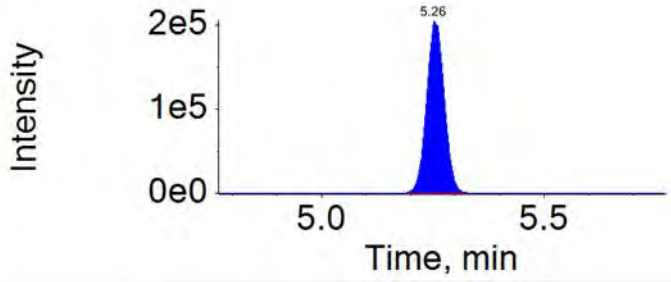
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

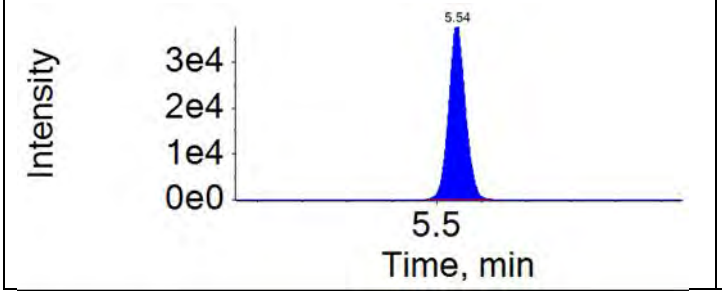
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

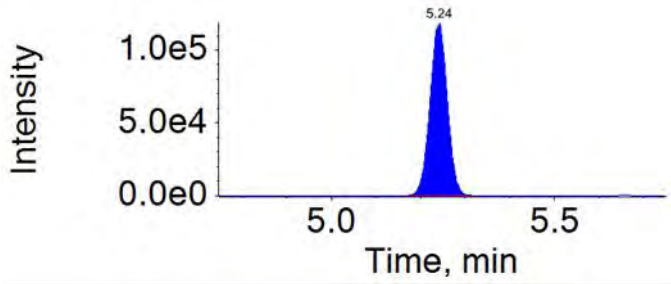
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



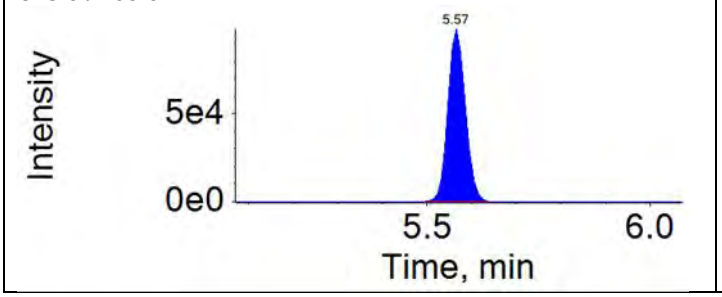


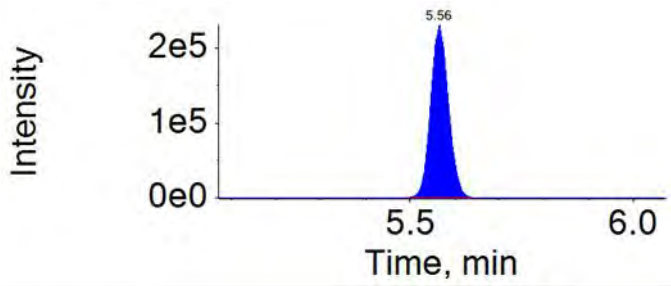
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



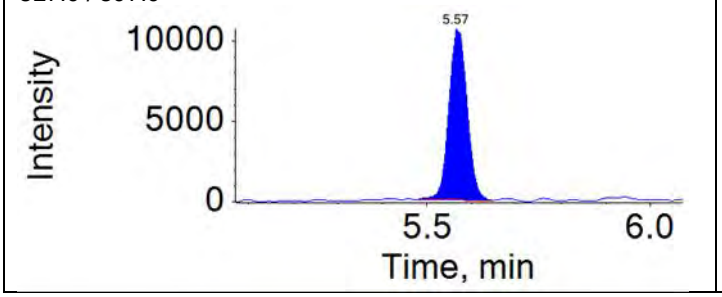


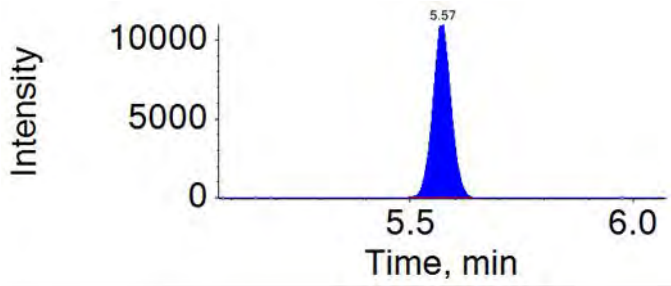
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

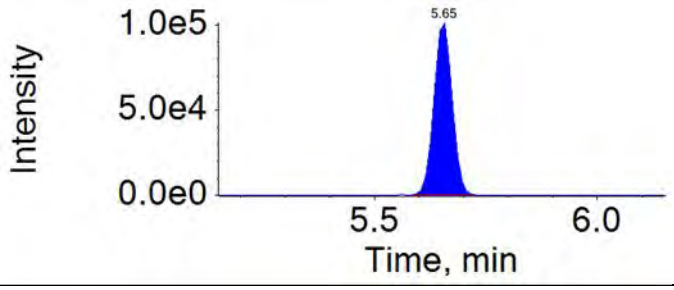
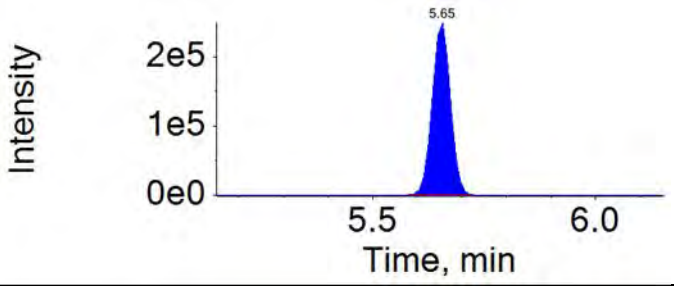


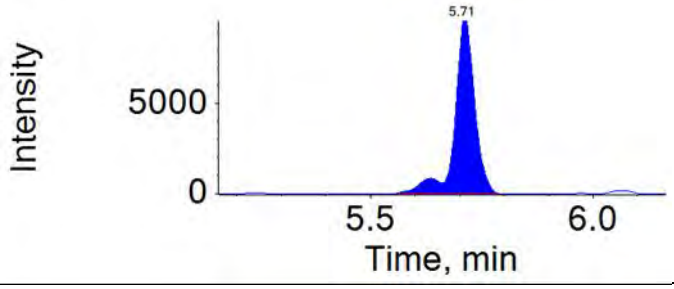
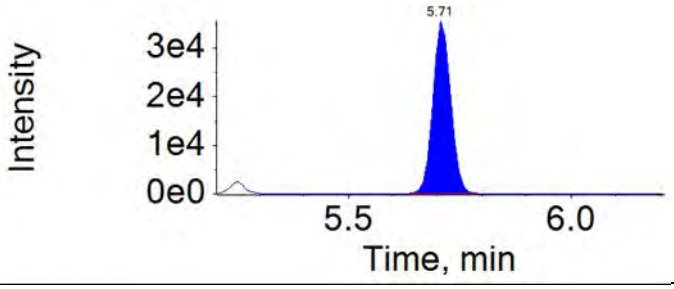


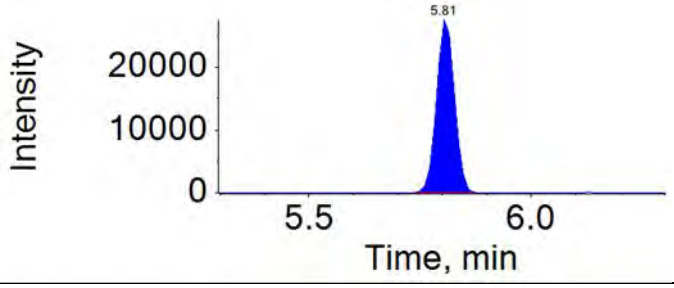
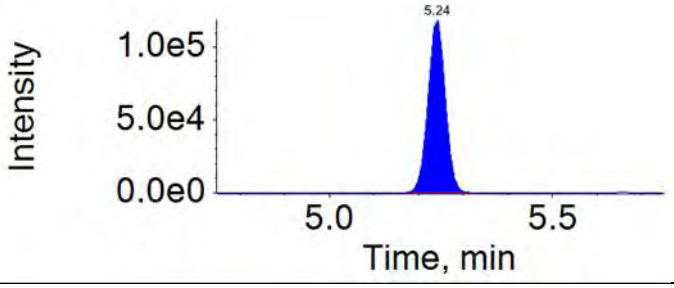
APPROVED
By JPT at 2:52 pm, 12/10/18

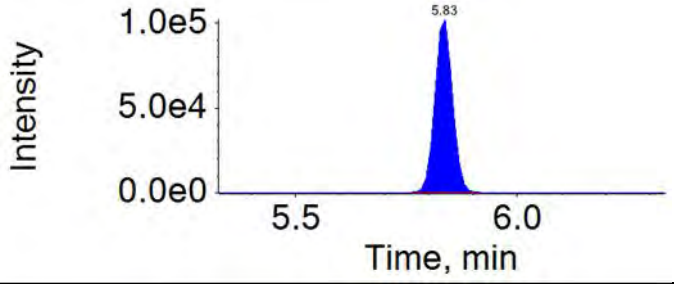
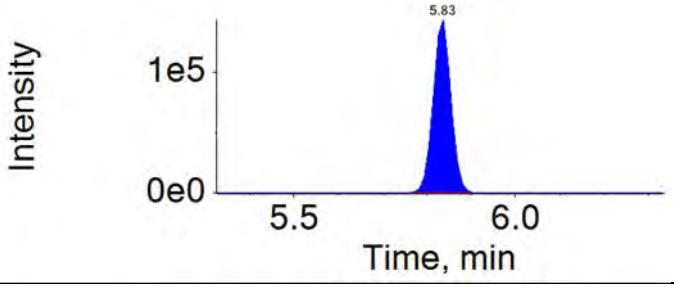
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

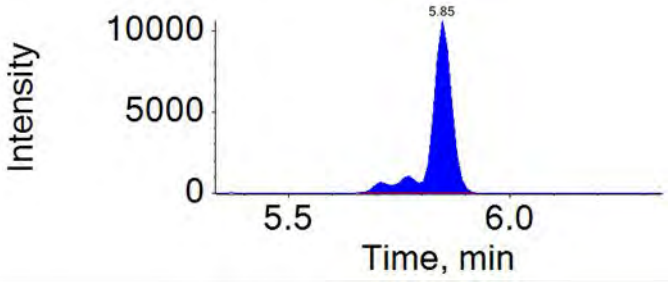
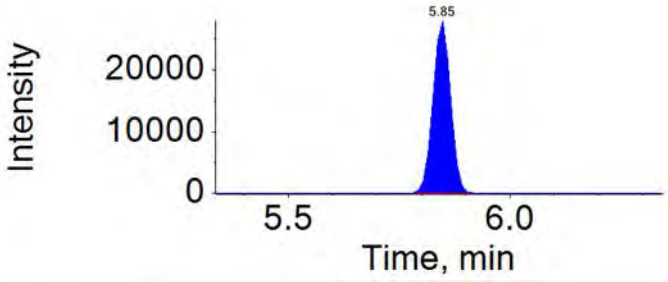
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

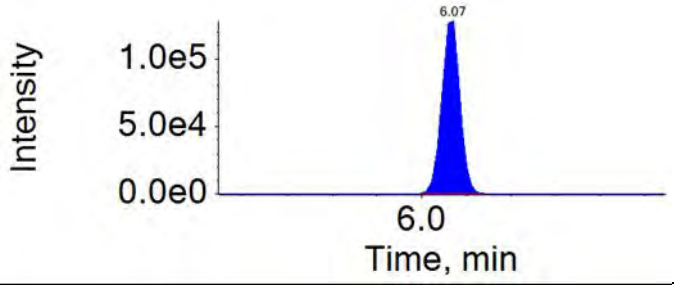
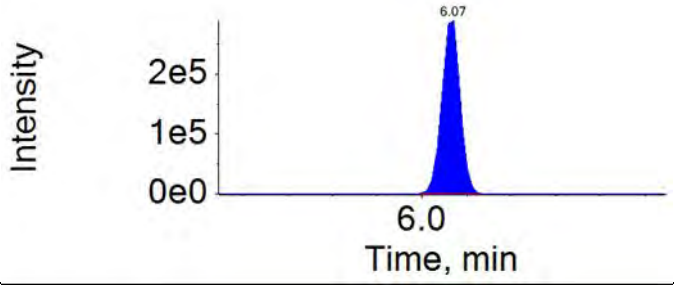
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

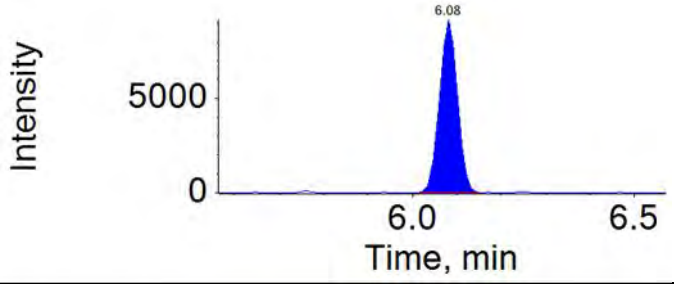
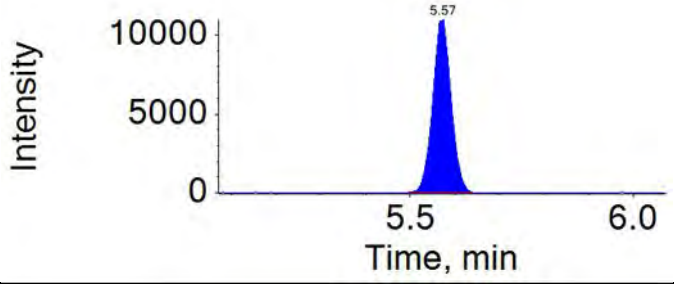
APPROVED
By JPT at 2:52 pm, 12/10/18

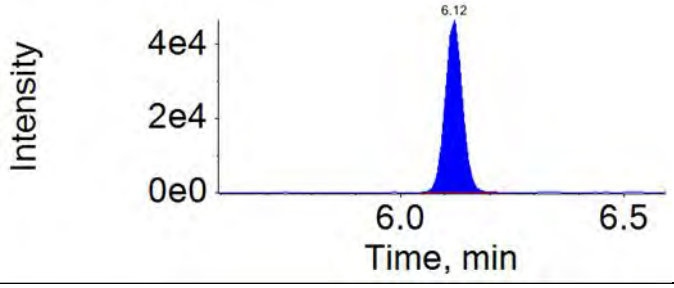
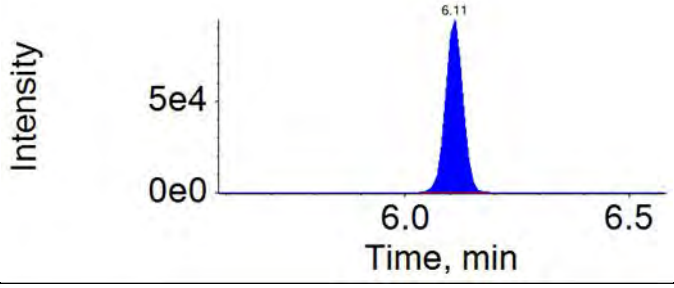
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

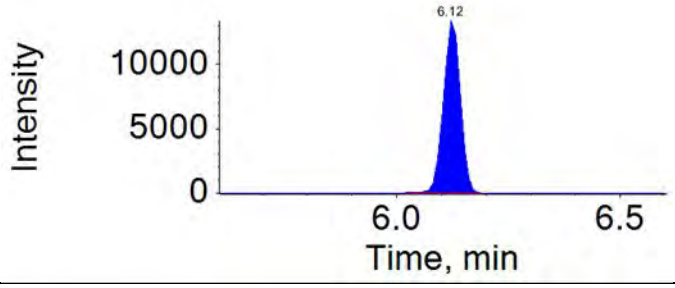
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

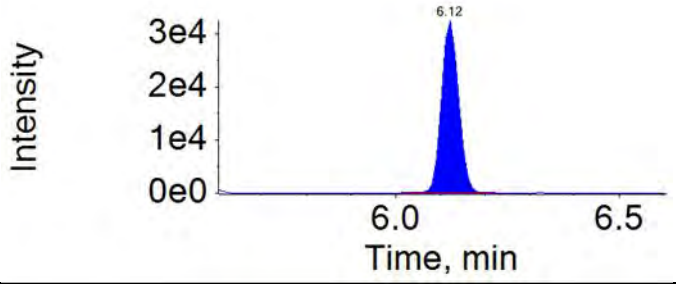
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

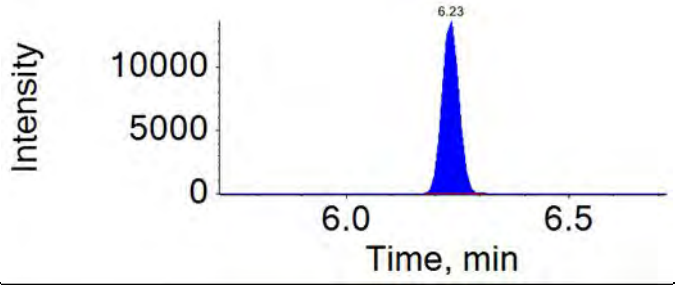
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

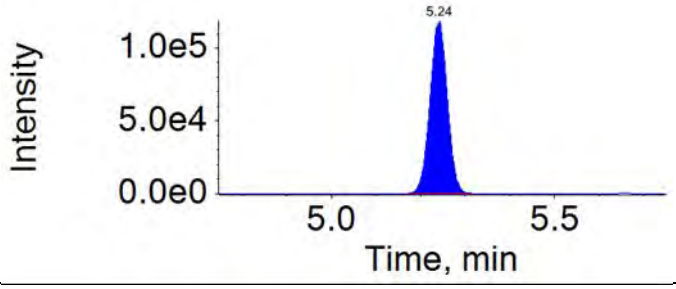
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



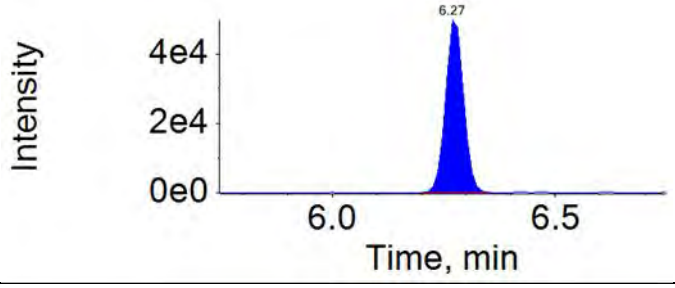


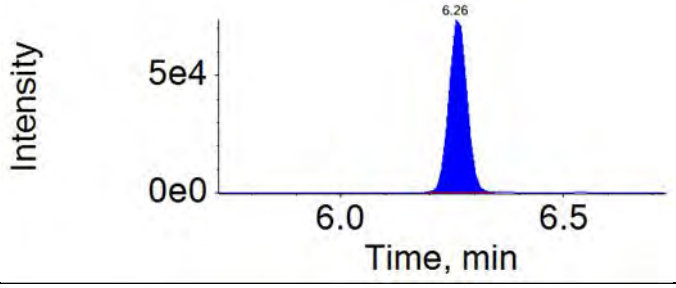
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



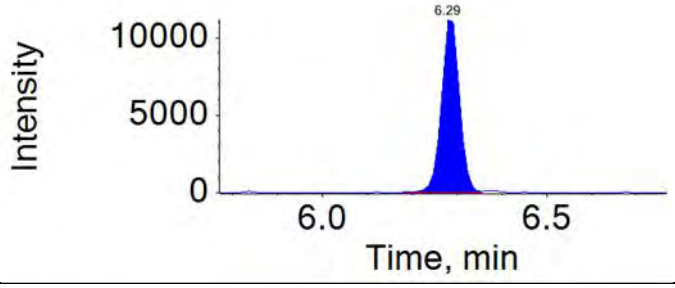


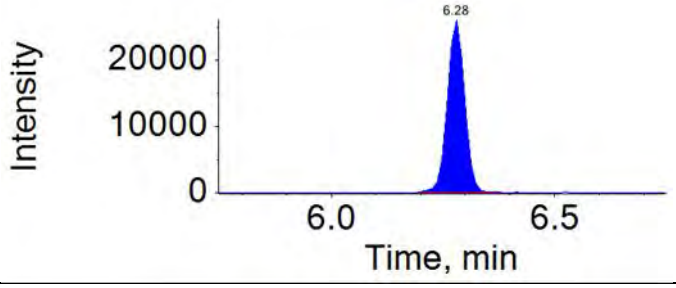
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

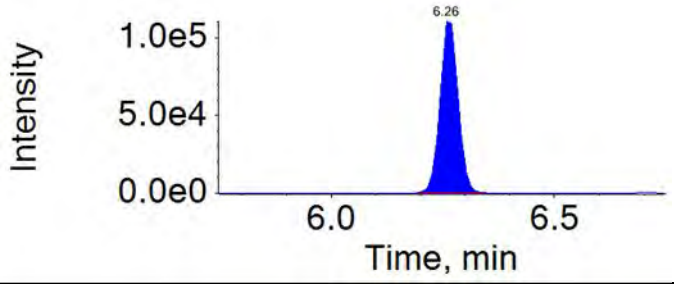
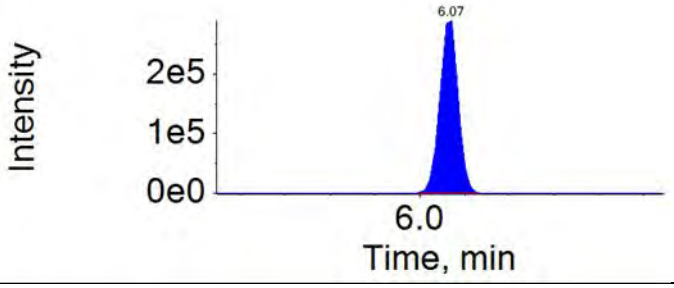


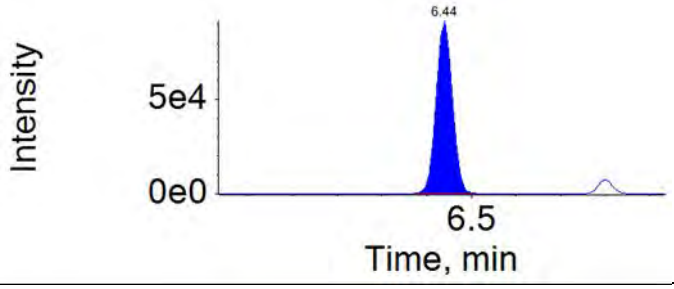
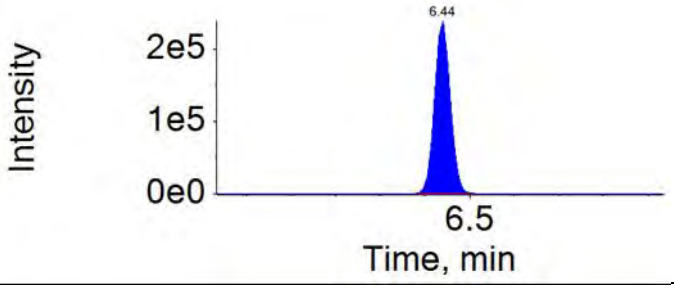


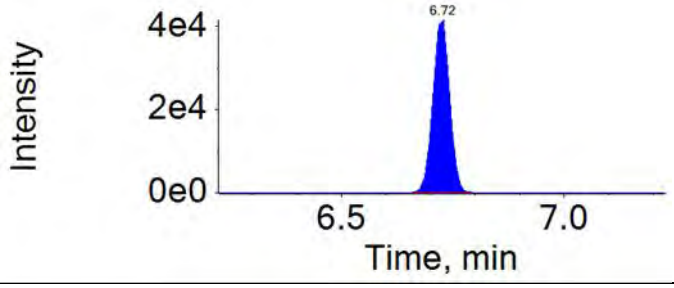
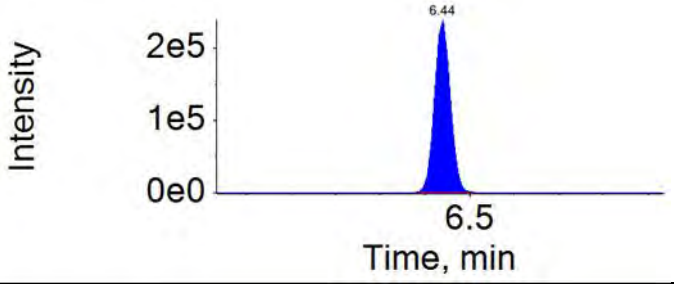
APPROVED
By JPT at 2:52 pm, 12/10/18

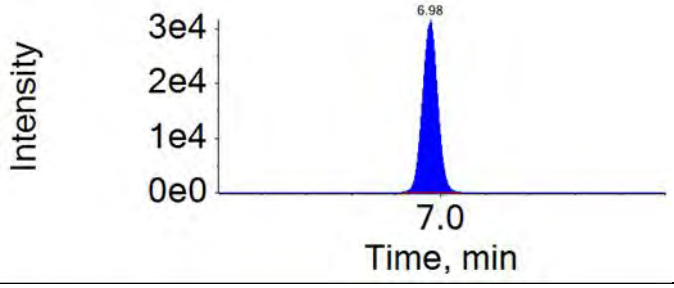
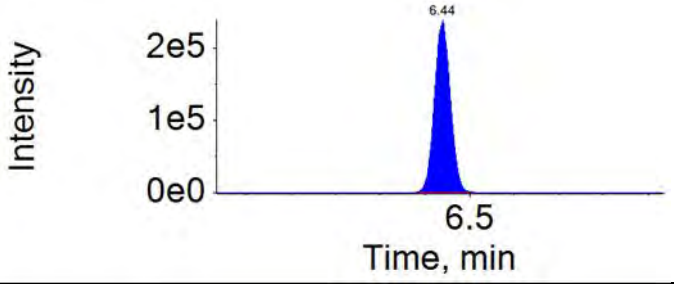
REVIEWED
By HMK at 12:26 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC08DCCV1-6 12/10/2018 1:44:07 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

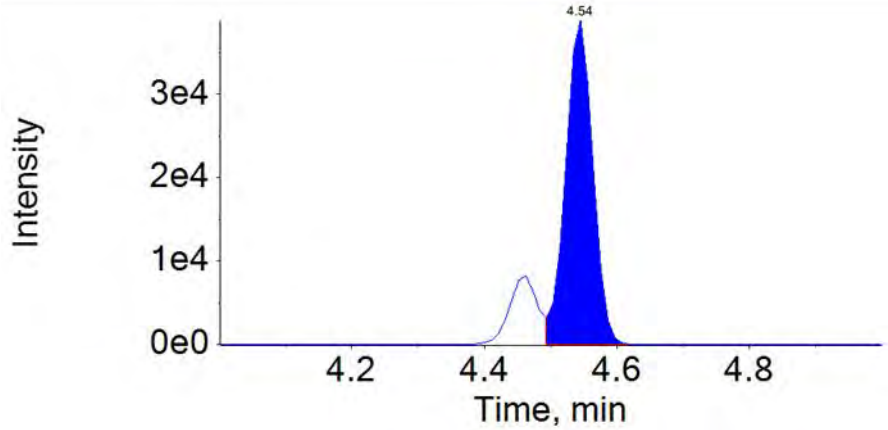
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

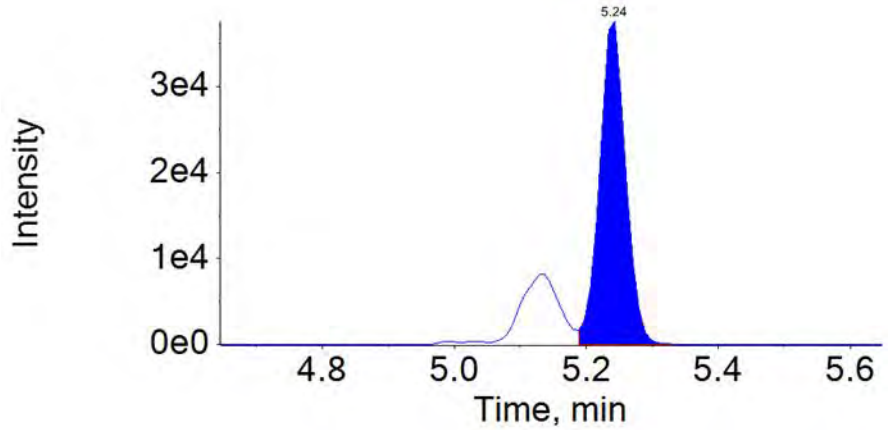
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
111121.5
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-47.wiff
Sample Name:
CCV5_CAL3



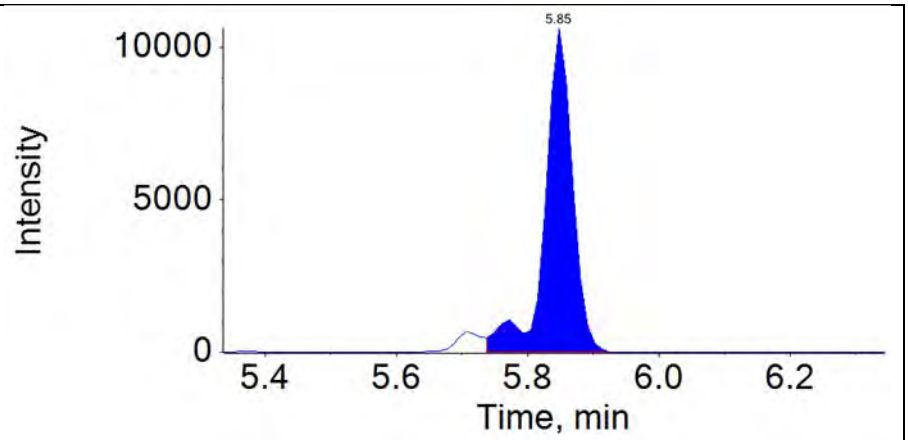
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
103710.8
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-47.wiff
Sample Name:
CCV5_CAL3



Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.85
Peak Area:
31497.1
Mass Range:
584.0 / 419.0
File Name:
18DEC08D-47.wiff
Sample Name:
CCV5_CAL3



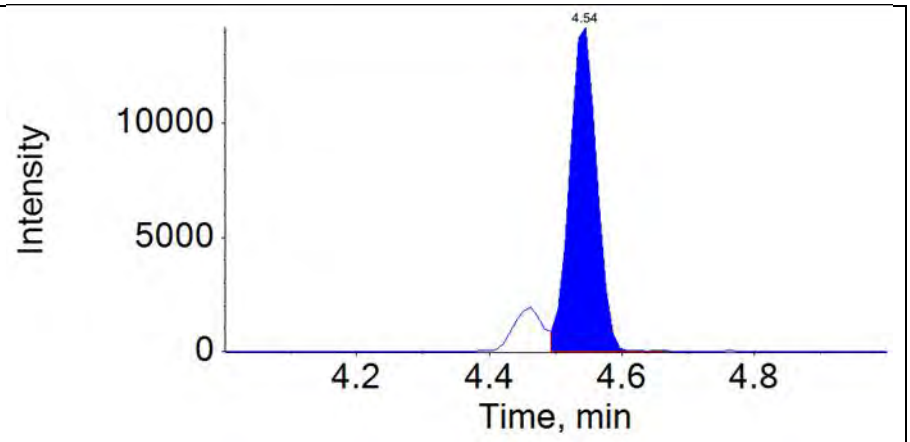
Integration Comment: incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

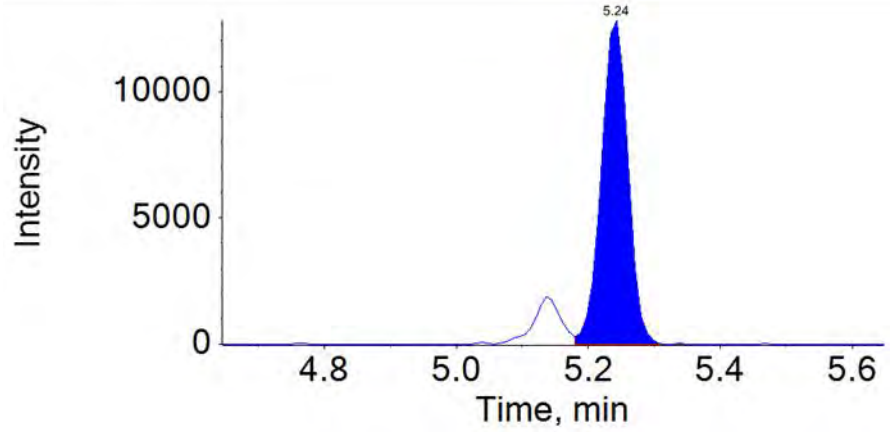
Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
40504.9
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-47.wiff
Sample Name:
CCV5_CAL3



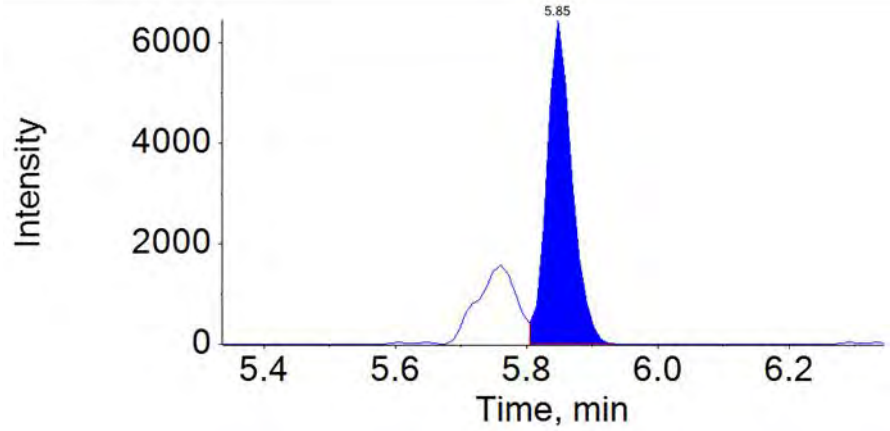
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
36258.3
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-47.wiff
Sample Name:
CCV5_CAL3



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
17045.1
Mass Range:
584.0 / 526.0
File Name:
18DEC08D-47.wiff
Sample Name:
CCV5_CAL3



Integration Comment: incorrect integration

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Results Table Name: 18DEC08DCCV1-6
Results Table Date: 12/10/2018 1:44:07 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Ion Ratio Report

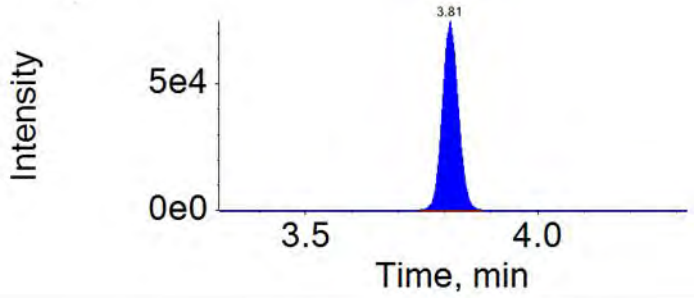
Sample Name: CCV5_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC08D-47.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	177615.0	A	N/A	1.0000			
PFBS_2	3.81	1.00	64172.3	A	N/A	0.3613	0	50	
4:2-FTS	4.12	1.00	38444.3	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	28098.2	A	N/A	0.7309	12	50	
PFHxA	4.15	1.00	383991.1	A	N/A	1.0000			
PFHxA_2	4.15	1.00	4013.5	A	N/A	0.0105	8	50	
PFPeS	4.18	1.10	95125.3	A	N/A	1.0000			
PFPeS_2	4.17	1.10	50486.5	A	N/A	0.5307	1	50	
PFHpA	4.54	1.00	394839.9	A	N/A	1.0000			
PFHpA_2	4.54	1.00	21310.8	A	N/A	0.0540	-4	50	
PFHxS	4.54	1.00	135149.5	M	N/A	1.0000			
PFHxS_2	4.54	1.00	46176.4	M	N/A	0.3417	-6	50	
6:2-FTS	4.90	1.00	38935.9	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	24000.0	A	N/A	0.6164	-2	50	
PFHpS	4.90	1.08	139622.5	A	N/A	1.0000			
PFHpS_2	4.90	1.08	52625.1	A	N/A	0.3769	-9	50	
PFOA	4.91	1.00	389972.5	A	N/A	1.0000			
PFOA_2	4.91	1.00	22344.7	A	N/A	0.0573	-7	50	
PFOS	5.24	1.00	137664.4	M	N/A	1.0000			
PFOS_2	5.24	1.00	41697.0	M	N/A	0.3029	0	50	
PFNA	5.26	1.00	338420.2	A	N/A	1.0000			
PFNA_2	5.26	1.00	6466.0	A	N/A	0.0191	-1	50	
PFNS	5.54	1.06	98472.8	A	N/A	1.0000			
PFNS_2	5.54	1.06	46420.3	A	N/A	0.4714	-3	50	
PFDA	5.57	1.00	267728.7	A	N/A	1.0000			
PFDA_2	5.56	1.00	1424.6	A	N/A	0.0053	-45	50	
8:2-FTS	5.57	1.00	30235.9	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	20847.9	A	N/A	0.6895	13	50	
NMeFOSAA	5.71	1.00	30683.6	A	N/A	1.0000			
NMeFOSAA_2	5.71	1.00	7723.6	A	N/A	0.2517	-6	50	
PFDS	5.81	1.11	77328.8	A	N/A	1.0000			
PFDS_2	5.81	1.11	38625.9	A	N/A	0.4995	1	50	
PFUnDA	5.83	1.00	284621.2	A	N/A	1.0000			
PFUnDA_2	5.83	1.00	714.3	A	N/A	0.0025	-39	50	
NEtFOSAA	5.85	1.00	33294.0	M	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	23592.9	M	N/A	0.7086	5	50	
PFDoDA	6.07	1.00	367099.6	A	N/A	1.0000			
PFDoDA_2	6.07	1.00	4198.9	A	N/A	0.0114	-14	50	
10:2-FTS	6.08	1.09	25639.9	A	N/A	1.0000			
10:2-FTS_2	6.08	1.09	19775.3	A	N/A	0.7713	11	50	
PFTrDA	6.26	1.03	313624.3	A	N/A	1.0000			
PFTrDA_2	6.26	1.03	3264.2	A	N/A	0.0104	38	50	
PFTeDA	6.44	1.00	229458.9	A	N/A	1.0000			
PFTeDA_2	6.44	1.00	1256.9	A	N/A	0.0055	-17	50	
PFHxDA	6.72	1.04	109027.1	A	N/A	1.0000			
PFHxDA_2	6.72	1.04	6857.7	A	N/A	0.0629	2	50	
PFODA	6.98	1.08	73542.7	A	N/A	1.0000			
PFODA_2	6.97	1.08	2025.2	A	N/A	0.0275	1	50	

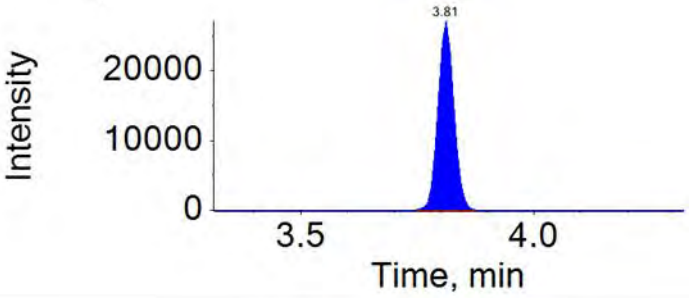
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

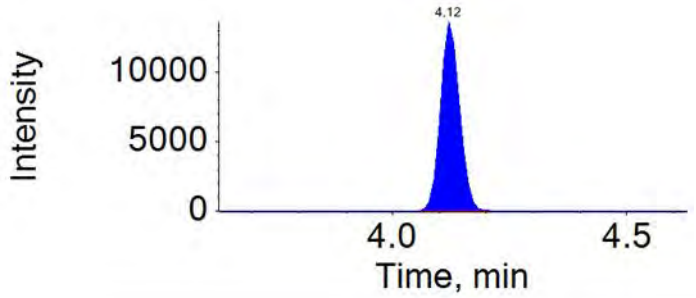
Component: PFBS
Primary Mass: 299.0 / 80.0



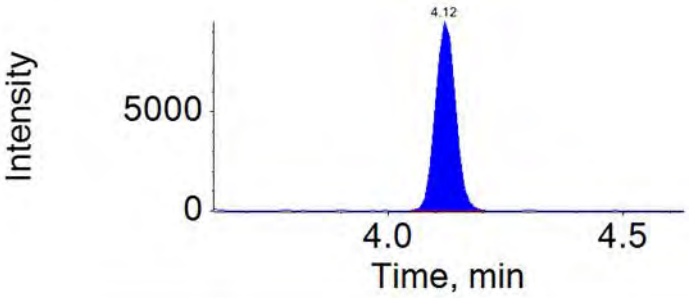
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



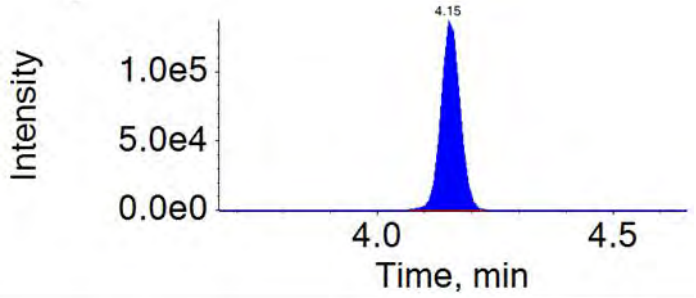
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



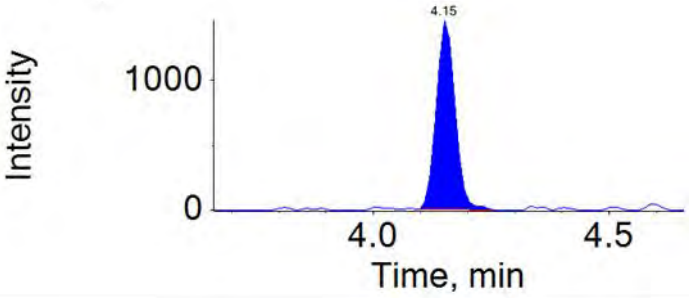
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



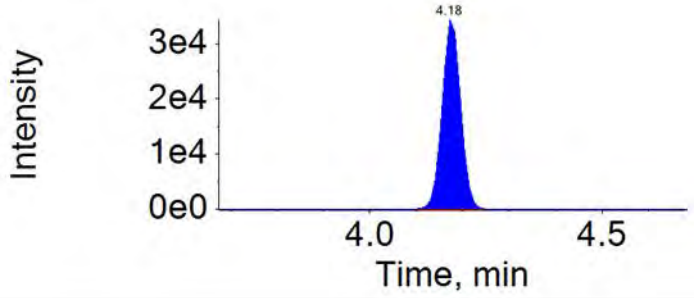
Component: PFHxA
Primary Mass: 313.0 / 269.0



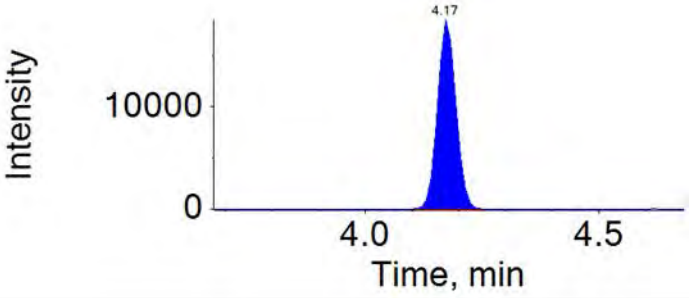
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



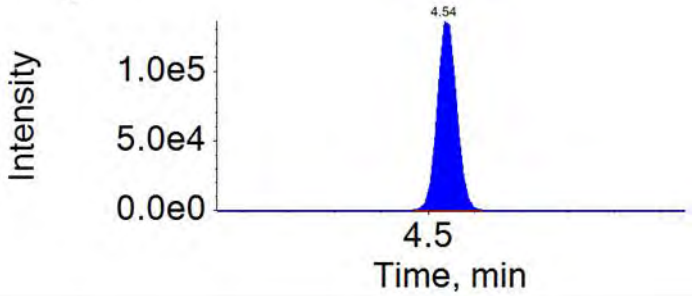
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



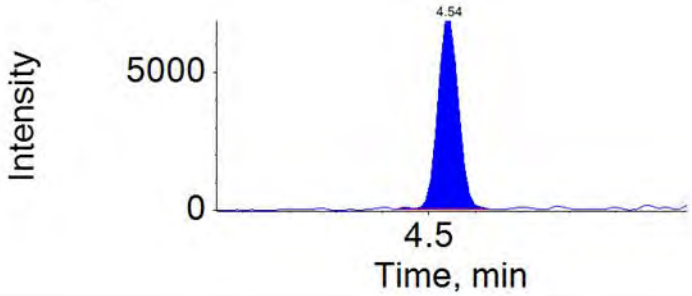
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

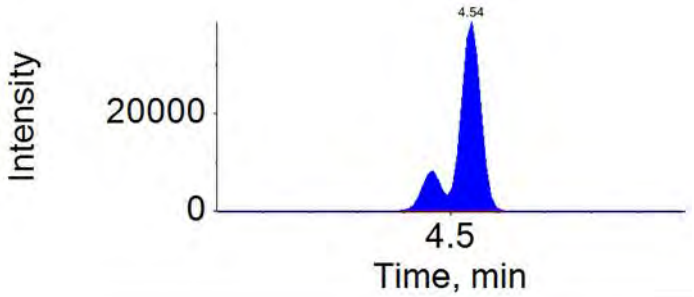
Component: PFHpA
Primary Mass: 363.0 / 319.0



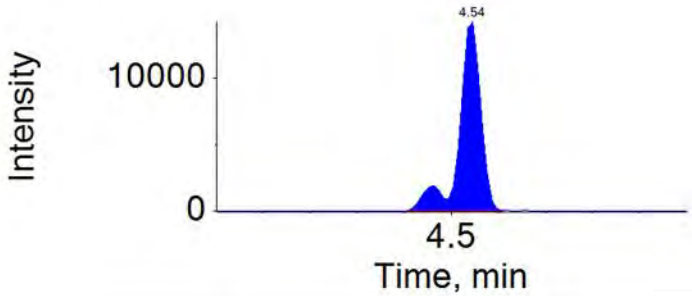
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



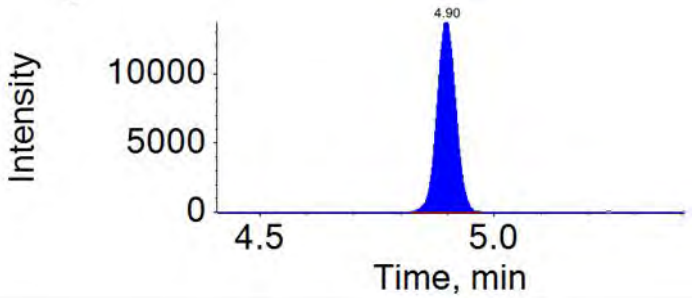
Component: PFHxS
Primary Mass: 399.0 / 80.0



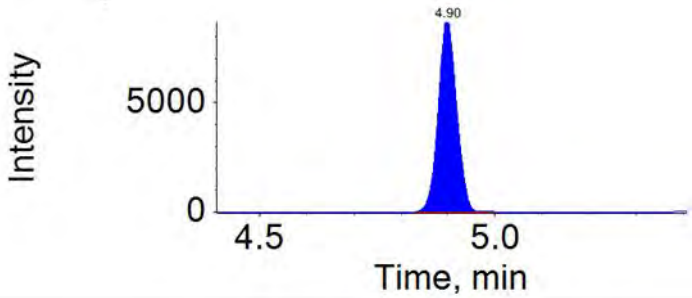
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



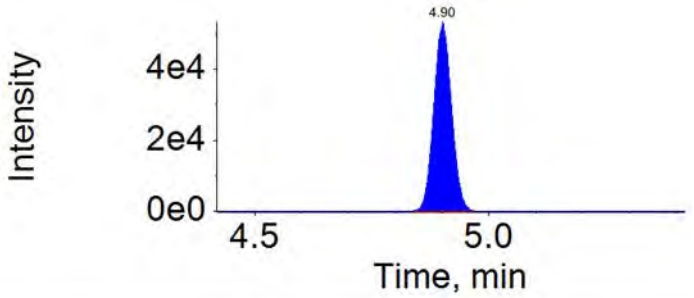
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



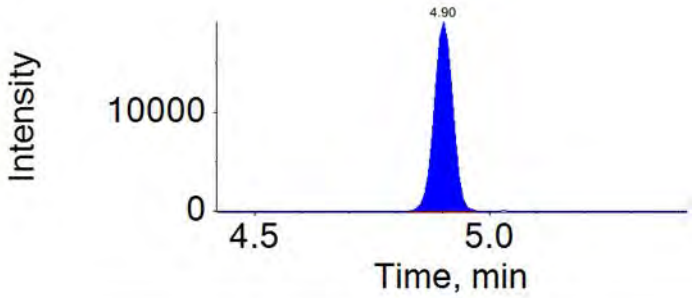
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



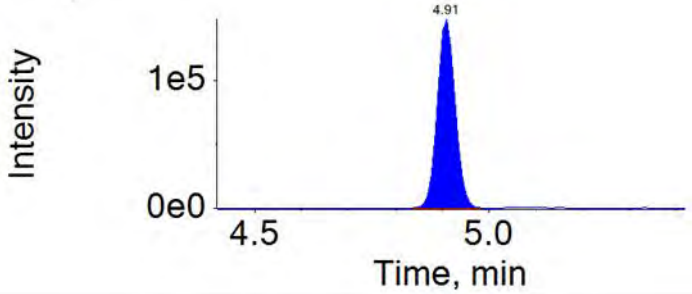
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



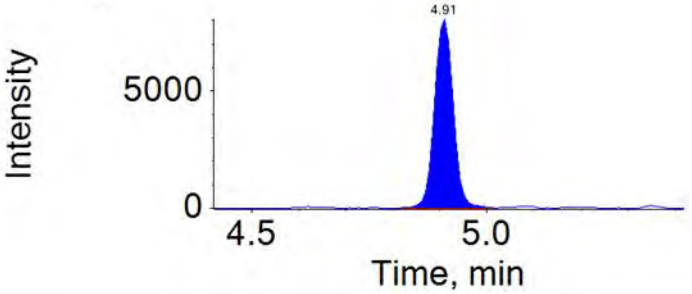
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

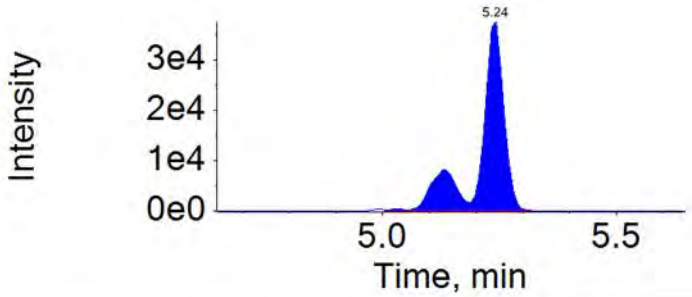
Component: PFOA
Primary Mass: 413.0 / 369.0



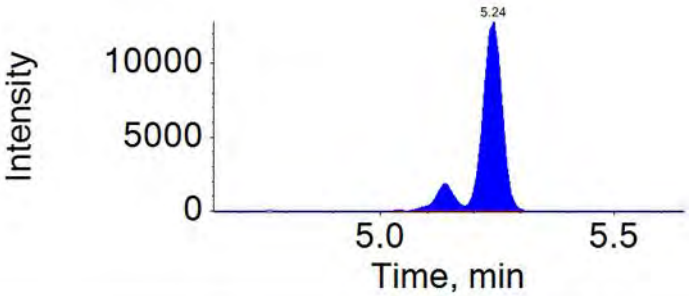
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



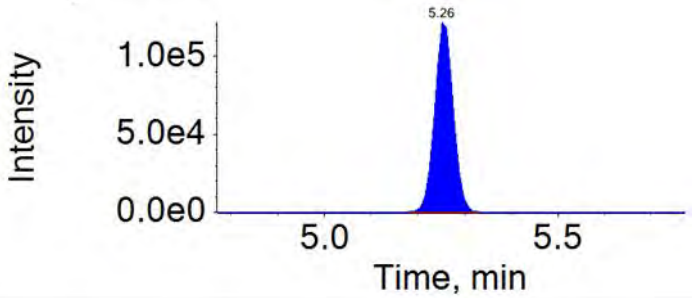
Component: PFOS
Primary Mass: 499.0 / 80.0



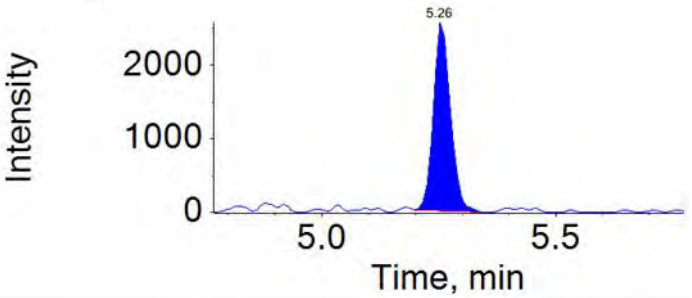
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



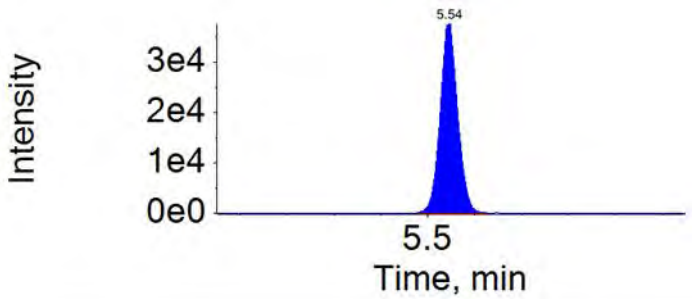
Component: PFNA
Primary Mass: 463.0 / 419.0



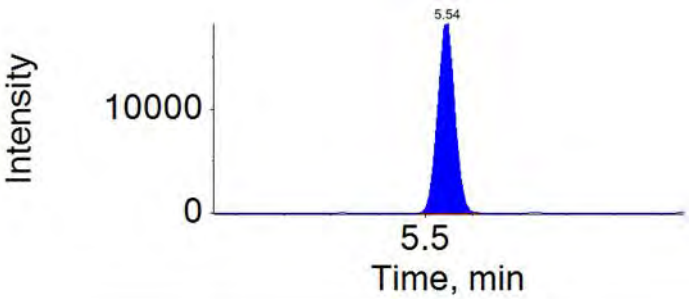
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



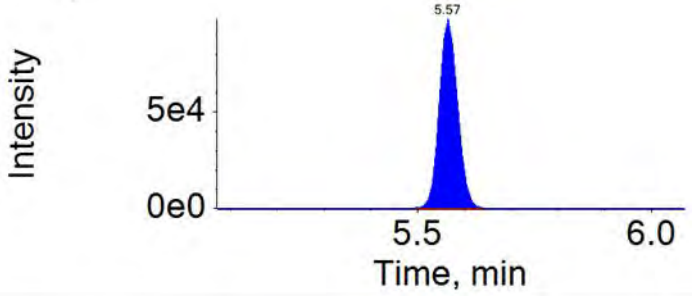
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



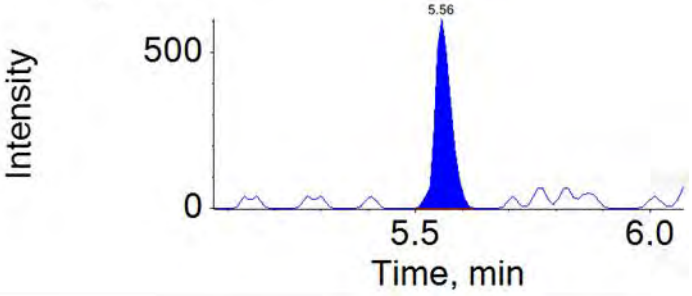
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

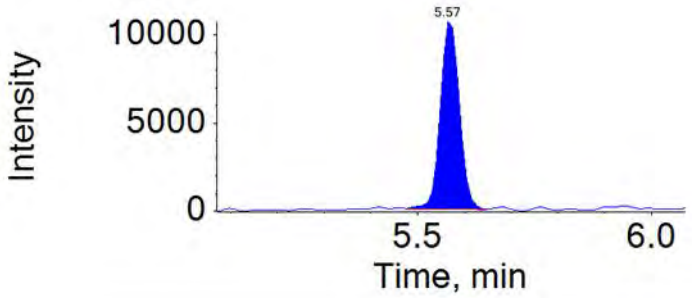
Component: PFDA
Primary Mass: 513.0 / 469.0



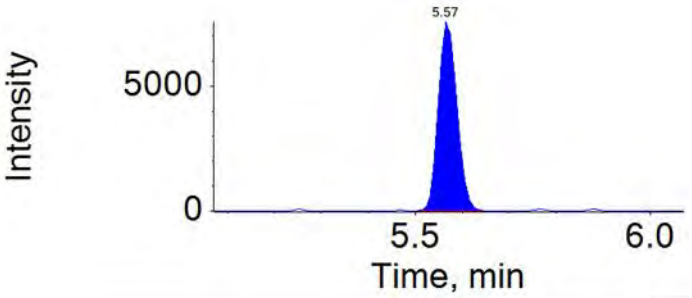
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



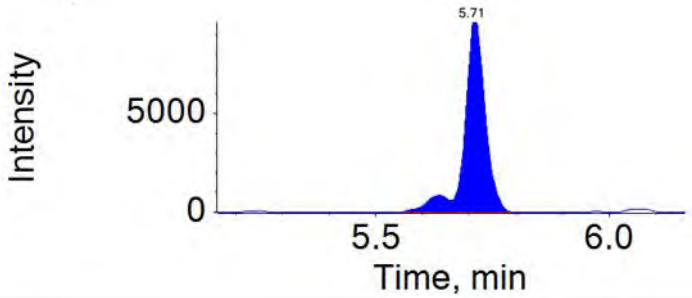
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



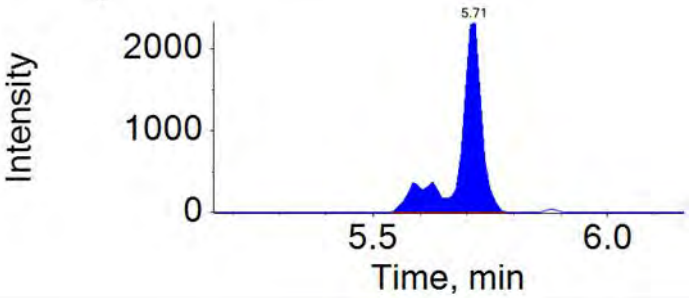
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



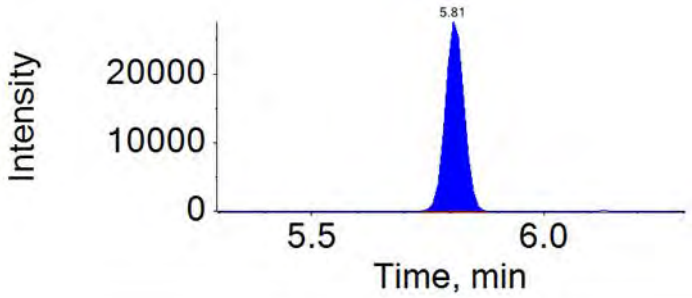
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



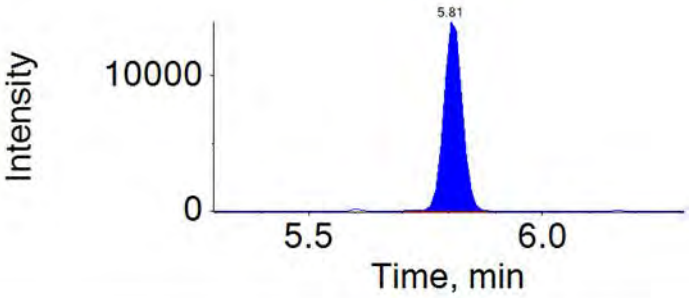
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



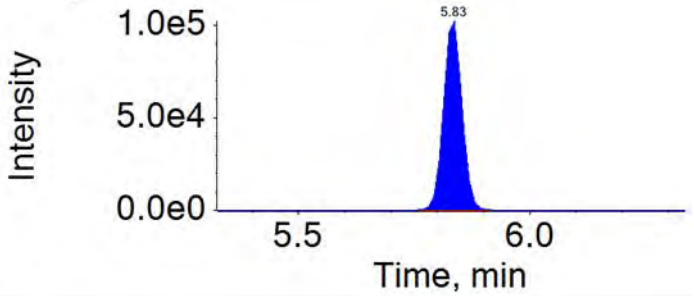
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



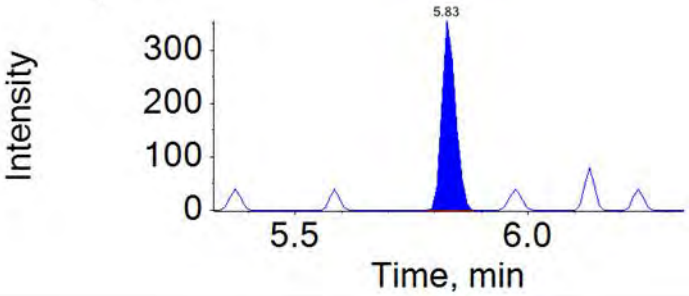
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

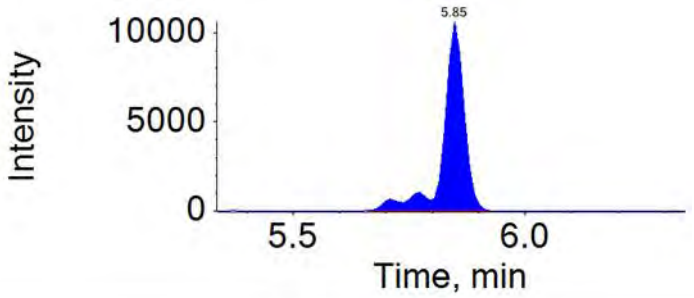
Component: PFUnDA
Primary Mass: 563.0 / 519.0



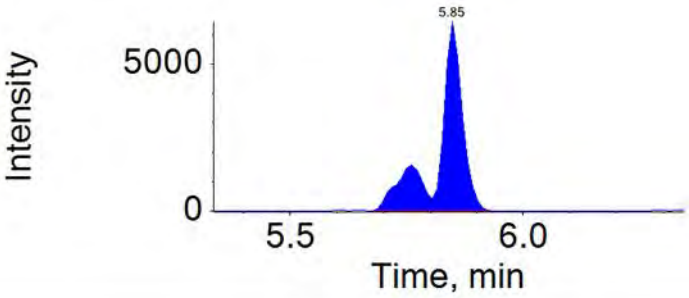
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



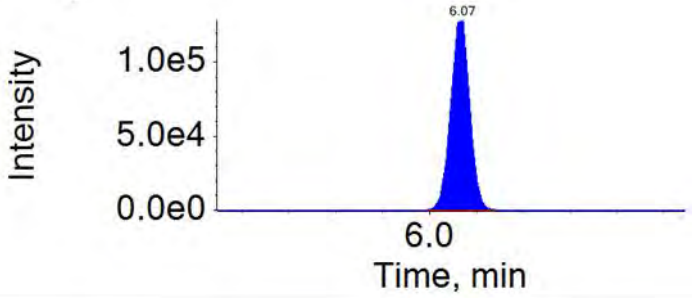
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



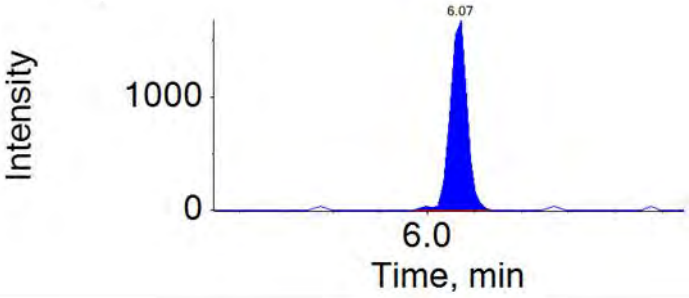
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



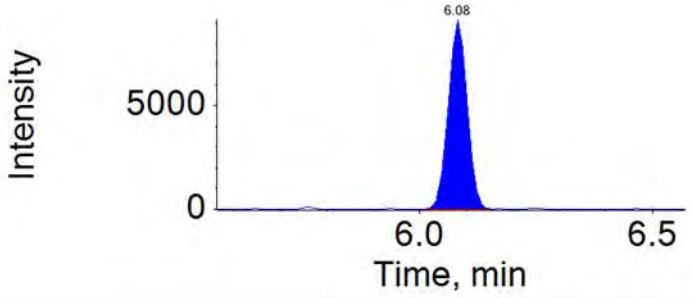
Component: PFDoDA
Primary Mass: 613.0 / 569.0



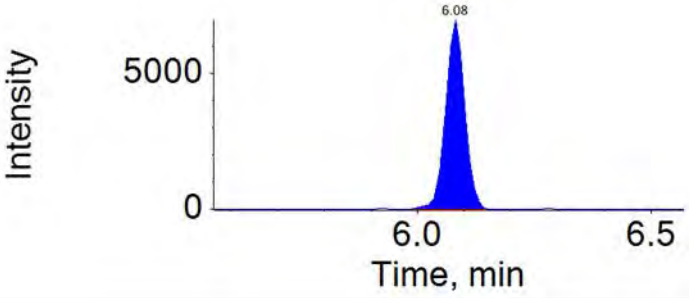
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



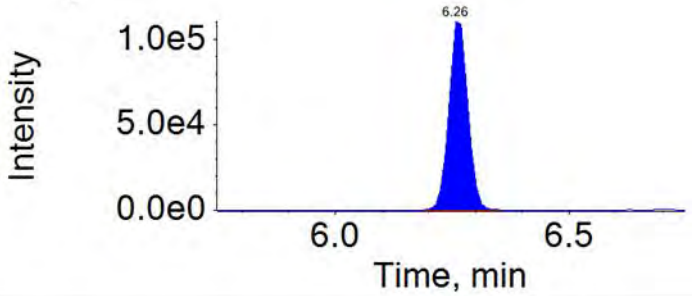
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



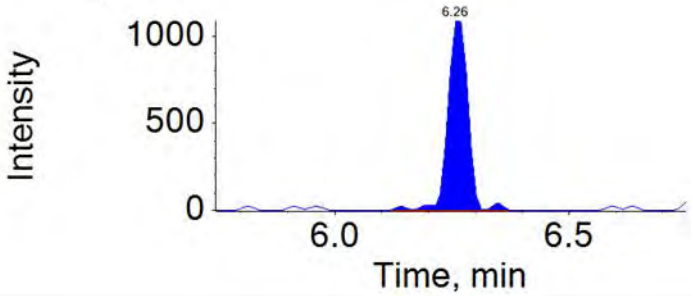
APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

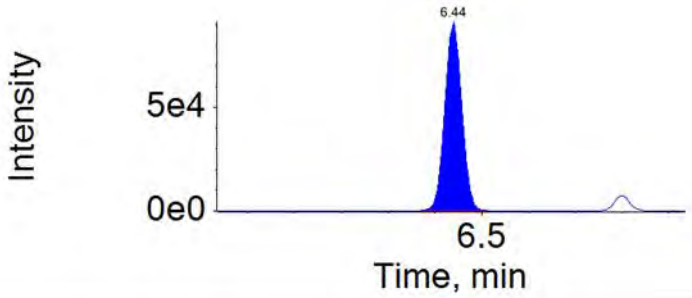
Component: PFTrDA
Primary Mass: 663.0 / 619.0



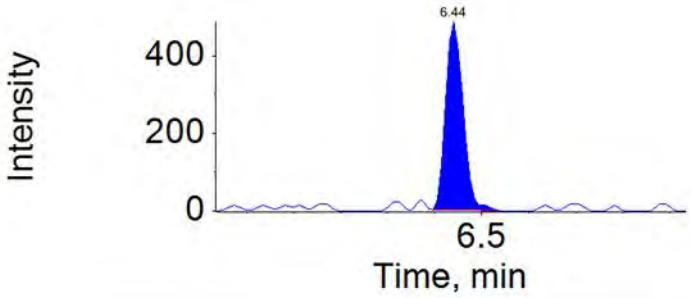
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



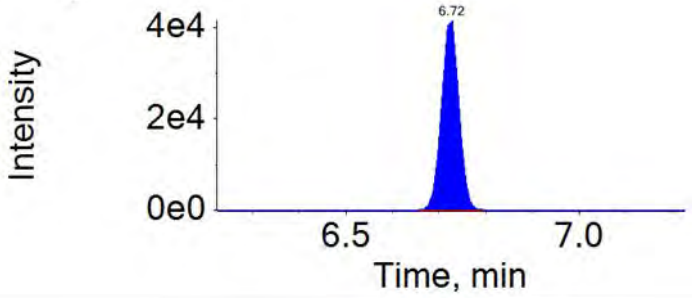
Component: PFTeDA
Primary Mass: 713.0 / 669.0



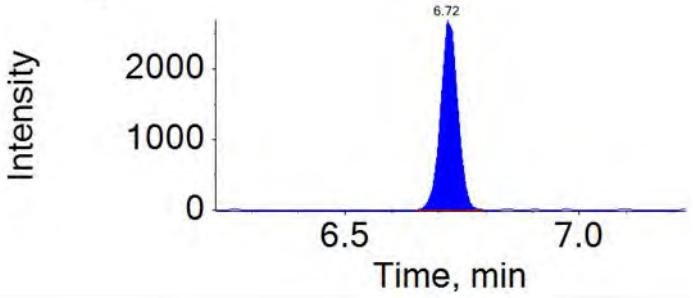
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



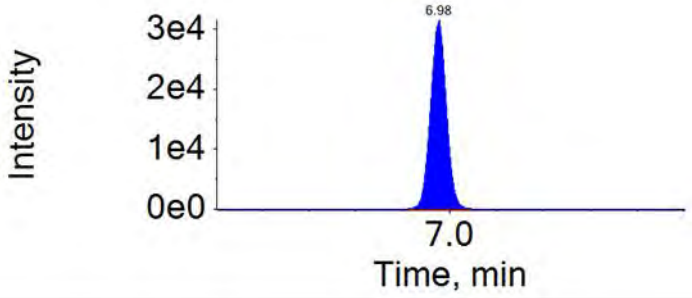
Component: PFHxDA
Primary Mass: 813.0 / 769.0



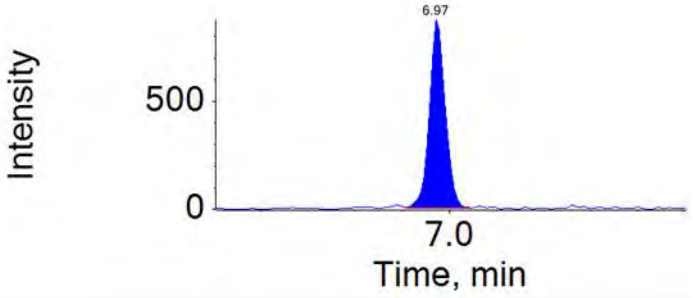
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:52 pm, 12/10/18

REVIEWED
By HMK at 12:26 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:49:06 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
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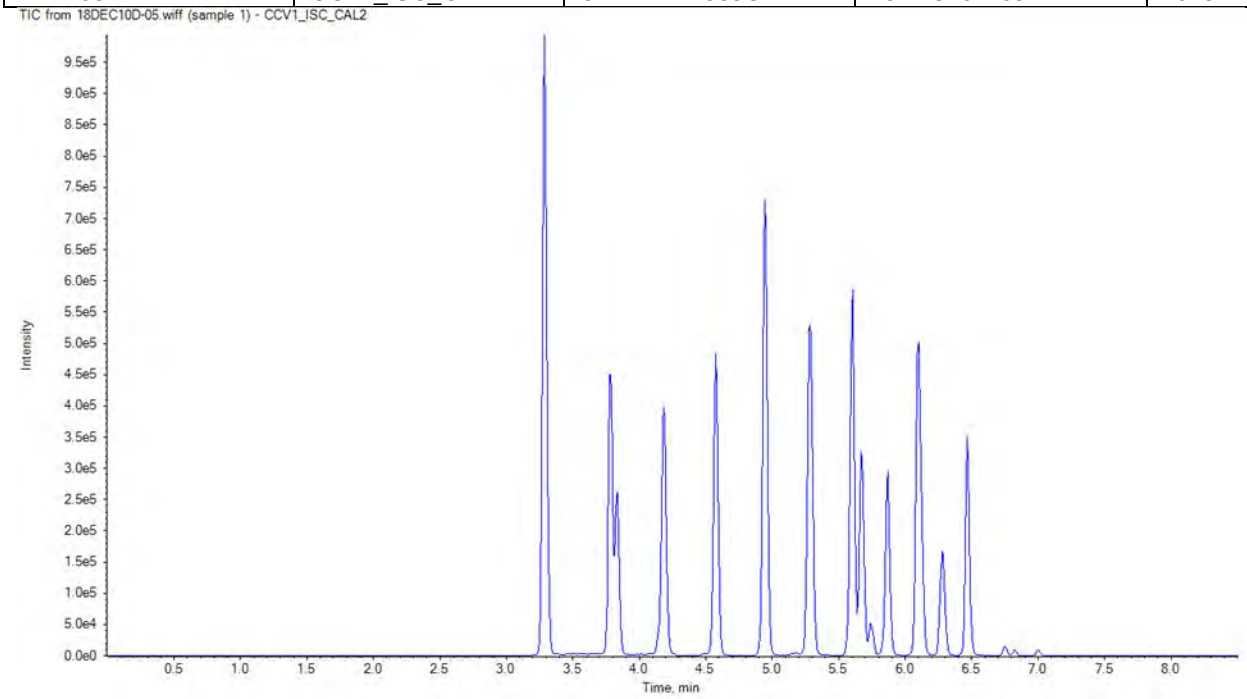


Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	968978.6	936973.7	3	50	
13C2-PFOA	5.0	507254.2	474841.3	7	50	
13C4-PFOS	4.8	302410.5	294668.0	3	50	
13C2-PFDA	5.0	392614.4	373990.9	5	50	

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:49:06 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC10D-05.wiff	2018-12-10T13:09:15

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	120464.0	11	13C4-PFBA	1121751.1	5.0	0.107	3.29	1.000	0.600	0.592	-1	30	
PFPeA	121560.7	11	13C5-PFPeA	978639.0	5.0	0.124	3.78	1.000	0.600	0.653	9	30	
PFBS	48022.9	10	13C3-PFBS	476526.7	4.7	0.101	3.83	1.000	0.531	0.500	-6	30	
4:2-FTS	9782.8	12	13C2-4:2-FTS	55202.9	4.7	0.177	4.15	1.000	0.560	0.475	-15	30	
PFHxA	107212.6	11	13C5-PFHxA	794588.3	5.0	0.135	4.18	1.000	0.600	0.588	-2	30	
PFPeS	24856.6	11	13C3-PFBS	476526.7	4.7	0.052	4.20	1.100	0.563	0.517	-8	30	
PFHpA	112514.7	12	13C4-PFHpA	595978.9	5.0	0.189	4.57	1.000	0.600	0.622	4	30	
PFHxS	36546.8	19	13C3-PFHxS	376665.3	4.7	0.097	4.58	1.000	0.547	0.460	-16	30	
6:2-FTS	9669.0	11	13C2-6:2-FTS	46220.0	4.8	0.209	4.93	1.000	0.569	0.519	-9	30	
PFHpS	34996.2	11	13C3-PFHxS	376665.3	4.7	0.093	4.94	1.080	0.571	0.510	-11	30	
PFOA	103009.6	11	13C8-PFOA	1003506.3	5.0	0.103	4.95	1.000	0.600	0.561	-7	30	
PFOS	39075.4	22	13C8-PFOS	341296.0	4.8	0.114	5.28	1.000	0.555	0.475	-14	30	
PFNA	104992.6	12	13C9-PFNA	671667.7	5.0	0.156	5.29	1.000	0.600	0.576	-4	30	
PFNS	25945.4	11	13C8-PFOS	341296.0	4.8	0.076	5.58	1.060	0.576	0.489	-15	30	
PFDA	79951.3	12	13C6-PFDA	765672.0	5.0	0.104	5.60	1.000	0.600	0.588	-2	30	
8:2-FTS	7335.4	12	13C2-8:2-FTS	34934.2	4.8	0.210	5.61	1.000	0.575	0.455	-21	30	
PFOSA	78093.3	11	13C8-PFOSA	705934.8	5.0	0.111	5.67	1.000	0.600	0.574	-4	30	
NMeFOSAA	9690.2	12	d3-NMeFOSAA	107138.4	5.0	0.090	5.75	1.000	0.600	0.598	0	30	
PFDS	19421.3	12	13C8-PFOS	341296.0	4.8	0.057	5.84	1.110	0.578	0.460	-20	30	
PFUnDA	81510.2	11	13C7-PFUnDA	466036.5	5.0	0.175	5.87	1.000	0.600	0.536	-11	30	
NEtFOSAA	9540.6	24	d5-NEtFOSAA	86080.4	5.0	0.111	5.88	1.000	0.600	0.560	-7	30	
PFDoDA	99734.2	11	13C2-PFDoDA	958888.9	5.0	0.104	6.10	1.000	0.600	0.548	-9	30	
10:2-FTS	5691.7	10	13C2-8:2-FTS	34934.2	4.8	0.163	6.11	1.090	0.578	0.432	-25	30	
NMePFOSAE	33896.0	11	d7-NMePFOSAE	266241.0	5.0	0.127	6.13	1.000	0.600	0.553	-8	30	
NMePFOSA	9388.4	11	d3-NMePFOSA	84648.0	5.0	0.111	6.13	1.000	0.600	0.560	-7	30	
PFDoS	10474.4	11	13C8-PFOS	341296.0	4.8	0.031	6.27	1.190	0.581	0.468	-19	30	
NEtPFOSAE	37420.0	12	d9-NEtPFOSAE	214602.2	5.0	0.174	6.28	1.000	0.600	0.584	-3	30	
NEtPFOSA	8302.2	11	d5-NEtPFOSA	67149.7	5.0	0.124	6.29	1.000	0.600	0.592	-1	30	
PFTrDA	91558.4	11	13C2-PFDoDA	958888.9	5.0	0.095	6.29	1.030	0.600	0.625	4	30	
PFTeDA	69114.8	11	13C2-PFTeDA	679938.6	5.0	0.102	6.47	1.000	0.600	0.581	-3	30	
PFHxDA	29111.2	10	13C2-PFTeDA	679938.6	5.0	0.043	6.75	1.040	0.600	0.536	-11	30	
PFODA	19993.7	10	13C2-PFTeDA	679938.6	5.0	0.029	7.00	1.080	0.600	0.472	-21	30	

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC10DCCV1-3 12/10/2018 4:49:06 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_ISC_CAL2			**Data File:**		18DEC10D-05.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-10T13:09:15
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC10DCCV1-3
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N\A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	968978.6	936973.7	3	50	
13C2-PFOA	5.0	507254.2	474841.3	7	50	
13C4-PFOS	4.8	302410.5	294668.0	3	50	
13C2-PFDA	5.0	392614.4	373990.9	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1121751.1	13C3-PFBA	968978.6	1.158	5.000	5.124	102	70-130	
E13C5-PFPeA	978639.0	13C3-PFBA	968978.6	1.010	5.000	4.797	96	70-130	
E13C3-PFBS	476526.7	13C3-PFBA	968978.6	0.492	4.650	4.169	90	70-130	
E13C2-4:2-FTS	55202.9	13C2-PFOA	507254.2	0.109	4.670	4.264	91	70-130	
E13C5-PFHxA	794588.3	13C2-PFOA	507254.2	1.566	5.000	5.259	105	70-130	
E13C3-PFHxS	376665.3	13C2-PFOA	507254.2	0.743	4.730	4.763	101	70-130	
E13C4-PFHpA	595978.9	13C2-PFOA	507254.2	1.175	5.000	4.995	100	70-130	
E13C2-6:2-FTS	46220.0	13C2-PFOA	507254.2	0.091	4.750	5.645	119	70-130	
E13C8-PFOA	1003506.3	13C2-PFOA	507254.2	1.978	5.000	5.592	112	70-130	
E13C8-PFOS	341296.0	13C4-PFOS	302410.5	1.129	4.780	5.065	106	70-130	
E13C9-PFNA	671667.7	13C4-PFOS	302410.5	2.221	5.000	6.276	126	70-130	
E13C6-PFDA	765672.0	13C2-PFDA	392614.4	1.950	5.000	5.168	103	70-130	
E13C2-8:2-FTS	34934.2	13C2-PFDA	392614.4	0.089	4.790	5.809	121	70-130	
E13C8-PFOSA	705934.8	13C2-PFDA	392614.4	1.798	5.000	4.253	85	70-130	
Ed3-NMeFOSAA	107138.4	13C2-PFDA	392614.4	0.273	5.000	4.836	97	70-130	
E13C7-PFUnDA	466036.5	13C2-PFDA	392614.4	1.187	5.000	5.823	116	70-130	
Ed5-NEtFOSAA	86080.4	13C2-PFDA	392614.4	0.219	5.000	4.840	97	70-130	
E13C2-PFDoDA	958888.9	13C2-PFDA	392614.4	2.442	5.000	5.125	103	70-130	
Ed7-NMePFOSAE	266241.0	13C2-PFDA	392614.4	0.678	5.000	3.906	78	70-130	
Ed3-NMePFOSA	84648.0	13C2-PFDA	392614.4	0.216	5.000	3.928	79	70-130	
Ed9-NEtPFOSAE	214602.2	13C2-PFDA	392614.4	0.547	5.000	3.769	75	70-130	
Ed5-NEtPFOSA	67149.7	13C2-PFDA	392614.4	0.171	5.000	3.849	77	70-130	
E13C2-PFTeDA	679938.6	13C2-PFDA	392614.4	1.732	5.000	5.140	103	70-130	

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

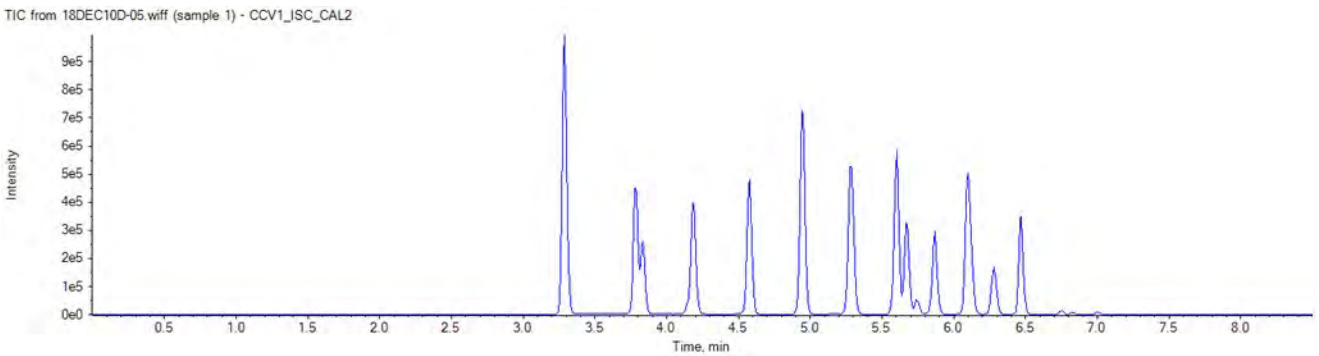
Analyte Quantitation Peak Table

Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC10D-05.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.29	1.000	120464.0		A	13C4-PFBA	3.29	1121751.1	0.107	0.592
PFPeA	3.78	1.000	121560.7		A	13C5-PFPeA	3.78	978639.0	0.124	0.653
PFBS	3.83	1.000	48022.9		A	13C3-PFBS	3.83	476526.7	0.101	0.500
4:2-FTS	4.15	1.000	9782.8		A	13C2-4:2-FTS	4.15	55202.9	0.177	0.475
PFHxA	4.18	1.000	107212.6		A	13C5-PFHxA	4.18	794588.3	0.135	0.588
PFPeS	4.20	1.100	24856.6		A	13C3-PFBS	3.83	476526.7	0.052	0.517
PFHpA	4.57	1.000	112514.7		A	13C4-PFHpA	4.57	595978.9	0.189	0.622
PFHxS	4.58	1.000	36546.8		M	13C3-PFHxS	4.58	376665.3	0.097	0.460
6:2-FTS	4.93	1.000	9669.0		A	13C2-6:2-FTS	4.93	46220.0	0.209	0.519
PFHpS	4.94	1.080	34996.2		A	13C3-PFHxS	4.58	376665.3	0.093	0.510
PFOA	4.95	1.000	103009.6		A	13C8-PFOA	4.95	1003506.3	0.103	0.561
PFOS	5.28	1.000	39075.4		M	13C8-PFOS	5.28	341296.0	0.114	0.475
PFNA	5.29	1.000	104992.6		A	13C9-PFNA	5.29	671667.7	0.156	0.576
PFNS	5.58	1.060	25945.4		A	13C8-PFOS	5.28	341296.0	0.076	0.489
PFDA	5.60	1.000	79951.3		A	13C6-PFDA	5.60	765672.0	0.104	0.588
8:2-FTS	5.61	1.000	7335.4		A	13C2-8:2-FTS	5.61	34934.2	0.210	0.455
PFOSA	5.67	1.000	78093.3		A	13C8-PFOSA	5.67	705934.8	0.111	0.574
NMeFOSAA	5.75	1.000	9690.2		M	d3-NMeFOSAA	5.74	107138.4	0.090	0.598
PFDS	5.84	1.110	19421.3		A	13C8-PFOS	5.28	341296.0	0.057	0.460
PFUnDA	5.87	1.000	81510.2		A	13C7-PFUnDA	5.87	466036.5	0.175	0.536
NEtFOSAA	5.88	1.000	9540.6		M	d5-NEtFOSAA	5.88	86080.4	0.111	0.560
PFDoDA	6.10	1.000	99734.2		A	13C2-PFDoDA	6.10	958888.9	0.104	0.548
10:2-FTS	6.11	1.090	5691.7		A	13C2-8:2-FTS	5.61	34934.2	0.163	0.432
NMePFOSAE	6.13	1.000	33896.0		A	d7-NMePFOSAE	6.12	266241.0	0.127	0.553
NMePFOSA	6.13	1.000	9388.4		A	d3-NMePFOSA	6.13	84648.0	0.111	0.560
PFDoS	6.27	1.190	10474.4		A	13C8-PFOS	5.28	341296.0	0.031	0.468
NEtPFOSAE	6.28	1.000	37420.0		A	d9-NEtPFOSAE	6.27	214602.2	0.174	0.584
NEtPFOSA	6.29	1.000	8302.2		A	d5-NEtPFOSA	6.29	67149.7	0.124	0.592
PFTrDA	6.29	1.030	91558.4		A	13C2-PFDoDA	6.10	958888.9	0.095	0.625
PFTeDA	6.47	1.000	69114.8		A	13C2-PFTeDA	6.47	679938.6	0.102	0.581
PFHxDA	6.75	1.040	29111.2		A	13C2-PFTeDA	6.47	679938.6	0.043	0.536
PFODA	7.00	1.080	19993.7		A	13C2-PFTeDA	6.47	679938.6	0.029	0.472

Total Ion Chromatogram

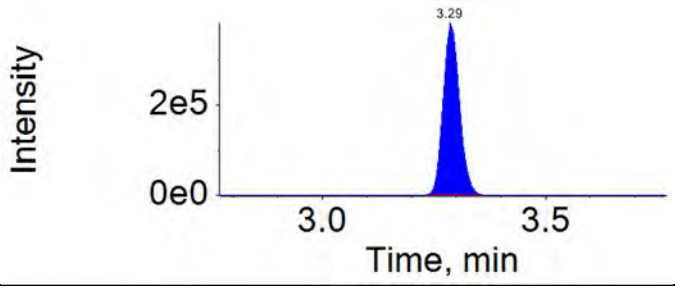


APPROVED
By MCD at 4:57 pm, 12/10/18

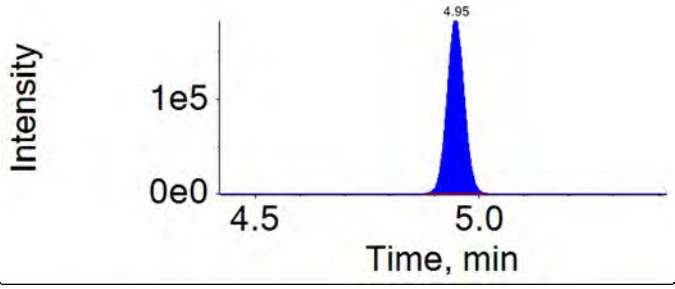
REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

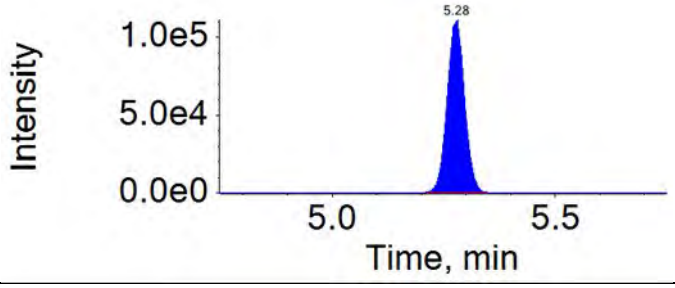
Injection Standard: 13C3-PFBA
216.0 / 172.0



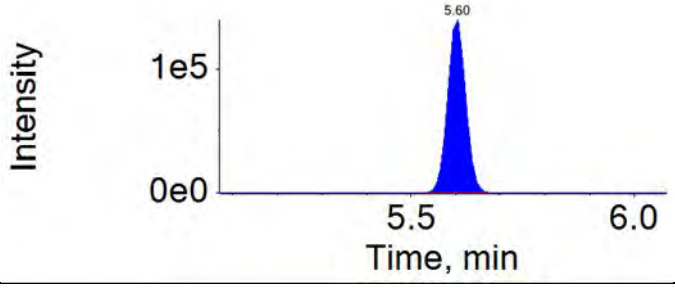
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

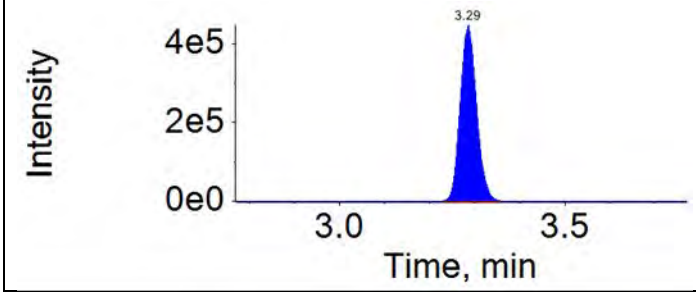


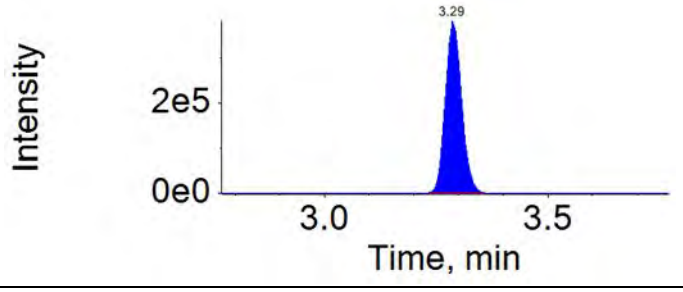
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

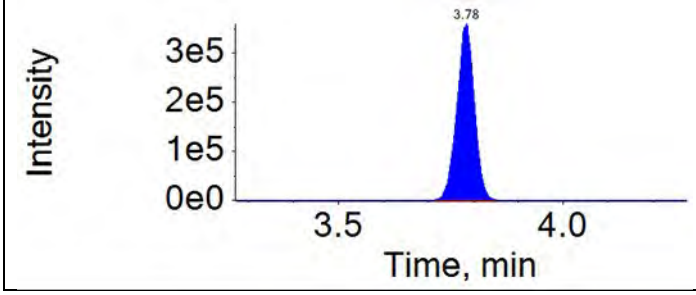
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

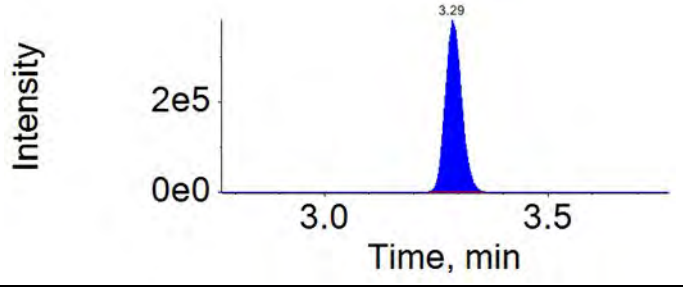
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



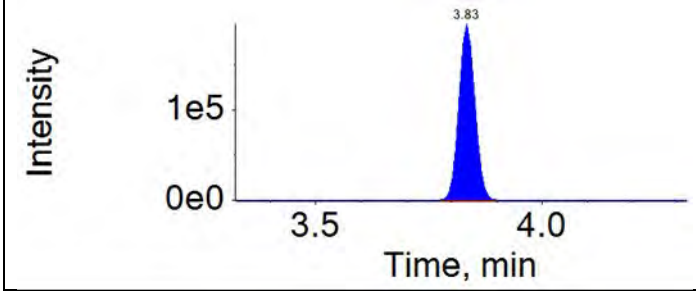


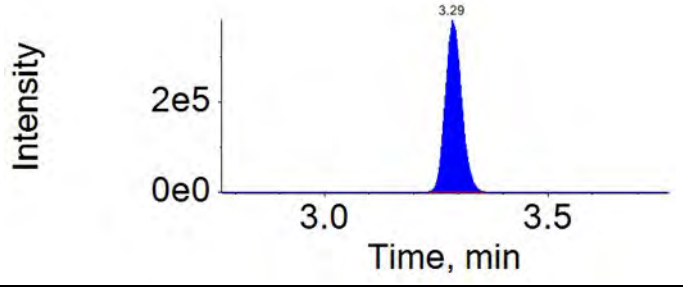
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



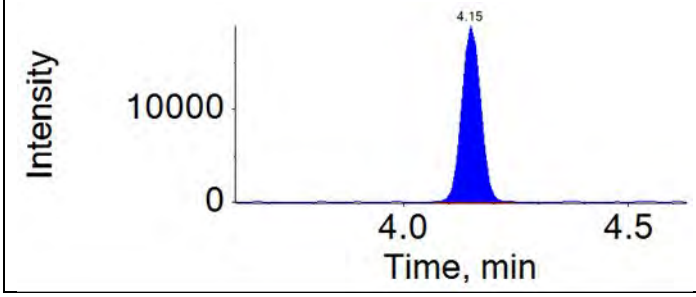


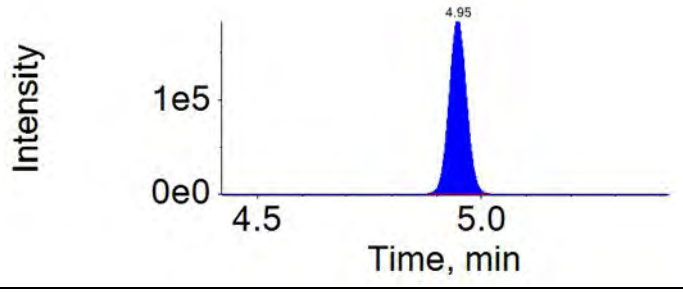
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



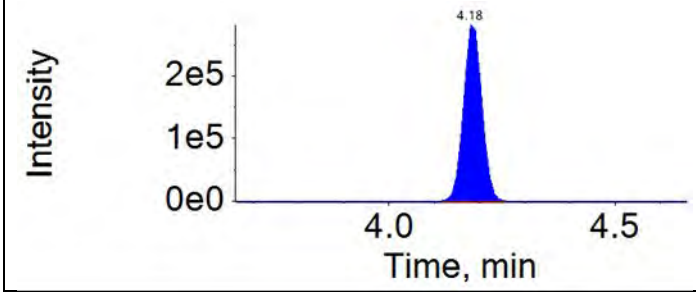


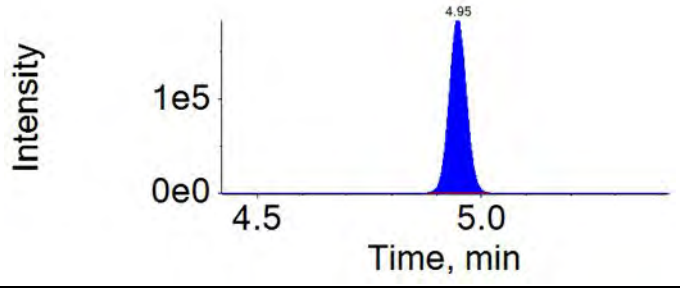
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

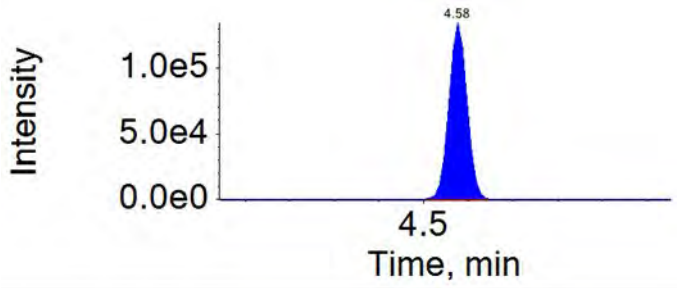
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

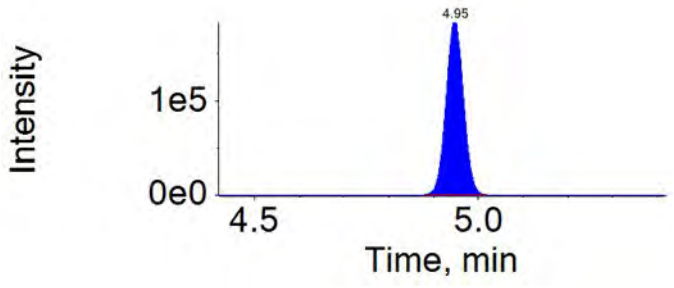
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



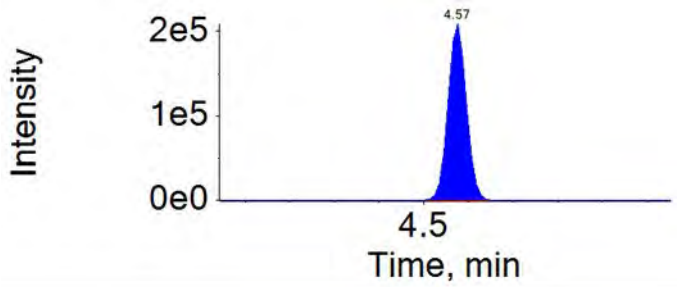


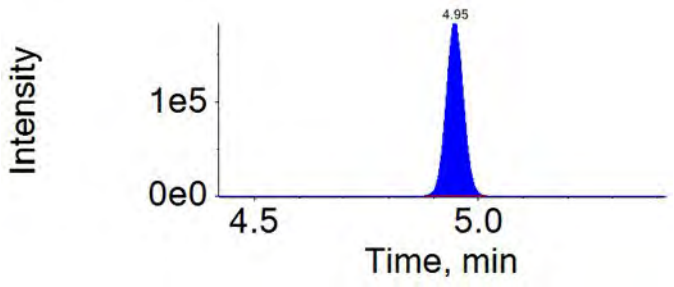
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



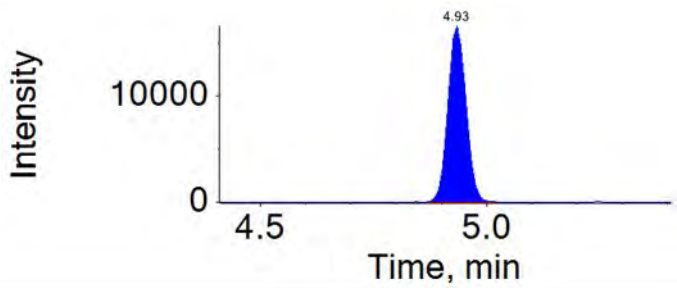


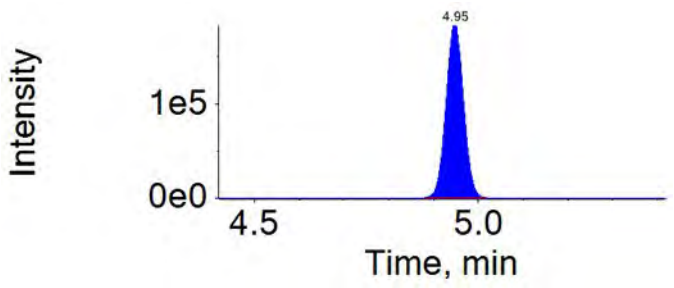
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



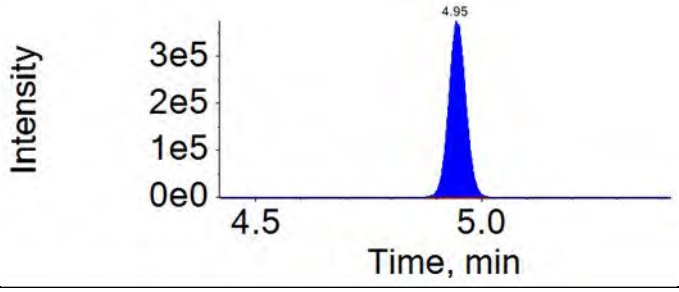


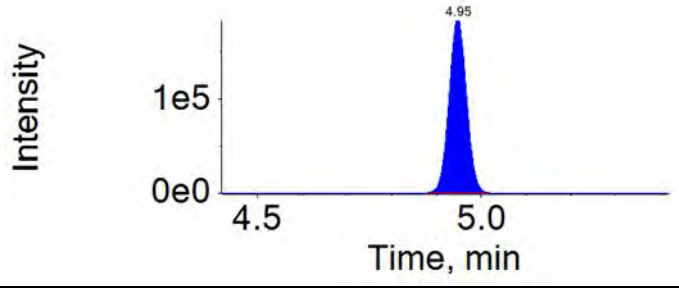
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

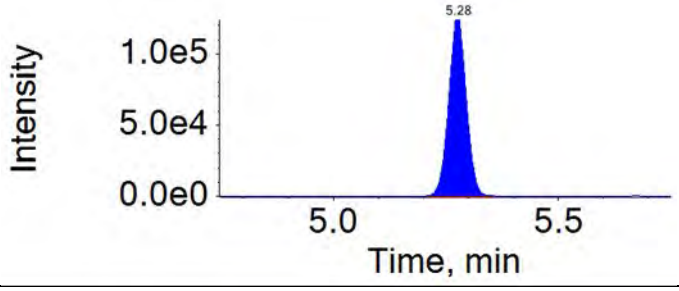
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

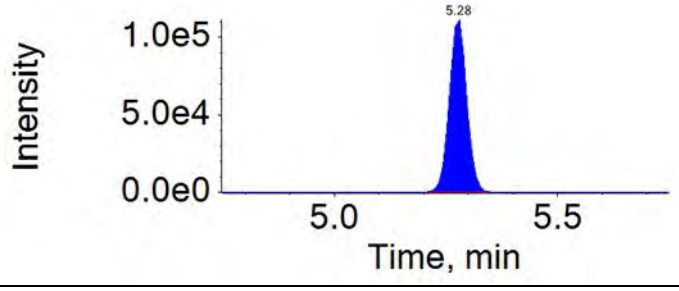
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



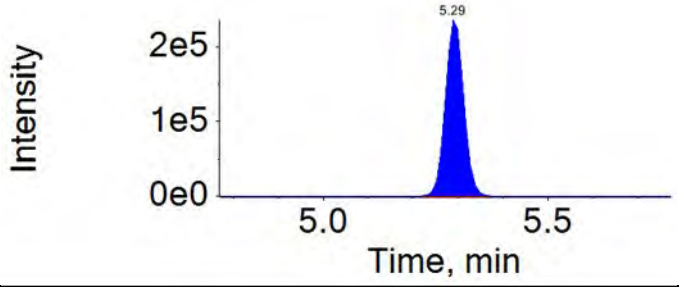


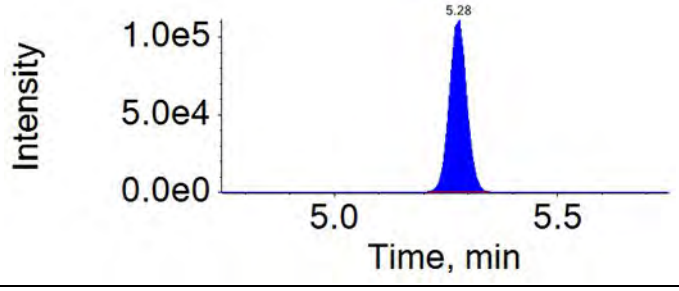
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



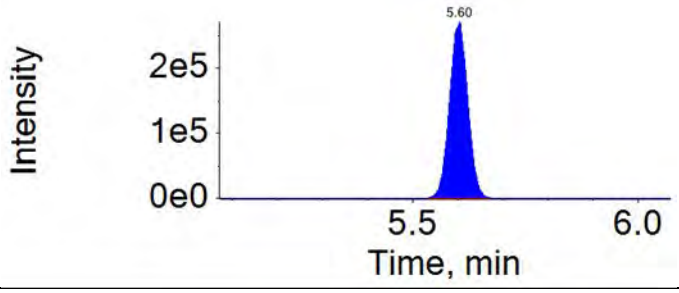


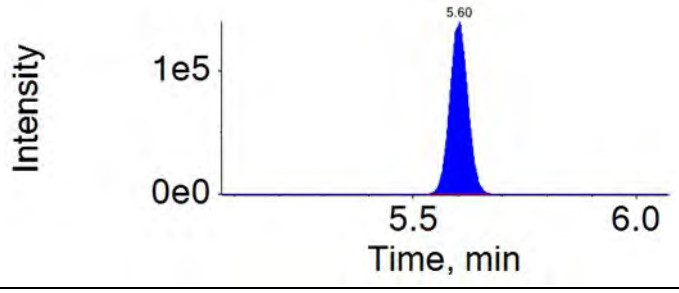
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

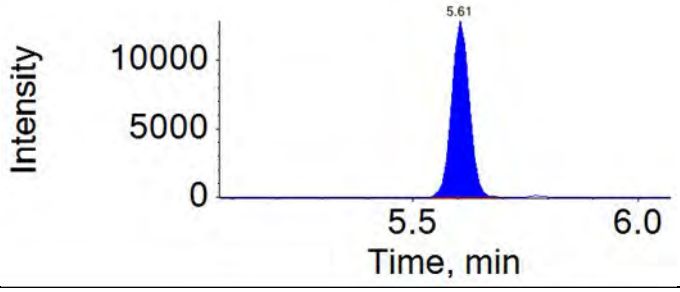
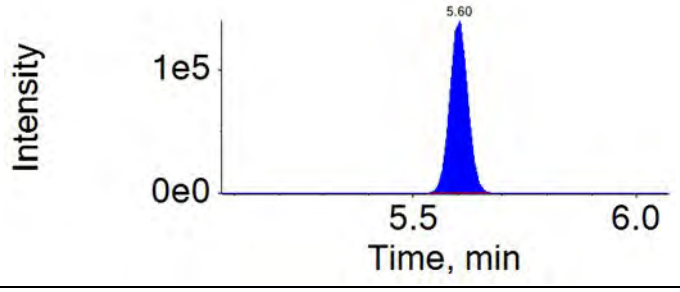


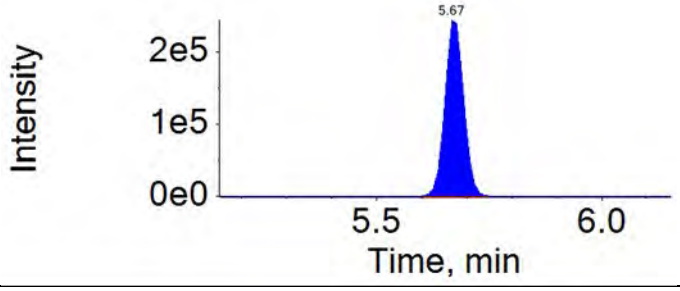
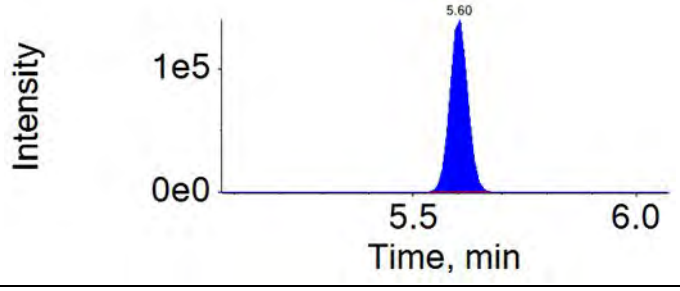


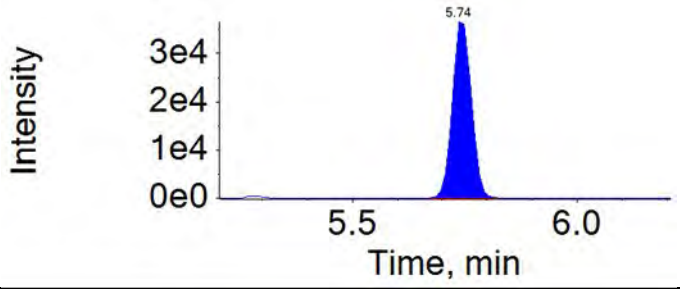
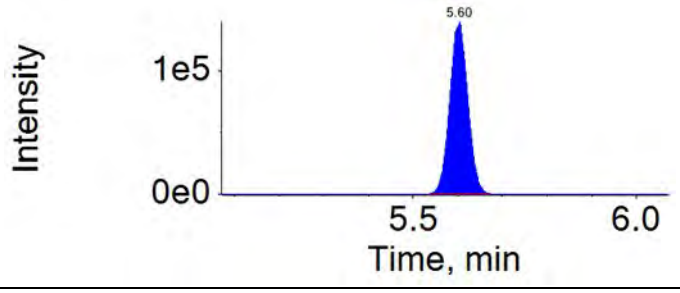
APPROVED
By MCD at 4:57 pm, 12/10/18

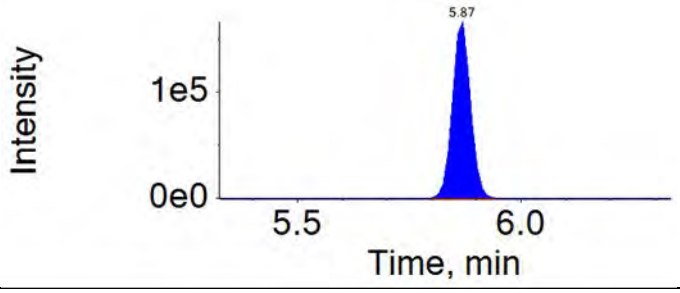
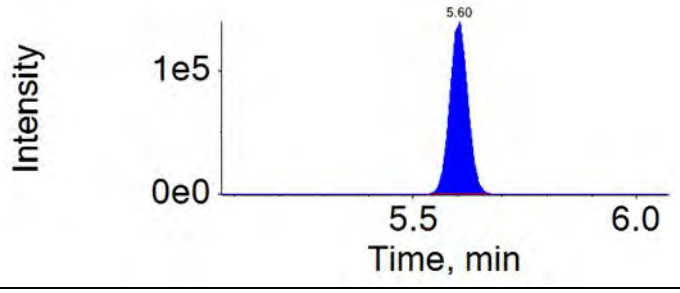
REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

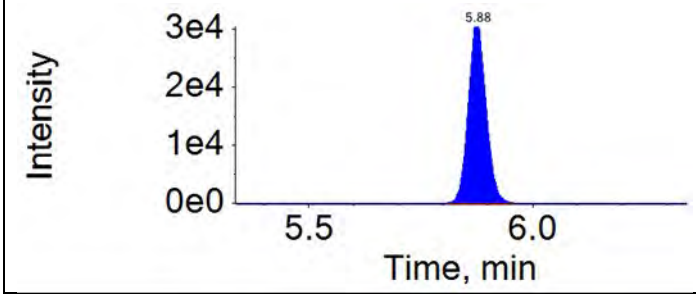
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

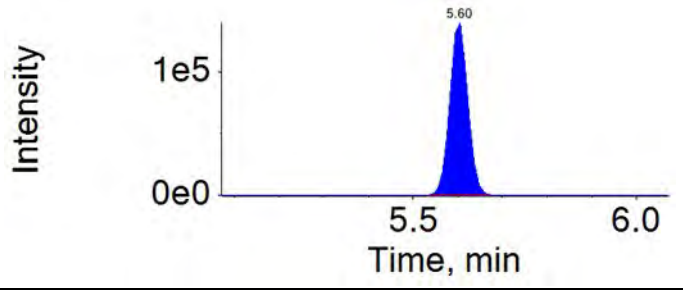
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

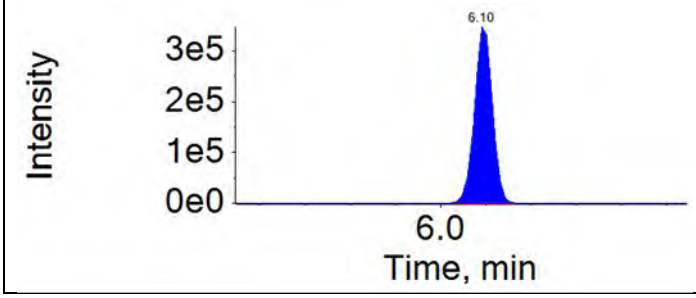
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

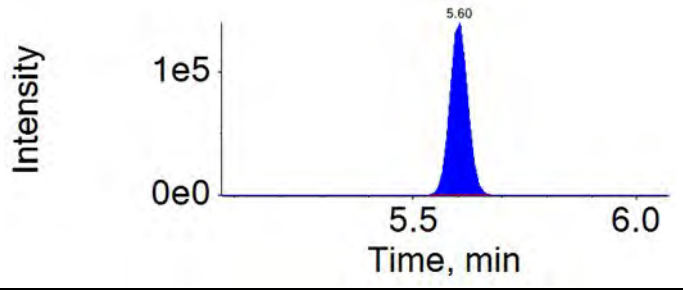
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



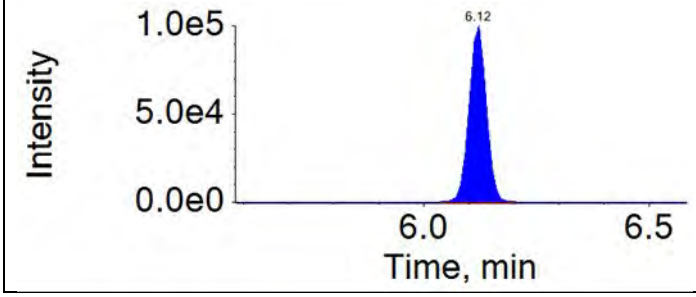


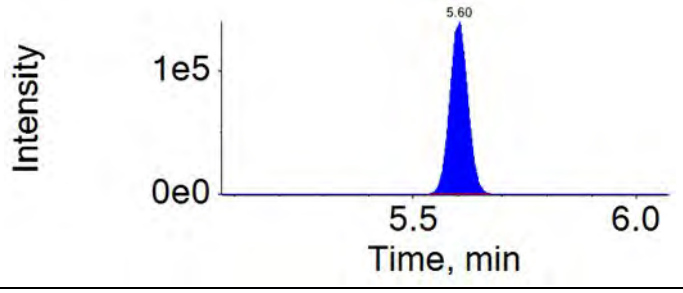
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



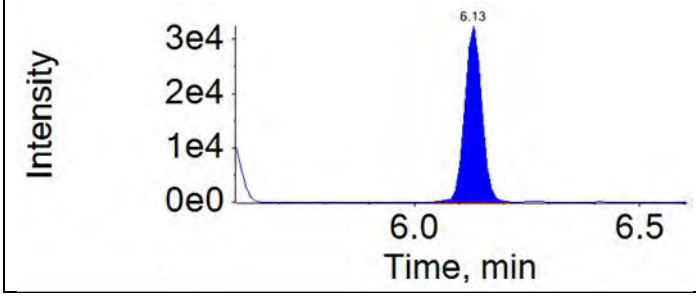


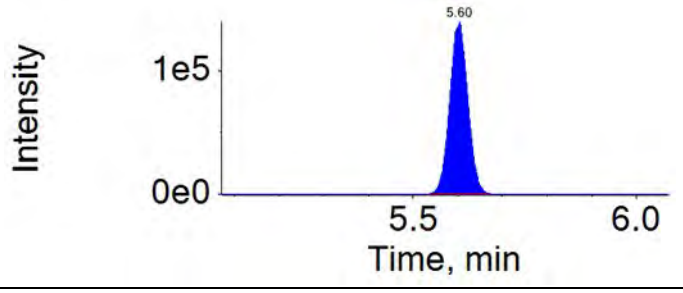
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



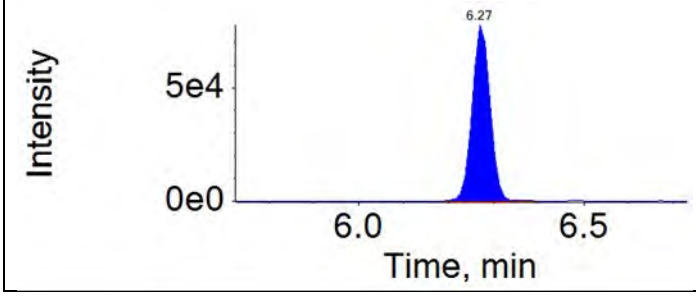


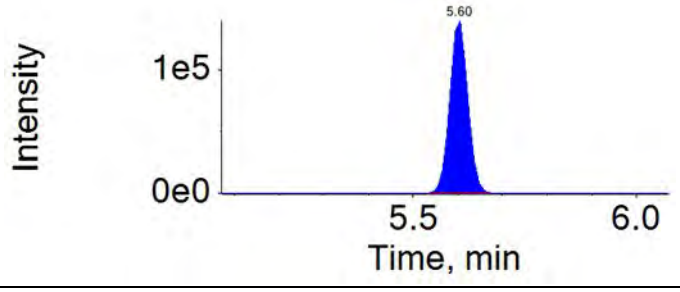
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

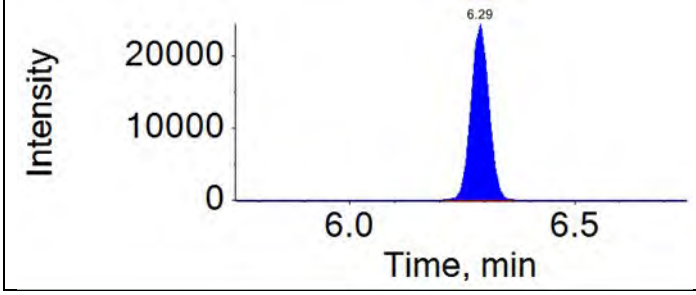
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

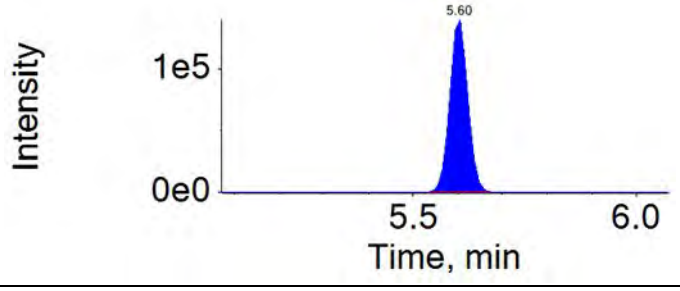
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



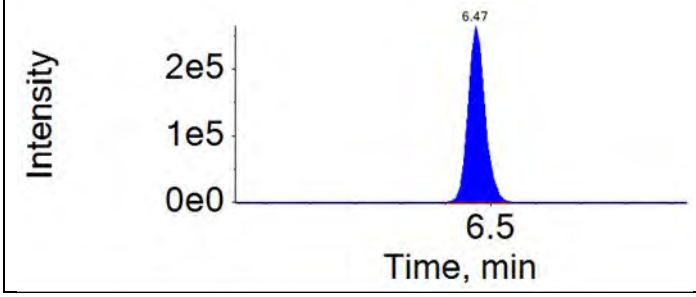


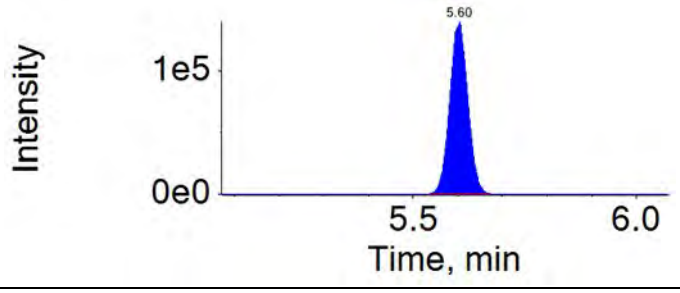
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



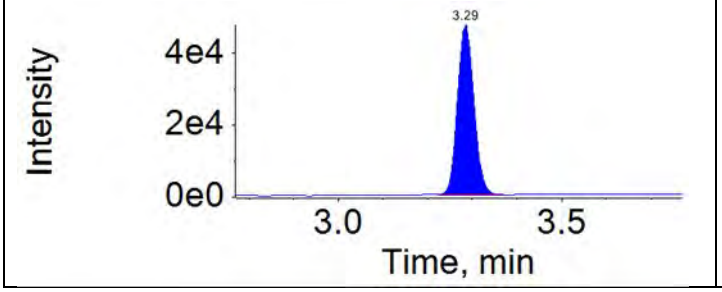


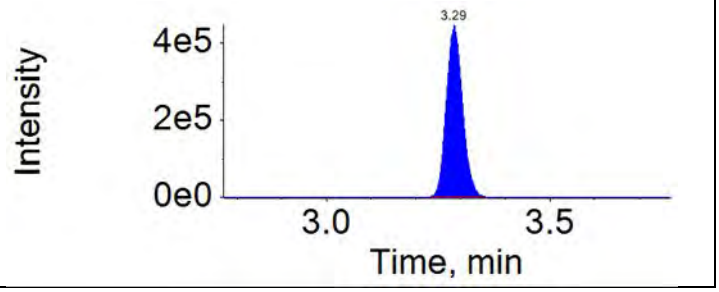
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

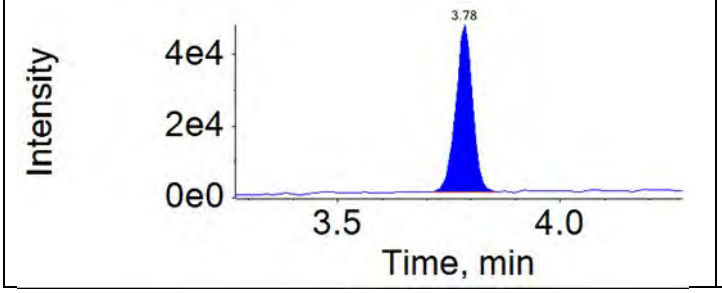
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

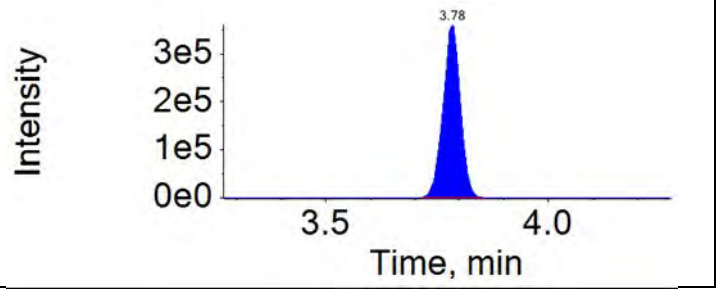
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



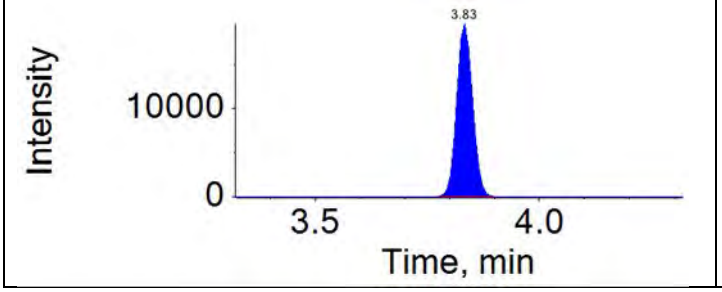


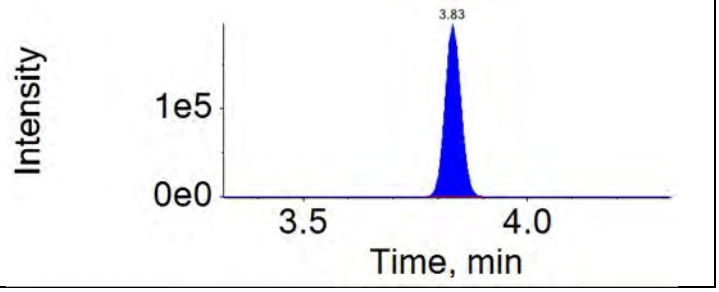
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



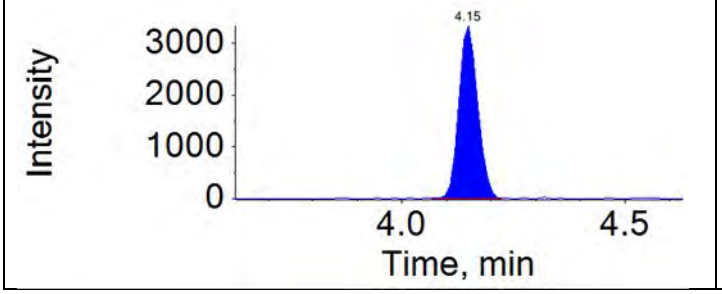


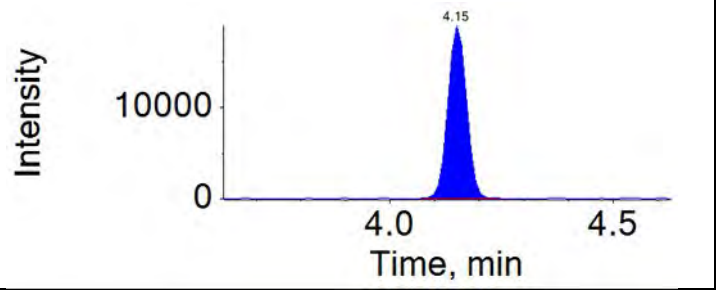
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

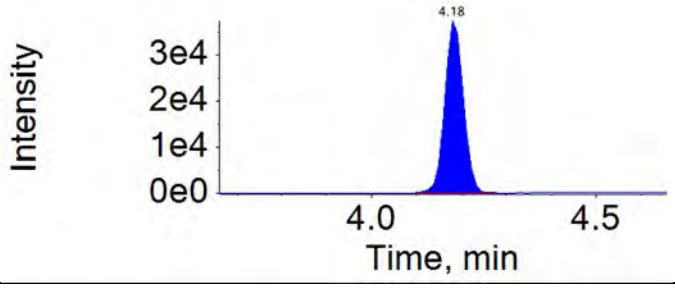
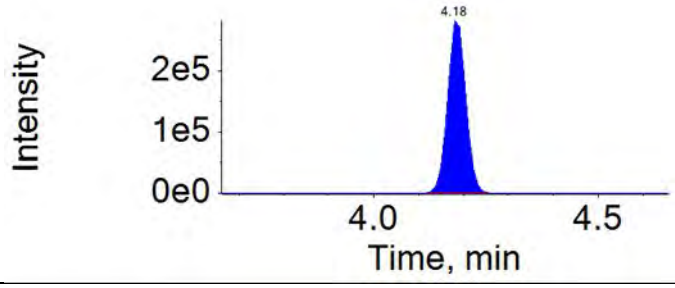


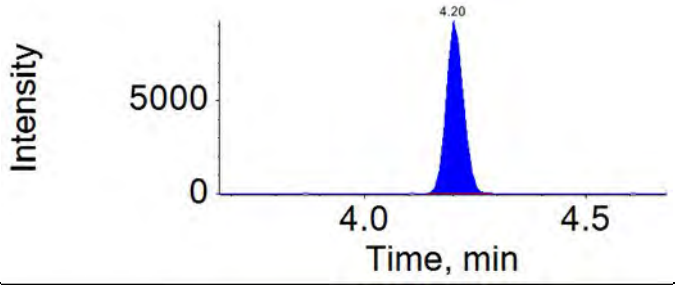
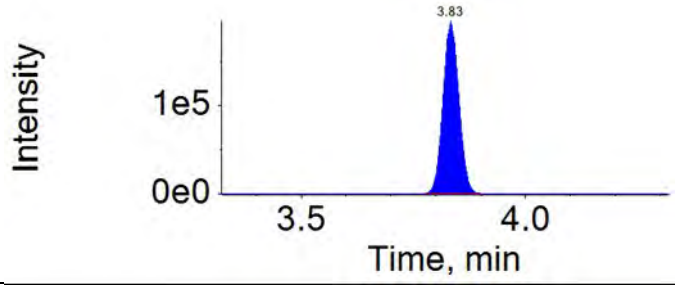


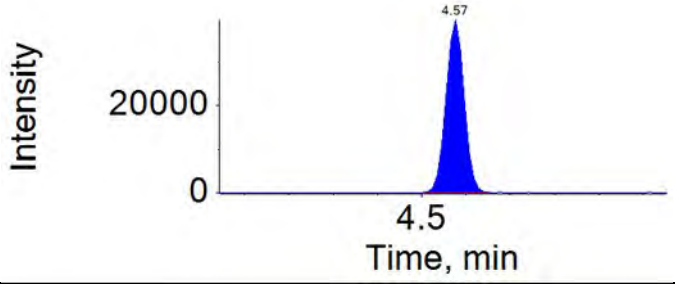
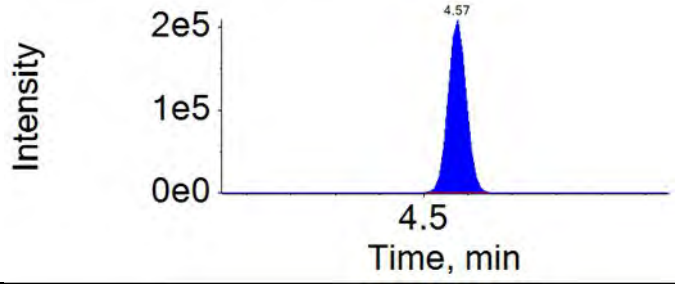
APPROVED
By MCD at 4:57 pm, 12/10/18

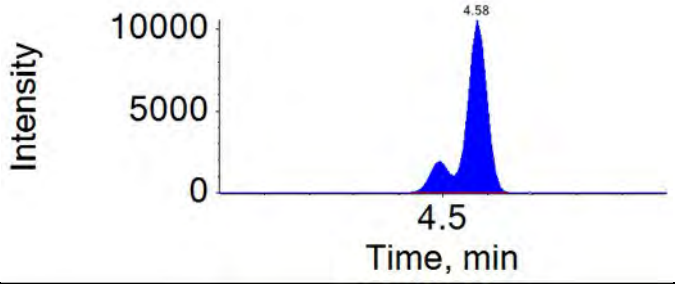
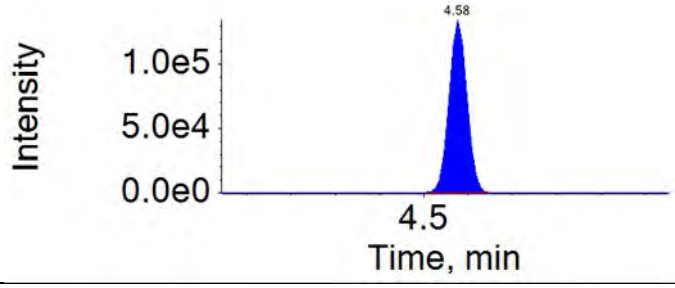
REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

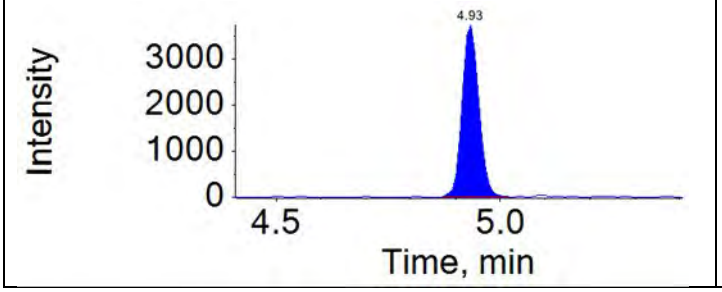
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

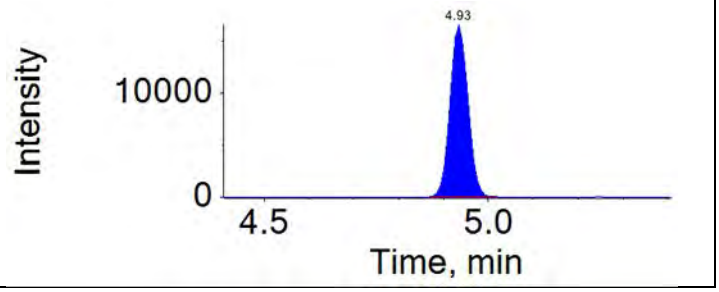
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

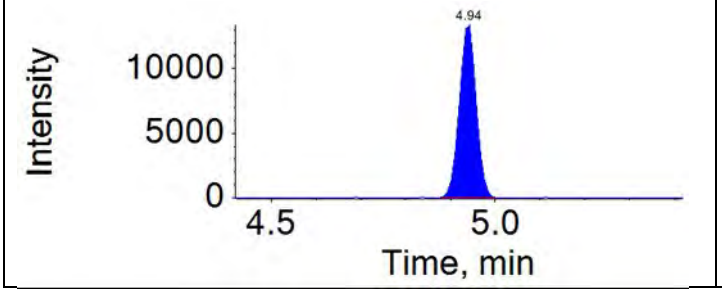
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

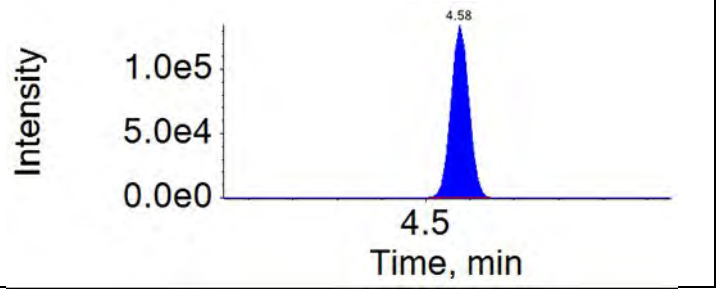
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



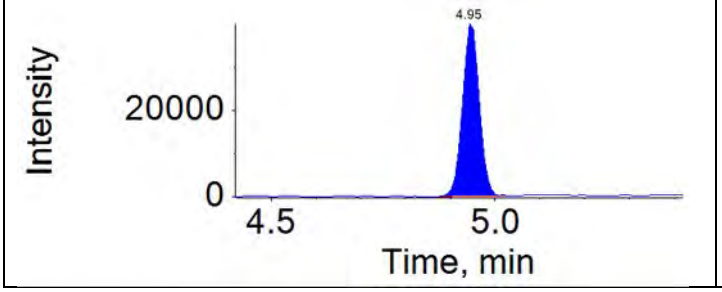


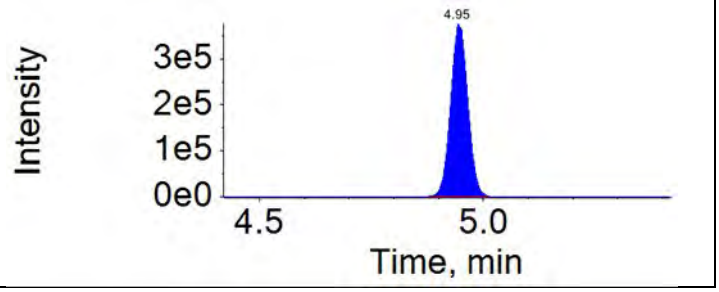
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



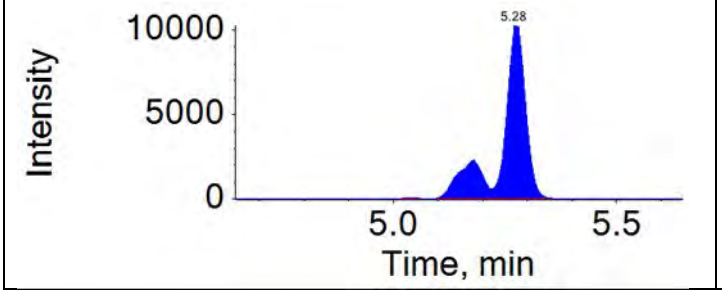


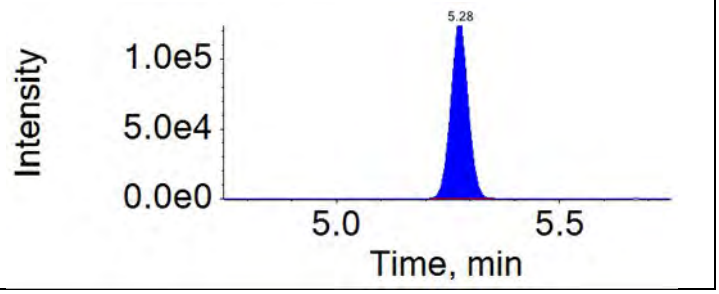
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



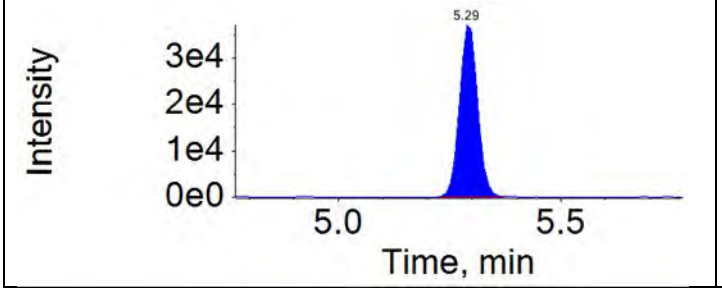


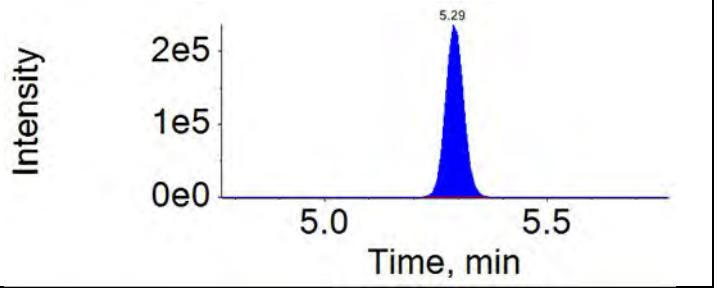
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

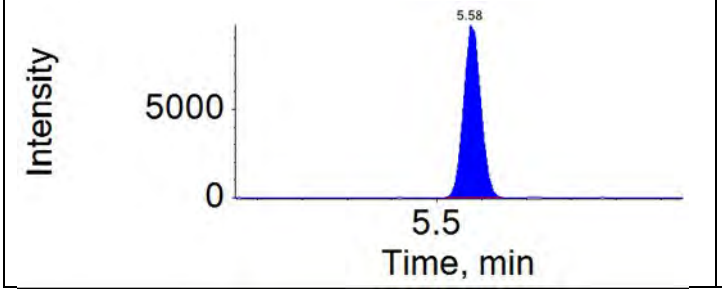
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

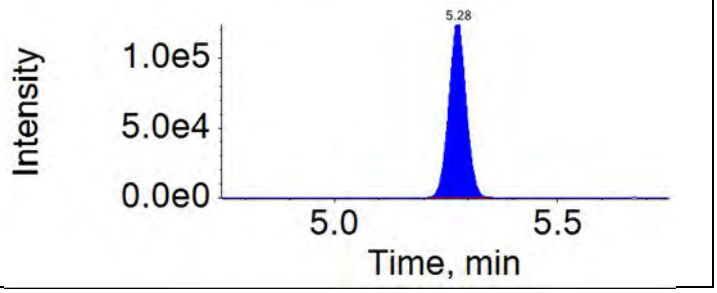
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



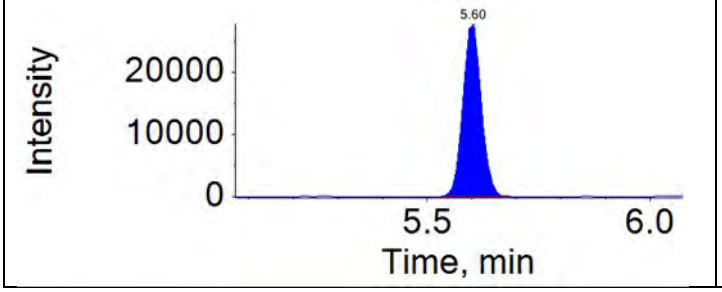


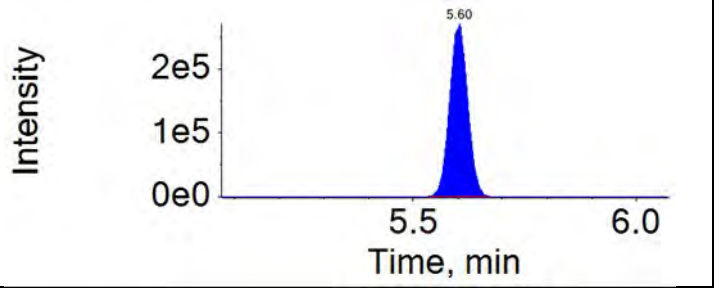
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



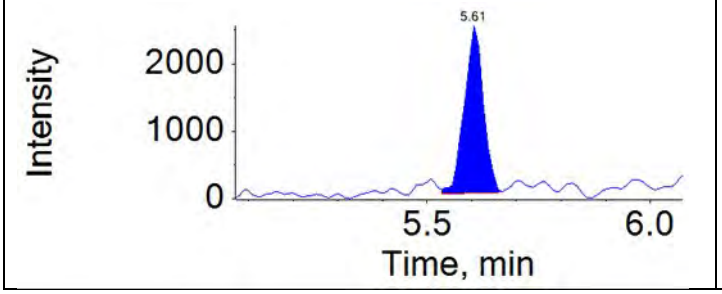


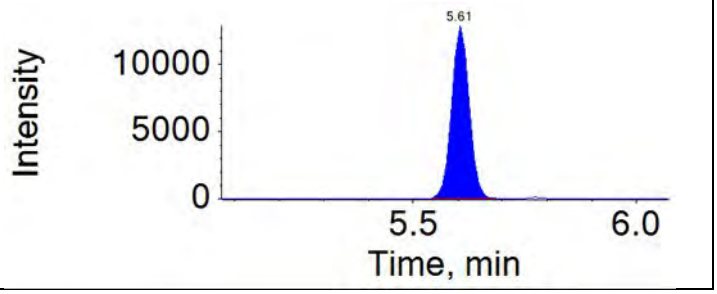
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



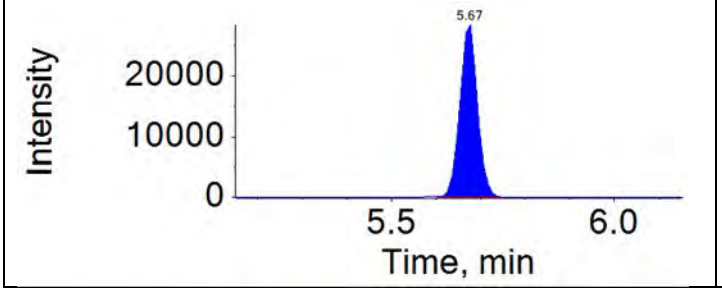


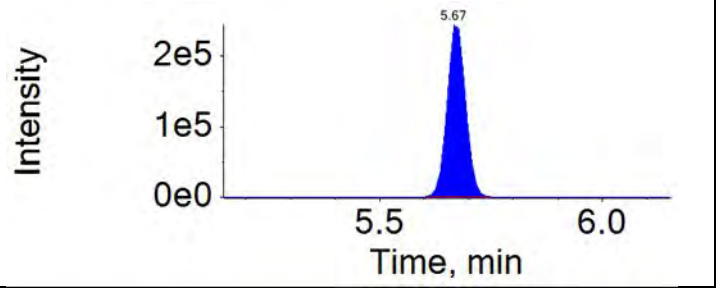
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

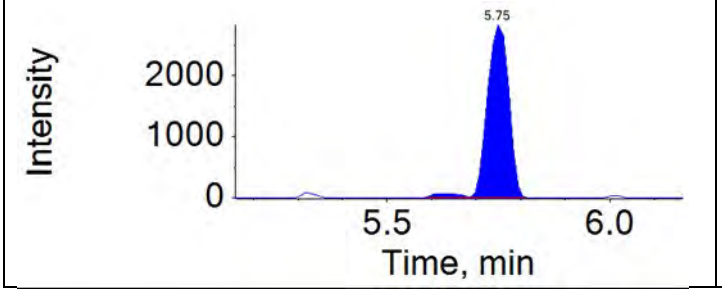
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

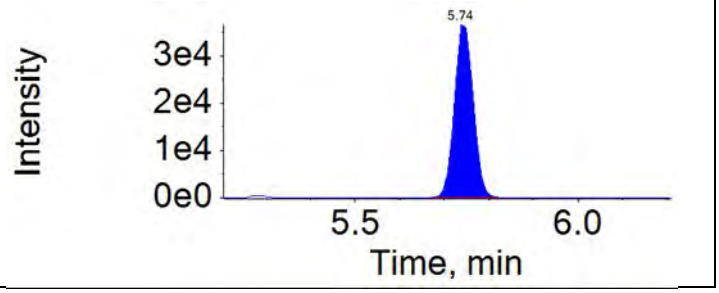
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



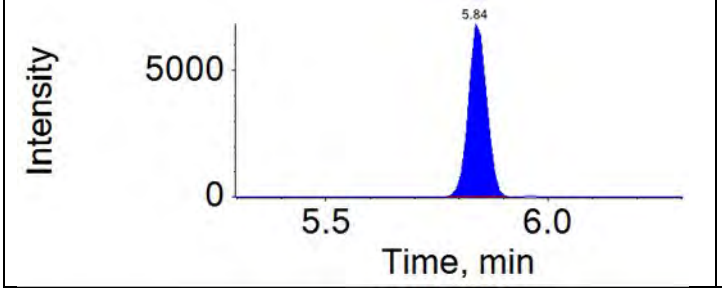


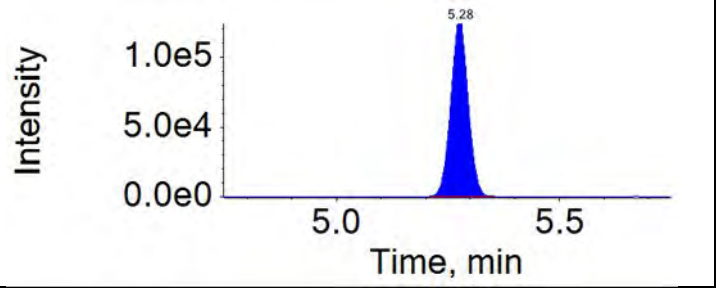
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



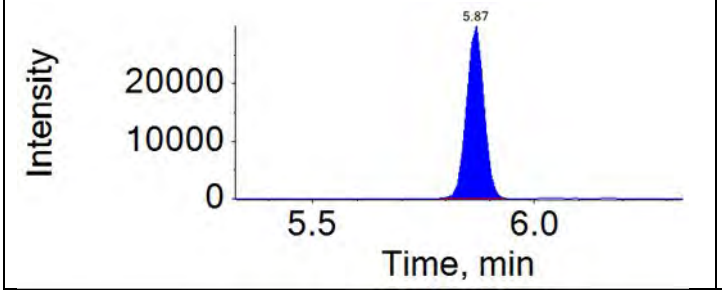


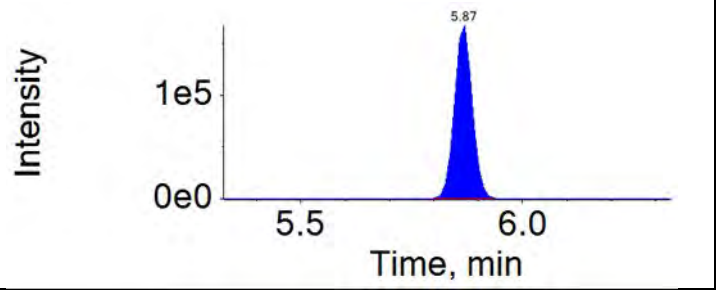
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



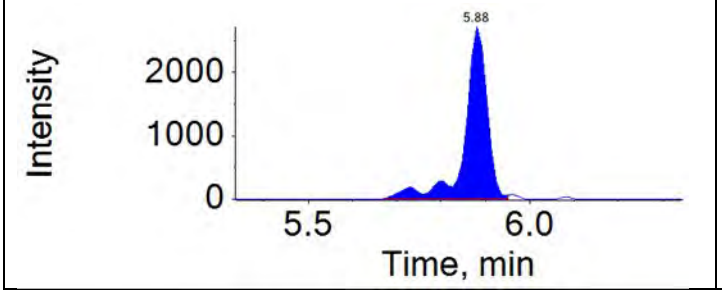


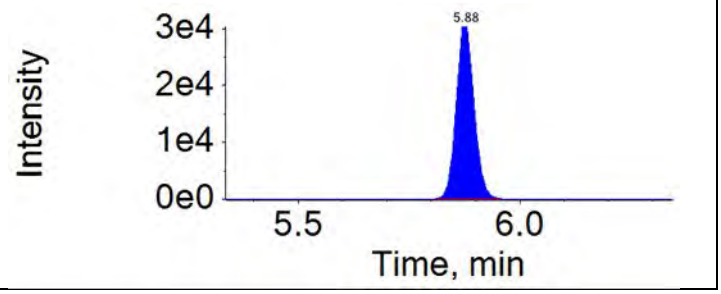
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

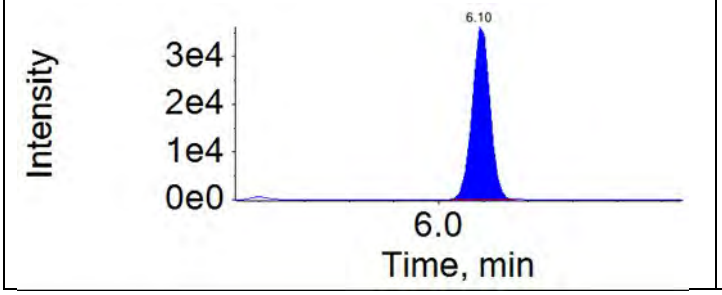
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

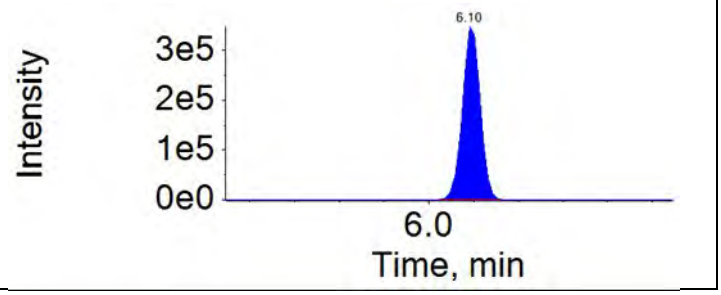
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



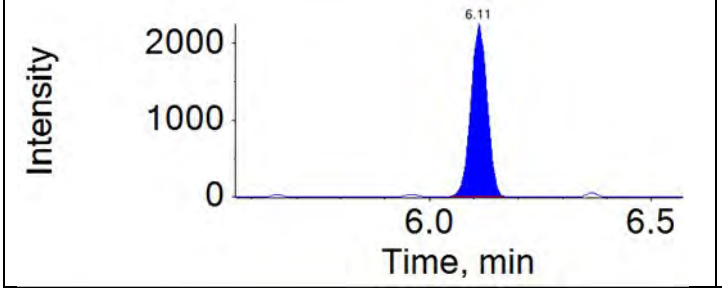


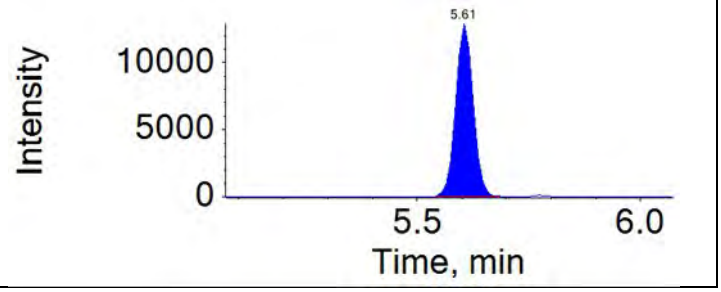
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



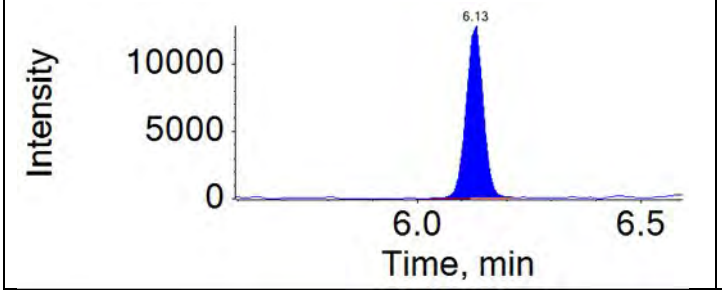


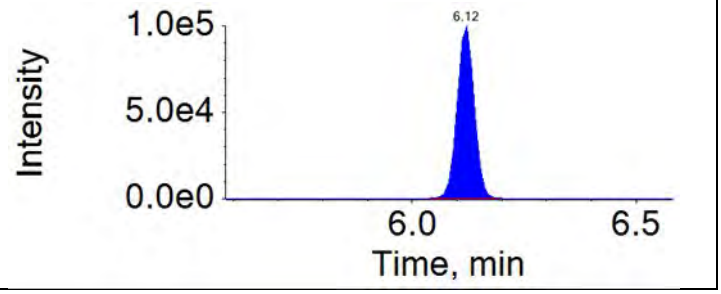
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



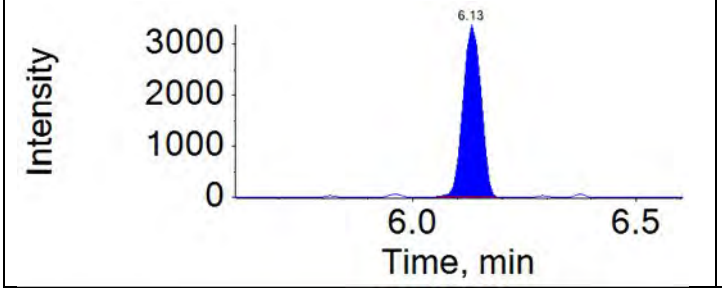


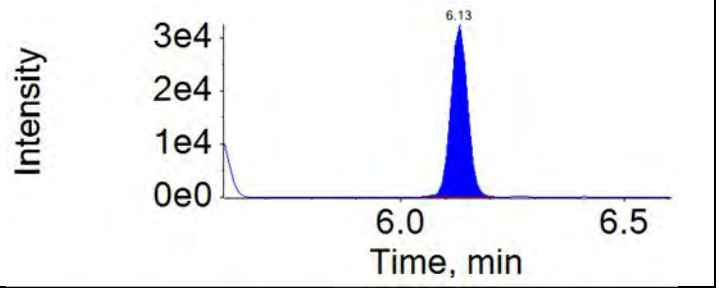
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

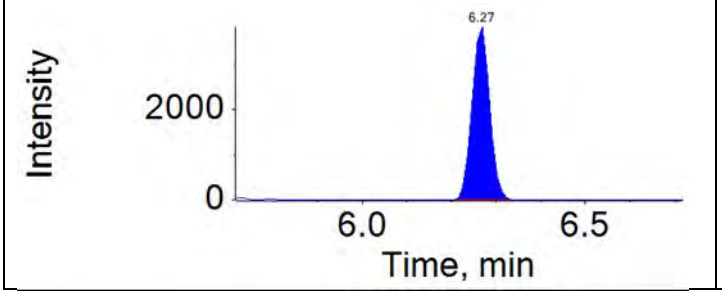
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

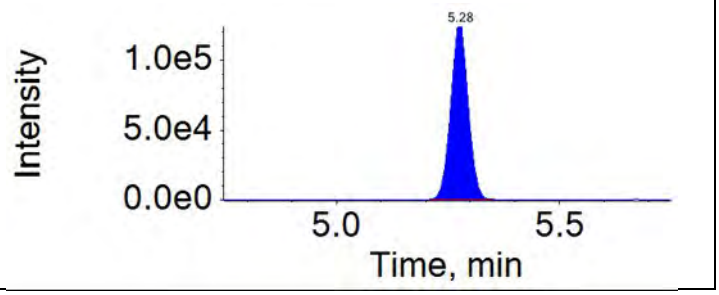
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



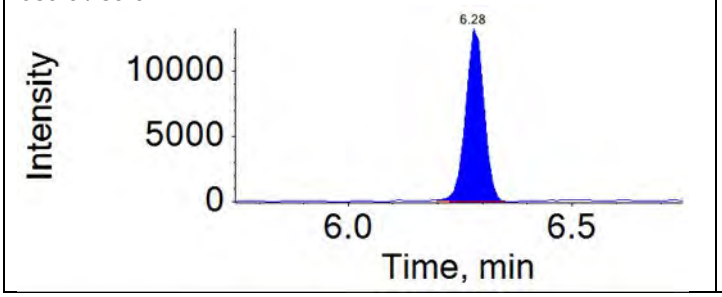


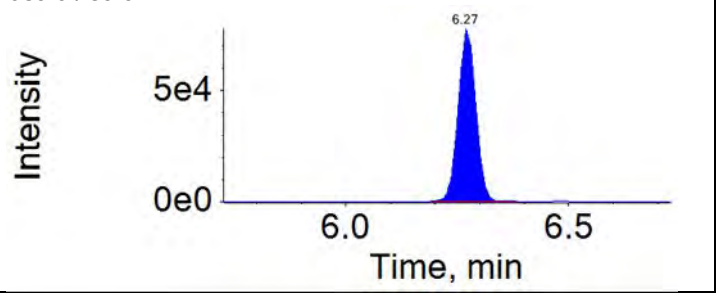
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



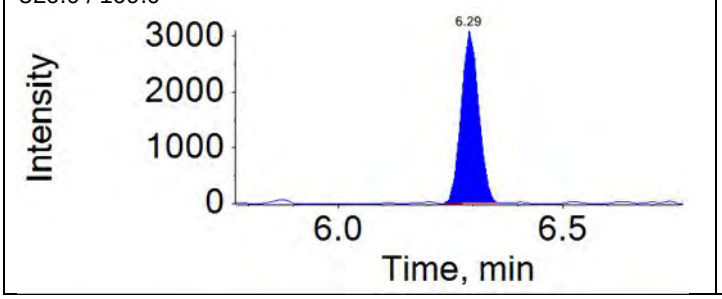


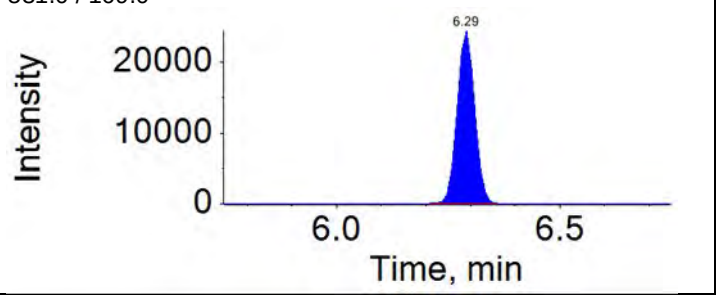
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



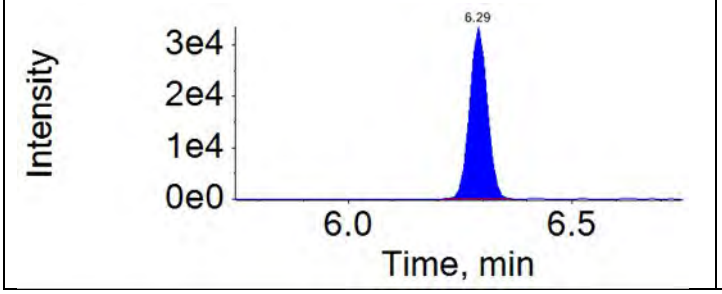


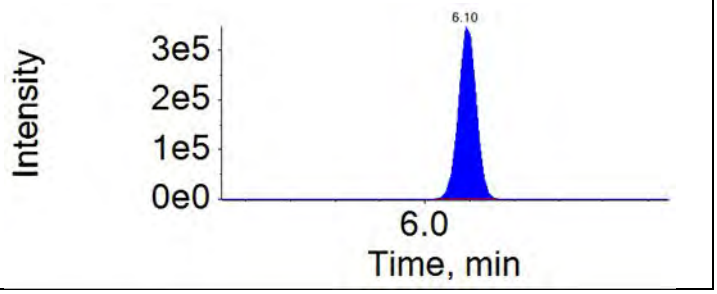
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

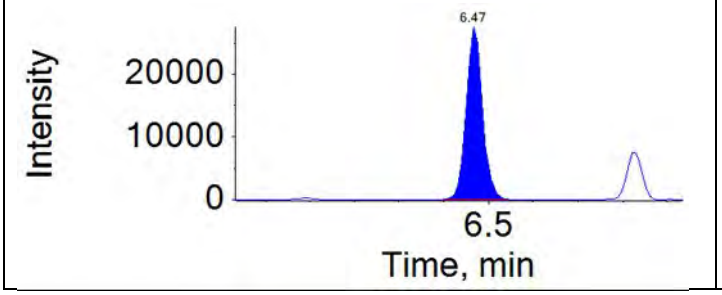
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

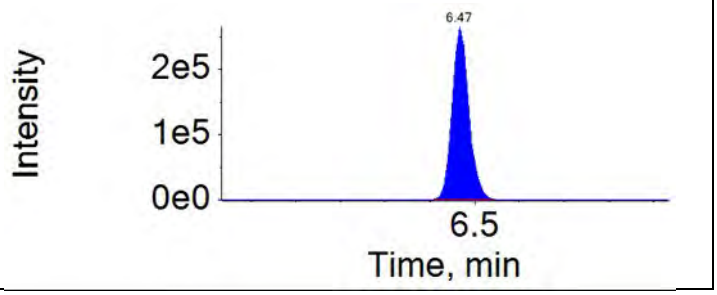
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



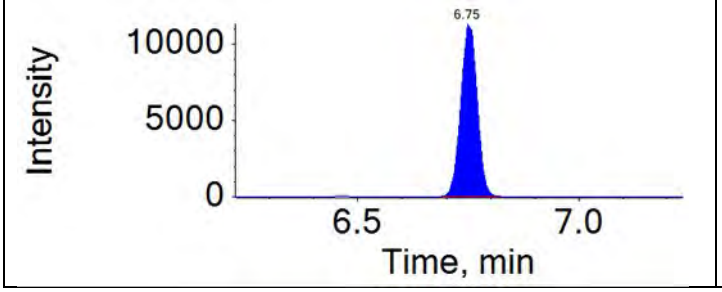


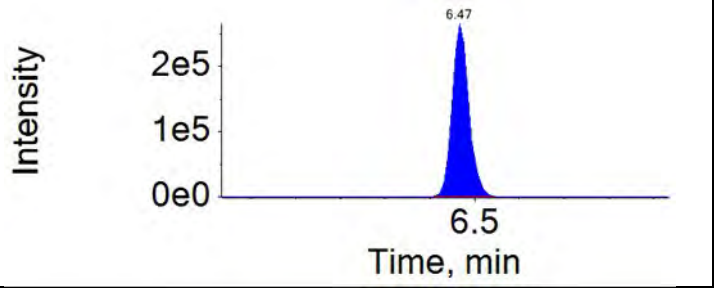
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



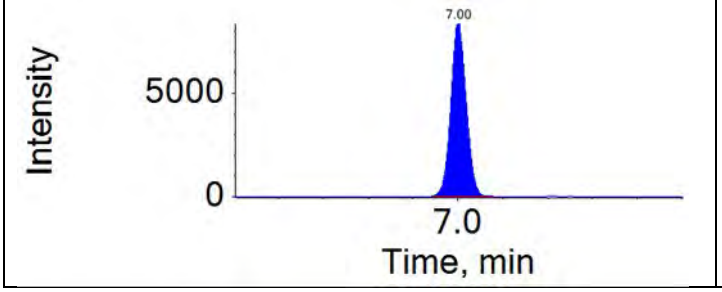


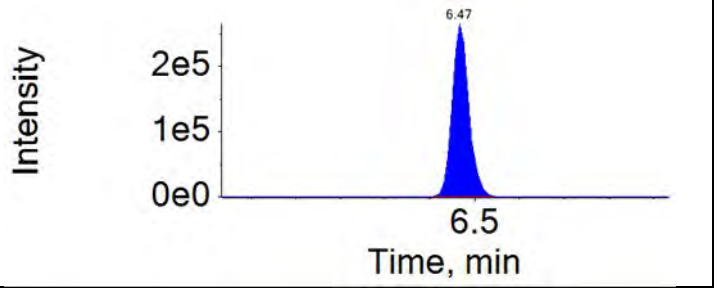
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



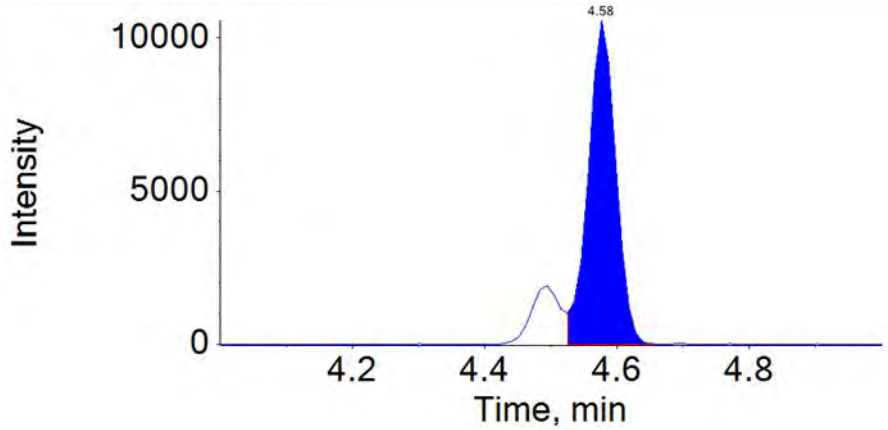


APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

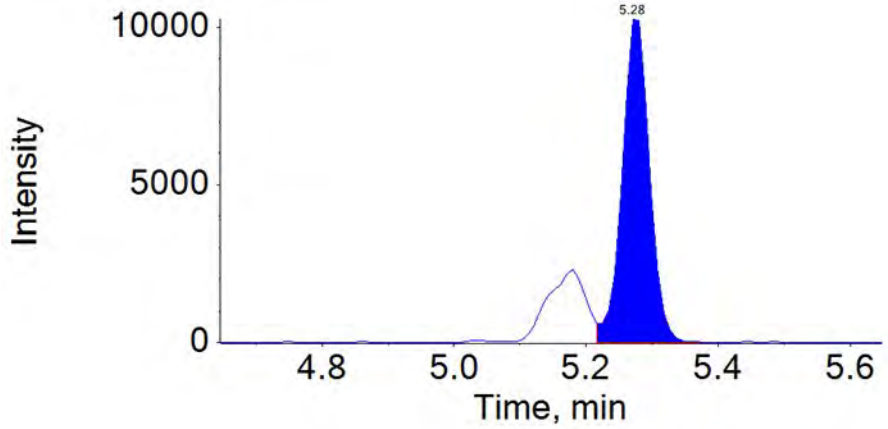
Results Table Name: 18DEC10DCCV1-3
Results Table Date: 12/10/2018 4:51:03 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.58
Peak Area:
30726.6
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



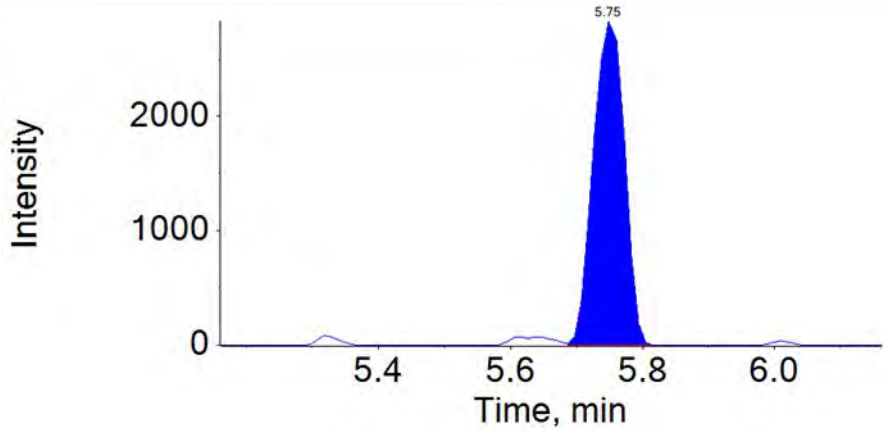
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.28
Peak Area:
29734.1
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.75
Peak Area:
9371.2
Mass Range:
570.0 / 419.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



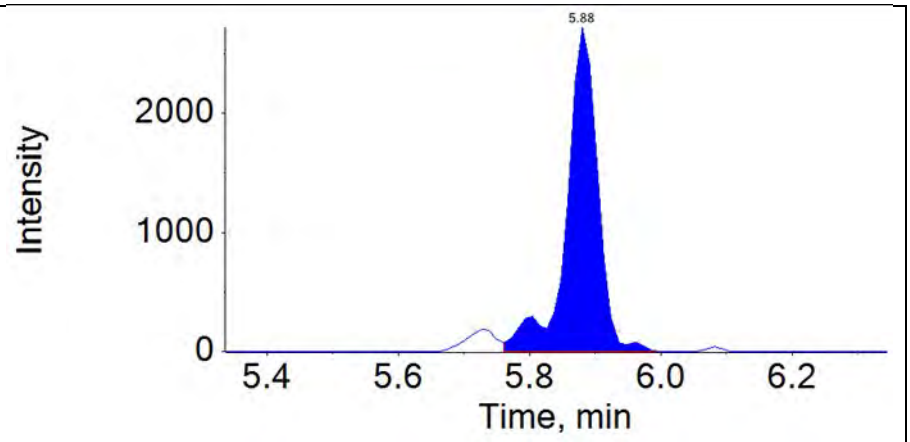
Integration Comment: incorrect integration

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

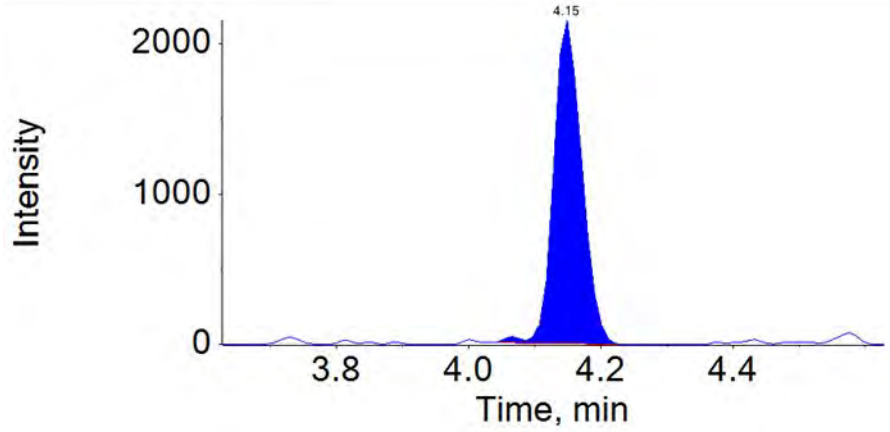
Results Table Name: 18DEC10DCCV1-3
Results Table Date: 12/10/2018 4:51:03 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.88
Peak Area:
9066.6
Mass Range:
584.0 / 419.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



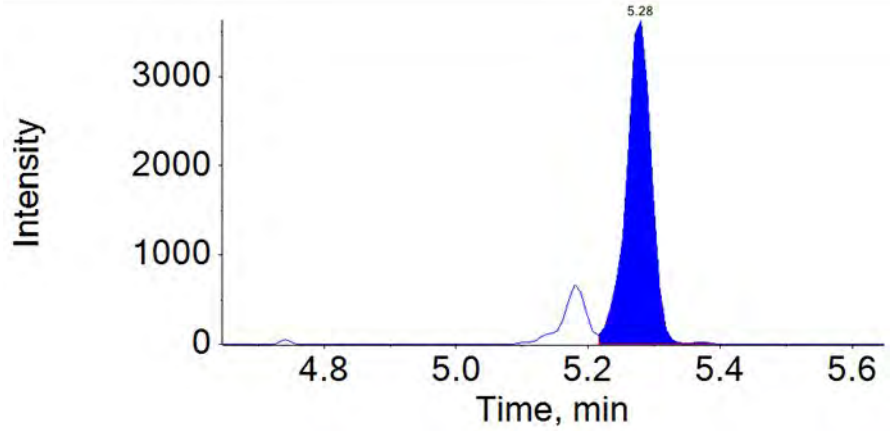
Integration Comment: incorrect integration

Component Name:
4:2-FTS_2
RT (min.):
4.15
Peak Area:
6376.7
Mass Range:
327.0 / 81.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.28
Peak Area:
9663.4
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



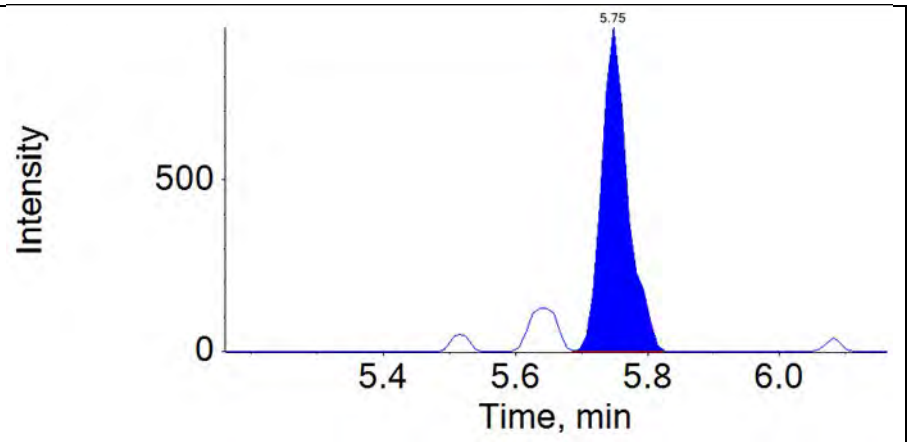
Integration Comment: incorrect integration

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

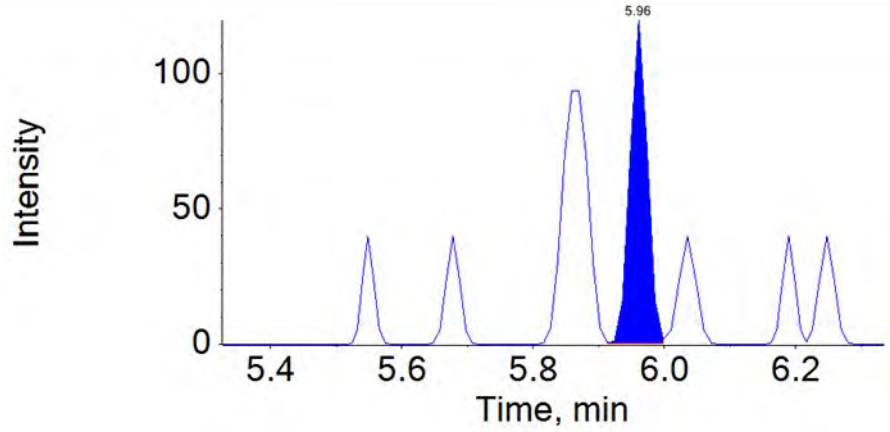
Results Table Name: 18DEC10DCCV1-3
Results Table Date: 12/10/2018 4:51:03 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.75
Peak Area:
2622.5
Mass Range:
570.0 / 483.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



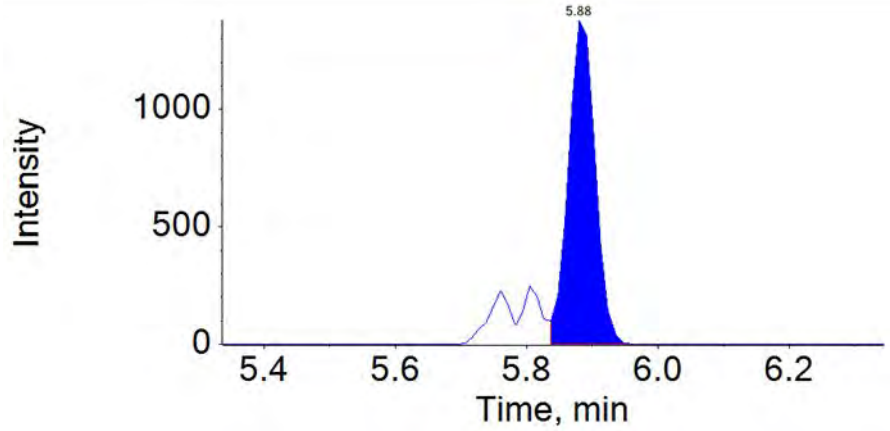
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
5.96
Peak Area:
220.4
Mass Range:
563.0 / 169.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.88
Peak Area:
3910.7
Mass Range:
584.0 / 526.0
File Name:
18DEC10D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

Results Table Name: 18DEC10DCCV1-3
Results Table Date: 12/10/2018 4:51:03 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

Ion Ratio Report

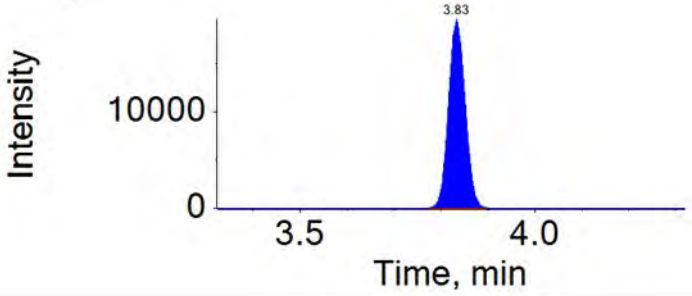
Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC10D-05.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.83	1.00	48022.9	A	N/A	0.3860			
PFBS_2	3.83	1.00	18538.2	A	N/A	0.3860	7	50	
4:2-FTS	4.15	1.00	9782.8	A	N/A	0.6492			
4:2-FTS_2	4.15	1.00	6351.0	M	N/A	0.6492	-2	50	
PFHxA	4.18	1.00	107212.6	A	N/A	0.0101			
PFHxA_2	4.19	1.00	1077.6	A	N/A	0.0101	13	50	
PFPeS	4.20	1.10	24856.6	A	N/A	0.6028			
PFPeS_2	4.20	1.10	14984.7	A	N/A	0.6028	14	50	
PFHpA	4.57	1.00	112514.7	A	N/A	0.0506			
PFHpA_2	4.58	1.00	5693.2	A	N/A	0.0506	-10	50	
PFHxS	4.58	1.00	36546.8	M	N/A	0.3649			
PFHxS_2	4.58	1.00	13335.0	A	N/A	0.3649	-1	50	
6:2-FTS	4.93	1.00	9669.0	A	N/A	0.6124			
6:2-FTS_2	4.93	1.00	5921.2	A	N/A	0.6124	-1	50	
PFHpS	4.94	1.08	34996.2	A	N/A	0.3680			
PFHpS_2	4.94	1.08	12878.3	A	N/A	0.3680	-12	50	
PFOA	4.95	1.00	103009.6	A	N/A	0.0547			
PFOA_2	4.95	1.00	5636.8	A	N/A	0.0547	-11	50	
PFOS	5.28	1.00	39075.4	M	N/A	0.2888			
PFOS_2	5.28	1.00	11284.9	M	N/A	0.2888	-5	50	
PFNA	5.29	1.00	104992.6	A	N/A	0.0169			
PFNA_2	5.29	1.00	1773.9	A	N/A	0.0169	-10	50	
PFNS	5.58	1.06	25945.4	A	N/A	0.4719			
PFNS_2	5.58	1.06	12242.9	A	N/A	0.4719	-5	50	
PFDA	5.60	1.00	79951.3	A	N/A	0.0042			
PFDA_2	5.60	1.00	333.6	A	N/A	0.0042	-60	50	OOS
8:2-FTS	5.61	1.00	7335.4	A	N/A	0.7641			
8:2-FTS_2	5.61	1.00	5604.7	A	N/A	0.7641	22	50	
NMeFOSAA	5.75	1.00	9690.2	M	N/A	0.3099			
NMeFOSAA_2	5.75	1.00	3003.2	M	N/A	0.3099	18	50	
PFDS	5.84	1.11	19421.3	A	N/A	0.5084			
PFDS_2	5.84	1.11	9873.5	A	N/A	0.5084	2	50	
PFUnDA	5.87	1.00	81510.2	A	N/A	0.0032			
PFUnDA_2	5.86	1.00	259.6	M	N/A	0.0032	-24	50	
NEtFOSAA	5.88	1.00	9540.6	M	N/A	0.5185			
NEtFOSAA_2	5.88	1.00	4946.6	M	N/A	0.5185	-24	50	
PFDoDA	6.10	1.00	99734.2	A	N/A	0.0137			
PFDoDA_2	6.10	1.00	1362.3	A	N/A	0.0137	2	50	
10:2-FTS	6.11	1.09	5691.7	A	N/A	0.8498			
10:2-FTS_2	6.11	1.09	4836.9	A	N/A	0.8498	23	50	
PFTrDA	6.29	1.03	91558.4	A	N/A	0.0124			
PFTrDA_2	6.28	1.03	1136.6	A	N/A	0.0124	80	50	OOS
PFTeDA	6.47	1.00	69114.8	A	N/A	0.0074			
PFTeDA_2	6.47	1.00	508.5	A	N/A	0.0074	10	50	
PFHxDA	6.75	1.04	29111.2	A	N/A	0.0567			
PFHxDA_2	6.75	1.04	1650.5	A	N/A	0.0567	-6	50	
PFODA	7.00	1.08	19993.7	A	N/A	0.0262			
PFODA_2	7.00	1.08	524.3	A	N/A	0.0262	-5	50	

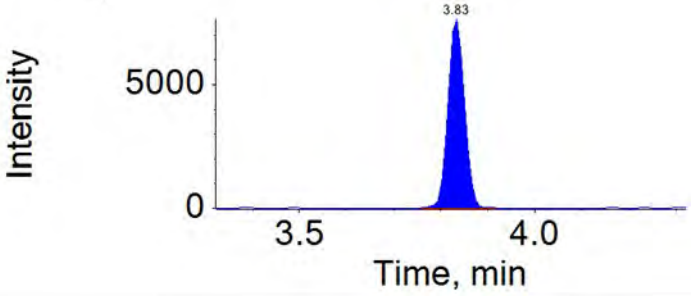
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

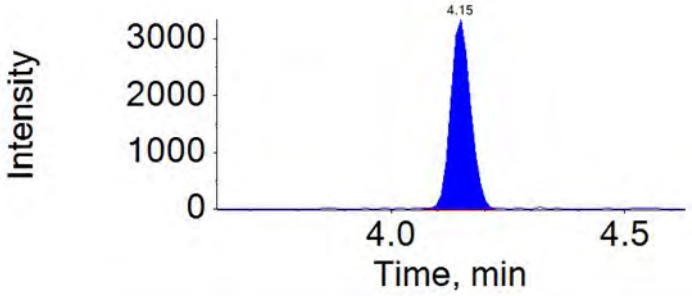
Component: PFBS
Primary Mass: 299.0 / 80.0



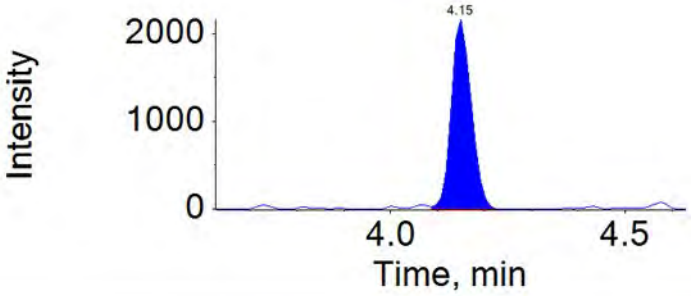
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



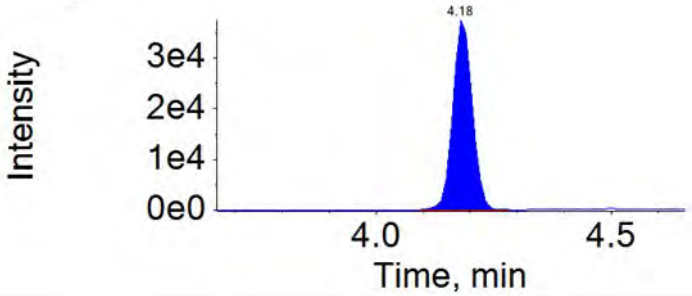
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



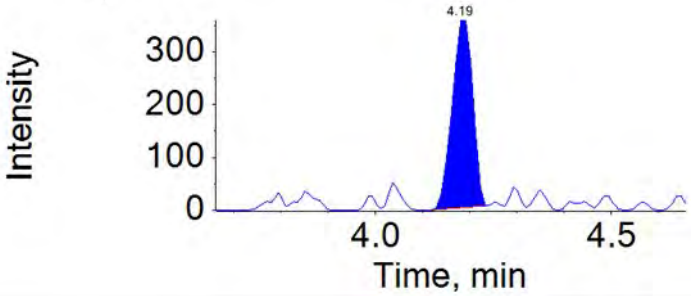
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



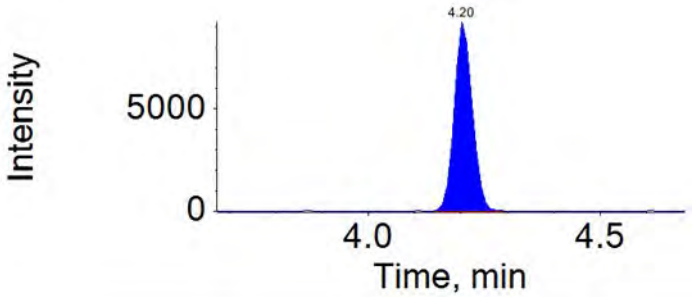
Component: PFHxA
Primary Mass: 313.0 / 269.0



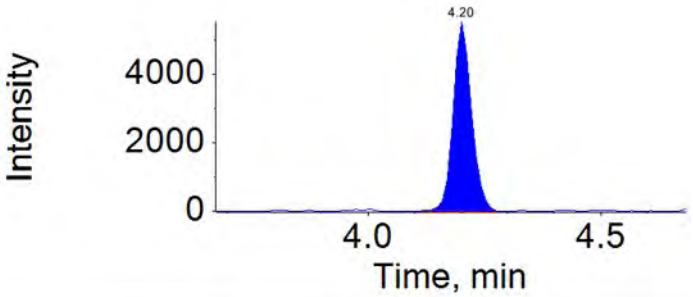
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



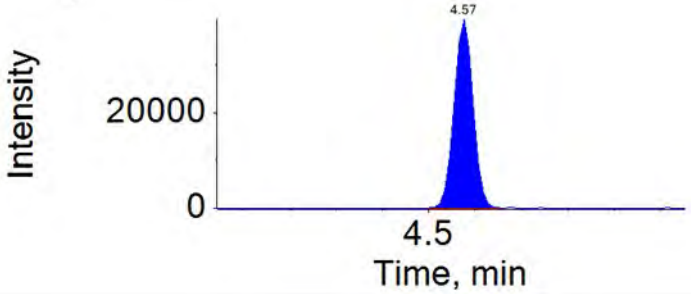
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



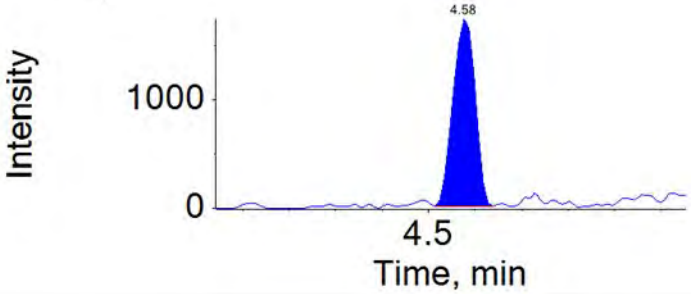
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

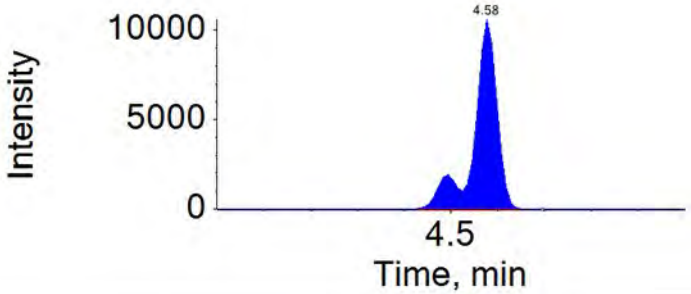
Component: PFHpA
Primary Mass: 363.0 / 319.0



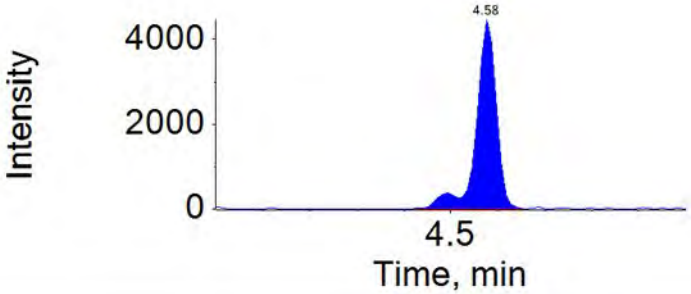
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



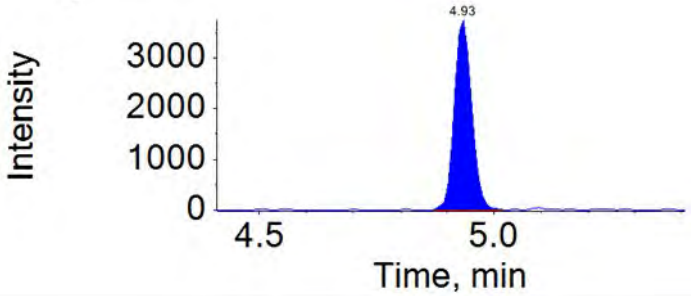
Component: PFHxS
Primary Mass: 399.0 / 80.0



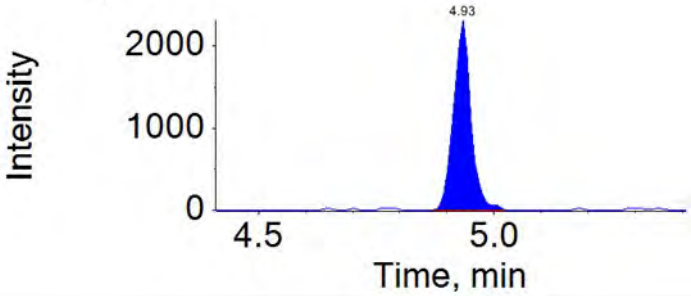
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



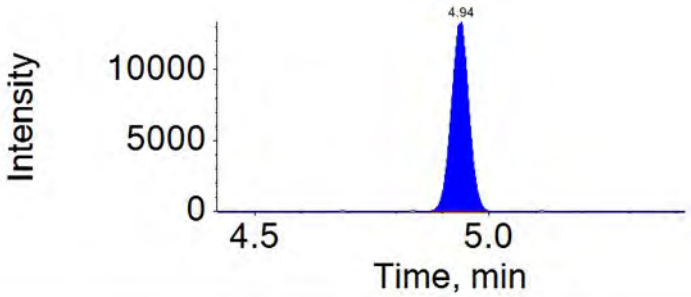
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



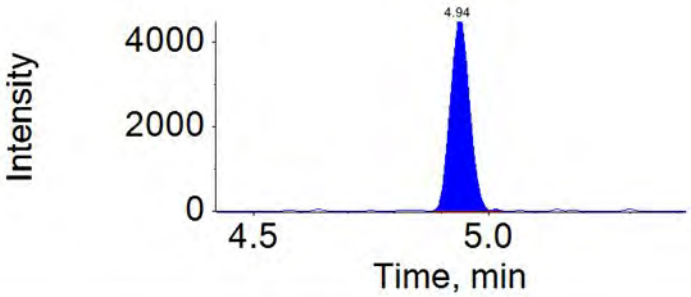
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



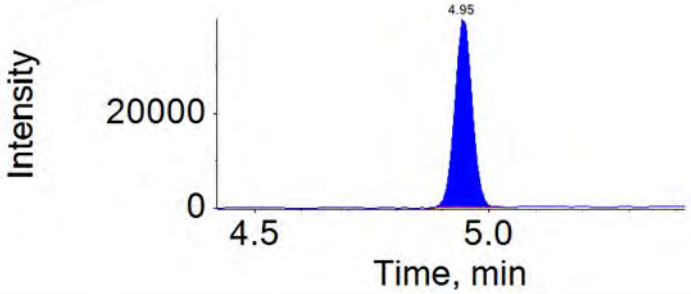
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



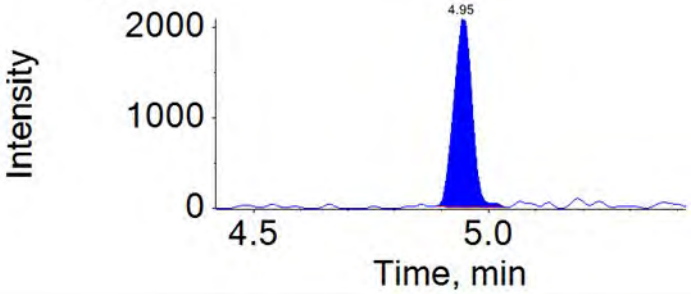
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

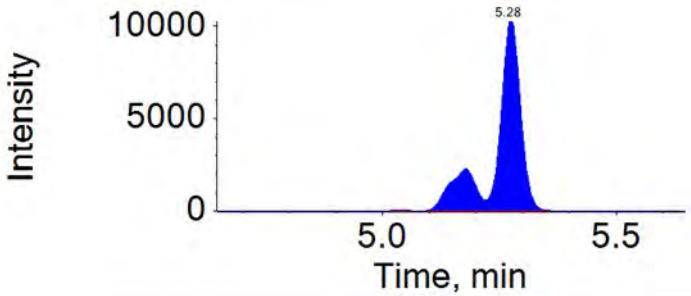
Component: PFOA
Primary Mass: 413.0 / 369.0



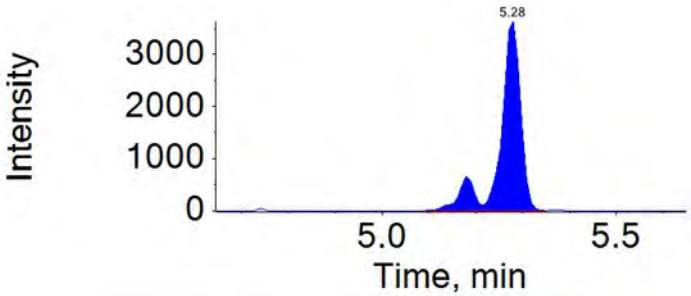
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



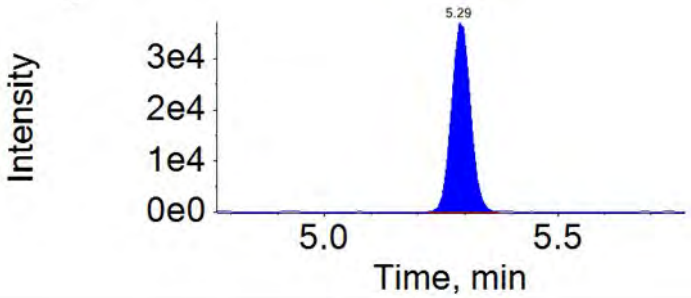
Component: PFOS
Primary Mass: 499.0 / 80.0



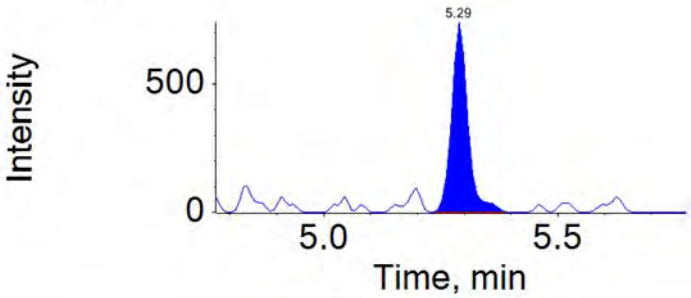
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



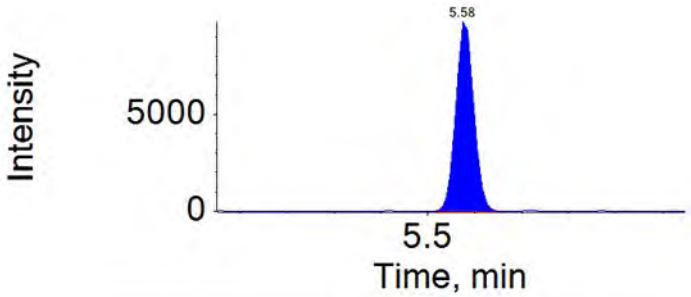
Component: PFNA
Primary Mass: 463.0 / 419.0



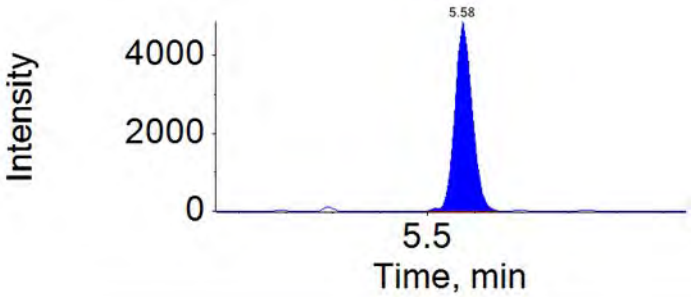
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



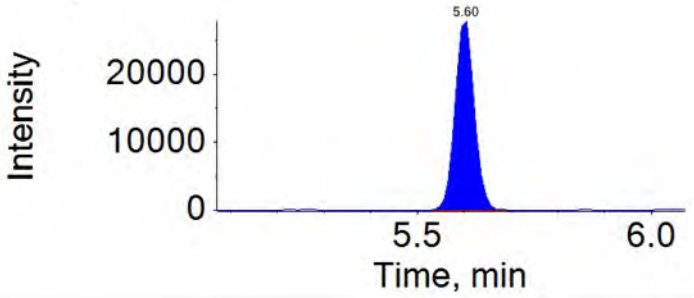
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



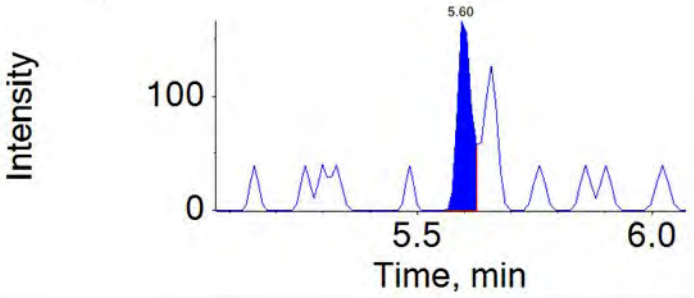
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

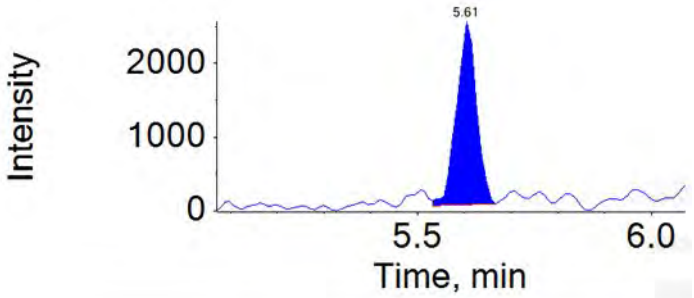
Component: PFDA
Primary Mass: 513.0 / 469.0



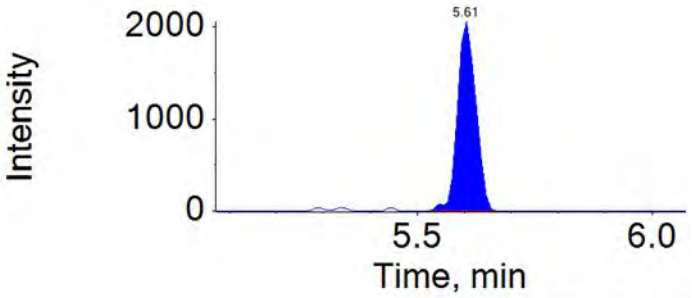
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



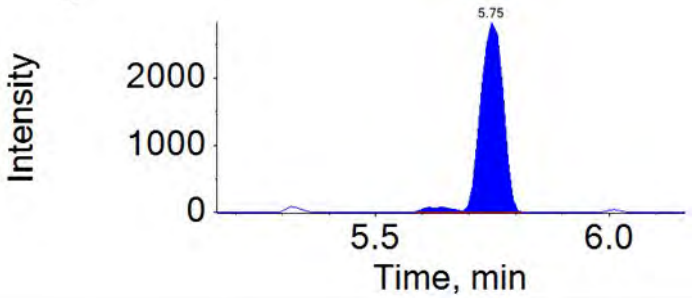
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



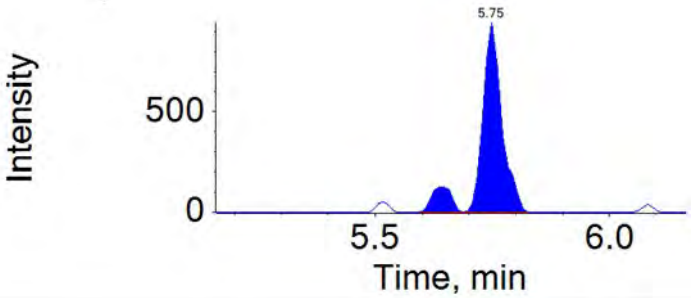
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



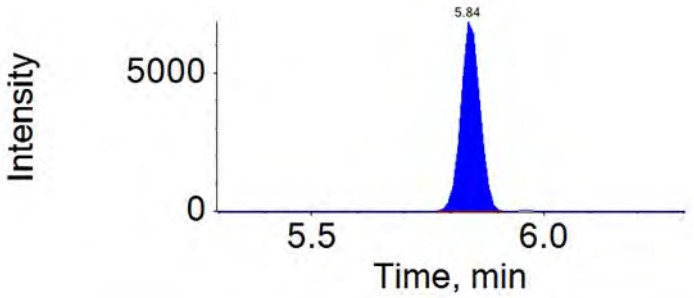
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



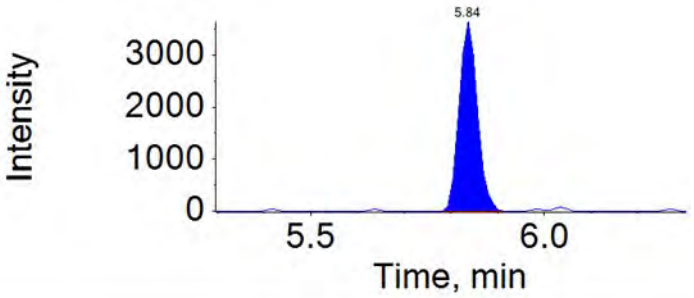
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



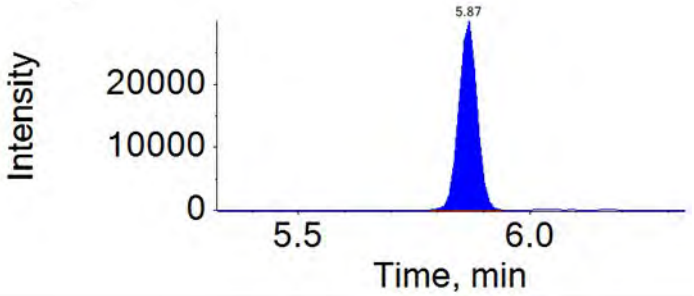
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



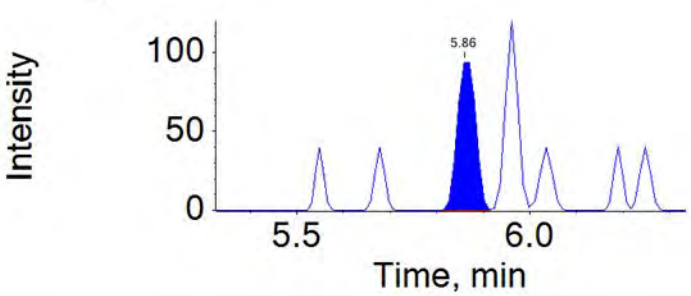
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

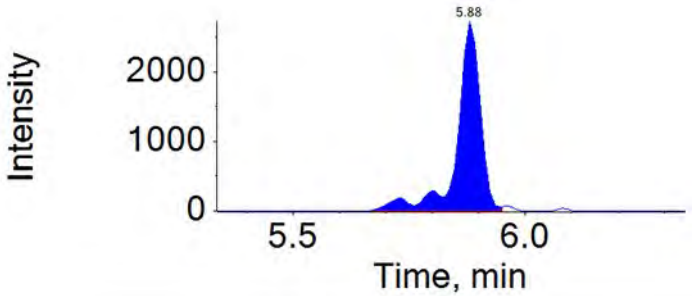
Component: PFUnDA
Primary Mass: 563.0 / 519.0



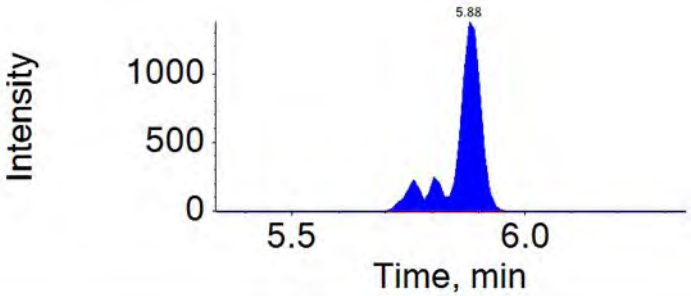
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



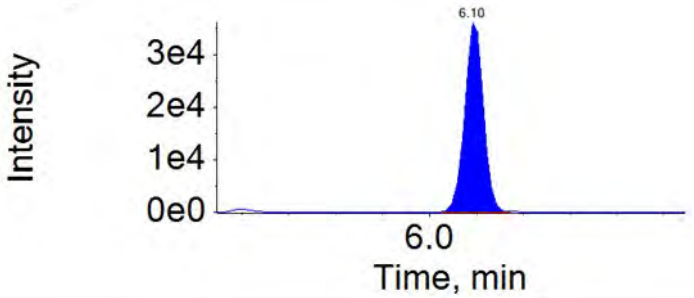
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



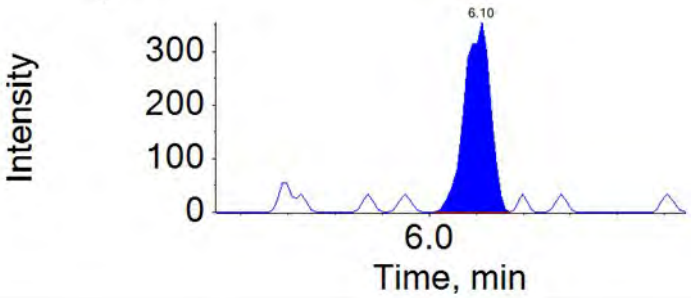
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



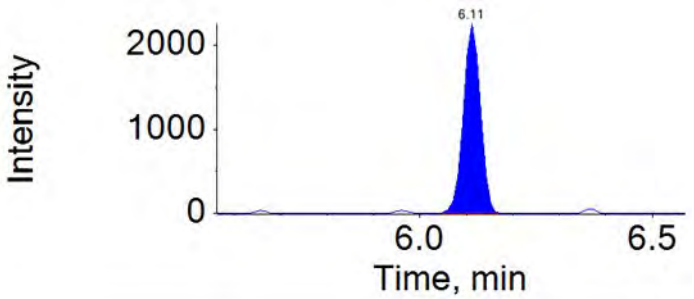
Component: PFDoDA
Primary Mass: 613.0 / 569.0



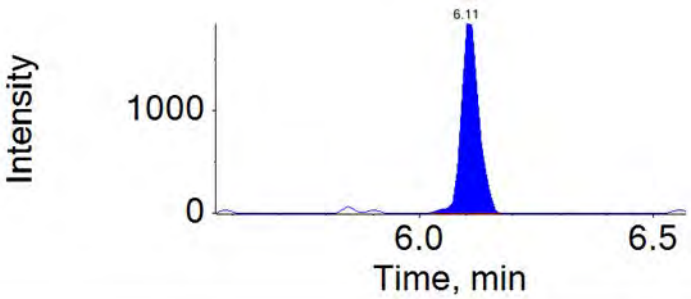
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



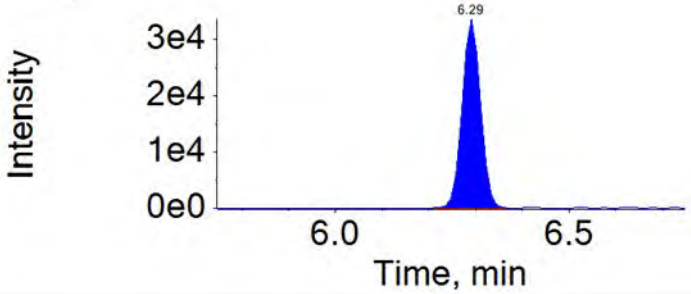
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



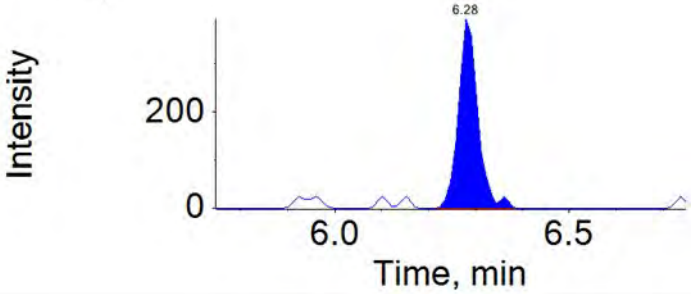
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

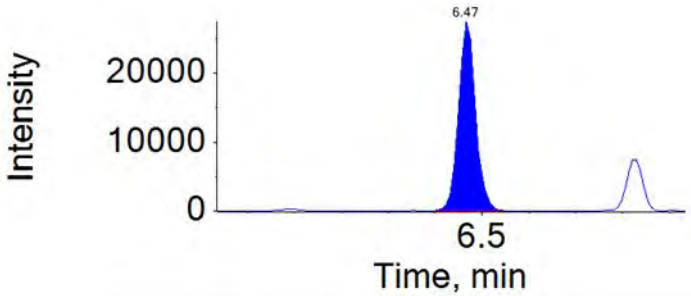
Component: PFTrDA
Primary Mass: 663.0 / 619.0



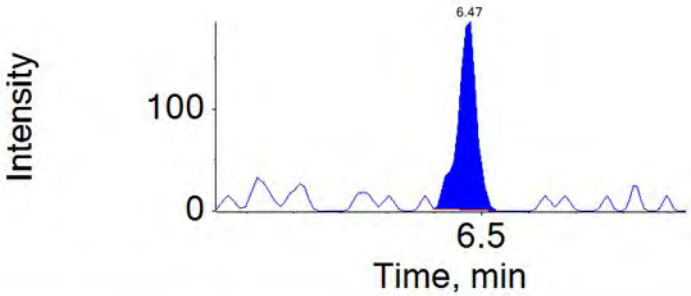
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



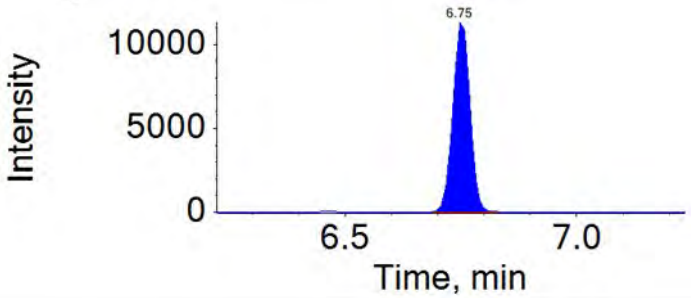
Component: PFTeDA
Primary Mass: 713.0 / 669.0



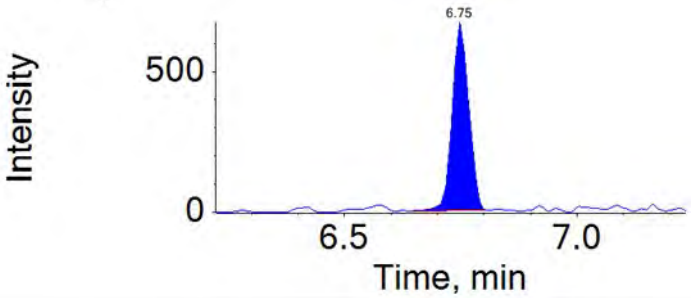
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



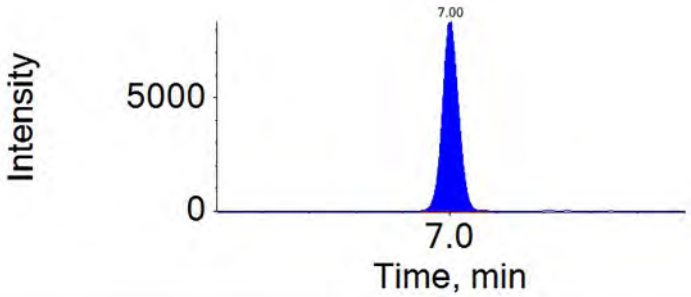
Component: PFHxDA
Primary Mass: 813.0 / 769.0



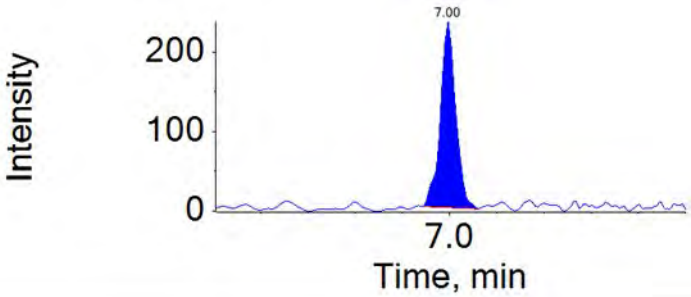
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC10D-06.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-12-10T13:18:15
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC10DCCV1-3
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1067160.7	968978.6	10	50	
13C2-PFOA	5.0	539138.6	507254.2	6	50	
13C4-PFOS	4.8	341496.2	302410.5	13	50	
13C2-PFDA	5.0	451635.8	392614.4	15	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1151959.3	13C3-PFBA	1067160.7	1.079	5.000	4.777	96	70-130	
E13C5-PFPeA	1044077.7	13C3-PFBA	1067160.7	0.978	5.000	4.647	93	70-130	
E13C3-PFBS	464834.7	13C3-PFBA	1067160.7	0.436	4.650	3.692	79	70-130	
E13C2-4:2-FTS	57192.7	13C2-PFOA	539138.6	0.106	4.670	4.157	89	70-130	
E13C5-PFHxA	738475.9	13C2-PFOA	539138.6	1.370	5.000	4.599	92	70-130	
E13C3-PFHxS	375949.1	13C2-PFOA	539138.6	0.697	4.730	4.473	95	70-130	
E13C4-PFHpA	596998.7	13C2-PFOA	539138.6	1.107	5.000	4.708	94	70-130	
E13C2-6:2-FTS	47637.6	13C2-PFOA	539138.6	0.088	4.750	5.474	115	70-130	
E13C8-PFOA	989050.0	13C2-PFOA	539138.6	1.835	5.000	5.186	104	70-130	
E13C8-PFOS	351989.7	13C4-PFOS	341496.2	1.031	4.780	4.626	97	70-130	
E13C9-PFNA	637969.6	13C4-PFOS	341496.2	1.868	5.000	5.279	106	70-130	
E13C6-PFDA	794501.4	13C2-PFDA	451635.8	1.759	5.000	4.662	93	70-130	
E13C2-8:2-FTS	32452.0	13C2-PFDA	451635.8	0.072	4.790	4.691	98	70-130	
E13C8-PFOSA	684557.0	13C2-PFDA	451635.8	1.516	5.000	3.585	72	70-130	
Ed3-NMeFOSAA	138687.3	13C2-PFDA	451635.8	0.307	5.000	5.442	109	70-130	
E13C7-PFUnDA	458089.6	13C2-PFDA	451635.8	1.014	5.000	4.976	100	70-130	
Ed5-NEtFOSAA	85717.5	13C2-PFDA	451635.8	0.190	5.000	4.190	84	70-130	
E13C2-PFDoDA	954535.2	13C2-PFDA	451635.8	2.114	5.000	4.435	89	70-130	
Ed7-NMePFOSAE	250737.8	13C2-PFDA	451635.8	0.555	5.000	3.198	64	70-130	OOS
Ed3-NMePFOSA	89114.8	13C2-PFDA	451635.8	0.197	5.000	3.595	72	70-130	
Ed9-NEtPFOSAE	218716.1	13C2-PFDA	451635.8	0.484	5.000	3.339	67	70-130	OOS
Ed5-NEtPFOSA	70886.0	13C2-PFDA	451635.8	0.157	5.000	3.532	71	70-130	
E13C2-PFTeDA	656280.2	13C2-PFDA	451635.8	1.453	5.000	4.313	86	70-130	

APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

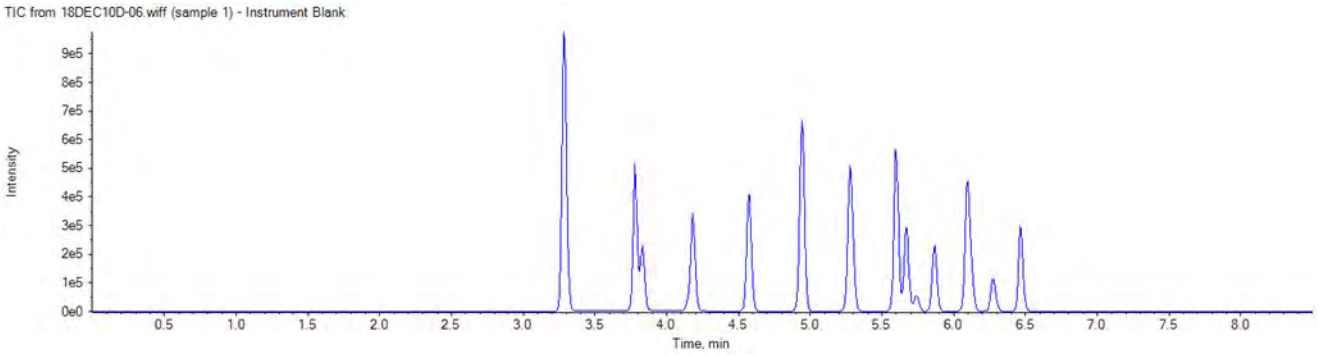
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC10D-06.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.28	1151959.3	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.78	1044077.7	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.83	464834.7	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.15	57192.7	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.18	738475.9	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.83	464834.7	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.57	596998.7	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.57	375949.1	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.93	47637.6	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.57	375949.1	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.94	989050.0	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.27	351989.7	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.29	637969.6	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.27	351989.7	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.60	794501.4	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.60	32452.0	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.67	684557.0	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.74	138687.3	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.27	351989.7	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.86	458089.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.88	85717.5	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.09	954535.2	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.60	32452.0	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.12	250737.8	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.13	89114.8	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.27	351989.7	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.27	218716.1	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.29	70886.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.09	954535.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.47	656280.2	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.47	656280.2	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.47	656280.2	N/A	

Total Ion Chromatogram

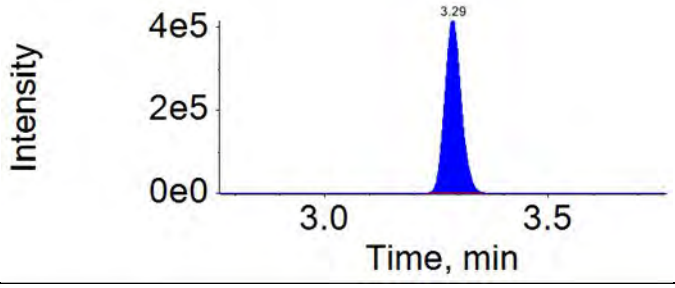


APPROVED
By MCD at 4:57 pm, 12/10/18

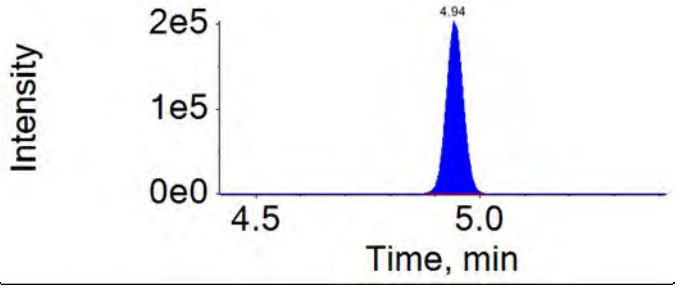
REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

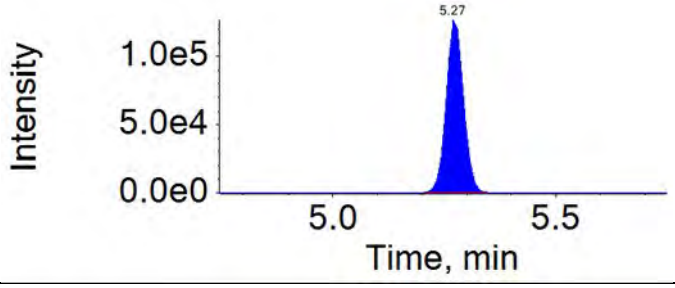
Injection Standard: 13C3-PFBA
216.0 / 172.0



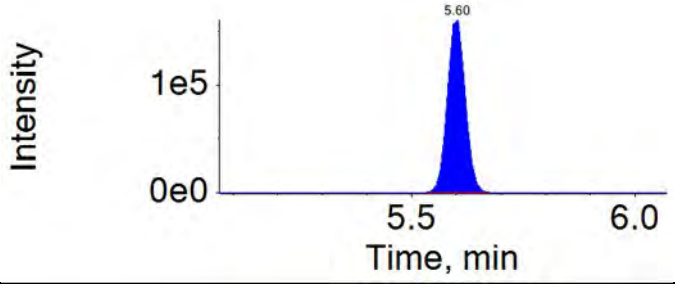
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

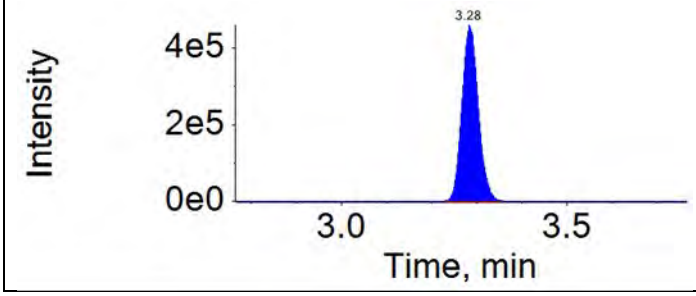


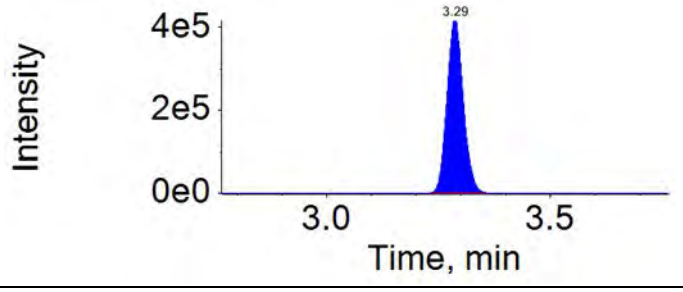
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

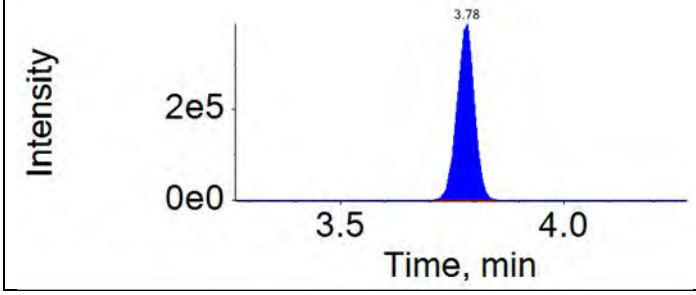
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

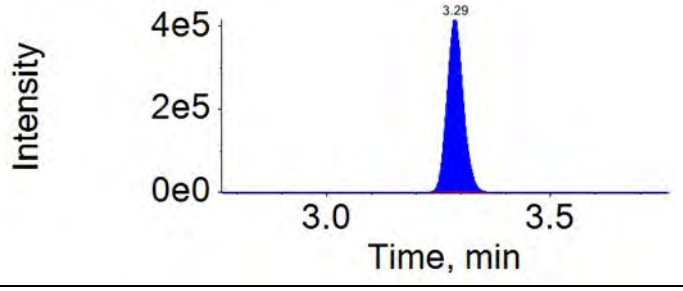
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



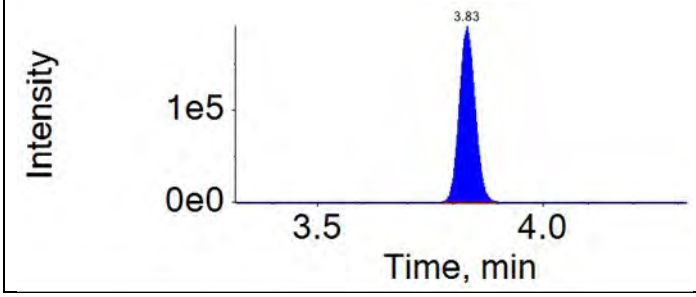


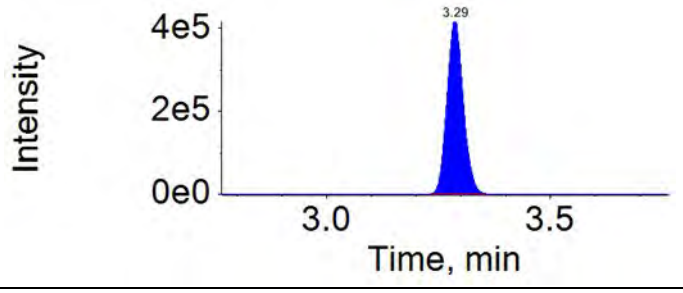
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



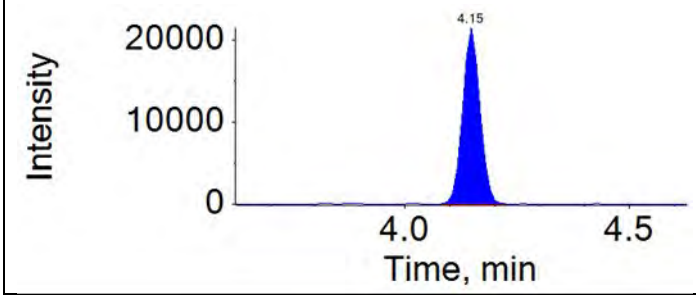


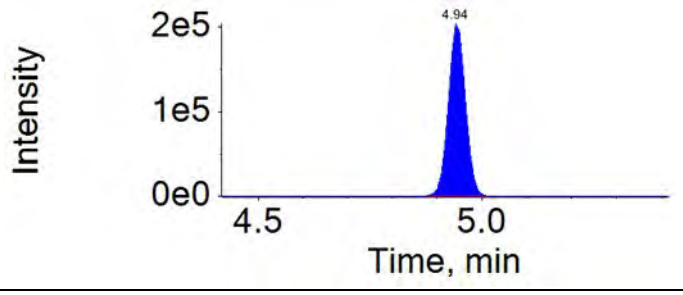
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



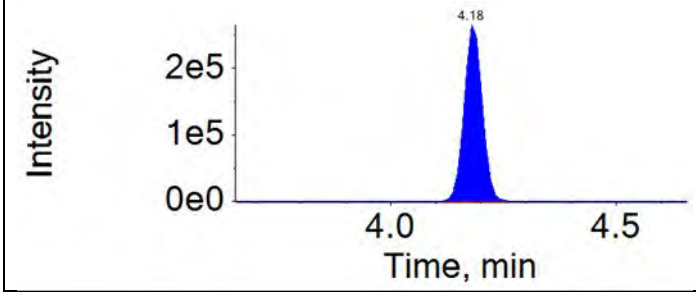


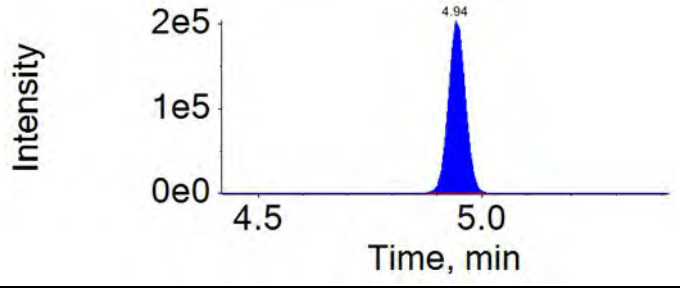
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

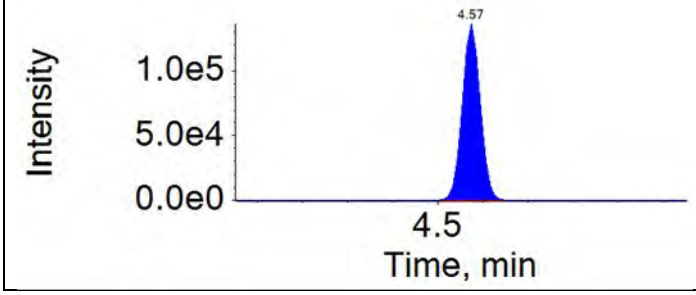
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

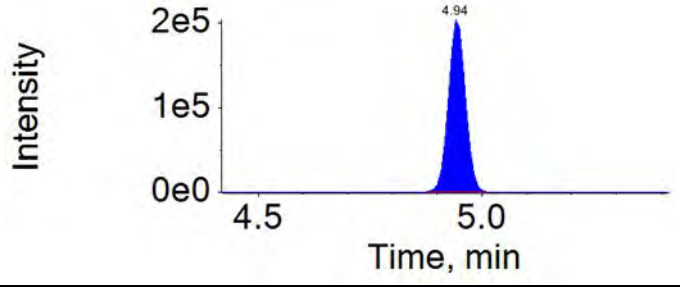
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



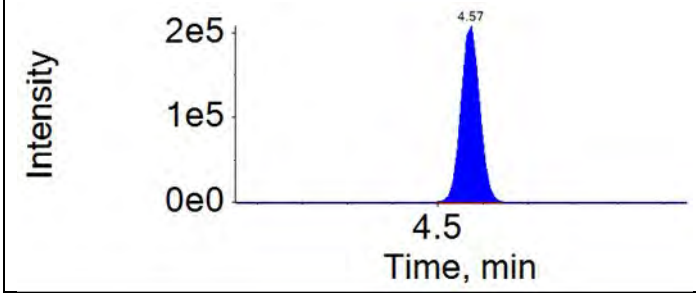


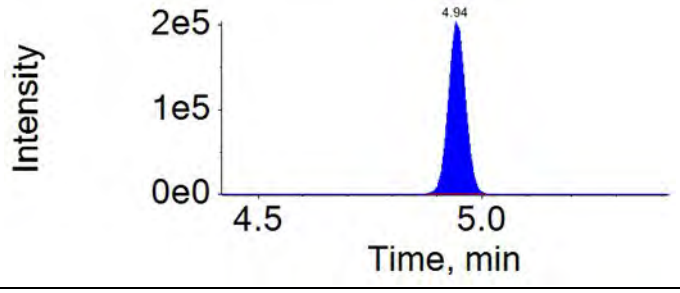
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



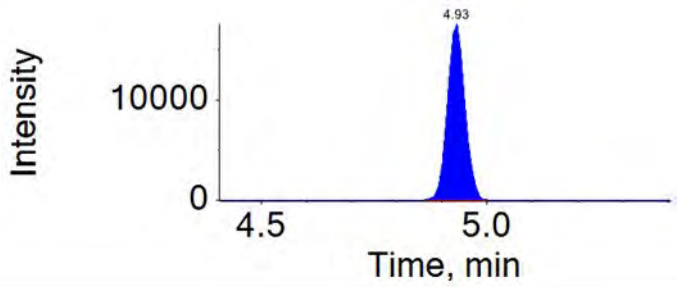


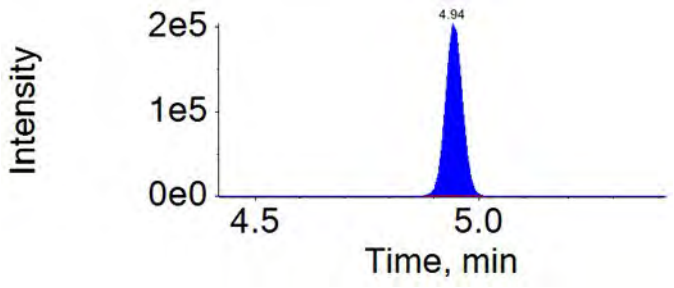
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

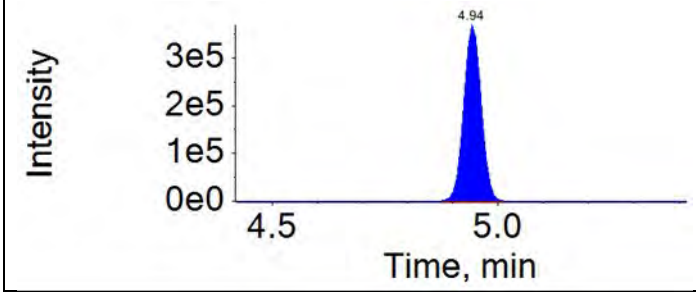
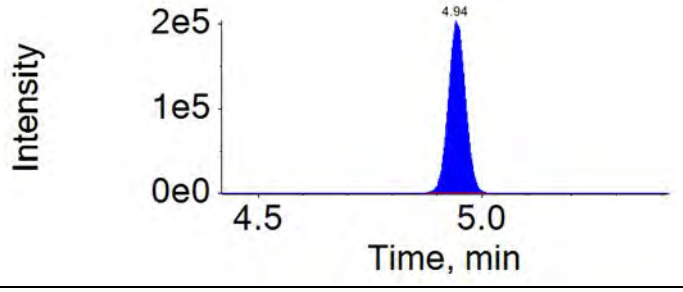


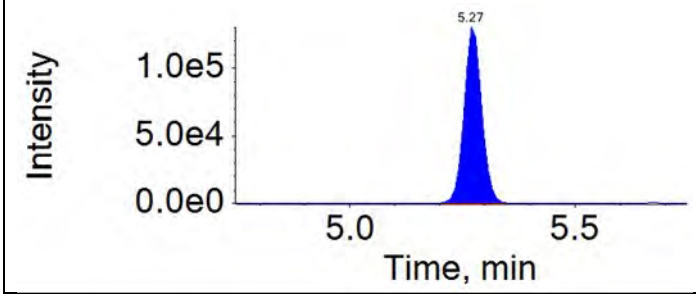
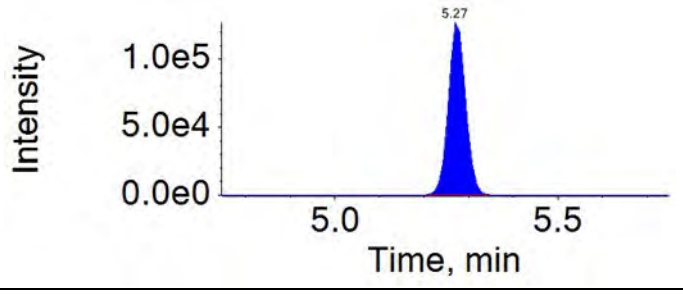


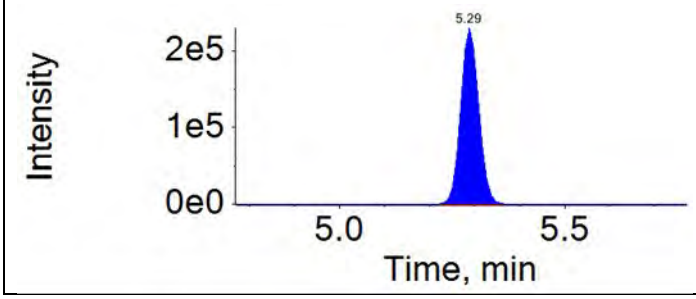
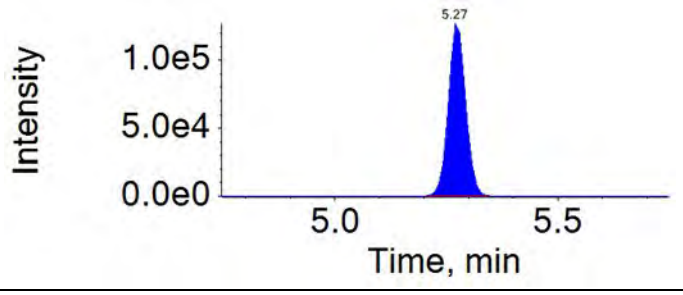
APPROVED
By MCD at 4:57 pm, 12/10/18

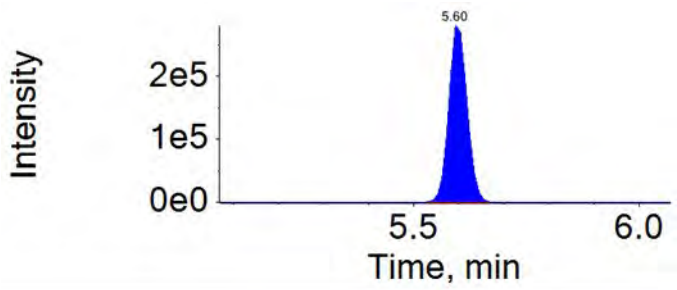
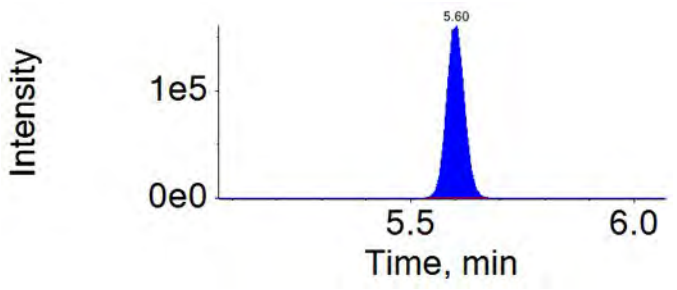
REVIEWED
By umar at 12:28 pm, 12/11/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

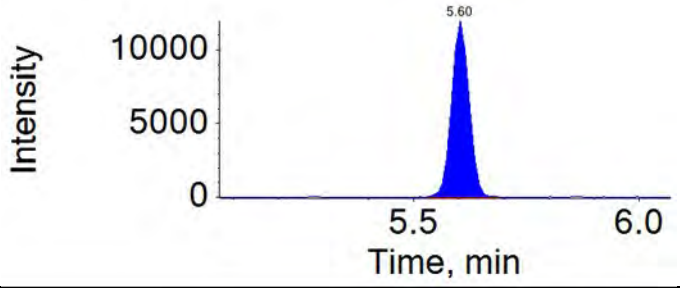
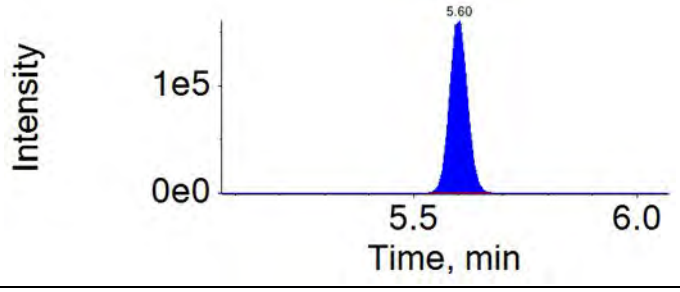
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

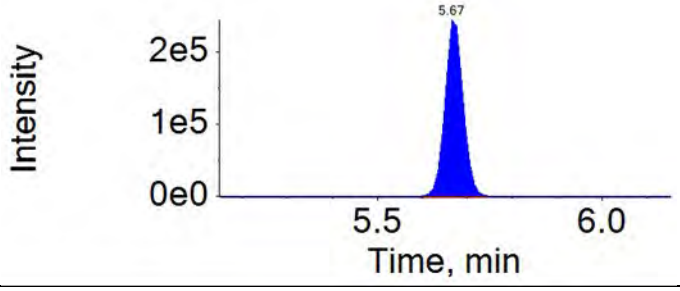
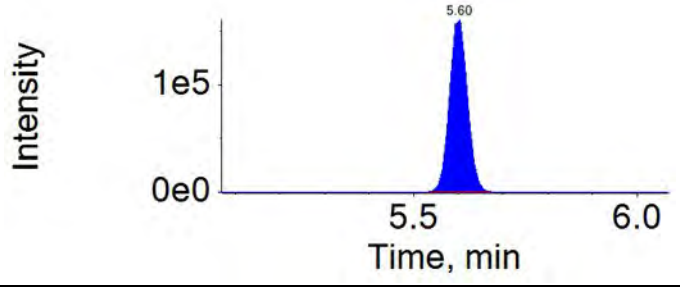
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

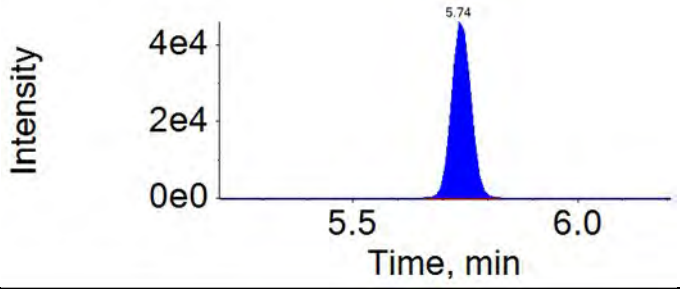
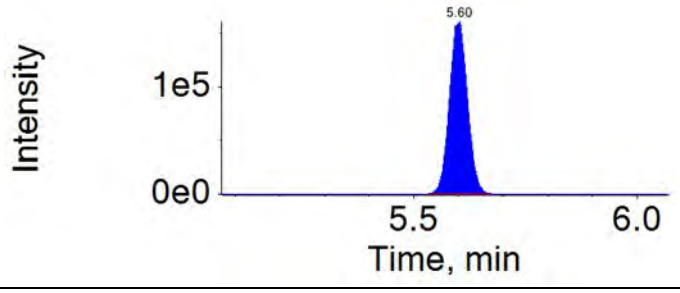
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

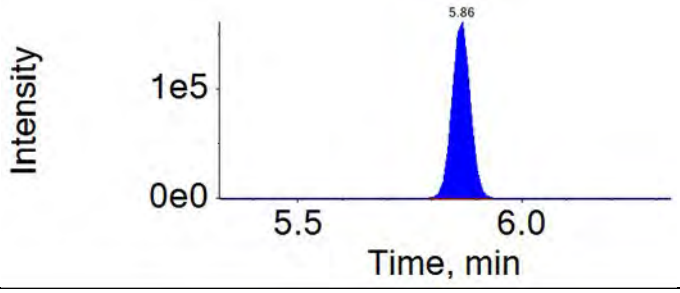
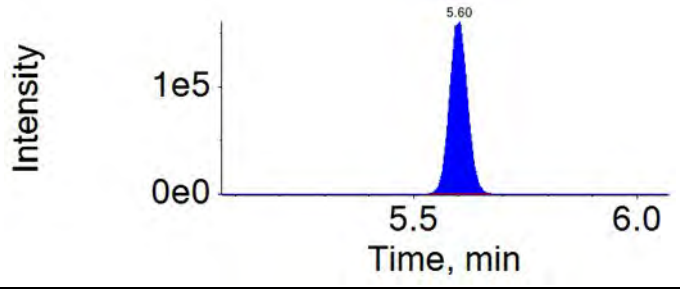
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

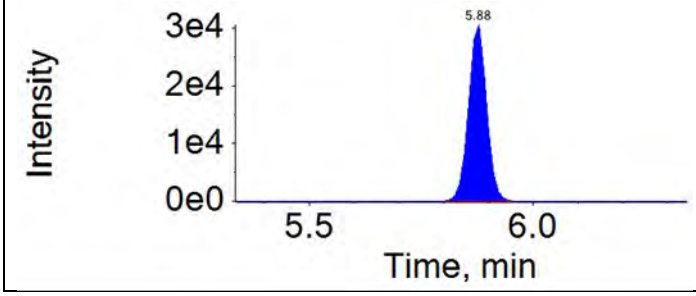
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

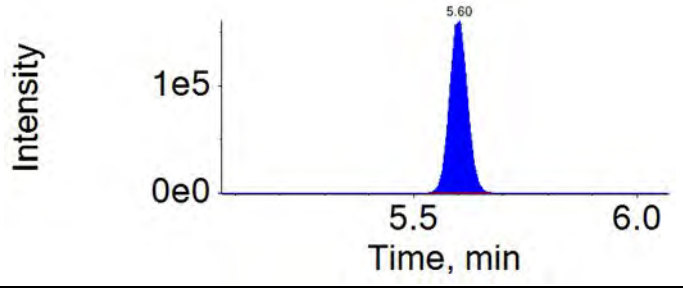
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

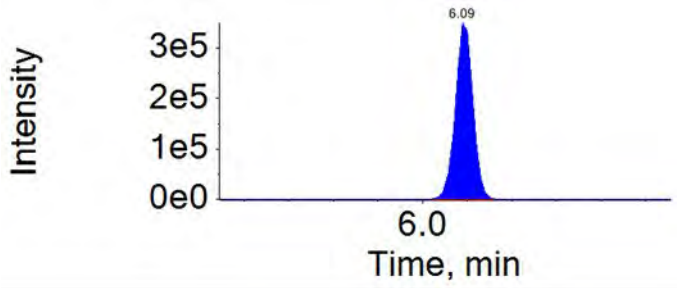
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

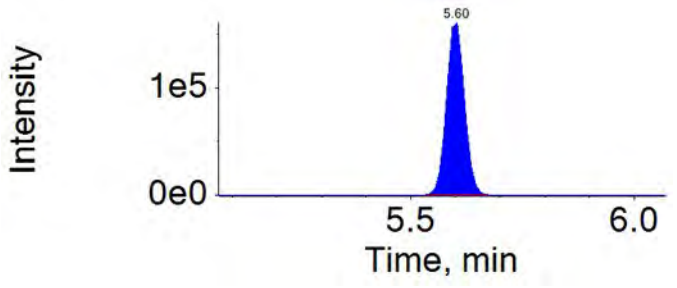
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



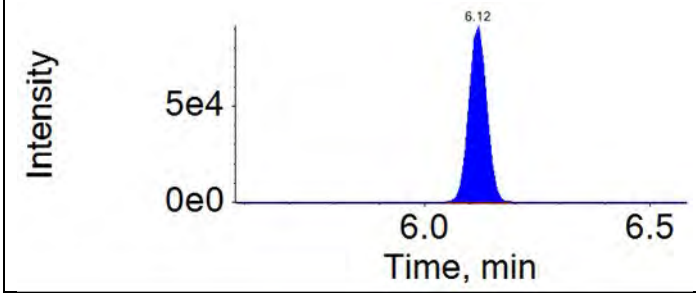


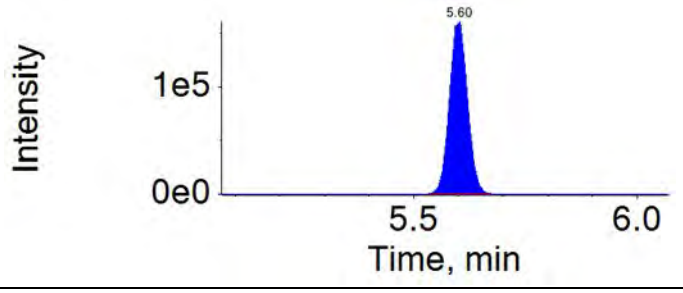
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



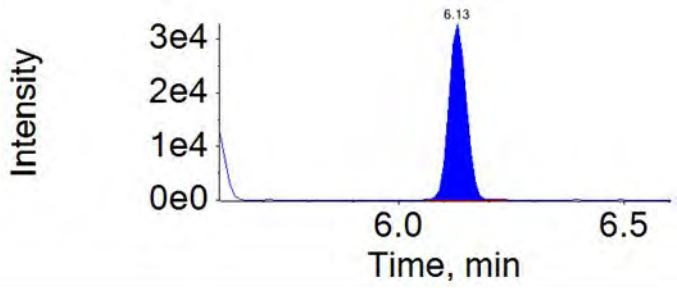


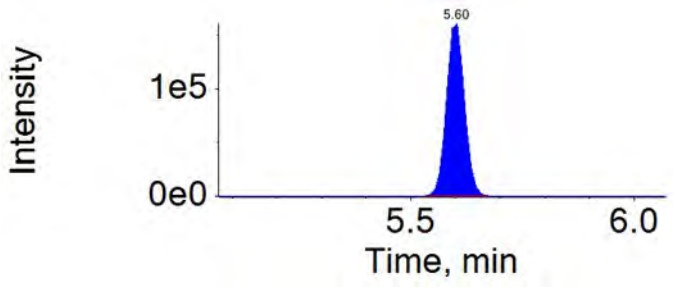
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



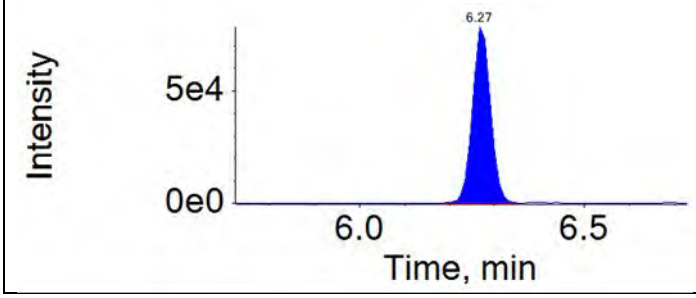


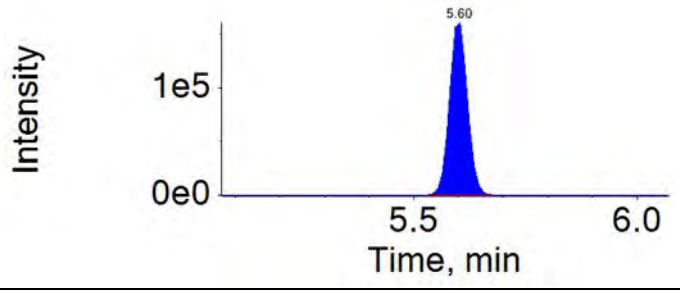
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

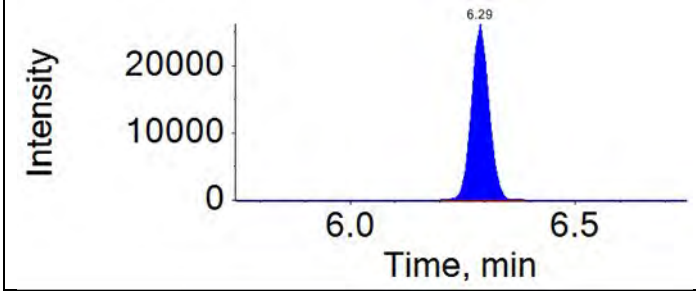
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

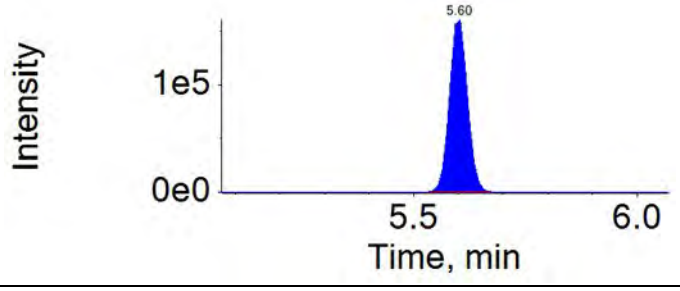
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



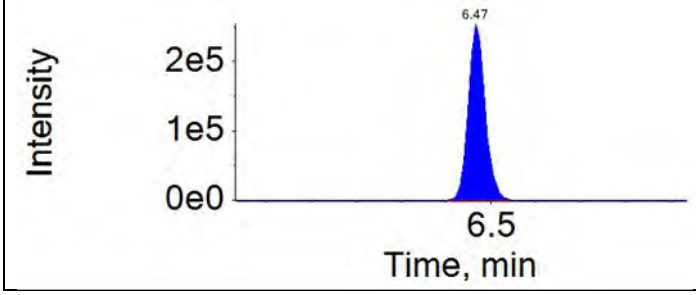


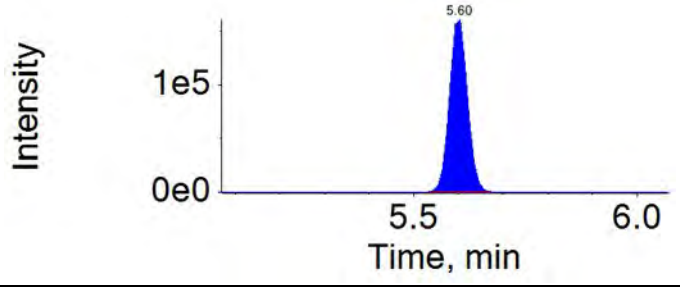
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



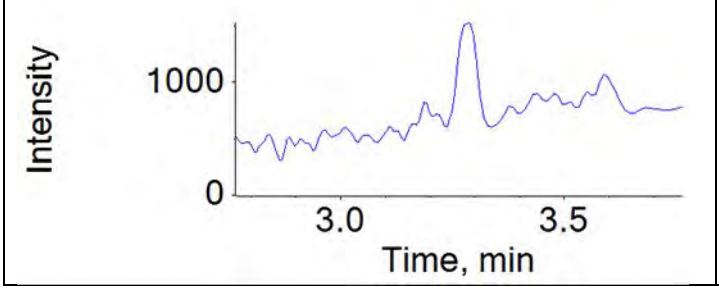


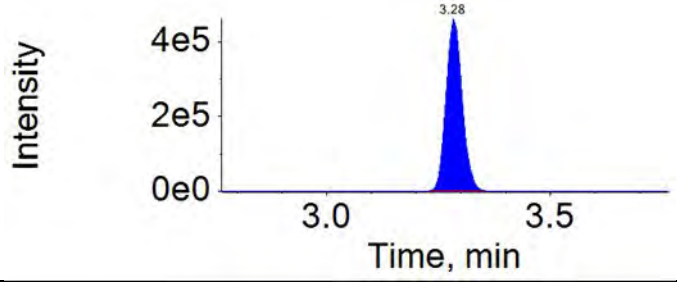
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

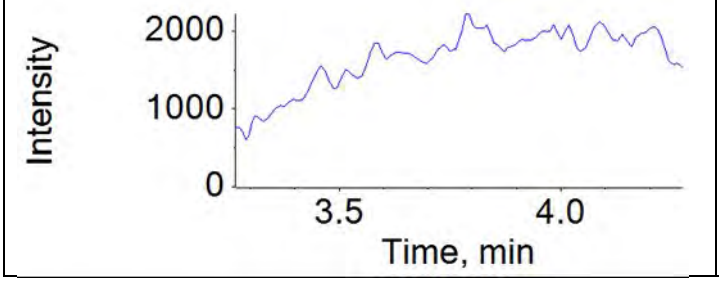
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

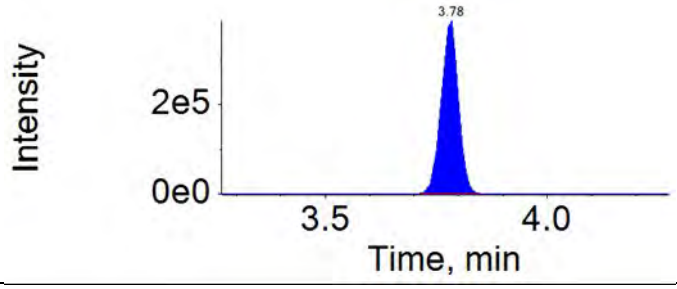
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



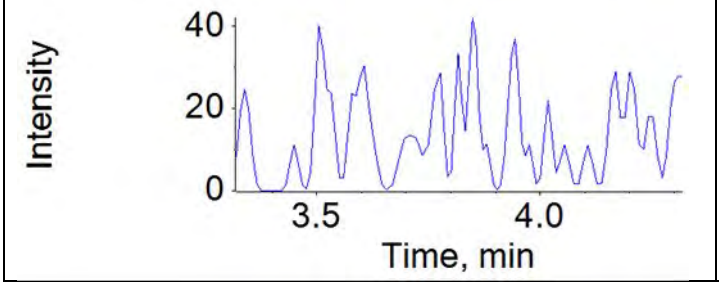


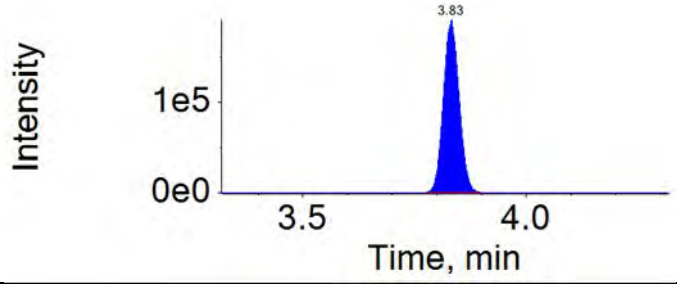
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



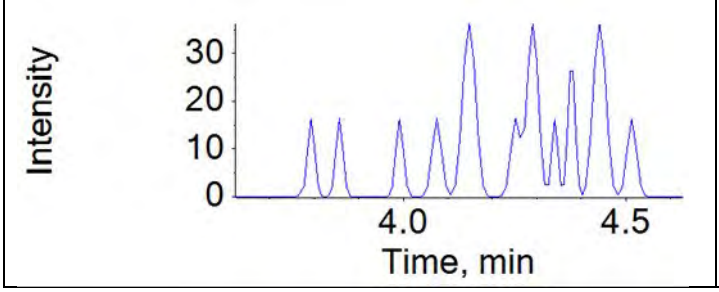


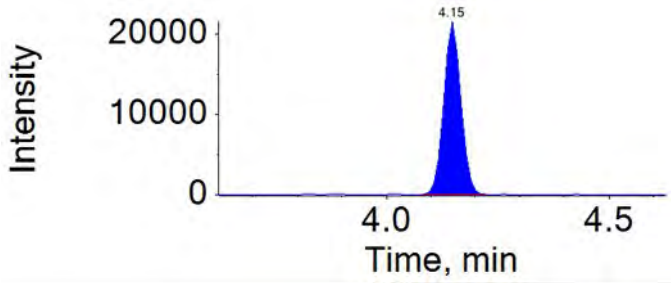
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



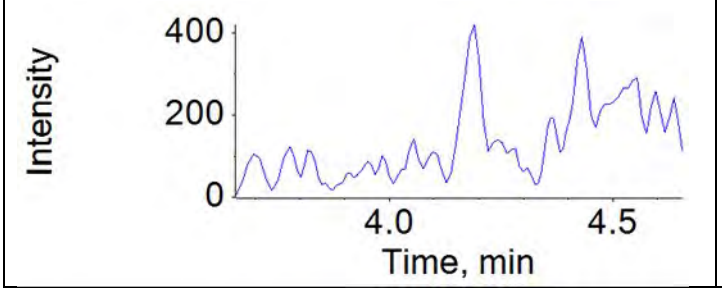


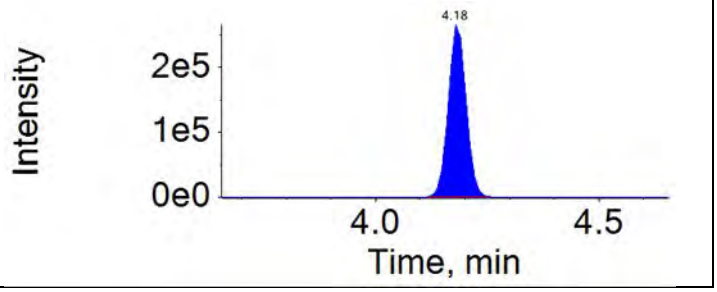
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

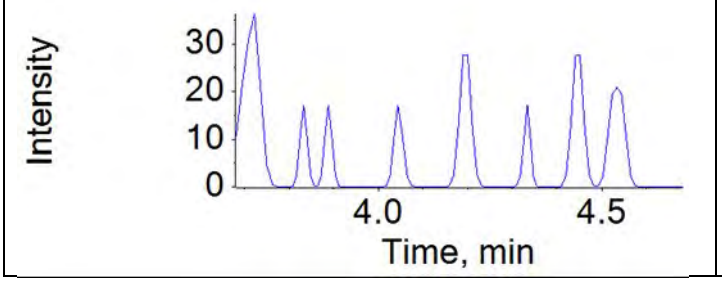
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

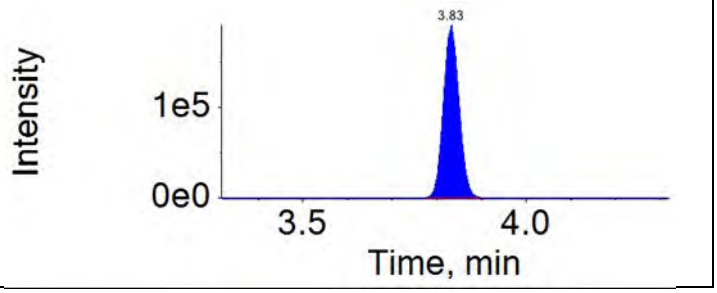
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



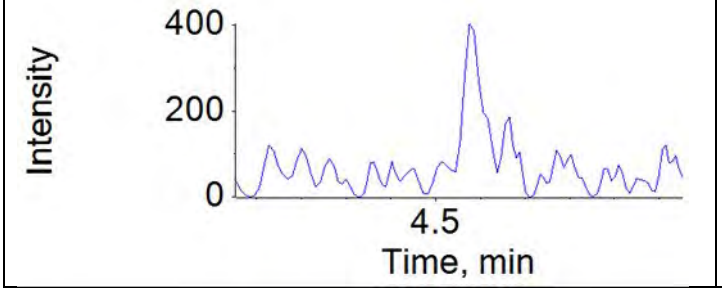


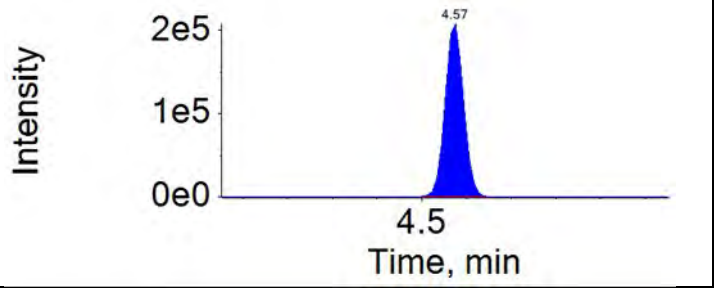
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



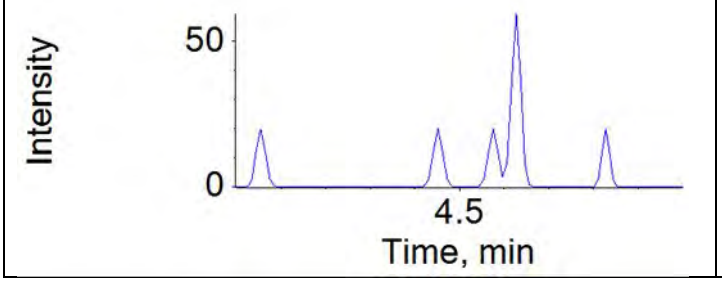


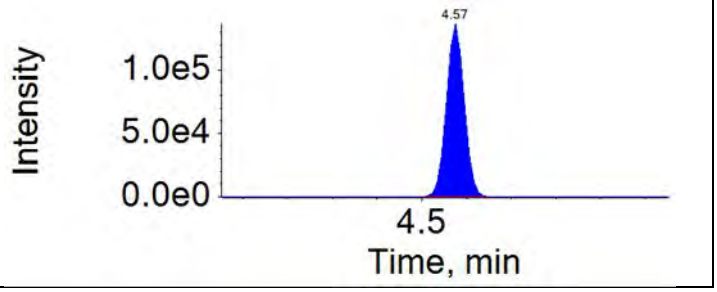
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



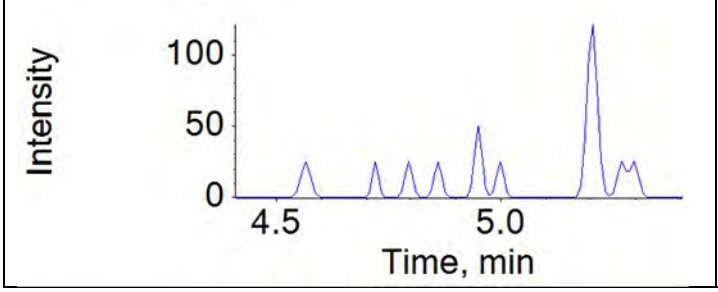


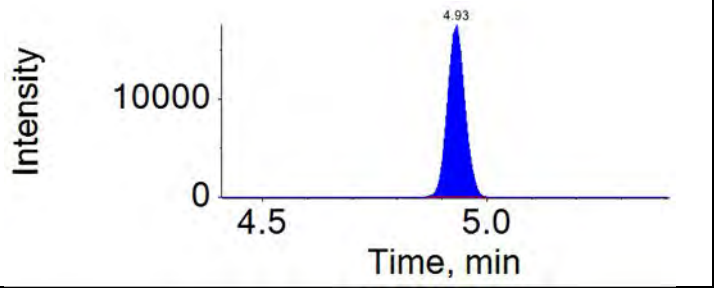
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

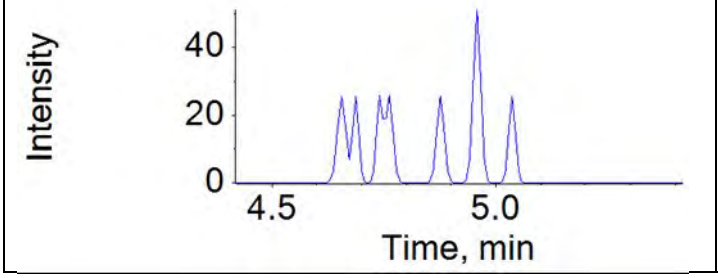
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

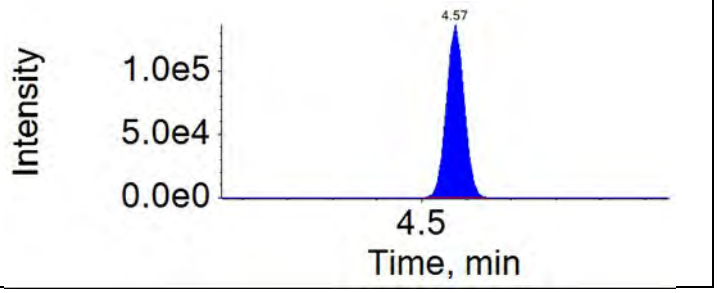
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



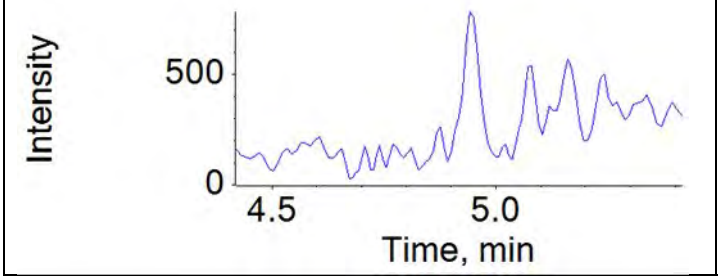


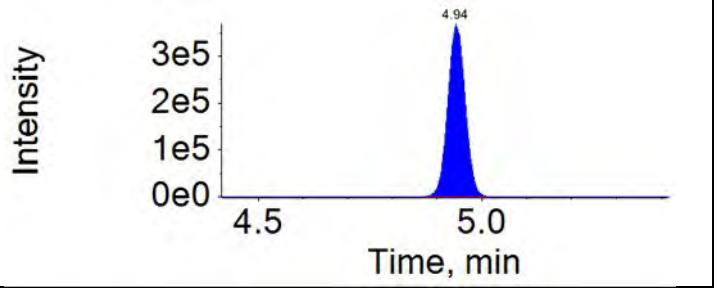
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



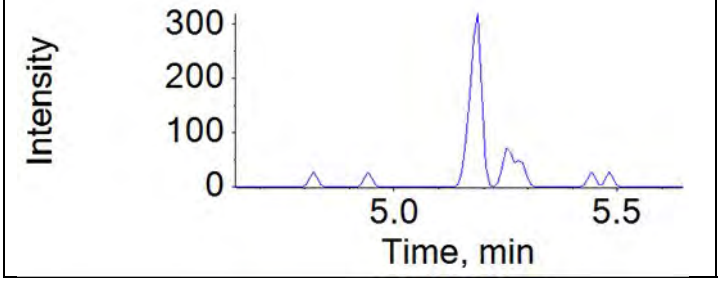


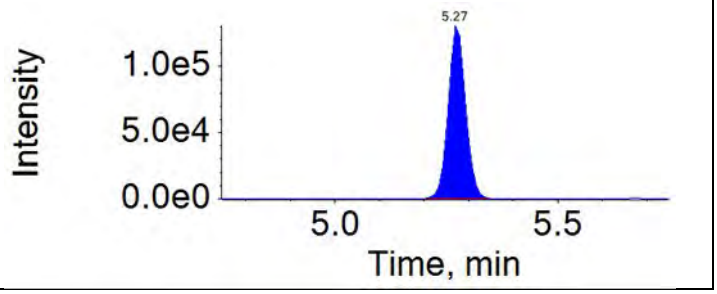
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



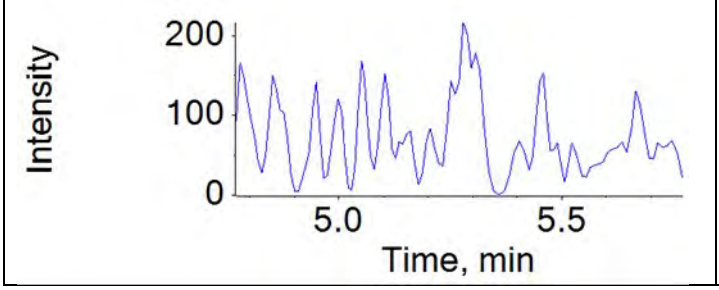


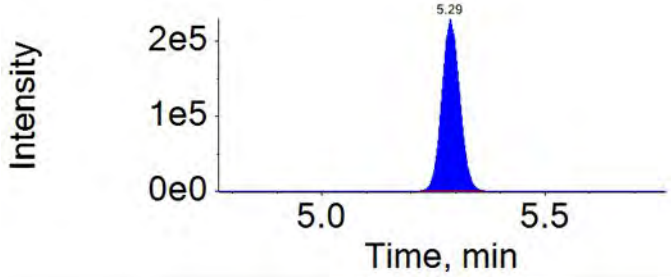
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

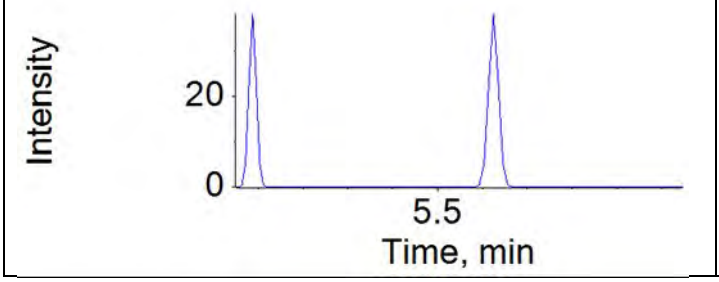
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

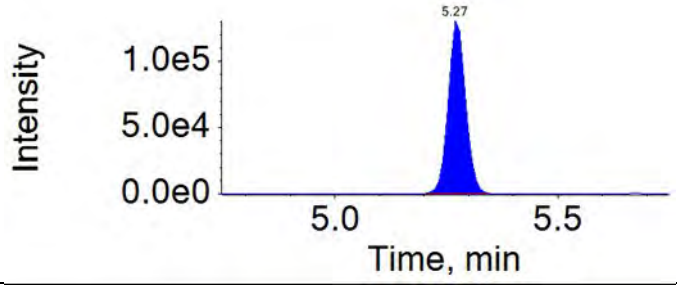
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



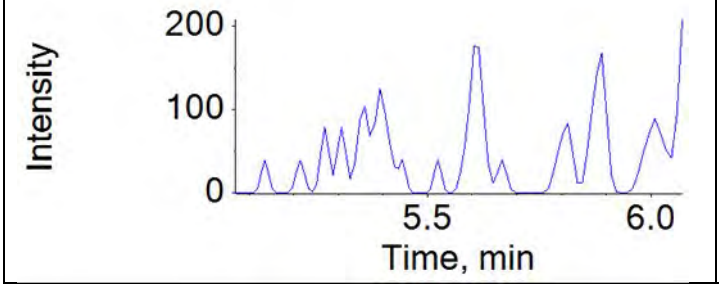


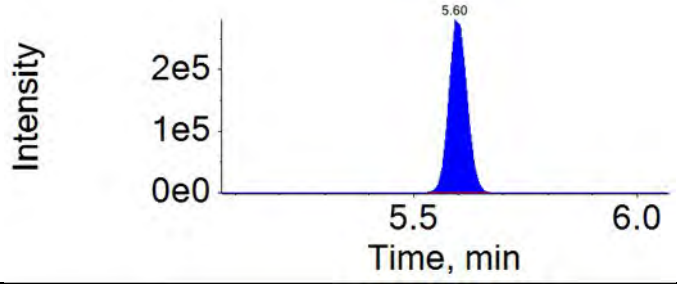
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



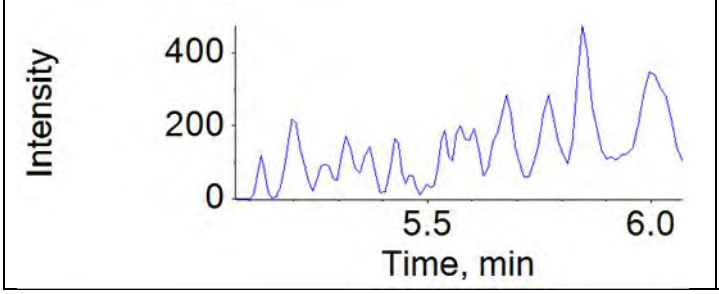


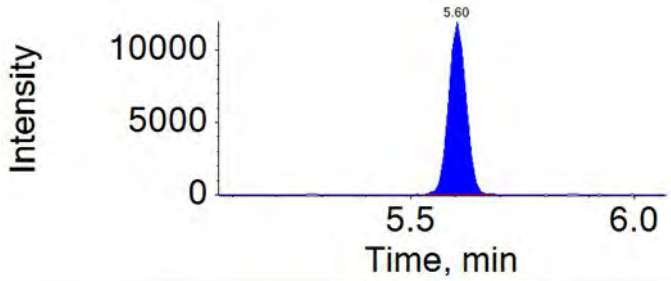
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



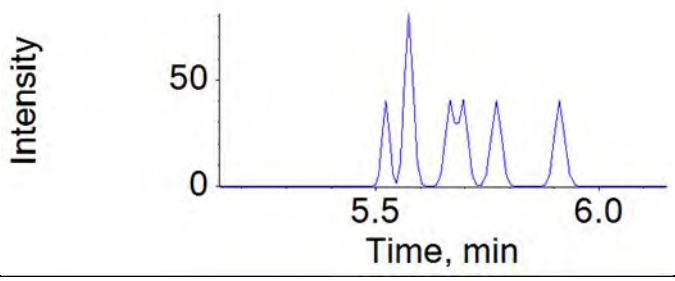


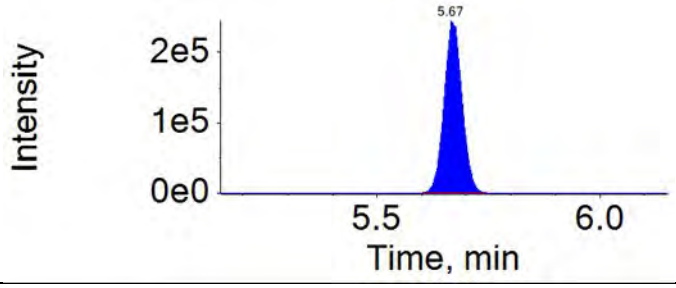
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

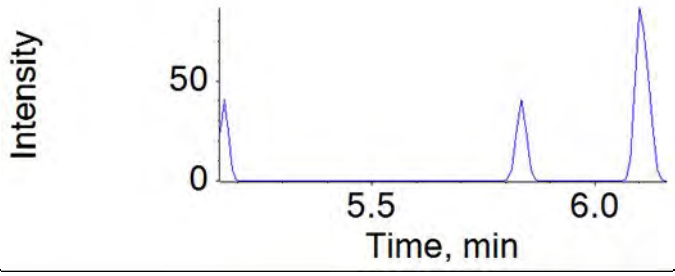
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

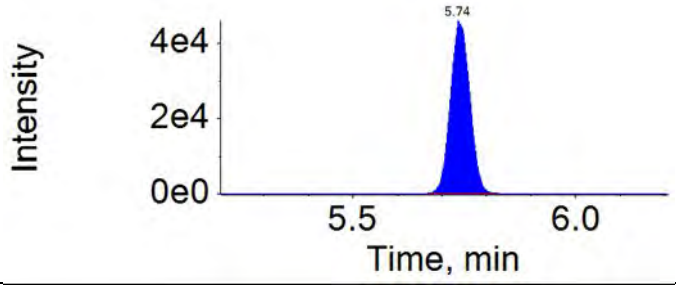
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



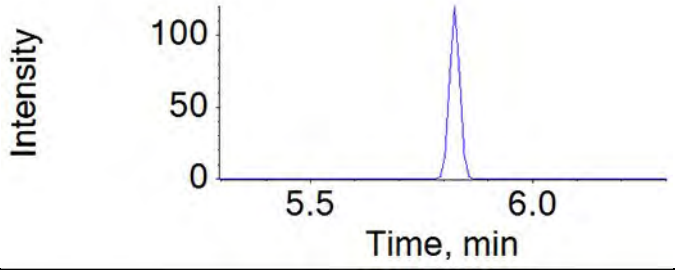


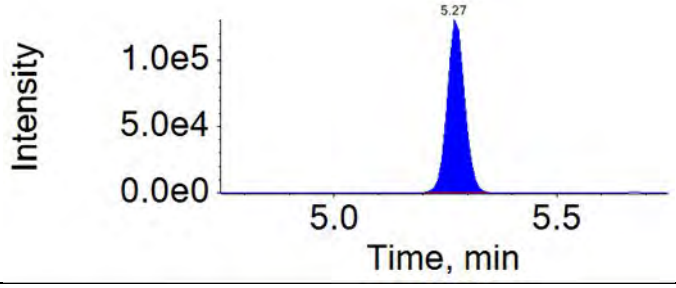
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



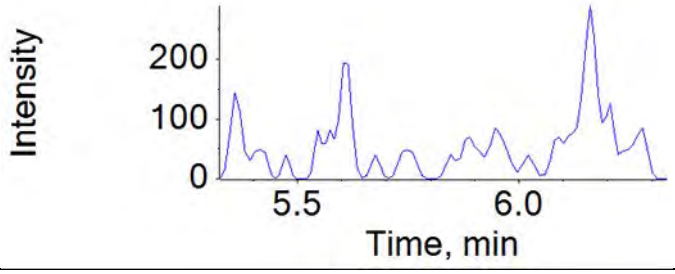


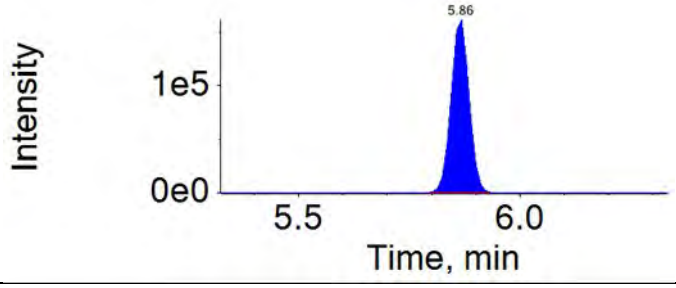
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



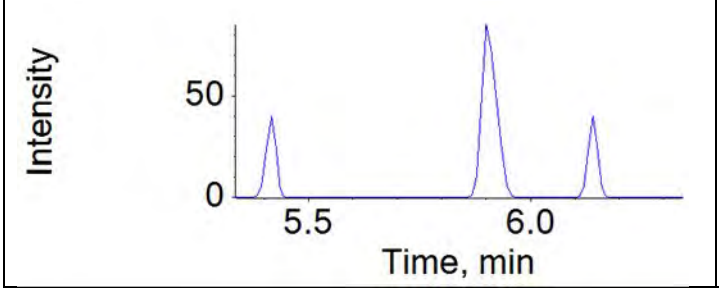


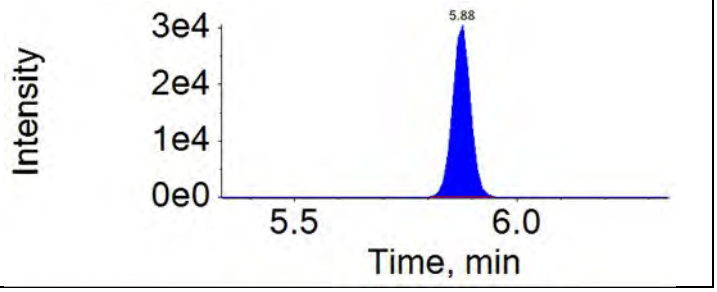
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

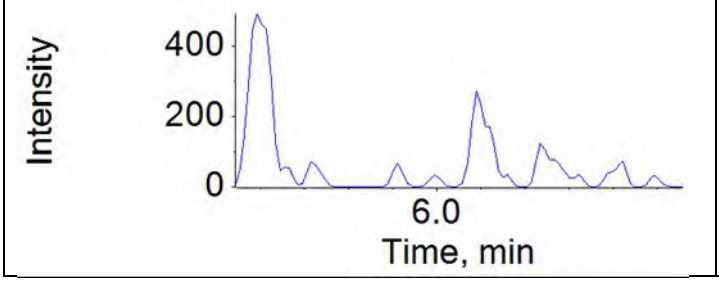
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

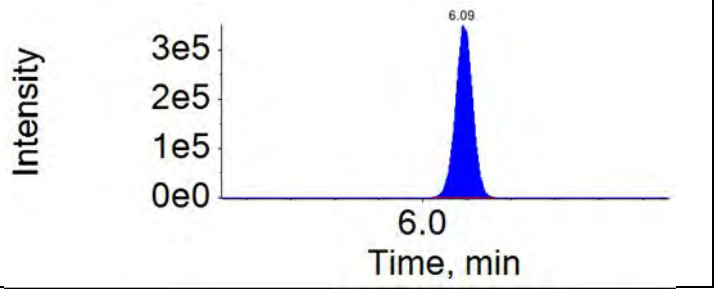
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



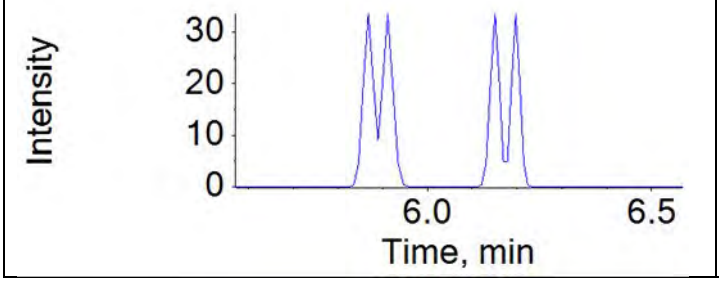


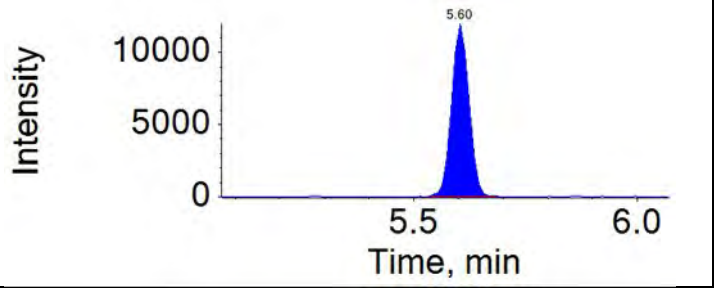
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



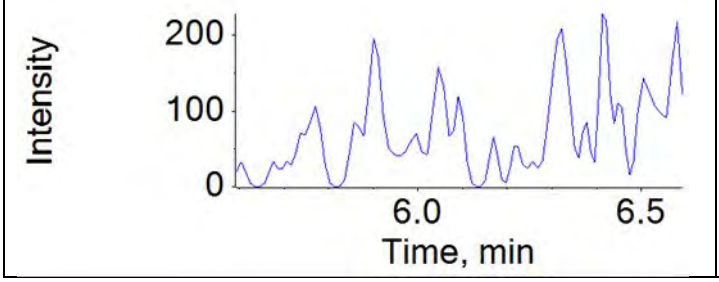


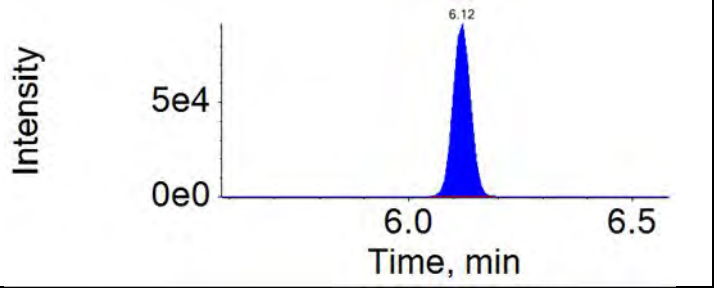
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



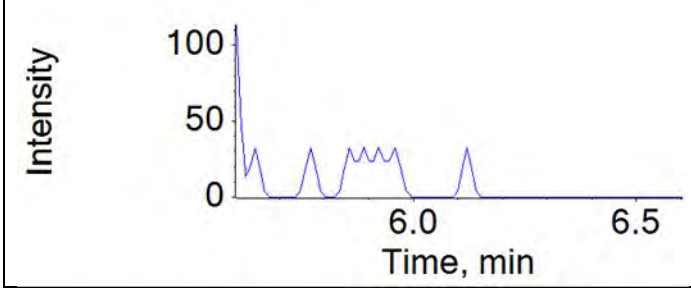


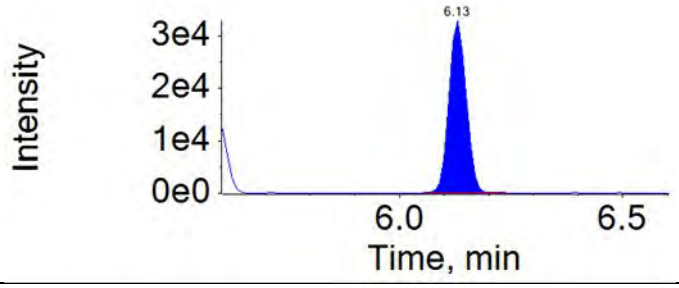
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

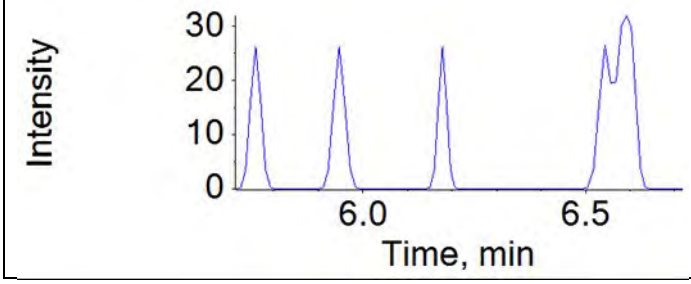
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

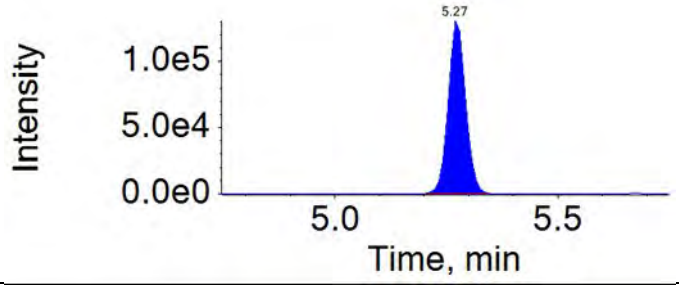
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



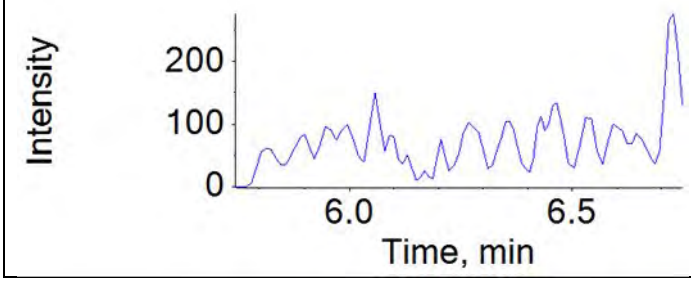


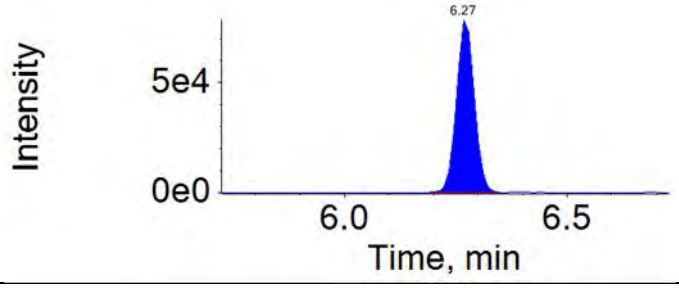
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



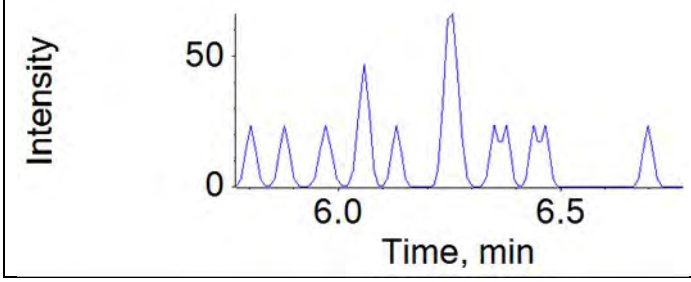


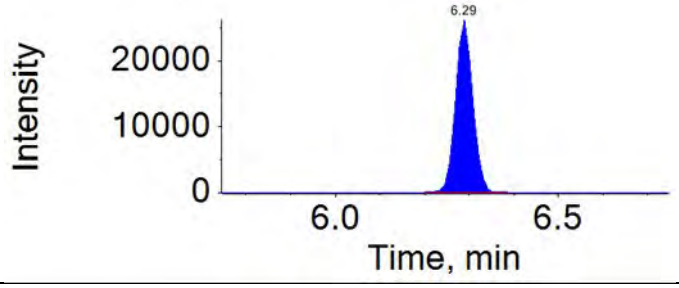
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



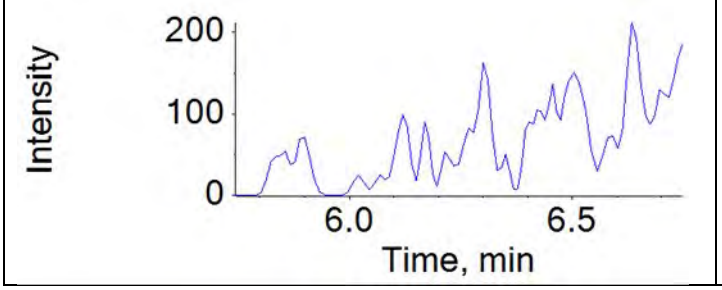


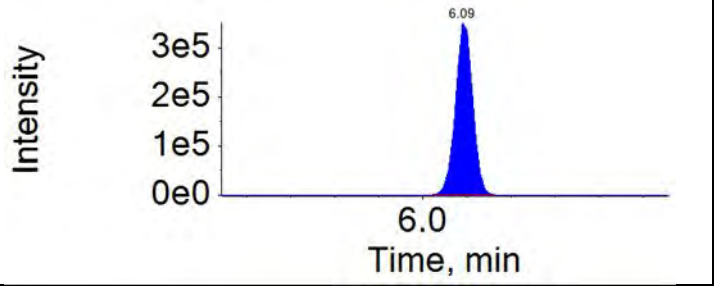
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

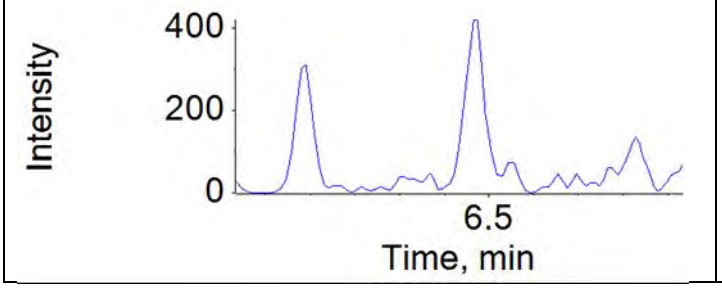
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV1-3 12/10/2018 4:51:03 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

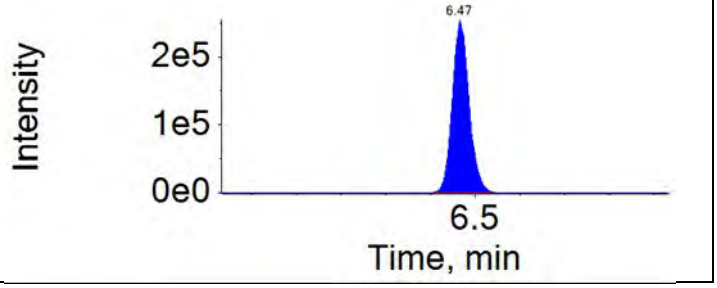
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



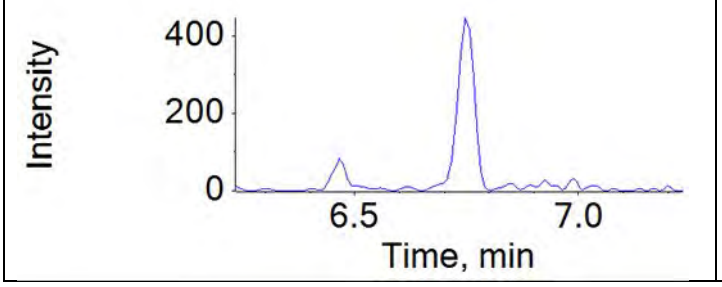


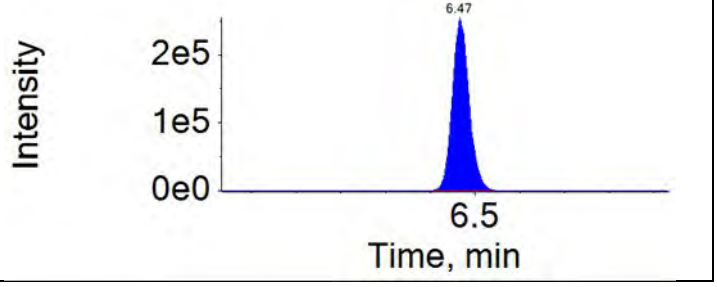
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



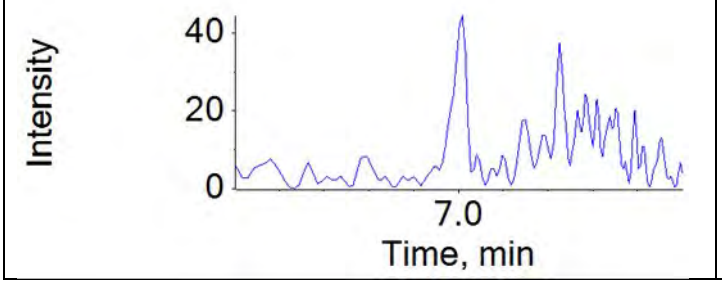


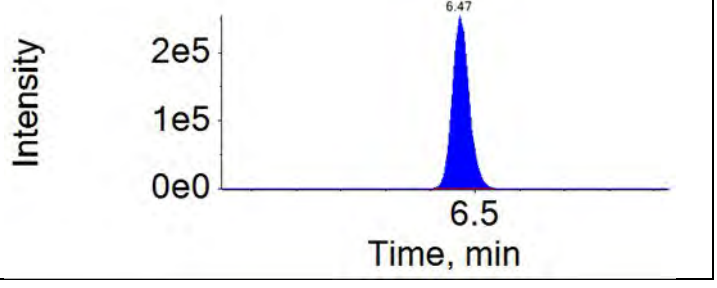
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

Ion Ratio Report

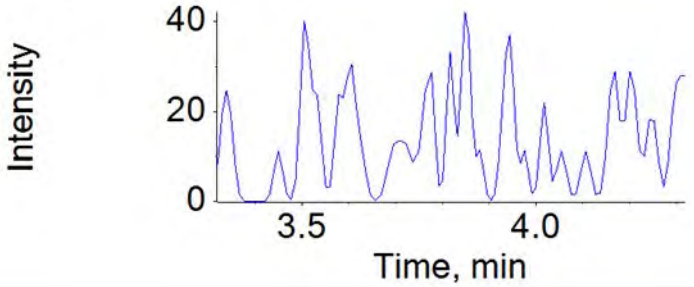
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC10D-06.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

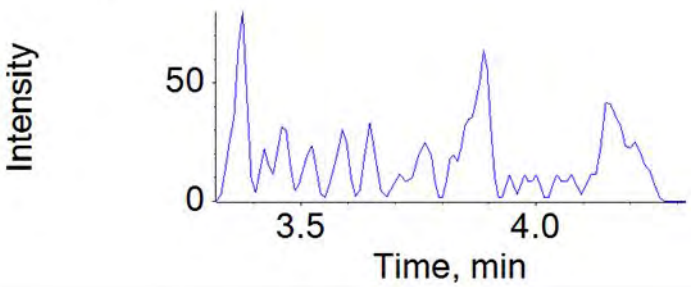
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

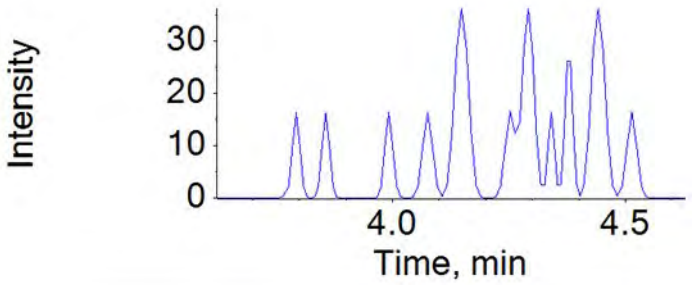
Component: PFBS
Primary Mass: 299.0 / 80.0



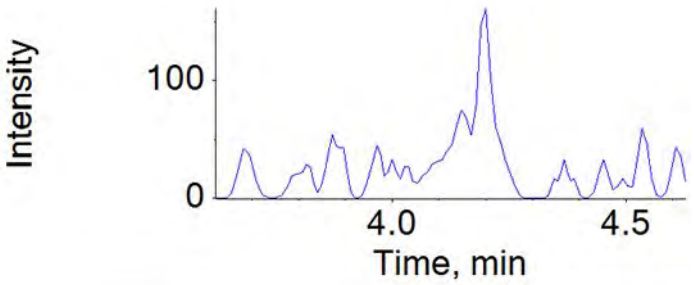
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



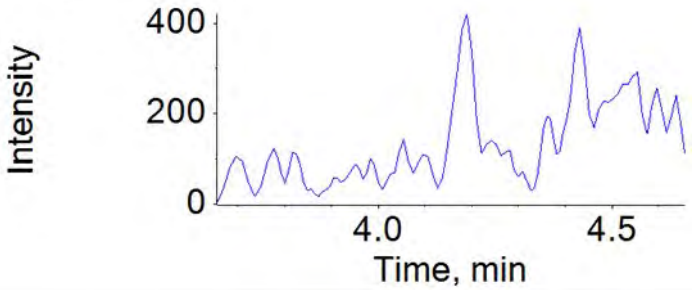
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



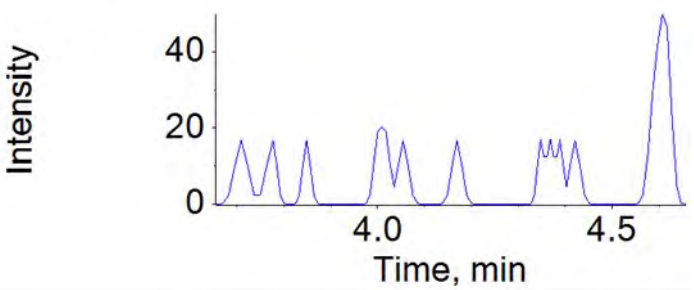
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



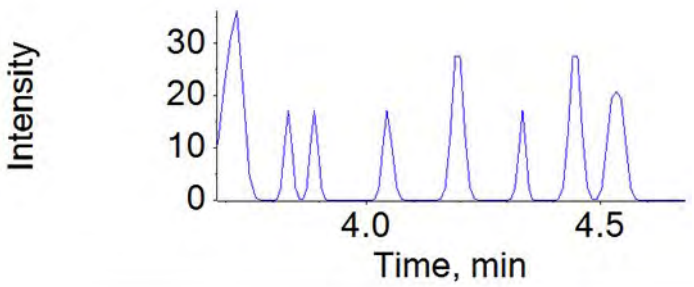
Component: PFHxA
Primary Mass: 313.0 / 269.0



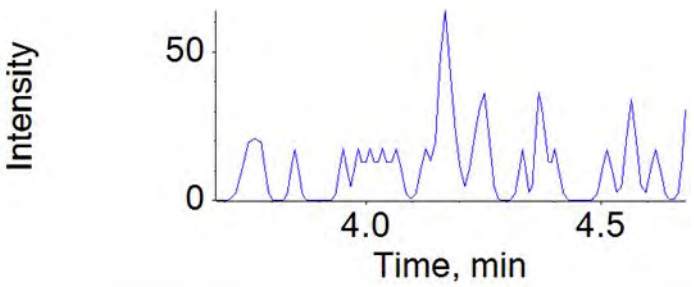
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



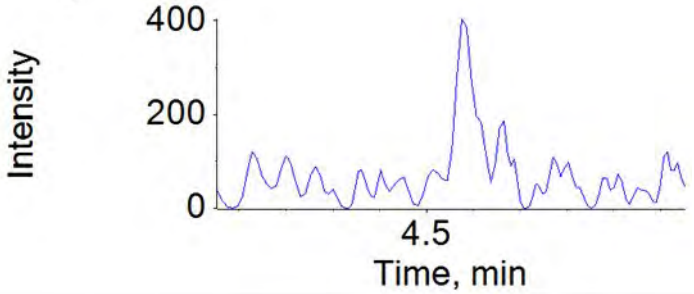
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



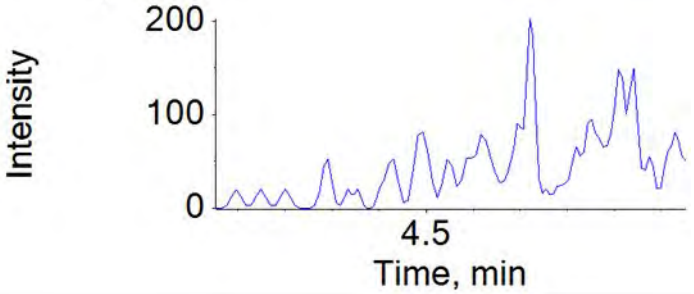
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

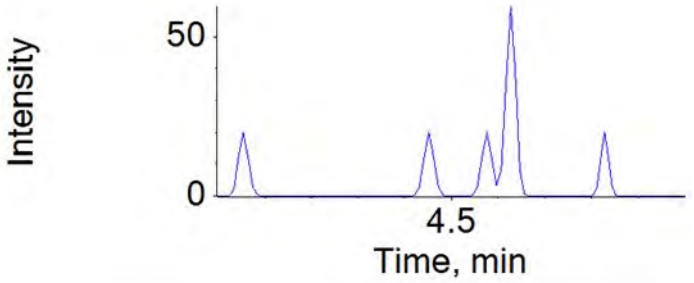
Component: PFHpA
Primary Mass: 363.0 / 319.0



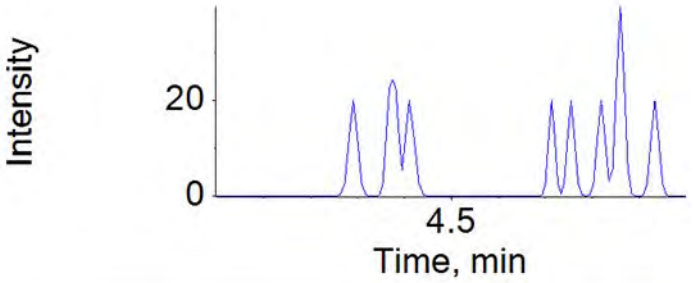
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



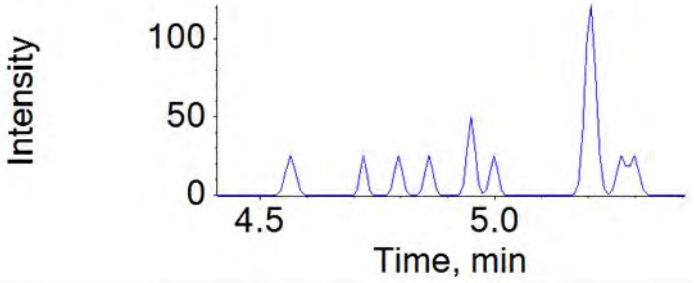
Component: PFHxS
Primary Mass: 399.0 / 80.0



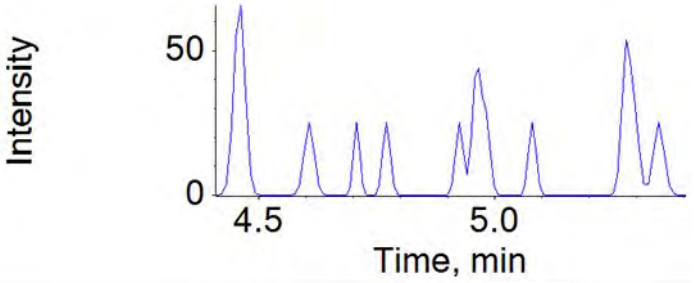
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



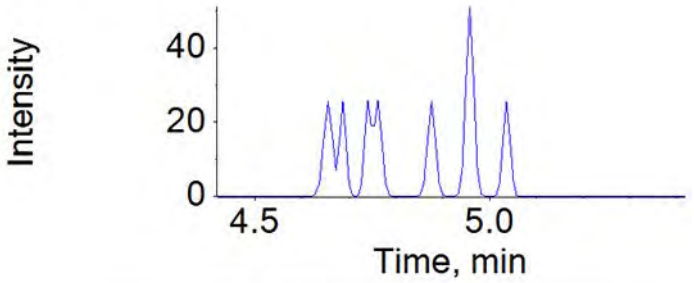
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



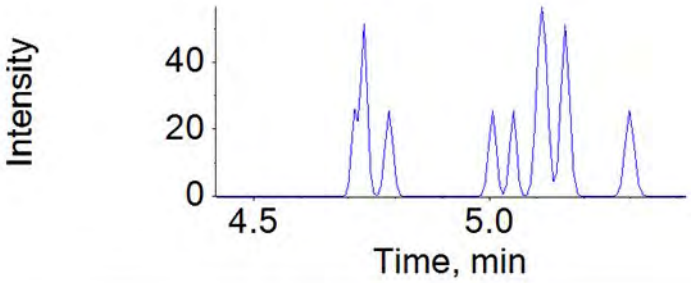
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



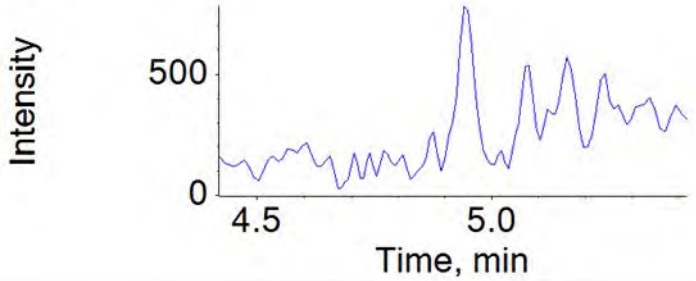
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



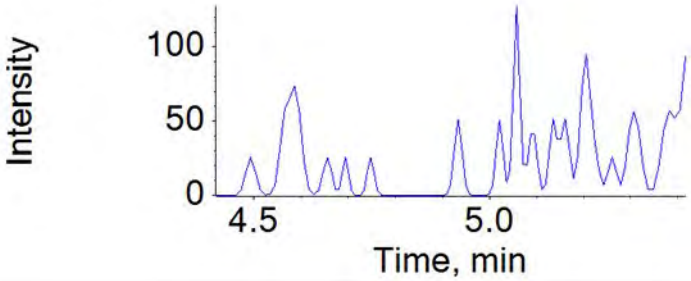
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

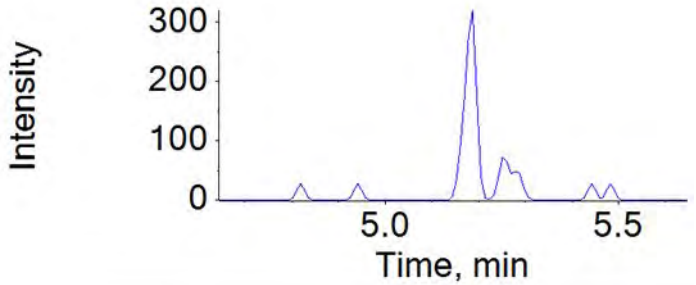
Component: PFOA
Primary Mass: 413.0 / 369.0



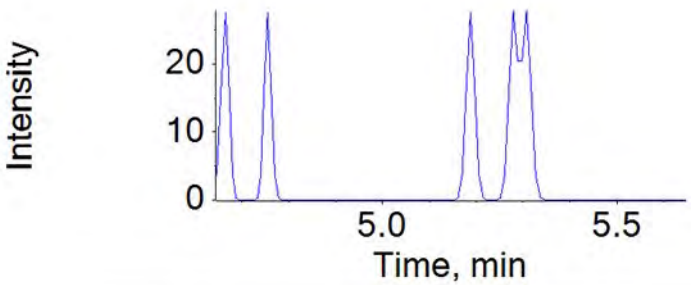
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



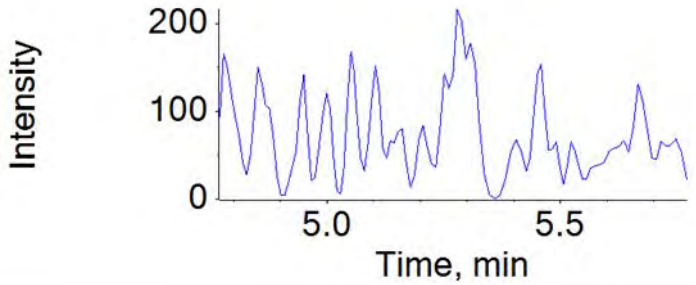
Component: PFOS
Primary Mass: 499.0 / 80.0



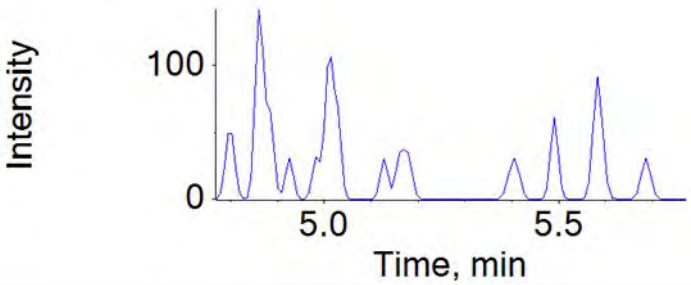
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



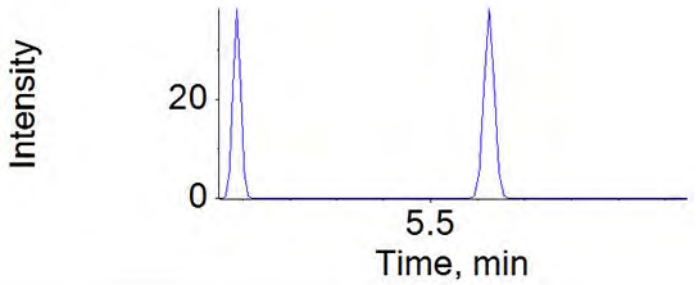
Component: PFNA
Primary Mass: 463.0 / 419.0



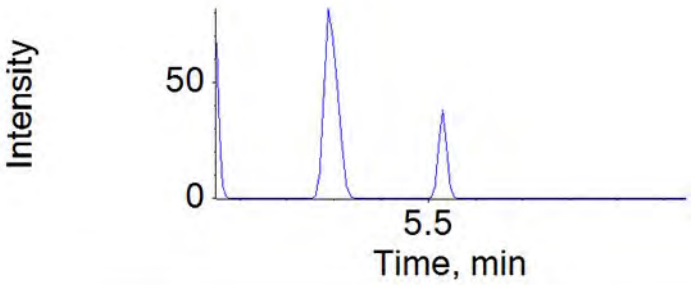
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



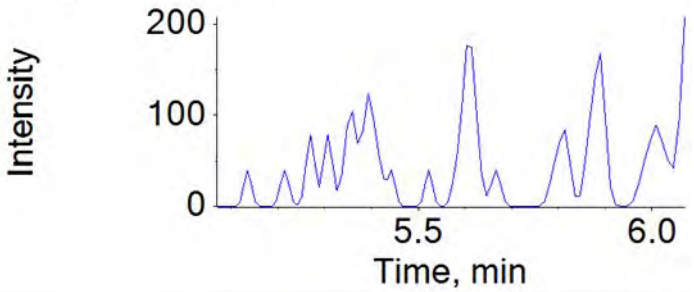
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



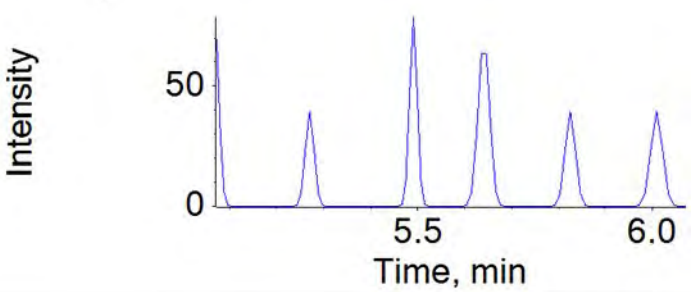
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

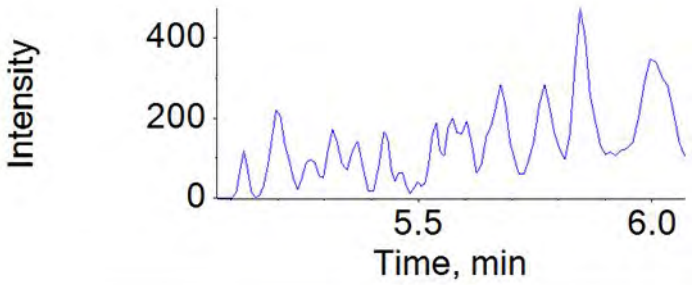
Component: PFDA
Primary Mass: 513.0 / 469.0



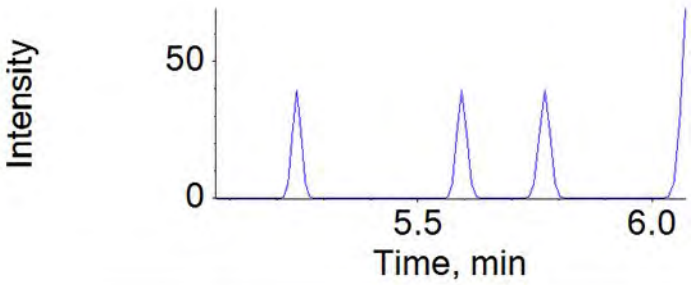
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



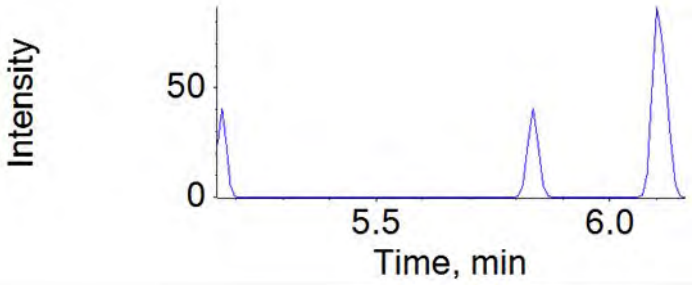
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



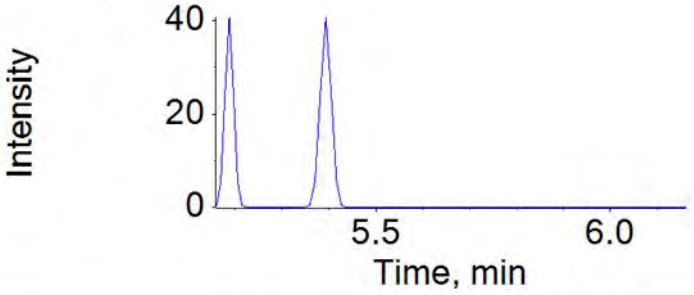
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



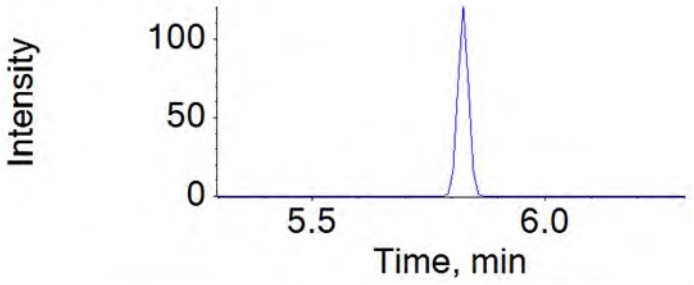
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



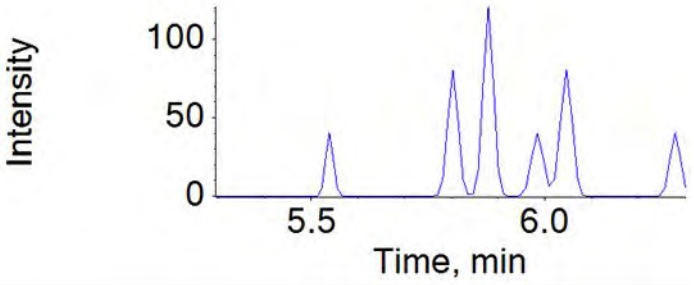
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



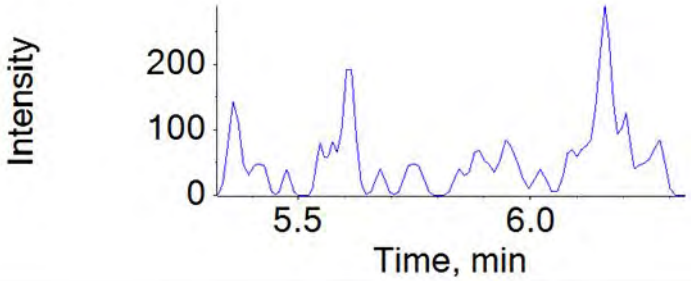
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



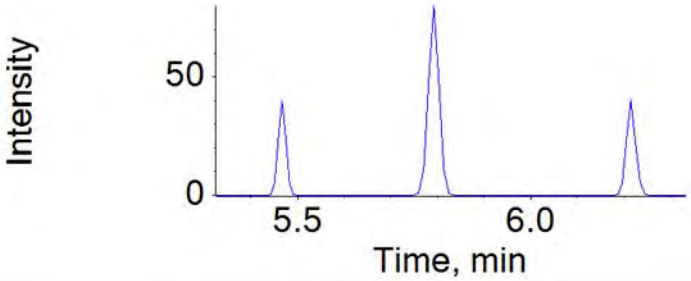
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

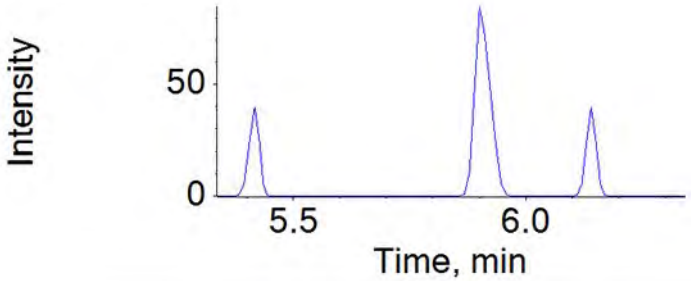
Component: PFUnDA
Primary Mass: 563.0 / 519.0



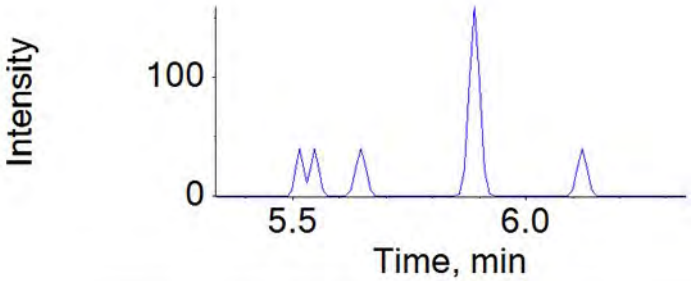
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



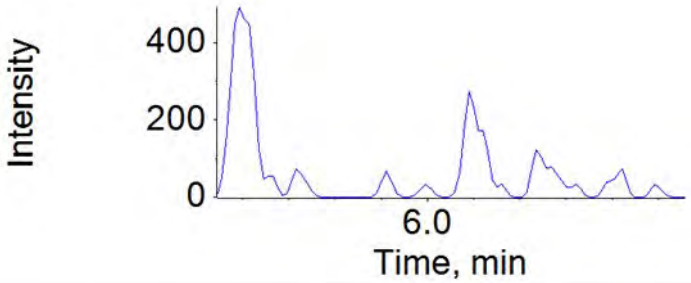
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



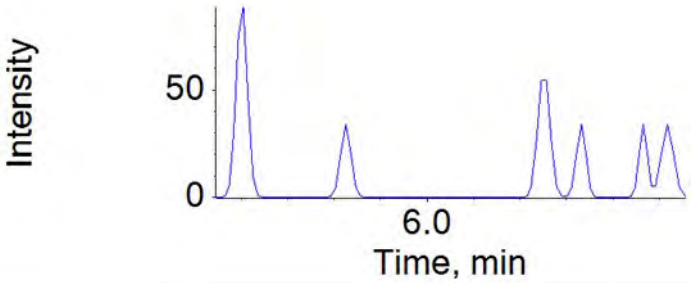
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



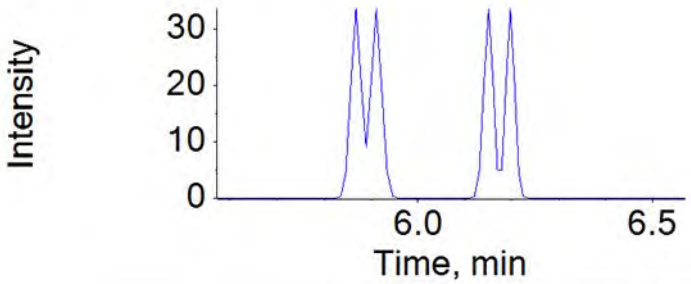
Component: PFDoDA
Primary Mass: 613.0 / 569.0



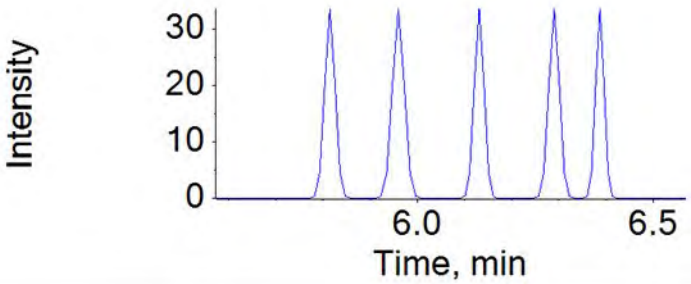
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



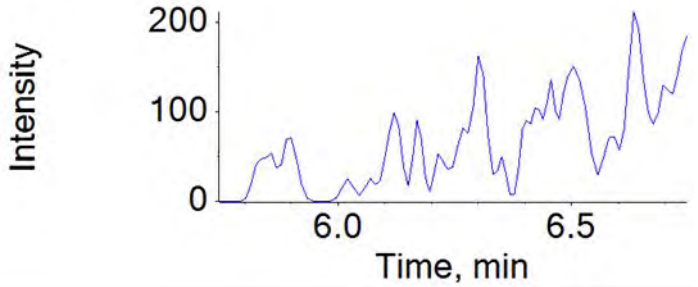
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



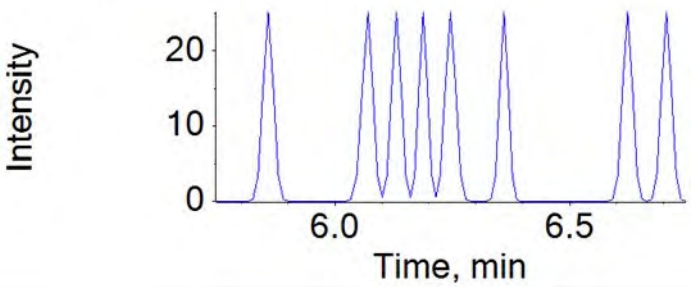
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

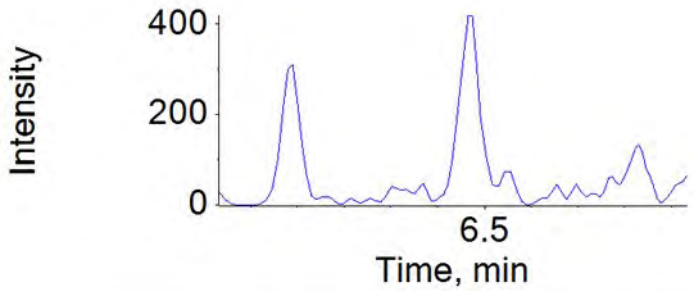
Component: PFTrDA
Primary Mass: 663.0 / 619.0



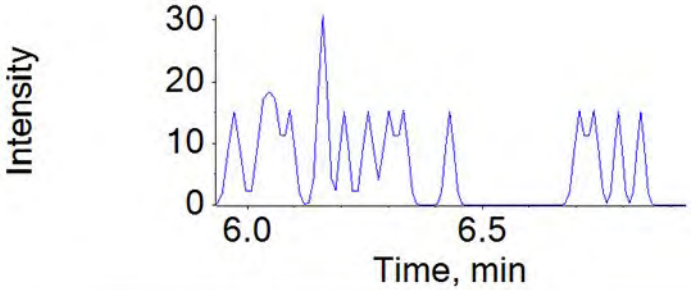
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



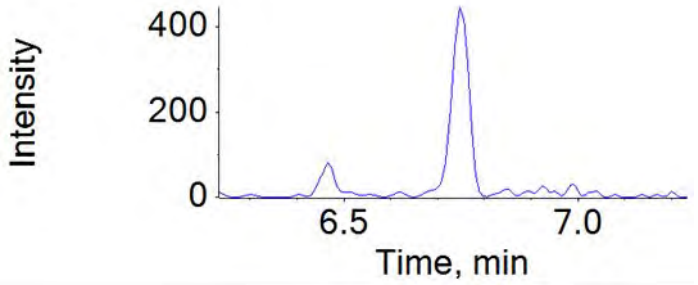
Component: PFTeDA
Primary Mass: 713.0 / 669.0



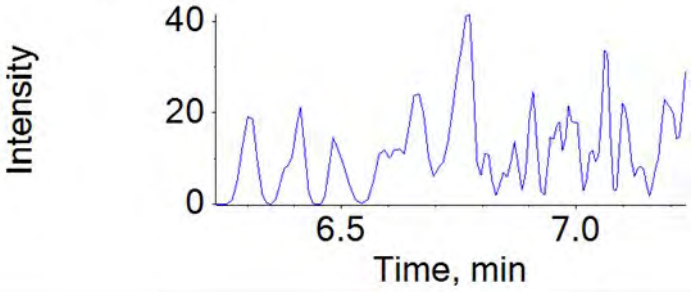
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



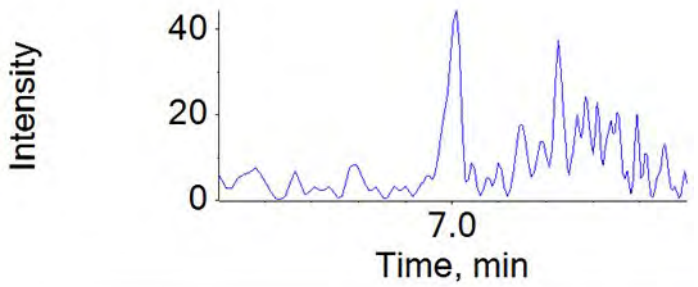
Component: PFHxDA
Primary Mass: 813.0 / 769.0



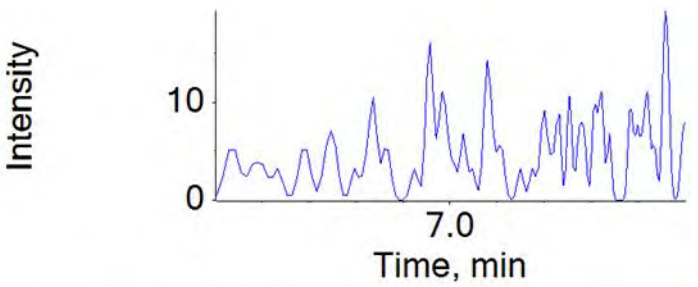
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



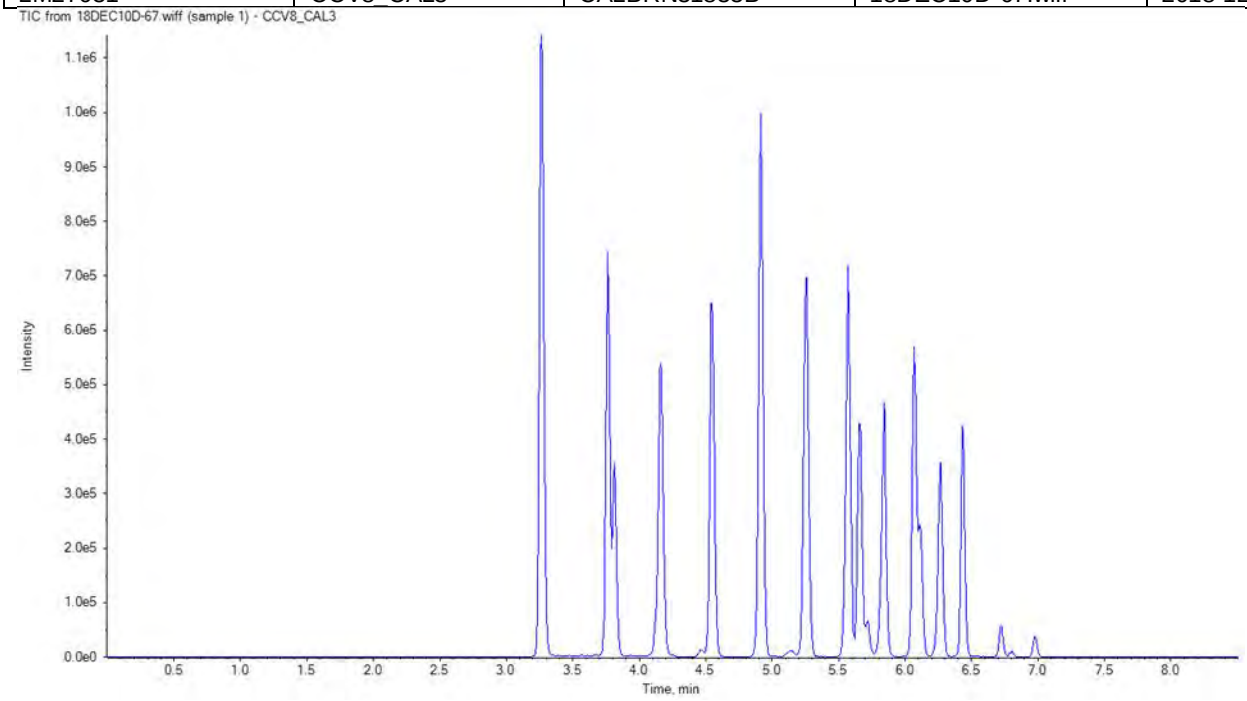
APPROVED
By MCD at 4:57 pm, 12/10/18

REVIEWED
By umar at 12:28 pm, 12/11/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV8_CAL3	CALBRN31833B	18DEC10D-67.wiff	2018-12-10T22:30:52



Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1021058.2	968978.6	5	50	
13C2-PFOA	5.0	544448.8	507254.2	7	50	
13C4-PFOS	4.8	319981.2	302410.5	6	50	
13C2-PFDA	5.0	418307.8	392614.4	7	50	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV8_CAL3	CALBRN31833B	18DEC10D-67.wiff	2018-12-10T22:30:52

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	472983.3	10	13C4-PFBA	1156690.3	5.0	0.409	3.26	1.000	2.000	2.256	13	30	
PFPeA	449480.1	11	13C5-PFPeA	1070421.1	5.0	0.420	3.77	1.000	2.000	2.209	10	30	
PFBS	193087.4	10	13C3-PFBS	463988.6	4.7	0.416	3.81	1.000	1.770	2.063	17	30	
4:2-FTS	39858.0	11	13C2-4:2-FTS	53735.4	4.7	0.742	4.13	1.000	1.870	1.988	6	30	
PFHxA	417786.8	11	13C5-PFHxA	756824.6	5.0	0.552	4.16	1.000	2.000	2.405	20	30	
PFPeS	103089.4	11	13C3-PFBS	463988.6	4.7	0.222	4.18	1.100	1.880	2.200	17	30	
PFHpA	422210.1	12	13C4-PFHpA	609543.3	5.0	0.693	4.55	1.000	2.000	2.281	14	30	
PFHxS	149038.5	19	13C3-PFHxS	362653.2	4.7	0.411	4.55	1.000	1.820	1.947	7	30	
6:2-FTS	38676.5	11	13C2-6:2-FTS	44985.3	4.8	0.860	4.90	1.000	1.900	2.135	12	30	
PFHpS	145708.0	11	13C3-PFHxS	362653.2	4.7	0.402	4.91	1.080	1.900	2.206	16	30	
PFOA	415028.7	11	13C8-PFOA	989037.5	5.0	0.420	4.92	1.000	2.000	2.293	15	30	
PFOS	160626.6	22	13C8-PFOS	356113.4	4.8	0.451	5.24	1.000	1.850	1.871	1	30	
PFNA	362764.3	11	13C9-PFNA	637860.5	5.0	0.569	5.26	1.000	2.000	2.096	5	30	
PFNS	107596.1	11	13C8-PFOS	356113.4	4.8	0.302	5.55	1.060	1.920	1.944	1	30	
PFDA	307673.5	11	13C6-PFDA	732409.2	5.0	0.420	5.57	1.000	2.000	2.365	18	30	
8:2-FTS	31946.9	11	13C2-8:2-FTS	31350.9	4.8	1.019	5.57	1.000	1.920	2.208	15	30	
PFOSA	310617.1	11	13C8-PFOSA	736239.6	5.0	0.422	5.66	1.000	2.000	2.189	9	30	
NMeFOSAA	34690.0	18	d3-NMeFOSAA	115662.2	5.0	0.300	5.72	1.000	2.000	1.984	-1	30	
PFDS	82320.7	11	13C8-PFOS	356113.4	4.8	0.231	5.81	1.110	1.930	1.869	-3	30	
PFUnDA	362033.6	11	13C7-PFUnDA	456235.5	5.0	0.794	5.84	1.000	2.000	2.430	21	30	
NEtFOSAA	35665.4	22	d5-NEtFOSAA	83794.4	5.0	0.426	5.85	1.000	2.000	2.151	8	30	
PFDoDA	376579.9	11	13C2-PFDoDA	860002.1	5.0	0.438	6.07	1.000	2.000	2.305	15	30	
10:2-FTS	23112.6	12	13C2-8:2-FTS	31350.9	4.8	0.737	6.09	1.090	1.930	1.953	1	30	
NMePFOSAE	139155.3	11	d7-NMePFOSAE	279910.2	5.0	0.497	6.12	1.000	2.000	2.160	8	30	
NMePFOSA	37220.1	11	d3-NMePFOSA	93779.2	5.0	0.397	6.12	1.000	2.000	2.003	0	30	
PFDoS	40730.7	11	13C8-PFOS	356113.4	4.8	0.114	6.23	1.190	1.940	1.744	-10	30	
NEtPFOSAE	153314.0	11	d9-NEtPFOSAE	225813.6	5.0	0.679	6.27	1.000	2.000	2.275	14	30	
NEtPFOSA	32764.5	11	d5-NEtPFOSA	72290.9	5.0	0.453	6.28	1.000	2.000	2.170	8	30	
PFTrDA	340952.2	11	13C2-PFDoDA	860002.1	5.0	0.396	6.26	1.030	2.000	2.597	30	30	
PFTeDA	250328.7	10	13C2-PFTeDA	619245.9	5.0	0.404	6.43	1.000	2.000	2.312	16	30	
PFHxDA	114353.8	11	13C2-PFTeDA	619245.9	5.0	0.185	6.72	1.040	2.000	2.313	16	30	
PFODA	79157.4	10	13C2-PFTeDA	619245.9	5.0	0.128	6.98	1.080	2.000	2.052	3	30	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV8_CAL3			**Data File:**		18DEC10D-67.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-10T22:30:52
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC10DCCV4-12
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1021058.2	968978.6	5	50	
13C2-PFOA	5.0	544448.8	507254.2	7	50	
13C4-PFOS	4.8	319981.2	302410.5	6	50	
13C2-PFDA	5.0	418307.8	392614.4	7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1156690.3	13C3-PFBA	1021058.2	1.133	5.000	5.014	100	70-130	
E13C5-PFPeA	1070421.1	13C3-PFBA	1021058.2	1.048	5.000	4.979	100	70-130	
E13C3-PFBS	463988.6	13C3-PFBA	1021058.2	0.454	4.650	3.852	83	70-130	
E13C2-4:2-FTS	53735.4	13C2-PFOA	544448.8	0.099	4.670	3.867	83	70-130	
E13C5-PFHxA	756824.6	13C2-PFOA	544448.8	1.390	5.000	4.667	93	70-130	
E13C3-PFHxS	362653.2	13C2-PFOA	544448.8	0.666	4.730	4.272	90	70-130	
E13C4-PFHpA	609543.3	13C2-PFOA	544448.8	1.120	5.000	4.760	95	70-130	
E13C2-6:2-FTS	44985.3	13C2-PFOA	544448.8	0.083	4.750	5.119	108	70-130	
E13C8-PFOA	989037.5	13C2-PFOA	544448.8	1.817	5.000	5.135	103	70-130	
E13C8-PFOS	356113.4	13C4-PFOS	319981.2	1.113	4.780	4.995	104	70-130	
E13C9-PFNA	637860.5	13C4-PFOS	319981.2	1.993	5.000	5.633	113	70-130	
E13C6-PFDA	732409.2	13C2-PFDA	418307.8	1.751	5.000	4.640	93	70-130	
E13C2-8:2-FTS	31350.9	13C2-PFDA	418307.8	0.075	4.790	4.893	102	70-130	
E13C8-PFOSA	736239.6	13C2-PFDA	418307.8	1.760	5.000	4.163	83	70-130	
Ed3-NMeFOSAA	115662.2	13C2-PFDA	418307.8	0.277	5.000	4.900	98	70-130	
E13C7-PFUnDA	456235.5	13C2-PFDA	418307.8	1.091	5.000	5.350	107	70-130	
Ed5-NEtFOSAA	83794.4	13C2-PFDA	418307.8	0.200	5.000	4.422	88	70-130	
E13C2-PFDoDA	860002.1	13C2-PFDA	418307.8	2.056	5.000	4.314	86	70-130	
Ed7-NMePFOSAE	279910.2	13C2-PFDA	418307.8	0.669	5.000	3.855	77	70-130	
Ed3-NMePFOSA	93779.2	13C2-PFDA	418307.8	0.224	5.000	4.085	82	70-130	
Ed9-NEtPFOSAE	225813.6	13C2-PFDA	418307.8	0.540	5.000	3.723	74	70-130	
Ed5-NEtPFOSA	72290.9	13C2-PFDA	418307.8	0.173	5.000	3.889	78	70-130	
E13C2-PFTeDA	619245.9	13C2-PFDA	418307.8	1.480	5.000	4.394	88	70-130	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

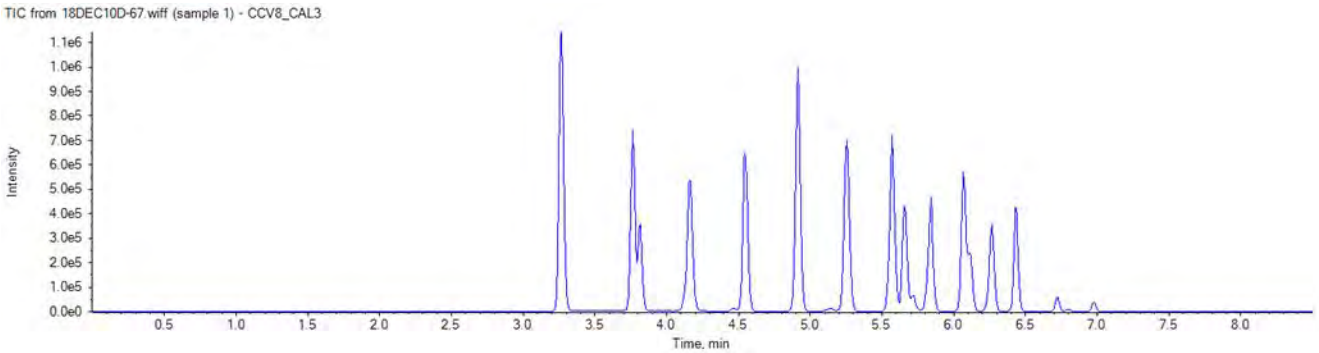
Analyte Quantitation Peak Table

Sample Name: CCV8_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC10D-67.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	472983.3		A	13C4-PFBA	3.26	1156690.3	0.409	2.256
PFPeA	3.77	1.000	449480.1		A	13C5-PFPeA	3.77	1070421.1	0.420	2.209
PFBS	3.81	1.000	193087.4		A	13C3-PFBS	3.81	463988.6	0.416	2.063
4:2-FTS	4.13	1.000	39858.0		A	13C2-4:2-FTS	4.13	53735.4	0.742	1.988
PFHxA	4.16	1.000	417786.8		A	13C5-PFHxA	4.16	756824.6	0.552	2.405
PFPeS	4.18	1.100	103089.4		A	13C3-PFBS	3.81	463988.6	0.222	2.200
PFHpA	4.55	1.000	422210.1		A	13C4-PFHpA	4.55	609543.3	0.693	2.281
PFHxS	4.55	1.000	149038.5		M	13C3-PFHxS	4.55	362653.2	0.411	1.947
6:2-FTS	4.90	1.000	38676.5		A	13C2-6:2-FTS	4.90	44985.3	0.860	2.135
PFHpS	4.91	1.080	145708.0		A	13C3-PFHxS	4.55	362653.2	0.402	2.206
PFOA	4.92	1.000	415028.7		A	13C8-PFOA	4.92	989037.5	0.420	2.293
PFOS	5.24	1.000	160626.6		M	13C8-PFOS	5.25	356113.4	0.451	1.871
PFNA	5.26	1.000	362764.3		A	13C9-PFNA	5.26	637860.5	0.569	2.096
PFNS	5.55	1.060	107596.1		A	13C8-PFOS	5.25	356113.4	0.302	1.944
PFDA	5.57	1.000	307673.5		A	13C6-PFDA	5.57	732409.2	0.420	2.365
8:2-FTS	5.57	1.000	31946.9		A	13C2-8:2-FTS	5.58	31350.9	1.019	2.208
PFOSA	5.66	1.000	310617.1		A	13C8-PFOSA	5.66	736239.6	0.422	2.189
NMeFOSAA	5.72	1.000	34690.0		M	d3-NMeFOSAA	5.72	115662.2	0.300	1.984
PFDS	5.81	1.110	82320.7		A	13C8-PFOS	5.25	356113.4	0.231	1.869
PFUnDA	5.84	1.000	362033.6		A	13C7-PFUnDA	5.84	456235.5	0.794	2.430
NEtFOSAA	5.85	1.000	35665.4		M	d5-NEtFOSAA	5.85	83794.4	0.426	2.151
PFDoDA	6.07	1.000	376579.9		A	13C2-PFDoDA	6.07	860002.1	0.438	2.305
10:2-FTS	6.09	1.090	23112.6		A	13C2-8:2-FTS	5.58	31350.9	0.737	1.953
NMePFOSAE	6.12	1.000	139155.3		A	d7-NMePFOSAE	6.11	279910.2	0.497	2.160
NMePFOSA	6.12	1.000	37220.1		A	d3-NMePFOSA	6.12	93779.2	0.397	2.003
PFDoS	6.23	1.190	40730.7		A	13C8-PFOS	5.25	356113.4	0.114	1.744
NEtPFOSAE	6.27	1.000	153314.0		A	d9-NEtPFOSAE	6.26	225813.6	0.679	2.275
NEtPFOSA	6.28	1.000	32764.5		A	d5-NEtPFOSA	6.28	72290.9	0.453	2.170
PFTrDA	6.26	1.030	340952.2		A	13C2-PFDoDA	6.07	860002.1	0.396	2.597
PFTeDA	6.43	1.000	250328.7		A	13C2-PFTeDA	6.43	619245.9	0.404	2.312
PFHxDA	6.72	1.040	114353.8		A	13C2-PFTeDA	6.43	619245.9	0.185	2.313
PFODA	6.98	1.080	79157.4		A	13C2-PFTeDA	6.43	619245.9	0.128	2.052

Total Ion Chromatogram

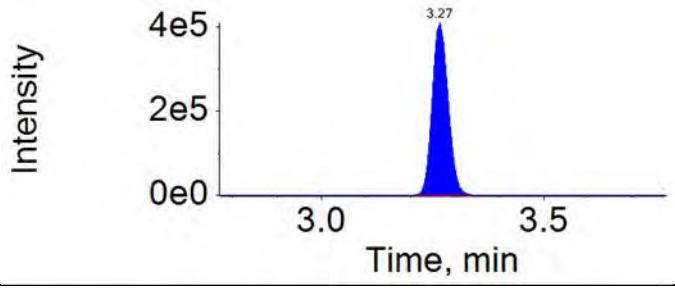


APPROVED
By JPT at 12:44 pm, 12/11/18

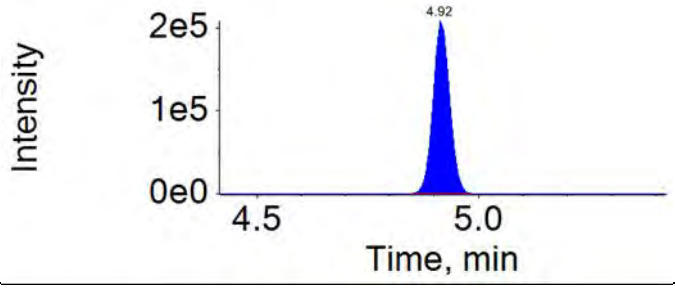
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

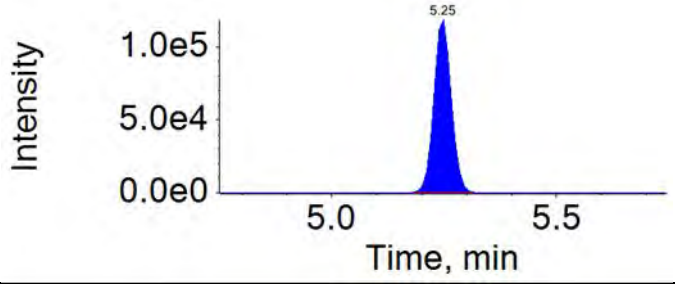
Injection Standard: 13C3-PFBA
216.0 / 172.0



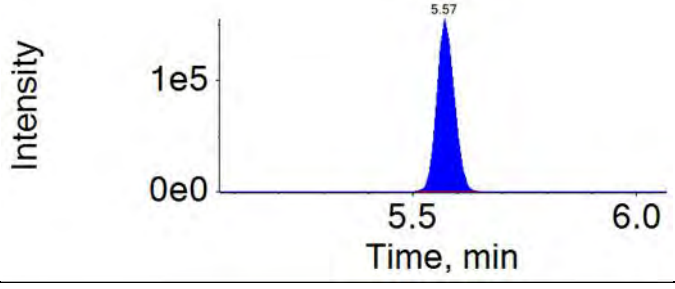
Injection Standard: 13C2-PFOA
415.0 / 370.0



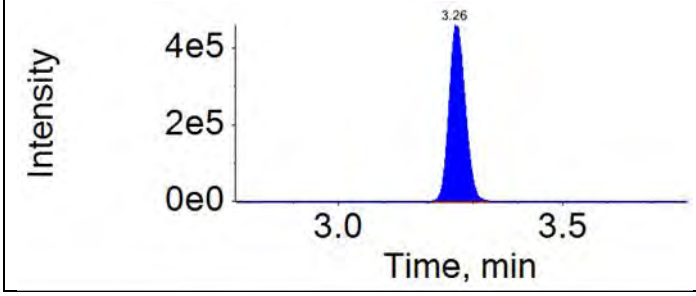
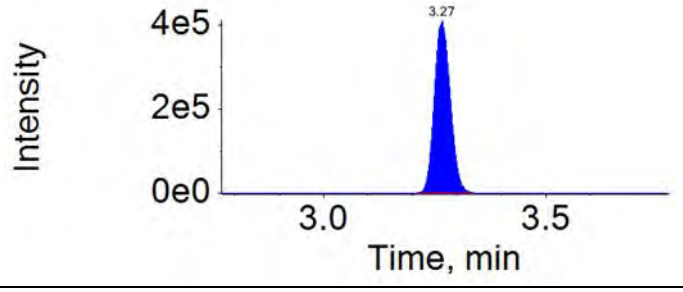
Injection Standard: 13C4-PFOS
503.0 / 80.0

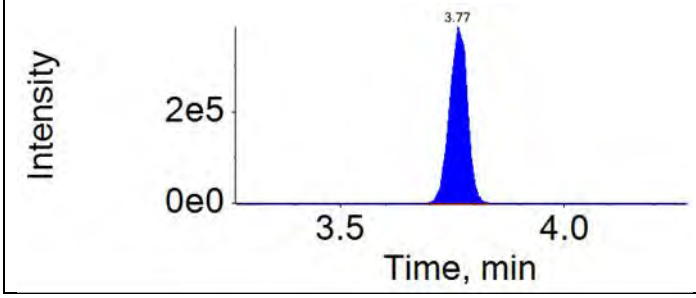
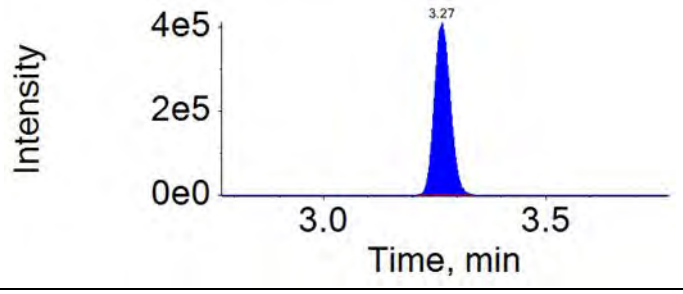


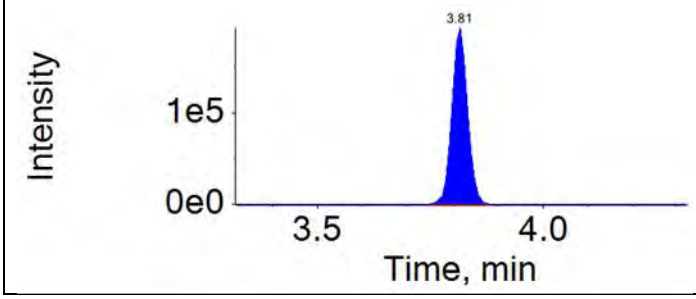
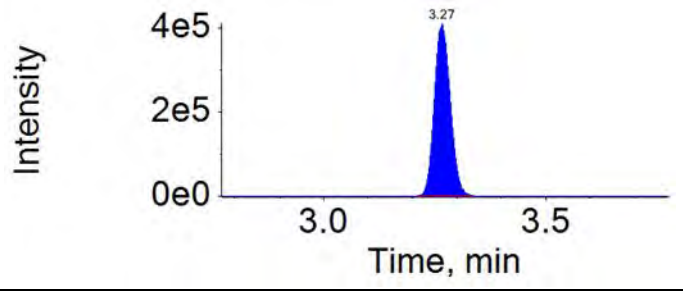
Injection Standard: 13C2-PFDA
515.0 / 470.0

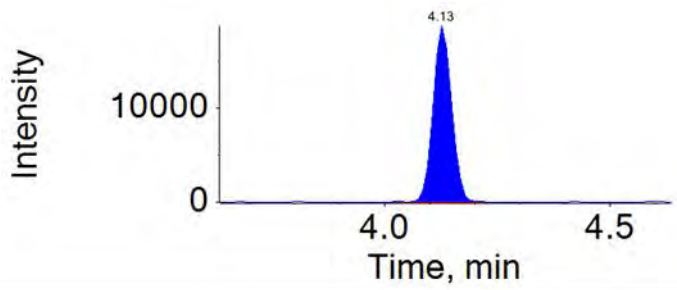
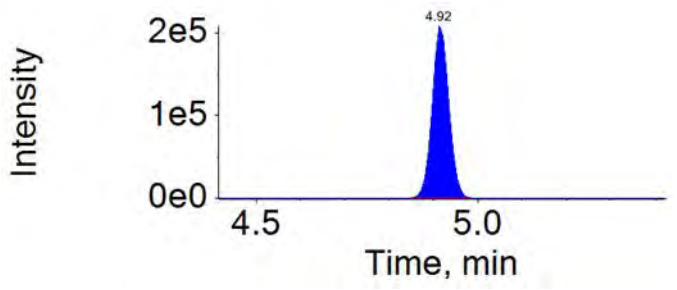


ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

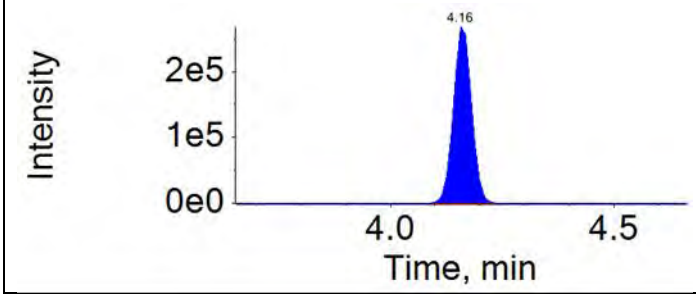
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

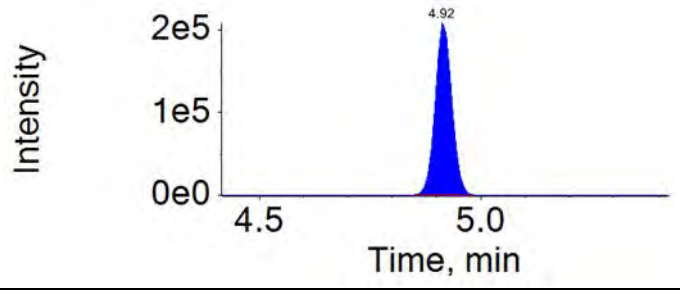
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

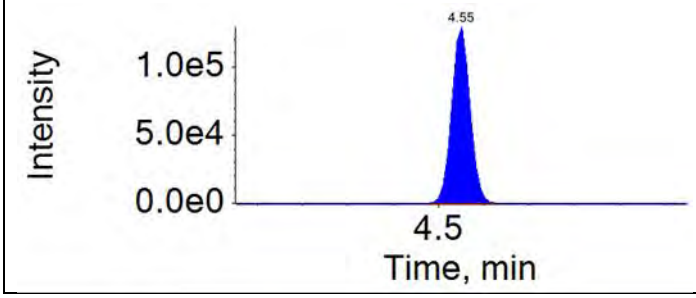
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

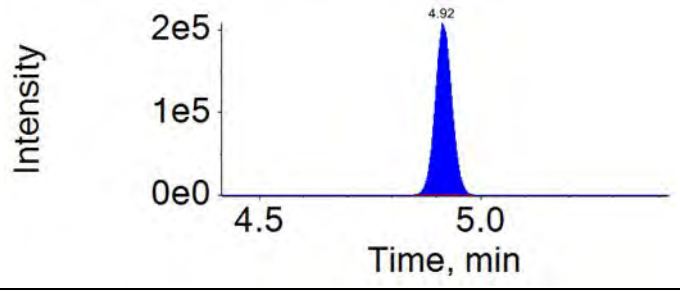
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



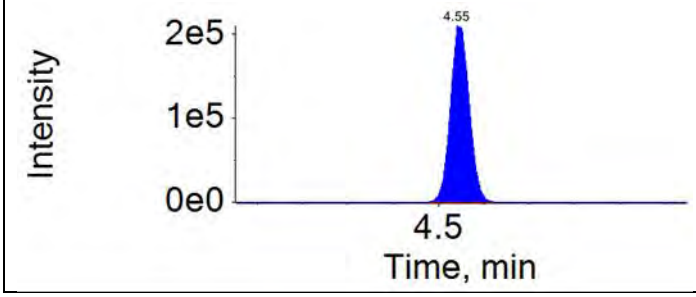


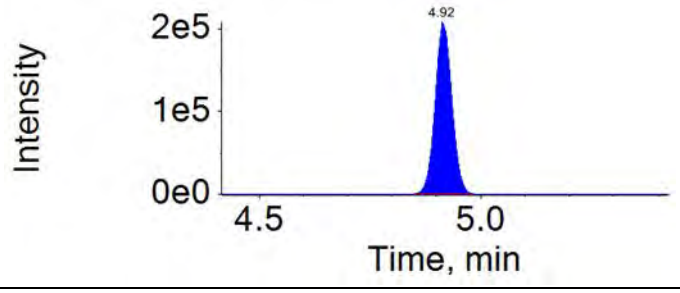
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



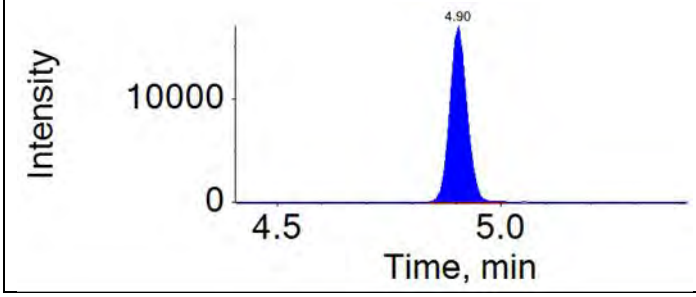


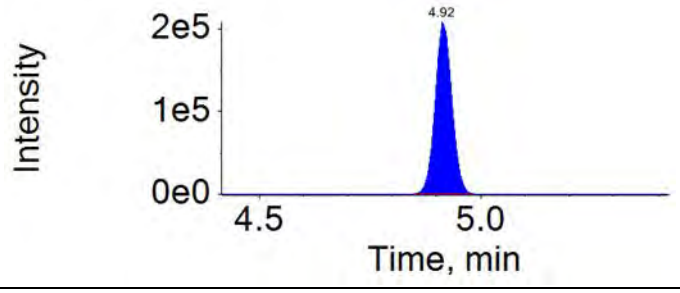
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

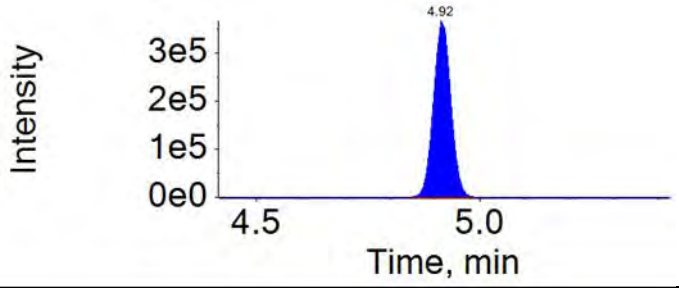
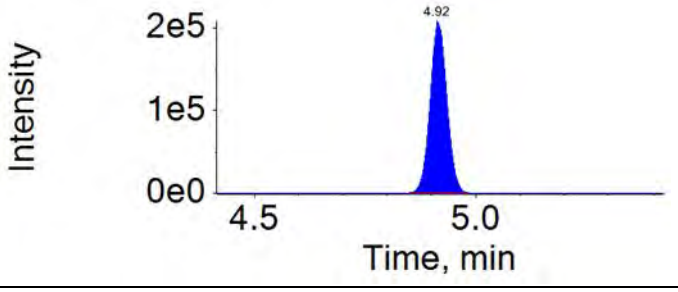


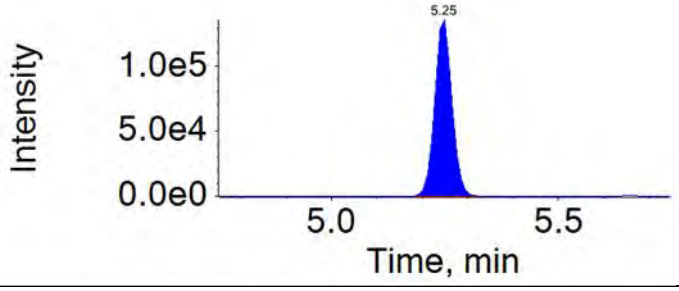
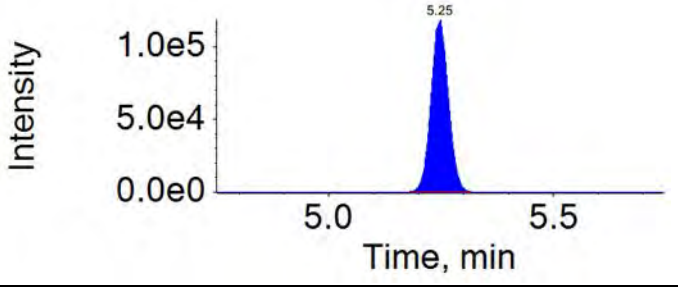


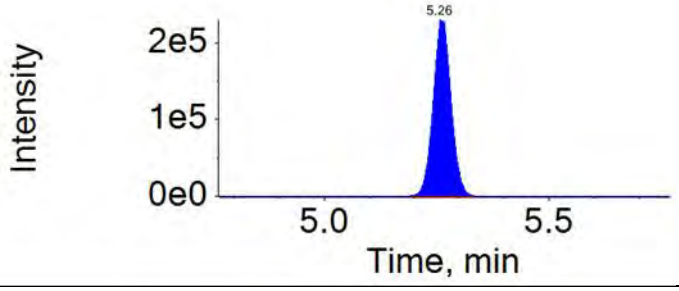
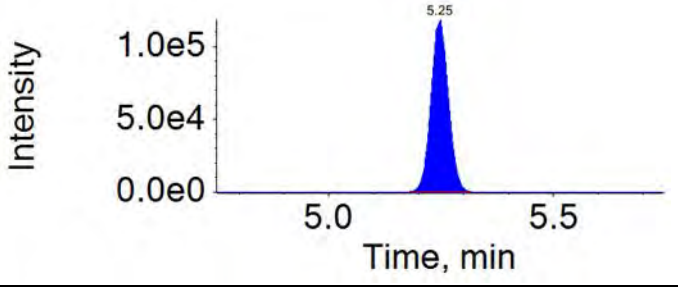
APPROVED
By JPT at 12:44 pm, 12/11/18

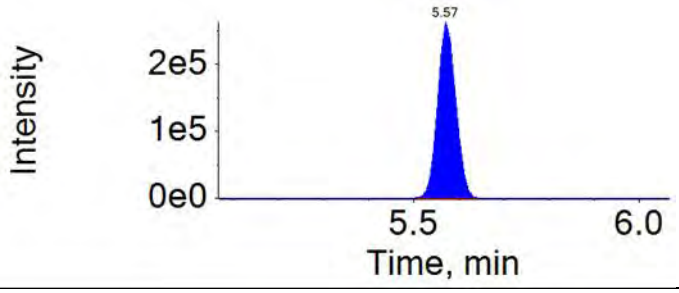
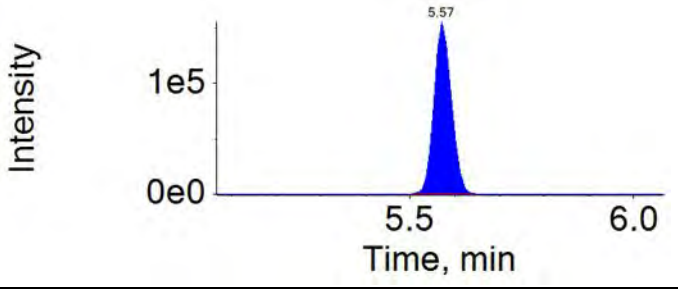
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

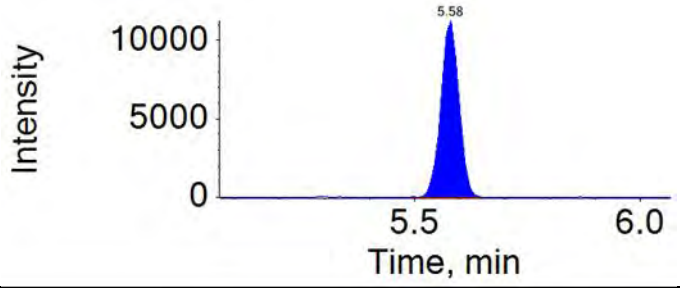
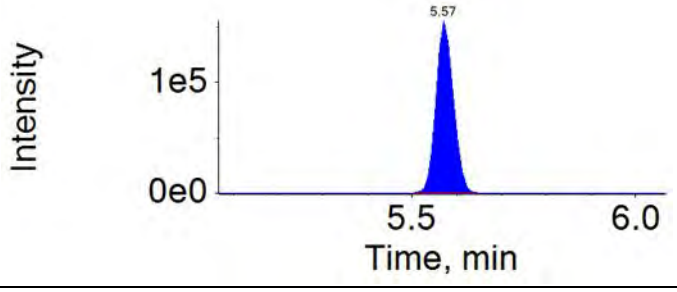
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

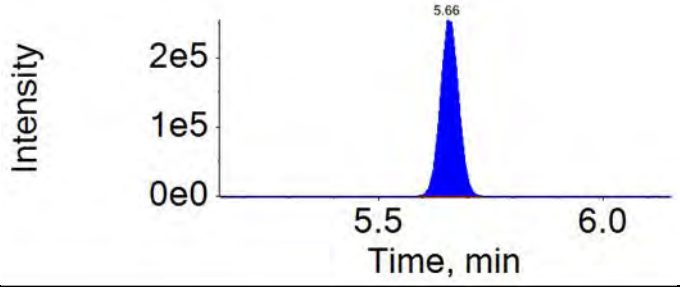
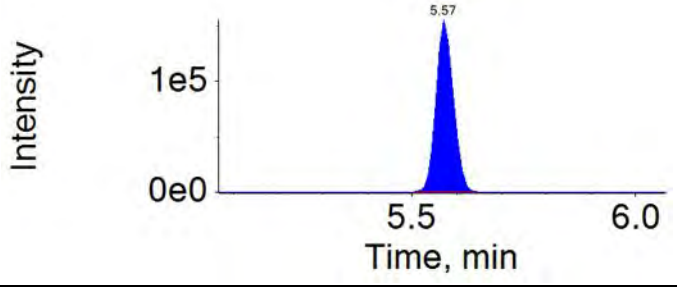
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

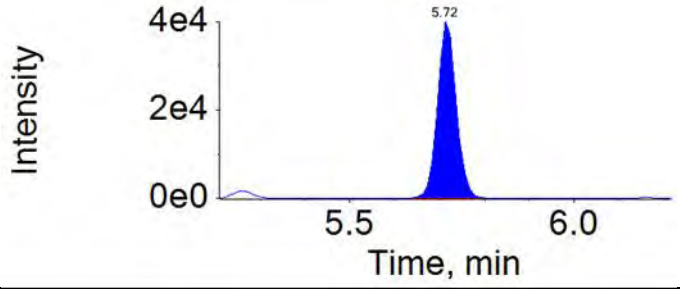
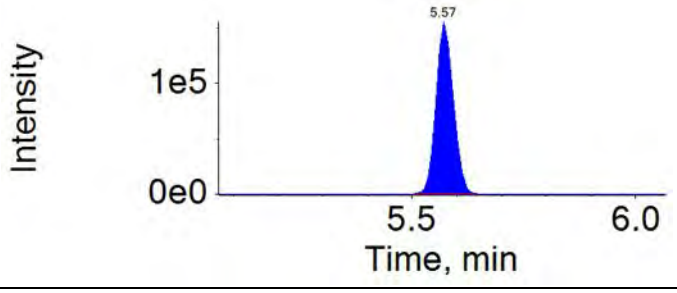
APPROVED
By JPT at 12:44 pm, 12/11/18

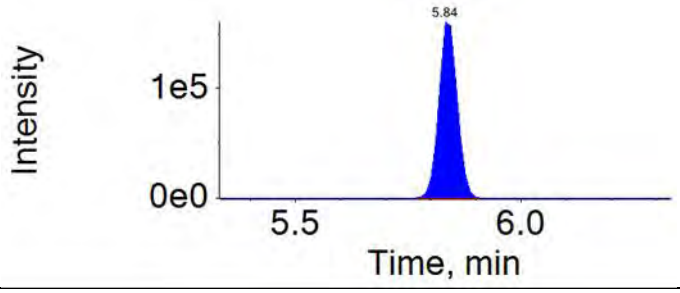
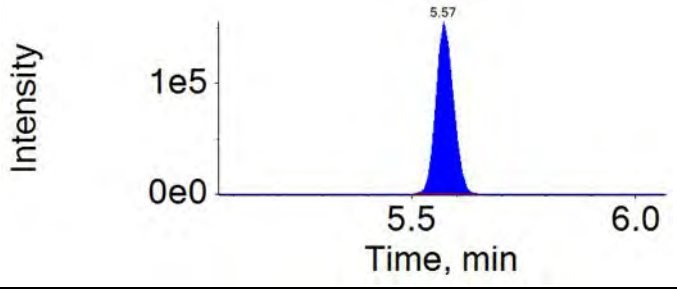
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

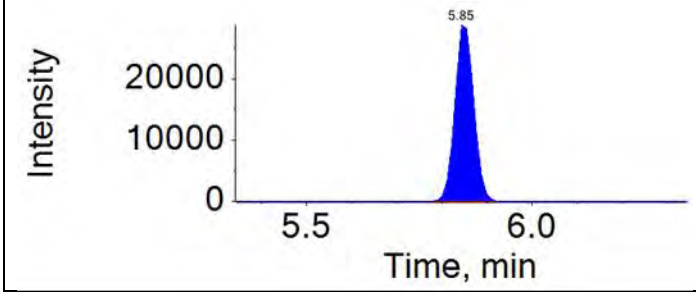
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

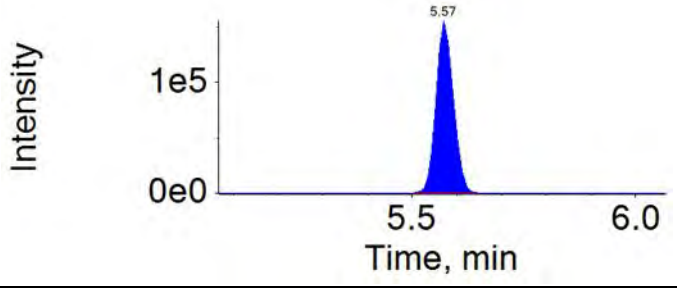
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

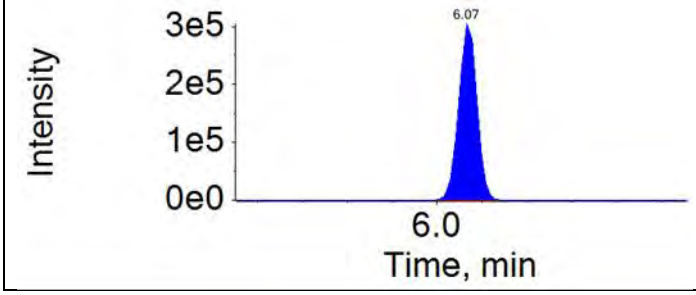
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

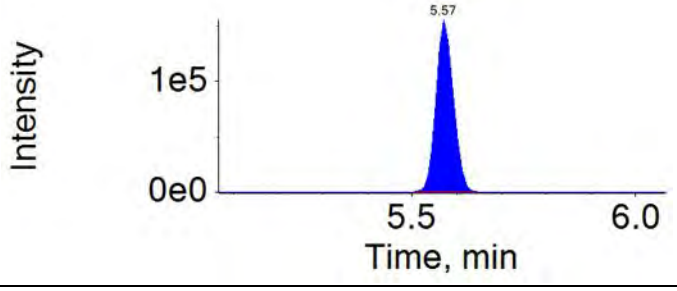
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



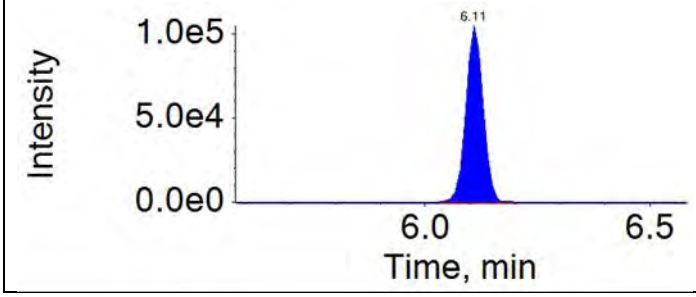


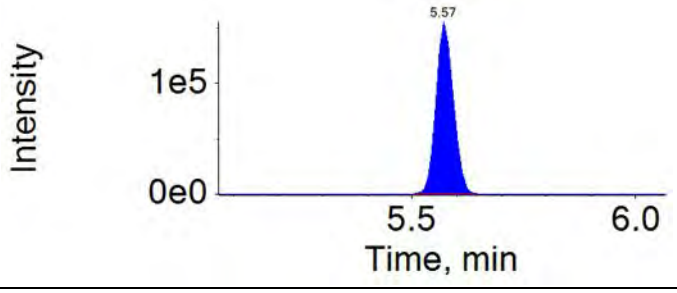
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



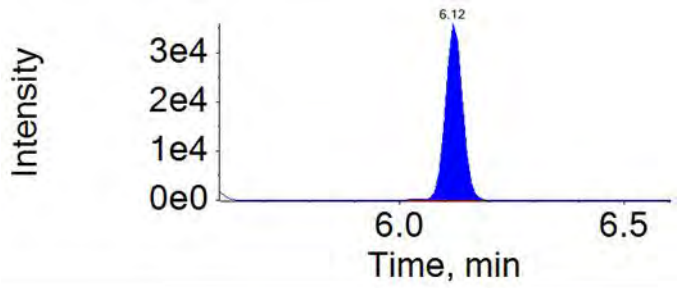


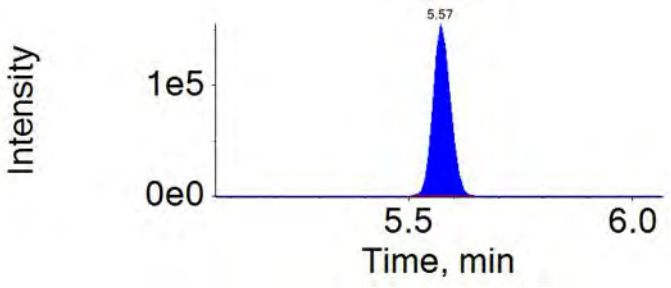
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



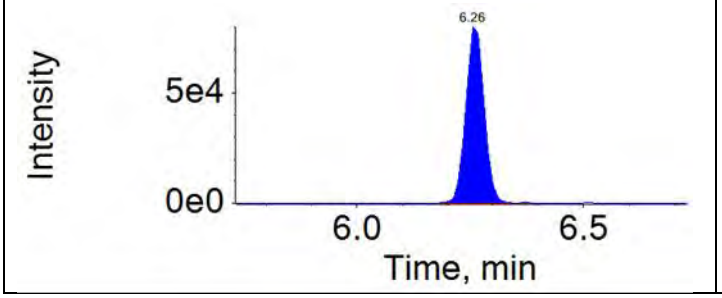


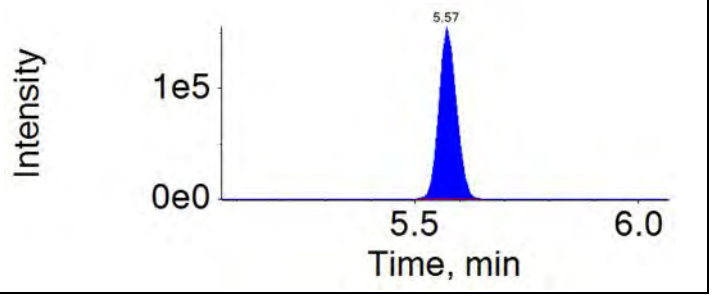
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

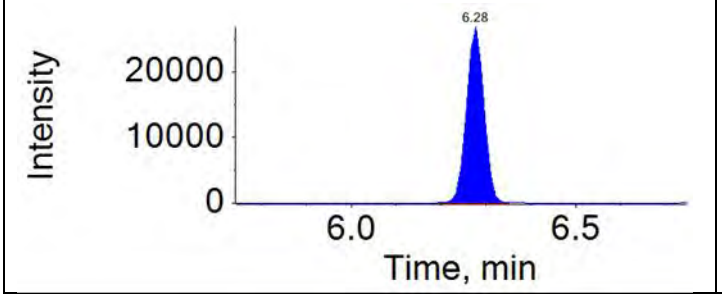
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

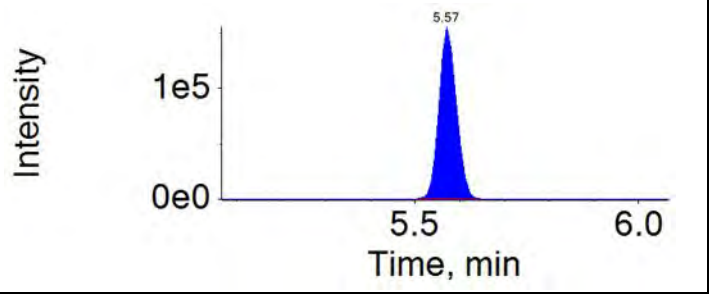
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



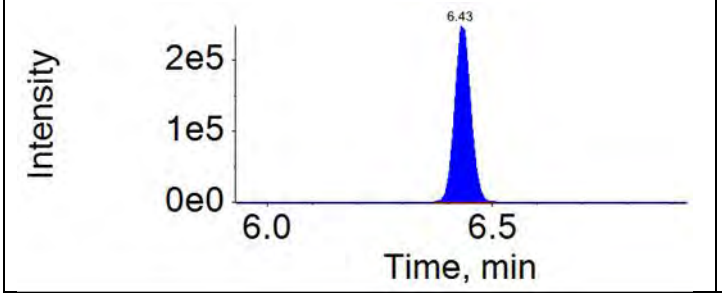


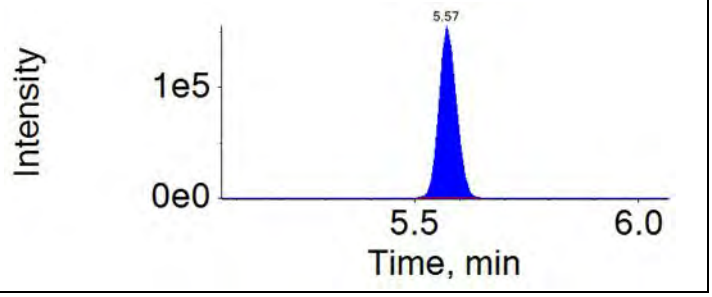
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





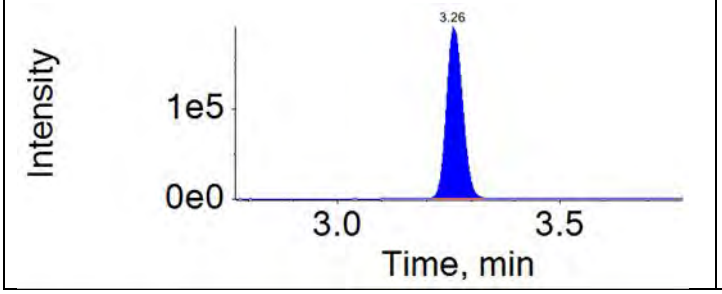
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

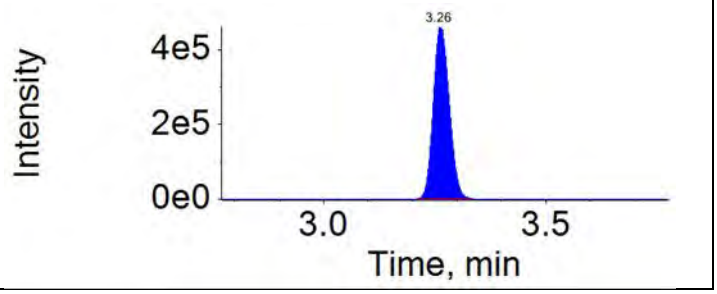




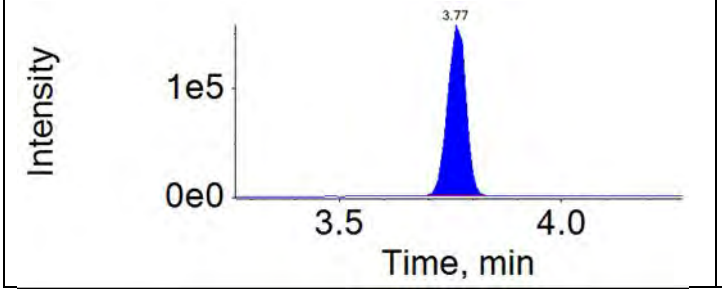
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

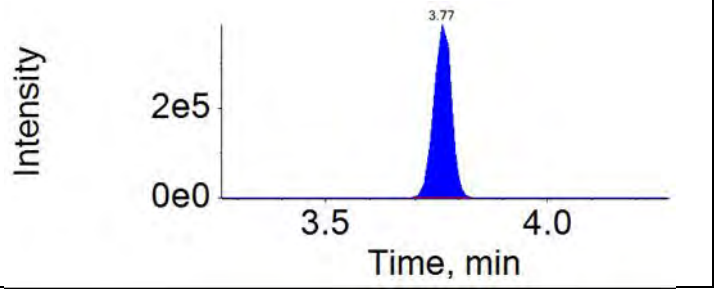
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



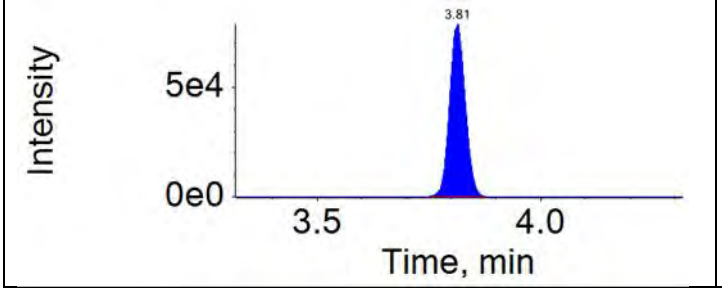


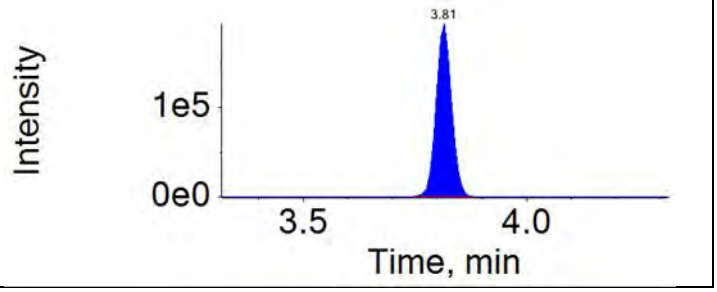
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



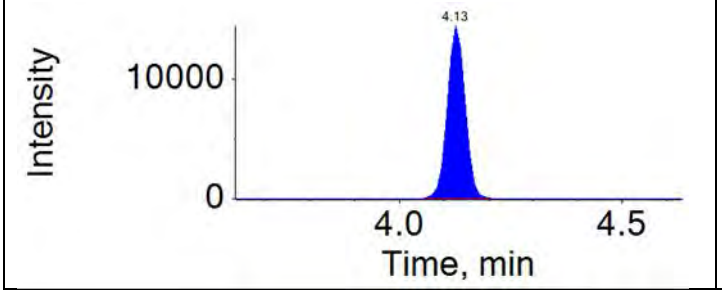


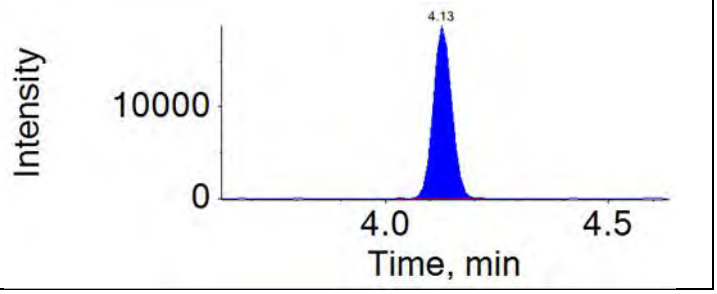
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

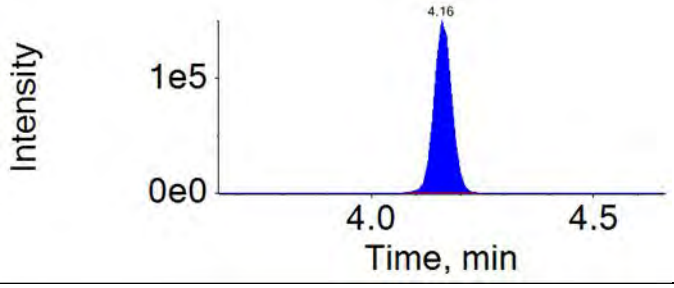
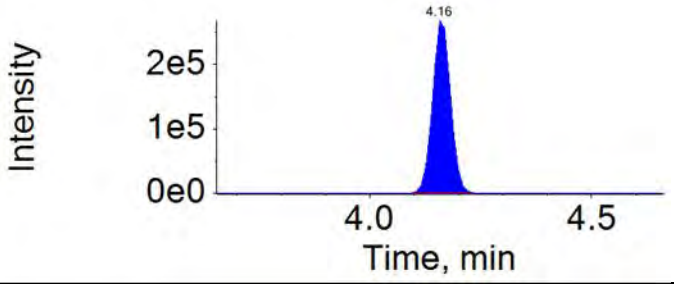


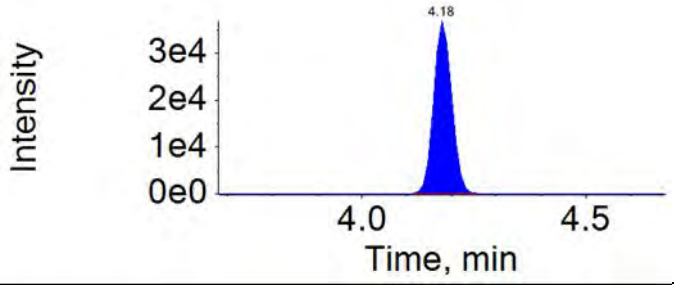
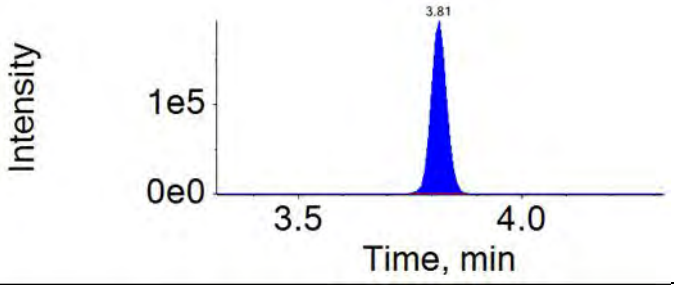


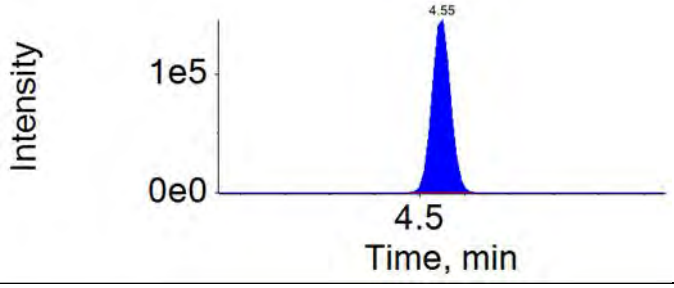
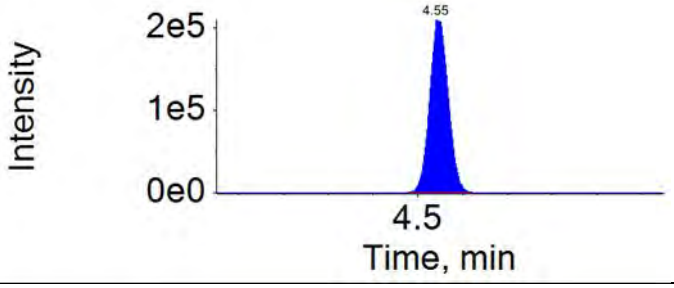
APPROVED
By JPT at 12:44 pm, 12/11/18

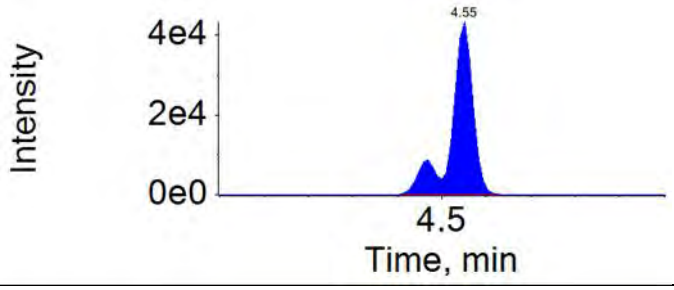
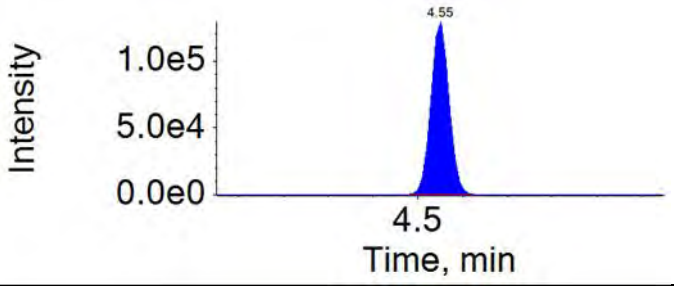
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

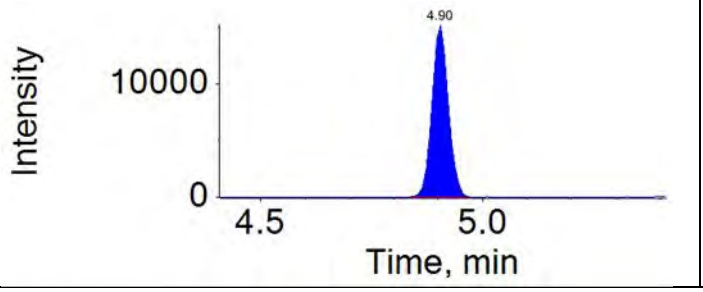
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

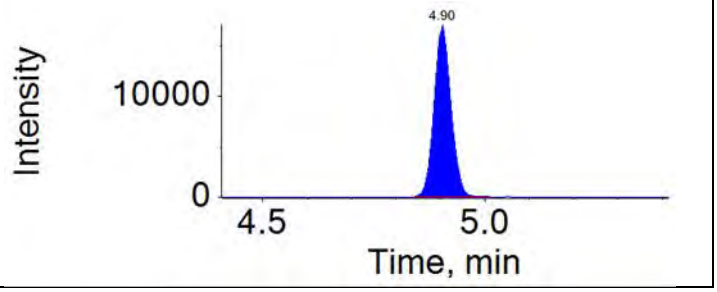
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

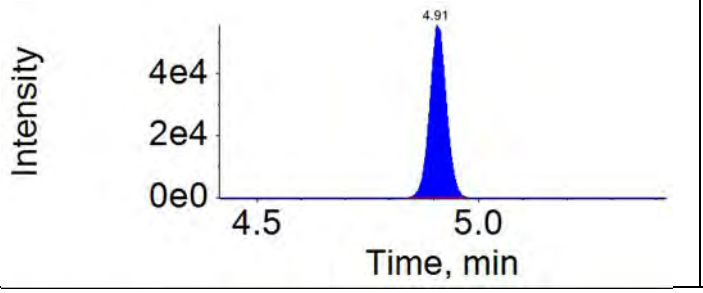
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

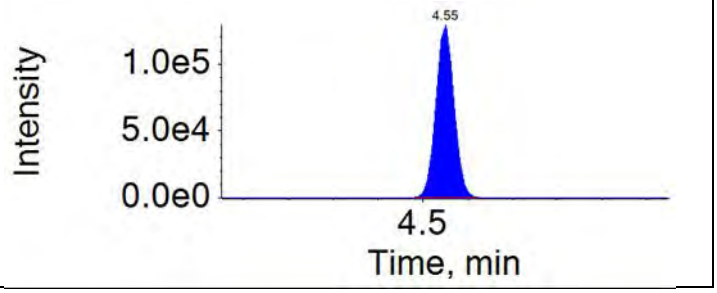
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



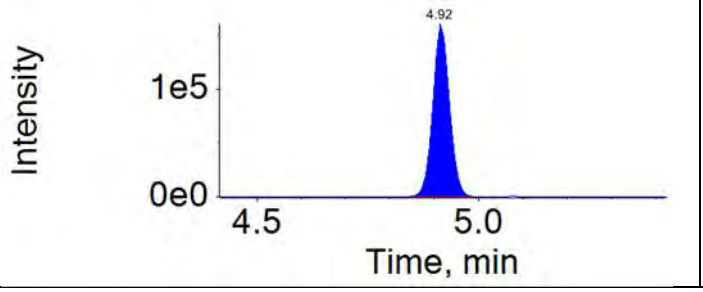


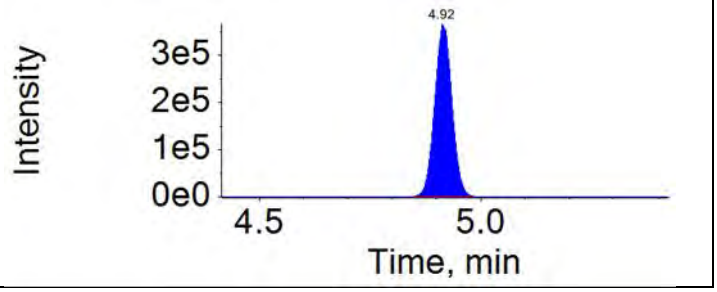
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



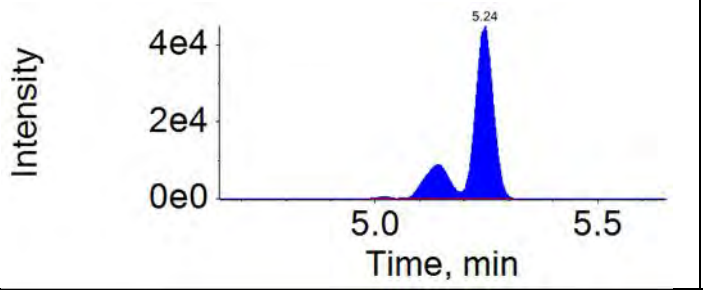


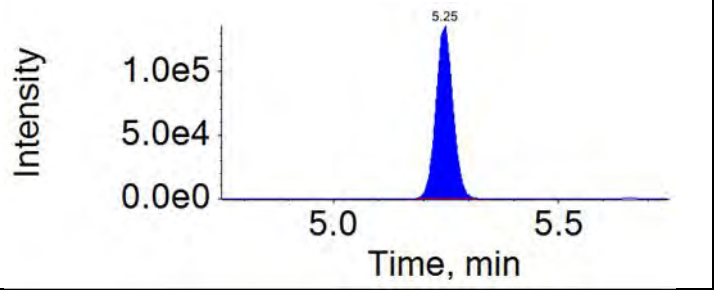
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



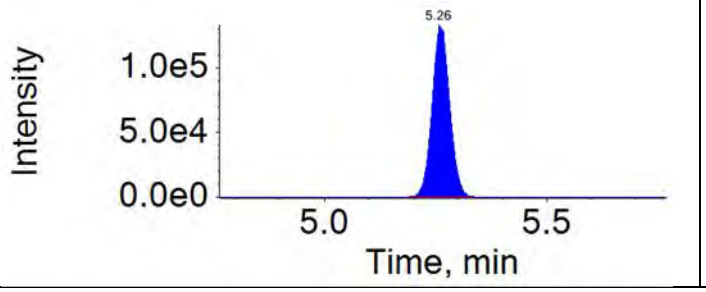


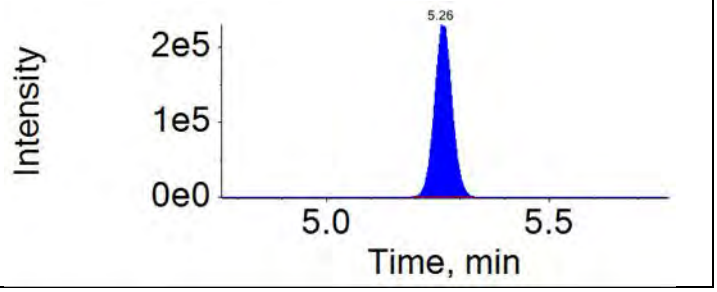
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

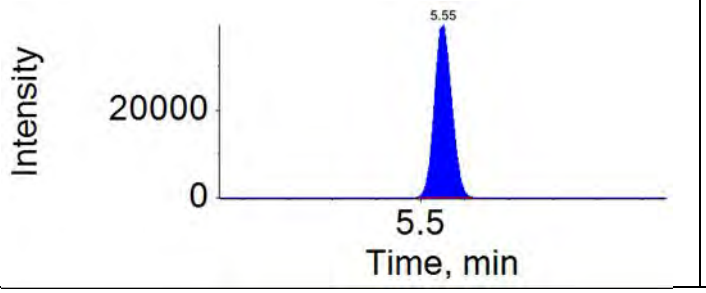
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

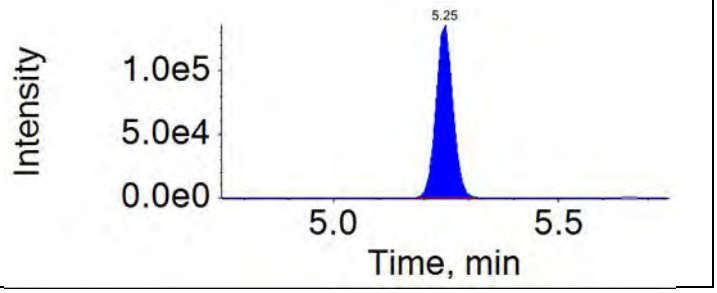
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



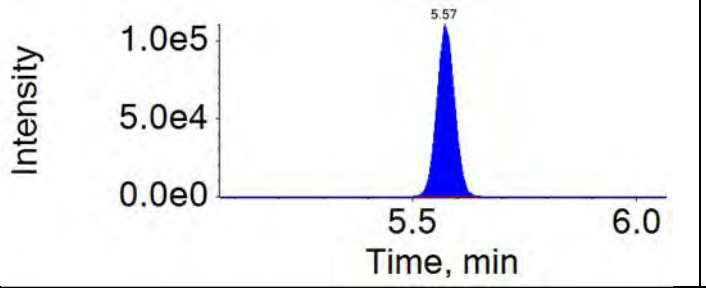


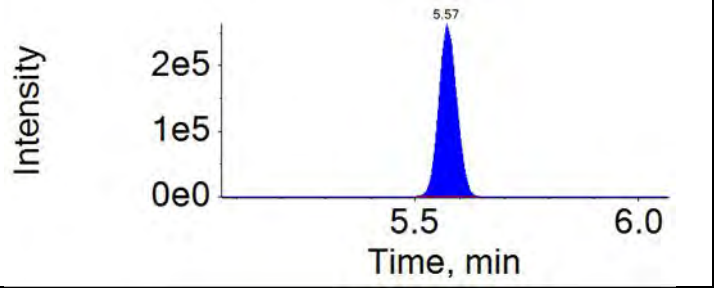
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



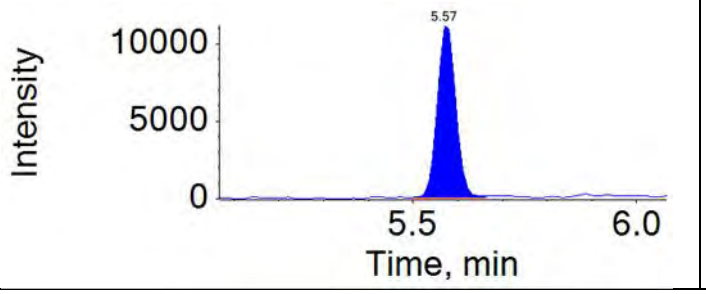


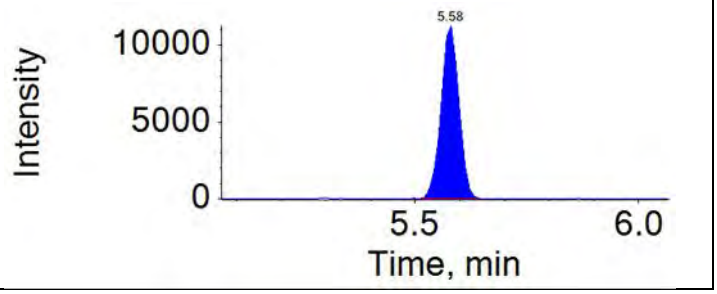
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

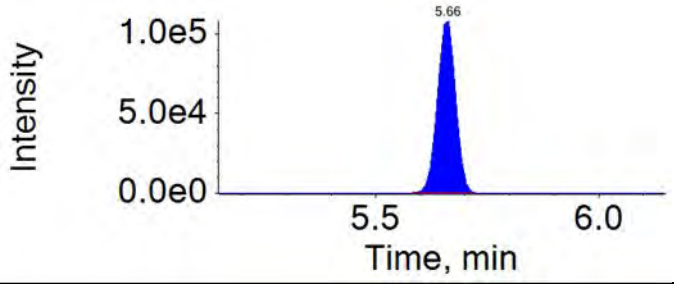
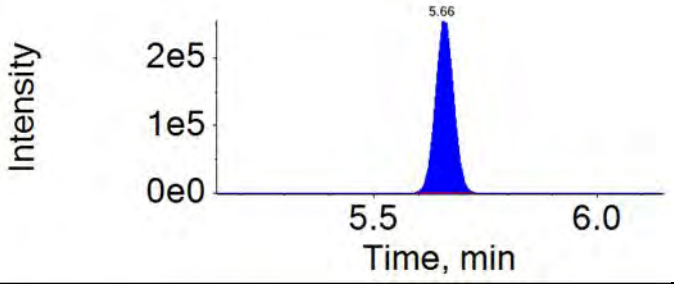


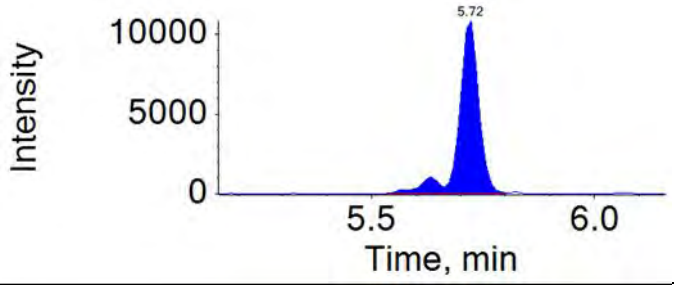
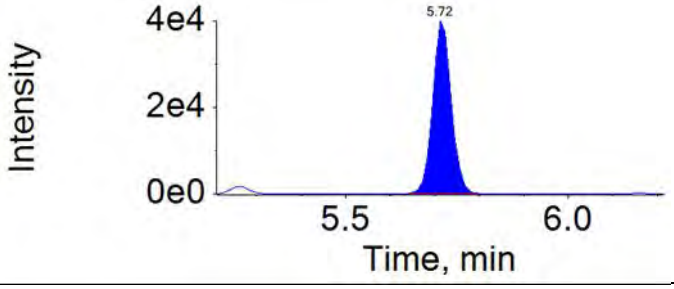


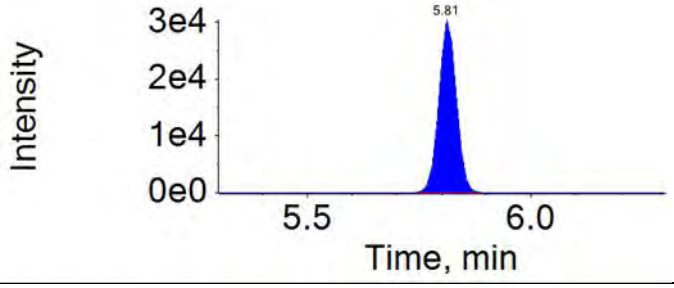
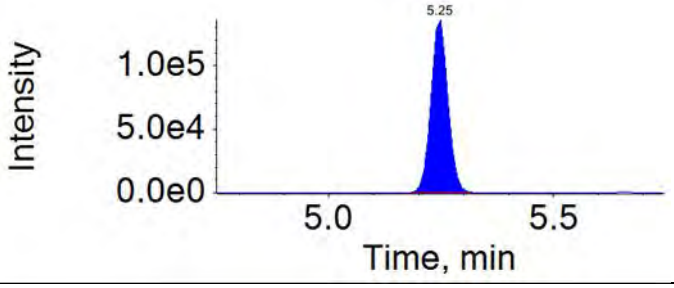
APPROVED
By JPT at 12:44 pm, 12/11/18

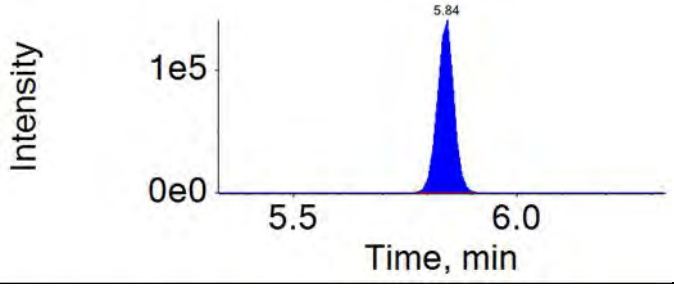
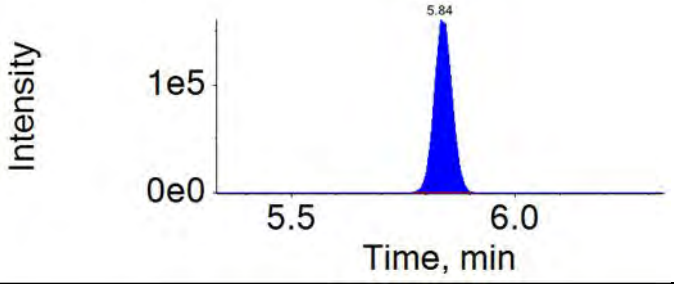
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

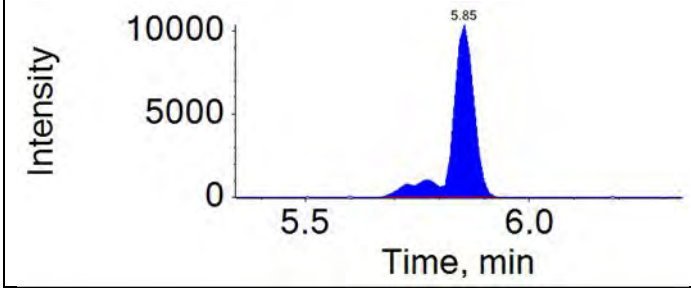
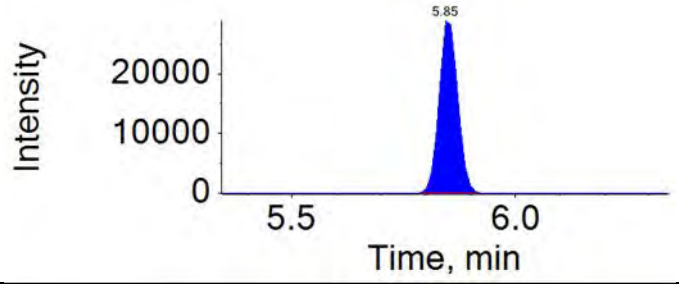
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

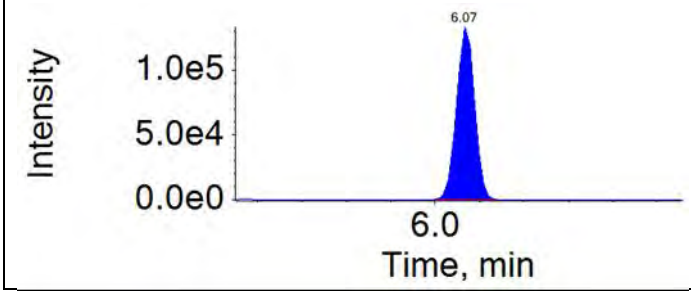
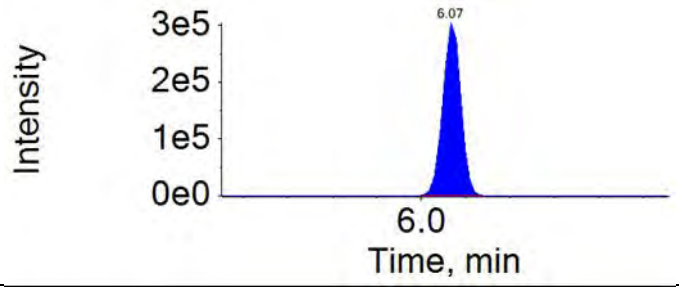
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

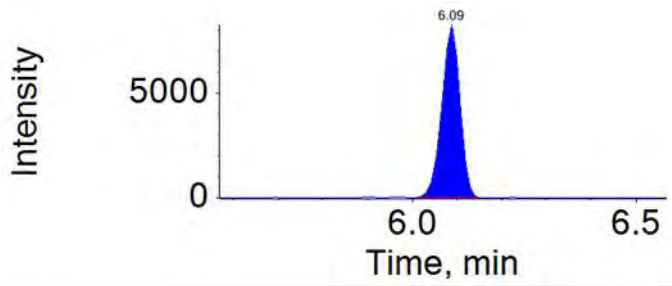
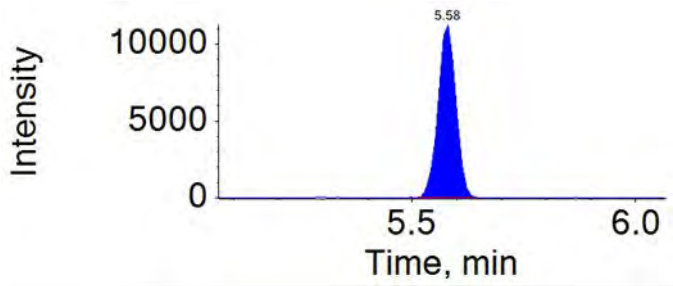
APPROVED
By JPT at 12:44 pm, 12/11/18

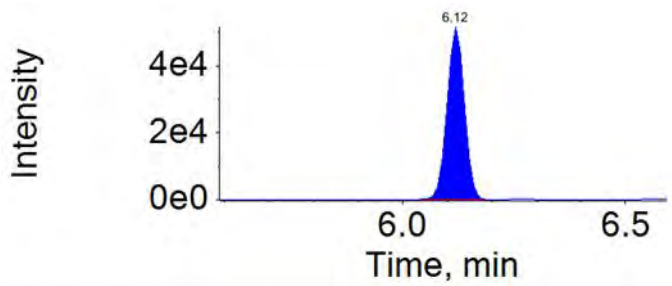
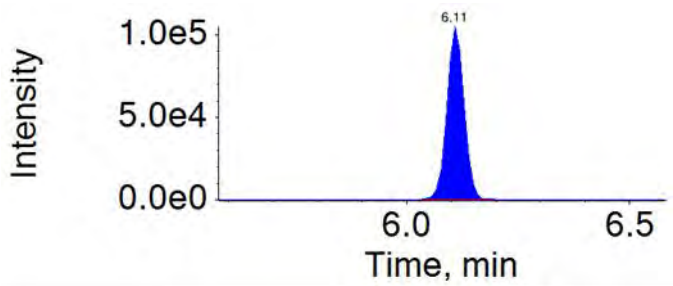
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

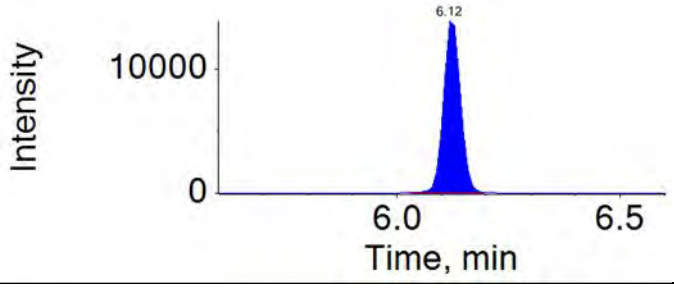
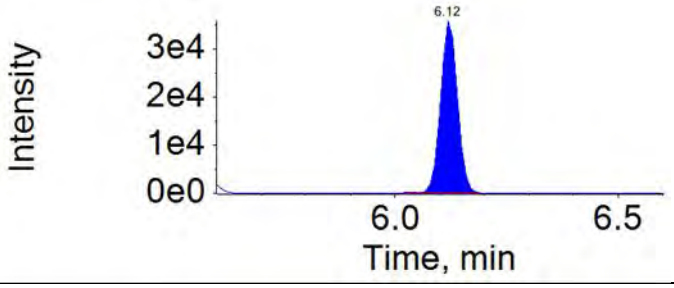
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

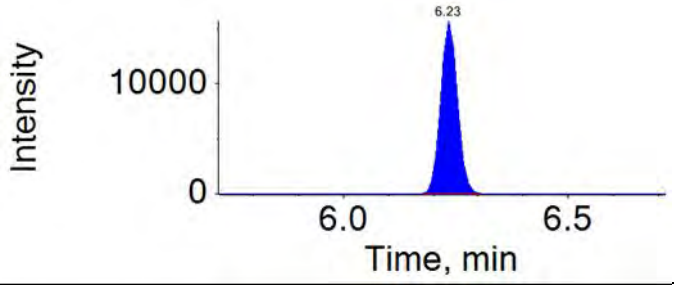
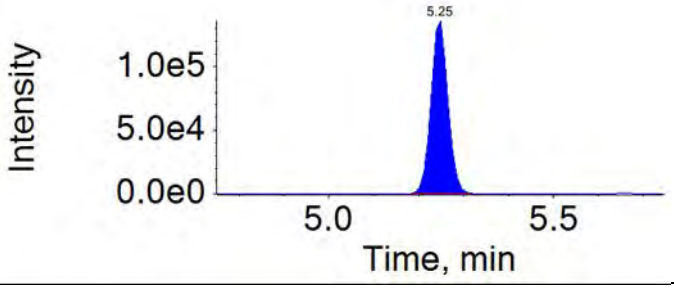
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

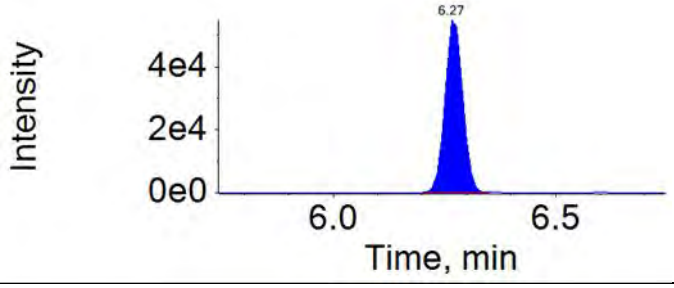
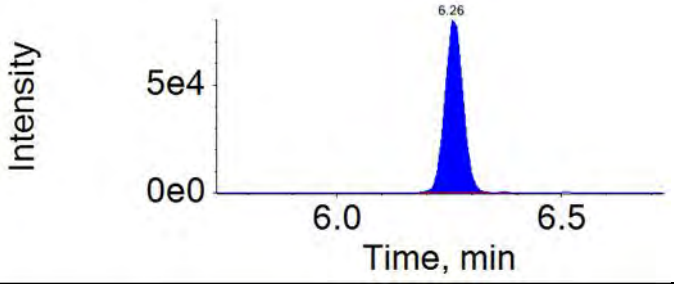
APPROVED
By JPT at 12:44 pm, 12/11/18

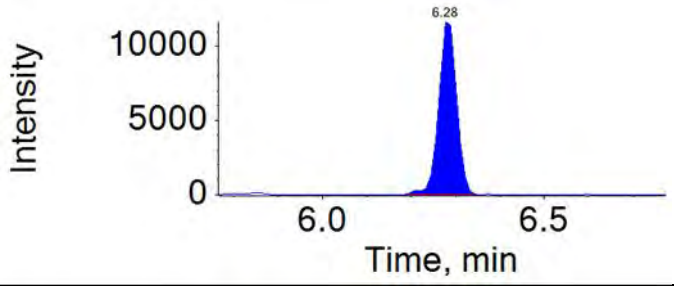
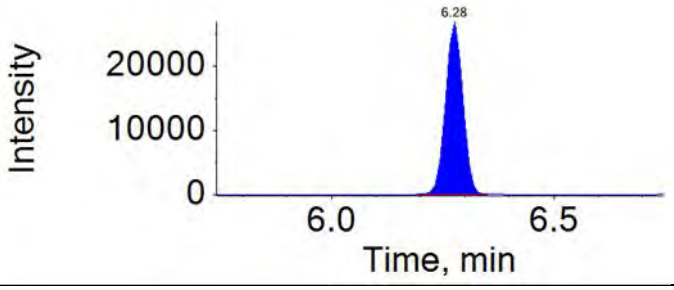
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0
	

Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0
	

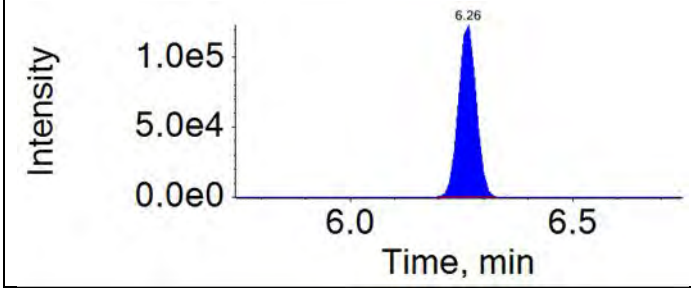
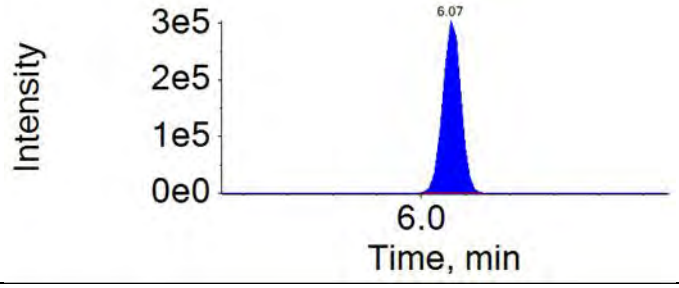
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0
	

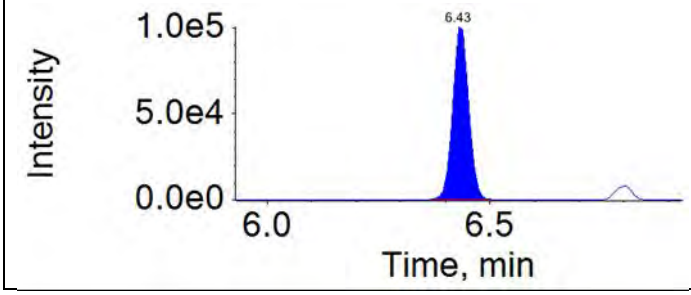
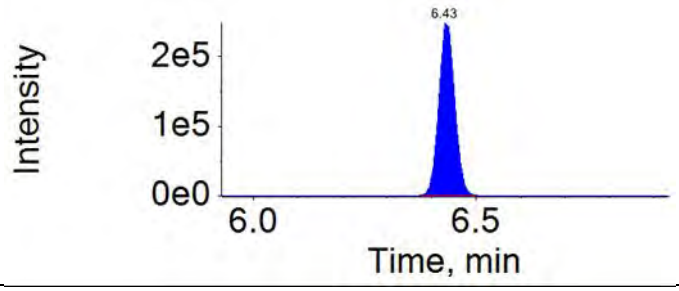
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0
	

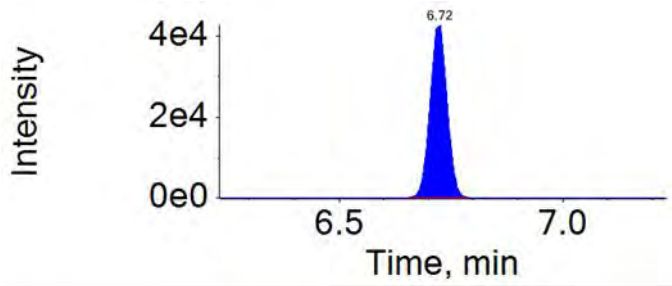
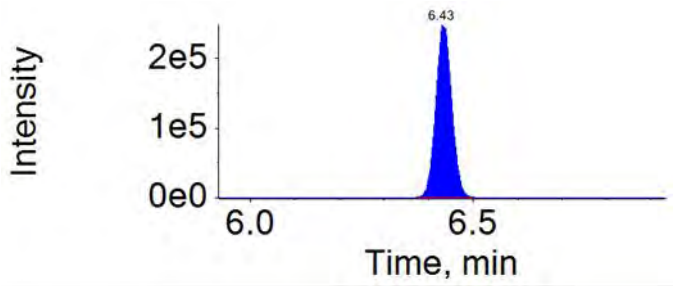
APPROVED
By JPT at 12:44 pm, 12/11/18

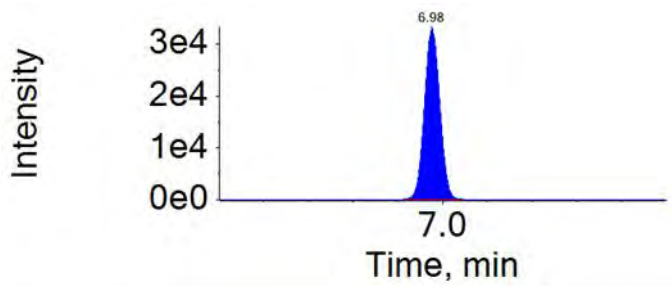
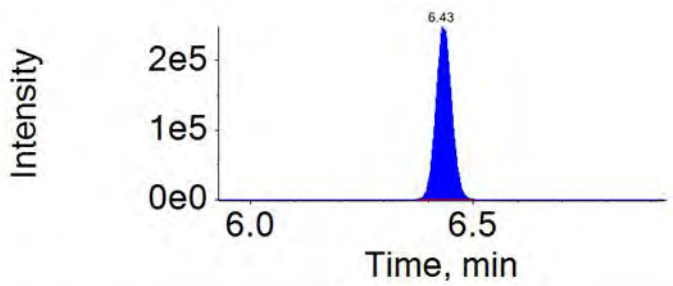
REVIEWED
By umar at 12:43 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

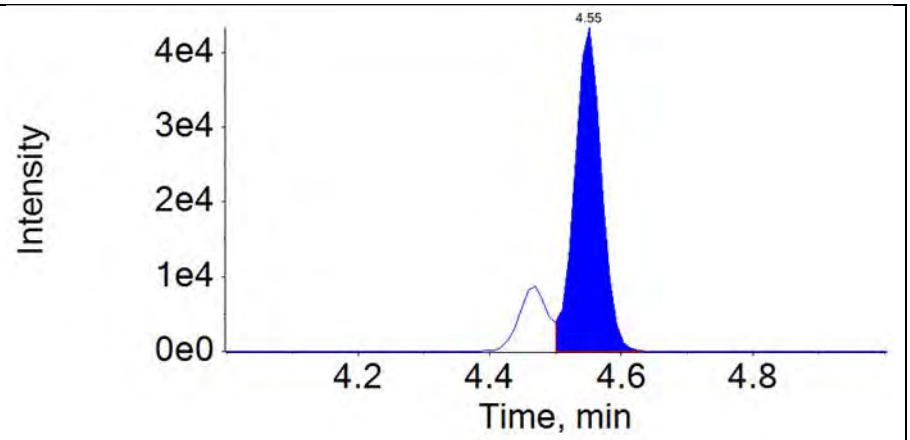
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

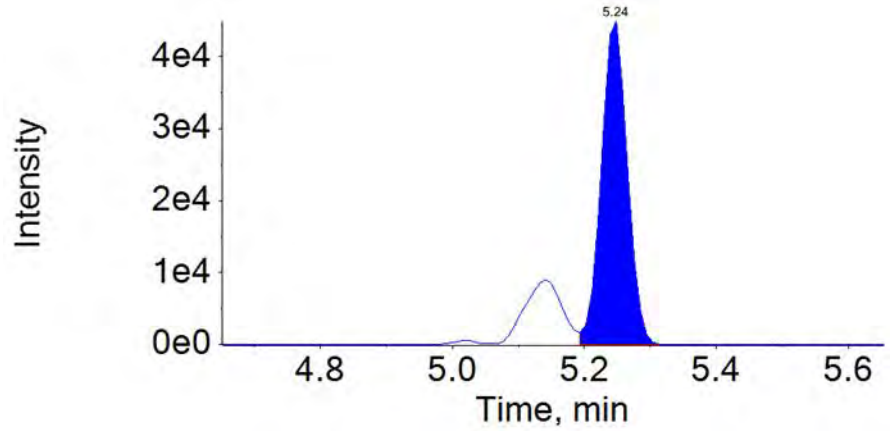
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
123275.5
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



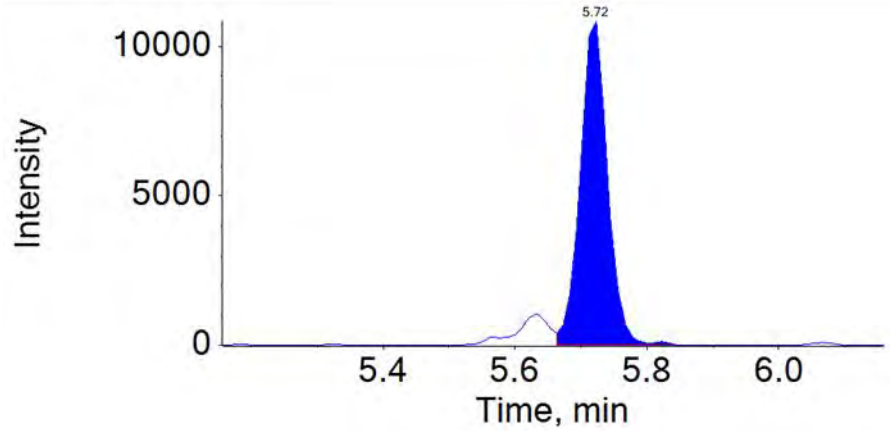
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
123628.2
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
31272.6
Mass Range:
570.0 / 419.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



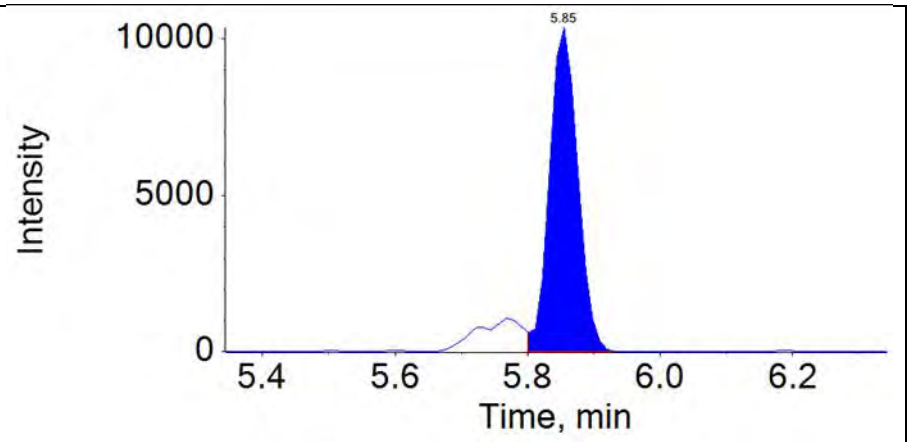
Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

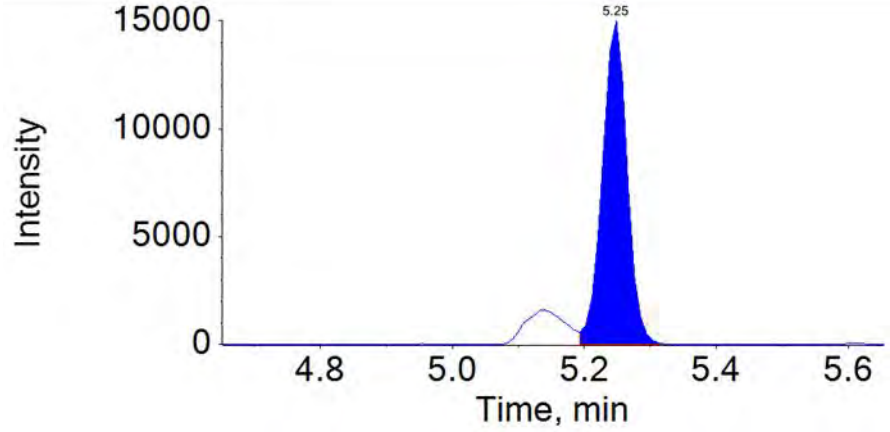
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.85
Peak Area:
30646.2
Mass Range:
584.0 / 419.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



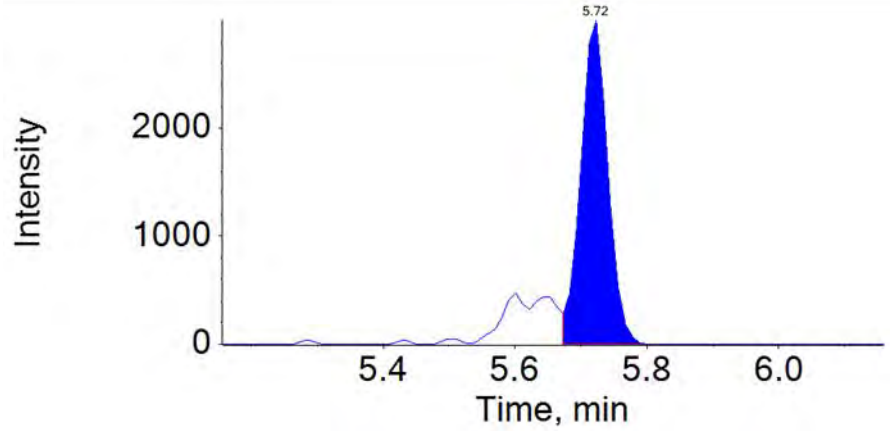
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
39144.2
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
8554.0
Mass Range:
570.0 / 483.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



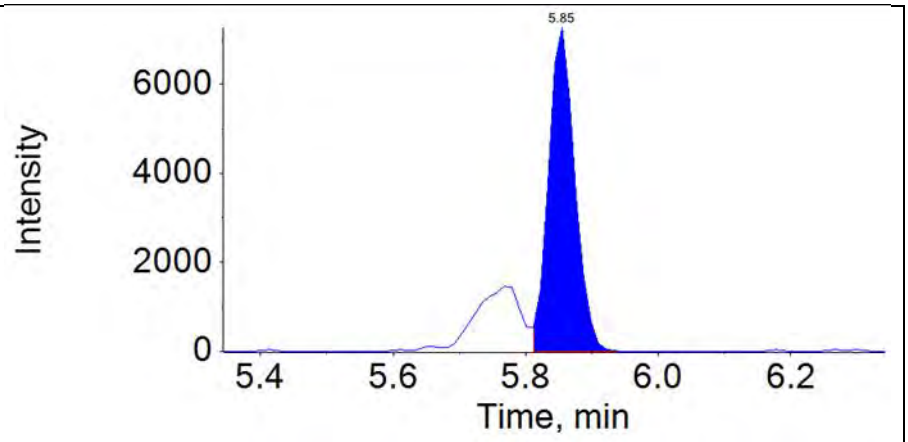
Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
20060.0
Mass Range:
584.0 / 526.0
File Name:
18DEC10D-67.wiff
Sample Name:
CCV8_CAL3



Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

Sample Name: CCV8_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC10D-67.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	193087.4	A	N/A	1.0000			
PFBS_2	3.81	1.00	69639.3	A	N/A	0.3607	-1	50	
4:2-FTS	4.13	1.00	39858.0	A	N/A	1.0000			
4:2-FTS_2	4.13	1.00	26111.8	A	N/A	0.6551	0	50	
PFHxA	4.16	1.00	417786.8	A	N/A	1.0000			
PFHxA_2	4.16	1.00	4768.6	A	N/A	0.0114	18	50	
PFPeS	4.18	1.10	103089.4	A	N/A	1.0000			
PFPeS_2	4.18	1.10	52630.2	A	N/A	0.5105	-3	50	
PFHpA	4.55	1.00	422210.1	A	N/A	1.0000			
PFHpA_2	4.55	1.00	22430.3	A	N/A	0.0531	-6	50	
PFHxS	4.55	1.00	149038.5	M	N/A	1.0000			
PFHxS_2	4.55	1.00	50629.8	A	N/A	0.3397	-7	50	
6:2-FTS	4.90	1.00	38676.5	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	23631.8	A	N/A	0.6110	-3	50	
PFHpS	4.91	1.08	145708.0	A	N/A	1.0000			
PFHpS_2	4.91	1.08	58561.5	A	N/A	0.4019	-3	50	
PFOA	4.92	1.00	415028.7	A	N/A	1.0000			
PFOA_2	4.91	1.00	21241.2	A	N/A	0.0512	-17	50	
PFOS	5.24	1.00	160626.6	M	N/A	1.0000			
PFOS_2	5.25	1.00	45899.0	M	N/A	0.2857	-5	50	
PFNA	5.26	1.00	362764.3	A	N/A	1.0000			
PFNA_2	5.26	1.00	7471.3	A	N/A	0.0206	7	50	
PFNS	5.55	1.06	107596.1	A	N/A	1.0000			
PFNS_2	5.55	1.06	50001.5	A	N/A	0.4647	-4	50	
PFDA	5.57	1.00	307673.5	A	N/A	1.0000			
PFDA_2	5.58	1.00	1909.2	A	N/A	0.0062	-36	50	
8:2-FTS	5.57	1.00	31946.9	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	17796.4	A	N/A	0.5571	-9	50	
NMeFOSAA	5.72	1.00	34690.0	M	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	10979.8	M	N/A	0.3165	18	50	
PFDS	5.81	1.11	82320.7	A	N/A	1.0000			
PFDS_2	5.81	1.11	44283.7	A	N/A	0.5379	9	50	
PFUnDA	5.84	1.00	362033.6	A	N/A	1.0000			
PFUnDA_2	5.84	1.00	909.9	A	N/A	0.0025	-39	50	
NEtFOSAA	5.85	1.00	35665.4	M	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	26987.7	M	N/A	0.7567	12	50	
PFDoDA	6.07	1.00	376579.9	A	N/A	1.0000			
PFDoDA_2	6.07	1.00	5283.4	A	N/A	0.0140	5	50	
10:2-FTS	6.09	1.09	23112.6	A	N/A	1.0000			
10:2-FTS_2	6.09	1.09	16709.0	A	N/A	0.7229	4	50	
PFTrDA	6.26	1.03	340952.2	A	N/A	1.0000			
PFTrDA_2	6.26	1.03	3199.0	A	N/A	0.0094	24	50	
PFTeDA	6.43	1.00	250328.7	A	N/A	1.0000			
PFTeDA_2	6.44	1.00	1593.9	A	N/A	0.0064	-4	50	
PFHxDA	6.72	1.04	114353.8	A	N/A	1.0000			
PFHxDA_2	6.72	1.04	7319.7	A	N/A	0.0640	4	50	
PFODA	6.98	1.08	79157.4	A	N/A	1.0000			
PFODA_2	6.97	1.08	2066.5	A	N/A	0.0261	-4	50	

APPROVED
By JPT at 12:44 pm, 12/11/18

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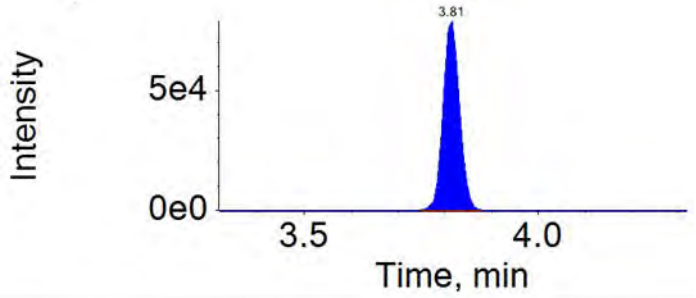
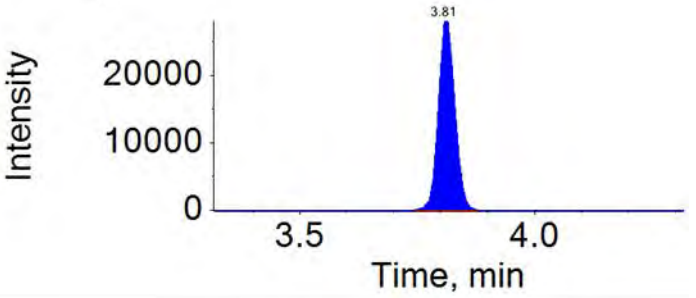
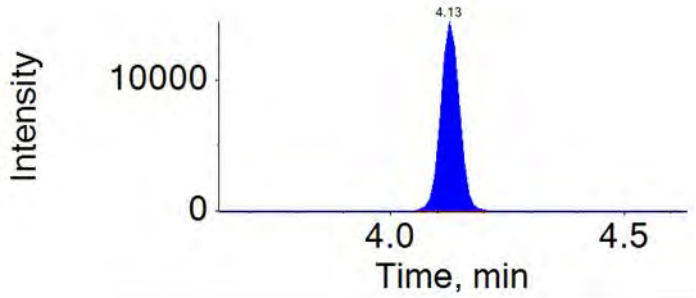
Component: PFBS
Primary Mass: 299.0 / 80.0



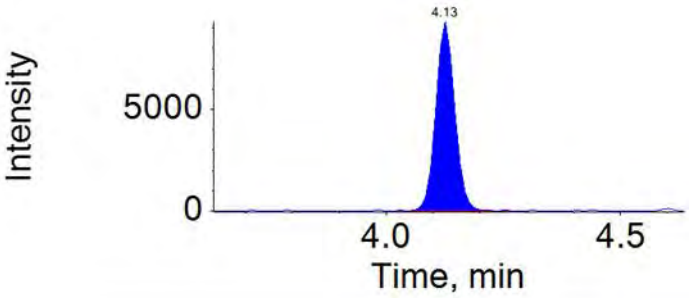
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



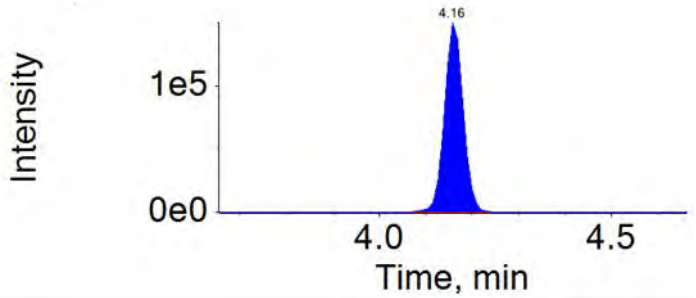
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



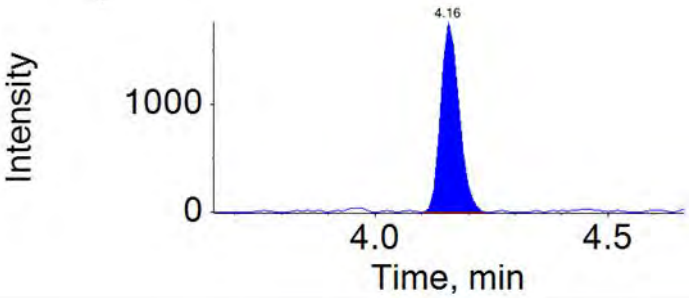
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



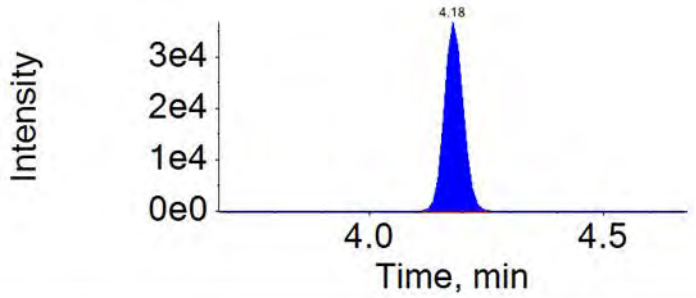
Component: PFHxA
Primary Mass: 313.0 / 269.0



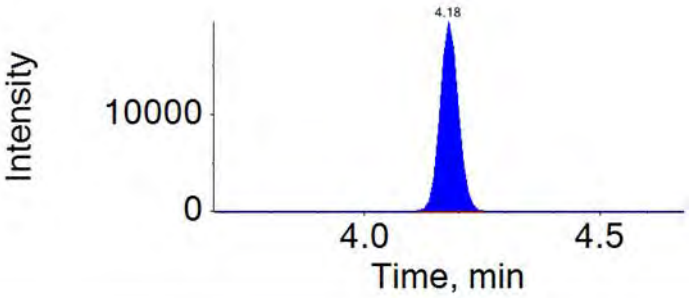
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



APPROVED
By JPT at 12:44 pm, 12/11/18

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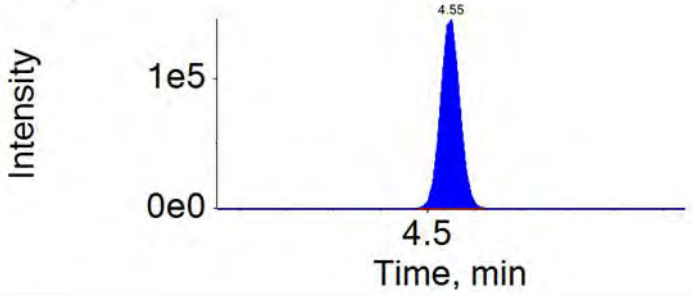
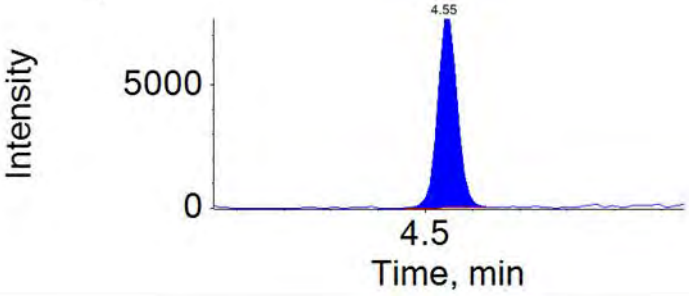
By umar at 12:43 pm, 12/13/18

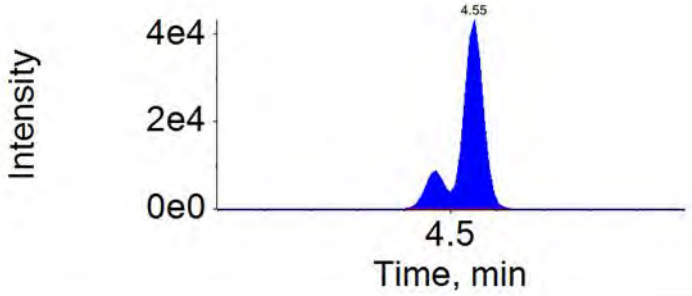
Component: PFHpA
Primary Mass: 363.0 / 319.0



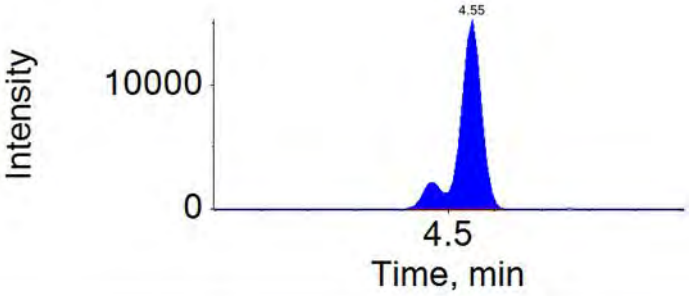
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



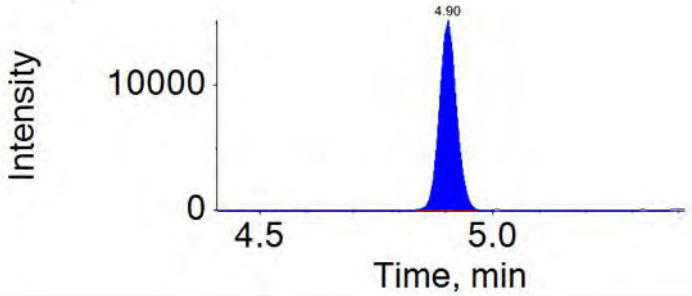
Component: PFHxS
Primary Mass: 399.0 / 80.0



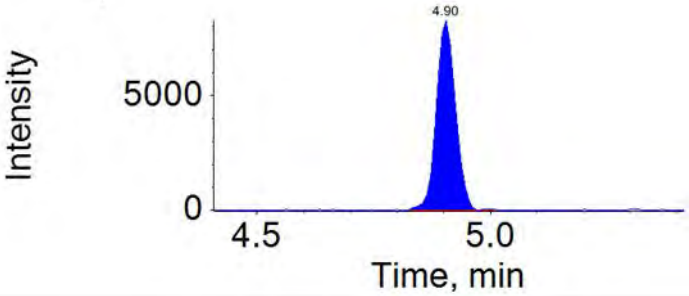
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



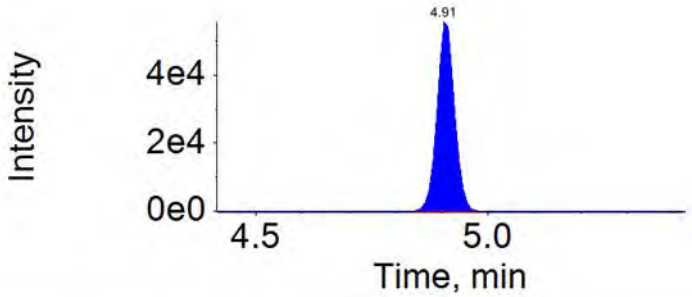
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



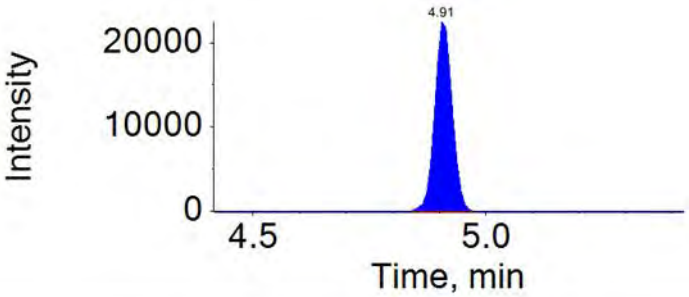
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



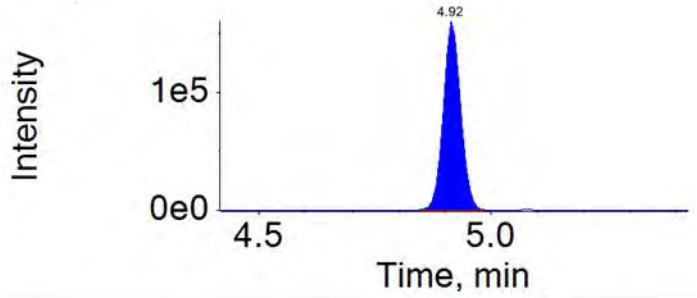
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



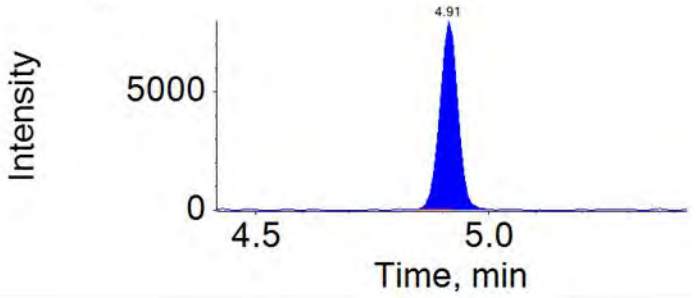
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

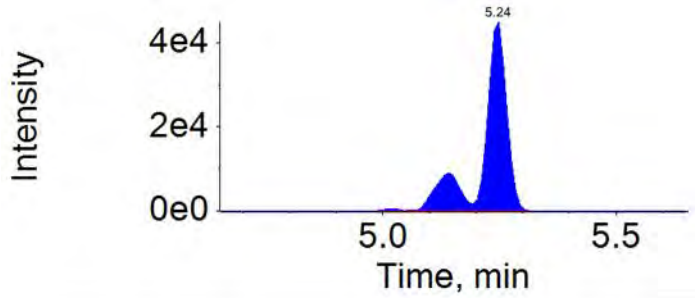
Component: PFOA
Primary Mass: 413.0 / 369.0



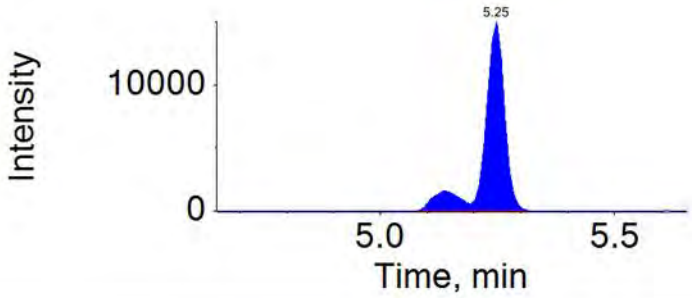
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



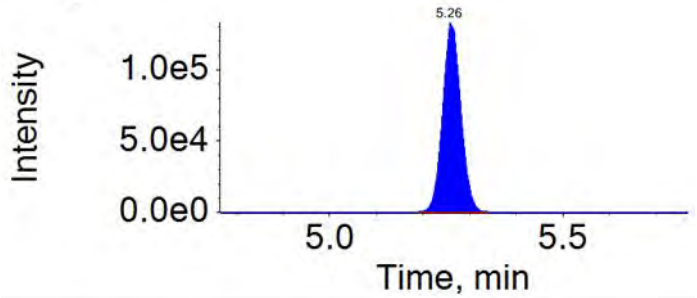
Component: PFOS
Primary Mass: 499.0 / 80.0



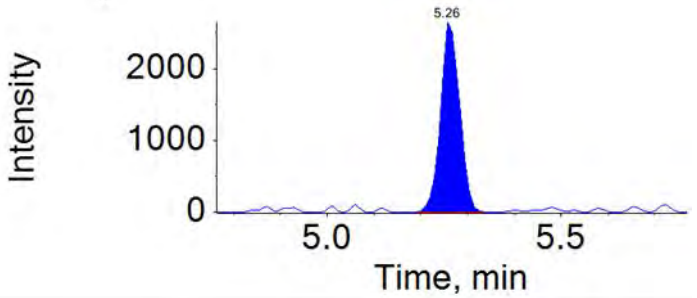
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



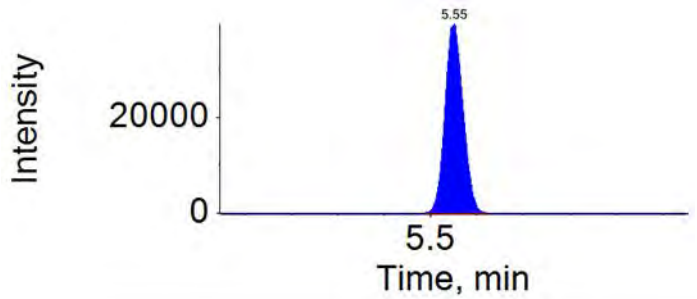
Component: PFNA
Primary Mass: 463.0 / 419.0



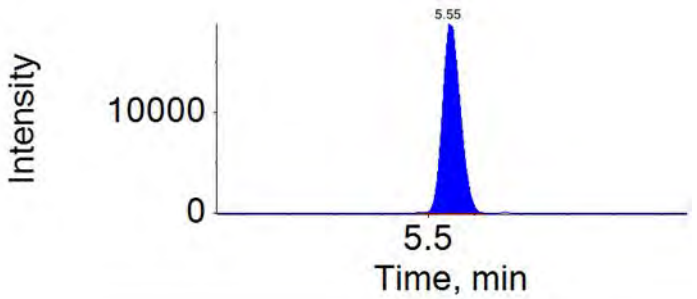
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



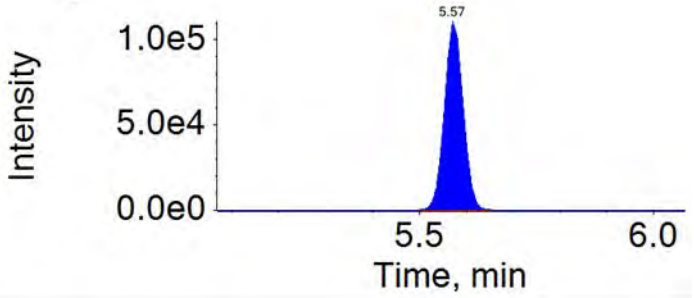
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



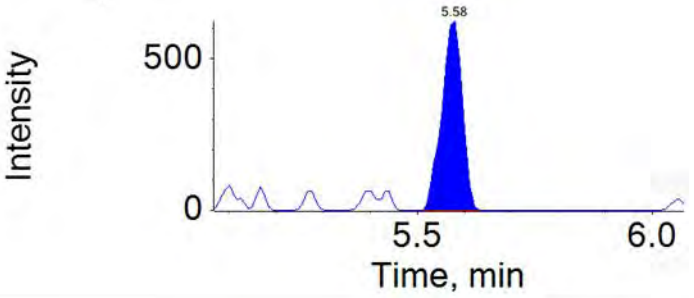
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

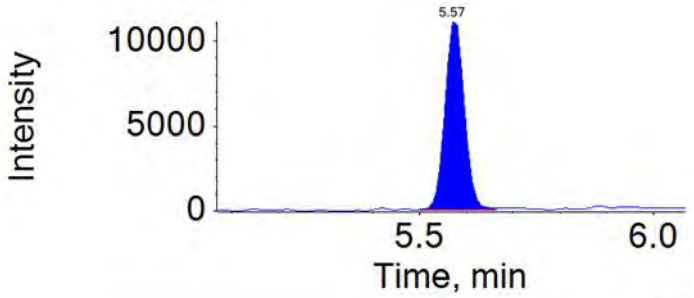
Component: PFDA
Primary Mass: 513.0 / 469.0



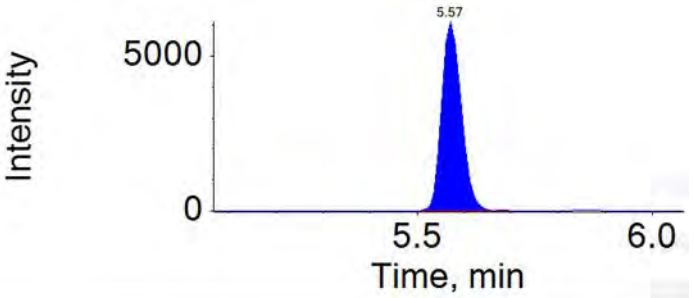
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



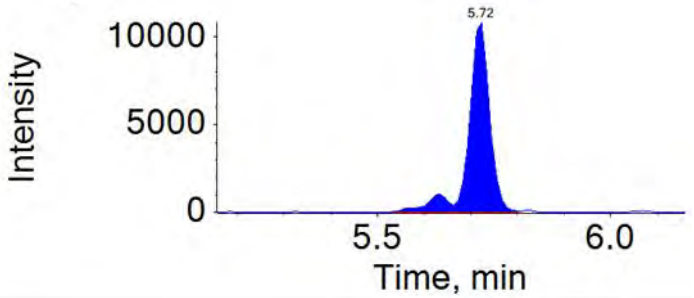
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



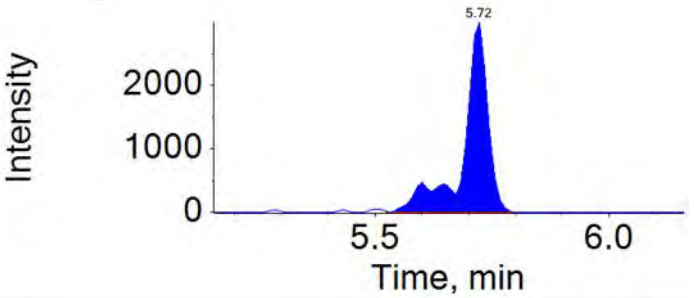
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



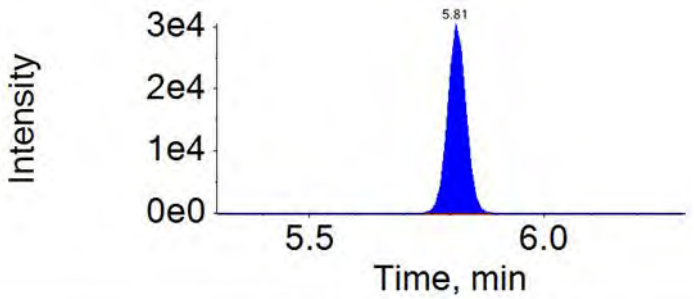
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



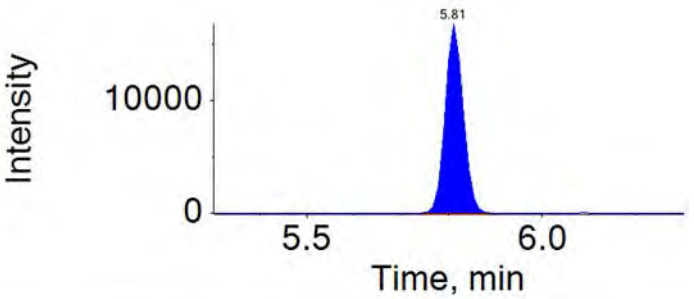
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



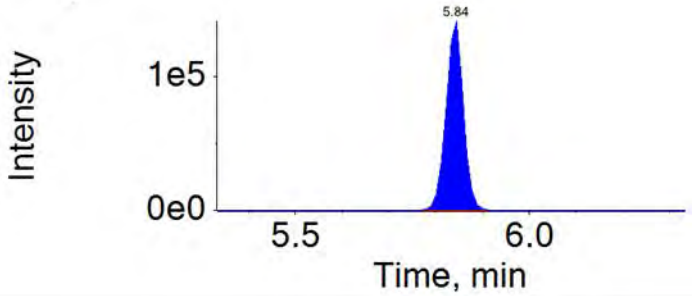
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



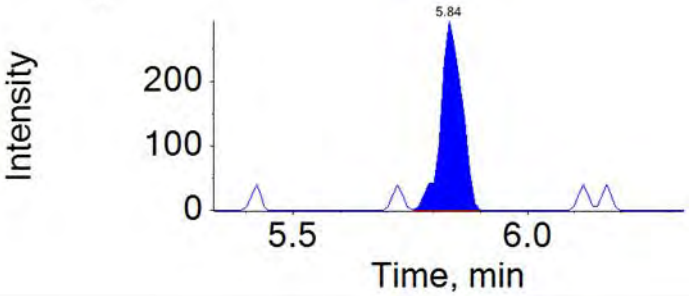
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

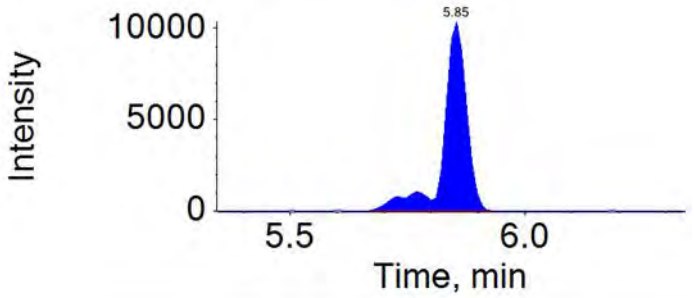
Component: PFUnDA
Primary Mass: 563.0 / 519.0



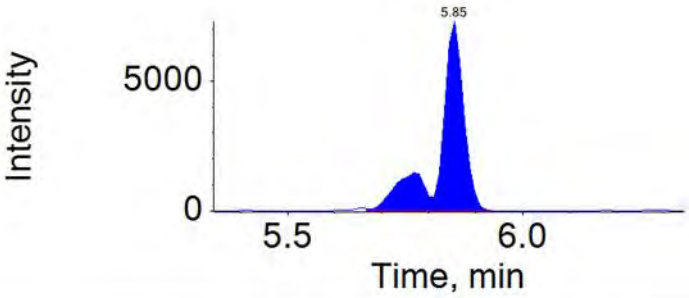
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



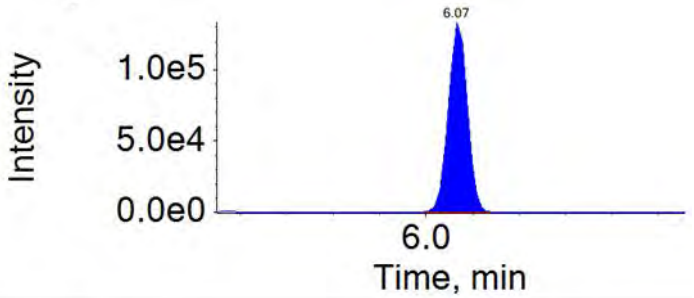
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



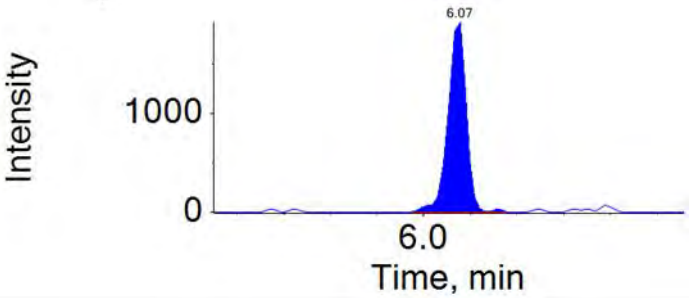
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



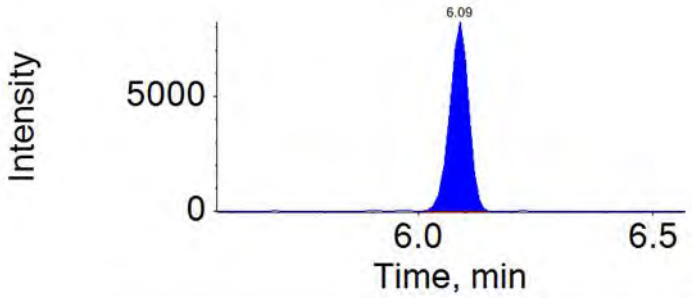
Component: PFDoDA
Primary Mass: 613.0 / 569.0



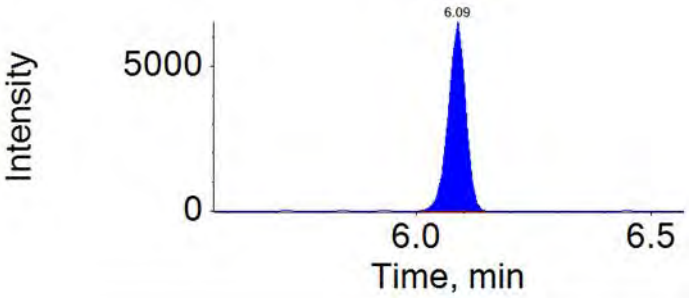
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



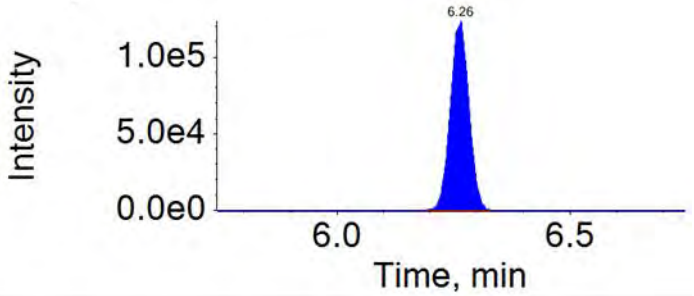
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



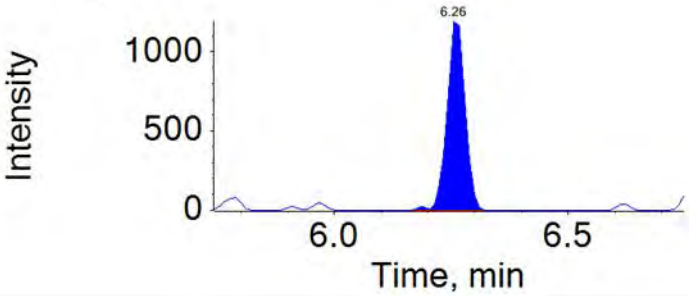
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

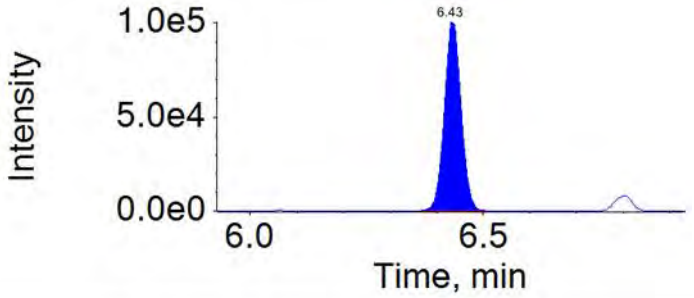
Component: PFTrDA
Primary Mass: 663.0 / 619.0



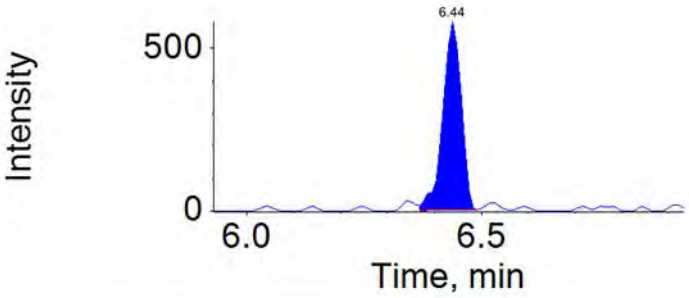
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



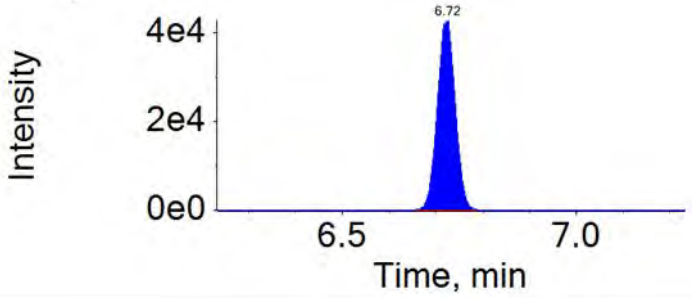
Component: PFTeDA
Primary Mass: 713.0 / 669.0



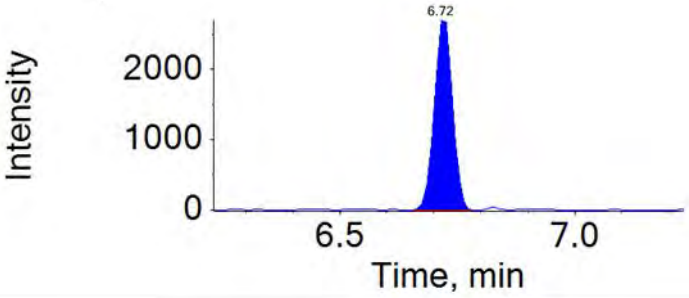
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



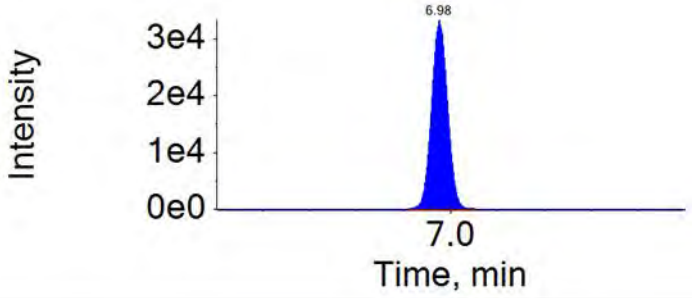
Component: PFHxDA
Primary Mass: 813.0 / 769.0



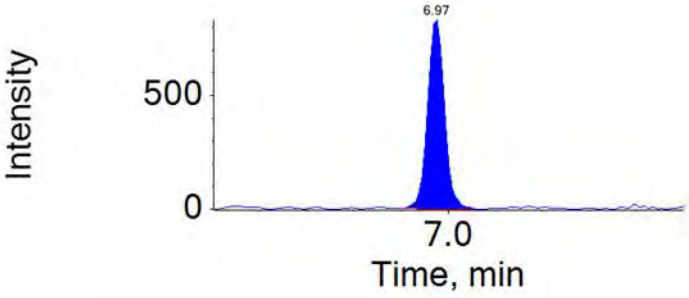
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



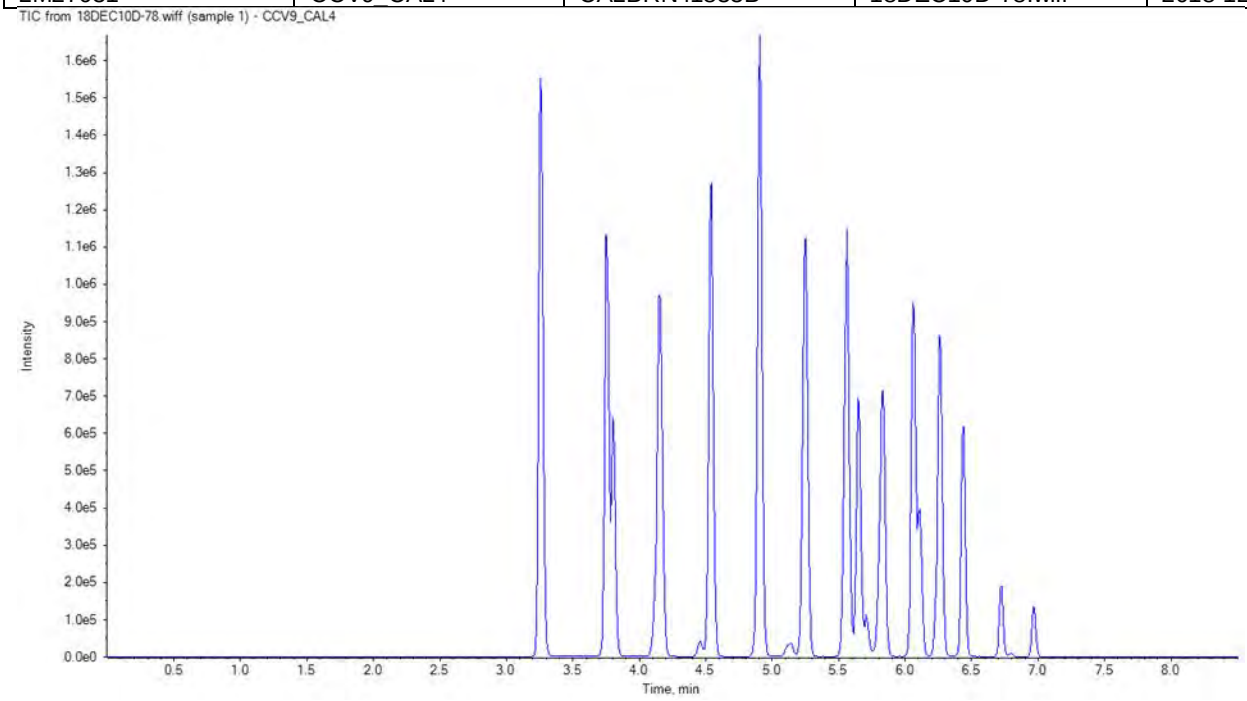
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By umar at 12:43 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV9_CAL4	CALBRN41833B	18DEC10D-78.wiff	2018-12-11T00:10:13



Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	971852.4	968978.6	0	50	
13C2-PFOA	5.0	521298.8	507254.2	3	50	
13C4-PFOS	4.8	303386.6	302410.5	0	50	
13C2-PFDA	5.0	383795.3	392614.4	-2	50	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV9_CAL4	CALBRN41833B	18DEC10D-78.wiff	2018-12-11T00:10:13

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	1548351.6	10	13C4-PFBA	1064594.5	5.0	1.454	3.26	1.000	8.000	8.024	0	30	
PFPeA	1501297.6	11	13C5-PFPeA	990615.1	5.0	1.516	3.76	1.000	8.000	7.973	0	30	
PFBS	657227.5	11	13C3-PFBS	447877.8	4.7	1.467	3.81	1.000	7.080	7.274	3	30	
4:2-FTS	136073.1	11	13C2-4:2-FTS	49972.2	4.7	2.723	4.12	1.000	7.470	7.298	-2	30	
PFHxA	1369945.7	11	13C5-PFHxA	715661.8	5.0	1.914	4.15	1.000	8.000	8.341	4	30	
PFPeS	341779.2	11	13C3-PFBS	447877.8	4.7	0.763	4.17	1.100	7.500	7.556	1	30	
PFHpA	1422455.7	12	13C4-PFHpA	580738.3	5.0	2.449	4.54	1.000	8.000	8.065	1	30	
PFHxS	505966.5	19	13C3-PFHxS	354179.0	4.7	1.429	4.54	1.000	7.300	6.769	-7	30	
6:2-FTS	126531.0	11	13C2-6:2-FTS	40610.5	4.8	3.116	4.90	1.000	7.580	7.737	2	30	
PFHpS	510992.7	11	13C3-PFHxS	354179.0	4.7	1.443	4.90	1.080	7.610	7.920	4	30	
PFOA	1436480.1	11	13C8-PFOA	933069.6	5.0	1.540	4.91	1.000	8.000	8.413	5	30	
PFOS	534853.7	22	13C8-PFOS	328694.4	4.8	1.627	5.24	1.000	7.400	6.749	-9	30	
PFNA	1247799.9	11	13C9-PFNA	585022.9	5.0	2.133	5.25	1.000	8.000	7.860	-2	30	
PFNS	390573.0	11	13C8-PFOS	328694.4	4.8	1.188	5.54	1.060	7.680	7.646	0	30	
PFDA	1052845.1	11	13C6-PFDA	702875.1	5.0	1.498	5.56	1.000	8.000	8.431	5	30	
8:2-FTS	113104.2	11	13C2-8:2-FTS	29157.3	4.8	3.879	5.57	1.000	7.660	8.405	10	30	
PFOSA	993681.6	11	13C8-PFOSA	647528.3	5.0	1.535	5.65	1.000	8.000	7.961	0	30	
NMeFOSAA	127958.6	18	d3-NMeFOSAA	97609.4	5.0	1.311	5.71	1.000	8.000	8.671	8	30	
PFDS	282770.0	12	13C8-PFOS	328694.4	4.8	0.860	5.81	1.110	7.700	6.956	-10	30	
PFUnDA	998064.1	11	13C7-PFUnDA	428465.2	5.0	2.329	5.83	1.000	8.000	7.132	-11	30	
NEtFOSAA	134146.1	21	d5-NEtFOSAA	85339.8	5.0	1.572	5.85	1.000	8.000	7.944	-1	30	
PFDoDA	1291361.0	12	13C2-PFDoDA	819128.2	5.0	1.577	6.06	1.000	8.000	8.299	4	30	
10:2-FTS	85873.9	11	13C2-8:2-FTS	29157.3	4.8	2.945	6.08	1.090	7.710	7.802	1	30	
NMePFOSAE	462153.3	11	d7-NMePFOSAE	248577.2	5.0	1.859	6.11	1.000	8.000	8.079	1	30	
NMePFOSA	120150.3	11	d3-NMePFOSA	77057.2	5.0	1.559	6.12	1.000	8.000	7.867	-2	30	
PFDoS	158428.4	11	13C8-PFOS	328694.4	4.8	0.482	6.23	1.190	7.740	7.348	-5	30	
NEtPFOSAE	520213.3	11	d9-NEtPFOSAE	212334.1	5.0	2.450	6.27	1.000	8.000	8.209	3	30	
NEtPFOSA	102089.6	11	d5-NEtPFOSA	68967.4	5.0	1.480	6.28	1.000	8.000	7.086	-11	30	
PFTrDA	1150944.1	11	13C2-PFDoDA	819128.2	5.0	1.405	6.26	1.030	8.000	9.203	15	30	
PFTeDA	832500.1	10	13C2-PFTeDA	559292.9	5.0	1.488	6.44	1.000	8.000	8.512	6	30	
PFHxDA	386285.2	11	13C2-PFTeDA	559292.9	5.0	0.691	6.72	1.040	8.000	8.650	8	30	
PFODA	282113.7	10	13C2-PFTeDA	559292.9	5.0	0.504	6.97	1.080	8.000	8.097	1	30	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV9_CAL4			**Data File:**		18DEC10D-78.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-11T00:10:13
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC10DCCV4-12
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	971852.4	968978.6	0	50	
13C2-PFOA	5.0	521298.8	507254.2	3	50	
13C4-PFOS	4.8	303386.6	302410.5	0	50	
13C2-PFDA	5.0	383795.3	392614.4	-2	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1064594.5	13C3-PFBA	971852.4	1.095	5.000	4.848	97	70-130	
E13C5-PFPeA	990615.1	13C3-PFBA	971852.4	1.019	5.000	4.841	97	70-130	
E13C3-PFBS	447877.8	13C3-PFBA	971852.4	0.461	4.650	3.906	84	70-130	
E13C2-4:2-FTS	49972.2	13C2-PFOA	521298.8	0.096	4.670	3.756	80	70-130	
E13C5-PFHxA	715661.8	13C2-PFOA	521298.8	1.373	5.000	4.609	92	70-130	
E13C3-PFHxS	354179.0	13C2-PFOA	521298.8	0.679	4.730	4.358	92	70-130	
E13C4-PFHpA	580738.3	13C2-PFOA	521298.8	1.114	5.000	4.736	95	70-130	
E13C2-6:2-FTS	40610.5	13C2-PFOA	521298.8	0.078	4.750	4.826	102	70-130	
E13C8-PFOA	933069.6	13C2-PFOA	521298.8	1.790	5.000	5.060	101	70-130	
E13C8-PFOS	328694.4	13C4-PFOS	303386.6	1.083	4.780	4.862	102	70-130	
E13C9-PFNA	585022.9	13C4-PFOS	303386.6	1.928	5.000	5.449	109	70-130	
E13C6-PFDA	702875.1	13C2-PFDA	383795.3	1.831	5.000	4.853	97	70-130	
E13C2-8:2-FTS	29157.3	13C2-PFDA	383795.3	0.076	4.790	4.960	104	70-130	
E13C8-PFOSA	647528.3	13C2-PFDA	383795.3	1.687	5.000	3.990	80	70-130	
Ed3-NMeFOSAA	97609.4	13C2-PFDA	383795.3	0.254	5.000	4.507	90	70-130	
E13C7-PFUnDA	428465.2	13C2-PFDA	383795.3	1.116	5.000	5.476	110	70-130	
Ed5-NEtFOSAA	85339.8	13C2-PFDA	383795.3	0.222	5.000	4.909	98	70-130	
E13C2-PFDoDA	819128.2	13C2-PFDA	383795.3	2.134	5.000	4.479	90	70-130	
Ed7-NMePFOSAE	248577.2	13C2-PFDA	383795.3	0.648	5.000	3.731	75	70-130	
Ed3-NMePFOSA	77057.2	13C2-PFDA	383795.3	0.201	5.000	3.658	73	70-130	
Ed9-NEtPFOSAE	212334.1	13C2-PFDA	383795.3	0.553	5.000	3.815	76	70-130	
Ed5-NEtPFOSA	68967.4	13C2-PFDA	383795.3	0.180	5.000	4.044	81	70-130	
E13C2-PFTeDA	559292.9	13C2-PFDA	383795.3	1.457	5.000	4.325	87	70-130	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

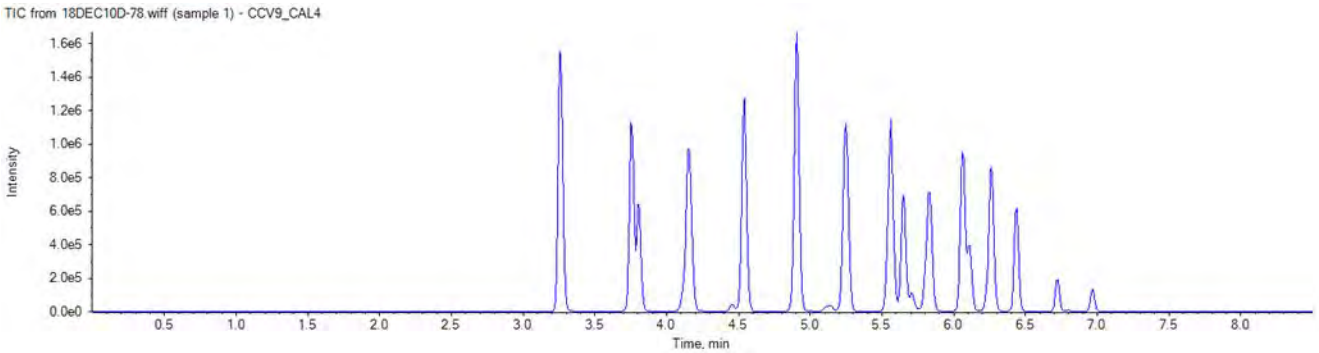
Analyte Quantitation Peak Table

Sample Name: CCV9_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC10D-78.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	1548351.6		A	13C4-PFBA	3.26	1064594.5	1.454	8.024
PFPeA	3.76	1.000	1501297.6		A	13C5-PFPeA	3.76	990615.1	1.516	7.973
PFBS	3.81	1.000	657227.5		A	13C3-PFBS	3.81	447877.8	1.467	7.274
4:2-FTS	4.12	1.000	136073.1		A	13C2-4:2-FTS	4.12	49972.2	2.723	7.298
PFHxA	4.15	1.000	1369945.7		A	13C5-PFHxA	4.15	715661.8	1.914	8.341
PFPeS	4.17	1.100	341779.2		A	13C3-PFBS	3.81	447877.8	0.763	7.556
PFHpA	4.54	1.000	1422455.7		A	13C4-PFHpA	4.54	580738.3	2.449	8.065
PFHxS	4.54	1.000	505966.5		M	13C3-PFHxS	4.54	354179.0	1.429	6.769
6:2-FTS	4.90	1.000	126531.0		A	13C2-6:2-FTS	4.90	40610.5	3.116	7.737
PFHpS	4.90	1.080	510992.7		A	13C3-PFHxS	4.54	354179.0	1.443	7.920
PFOA	4.91	1.000	1436480.1		A	13C8-PFOA	4.91	933069.6	1.540	8.413
PFOS	5.24	1.000	534853.7		M	13C8-PFOS	5.24	328694.4	1.627	6.749
PFNA	5.25	1.000	1247799.9		A	13C9-PFNA	5.25	585022.9	2.133	7.860
PFNS	5.54	1.060	390573.0		A	13C8-PFOS	5.24	328694.4	1.188	7.646
PFDA	5.56	1.000	1052845.1		A	13C6-PFDA	5.56	702875.1	1.498	8.431
8:2-FTS	5.57	1.000	113104.2		A	13C2-8:2-FTS	5.57	29157.3	3.879	8.405
PFOSA	5.65	1.000	993681.6		A	13C8-PFOSA	5.65	647528.3	1.535	7.961
NMeFOSAA	5.71	1.000	127958.6		M	d3-NMeFOSAA	5.71	97609.4	1.311	8.671
PFDS	5.81	1.110	282770.0		A	13C8-PFOS	5.24	328694.4	0.860	6.956
PFUnDA	5.83	1.000	998064.1		A	13C7-PFUnDA	5.83	428465.2	2.329	7.132
NEtFOSAA	5.85	1.000	134146.1		A	d5-NEtFOSAA	5.84	85339.8	1.572	7.944
PFDoDA	6.06	1.000	1291361.0		A	13C2-PFDoDA	6.06	819128.2	1.577	8.299
10:2-FTS	6.08	1.090	85873.9		A	13C2-8:2-FTS	5.57	29157.3	2.945	7.802
NMePFOSAE	6.11	1.000	462153.3		A	d7-NMePFOSAE	6.10	248577.2	1.859	8.079
NMePFOSA	6.12	1.000	120150.3		A	d3-NMePFOSA	6.11	77057.2	1.559	7.867
PFDoS	6.23	1.190	158428.4		A	13C8-PFOS	5.24	328694.4	0.482	7.348
NEtPFOSAE	6.27	1.000	520213.3		A	d9-NEtPFOSAE	6.26	212334.1	2.450	8.209
NEtPFOSA	6.28	1.000	102089.6		A	d5-NEtPFOSA	6.27	68967.4	1.480	7.086
PFTrDA	6.26	1.030	1150944.1		A	13C2-PFDoDA	6.06	819128.2	1.405	9.203
PFTeDA	6.44	1.000	832500.1		A	13C2-PFTeDA	6.44	559292.9	1.488	8.512
PFHxDA	6.72	1.040	386285.2		A	13C2-PFTeDA	6.44	559292.9	0.691	8.650
PFODA	6.97	1.080	282113.7		A	13C2-PFTeDA	6.44	559292.9	0.504	8.097

Total Ion Chromatogram

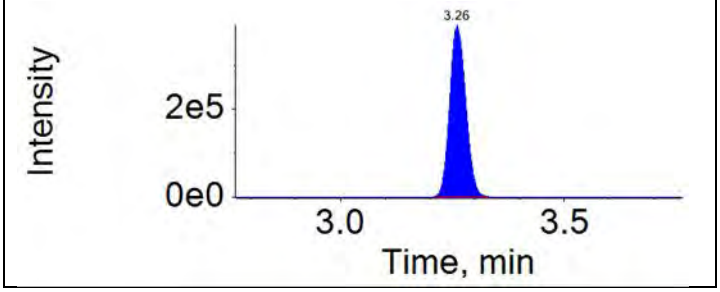


APPROVED
By JPT at 12:44 pm, 12/11/18

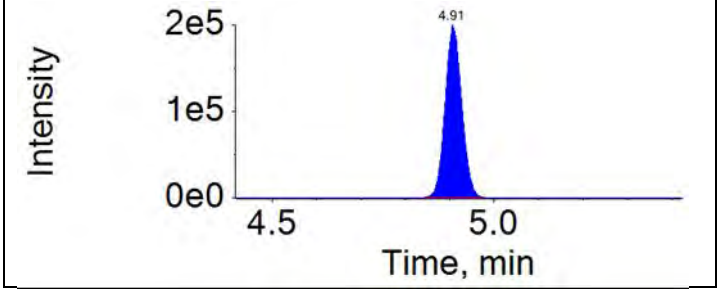
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

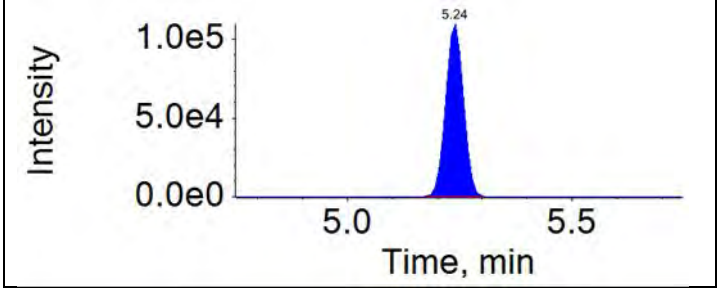
Injection Standard: 13C3-PFBA
216.0 / 172.0



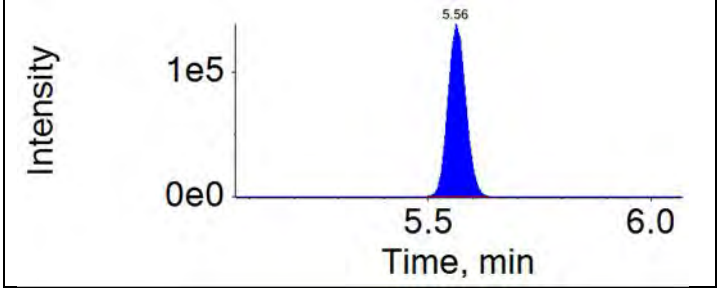
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

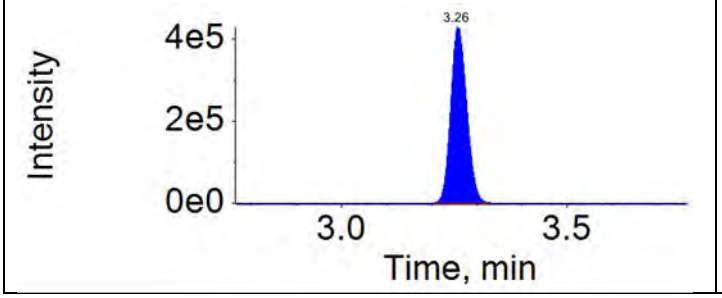


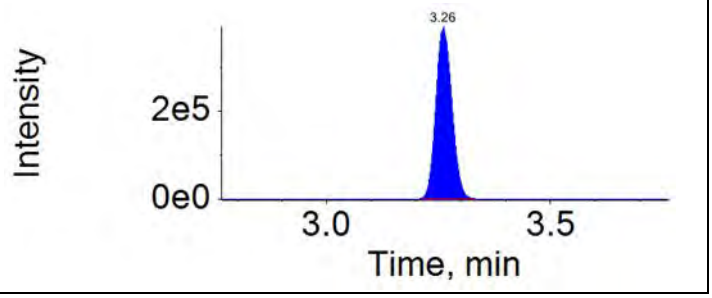
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

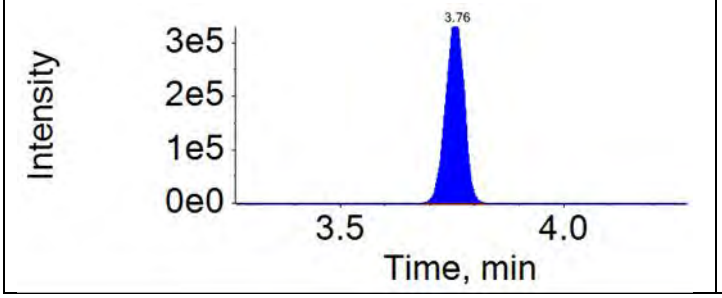
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

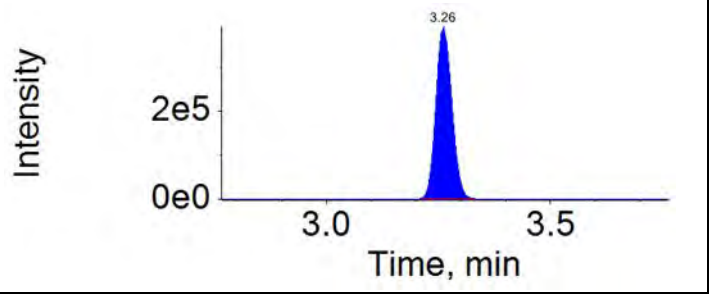
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



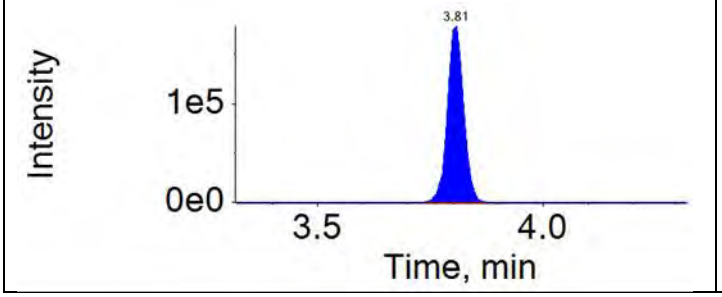


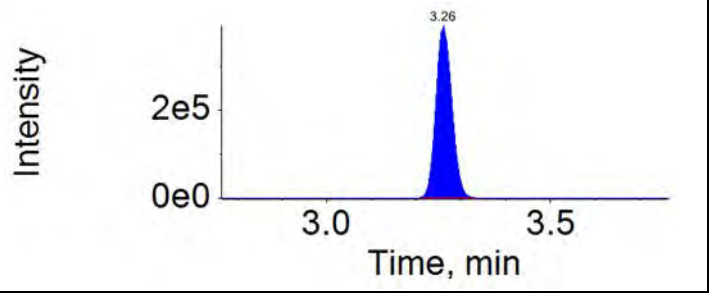
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



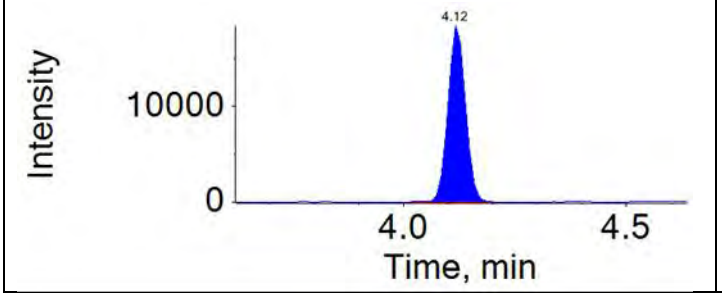


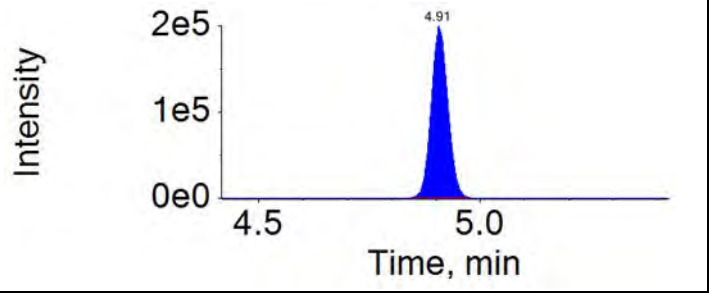
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

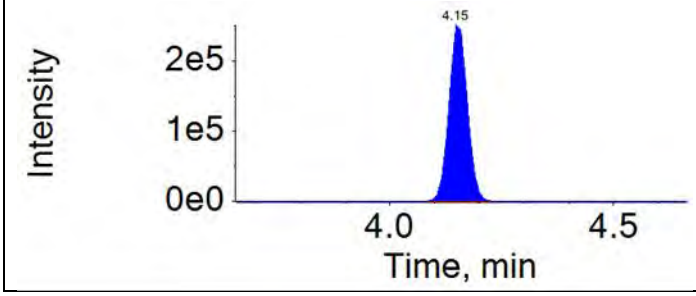
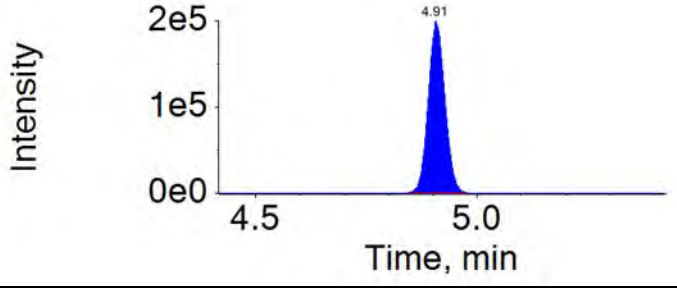


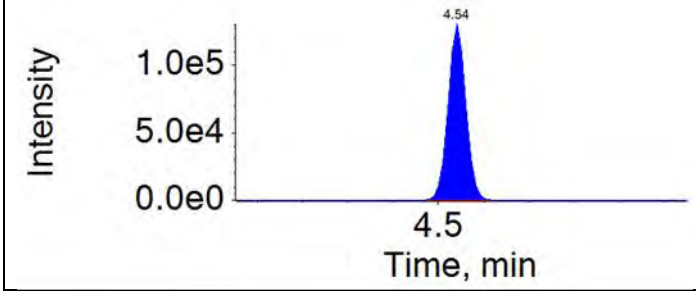
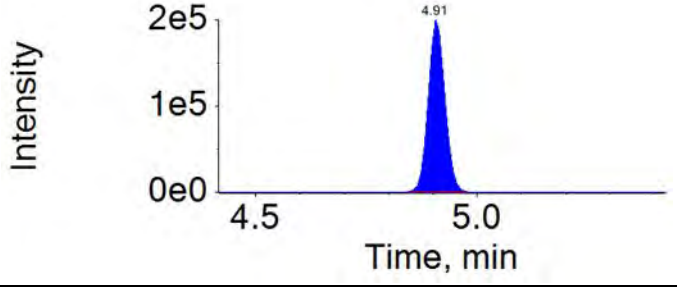


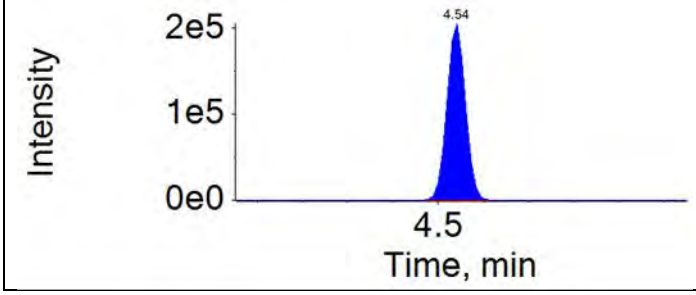
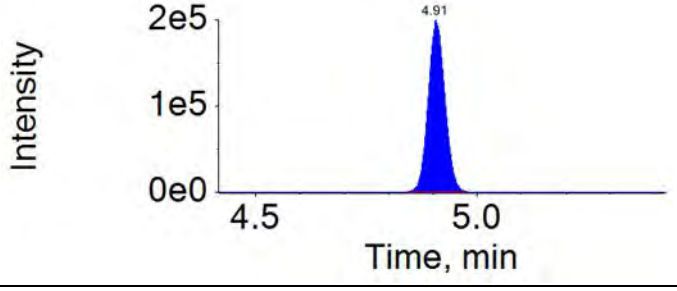
APPROVED
By JPT at 12:44 pm, 12/11/18

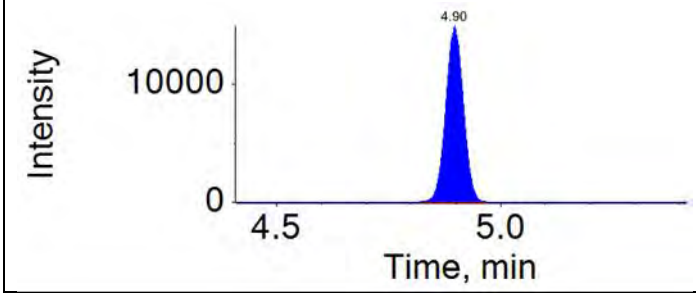
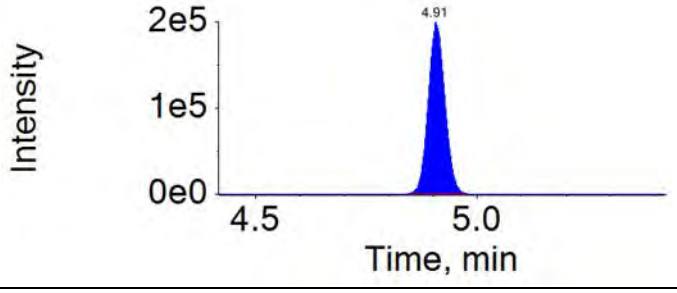
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

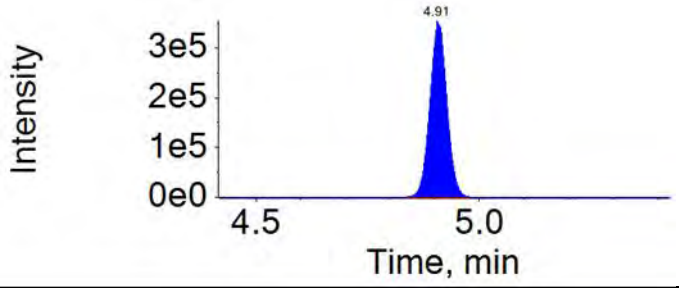
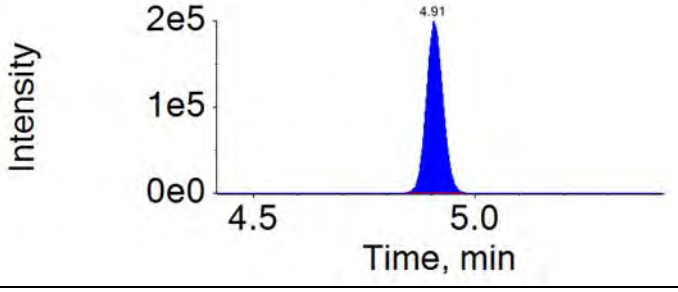
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

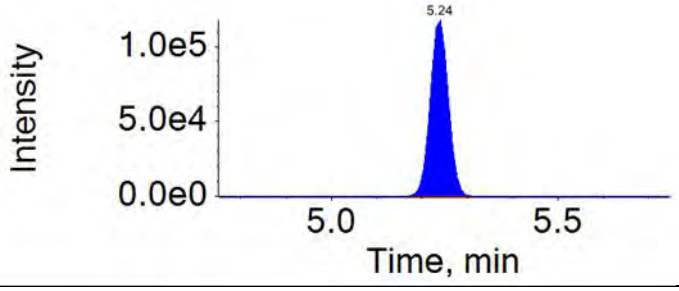
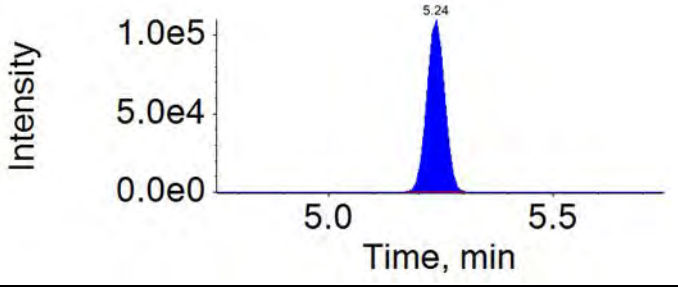
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

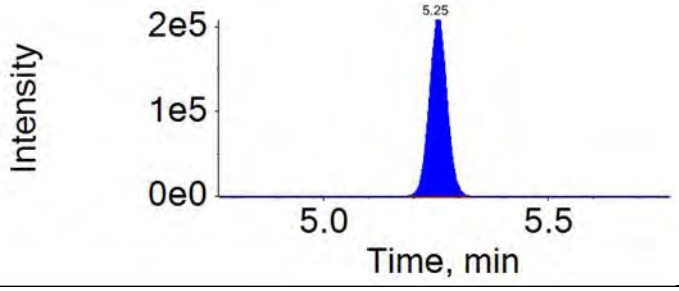
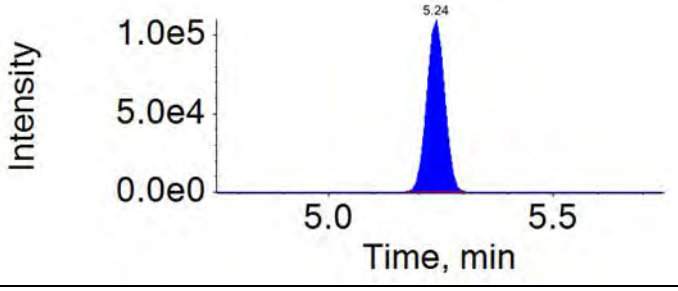
APPROVED
By JPT at 12:44 pm, 12/11/18

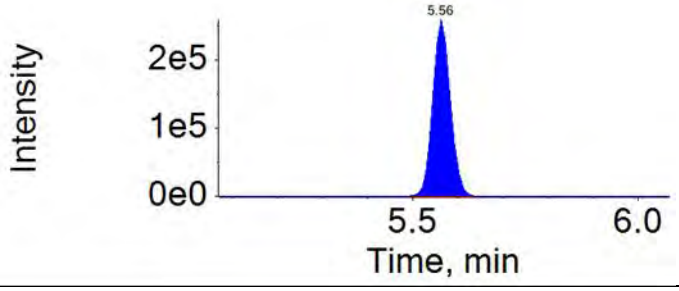
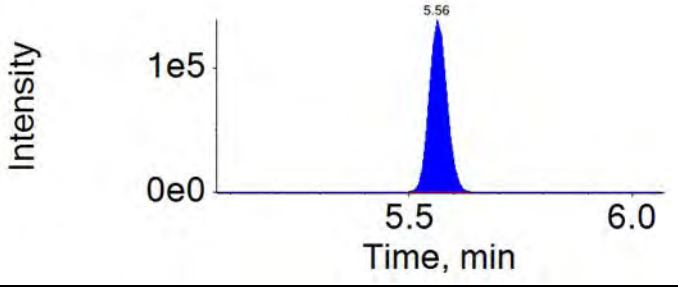
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

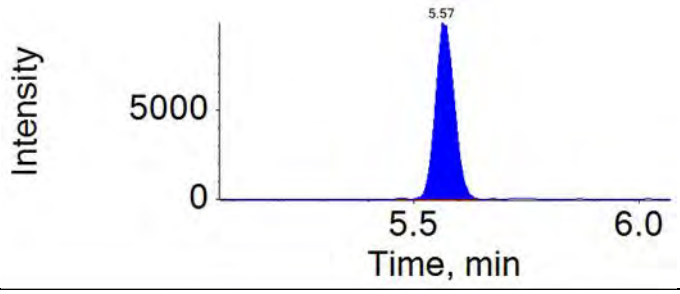
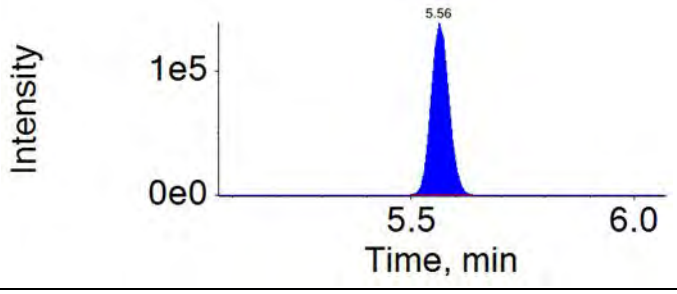
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

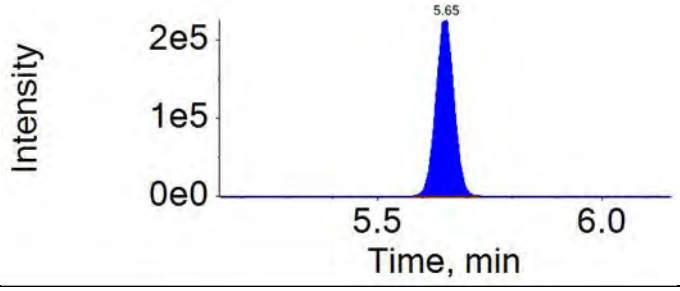
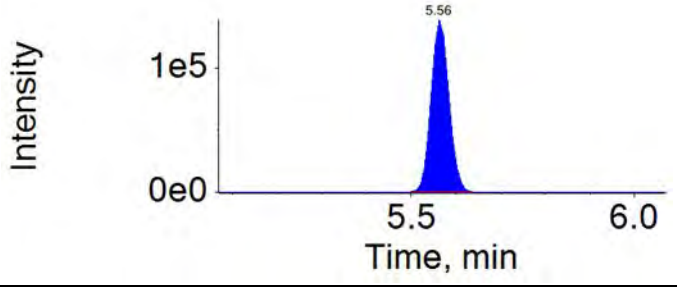
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

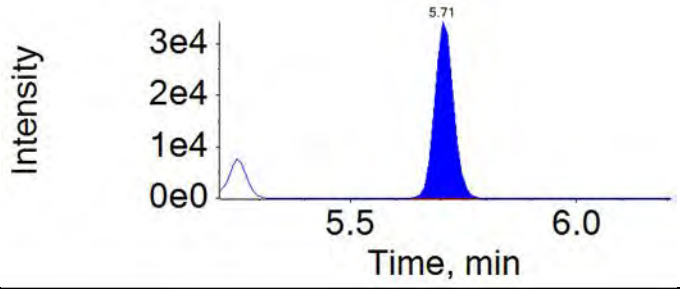
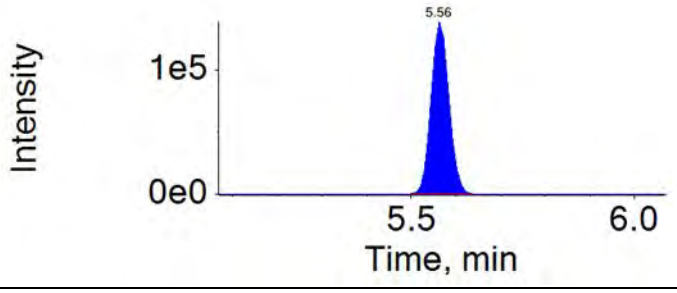
APPROVED
By JPT at 12:44 pm, 12/11/18

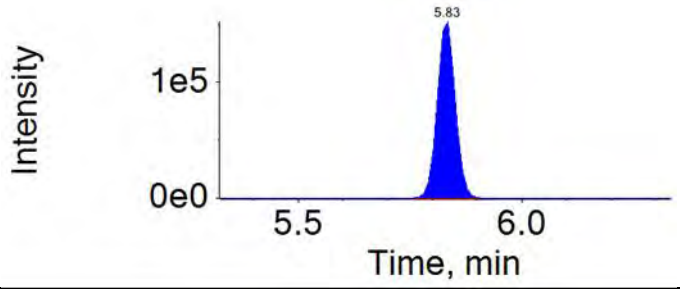
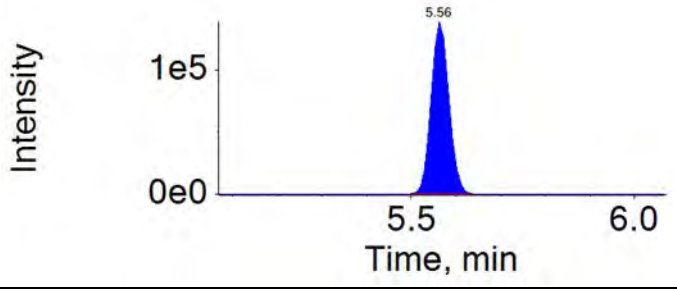
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

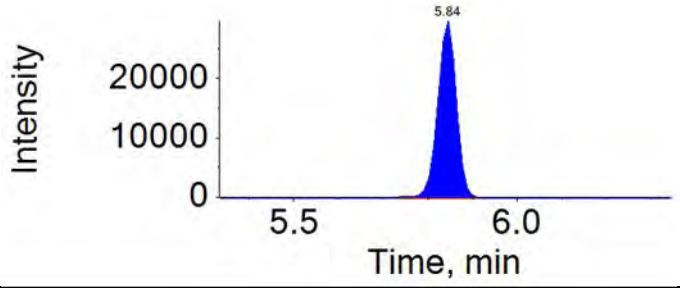
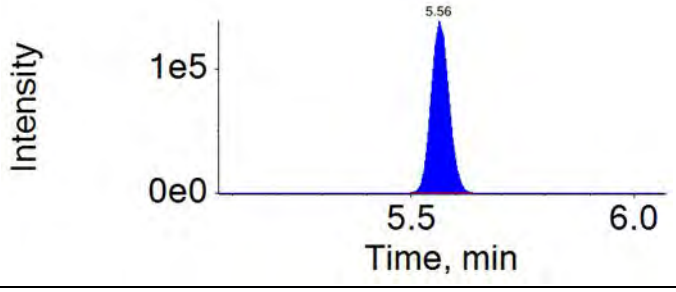
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

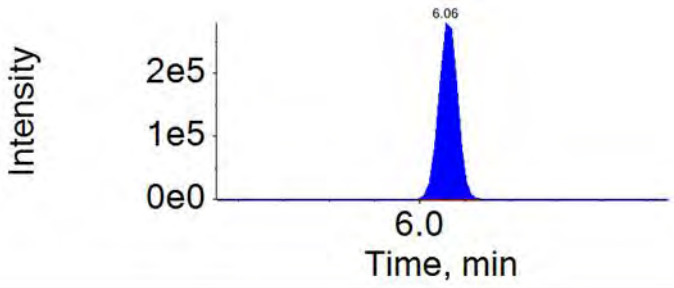
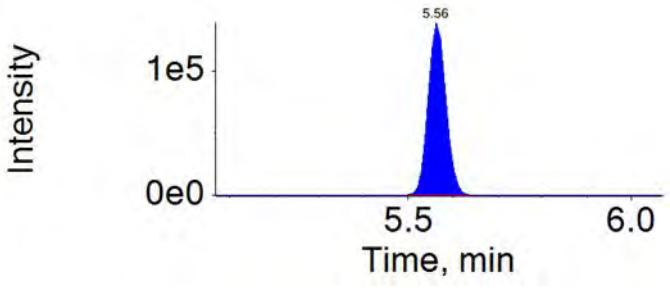
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

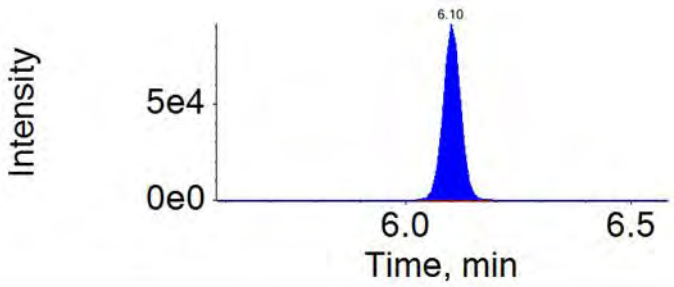
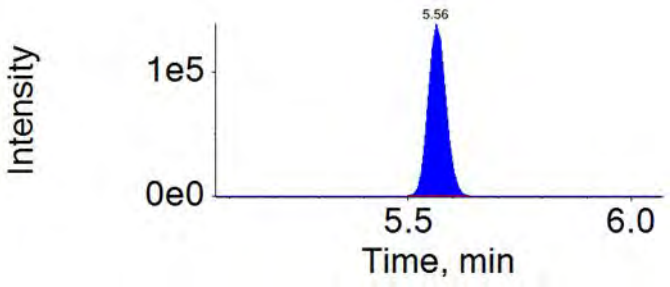
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

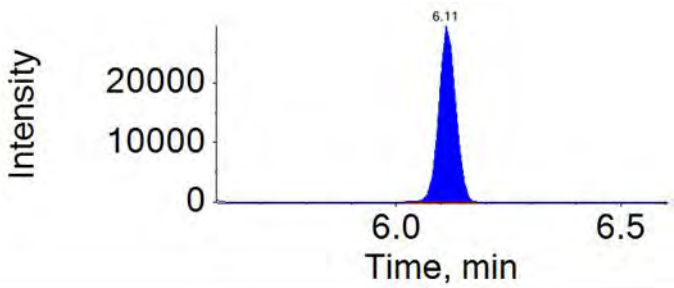
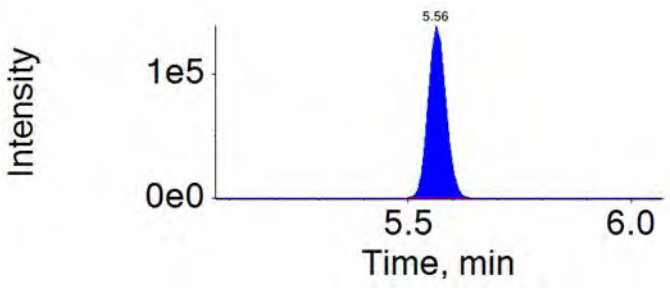
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

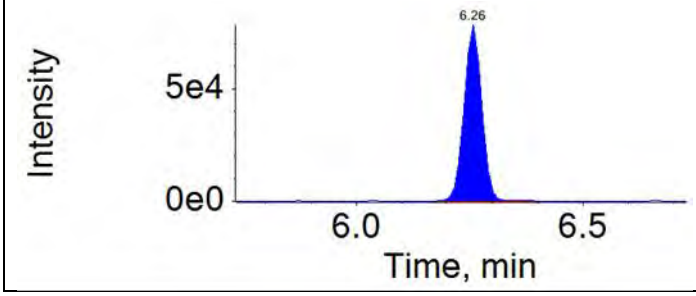
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

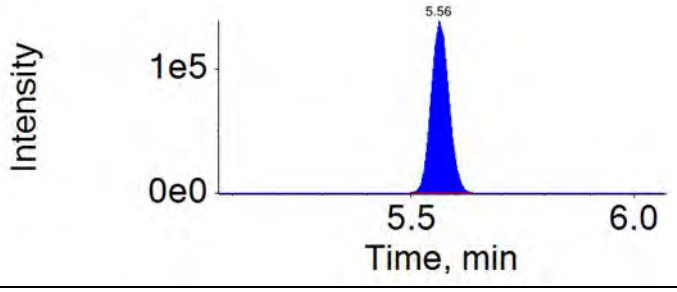
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

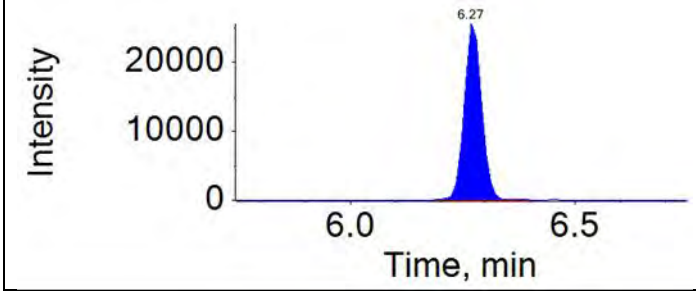
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

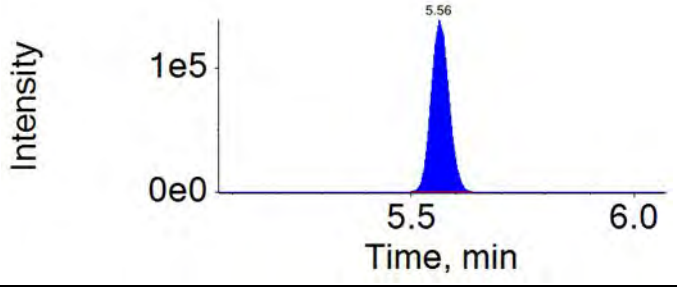
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



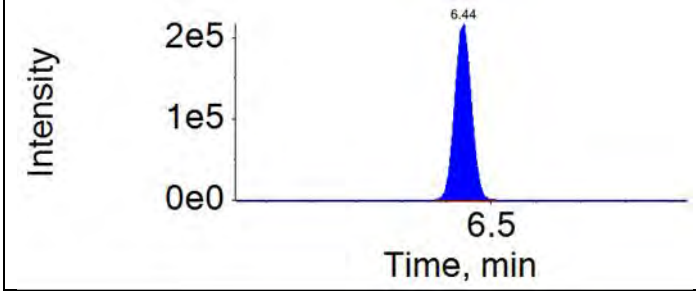


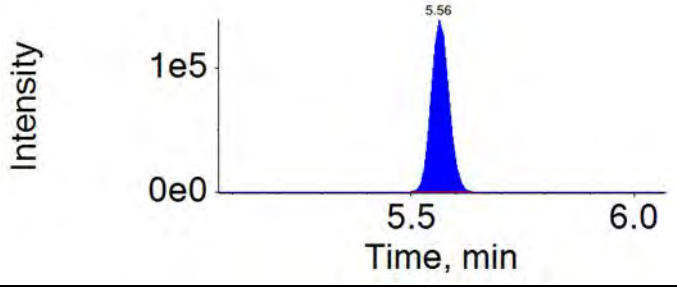
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



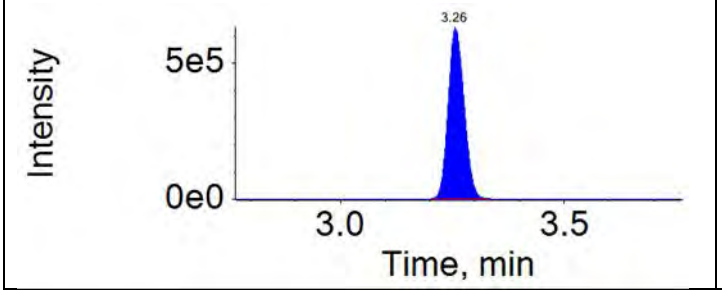


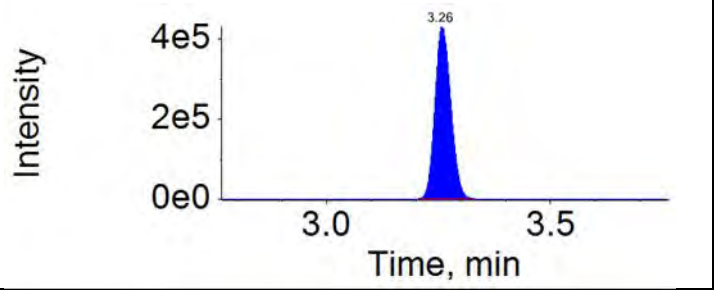
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

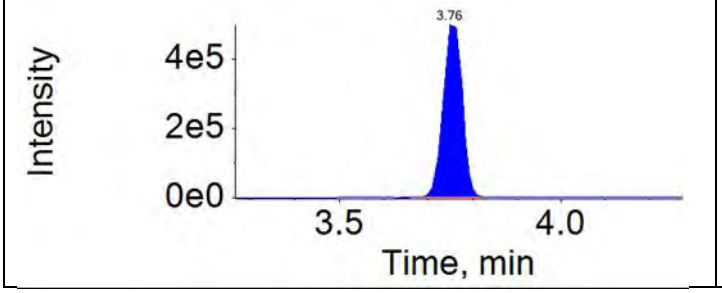
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

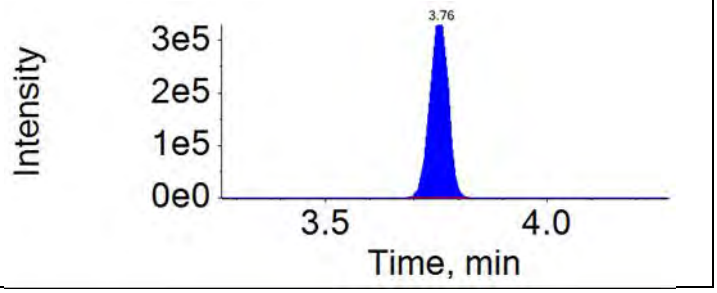
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



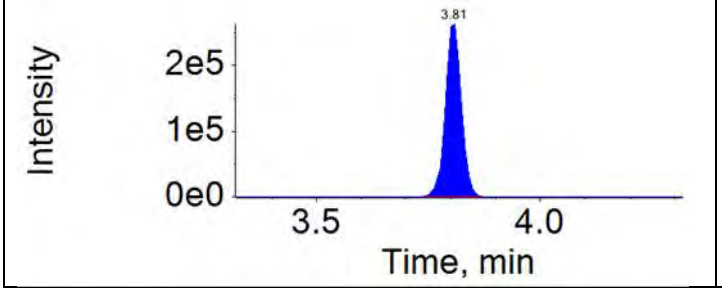


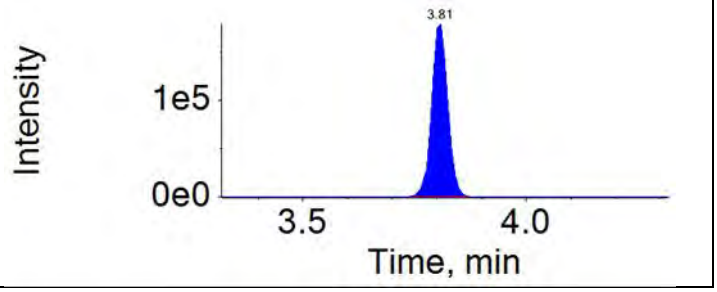
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



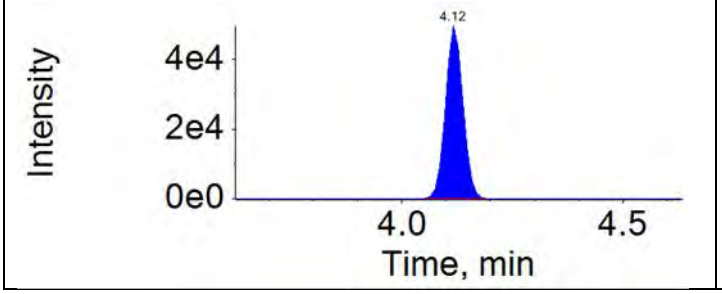


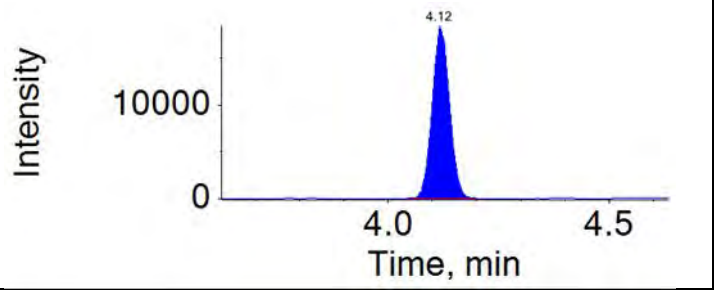
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

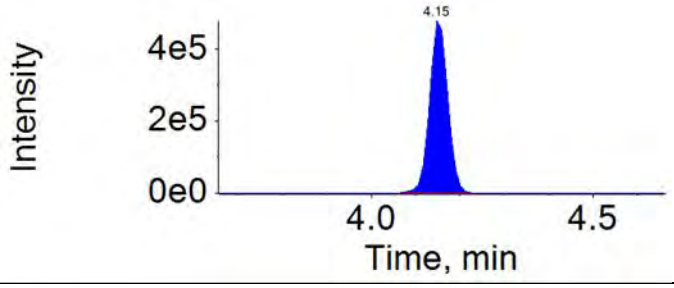
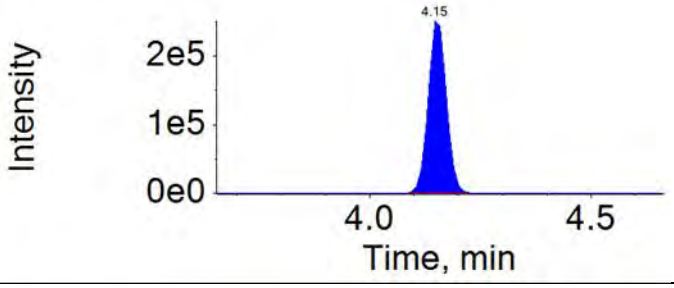


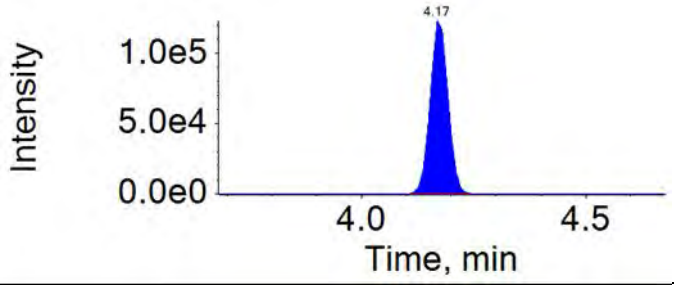
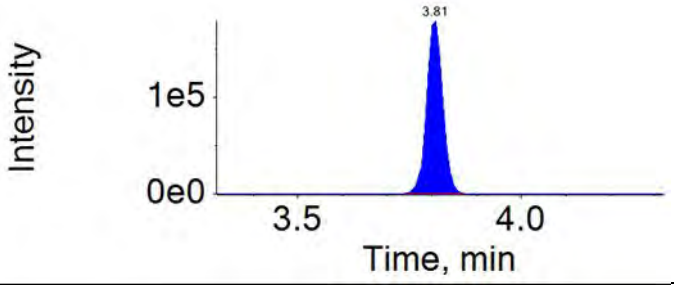


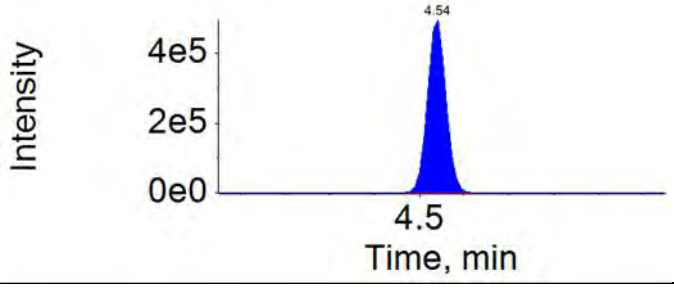
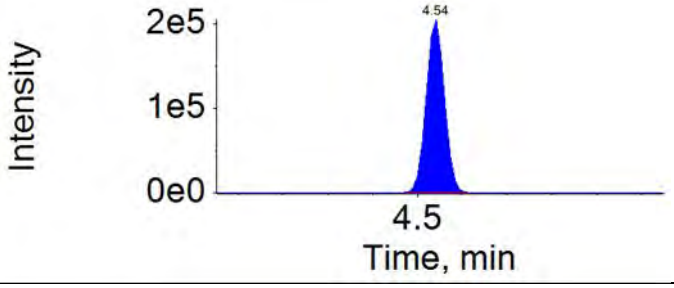
APPROVED
By JPT at 12:44 pm, 12/11/18

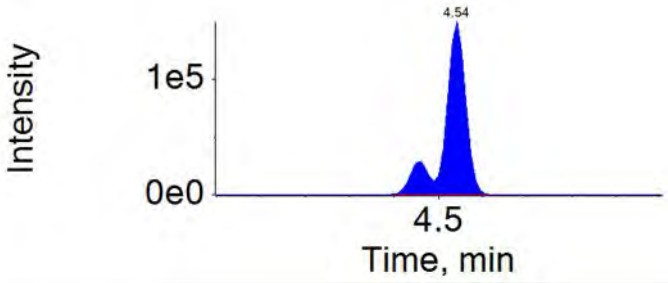
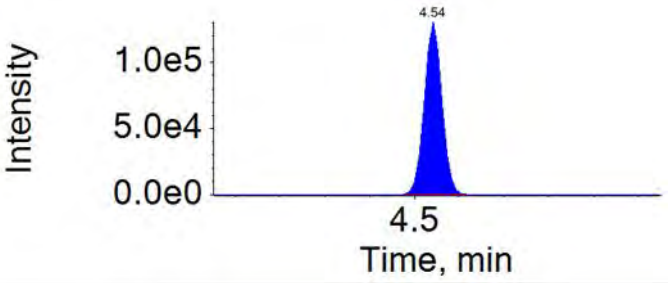
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

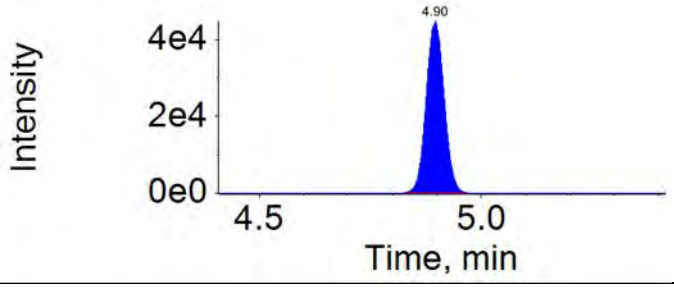
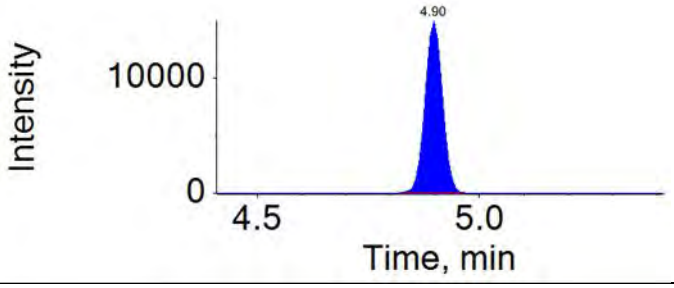
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

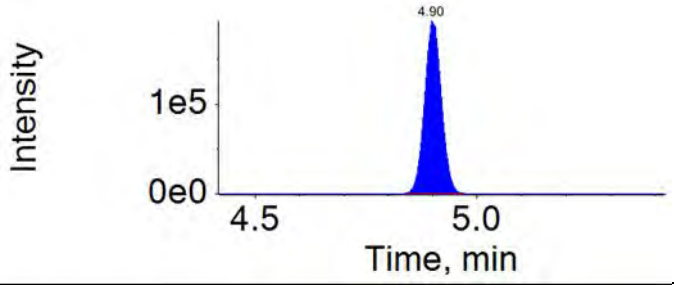
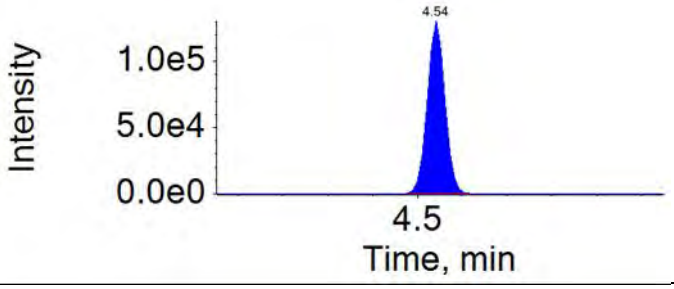
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

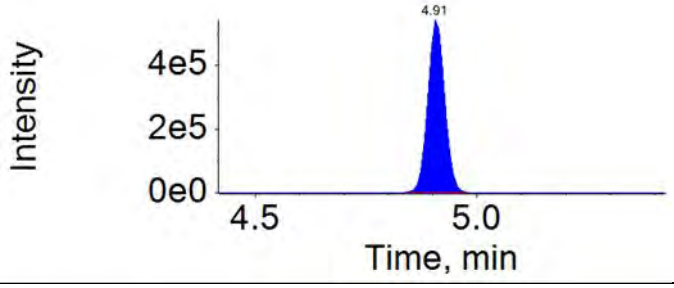
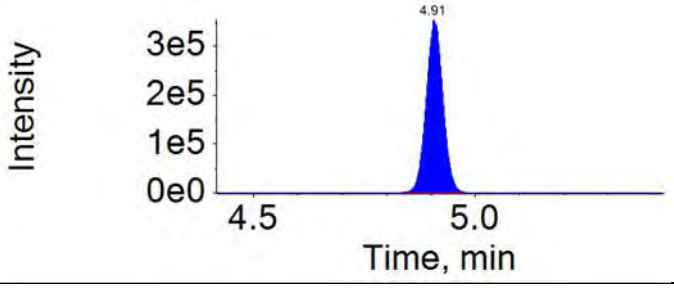
APPROVED
By JPT at 12:44 pm, 12/11/18

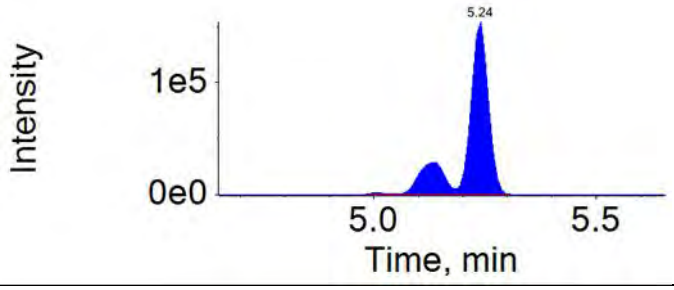
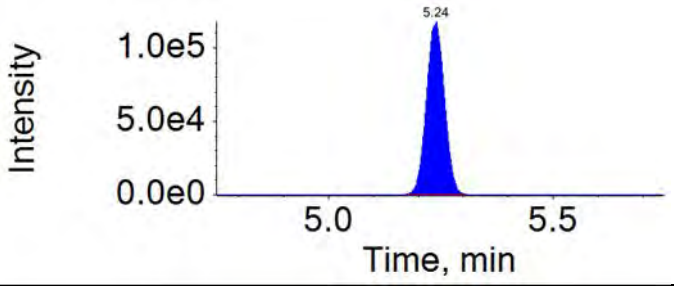
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

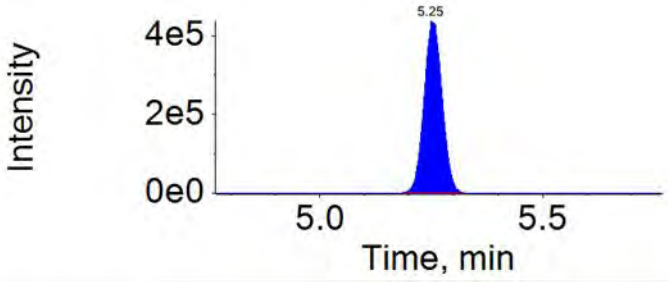
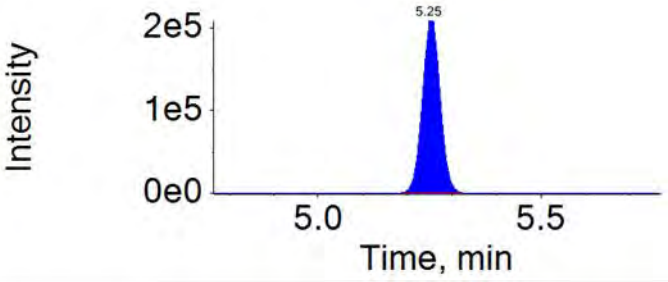
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

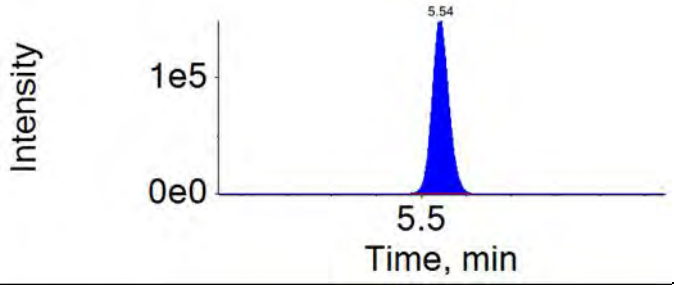
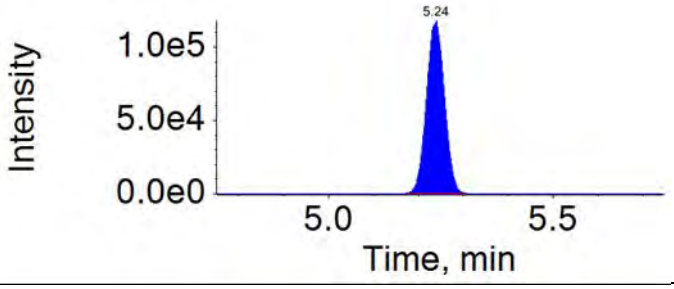
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

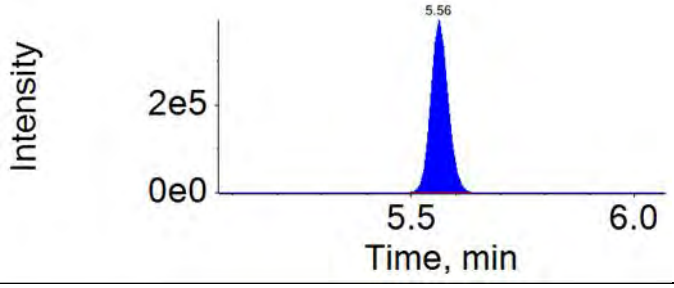
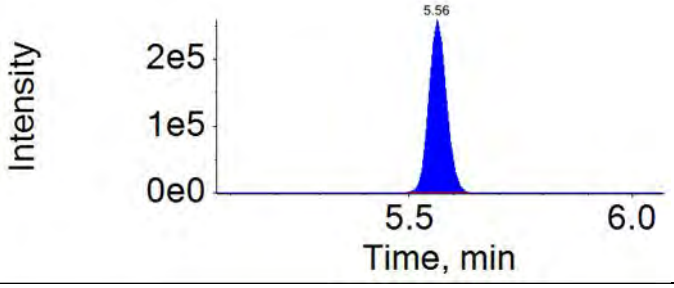
APPROVED
By JPT at 12:44 pm, 12/11/18

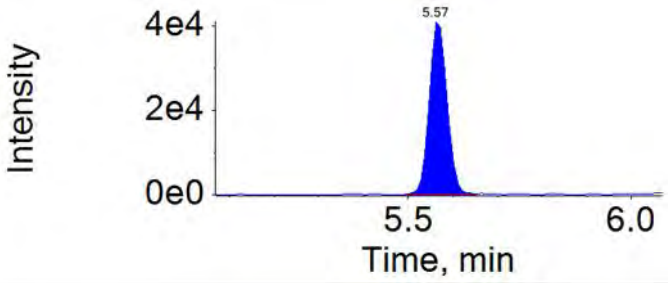
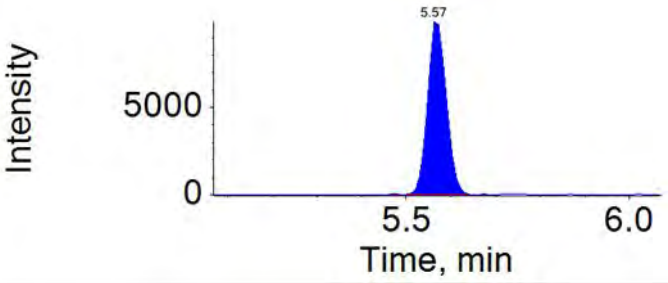
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0
	

Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

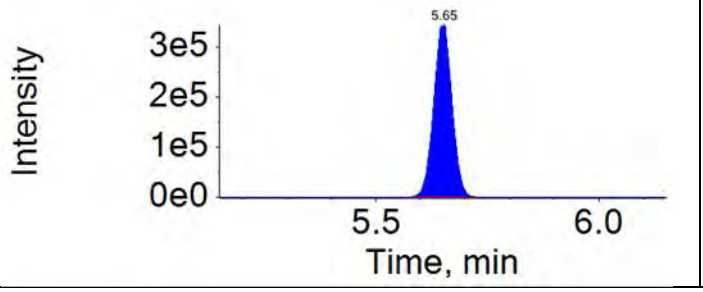
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

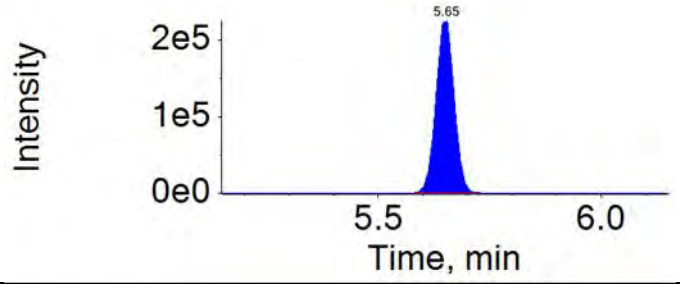
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

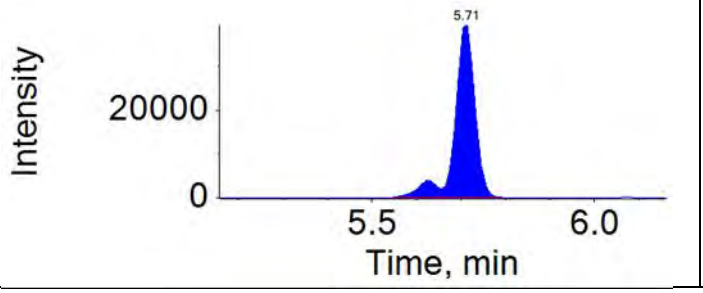
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

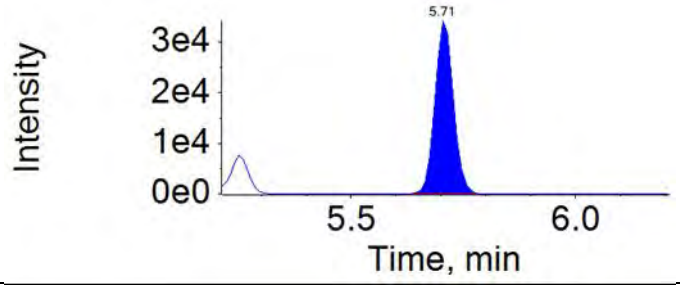
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



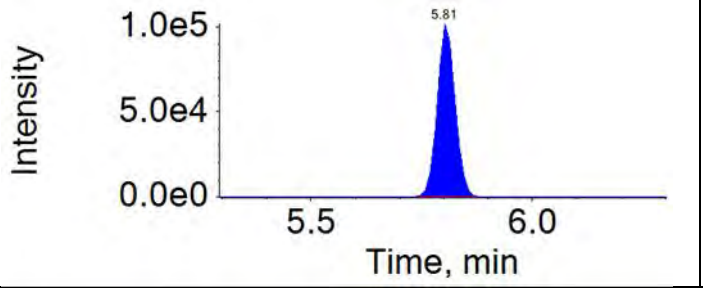


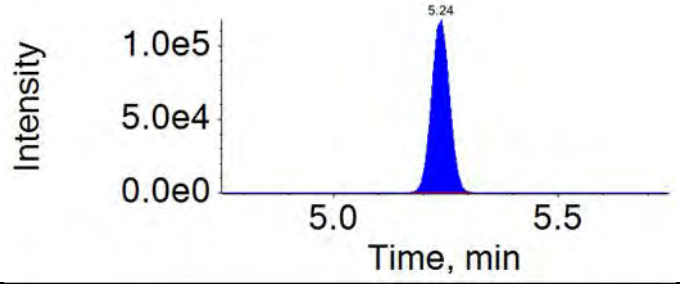
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



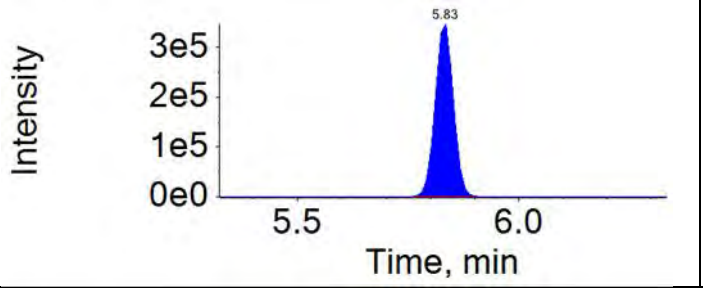


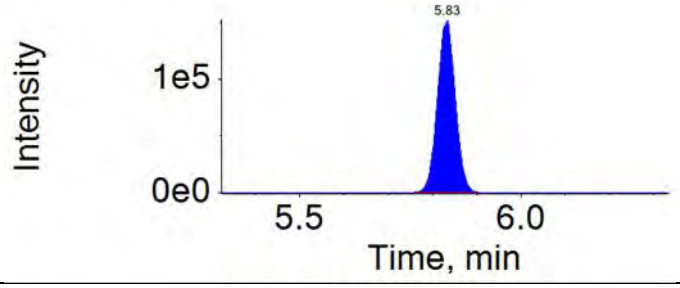
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

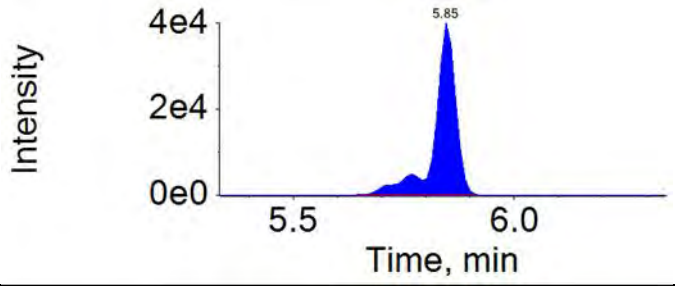
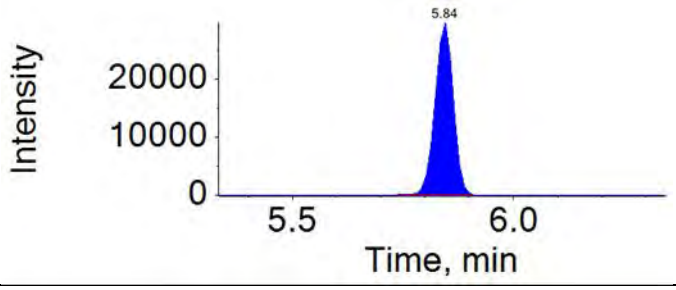


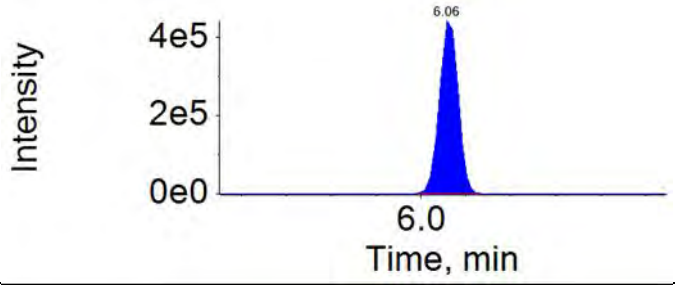
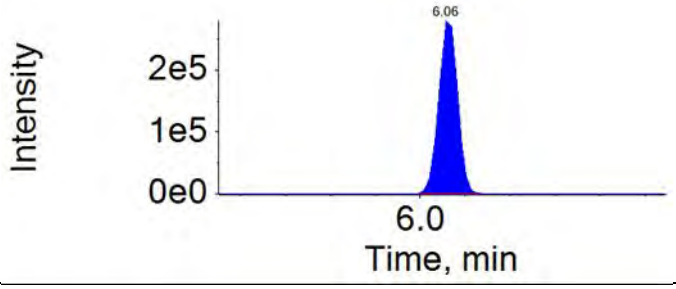


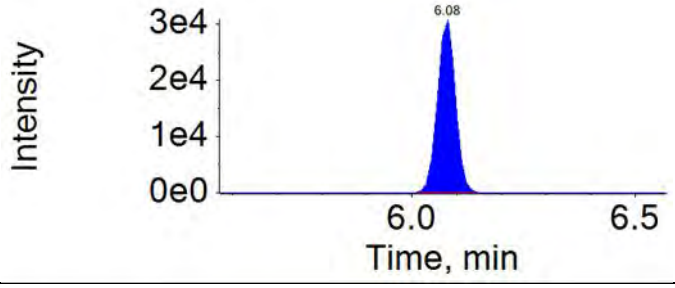
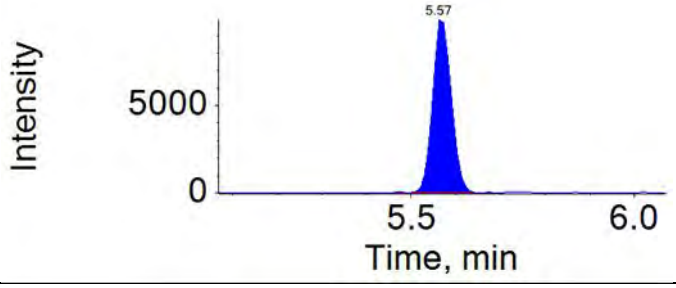
APPROVED
By JPT at 12:44 pm, 12/11/18

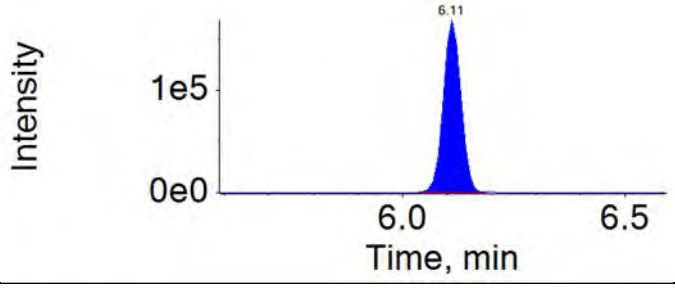
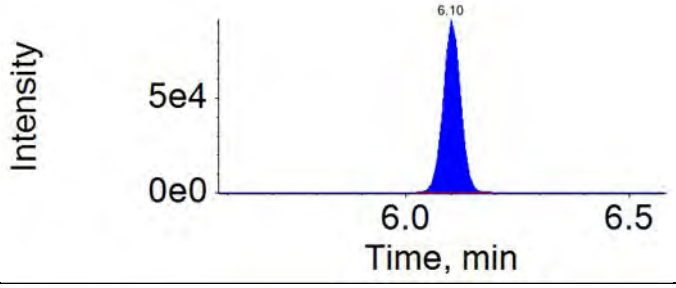
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

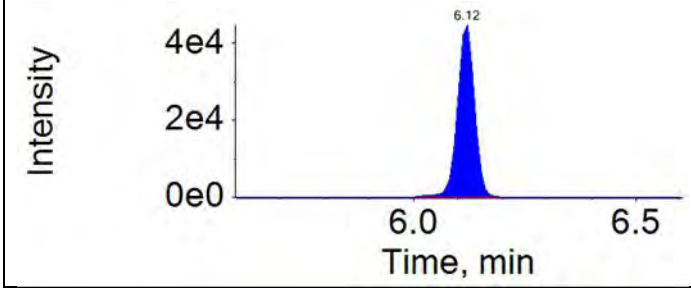
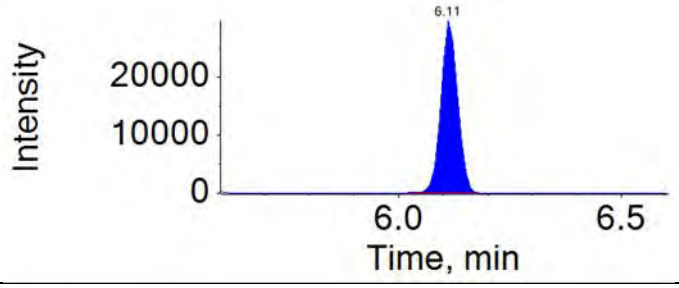
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

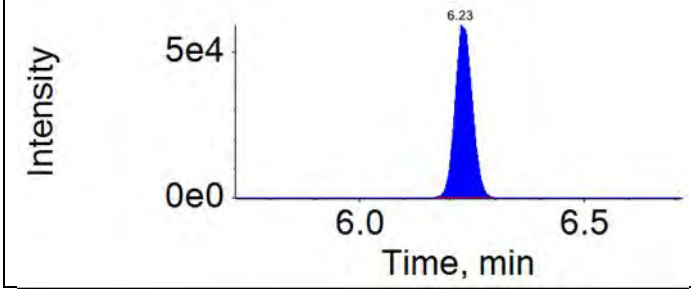
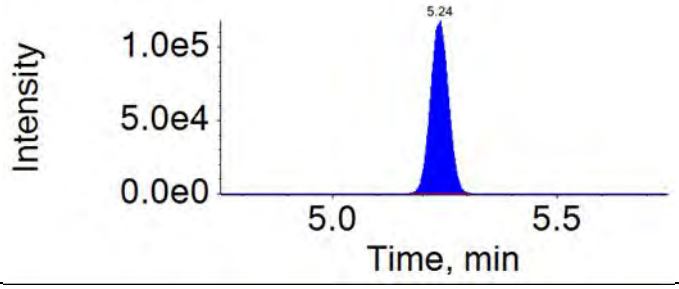
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

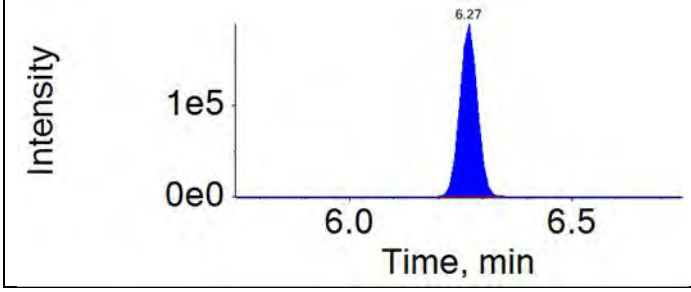
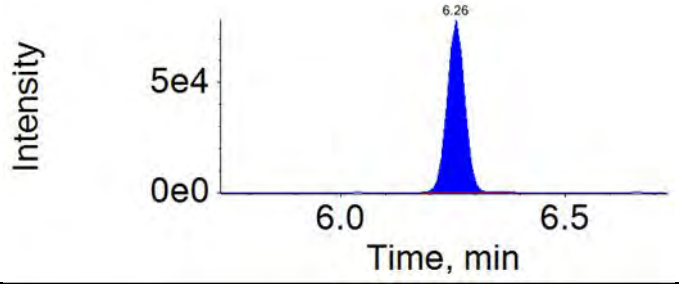
APPROVED
By JPT at 12:44 pm, 12/11/18

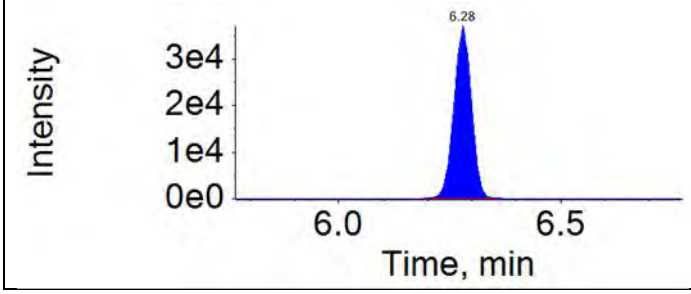
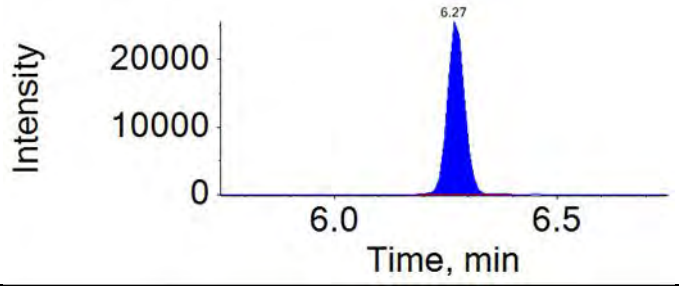
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0
	

Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0
	

Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0
	

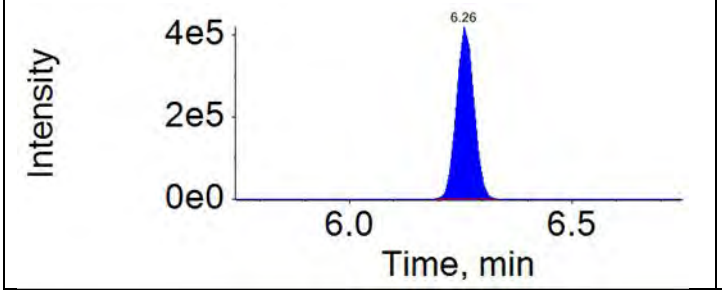
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0
	

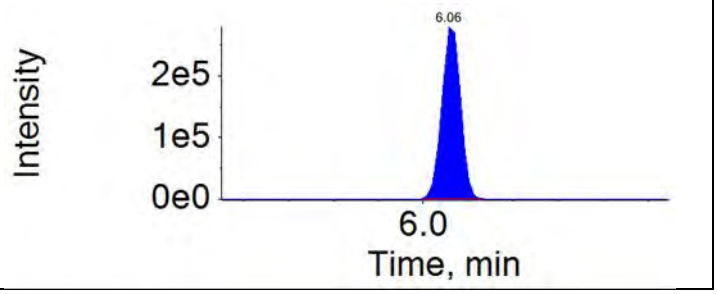
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

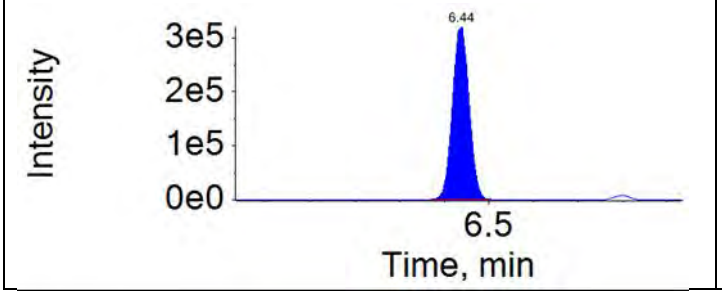
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

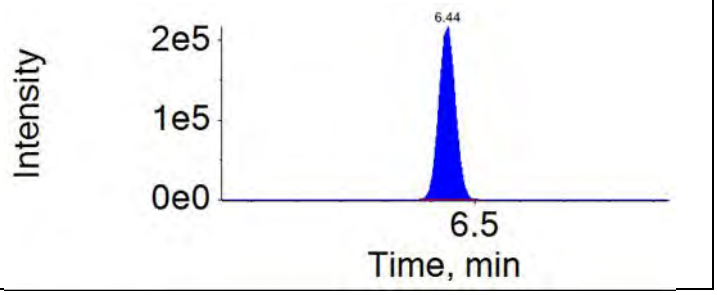
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



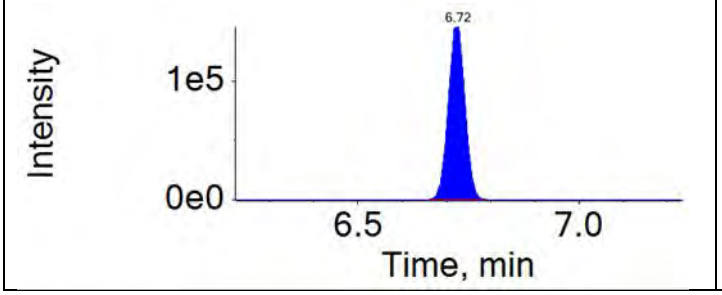


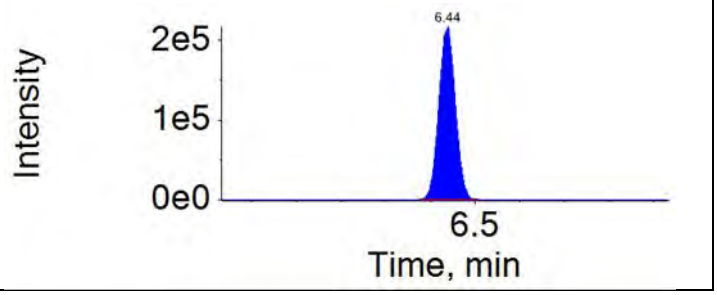
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



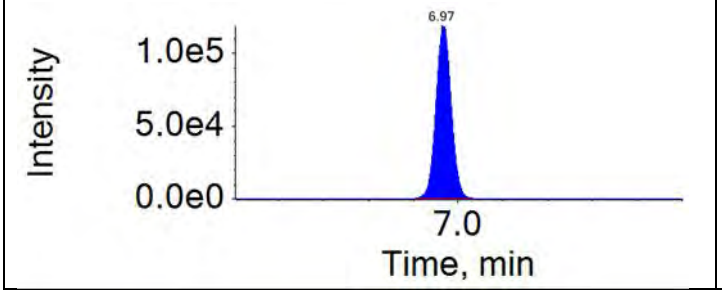


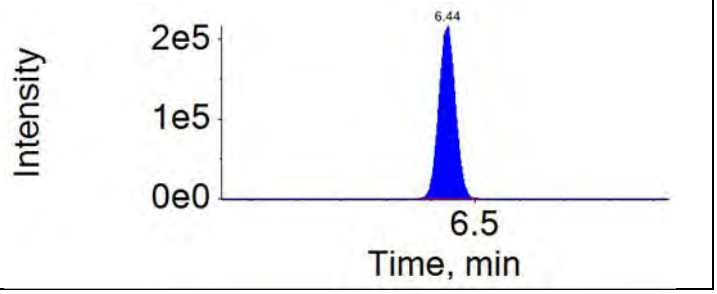
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



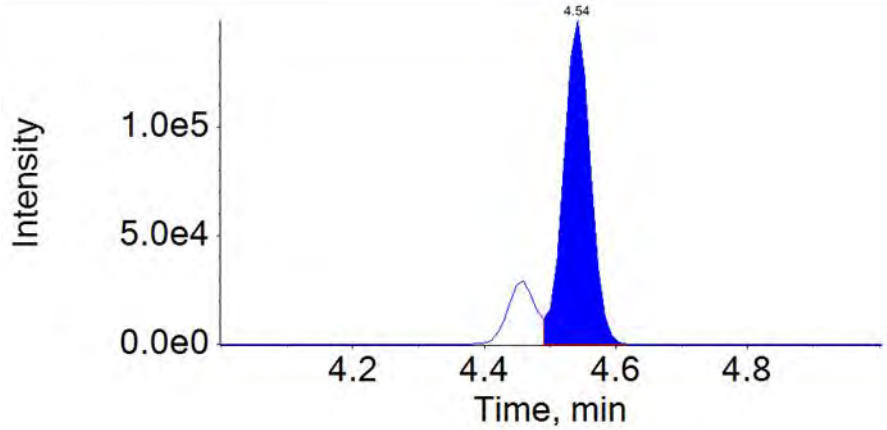


APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

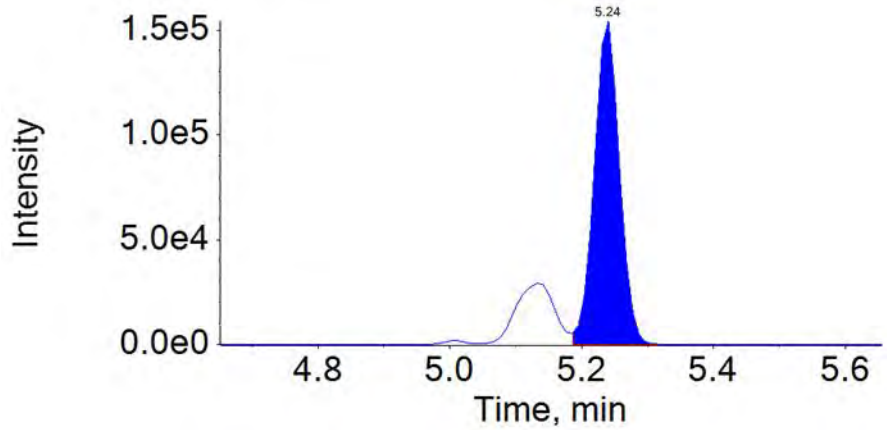
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
421606.4
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



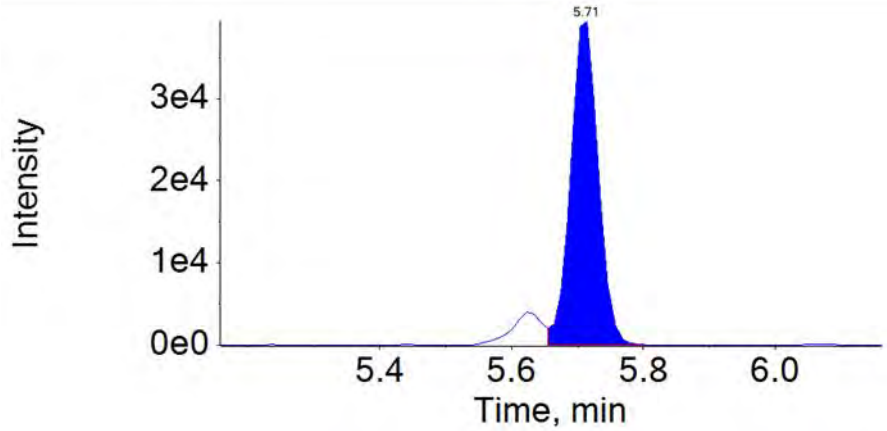
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
410271.7
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
115058.2
Mass Range:
570.0 / 419.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



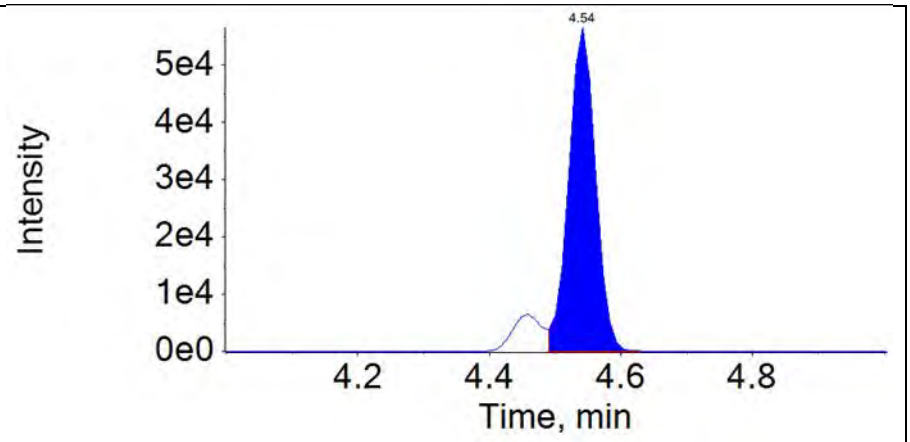
Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

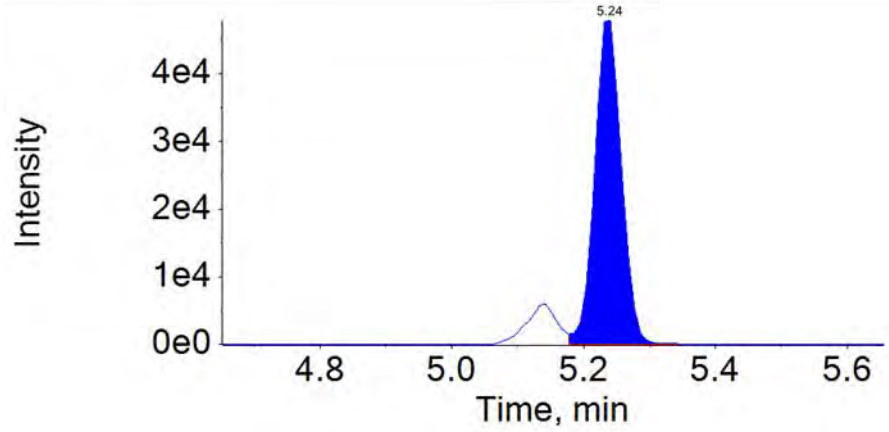
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
160395.6
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



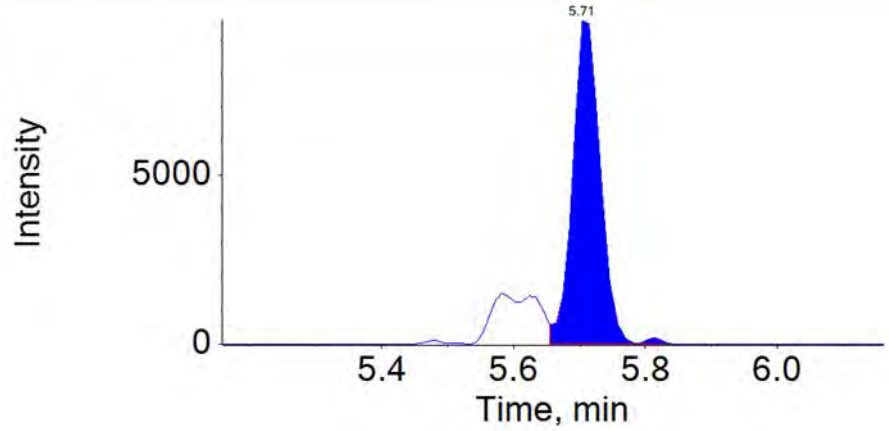
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
136354.7
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
28184.9
Mass Range:
570.0 / 483.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



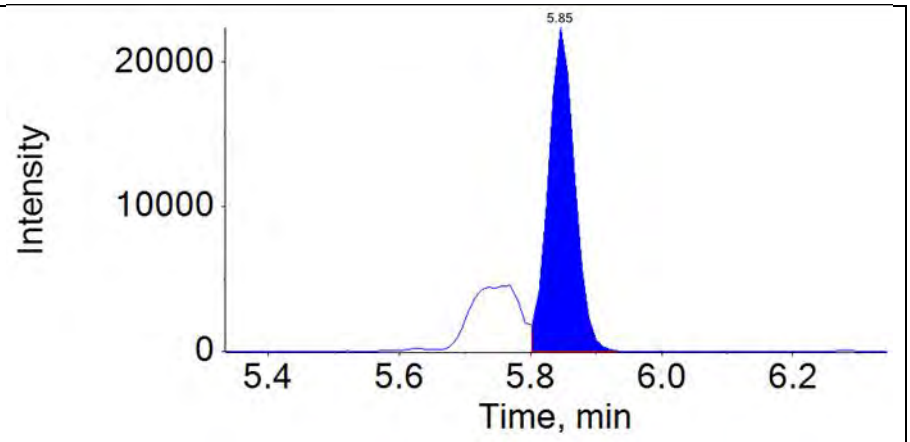
Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
62383.6
Mass Range:
584.0 / 526.0
File Name:
18DEC10D-78.wiff
Sample Name:
CCV9_CAL4



Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Results Table Name:	18DEC10DCCV4-12	**Acquisition Method:**	18AUG13_3uL.dam
Results Table Date:	12/11/2018 12:30:21 PM	**QMethod File:**	18AUG20QM

Ion Ratio Report

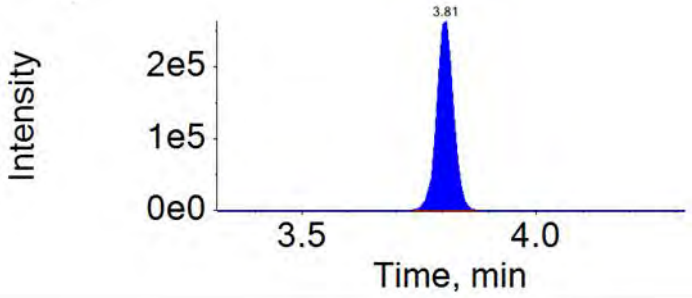
Sample Name: CCV9_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC10D-78.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	657227.5	A	N/A	1.0000			
PFBS_2	3.81	1.00	241166.9	A	N/A	0.3669	1	50	
4:2-FTS	4.12	1.00	136073.1	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	83337.8	A	N/A	0.6124	-6	50	
PFHxA	4.15	1.00	1369945.7	A	N/A	1.0000			
PFHxA_2	4.15	1.00	15392.9	A	N/A	0.0112	16	50	
PFPeS	4.17	1.10	341779.2	A	N/A	1.0000			
PFPeS_2	4.17	1.10	162287.3	A	N/A	0.4748	-10	50	
PFHpA	4.54	1.00	1422455.7	A	N/A	1.0000			
PFHpA_2	4.54	1.00	74655.2	A	N/A	0.0525	-7	50	
PFHxS	4.54	1.00	505966.5	M	N/A	1.0000			
PFHxS_2	4.54	1.00	180359.6	M	N/A	0.3565	-2	50	
6:2-FTS	4.90	1.00	126531.0	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	81639.8	A	N/A	0.6452	3	50	
PFHpS	4.90	1.08	510992.7	A	N/A	1.0000			
PFHpS_2	4.90	1.08	198075.6	A	N/A	0.3876	-7	50	
PFOA	4.91	1.00	1436480.1	A	N/A	1.0000			
PFOA_2	4.91	1.00	80323.3	A	N/A	0.0559	-9	50	
PFOS	5.24	1.00	534853.7	M	N/A	1.0000			
PFOS_2	5.24	1.00	155207.1	M	N/A	0.2902	-4	50	
PFNA	5.25	1.00	1247799.9	A	N/A	1.0000			
PFNA_2	5.25	1.00	25165.3	A	N/A	0.0202	5	50	
PFNS	5.54	1.06	390573.0	A	N/A	1.0000			
PFNS_2	5.54	1.06	166804.3	A	N/A	0.4271	-12	50	
PFDA	5.56	1.00	1052845.1	A	N/A	1.0000			
PFDA_2	5.56	1.00	5496.0	A	N/A	0.0052	-46	50	
8:2-FTS	5.57	1.00	113104.2	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	66731.7	A	N/A	0.5900	-4	50	
NMeFOSAA	5.71	1.00	127958.6	M	N/A	1.0000			
NMeFOSAA_2	5.71	1.00	35248.4	M	N/A	0.2755	3	50	
PFDS	5.81	1.11	282770.0	A	N/A	1.0000			
PFDS_2	5.81	1.11	138397.8	A	N/A	0.4894	-1	50	
PFUnDA	5.83	1.00	998064.1	A	N/A	1.0000			
PFUnDA_2	5.83	1.00	4677.1	A	N/A	0.0047	14	50	
NEtFOSAA	5.85	1.00	134146.1	A	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	86800.3	M	N/A	0.6471	-4	50	
PFDoDA	6.06	1.00	1291361.0	A	N/A	1.0000			
PFDoDA_2	6.06	1.00	18671.3	A	N/A	0.0145	8	50	
10:2-FTS	6.08	1.09	85873.9	A	N/A	1.0000			
10:2-FTS_2	6.08	1.09	56269.3	A	N/A	0.6553	-6	50	
PFTrDA	6.26	1.03	1150944.1	A	N/A	1.0000			
PFTrDA_2	6.26	1.03	9389.1	A	N/A	0.0082	8	50	
PFTeDA	6.44	1.00	832500.1	A	N/A	1.0000			
PFTeDA_2	6.44	1.00	4544.0	A	N/A	0.0055	-17	50	
PFHxDA	6.72	1.04	386285.2	A	N/A	1.0000			
PFHxDA_2	6.72	1.04	23215.2	A	N/A	0.0601	-2	50	
PFODA	6.97	1.08	282113.7	A	N/A	1.0000			
PFODA_2	6.96	1.08	7058.3	A	N/A	0.0250	-8	50	

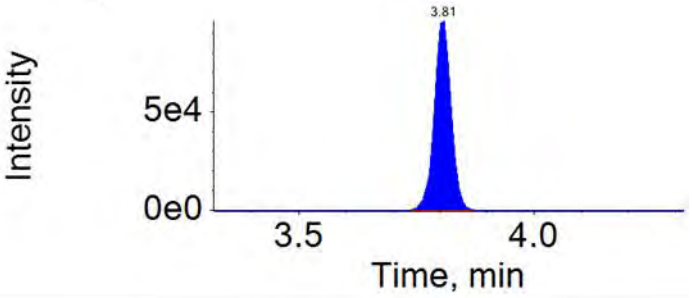
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

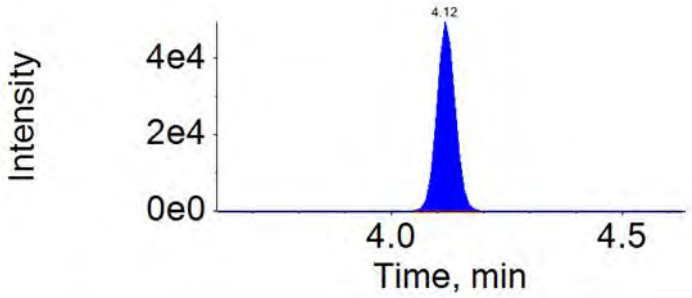
Component: PFBS
Primary Mass: 299.0 / 80.0



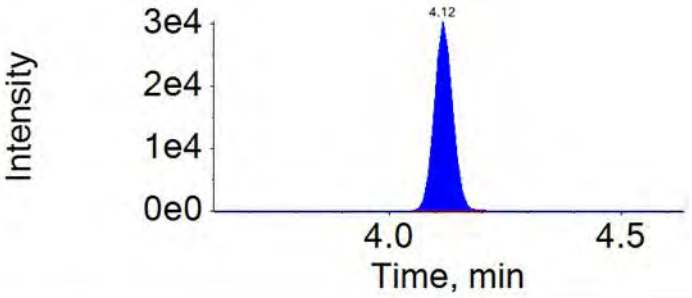
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



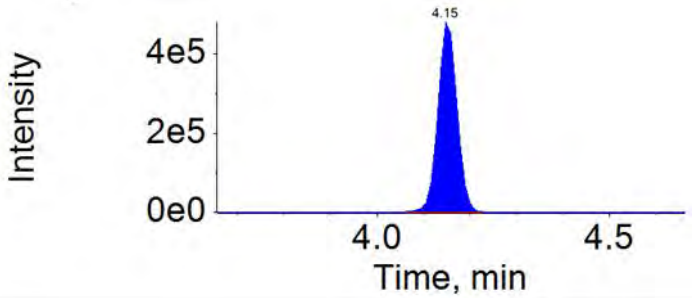
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



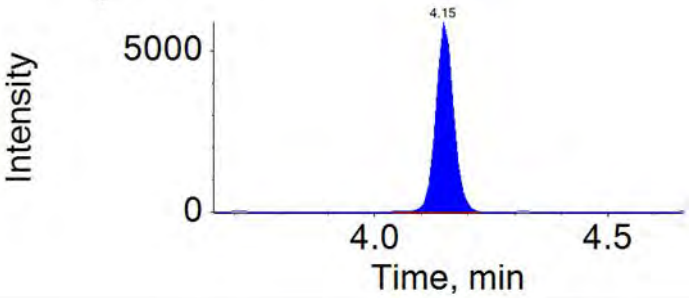
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



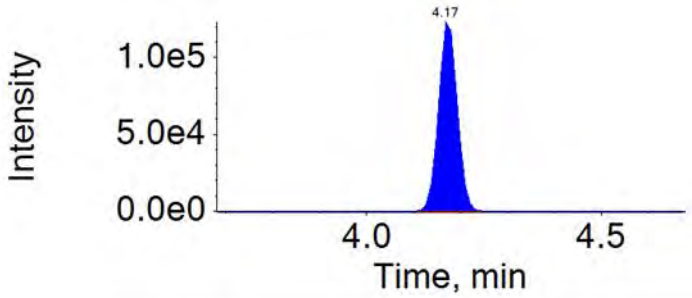
Component: PFHxA
Primary Mass: 313.0 / 269.0



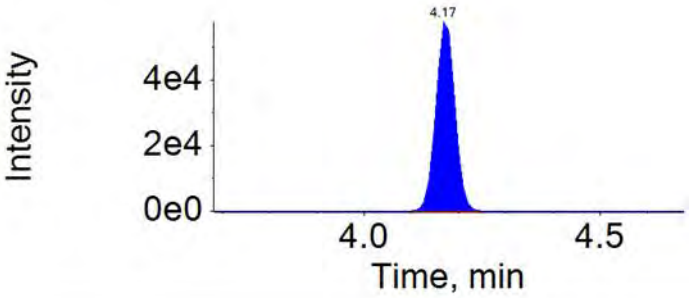
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



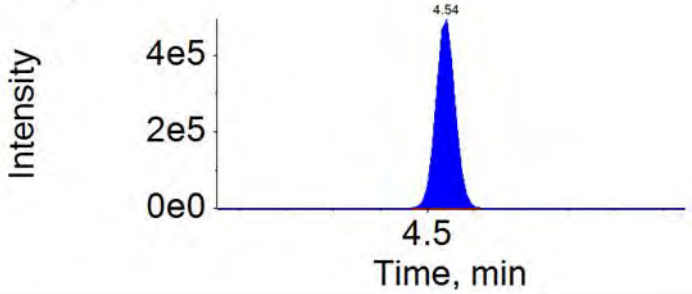
Component: PFPeS
Primary Mass: 349.0 / 80.0



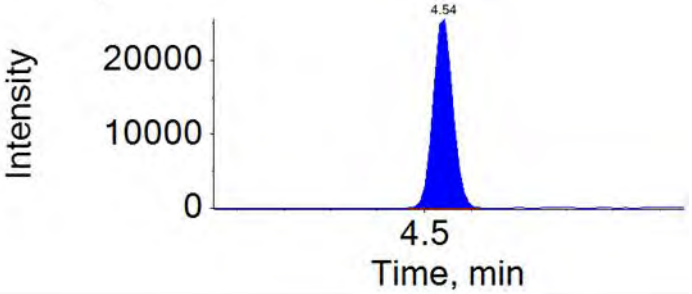
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



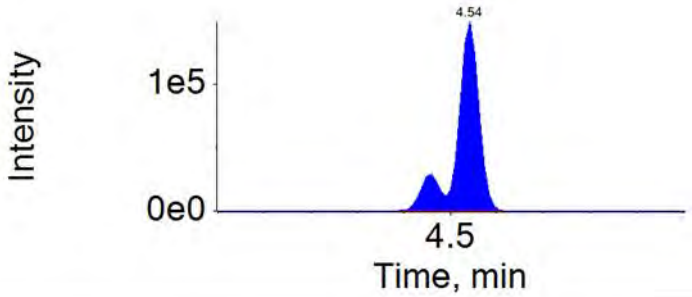
Component: PFHpA
Primary Mass: 363.0 / 319.0



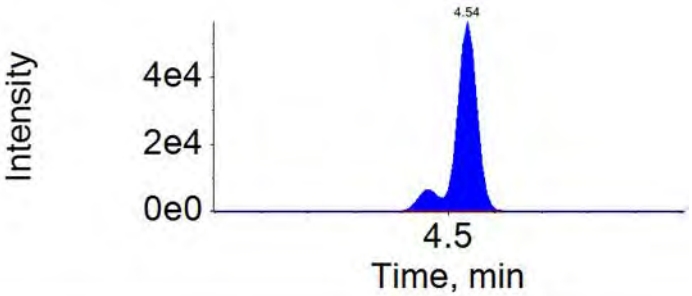
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



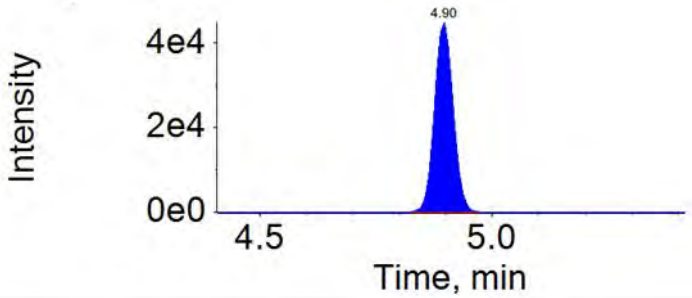
Component: PFHxS
Primary Mass: 399.0 / 80.0



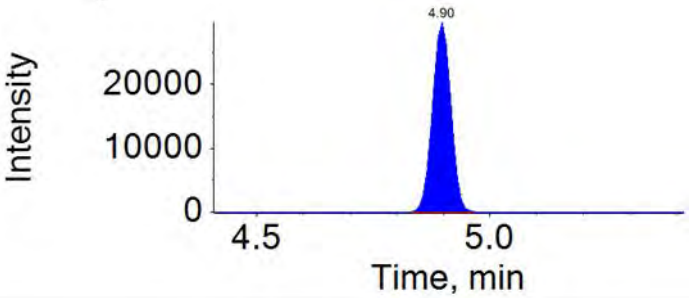
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



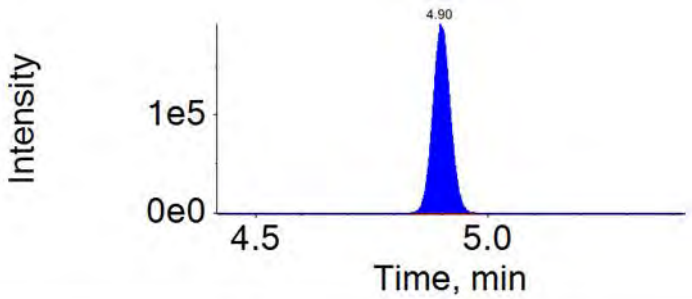
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



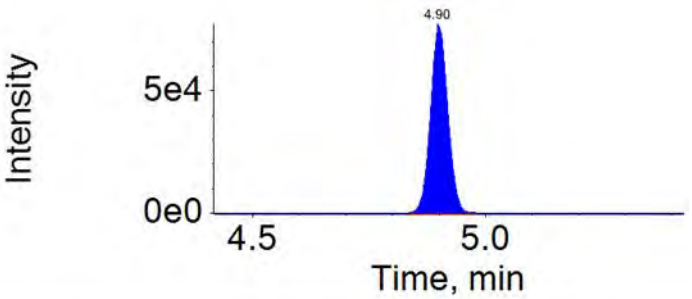
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



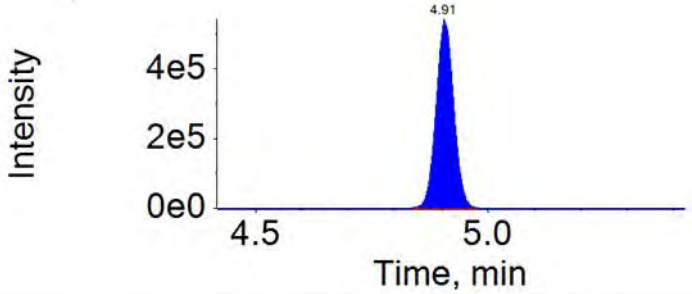
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



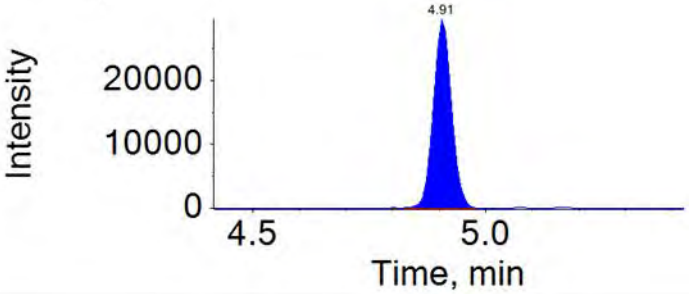
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

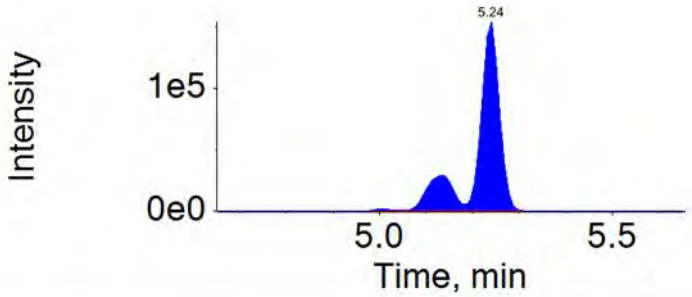
Component: PFOA
Primary Mass: 413.0 / 369.0



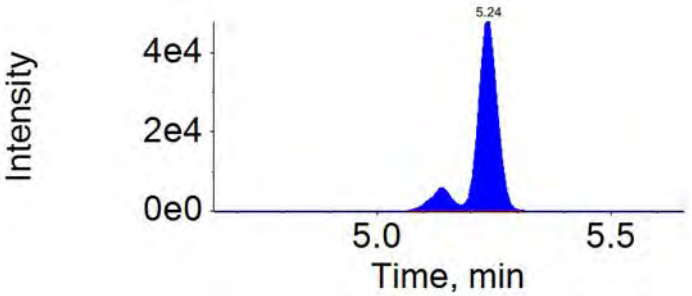
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



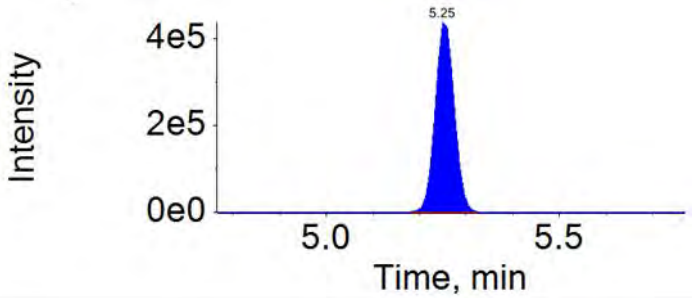
Component: PFOS
Primary Mass: 499.0 / 80.0



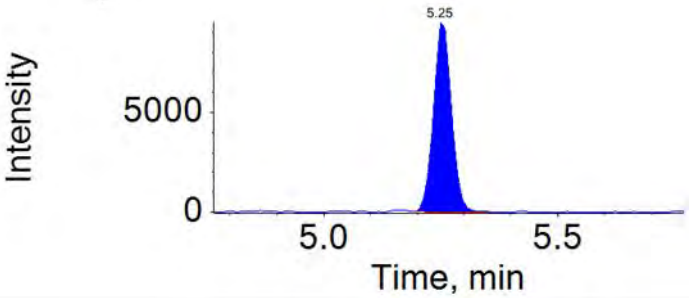
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



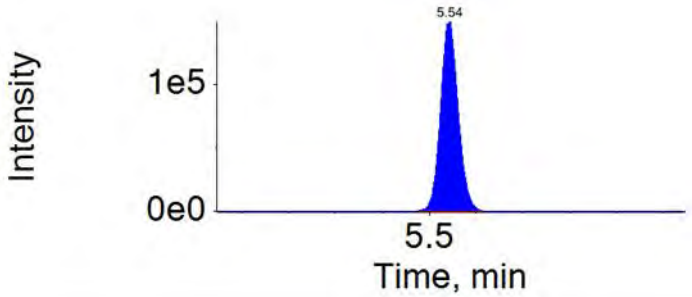
Component: PFNA
Primary Mass: 463.0 / 419.0



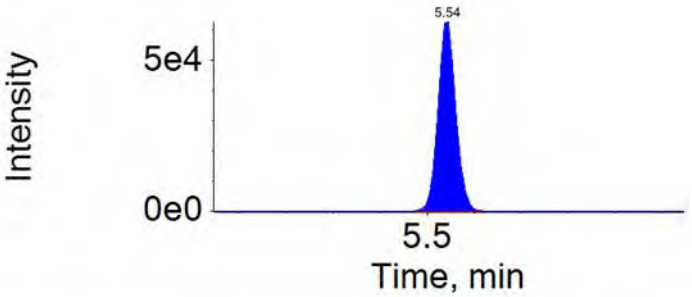
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



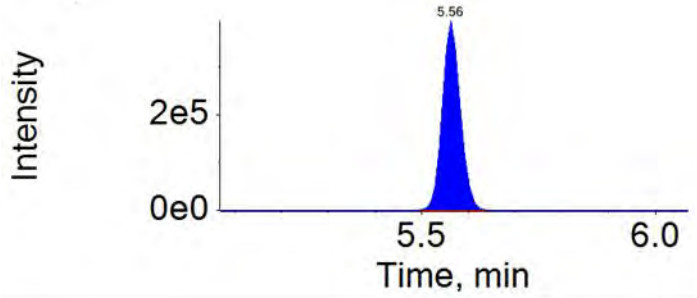
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



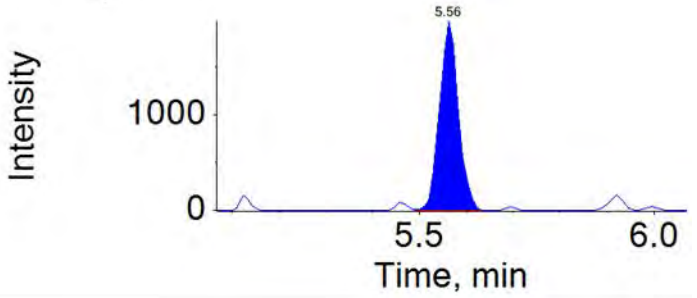
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

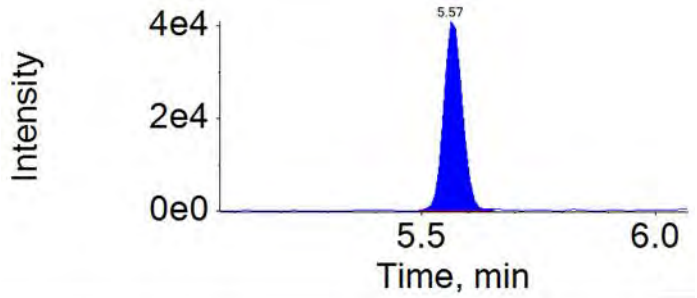
Component: PFDA
Primary Mass: 513.0 / 469.0



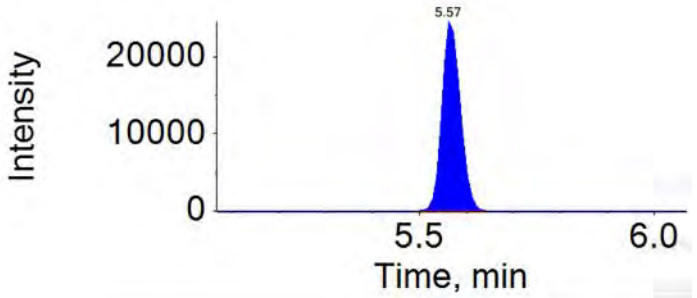
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



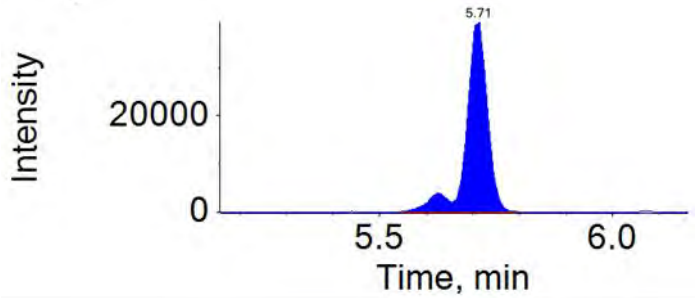
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



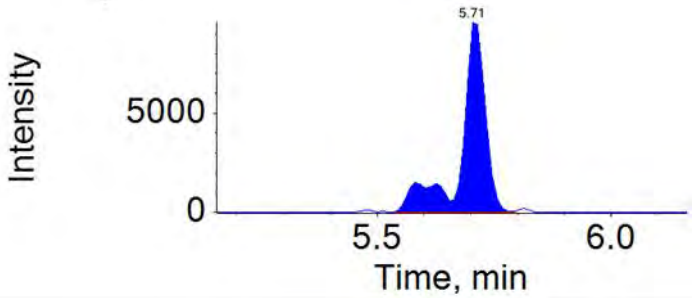
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



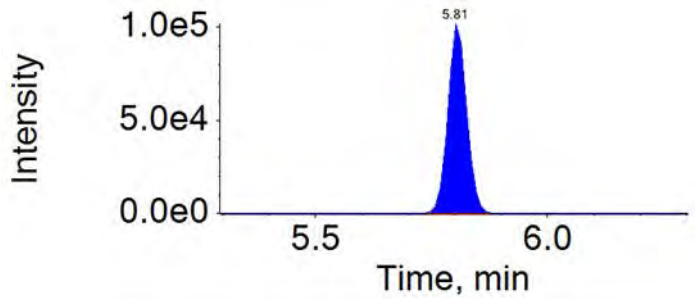
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



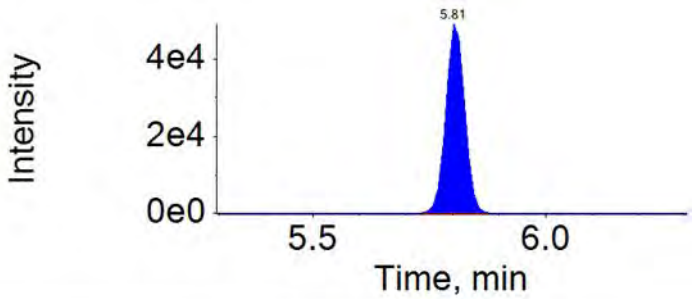
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



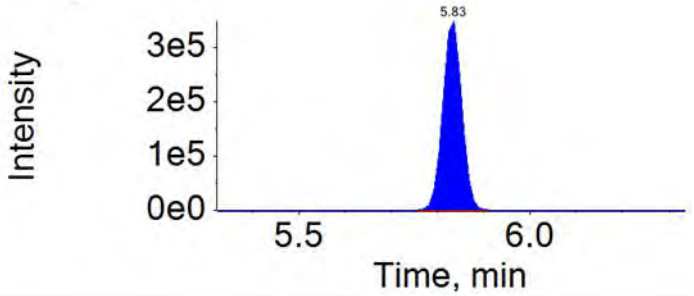
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



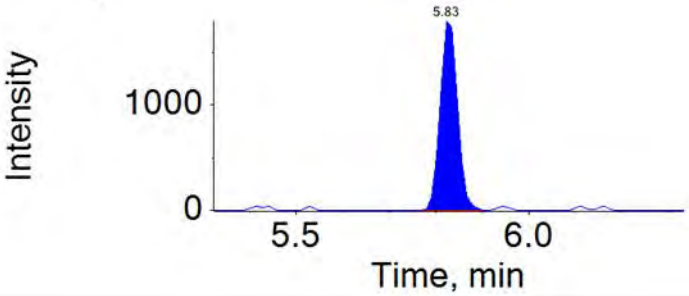
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

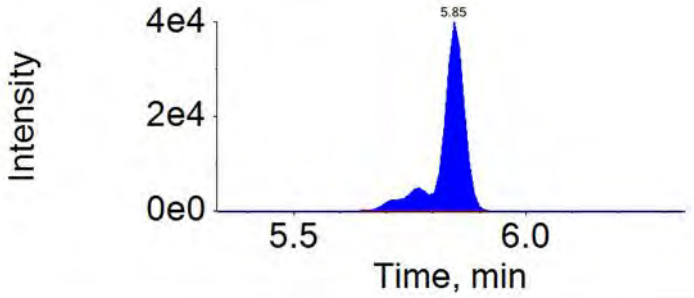
Component: PFUnDA
Primary Mass: 563.0 / 519.0



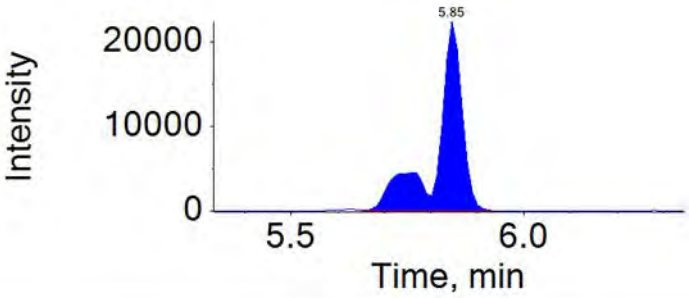
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



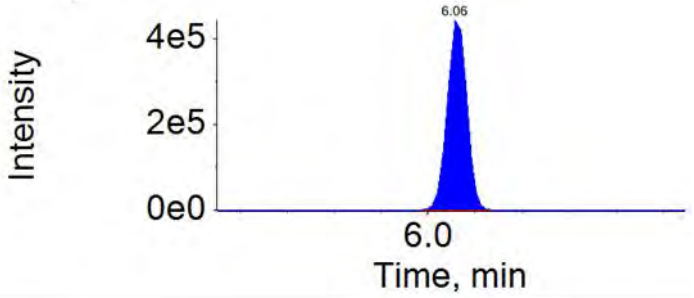
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



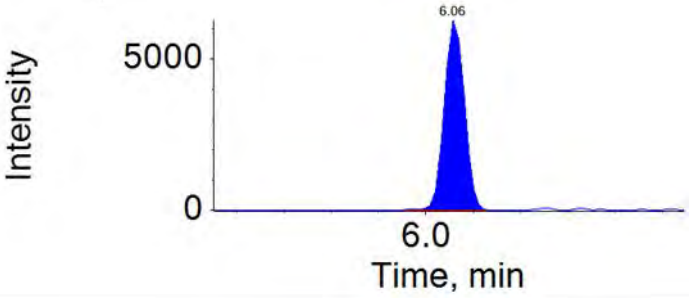
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



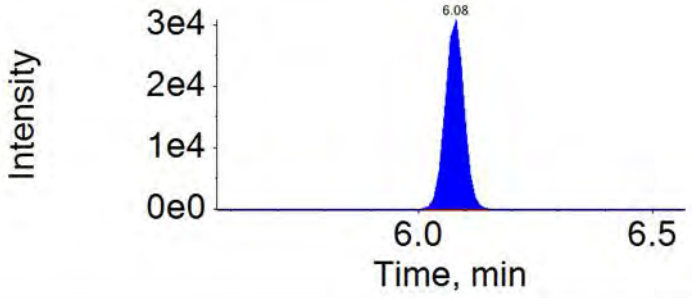
Component: PFDoDA
Primary Mass: 613.0 / 569.0



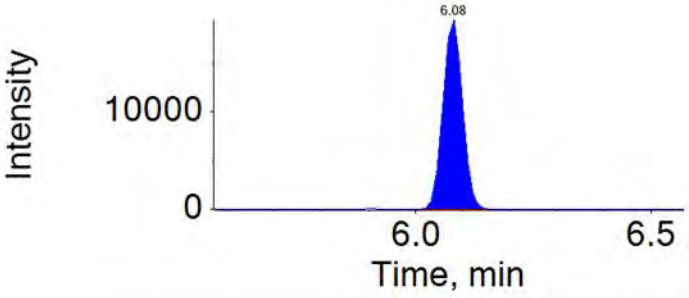
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



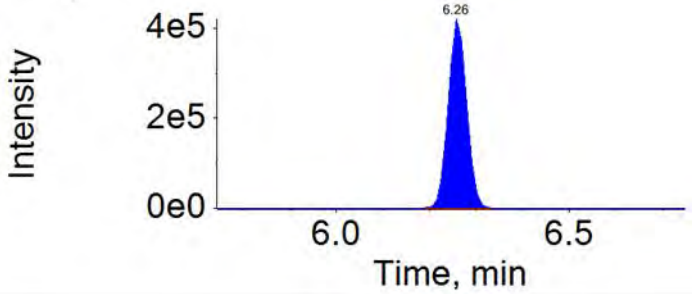
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



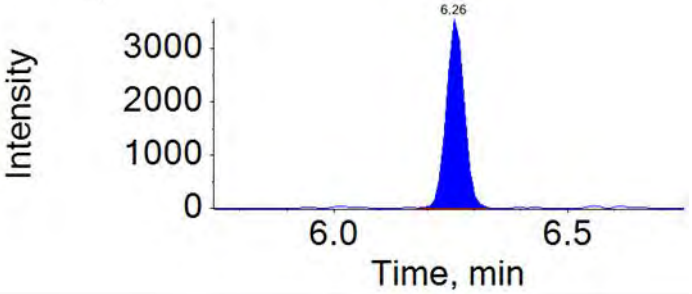
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

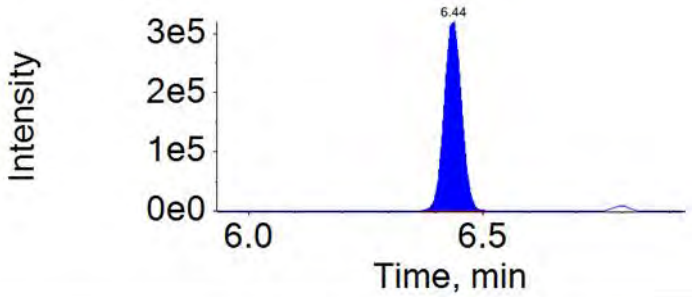
Component: PFTrDA
Primary Mass: 663.0 / 619.0



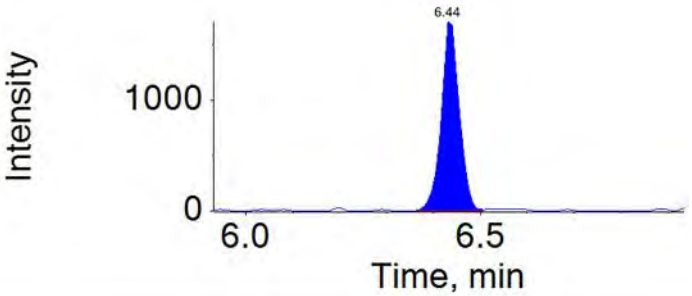
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



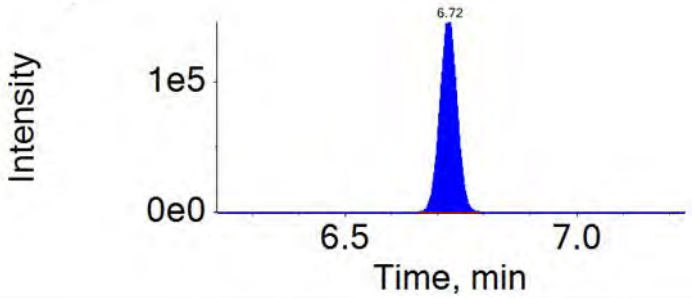
Component: PFTeDA
Primary Mass: 713.0 / 669.0



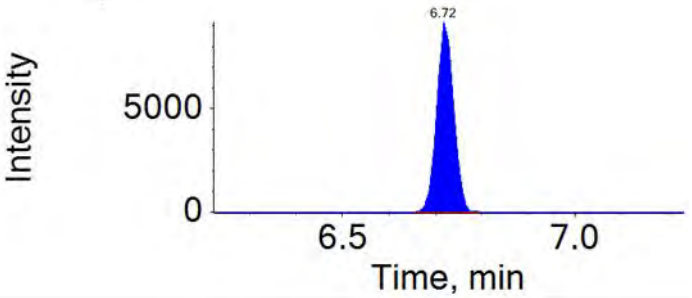
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



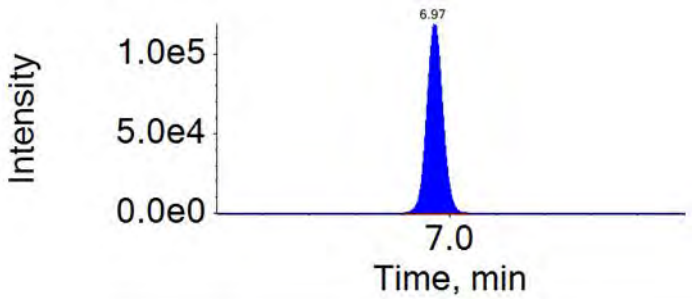
Component: PFHxDA
Primary Mass: 813.0 / 769.0



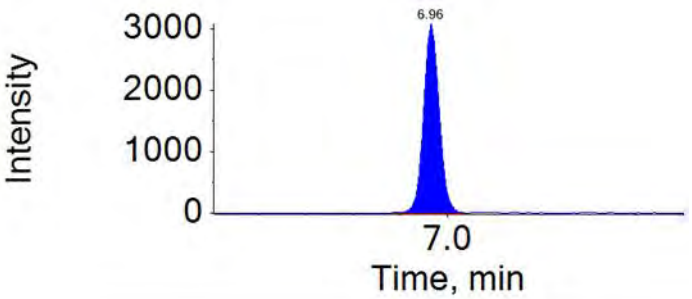
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



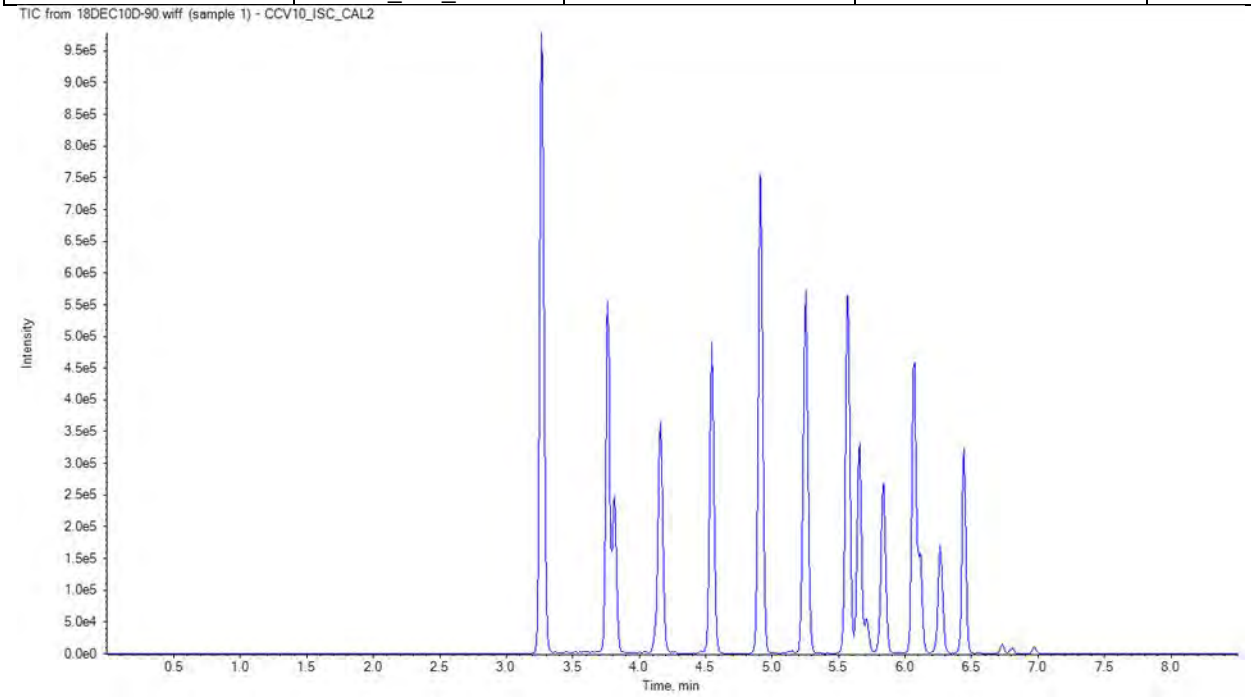
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV10_ISC_CAL2	CALBRN21833C	18DEC10D-90.wiff	2018-12-11T01:58:28



Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	982914.4	968978.6	1	50	
13C2-PFOA	5.0	509425.2	507254.2	0	50	
13C4-PFOS	4.8	302331.1	302410.5	0	50	
13C2-PFDA	5.0	408103.6	392614.4	4	50	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV10_ISC_CAL2	CALBRN21833C	18DEC10D-90.wiff	2018-12-11T01:58:28

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	116837.7	10	13C4-PFBA	1119089.4	5.0	0.104	3.26	1.000	0.600	0.576	-4	30	
PFPeA	109369.7	11	13C5-PFPeA	1029500.7	5.0	0.106	3.77	1.000	0.600	0.559	-7	30	
PFBS	47562.4	10	13C3-PFBS	455830.6	4.7	0.104	3.81	1.000	0.531	0.517	-3	30	
4:2-FTS	9228.3	12	13C2-4:2-FTS	49385.7	4.7	0.187	4.13	1.000	0.560	0.501	-11	30	
PFHxA	103762.6	12	13C5-PFHxA	733485.8	5.0	0.141	4.16	1.000	0.600	0.616	3	30	
PFPeS	23420.7	12	13C3-PFBS	455830.6	4.7	0.051	4.18	1.100	0.563	0.509	-10	30	
PFHpA	107537.9	12	13C4-PFHpA	588251.7	5.0	0.183	4.54	1.000	0.600	0.602	0	30	
PFHxS	36331.9	18	13C3-PFHxS	364120.5	4.7	0.100	4.55	1.000	0.547	0.473	-14	30	
6:2-FTS	10179.0	10	13C2-6:2-FTS	43594.2	4.8	0.233	4.90	1.000	0.569	0.580	2	30	
PFHpS	35798.4	11	13C3-PFHxS	364120.5	4.7	0.098	4.90	1.080	0.571	0.540	-5	30	
PFOA	103446.6	11	13C8-PFOA	1013053.3	5.0	0.102	4.91	1.000	0.600	0.558	-7	30	
PFOS	37662.9	22	13C8-PFOS	346229.4	4.8	0.109	5.24	1.000	0.555	0.451	-19	30	
PFNA	85535.4	11	13C9-PFNA	655527.4	5.0	0.130	5.26	1.000	0.600	0.481	-20	30	
PFNS	26921.8	10	13C8-PFOS	346229.4	4.8	0.078	5.55	1.060	0.576	0.500	-13	30	
PFDA	78008.5	11	13C6-PFDA	781664.3	5.0	0.100	5.57	1.000	0.600	0.562	-6	30	
8:2-FTS	8602.7	12	13C2-8:2-FTS	33574.7	4.8	0.256	5.57	1.000	0.575	0.555	-3	30	
PFOSA	77103.0	11	13C8-PFOSA	687414.6	5.0	0.112	5.65	1.000	0.600	0.582	-3	30	
NMeFOSAA	7898.8	18	d3-NMeFOSAA	111380.3	5.0	0.071	5.71	1.000	0.600	0.469	-22	30	
PFDS	22450.8	11	13C8-PFOS	346229.4	4.8	0.065	5.81	1.110	0.578	0.524	-9	30	
PFUnDA	72779.2	11	13C7-PFUnDA	469190.0	5.0	0.155	5.83	1.000	0.600	0.475	-21	30	
NEtFOSAA	8719.1	23	d5-NEtFOSAA	83168.7	5.0	0.105	5.85	1.000	0.600	0.530	-12	30	
PFDoDA	98272.9	12	13C2-PFDoDA	940398.1	5.0	0.105	6.07	1.000	0.600	0.550	-8	30	
10:2-FTS	5954.2	11	13C2-8:2-FTS	33574.7	4.8	0.177	6.08	1.090	0.578	0.470	-19	30	
NMePFOSAE	30659.9	11	d7-NMePFOSAE	241536.7	5.0	0.127	6.12	1.000	0.600	0.552	-8	30	
NMePFOSA	8940.3	11	d3-NMePFOSA	76336.5	5.0	0.117	6.12	1.000	0.600	0.591	-2	30	
PFDoS	10435.9	11	13C8-PFOS	346229.4	4.8	0.030	6.23	1.190	0.581	0.460	-21	30	
NEtPFOSAE	35596.3	11	d9-NEtPFOSAE	213287.9	5.0	0.167	6.27	1.000	0.600	0.559	-7	30	
NEtPFOSA	7459.1	11	d5-NEtPFOSA	71591.8	5.0	0.104	6.28	1.000	0.600	0.499	-17	30	
PFTrDA	83658.5	11	13C2-PFDoDA	940398.1	5.0	0.089	6.26	1.030	0.600	0.583	-3	30	
PFTeDA	61329.4	10	13C2-PFTeDA	603673.4	5.0	0.102	6.44	1.000	0.600	0.581	-3	30	
PFHxDA	28466.4	11	13C2-PFTeDA	603673.4	5.0	0.047	6.73	1.040	0.600	0.591	-2	30	
PFODA	21151.8	10	13C2-PFTeDA	603673.4	5.0	0.035	6.97	1.080	0.600	0.562	-6	30	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV10_ISC_CAL2			**Data File:**		18DEC10D-90.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-11T01:58:28
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC10DCCV4-12
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	982914.4	968978.6	1	50	
13C2-PFOA	5.0	509425.2	507254.2	0	50	
13C4-PFOS	4.8	302331.1	302410.5	0	50	
13C2-PFDA	5.0	408103.6	392614.4	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1119089.4	13C3-PFBA	982914.4	1.139	5.000	5.039	101	70-130	
E13C5-PFPeA	1029500.7	13C3-PFBA	982914.4	1.047	5.000	4.974	99	70-130	
E13C3-PFBS	455830.6	13C3-PFBA	982914.4	0.464	4.650	3.931	85	70-130	
E13C2-4:2-FTS	49385.7	13C2-PFOA	509425.2	0.097	4.670	3.799	81	70-130	
E13C5-PFHxA	733485.8	13C2-PFOA	509425.2	1.440	5.000	4.834	97	70-130	
E13C3-PFHxS	364120.5	13C2-PFOA	509425.2	0.715	4.730	4.585	97	70-130	
E13C4-PFHpA	588251.7	13C2-PFOA	509425.2	1.155	5.000	4.909	98	70-130	
E13C2-6:2-FTS	43594.2	13C2-PFOA	509425.2	0.086	4.750	5.301	112	70-130	
E13C8-PFOA	1013053.3	13C2-PFOA	509425.2	1.989	5.000	5.621	112	70-130	
E13C8-PFOS	346229.4	13C4-PFOS	302331.1	1.145	4.780	5.139	108	70-130	
E13C9-PFNA	655527.4	13C4-PFOS	302331.1	2.168	5.000	6.127	123	70-130	
E13C6-PFDA	781664.3	13C2-PFDA	408103.6	1.915	5.000	5.076	102	70-130	
E13C2-8:2-FTS	33574.7	13C2-PFDA	408103.6	0.082	4.790	5.371	112	70-130	
E13C8-PFOSA	687414.6	13C2-PFDA	408103.6	1.684	5.000	3.984	80	70-130	
Ed3-NMeFOSAA	111380.3	13C2-PFDA	408103.6	0.273	5.000	4.837	97	70-130	
E13C7-PFUnDA	469190.0	13C2-PFDA	408103.6	1.150	5.000	5.640	113	70-130	
Ed5-NEtFOSAA	83168.7	13C2-PFDA	408103.6	0.204	5.000	4.499	90	70-130	
E13C2-PFDoDA	940398.1	13C2-PFDA	408103.6	2.304	5.000	4.836	97	70-130	
Ed7-NMePFOSAE	241536.7	13C2-PFDA	408103.6	0.592	5.000	3.409	68	70-130	OOS
Ed3-NMePFOSA	76336.5	13C2-PFDA	408103.6	0.187	5.000	3.408	68	70-130	OOS
Ed9-NEtPFOSAE	213287.9	13C2-PFDA	408103.6	0.523	5.000	3.604	72	70-130	
Ed5-NEtPFOSA	71591.8	13C2-PFDA	408103.6	0.175	5.000	3.948	79	70-130	
E13C2-PFTeDA	603673.4	13C2-PFDA	408103.6	1.479	5.000	4.390	88	70-130	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

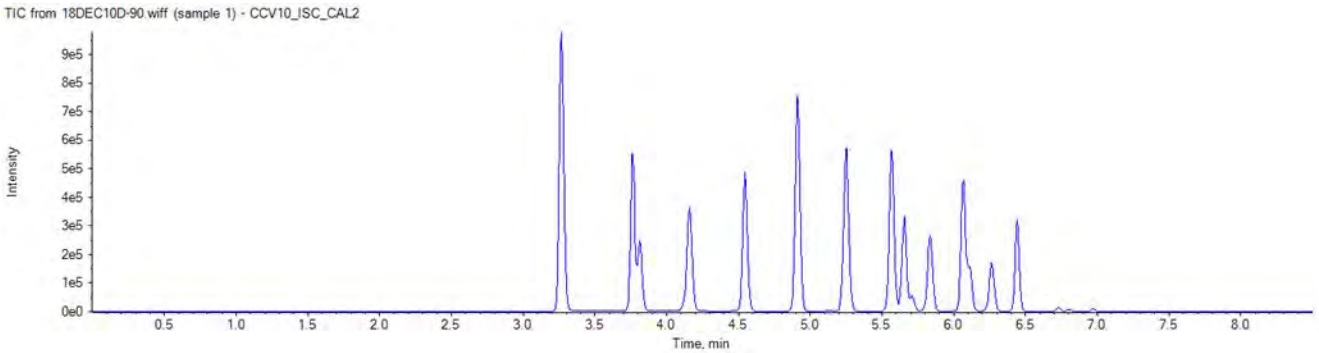
Analyte Quantitation Peak Table

Sample Name: CCV10_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC10D-90.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	116837.7		A	13C4-PFBA	3.26	1119089.4	0.104	0.576
PFPeA	3.77	1.000	109369.7		A	13C5-PFPeA	3.76	1029500.7	0.106	0.559
PFBS	3.81	1.000	47562.4		A	13C3-PFBS	3.81	455830.6	0.104	0.517
4:2-FTS	4.13	1.000	9228.3		A	13C2-4:2-FTS	4.12	49385.7	0.187	0.501
PFHxA	4.16	1.000	103762.6		A	13C5-PFHxA	4.16	733485.8	0.141	0.616
PFPeS	4.18	1.100	23420.7		A	13C3-PFBS	3.81	455830.6	0.051	0.509
PFHpA	4.54	1.000	107537.9		A	13C4-PFHpA	4.54	588251.7	0.183	0.602
PFHxS	4.55	1.000	36331.9		M	13C3-PFHxS	4.55	364120.5	0.100	0.473
6:2-FTS	4.90	1.000	10179.0		A	13C2-6:2-FTS	4.90	43594.2	0.233	0.580
PFHpS	4.90	1.080	35798.4		A	13C3-PFHxS	4.55	364120.5	0.098	0.540
PFOA	4.91	1.000	103446.6		A	13C8-PFOA	4.91	1013053.3	0.102	0.558
PFOS	5.24	1.000	37662.9		M	13C8-PFOS	5.24	346229.4	0.109	0.451
PFNA	5.26	1.000	85535.4		A	13C9-PFNA	5.26	655527.4	0.130	0.481
PFNS	5.55	1.060	26921.8		A	13C8-PFOS	5.24	346229.4	0.078	0.500
PFDA	5.57	1.000	78008.5		A	13C6-PFDA	5.57	781664.3	0.100	0.562
8:2-FTS	5.57	1.000	8602.7		A	13C2-8:2-FTS	5.57	33574.7	0.256	0.555
PFOSA	5.65	1.000	77103.0		A	13C8-PFOSA	5.65	687414.6	0.112	0.582
NMeFOSAA	5.71	1.000	7898.8		A	d3-NMeFOSAA	5.71	111380.3	0.071	0.469
PFDS	5.81	1.110	22450.8		A	13C8-PFOS	5.24	346229.4	0.065	0.524
PFUnDA	5.83	1.000	72779.2		A	13C7-PFUnDA	5.83	469190.0	0.155	0.475
NEtFOSAA	5.85	1.000	8719.1		M	d5-NEtFOSAA	5.85	83168.7	0.105	0.530
PFDoDA	6.07	1.000	98272.9		A	13C2-PFDoDA	6.07	940398.1	0.105	0.550
10:2-FTS	6.08	1.090	5954.2		A	13C2-8:2-FTS	5.57	33574.7	0.177	0.470
NMePFOSAE	6.12	1.000	30659.9		A	d7-NMePFOSAE	6.11	241536.7	0.127	0.552
NMePFOSA	6.12	1.000	8940.3		A	d3-NMePFOSA	6.12	76336.5	0.117	0.591
PFDoS	6.23	1.190	10435.9		A	13C8-PFOS	5.24	346229.4	0.030	0.460
NEtPFOSAE	6.27	1.000	35596.3		A	d9-NEtPFOSAE	6.26	213287.9	0.167	0.559
NEtPFOSA	6.28	1.000	7459.1		A	d5-NEtPFOSA	6.28	71591.8	0.104	0.499
PFTrDA	6.26	1.030	83658.5		A	13C2-PFDoDA	6.07	940398.1	0.089	0.583
PFTeDA	6.44	1.000	61329.4		A	13C2-PFTeDA	6.44	603673.4	0.102	0.581
PFHxDA	6.73	1.040	28466.4		A	13C2-PFTeDA	6.44	603673.4	0.047	0.591
PFODA	6.97	1.080	21151.8		A	13C2-PFTeDA	6.44	603673.4	0.035	0.562

Total Ion Chromatogram

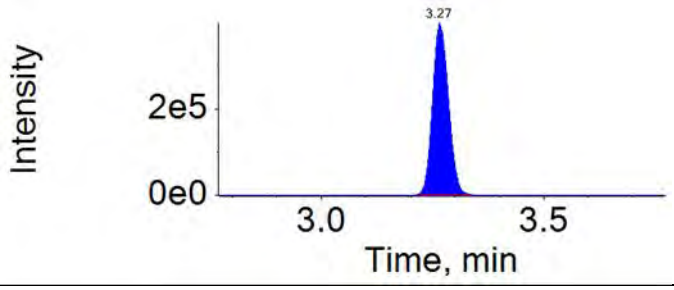


APPROVED
By JPT at 12:44 pm, 12/11/18

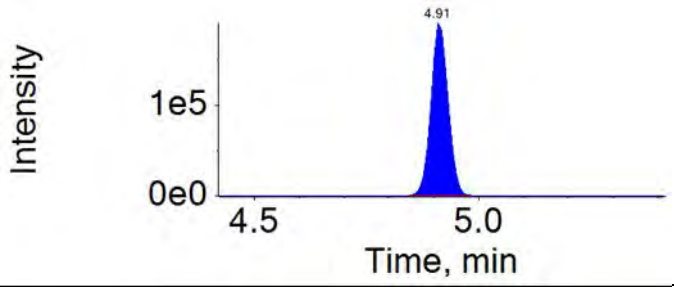
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

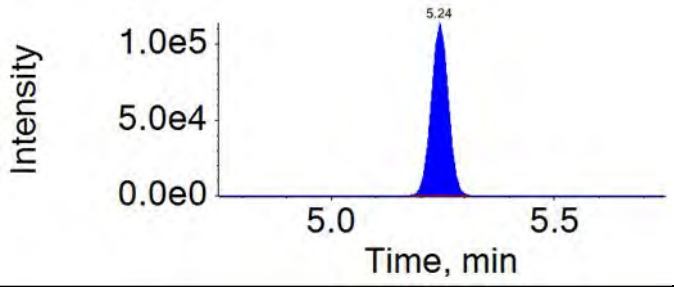
Injection Standard: 13C3-PFBA
216.0 / 172.0



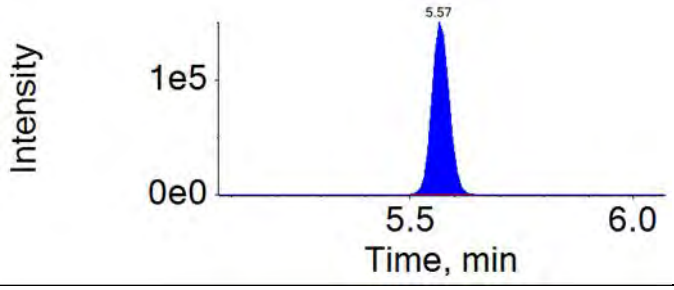
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

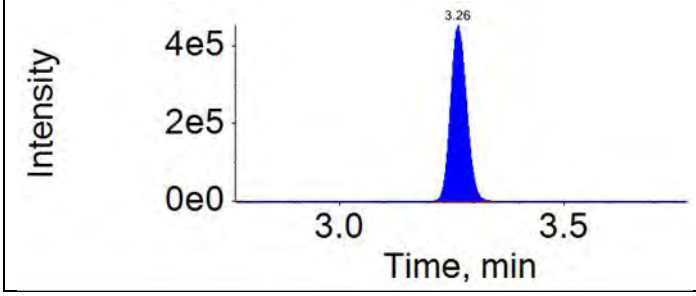


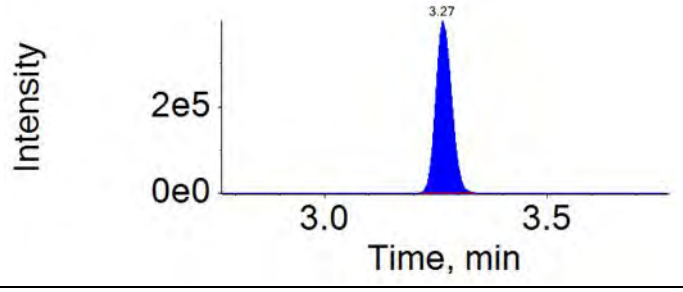
Injection Standard: 13C2-PFDA
515.0 / 470.0



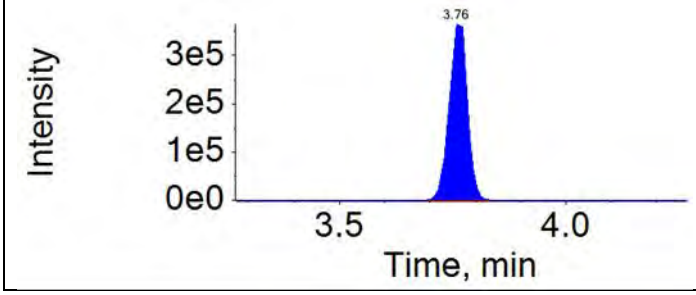
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

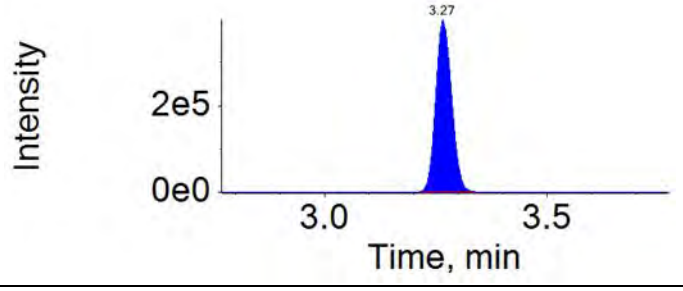
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



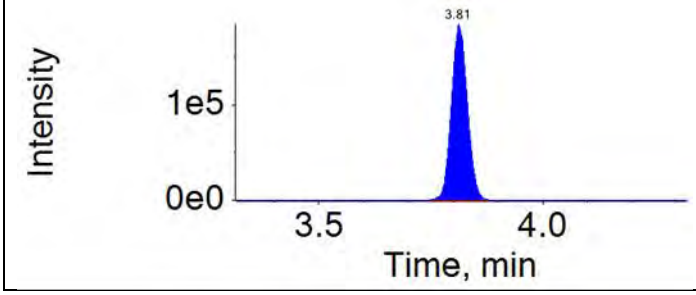


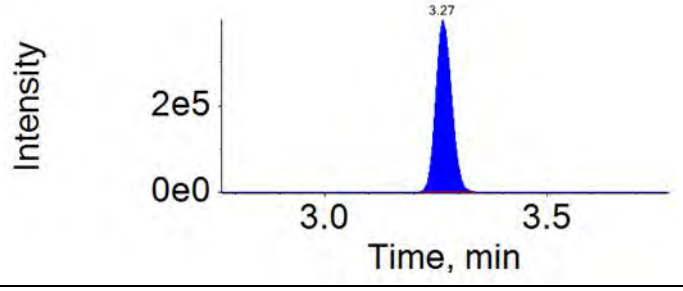
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



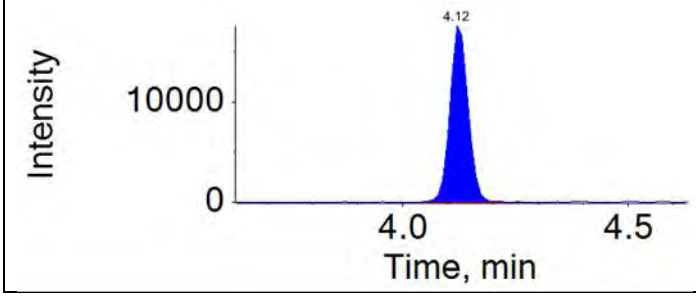


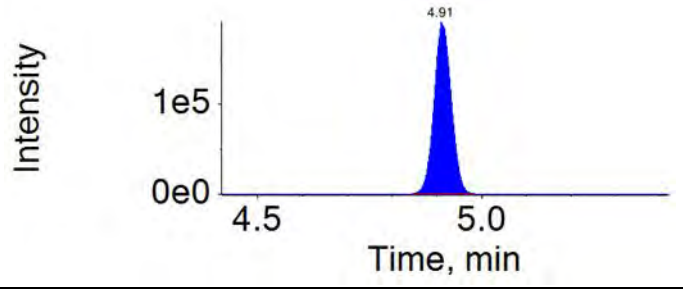
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



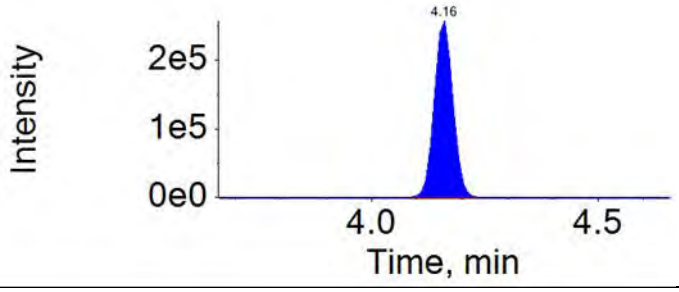
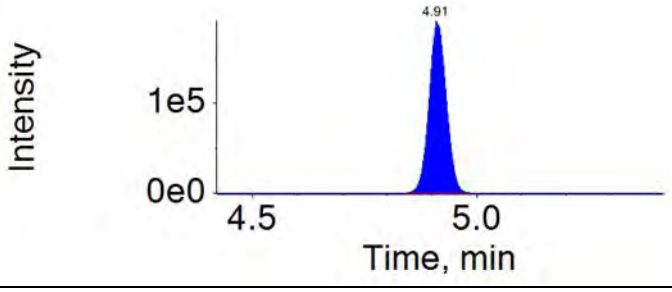


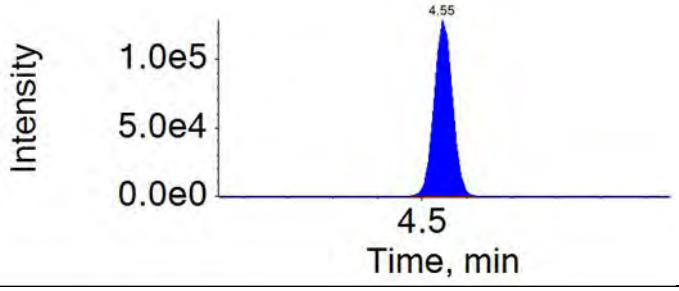
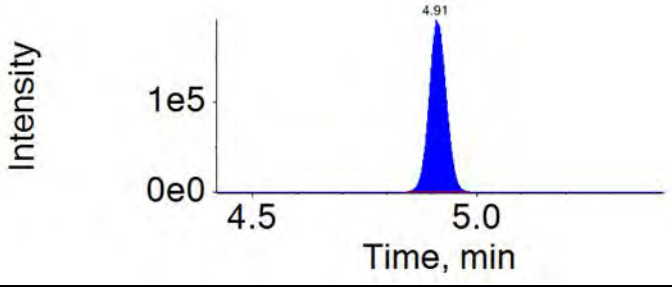
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

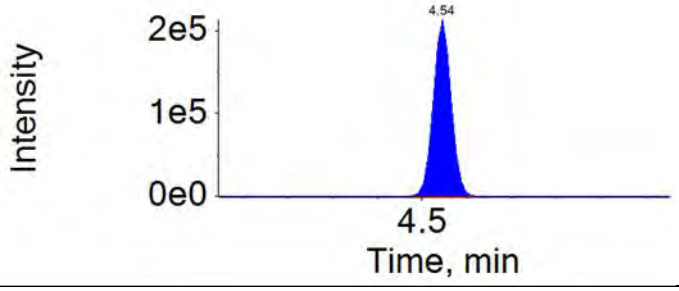
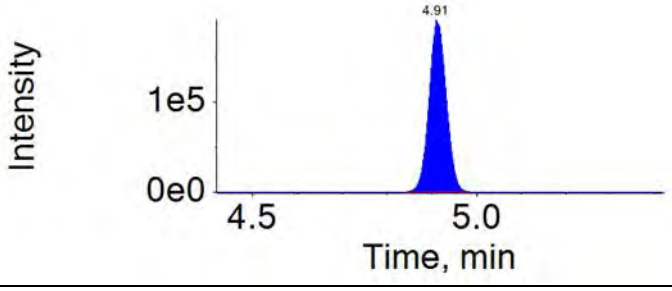


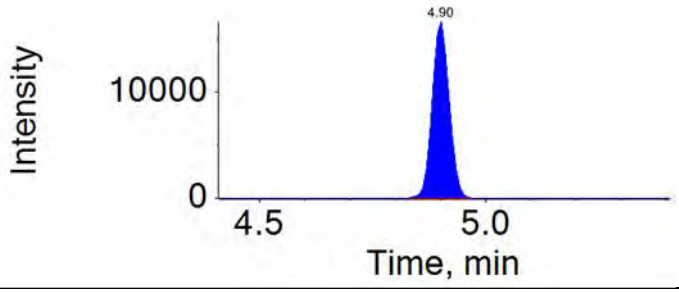
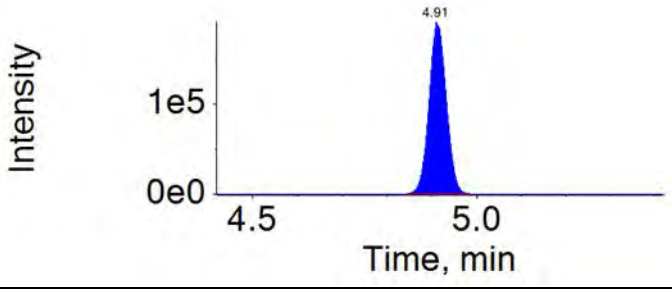


ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

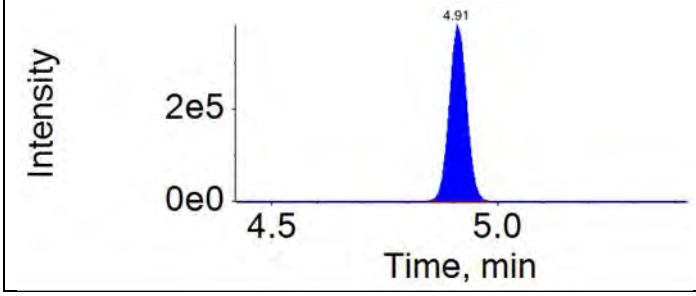
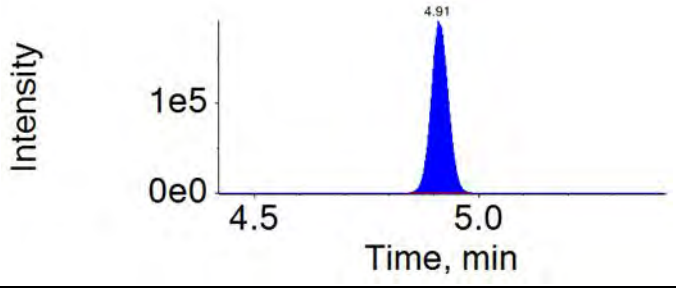
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

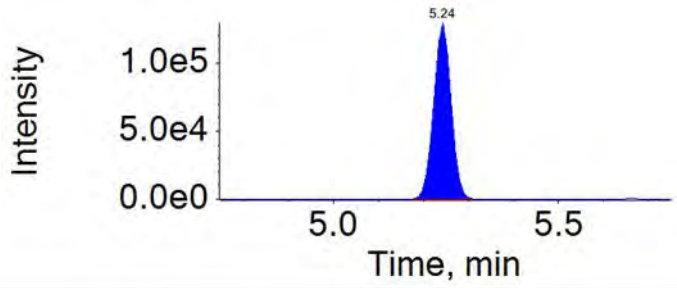
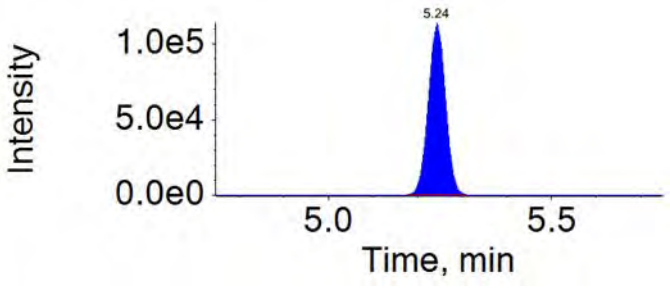
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

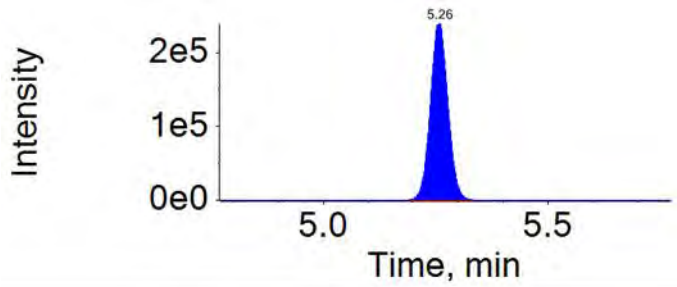
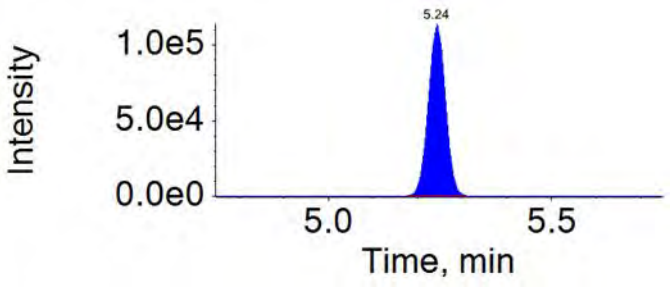
APPROVED
By JPT at 12:44 pm, 12/11/18

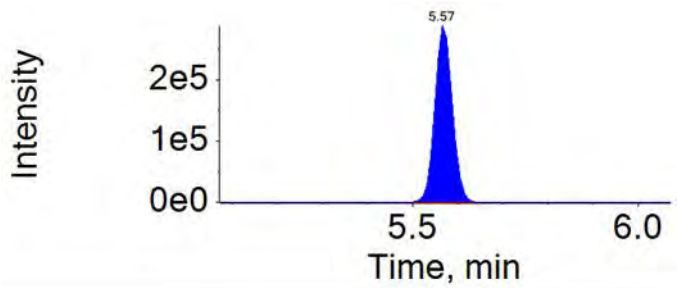
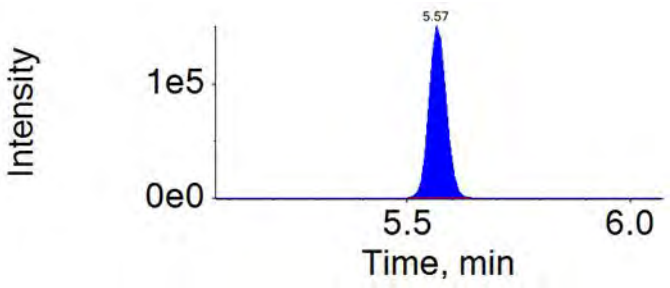
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

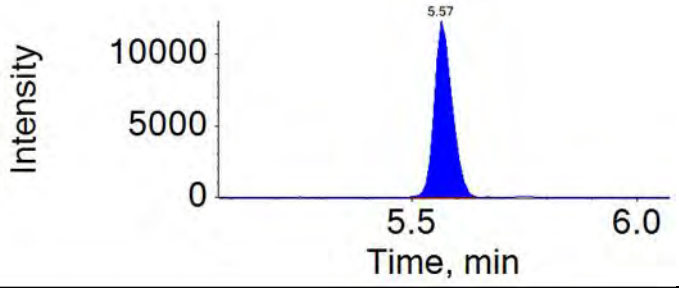
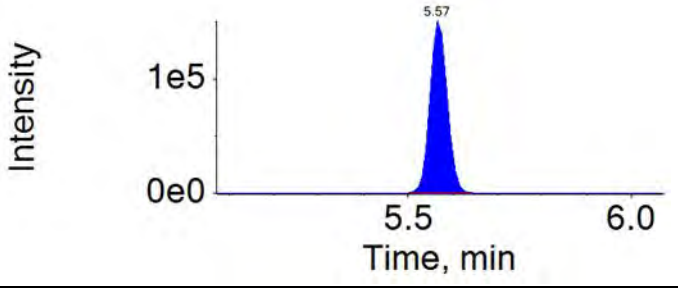
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

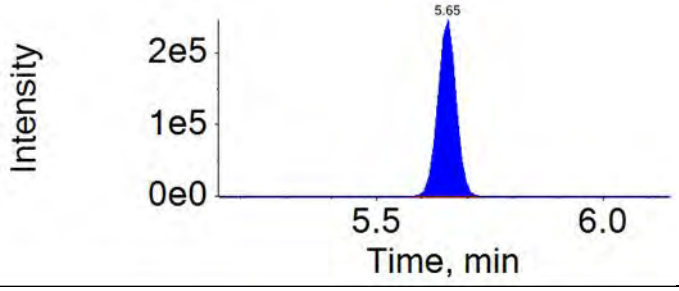
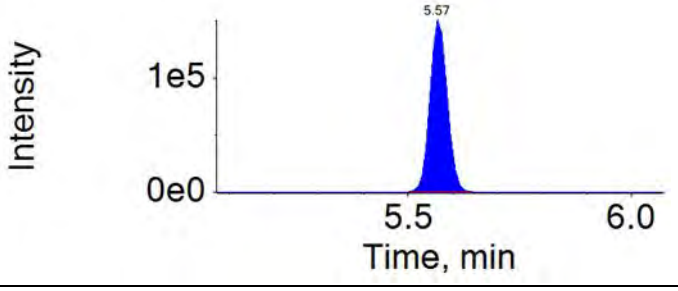
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

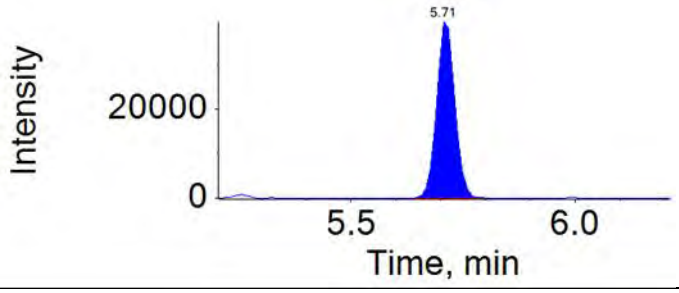
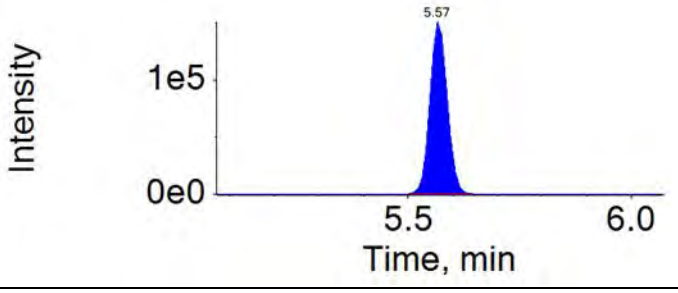
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

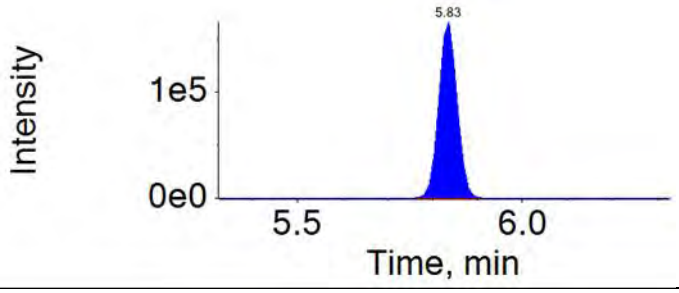
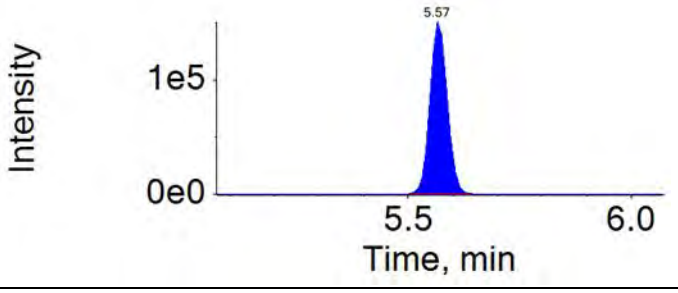
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

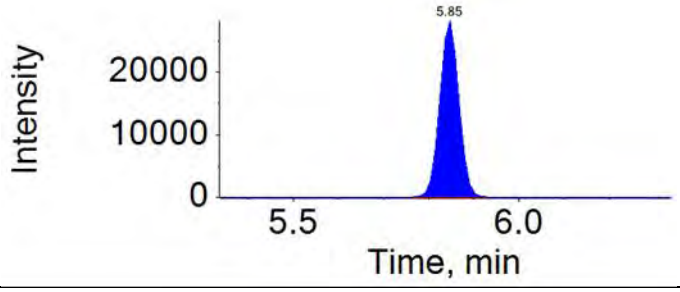
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

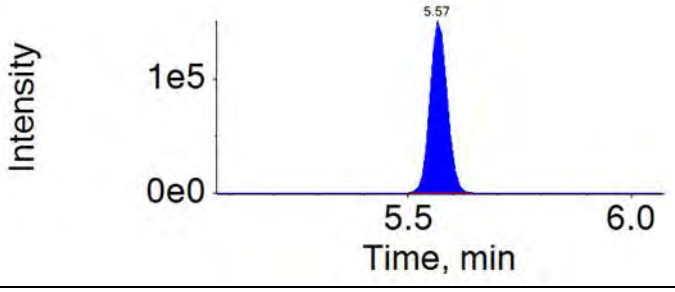
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

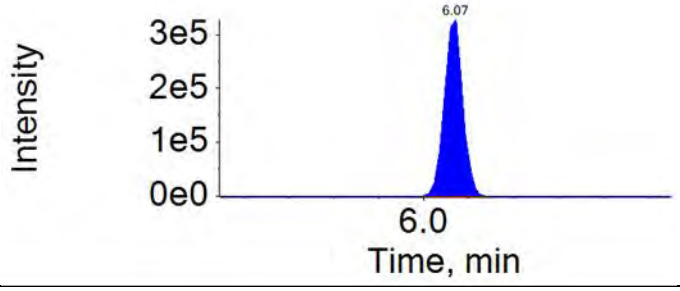
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

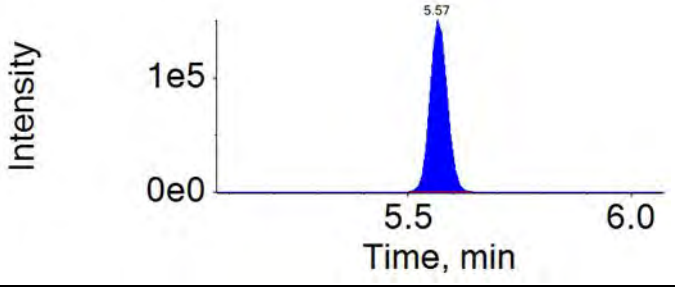
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



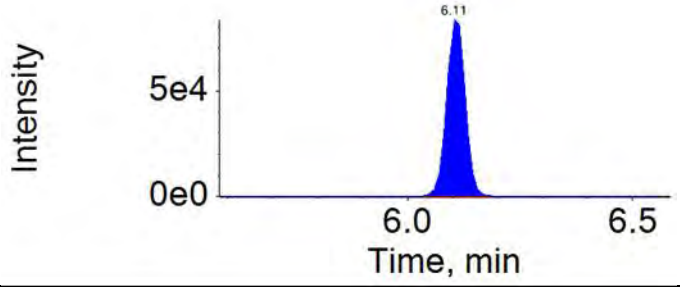


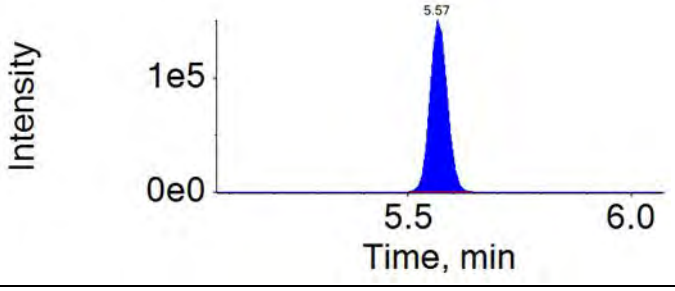
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



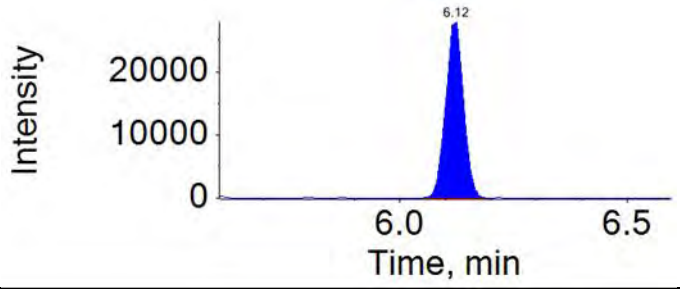


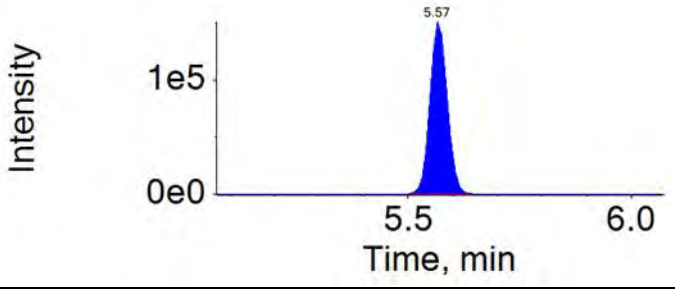
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



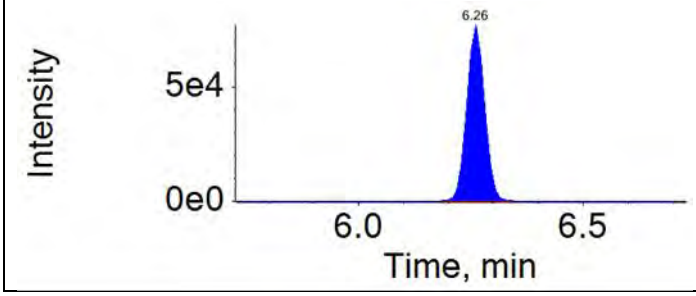


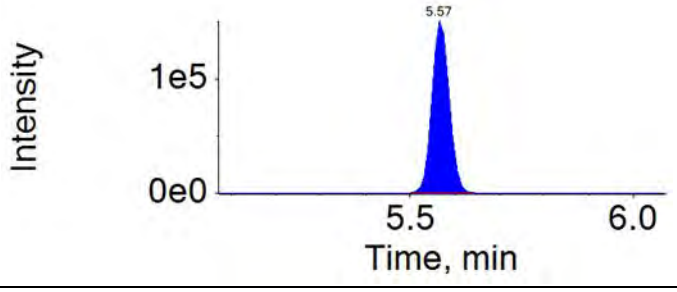
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

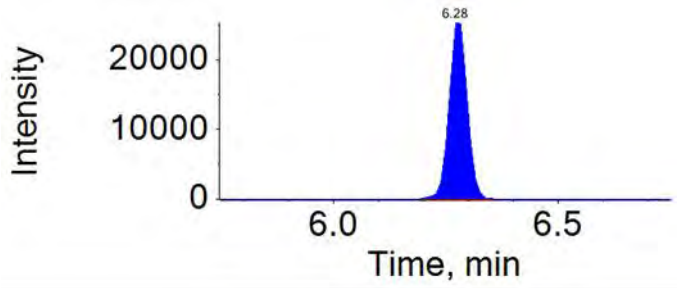
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

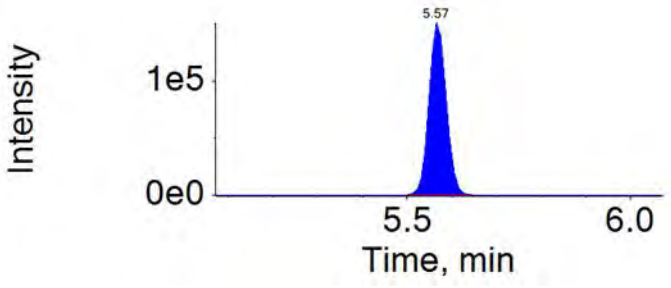
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



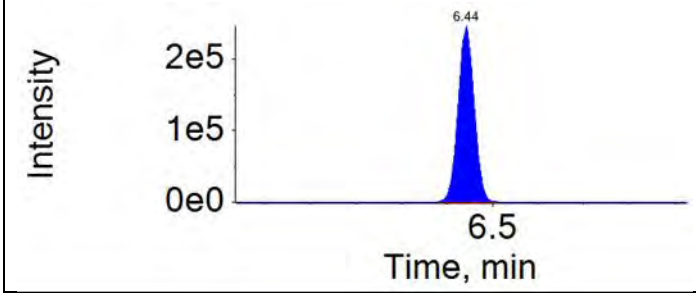


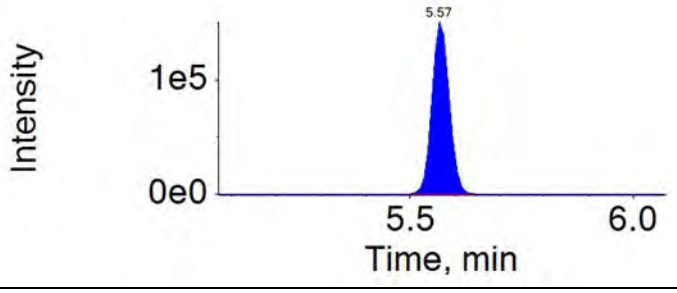
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



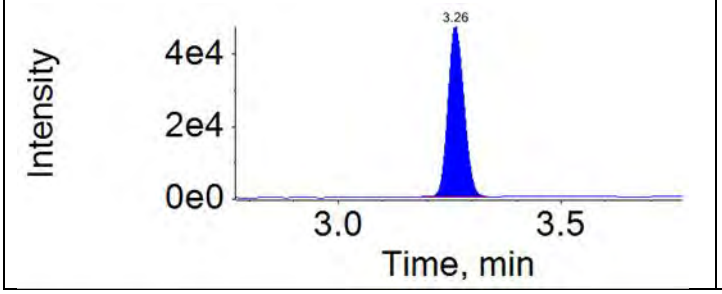


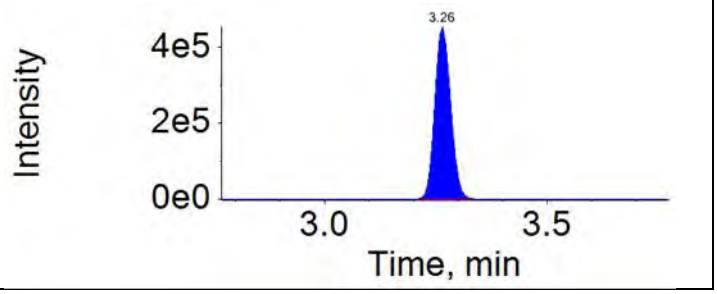
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

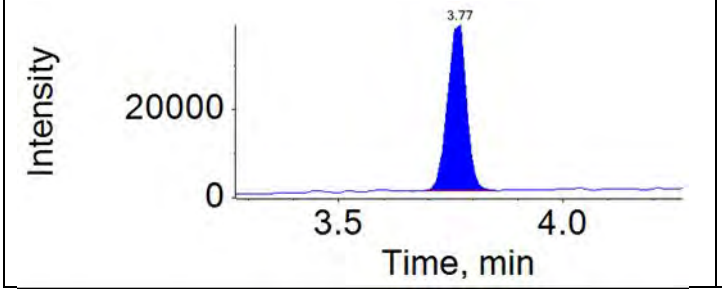
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

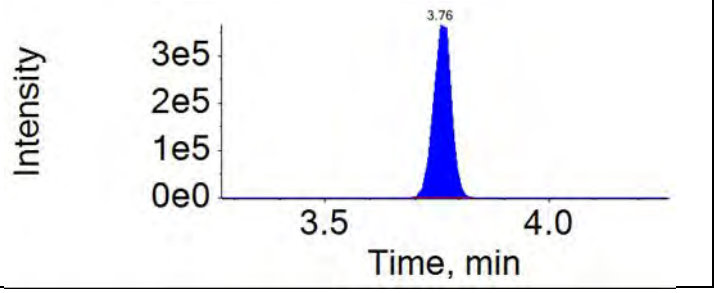
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



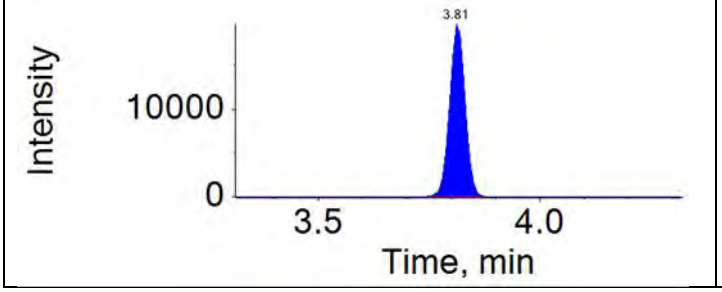


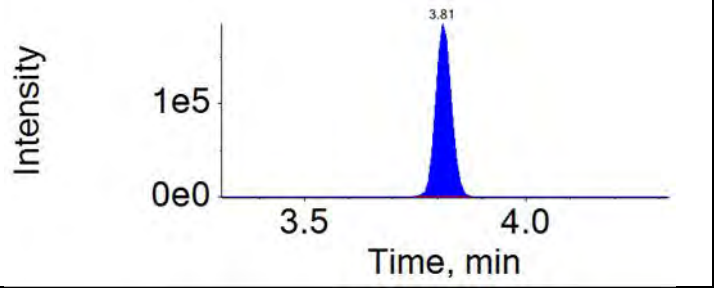
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



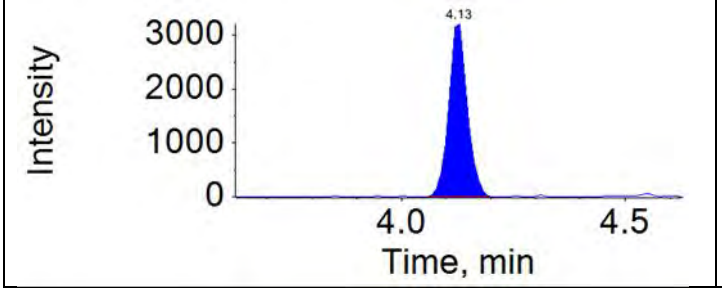


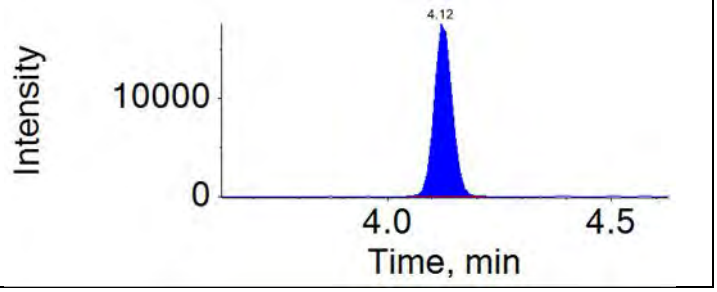
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

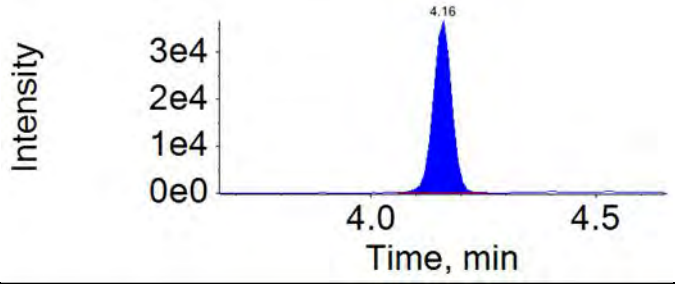
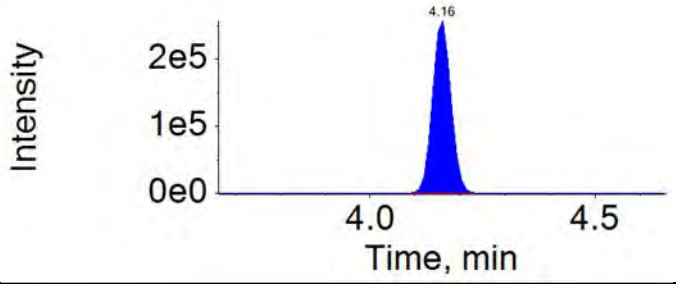


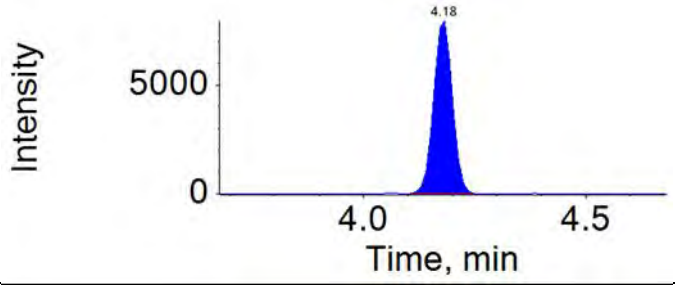
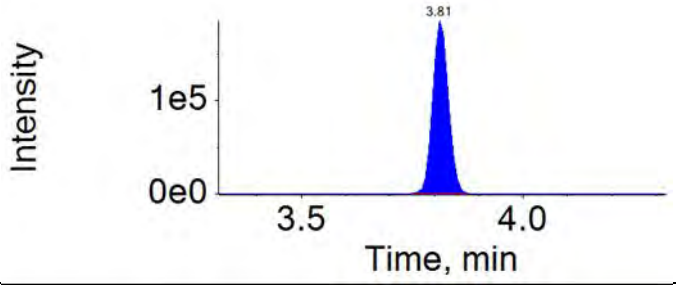


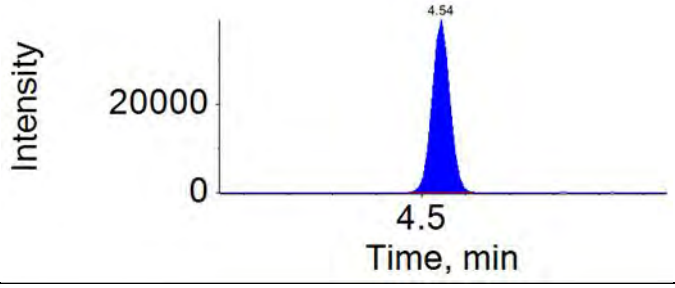
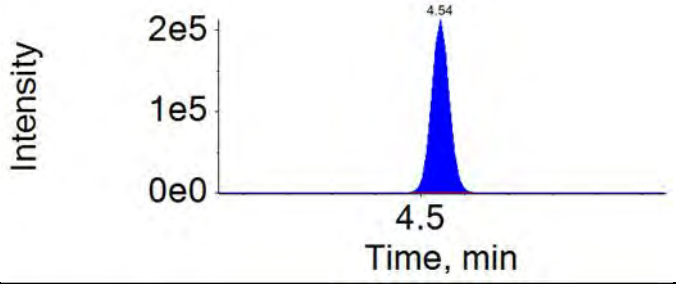
APPROVED
By JPT at 12:44 pm, 12/11/18

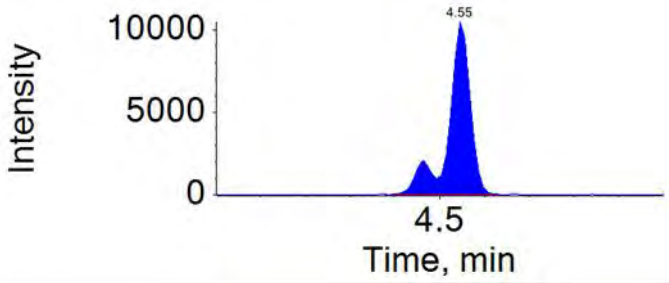
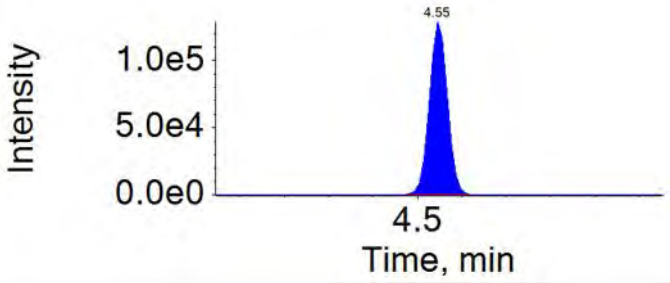
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

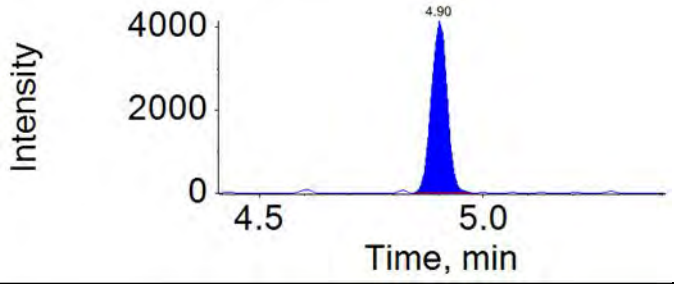
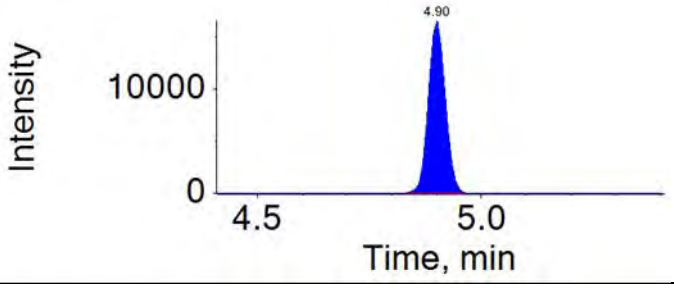
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

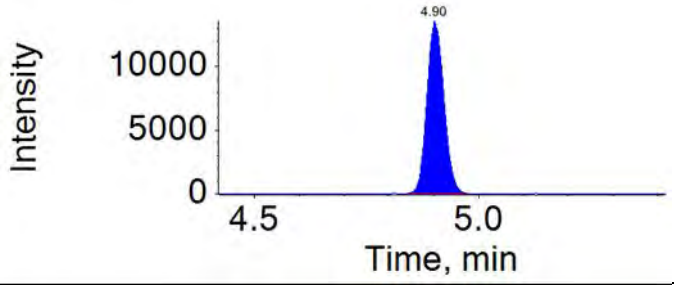
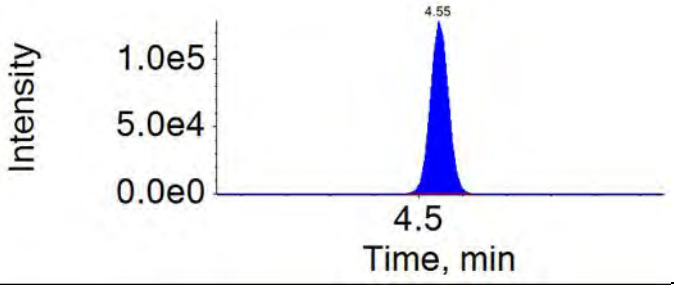
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

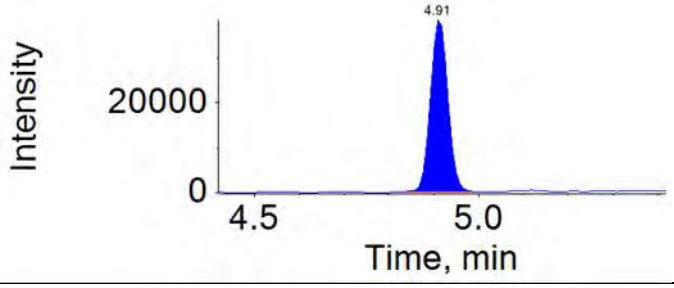
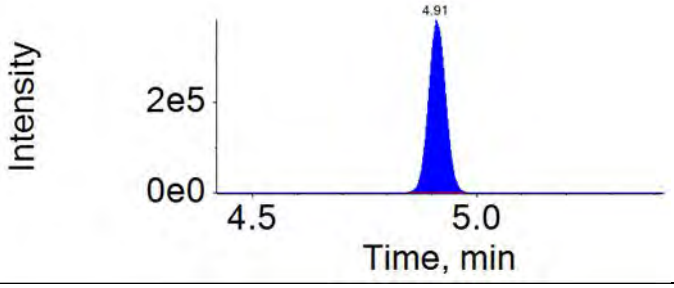
APPROVED
By JPT at 12:44 pm, 12/11/18

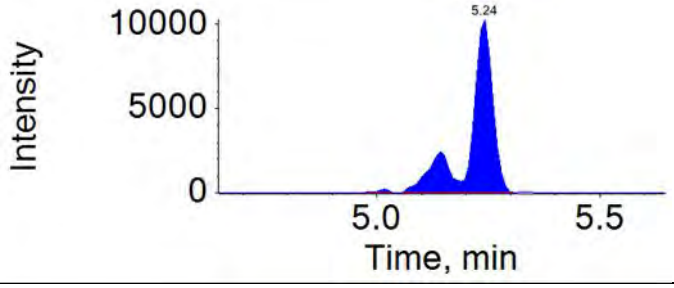
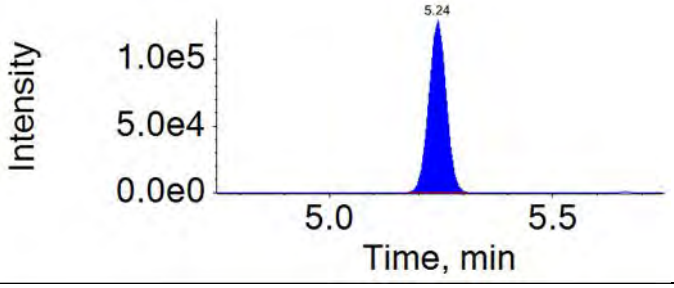
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

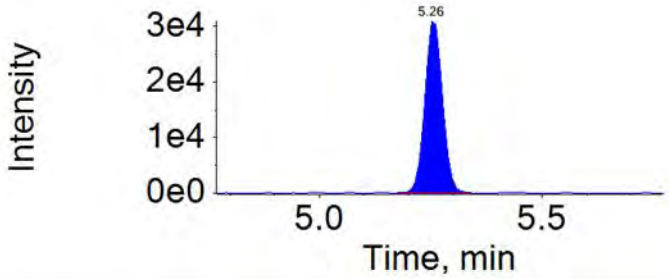
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

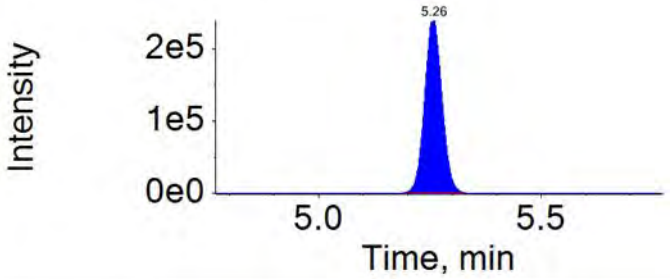
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

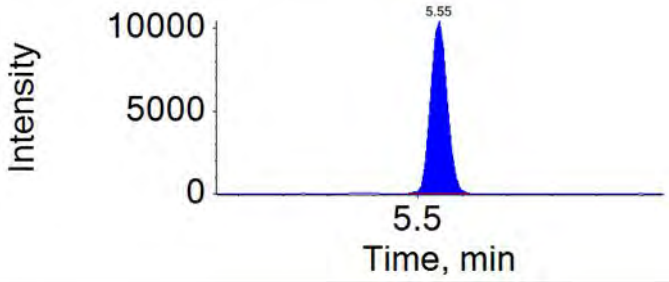
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

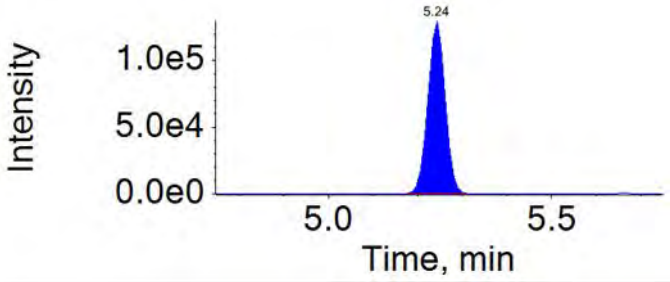
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



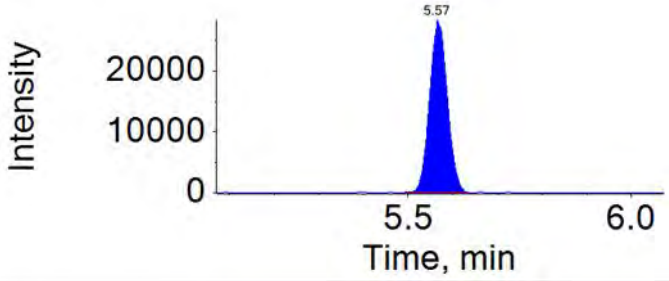


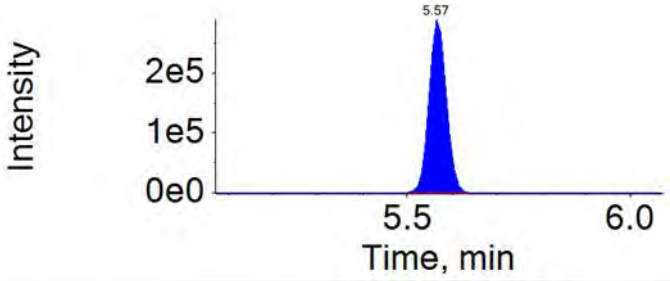
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



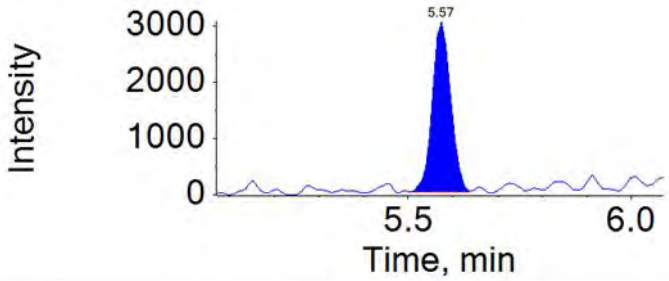


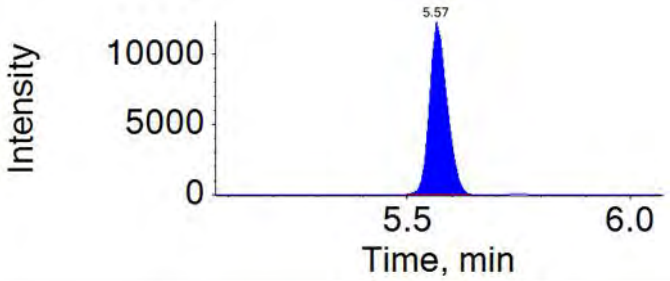
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0





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By JPT at 12:44 pm, 12/11/18

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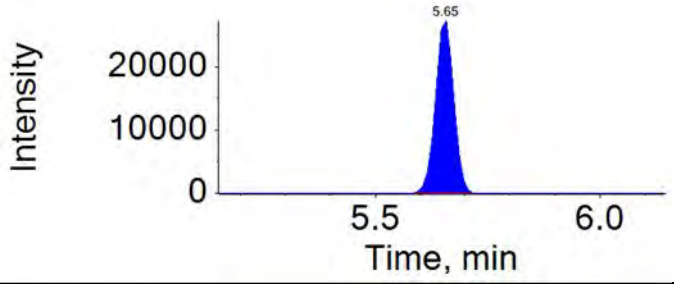
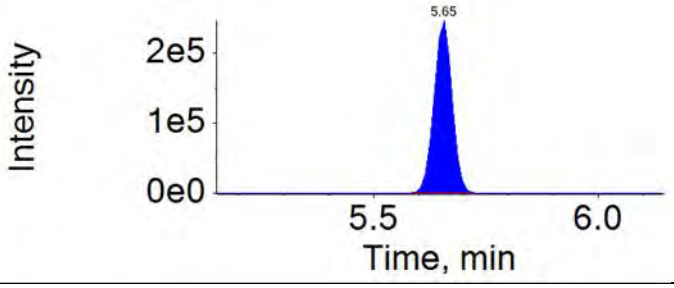
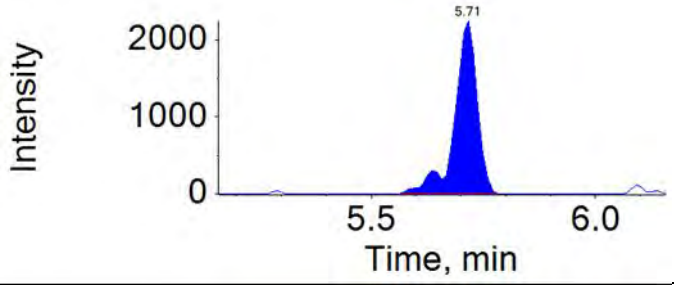
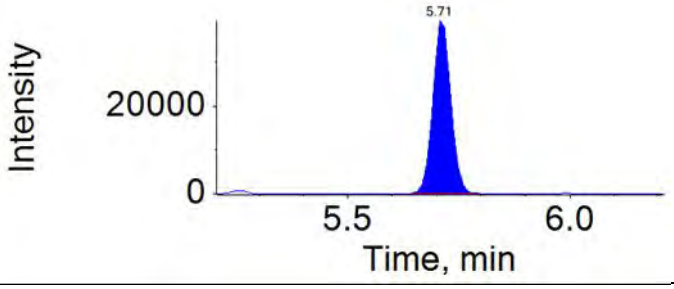
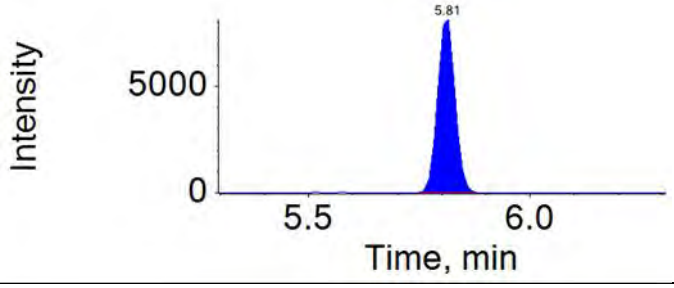
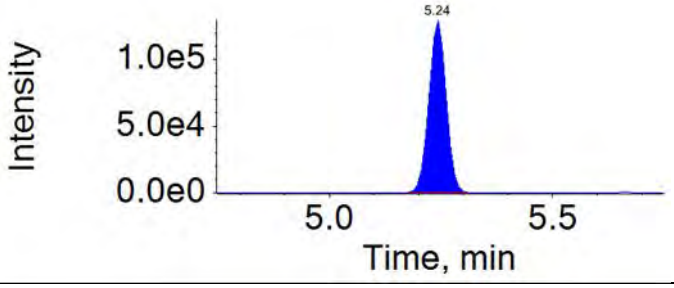
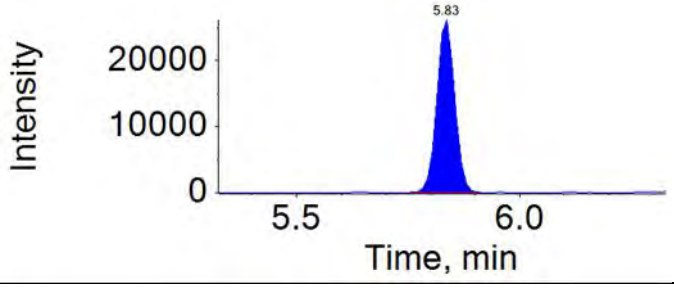
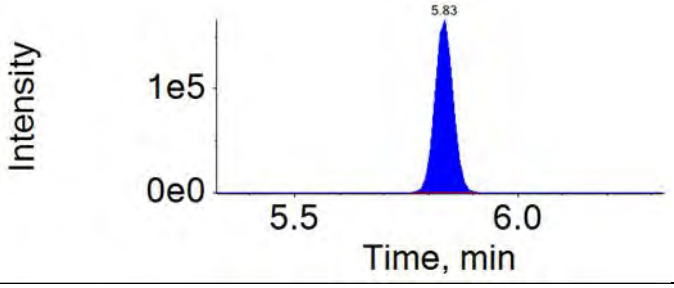
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

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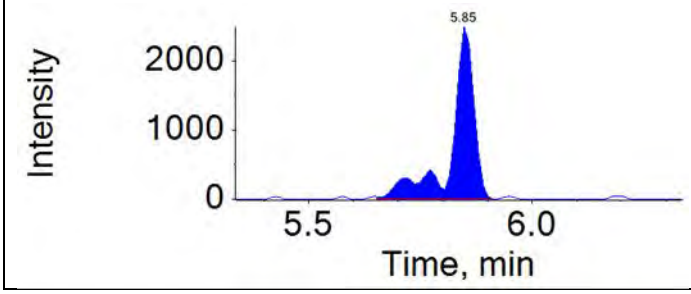
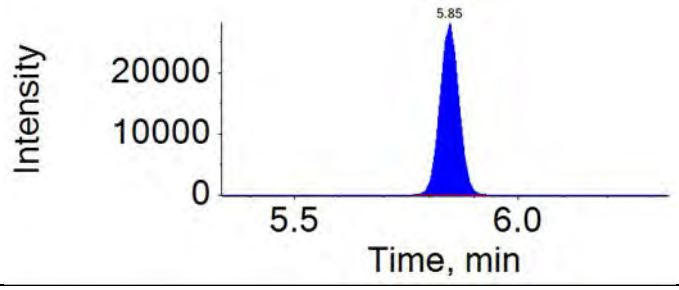
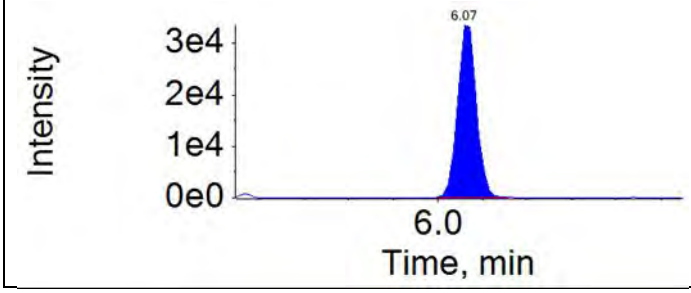
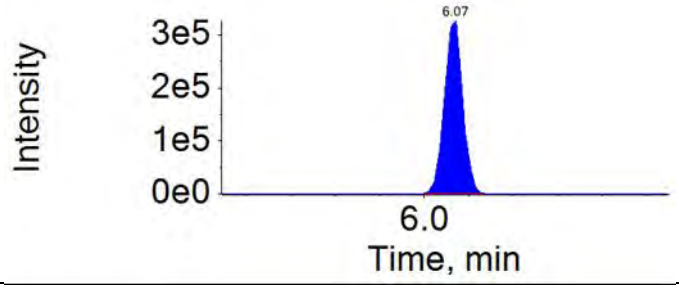
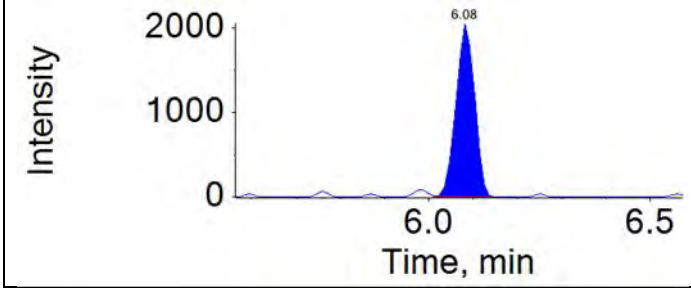
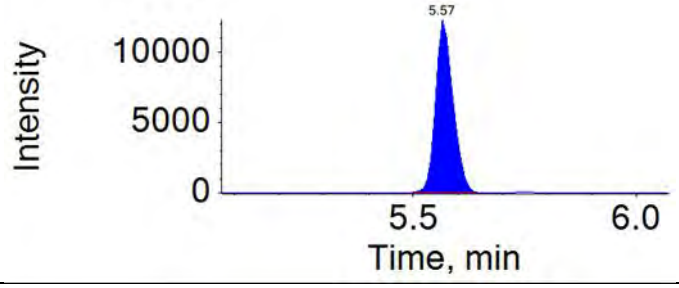
By JPT at 12:44 pm, 12/11/18

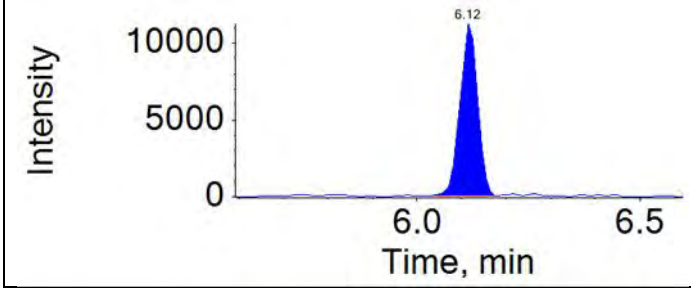
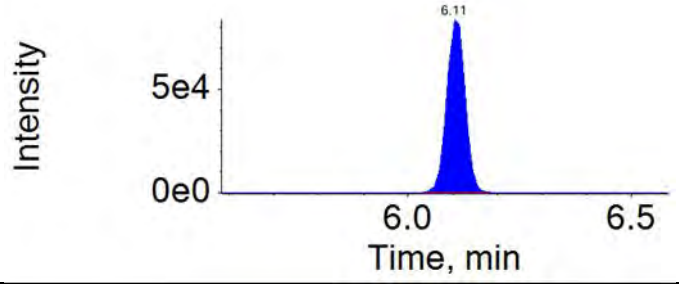
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

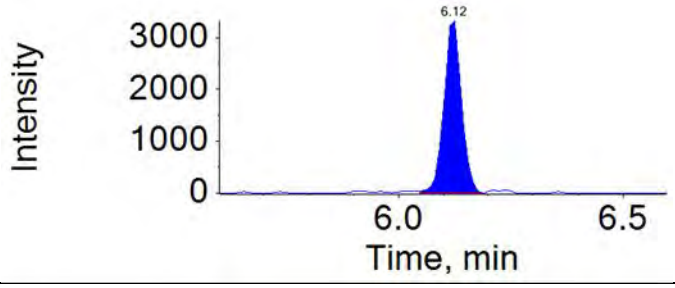
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

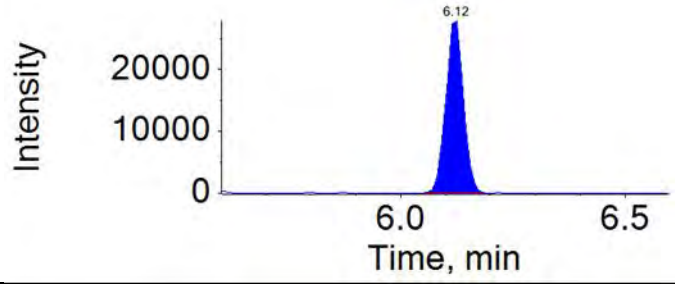
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

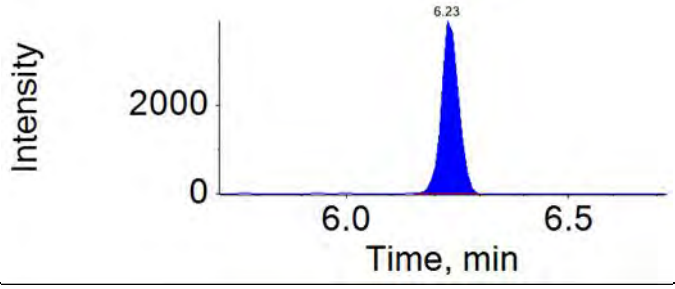
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

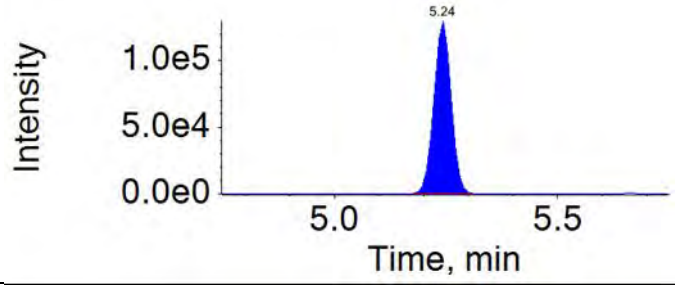
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



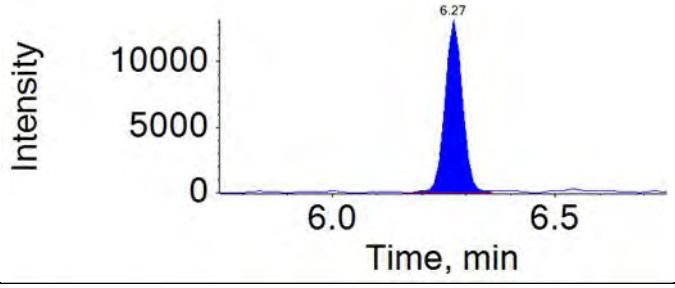


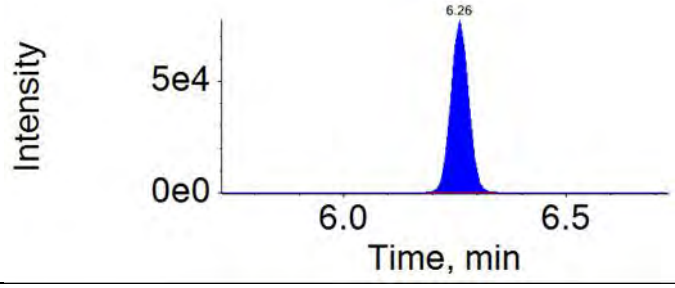
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



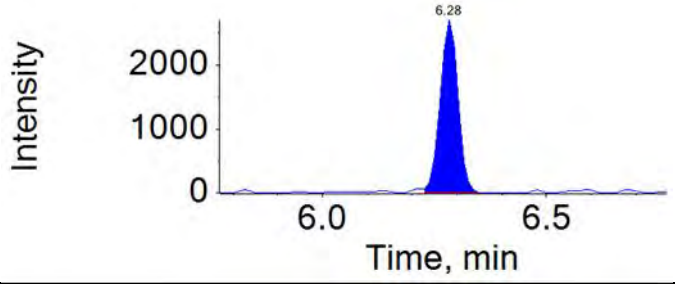


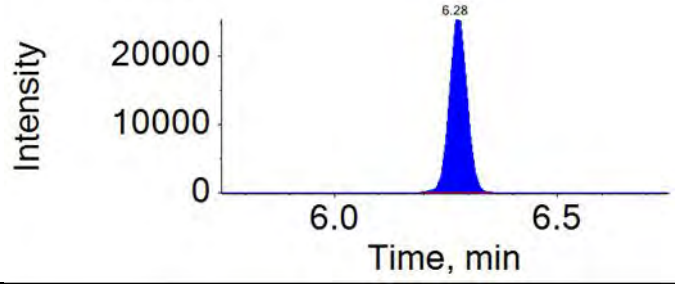
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

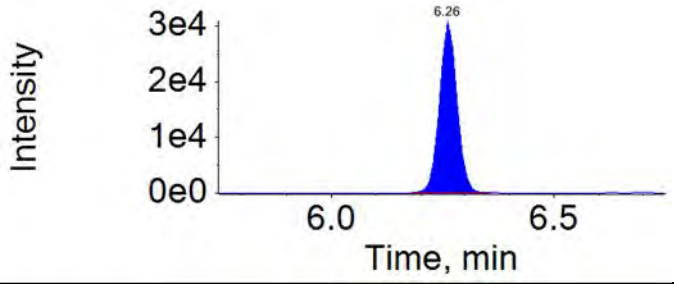
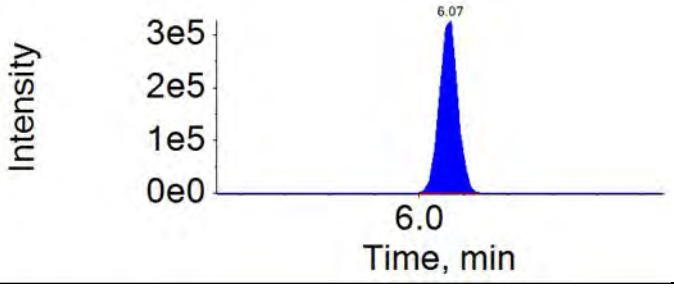


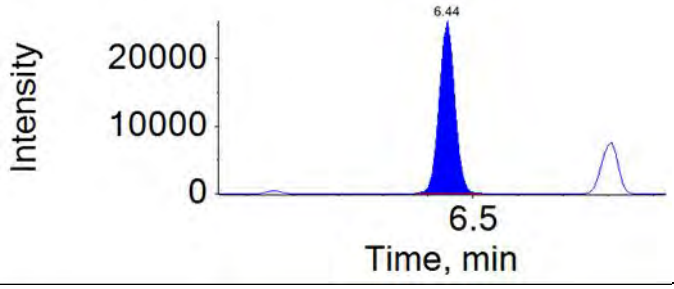
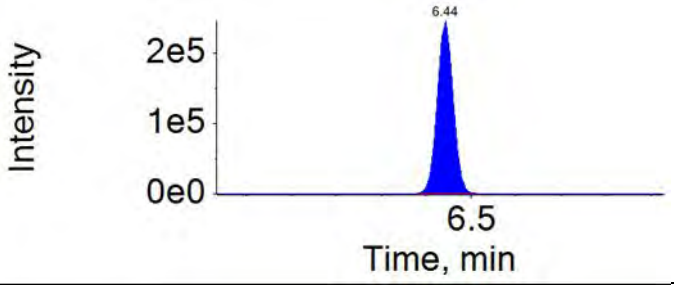


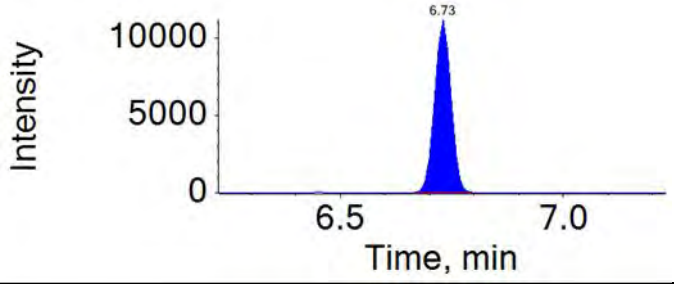
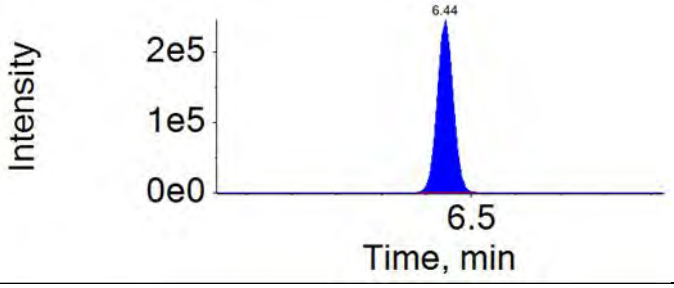
APPROVED
By JPT at 12:44 pm, 12/11/18

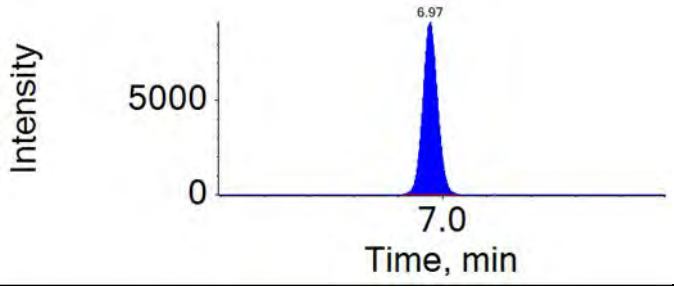
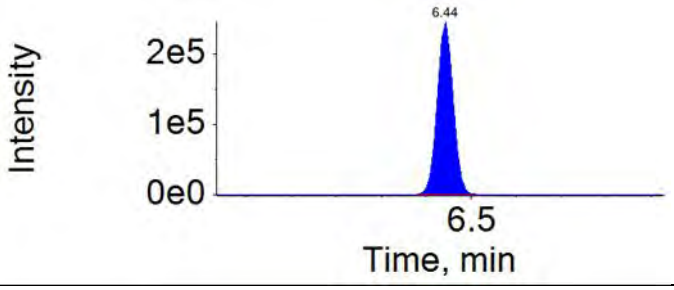
REVIEWED
By HMK at 7:40 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC10DCCV4-12 12/11/2018 12:30:21 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

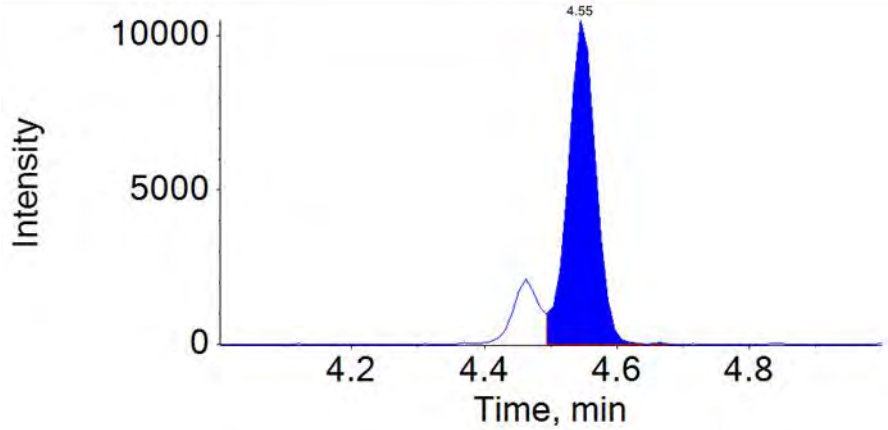
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

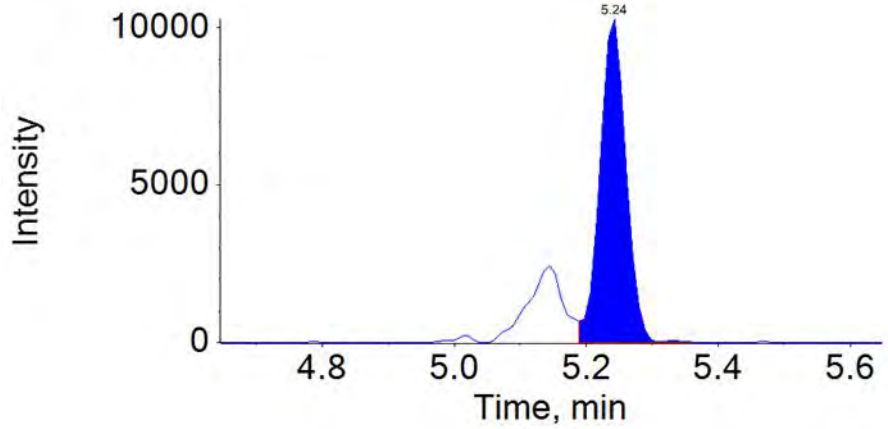
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
30685.8
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



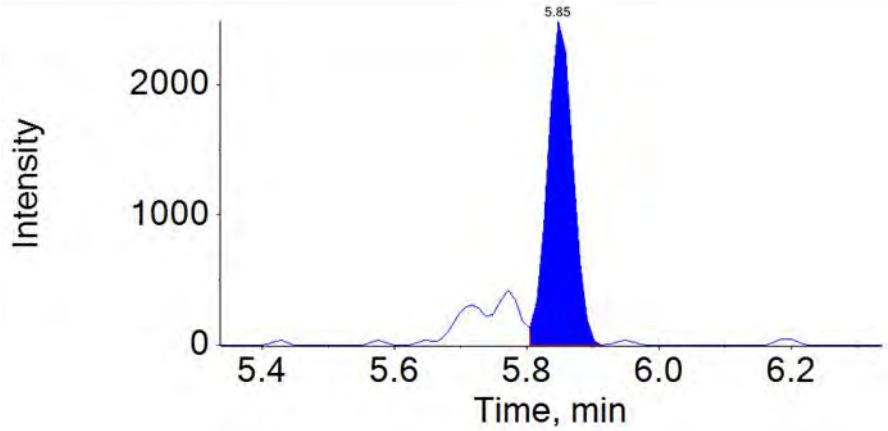
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
28330.6
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.85
Peak Area:
6627.6
Mass Range:
584.0 / 419.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



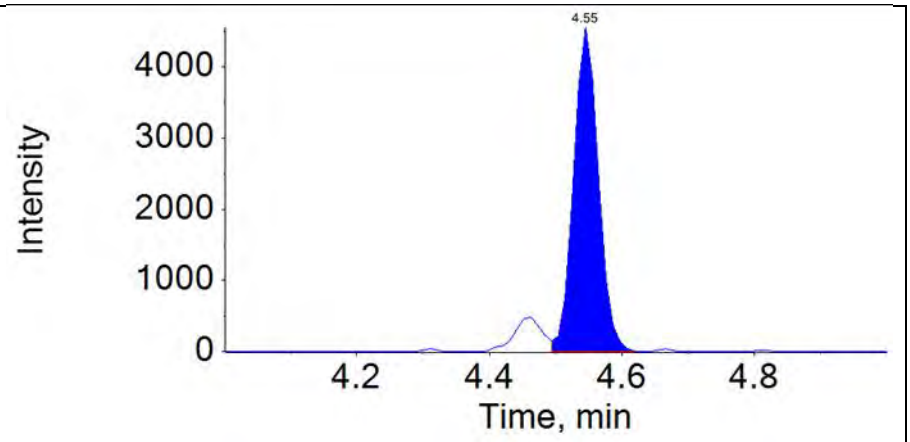
Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

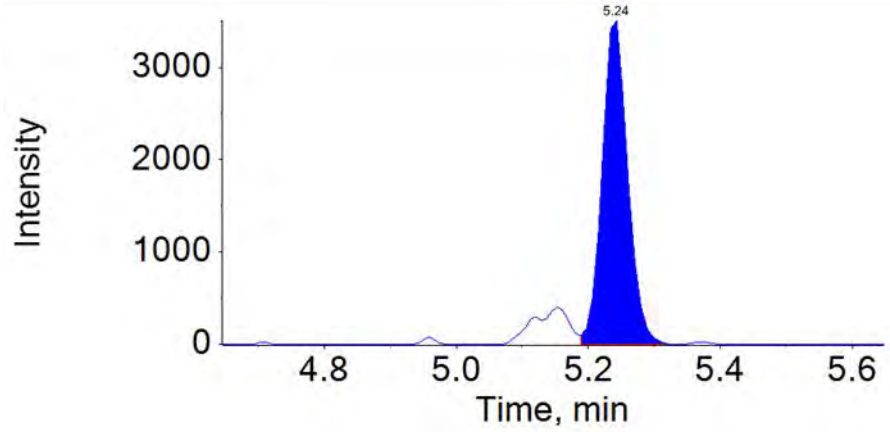
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
11868.5
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



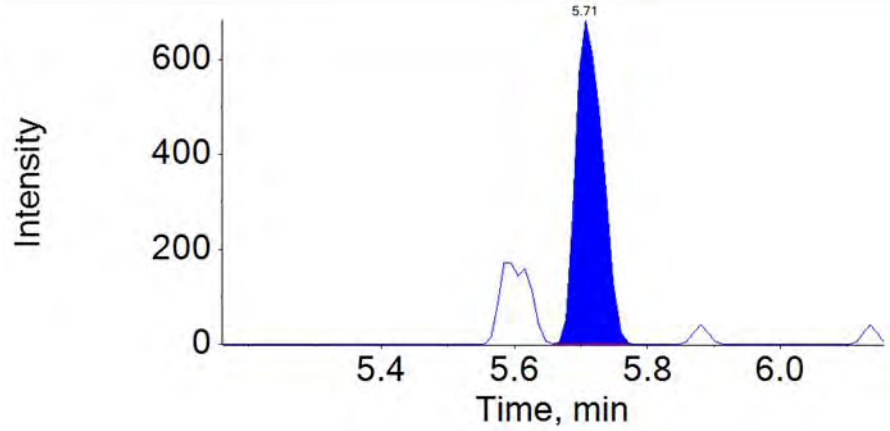
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
9496.6
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
1917.5
Mass Range:
570.0 / 483.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



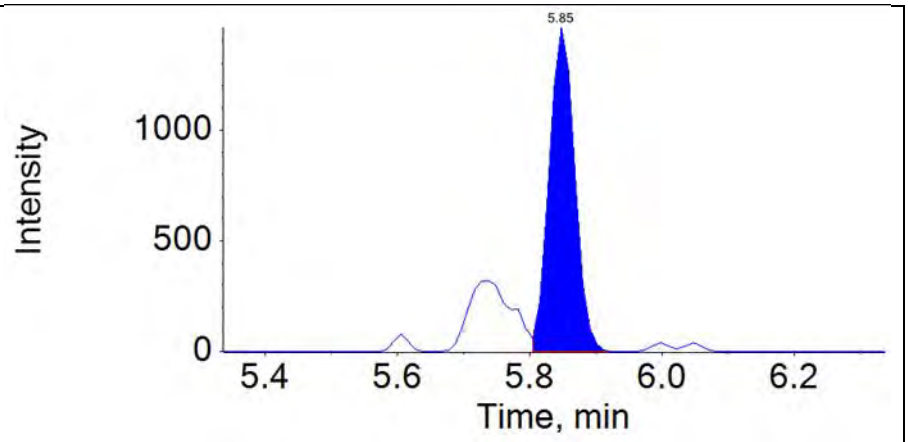
Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

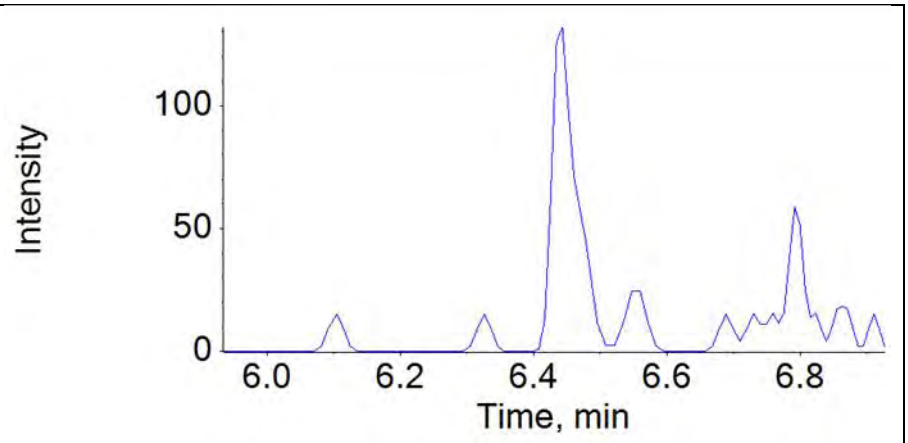
Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
3938.7
Mass Range:
584.0 / 526.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC10D-90.wiff
Sample Name:
CCV10_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Results Table Name: 18DEC10DCCV4-12
Results Table Date: 12/11/2018 12:30:21 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Ion Ratio Report

Sample Name: CCV10_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC10D-90.wiff

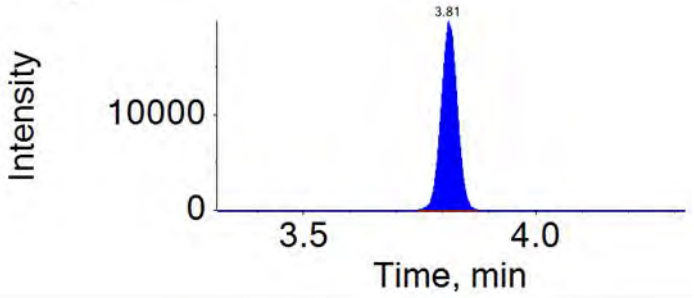
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	47562.4	A	N/A	1.0000			
PFBS_2	3.81	1.00	16364.0	A	N/A	0.3441	-5	50	
4:2-FTS	4.13	1.00	9228.3	A	N/A	1.0000			
4:2-FTS_2	4.13	1.00	7717.7	A	N/A	0.8363	28	50	
PFHxA	4.16	1.00	103762.6	A	N/A	1.0000			
PFHxA_2	4.16	1.00	1149.8	A	N/A	0.0111	14	50	
PFPeS	4.18	1.10	23420.7	A	N/A	1.0000			
PFPeS_2	4.18	1.09	12478.6	A	N/A	0.5328	1	50	
PFHpA	4.54	1.00	107537.9	A	N/A	1.0000			
PFHpA_2	4.54	1.00	6004.7	A	N/A	0.0558	-1	50	
PFHxS	4.55	1.00	36331.9	M	N/A	1.0000			
PFHxS_2	4.55	1.00	13282.4	M	N/A	0.3656	0	50	
6:2-FTS	4.90	1.00	10179.0	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	6200.6	A	N/A	0.6092	-3	50	
PFHpS	4.90	1.08	35798.4	A	N/A	1.0000			
PFHpS_2	4.90	1.08	15135.9	A	N/A	0.4228	2	50	
PFOA	4.91	1.00	103446.6	A	N/A	1.0000			
PFOA_2	4.91	1.00	6498.3	A	N/A	0.0628	2	50	
PFOS	5.24	1.00	37662.9	M	N/A	1.0000			
PFOS_2	5.24	1.00	11022.6	M	N/A	0.2927	-3	50	
PFNA	5.26	1.00	85535.4	A	N/A	1.0000			
PFNA_2	5.26	1.00	1144.9	A	N/A	0.0134	-30	50	
PFNS	5.55	1.06	26921.8	A	N/A	1.0000			
PFNS_2	5.54	1.06	12795.4	A	N/A	0.4753	-2	50	
PFDA	5.57	1.00	78008.5	A	N/A	1.0000			
PFDA_2	5.57	1.00	843.5	A	N/A	0.0108	12	50	
8:2-FTS	5.57	1.00	8602.7	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	4400.8	A	N/A	0.5116	-16	50	
NMeFOSAA	5.71	1.00	7898.8	A	N/A	1.0000			
NMeFOSAA_2	5.71	1.00	2479.2	M	N/A	0.3139	17	50	
PFDS	5.81	1.11	22450.8	A	N/A	1.0000			
PFDS_2	5.81	1.11	9370.9	A	N/A	0.4174	-16	50	
PFUnDA	5.83	1.00	72779.2	A	N/A	1.0000			
PFUnDA_2	5.85	1.00	713.8	A	N/A	0.0098	139	50	OOS
NEtFOSAA	5.85	1.00	8719.1	M	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	5415.0	M	N/A	0.6211	-8	50	
PFDoDA	6.07	1.00	98272.9	A	N/A	1.0000			
PFDoDA_2	6.06	1.00	1184.1	A	N/A	0.0120	-10	50	
10:2-FTS	6.08	1.09	5954.2	A	N/A	1.0000			
10:2-FTS_2	6.08	1.09	3835.3	A	N/A	0.6441	-8	50	
PFTrDA	6.26	1.03	83658.5	A	N/A	1.0000			
PFTrDA_2	6.27	1.03	698.5	A	N/A	0.0083	11	50	
PFTeDA	6.44	1.00	61329.4	A	N/A	1.0000			
PFTeDA_2	6.44	1.00	343.0	M	N/A	0.0056	-15	50	
PFHxDA	6.73	1.04	28466.4	A	N/A	1.0000			
PFHxDA_2	6.73	1.04	1893.8	A	N/A	0.0665	8	50	

APPROVED
By JPT at 12:44 pm, 12/11/18

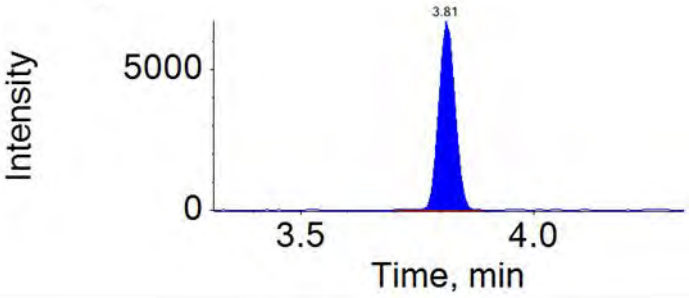
REVIEWED
By HMK at 7:40 am, 12/12/18

PFODA	6.97	1.08	21151.8	A	N/A	1.0000			
PFODA_2	6.98	1.08	586.4	A	N/A	0.0277	2	50	

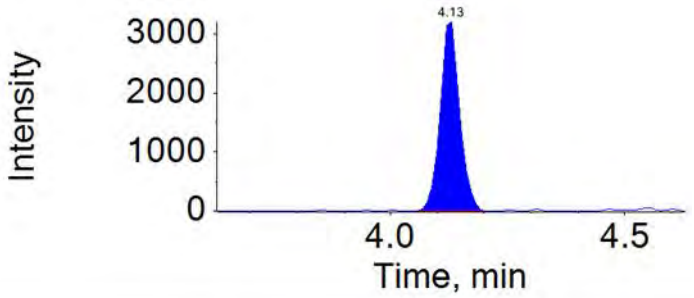
Component: PFBS
Primary Mass: 299.0 / 80.0



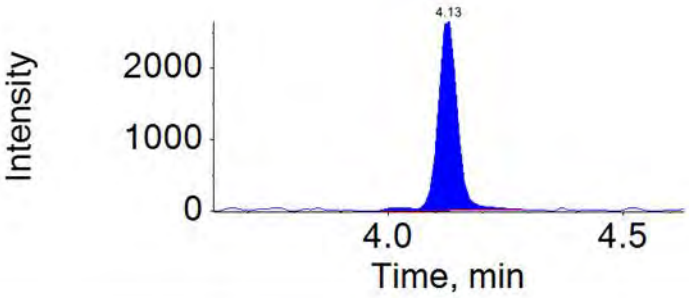
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



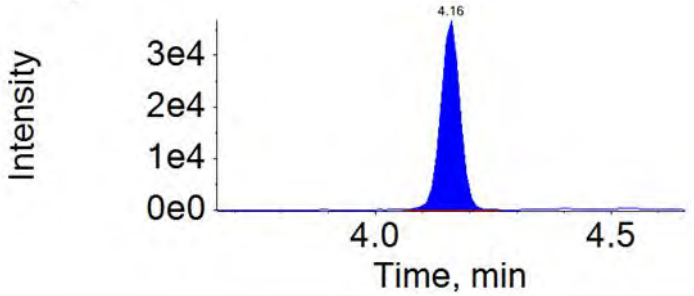
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



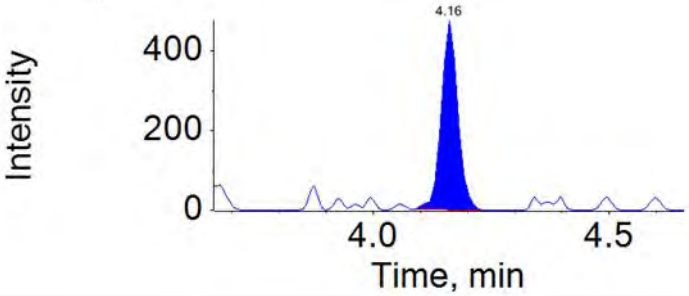
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



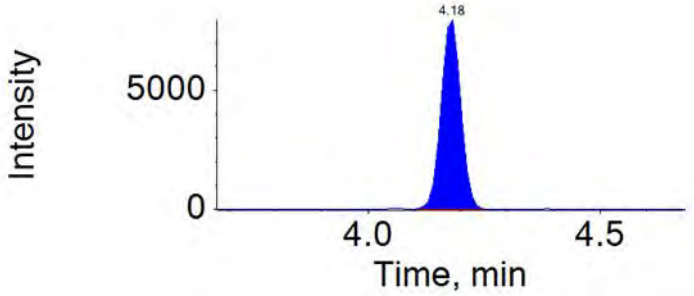
Component: PFHxA
Primary Mass: 313.0 / 269.0



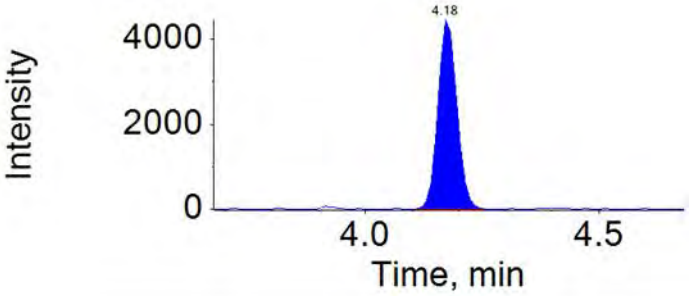
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



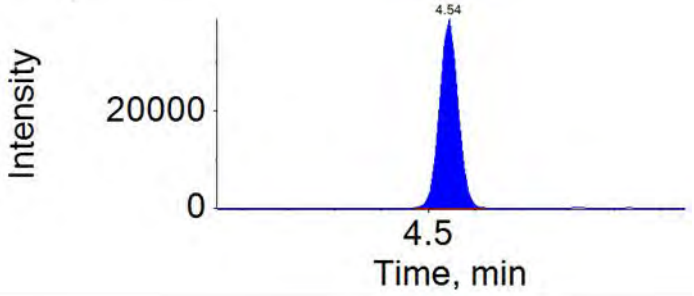
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



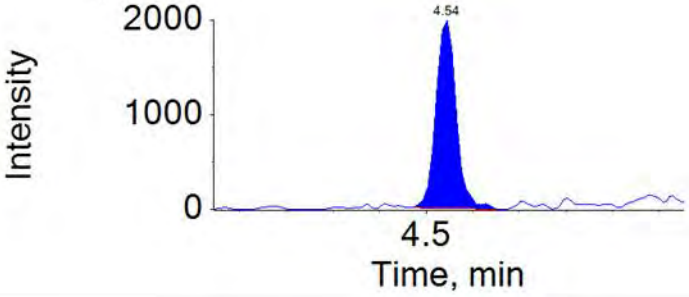
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

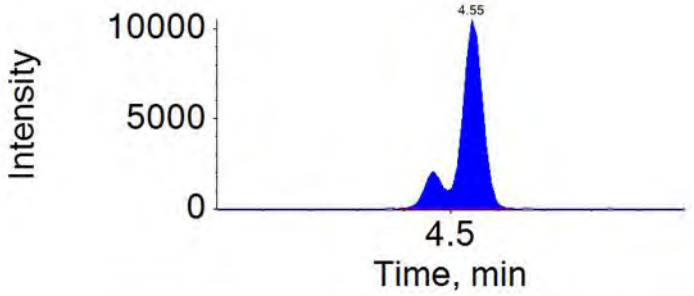
Component: PFHpA
Primary Mass: 363.0 / 319.0



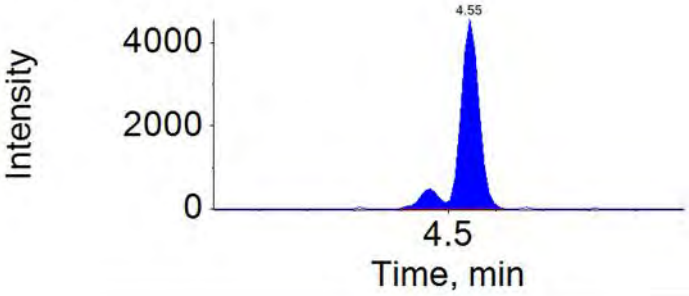
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



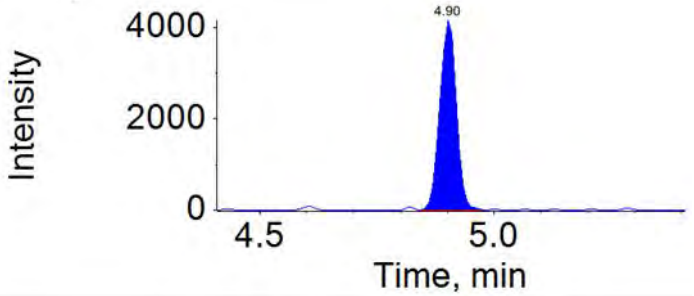
Component: PFHxS
Primary Mass: 399.0 / 80.0



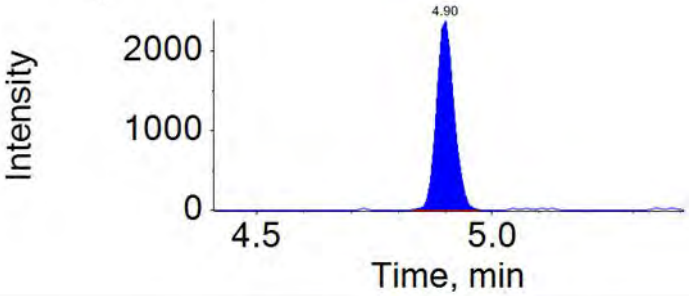
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



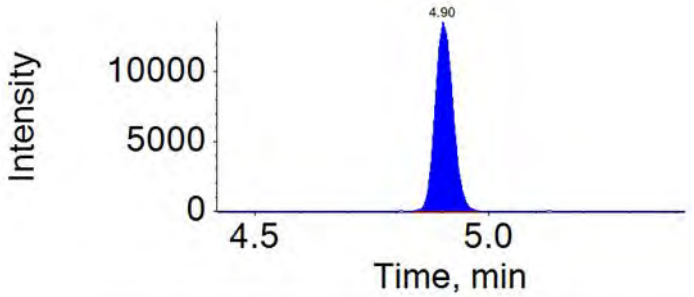
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



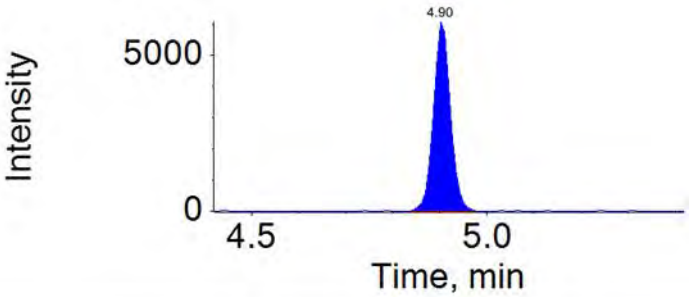
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



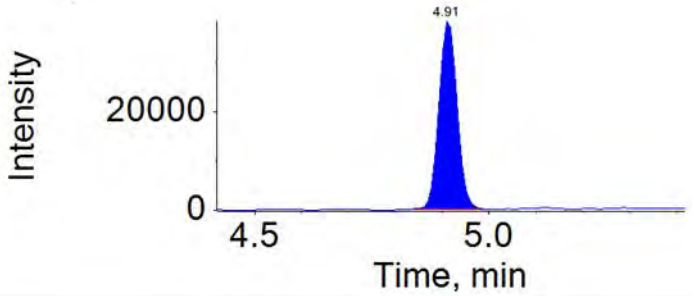
Component: PFHpS
Primary Mass: 449.0 / 80.0



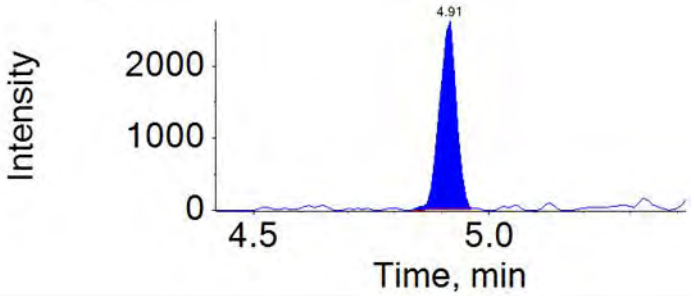
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



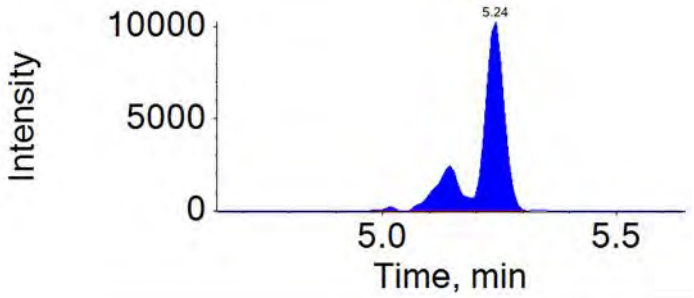
Component: PFOA
Primary Mass: 413.0 / 369.0



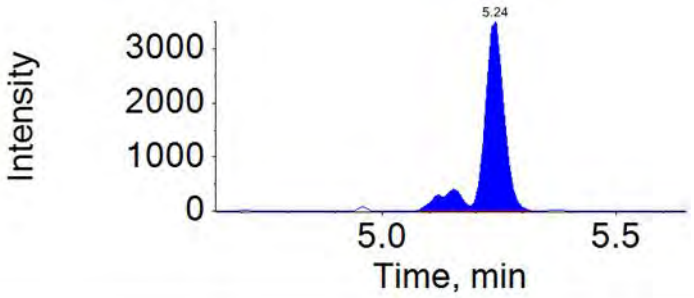
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



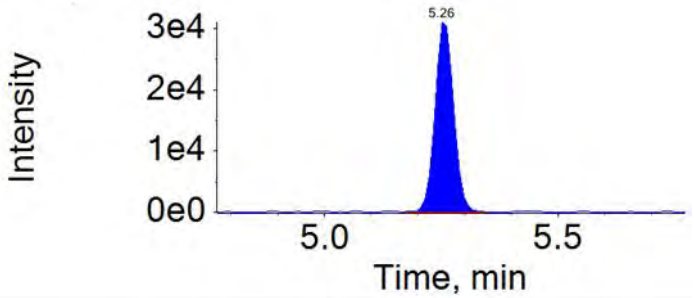
Component: PFOS
Primary Mass: 499.0 / 80.0



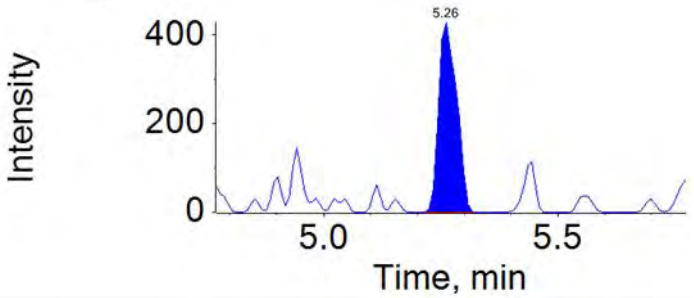
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



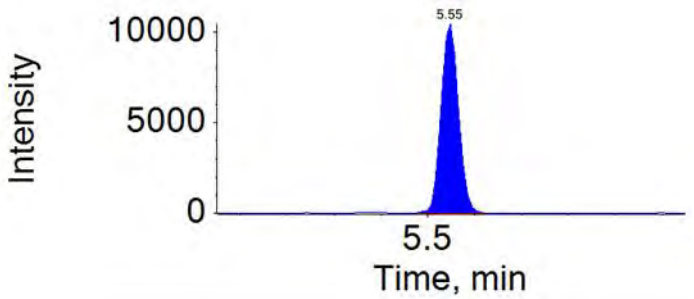
Component: PFNA
Primary Mass: 463.0 / 419.0



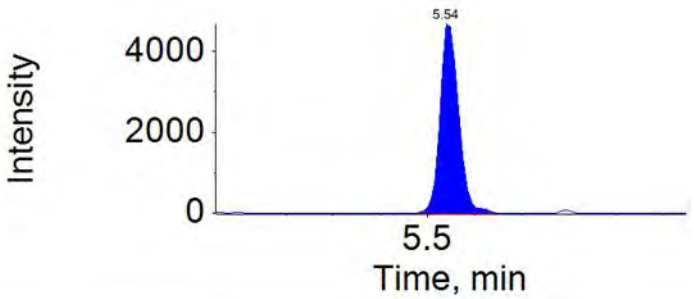
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



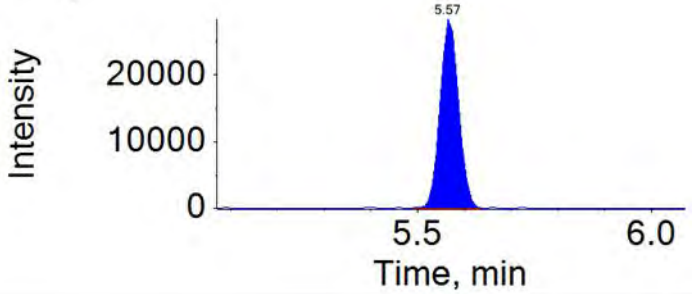
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



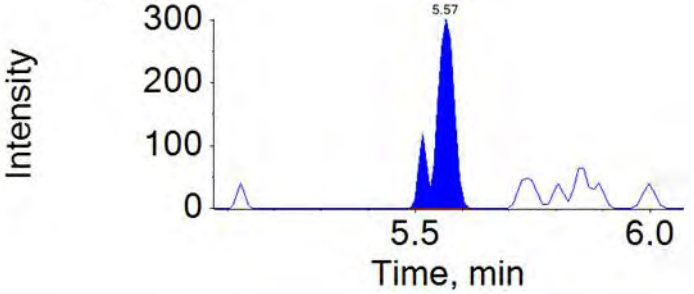
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

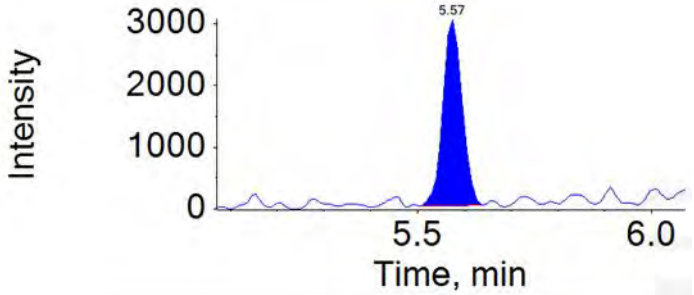
Component: PFDA
Primary Mass: 513.0 / 469.0



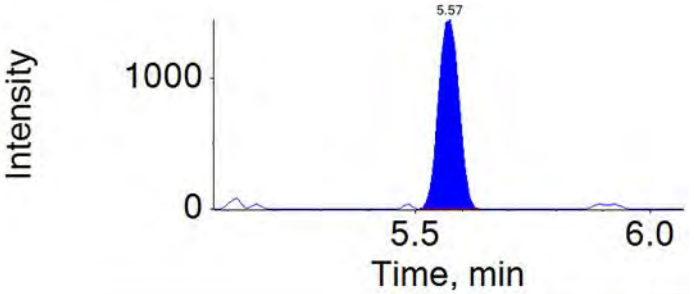
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



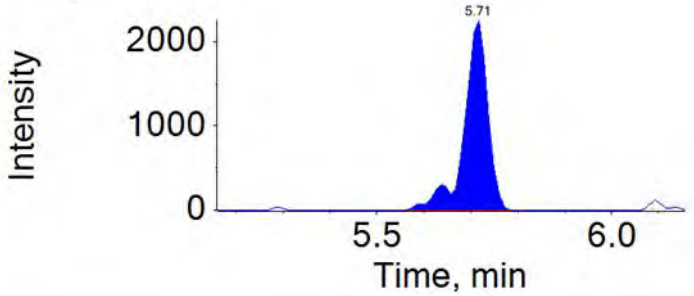
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



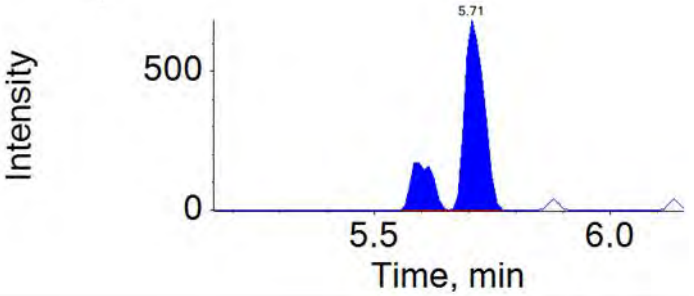
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



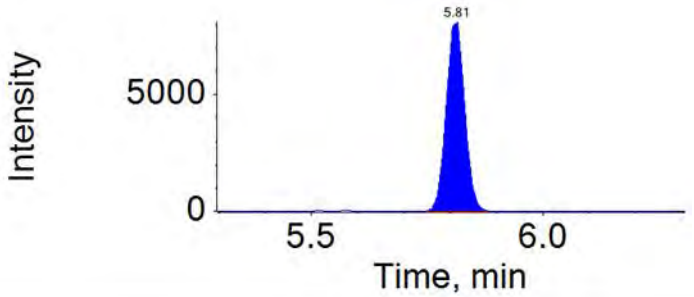
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



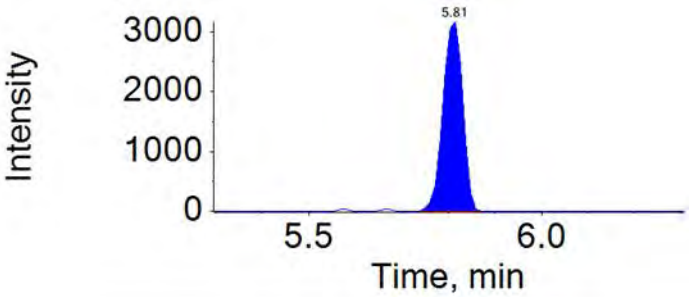
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



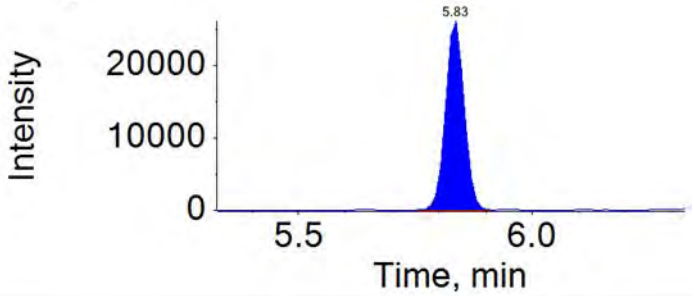
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



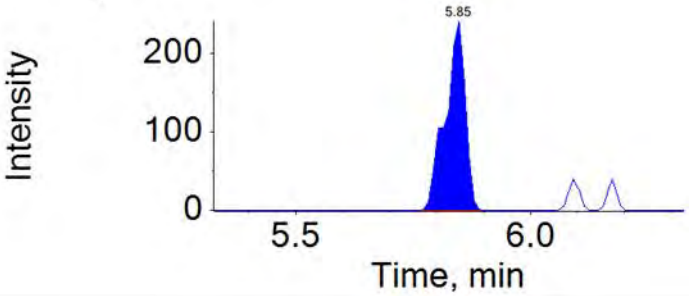
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

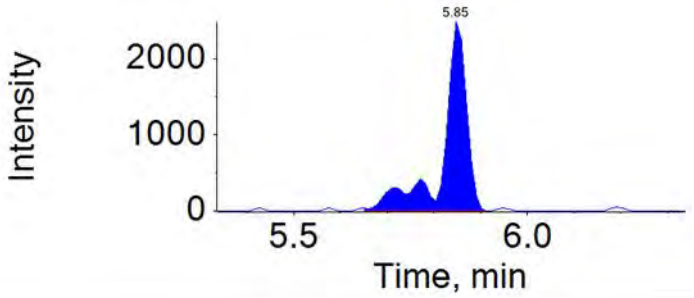
Component: PFUnDA
Primary Mass: 563.0 / 519.0



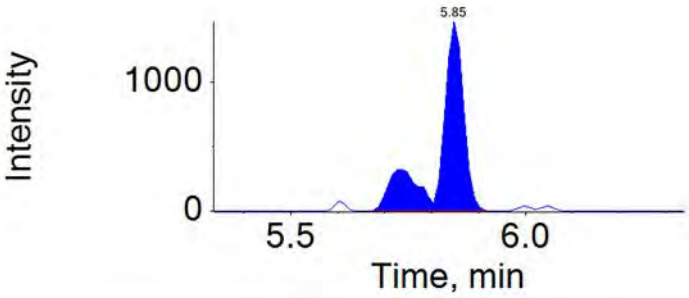
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



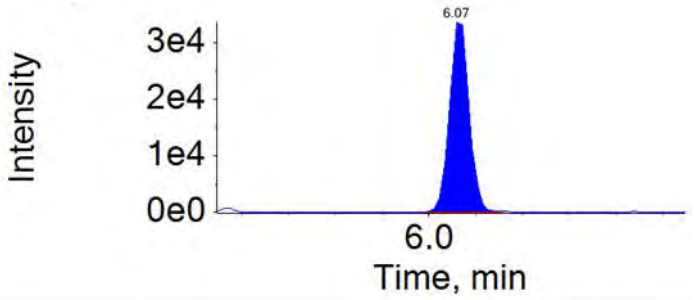
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



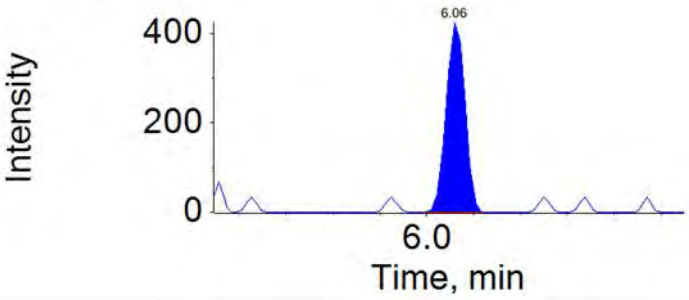
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



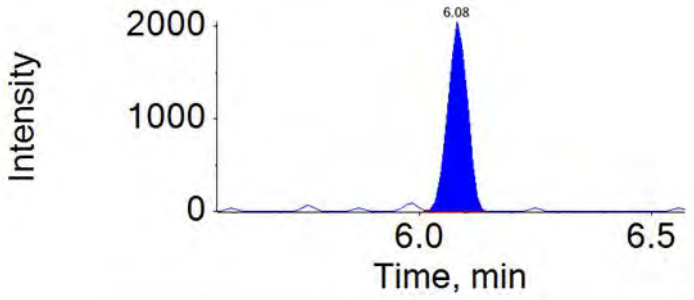
Component: PFDoDA
Primary Mass: 613.0 / 569.0



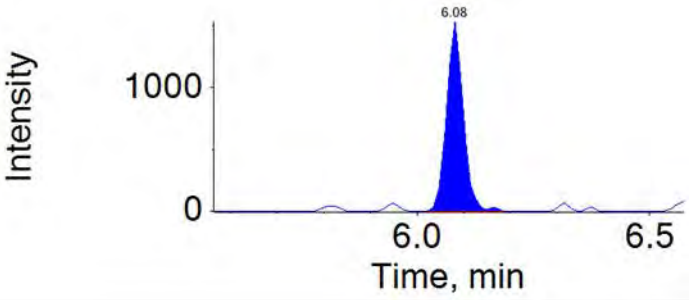
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



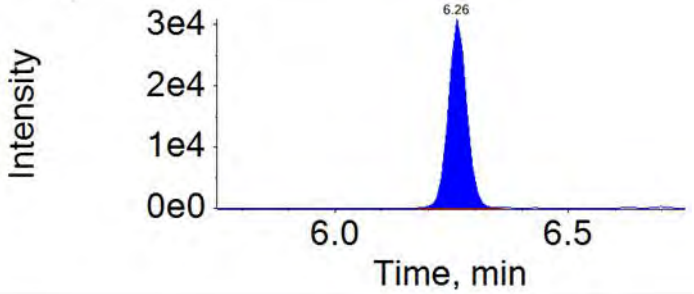
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



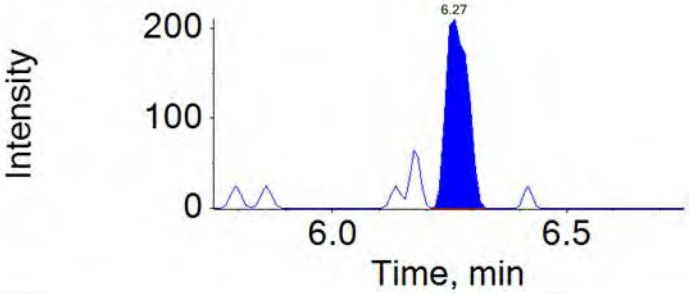
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

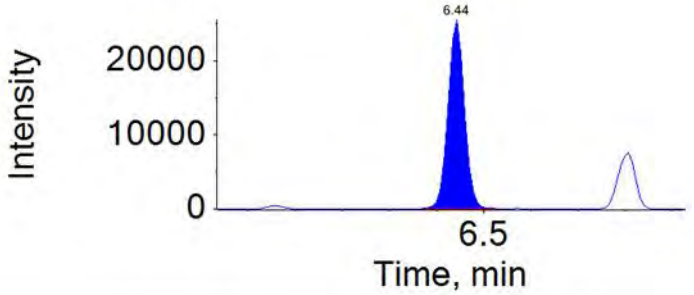
Component: PFTrDA
Primary Mass: 663.0 / 619.0



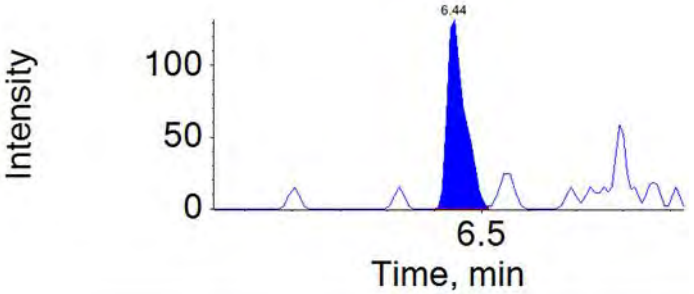
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



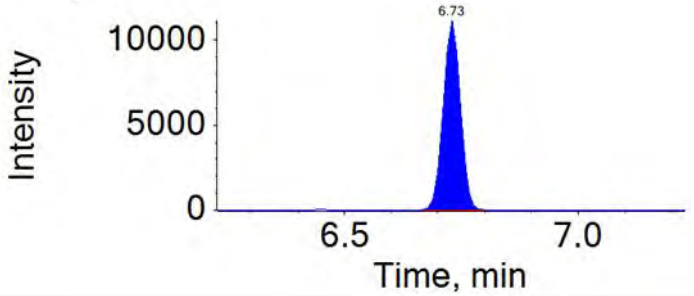
Component: PFTeDA
Primary Mass: 713.0 / 669.0



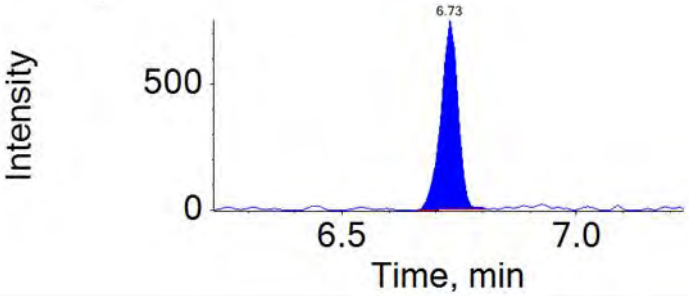
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



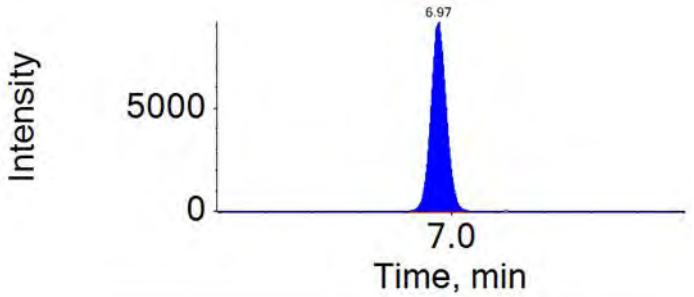
Component: PFHxDA
Primary Mass: 813.0 / 769.0



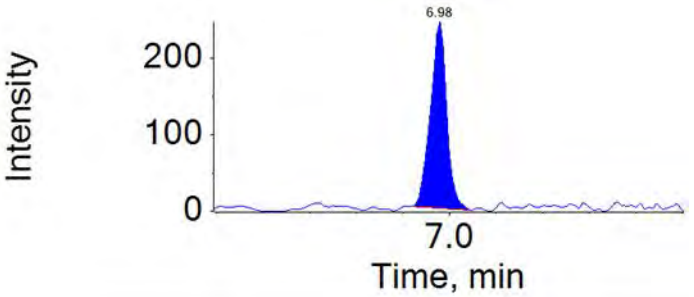
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



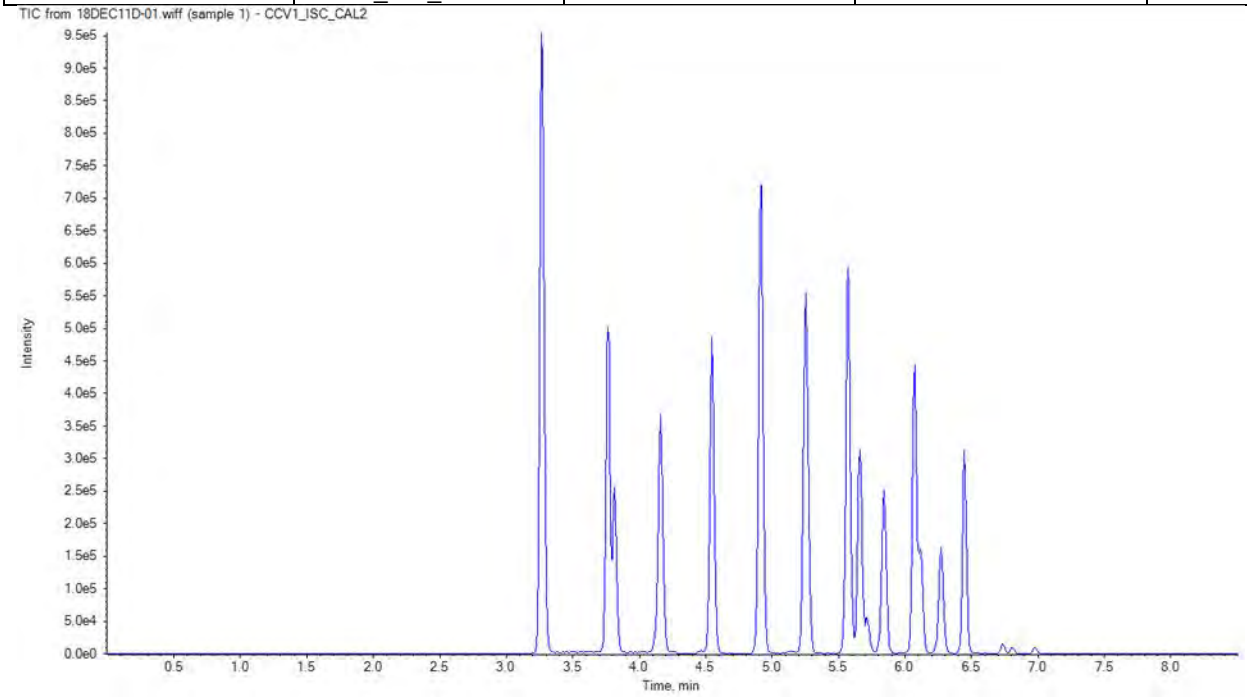
APPROVED
By JPT at 12:44 pm, 12/11/18

REVIEWED
By HMK at 7:40 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC11D-01.wiff	2018-12-11T04:59:04



Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	953492.0	968978.6	-2	50	
13C2-PFOA	5.0	500971.3	507254.2	-1	50	
13C4-PFOS	4.8	310746.2	302410.5	3	50	
13C2-PFDA	5.0	419040.9	392614.4	7	50	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC11D-01.wiff	2018-12-11T04:59:04

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	115147.2	10	13C4-PFBA	1096253.9	5.0	0.105	3.26	1.000	0.600	0.580	-3	30	
PFPeA	110466.5	11	13C5-PFPeA	989696.4	5.0	0.112	3.77	1.000	0.600	0.587	-2	30	
PFBS	47723.5	10	13C3-PFBS	453658.6	4.7	0.105	3.81	1.000	0.531	0.521	-2	30	
4:2-FTS	9764.9	11	13C2-4:2-FTS	48904.2	4.7	0.200	4.13	1.000	0.560	0.535	-4	30	
PFHxA	98680.8	12	13C5-PFHxA	712507.3	5.0	0.138	4.16	1.000	0.600	0.604	1	30	
PFPeS	23736.0	11	13C3-PFBS	453658.6	4.7	0.052	4.18	1.100	0.563	0.518	-8	30	
PFHpA	98309.3	12	13C4-PFHpA	585376.0	5.0	0.168	4.55	1.000	0.600	0.553	-8	30	
PFHxS	37800.6	19	13C3-PFHxS	361495.9	4.7	0.105	4.55	1.000	0.547	0.495	-9	30	
6:2-FTS	6892.8	11	13C2-6:2-FTS	42071.6	4.8	0.164	4.90	1.000	0.569	0.407	-29	30	
PFHpS	32610.2	10	13C3-PFHxS	361495.9	4.7	0.090	4.91	1.080	0.571	0.495	-13	30	
PFOA	110566.7	11	13C8-PFOA	965054.5	5.0	0.115	4.91	1.000	0.600	0.626	4	30	
PFOS	37385.1	21	13C8-PFOS	333592.3	4.8	0.112	5.25	1.000	0.555	0.465	-16	30	
PFNA	93474.6	11	13C9-PFNA	634848.5	5.0	0.147	5.26	1.000	0.600	0.543	-10	30	
PFNS	26132.0	11	13C8-PFOS	333592.3	4.8	0.078	5.55	1.060	0.576	0.504	-12	30	
PFDA	81150.0	11	13C6-PFDA	774187.5	5.0	0.105	5.57	1.000	0.600	0.590	-2	30	
8:2-FTS	8735.5	12	13C2-8:2-FTS	36067.6	4.8	0.242	5.57	1.000	0.575	0.525	-9	30	
PFOSA	70088.8	12	13C8-PFOSA	685662.2	5.0	0.102	5.66	1.000	0.600	0.530	-12	30	
NMeFOSAA	8803.9	18	d3-NMeFOSAA	116166.0	5.0	0.076	5.72	1.000	0.600	0.501	-16	30	
PFDS	20285.2	11	13C8-PFOS	333592.3	4.8	0.061	5.82	1.110	0.578	0.492	-15	30	
PFUnDA	72466.8	12	13C7-PFUnDA	416783.8	5.0	0.174	5.84	1.000	0.600	0.532	-11	30	
NEtFOSAA	10250.1	19	d5-NEtFOSAA	88076.3	5.0	0.116	5.86	1.000	0.600	0.588	-2	30	
PFDoDA	97724.8	11	13C2-PFDoDA	876423.4	5.0	0.112	6.07	1.000	0.600	0.587	-2	30	
10:2-FTS	5426.3	11	13C2-8:2-FTS	36067.6	4.8	0.150	6.08	1.090	0.578	0.399	-31	30	OOS
NMePFOSAE	32249.2	11	d7-NMePFOSAE	243620.7	5.0	0.132	6.12	1.000	0.600	0.575	-4	30	
NMePFOSA	8381.7	12	d3-NMePFOSA	83415.9	5.0	0.100	6.13	1.000	0.600	0.507	-16	30	
PFDoS	11594.8	11	13C8-PFOS	333592.3	4.8	0.035	6.24	1.190	0.581	0.530	-9	30	
NEtPFOSAE	35268.1	11	d9-NEtPFOSAE	207129.1	5.0	0.170	6.28	1.000	0.600	0.570	-5	30	
NEtPFOSA	7189.7	11	d5-NEtPFOSA	65790.9	5.0	0.109	6.29	1.000	0.600	0.523	-13	30	
PFTrDA	81951.5	11	13C2-PFDoDA	876423.4	5.0	0.094	6.27	1.030	0.600	0.612	2	30	
PFTeDA	58070.5	10	13C2-PFTeDA	593109.9	5.0	0.098	6.45	1.000	0.600	0.560	-7	30	
PFHxDA	28707.8	11	13C2-PFTeDA	593109.9	5.0	0.048	6.74	1.040	0.600	0.606	1	30	
PFODA	20345.1	10	13C2-PFTeDA	593109.9	5.0	0.034	6.98	1.080	0.600	0.551	-8	30	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV1_ISC_CAL2			**Data File:**		18DEC11D-01.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-11T04:59:04
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC11DCCV1-7
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	953492.0	968978.6	-2	50	
13C2-PFOA	5.0	500971.3	507254.2	-1	50	
13C4-PFOS	4.8	310746.2	302410.5	3	50	
13C2-PFDA	5.0	419040.9	392614.4	7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1096253.9	13C3-PFBA	953492.0	1.150	5.000	5.088	102	70-130	
E13C5-PFPeA	989696.4	13C3-PFBA	953492.0	1.038	5.000	4.930	99	70-130	
E13C3-PFBS	453658.6	13C3-PFBA	953492.0	0.476	4.650	4.033	87	70-130	
E13C2-4:2-FTS	48904.2	13C2-PFOA	500971.3	0.098	4.670	3.825	82	70-130	
E13C5-PFHxA	712507.3	13C2-PFOA	500971.3	1.422	5.000	4.775	96	70-130	
E13C3-PFHxS	361495.9	13C2-PFOA	500971.3	0.722	4.730	4.628	98	70-130	
E13C4-PFHpA	585376.0	13C2-PFOA	500971.3	1.168	5.000	4.968	99	70-130	
E13C2-6:2-FTS	42071.6	13C2-PFOA	500971.3	0.084	4.750	5.203	110	70-130	
E13C8-PFOA	965054.5	13C2-PFOA	500971.3	1.926	5.000	5.445	109	70-130	
E13C8-PFOS	333592.3	13C4-PFOS	310746.2	1.074	4.780	4.818	101	70-130	
E13C9-PFNA	634848.5	13C4-PFOS	310746.2	2.043	5.000	5.773	115	70-130	
E13C6-PFDA	774187.5	13C2-PFDA	419040.9	1.848	5.000	4.896	98	70-130	
E13C2-8:2-FTS	36067.6	13C2-PFDA	419040.9	0.086	4.790	5.619	117	70-130	
E13C8-PFOSA	685662.2	13C2-PFDA	419040.9	1.636	5.000	3.870	77	70-130	
Ed3-NMeFOSAA	116166.0	13C2-PFDA	419040.9	0.277	5.000	4.913	98	70-130	
E13C7-PFUnDA	416783.8	13C2-PFDA	419040.9	0.995	5.000	4.879	98	70-130	
Ed5-NEtFOSAA	88076.3	13C2-PFDA	419040.9	0.210	5.000	4.640	93	70-130	
E13C2-PFDoDA	876423.4	13C2-PFDA	419040.9	2.091	5.000	4.389	88	70-130	
Ed7-NMePFOSAE	243620.7	13C2-PFDA	419040.9	0.581	5.000	3.349	67	70-130	OOS
Ed3-NMePFOSA	83415.9	13C2-PFDA	419040.9	0.199	5.000	3.627	73	70-130	
Ed9-NEtPFOSAE	207129.1	13C2-PFDA	419040.9	0.494	5.000	3.409	68	70-130	OOS
Ed5-NEtPFOSA	65790.9	13C2-PFDA	419040.9	0.157	5.000	3.533	71	70-130	
E13C2-PFTeDA	593109.9	13C2-PFDA	419040.9	1.415	5.000	4.201	84	70-130	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

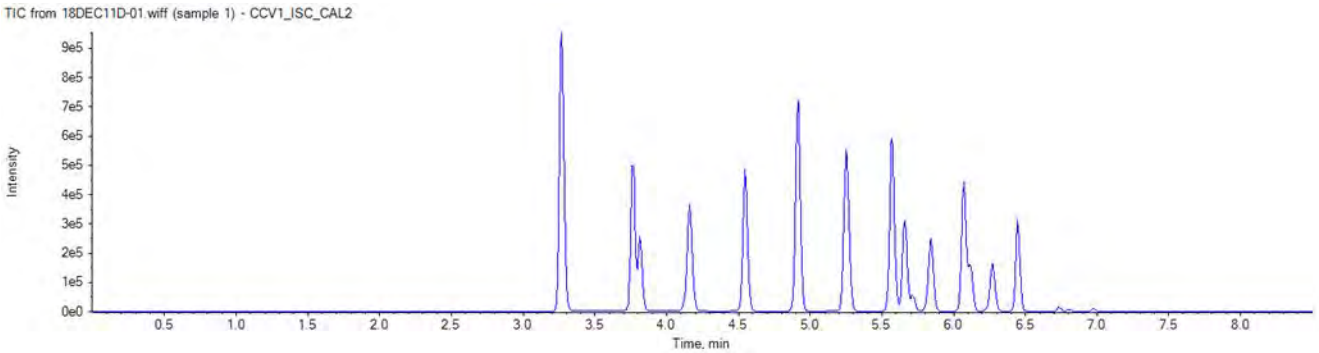
Analyte Quantitation Peak Table

Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC11D-01.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	115147.2		A	13C4-PFBA	3.27	1096253.9	0.105	0.580
PFPeA	3.77	1.000	110466.5		A	13C5-PFPeA	3.77	989696.4	0.112	0.587
PFBS	3.81	1.000	47723.5		A	13C3-PFBS	3.82	453658.6	0.105	0.521
4:2-FTS	4.13	1.000	9764.9		A	13C2-4:2-FTS	4.13	48904.2	0.200	0.535
PFHxA	4.16	1.000	98680.8		A	13C5-PFHxA	4.16	712507.3	0.138	0.604
PFPeS	4.18	1.100	23736.0		A	13C3-PFBS	3.82	453658.6	0.052	0.518
PFHpA	4.55	1.000	98309.3		A	13C4-PFHpA	4.55	585376.0	0.168	0.553
PFHxS	4.55	1.000	37800.6		M	13C3-PFHxS	4.55	361495.9	0.105	0.495
6:2-FTS	4.90	1.000	6892.8		A	13C2-6:2-FTS	4.90	42071.6	0.164	0.407
PFHpS	4.91	1.080	32610.2		A	13C3-PFHxS	4.55	361495.9	0.090	0.495
PFOA	4.91	1.000	110566.7		A	13C8-PFOA	4.91	965054.5	0.115	0.626
PFOS	5.25	1.000	37385.1		M	13C8-PFOS	5.25	333592.3	0.112	0.465
PFNA	5.26	1.000	93474.6		A	13C9-PFNA	5.26	634848.5	0.147	0.543
PFNS	5.55	1.060	26132.0		A	13C8-PFOS	5.25	333592.3	0.078	0.504
PFDA	5.57	1.000	81150.0		A	13C6-PFDA	5.57	774187.5	0.105	0.590
8:2-FTS	5.57	1.000	8735.5		A	13C2-8:2-FTS	5.58	36067.6	0.242	0.525
PFOSA	5.66	1.000	70088.8		A	13C8-PFOSA	5.66	685662.2	0.102	0.530
NMeFOSAA	5.72	1.000	8803.9		A	d3-NMeFOSAA	5.72	116166.0	0.076	0.501
PFDS	5.82	1.110	20285.2		A	13C8-PFOS	5.25	333592.3	0.061	0.492
PFUnDA	5.84	1.000	72466.8		A	13C7-PFUnDA	5.84	416783.8	0.174	0.532
NEtFOSAA	5.86	1.000	10250.1		M	d5-NEtFOSAA	5.85	88076.3	0.116	0.588
PFDoDA	6.07	1.000	97724.8		A	13C2-PFDoDA	6.07	876423.4	0.112	0.587
10:2-FTS	6.08	1.090	5426.3		A	13C2-8:2-FTS	5.58	36067.6	0.150	0.399
NMePFOSAE	6.12	1.000	32249.2		A	d7-NMePFOSAE	6.11	243620.7	0.132	0.575
NMePFOSA	6.13	1.000	8381.7		A	d3-NMePFOSA	6.13	83415.9	0.100	0.507
PFDoS	6.24	1.190	11594.8		A	13C8-PFOS	5.25	333592.3	0.035	0.530
NEtPFOSAE	6.28	1.000	35268.1		A	d9-NEtPFOSAE	6.27	207129.1	0.170	0.570
NEtPFOSA	6.29	1.000	7189.7		A	d5-NEtPFOSA	6.28	65790.9	0.109	0.523
PFTrDA	6.27	1.030	81951.5		A	13C2-PFDoDA	6.07	876423.4	0.094	0.612
PFTeDA	6.45	1.000	58070.5		A	13C2-PFTeDA	6.45	593109.9	0.098	0.560
PFHxDA	6.74	1.040	28707.8		A	13C2-PFTeDA	6.45	593109.9	0.048	0.606
PFODA	6.98	1.080	20345.1		A	13C2-PFTeDA	6.45	593109.9	0.034	0.551

Total Ion Chromatogram

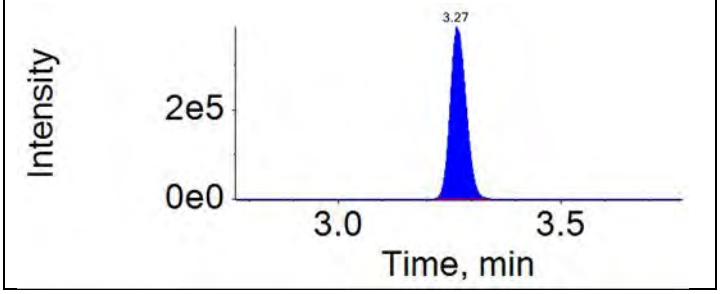


APPROVED
By JPT at 3:22 pm, 12/11/18

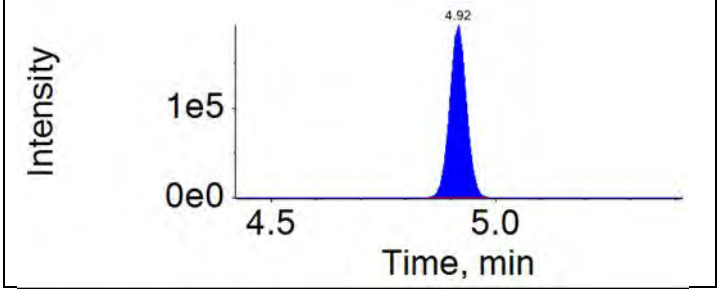
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

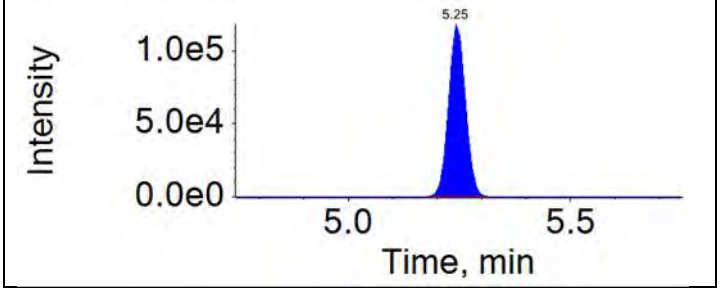
Injection Standard: 13C3-PFBA
216.0 / 172.0



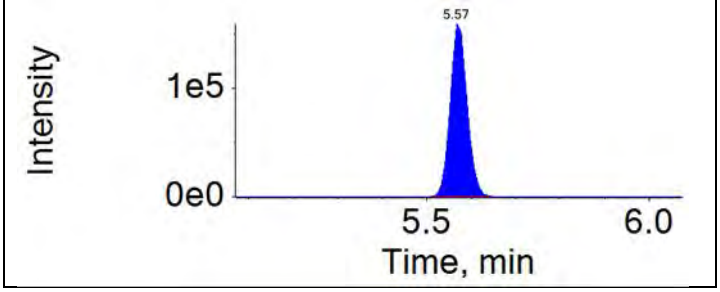
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



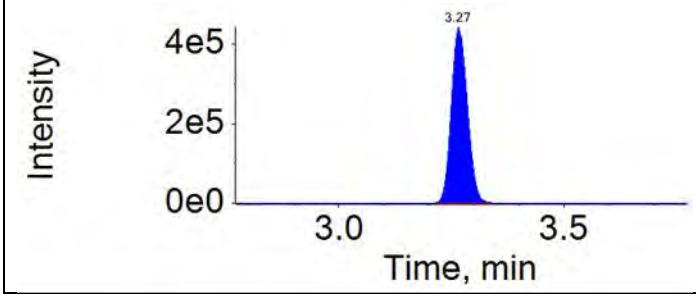
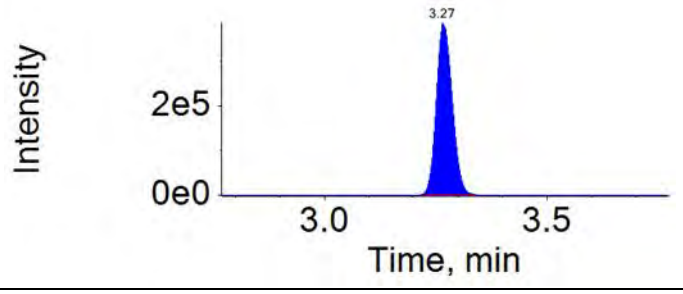
Injection Standard: 13C2-PFDA
515.0 / 470.0

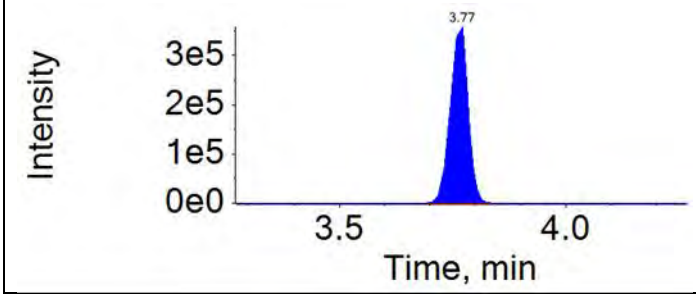
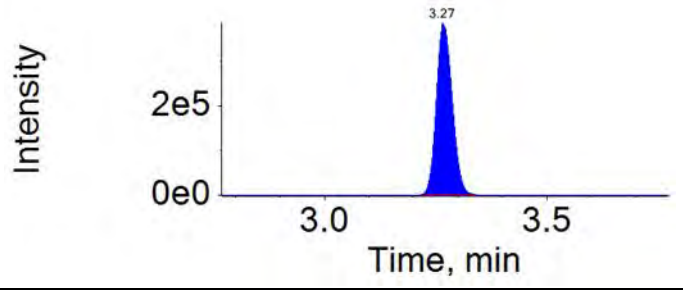


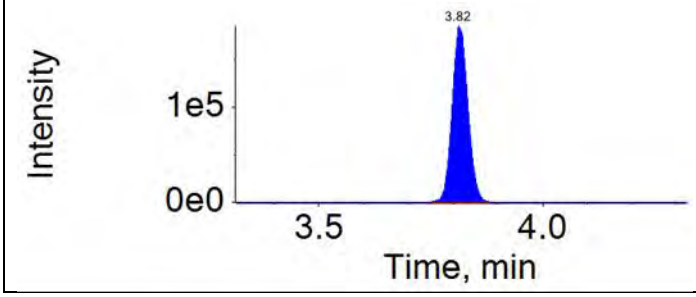
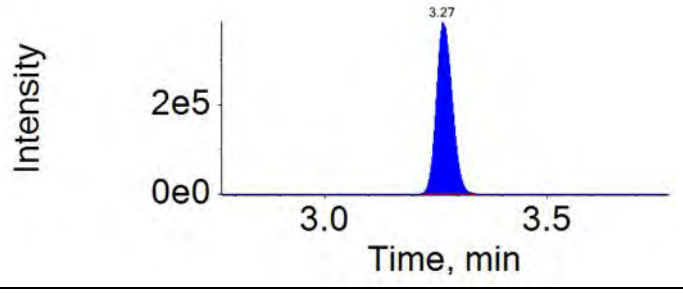
APPROVED
By JPT at 3:22 pm, 12/11/18

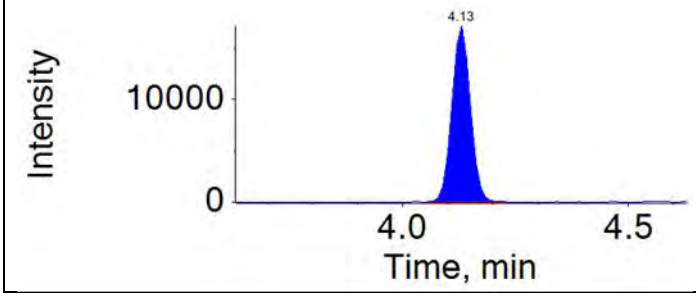
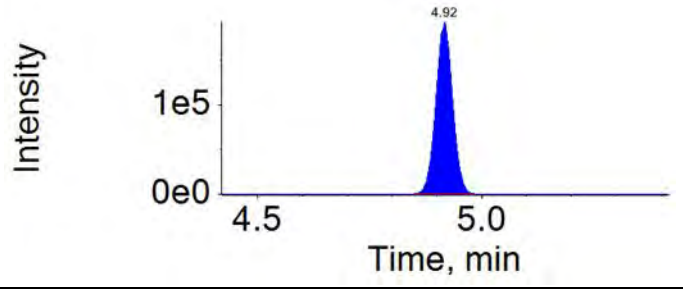
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

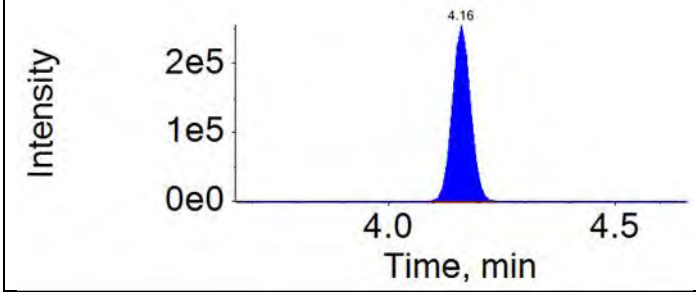
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

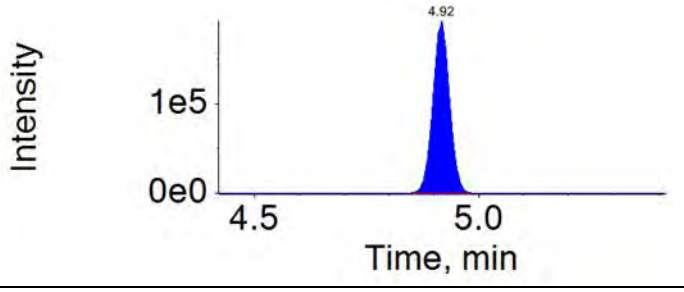
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

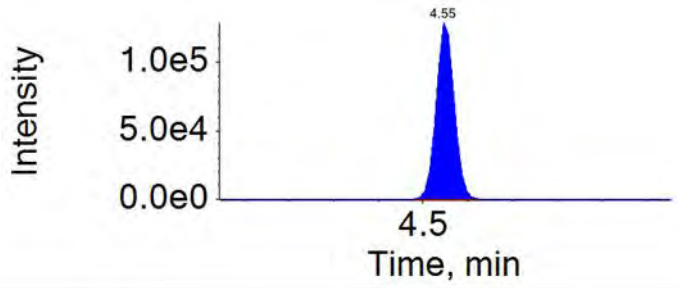
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

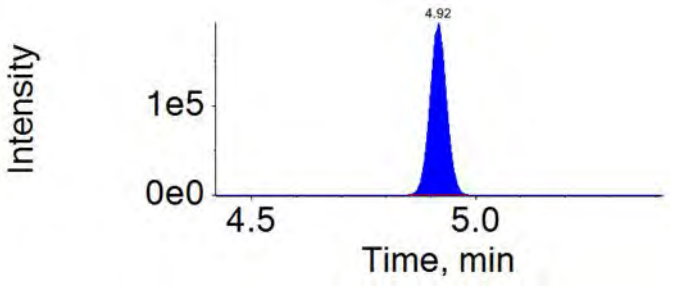
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



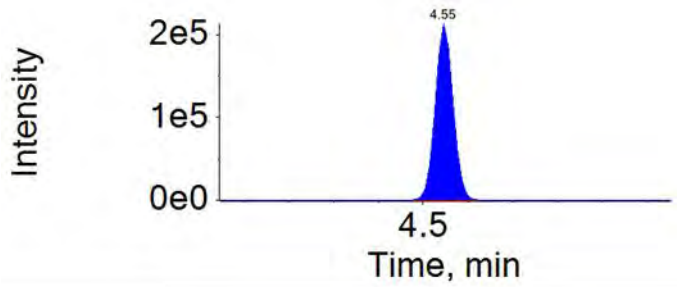


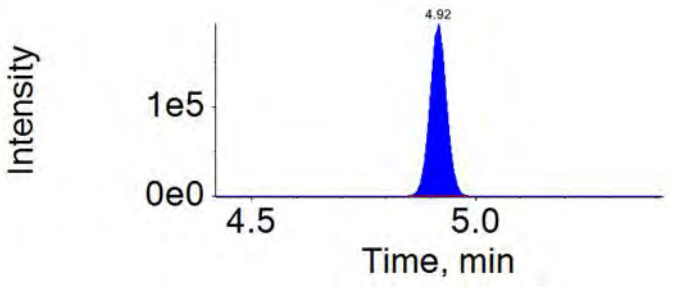
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



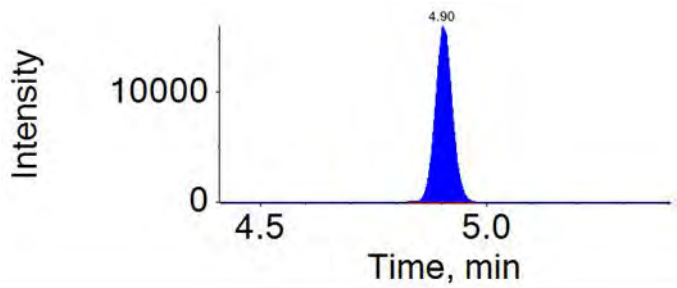


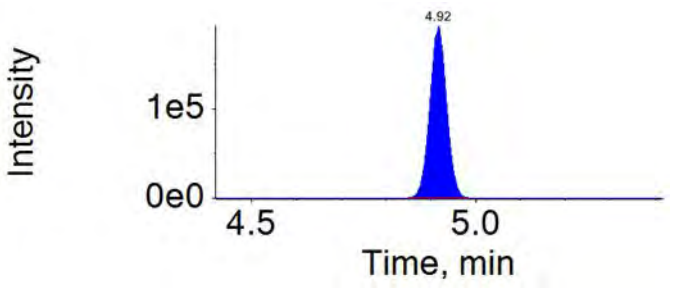
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0





APPROVED
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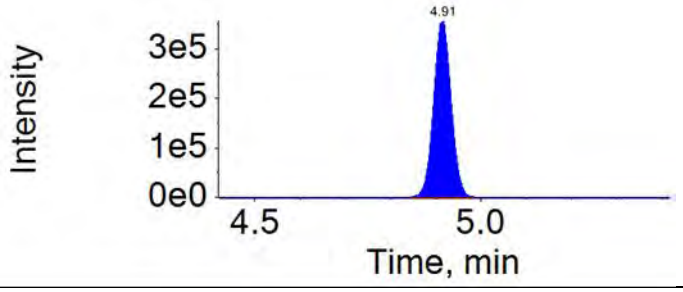
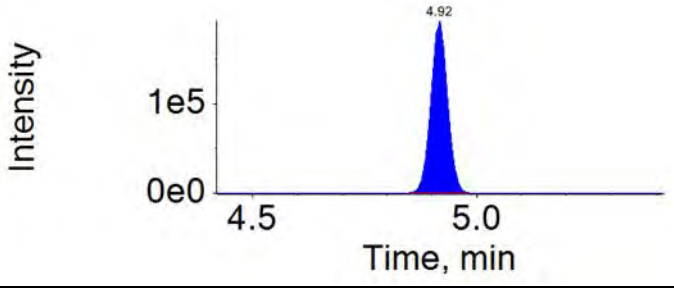
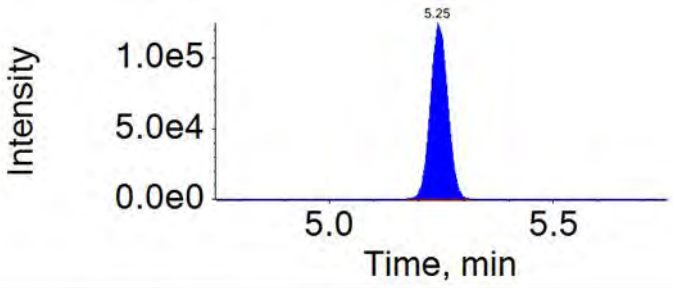
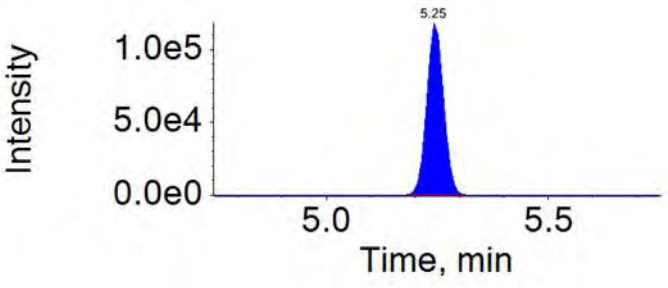
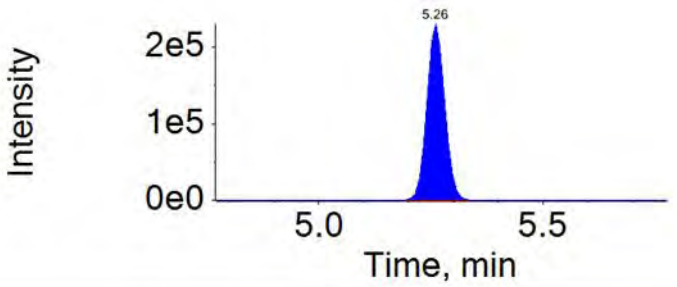
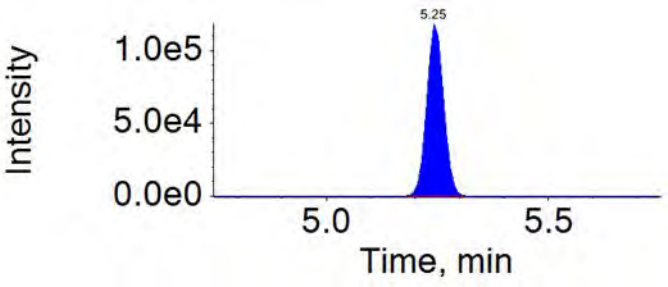
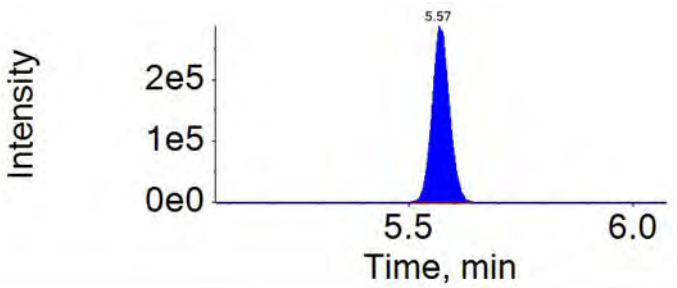
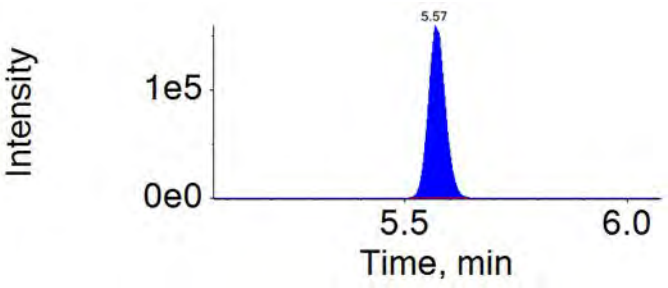
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

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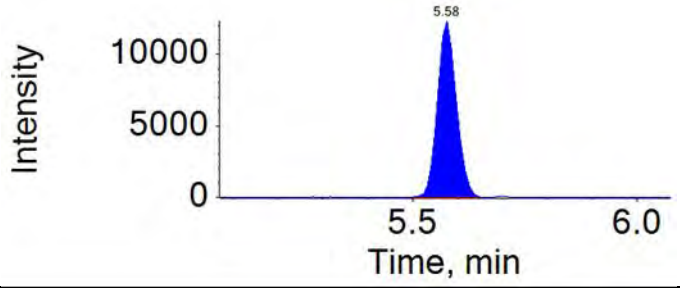
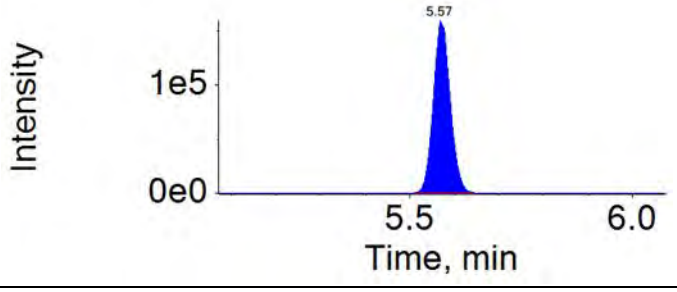
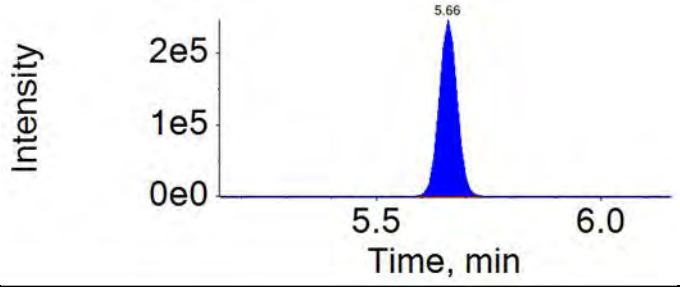
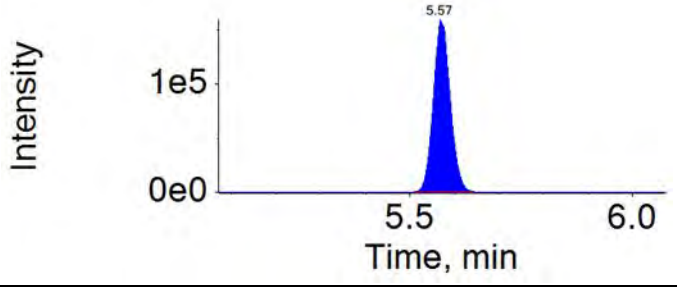
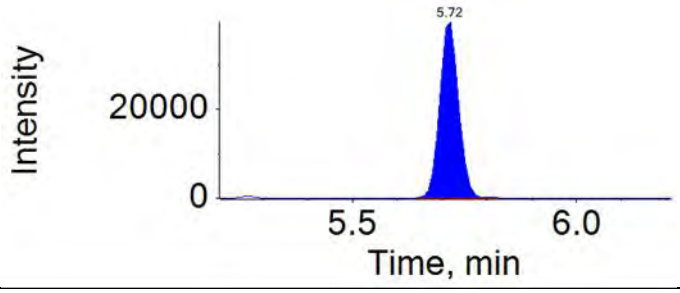
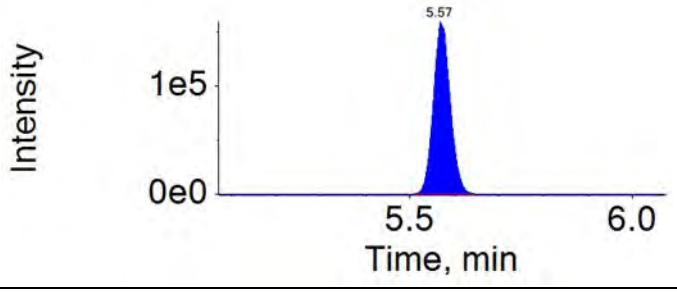
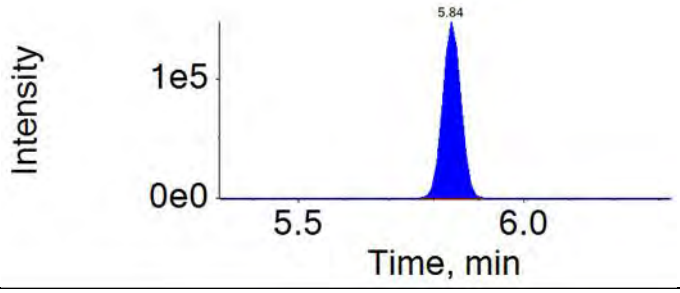
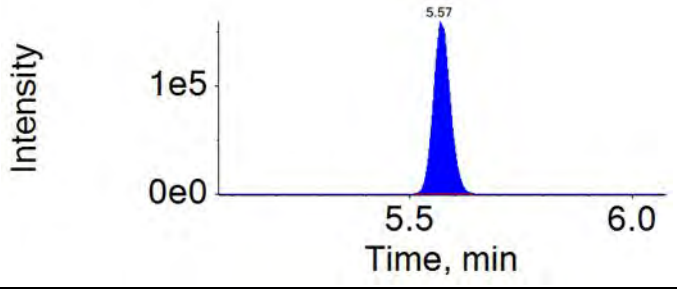
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

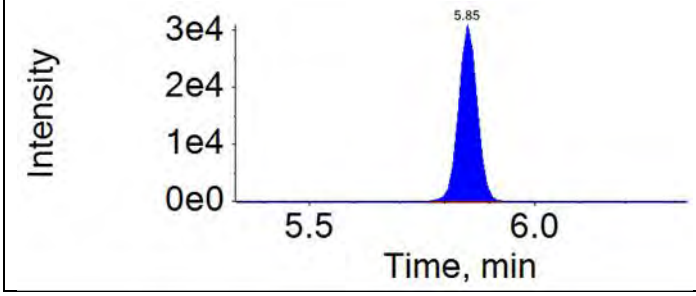
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

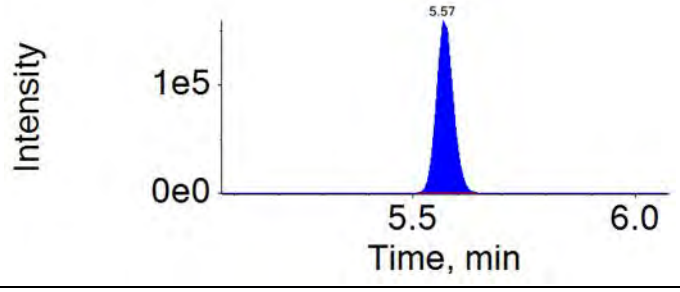
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

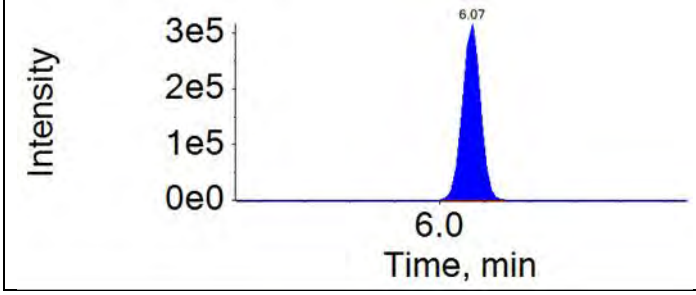
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

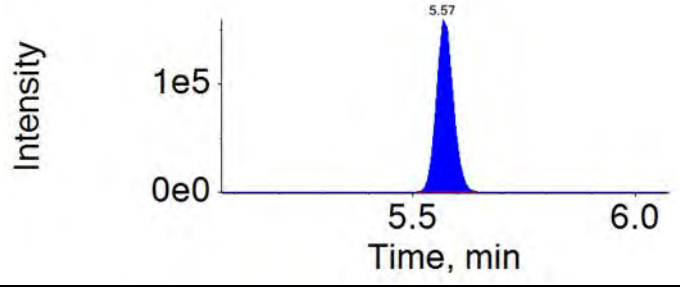
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



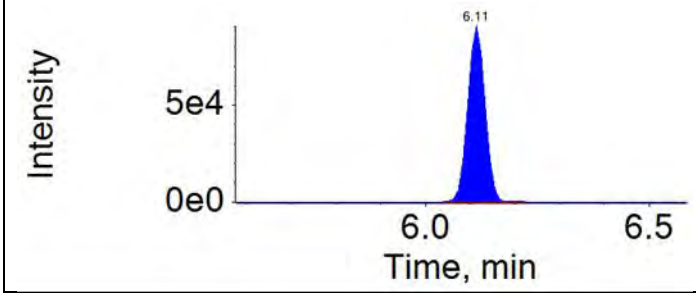


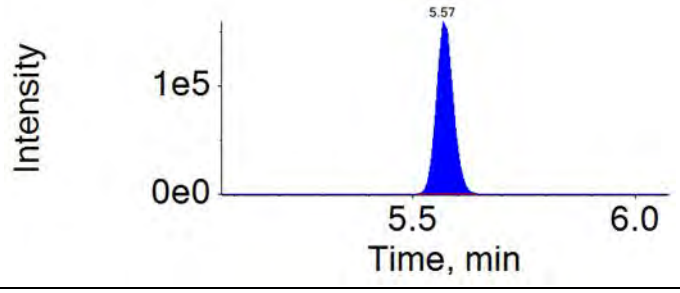
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



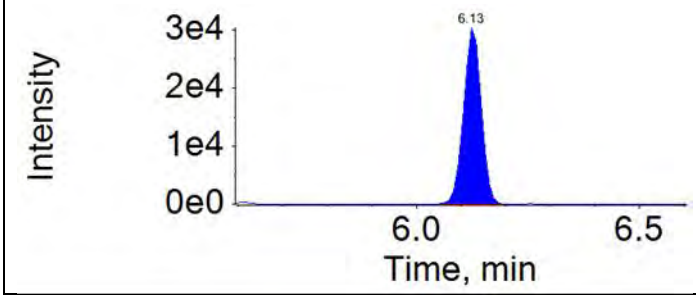


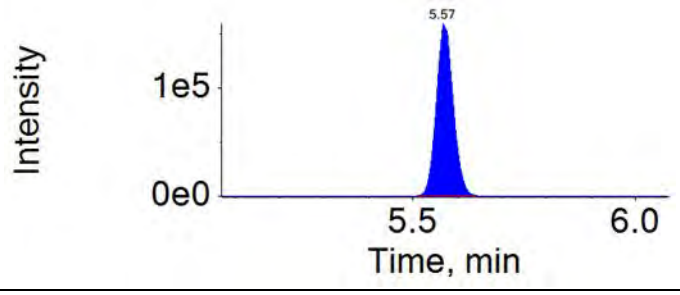
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



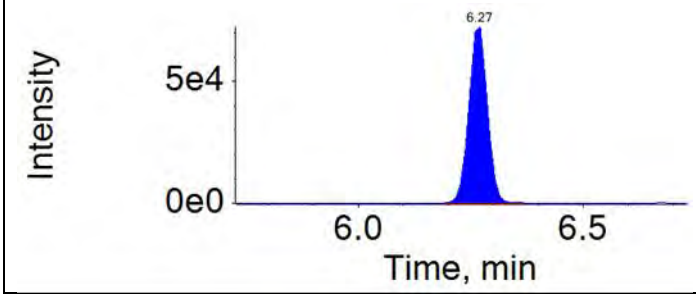


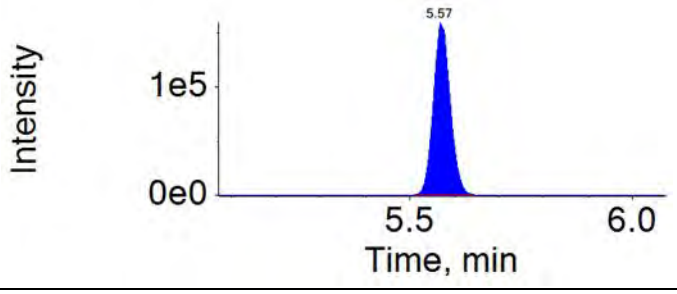
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

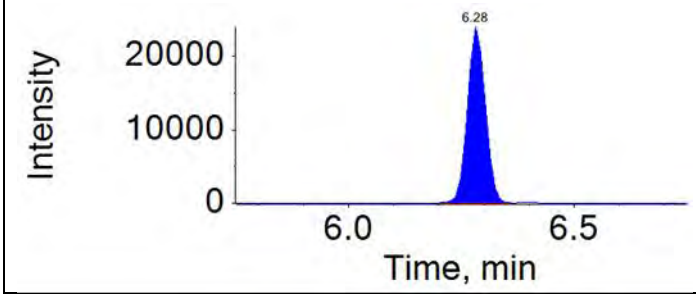
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

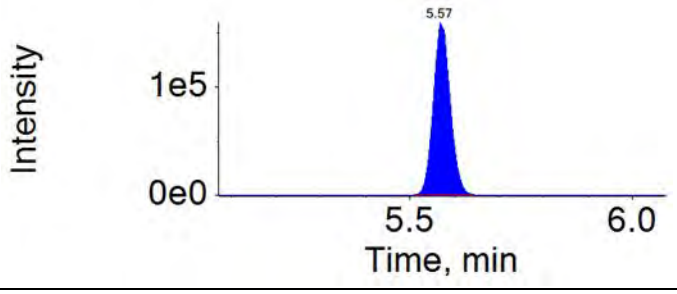
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



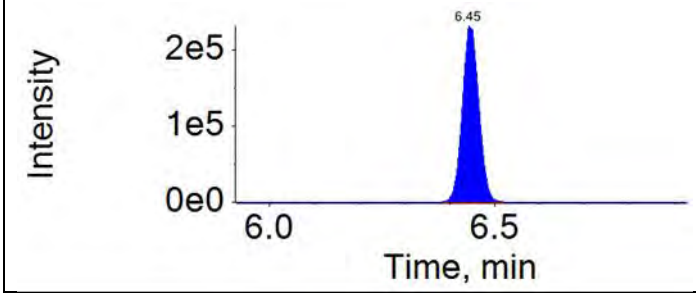


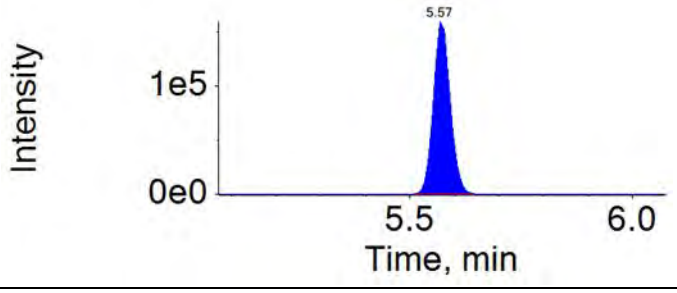
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





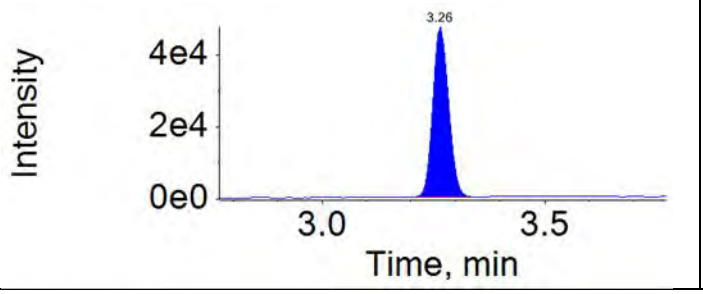
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

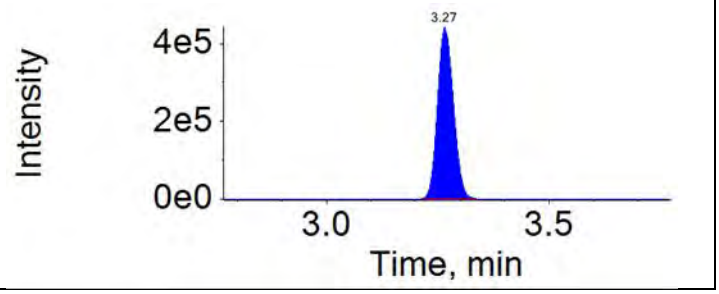




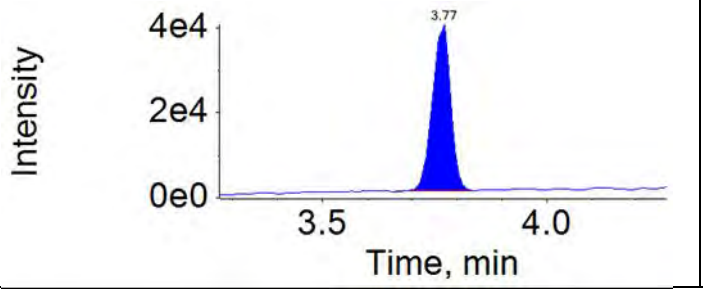
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

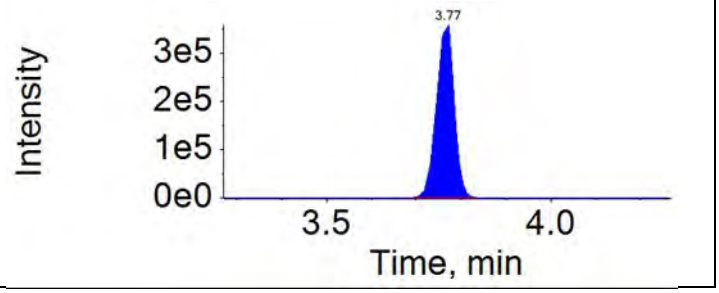
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



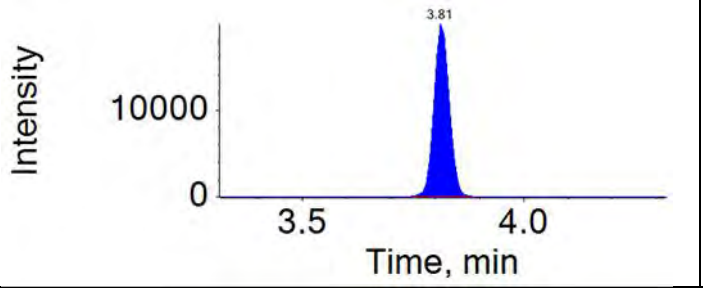


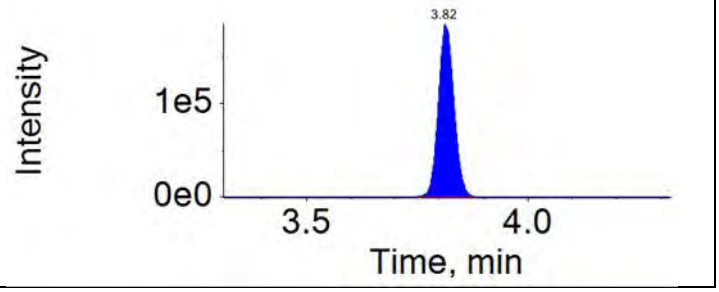
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



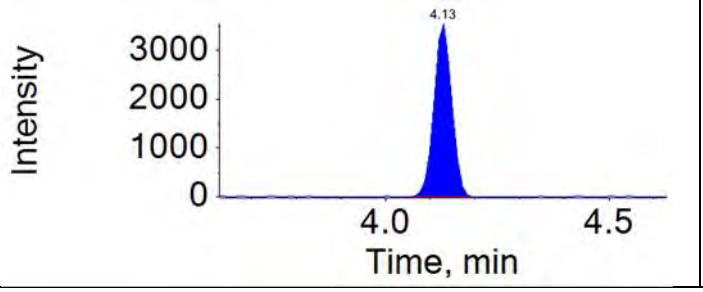


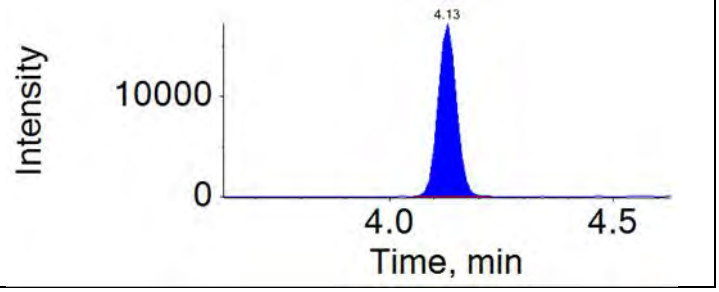
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

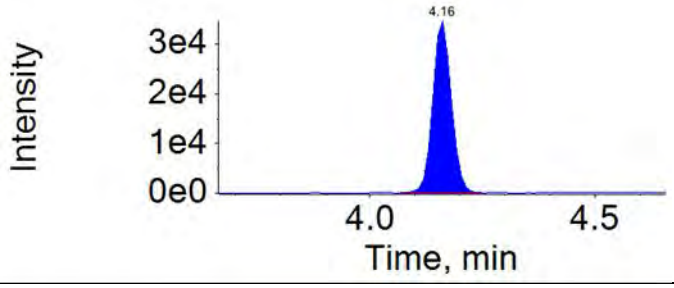
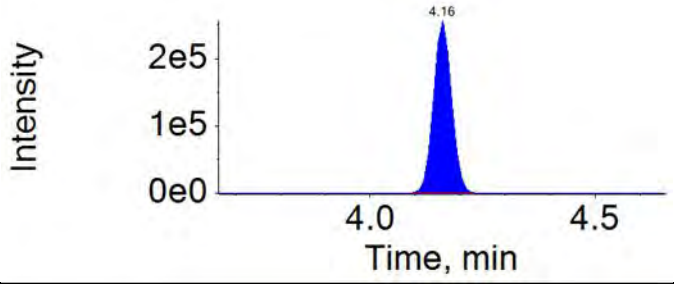


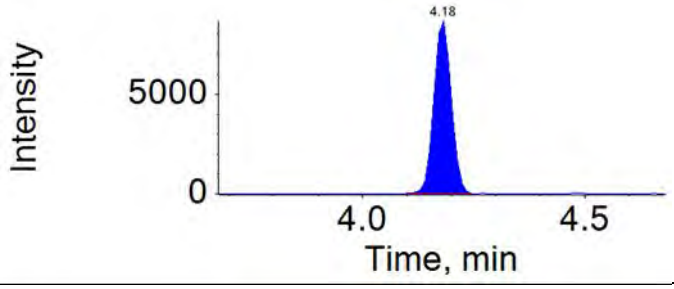
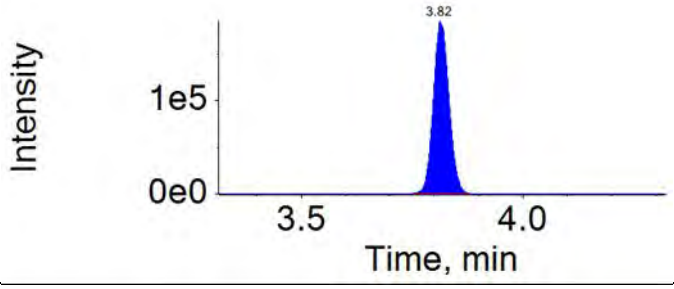


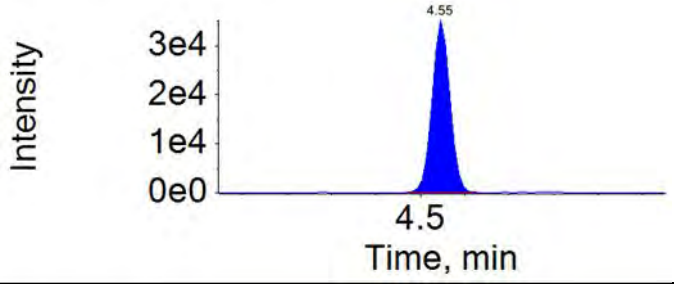
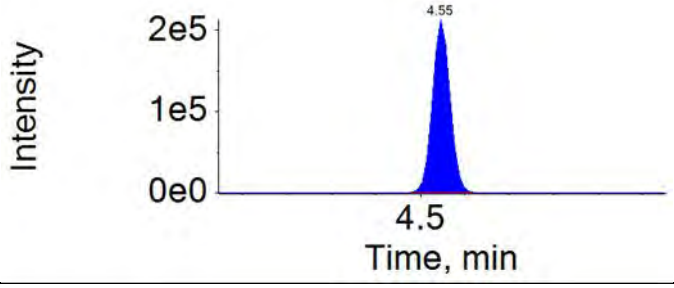
APPROVED
By JPT at 3:22 pm, 12/11/18

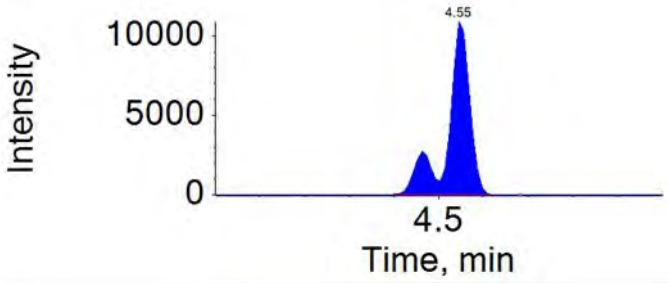
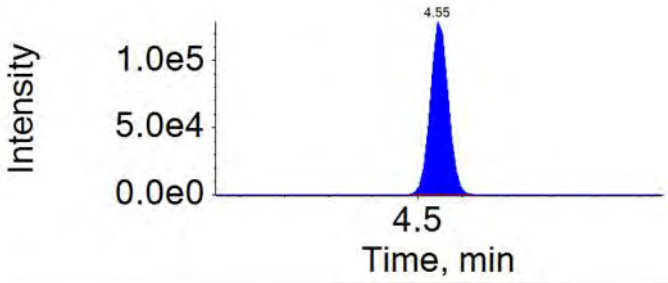
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

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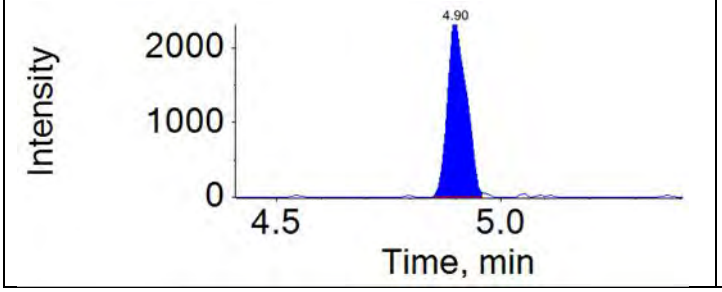
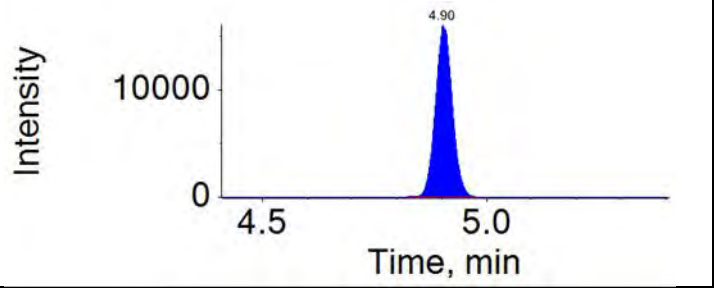
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

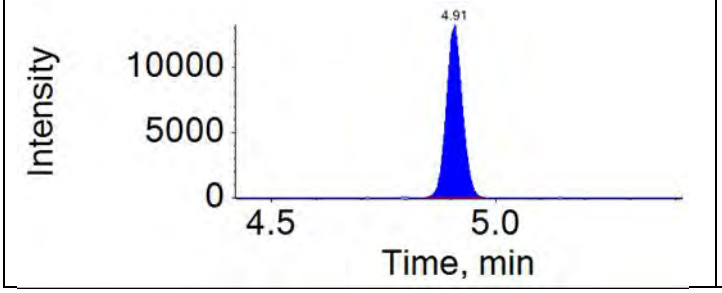
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

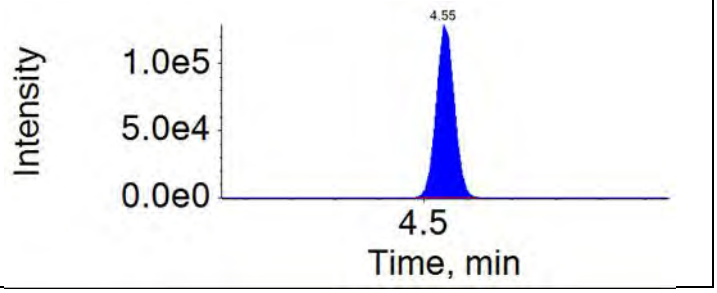
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



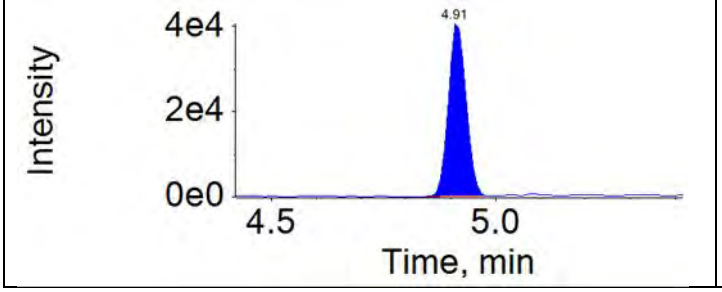


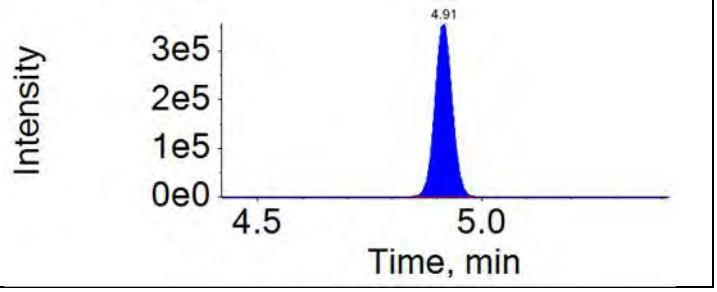
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



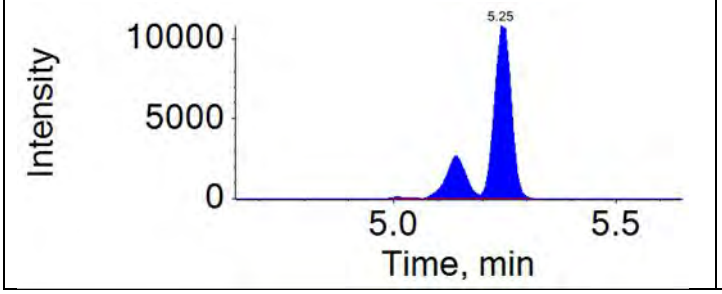


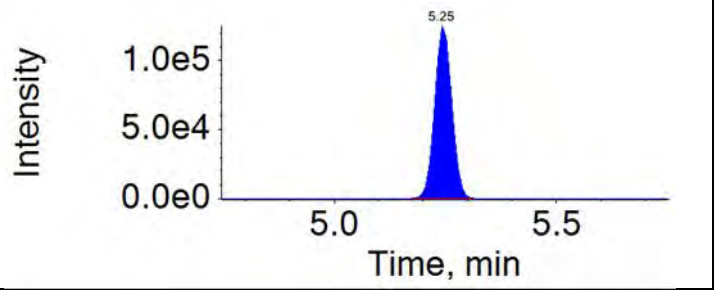
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



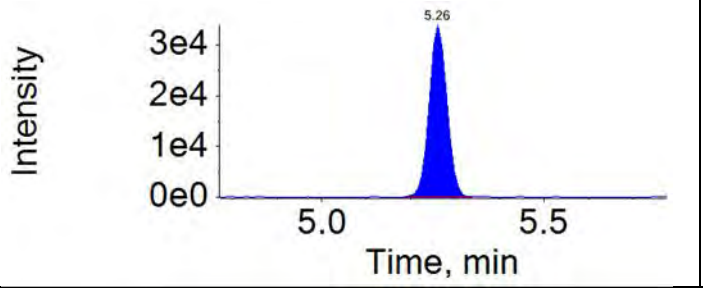


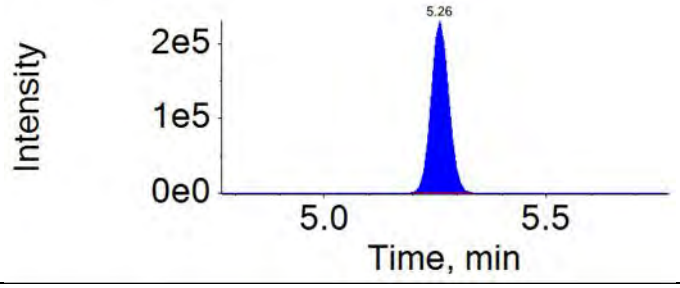
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

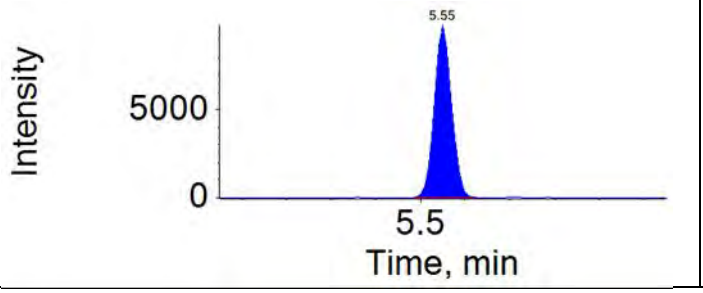
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

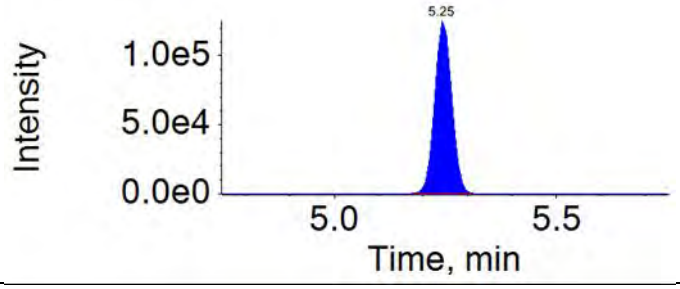
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



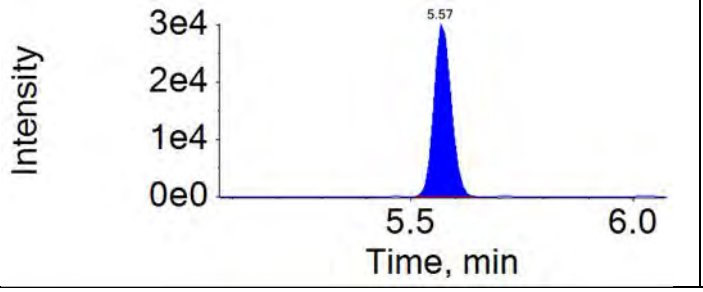


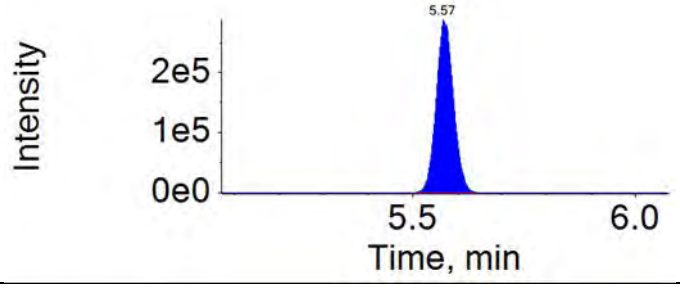
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



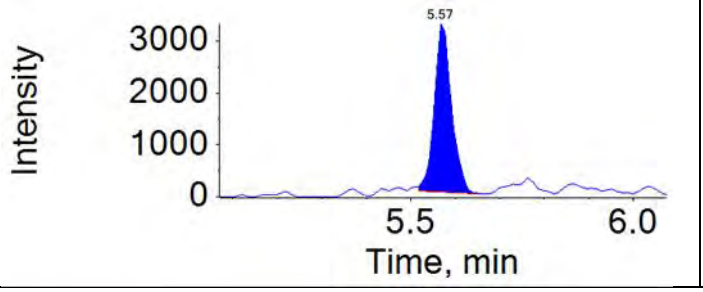


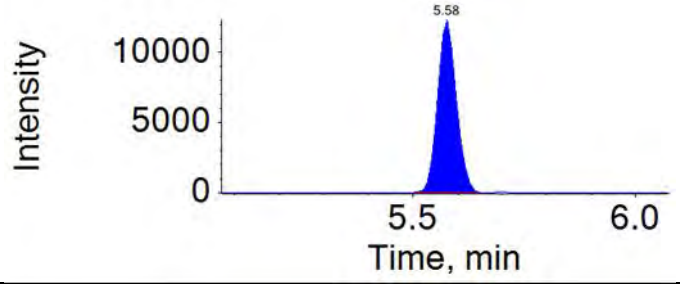
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

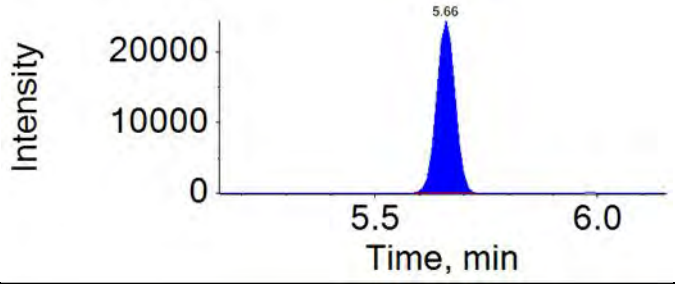
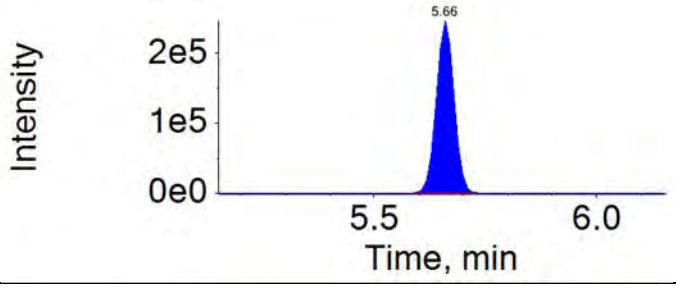


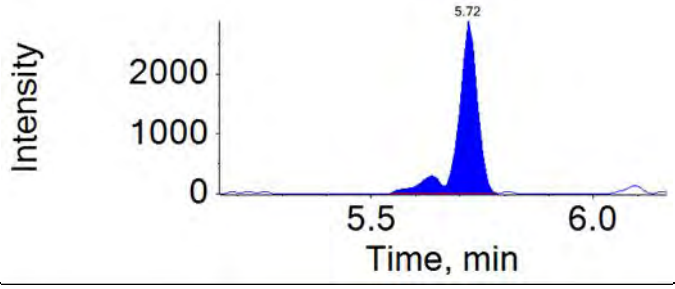
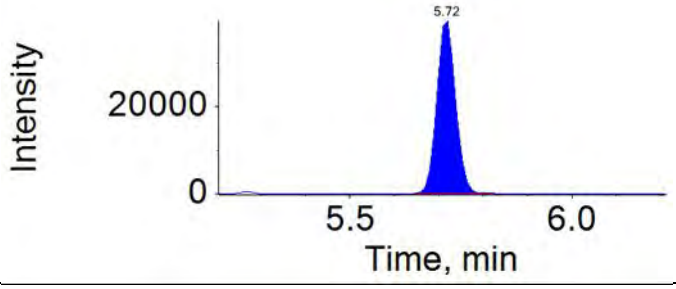


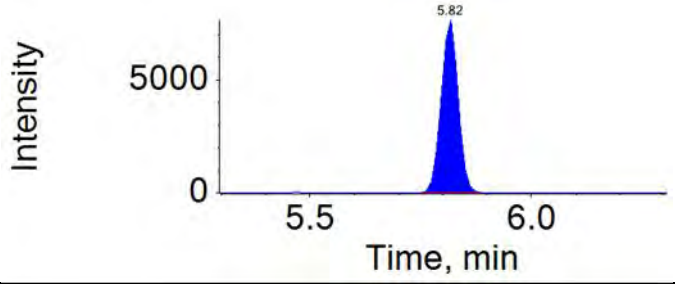
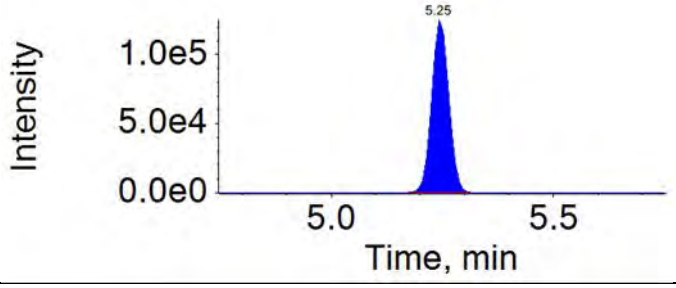
APPROVED
By JPT at 3:22 pm, 12/11/18

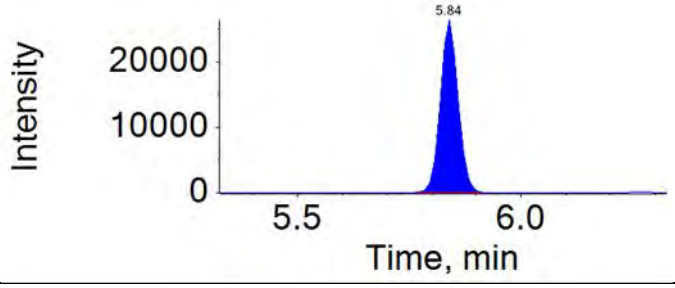
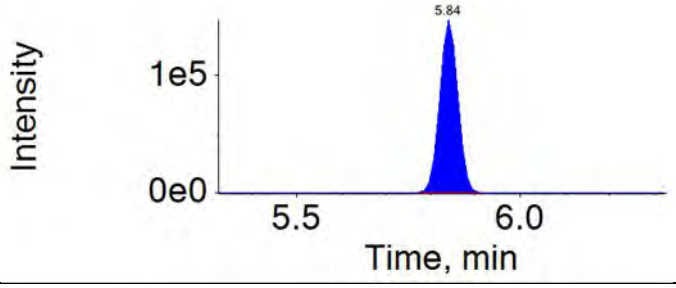
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

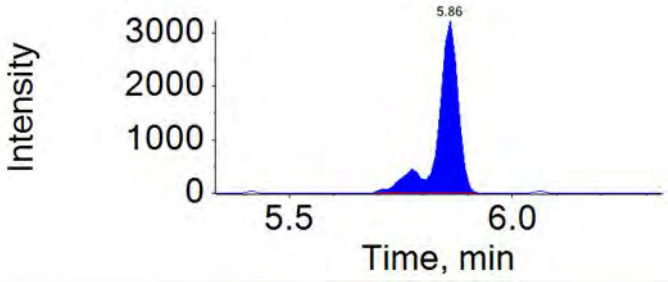
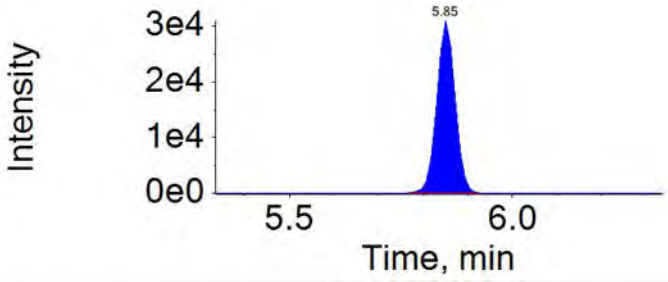
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

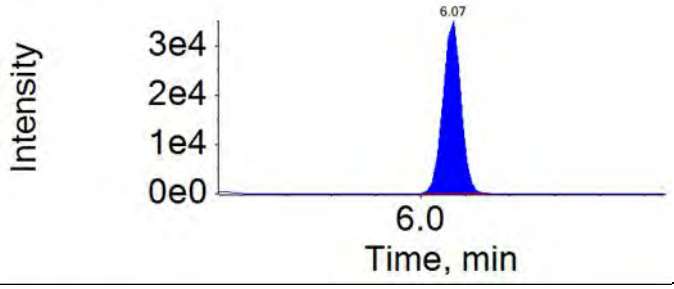
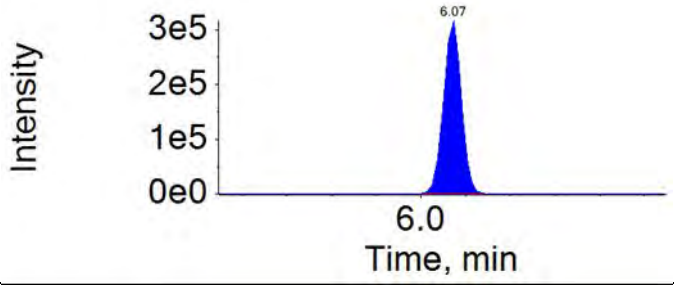
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

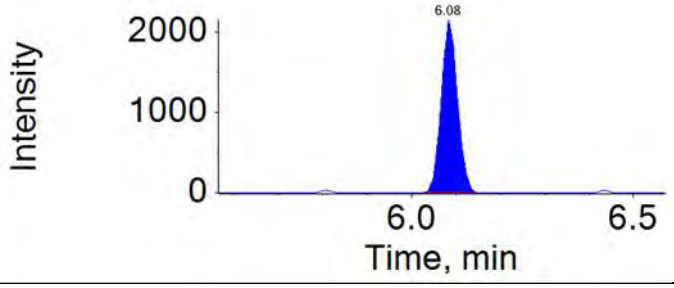
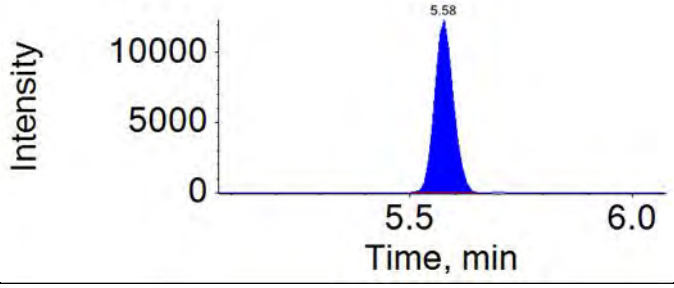
APPROVED
By JPT at 3:22 pm, 12/11/18

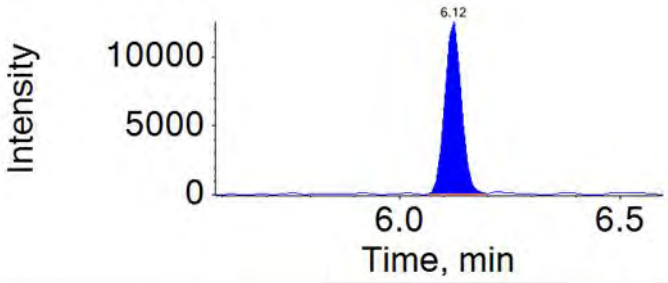
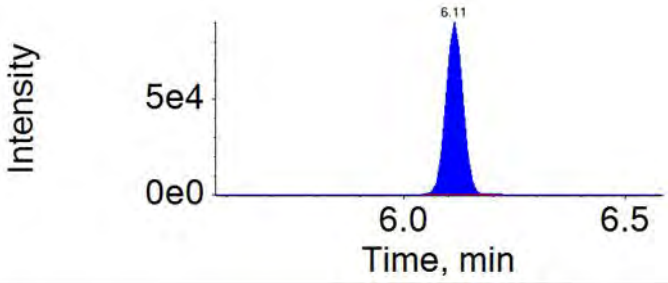
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

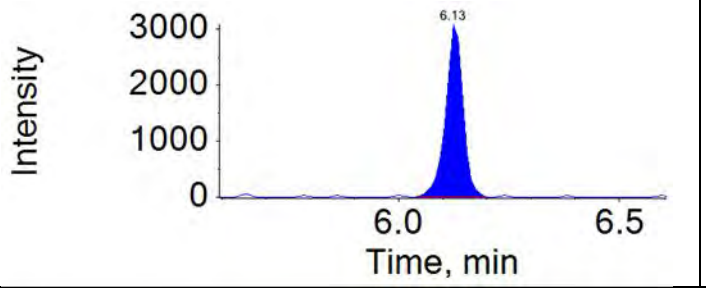
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

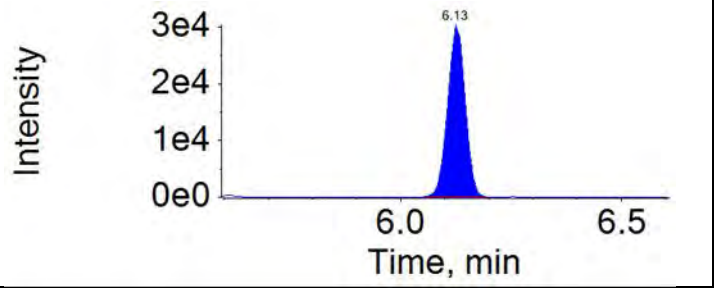
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

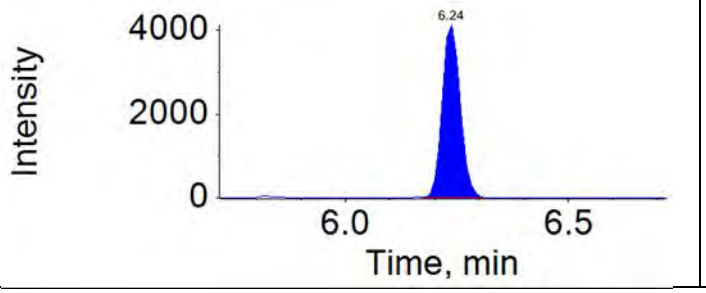
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

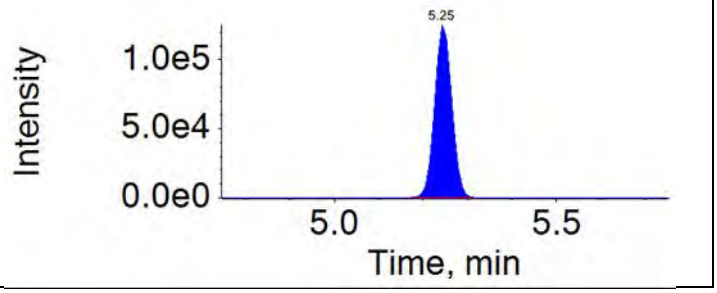
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



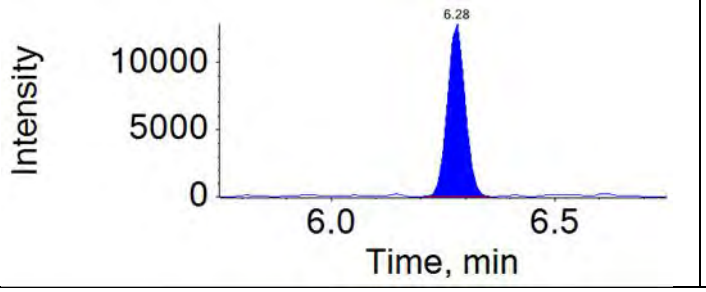


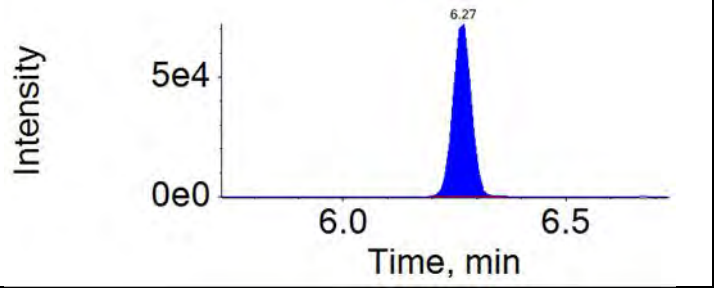
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



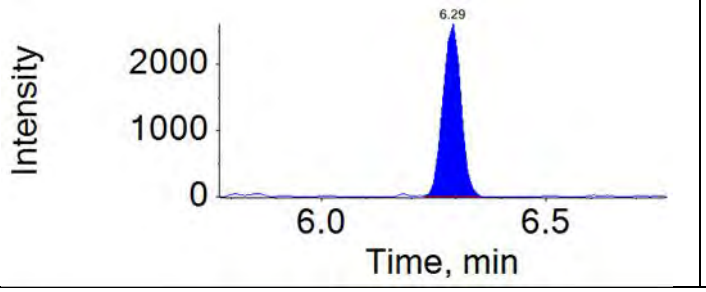


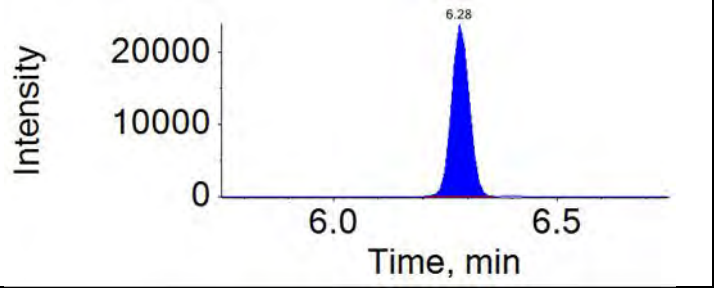
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



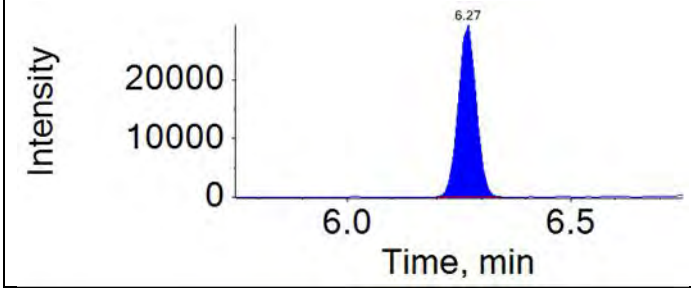


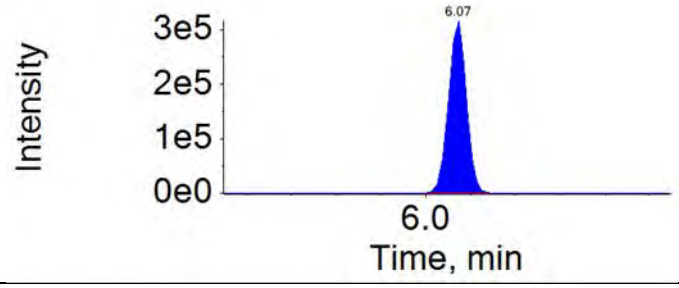
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

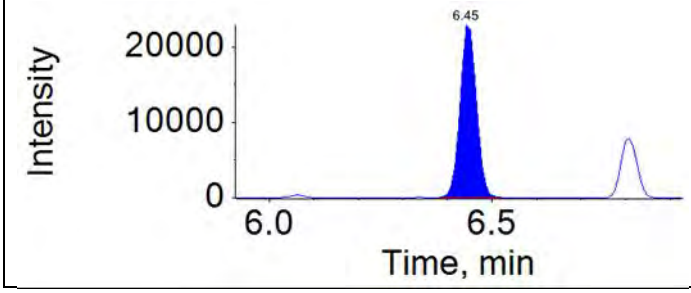
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

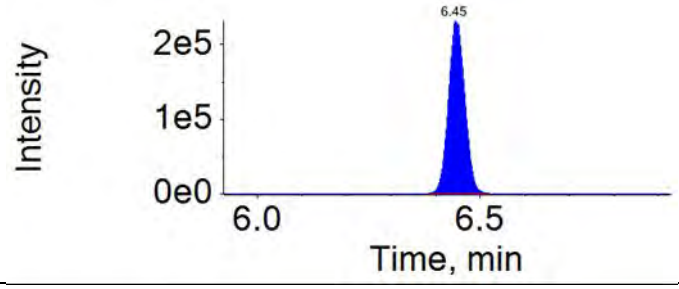
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



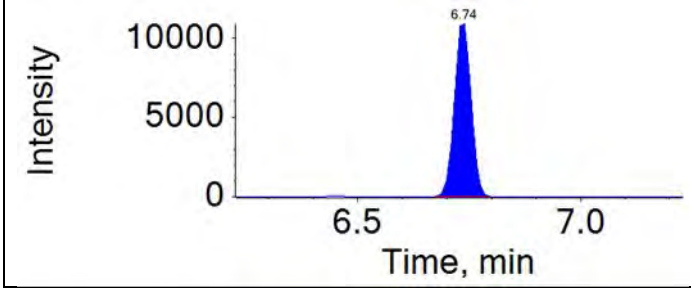


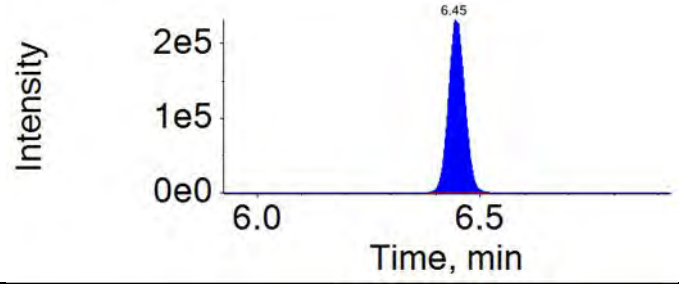
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



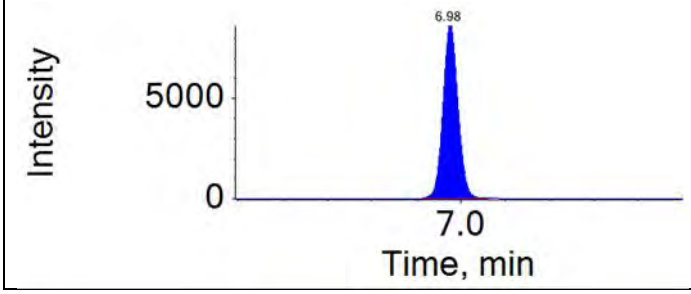


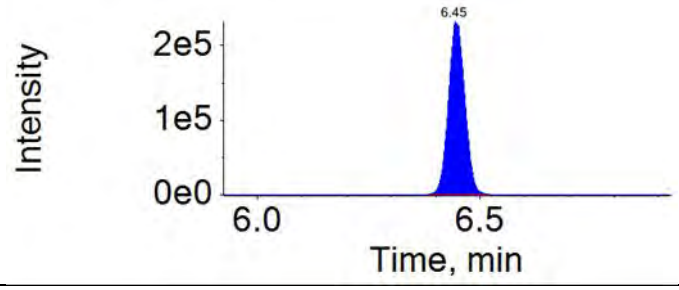
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



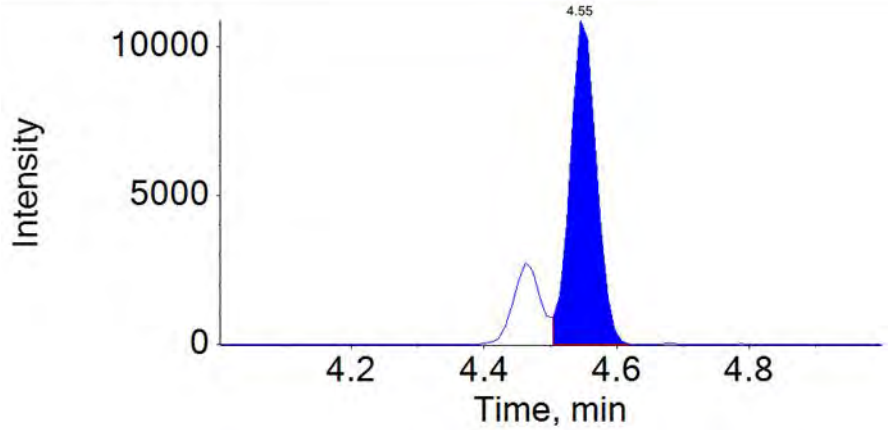


APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

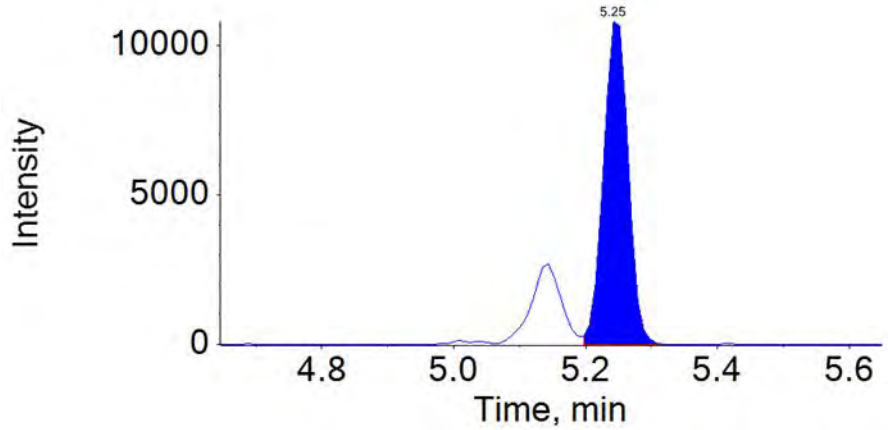
Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
29945.8
Mass Range:
399.0 / 80.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



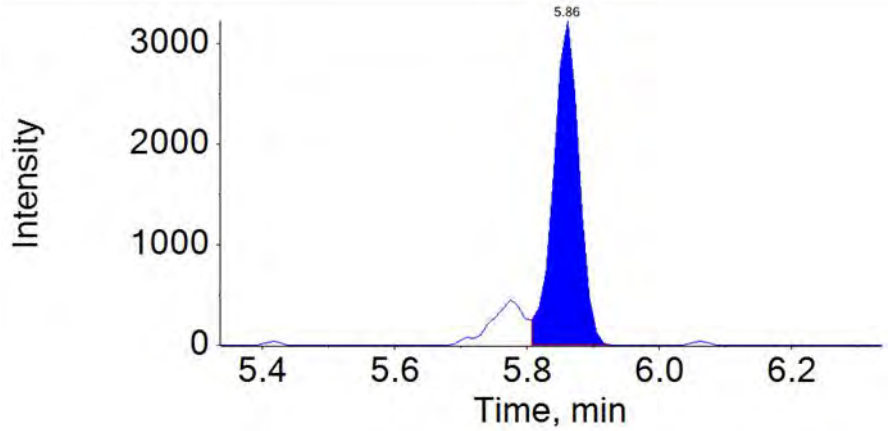
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
28346.8
Mass Range:
499.0 / 80.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.86
Peak Area:
8663.6
Mass Range:
584.0 / 419.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



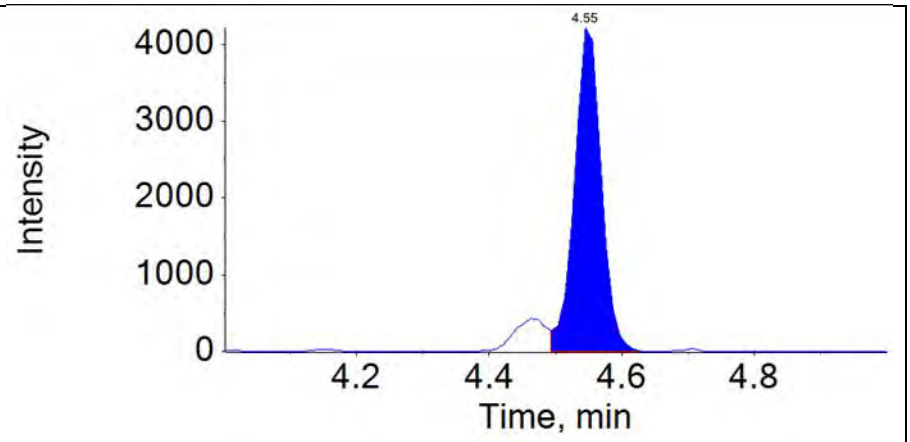
Integration Comment: incorrect integration

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

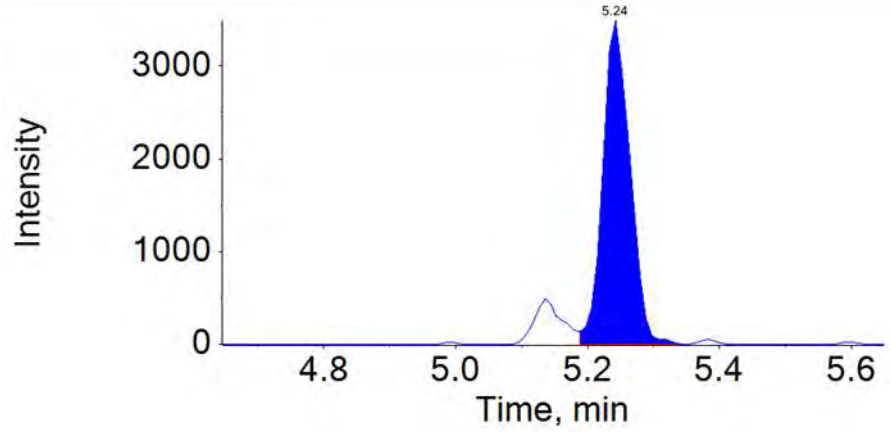
Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
11895.0
Mass Range:
399.0 / 99.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



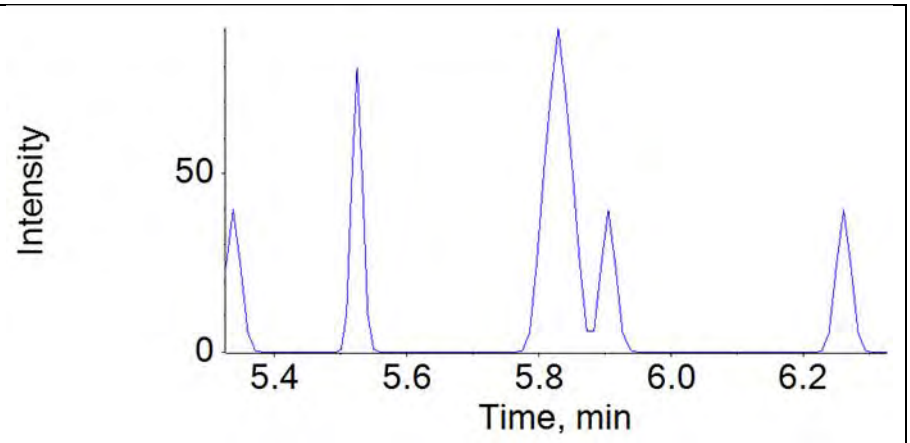
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
10082.2
Mass Range:
499.0 / 99.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

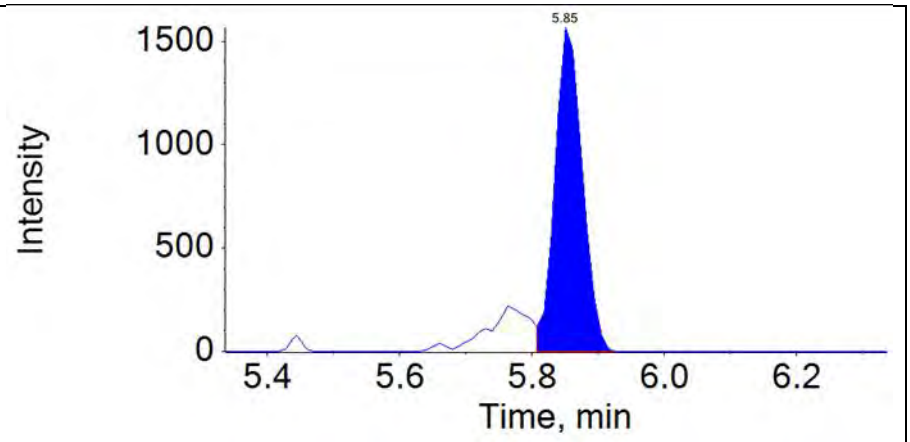
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
4513.4
Mass Range:
584.0 / 526.0
File Name:
18DEC11D-01.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Ion Ratio Report

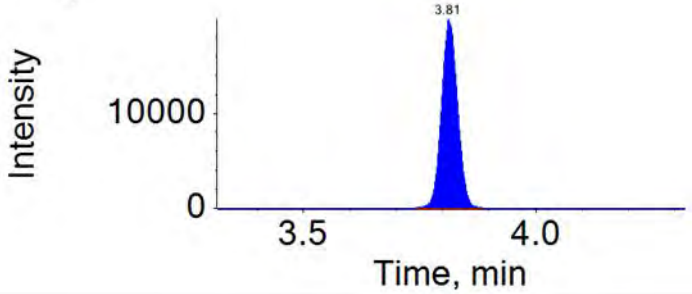
Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC11D-01.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	47723.5	A	N/A	1.0000			
PFBS_2	3.81	1.00	16495.9	A	N/A	0.3457	-5	50	
4:2-FTS	4.13	1.00	9764.9	A	N/A	1.0000			
4:2-FTS_2	4.13	1.00	5689.3	A	N/A	0.5826	-11	50	
PFHxA	4.16	1.00	98680.8	A	N/A	1.0000			
PFHxA_2	4.16	1.00	1136.3	A	N/A	0.0115	19	50	
PFPeS	4.18	1.10	23736.0	A	N/A	1.0000			
PFPeS_2	4.18	1.10	11804.1	A	N/A	0.4973	-5	50	
PFHpA	4.55	1.00	98309.3	A	N/A	1.0000			
PFHpA_2	4.55	1.00	5881.8	A	N/A	0.0598	6	50	
PFHxS	4.55	1.00	37800.6	M	N/A	1.0000			
PFHxS_2	4.55	1.00	13327.2	M	N/A	0.3526	-3	50	
6:2-FTS	4.90	1.00	6892.8	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	5680.2	A	N/A	0.8241	31	50	
PFHpS	4.91	1.08	32610.2	A	N/A	1.0000			
PFHpS_2	4.91	1.08	14338.8	A	N/A	0.4397	6	50	
PFOA	4.91	1.00	110566.7	A	N/A	1.0000			
PFOA_2	4.91	1.00	5489.4	A	N/A	0.0496	-19	50	
PFOS	5.25	1.00	37385.1	M	N/A	1.0000			
PFOS_2	5.24	1.00	11479.0	M	N/A	0.3070	2	50	
PFNA	5.26	1.00	93474.6	A	N/A	1.0000			
PFNA_2	5.26	1.00	1715.7	A	N/A	0.0184	-5	50	
PFNS	5.55	1.06	26132.0	A	N/A	1.0000			
PFNS_2	5.55	1.06	12640.6	A	N/A	0.4837	0	50	
PFDA	5.57	1.00	81150.0	A	N/A	1.0000			
PFDA_2	5.58	1.00	801.6	A	N/A	0.0099	3	50	
8:2-FTS	5.57	1.00	8735.5	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	4608.9	A	N/A	0.5276	-14	50	
NMeFOSAA	5.72	1.00	8803.9	A	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	2345.8	A	N/A	0.2664	0	50	
PFDS	5.82	1.11	20285.2	A	N/A	1.0000			
PFDS_2	5.81	1.11	9766.7	A	N/A	0.4815	-3	50	
PFUnDA	5.84	1.00	72466.8	A	N/A	1.0000			
PFUnDA_2	5.83	1.00	261.9	M	N/A	0.0036	-12	50	
NEtFOSAA	5.86	1.00	10250.1	M	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	5446.3	M	N/A	0.5313	-21	50	
PFDoDA	6.07	1.00	97724.8	A	N/A	1.0000			
PFDoDA_2	6.08	1.00	954.2	A	N/A	0.0098	-27	50	
10:2-FTS	6.08	1.09	5426.3	A	N/A	1.0000			
10:2-FTS_2	6.09	1.09	4457.7	A	N/A	0.8215	18	50	
PFTrDA	6.27	1.03	81951.5	A	N/A	1.0000			
PFTrDA_2	6.26	1.03	671.6	A	N/A	0.0082	9	50	
PFTeDA	6.45	1.00	58070.5	A	N/A	1.0000			
PFTeDA_2	6.46	1.00	482.5	A	N/A	0.0083	26	50	
PFHxDA	6.74	1.04	28707.8	A	N/A	1.0000			
PFHxDA_2	6.74	1.04	1759.8	A	N/A	0.0613	0	50	
PFODA	6.98	1.08	20345.1	A	N/A	1.0000			
PFODA_2	6.98	1.08	699.5	A	N/A	0.0344	26	50	

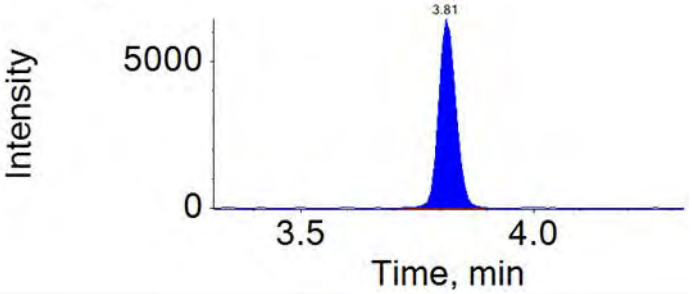
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

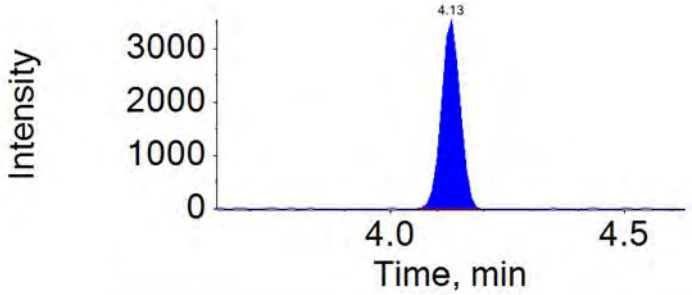
Component: PFBS
Primary Mass: 299.0 / 80.0



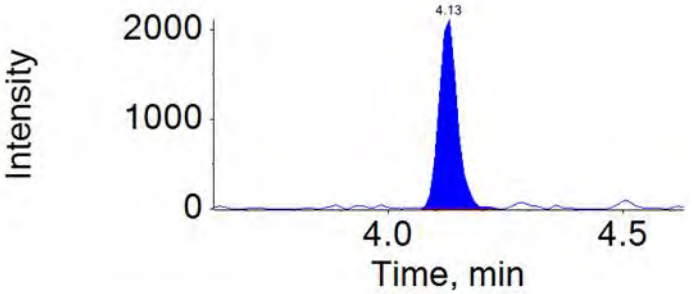
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



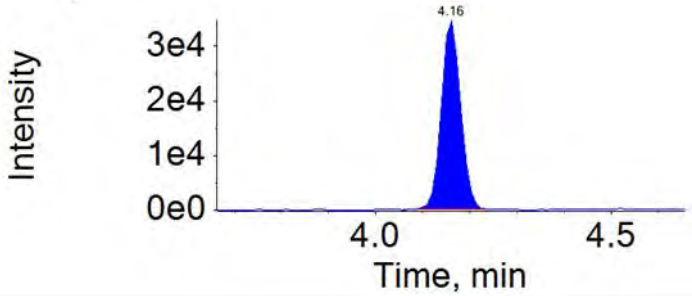
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



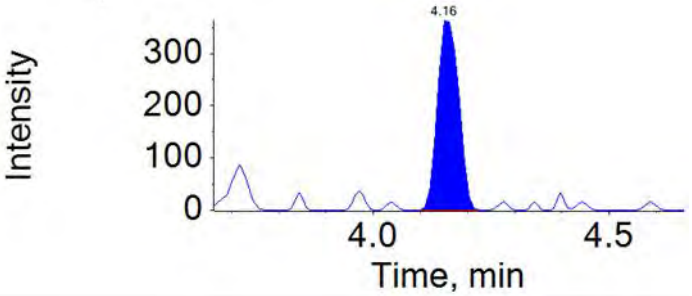
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



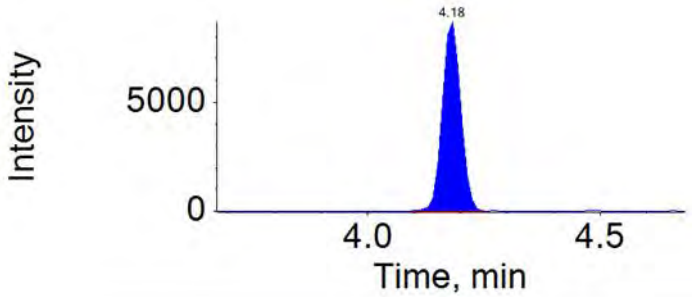
Component: PFHxA
Primary Mass: 313.0 / 269.0



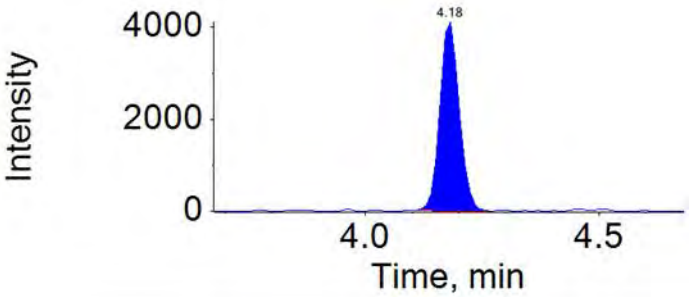
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



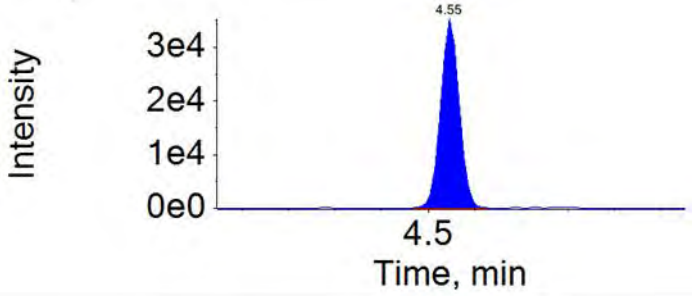
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



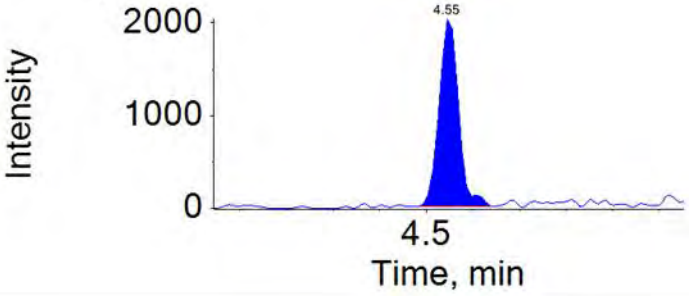
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

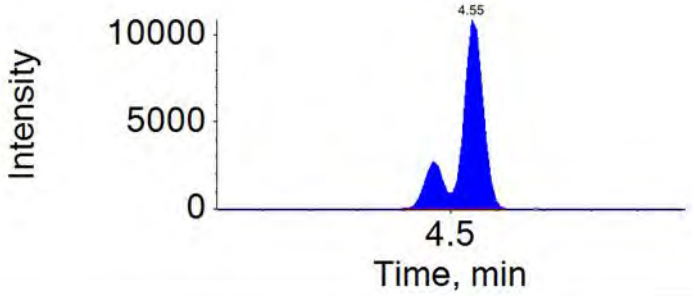
Component: PFHpA
Primary Mass: 363.0 / 319.0



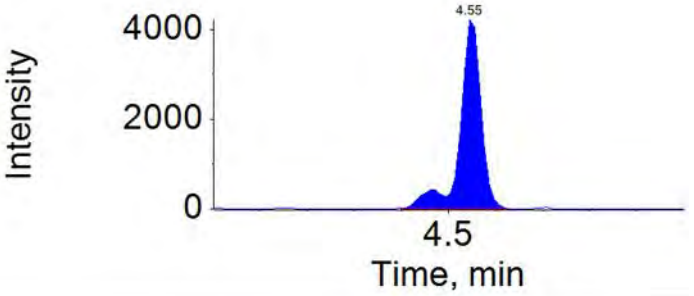
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



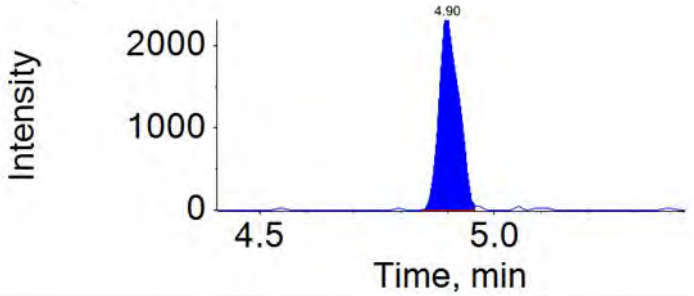
Component: PFHxS
Primary Mass: 399.0 / 80.0



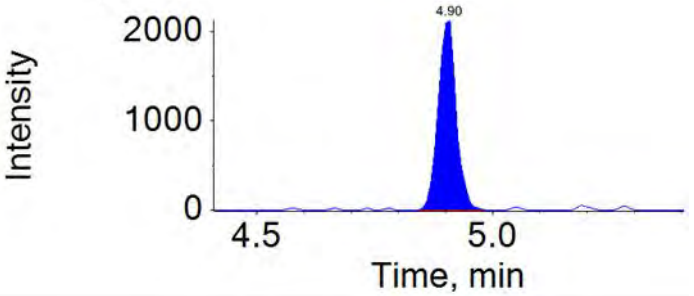
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



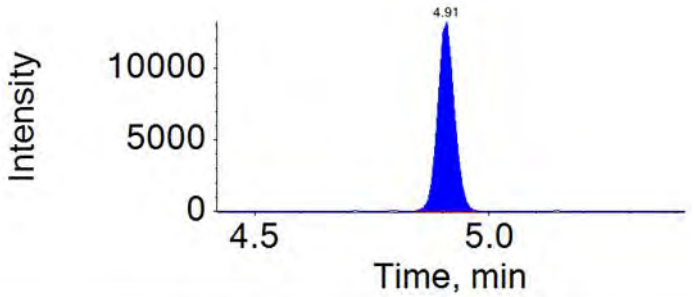
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



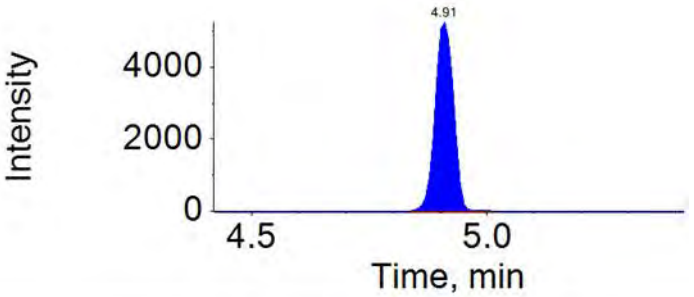
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



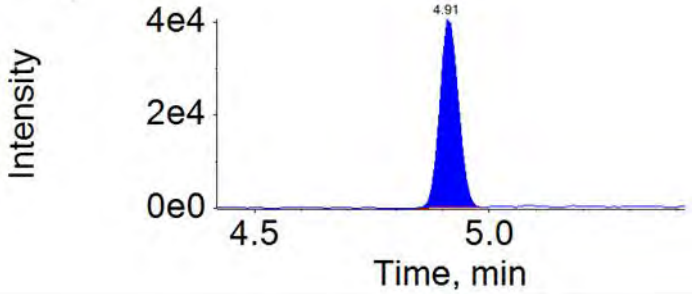
Component: PFHpS
Primary Mass: 449.0 / 80.0



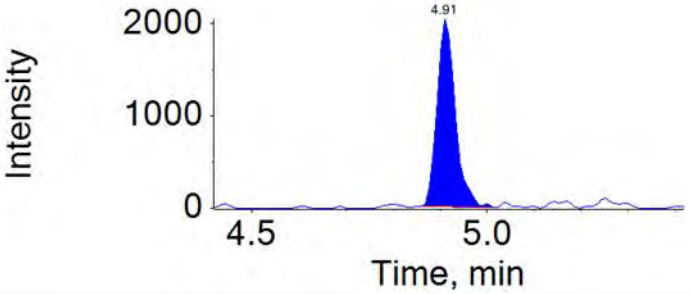
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



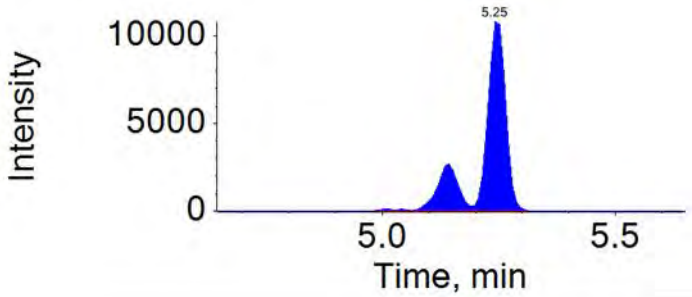
Component: PFOA
Primary Mass: 413.0 / 369.0



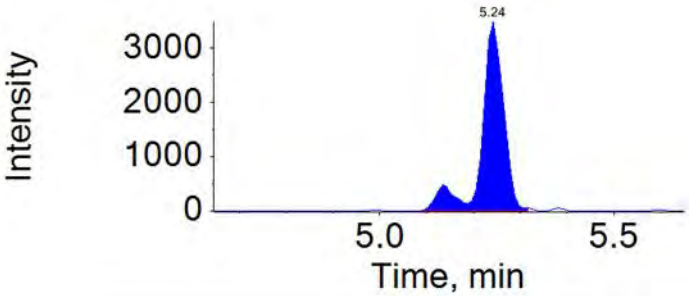
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



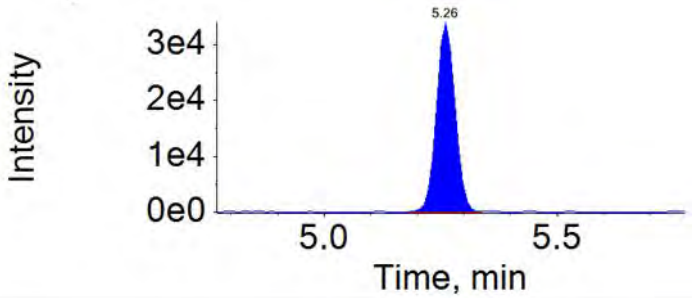
Component: PFOS
Primary Mass: 499.0 / 80.0



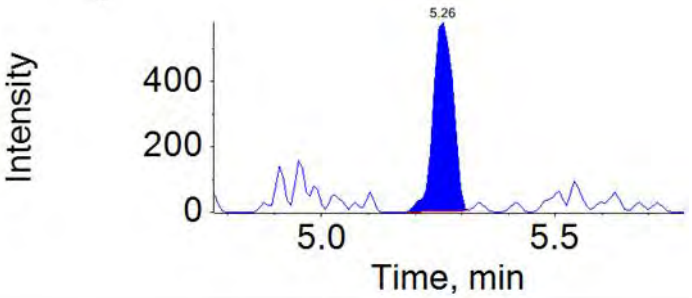
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



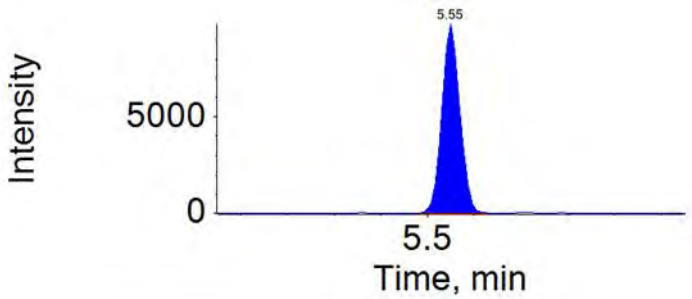
Component: PFNA
Primary Mass: 463.0 / 419.0



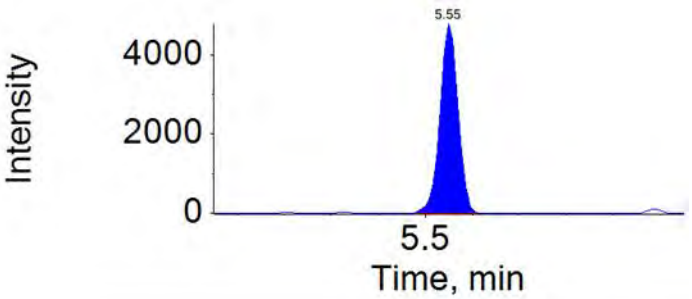
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



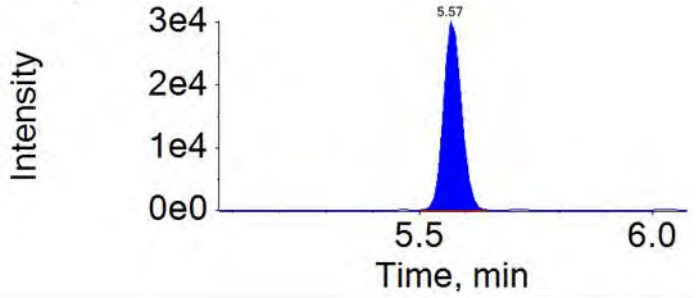
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



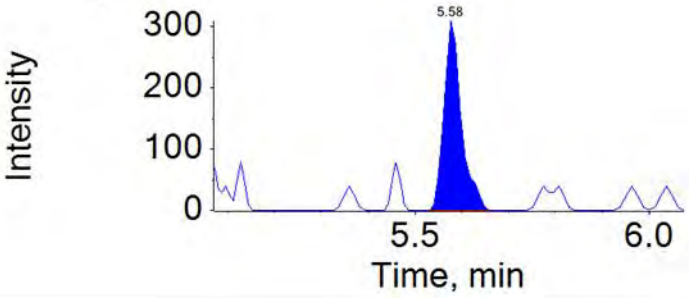
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

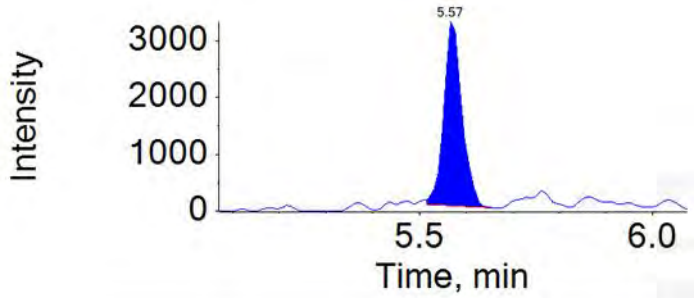
Component: PFDA
Primary Mass: 513.0 / 469.0



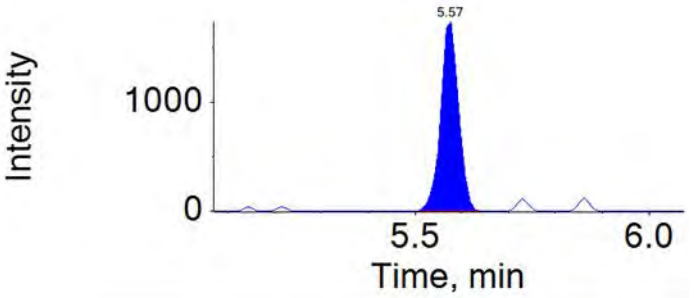
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



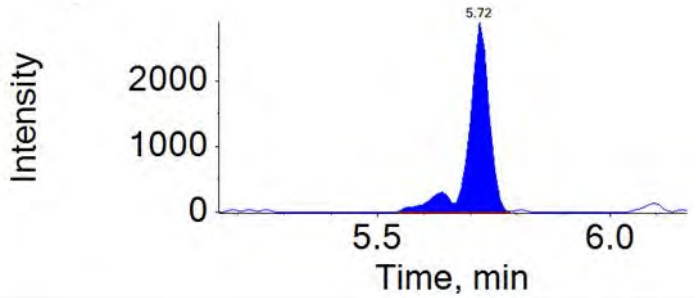
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



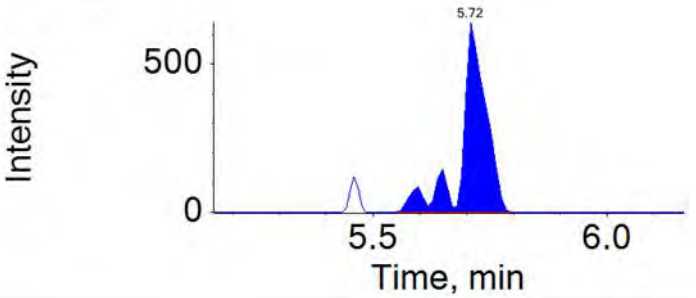
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



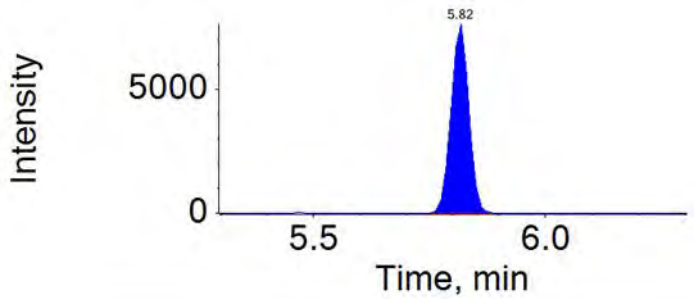
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



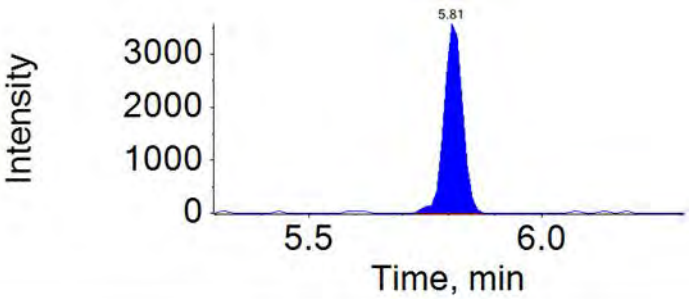
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



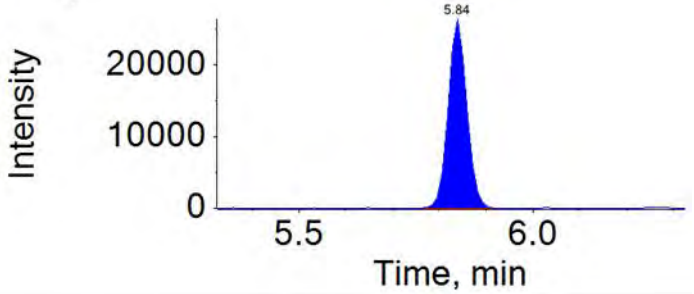
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



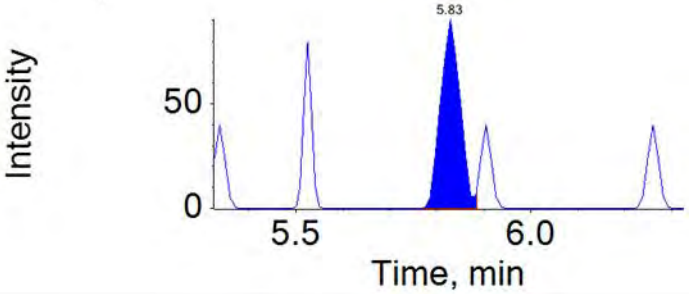
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

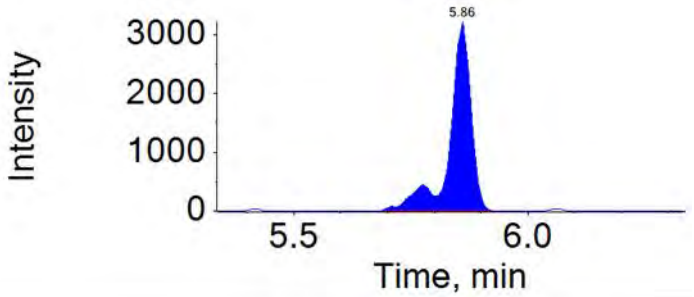
Component: PFUnDA
Primary Mass: 563.0 / 519.0



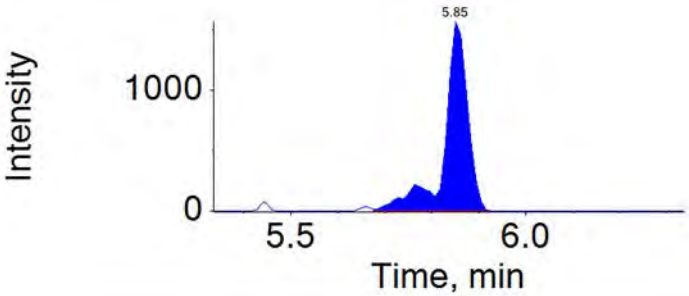
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



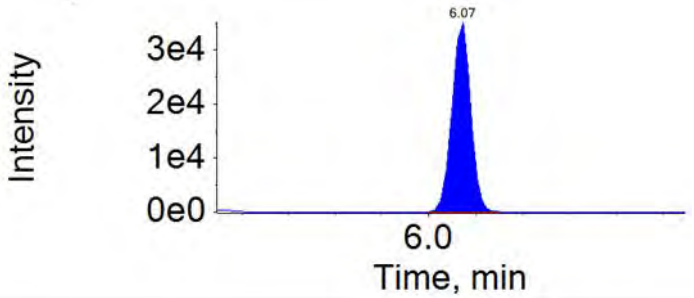
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



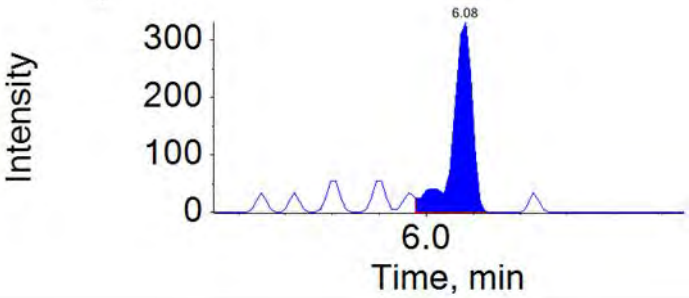
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



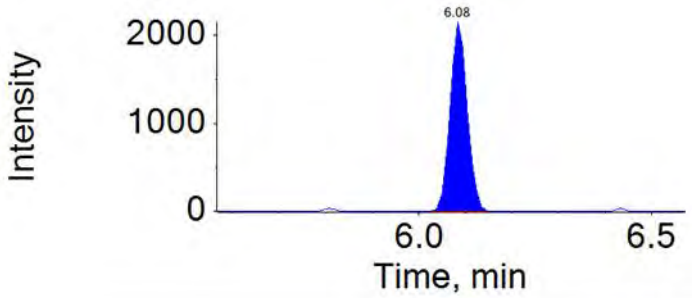
Component: PFDoDA
Primary Mass: 613.0 / 569.0



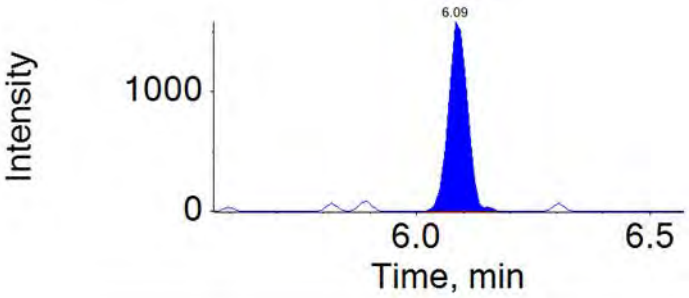
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



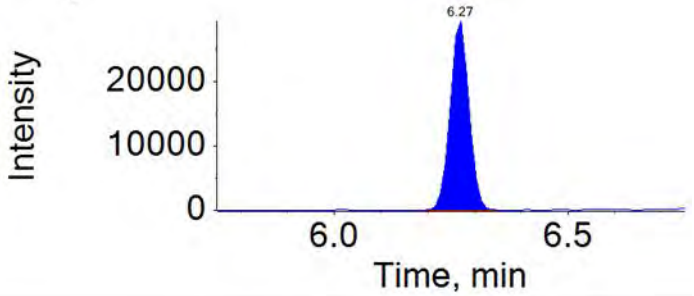
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



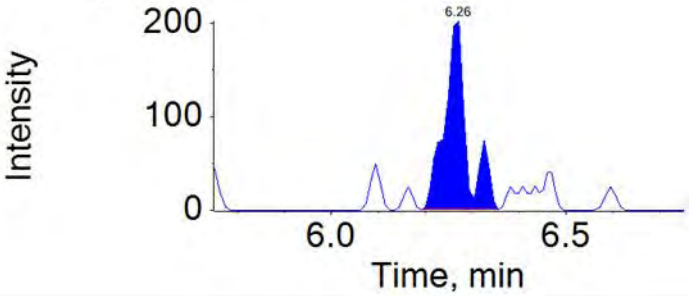
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

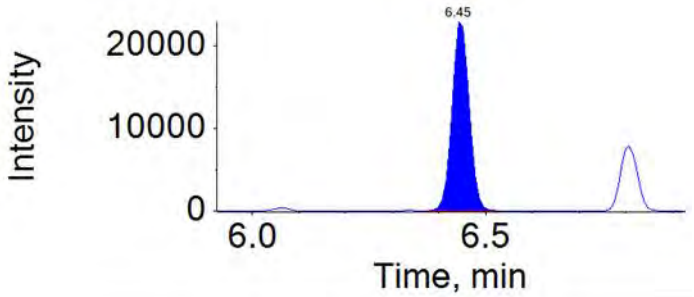
Component: PFTrDA
Primary Mass: 663.0 / 619.0



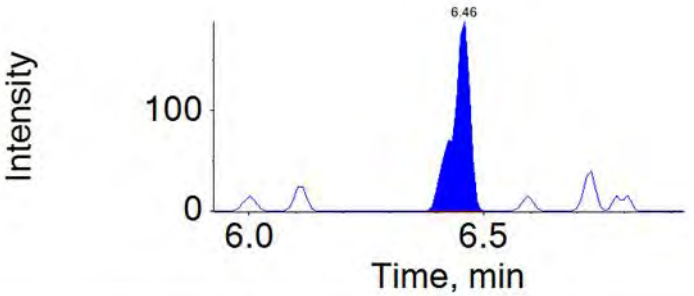
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



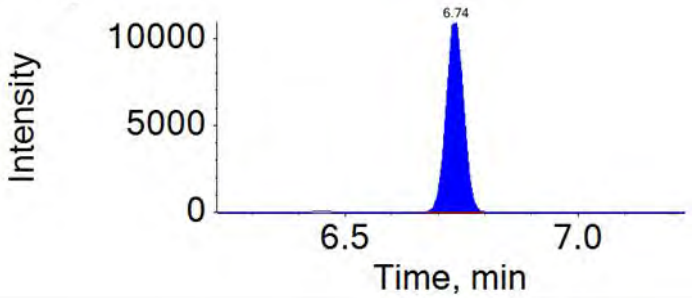
Component: PFTeDA
Primary Mass: 713.0 / 669.0



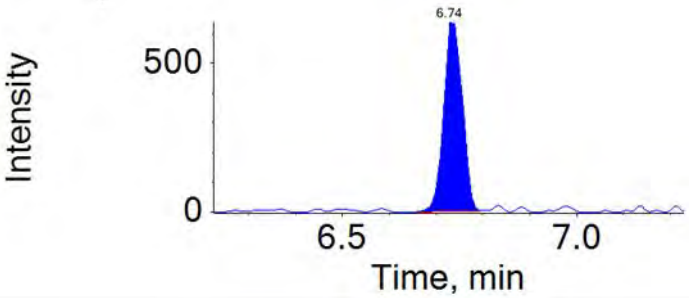
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



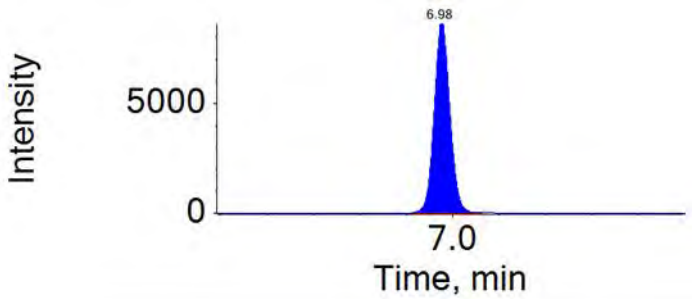
Component: PFHxDA
Primary Mass: 813.0 / 769.0



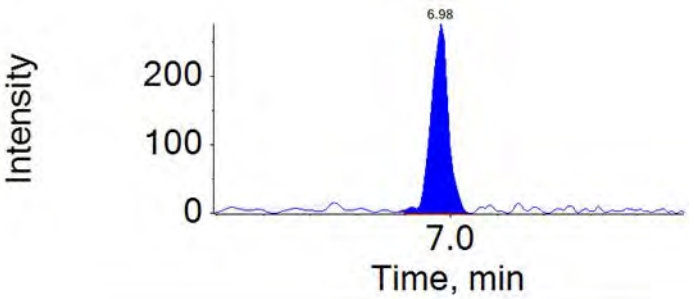
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC11D-02.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-12-11T05:08:07
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC11DCCV1-7
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1077512.6	953492.0	13	50	
13C2-PFOA	5.0	582923.0	500971.3	16	50	
13C4-PFOS	4.8	335106.8	310746.2	8	50	
13C2-PFDA	5.0	454056.3	419040.9	8	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1152451.4	13C3-PFBA	1077512.6	1.070	5.000	4.734	95	70-130	
E13C5-PFPeA	1090940.4	13C3-PFBA	1077512.6	1.012	5.000	4.809	96	70-130	
E13C3-PFBS	472175.2	13C3-PFBA	1077512.6	0.438	4.650	3.714	80	70-130	
E13C2-4:2-FTS	55982.7	13C2-PFOA	582923.0	0.096	4.670	3.763	81	70-130	
E13C5-PFHxA	776149.8	13C2-PFOA	582923.0	1.331	5.000	4.470	89	70-130	
E13C3-PFHxS	380428.8	13C2-PFOA	582923.0	0.653	4.730	4.186	88	70-130	
E13C4-PFHpA	606027.7	13C2-PFOA	582923.0	1.040	5.000	4.420	88	70-130	
E13C2-6:2-FTS	53085.0	13C2-PFOA	582923.0	0.091	4.750	5.642	119	70-130	
E13C8-PFOA	1017982.8	13C2-PFOA	582923.0	1.746	5.000	4.936	99	70-130	
E13C8-PFOS	348322.5	13C4-PFOS	335106.8	1.039	4.780	4.665	98	70-130	
E13C9-PFNA	654151.3	13C4-PFOS	335106.8	1.952	5.000	5.516	110	70-130	
E13C6-PFDA	772538.7	13C2-PFDA	454056.3	1.701	5.000	4.509	90	70-130	
E13C2-8:2-FTS	37896.0	13C2-PFDA	454056.3	0.083	4.790	5.449	114	70-130	
E13C8-PFOSA	727466.8	13C2-PFDA	454056.3	1.602	5.000	3.789	76	70-130	
Ed3-NMeFOSAA	152281.2	13C2-PFDA	454056.3	0.335	5.000	5.943	119	70-130	
E13C7-PFUnDA	477432.8	13C2-PFDA	454056.3	1.051	5.000	5.158	103	70-130	
Ed5-NEtFOSAA	86211.7	13C2-PFDA	454056.3	0.190	5.000	4.191	84	70-130	
E13C2-PFDoDA	929265.1	13C2-PFDA	454056.3	2.047	5.000	4.295	86	70-130	
Ed7-NMePFOSAE	283634.2	13C2-PFDA	454056.3	0.625	5.000	3.598	72	70-130	
Ed3-NMePFOSA	92603.1	13C2-PFDA	454056.3	0.204	5.000	3.716	74	70-130	
Ed9-NEtPFOSAE	231753.5	13C2-PFDA	454056.3	0.510	5.000	3.520	70	70-130	
Ed5-NEtPFOSA	77690.1	13C2-PFDA	454056.3	0.171	5.000	3.851	77	70-130	
E13C2-PFTeDA	614314.6	13C2-PFDA	454056.3	1.353	5.000	4.016	80	70-130	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

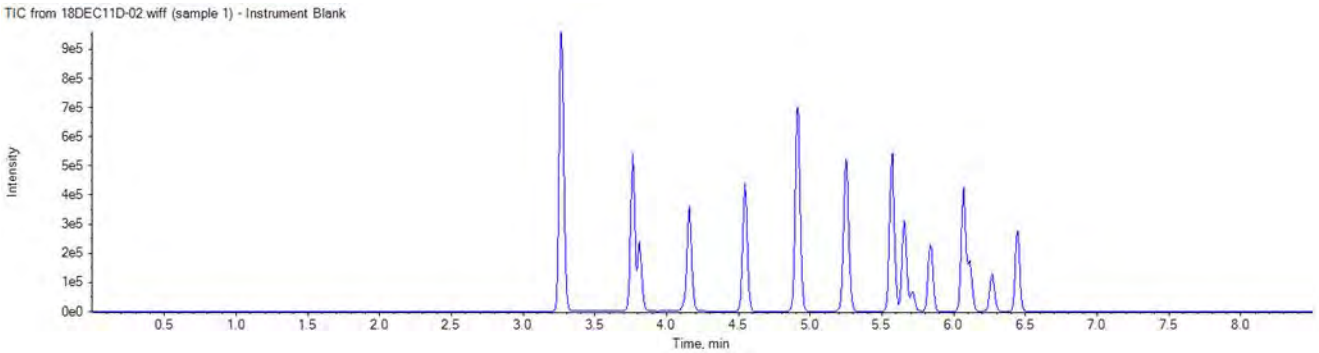
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC11D-02.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.26	1152451.4	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.76	1090940.4	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	472175.2	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.12	55982.7	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	776149.8	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	472175.2	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	606027.7	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	380428.8	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	53085.0	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	380428.8	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	1017982.8	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	348322.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	654151.3	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.24	348322.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	772538.7	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	37896.0	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.66	727466.8	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	152281.2	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.24	348322.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	477432.8	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	86211.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	929265.1	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	37896.0	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.11	283634.2	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.12	92603.1	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.24	348322.5	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.26	231753.5	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.28	77690.1	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	929265.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	614314.6	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	614314.6	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	614314.6	N/A	

Total Ion Chromatogram

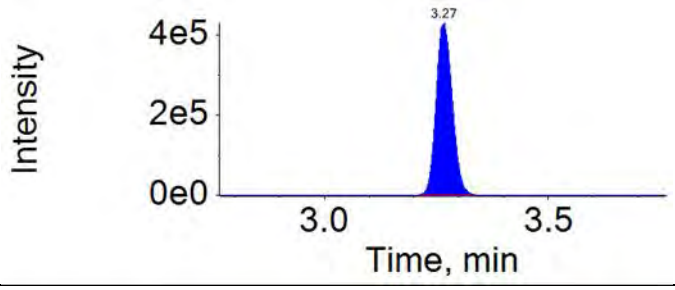


APPROVED
By JPT at 3:22 pm, 12/11/18

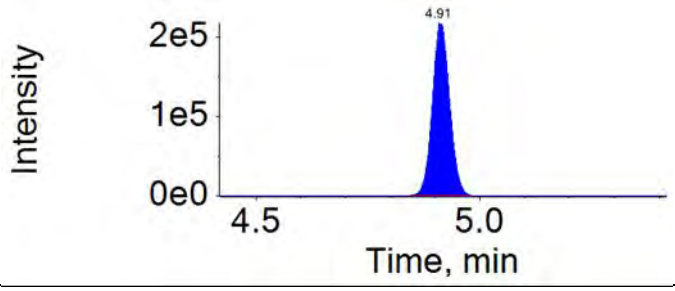
REVIEWED
By umar at 1:19 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

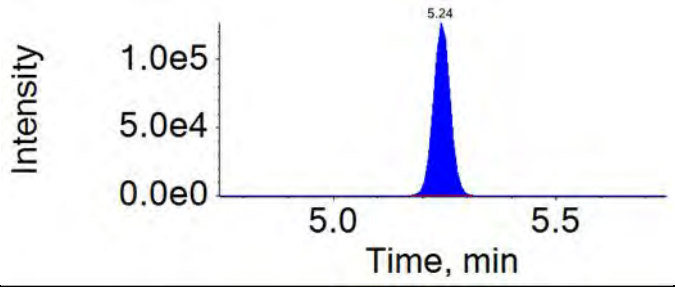
Injection Standard: 13C3-PFBA
216.0 / 172.0



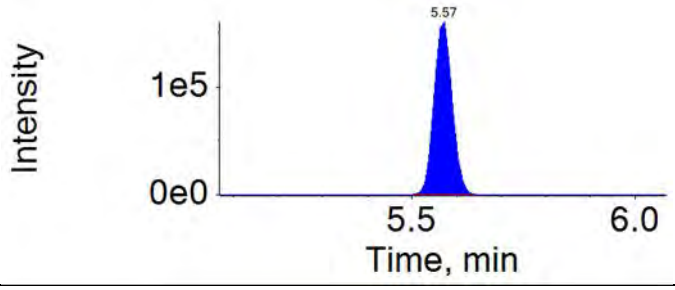
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

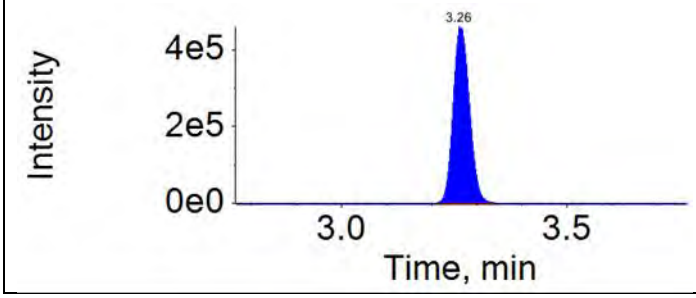


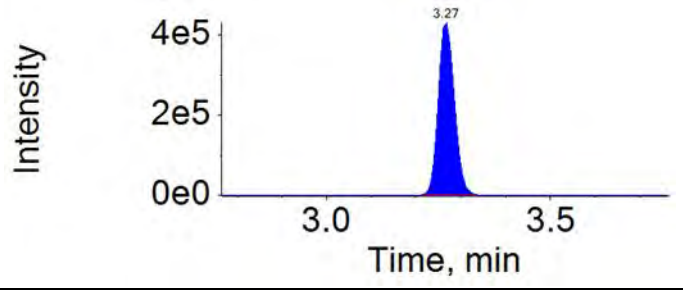
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

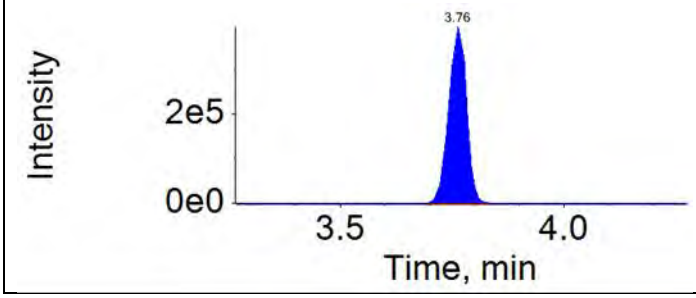
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

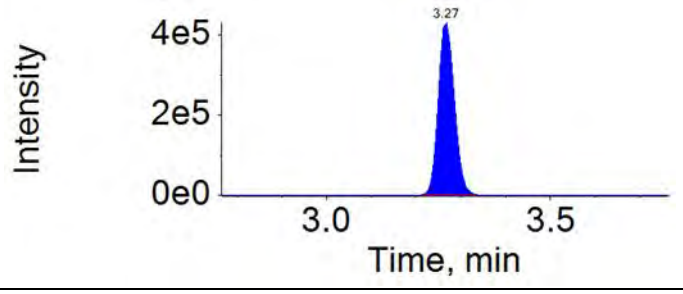
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



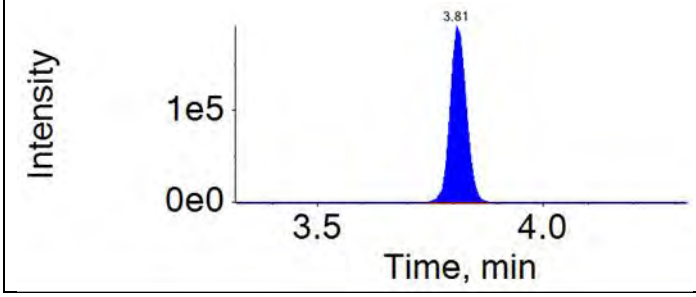


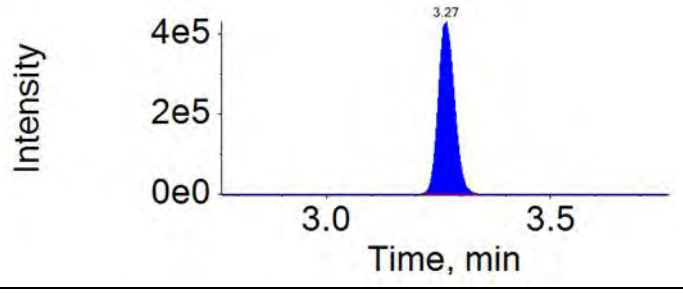
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



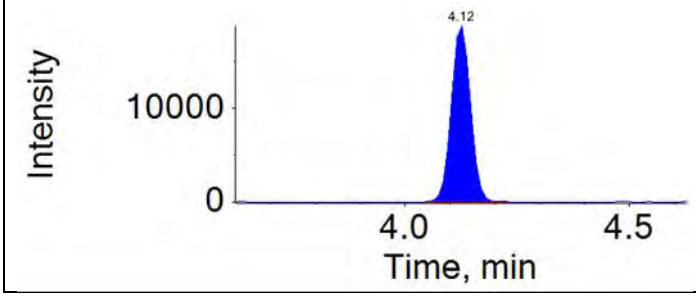


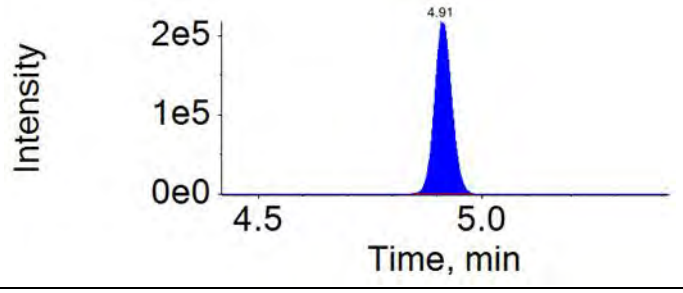
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





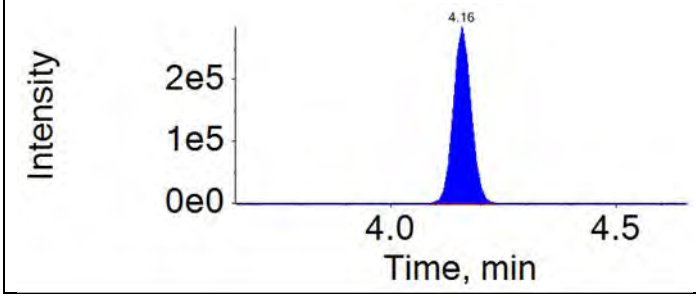
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

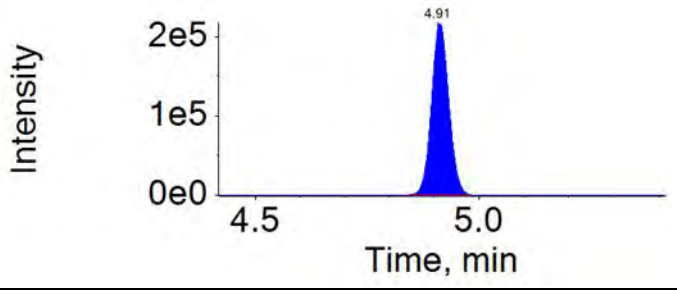




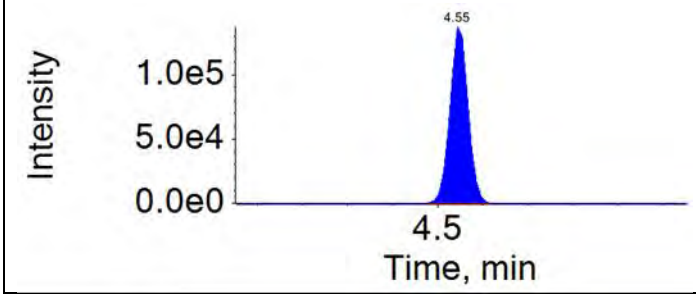
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

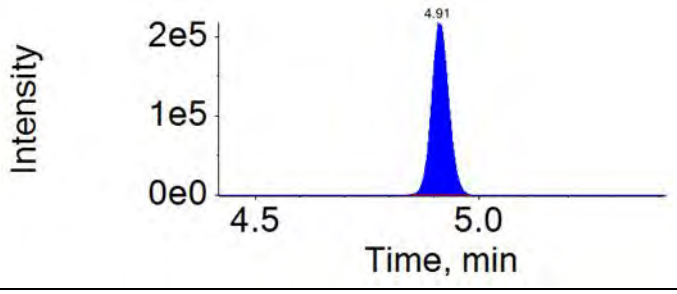
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



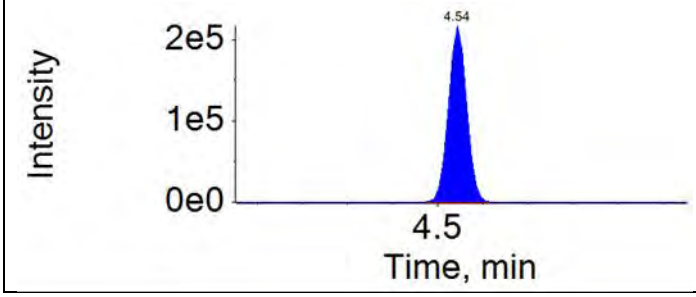


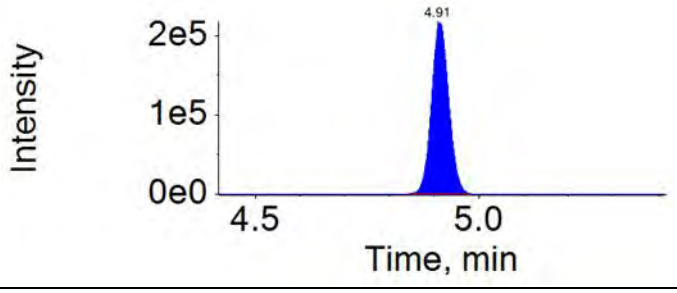
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



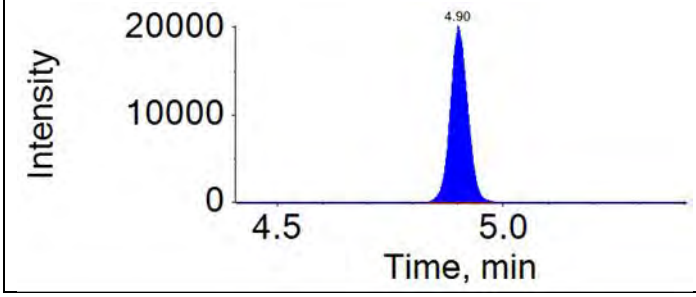


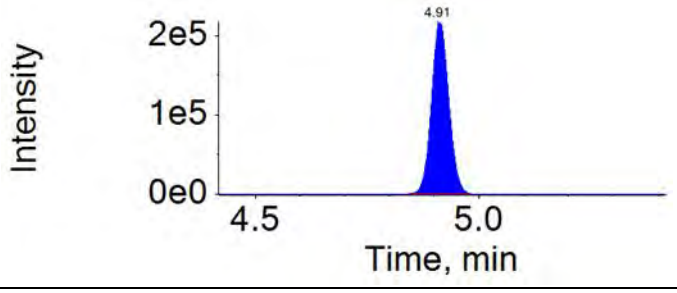
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

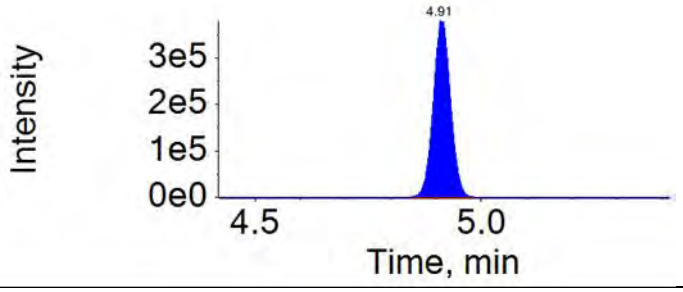
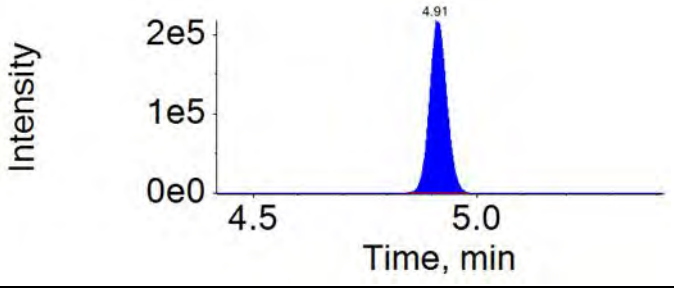


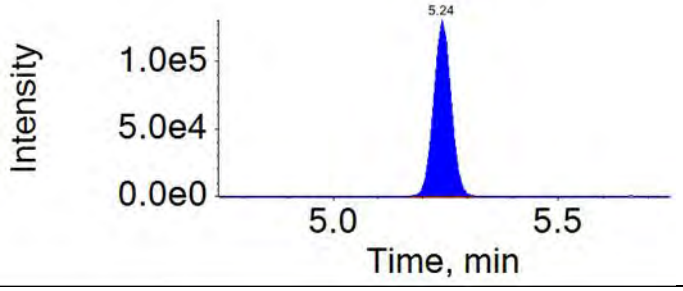
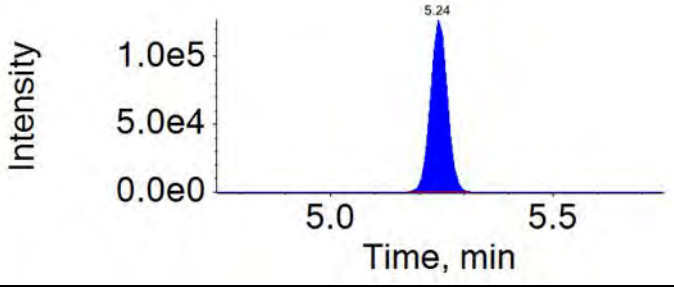


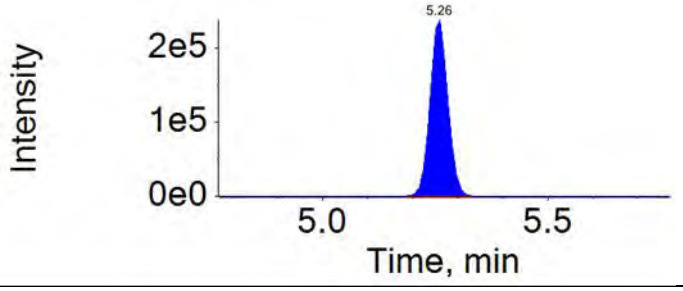
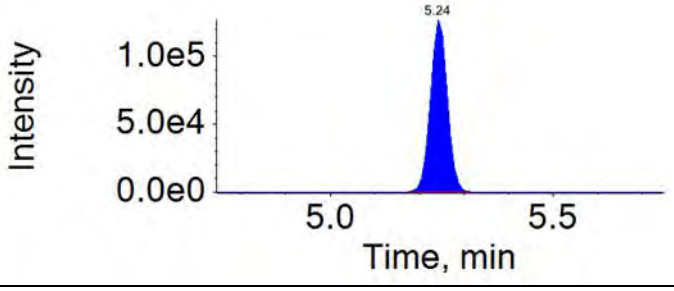
APPROVED
By JPT at 3:22 pm, 12/11/18

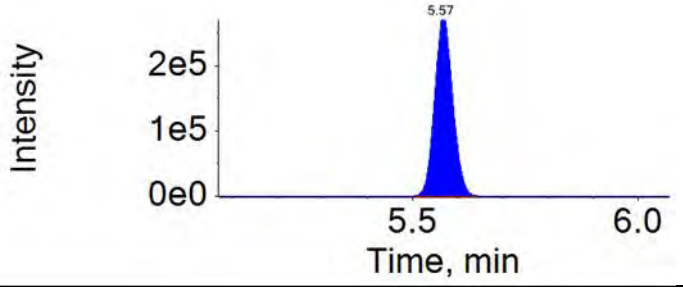
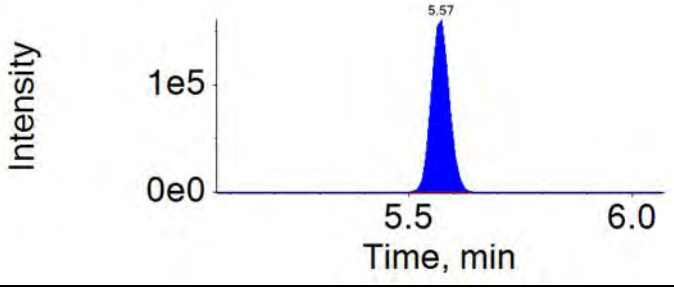
REVIEWED
By umar at 1:19 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

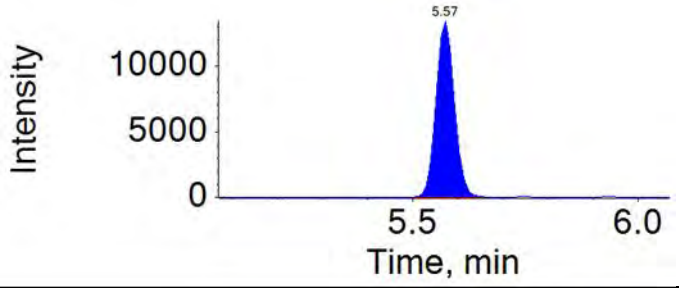
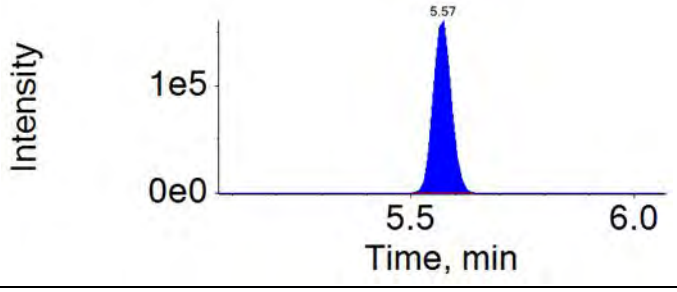
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

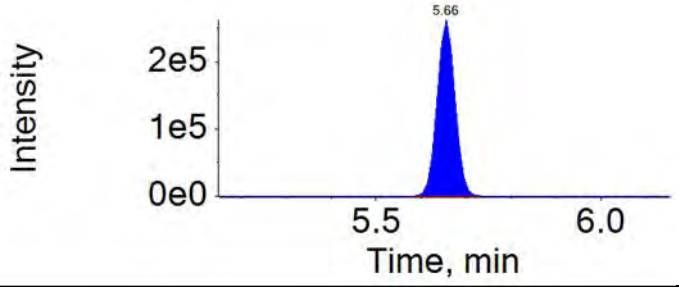
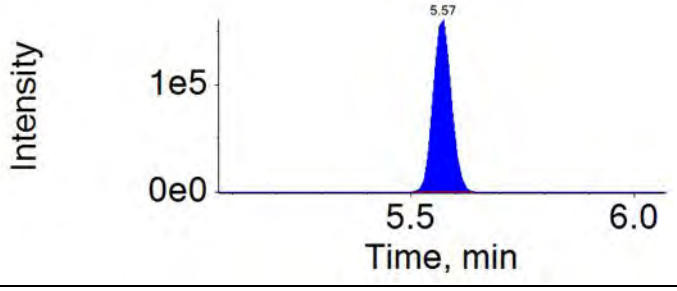
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

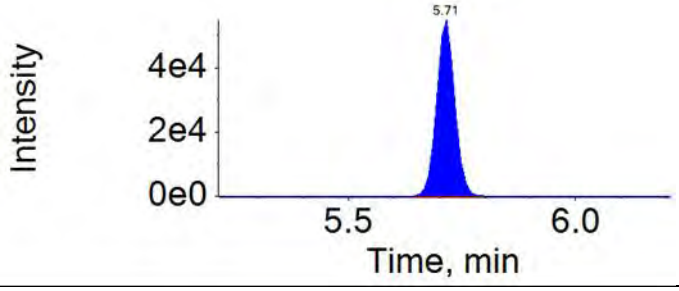
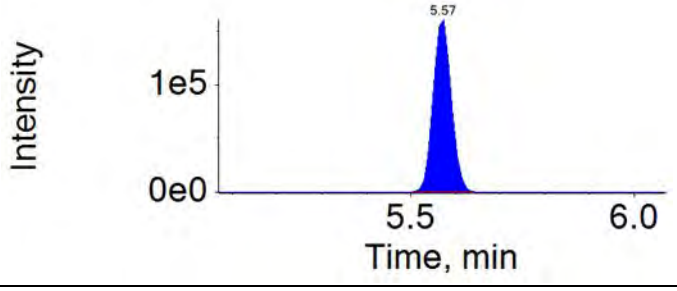
APPROVED
By JPT at 3:22 pm, 12/11/18

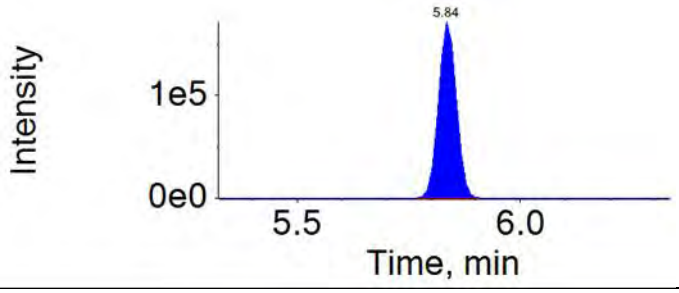
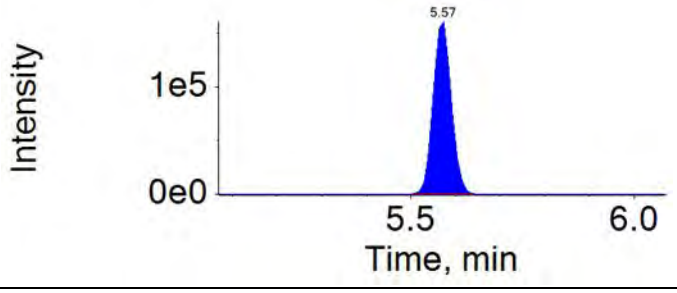
REVIEWED
By umar at 1:19 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

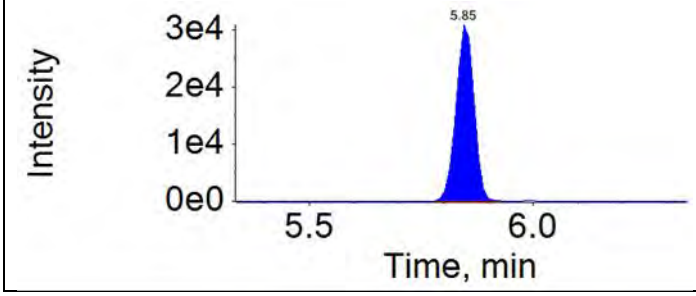
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

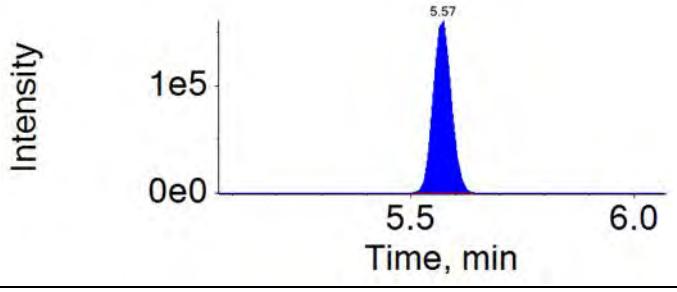
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

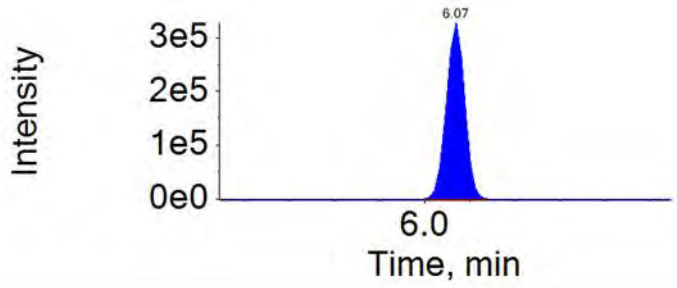
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

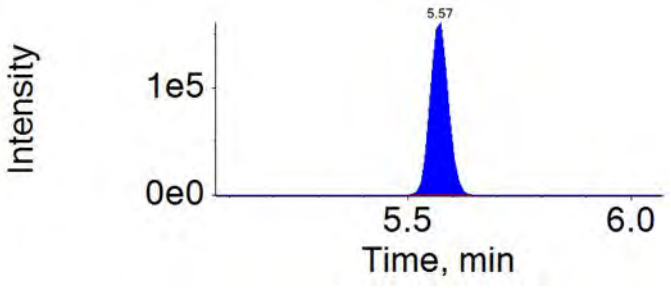
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



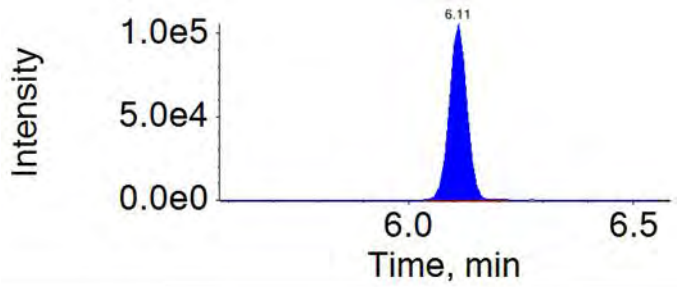


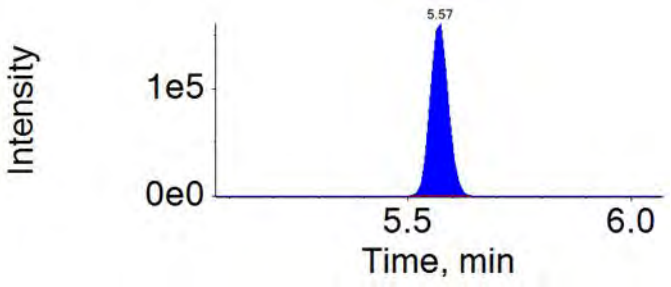
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



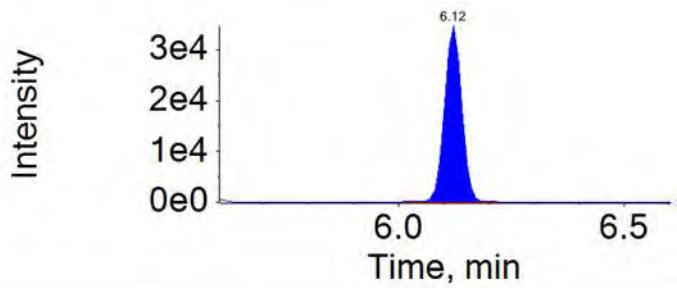


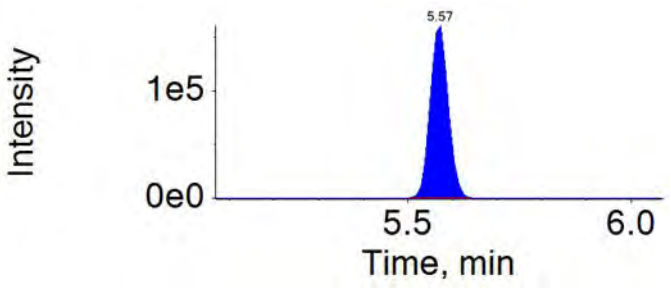
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



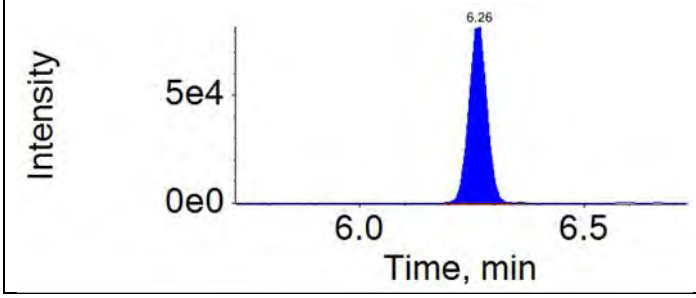


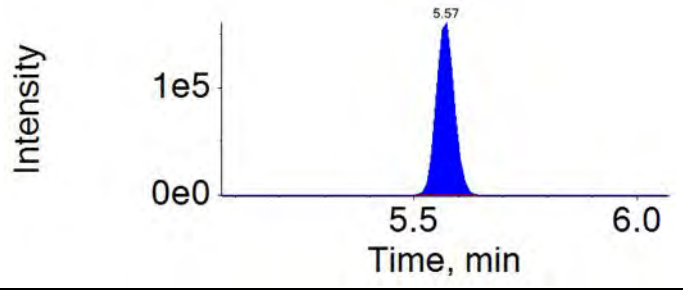
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

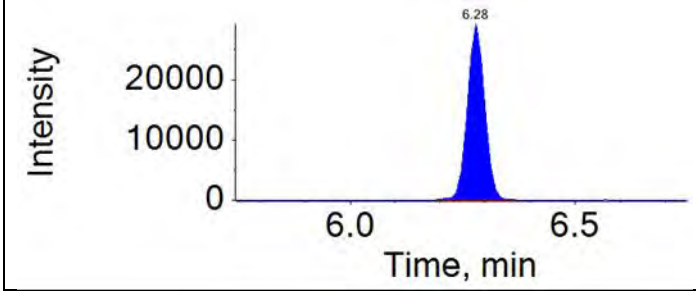
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

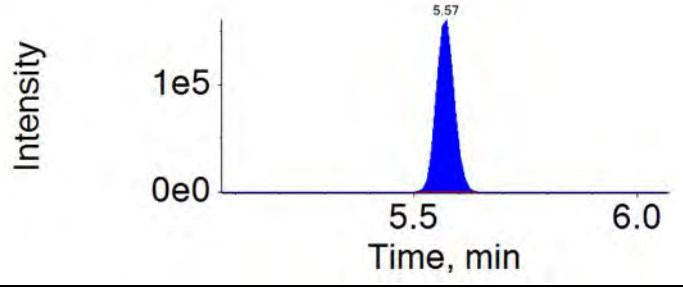
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



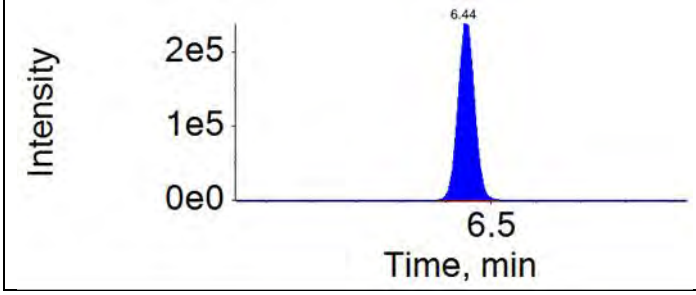


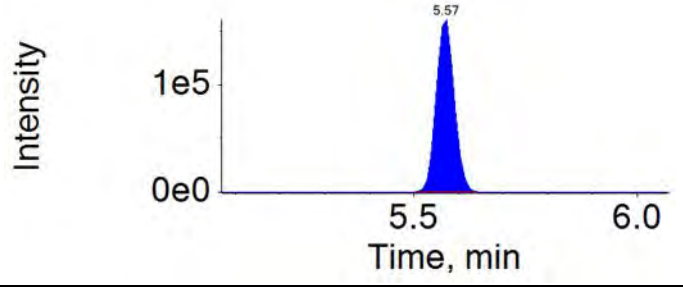
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



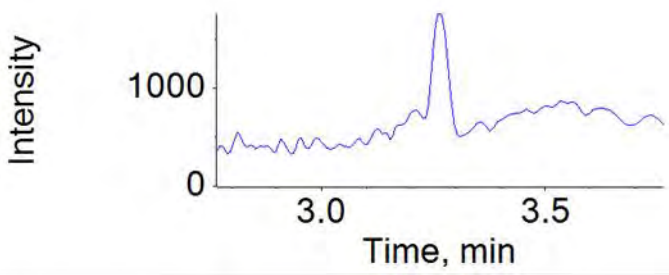


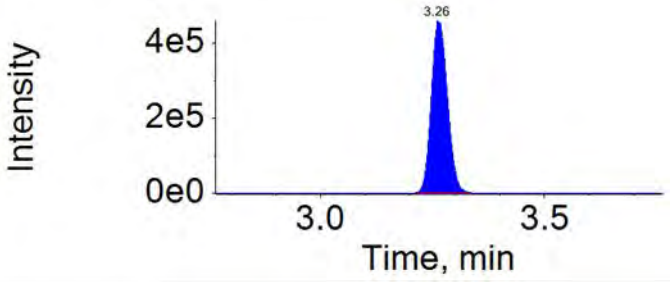
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

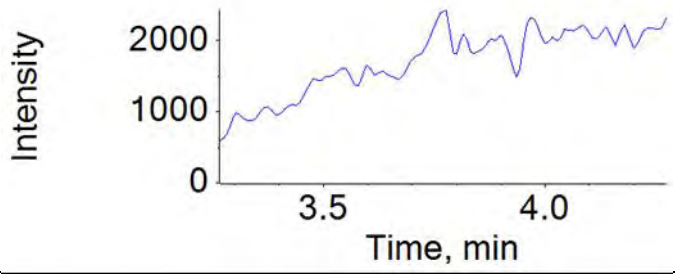
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

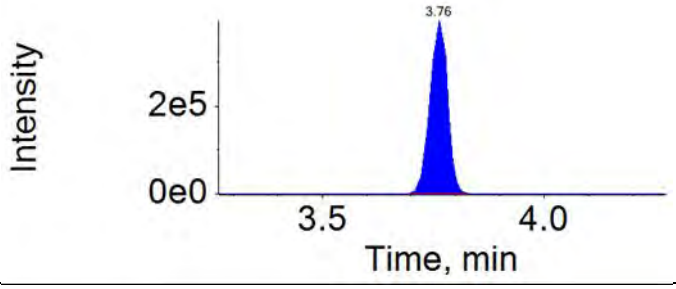
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



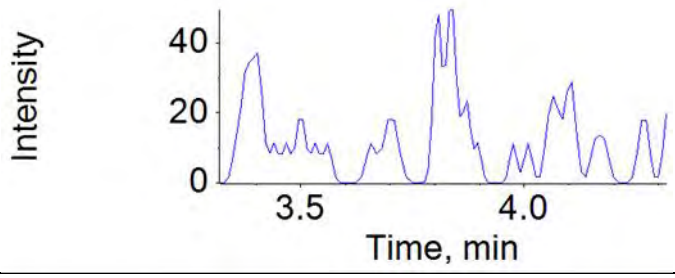


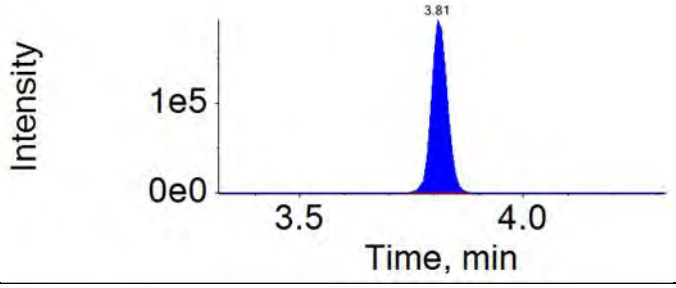
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



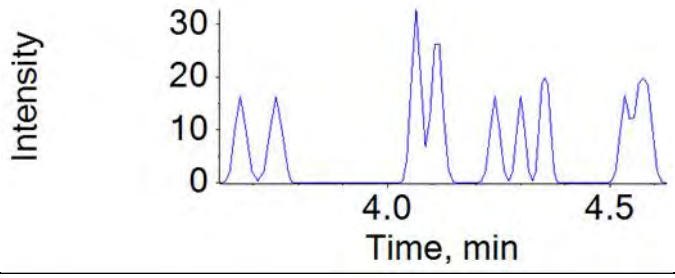


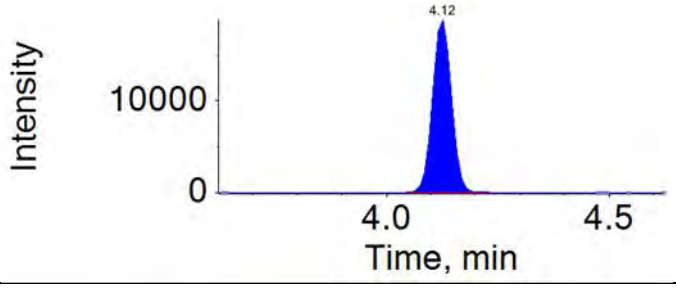
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



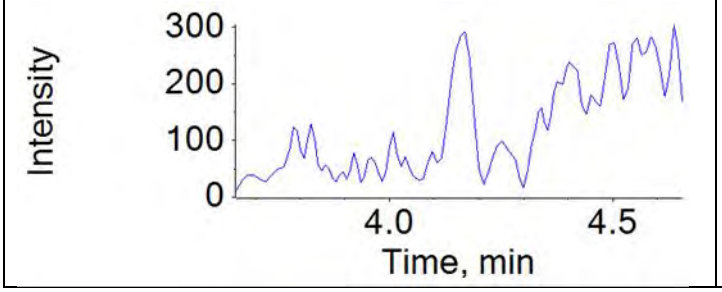


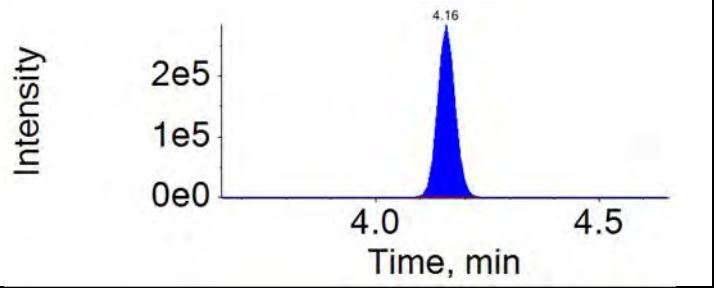
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

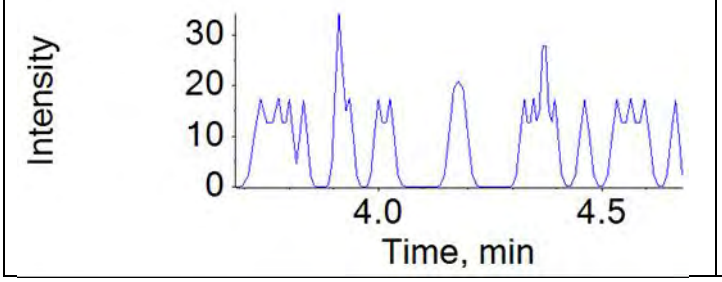
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

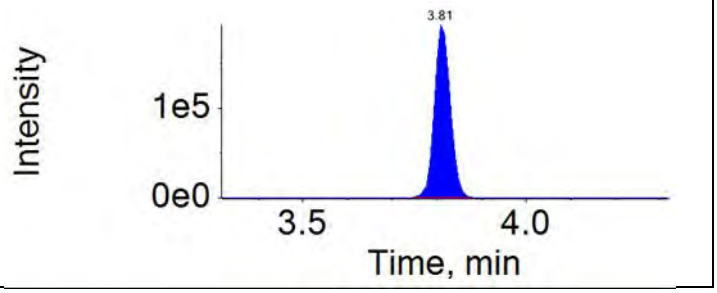
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



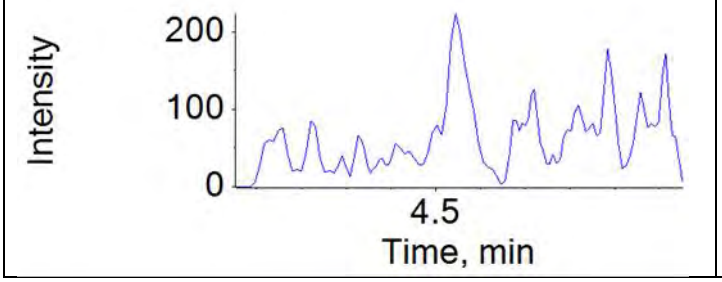


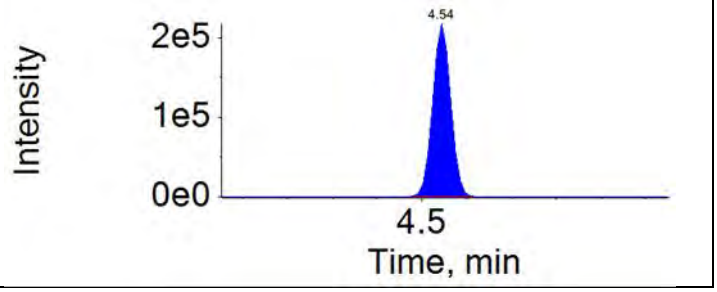
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



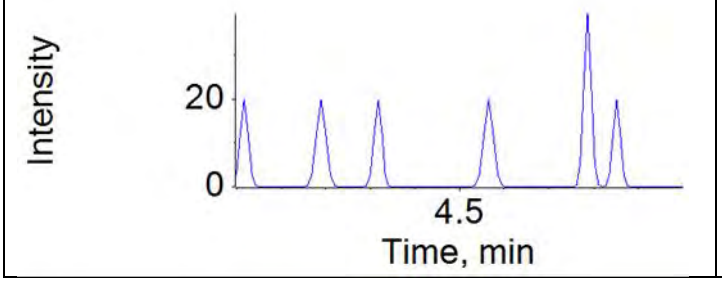


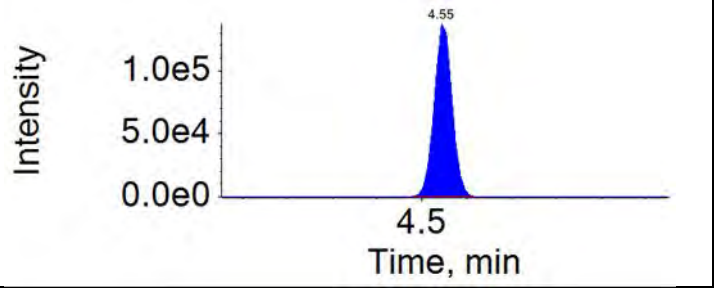
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



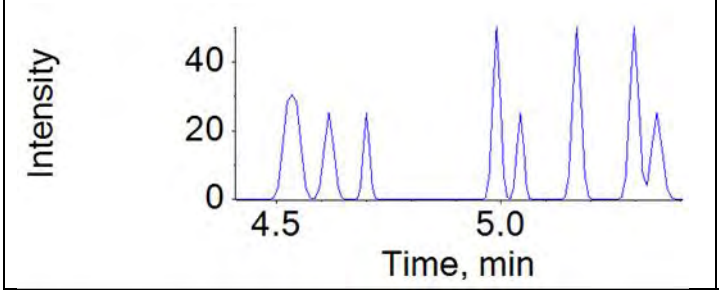


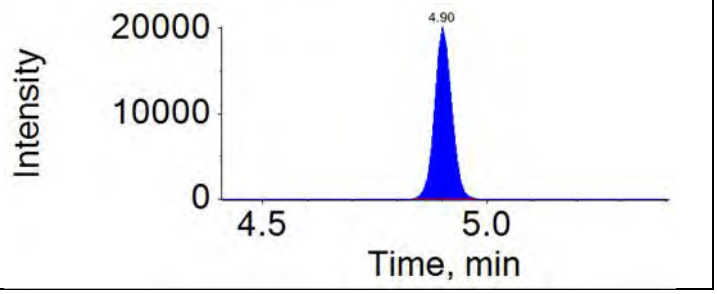
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

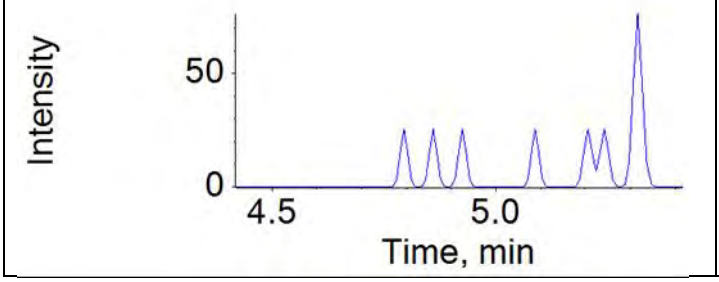
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

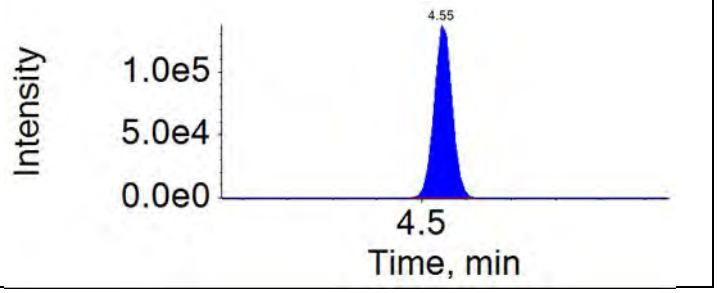
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



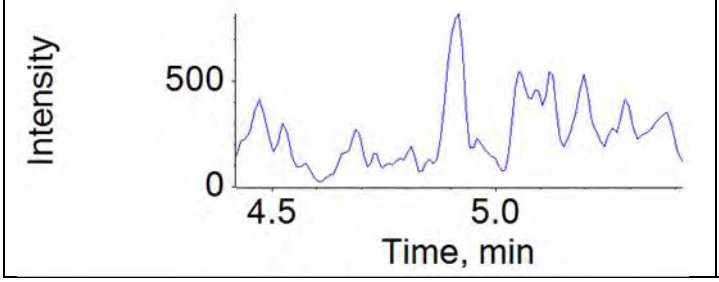


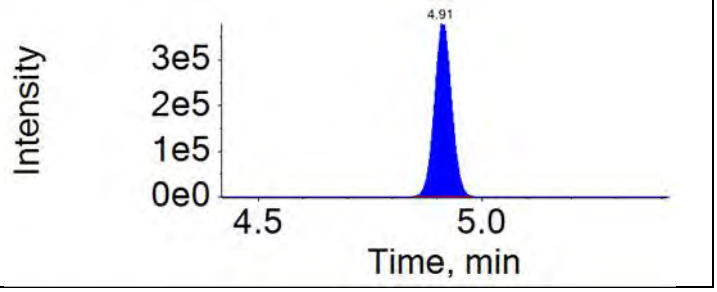
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



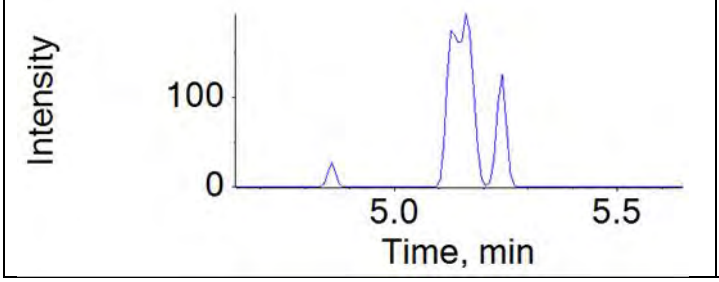


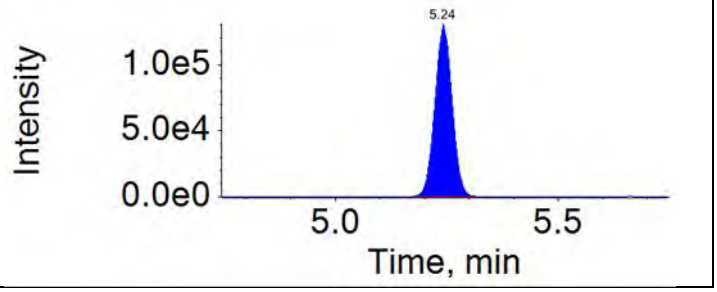
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



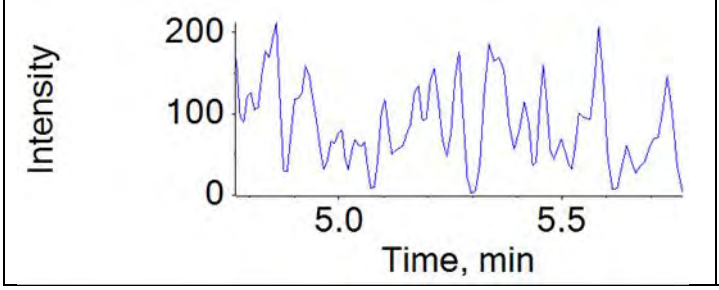


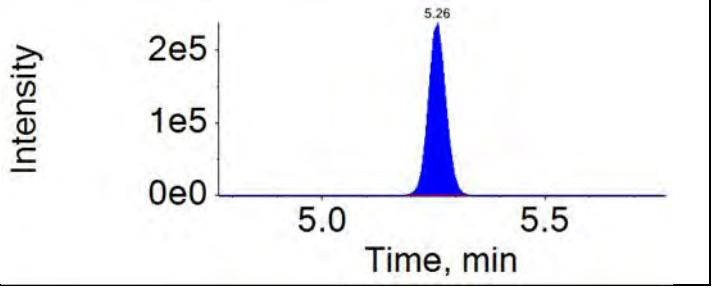
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

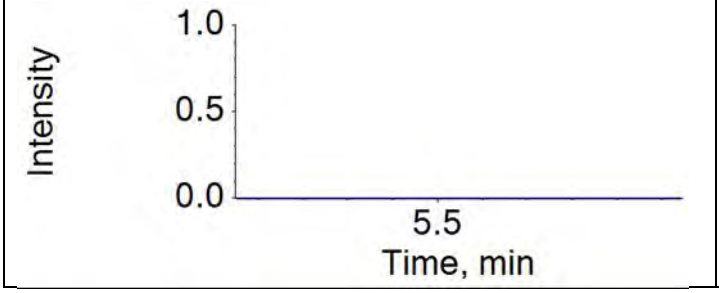
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

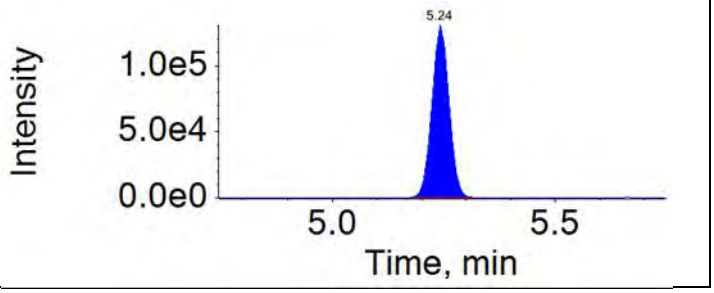
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



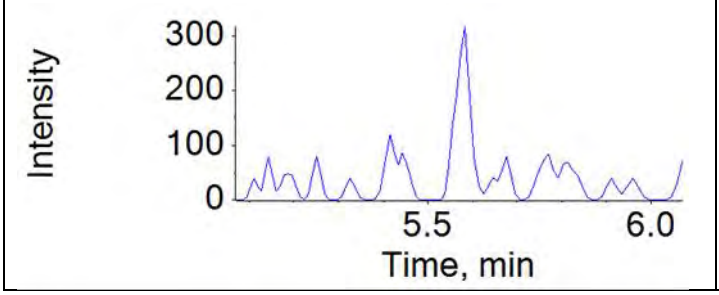


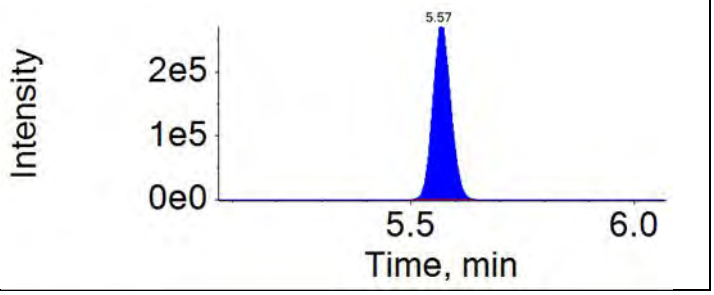
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



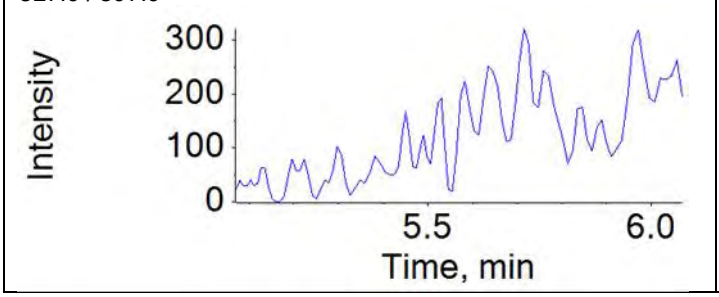


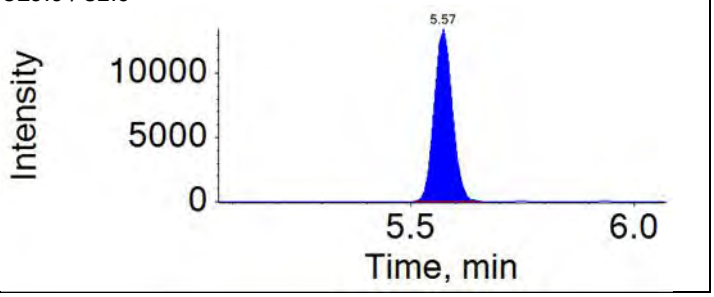
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



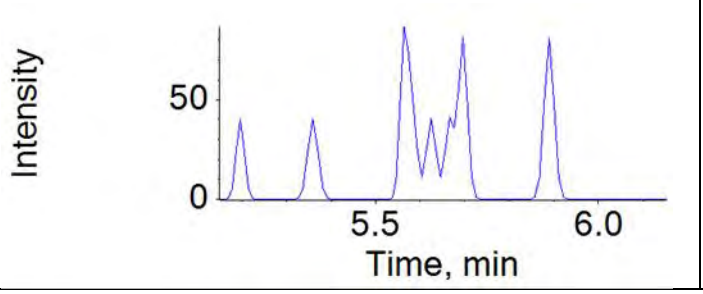


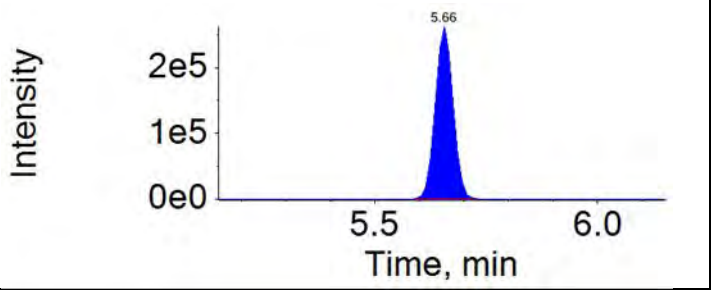
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

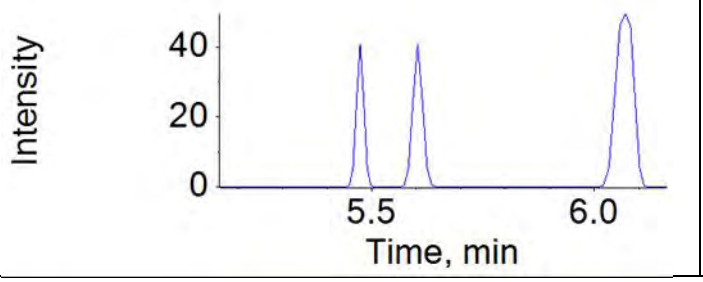
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

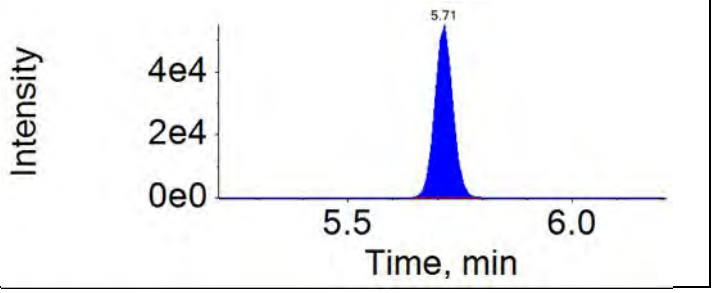
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



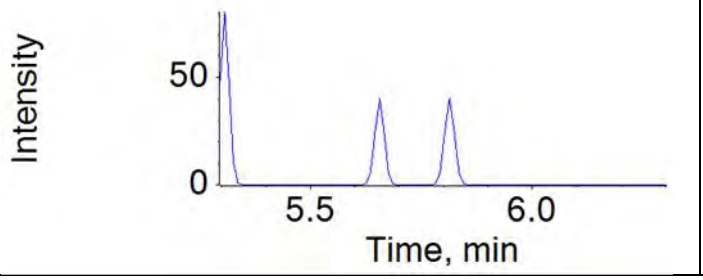


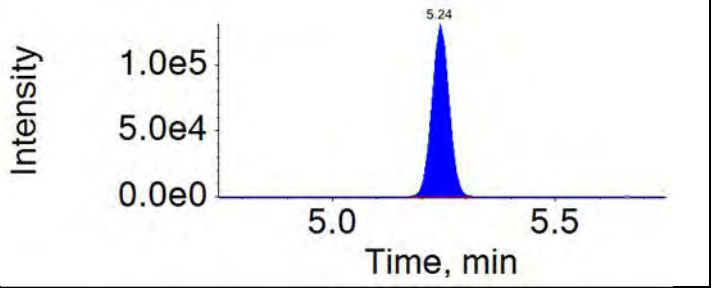
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



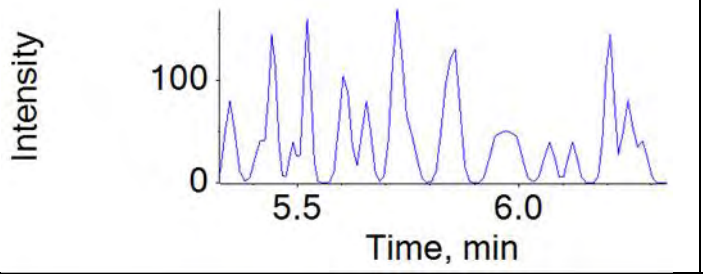


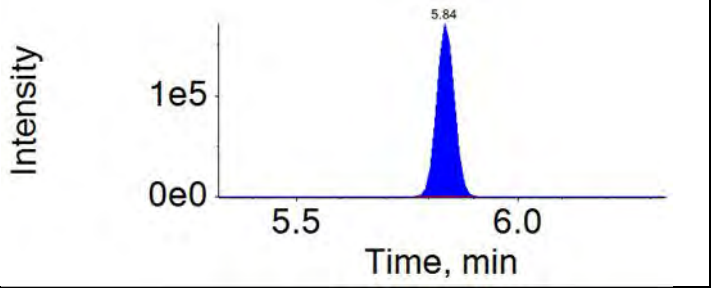
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



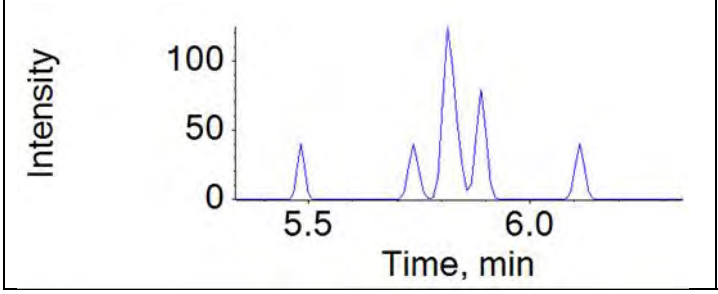


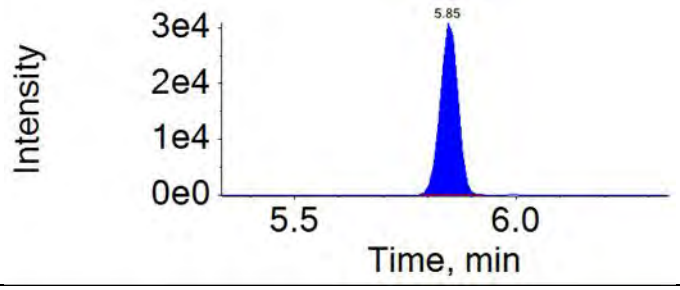
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

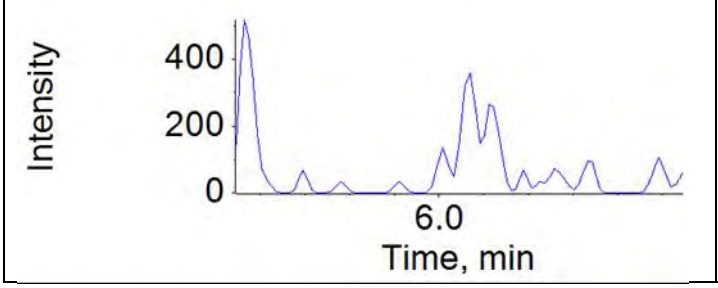
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

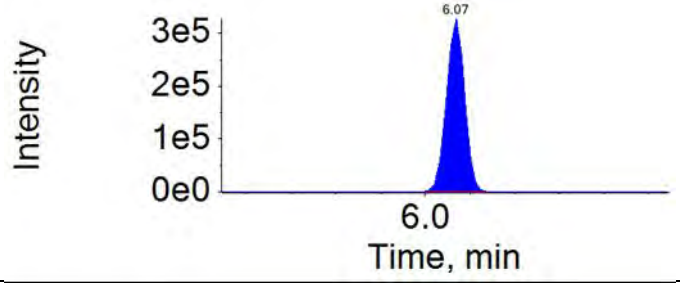
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



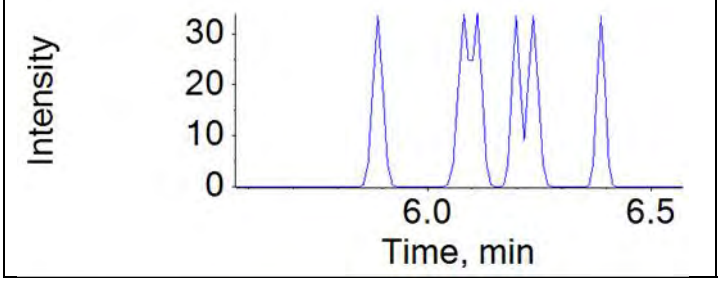


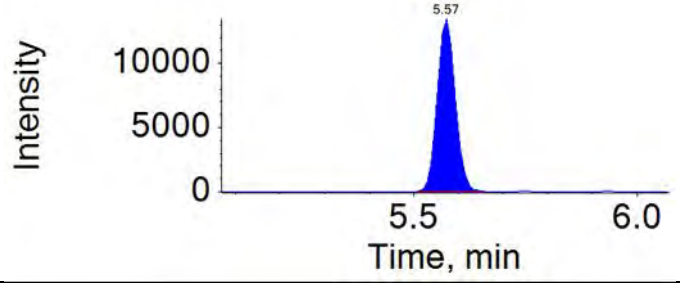
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



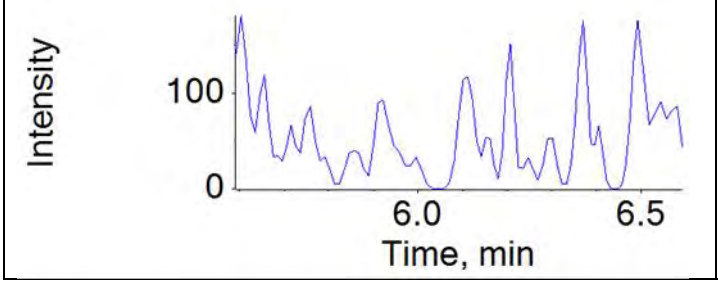


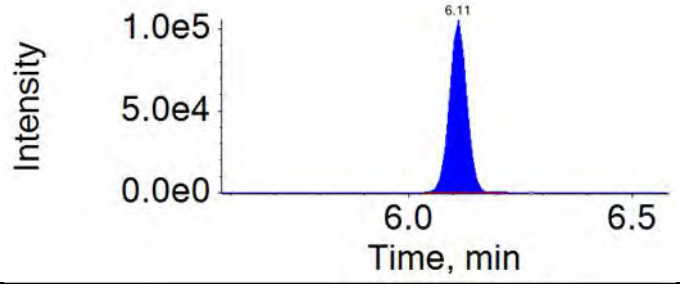
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



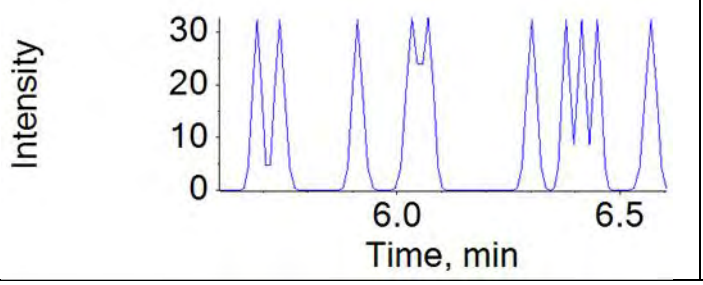


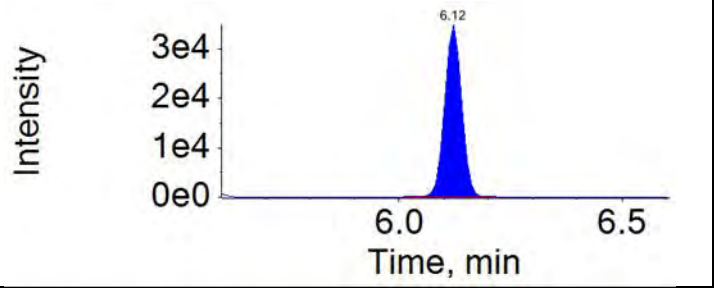
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

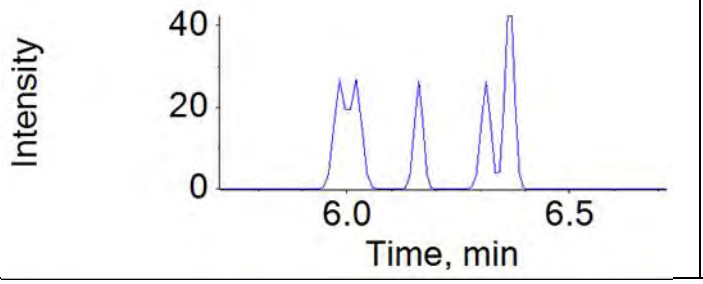
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

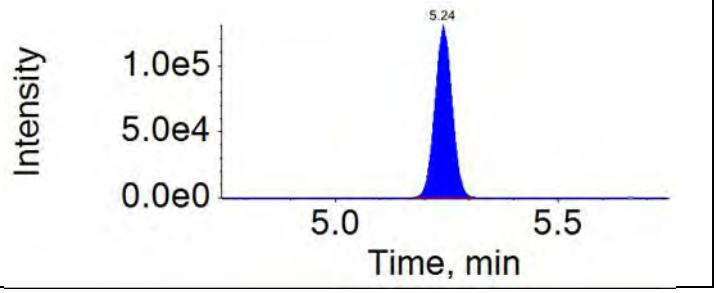
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



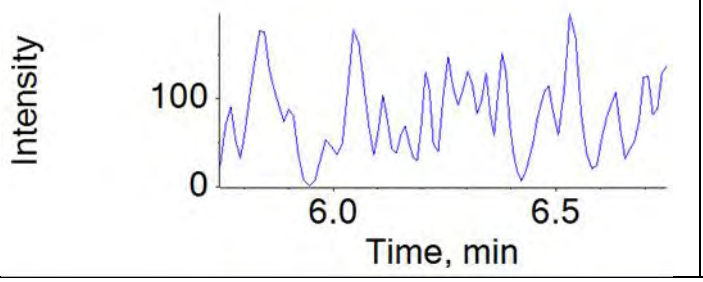


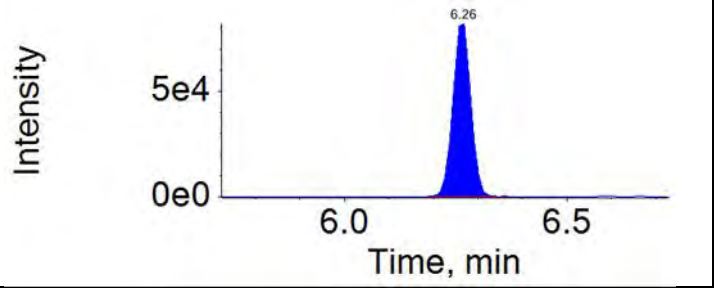
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



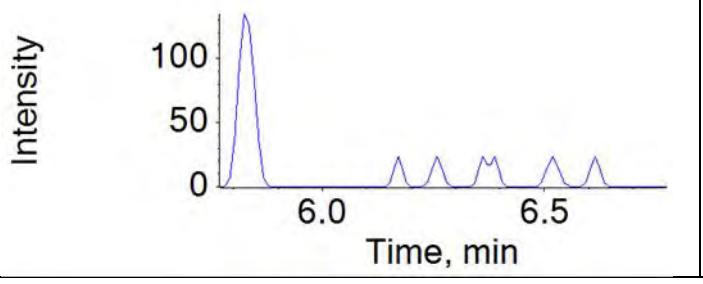


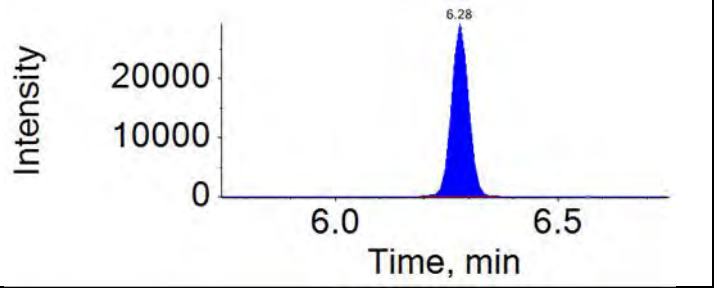
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



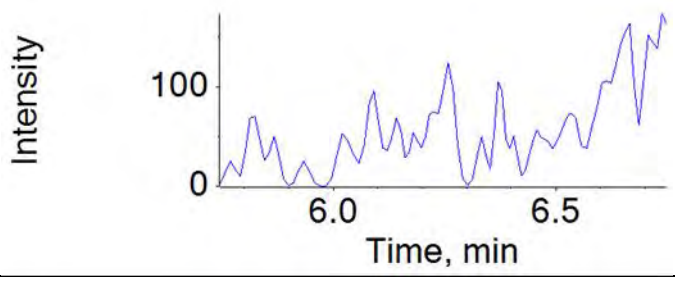


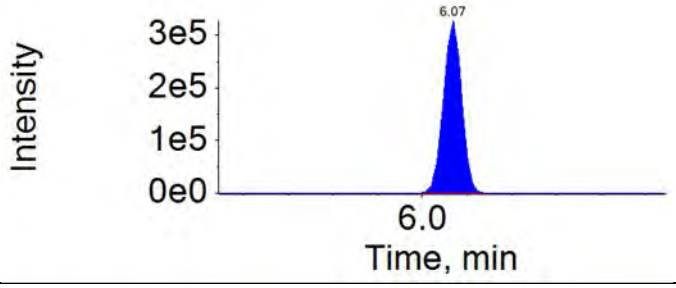
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

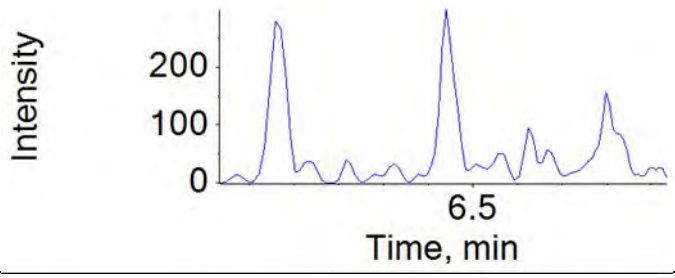
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

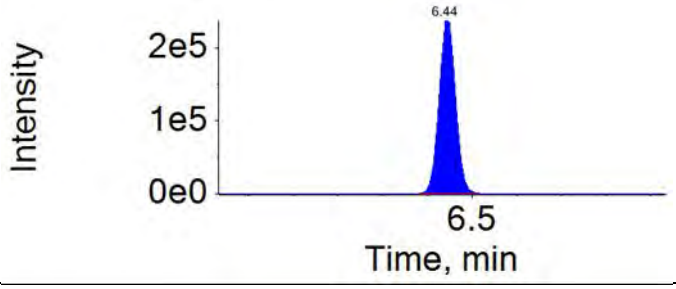
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



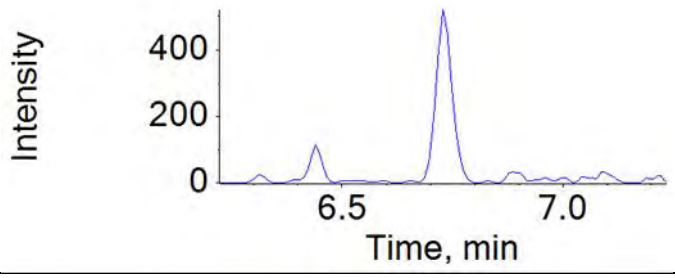


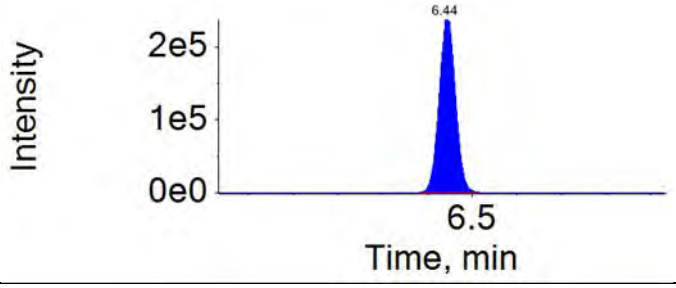
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



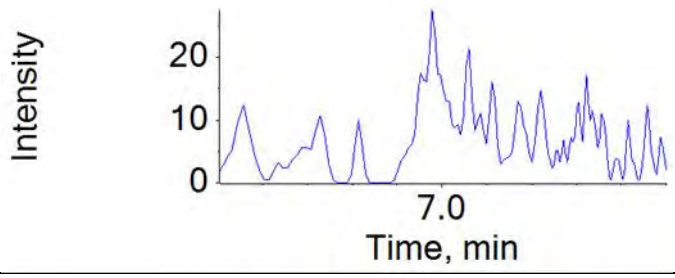


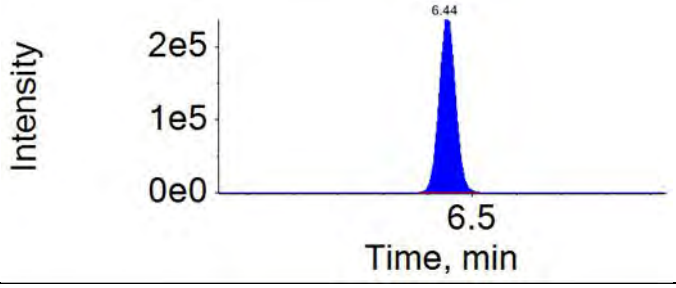
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

Ion Ratio Report

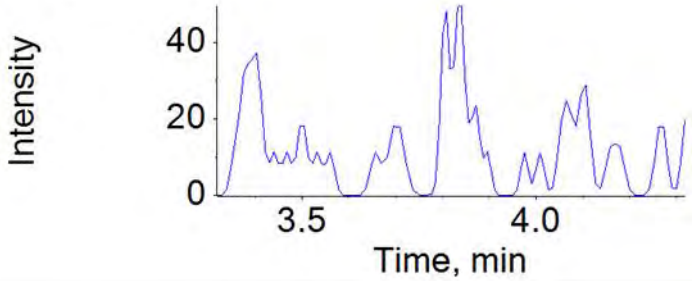
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC11D-02.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

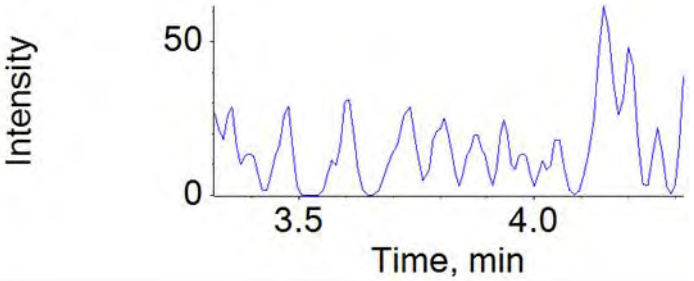
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

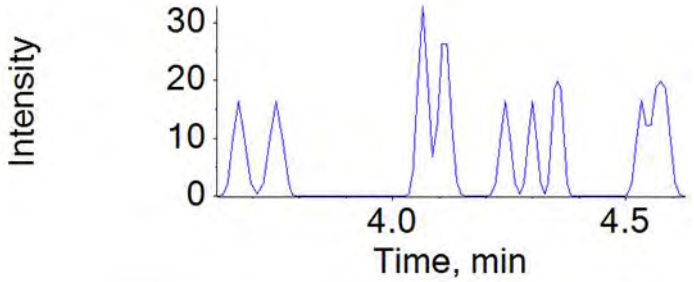
Component: PFBS
Primary Mass: 299.0 / 80.0



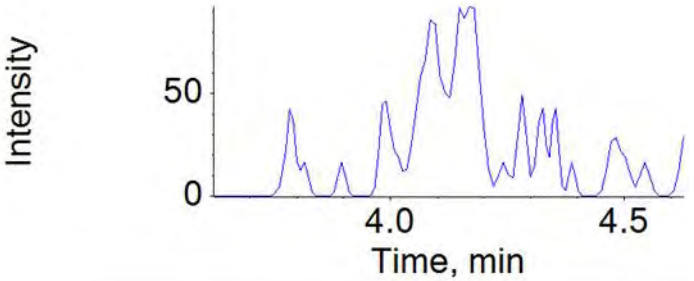
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



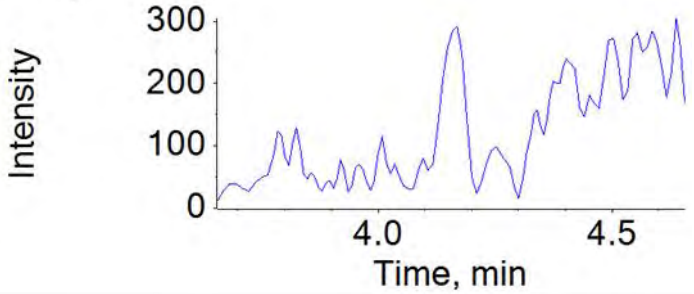
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



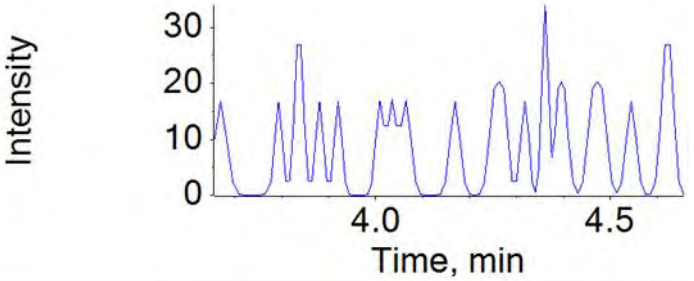
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



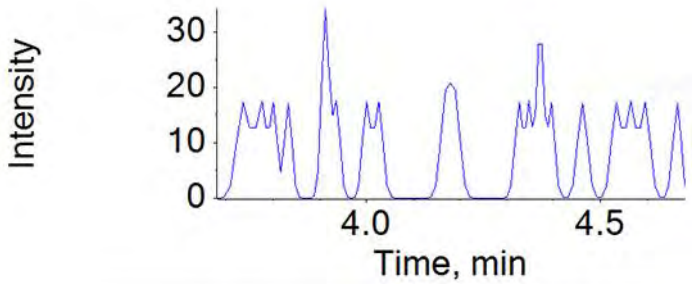
Component: PFHxA
Primary Mass: 313.0 / 269.0



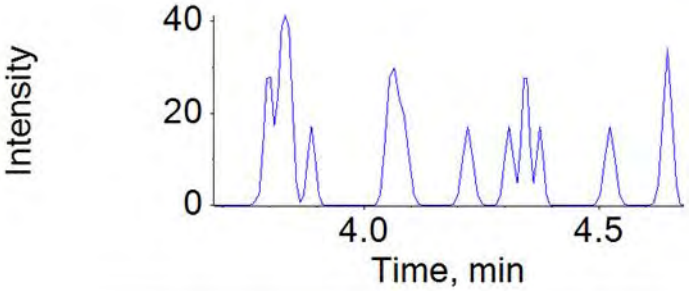
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



APPROVED
By JPT at 3:22 pm, 12/11/18

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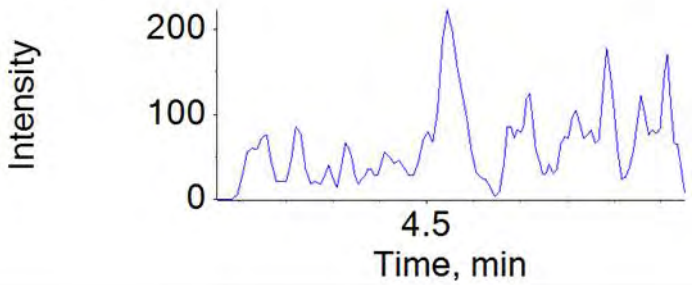
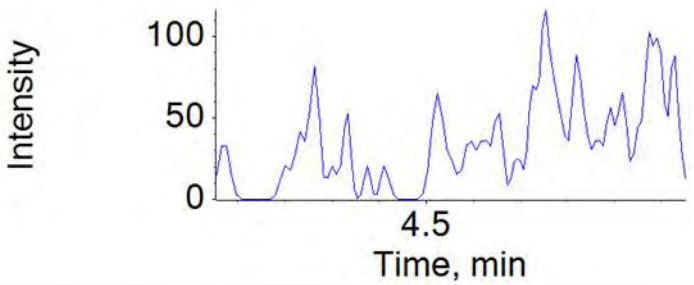
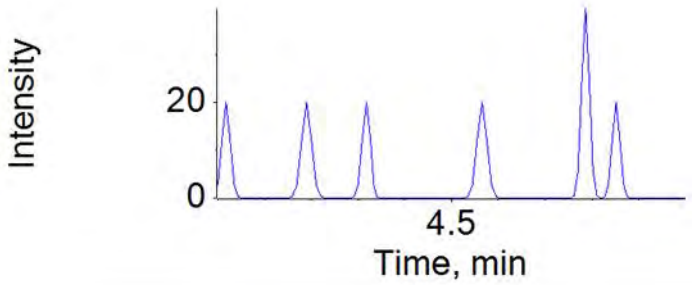
Component: PFHpA
Primary Mass: 363.0 / 319.0



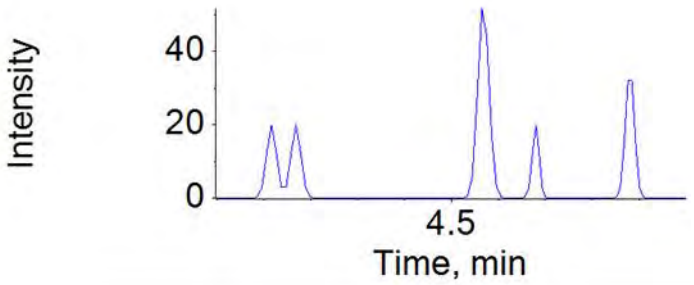
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



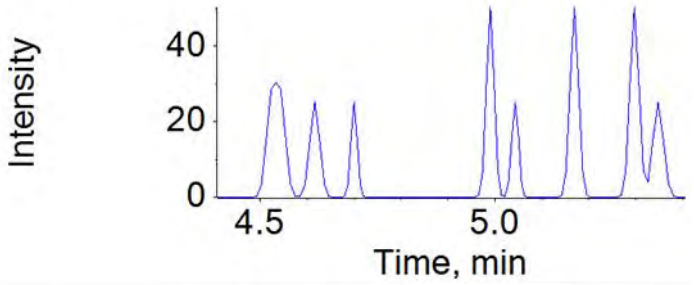
Component: PFHxS
Primary Mass: 399.0 / 80.0



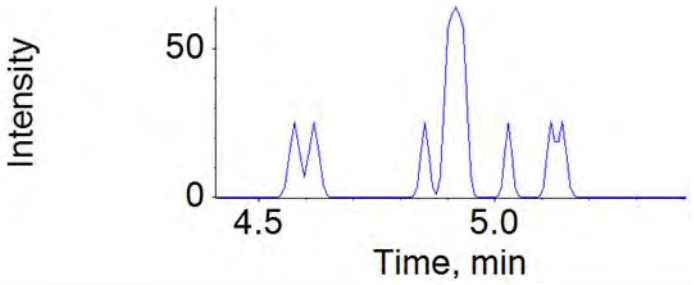
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



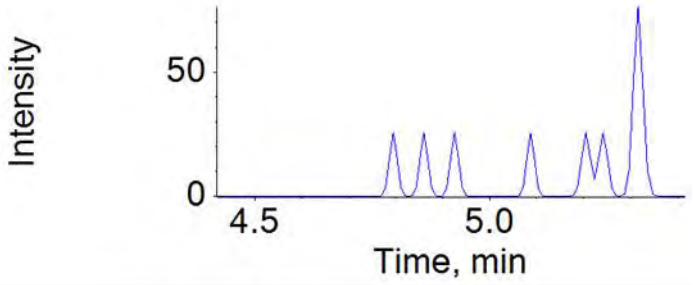
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



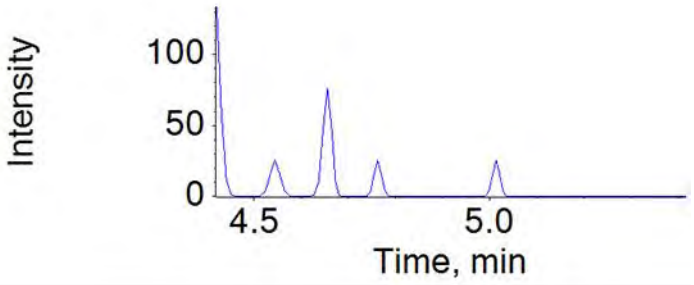
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



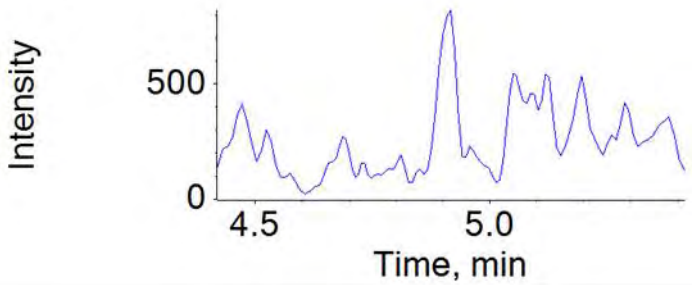
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



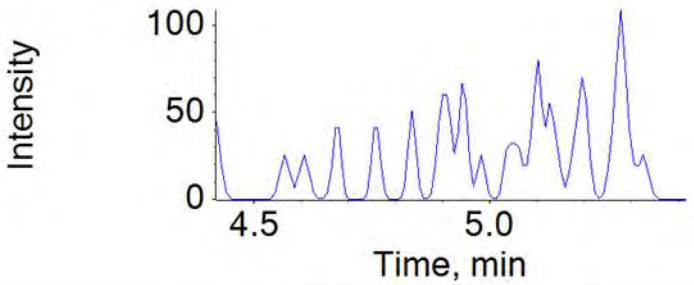
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

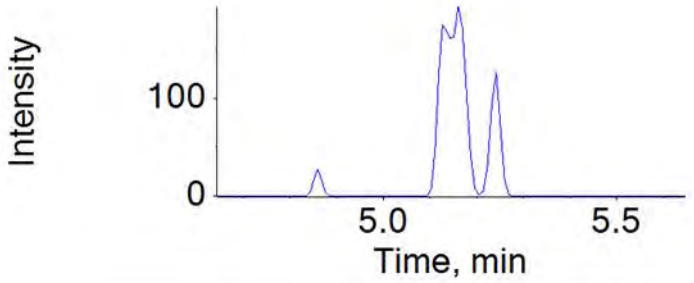
Component: PFOA
Primary Mass: 413.0 / 369.0



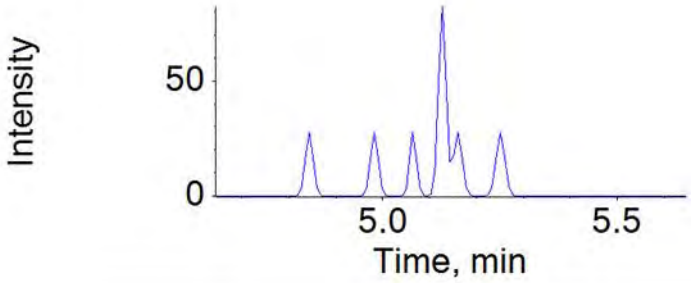
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



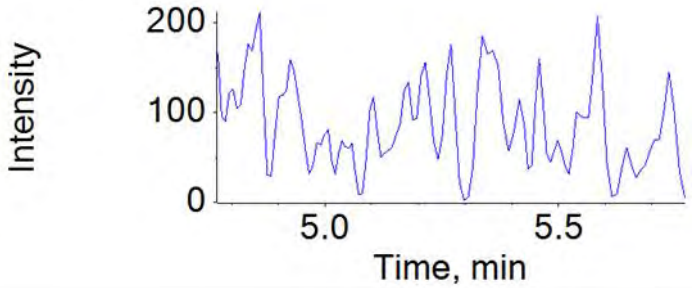
Component: PFOS
Primary Mass: 499.0 / 80.0



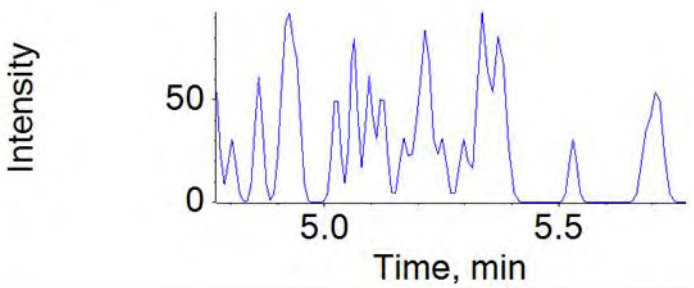
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



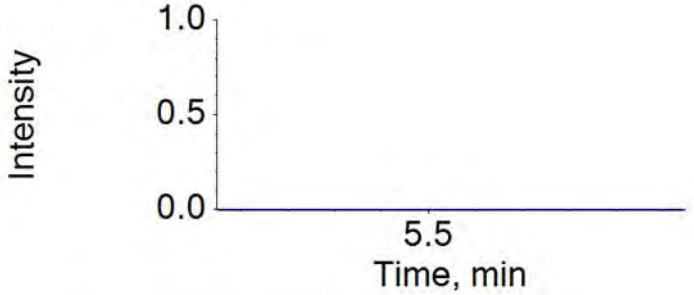
Component: PFNA
Primary Mass: 463.0 / 419.0



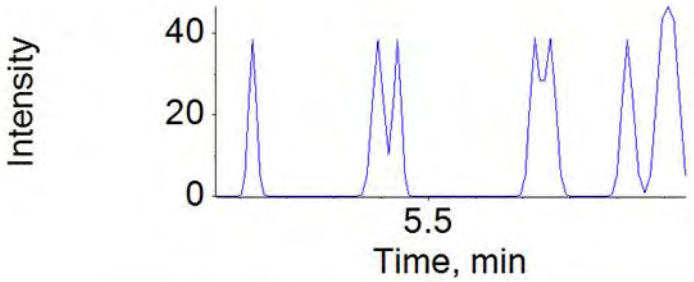
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



Component: PFNS_2
Secondary Mass: 549.0 / 99.0



APPROVED
By JPT at 3:22 pm, 12/11/18

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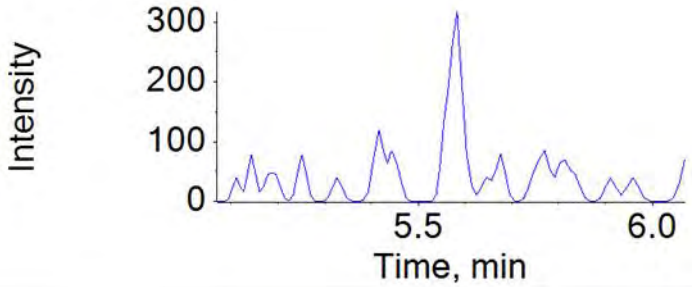
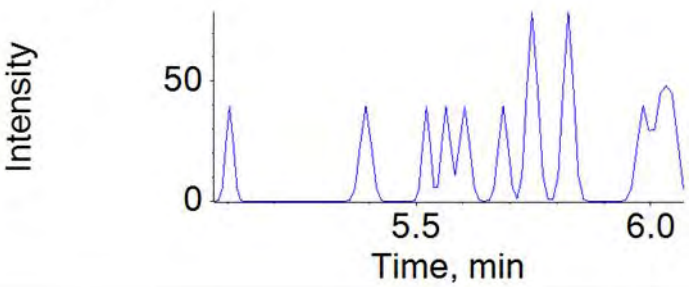
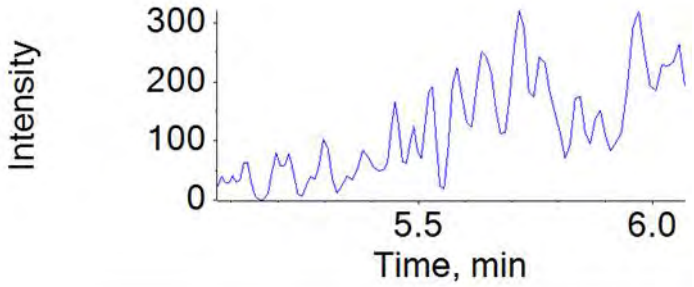
Component: PFDA
Primary Mass: 513.0 / 469.0



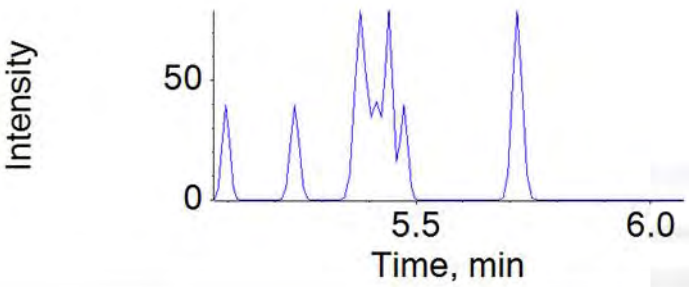
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



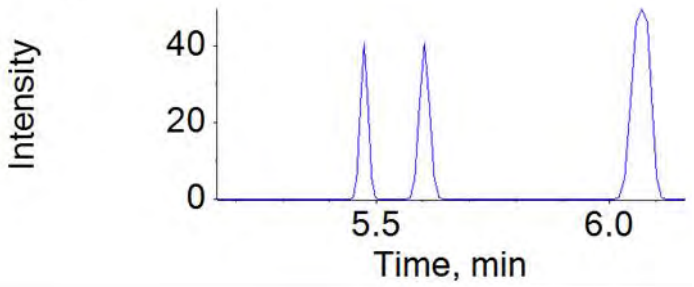
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



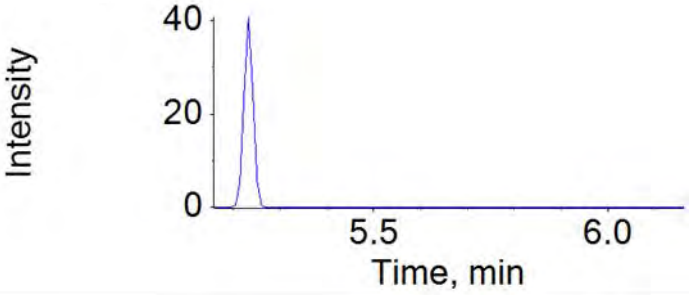
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



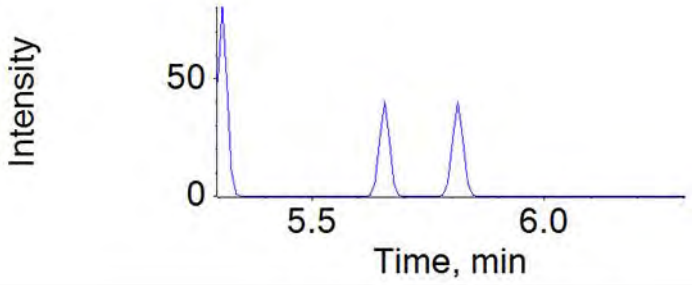
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



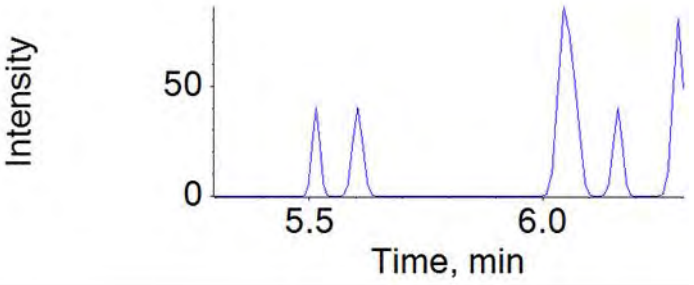
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



Component: PFDS_2
Secondary Mass: 599.0 / 99.0



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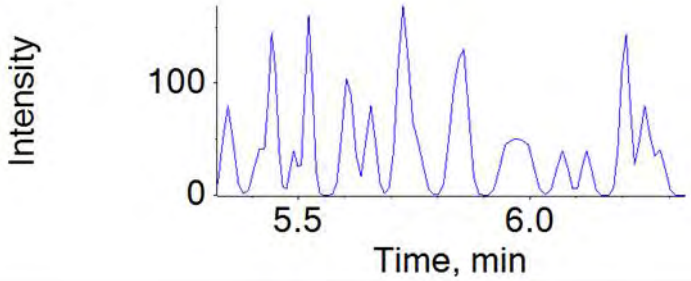
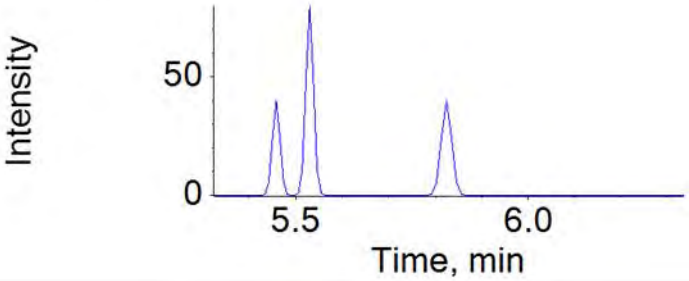
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

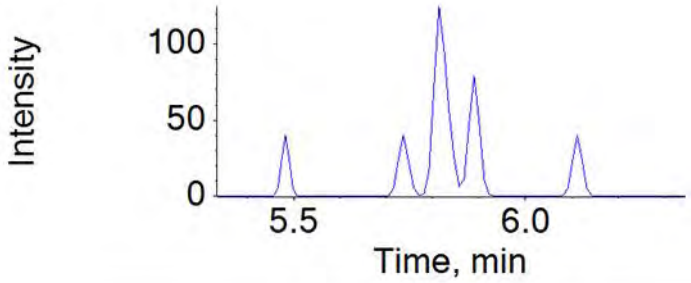
Component: PFUnDA
Primary Mass: 563.0 / 519.0



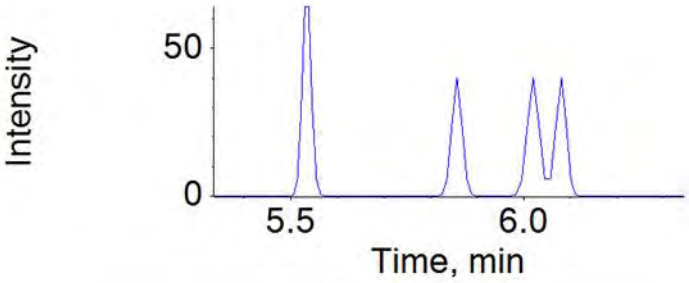
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



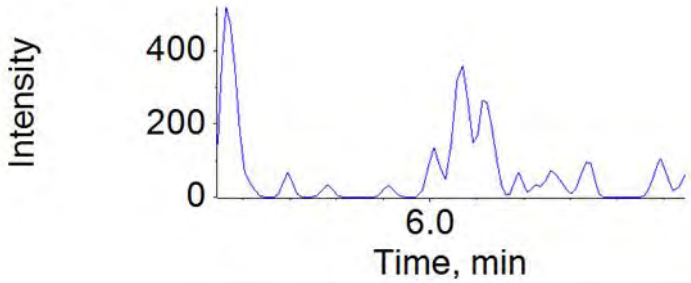
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



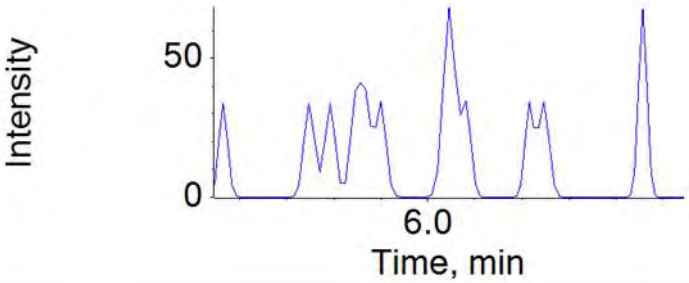
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



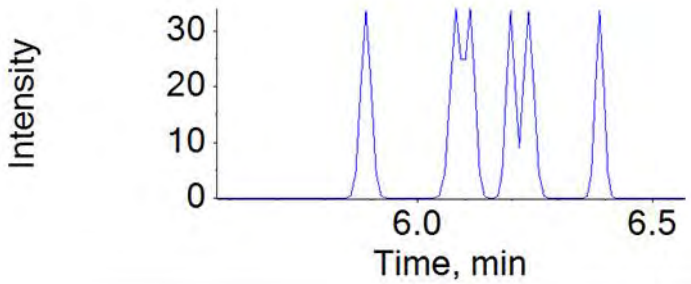
Component: PFDoDA
Primary Mass: 613.0 / 569.0



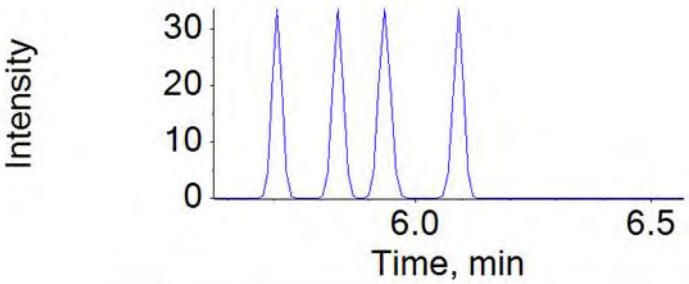
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



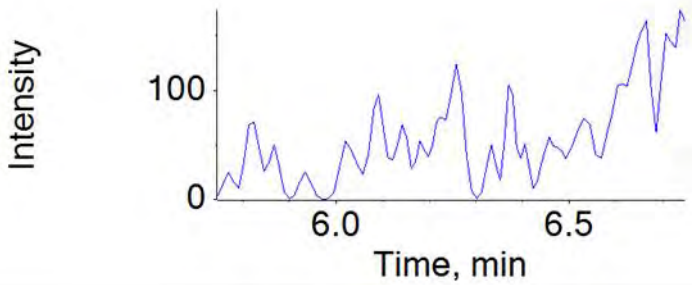
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



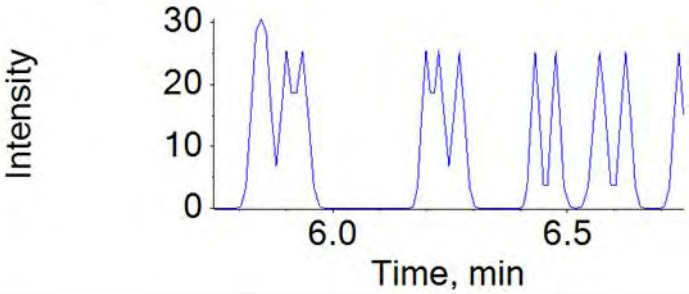
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

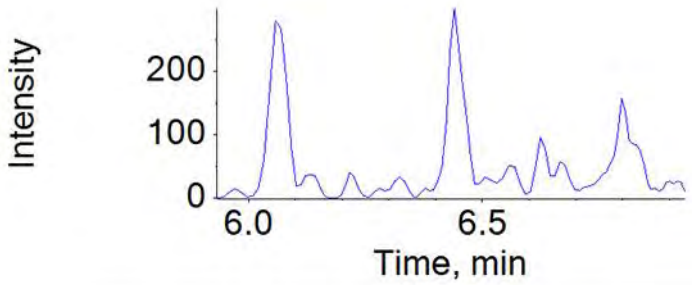
Component: PFTrDA
Primary Mass: 663.0 / 619.0



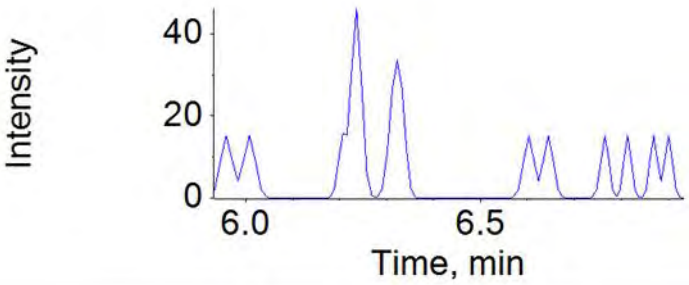
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



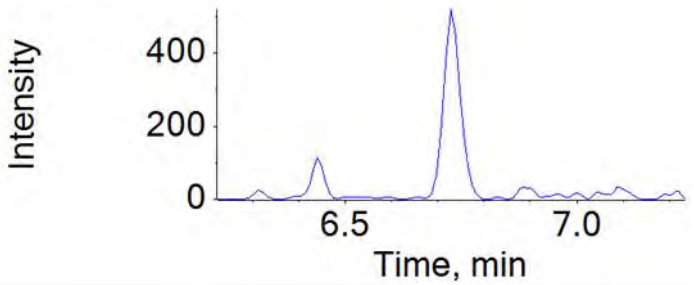
Component: PFTeDA
Primary Mass: 713.0 / 669.0



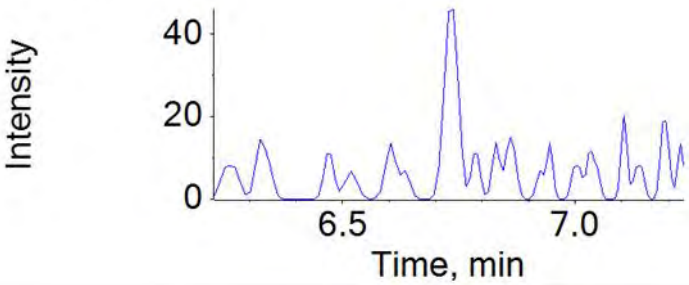
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



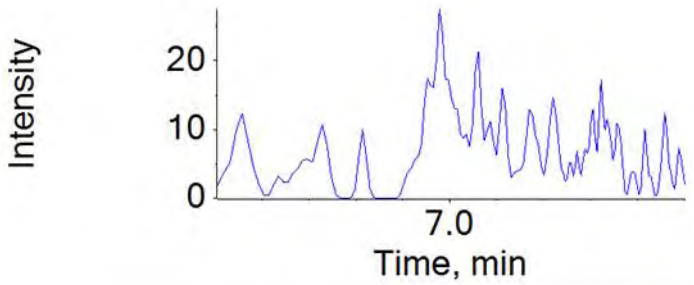
Component: PFHxDA
Primary Mass: 813.0 / 769.0



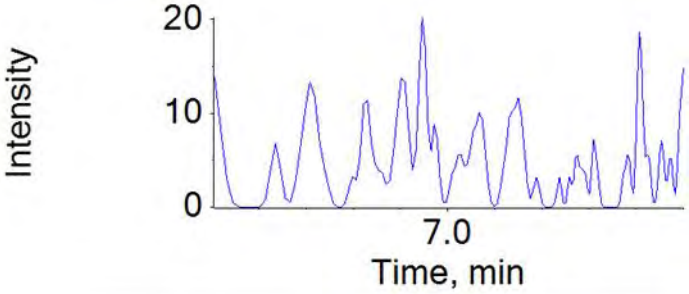
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



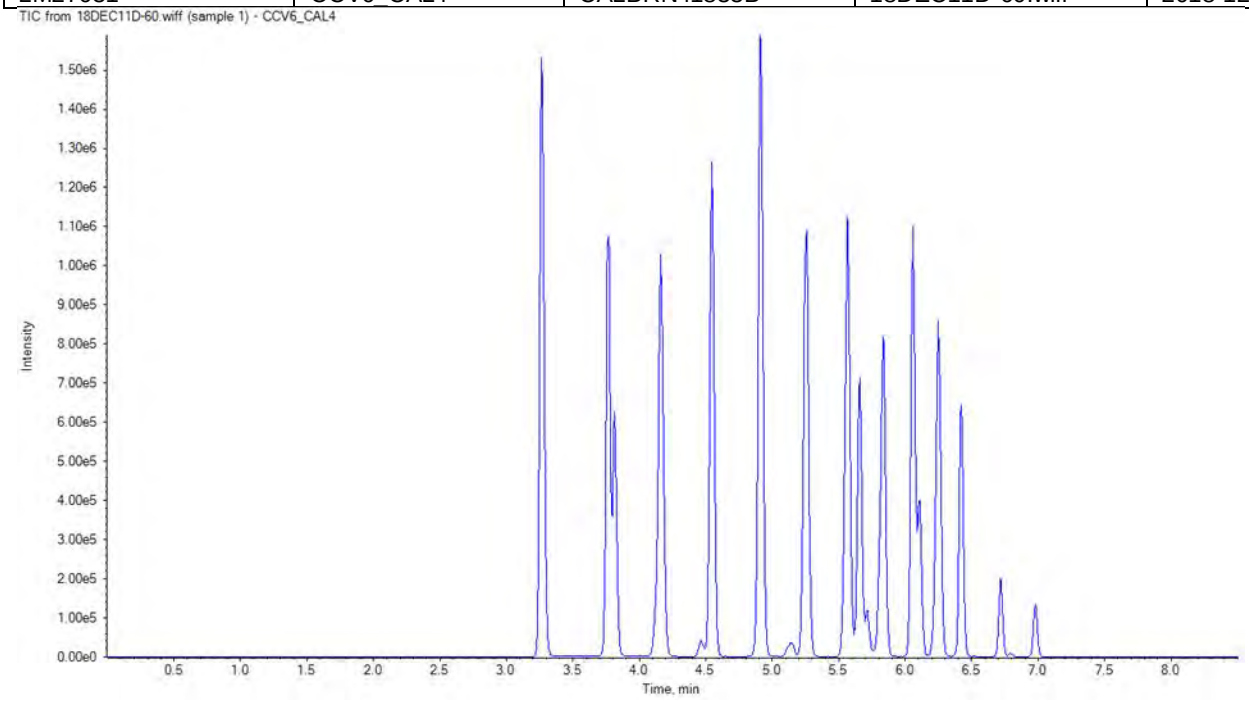
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By umar at 1:19 pm, 12/13/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV6_CAL4	CALBRN41833B	18DEC11D-60.wiff	2018-12-11T13:51:47



Injection Standard Area Reference File: 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	943030.0	953492.0	-1	50	
13C2-PFOA	5.0	501219.1	500971.3	0	50	
13C4-PFOS	4.8	293234.9	310746.2	-6	50	
13C2-PFDA	5.0	396276.8	419040.9	-5	50	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV6_CAL4	CALBRN41833B	18DEC11D-60.wiff	2018-12-11T13:51:47

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	1522534.1	10	13C4-PFBA	1028735.6	5.0	1.480	3.26	1.000	8.000	8.166	2	30	
PFPeA	1495433.9	11	13C5-PFPeA	940218.1	5.0	1.591	3.77	1.000	8.000	8.367	5	30	
PFBS	623750.5	10	13C3-PFBS	433296.0	4.7	1.440	3.82	1.000	7.080	7.135	1	30	
4:2-FTS	124644.9	11	13C2-4:2-FTS	43441.5	4.7	2.869	4.13	1.000	7.470	7.691	3	30	
PFHxA	1356791.3	12	13C5-PFHxA	697850.1	5.0	1.944	4.16	1.000	8.000	8.472	6	30	
PFPeS	330108.2	11	13C3-PFBS	433296.0	4.7	0.762	4.18	1.100	7.500	7.544	1	30	
PFHpA	1421761.7	12	13C4-PFHpA	557120.2	5.0	2.552	4.55	1.000	8.000	8.402	5	30	
PFHxS	485347.3	19	13C3-PFHxS	340326.3	4.7	1.426	4.55	1.000	7.300	6.757	-7	30	
6:2-FTS	119019.3	11	13C2-6:2-FTS	39672.0	4.8	3.000	4.90	1.000	7.580	7.449	-2	30	
PFHpS	476449.5	11	13C3-PFHxS	340326.3	4.7	1.400	4.91	1.080	7.610	7.685	1	30	
PFOA	1418346.4	11	13C8-PFOA	940085.2	5.0	1.509	4.91	1.000	8.000	8.245	3	30	
PFOS	514632.8	22	13C8-PFOS	324810.1	4.8	1.584	5.24	1.000	7.400	6.572	-11	30	
PFNA	1202616.7	11	13C9-PFNA	585354.2	5.0	2.055	5.26	1.000	8.000	7.572	-5	30	
PFNS	358470.9	11	13C8-PFOS	324810.1	4.8	1.104	5.55	1.060	7.680	7.102	-8	30	
PFDA	1040703.7	11	13C6-PFDA	720548.2	5.0	1.444	5.57	1.000	8.000	8.130	2	30	
8:2-FTS	111789.8	11	13C2-8:2-FTS	31645.5	4.8	3.533	5.57	1.000	7.660	7.654	0	30	
PFOSA	1024341.6	11	13C8-PFOSA	622023.7	5.0	1.647	5.66	1.000	8.000	8.543	7	30	
NMeFOSAA	132049.5	19	d3-NMeFOSAA	108196.7	5.0	1.220	5.72	1.000	8.000	8.073	1	30	
PFDS	284396.1	11	13C8-PFOS	324810.1	4.8	0.876	5.81	1.110	7.700	7.080	-8	30	
PFUnDA	1103150.4	11	13C7-PFUnDA	419929.9	5.0	2.627	5.84	1.000	8.000	8.043	1	30	
NEtFOSAA	133528.1	22	d5-NEtFOSAA	86707.3	5.0	1.540	5.85	1.000	8.000	7.783	-3	30	
PFDoDA	1335997.2	11	13C2-PFDoDA	873067.9	5.0	1.530	6.06	1.000	8.000	8.055	1	30	
10:2-FTS	91006.0	11	13C2-8:2-FTS	31645.5	4.8	2.876	6.07	1.090	7.710	7.618	-1	30	
NMePFOSAE	462371.6	11	d7-NMePFOSAE	243515.7	5.0	1.899	6.11	1.000	8.000	8.251	3	30	
NMePFOSA	122481.2	11	d3-NMePFOSA	79734.8	5.0	1.536	6.11	1.000	8.000	7.751	-3	30	
PFDoS	143397.5	11	13C8-PFOS	324810.1	4.8	0.441	6.22	1.190	7.740	6.730	-13	30	
NEtPFOSAE	516293.3	11	d9-NEtPFOSAE	220007.5	5.0	2.347	6.26	1.000	8.000	7.863	-2	30	
NEtPFOSA	109418.1	11	d5-NEtPFOSA	67400.0	5.0	1.623	6.27	1.000	8.000	7.771	-3	30	
PFTrDA	1174561.2	11	13C2-PFDoDA	873067.9	5.0	1.345	6.25	1.030	8.000	8.811	10	30	
PFTeDA	844880.0	10	13C2-PFTeDA	572017.3	5.0	1.477	6.42	1.000	8.000	8.446	6	30	
PFHxDA	381928.5	11	13C2-PFTeDA	572017.3	5.0	0.668	6.72	1.050	8.000	8.362	5	30	
PFODA	282666.1	10	13C2-PFTeDA	572017.3	5.0	0.494	6.98	1.090	8.000	7.932	-1	30	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV6_CAL4			**Data File:**		18DEC11D-60.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-11T13:51:47
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC11DCCV1-7
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	943030.0	953492.0	-1	50	
13C2-PFOA	5.0	501219.1	500971.3	0	50	
13C4-PFOS	4.8	293234.9	310746.2	-6	50	
13C2-PFDA	5.0	396276.8	419040.9	-5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1028735.6	13C3-PFBA	943030.0	1.091	5.000	4.828	97	70-130	
E13C5-PFPeA	940218.1	13C3-PFBA	943030.0	0.997	5.000	4.735	95	70-130	
E13C3-PFBS	433296.0	13C3-PFBA	943030.0	0.459	4.650	3.895	84	70-130	
E13C2-4:2-FTS	43441.5	13C2-PFOA	501219.1	0.087	4.670	3.396	73	70-130	
E13C5-PFHxA	697850.1	13C2-PFOA	501219.1	1.392	5.000	4.675	93	70-130	
E13C3-PFHxS	340326.3	13C2-PFOA	501219.1	0.679	4.730	4.355	92	70-130	
E13C4-PFHpA	557120.2	13C2-PFOA	501219.1	1.112	5.000	4.725	95	70-130	
E13C2-6:2-FTS	39672.0	13C2-PFOA	501219.1	0.079	4.750	4.903	103	70-130	
E13C8-PFOA	940085.2	13C2-PFOA	501219.1	1.876	5.000	5.302	106	70-130	
E13C8-PFOS	324810.1	13C4-PFOS	293234.9	1.108	4.780	4.971	104	70-130	
E13C9-PFNA	585354.2	13C4-PFOS	293234.9	1.996	5.000	5.641	113	70-130	
E13C6-PFDA	720548.2	13C2-PFDA	396276.8	1.818	5.000	4.818	96	70-130	
E13C2-8:2-FTS	31645.5	13C2-PFDA	396276.8	0.080	4.790	5.214	109	70-130	
E13C8-PFOSA	622023.7	13C2-PFDA	396276.8	1.570	5.000	3.712	74	70-130	
Ed3-NMeFOSAA	108196.7	13C2-PFDA	396276.8	0.273	5.000	4.839	97	70-130	
E13C7-PFUnDA	419929.9	13C2-PFDA	396276.8	1.060	5.000	5.198	104	70-130	
Ed5-NEtFOSAA	86707.3	13C2-PFDA	396276.8	0.219	5.000	4.830	97	70-130	
E13C2-PFDoDA	873067.9	13C2-PFDA	396276.8	2.203	5.000	4.623	92	70-130	
Ed7-NMePFOSAE	243515.7	13C2-PFDA	396276.8	0.615	5.000	3.540	71	70-130	
Ed3-NMePFOSA	79734.8	13C2-PFDA	396276.8	0.201	5.000	3.666	73	70-130	
Ed9-NEtPFOSAE	220007.5	13C2-PFDA	396276.8	0.555	5.000	3.828	77	70-130	
Ed5-NEtPFOSA	67400.0	13C2-PFDA	396276.8	0.170	5.000	3.828	77	70-130	
E13C2-PFTeDA	572017.3	13C2-PFDA	396276.8	1.443	5.000	4.284	86	70-130	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

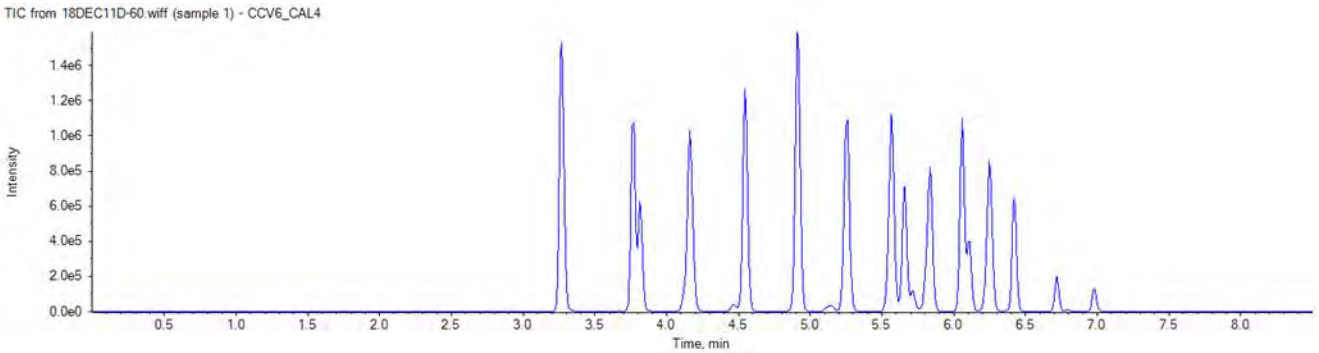
Analyte Quantitation Peak Table

Sample Name: CCV6_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC11D-60.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	1522534.1		A	13C4-PFBA	3.27	1028735.6	1.480	8.166
PFPeA	3.77	1.000	1495433.9		A	13C5-PFPeA	3.77	940218.1	1.591	8.367
PFBS	3.82	1.000	623750.5		A	13C3-PFBS	3.82	433296.0	1.440	7.135
4:2-FTS	4.13	1.000	124644.9		A	13C2-4:2-FTS	4.13	43441.5	2.869	7.691
PFHxA	4.16	1.000	1356791.3		A	13C5-PFHxA	4.16	697850.1	1.944	8.472
PFPeS	4.18	1.100	330108.2		A	13C3-PFBS	3.82	433296.0	0.762	7.544
PFHpA	4.55	1.000	1421761.7		A	13C4-PFHpA	4.55	557120.2	2.552	8.402
PFHxS	4.55	1.000	485347.3		M	13C3-PFHxS	4.55	340326.3	1.426	6.757
6:2-FTS	4.90	1.000	119019.3		A	13C2-6:2-FTS	4.90	39672.0	3.000	7.449
PFHpS	4.91	1.080	476449.5		A	13C3-PFHxS	4.55	340326.3	1.400	7.685
PFOA	4.91	1.000	1418346.4		A	13C8-PFOA	4.91	940085.2	1.509	8.245
PFOS	5.24	1.000	514632.8		M	13C8-PFOS	5.25	324810.1	1.584	6.572
PFNA	5.26	1.000	1202616.7		A	13C9-PFNA	5.26	585354.2	2.055	7.572
PFNS	5.55	1.060	358470.9		A	13C8-PFOS	5.25	324810.1	1.104	7.102
PFDA	5.57	1.000	1040703.7		A	13C6-PFDA	5.57	720548.2	1.444	8.130
8:2-FTS	5.57	1.000	111789.8		A	13C2-8:2-FTS	5.57	31645.5	3.533	7.654
PFOSA	5.66	1.000	1024341.6		A	13C8-PFOSA	5.66	622023.7	1.647	8.543
NMeFOSAA	5.72	1.000	132049.5		M	d3-NMeFOSAA	5.71	108196.7	1.220	8.073
PFDS	5.81	1.110	284396.1		A	13C8-PFOS	5.25	324810.1	0.876	7.080
PFUnDA	5.84	1.000	1103150.4		A	13C7-PFUnDA	5.83	419929.9	2.627	8.043
NEtFOSAA	5.85	1.000	133528.1		A	d5-NEtFOSAA	5.85	86707.3	1.540	7.783
PFDoDA	6.06	1.000	1335997.2		A	13C2-PFDoDA	6.06	873067.9	1.530	8.055
10:2-FTS	6.07	1.090	91006.0		A	13C2-8:2-FTS	5.57	31645.5	2.876	7.618
NMePFOSAE	6.11	1.000	462371.6		A	d7-NMePFOSAE	6.10	243515.7	1.899	8.251
NMePFOSA	6.11	1.000	122481.2		A	d3-NMePFOSA	6.11	79734.8	1.536	7.751
PFDoS	6.22	1.190	143397.5		A	13C8-PFOS	5.25	324810.1	0.441	6.730
NEtPFOSAE	6.26	1.000	516293.3		A	d9-NEtPFOSAE	6.25	220007.5	2.347	7.863
NEtPFOSA	6.27	1.000	109418.1		A	d5-NEtPFOSA	6.26	67400.0	1.623	7.771
PFTrDA	6.25	1.030	1174561.2		A	13C2-PFDoDA	6.06	873067.9	1.345	8.811
PFTeDA	6.42	1.000	844880.0		A	13C2-PFTeDA	6.42	572017.3	1.477	8.446
PFHxDA	6.72	1.050	381928.5		A	13C2-PFTeDA	6.42	572017.3	0.668	8.362
PFODA	6.98	1.090	282666.1		A	13C2-PFTeDA	6.42	572017.3	0.494	7.932

Total Ion Chromatogram

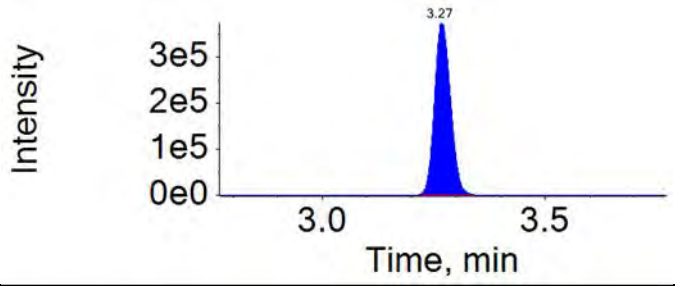


APPROVED
By JPT at 3:22 pm, 12/11/18

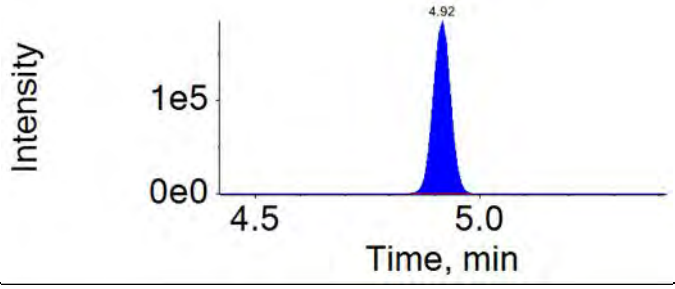
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

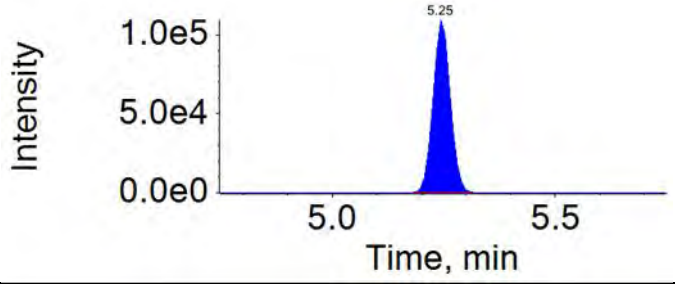
Injection Standard: 13C3-PFBA
216.0 / 172.0



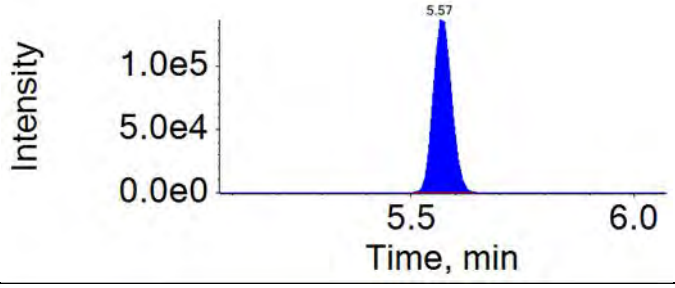
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

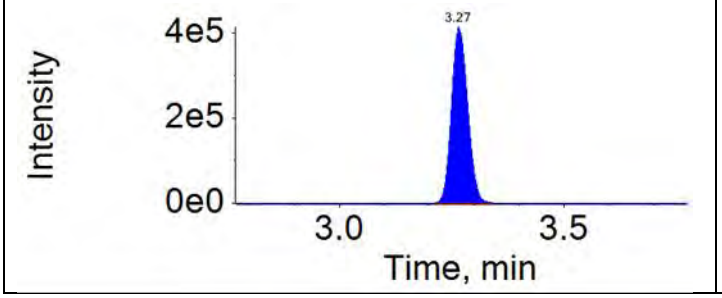


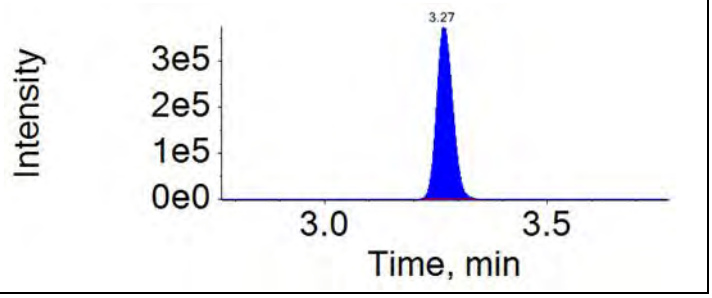
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

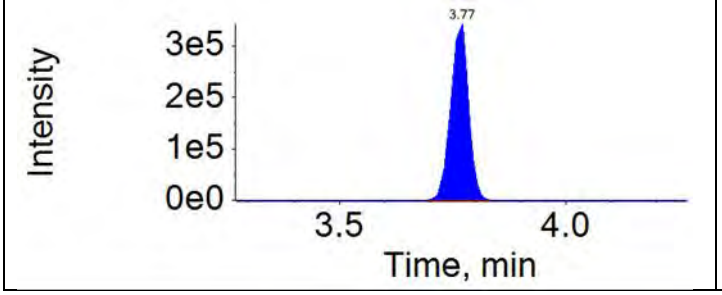
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

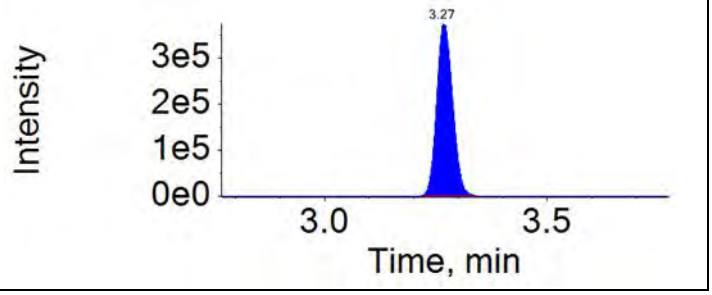
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



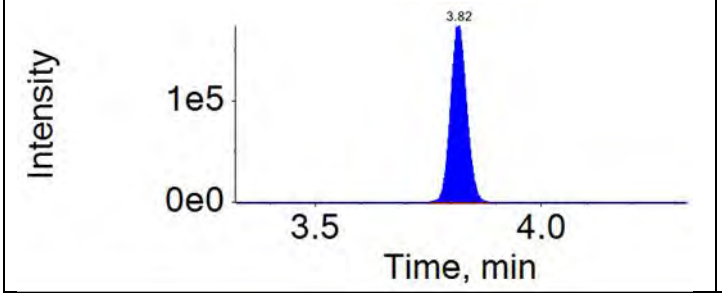


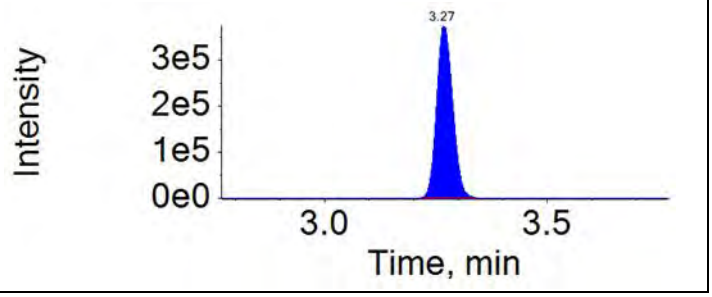
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



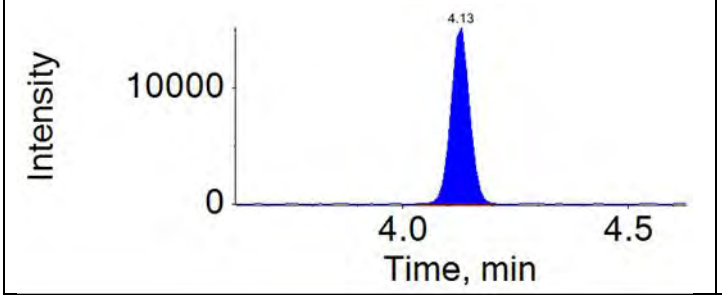


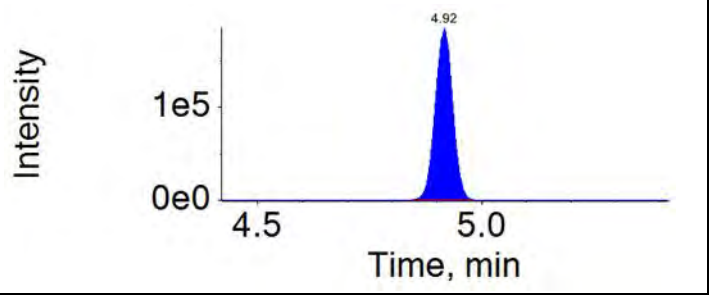
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





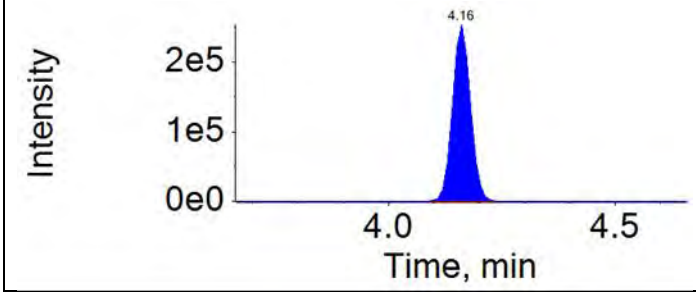
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

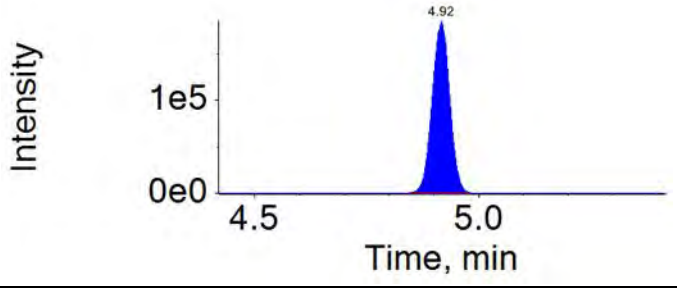




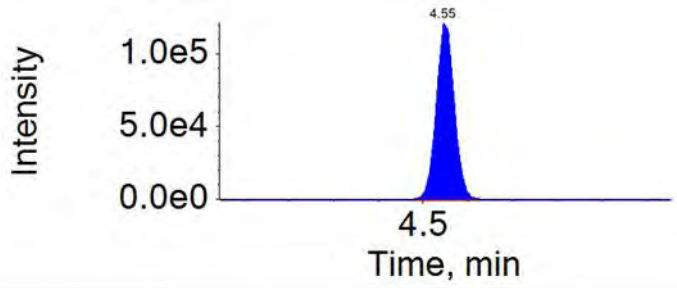
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

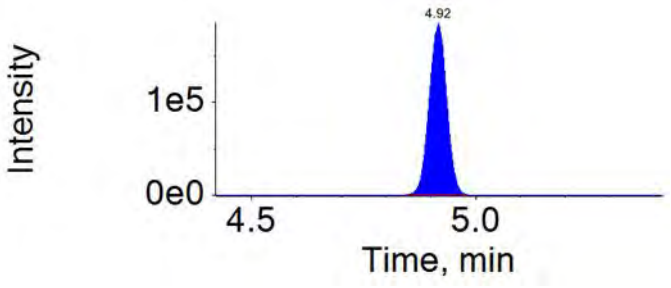
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



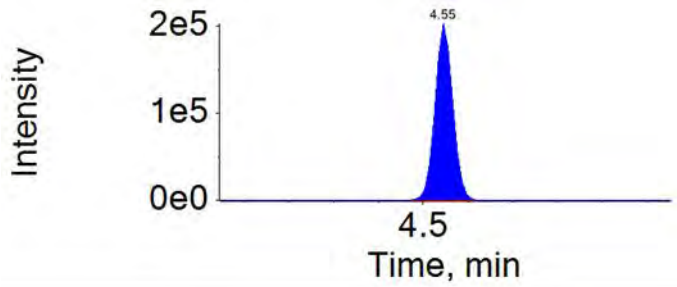


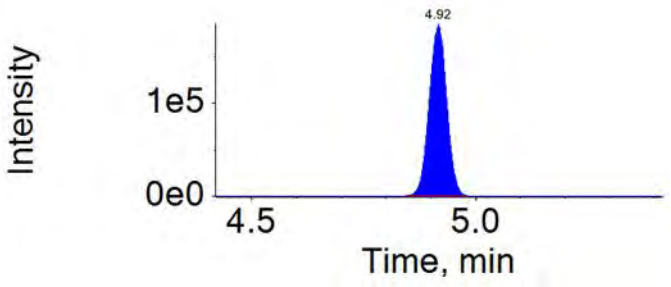
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



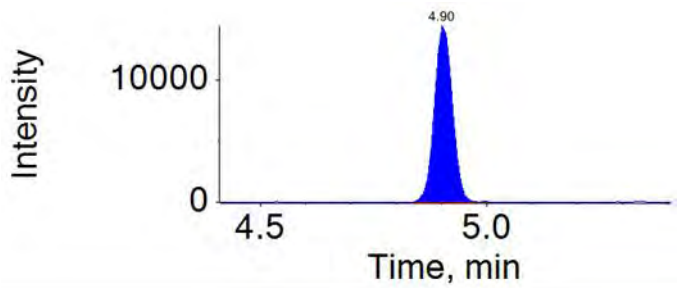


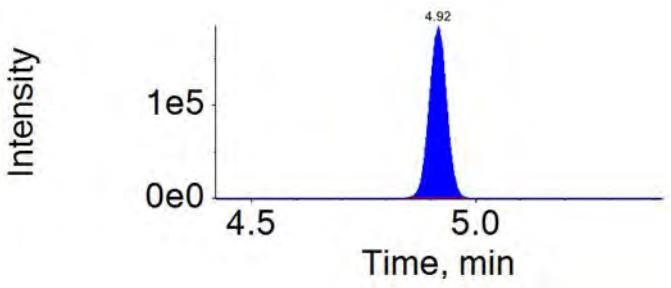
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

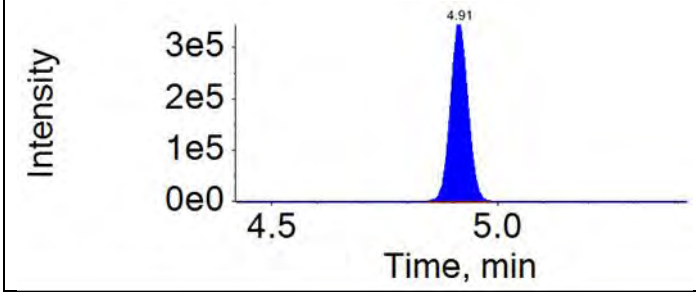
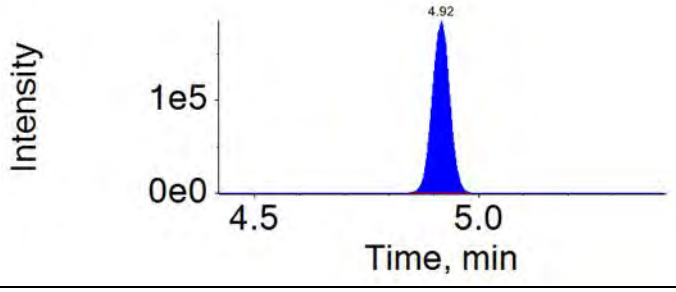


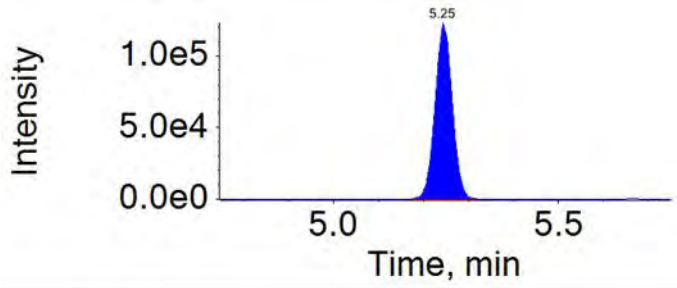
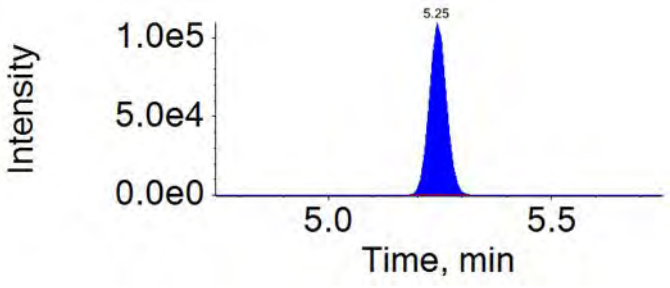


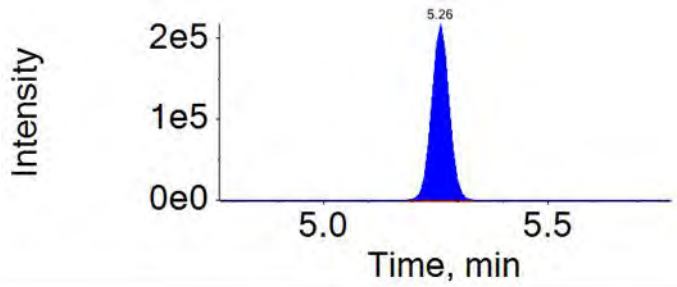
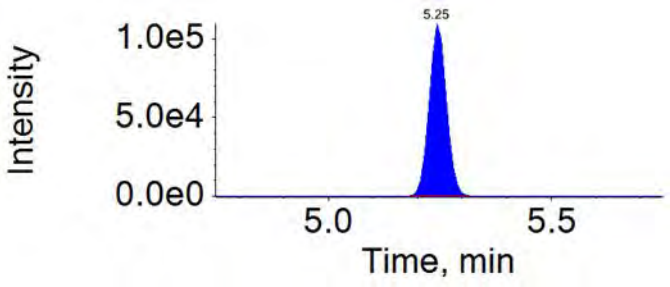
APPROVED
By JPT at 3:22 pm, 12/11/18

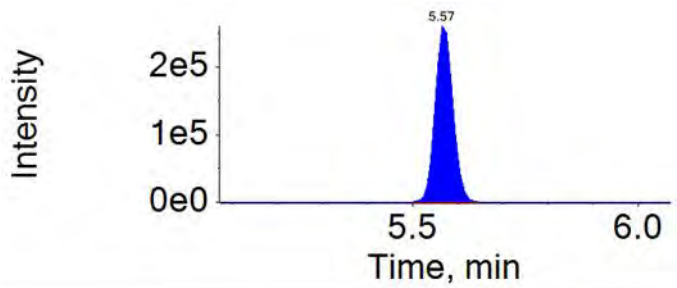
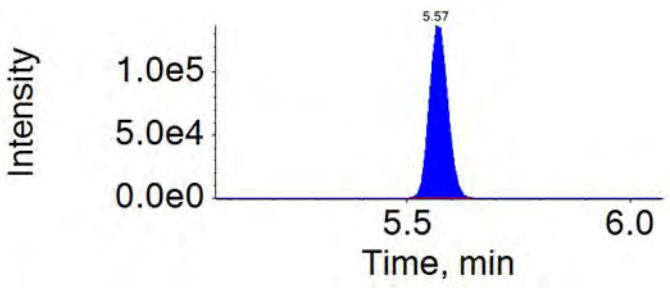
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

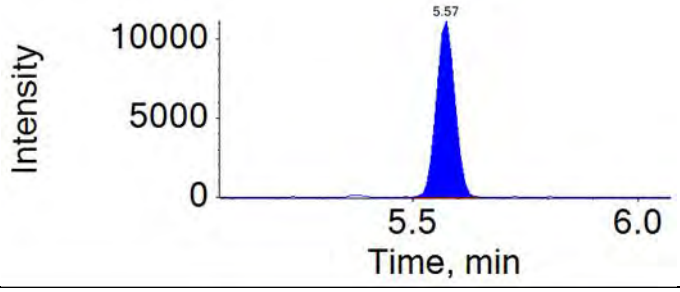
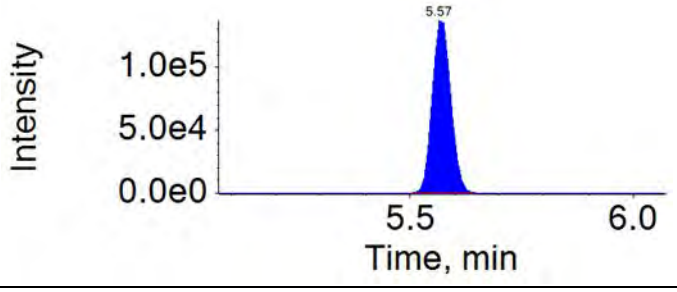
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

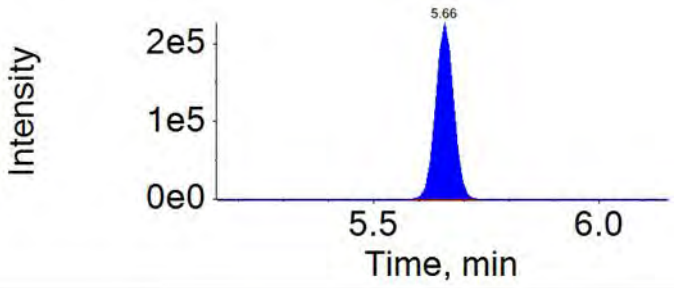
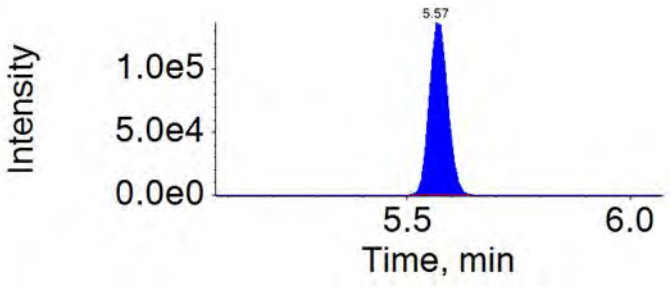
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

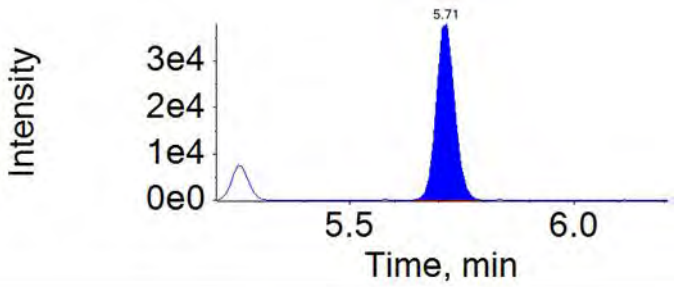
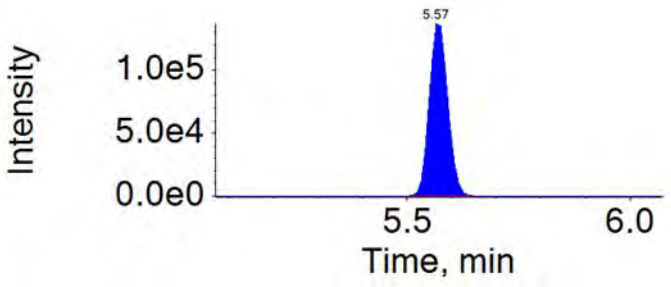
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

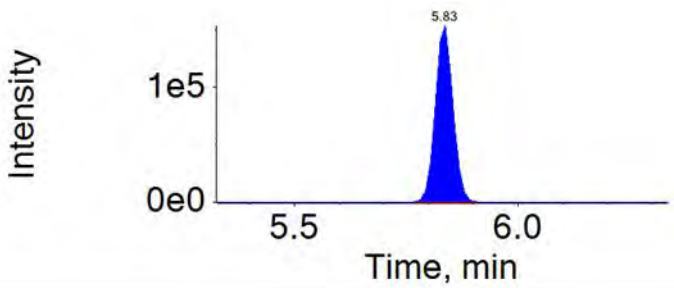
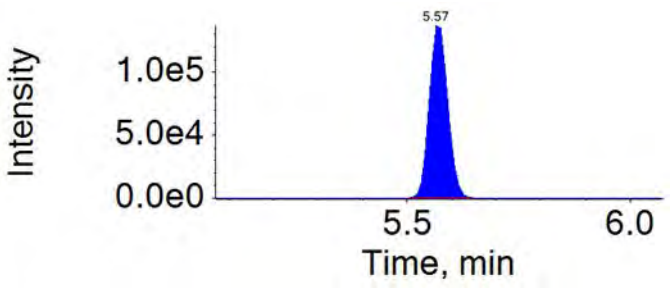
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

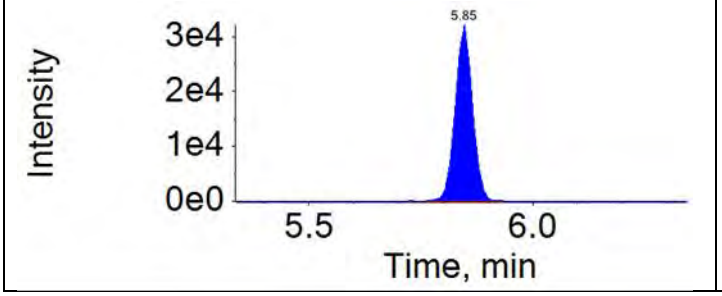
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

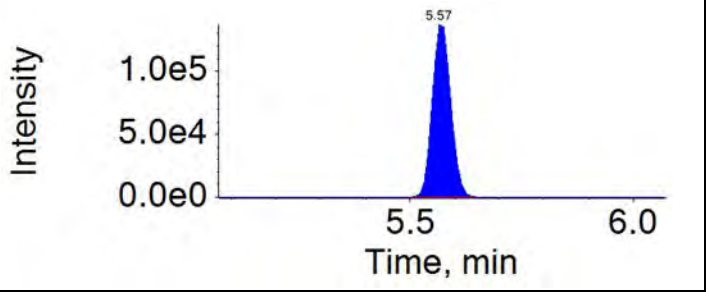
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

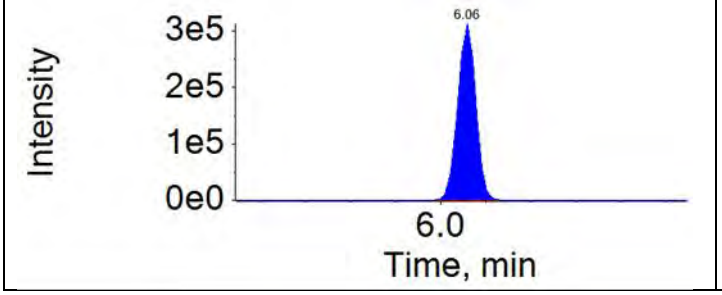
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

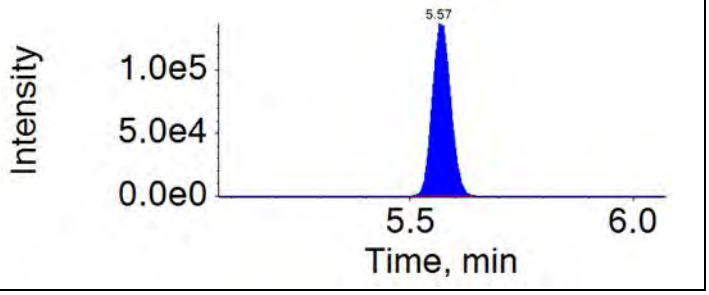
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



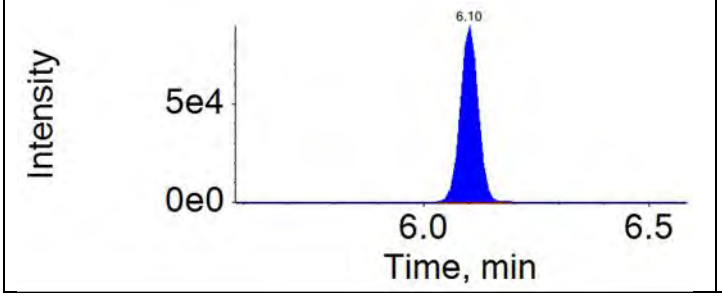


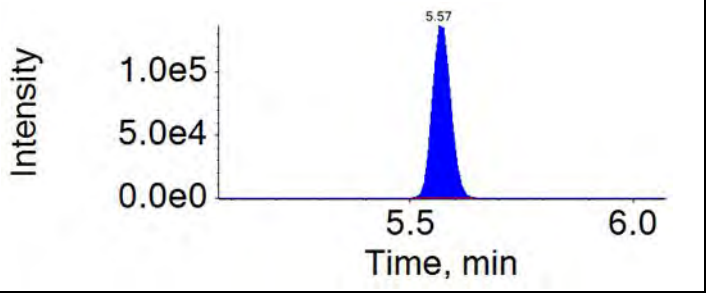
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



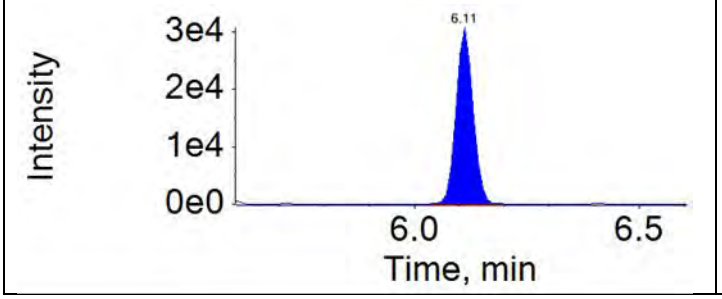


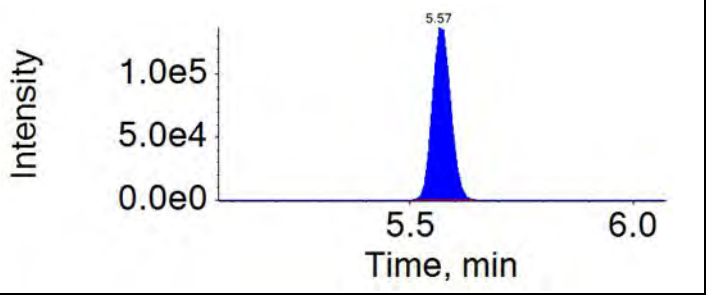
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



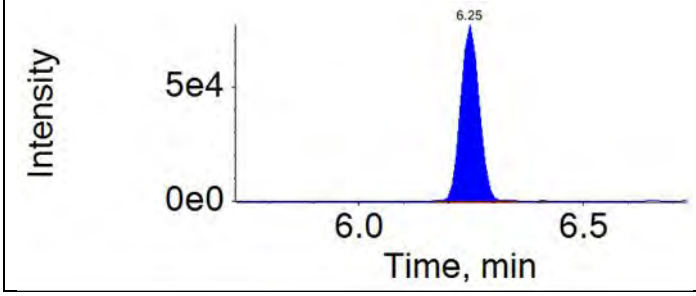


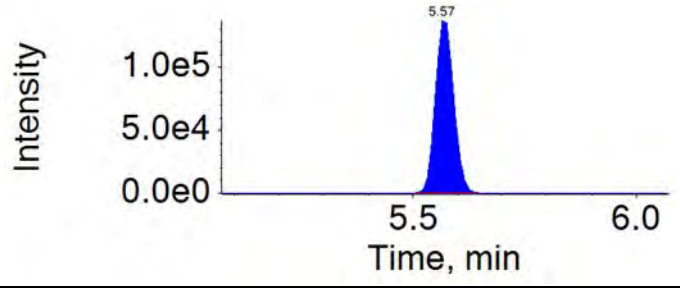
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

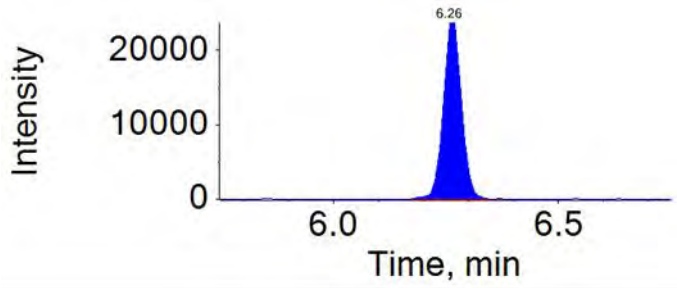
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

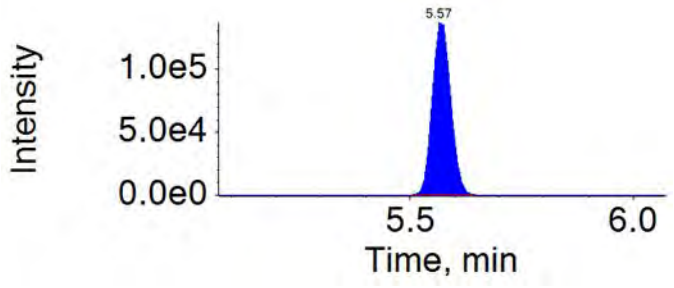
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



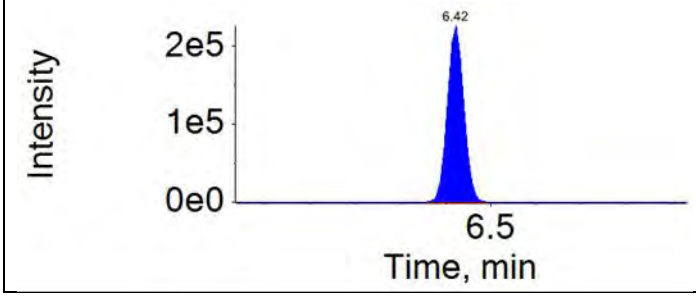


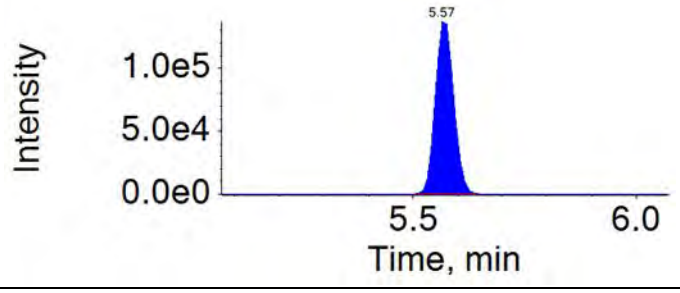
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



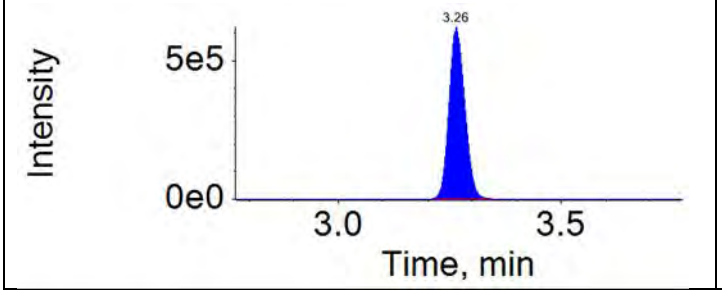


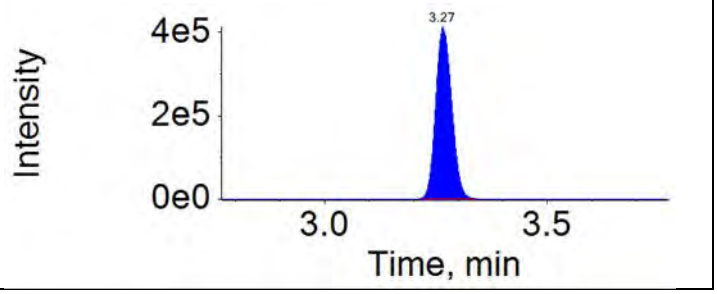
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

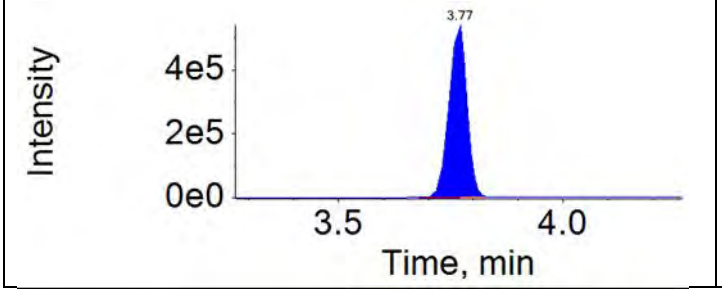
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

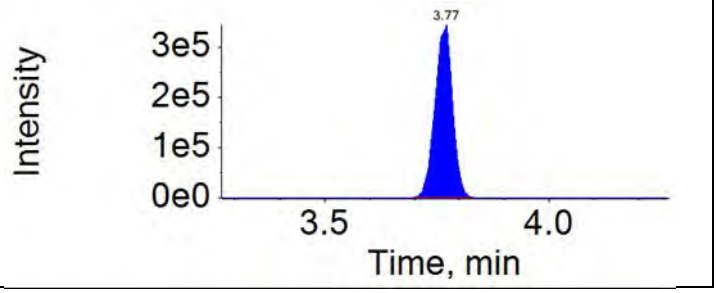
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



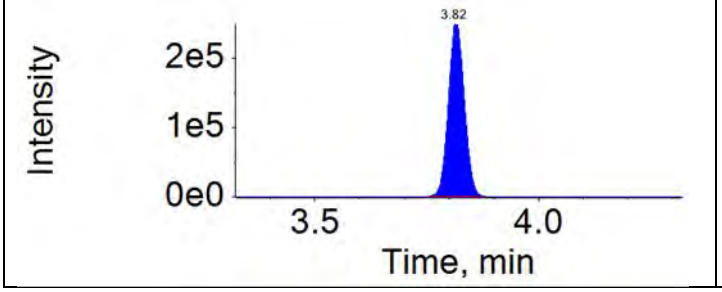


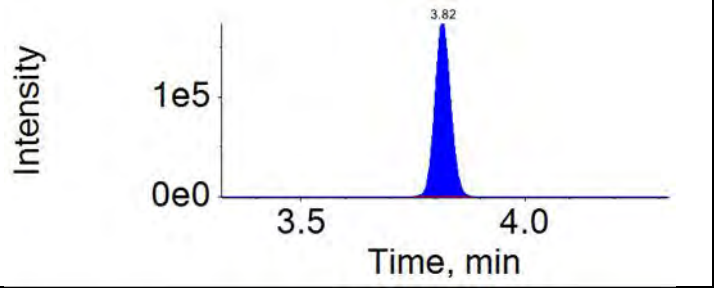
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



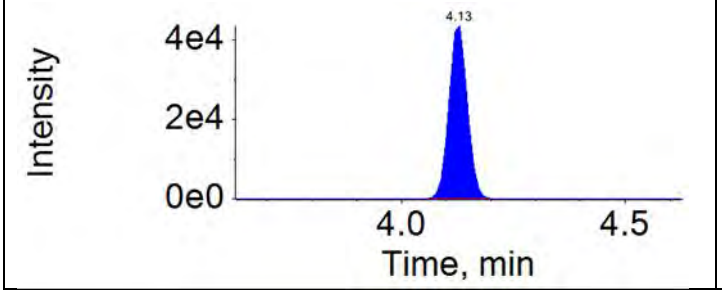


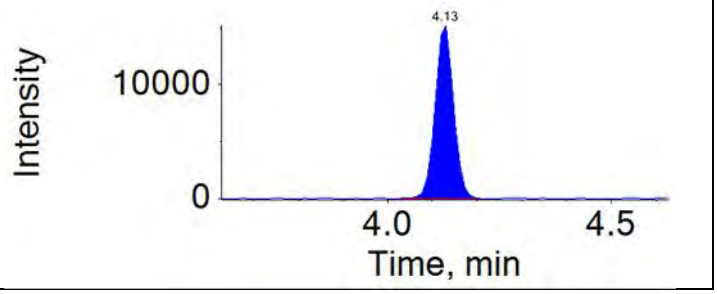
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



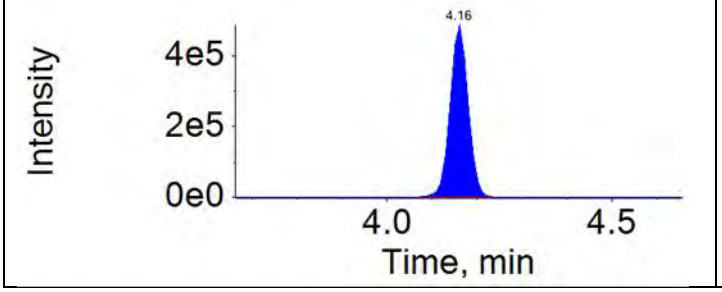


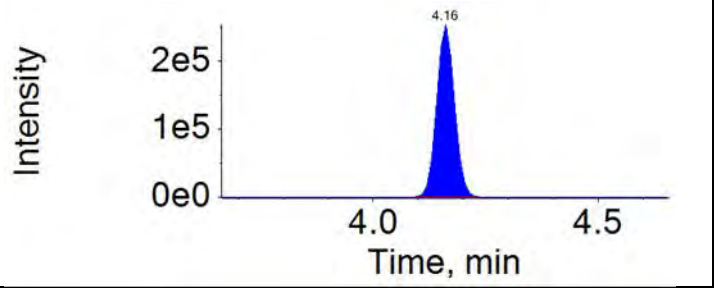
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

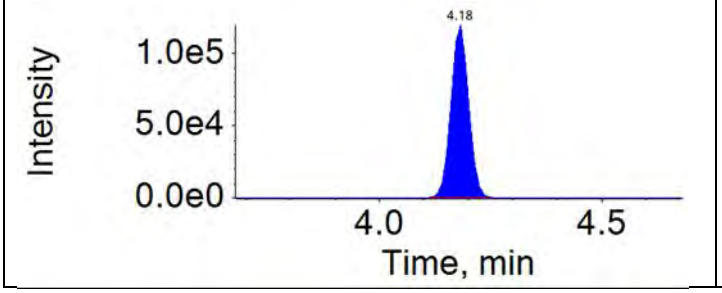
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

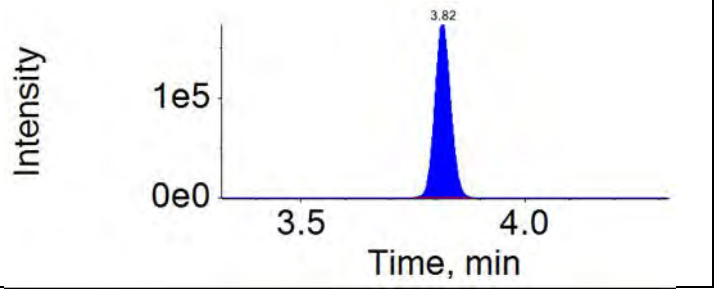
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



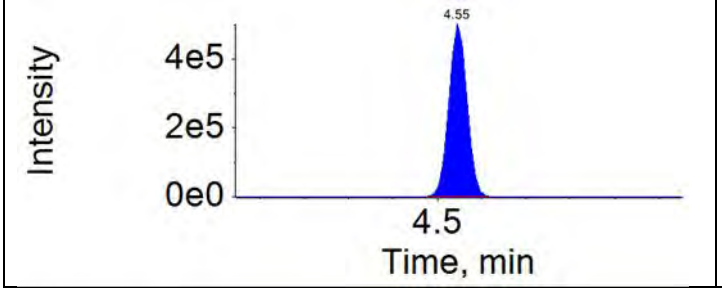


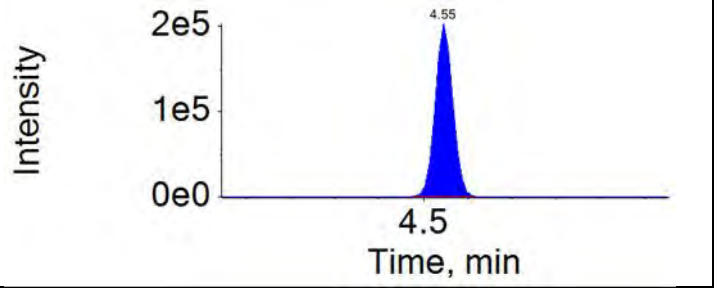
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



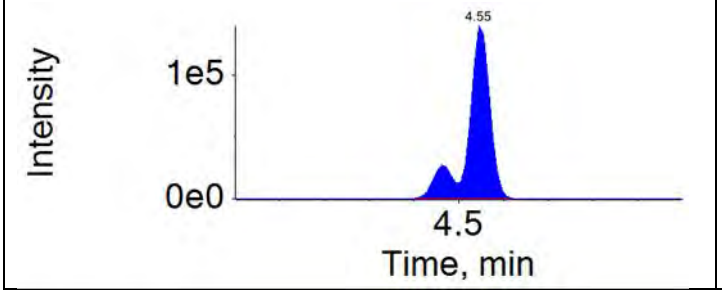


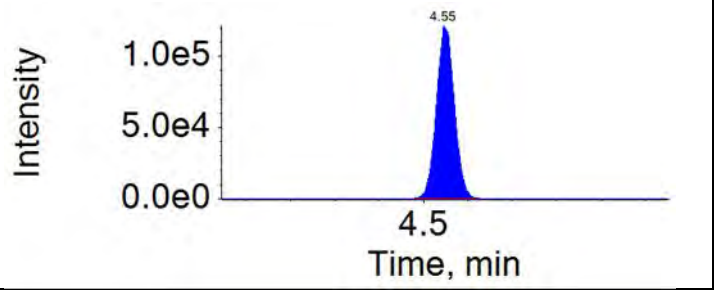
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

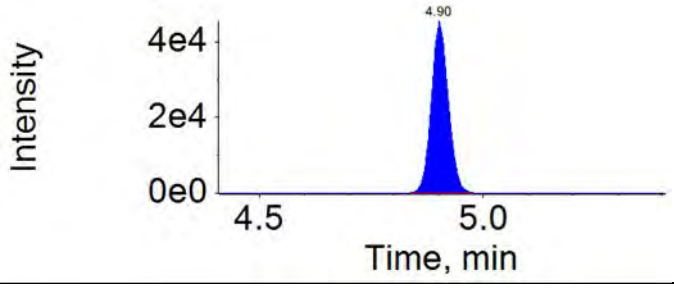
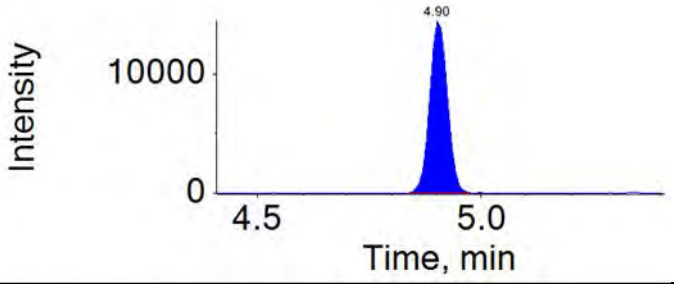


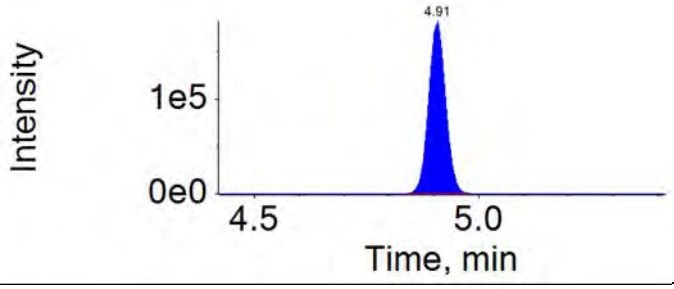
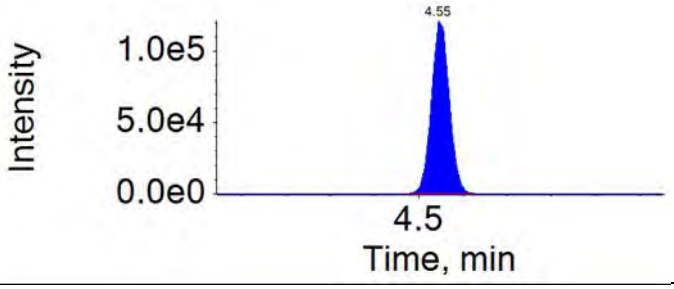


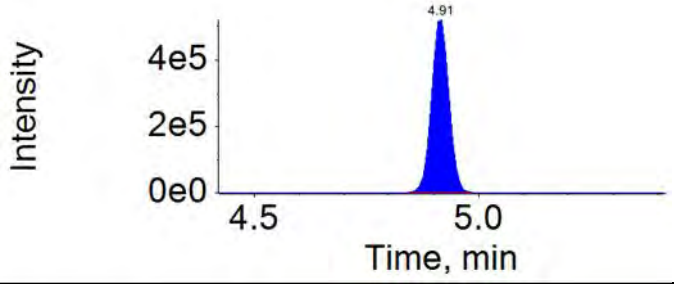
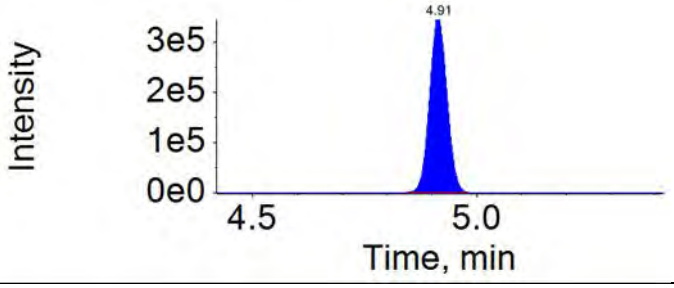
APPROVED
By JPT at 3:22 pm, 12/11/18

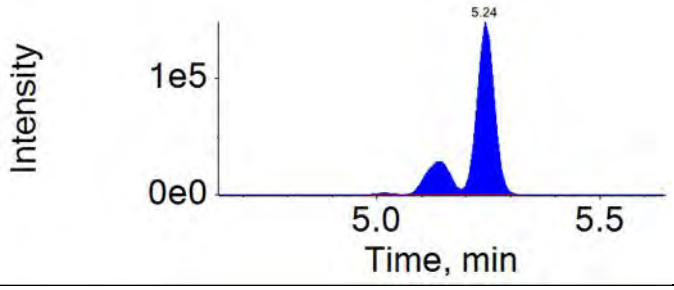
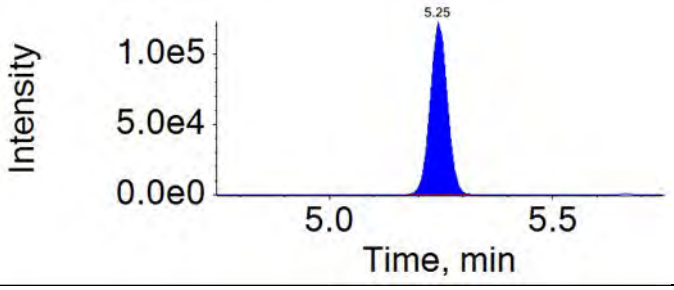
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

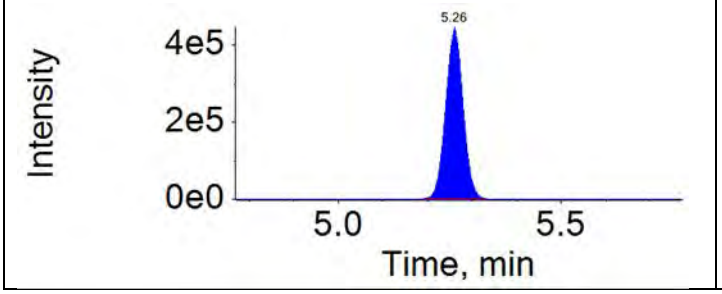
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

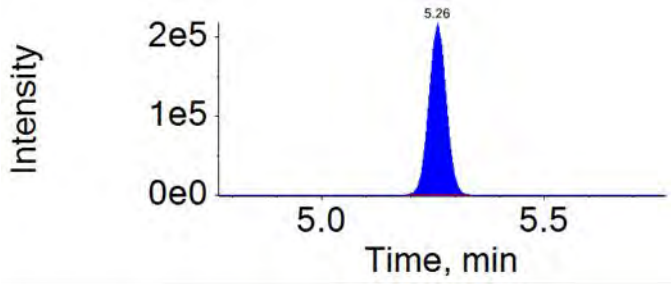
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

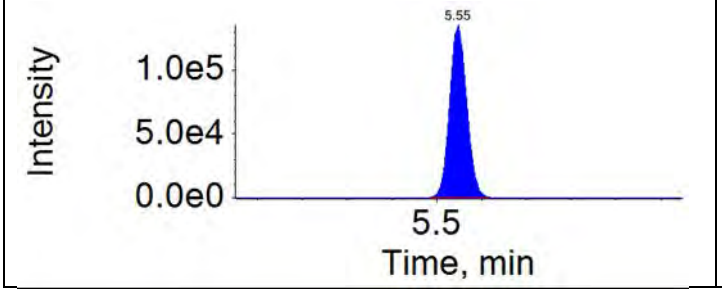
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

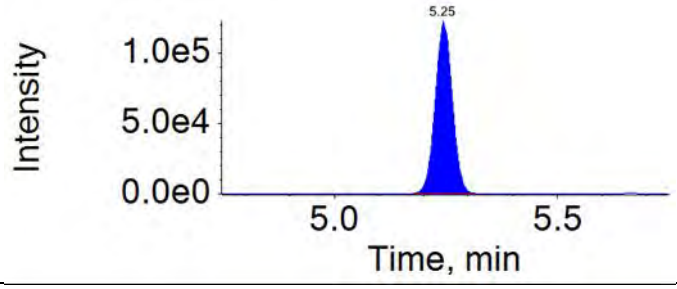
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



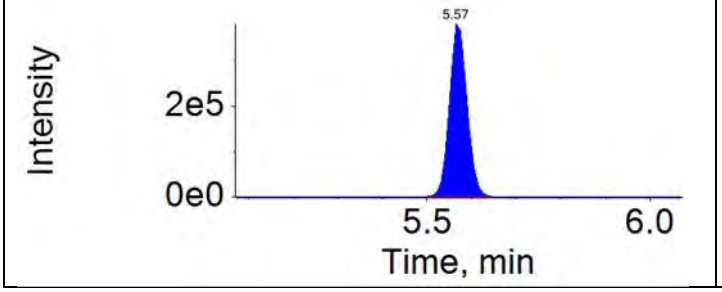


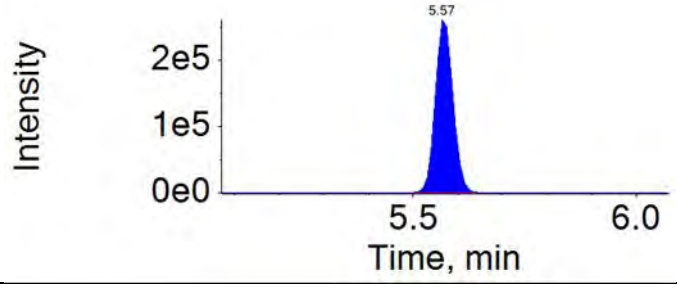
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



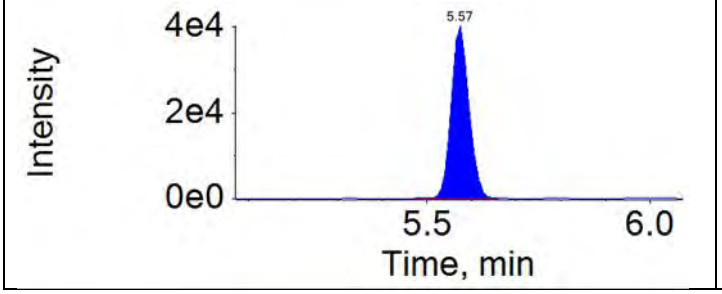


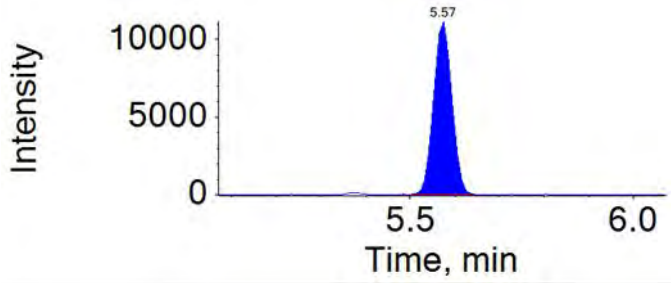
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

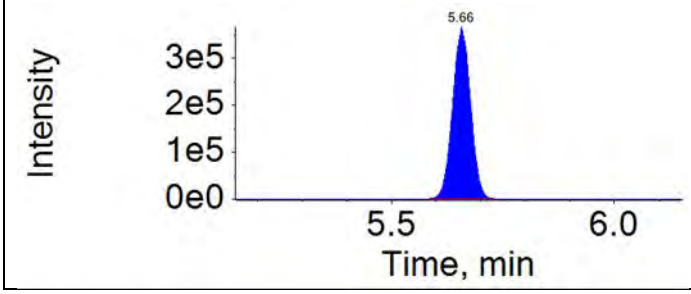
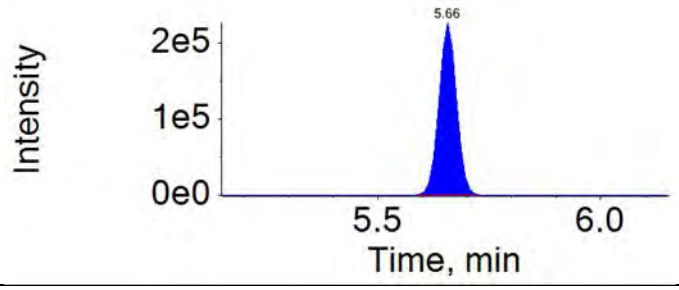


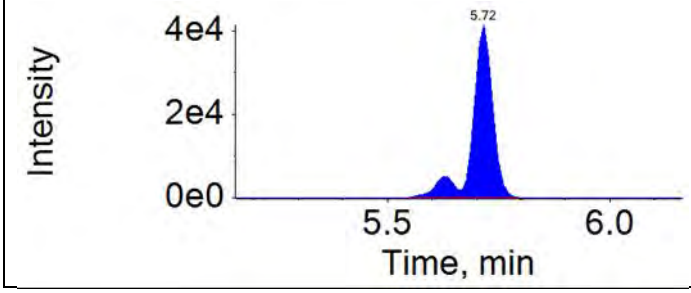
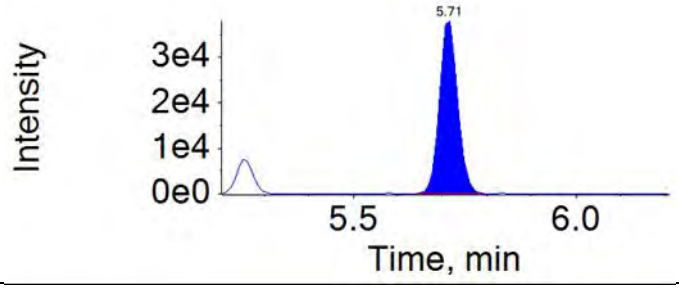


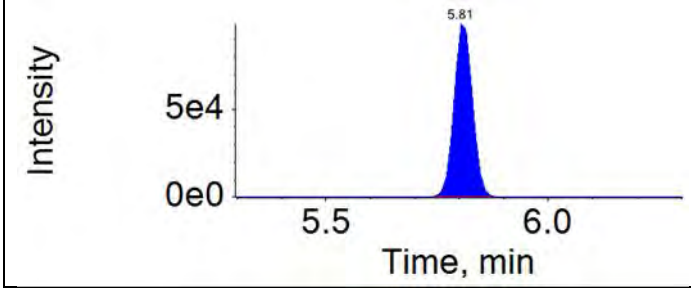
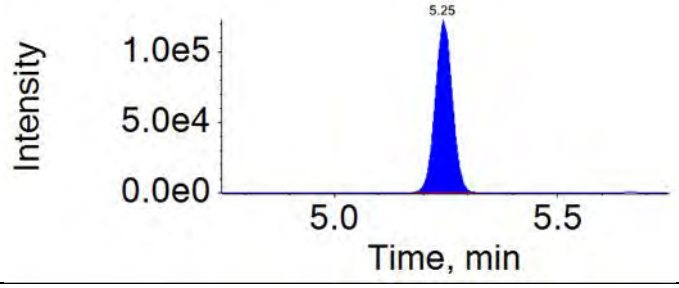
APPROVED
By JPT at 3:22 pm, 12/11/18

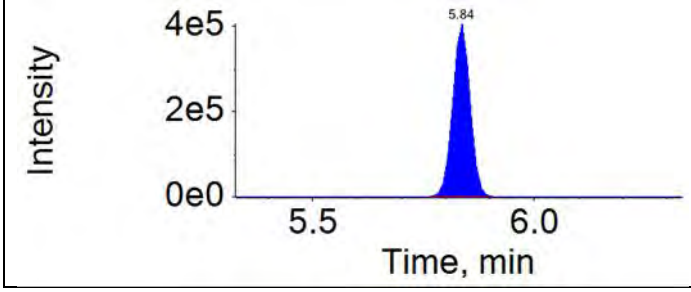
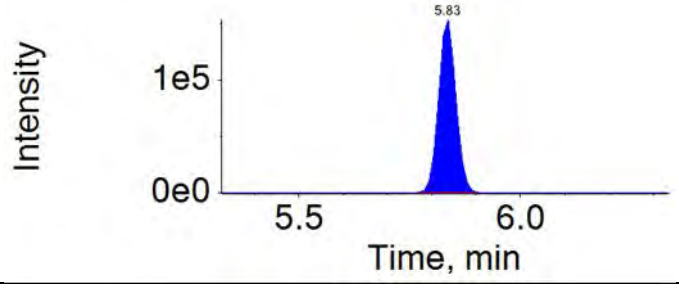
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

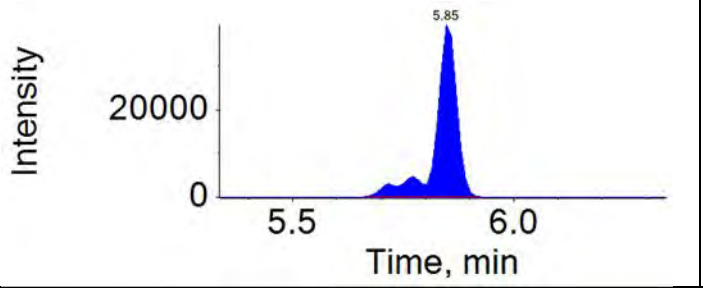
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

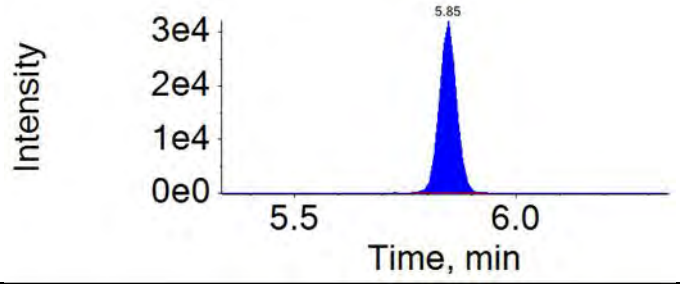
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

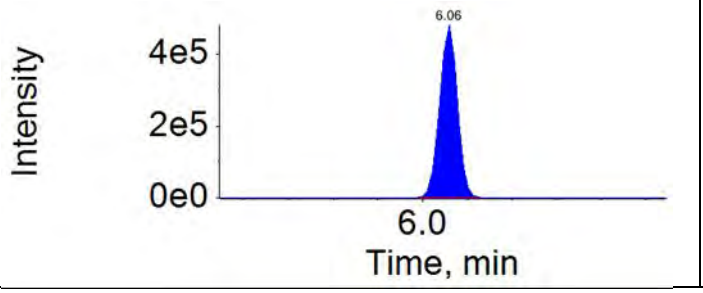
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

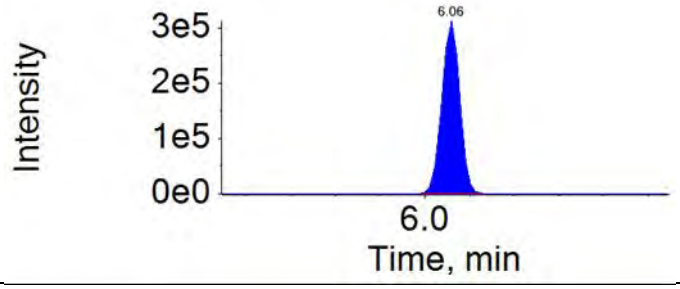
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



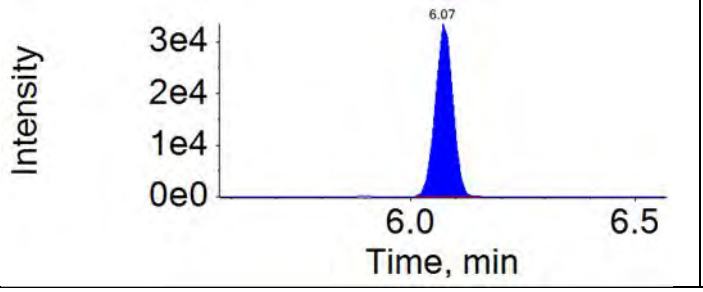


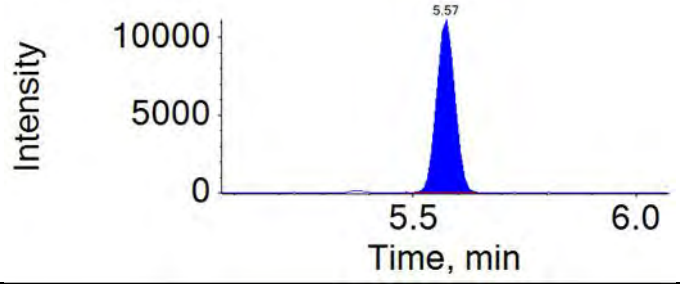
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



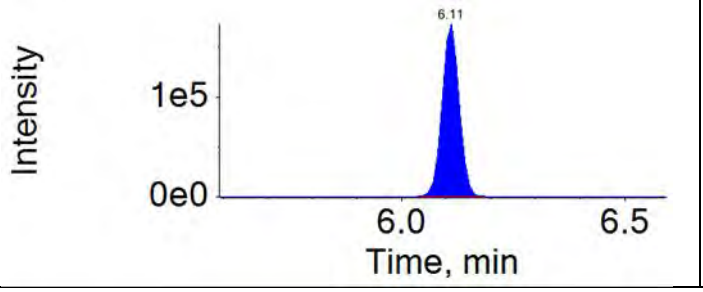


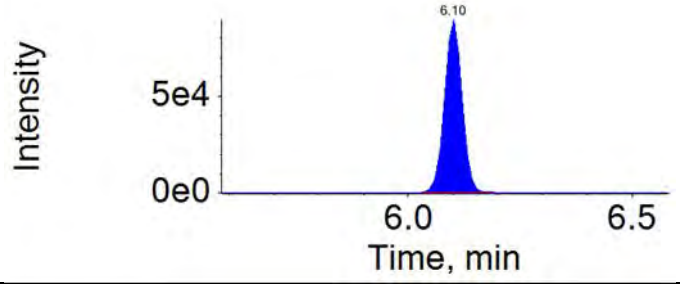
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



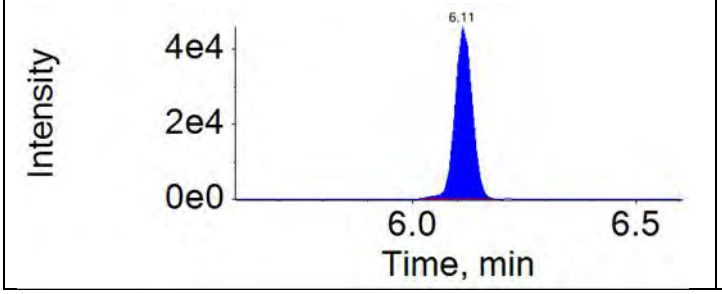


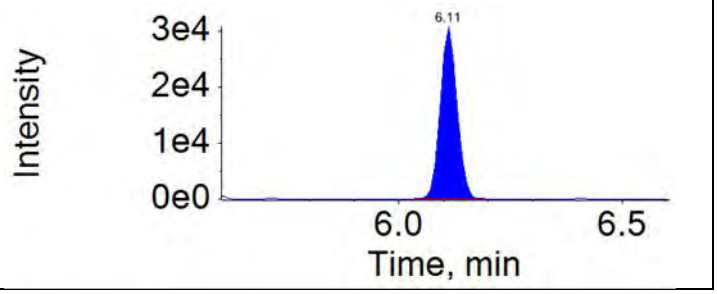
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

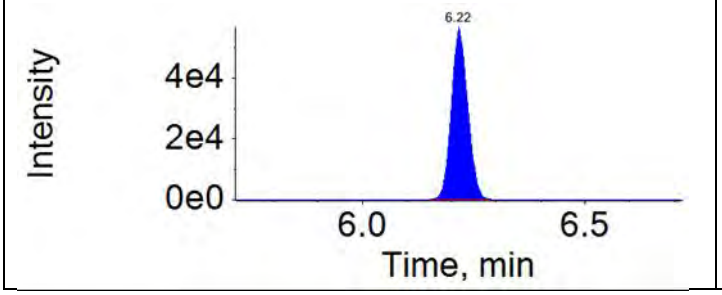
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

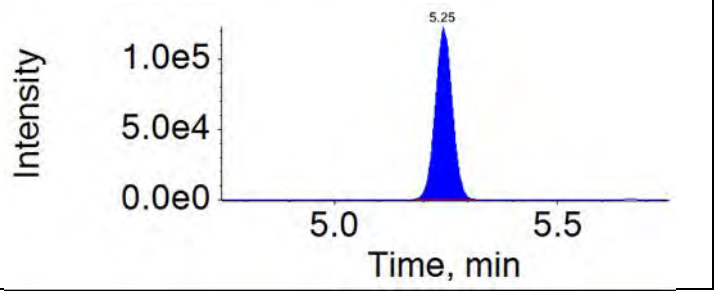
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



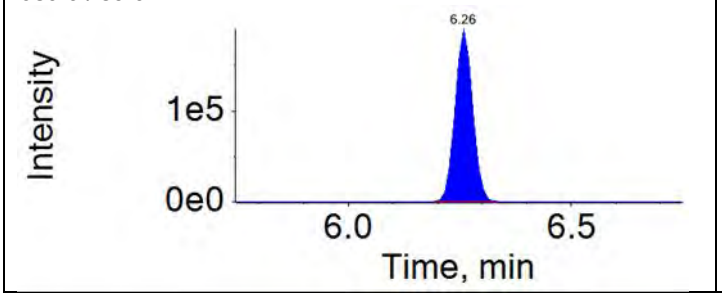


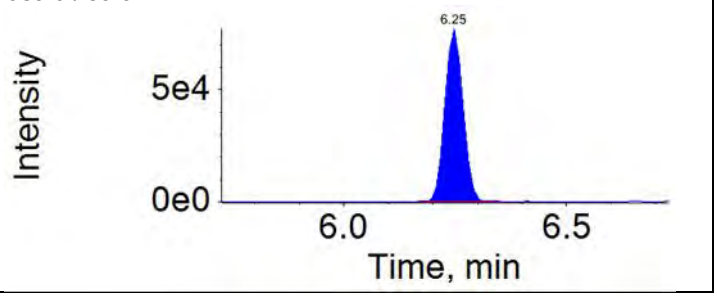
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



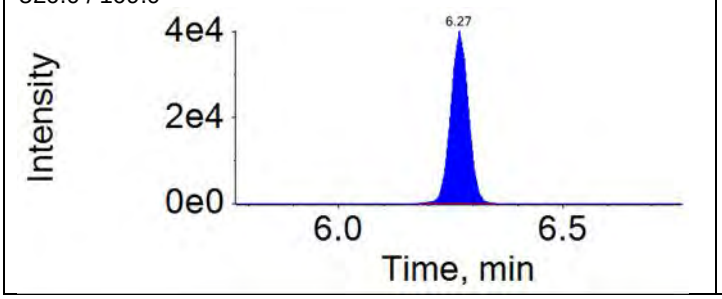


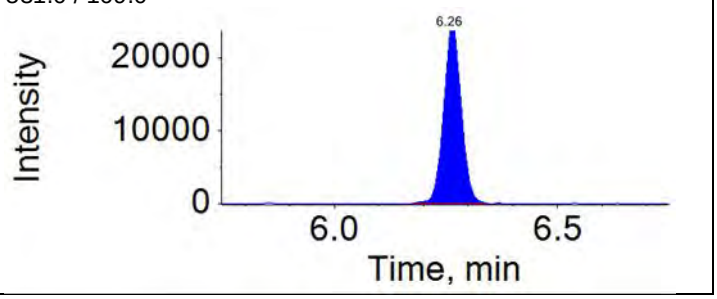
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

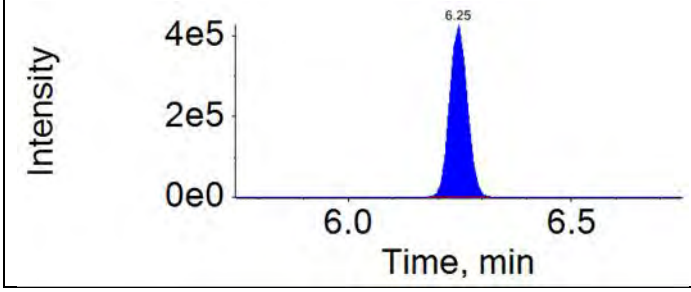
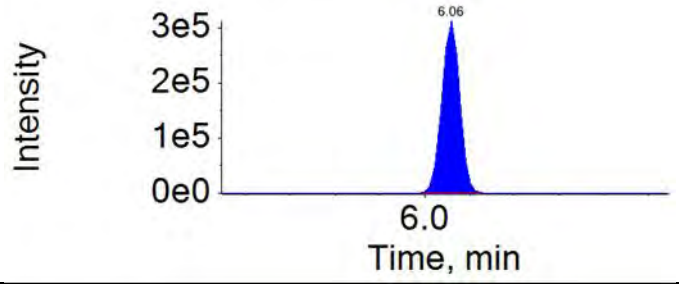


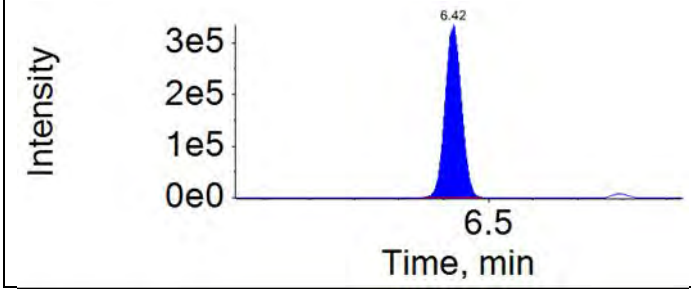
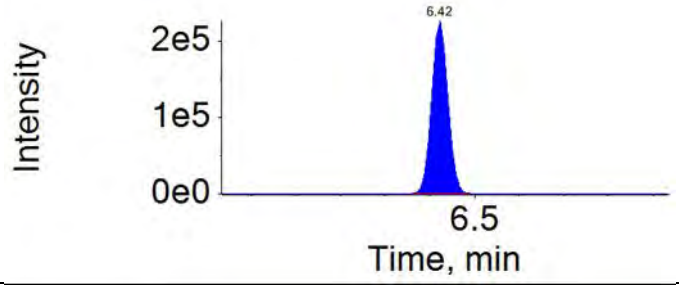


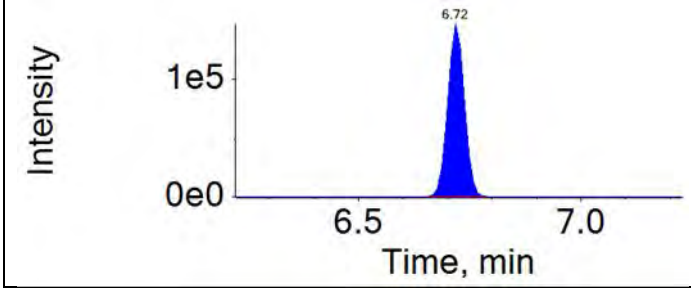
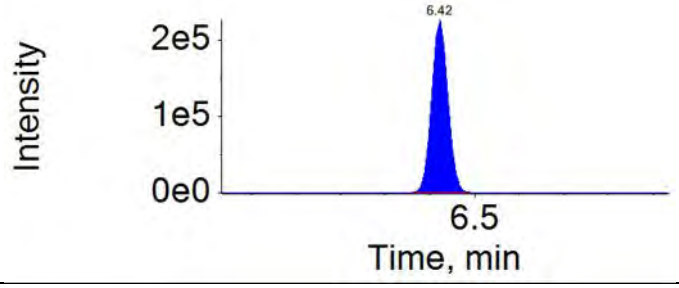
APPROVED
By JPT at 3:22 pm, 12/11/18

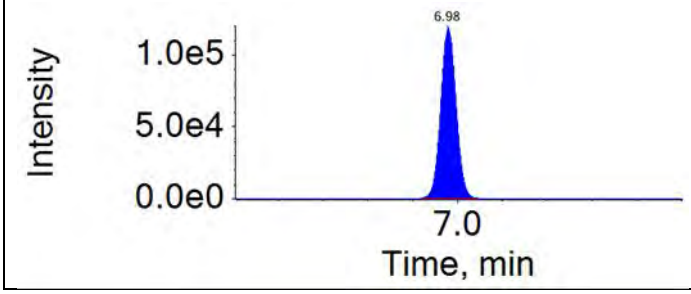
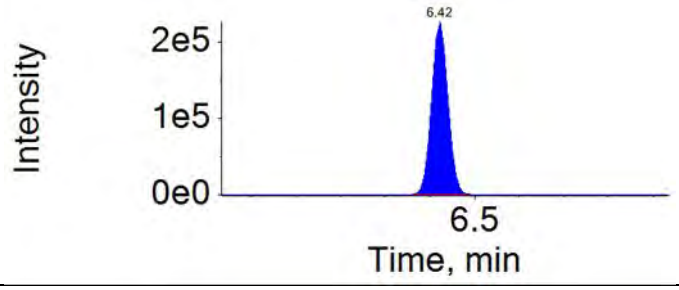
REVIEWED
By HMK at 10:36 am, 12/12/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

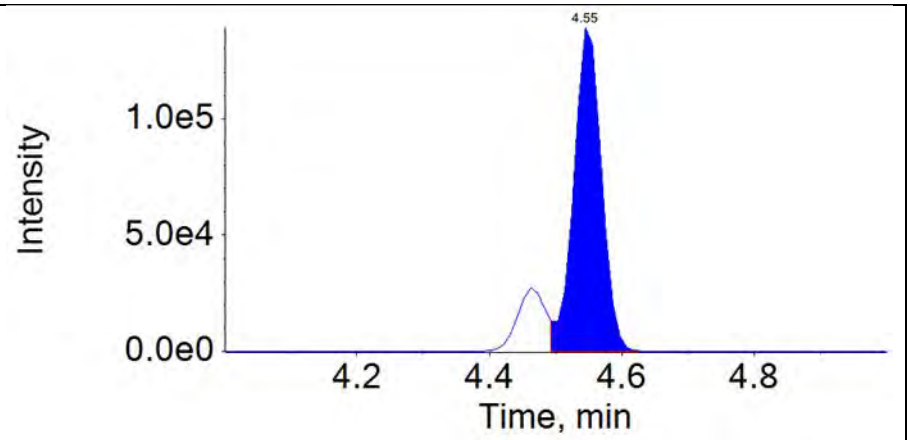
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

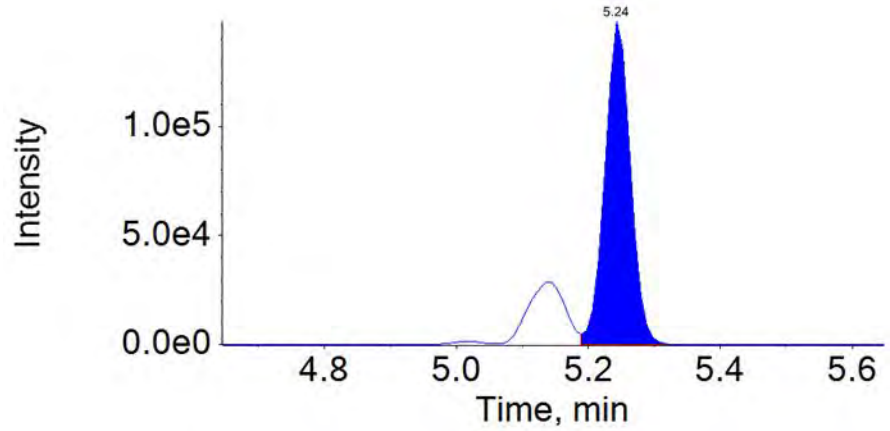
Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
406910.5
Mass Range:
399.0 / 80.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



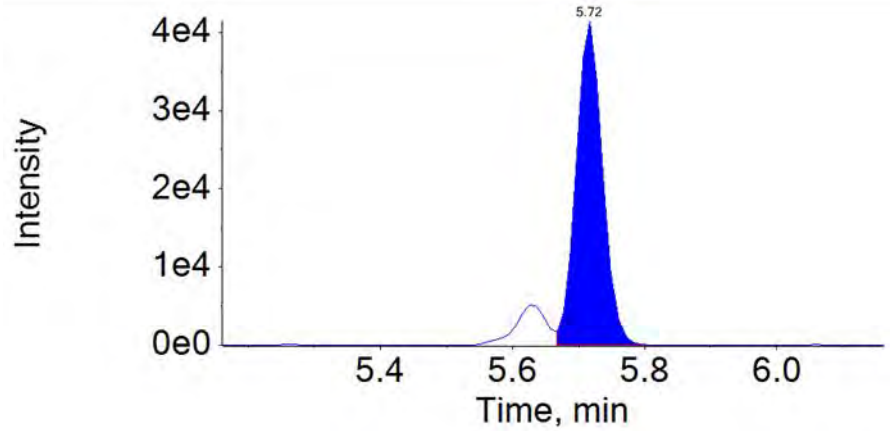
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
398185.5
Mass Range:
499.0 / 80.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
115196.2
Mass Range:
570.0 / 419.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



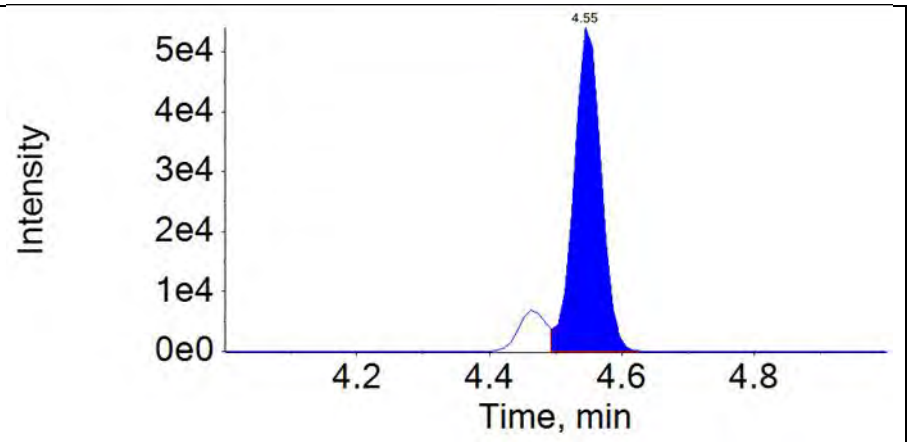
Integration Comment: incorrect integration

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

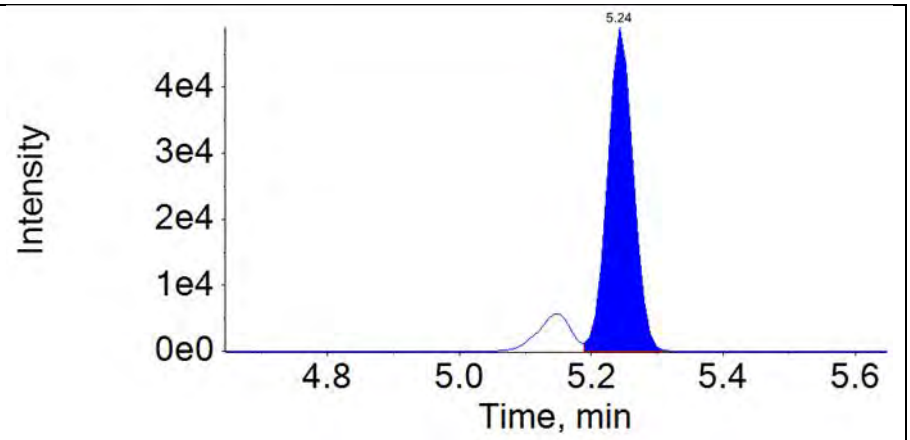
Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
154995.1
Mass Range:
399.0 / 99.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



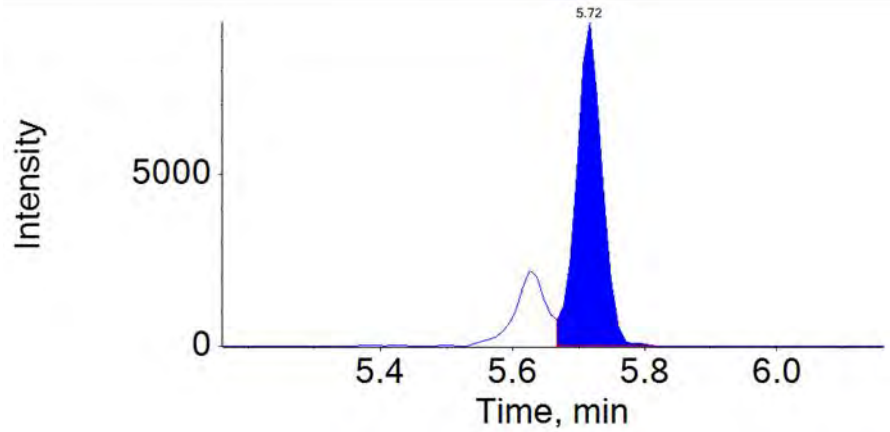
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
132951.4
Mass Range:
499.0 / 99.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
25359.8
Mass Range:
570.0 / 483.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

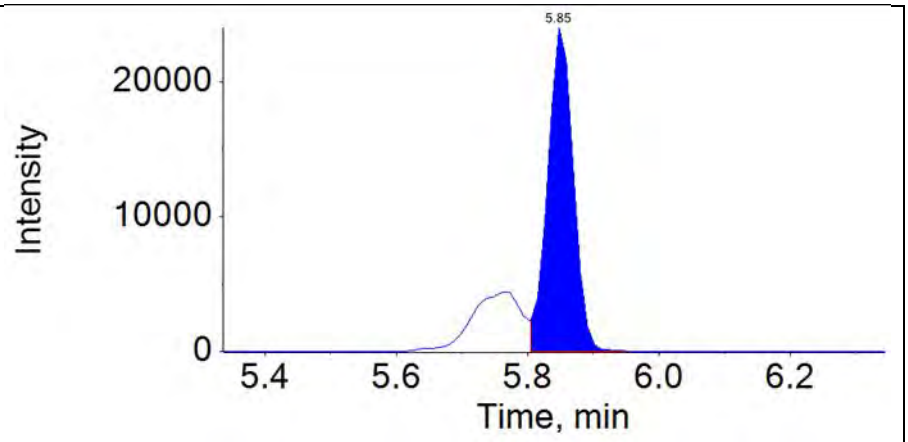
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
65371.5
Mass Range:
584.0 / 526.0
File Name:
18DEC11D-60.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

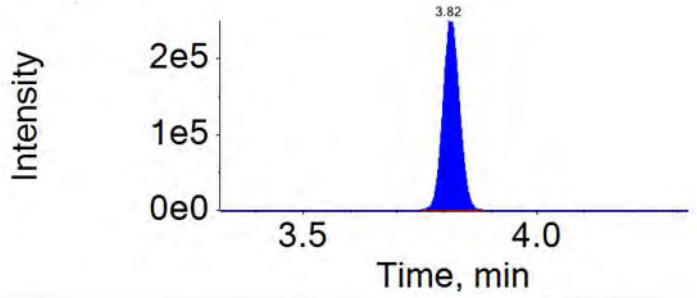
Sample Name: CCV6_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC11D-60.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	623750.5	A	N/A	1.0000			
PFBS_2	3.81	1.00	229412.3	A	N/A	0.3678	1	50	
4:2-FTS	4.13	1.00	124644.9	A	N/A	1.0000			
4:2-FTS_2	4.13	1.00	78168.7	A	N/A	0.6271	-4	50	
PFHxA	4.16	1.00	1356791.3	A	N/A	1.0000			
PFHxA_2	4.16	1.00	13974.9	A	N/A	0.0103	6	50	
PFPeS	4.18	1.10	330108.2	A	N/A	1.0000			
PFPeS_2	4.18	1.10	170509.3	A	N/A	0.5165	-2	50	
PFHpA	4.55	1.00	1421761.7	A	N/A	1.0000			
PFHpA_2	4.55	1.00	77143.1	A	N/A	0.0543	-4	50	
PFHxS	4.55	1.00	485347.3	M	N/A	1.0000			
PFHxS_2	4.55	1.00	174346.3	M	N/A	0.3592	-1	50	
6:2-FTS	4.90	1.00	119019.3	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	74502.8	A	N/A	0.6260	0	50	
PFHpS	4.91	1.08	476449.5	A	N/A	1.0000			
PFHpS_2	4.91	1.08	194112.2	A	N/A	0.4074	-2	50	
PFOA	4.91	1.00	1418346.4	A	N/A	1.0000			
PFOA_2	4.91	1.00	80039.1	A	N/A	0.0564	-8	50	
PFOS	5.24	1.00	514632.8	M	N/A	1.0000			
PFOS_2	5.24	1.00	152973.7	M	N/A	0.2972	-2	50	
PFNA	5.26	1.00	1202616.7	A	N/A	1.0000			
PFNA_2	5.26	1.00	25850.6	A	N/A	0.0215	12	50	
PFNS	5.55	1.06	358470.9	A	N/A	1.0000			
PFNS_2	5.55	1.06	162900.7	A	N/A	0.4544	-6	50	
PFDA	5.57	1.00	1040703.7	A	N/A	1.0000			
PFDA_2	5.57	1.00	8206.9	A	N/A	0.0079	-18	50	
8:2-FTS	5.57	1.00	111789.8	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	66212.8	A	N/A	0.5923	-3	50	
NMeFOSAA	5.72	1.00	132049.5	M	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	32538.0	M	N/A	0.2464	-8	50	
PFDS	5.81	1.11	284396.1	A	N/A	1.0000			
PFDS_2	5.81	1.11	144225.1	A	N/A	0.5071	2	50	
PFUnDA	5.84	1.00	1103150.4	A	N/A	1.0000			
PFUnDA_2	5.83	1.00	4288.7	A	N/A	0.0039	-5	50	
NEtFOSAA	5.85	1.00	133528.1	A	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	88652.4	M	N/A	0.6639	-1	50	
PFDoDA	6.06	1.00	1335997.2	A	N/A	1.0000			
PFDoDA_2	6.06	1.00	17155.9	A	N/A	0.0128	-4	50	
10:2-FTS	6.07	1.09	91006.0	A	N/A	1.0000			
10:2-FTS_2	6.08	1.09	55185.5	A	N/A	0.6064	-13	50	
PFTrDA	6.25	1.03	1174561.2	A	N/A	1.0000			
PFTrDA_2	6.24	1.03	10818.2	A	N/A	0.0092	22	50	
PFTeDA	6.42	1.00	844880.0	A	N/A	1.0000			
PFTeDA_2	6.42	1.00	5070.7	A	N/A	0.0060	-9	50	
PFHxDA	6.72	1.05	381928.5	A	N/A	1.0000			
PFHxDA_2	6.72	1.05	24679.8	A	N/A	0.0646	5	50	
PFODA	6.98	1.09	282666.1	A	N/A	1.0000			
PFODA_2	6.98	1.09	7638.7	A	N/A	0.0270	-1	50	

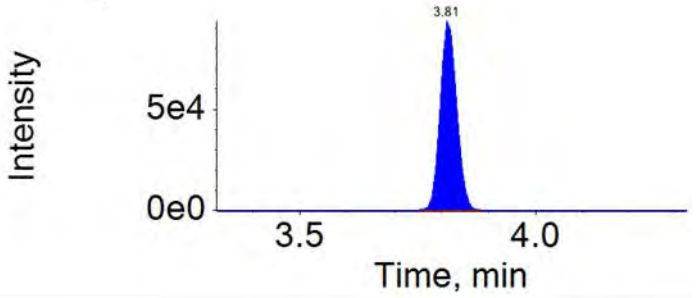
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

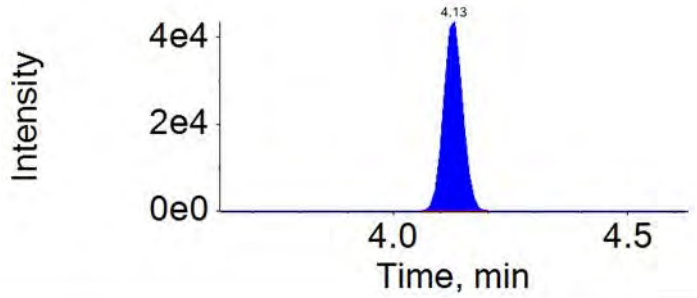
Component: PFBS
Primary Mass: 299.0 / 80.0



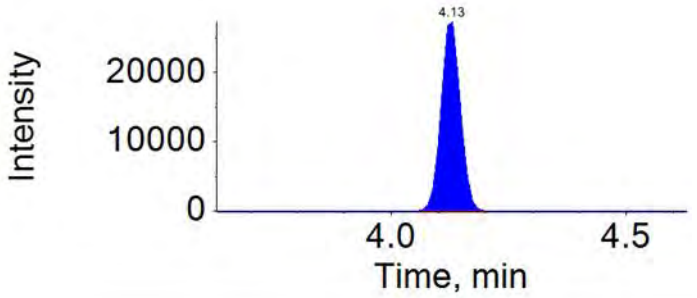
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



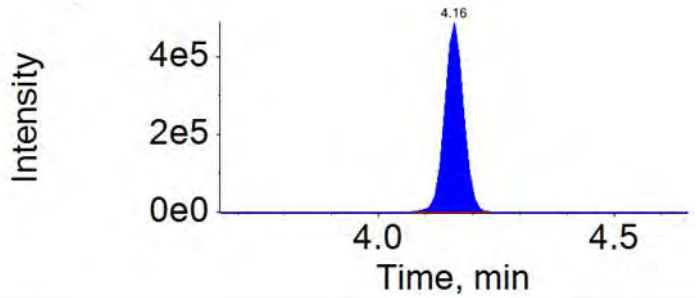
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



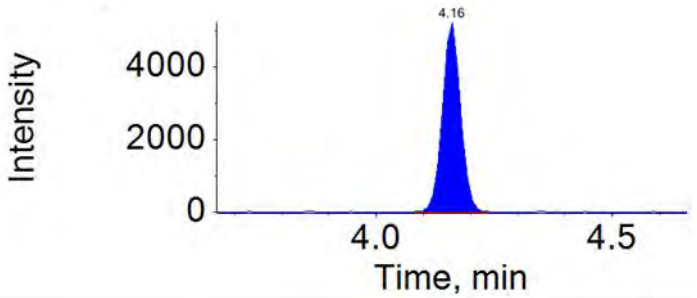
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



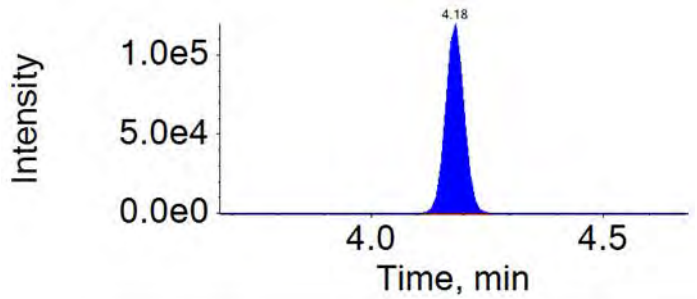
Component: PFHxA
Primary Mass: 313.0 / 269.0



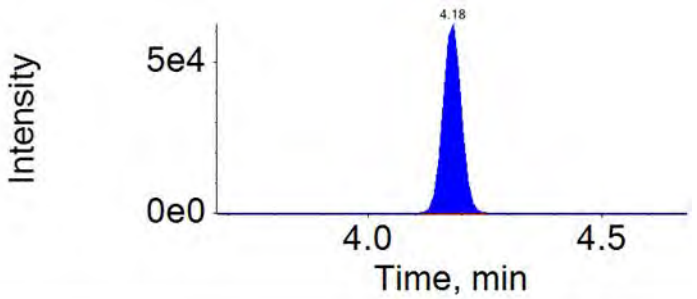
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



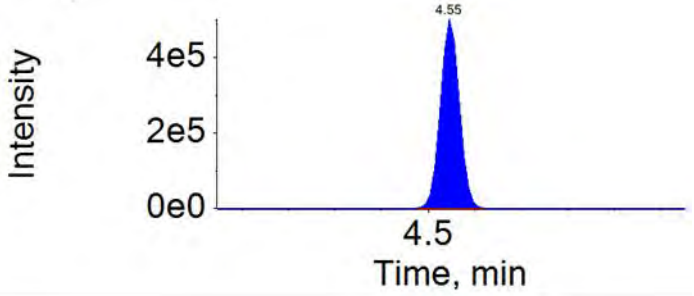
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



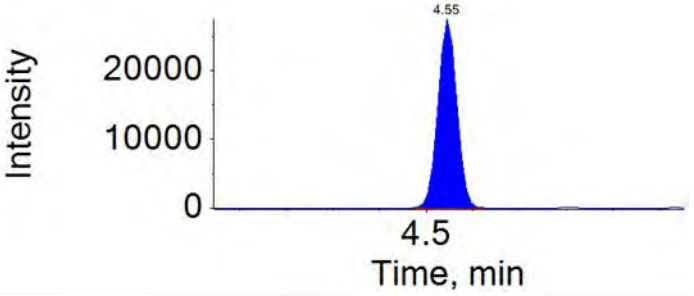
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

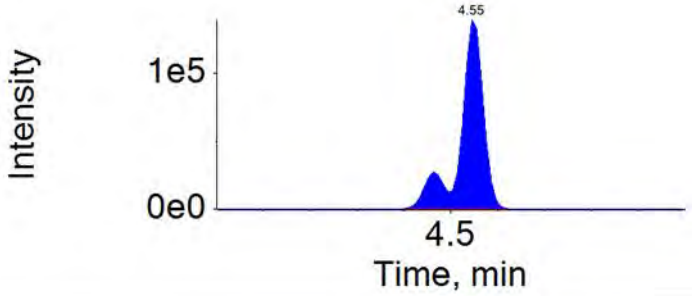
Component: PFHpA
Primary Mass: 363.0 / 319.0



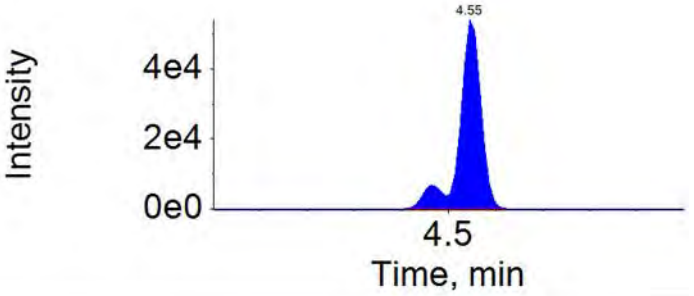
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



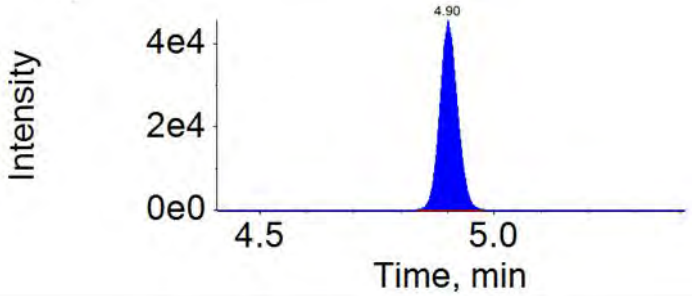
Component: PFHxS
Primary Mass: 399.0 / 80.0



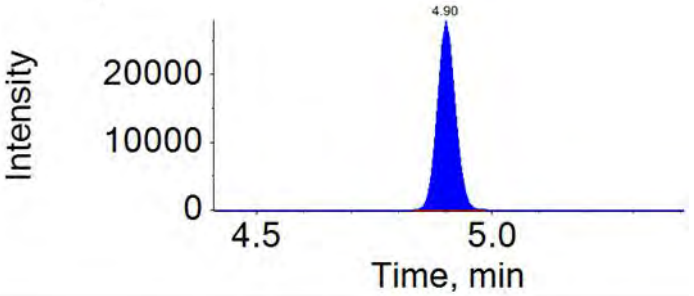
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



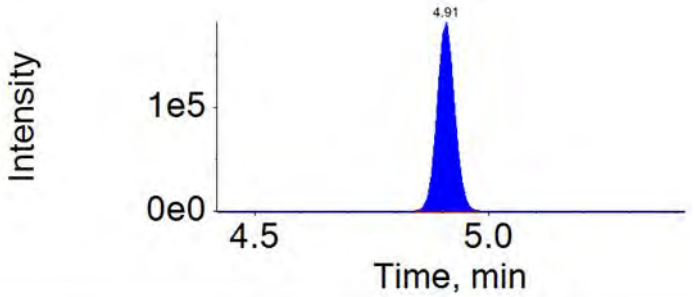
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



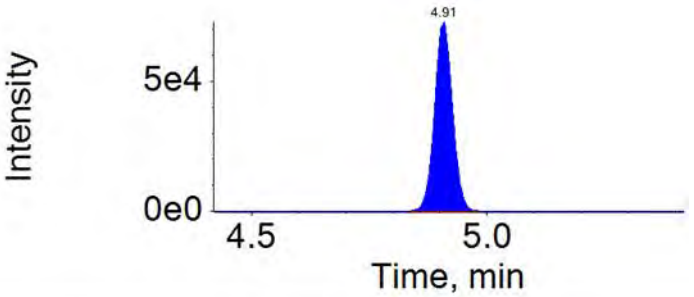
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



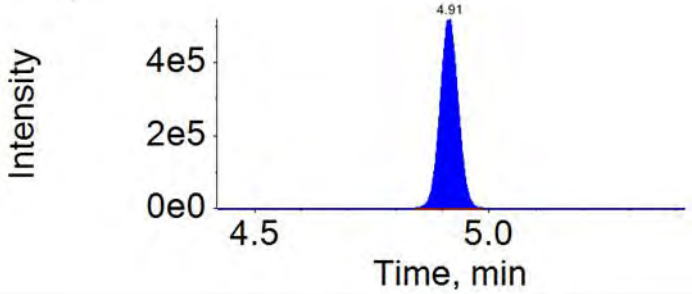
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



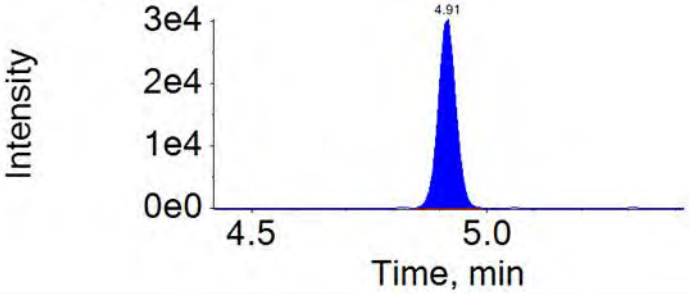
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

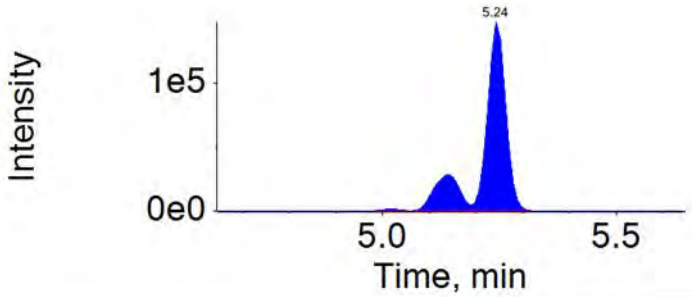
Component: PFOA
Primary Mass: 413.0 / 369.0



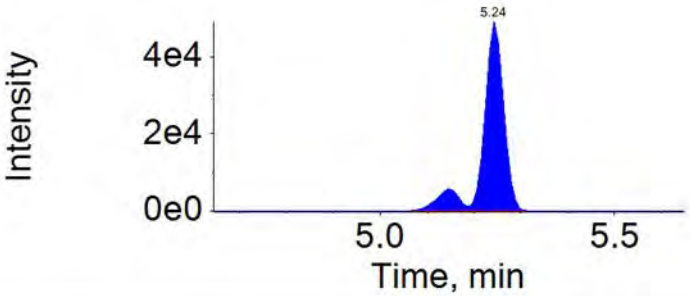
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



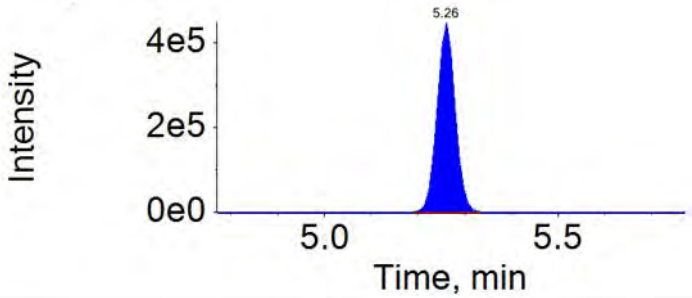
Component: PFOS
Primary Mass: 499.0 / 80.0



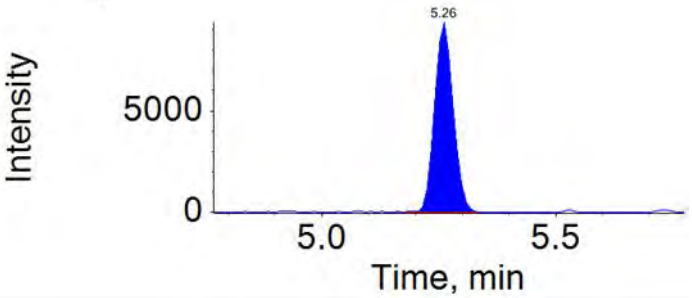
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



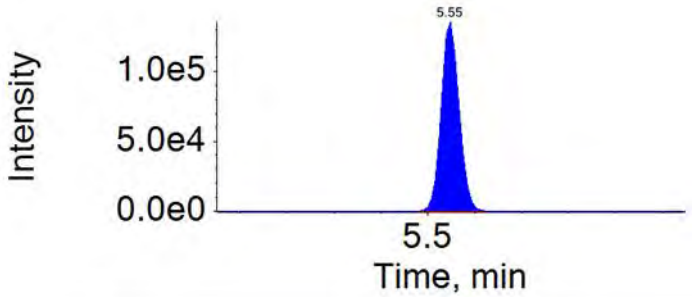
Component: PFNA
Primary Mass: 463.0 / 419.0



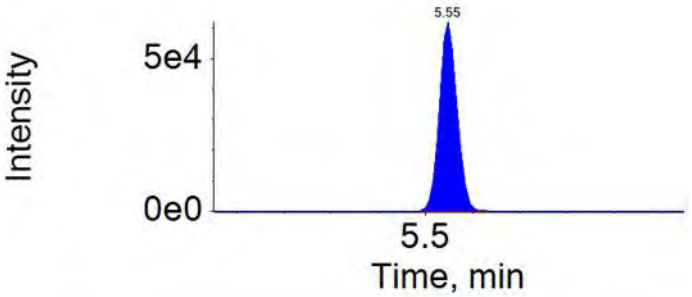
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



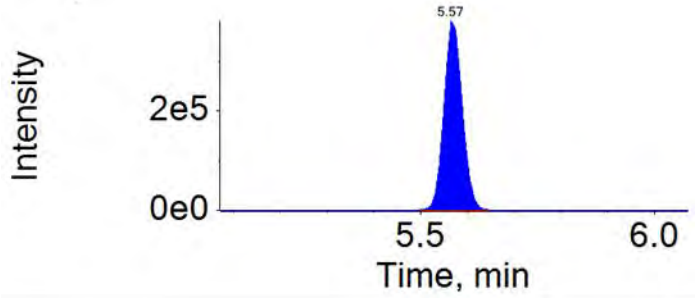
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



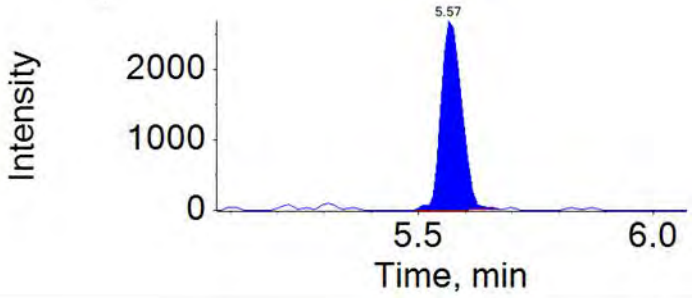
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

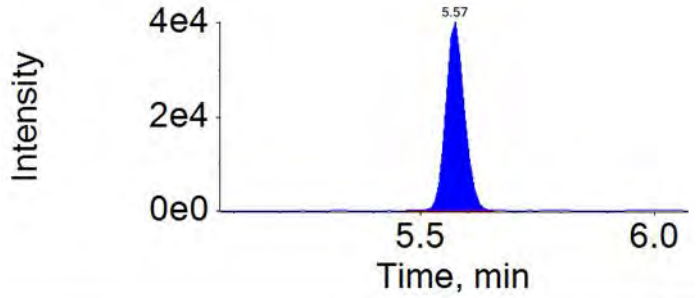
Component: PFDA
Primary Mass: 513.0 / 469.0



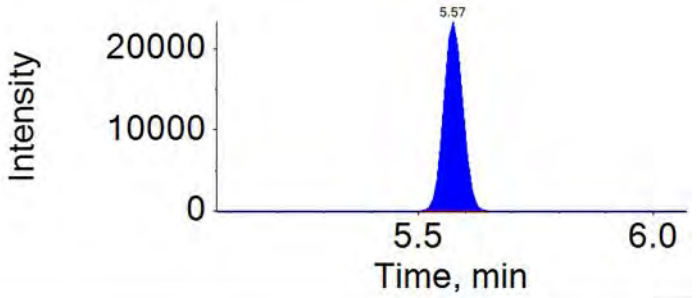
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



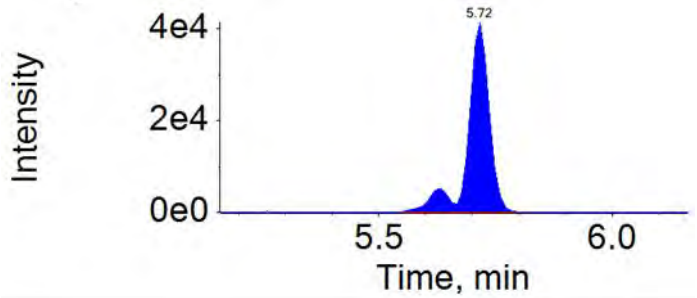
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



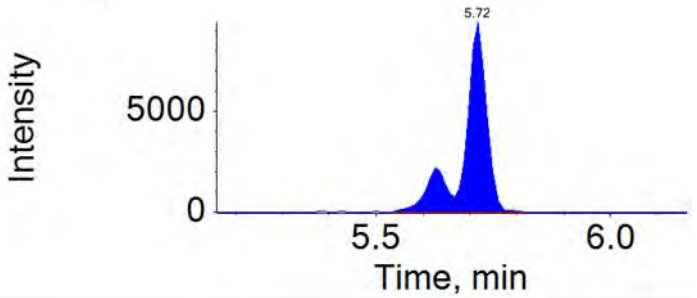
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



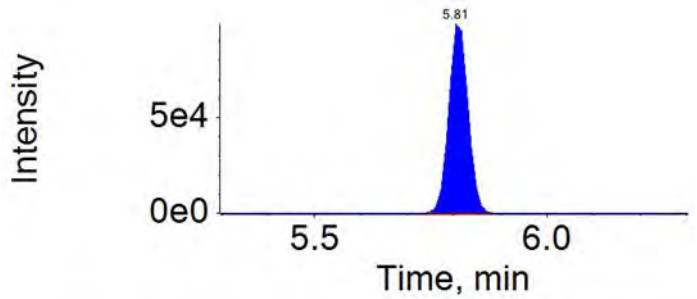
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



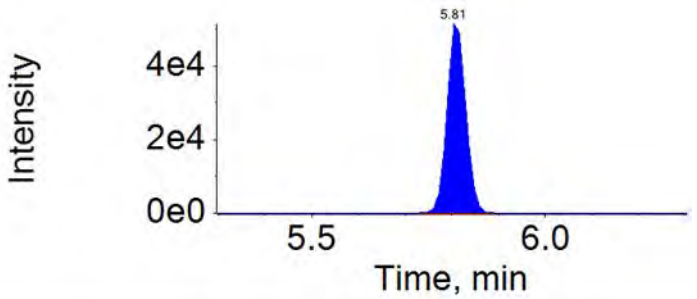
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



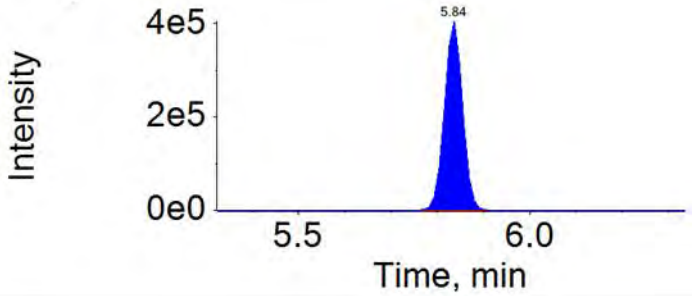
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



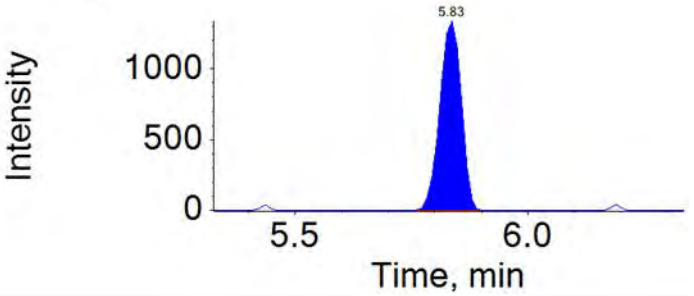
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

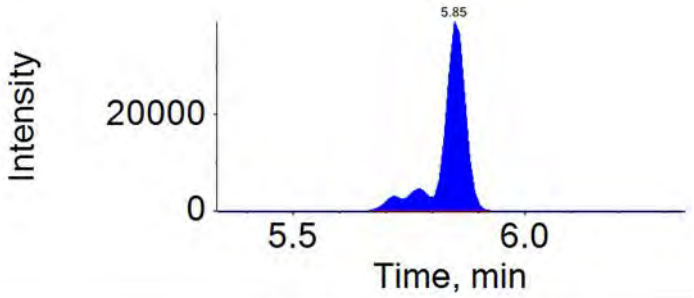
Component: PFUnDA
Primary Mass: 563.0 / 519.0



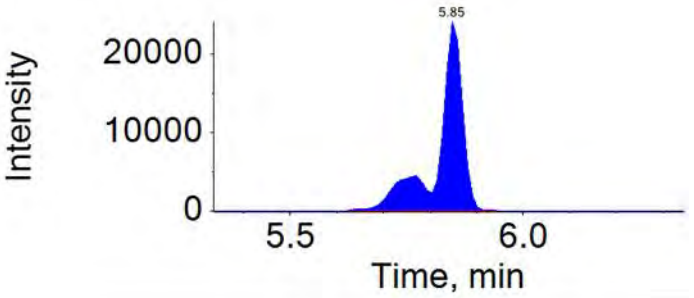
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



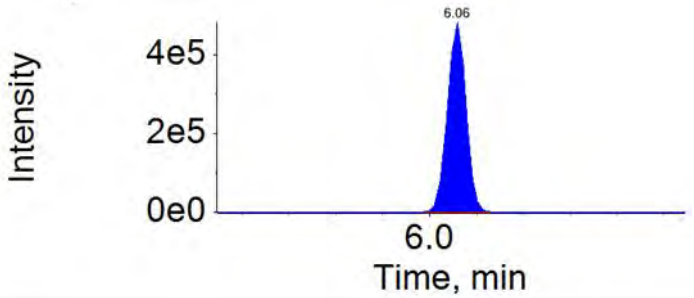
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



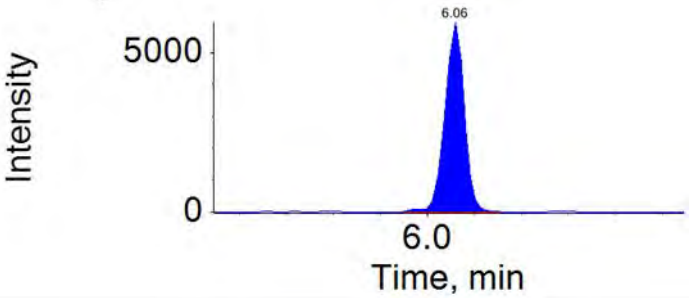
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



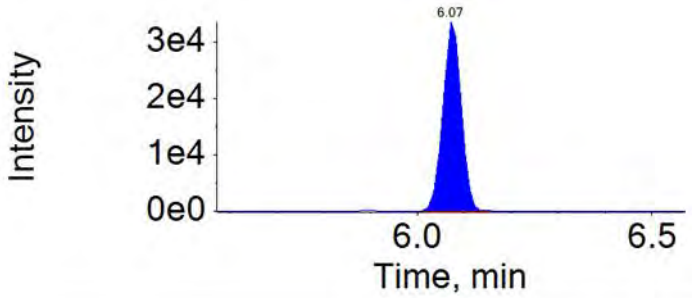
Component: PFDoDA
Primary Mass: 613.0 / 569.0



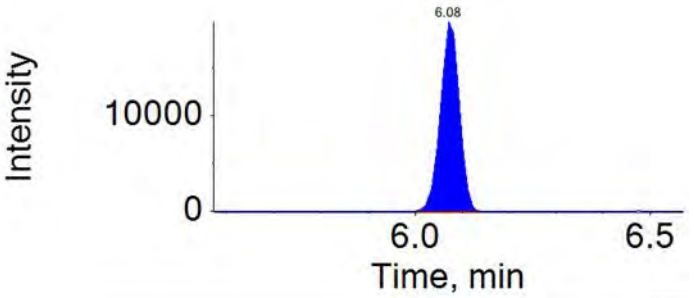
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



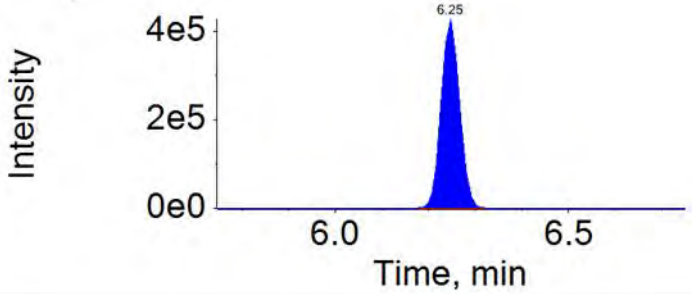
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



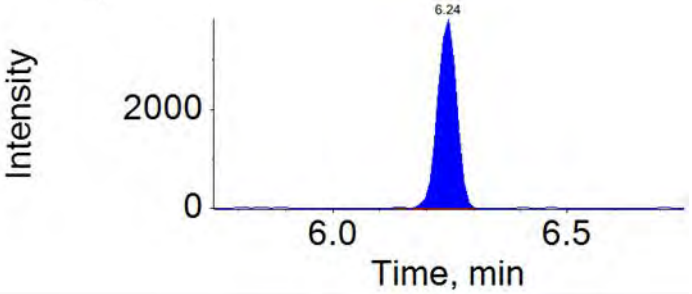
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

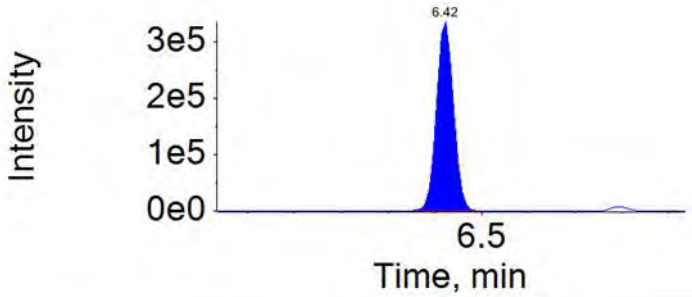
Component: PFTrDA
Primary Mass: 663.0 / 619.0



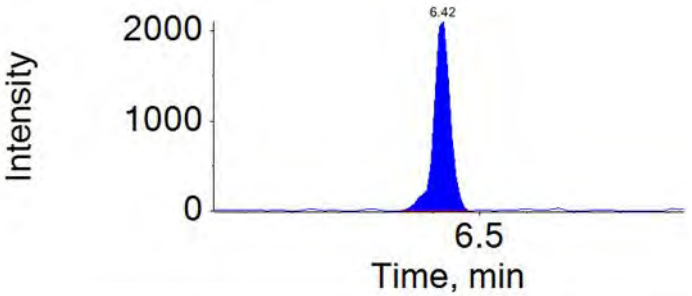
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



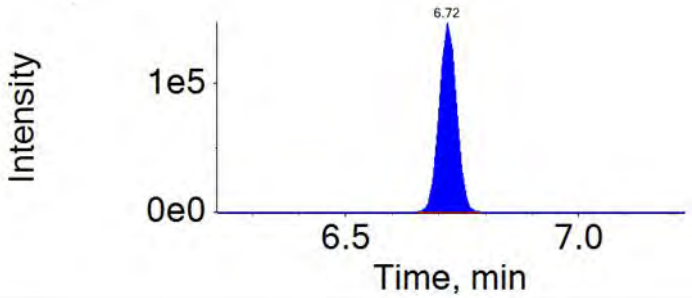
Component: PFTeDA
Primary Mass: 713.0 / 669.0



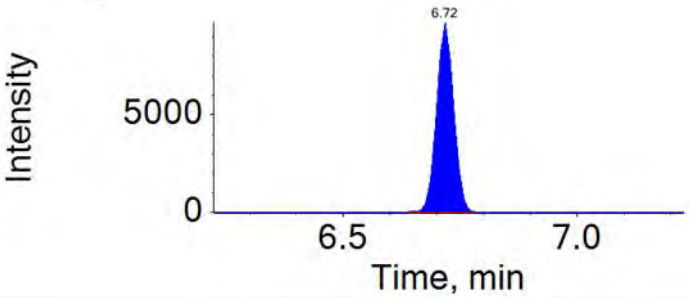
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



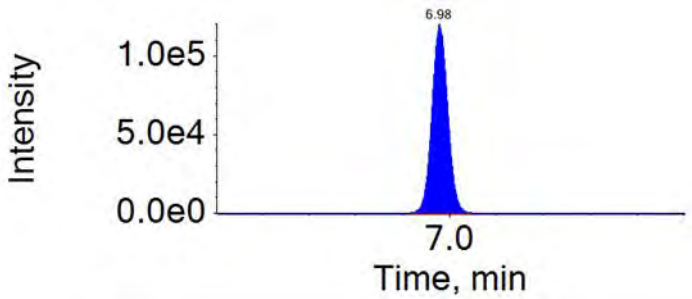
Component: PFHxDA
Primary Mass: 813.0 / 769.0



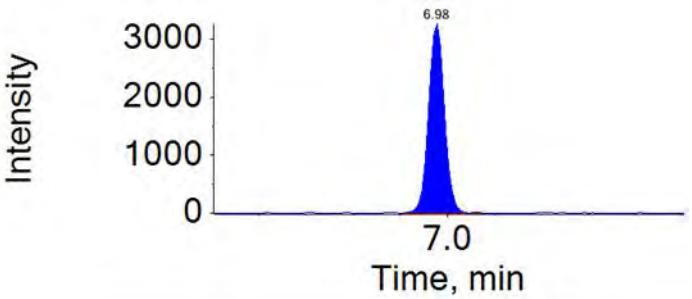
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



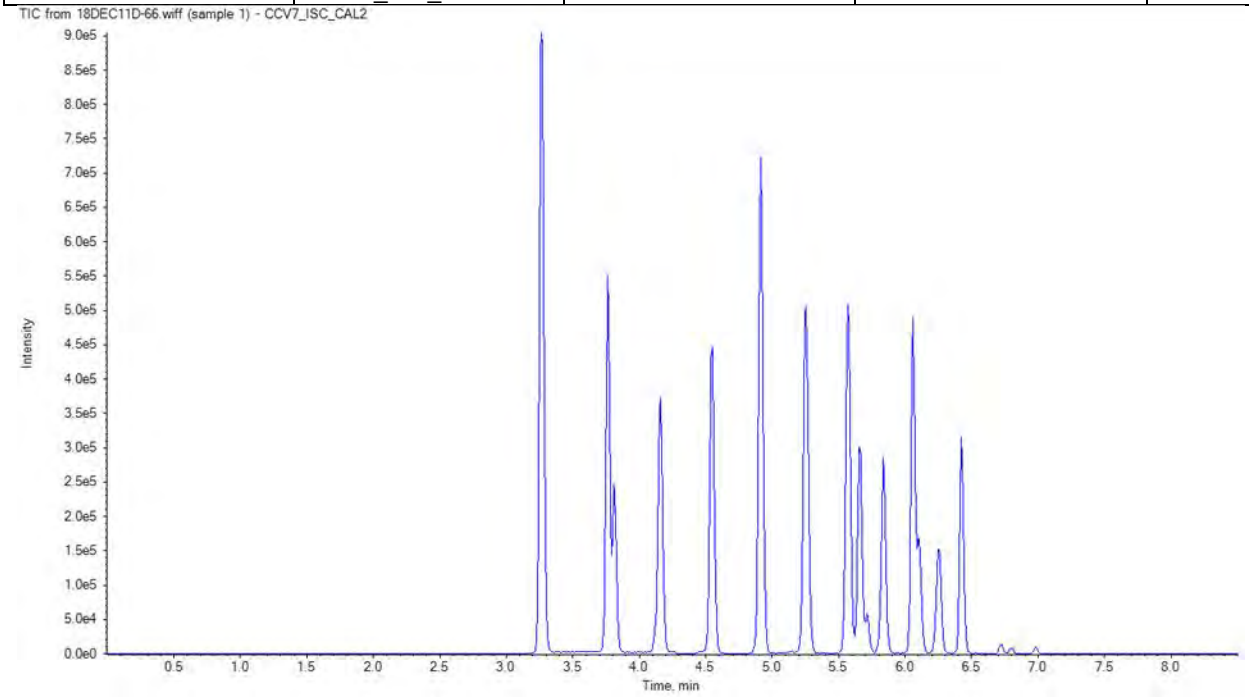
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 10:36 am, 12/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV7_ISC_CAL2	CALBRN21833C	18DEC11D-66.wiff	2018-12-11T14:46:02



Injection Standard Area Reference File: 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	922702.2	953492.0	-3	50	
13C2-PFOA	5.0	475061.6	500971.3	-5	50	
13C4-PFOS	4.8	288450.2	310746.2	-7	50	
13C2-PFDA	5.0	388299.4	419040.9	-7	50	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV7_ISC_CAL2	CALBRN21833C	18DEC11D-66.wiff	2018-12-11T14:46:02

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	112305.9	10	13C4-PFBA	1058110.9	5.0	0.106	3.26	1.000	0.600	0.586	-2	30	
PFPeA	103506.5	11	13C5-PFPeA	988417.2	5.0	0.105	3.77	1.000	0.600	0.551	-8	30	
PFBS	43564.7	10	13C3-PFBS	442464.7	4.7	0.098	3.81	1.000	0.531	0.488	-8	30	
4:2-FTS	8955.5	11	13C2-4:2-FTS	47778.1	4.7	0.187	4.13	1.000	0.560	0.502	-10	30	
PFHxA	97891.0	12	13C5-PFHxA	723663.2	5.0	0.135	4.16	1.000	0.600	0.589	-2	30	
PFPeS	21777.2	11	13C3-PFBS	442464.7	4.7	0.049	4.18	1.100	0.563	0.487	-13	30	
PFHpA	99677.5	11	13C4-PFHpA	574724.0	5.0	0.173	4.55	1.000	0.600	0.571	-5	30	
PFHxS	35646.4	18	13C3-PFHxS	345532.4	4.7	0.103	4.55	1.000	0.547	0.489	-11	30	
6:2-FTS	9689.0	11	13C2-6:2-FTS	39871.1	4.8	0.243	4.90	1.000	0.569	0.603	6	30	
PFHpS	32065.9	10	13C3-PFHxS	345532.4	4.7	0.093	4.91	1.080	0.571	0.509	-11	30	
PFOA	101818.0	11	13C8-PFOA	956426.8	5.0	0.106	4.91	1.000	0.600	0.582	-3	30	
PFOS	33473.7	21	13C8-PFOS	322887.5	4.8	0.104	5.24	1.000	0.555	0.430	-23	30	
PFNA	84268.8	11	13C9-PFNA	618896.8	5.0	0.136	5.26	1.000	0.600	0.502	-16	30	
PFNS	23485.9	11	13C8-PFOS	322887.5	4.8	0.073	5.55	1.060	0.576	0.468	-19	30	
PFDA	81553.5	11	13C6-PFDA	712900.9	5.0	0.114	5.57	1.000	0.600	0.644	7	30	
8:2-FTS	8836.4	16	13C2-8:2-FTS	33565.1	4.8	0.263	5.57	1.000	0.575	0.570	-1	30	
PFOSA	68995.0	11	13C8-PFOSA	651084.9	5.0	0.106	5.66	1.000	0.600	0.550	-8	30	
NMeFOSAA	10932.2	19	d3-NMeFOSAA	112616.4	5.0	0.097	5.72	1.000	0.600	0.642	7	30	
PFDS	18232.2	11	13C8-PFOS	322887.5	4.8	0.056	5.81	1.110	0.578	0.457	-21	30	
PFUnDA	75325.5	11	13C7-PFUnDA	447773.2	5.0	0.168	5.84	1.000	0.600	0.515	-14	30	
NEtFOSAA	7764.6	22	d5-NEtFOSAA	86408.4	5.0	0.090	5.85	1.000	0.600	0.454	-24	30	
PFDoDA	98143.7	11	13C2-PFDoDA	915160.7	5.0	0.107	6.06	1.000	0.600	0.565	-6	30	
10:2-FTS	5819.4	11	13C2-8:2-FTS	33565.1	4.8	0.173	6.08	1.090	0.578	0.459	-21	30	
NMePFOSAE	30482.1	11	d7-NMePFOSAE	254435.0	5.0	0.120	6.11	1.000	0.600	0.521	-13	30	
NMePFOSA	8902.6	12	d3-NMePFOSA	81046.5	5.0	0.110	6.11	1.000	0.600	0.554	-8	30	
PFDoS	10258.3	10	13C8-PFOS	322887.5	4.8	0.032	6.22	1.190	0.581	0.484	-17	30	
NEtPFOSAE	34551.5	11	d9-NEtPFOSAE	206159.2	5.0	0.168	6.26	1.000	0.600	0.562	-6	30	
NEtPFOSA	7761.2	11	d5-NEtPFOSA	66780.0	5.0	0.116	6.27	1.000	0.600	0.556	-7	30	
PFTrDA	82130.5	11	13C2-PFDoDA	915160.7	5.0	0.090	6.25	1.030	0.600	0.588	-2	30	
PFTeDA	59758.1	10	13C2-PFTeDA	589149.5	5.0	0.101	6.42	1.000	0.600	0.580	-3	30	
PFHxDA	27928.7	11	13C2-PFTeDA	589149.5	5.0	0.047	6.72	1.050	0.600	0.594	-1	30	
PFODA	19971.7	10	13C2-PFTeDA	589149.5	5.0	0.034	6.98	1.090	0.600	0.544	-9	30	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV7_ISC_CAL2			**Data File:**		18DEC11D-66.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-11T14:46:02
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC11DCCV1-7
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	N/A			**Operator:**		JPT12262
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	922702.2	953492.0	-3	50	
13C2-PFOA	5.0	475061.6	500971.3	-5	50	
13C4-PFOS	4.8	288450.2	310746.2	-7	50	
13C2-PFDA	5.0	388299.4	419040.9	-7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1058110.9	13C3-PFBA	922702.2	1.147	5.000	5.075	102	70-130	
E13C5-PFPeA	988417.2	13C3-PFBA	922702.2	1.071	5.000	5.088	102	70-130	
E13C3-PFBS	442464.7	13C3-PFBA	922702.2	0.480	4.650	4.065	87	70-130	
E13C2-4:2-FTS	47778.1	13C2-PFOA	475061.6	0.101	4.670	3.941	84	70-130	
E13C5-PFHxA	723663.2	13C2-PFOA	475061.6	1.523	5.000	5.114	102	70-130	
E13C3-PFHxS	345532.4	13C2-PFOA	475061.6	0.727	4.730	4.665	99	70-130	
E13C4-PFHpA	574724.0	13C2-PFOA	475061.6	1.210	5.000	5.143	103	70-130	
E13C2-6:2-FTS	39871.1	13C2-PFOA	475061.6	0.084	4.750	5.199	109	70-130	
E13C8-PFOA	956426.8	13C2-PFOA	475061.6	2.013	5.000	5.691	114	70-130	
E13C8-PFOS	322887.5	13C4-PFOS	288450.2	1.119	4.780	5.024	105	70-130	
E13C9-PFNA	618896.8	13C4-PFOS	288450.2	2.146	5.000	6.063	121	70-130	
E13C6-PFDA	712900.9	13C2-PFDA	388299.4	1.836	5.000	4.865	97	70-130	
E13C2-8:2-FTS	33565.1	13C2-PFDA	388299.4	0.086	4.790	5.643	118	70-130	
E13C8-PFOSA	651084.9	13C2-PFDA	388299.4	1.677	5.000	3.966	79	70-130	
Ed3-NMeFOSAA	112616.4	13C2-PFDA	388299.4	0.290	5.000	5.140	103	70-130	
E13C7-PFUnDA	447773.2	13C2-PFDA	388299.4	1.153	5.000	5.657	113	70-130	
Ed5-NEtFOSAA	86408.4	13C2-PFDA	388299.4	0.223	5.000	4.912	98	70-130	
E13C2-PFDoDA	915160.7	13C2-PFDA	388299.4	2.357	5.000	4.946	99	70-130	
Ed7-NMePFOSAE	254435.0	13C2-PFDA	388299.4	0.655	5.000	3.775	75	70-130	
Ed3-NMePFOSA	81046.5	13C2-PFDA	388299.4	0.209	5.000	3.803	76	70-130	
Ed9-NEtPFOSAE	206159.2	13C2-PFDA	388299.4	0.531	5.000	3.661	73	70-130	
Ed5-NEtPFOSA	66780.0	13C2-PFDA	388299.4	0.172	5.000	3.870	77	70-130	
E13C2-PFTeDA	589149.5	13C2-PFDA	388299.4	1.517	5.000	4.503	90	70-130	

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

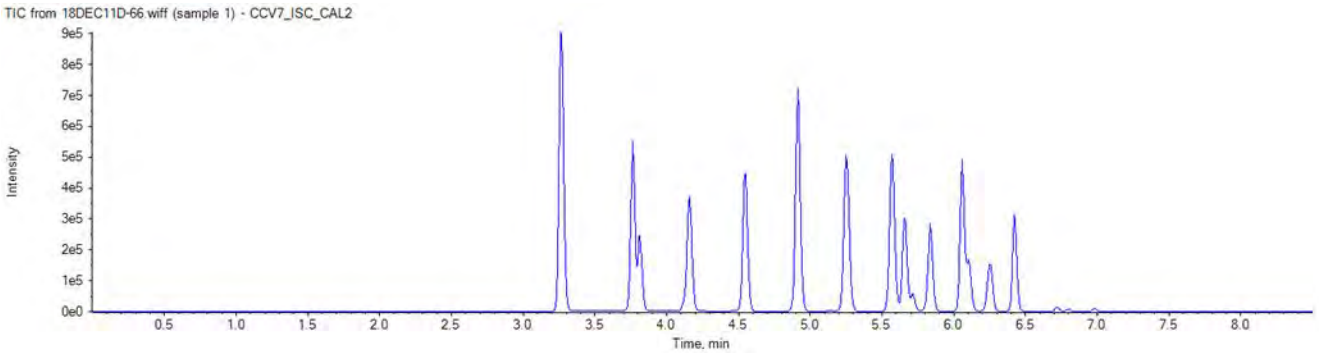
Analyte Quantitation Peak Table

Sample Name: CCV7_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC11D-66.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	112305.9		A	13C4-PFBA	3.26	1058110.9	0.106	0.586
PFPeA	3.77	1.000	103506.5		M	13C5-PFPeA	3.76	988417.2	0.105	0.551
PFBS	3.81	1.000	43564.7		A	13C3-PFBS	3.81	442464.7	0.098	0.488
4:2-FTS	4.13	1.000	8955.5		A	13C2-4:2-FTS	4.13	47778.1	0.187	0.502
PFHxA	4.16	1.000	97891.0		A	13C5-PFHxA	4.16	723663.2	0.135	0.589
PFPeS	4.18	1.100	21777.2		A	13C3-PFBS	3.81	442464.7	0.049	0.487
PFHpA	4.55	1.000	99677.5		A	13C4-PFHpA	4.55	574724.0	0.173	0.571
PFHxS	4.55	1.000	35646.4		M	13C3-PFHxS	4.55	345532.4	0.103	0.489
6:2-FTS	4.90	1.000	9689.0		A	13C2-6:2-FTS	4.90	39871.1	0.243	0.603
PFHpS	4.91	1.080	32065.9		A	13C3-PFHxS	4.55	345532.4	0.093	0.509
PFOA	4.91	1.000	101818.0		A	13C8-PFOA	4.91	956426.8	0.106	0.582
PFOS	5.24	1.000	33473.7		M	13C8-PFOS	5.24	322887.5	0.104	0.430
PFNA	5.26	1.000	84268.8		A	13C9-PFNA	5.26	618896.8	0.136	0.502
PFNS	5.55	1.060	23485.9		A	13C8-PFOS	5.24	322887.5	0.073	0.468
PFDA	5.57	1.000	81553.5		A	13C6-PFDA	5.57	712900.9	0.114	0.644
8:2-FTS	5.57	1.000	8836.4		A	13C2-8:2-FTS	5.58	33565.1	0.263	0.570
PFOSA	5.66	1.000	68995.0		A	13C8-PFOSA	5.66	651084.9	0.106	0.550
NMeFOSAA	5.72	1.000	10932.2		A	d3-NMeFOSAA	5.71	112616.4	0.097	0.642
PFDS	5.81	1.110	18232.2		A	13C8-PFOS	5.24	322887.5	0.056	0.457
PFUnDA	5.84	1.000	75325.5		A	13C7-PFUnDA	5.84	447773.2	0.168	0.515
NEtFOSAA	5.85	1.000	7764.6		A	d5-NEtFOSAA	5.85	86408.4	0.090	0.454
PFDoDA	6.06	1.000	98143.7		A	13C2-PFDoDA	6.06	915160.7	0.107	0.565
10:2-FTS	6.08	1.090	5819.4		A	13C2-8:2-FTS	5.58	33565.1	0.173	0.459
NMePFOSAE	6.11	1.000	30482.1		A	d7-NMePFOSAE	6.10	254435.0	0.120	0.521
NMePFOSA	6.11	1.000	8902.6		A	d3-NMePFOSA	6.11	81046.5	0.110	0.554
PFDoS	6.22	1.190	10258.3		A	13C8-PFOS	5.24	322887.5	0.032	0.484
NEtPFOSAE	6.26	1.000	34551.5		A	d9-NEtPFOSAE	6.25	206159.2	0.168	0.562
NEtPFOSA	6.27	1.000	7761.2		A	d5-NEtPFOSA	6.27	66780.0	0.116	0.556
PFTrDA	6.25	1.030	82130.5		A	13C2-PFDoDA	6.06	915160.7	0.090	0.588
PFTeDA	6.42	1.000	59758.1		A	13C2-PFTeDA	6.42	589149.5	0.101	0.580
PFHxDA	6.72	1.050	27928.7		A	13C2-PFTeDA	6.42	589149.5	0.047	0.594
PFODA	6.98	1.090	19971.7		A	13C2-PFTeDA	6.42	589149.5	0.034	0.544

Total Ion Chromatogram

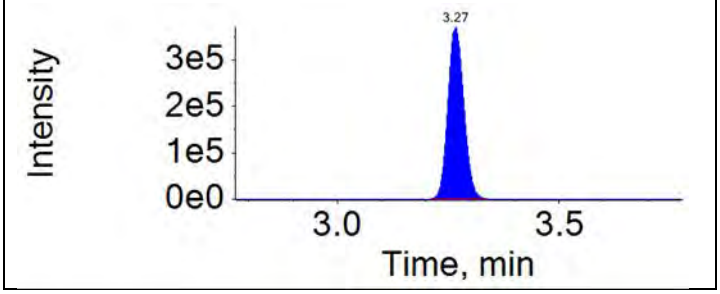


APPROVED
By JPT at 3:22 pm, 12/11/18

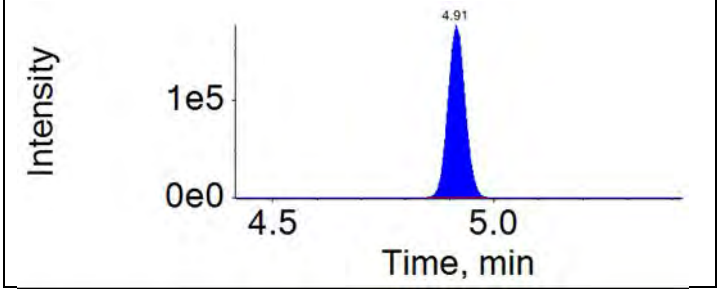
REVIEWED
By HMK at 12:51 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

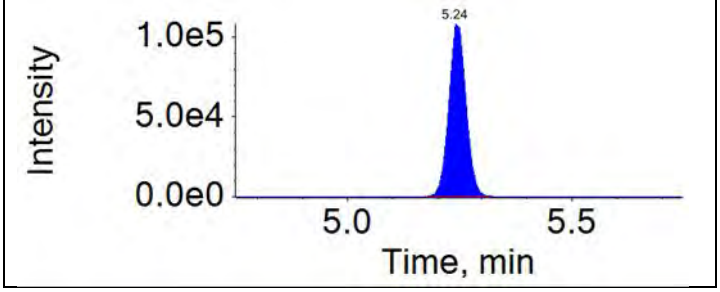
Injection Standard: 13C3-PFBA
216.0 / 172.0



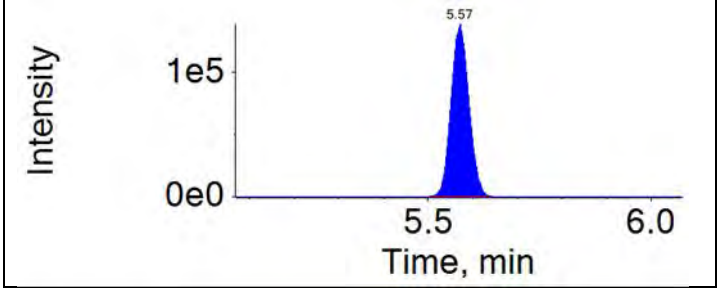
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



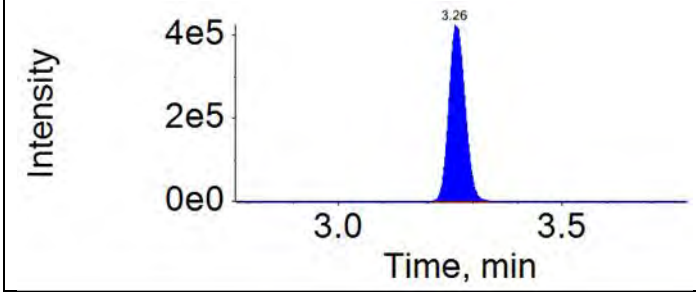
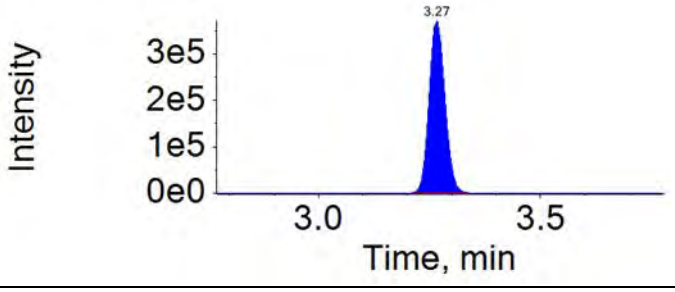
Injection Standard: 13C2-PFDA
515.0 / 470.0

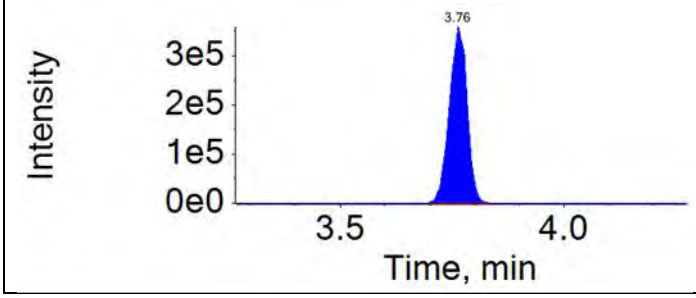
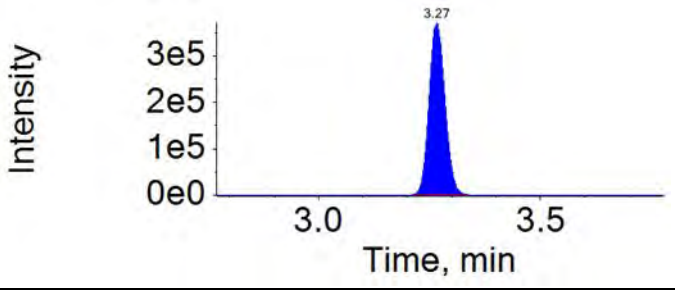


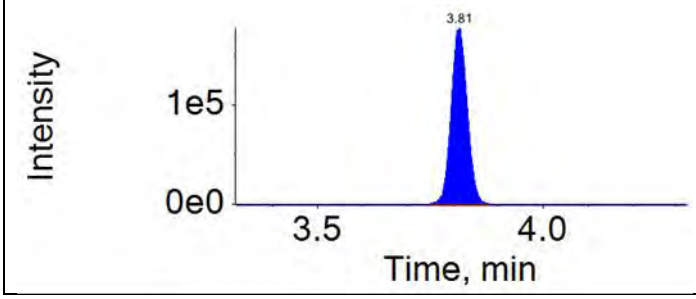
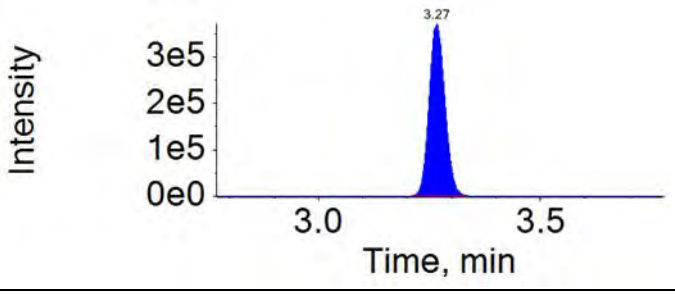
APPROVED
By JPT at 3:22 pm, 12/11/18

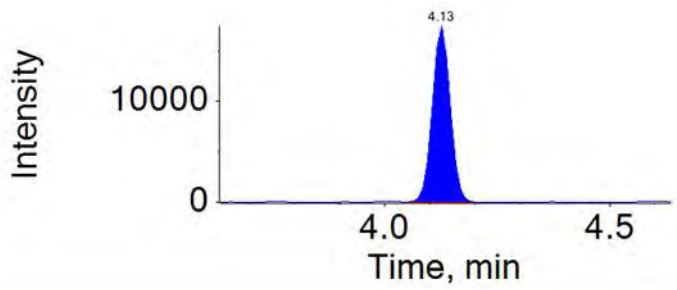
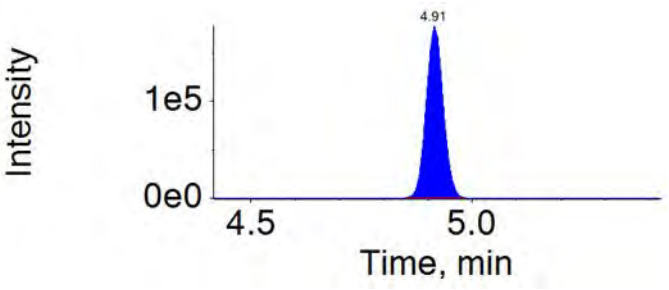
REVIEWED
By HMK at 12:51 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

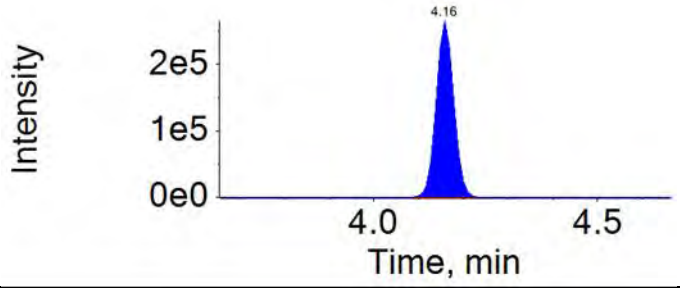
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

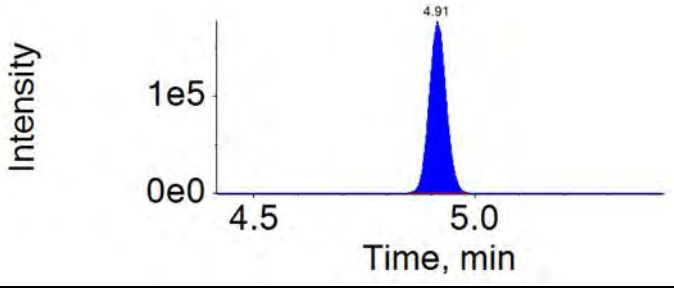
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

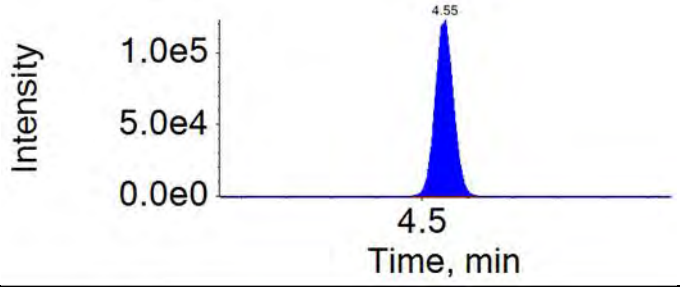
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

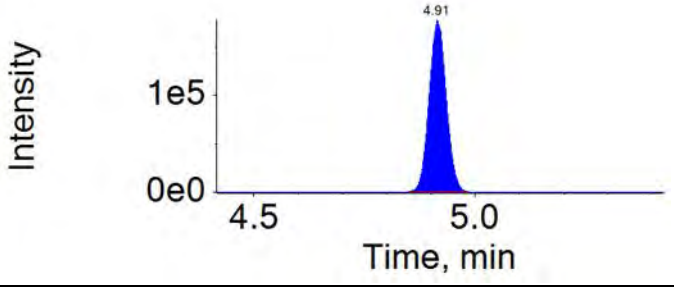
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



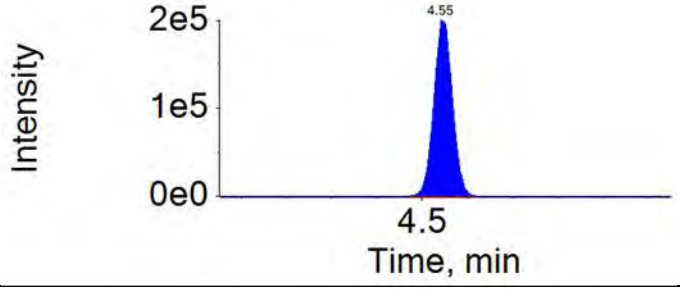


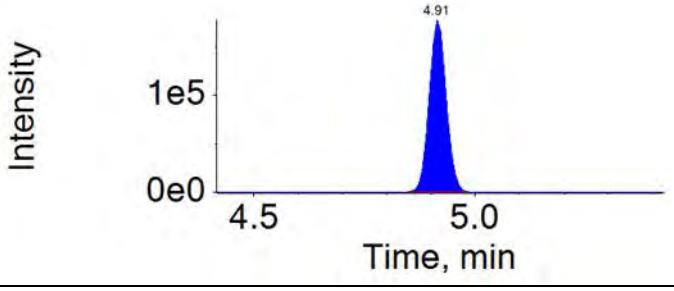
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



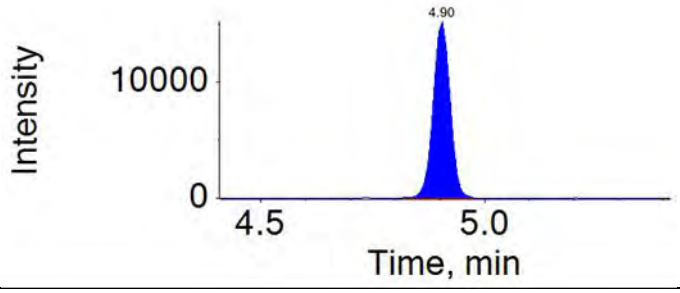


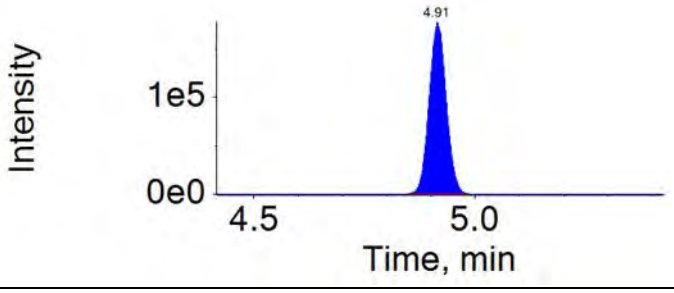
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

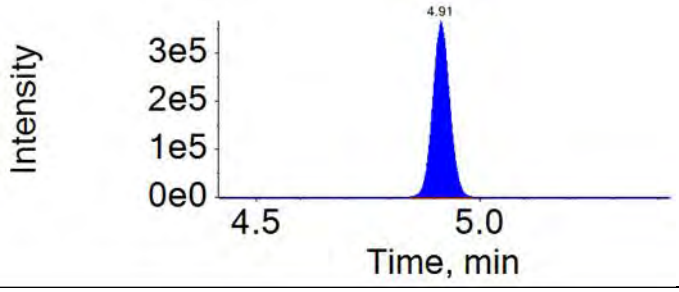
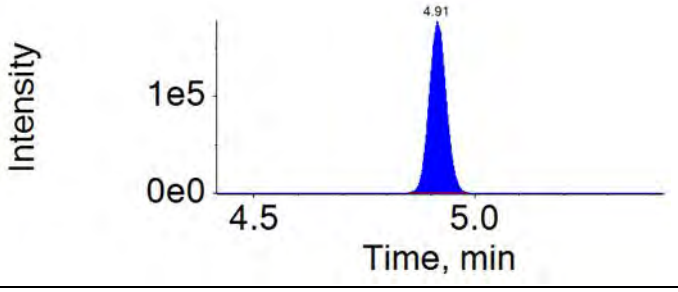


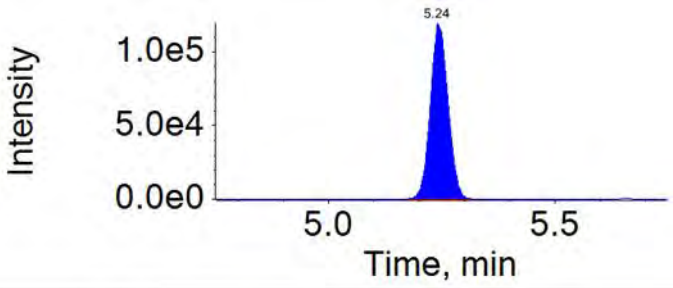
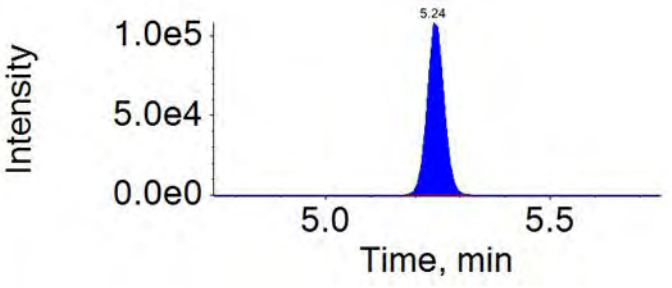


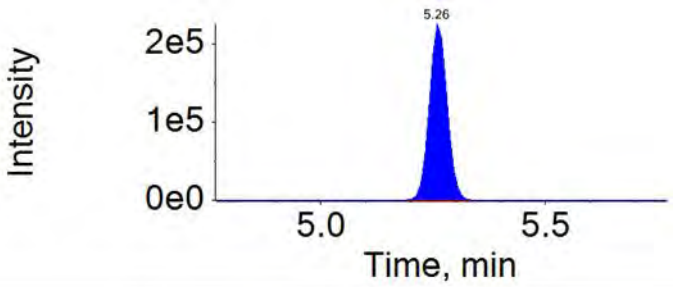
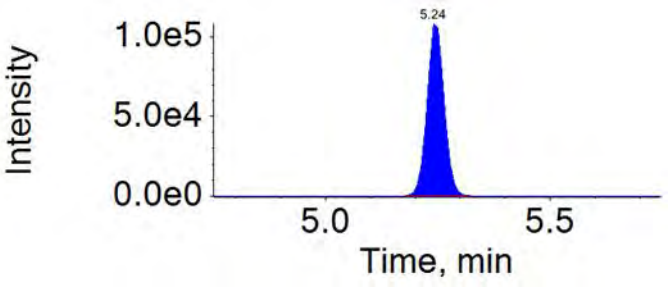
APPROVED
By JPT at 3:22 pm, 12/11/18

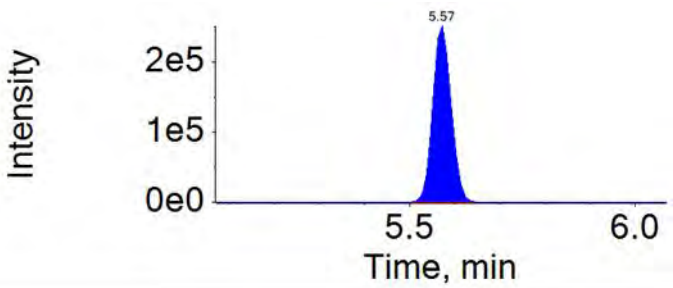
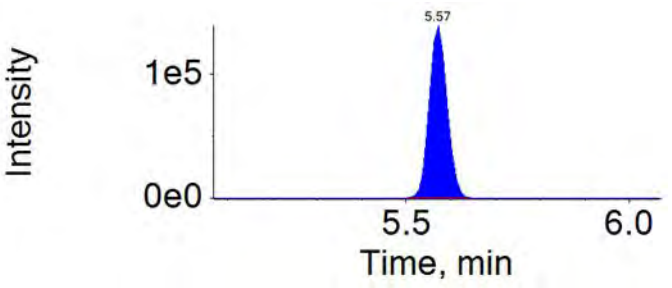
REVIEWED
By HMK at 12:51 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

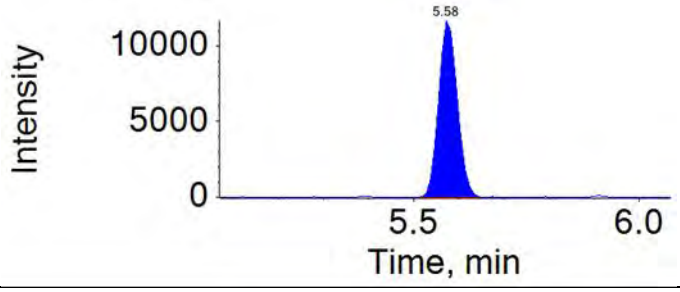
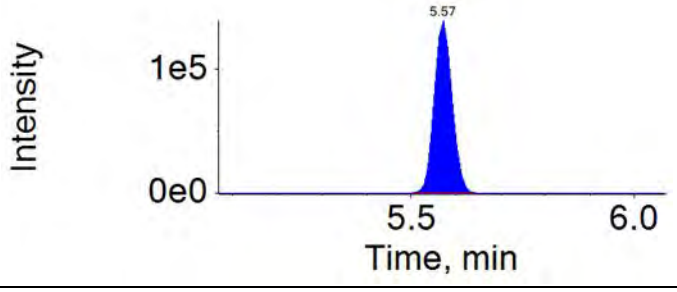
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

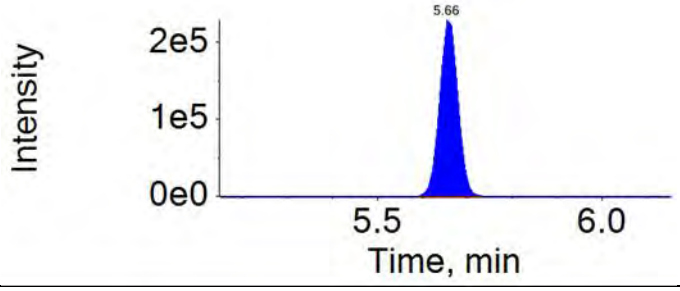
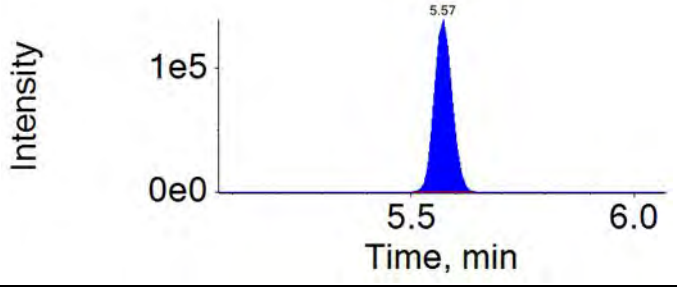
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

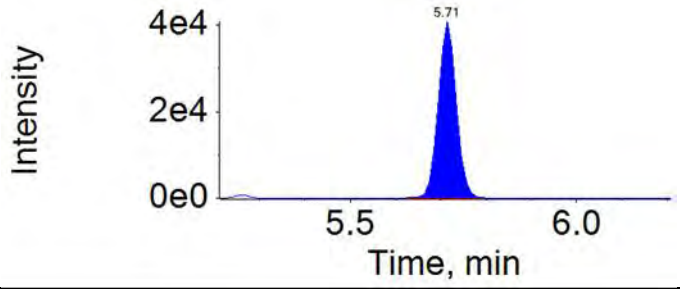
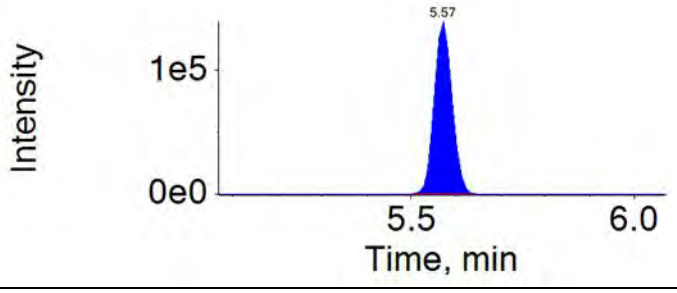
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

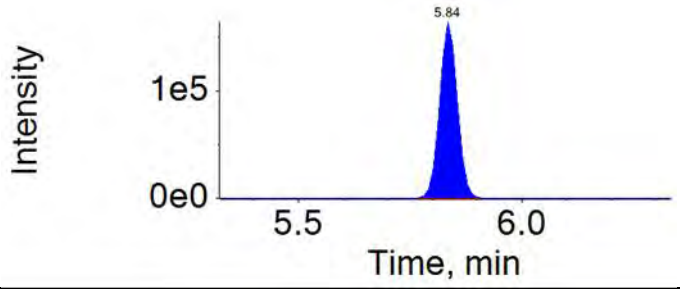
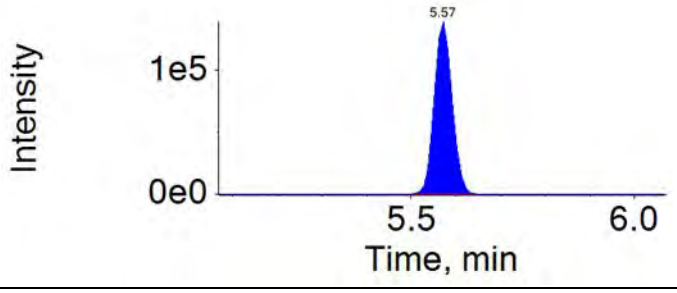
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

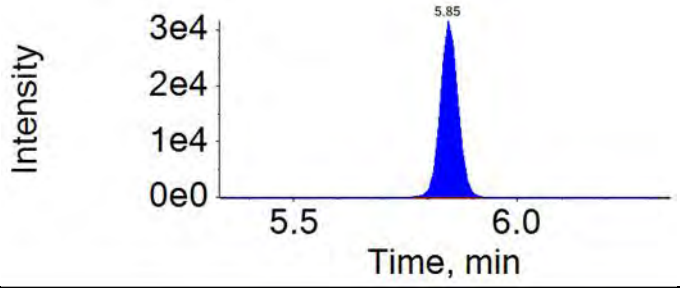
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

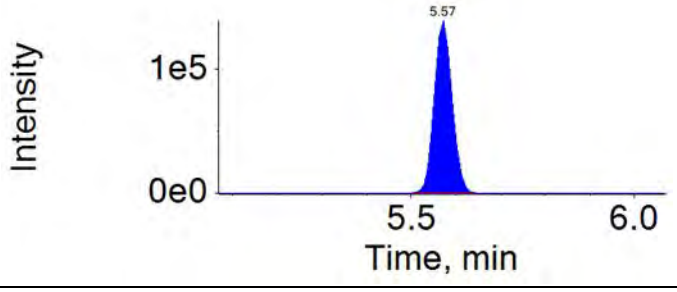
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

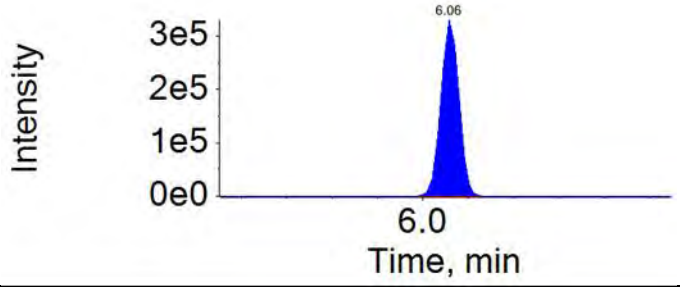
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

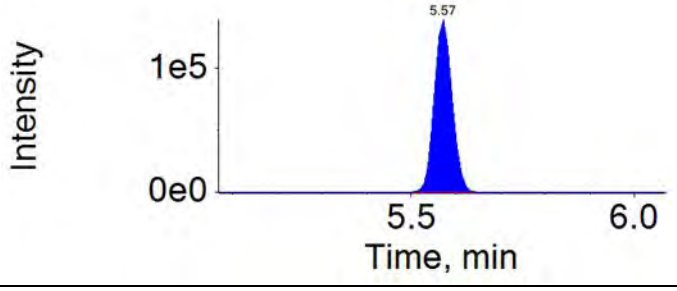
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



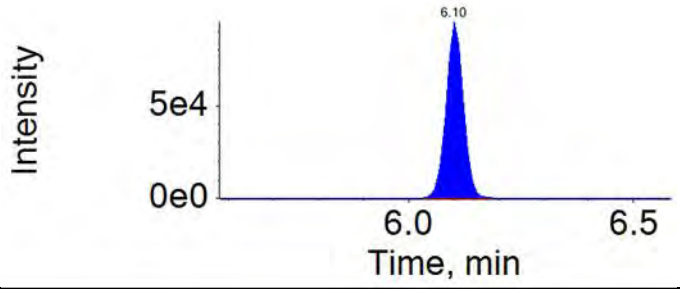


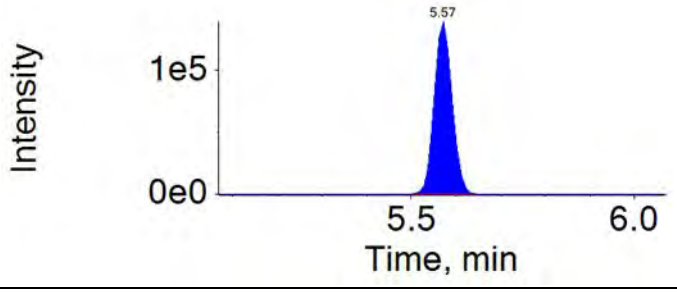
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



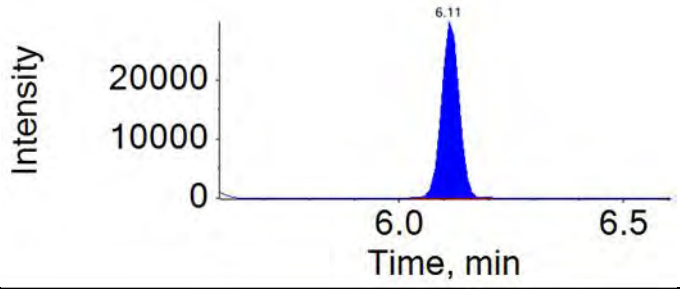


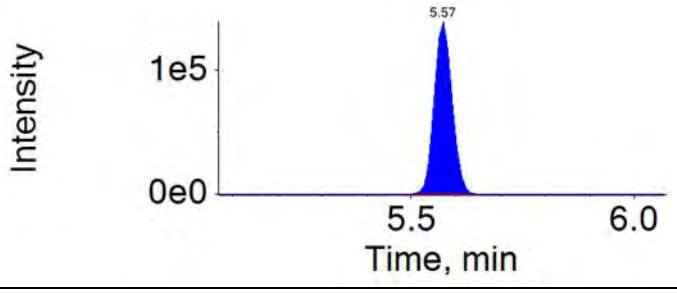
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



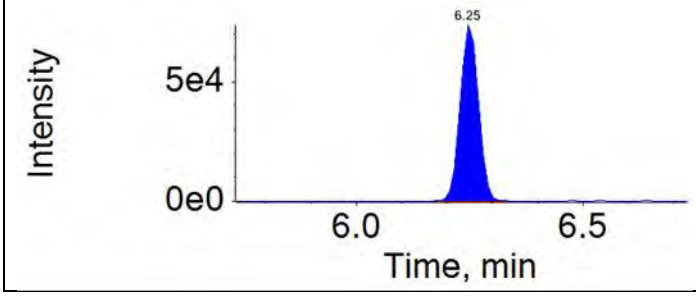


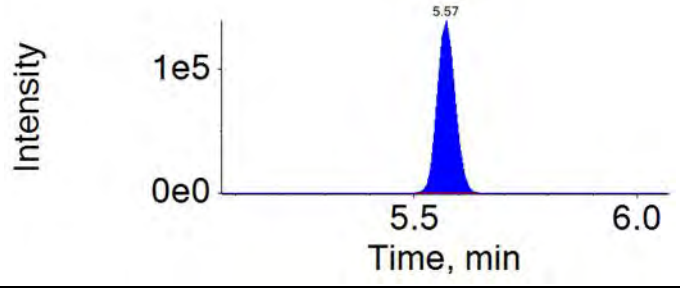
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

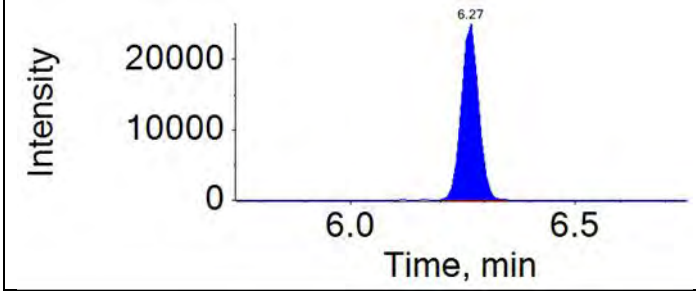
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

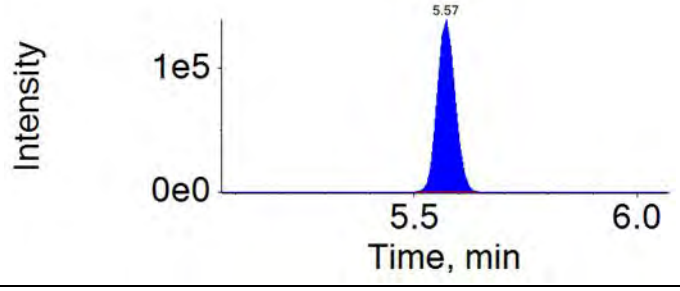
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



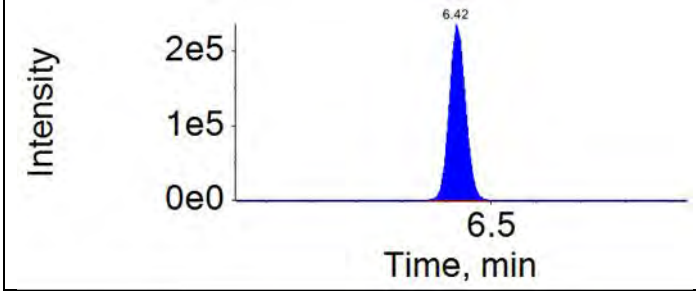


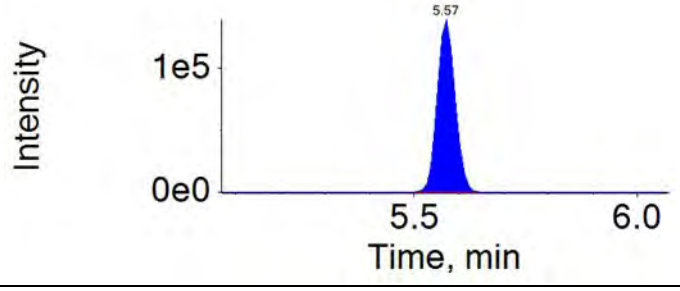
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



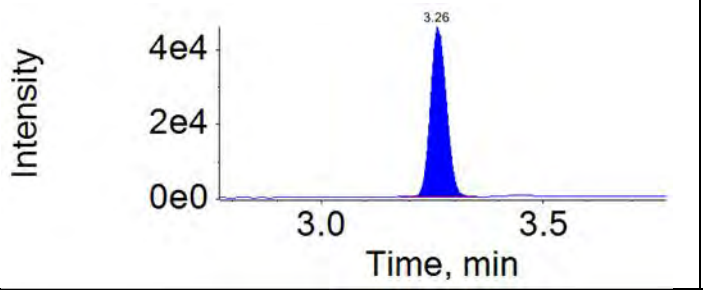


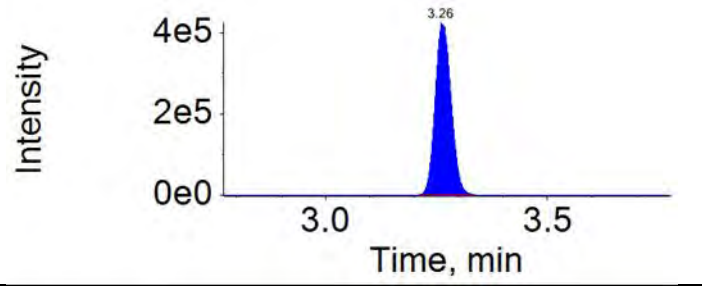
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

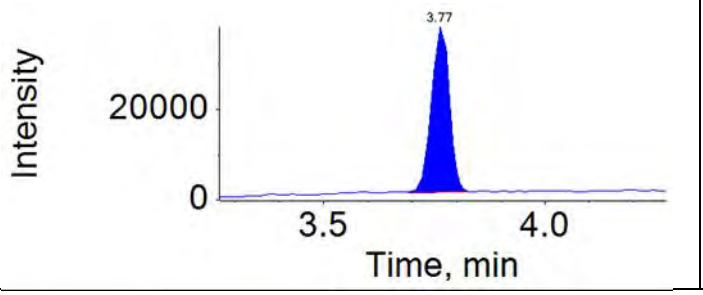
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

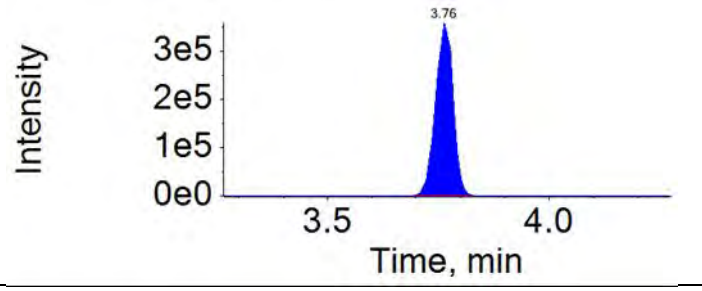
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



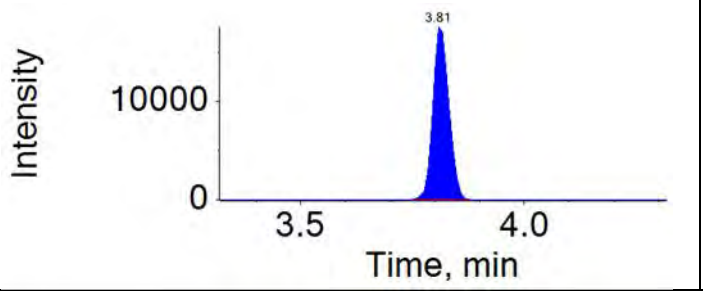


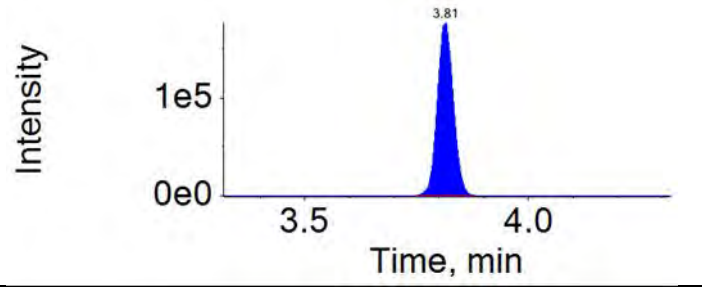
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



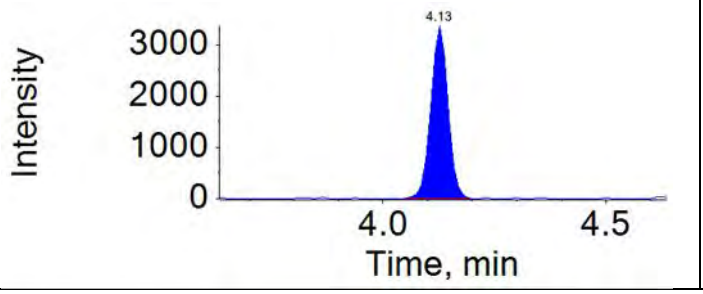


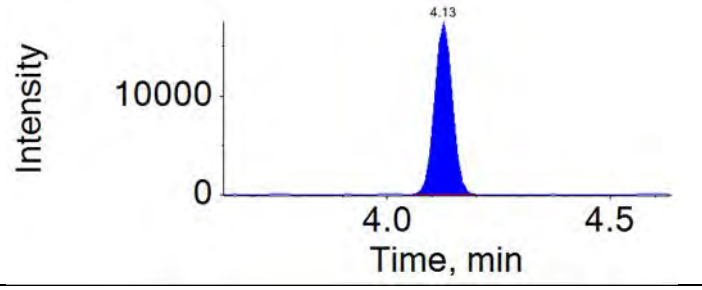
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



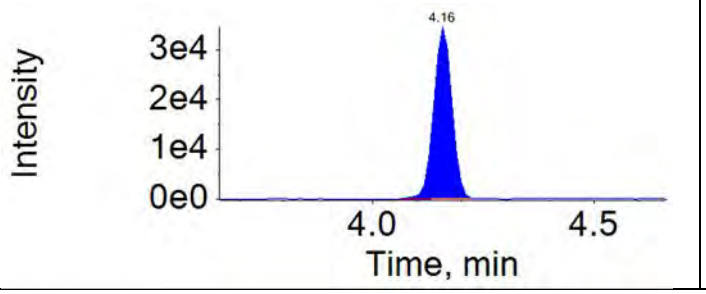


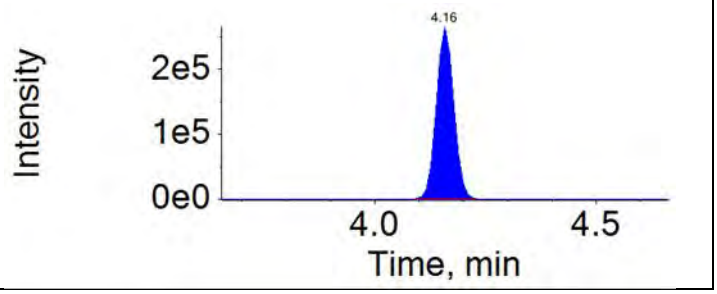
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

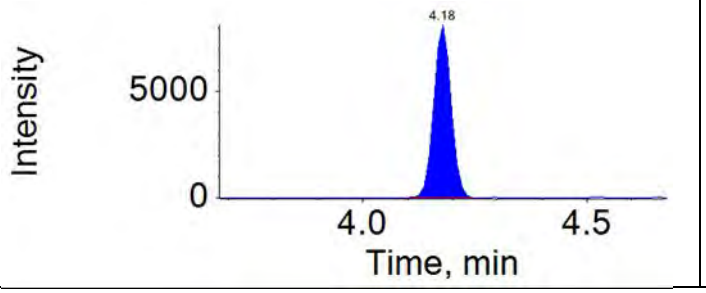
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

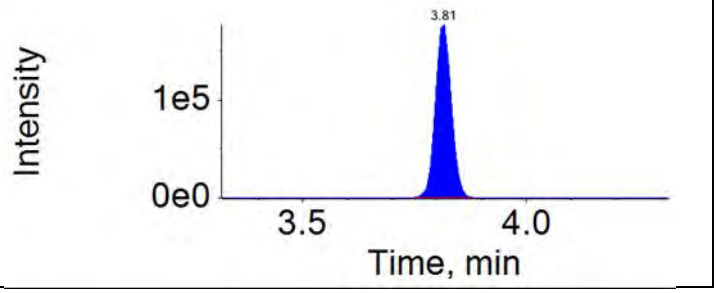
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



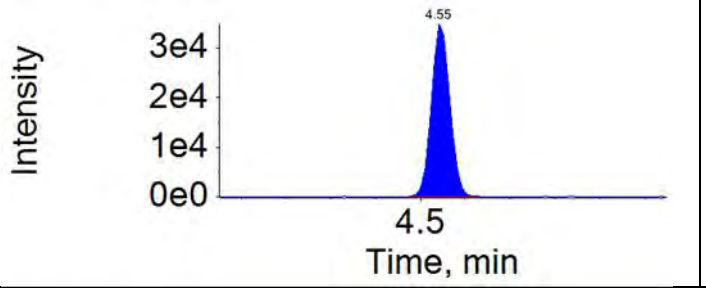


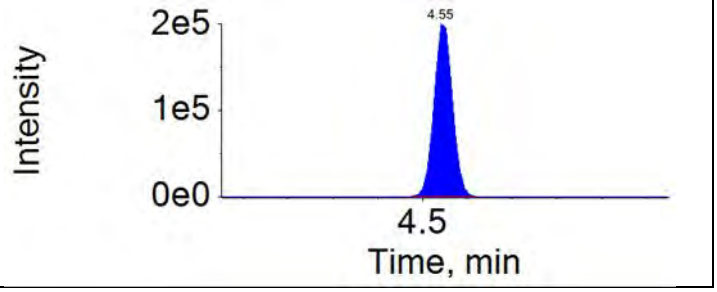
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



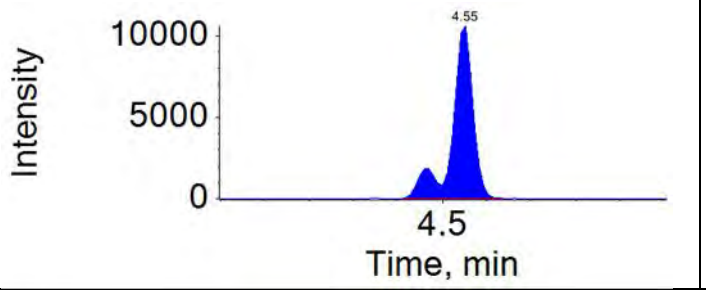


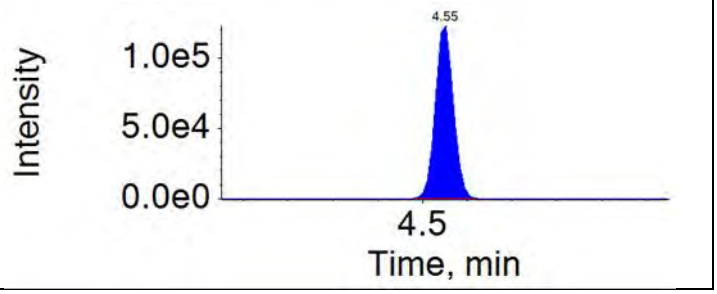
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



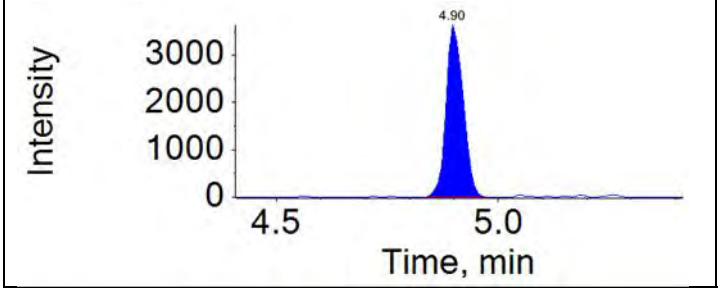


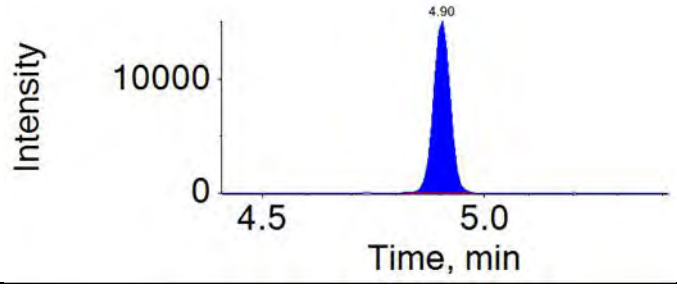
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

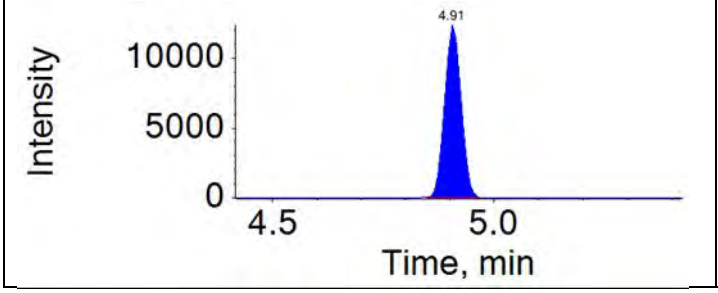
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

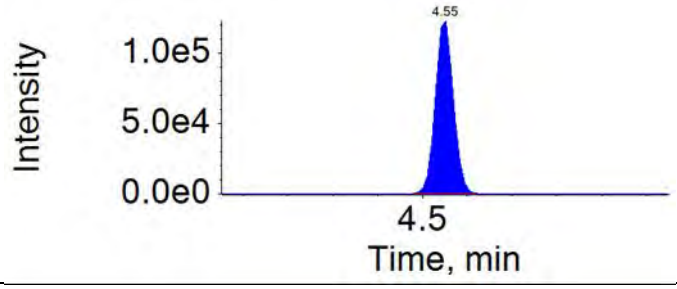
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



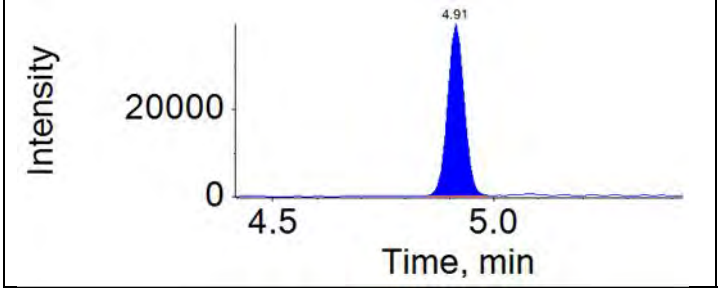


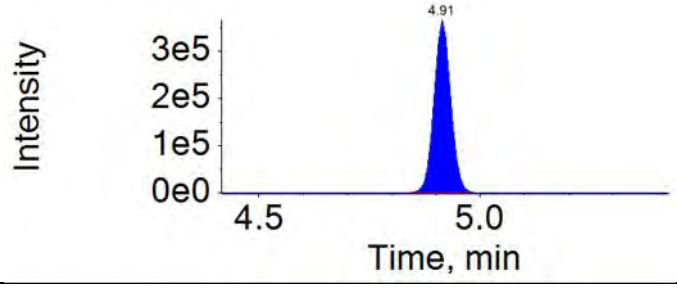
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



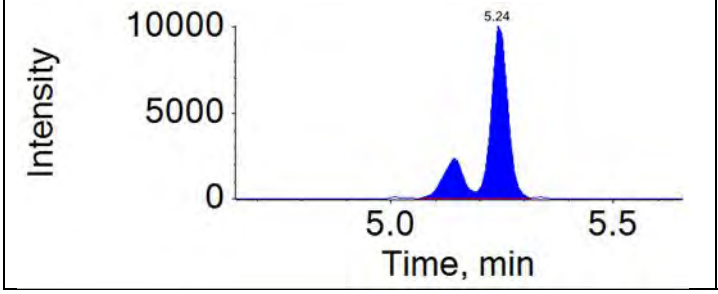


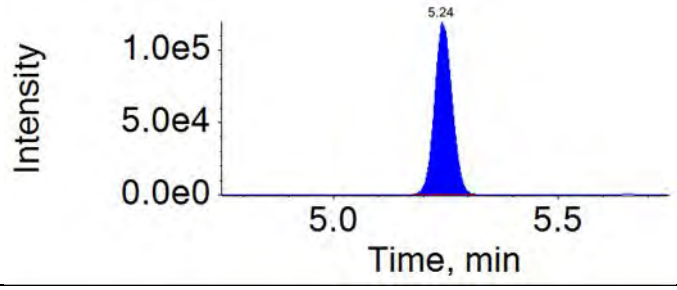
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



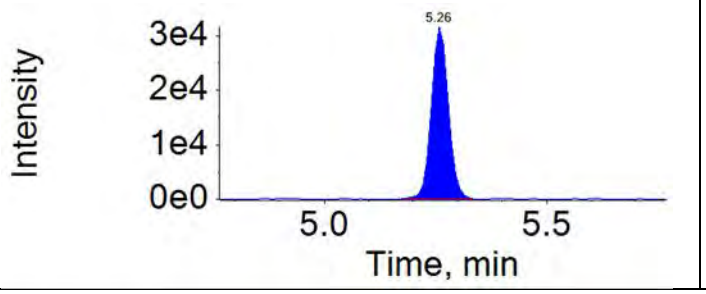


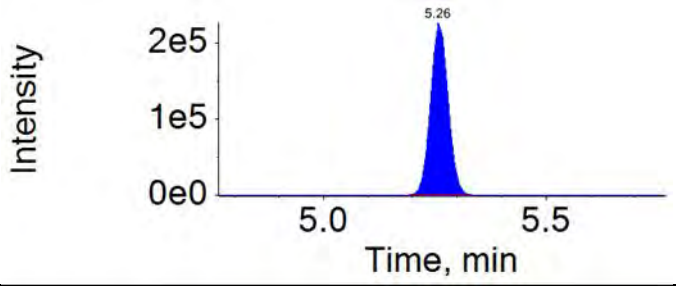
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

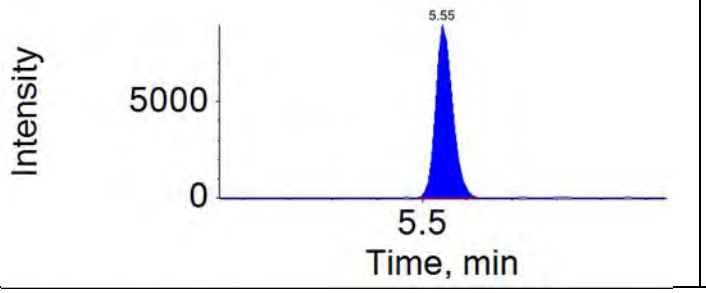
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

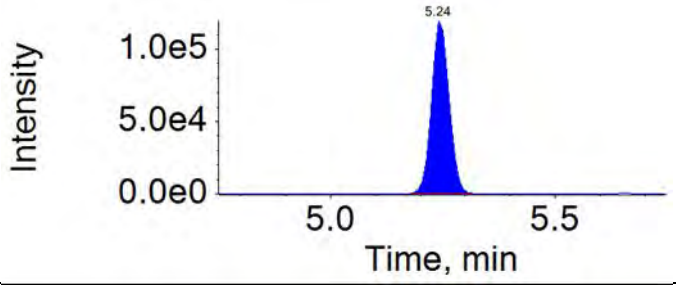
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



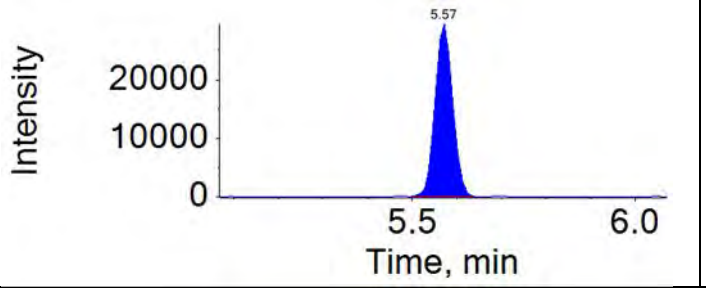


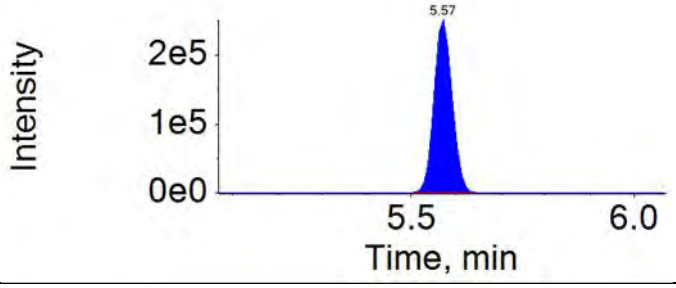
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



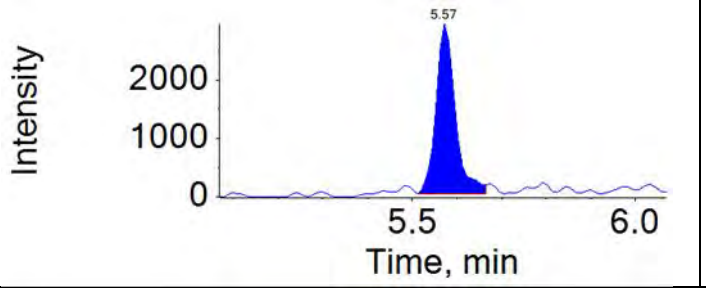


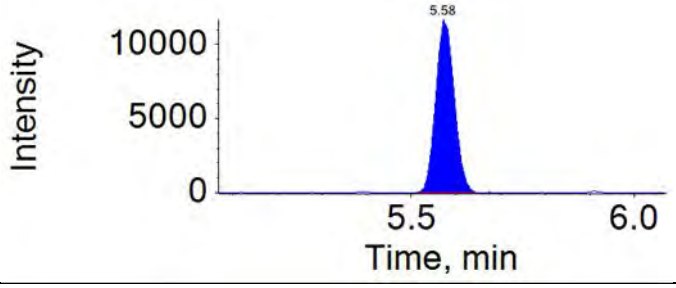
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



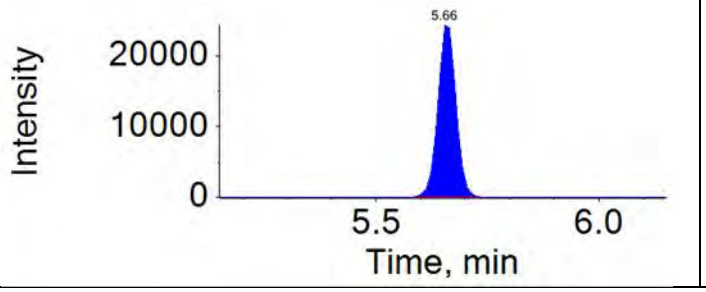


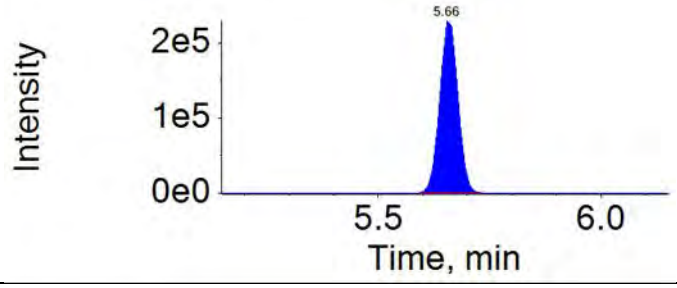
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

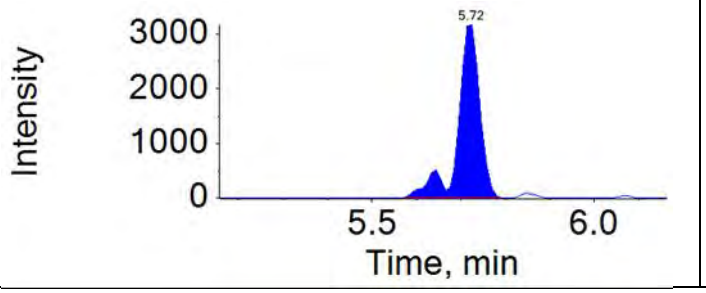
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

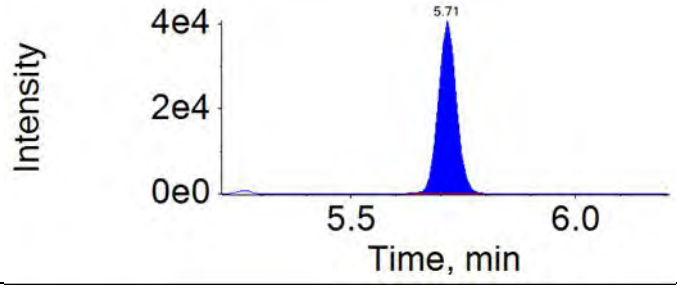
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



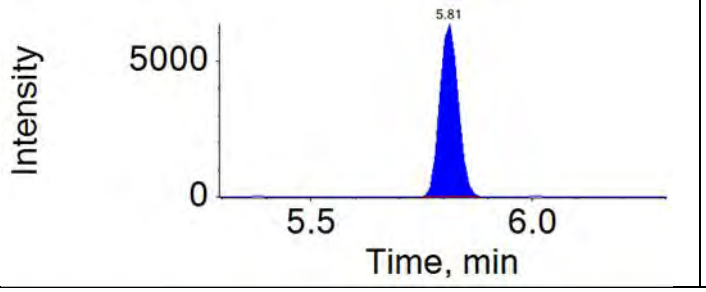


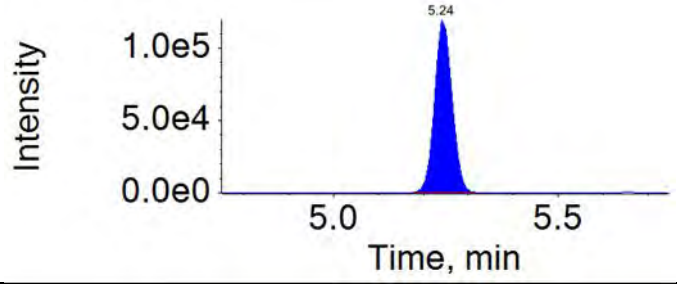
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



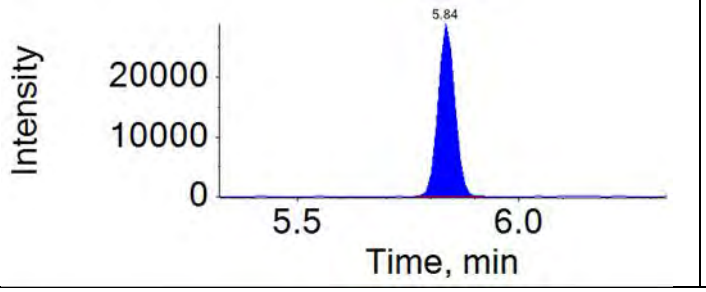


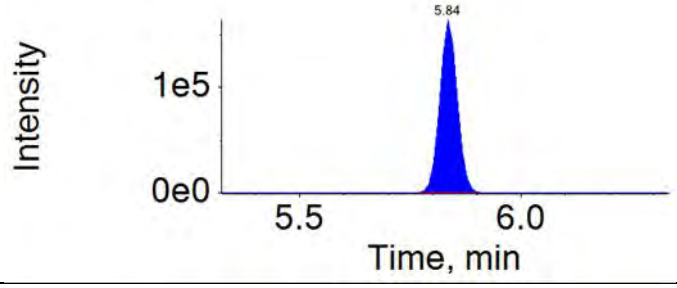
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

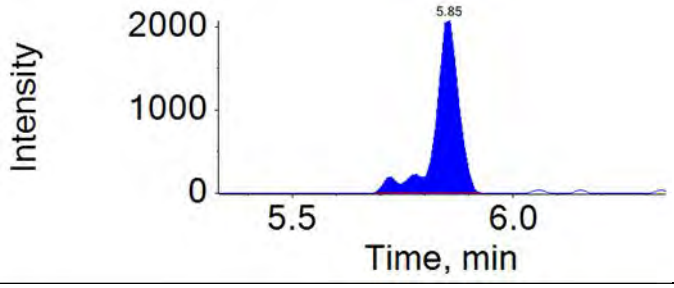
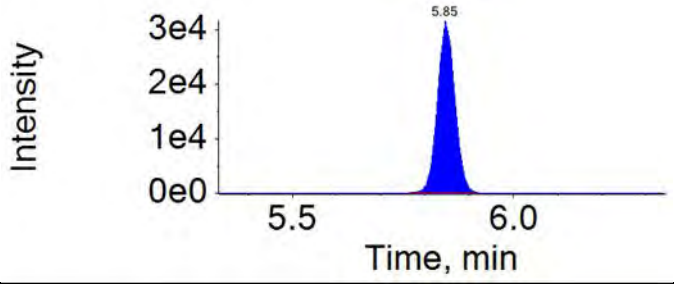


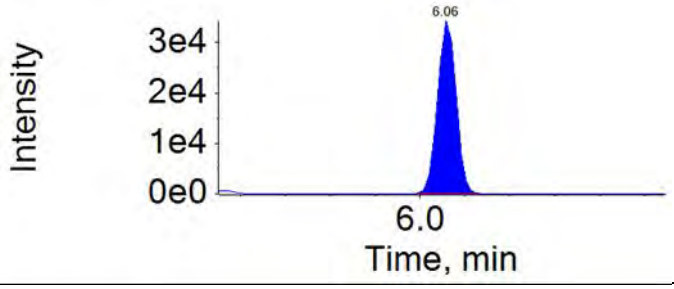
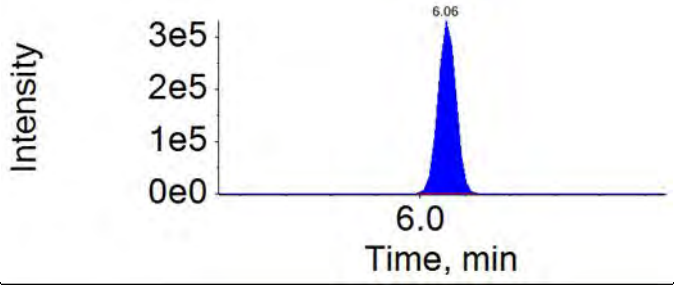


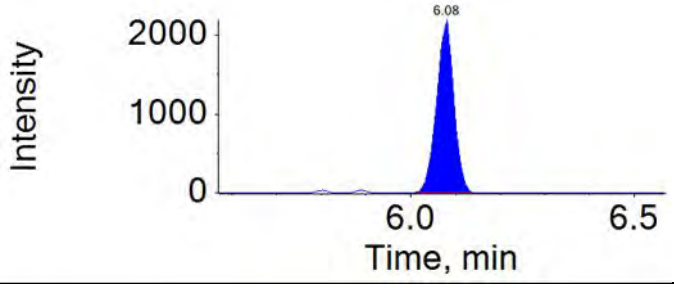
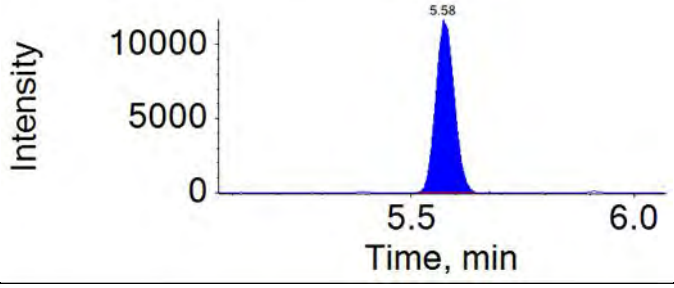
APPROVED
By JPT at 3:22 pm, 12/11/18

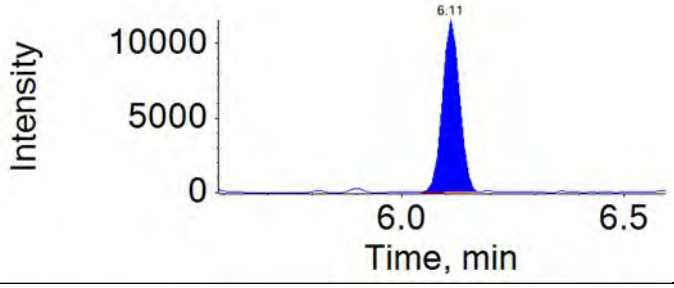
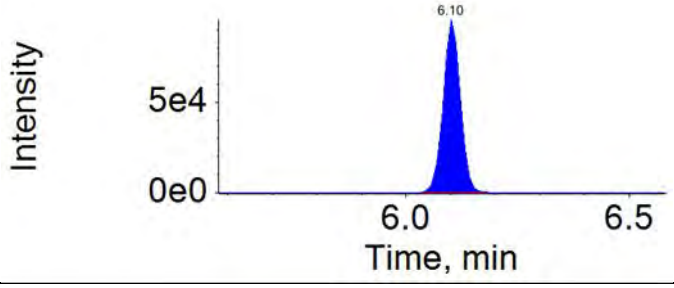
REVIEWED
By HMK at 12:51 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

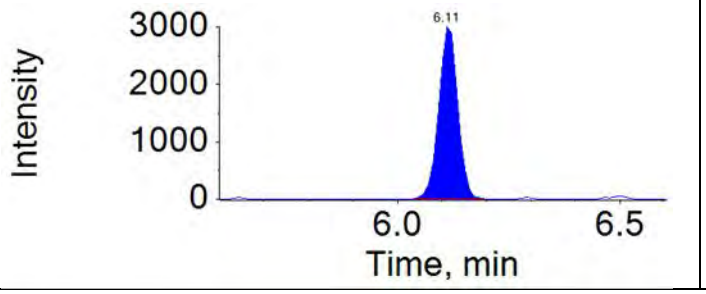
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

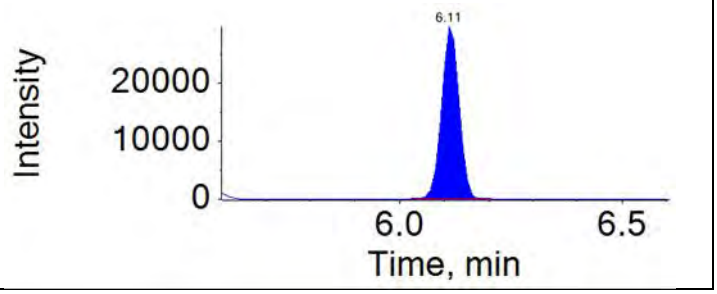
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

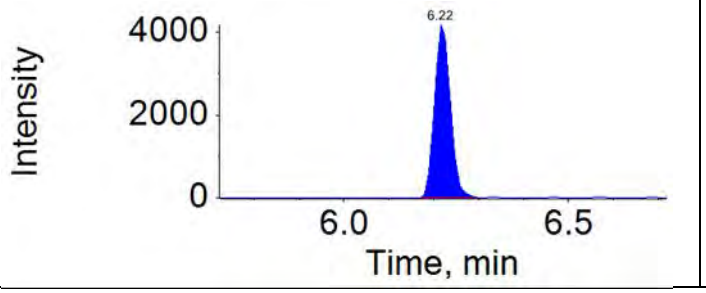
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

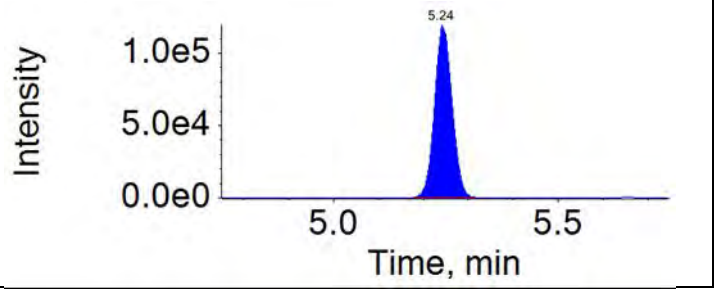
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



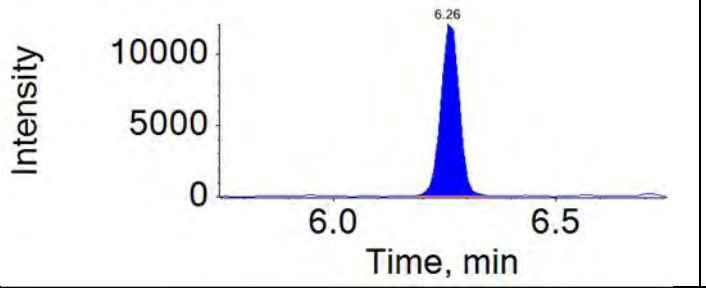


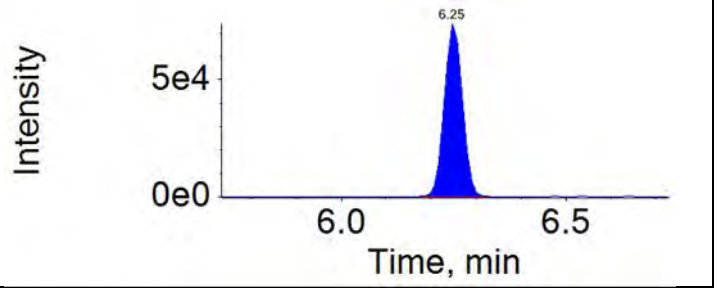
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



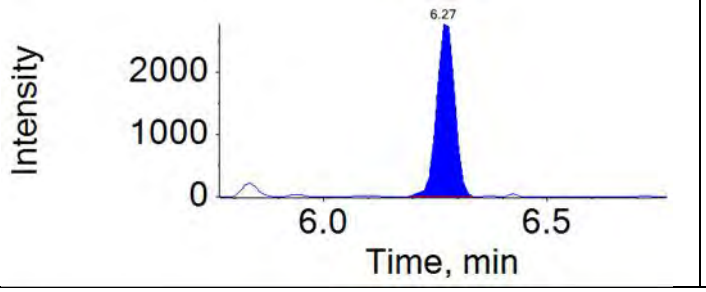


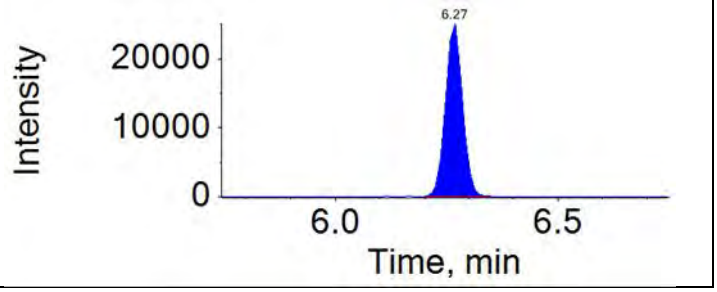
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



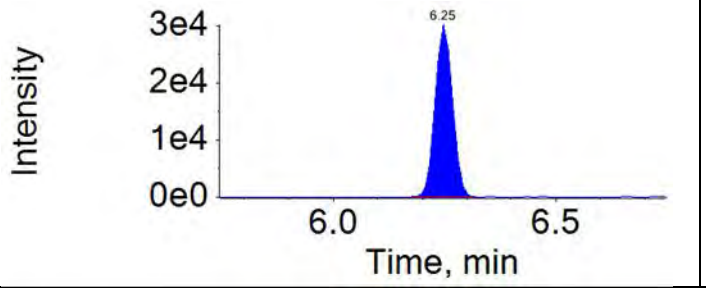


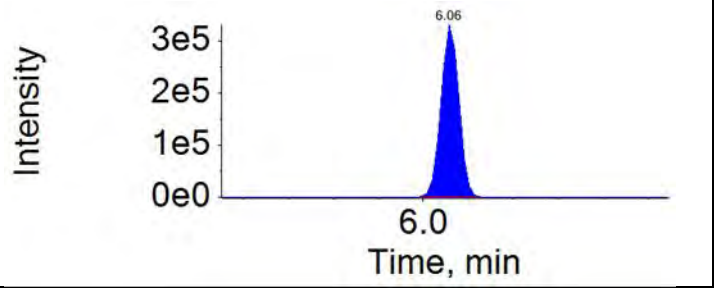
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

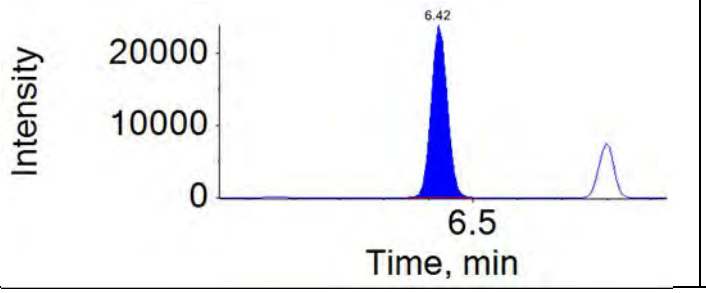
ICAL Name: 18DEC06DCAL **Result Table:** 18DEC11DCCV1-7 12/11/2018 3:10:04 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

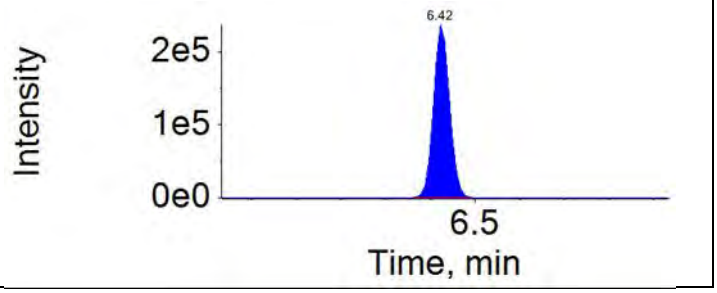
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



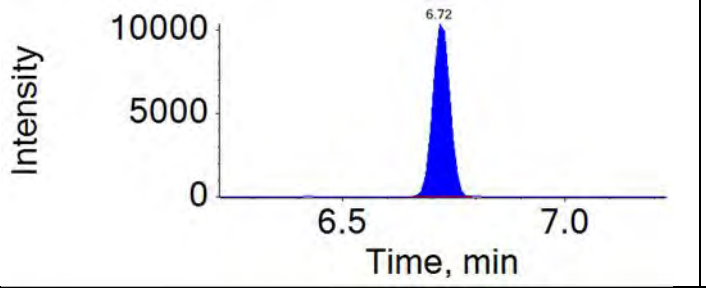


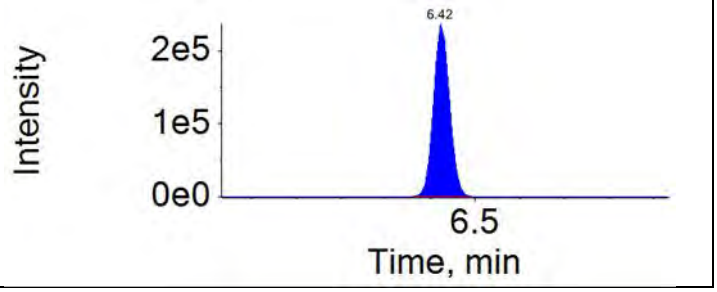
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



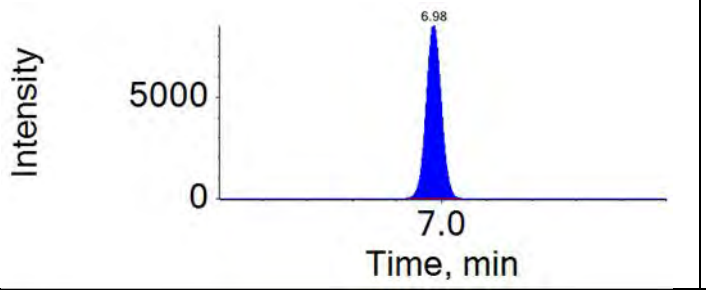


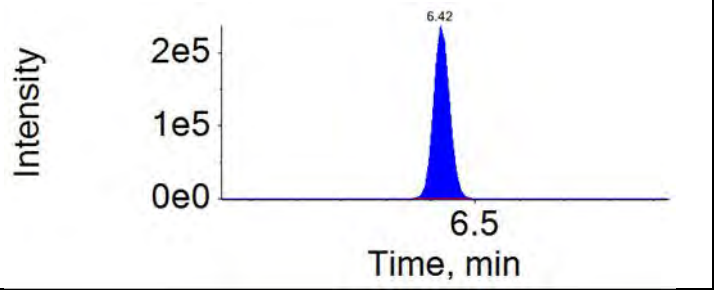
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



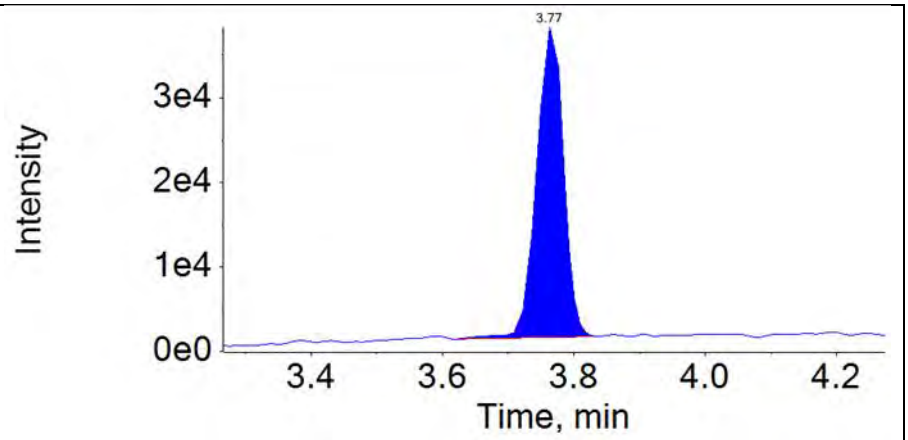


APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

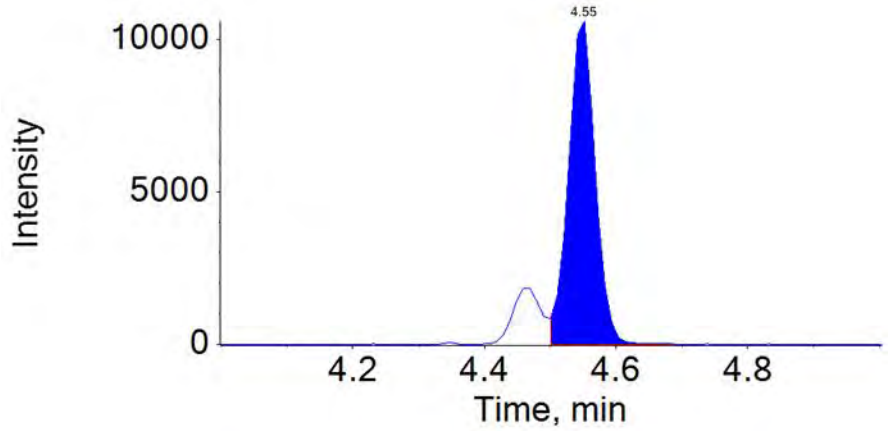
Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFPeA
RT (min.):
3.77
Peak Area:
104478.7
Mass Range:
263.0 / 219.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



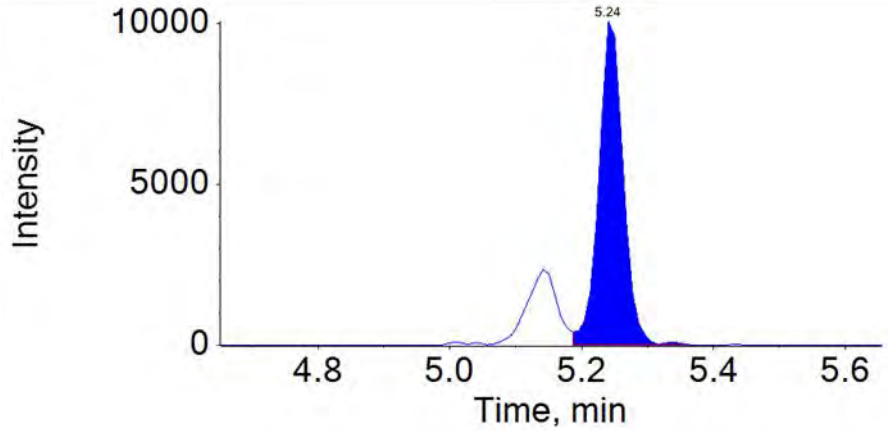
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
30141.8
Mass Range:
399.0 / 80.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
26099.2
Mass Range:
499.0 / 80.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



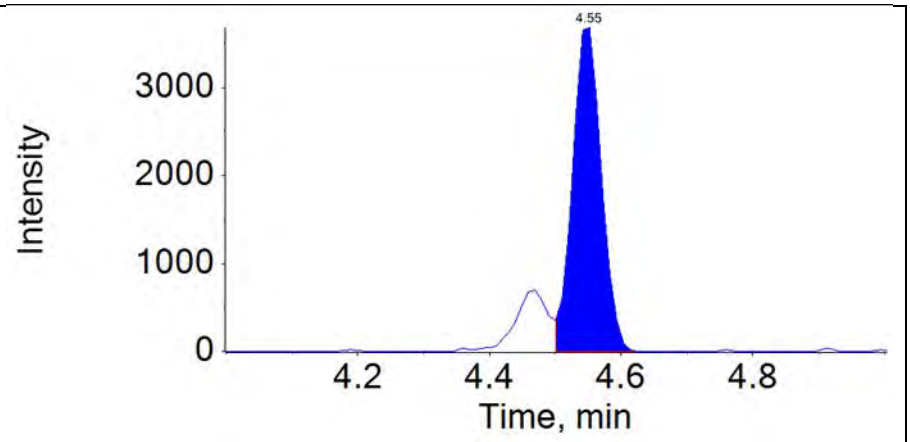
Integration Comment: incorrect integration

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

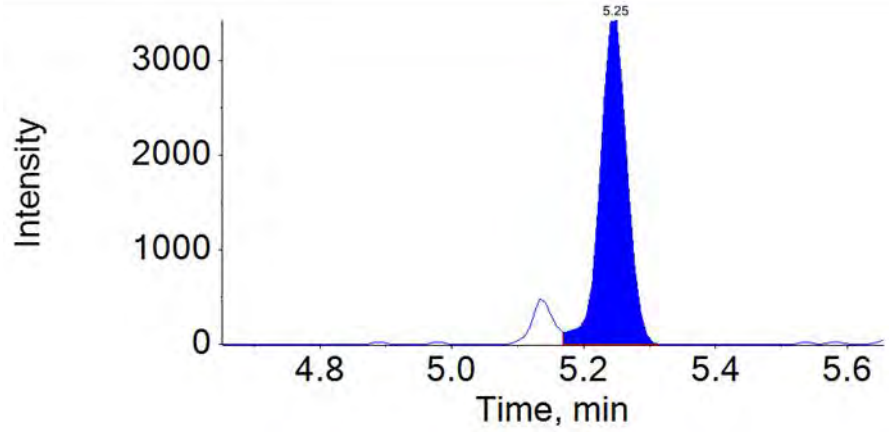
Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
11286.7
Mass Range:
399.0 / 99.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



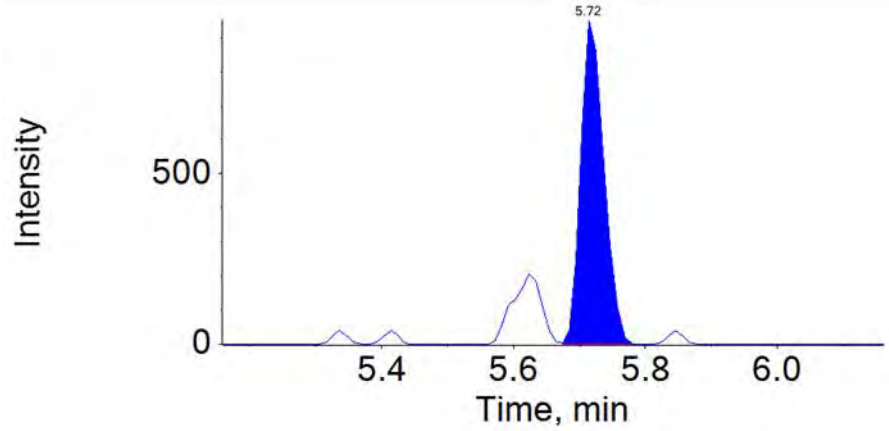
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
9873.0
Mass Range:
499.0 / 99.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.72
Peak Area:
2327.7
Mass Range:
570.0 / 483.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



Integration Comment: incorrect integration

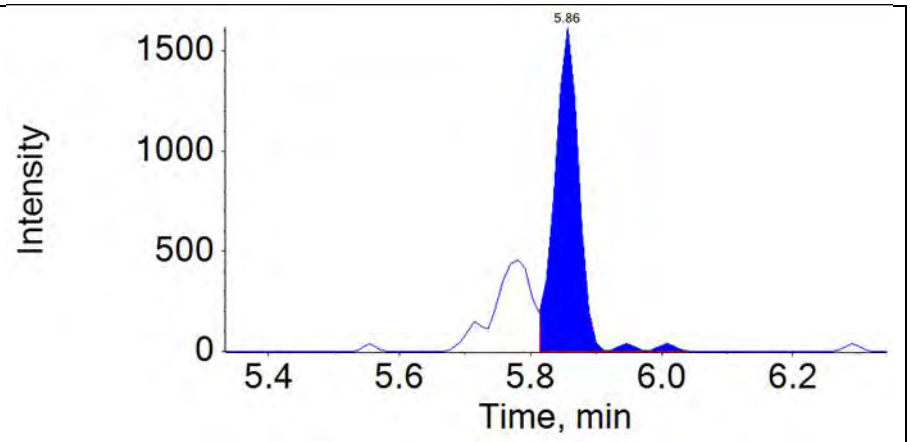
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.86
Peak Area:
4210.0
Mass Range:
584.0 / 526.0
File Name:
18DEC11D-66.wiff
Sample Name:
CCV7_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

Results Table Name: 18DEC11DCCV1-7
Results Table Date: 12/11/2018 3:10:04 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

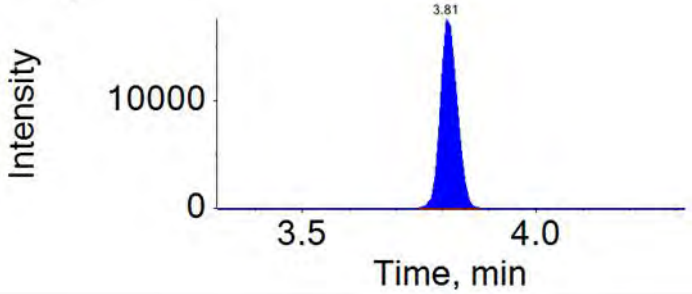
Sample Name: CCV7_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC11D-66.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	43564.7	A	N/A	1.0000			
PFBS_2	3.81	1.00	16407.5	A	N/A	0.3766	4	50	
4:2-FTS	4.13	1.00	8955.5	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	6044.2	A	N/A	0.6749	3	50	
PFHxA	4.16	1.00	97891.0	A	N/A	1.0000			
PFHxA_2	4.16	1.00	1003.9	A	N/A	0.0103	6	50	
PFPeS	4.18	1.10	21777.2	A	N/A	1.0000			
PFPeS_2	4.18	1.10	12942.9	A	N/A	0.5943	13	50	
PFHpA	4.55	1.00	99677.5	A	N/A	1.0000			
PFHpA_2	4.55	1.00	5690.4	A	N/A	0.0571	1	50	
PFHxS	4.55	1.00	35646.4	M	N/A	1.0000			
PFHxS_2	4.55	1.00	13666.1	M	N/A	0.3834	5	50	
6:2-FTS	4.90	1.00	9689.0	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	5984.9	A	N/A	0.6177	-2	50	
PFHpS	4.91	1.08	32065.9	A	N/A	1.0000			
PFHpS_2	4.91	1.08	13859.4	A	N/A	0.4322	4	50	
PFOA	4.91	1.00	101818.0	A	N/A	1.0000			
PFOA_2	4.92	1.00	6050.9	A	N/A	0.0594	-4	50	
PFOS	5.24	1.00	33473.7	M	N/A	1.0000			
PFOS_2	5.25	1.00	10921.0	M	N/A	0.3263	8	50	
PFNA	5.26	1.00	84268.8	A	N/A	1.0000			
PFNA_2	5.26	1.00	1610.9	A	N/A	0.0191	-1	50	
PFNS	5.55	1.06	23485.9	A	N/A	1.0000			
PFNS_2	5.54	1.06	10974.3	A	N/A	0.4673	-4	50	
PFDA	5.57	1.00	81553.5	A	N/A	1.0000			
PFDA_2	5.57	1.00	329.2	A	N/A	0.0040	-58	50	OOS
8:2-FTS	5.57	1.00	8836.4	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	5081.9	A	N/A	0.5751	-6	50	
NMeFOSAA	5.72	1.00	10932.2	A	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	2963.7	M	N/A	0.2711	1	50	
PFDS	5.81	1.11	18232.2	A	N/A	1.0000			
PFDS_2	5.81	1.11	8063.6	A	N/A	0.4423	-11	50	
PFUnDA	5.84	1.00	75325.5	A	N/A	1.0000			
PFUnDA_2	5.81	1.00	259.5	A	N/A	0.0034	-16	50	
NEtFOSAA	5.85	1.00	7764.6	A	N/A	1.0000			
NEtFOSAA_2	5.86	1.00	5902.2	M	N/A	0.7601	13	50	
PFDoDA	6.06	1.00	98143.7	A	N/A	1.0000			
PFDoDA_2	6.05	1.00	1470.3	A	N/A	0.0150	12	50	
10:2-FTS	6.08	1.09	5819.4	A	N/A	1.0000			
10:2-FTS_2	6.07	1.09	4502.4	A	N/A	0.7737	11	50	
PFTrDA	6.25	1.03	82130.5	A	N/A	1.0000			
PFTrDA_2	6.24	1.03	635.3	A	N/A	0.0077	3	50	
PFTeDA	6.42	1.00	59758.1	A	N/A	1.0000			
PFTeDA_2	6.43	1.00	340.0	A	N/A	0.0057	-14	50	
PFHxDA	6.72	1.05	27928.7	A	N/A	1.0000			
PFHxDA_2	6.72	1.05	1630.6	A	N/A	0.0584	-5	50	
PFODA	6.98	1.09	19971.7	A	N/A	1.0000			
PFODA_2	6.98	1.09	587.0	A	N/A	0.0294	8	50	

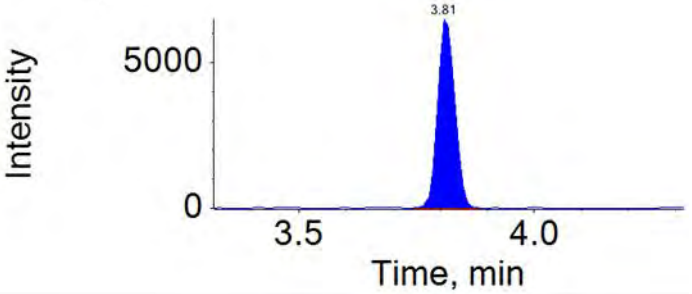
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

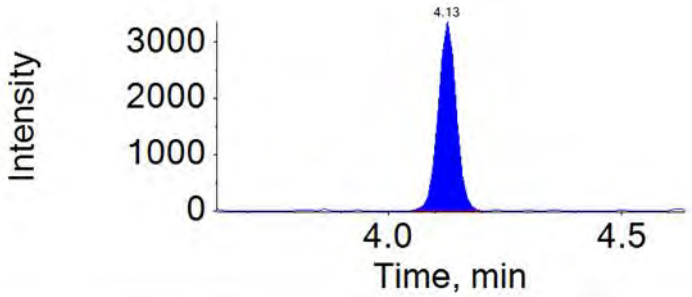
Component: PFBS
Primary Mass: 299.0 / 80.0



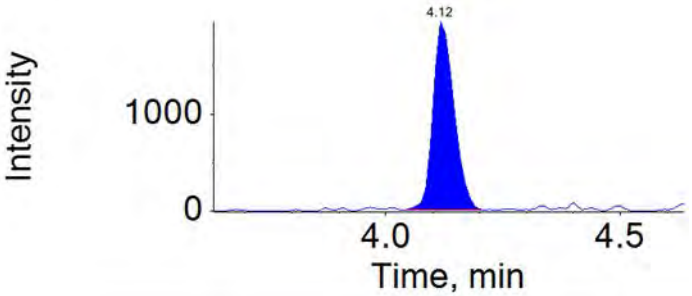
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



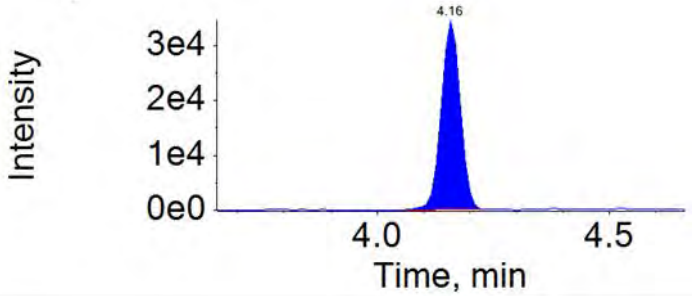
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



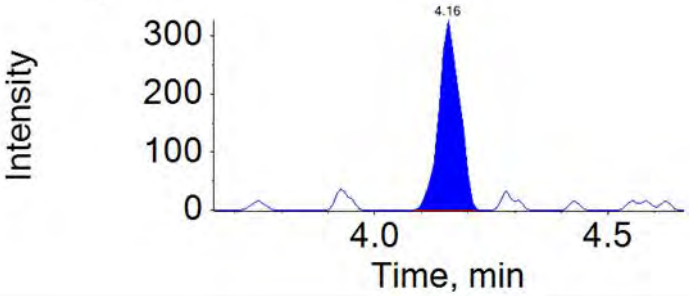
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



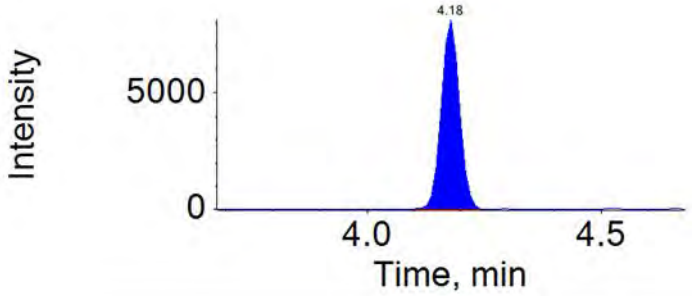
Component: PFHxA
Primary Mass: 313.0 / 269.0



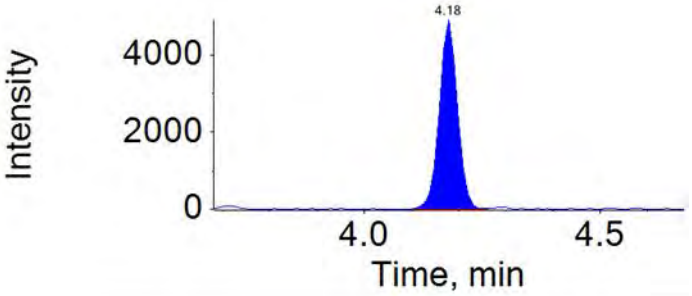
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



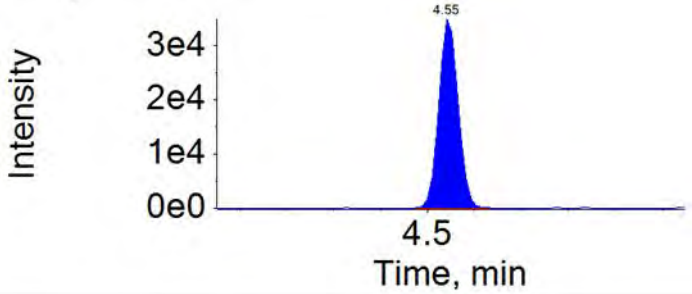
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



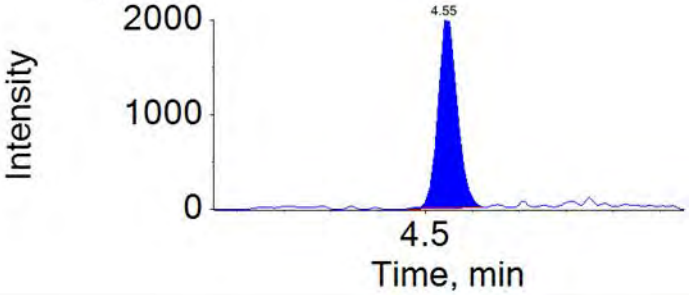
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

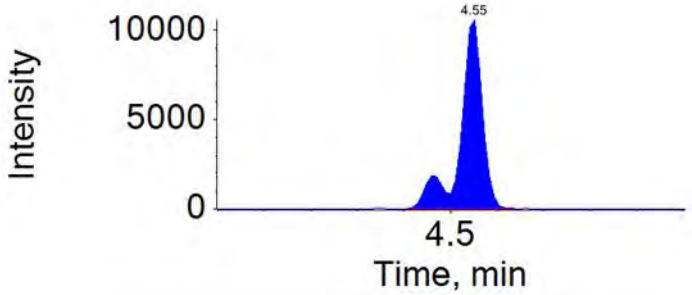
Component: PFHpA
Primary Mass: 363.0 / 319.0



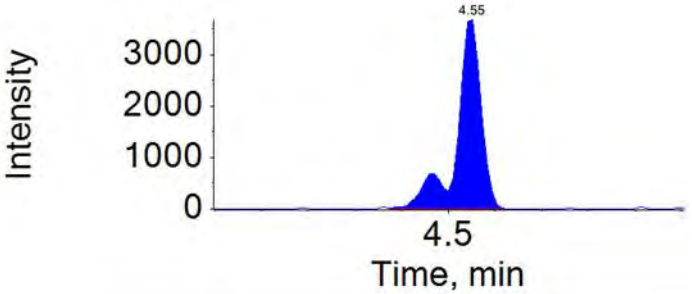
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



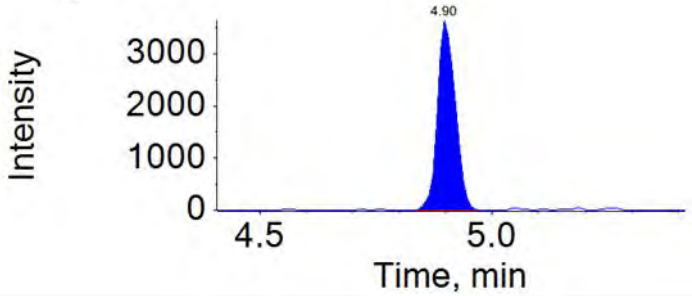
Component: PFHxS
Primary Mass: 399.0 / 80.0



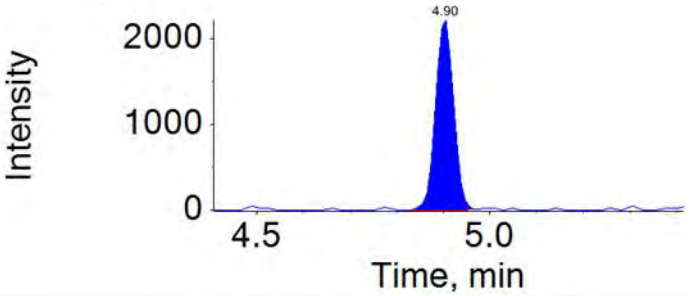
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



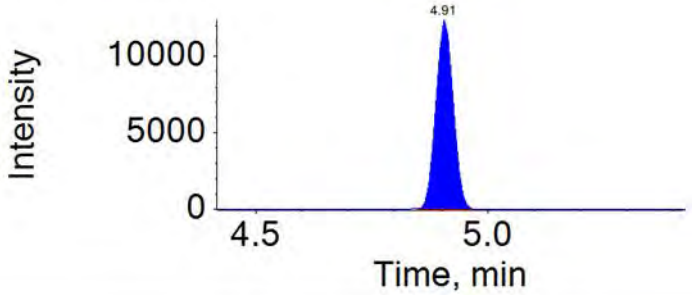
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



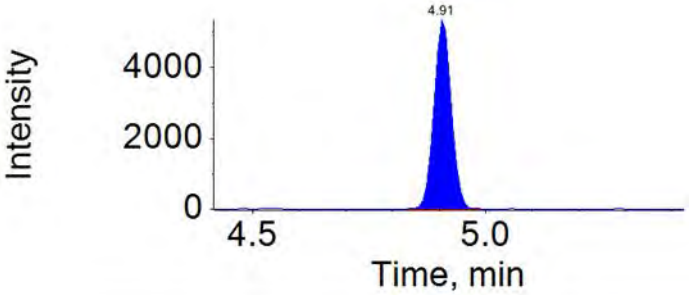
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



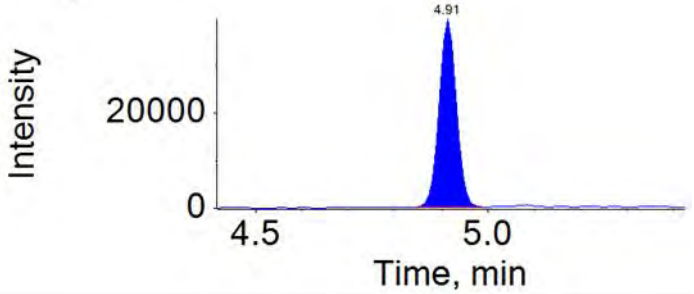
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



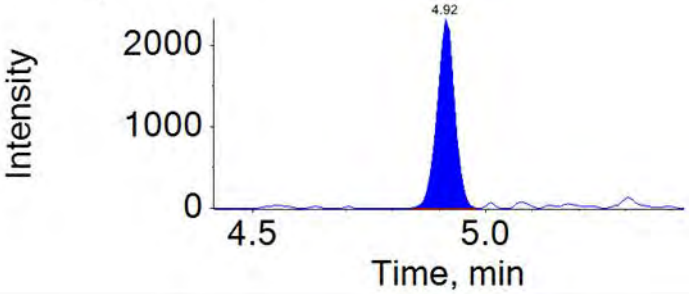
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

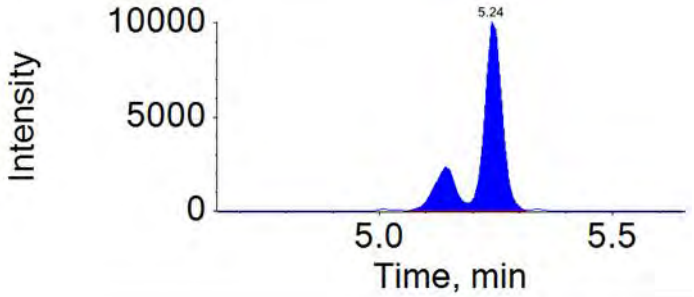
Component: PFOA
Primary Mass: 413.0 / 369.0



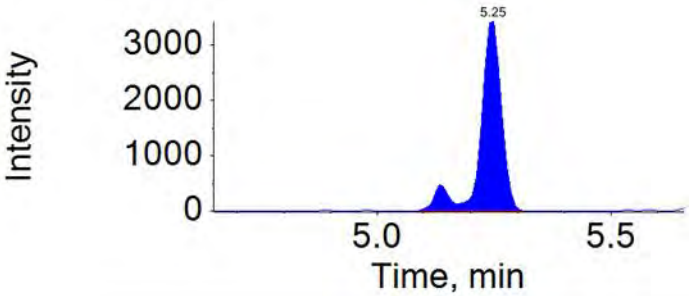
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



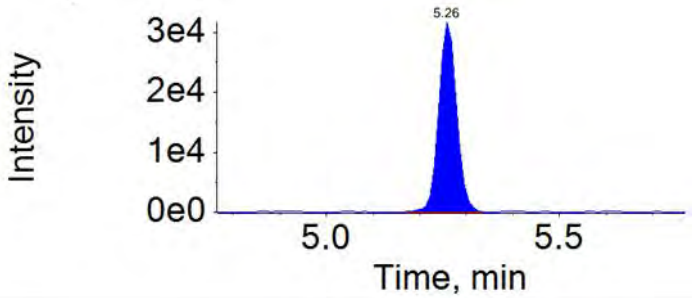
Component: PFOS
Primary Mass: 499.0 / 80.0



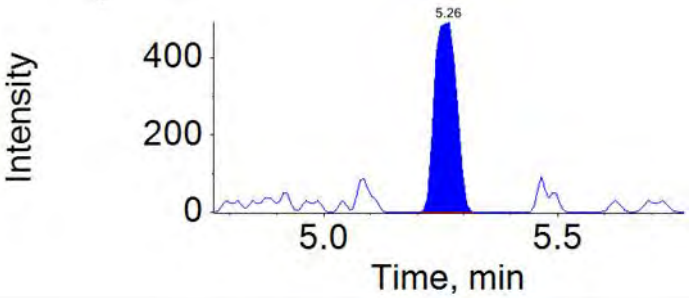
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



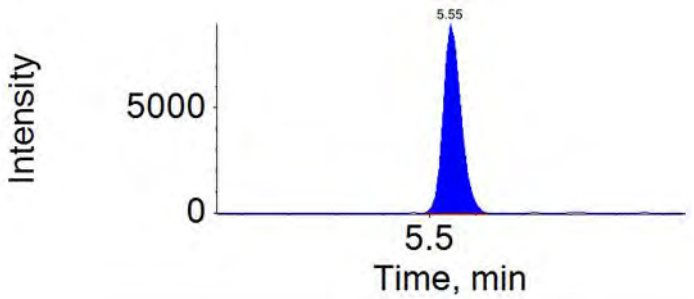
Component: PFNA
Primary Mass: 463.0 / 419.0



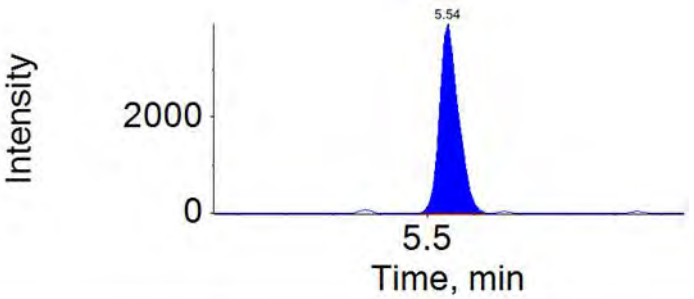
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



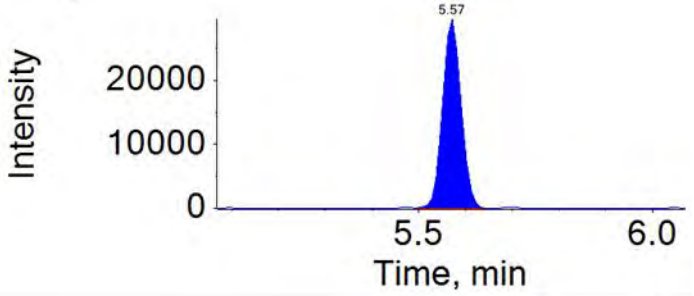
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



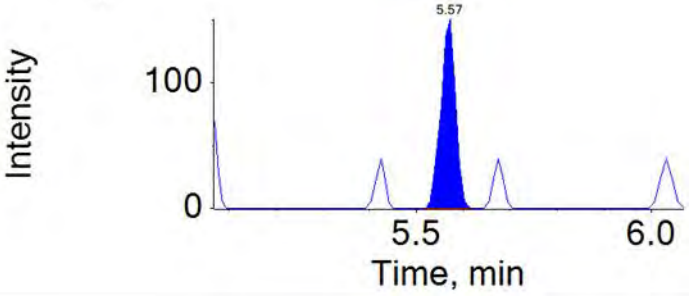
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

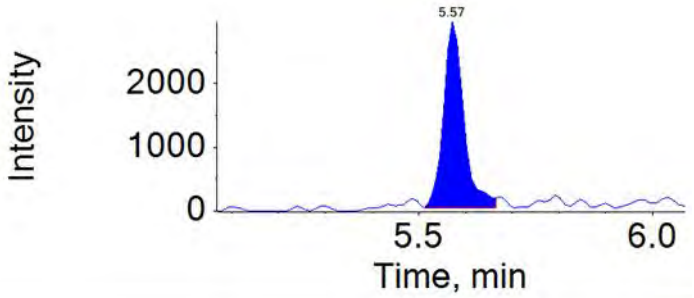
Component: PFDA
Primary Mass: 513.0 / 469.0



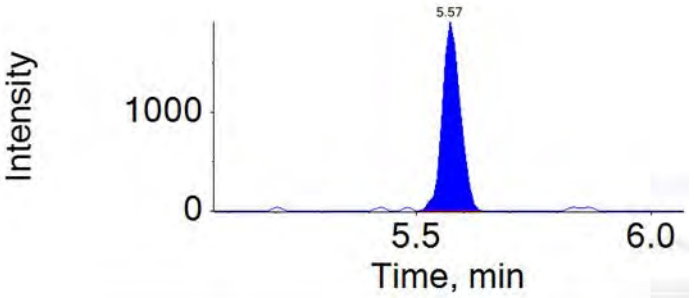
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



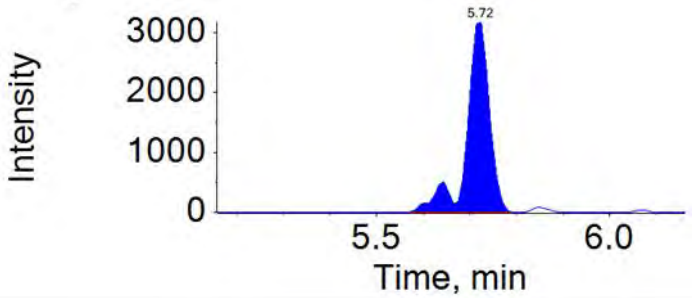
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



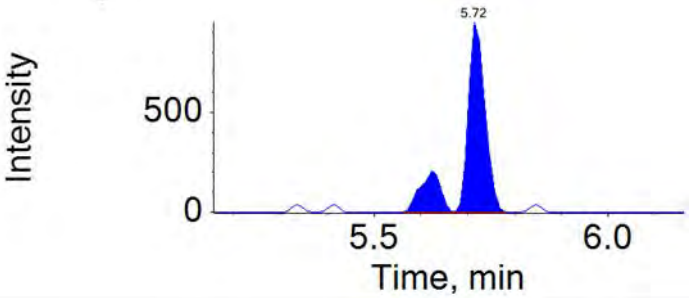
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



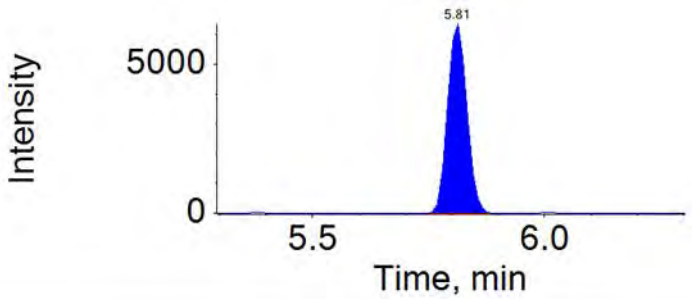
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



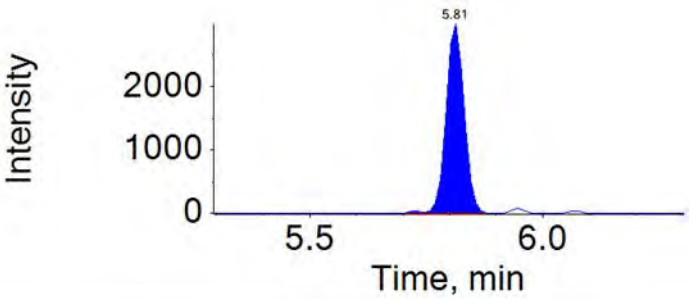
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



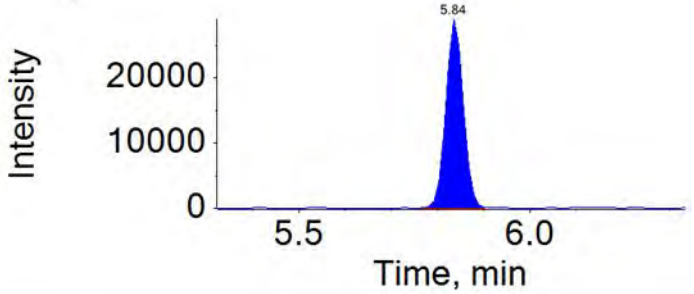
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



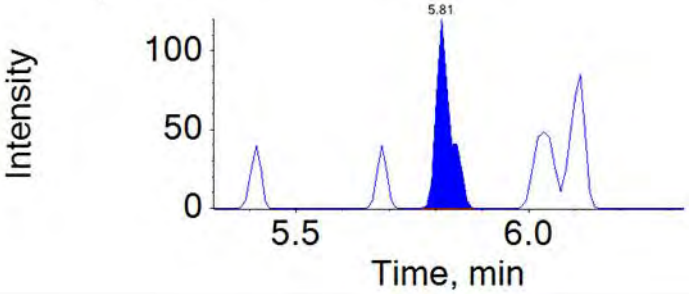
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

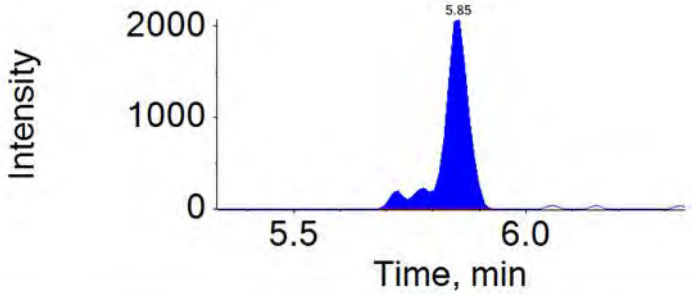
Component: PFUnDA
Primary Mass: 563.0 / 519.0



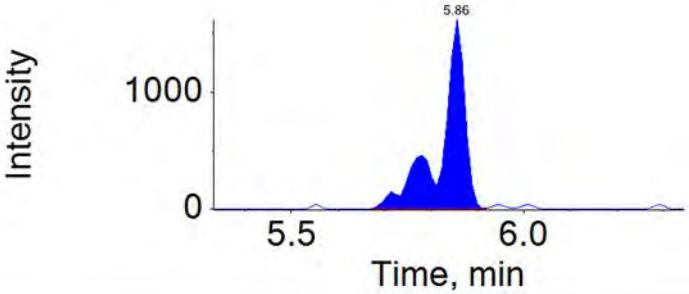
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



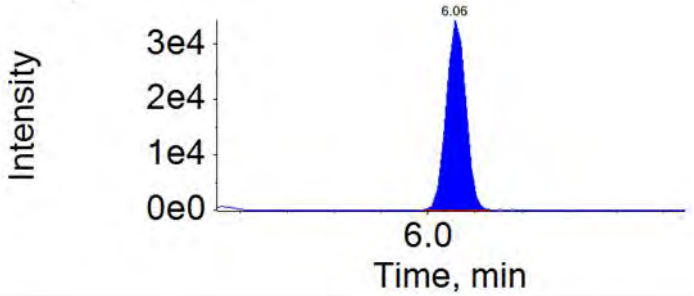
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



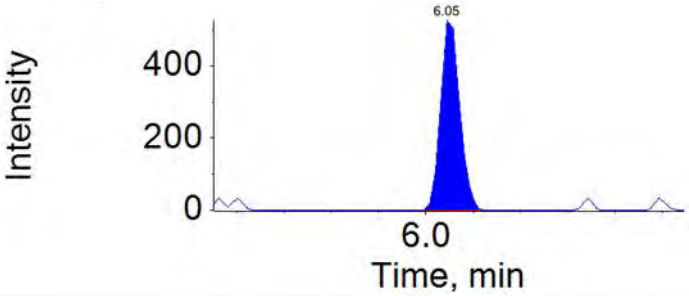
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



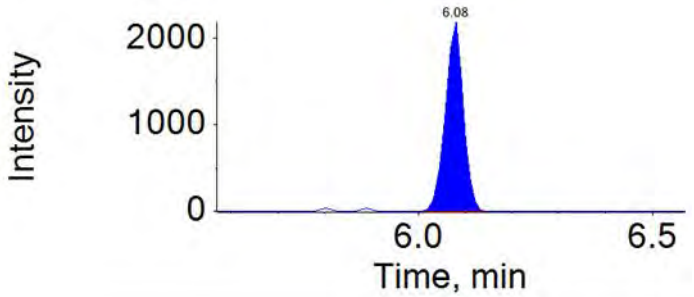
Component: PFDoDA
Primary Mass: 613.0 / 569.0



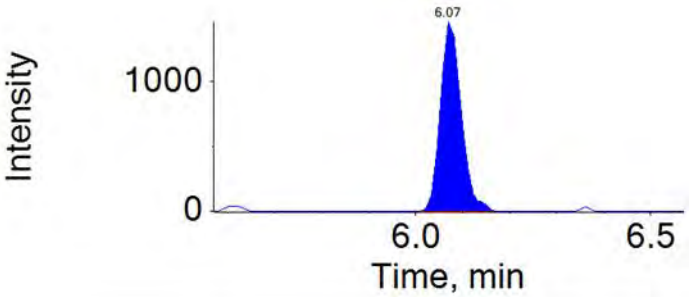
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



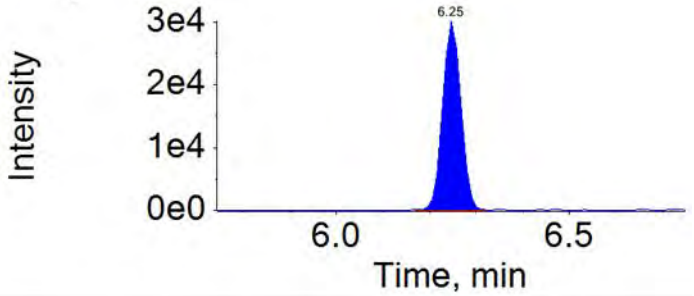
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



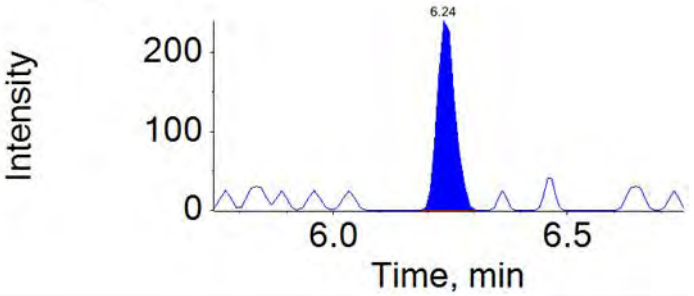
APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

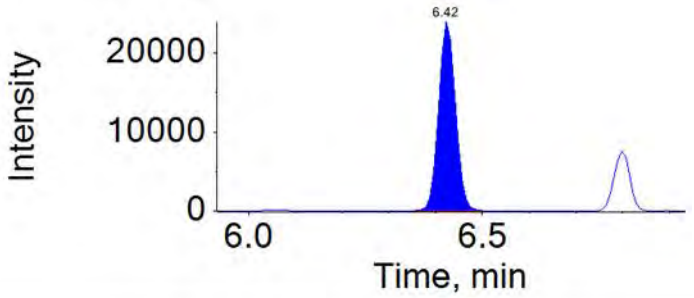
Component: PFTrDA
Primary Mass: 663.0 / 619.0



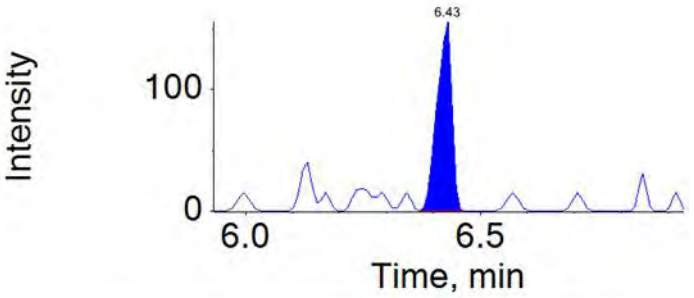
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



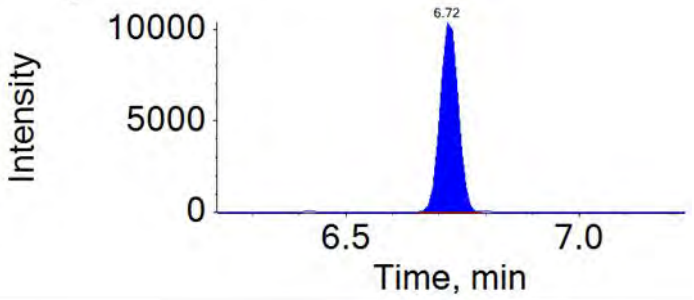
Component: PFTeDA
Primary Mass: 713.0 / 669.0



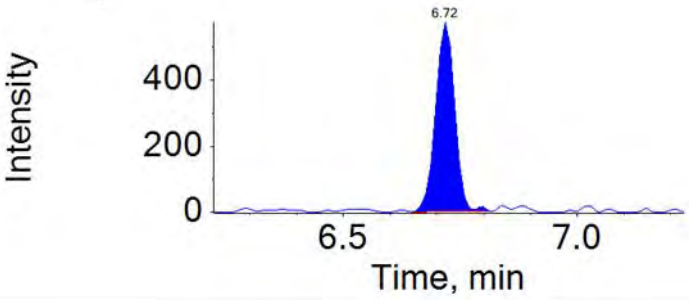
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



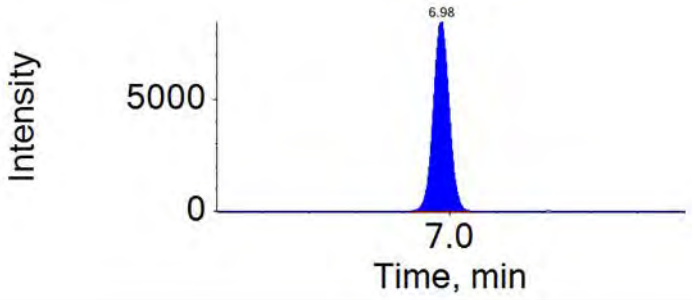
Component: PFHxDA
Primary Mass: 813.0 / 769.0



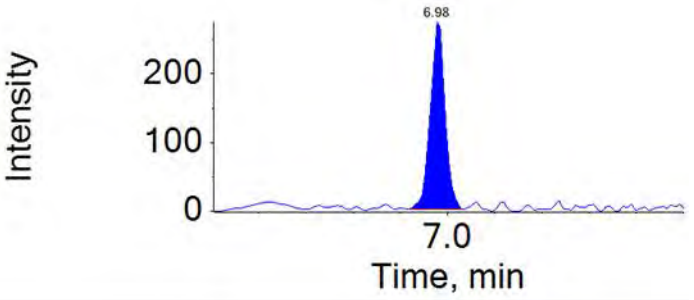
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 3:22 pm, 12/11/18

REVIEWED
By HMK at 12:51 pm, 12/13/18

LM27631

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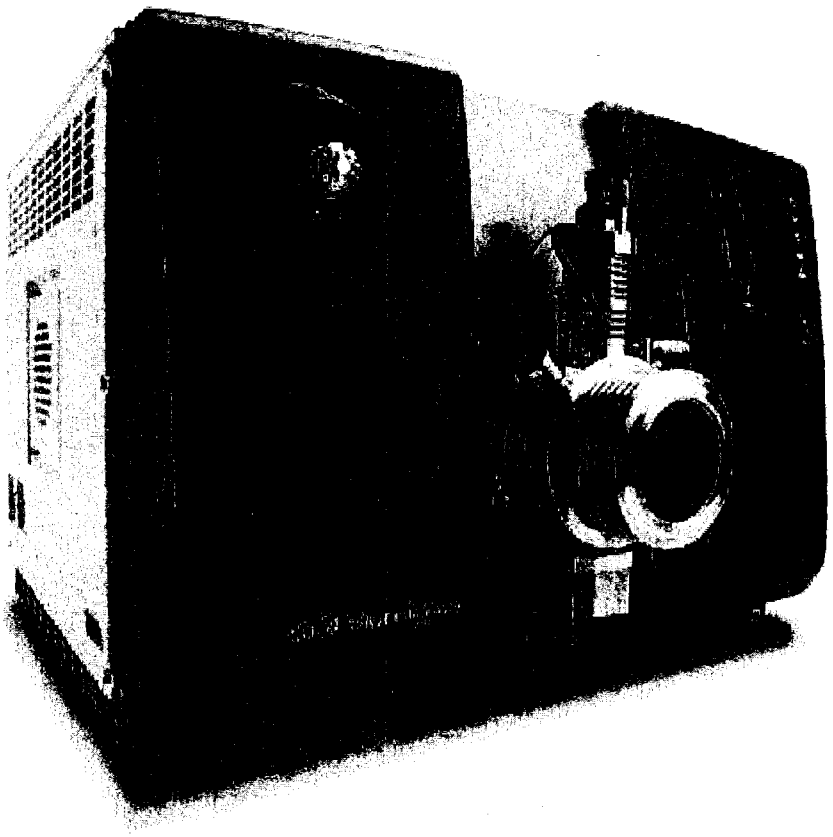
Triple Quad™ 4500 and Triple Quad™ 4500MD Systems

Installation Checklist and Data Log



GEN-IDV-06-1212-C | D5082309 C

October 2016

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Installation Preparation 1

Note: For regulatory and safety information for the mass spectrometer, refer to the *System User Guide*.

Note: Before starting the installation, verify that the customer has completed the checklist in the *Site Planning Guide*.

Customer Information

Organization	Eurofins		
Address	2425 New Holland Pike Lancaster, PA 17601		
Telephone	717-556-7231	Fax	N/A
Contact name	Charles Neslund		
E-mail address	CharlesNeslund@eurofinsUS.com		

System Information

Table 1-1 Mass Spectrometer Information

Mass spectrometer location	A-223
Mass Spectrometer model name	4500QQQ
Mass spectrometer serial number	EB220251804
Firmware version	PIL1801
Roughing pump serial number	31001702300

Table 1-2 Acquisition Computer Information

Model	XE2	Service tag	5L3QLN2
OS version	Win7 64bit	OS service pack	SP1
Analyst® or Analyst® MD software version	1.7.0	Analyst® or Analyst® MD software hotfix	HF2
Cliquid® MD software version (4500MD systems only)	N/A		
MultiQuant™ or MultiQuant™ MD software version	3.0.3		

Table 1-3 Ion Source Information

Component	Serial Number
Turbo V™ ion source • TurboIonSpray® probe	2001171218
• APCI probe (if applicable)	20380180321 20252180221
NanoSpray® ion source (if applicable, non-MD systems only)	N/A
DuoSpray™ ion source (if applicable, non-MD systems only) • TurboIonSpray® probe	N/A N/A
• APCI probe (if applicable)	N/A
Other/Third-party ion source (if applicable, non-MD systems only)	N/A

Table 1-4 System Components and Peripherals

Component	Serial Number
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

Installation Checklist 2

The Field Service Employee (FSE) must complete this checklist to make sure that every step in the installation procedure is completed. The checklist also contains an installation acceptance form for the customer representative and the FSE to sign when the work is complete. Refer to Signoff on page 21.

Unpacking and Inspection

Task	Complete	N/A
Inspect the packaging: • Inspect all tip and shock indicators for signs of excessive shock or tilting. • Inspect the boxes for exterior damage.	☑	
Unpack and inspect all of the components.	☑	
(Optional) Unpack, inspect, and install the bench. 1. Inspect the packaging for exterior damage. 2. Unpack the bench and then inspect for damage. 3. Install the bench.	◉	◉

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Hardware Installation

Task	Complete	N/A
Install the mass spectrometer on the bench.	☑	
Affix the name plate on the front cover of the mass spectrometer (only applies to mass spectrometer with the prefix 'CJ' in the serial number).	☑	
Verify that the mains supply outlets for the roughing pump and the mass spectrometer deliver stable output voltages that meet the specified electrical requirements.	☑	
(Optional) Install the SCIEX-supplied UPS.	○	○
Install the roughing pump, connecting it to the mass spectrometer and the vent. Make sure that the roughing pump contains sufficient oil.	☑	
(Optional) Install the SCIEX-supplied gas generator.	○	○
Connect the gas lines.	☑	
Install and connect the drain bottle.	☑	
Install the Turbo V™ ion source. Refer to the *Turbo V™ Ion Source Operator Guide*. For 4500MD systems, refer to the *System User Guide*. For other systems, refer to the *Turbo V™ Ion Source Operator Guide*.	☑	
Adjust the stopper on the integrated syringe pump.	☑	
WARNING! Electrical Shock Hazard. Make sure that the system can be disconnected from the mains supply outlet in an emergency. Do not block the mains supply outlet. Plug in and turn on the roughing pump, and then plug in and turn on the mass spectrometer.	☑	

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Acquisition Computer Installation

Task	Complete	N/A
Install the computer and monitor on the computer table.	☑	
Connect the Ethernet cable from the computer to the mass spectrometer.	☑	
Turn on the computer.	☑	
Configure IP addresses for communication with the mass spectrometer.	☑	
(Optional) Connect the computer to the customer network.	◉	◉
Install the Analyst® or Analyst® MD software.	☑	
Install any applicable Analyst® or Analyst® MD software hotfixes.	◉	◉
(4500MD systems) Install the Cliquid® MD software.	◉	◉
Install the MultiQuant™ or MultiQuant™ MD software.	☑	
(If applicable, not for use with 4500MD systems) Install the StatusScope® agent on the acquisition computer, and then perform these tasks: • Discuss warranty coverage for the StatusScope® software. • If the customer wants the StatusScope® software installed, then complete the StatusScope® user access form. • If the customer does not want theStatusScope® software installed, then remove the StatusScope® software.	◉	◉
(Optional) Install and license any add-on software purchased and shipped with the system. • (Non-MD systems) If applicable, Cliquid® software has been installed. • Other Analyst® or Analyst® MD compatible add-on software shipped with the system has been installed.	◉	◉

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Task	Complete	N/A
Verify and update the firmware and configuration files.	☑	
Install the factory files.	☑	

Initialization and Verification

Note: Perform these tasks after the mass spectrometer reaches operating vacuum.

Task	Complete	N/A
Perform the high pressure source and blocked exhaust flow tests.		
Measure and tune the Q1, Q3, and QJet® coil boxes.	◉	◉
Perform all installation tests, print out the test results, and complete the Data Log.	☑	

Wrap-up

Task	Complete	N/A
Delete unnecessary files from the computers.	☑	
Back up the computer file systems, including the Analyst Data folder.	☑	
Create a computer image using the image utility.	☑	
Apply the biohazard labels included in the install kit. Apply one label to the ion source, and the other to the waste bottle. Find a vacant space that is clearly visible to affix the labels.	☑	

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Task	Complete	N/A
Complete all of the sections in the *Customer Familiarization Checklist*. Make a copy of the completed checklist and then give the original to the customer.	☑	
Inform the customer about the continuous improvement telephone surveys, and then advise the customer that a third party will call to obtain feedback.	☑	
Complete the *Installation Checklist and Data Log*: • Obtain customer acceptance. • Make a copy of the form and the test results. • Provide the customer with the originals. • (For MD systems only) E-mail this completed document and the test result files to servicedata@sciex.com.	☑	

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Data Log 3

Use this log to record the test data obtained during performance of the system verification tests during installation.

Note: Perform all procedures with the Turbo V™ ion source, unless otherwise specified.

Pre-test Pressure Verification is Complete	☑

Perform this test with the Analyst® or Analyst® MD software.

Test	Specification	Result
Vacuum chamber pressure with CAD gas off	0.4×10^{-5} torr ≤ $P_{CAD\ 0}$ ≤ 1.1×10^{-5} torr	0.7 x 10e-5 torr
Vacuum chamber pressure with CAD gas set to Full	1.8×10^{-5} torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ 2.8×10^{-5} torr	2.1 x 10e-5 torr

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Q1 Positive PPGs Test is Complete: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10)	☑

- **Test solution:** POS PPG, 2e-6 M
- **Flow rate:** 5 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427, with peak intensities, peak width, and mass shift results, complete with method file information.

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
175.133	$\geq 8.0 \times 10^6$	1.6298e7	0.6 to 0.8	0.7105
500.380	$\geq 8.0 \times 10^6$	2.4240e7	0.6 to 0.8	0.6995
906.673	$\geq 2.0 \times 10^7$	3.2349e7	0.6 to 0.8	0.7151
1952.427	$\geq 8.8 \times 10^5$	1.8122e6	0.6 to 0.8	0.7423

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Q1 Positive PPGs Test is Complete: Peak Width for Identified Masses ☑

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Q3 Positive PPGs Test is Complete: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10)	☑

- **Test solution:** POS PPG, 2e-6 M
- **Flow rate:** 5 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427, with peak intensities, peak width, and mass shift results, complete with method file information.

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
175.133	≥ 8.0×10^6	[redacted]	0.6 to 0.8	[redacted]
500.380	≥ 8.0×10^6	[redacted]	0.6 to 0.8	[redacted]
906.673	≥ 2.0×10^7	[redacted]	0.6 to 0.8	[redacted]
1952.427	≥ 8.8×10^5	[redacted]	0.6 to 0.8	[redacted]

Q3 Positive PPGs Test is Complete: Peak Width for Identified Masses ☑

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Q1 Negative PPGs Test is Complete ☑

- **Test solution:** NEG PPG, 3e-4 M
- **Flow rate:** 10 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389, with peak intensities, peak width, and mass shift results, complete with method file information.

Table 3-1 Verification: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) for the Q1 Negative PPGs Tests

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
933.636	≥ 1.8×10^7	2.23786e7	0.6 to 0.8	0.6638
1863.306	≥ 1.4×10^6	2.11046e6	0.6 to 0.8	0.7369

Table 3-2 Verification: Peak Width for Identified Masses for the Q1 Negative PPGs Tests

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
44.998, 411.259, 585.385, 933.636 1223.845, 1572.097, 1863.306, 1979.389	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

Q3 Negative PPGs Test is Complete ☑

- **Test solution:** NEG PPG, 3e-4 M
- **Flow rate:** 10 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389, with peak intensities, peak width, and mass shift results, complete with method file information.

Table 3-3 Verification: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) for the Q3 Negative PPGs Tests

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
933.636	≥ 1.8×10^7	2.6621e7	0.6 to 0.8	0.7288
1863.306	≥ 2.0×10^6	3.5734e6	0.6 to 0.8	0.7033

Table 3-4 Verification: Peak Width for Identified Masses for the Q3 Negative PPGs Tests

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
44.998, 411.259, 585.385, 933.636 1223.845, 1572.097, 1863.306 1979.389	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Reserpine MS/MS Test is Complete	☑

- **Test solution:** Reserpine solution 0.167 pmol/µL
- **Flow rate:** 5 µL/min
- **Scan rate:** 10 Da/s (both MS and MS/MS)
- **Scan mode:** Product Ion (MS2)
- **Product Of:** 609.3 (or as calibrated)
- **Product Ion:** 195.1
- **Cycles:** 10
- **MCA:** On
- **Printouts required:** Spectra for masses 609.3 and 195.1, with peak intensities, peak width, and mass shift results, complete with method file information.

Table 3-5 Verification for the Reserpine MS/MS Test

Specification	Result
Transmission efficiency $\frac{Intensity\ for\ ion\ at\ m/z\ 195.1}{Intensity\ for\ ion\ at\ m/z\ 609.2\ (or\ as\ calibrated)} \times 100 \geq 10\%$	10%

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Turbo V™ Ion Source Acceptance Test is Complete	☑

Table 3-6 Verification for the Turbo V™ Ion Source Acceptance Test

Probe	Test	Specification	Result (Passed)
TurboIonSpray®	Set the temperature parameter to 500 °C.	The Analyst® or Analyst® MD software reports that the temperature is reached.	☑
APCI	Set the temperature parameter to 400 °C.	The Analyst® or Analyst® MD software reports that the temperature is reached.	☑

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Post-test Pressure Verification is Complete	☑

Perform this test with the Analyst® or Analyst® MD software.

Test	Specification	Result
Vacuum chamber pressure with CAD gas off	0.4×10^{-5} torr ≤ $P_{CAD\ 0}$ ≤ 1.1×10^{-5} torr	0.4x10e-5torr
Vacuum chamber pressure with CAD gas set to Full	1.8×10^{-5} torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ 2.8×10^{-5} torr	2.1x10e-5torr

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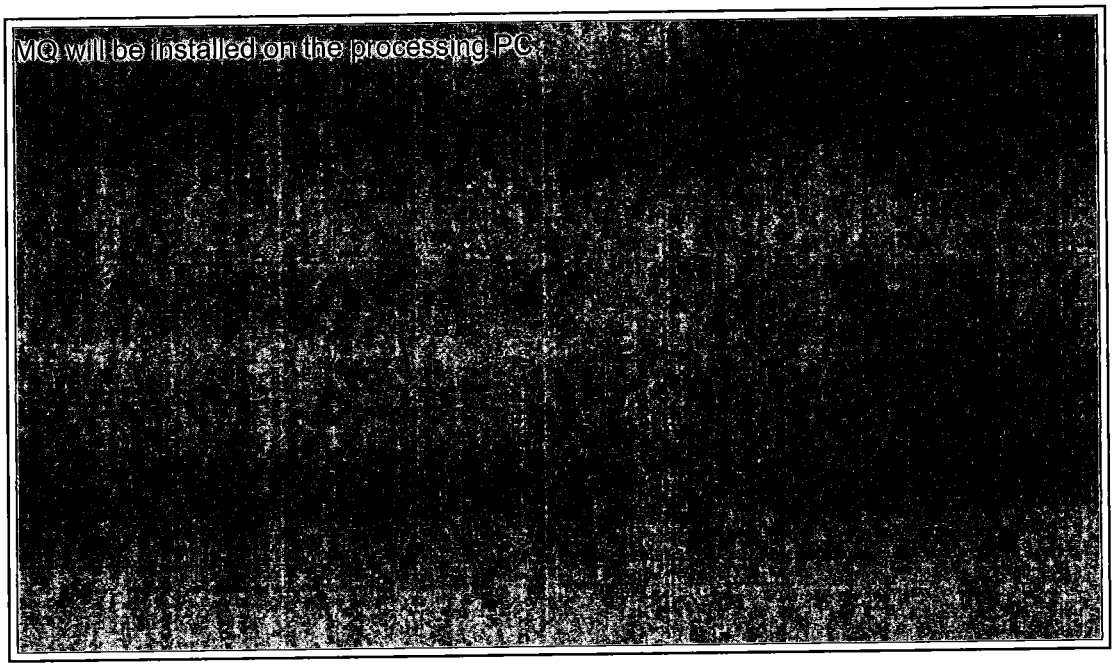
Signoff 4

Organization	Eurofins		
Customer contact name	[redacted]	Date (yyyy-mm-dd)	[redacted]
Customer contact signature*			
FSE name	Michael F Pennell	Date (yyyy-mm-dd)	2018-05-29
FSE signature			

* Signature required on hard copy only.

Comments and Exceptions



Revision History

Revision	Reason for Change	Date
A	First release of the combined *SCIEX Triple Quad™ 4500 and 4500MD System Installation Checklist and Data Log.* Replaces D5028556 E.	May 2014
B	Updated the installation test data.	December 2014
C	• Applied new template. • Updated the System Information, Acquisition Computer Installation, and Data Log sections.	October 2016

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

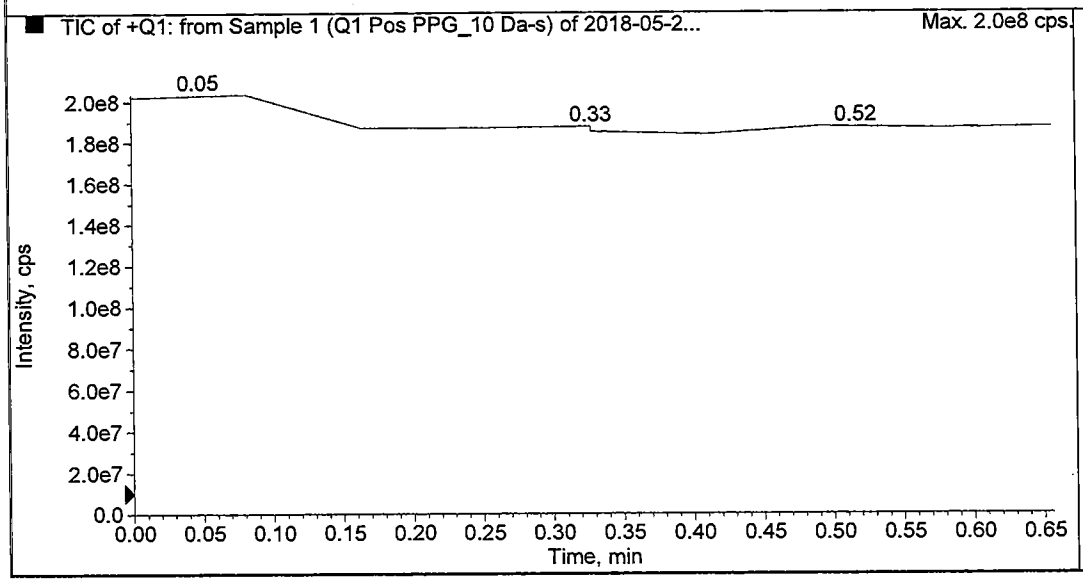
Mass Spectrometer Method Properties

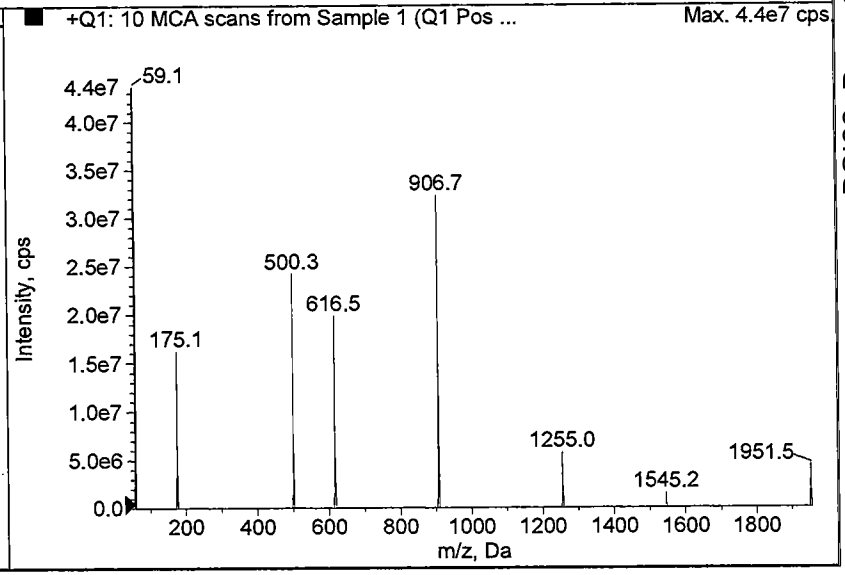
Period 1:

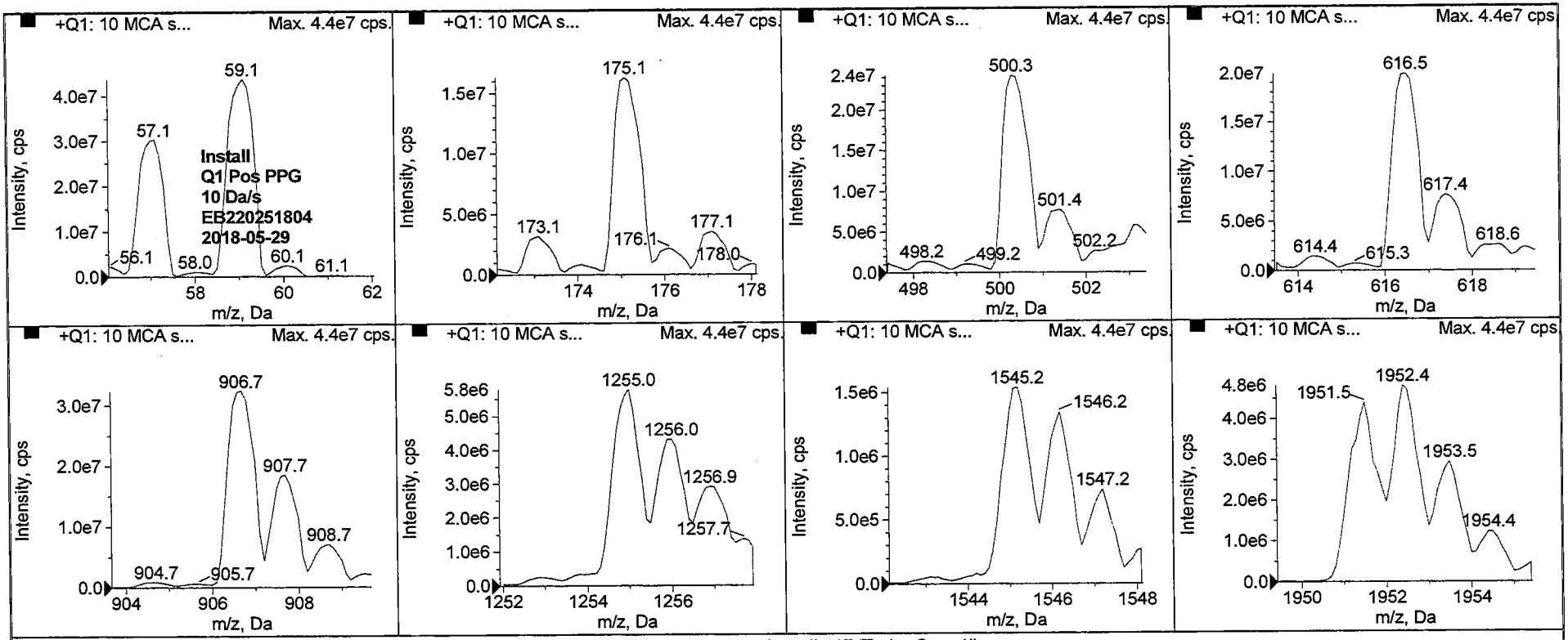
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 10 MCA scans from Sample 1 (Q1 Pos PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0559	4.3682e7	0.6931	-5.8810e-3
2	175.1330	175.1423	1.6298e7	0.7105	-9.3008e-3
3	500.3800	500.3732	2.4240e7	0.6995	6.8010e-3
4	616.4640	616.4825	1.9901e7	0.6890	-0.0185
5	906.6730	906.6804	3.2349e7	0.7151	-7.3891e-3
6	1254.9250	1254.9327	5.7895e6	0.7632	-7.6510e-3
7	1545.1340	1545.1665	1.5381e6	0.7694	-0.0325
8	1952.4270	1952.4521	4.8122e6	0.7423	-0.0251

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

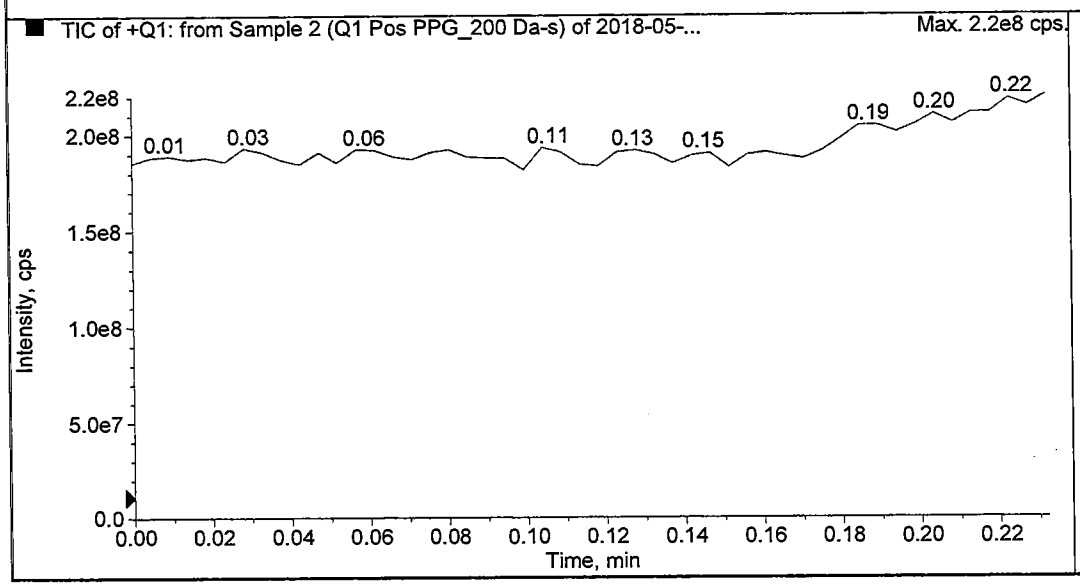
Mass Spectrometer Method Properties

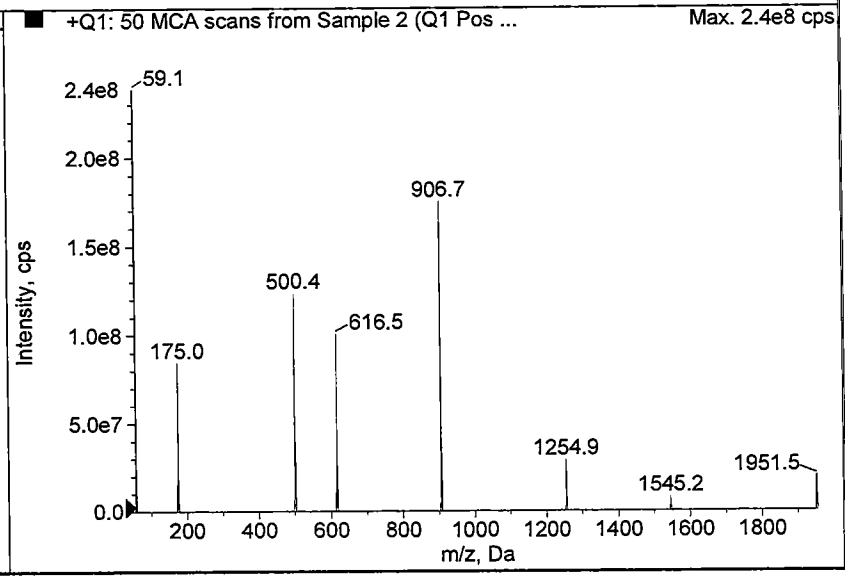
Period 1:

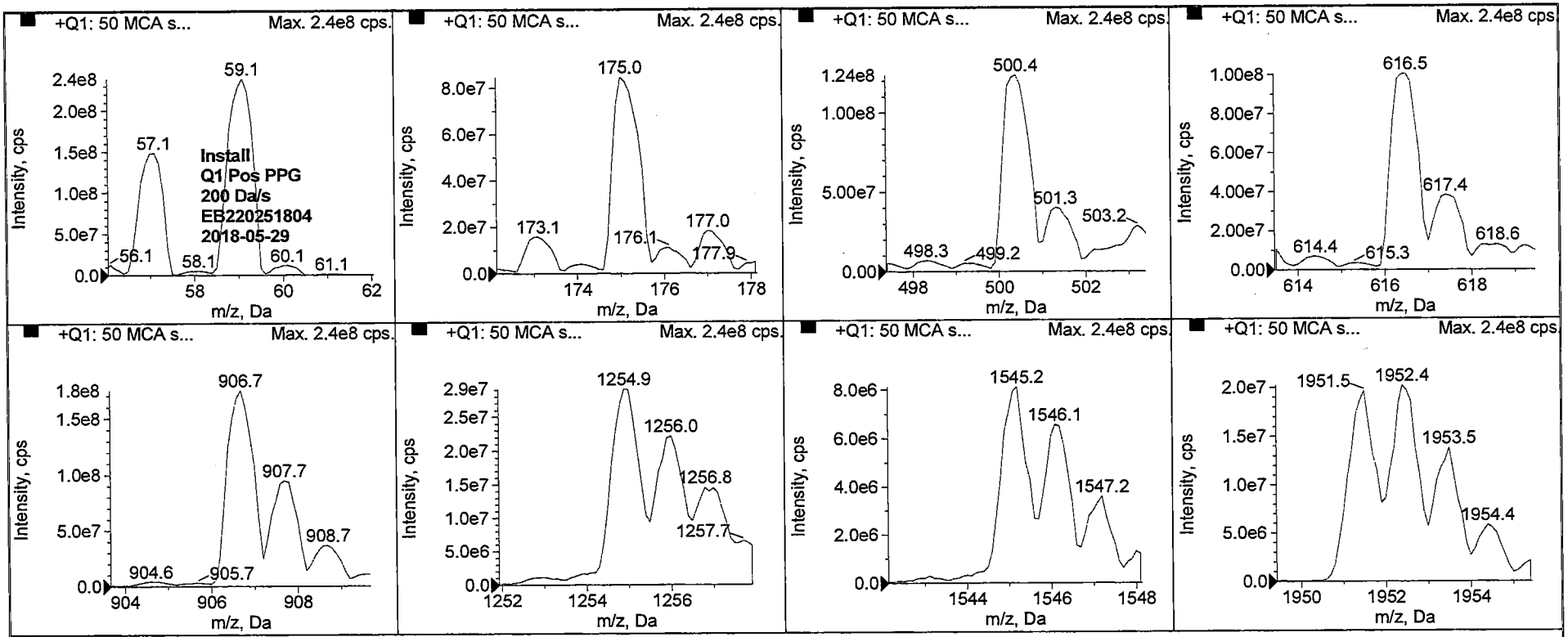
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 50 MCA scans from Sample 2 (Q1 Pos PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0570	2.3875e8	0.6632	-6.9868e-3
2	175.1330	175.1204	8.4656e7	0.7253	0.0126
3	500.3800	500.3915	1.2366e8	0.7160	-0.0115
4	616.4640	616.4631	1.0058e8	0.7191	9.0862e-4
5	906.6730	906.6801	1.7505e8	0.7187	-7.0740e-3
6	1254.9250	1254.9211	2.9174e7	0.7662	3.8790e-3
7	1545.1340	1545.1254	8.1140e6	0.7324	8.6264e-3
8	1952.4270	1952.4458	2.0214e7	0.7760	-0.0188

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

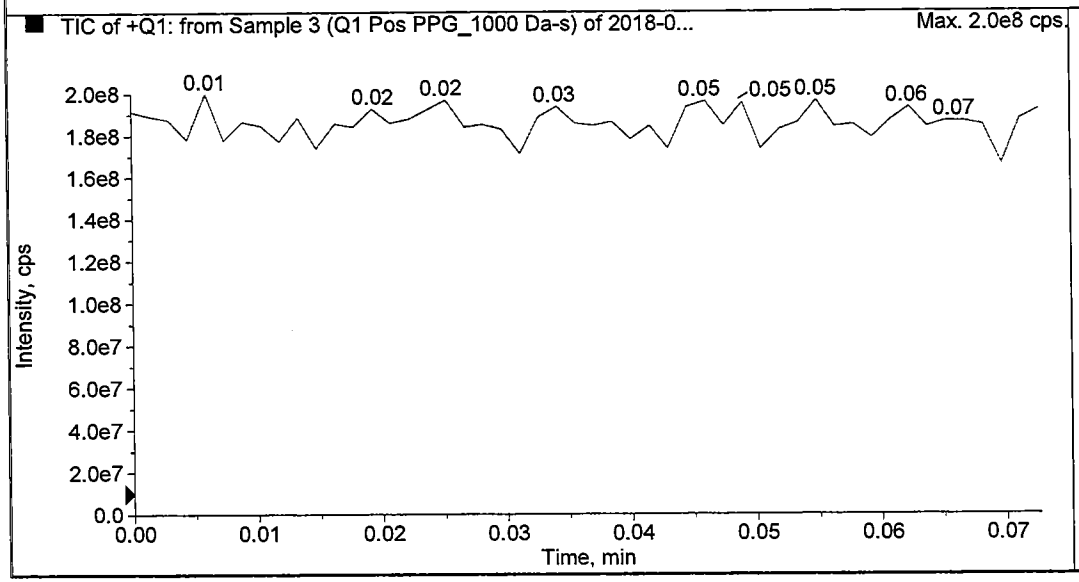
Mass Spectrometer Method Properties

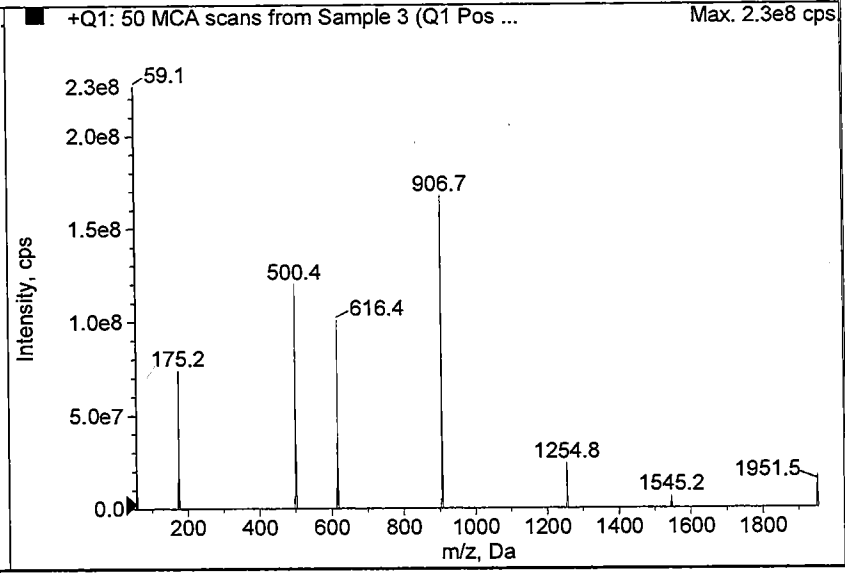
Period 1:

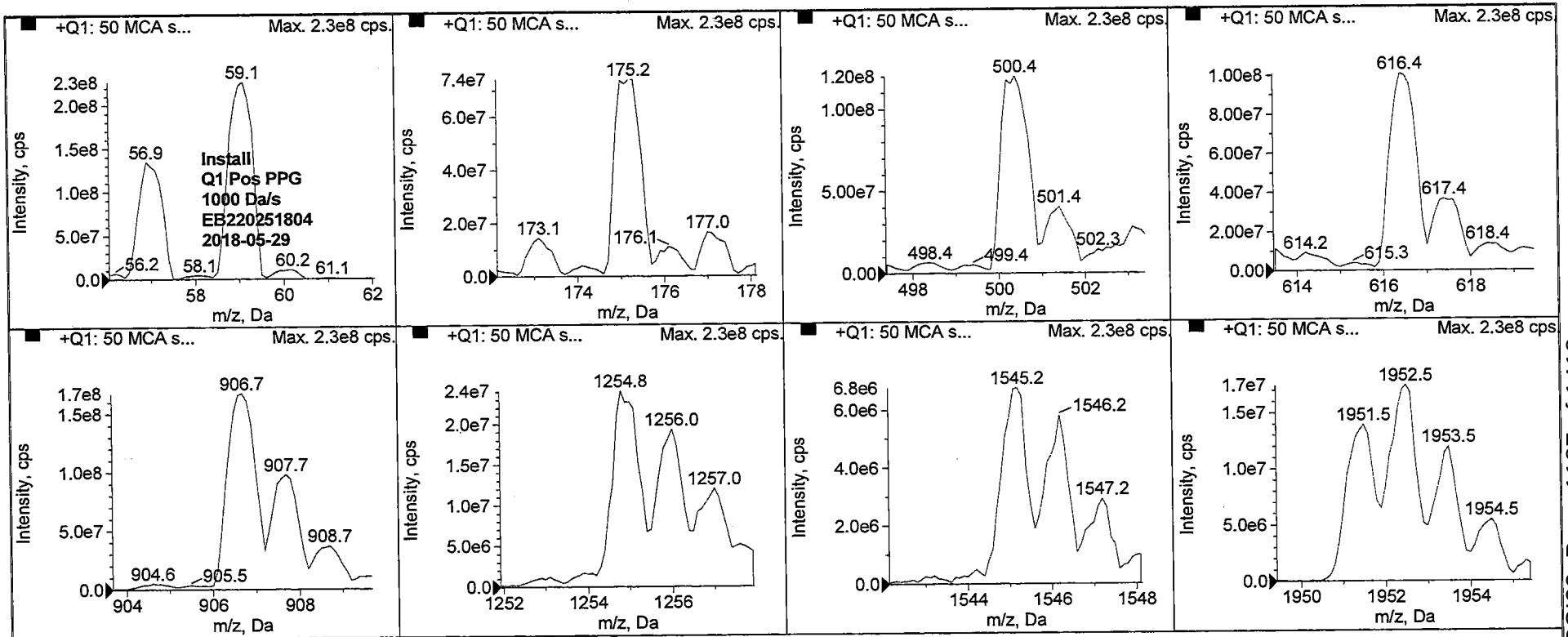
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 50 MCA scans from Sample 3 (Q1 Pos PPG_1000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0540	2.2668e8	0.6411	-4.0020e-3
2	175.1330	175.1630	7.4160e7	0.7037	-0.0300
3	500.3800	500.3767	1.2013e8	0.7536	3.3425e-3
4	616.4640	616.4720	1.0080e8	0.7224	-8.0022e-3
5	906.6730	906.6738	1.6743e8	0.7638	-8.2831e-4
6	1254.9250	1254.9160	2.4100e7	0.7104	9.0009e-3
7	1545.1340	1545.1314	6.7600e6	0.6758	2.5866e-3
8	1952.4270	1952.4259	1.7440e7	0.7572	1.0770e-3

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	5500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	10.0
Q1 Resolution:	Unit
Ion Energy 1 (IE1):	1.2
CEM (CEM):	1800.0

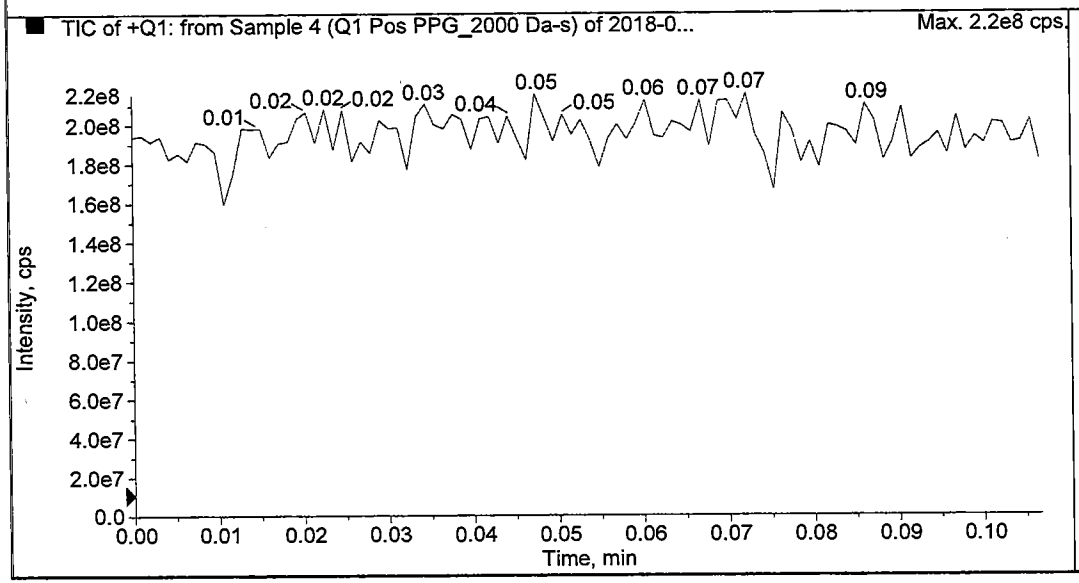
Mass Spectrometer Method Properties

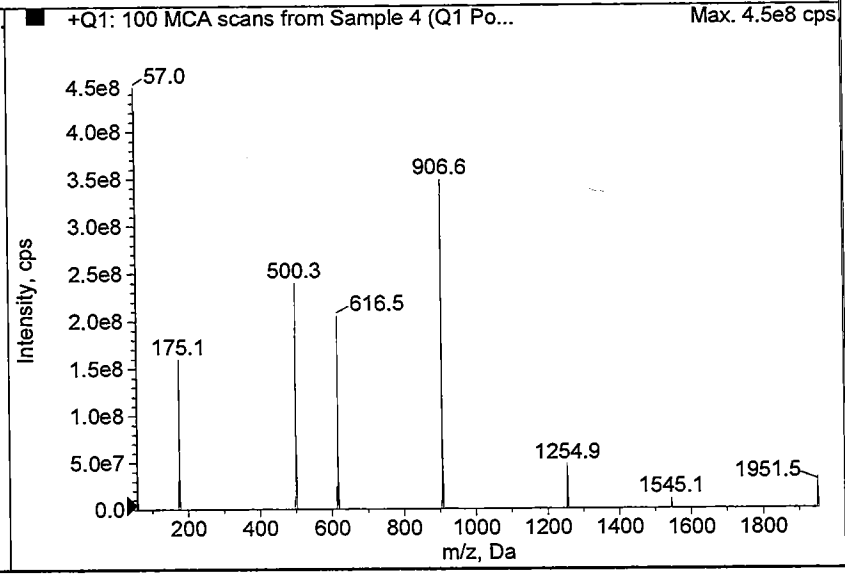
Period 1:

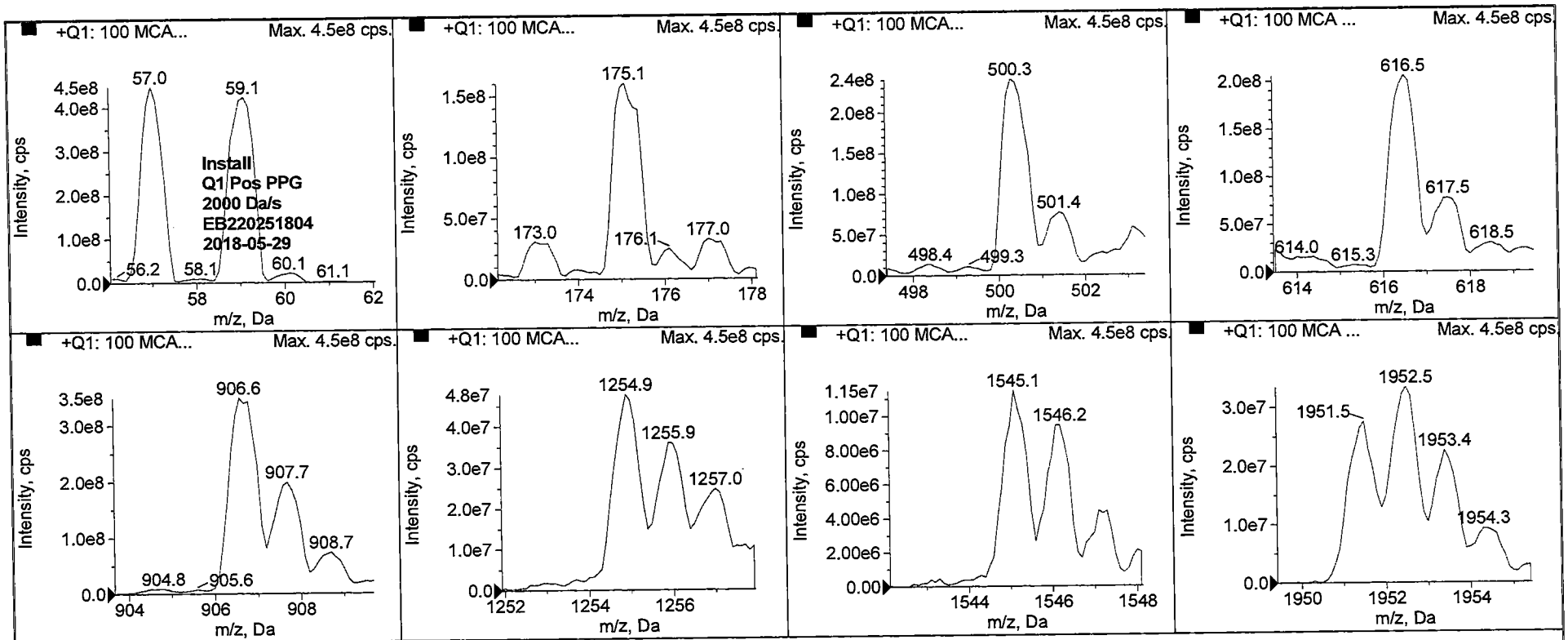
Scans in Period:	100
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q1 MS (Q1)
Polarity:	Positive
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q1:	Unit







Peak List for " +Q1: 100 MCA scans from Sample 4 (Q1 Pos PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0541	4.2264e8	0.6747	-4.1197e-3
2	175.1330	175.1367	1.6034e8	0.7378	-3.7421e-3
3	500.3800	500.3744	2.4052e8	0.6995	5.5649e-3
4	616.4640	616.4767	2.0538e8	0.7070	-0.0127
5	906.6730	906.6844	3.4888e8	0.7414	-0.0114
6	1254.9250	1254.9130	4.7800e7	0.7332	0.0120
7	1545.1340	1545.1396	1.1460e7	0.6649	-5.5517e-3
8	1952.4270	1952.4475	3.3400e7	0.7743	-0.0205

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	5500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	10.0
Q3 Resolution:	Unit
Ion Energy 3 (IE3):	1.1
CEM (CEM):	1800.0

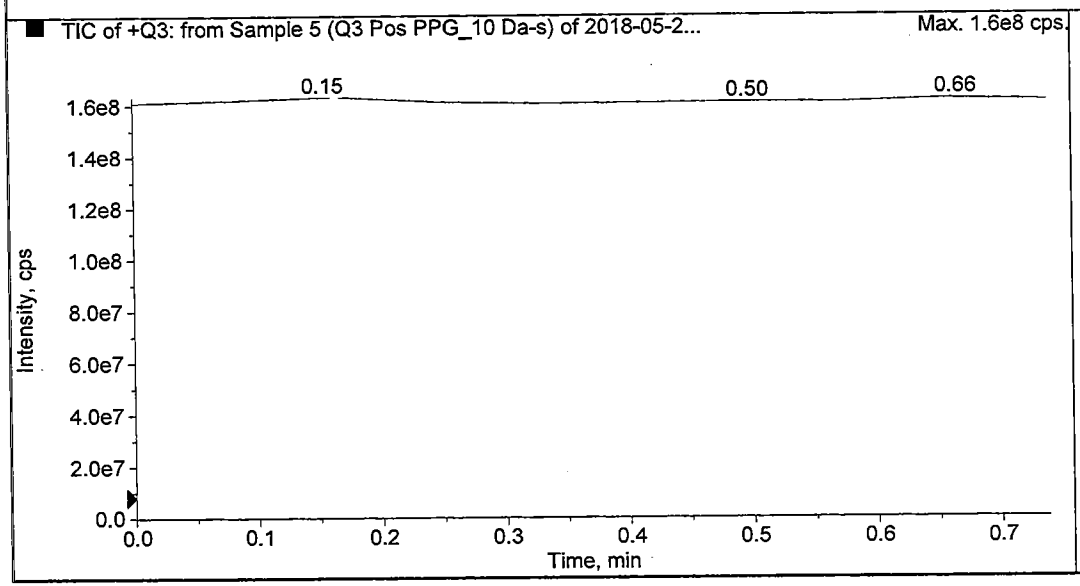
Mass Spectrometer Method Properties

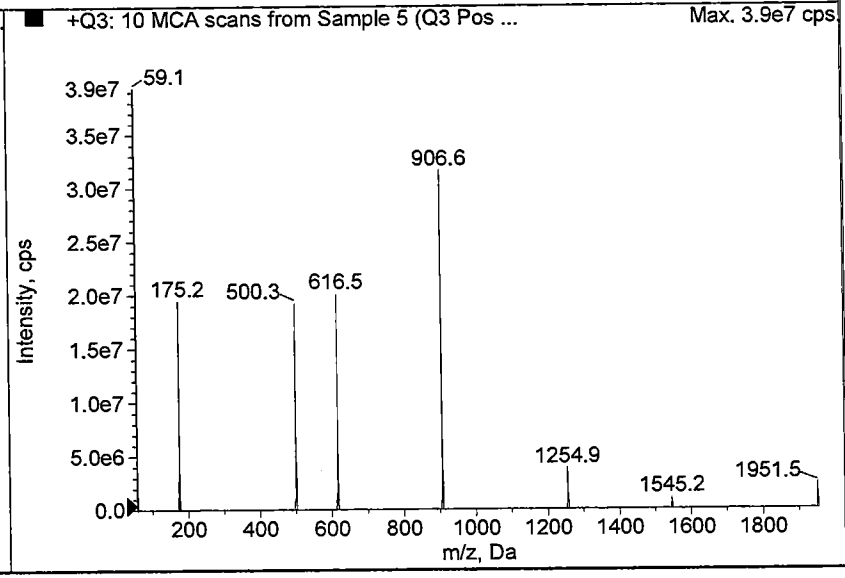
Period 1:

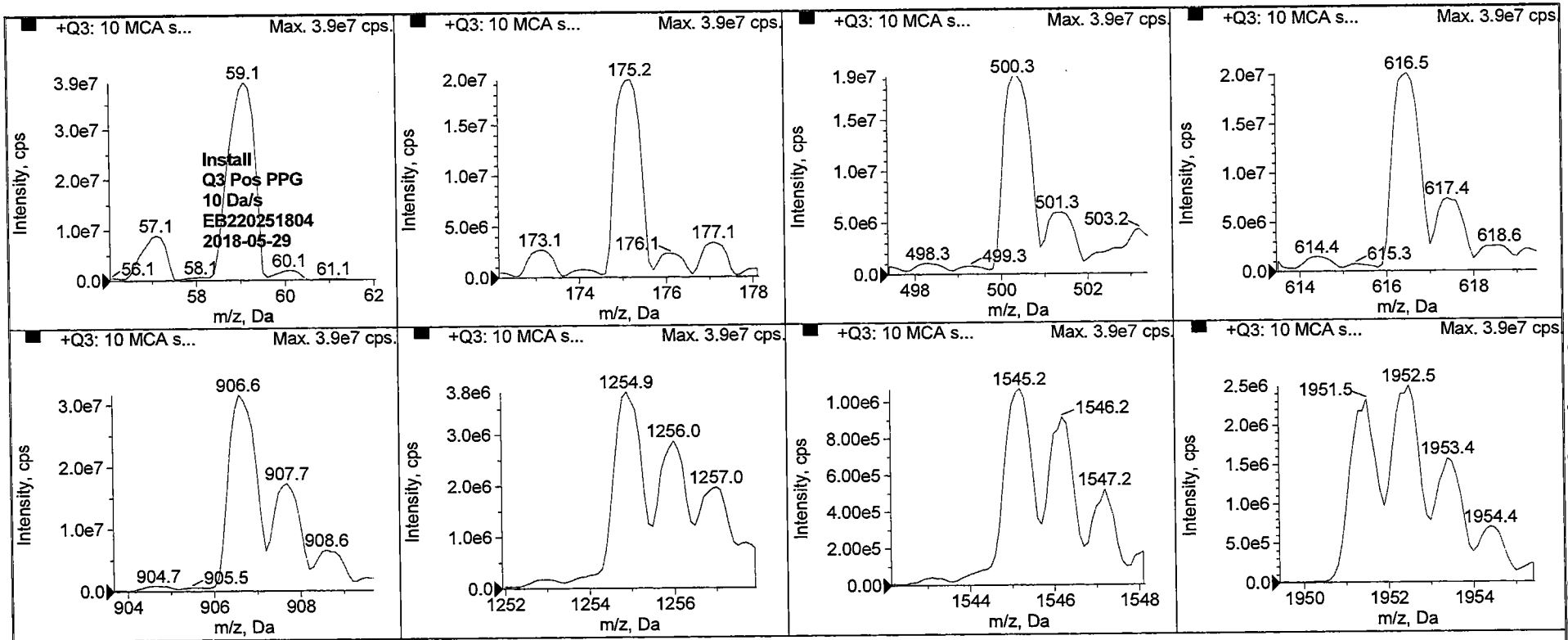
Scans in Period:	10
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q3 MS (Q3)
Polarity:	Positive
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q3:	Unit







Peak List for "+Q3: 10 MCA scans from Sample 5 (Q3 Pos PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0600	3.9407e7	0.7175	-9.9728e-3
2	175.1330	175.1331	1.9501e7	0.6916	-1.2286e-4
3	500.3800	500.3823	1.9253e7	0.7278	-2.2612e-3
4	616.4640	616.4685	2.0128e7	0.7214	-4.5095e-3
5	906.6730	906.6736	3.1634e7	0.7403	-6.1273e-4
6	1254.9250	1254.9230	3.8338e6	0.7464	2.0449e-3
7	1545.1340	1545.1599	1.0717e6	0.7475	-0.0259
8	1952.4270	1952.4105	2.4968e6	0.7828	0.0165

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): 1.0

CEM (CEM): 1800.0

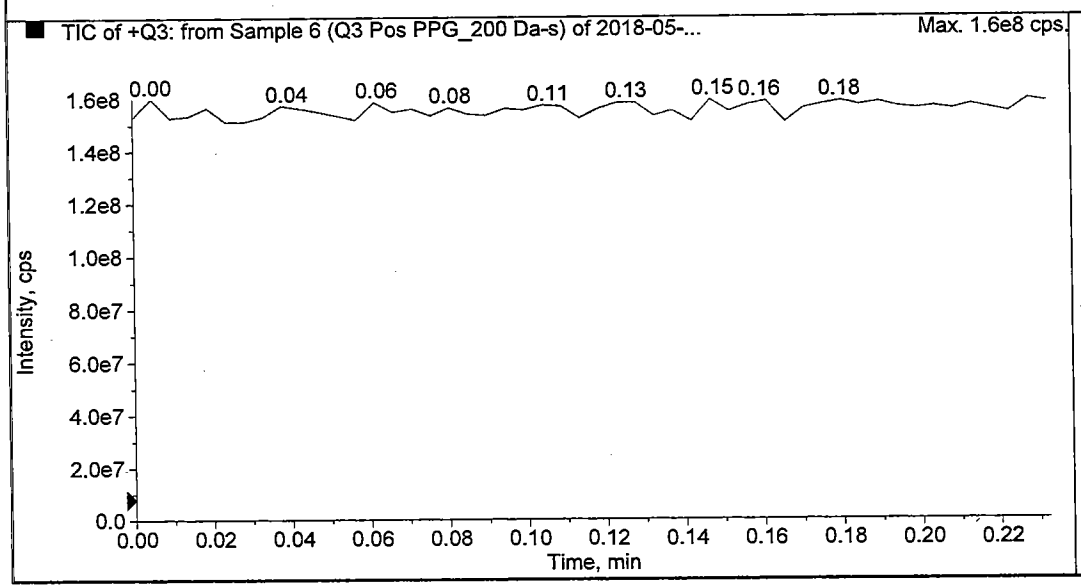
Mass Spectrometer Method Properties

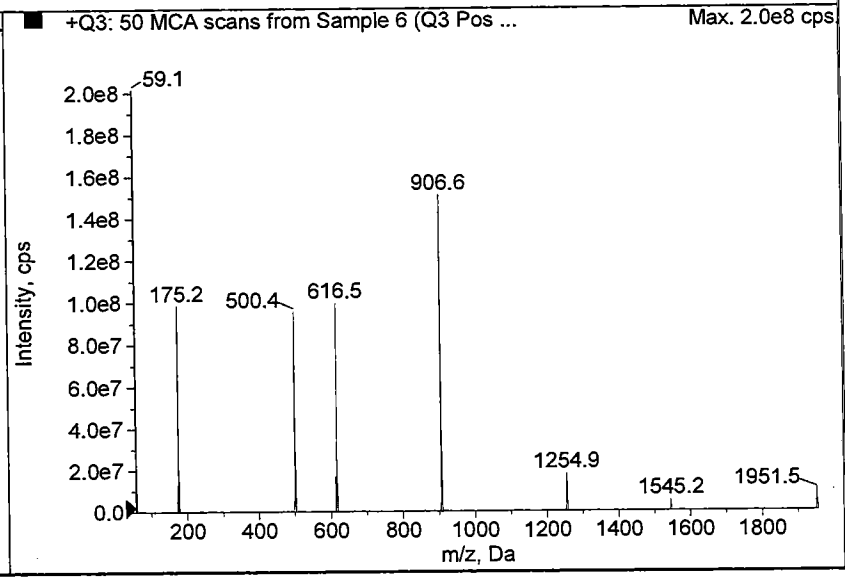
Period 1:

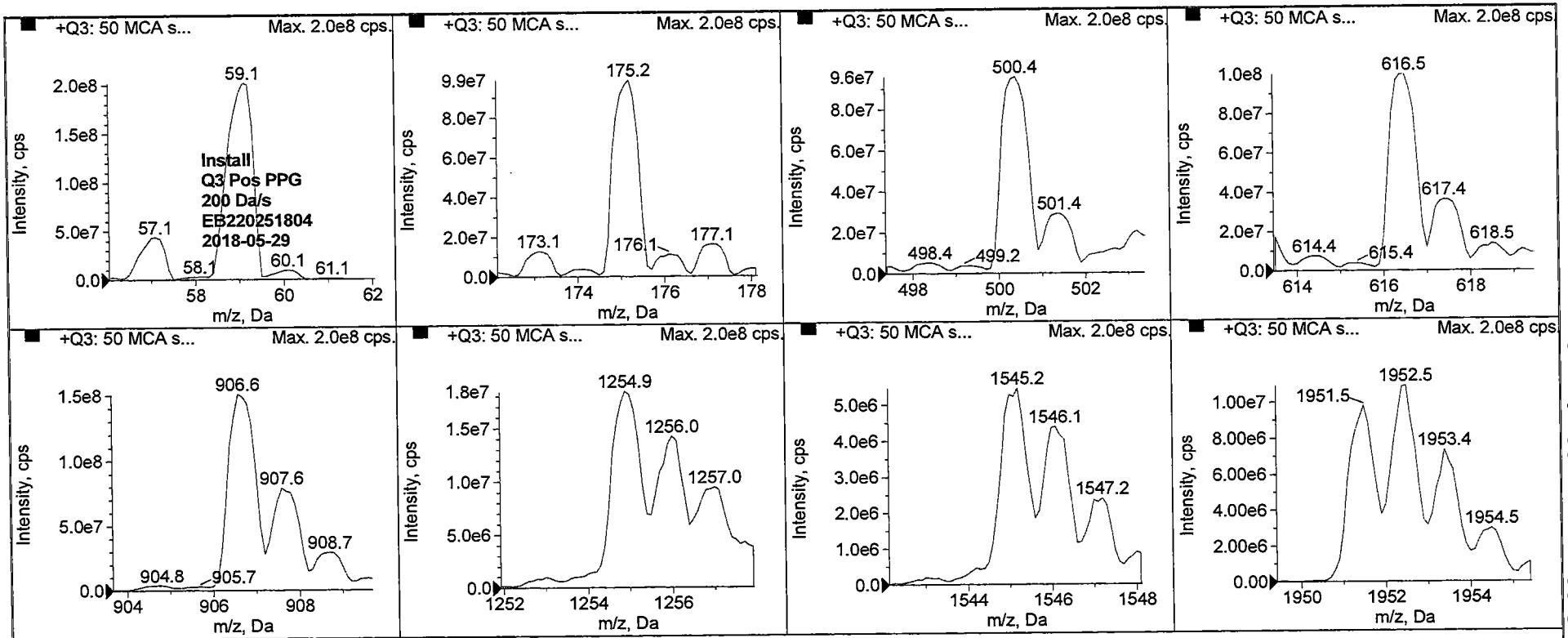
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for " +Q3: 50 MCA scans from Sample 6 (Q3 Pos PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0535	2.0159e8	0.6898	-3.5186e-3
2	175.1330	175.1234	9.8734e7	0.6779	9.5931e-3
3	500.3800	500.3781	9.5670e7	0.7134	1.9254e-3
4	616.4640	616.4537	9.9852e7	0.7073	0.0103
5	906.6730	906.6796	1.5094e8	0.7211	-6.5779e-3
6	1254.9250	1254.9165	1.8432e7	0.7818	8.4504e-3
7	1545.1340	1545.1060	5.4540e6	0.7324	0.0280
8	1952.4270	1952.4363	1.0900e7	0.7220	-9.3366e-3

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	5500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	10.0
Q3 Resolution:	Unit
Ion Energy 3 (IE3):	1.0
CEM (CEM):	1800.0

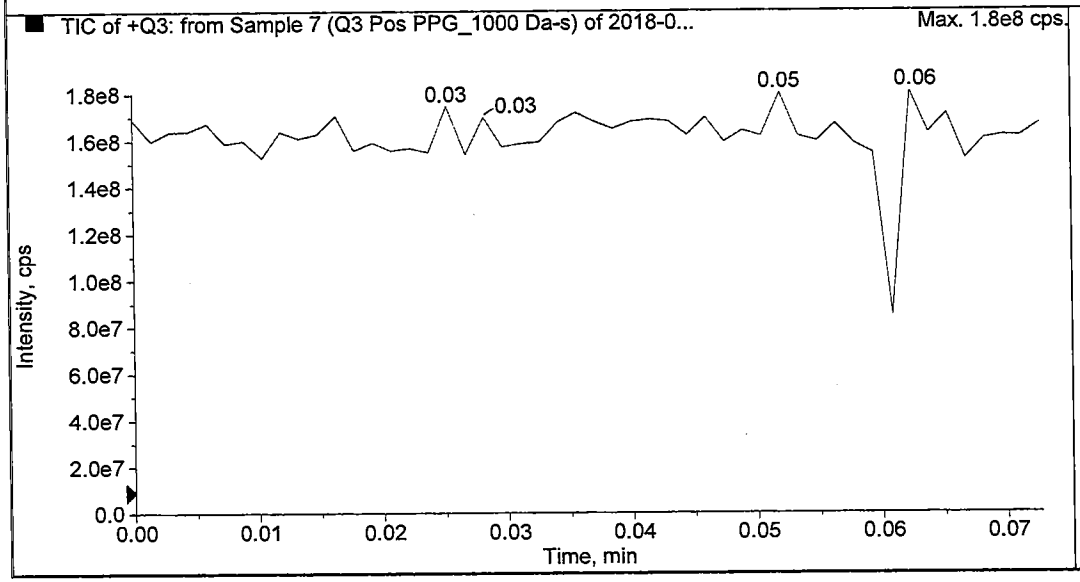
Mass Spectrometer Method Properties

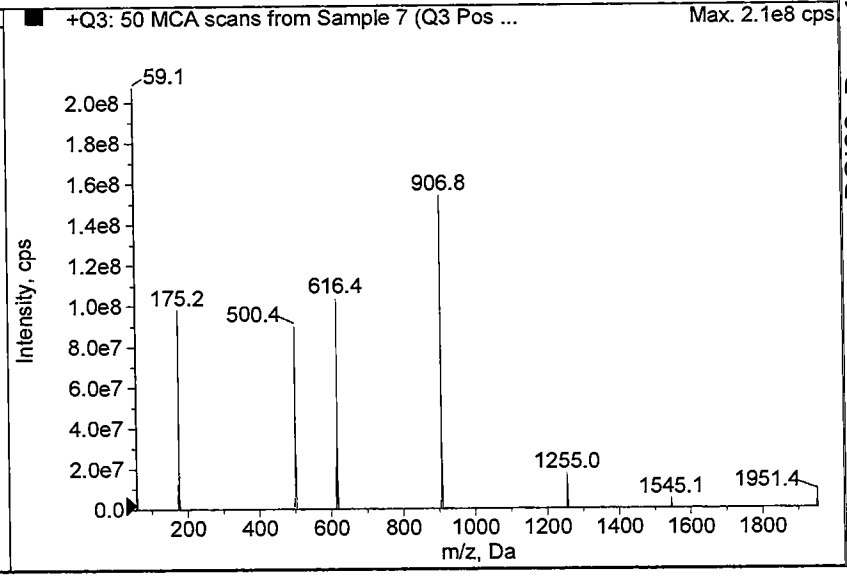
Period 1:

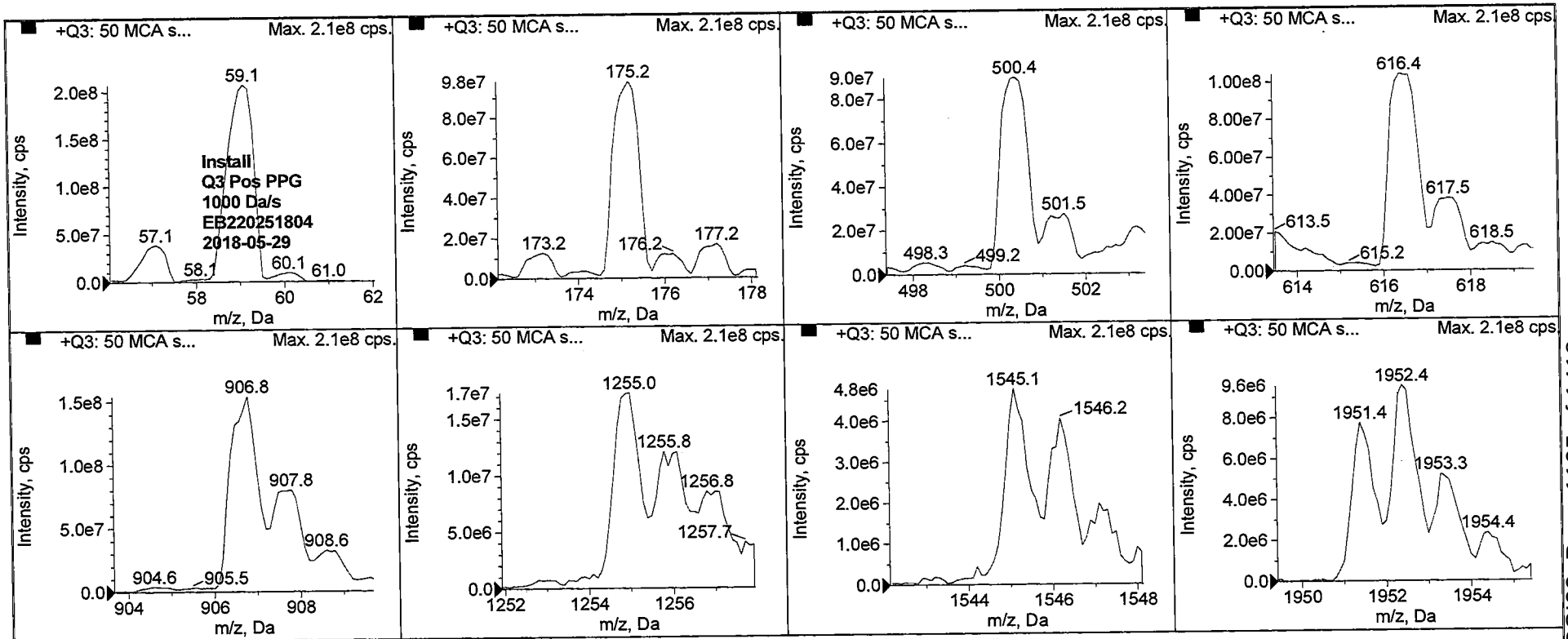
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q3 MS (Q3)
Polarity:	Positive
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q3:	Unit







Peak List for " +Q3: 50 MCA scans from Sample 7 (Q3 Pos PPG_1000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0525	2.0725e8	0.7070	-2.4950e-3
2	175.1330	175.1317	9.8190e7	0.6991	1.2969e-3
3	500.3800	500.3731	8.9990e7	0.7222	6.9400e-3
4	616.4640	616.4761	1.0393e8	0.7599	-0.0121
5	906.6730	906.6936	1.5407e8	0.7541	-0.0206
6	1254.9250	1254.9120	1.7310e7	0.7068	0.0130
7	1545.1340	1545.1453	4.7800e6	0.6227	-0.0113
8	1952.4270	1952.4249	9.5700e6	0.6631	2.0854e-3

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): 1.2

CEM (CEM): 1800.0

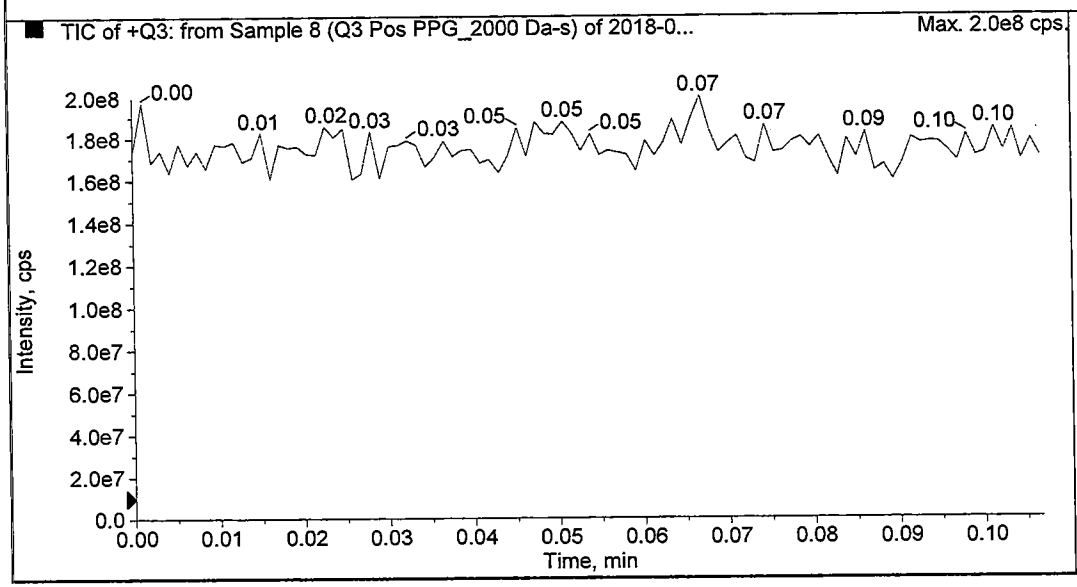
Mass Spectrometer Method Properties

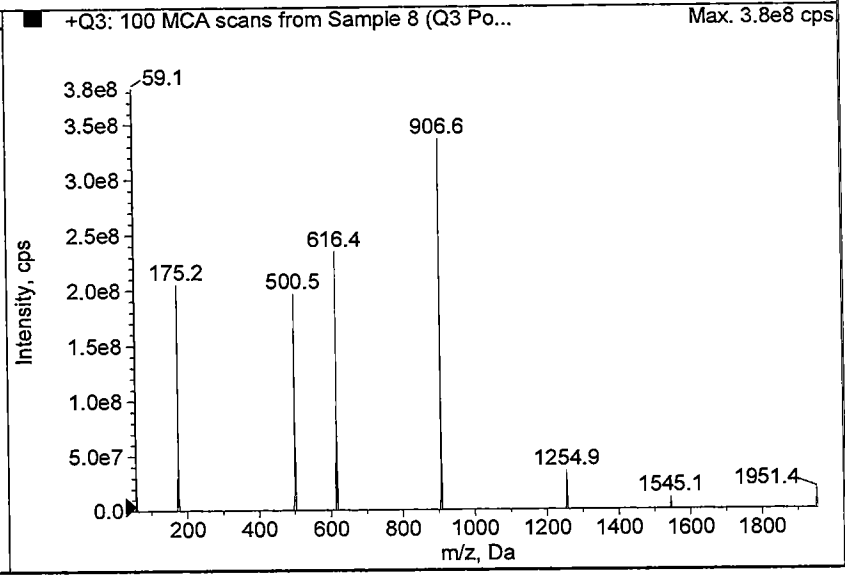
Period 1:

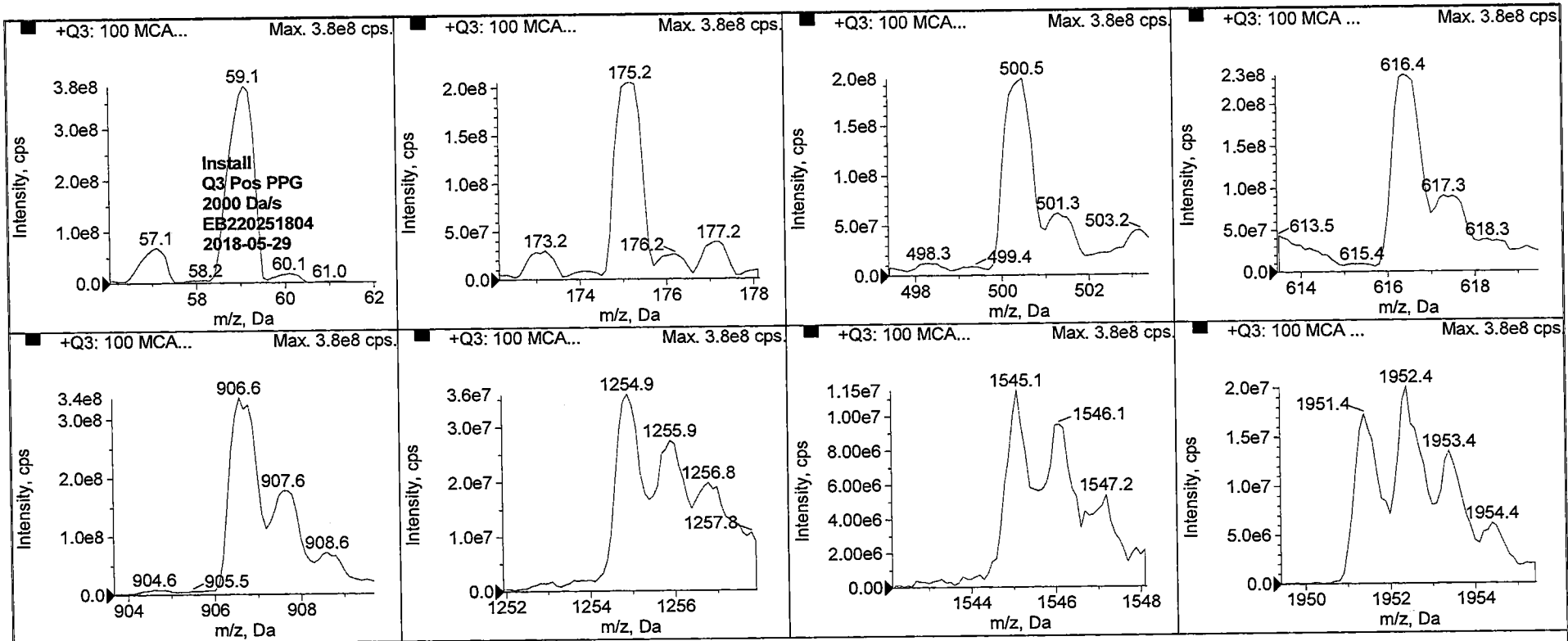
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for " +Q3: 100 MCA scans from Sample 8 (Q3 Pos PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0613	3.8304e8	0.6857	-0.0113
2	175.1330	175.1384	2.0544e8	0.7196	-5.4303e-3
3	500.3800	500.3896	1.9692e8	0.7603	-9.6113e-3
4	616.4640	616.4545	2.3484e8	0.7563	9.5275e-3
5	906.6730	906.6804	3.3638e8	0.7428	-7.4202e-3
6	1254.9250	1254.9055	3.5980e7	0.7182	0.0195
7	1545.1340	1545.0988	1.1500e7	0.6834	0.0352
8	1952.4270	1952.4546	2.0100e7	0.7640	-0.0276

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): -1.0

CEM (CEM): 1900.0

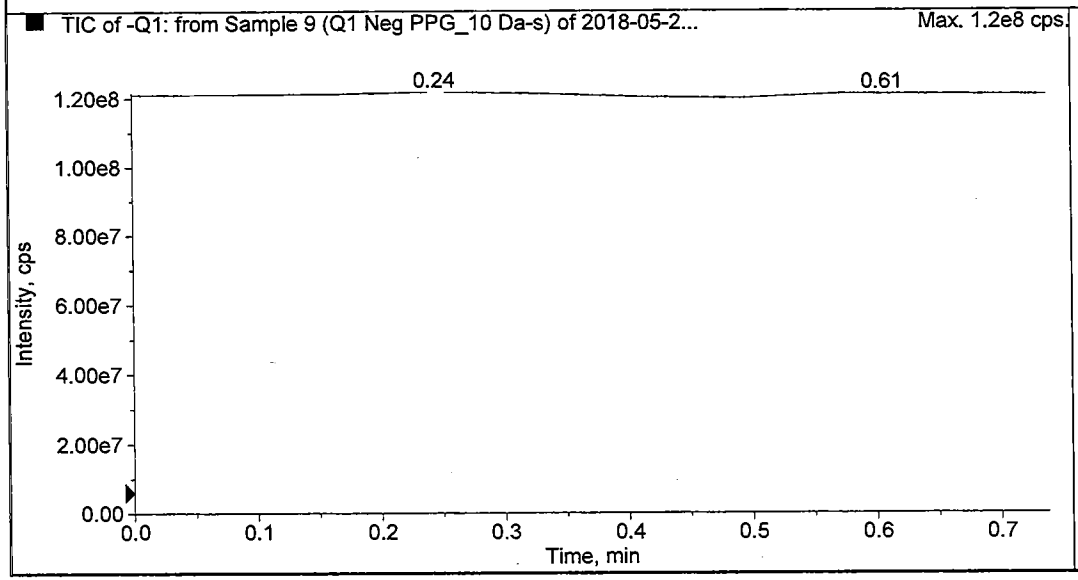
Mass Spectrometer Method Properties

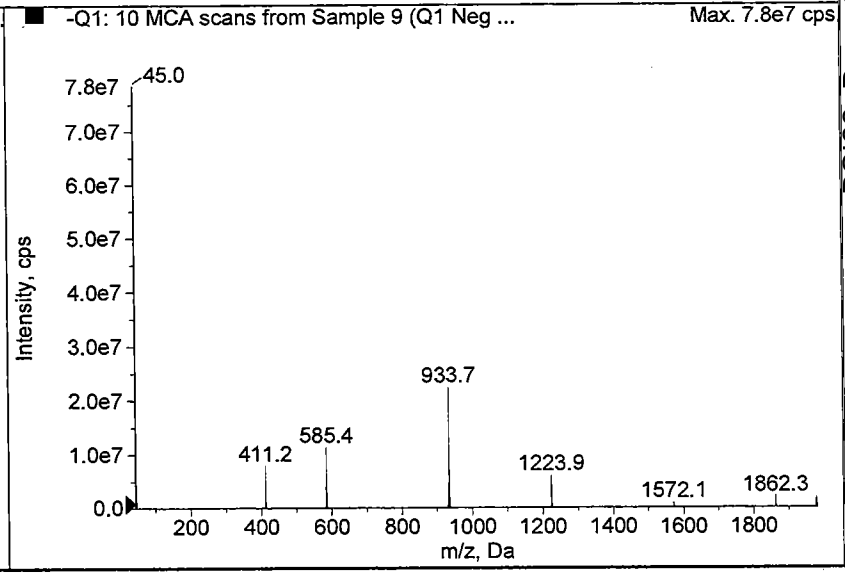
Period 1:

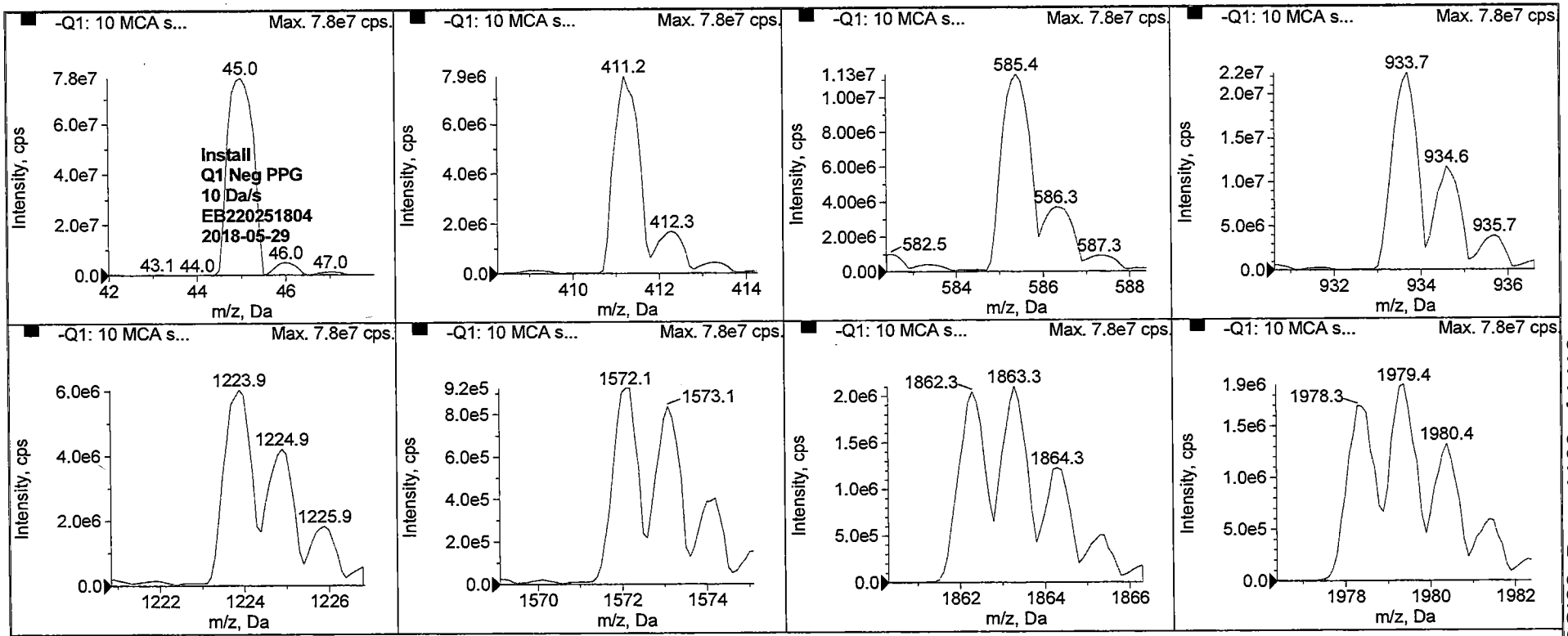
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for "-Q1: 10 MCA scans from Sample 9 (Q1 Neg PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9947	7.8484e7	0.6977	3.3302e-3
2	411.2590	411.2640	7.9184e6	0.7009	-4.9843e-3
3	585.3850	585.3944	1.1318e7	0.7674	-9.3834e-3
4	933.6360	933.6513	2.2378e7	0.6638	-0.0153
5	1223.8450	1223.8605	6.0413e6	0.7621	-0.0155
6	1572.0970	1572.0967	9.2320e5	0.6727	2.8078e-4
7	1863.3060	1863.2949	2.1046e6	0.7369	0.0111
8	1979.3890	1979.3655	1.8985e6	0.7323	0.0235

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): -1.0

CEM (CEM): 1900.0

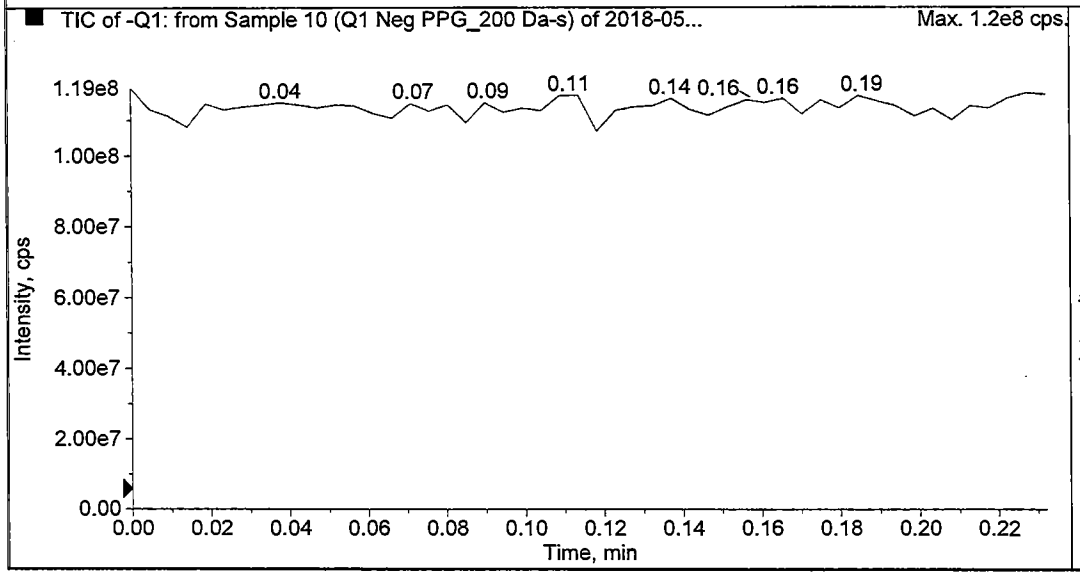
Mass Spectrometer Method Properties

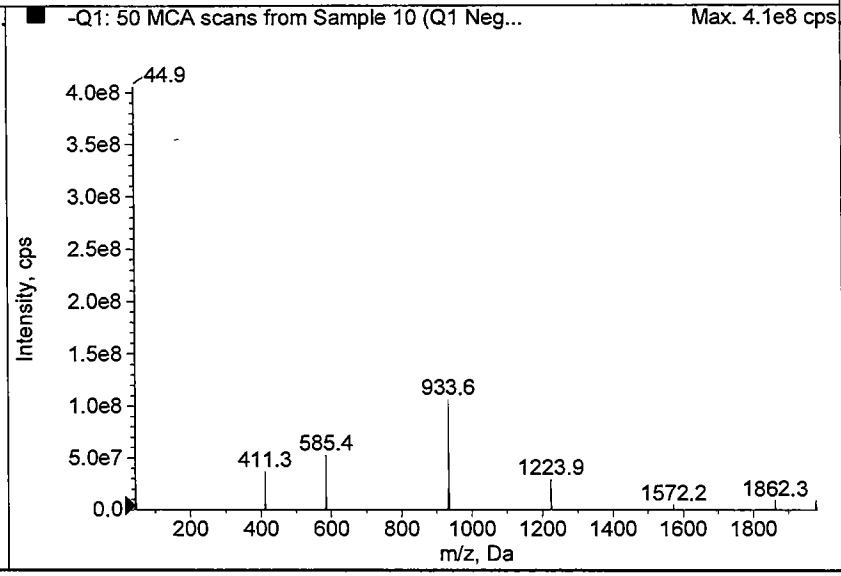
Period 1:

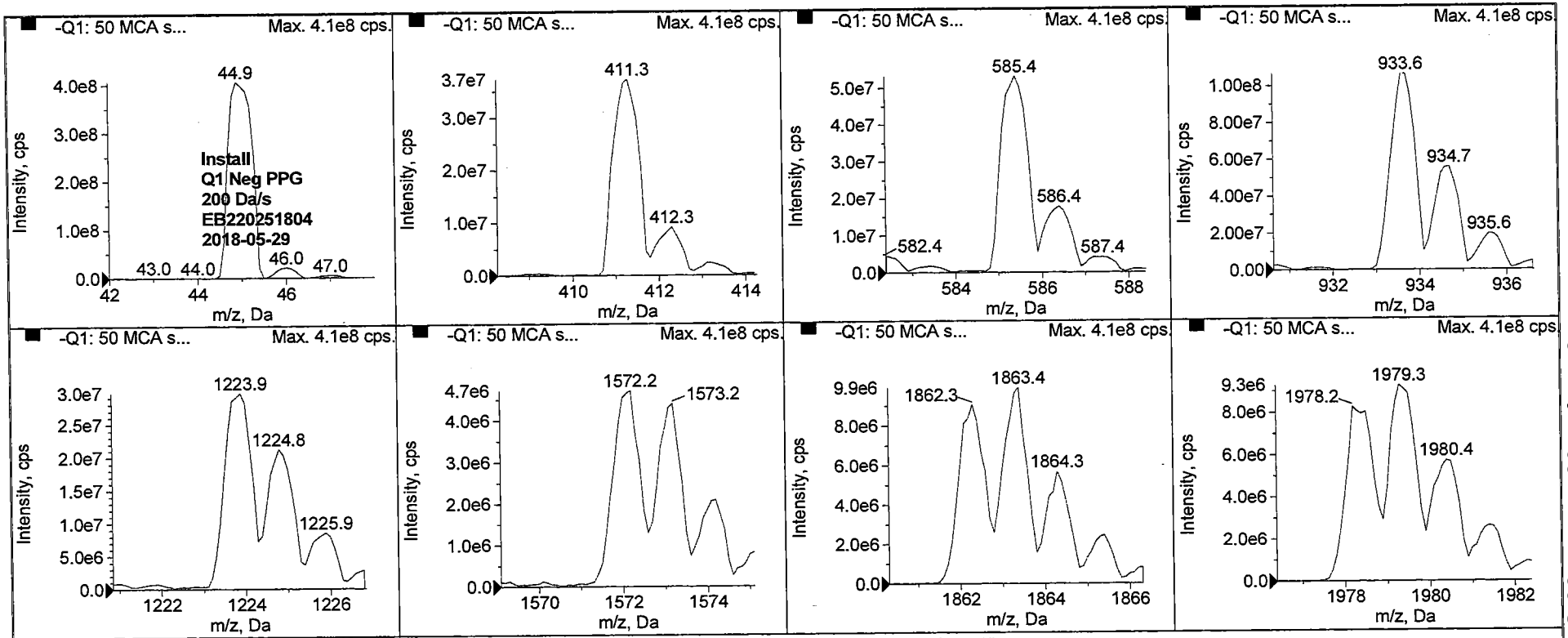
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for "-Q1: 50 MCA scans from Sample 10 (Q1 Neg PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9900	4.0582e8	0.6493	8.0001e-3
2	411.2590	411.2621	3.7274e7	0.7276	-3.1008e-3
3	585.3850	585.3787	5.3084e7	0.7168	6.3372e-3
4	933.6360	933.6551	1.0649e8	0.6450	-0.0191
5	1223.8450	1223.8398	2.9712e7	0.7456	5.1659e-3
6	1572.0970	1572.1026	4.7160e6	0.7330	-5.5764e-3
7	1863.3060	1863.3085	9.9060e6	0.6832	-2.5396e-3
8	1979.3890	1979.3715	9.2680e6	0.7385	0.0175

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): -1.0

CEM (CEM): 1900.0

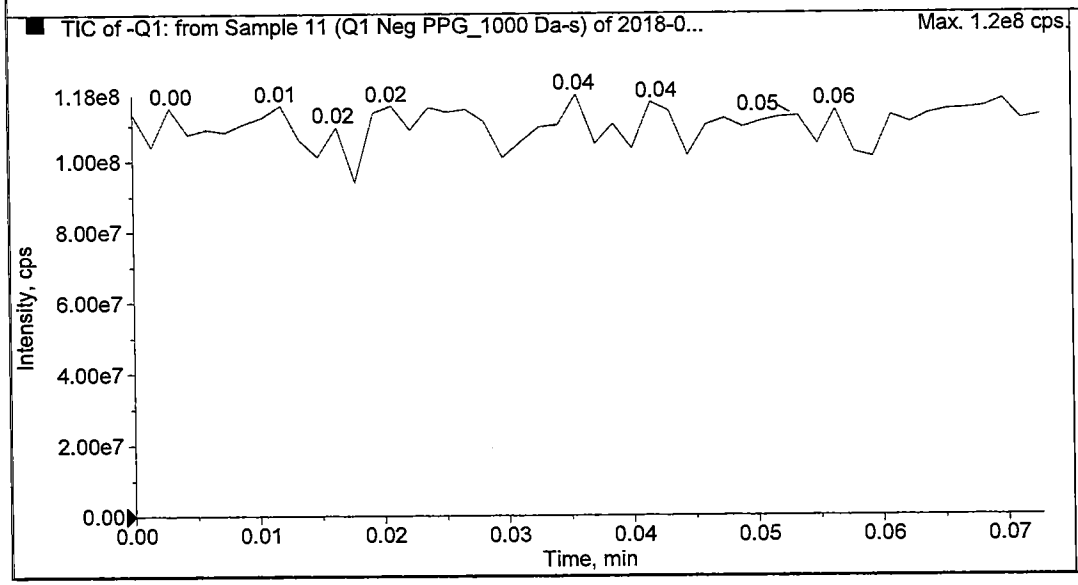
Mass Spectrometer Method Properties

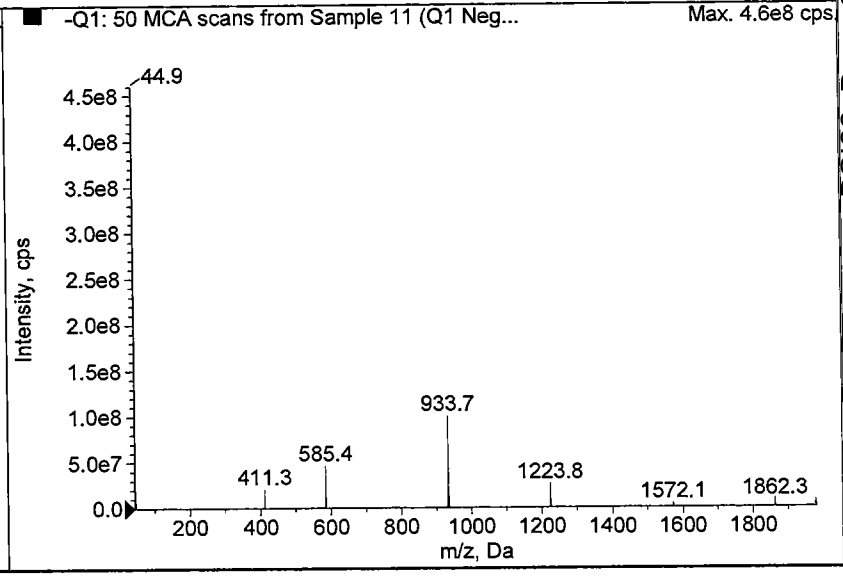
Period 1:

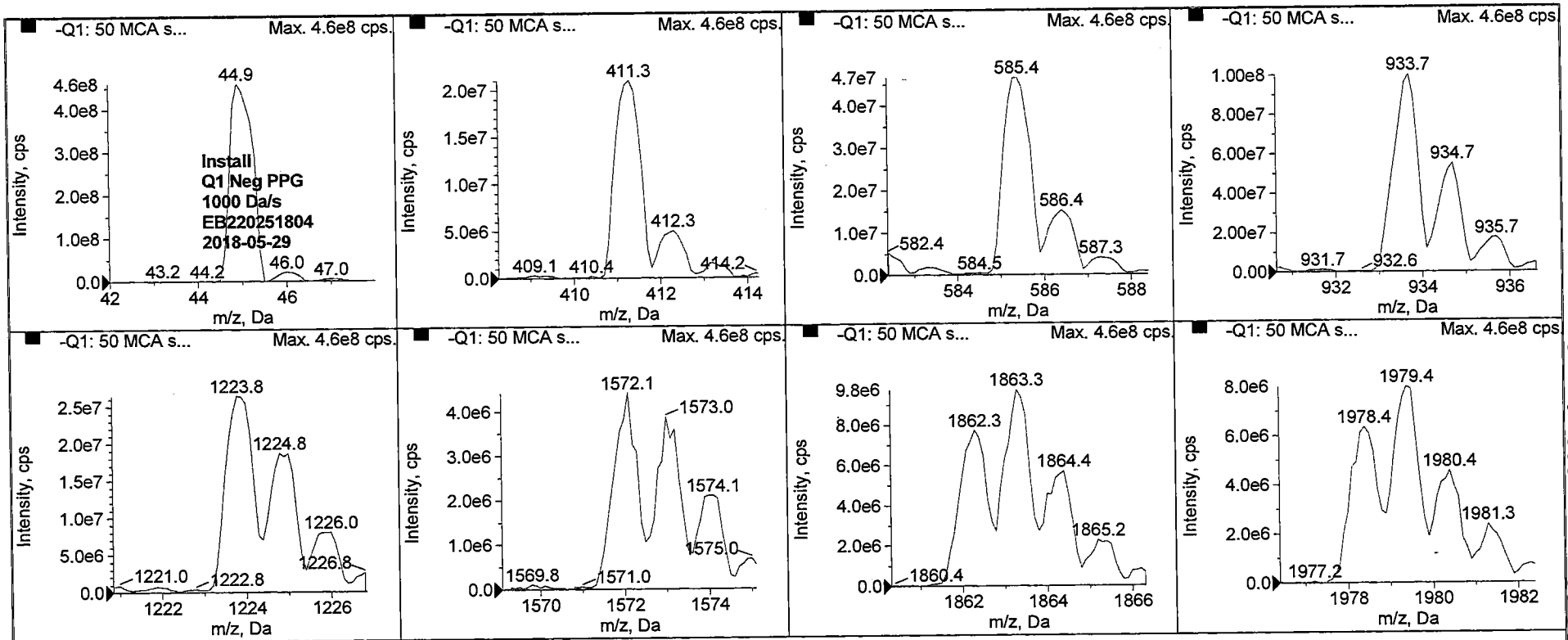
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for "-Q1: 50 MCA scans from Sample 11 (Q1 Neg PPG_1000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	45.0048	4.6001e8	0.6178	-6.8036e-3
2	411.2590	411.2622	2.1000e7	0.6966	-3.2270e-3
3	585.3850	585.3835	4.6680e7	0.7152	1.4984e-3
4	933.6360	933.6542	1.0040e8	0.6380	-0.0182
5	1223.8450	1223.8506	2.6440e7	0.7474	-5.6084e-3
6	1572.0970	1572.0547	4.4200e6	0.6569	0.0423
7	1863.3060	1863.3097	9.7600e6	0.7294	-3.6879e-3
8	1979.3890	1979.3736	7.9900e6	0.7077	0.0154

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	-4500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	-10.0
Q1 Resolution:	Unit
Ion Energy 1 (IE1):	-1.0
CEM (CEM):	1900.0

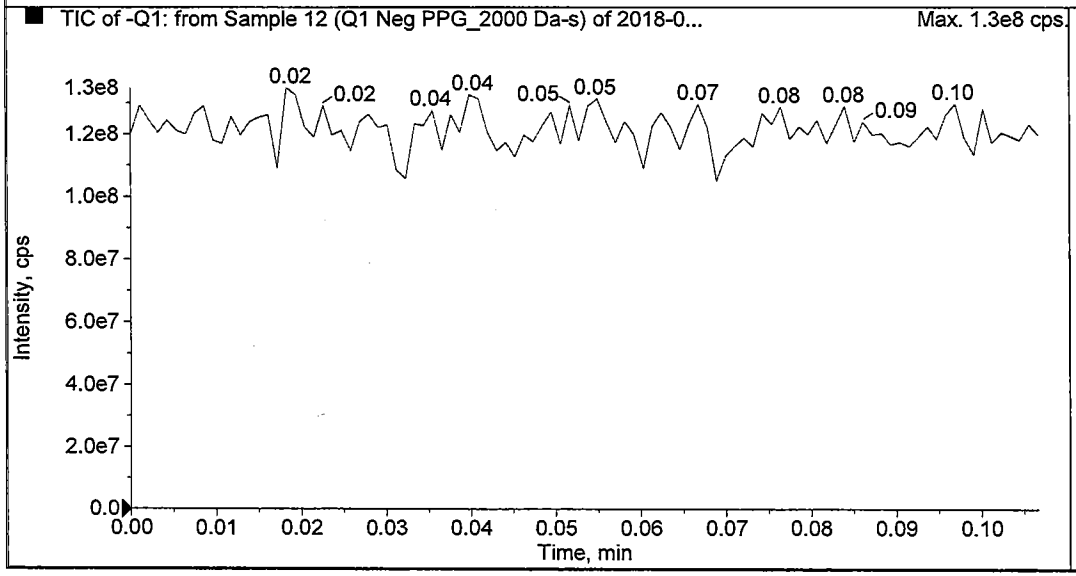
Mass Spectrometer Method Properties

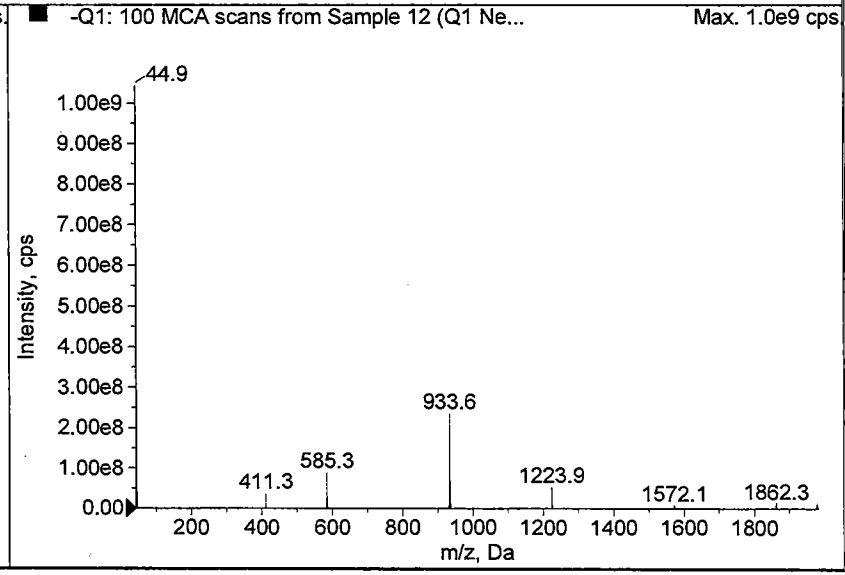
Period 1:

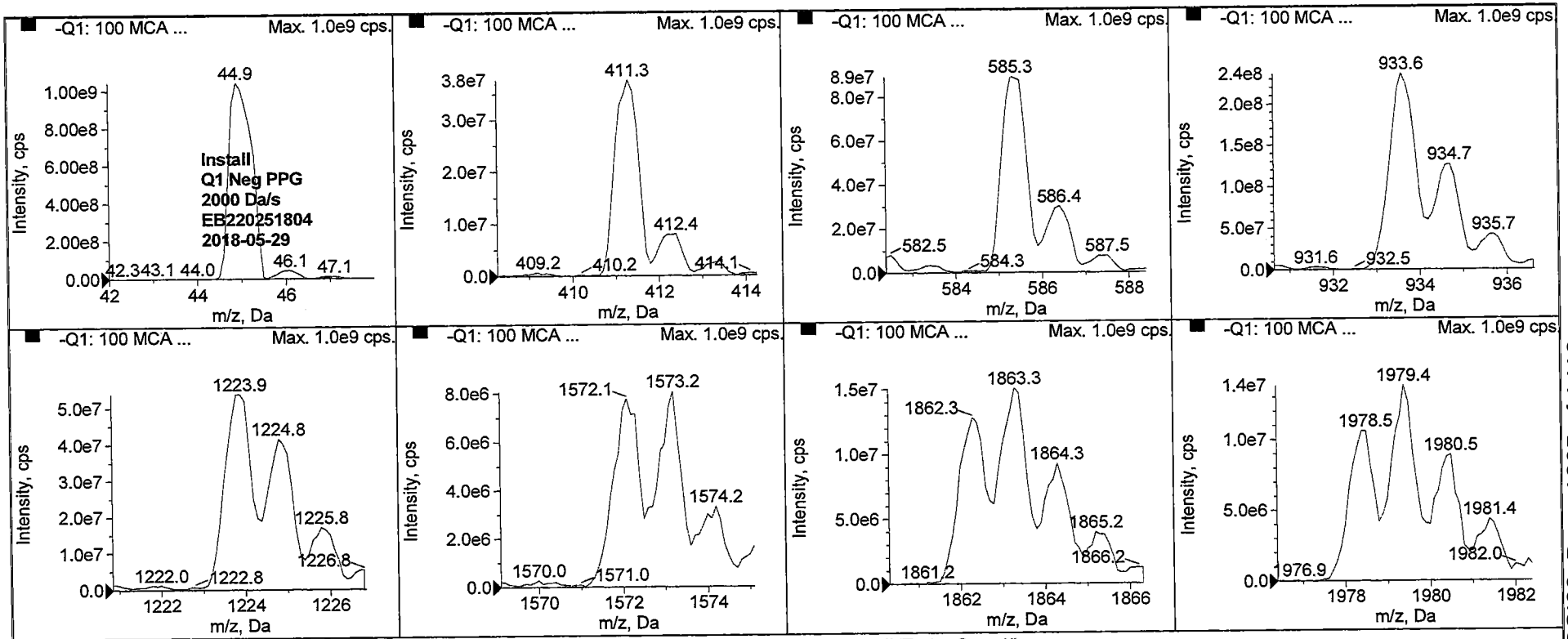
Scans in Period:	100
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q1 MS (Q1)
Polarity:	Negative
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q1:	Unit







Peak List for "-Q1: 100 MCA scans from Sample 12 (Q1 Neg PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9988	1.0432e9	0.6290	-7.8776e-4
2	411.2590	411.2681	3.7700e7	0.6335	-9.0706e-3
3	585.3850	585.3670	8.9260e7	0.6465	0.0180
4	933.6360	933.6310	2.3632e8	0.6639	4.9633e-3
5	1223.8450	1223.8469	5.3740e7	0.7138	-1.8551e-3
6	1572.0970	1572.1139	7.7800e6	0.7223	-0.0169
7	1863.3060	1863.2638	1.5060e7	0.7553	0.0422
8	1979.3890	1979.3750	1.3800e7	0.6556	0.0140

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): -1.5

CEM (CEM): 1900.0

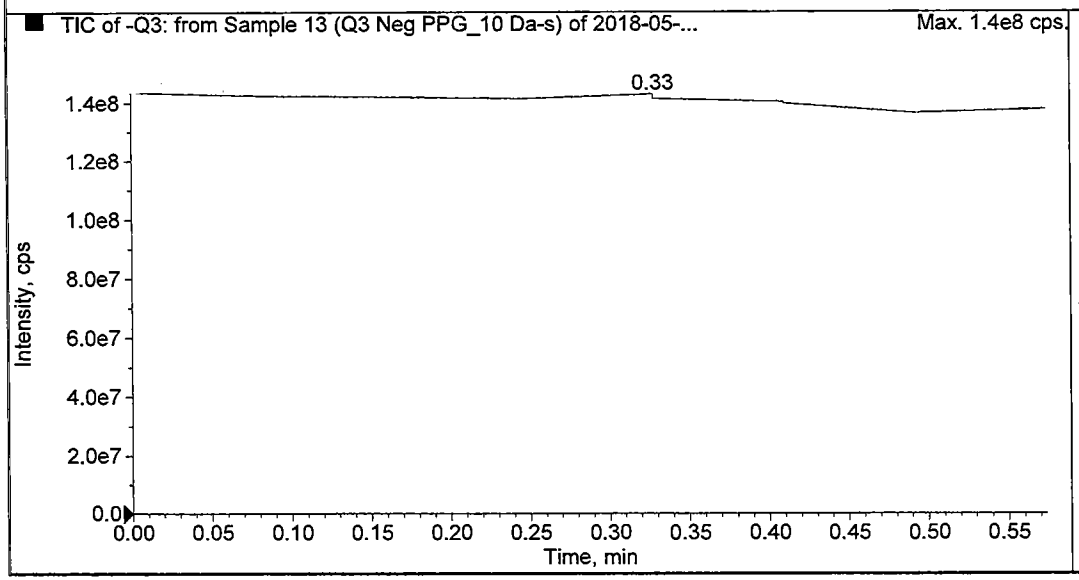
Mass Spectrometer Method Properties

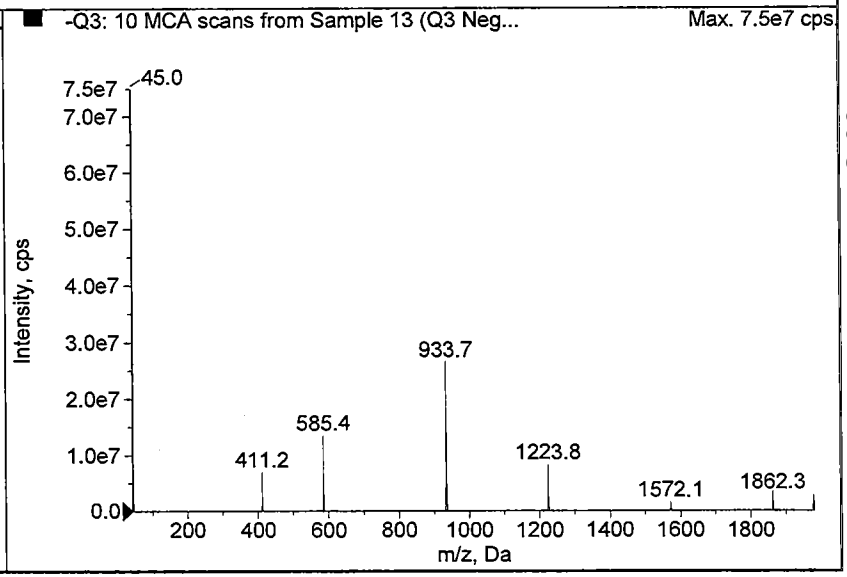
Period 1:

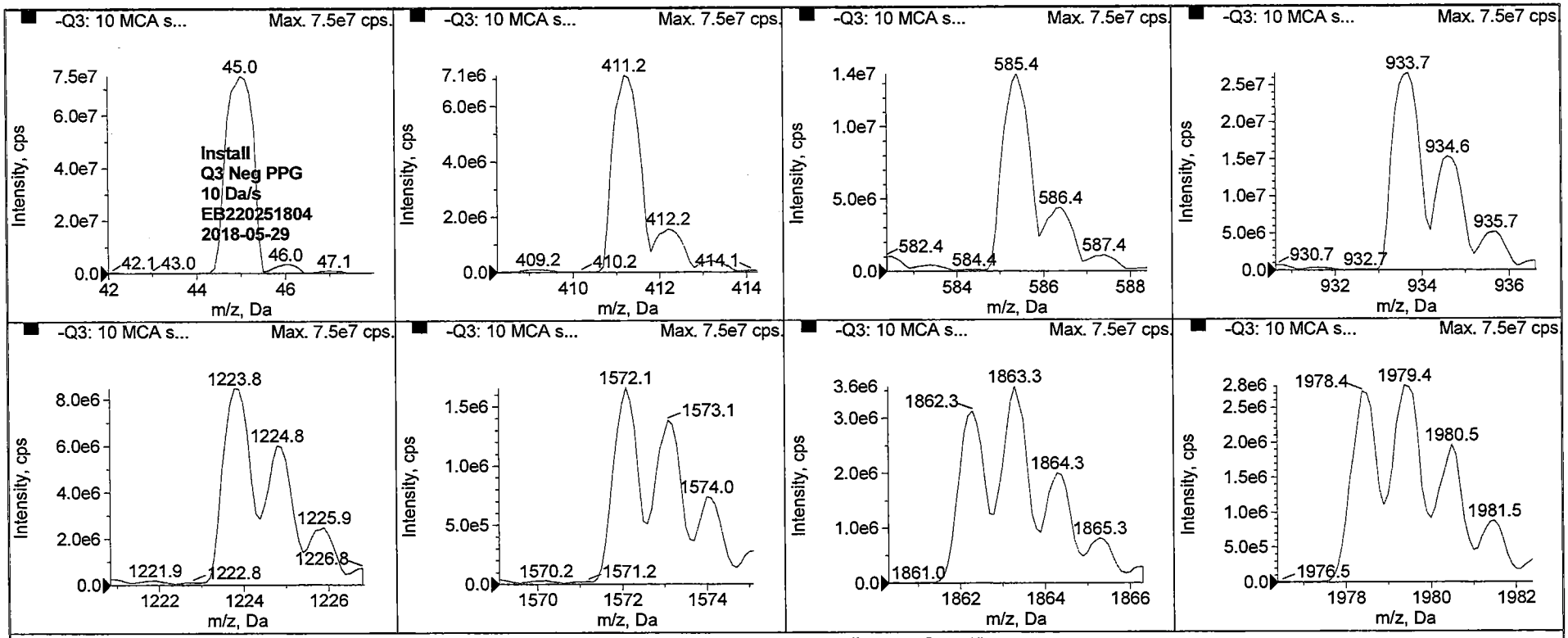
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for "-Q3: 10 MCA scans from Sample 13 (Q3 Neg PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9972	7.5007e7	0.7320	7.7711e-4
2	411.2590	411.2344	7.1361e6	0.7370	0.0246
3	585.3850	585.3868	1.3657e7	0.7362	-1.8161e-3
4	933.6360	933.6384	2.6621e7	0.7288	-2.4244e-3
5	1223.8450	1223.8430	8.4746e6	0.7528	1.9856e-3
6	1572.0970	1572.0927	1.6606e6	0.6651	4.2840e-3
7	1863.3060	1863.3066	3.5734e6	0.7033	-6.4400e-4
8	1979.3890	1979.4384	2.8091e6	0.7513	-0.0494

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	-4500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	-10.0
Q3 Resolution:	Unit
Ion Energy 3 (IE3):	-1.5
CEM (CEM):	1900.0

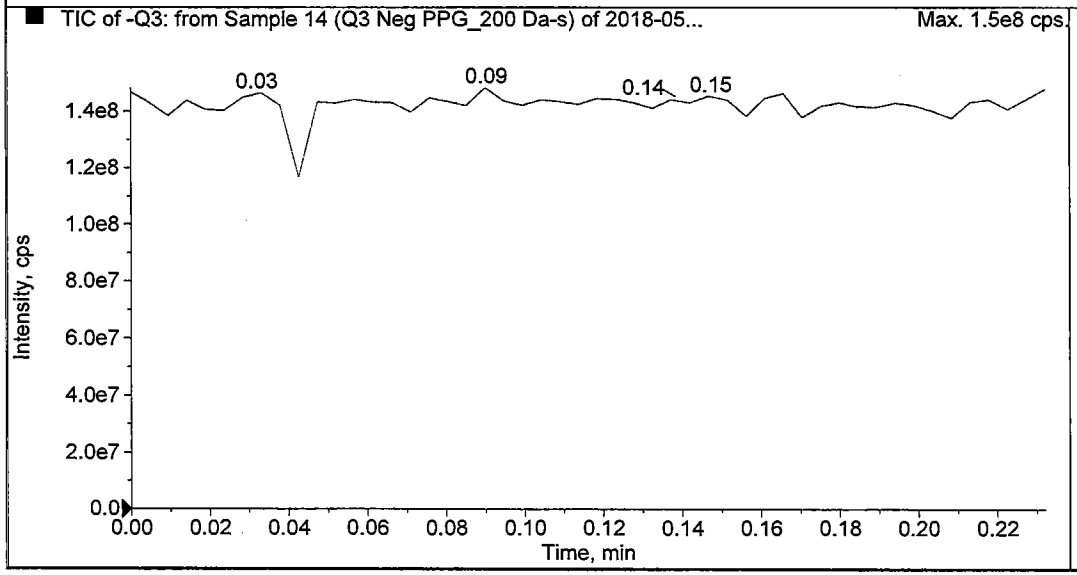
Mass Spectrometer Method Properties

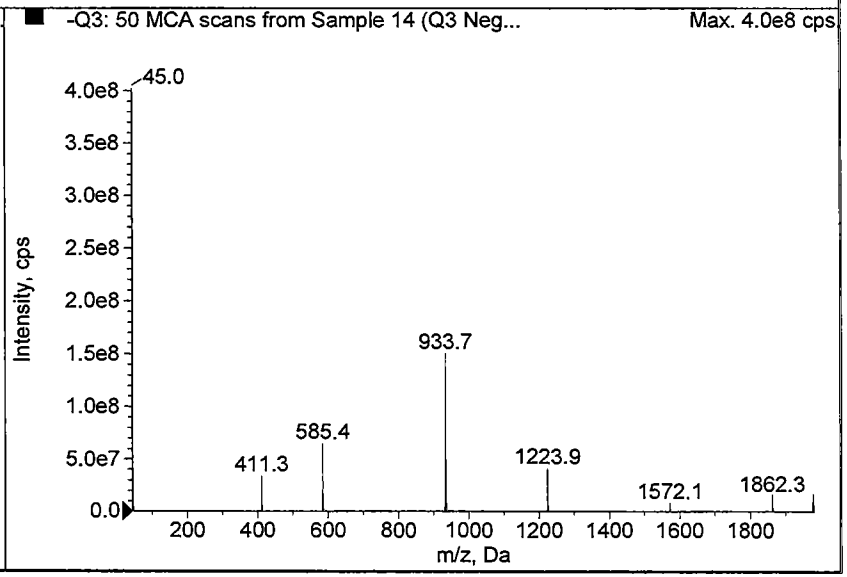
Period 1:

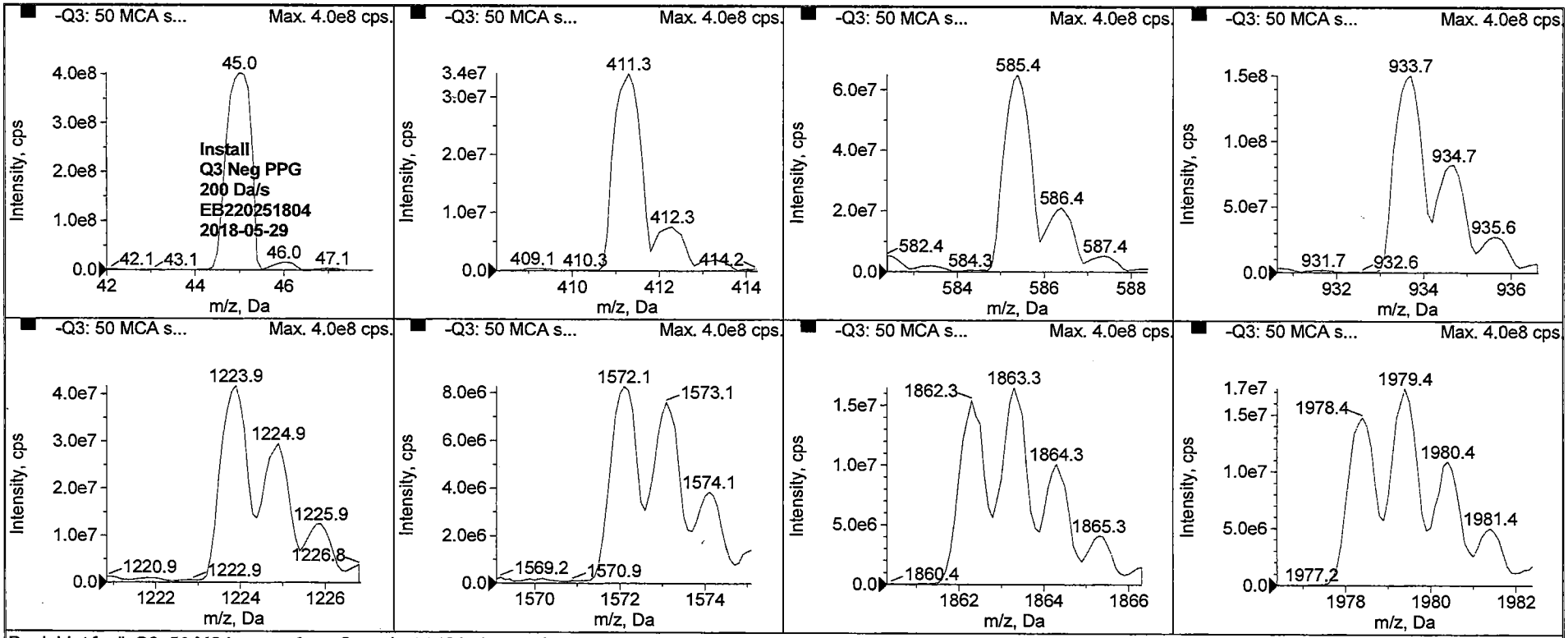
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q3 MS (Q3)
Polarity:	Negative
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q3:	Unit







Peak List for "-Q3: 50 MCA scans from Sample 14 (Q3 Neg PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9962	4.0241e8	0.6638	1.8369e-3
2	411.2590	411.2556	3.4052e7	0.7417	3.4492e-3
3	585.3850	585.3842	6.5036e7	0.7136	7.7195e-4
4	933.6360	933.6363	1.5056e8	0.7374	-3.0811e-4
5	1223.8450	1223.8530	4.1810e7	0.7279	-7.9656e-3
6	1572.0970	1572.1021	8.2680e6	0.7241	-5.0694e-3
7	1863.3060	1863.3199	1.6482e7	0.6755	-0.0139
8	1979.3890	1979.3879	1.7328e7	0.7116	1.1118e-3

Sate Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): -1.5

CEM (CEM): 1900.0

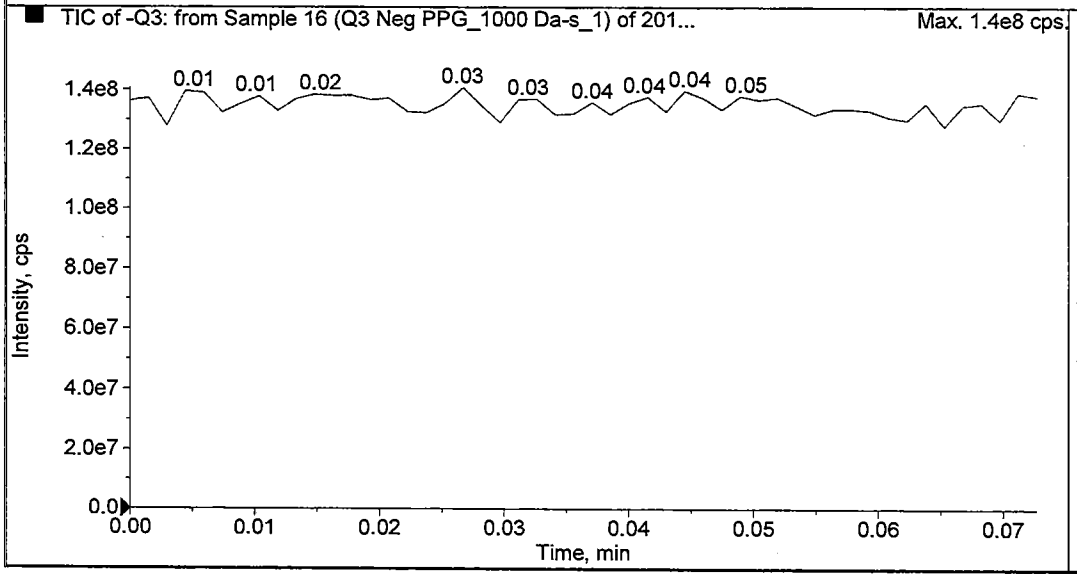
Mass Spectrometer Method Properties

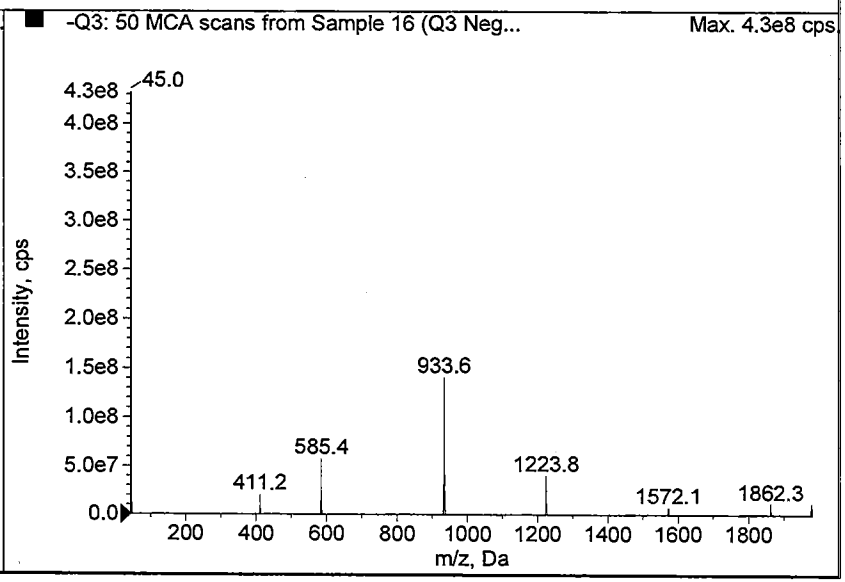
Period 1:

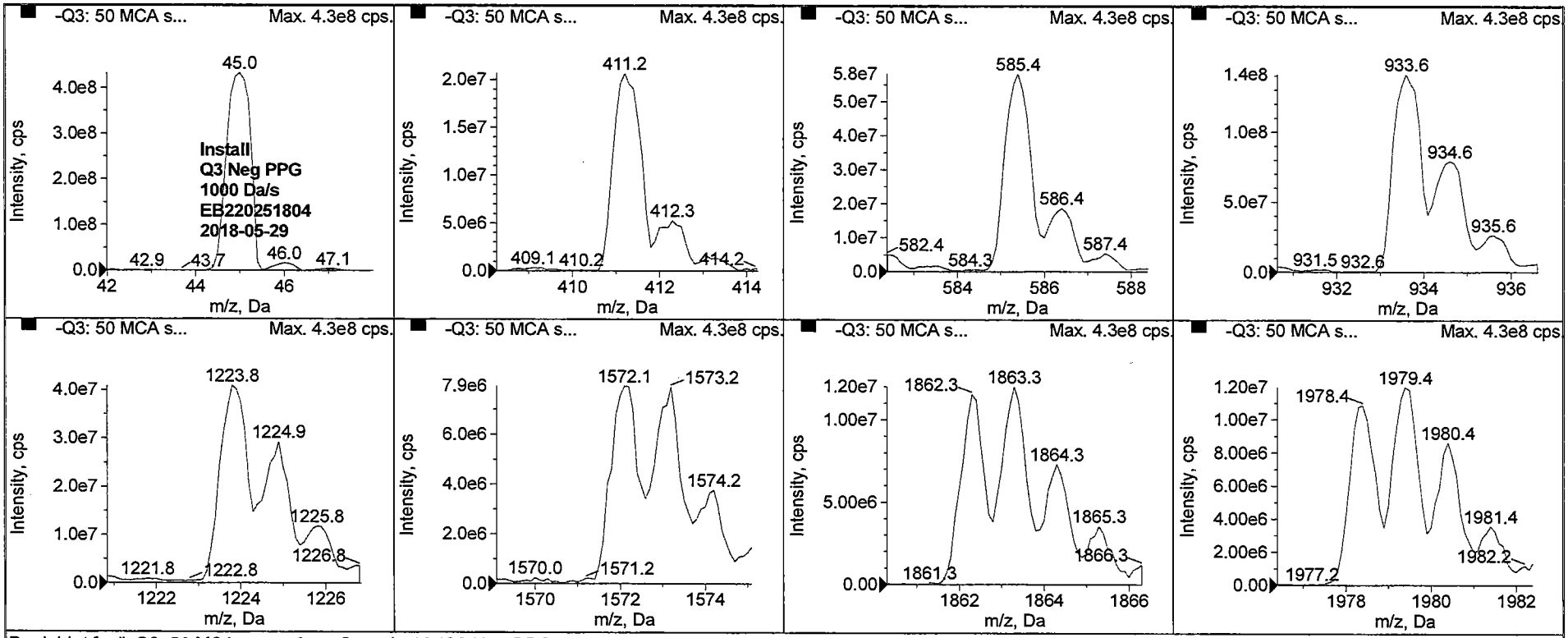
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for "-Q3: 50 MCA scans from Sample 16 (Q3 Neg PPG_1000 Da-s_1) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9825	4.3310e8	0.6384	0.0155
2	411.2590	411.2576	2.0660e7	0.7352	1.4357e-3
3	585.3850	585.3827	5.8190e7	0.6719	2.2702e-3
4	933.6360	933.6150	1.4107e8	0.7226	0.0210
5	1223.8450	1223.8394	4.0960e7	0.7336	5.6019e-3
6	1572.0970	1572.1001	7.9400e6	0.7950	-3.0523e-3
7	1863.3060	1863.2902	1.2010e7	0.6806	0.0158
8	1979.3890	1979.4012	1.1960e7	0.7138	-0.0122

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): -1.5

CEM (CEM): 1900.0

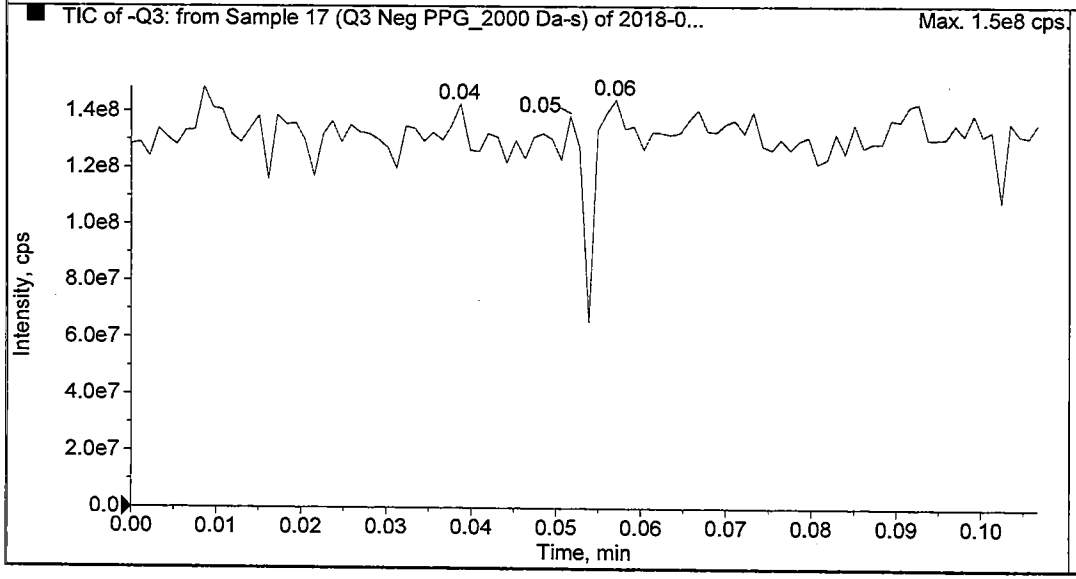
Mass Spectrometer Method Properties

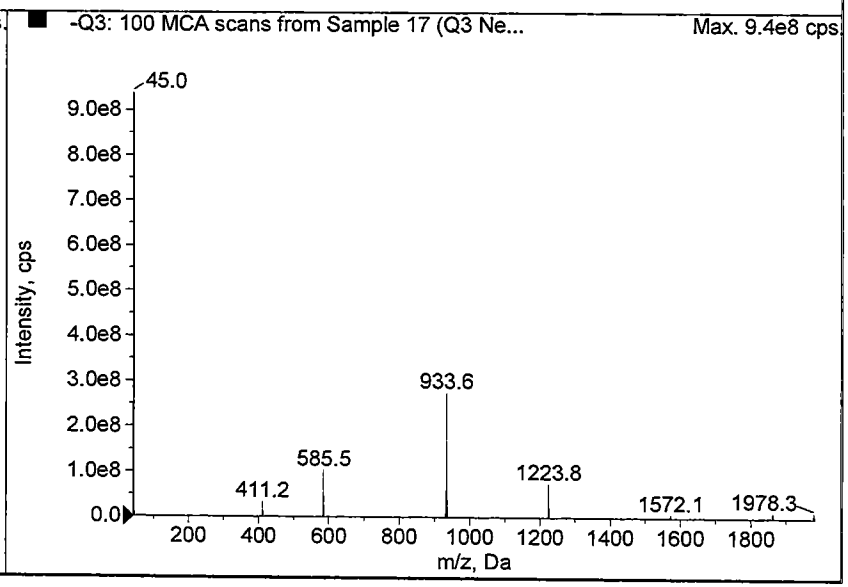
Period 1:

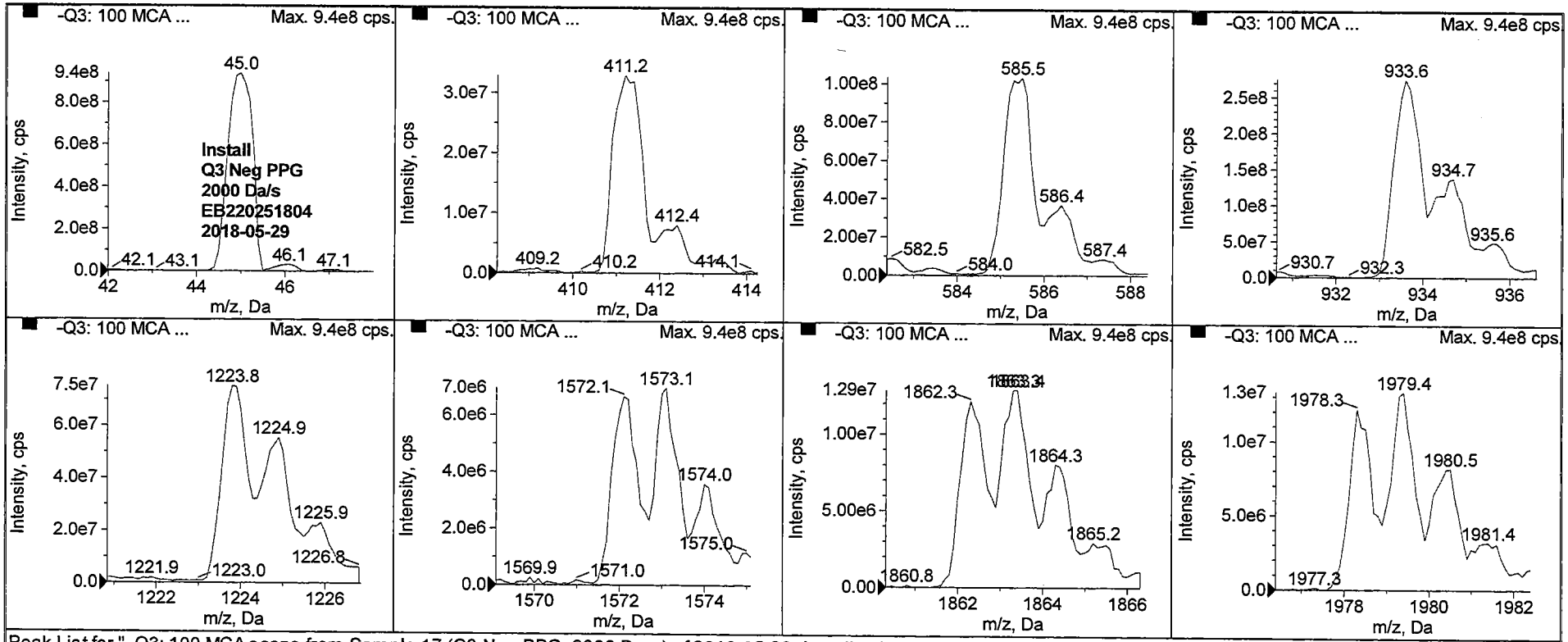
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for "-Q3: 100 MCA scans from Sample 17 (Q3 Neg PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9950	9.3786e8	0.6643	2.9882e-3
2	411.2590	411.2370	3.2920e7	0.7732	0.0220
3	585.3850	585.3850	1.0332e8	0.6994	-4.8105e-6
4	933.6360	933.6288	2.7486e8	0.7105	7.2155e-3
5	1223.8450	1223.8546	7.5140e7	0.6946	-9.5568e-3
6	1572.0970	1572.1115	6.6600e6	0.6890	-0.0145
7	1863.3060	1863.3250	1.2880e7	0.7704	-0.0190
8	1979.3890	1979.3741	1.3320e7	0.6259	0.0149

Sate Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 28.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Declustering Potential (DP): 135.0
Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

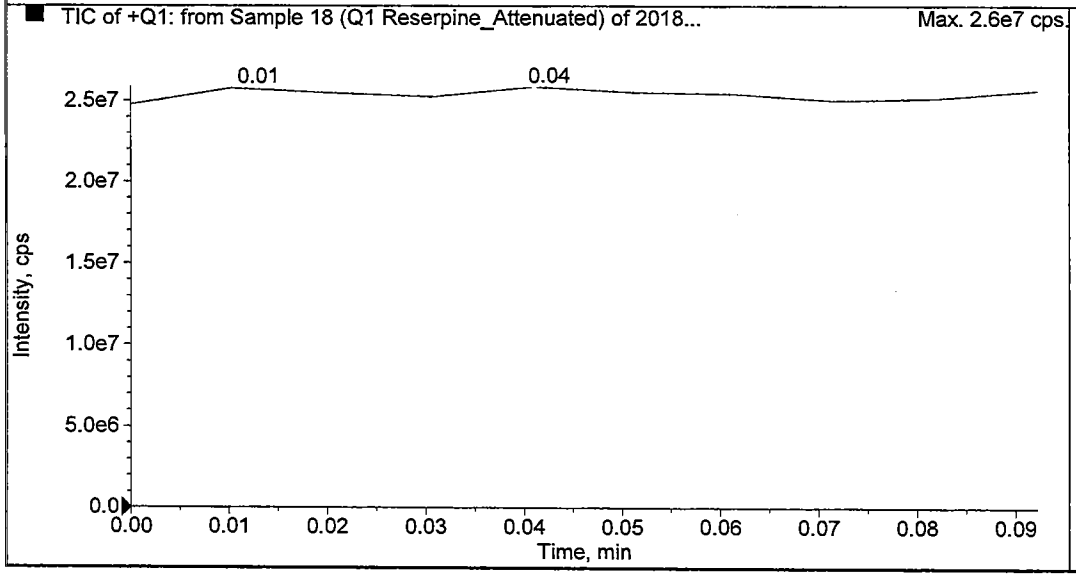
Mass Spectrometer Method Properties

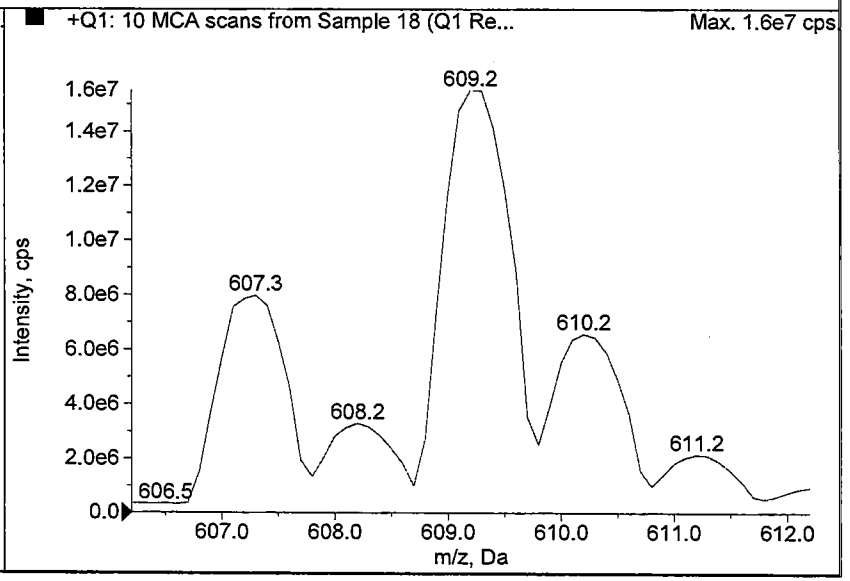
Period 1:

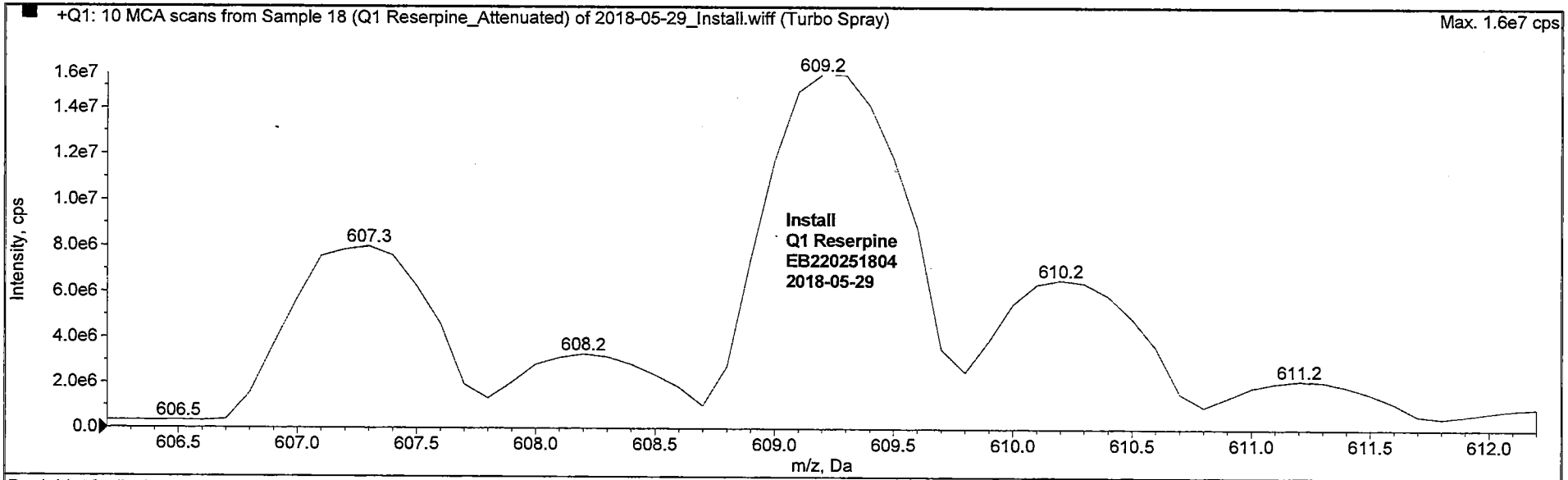
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 10 MCA scans from Sample 18 (Q1 Reserpine_Attenuated) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	195.1000	n/a	n/a	n/a	n/a
2	609.2810	609.2580	1.5520e7	0.7138	0.0230

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 28.0
Collision Gas (CAD): 9
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Declustering Potential (DP): 135.0
Entrance Potential (EP): 10.0
Collision Energy (CE): 44.5
Collision Cell Exit Potential (CXP): 6.2

Q1 Resolution: Unit Q3 Resolution: Unit
Ion Energy 1 (IE1): 1.2

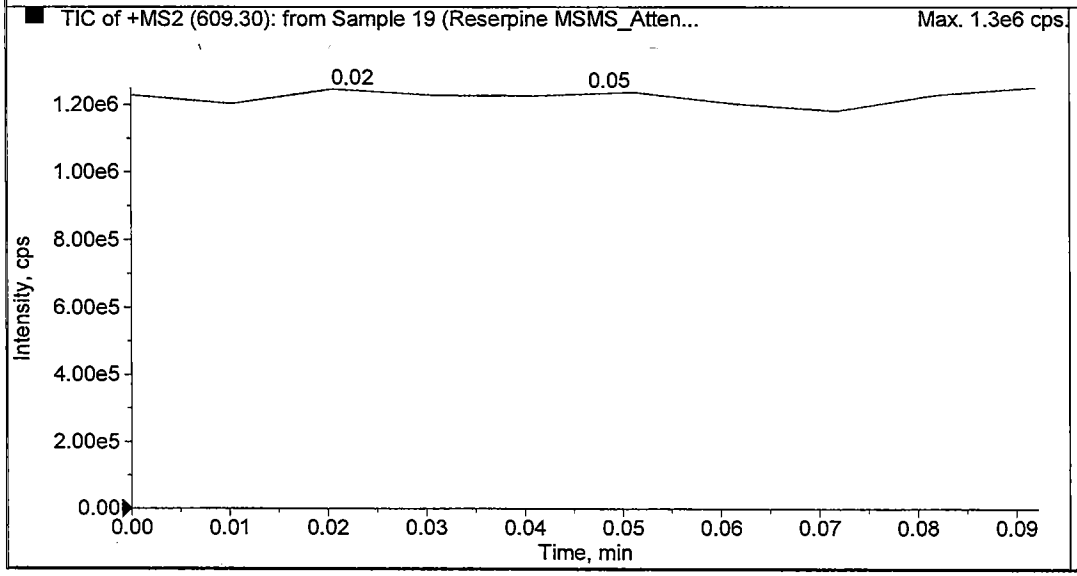
Mass Spectrometer Method Properties

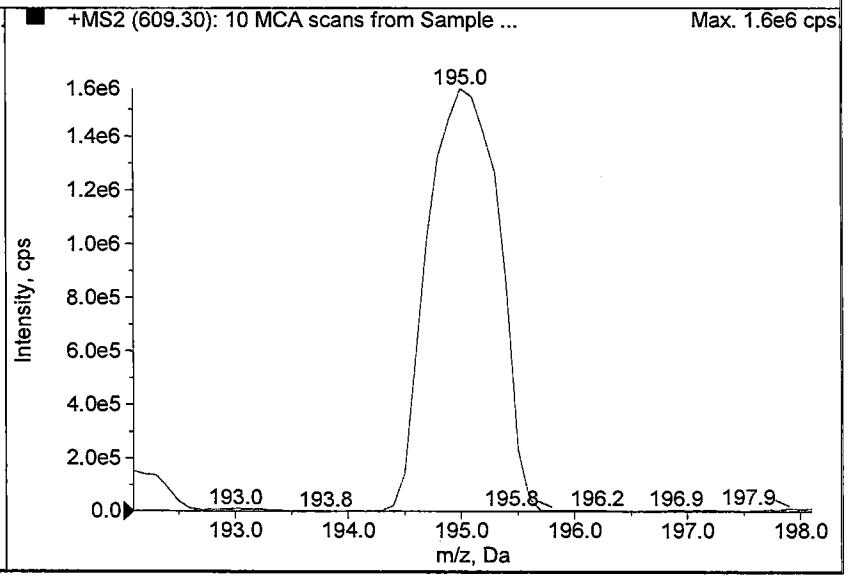
Period 1:

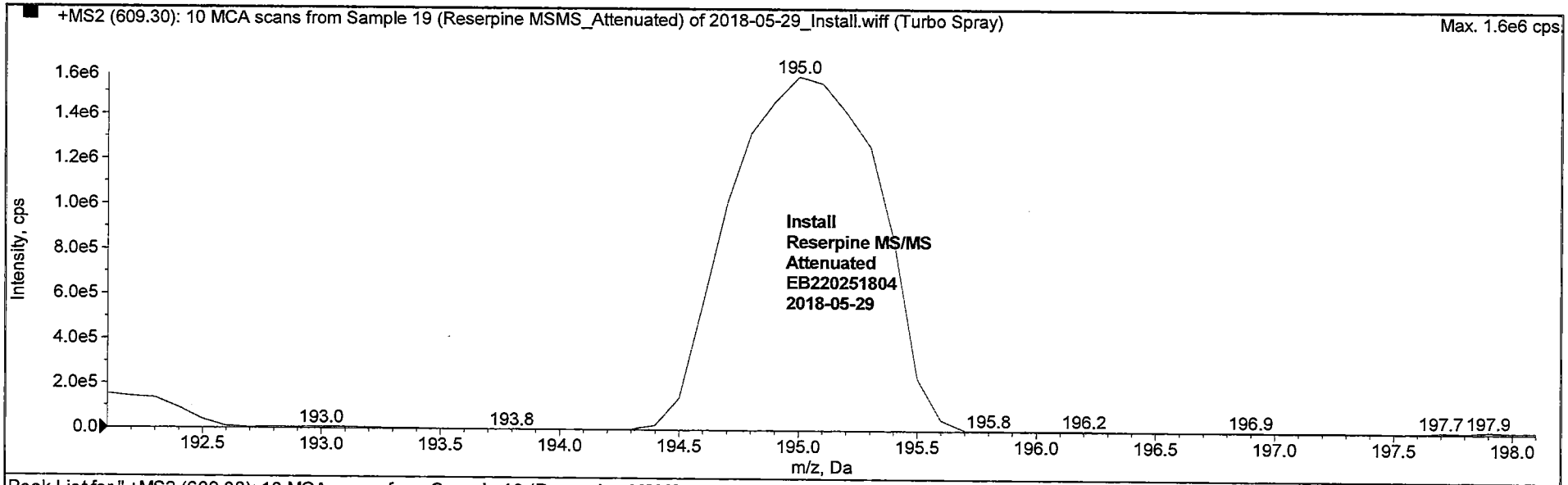
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Product Ion (MS2)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Product Of: 609.30 Da







Peak List for "+MS2 (609.30): 10 MCA scans from Sample 19 (Reserpine MSMS_Attenuated) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	195.1000	195.0306	1.5772e6	0.7615	0.0694
2	609.2810	n/a	n/a	n/a	n/a

Raw QC Data

PFAS by LC/MS/MS

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	BLK339013			**Data File:**		18DEC08D-26.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013			**Acquis Date:**		2018-12-08T11:52:54
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	49			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	991484.1	936973.7	6	50	
13C2-PFOA	5.0	518898.0	474841.3	9	50	
13C4-PFOS	4.8	323346.9	294668.0	10	50	
13C2-PFDA	5.0	433386.3	373990.9	16	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1160663.0	13C3-PFBA	991484.1	1.171	20.000	20.724	104	50-150	
E13C5-PFPeA	1043773.2	13C3-PFBA	991484.1	1.053	20.000	19.999	100	50-150	
E13C3-PFBS	470657.2	13C3-PFBA	991484.1	0.475	18.600	16.095	87	50-150	
E13C2-4:2-FTS	82687.8	13C2-PFOA	518898.0	0.159	18.680	24.976	134	50-150	
E13C5-PFHxA	802714.2	13C2-PFOA	518898.0	1.547	20.000	20.775	104	50-150	
E13C3-PFHxS	378350.4	13C2-PFOA	518898.0	0.729	18.920	18.707	99	50-150	
E13C4-PFHpA	622352.6	13C2-PFOA	518898.0	1.199	20.000	20.395	102	50-150	
E13C2-6:2-FTS	79002.4	13C2-PFOA	518898.0	0.152	19.000	37.728	199	50-150	OOS
E13C8-PFOA	979033.8	13C2-PFOA	518898.0	1.887	20.000	21.333	107	50-150	
E13C8-PFOS	348489.3	13C4-PFOS	323346.9	1.078	19.120	19.347	101	50-150	
E13C9-PFNA	669200.0	13C4-PFOS	323346.9	2.070	20.000	23.393	117	50-150	
E13C6-PFDA	792543.0	13C2-PFDA	433386.3	1.829	20.000	19.384	97	50-150	
E13C2-8:2-FTS	51636.5	13C2-PFDA	433386.3	0.119	19.160	31.115	162	50-150	OOS
E13C8-PFOSA	452975.4	13C2-PFDA	433386.3	1.045	20.000	9.888	49	50-150	OOS
Ed3-NMeFOSAA	169743.2	13C2-PFDA	433386.3	0.392	20.000	27.764	139	50-150	
E13C7-PFUnDA	486913.6	13C2-PFDA	433386.3	1.124	20.000	22.045	110	50-150	
Ed5-NEtFOSAA	100161.1	13C2-PFDA	433386.3	0.231	20.000	20.407	102	50-150	
E13C2-PFDoDA	969361.0	13C2-PFDA	433386.3	2.237	20.000	18.775	94	50-150	
Ed7-NMePFOSAE	83076.1	13C2-PFDA	433386.3	0.192	20.000	4.417	22	50-150	OOS
Ed3-NMePFOSA	13083.7	13C2-PFDA	433386.3	0.030	20.000	2.200	11	50-150	OOS
Ed9-NEtPFOSAE	76492.8	13C2-PFDA	433386.3	0.177	20.000	4.868	24	50-150	OOS
Ed5-NEtPFOSA	11693.7	13C2-PFDA	433386.3	0.027	20.000	2.429	12	50-150	OOS
E13C2-PFTeDA	730283.5	13C2-PFDA	433386.3	1.685	20.000	20.005	100	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

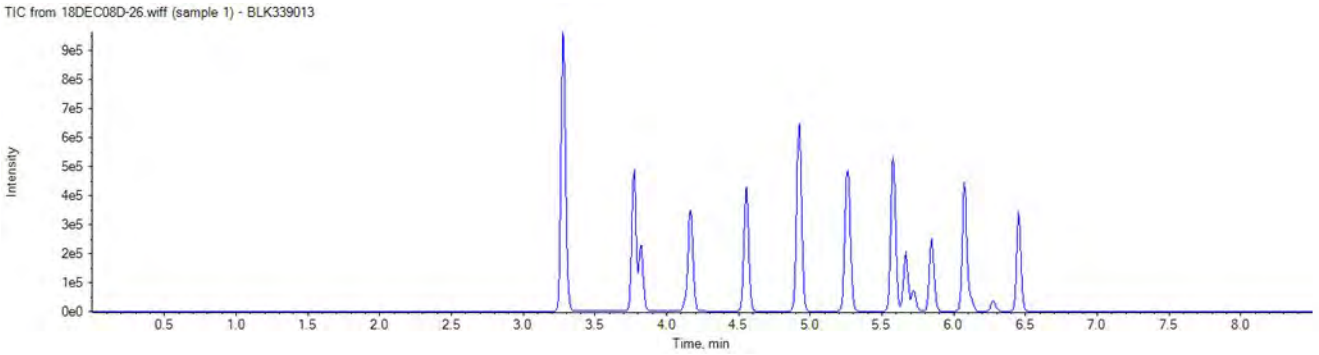
Analyte Quantitation Peak Table

Sample Name: BLK339013 **Instrument Name:** LM27631 **File Name:** 18DEC08D-26.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.28	1160663.0	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	1043773.2	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	470657.2	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	82687.8	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.17	802714.2	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	470657.2	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	622352.6	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	378350.4	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	79002.4	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	378350.4	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	979033.8	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	348489.3	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.27	669200.0	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	348489.3	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.58	792543.0	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.58	51636.5	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.67	452975.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.72	169743.2	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	348489.3	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	486913.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	100161.1	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.08	969361.0	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.58	51636.5	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.12	83076.1	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.13	13083.8	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	348489.3	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.27	76492.8	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.29	11693.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.08	969361.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	730283.5	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	730283.5	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.45	730283.5	N/A	

Total Ion Chromatogram

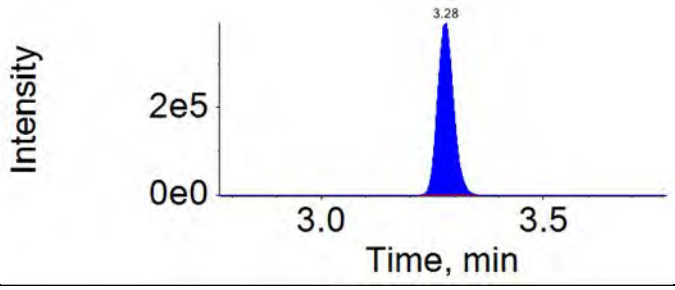


APPROVED
By MCD at 7:42 pm, 12/10/18

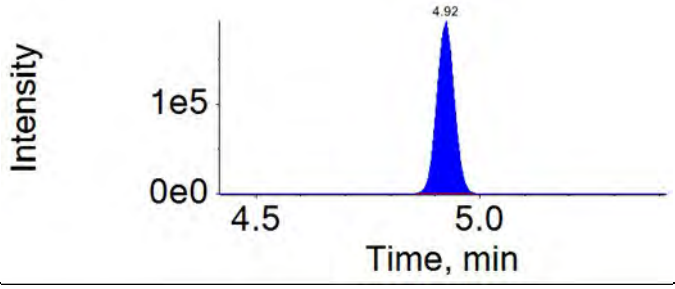
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

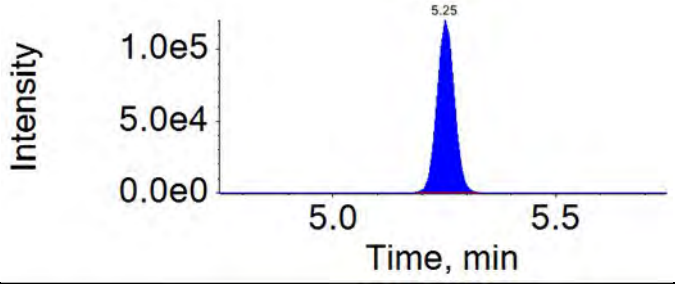
Injection Standard: 13C3-PFBA
216.0 / 172.0



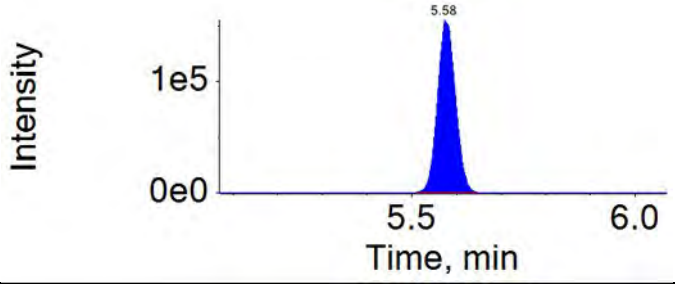
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



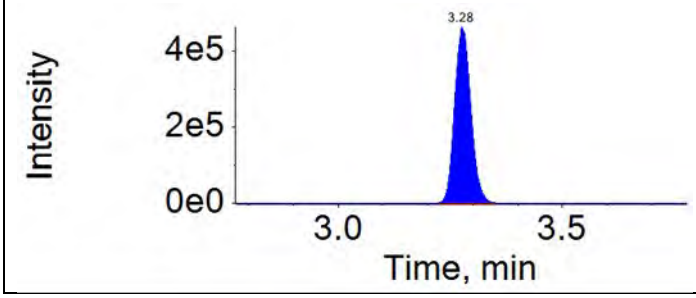
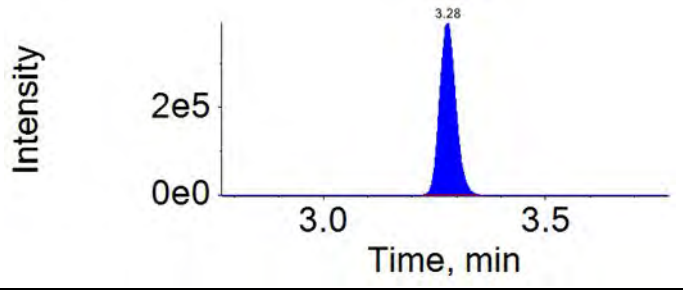
Injection Standard: 13C2-PFDA
515.0 / 470.0

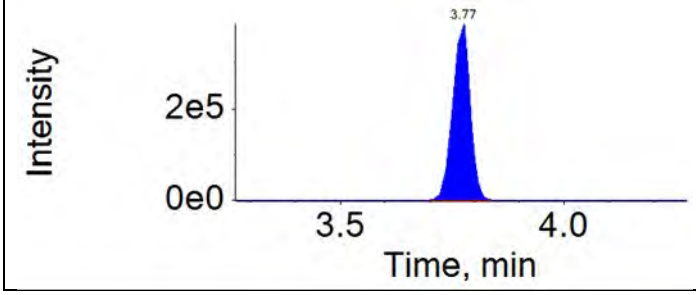
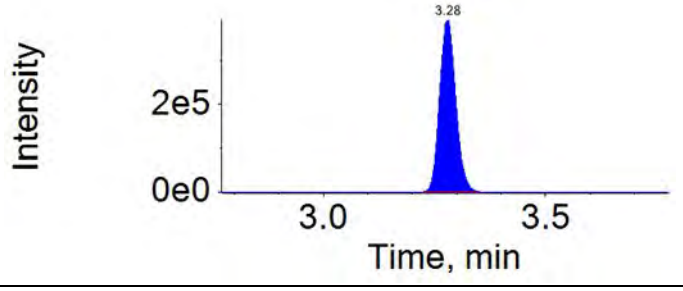


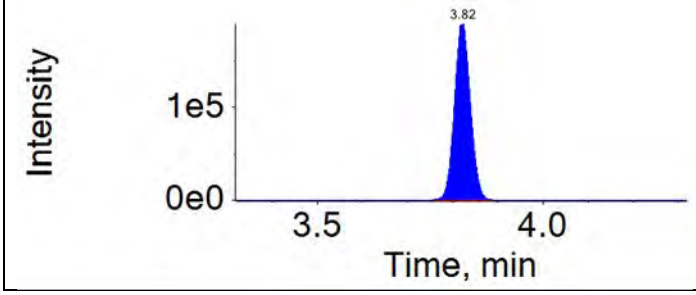
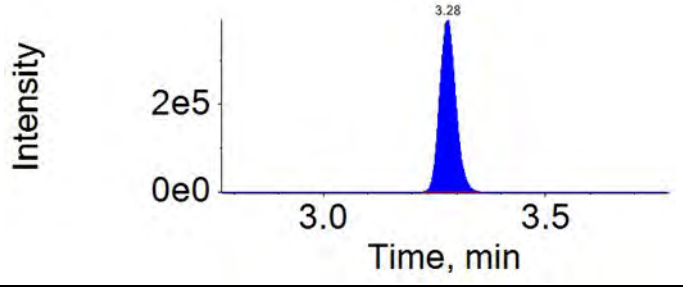
APPROVED
By MCD at 7:42 pm, 12/10/18

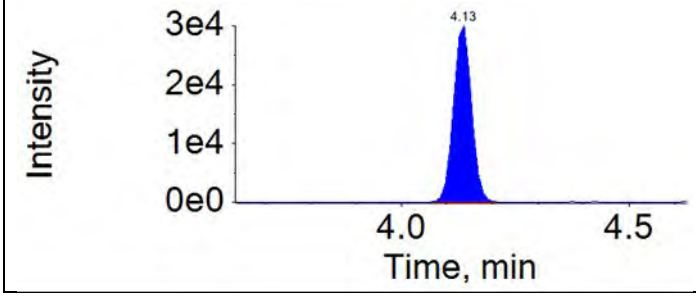
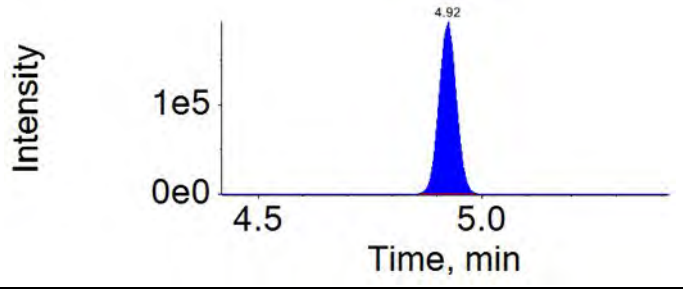
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

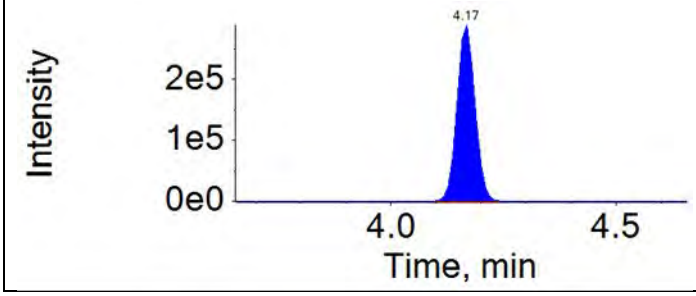
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

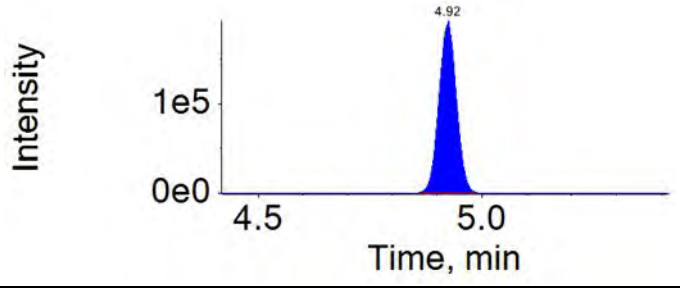
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

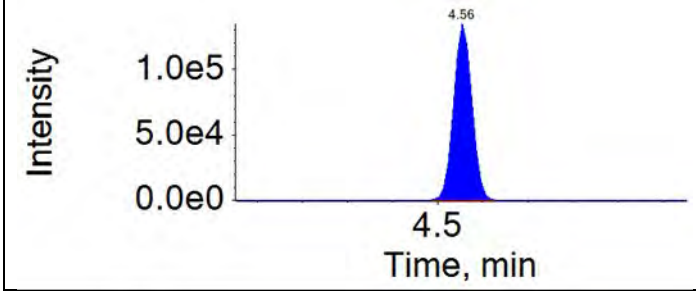
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

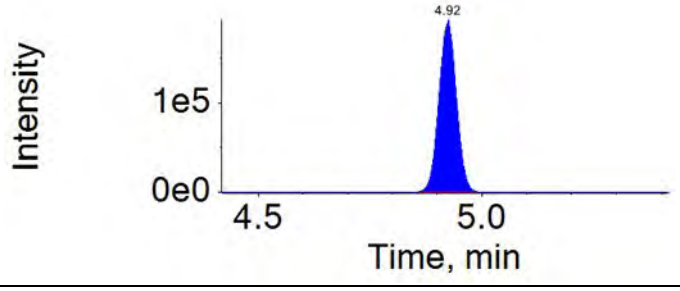
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



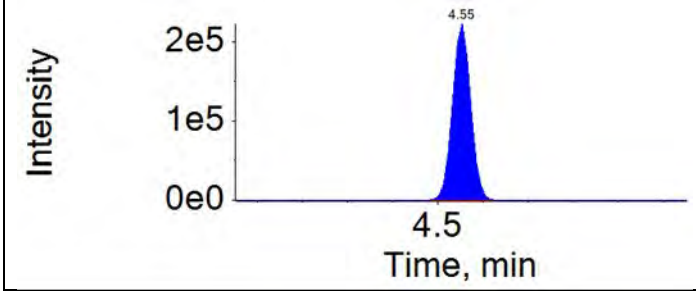


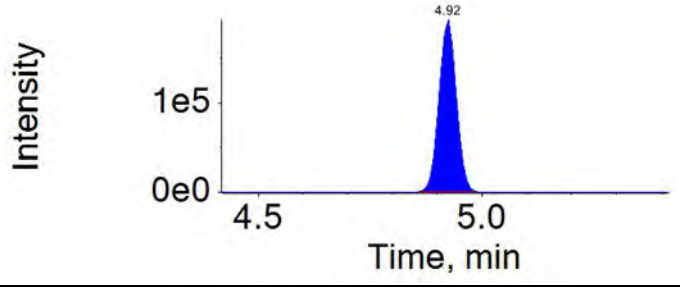
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



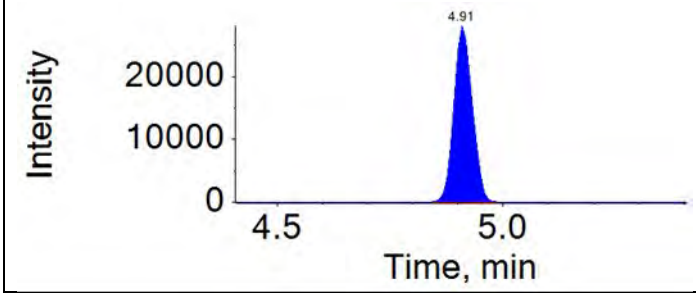


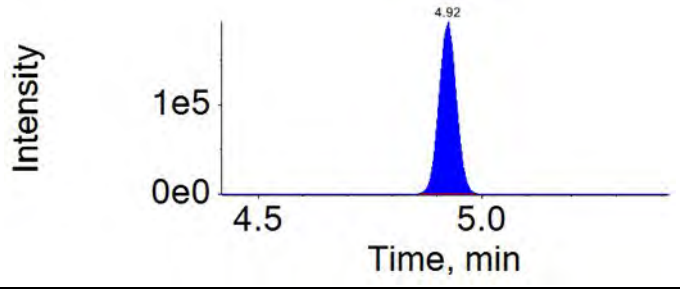
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

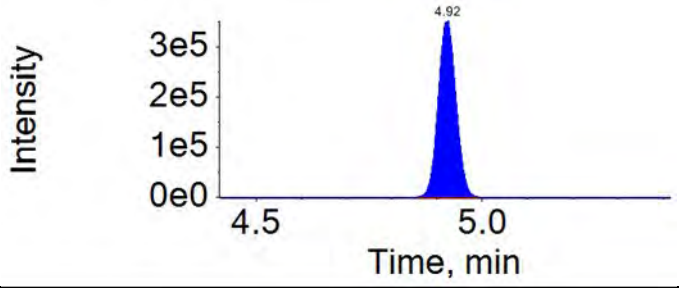
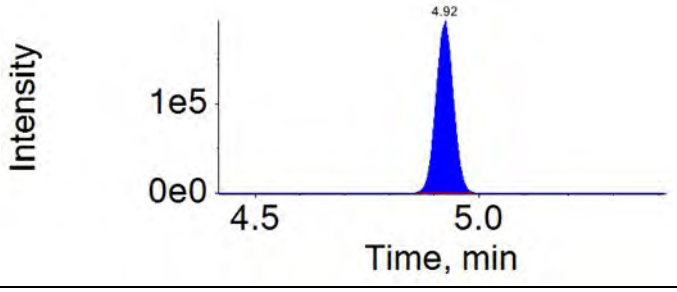


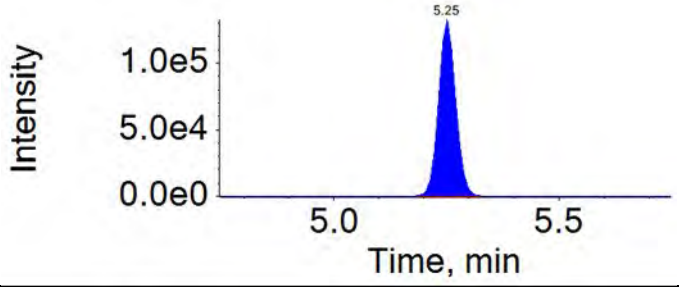
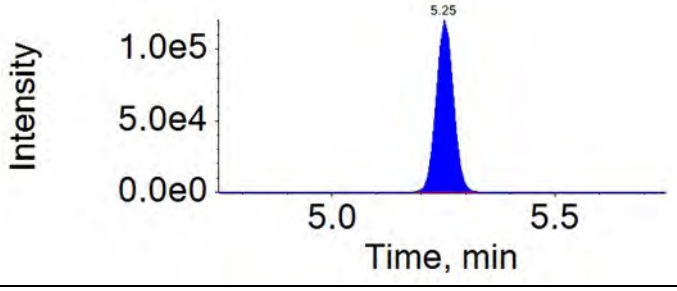


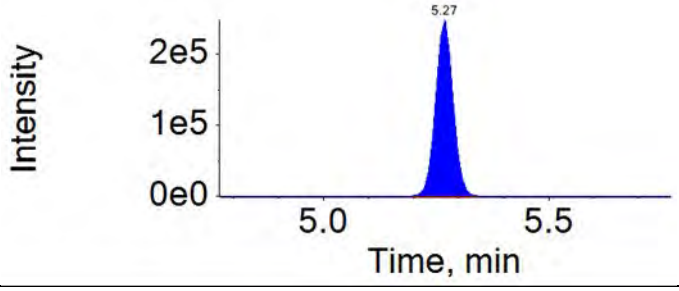
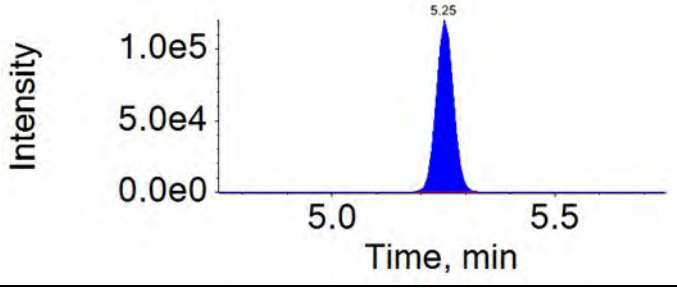
APPROVED
By MCD at 7:42 pm, 12/10/18

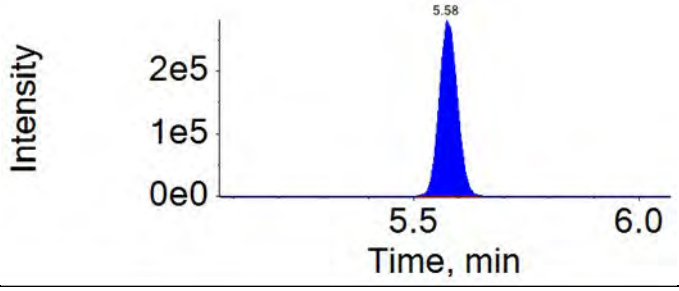
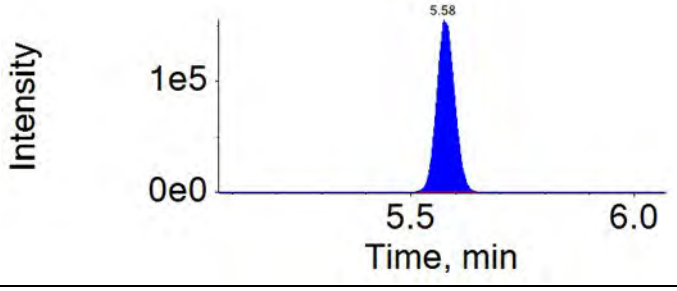
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

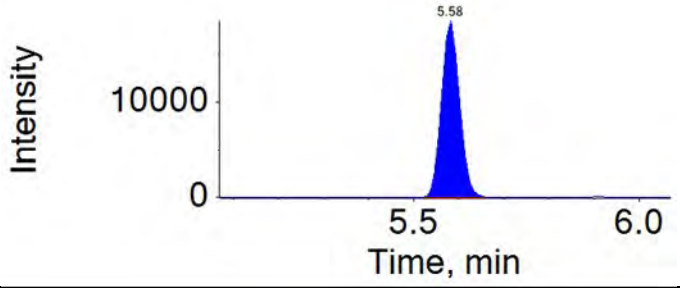
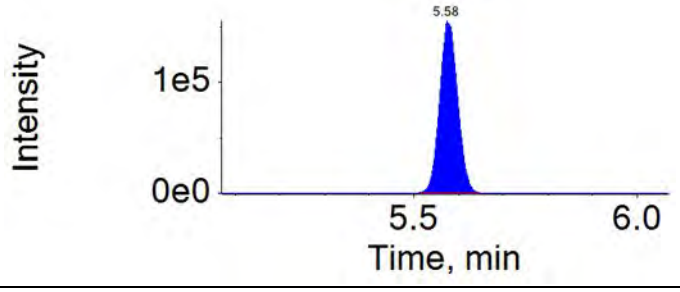
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

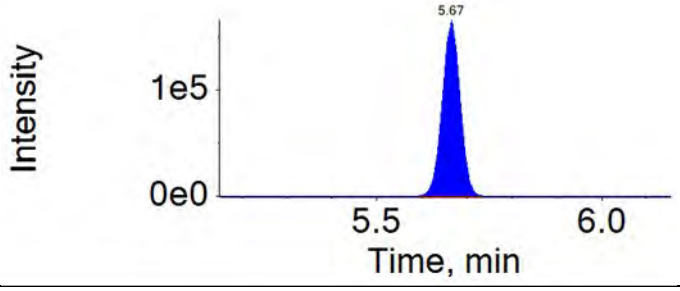
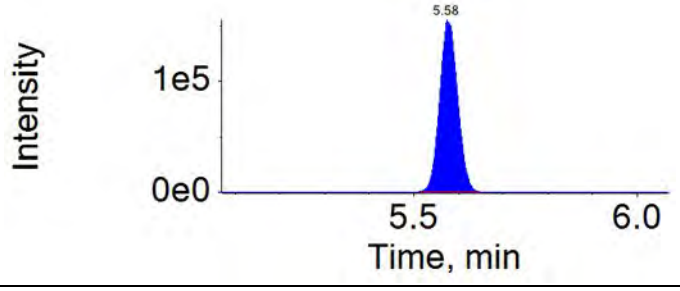
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

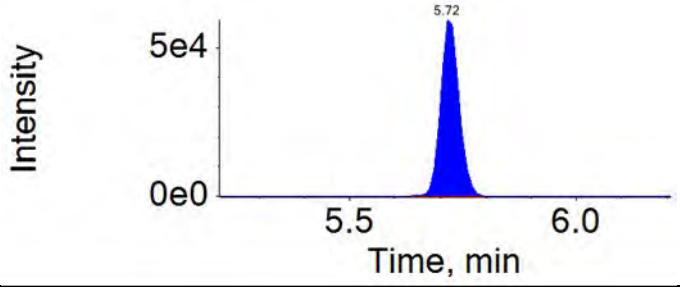
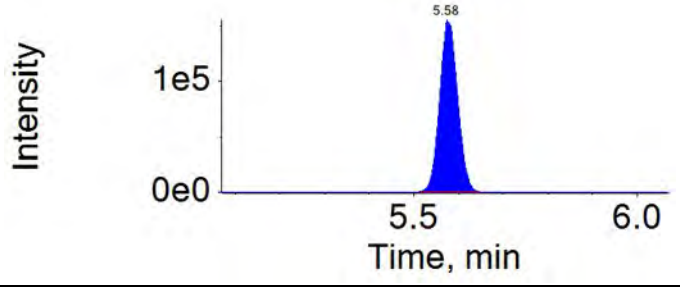
APPROVED
By MCD at 7:42 pm, 12/10/18

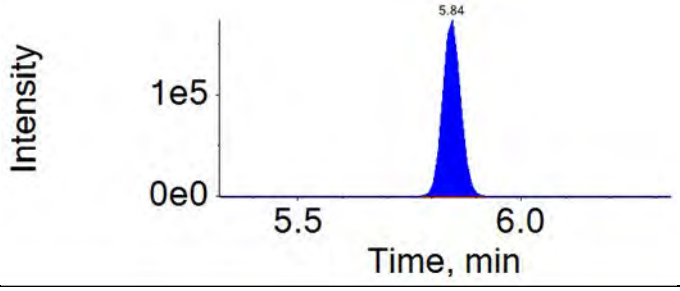
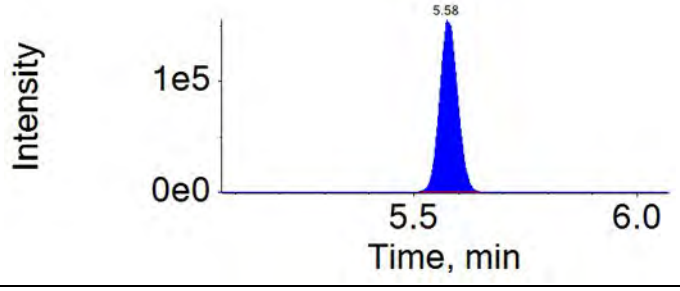
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

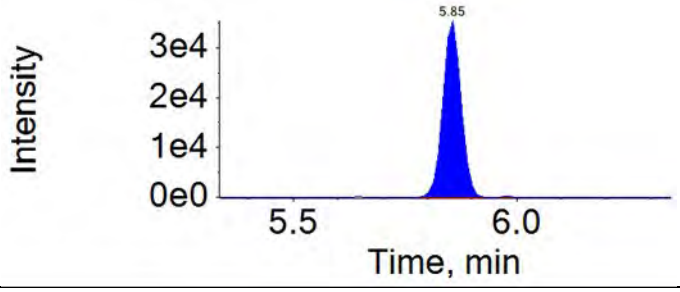
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

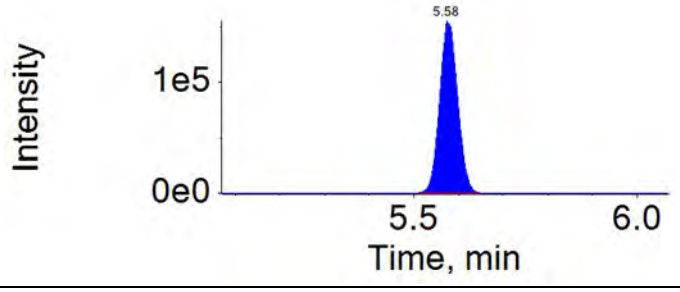
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

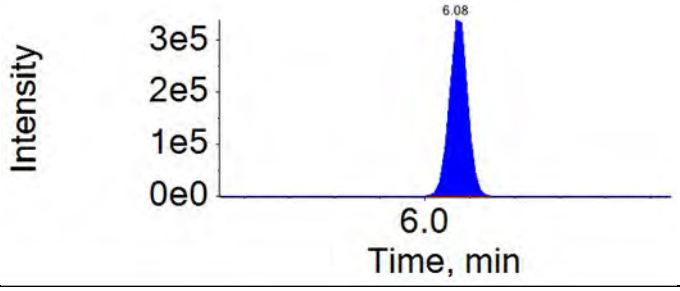
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

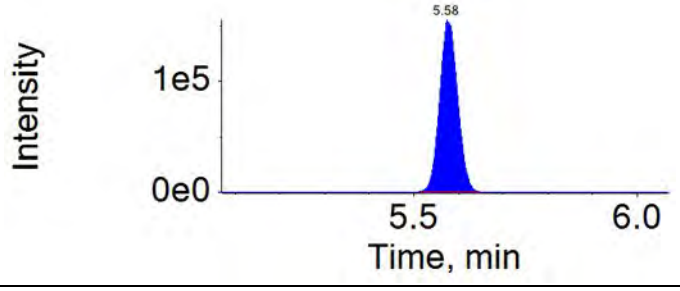
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



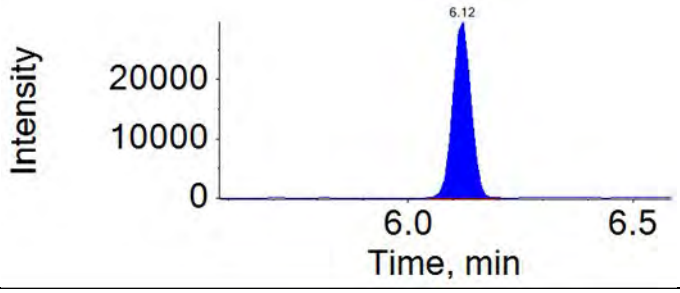


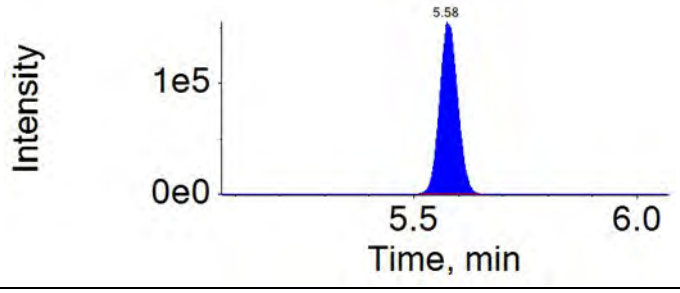
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



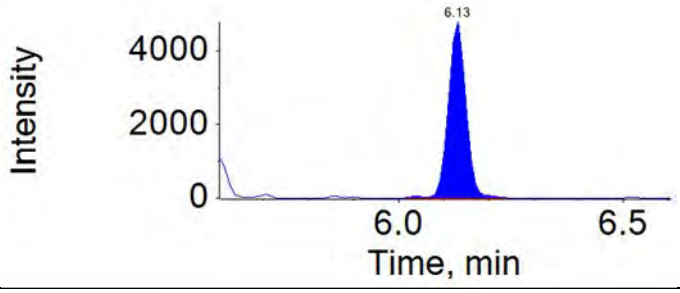


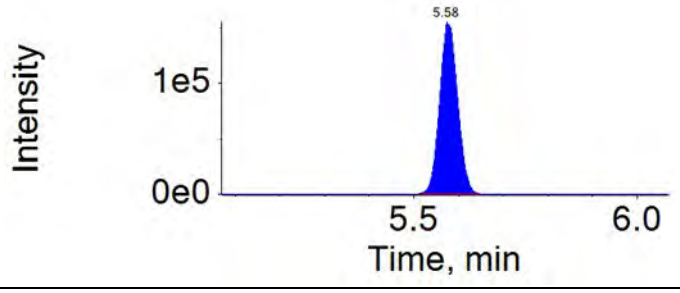
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

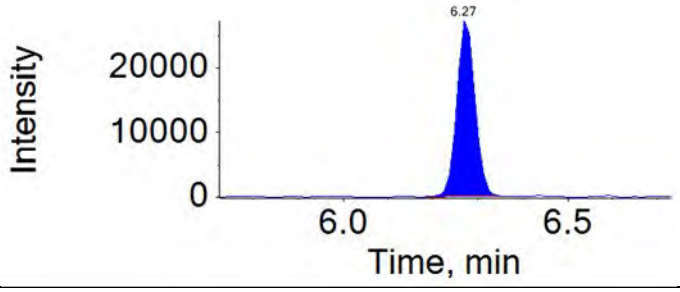
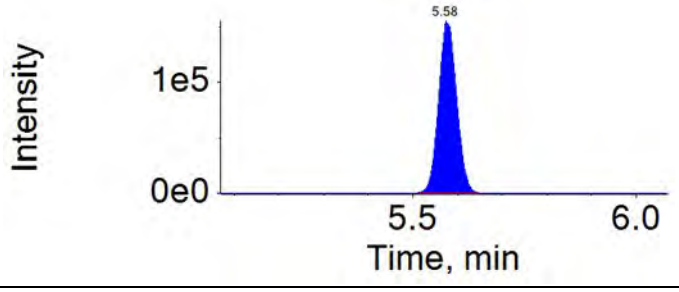


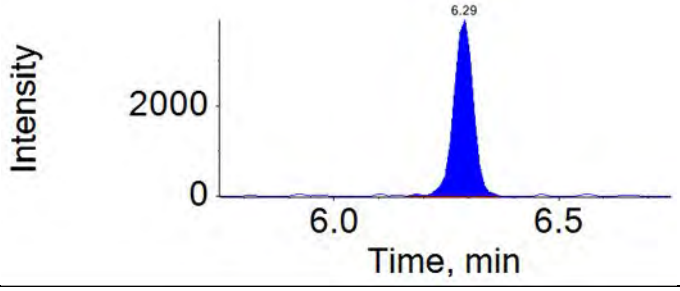
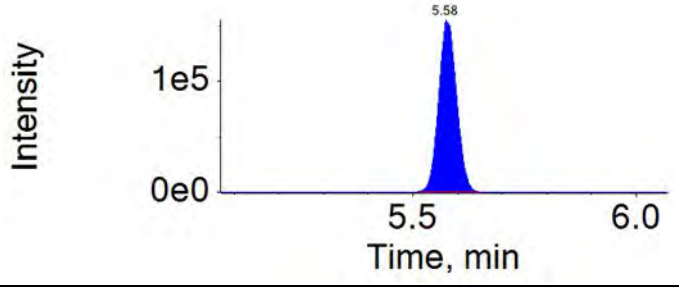


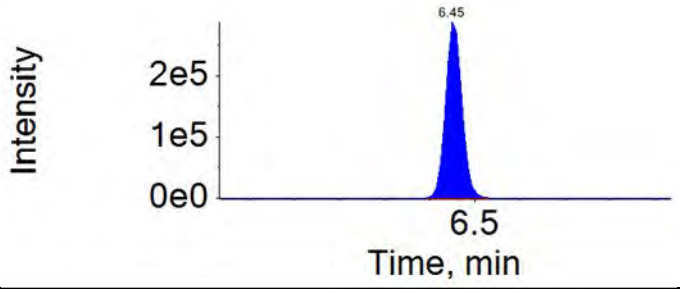
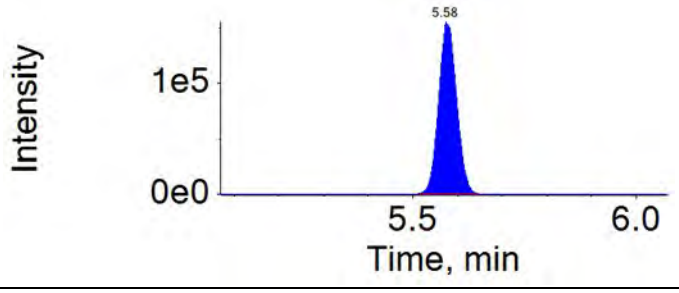
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

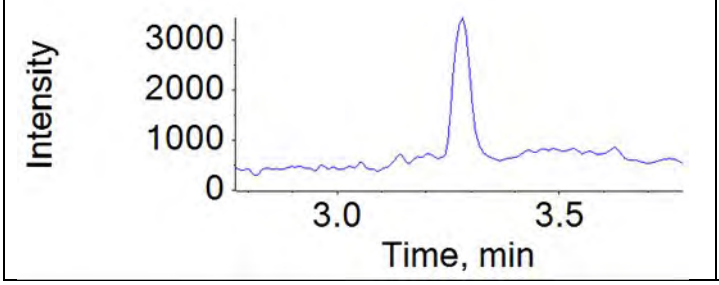
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0
	

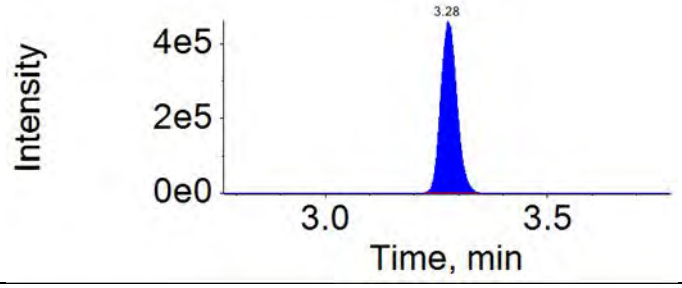
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

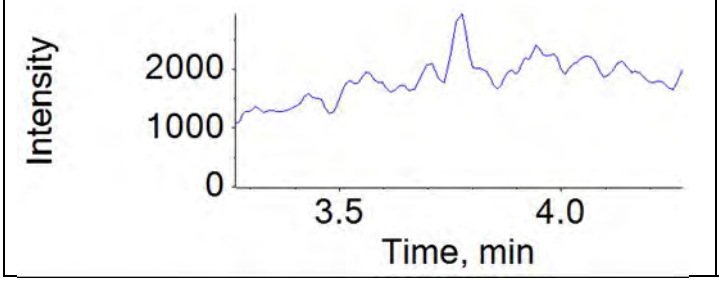
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

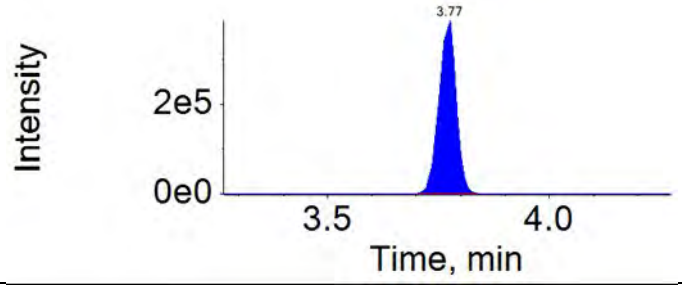
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



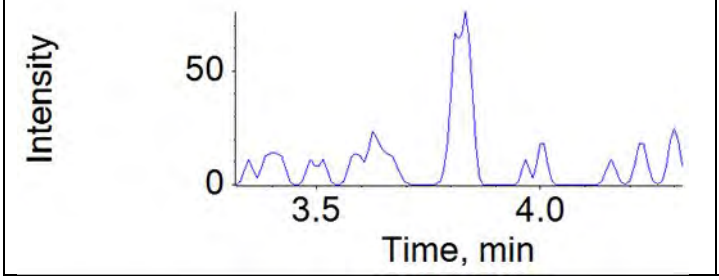


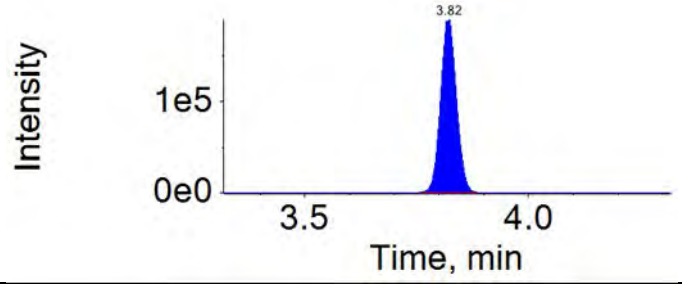
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



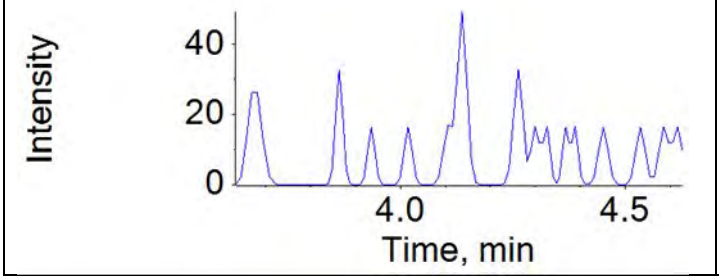


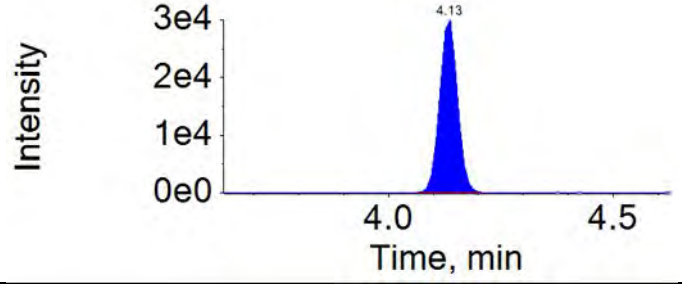
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



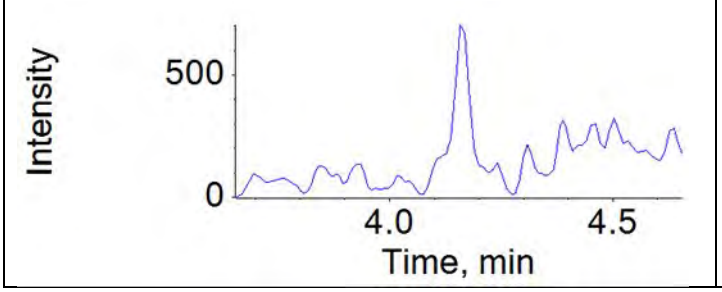


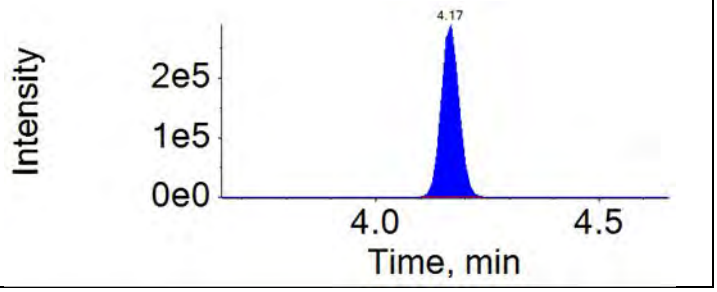
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

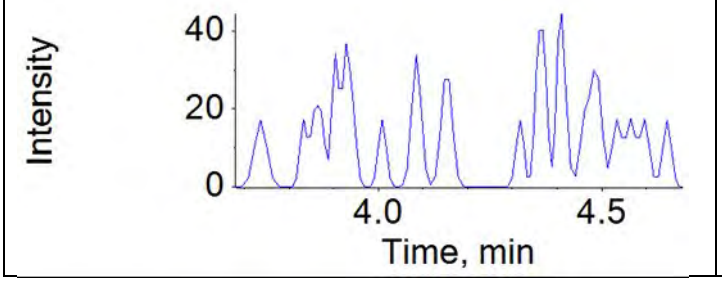
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

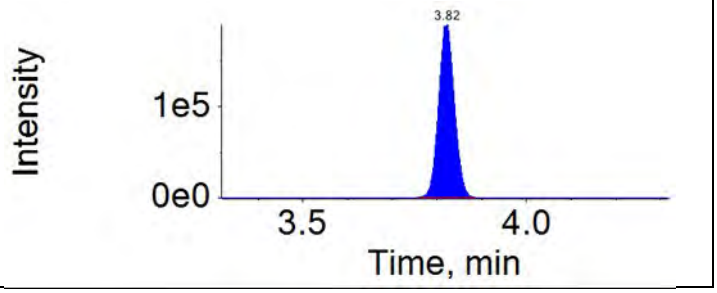
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



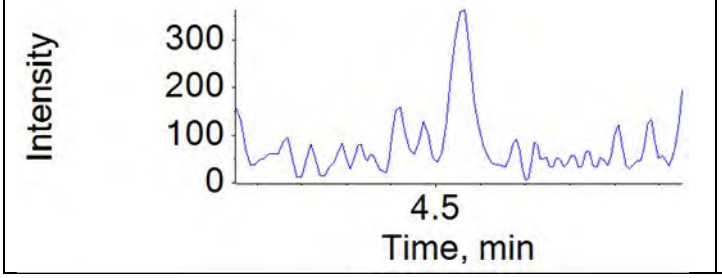


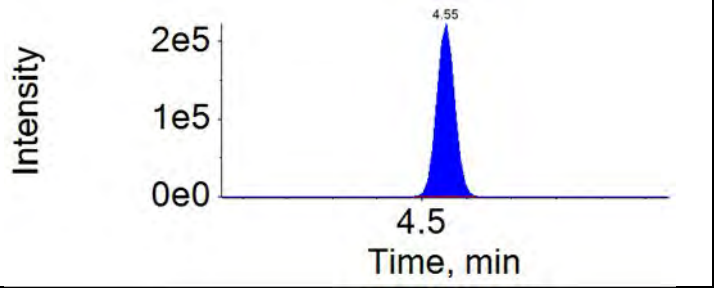
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



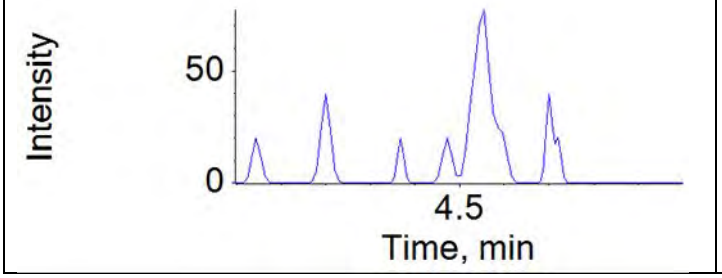


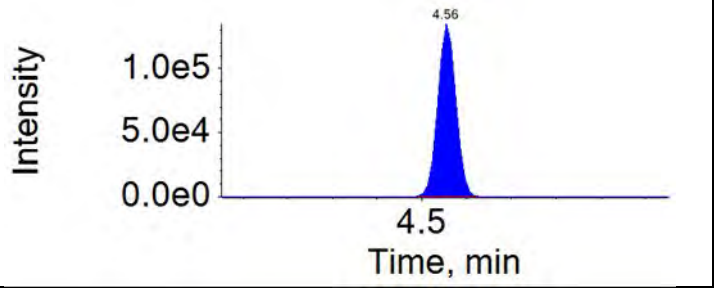
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



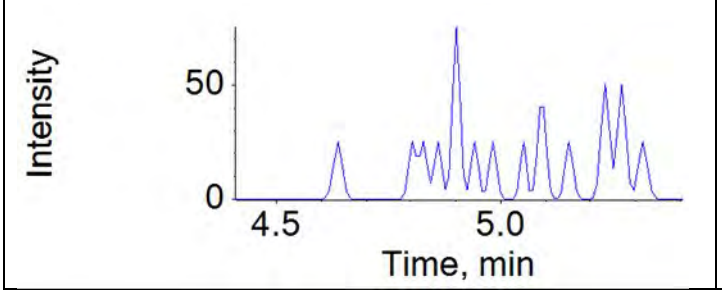


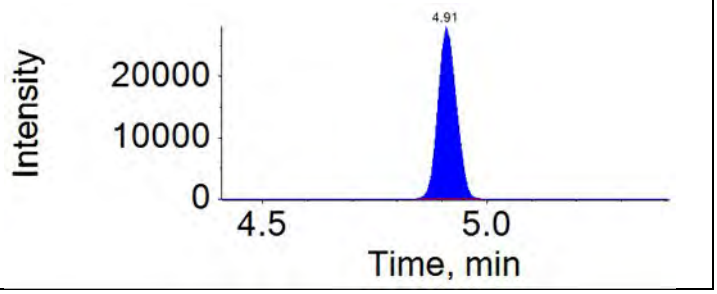
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

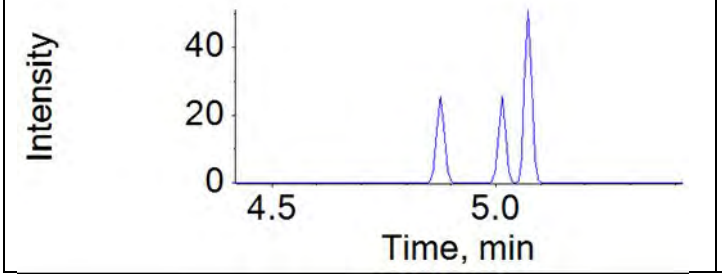
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

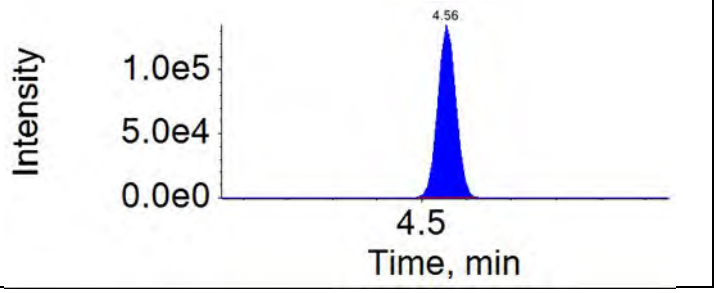
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



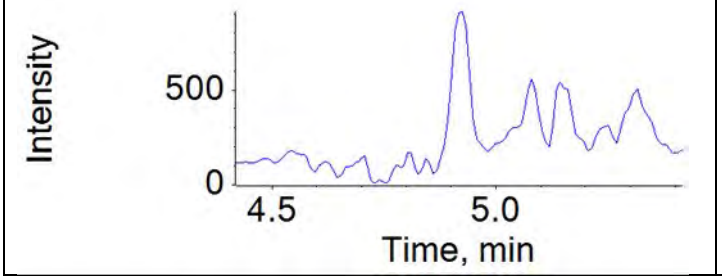


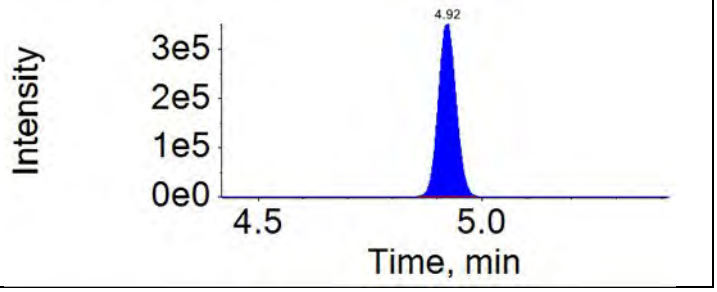
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



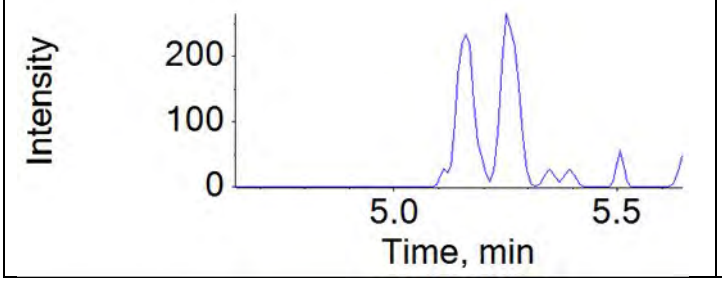


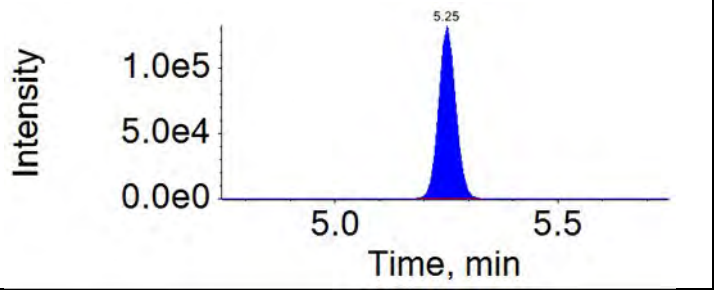
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



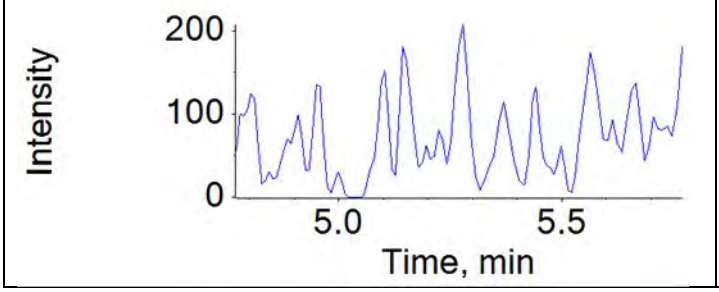


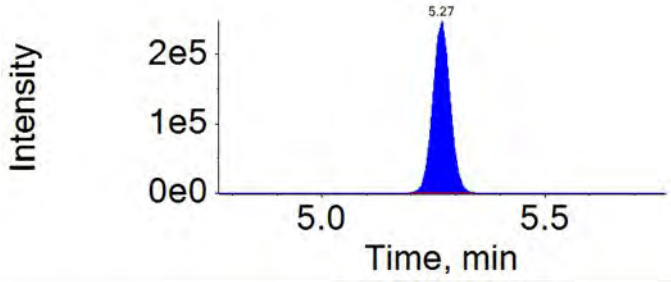
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

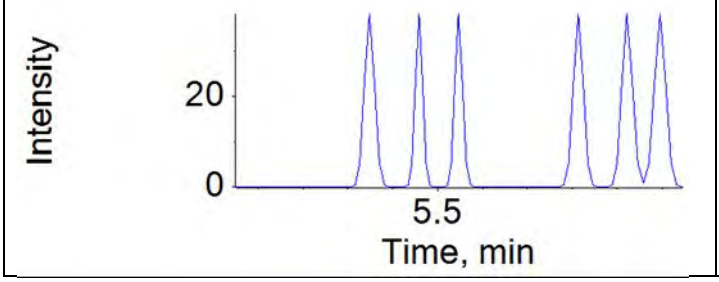
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

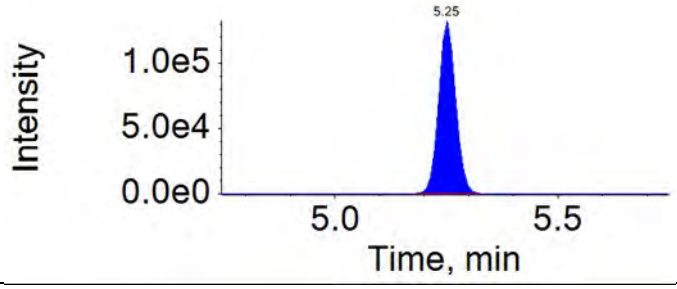
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



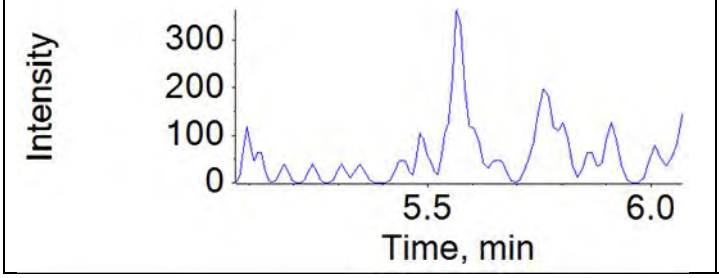


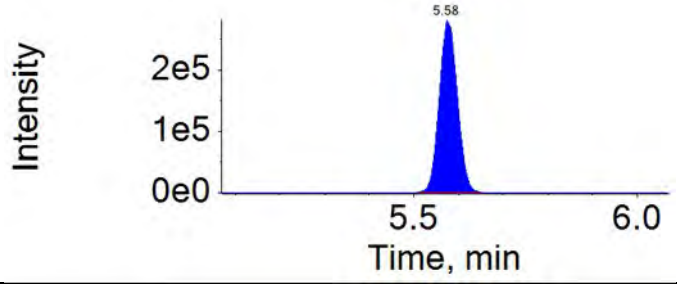
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



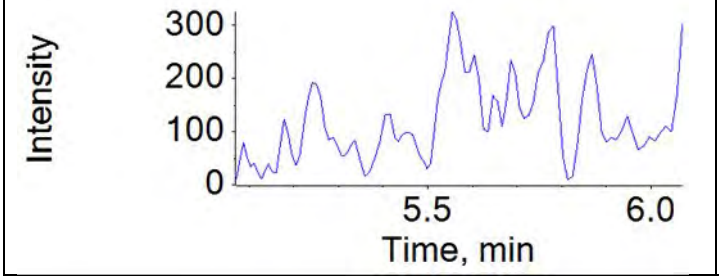


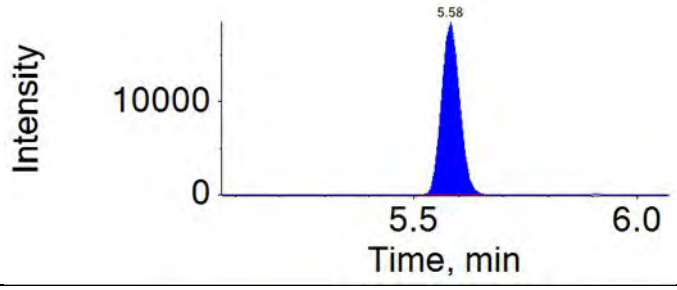
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



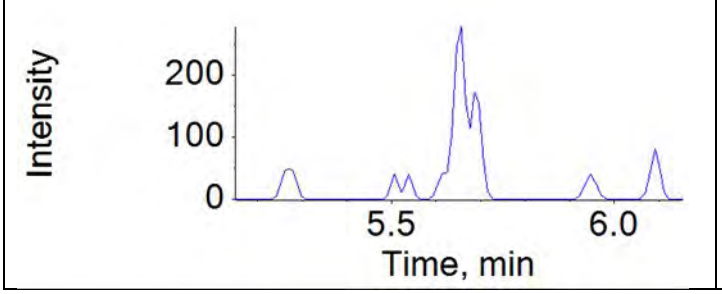


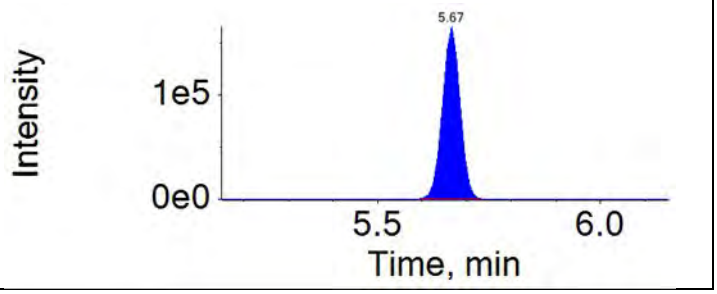
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

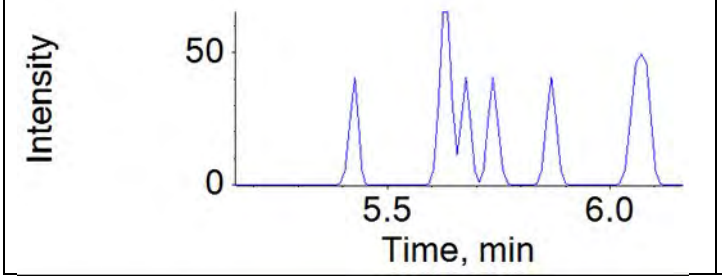
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

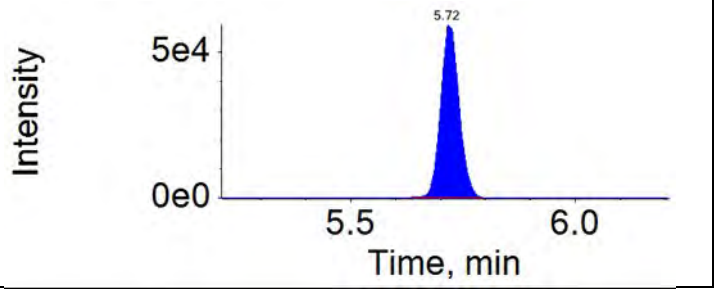
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



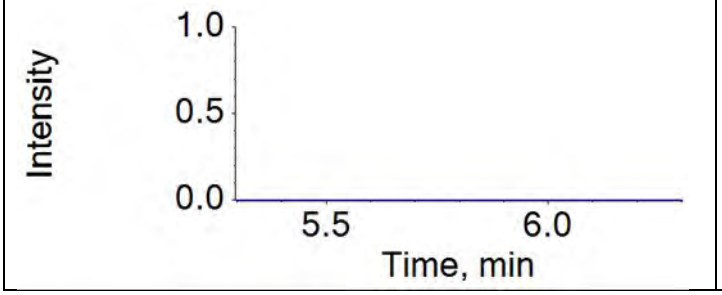


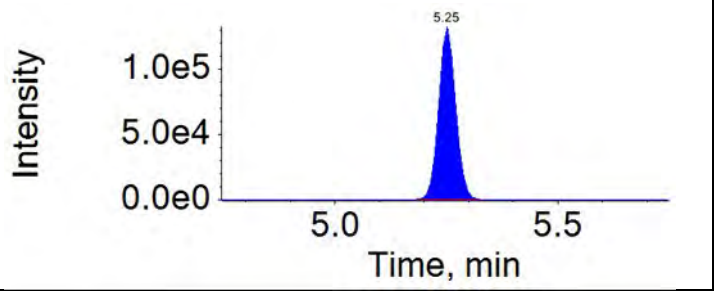
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



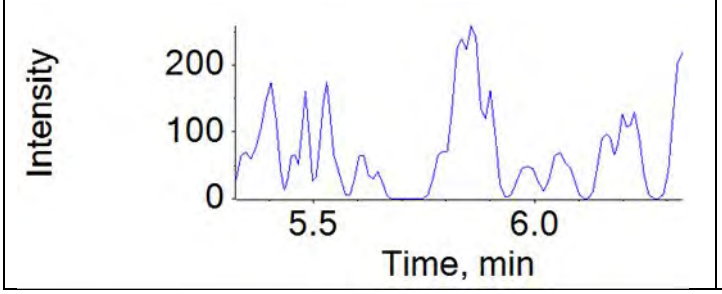


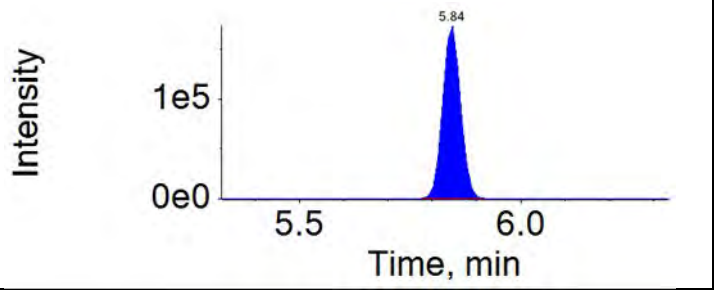
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



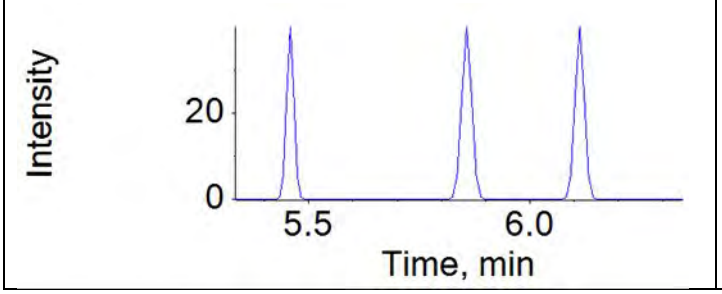


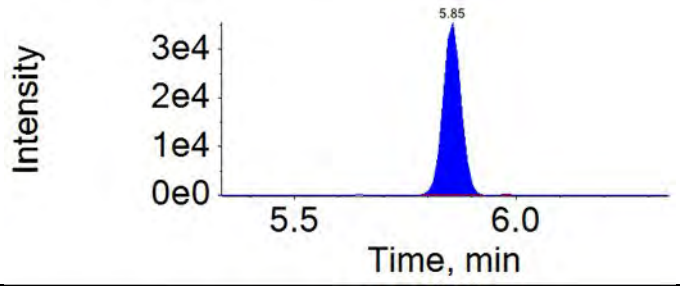
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

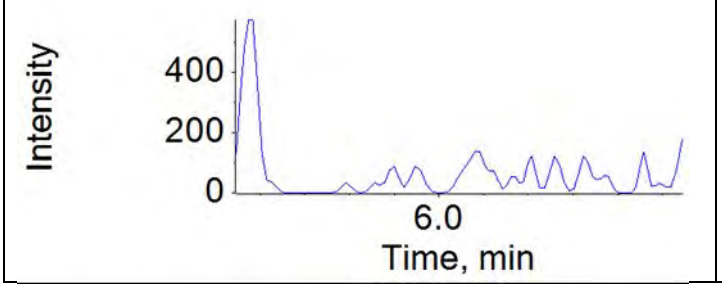
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

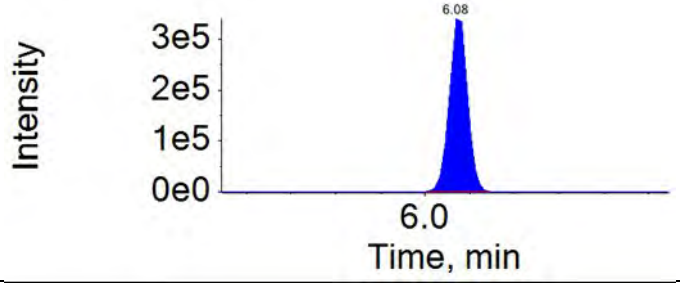
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



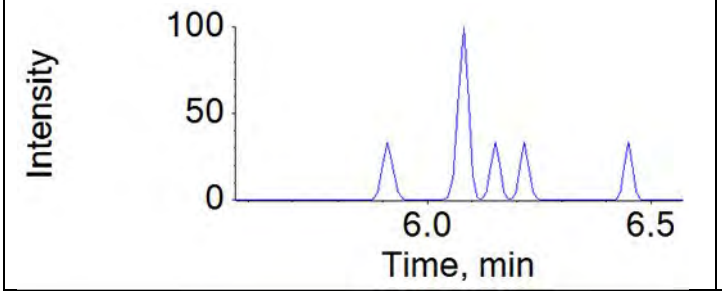


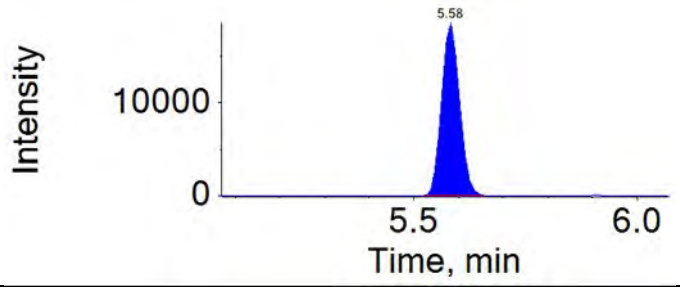
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



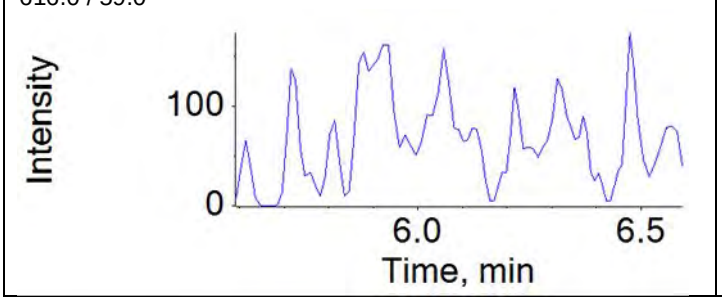


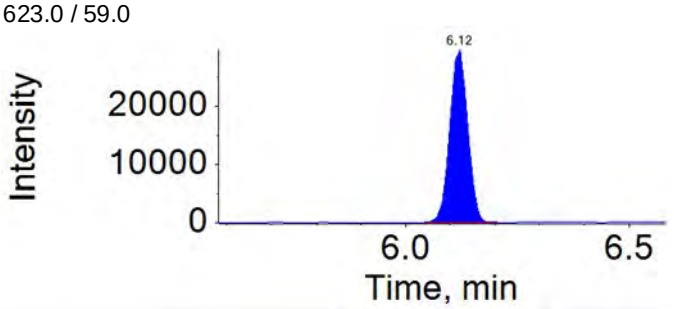
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



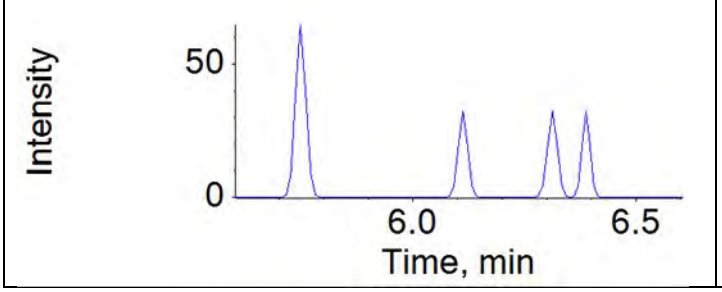


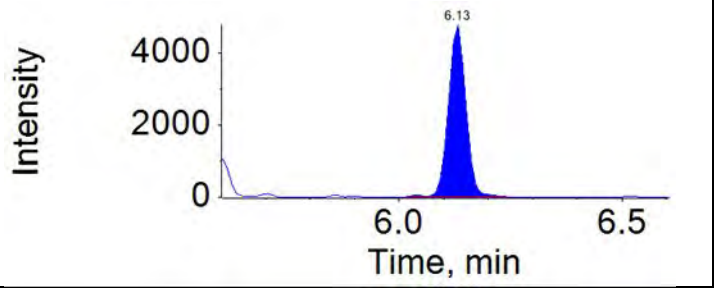
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

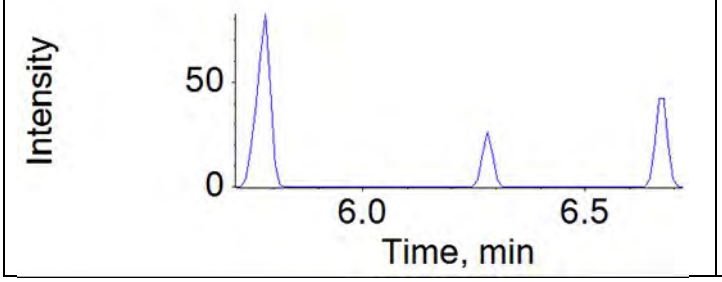
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

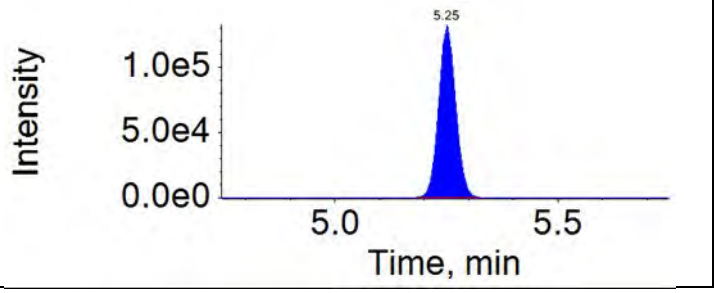
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



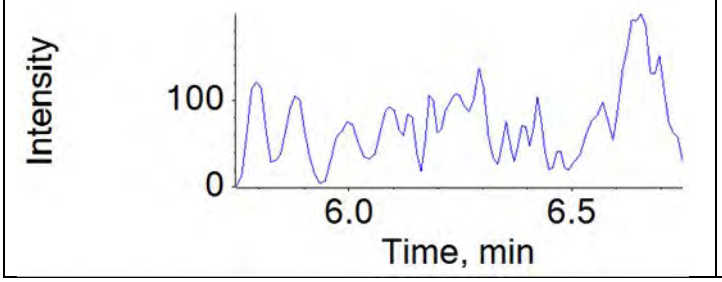


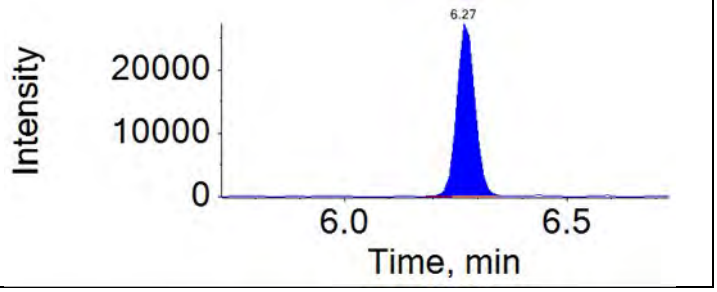
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



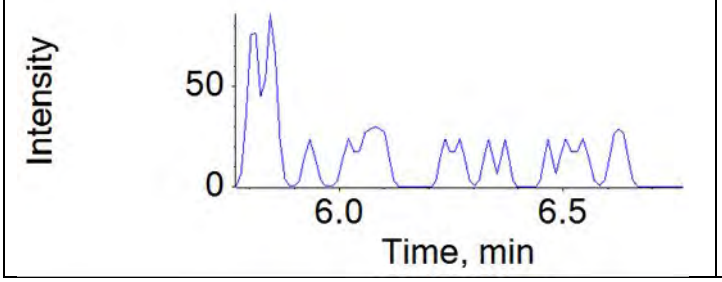


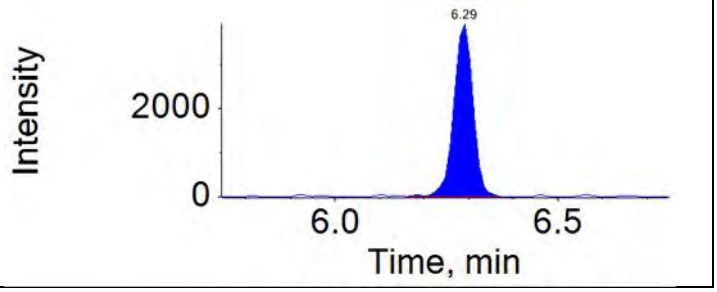
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

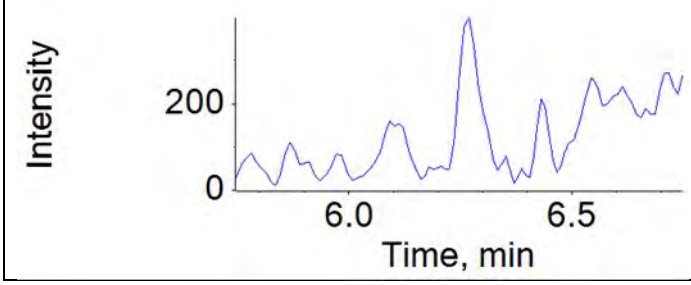
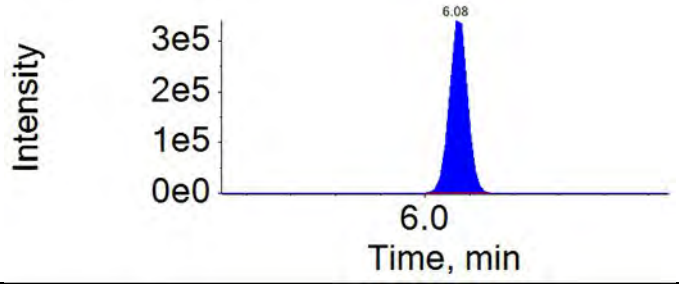


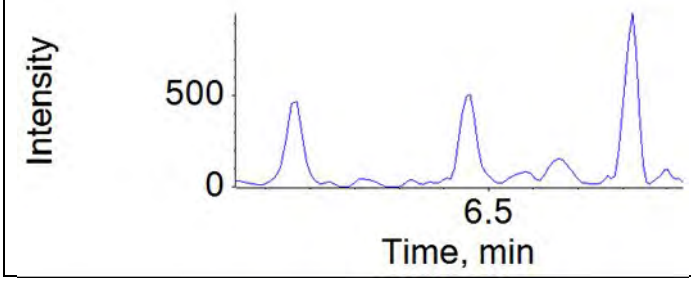
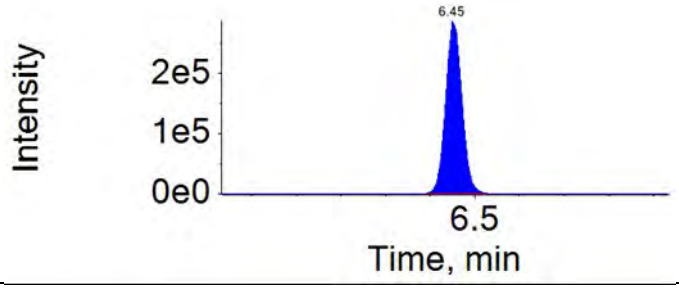


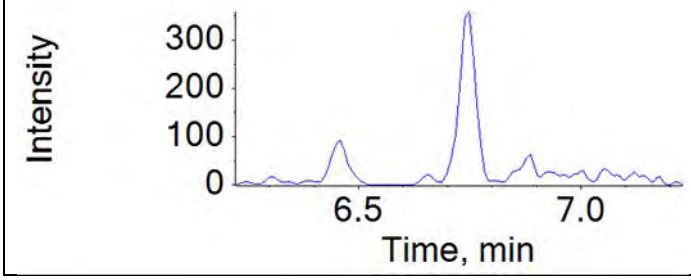
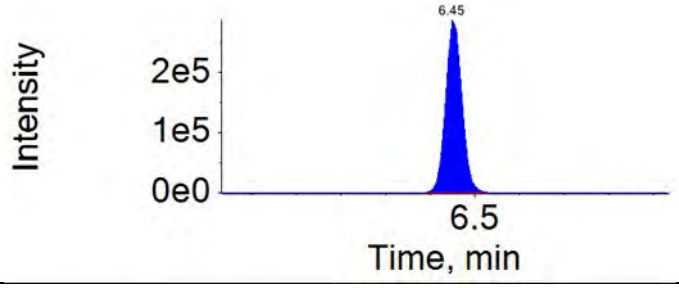
APPROVED
By MCD at 7:42 pm, 12/10/18

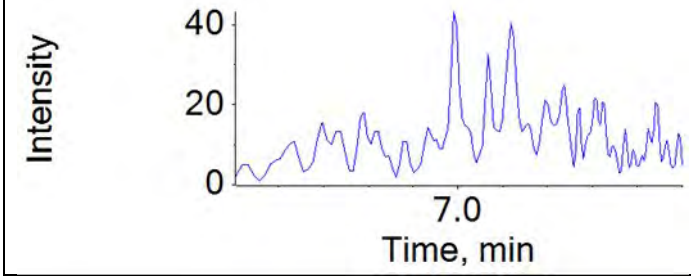
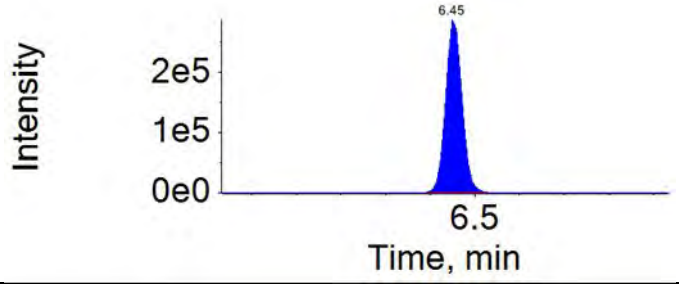
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Ion Ratio Report

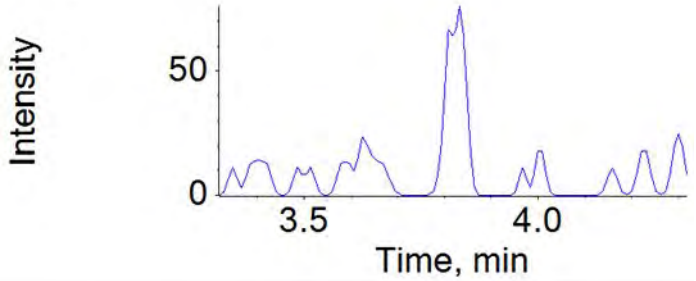
Sample Name: BLK339013 **Instrument Name:** LM27631 **File Name:** 18DEC08D-26.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

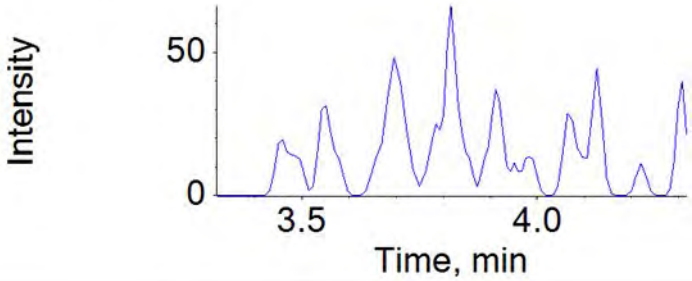
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

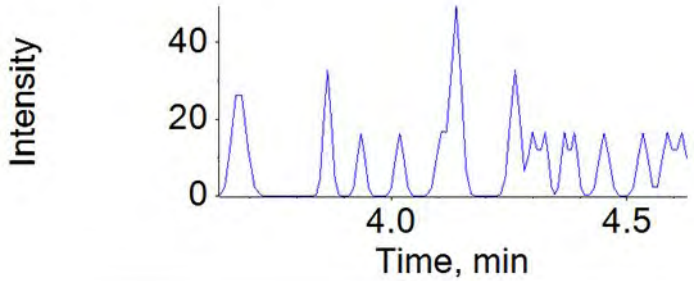
Component: PFBS
Primary Mass: 299.0 / 80.0



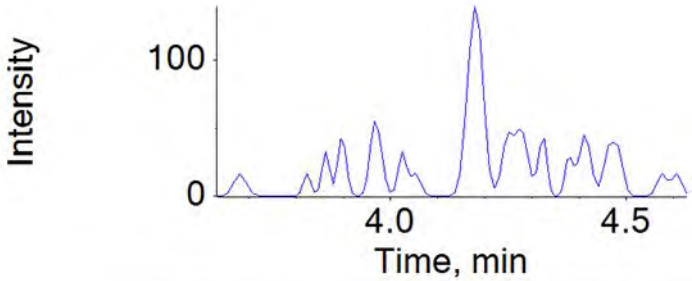
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



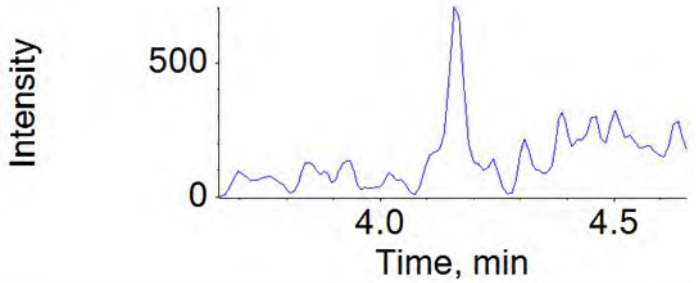
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



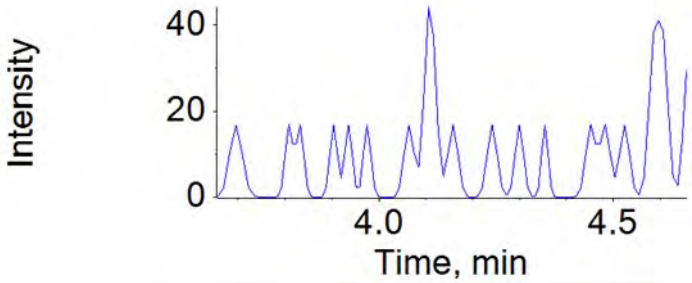
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



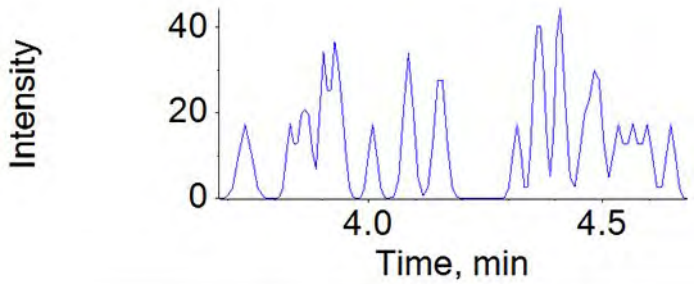
Component: PFHxA
Primary Mass: 313.0 / 269.0



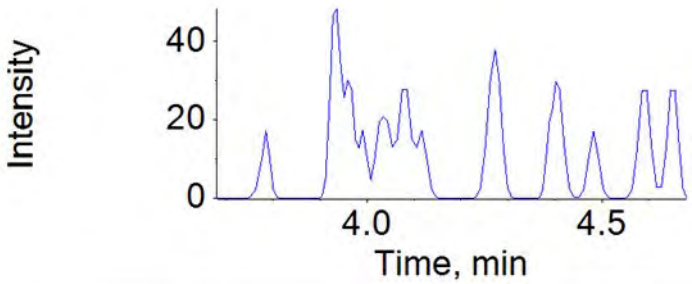
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



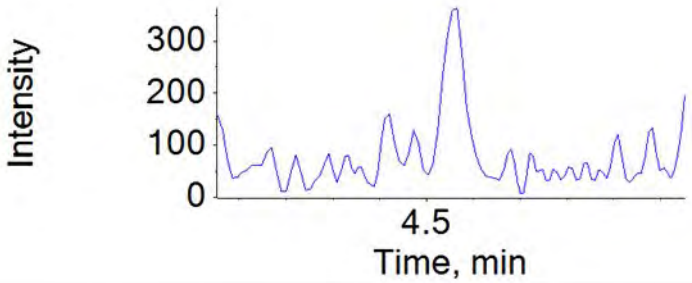
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



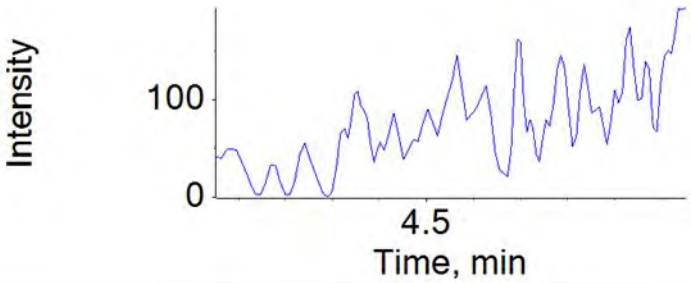
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

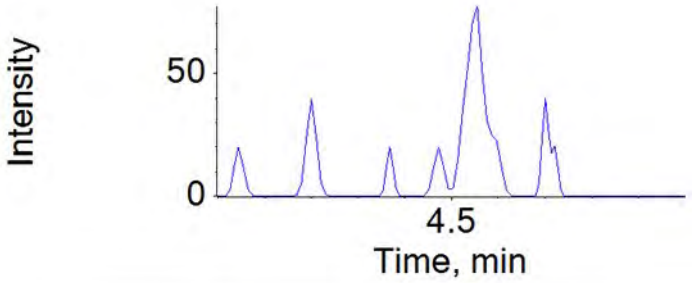
Component: PFHpA
Primary Mass: 363.0 / 319.0



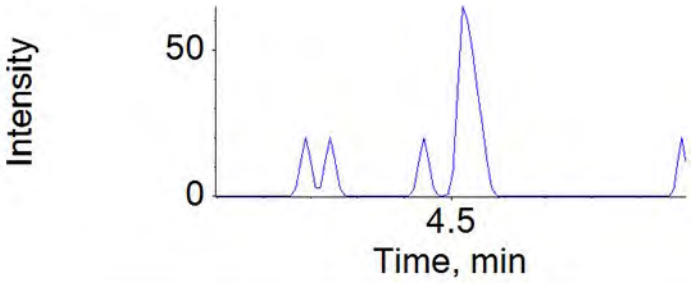
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



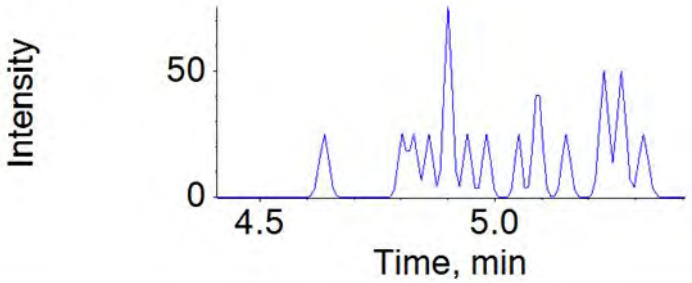
Component: PFHxS
Primary Mass: 399.0 / 80.0



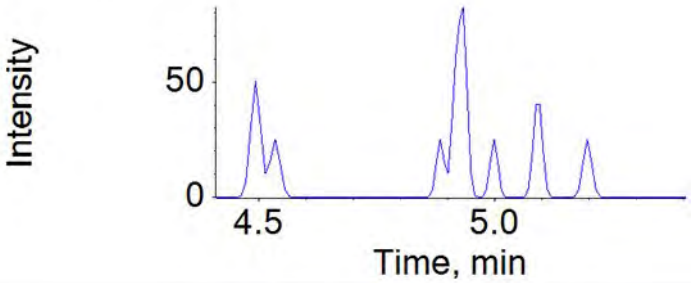
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



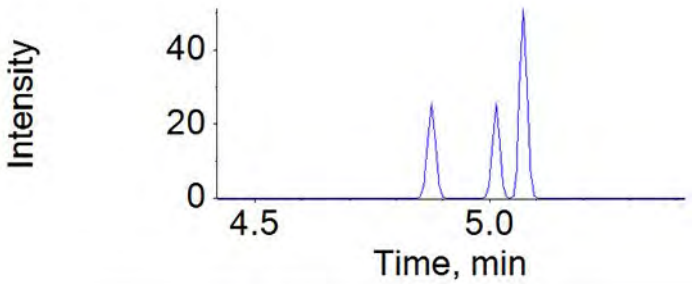
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



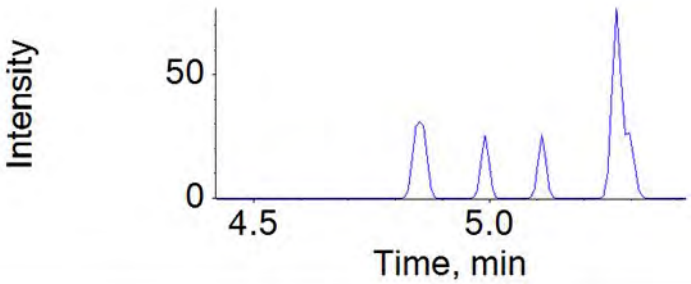
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



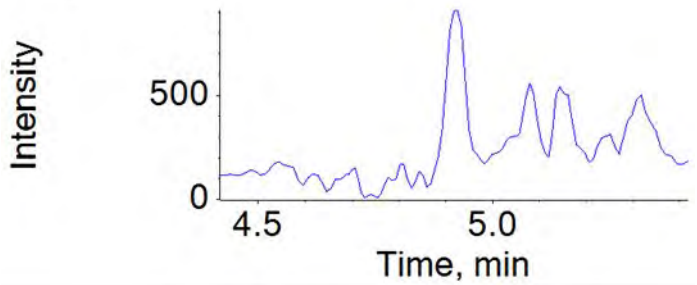
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



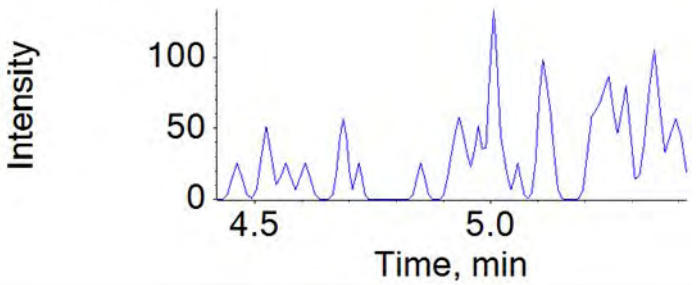
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

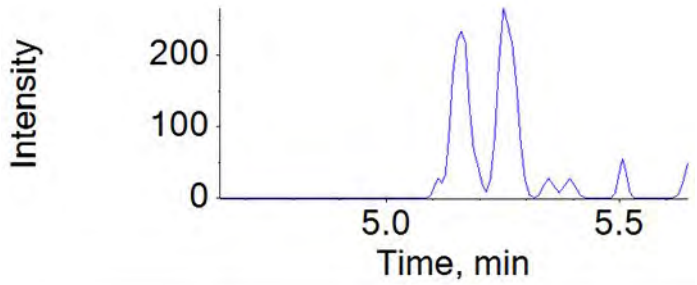
Component: PFOA
Primary Mass: 413.0 / 369.0



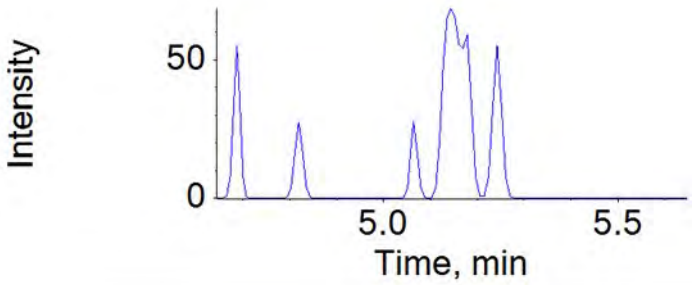
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



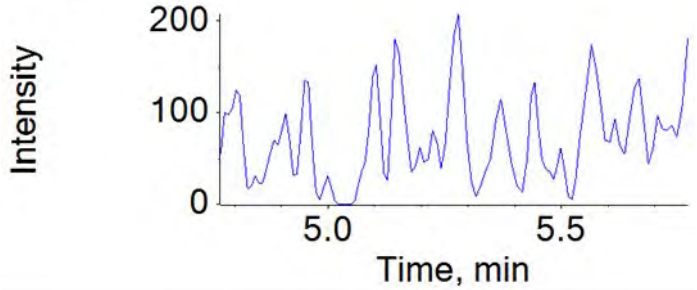
Component: PFOS
Primary Mass: 499.0 / 80.0



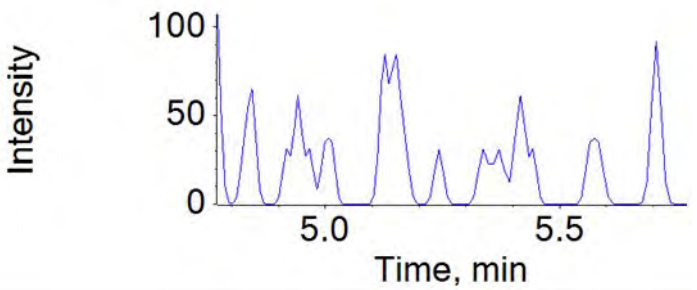
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



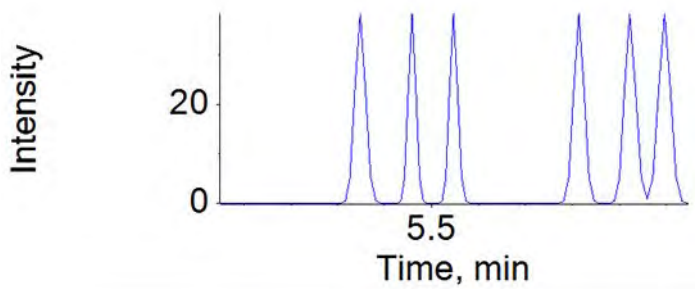
Component: PFNA
Primary Mass: 463.0 / 419.0



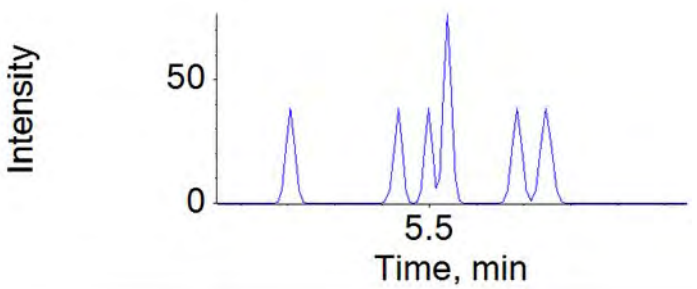
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



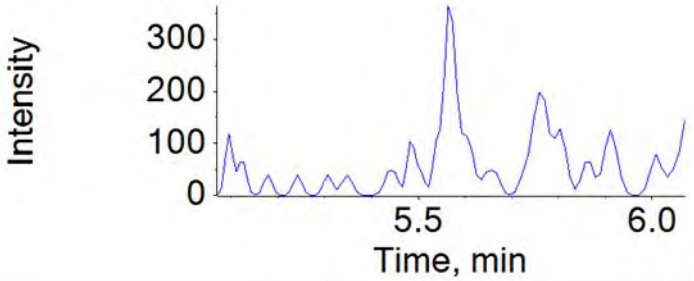
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



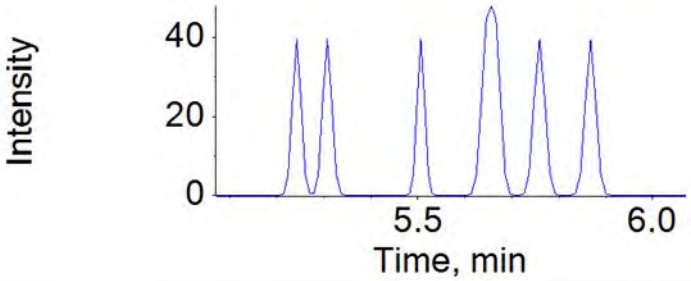
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

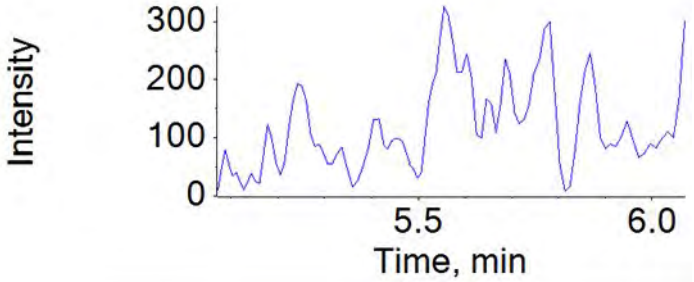
Component: PFDA
Primary Mass: 513.0 / 469.0



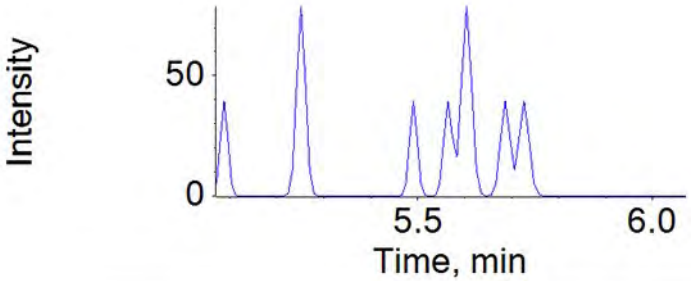
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



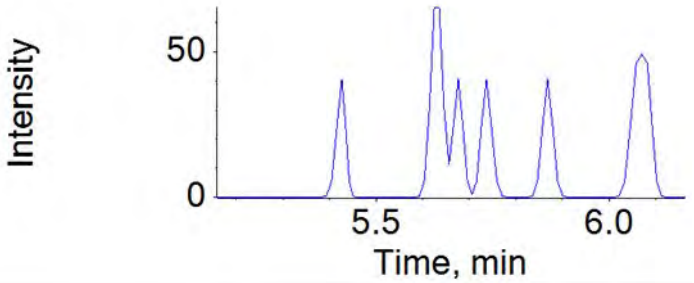
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



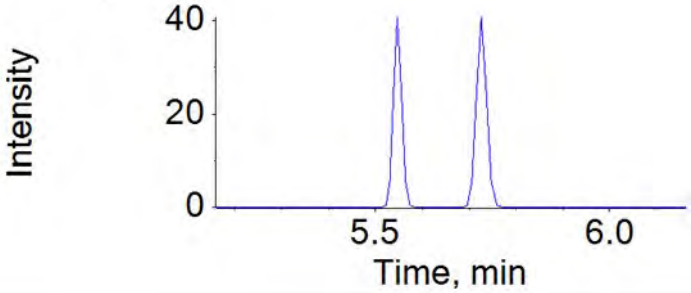
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



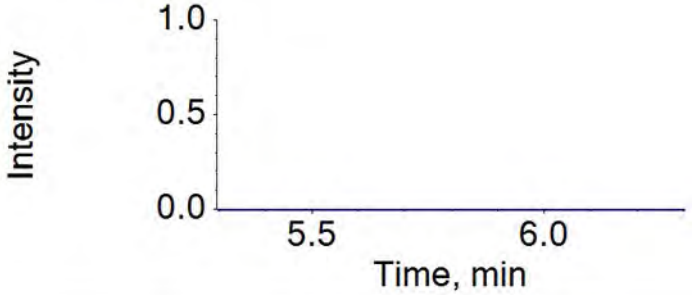
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



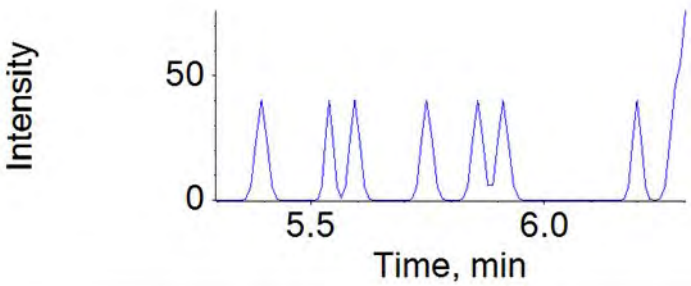
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



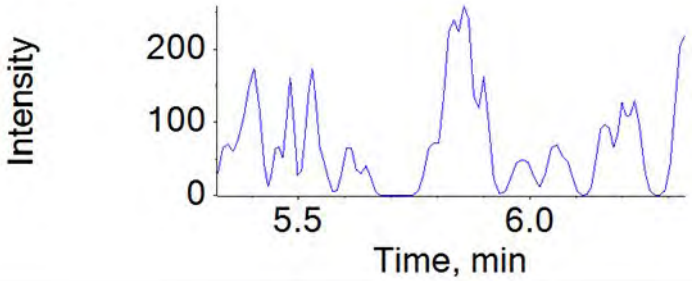
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



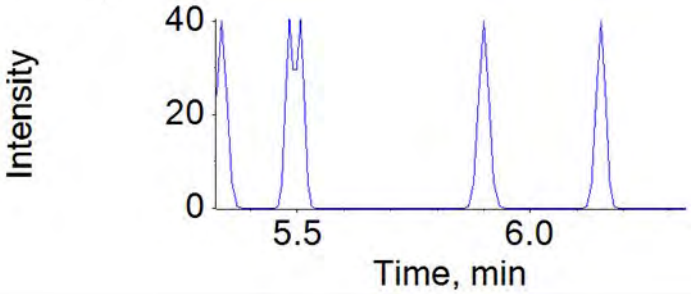
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

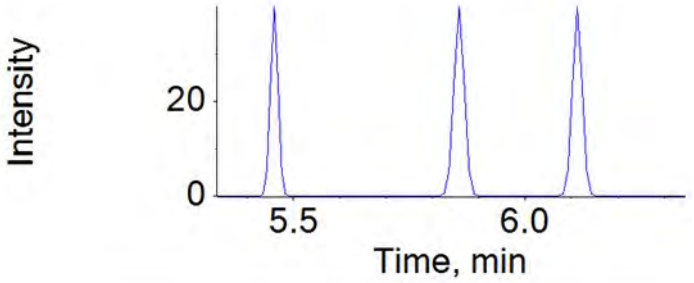
Component: PFUnDA
Primary Mass: 563.0 / 519.0



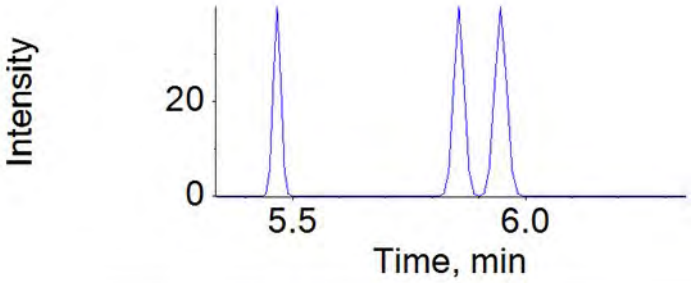
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



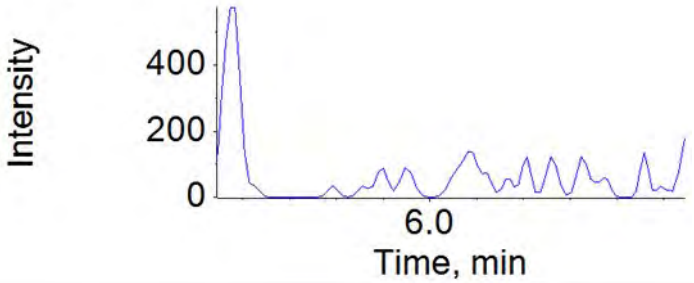
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



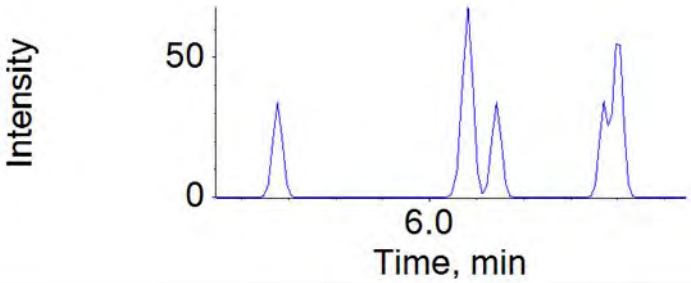
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



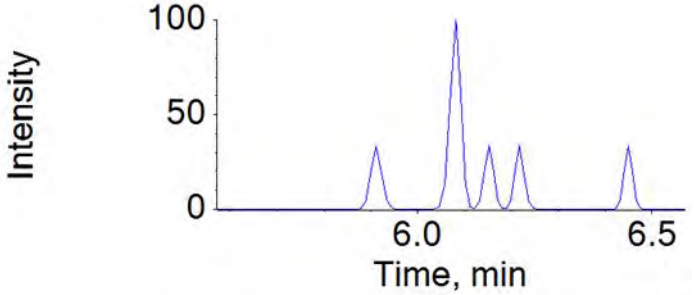
Component: PFDoDA
Primary Mass: 613.0 / 569.0



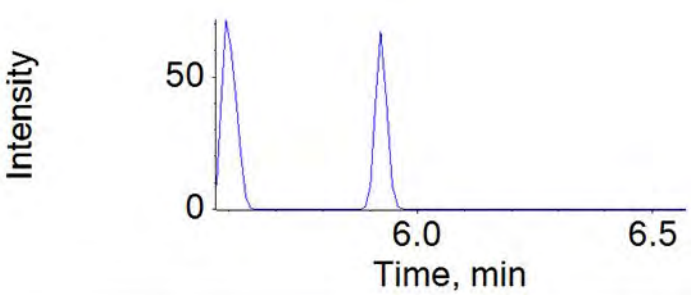
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



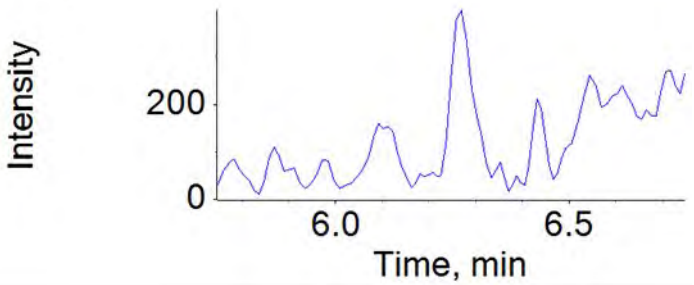
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



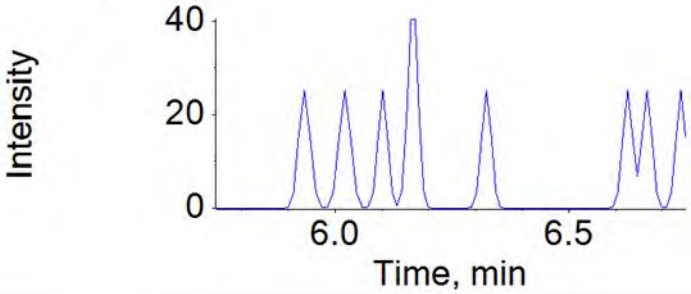
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

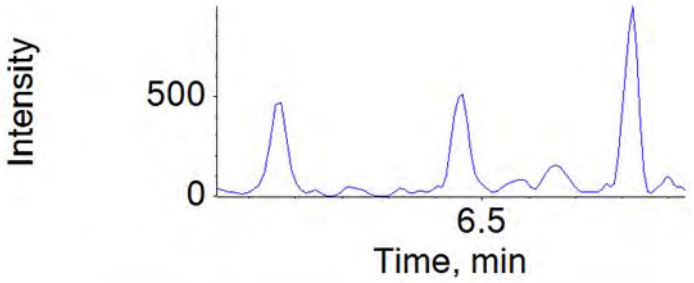
Component: PFTrDA
Primary Mass: 663.0 / 619.0



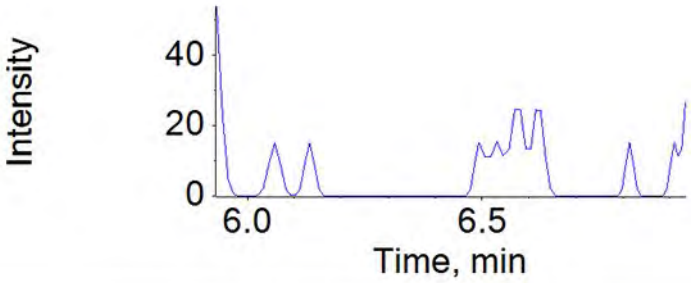
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



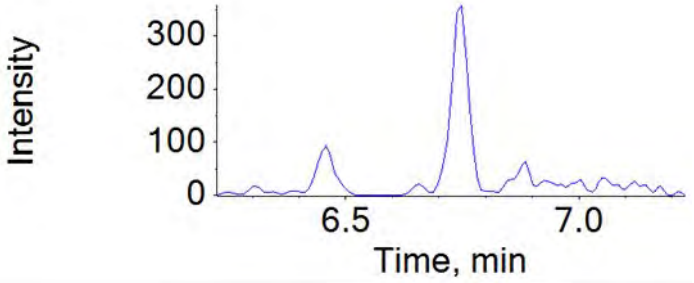
Component: PFTeDA
Primary Mass: 713.0 / 669.0



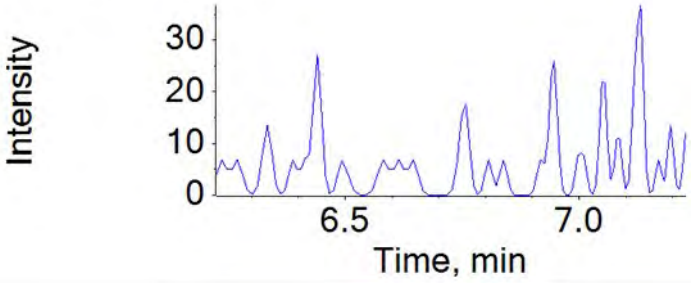
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



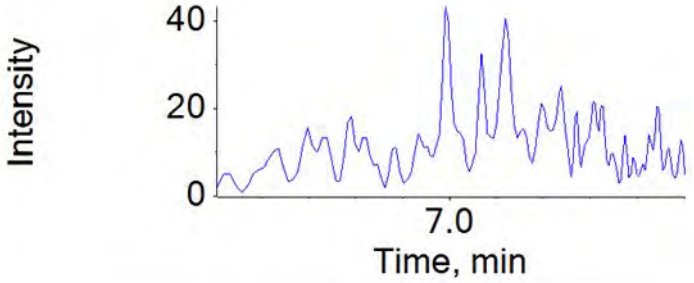
Component: PFHxDA
Primary Mass: 813.0 / 769.0



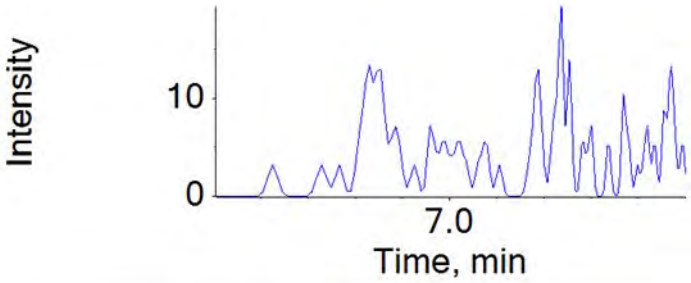
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	BLK340014			**Data File:**		18DEC10D-68.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014			**Acquis Date:**		2018-12-10T22:39:55
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	57			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	970327.4	968978.6	0	50	
13C2-PFOA	5.0	523287.8	507254.2	3	50	
13C4-PFOS	4.8	303478.8	302410.5	0	50	
13C2-PFDA	5.0	406561.7	392614.4	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	994136.6	13C3-PFBA	970327.4	1.025	20.000	18.137	91	50-150	
E13C5-PFPeA	938406.2	13C3-PFBA	970327.4	0.967	20.000	18.372	92	50-150	
E13C3-PFBS	415200.8	13C3-PFBA	970327.4	0.428	18.600	14.508	78	50-150	
E13C2-4:2-FTS	63501.6	13C2-PFOA	523287.8	0.121	18.680	19.020	102	50-150	
E13C5-PFHxA	680382.5	13C2-PFOA	523287.8	1.300	20.000	17.461	87	50-150	
E13C3-PFHxS	329014.7	13C2-PFOA	523287.8	0.629	18.920	16.131	85	50-150	
E13C4-PFHpA	529220.5	13C2-PFOA	523287.8	1.011	20.000	17.198	86	50-150	
E13C2-6:2-FTS	57687.9	13C2-PFOA	523287.8	0.110	19.000	27.318	144	50-150	
E13C8-PFOA	875393.1	13C2-PFOA	523287.8	1.673	20.000	18.915	95	50-150	
E13C8-PFOS	301420.9	13C4-PFOS	303478.8	0.993	19.120	17.829	93	50-150	
E13C9-PFNA	560731.8	13C4-PFOS	303478.8	1.848	20.000	20.885	104	50-150	
E13C6-PFDA	656698.6	13C2-PFDA	406561.7	1.615	20.000	17.122	86	50-150	
E13C2-8:2-FTS	33751.8	13C2-PFDA	406561.7	0.083	19.160	21.680	113	50-150	
E13C8-PFOSA	595172.6	13C2-PFDA	406561.7	1.464	20.000	13.849	69	50-150	
Ed3-NMeFOSAA	126953.5	13C2-PFDA	406561.7	0.312	20.000	22.135	111	50-150	
E13C7-PFUnDA	399337.4	13C2-PFDA	406561.7	0.982	20.000	19.273	96	50-150	
Ed5-NEtFOSAA	86463.3	13C2-PFDA	406561.7	0.213	20.000	18.779	94	50-150	
E13C2-PFDoDA	800202.1	13C2-PFDA	406561.7	1.968	20.000	16.521	83	50-150	
Ed7-NMePFOSAE	226613.6	13C2-PFDA	406561.7	0.557	20.000	12.844	64	50-150	
Ed3-NMePFOSA	51826.4	13C2-PFDA	406561.7	0.127	20.000	9.291	46	50-150	OOS
Ed9-NEtPFOSAE	183626.6	13C2-PFDA	406561.7	0.452	20.000	12.458	62	50-150	
Ed5-NEtPFOSA	47546.9	13C2-PFDA	406561.7	0.117	20.000	10.528	53	50-150	
E13C2-PFTeDA	498271.7	13C2-PFDA	406561.7	1.226	20.000	14.550	73	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

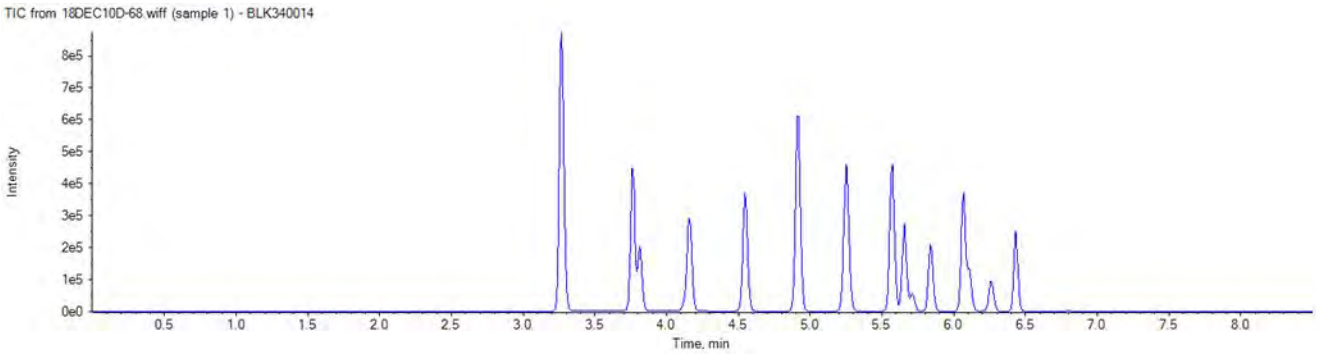
Analyte Quantitation Peak Table

Sample Name: BLK340014 **Instrument Name:** LM27631 **File Name:** 18DEC10D-68.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.27	1.000	35450.0		A	13C4-PFBA	3.26	994136.6	0.036	0.787
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	938406.2	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	415200.8	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	63501.6	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	680382.5	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	415200.8	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	529220.5	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	329014.7	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	57687.9	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	329014.7	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	875393.1	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	301420.9	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	560731.8	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.24	301420.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	656698.6	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	33751.8	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.66	595172.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	126953.5	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.24	301420.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.84	399337.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.85	86463.3	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	800202.1	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	33751.8	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.11	226613.6	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.12	51826.4	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.24	301420.9	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.26	183626.6	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.27	47546.9	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.07	800202.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	498271.7	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	498271.7	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	498271.7	N/A	

Total Ion Chromatogram

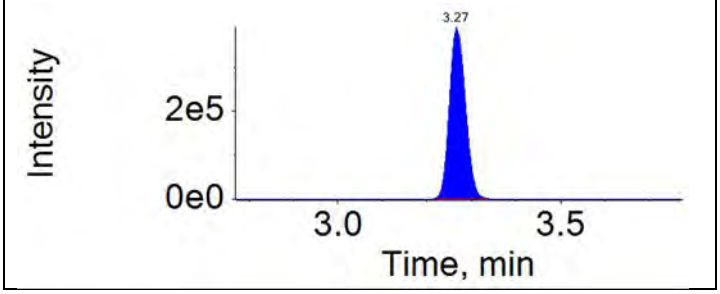


APPROVED
By MCD at 3:52 pm, 12/11/18

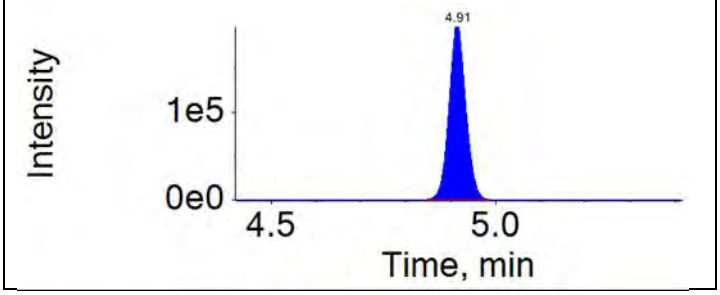
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

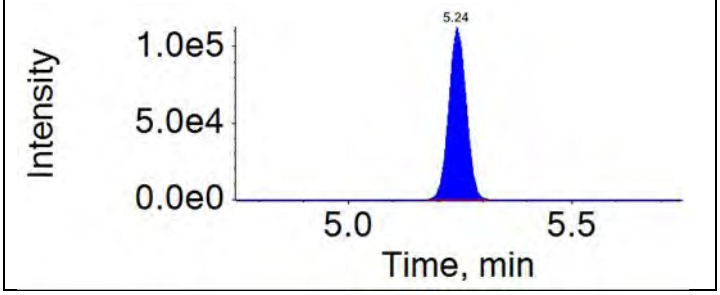
Injection Standard: 13C3-PFBA
216.0 / 172.0



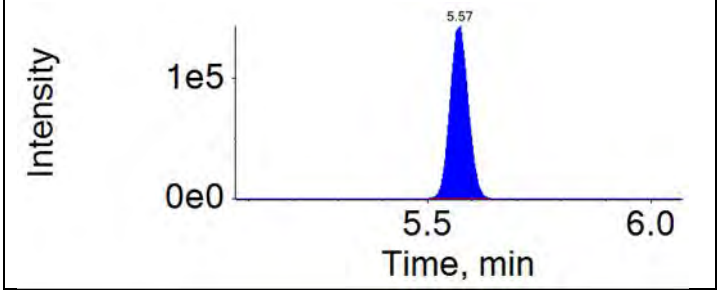
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

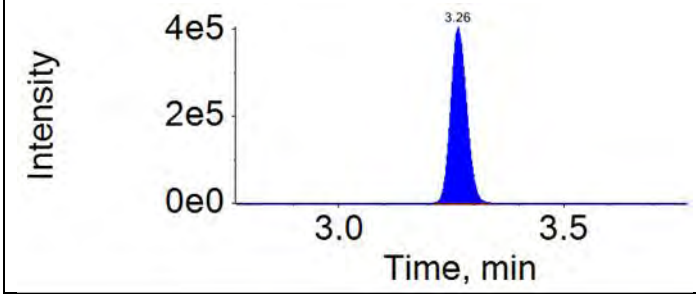


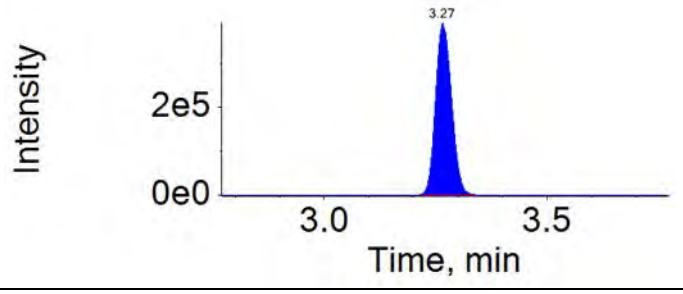
Injection Standard: 13C2-PFDA
515.0 / 470.0



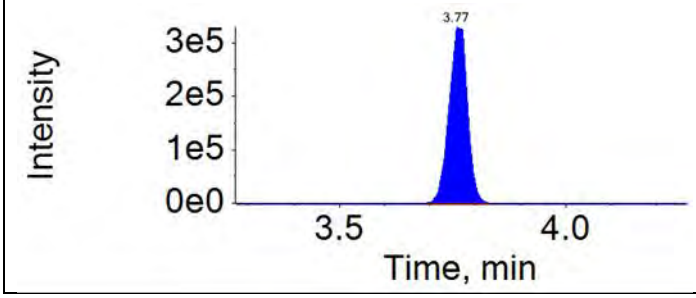
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

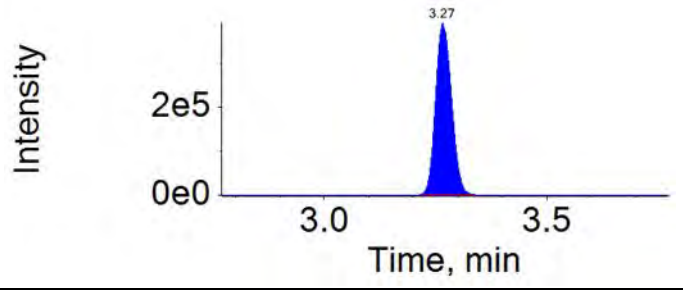
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



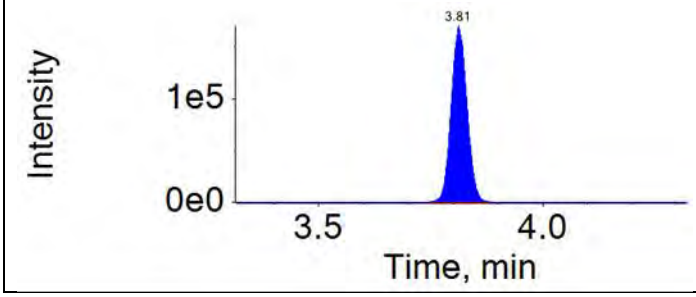


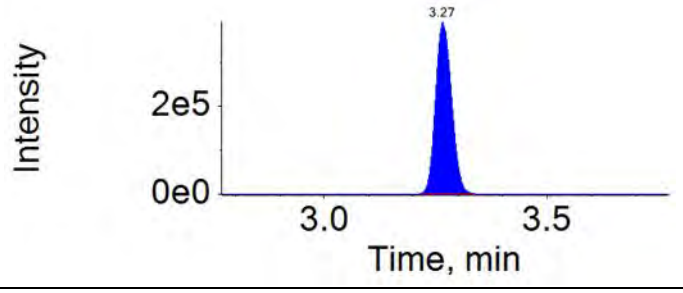
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



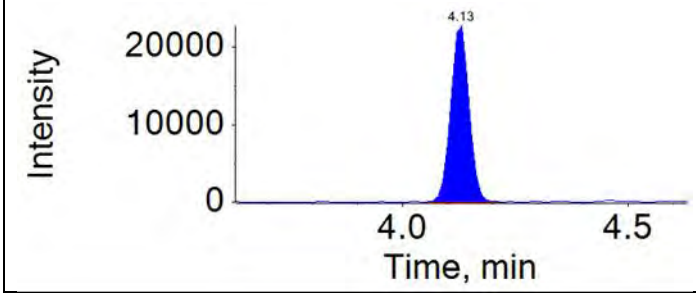


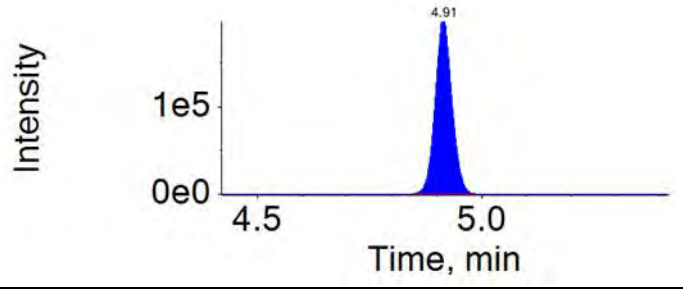
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



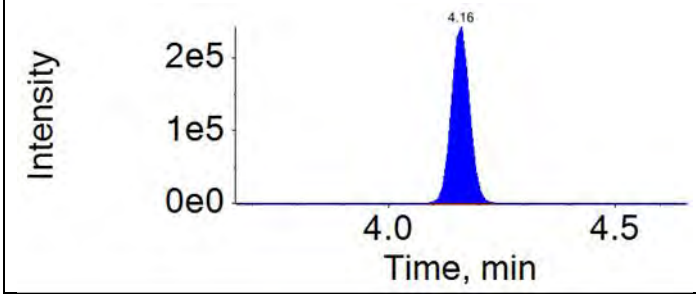


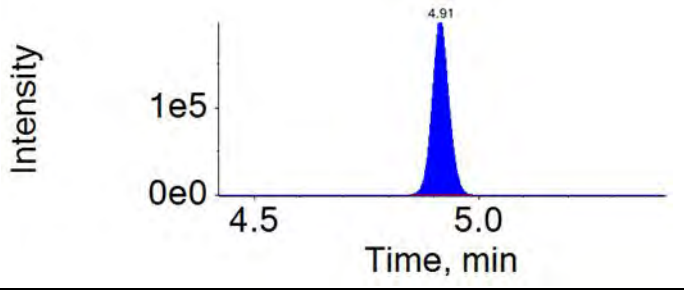
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

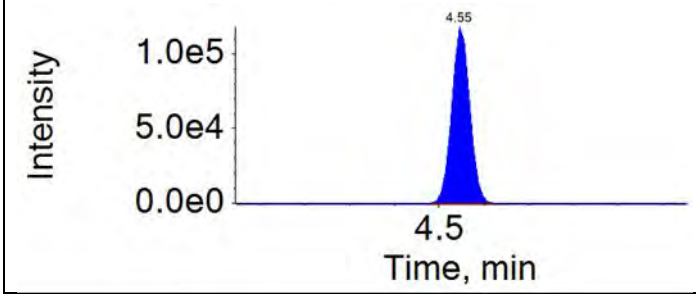
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

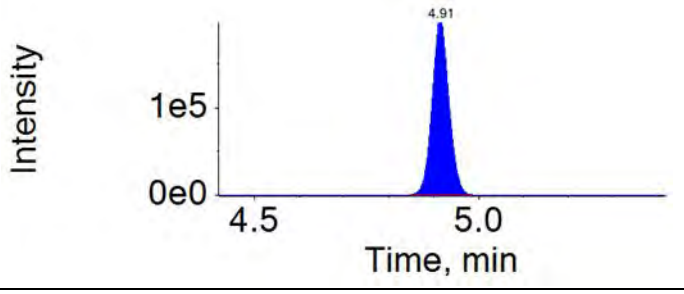
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



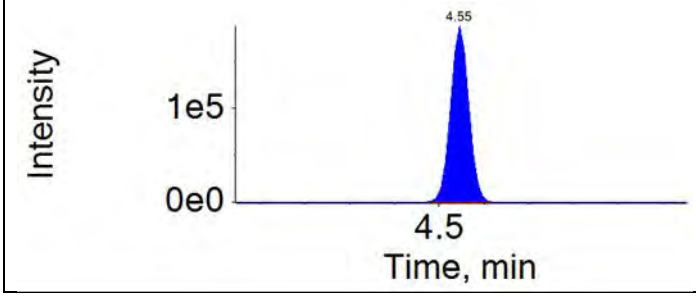


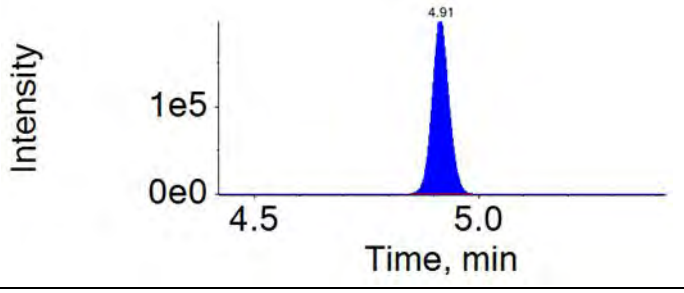
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



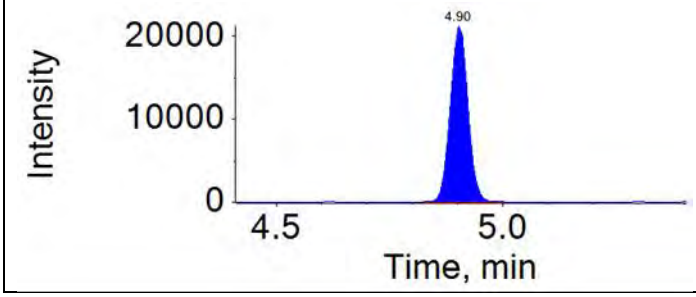


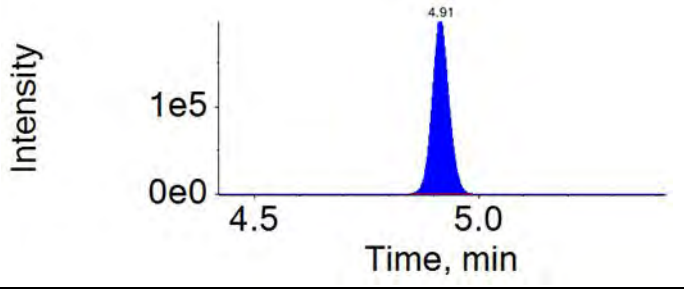
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

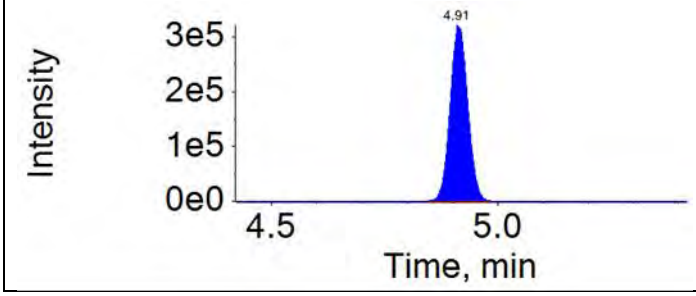
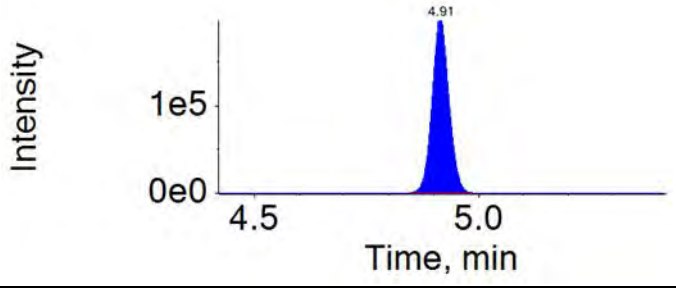


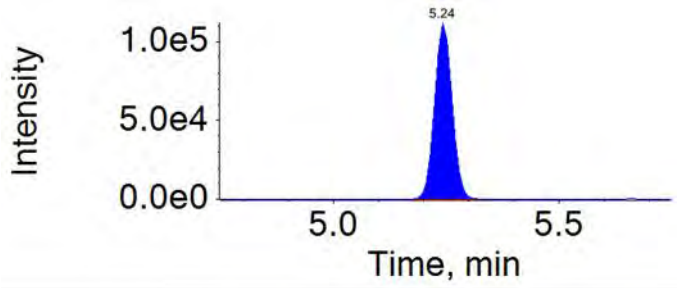
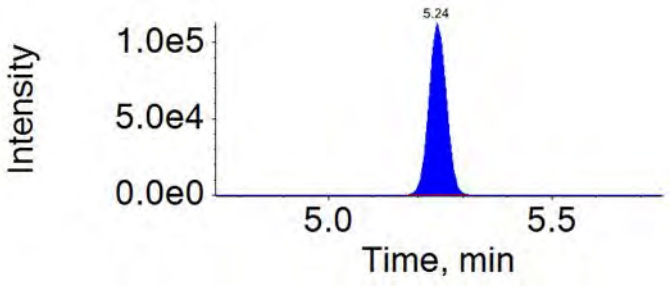


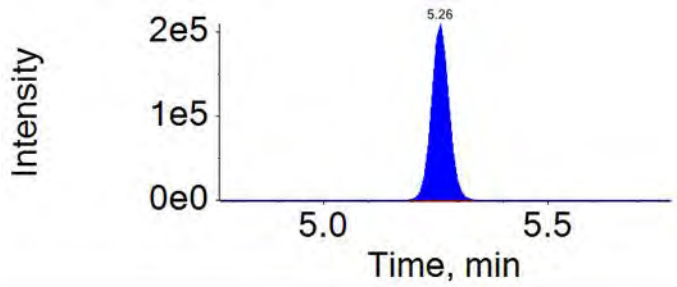
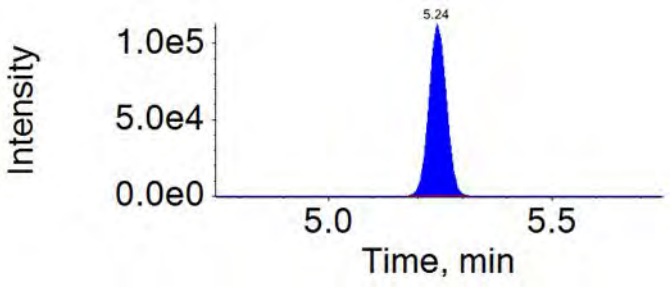
APPROVED
By MCD at 3:52 pm, 12/11/18

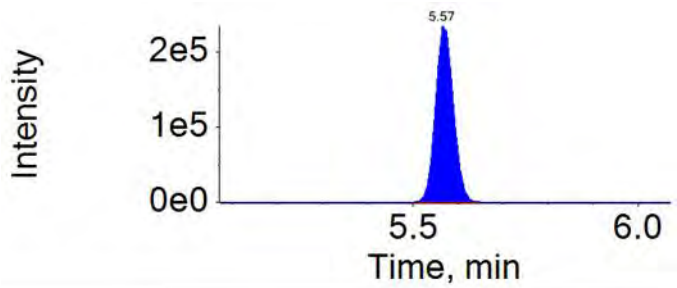
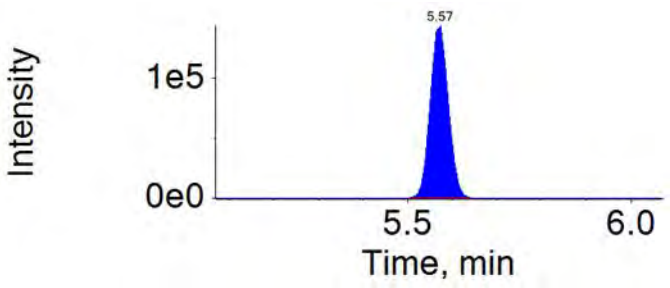
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

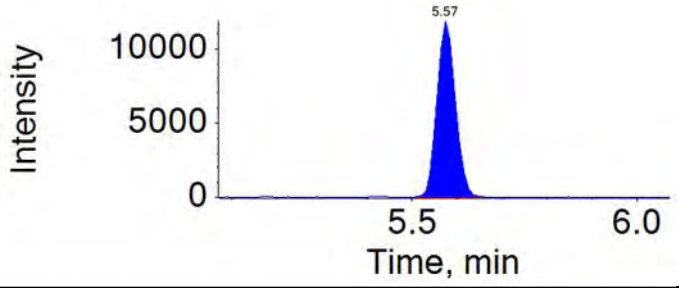
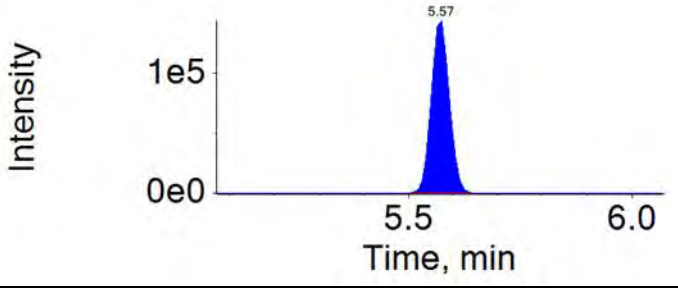
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

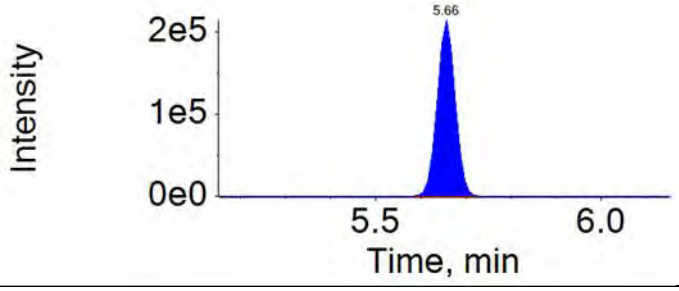
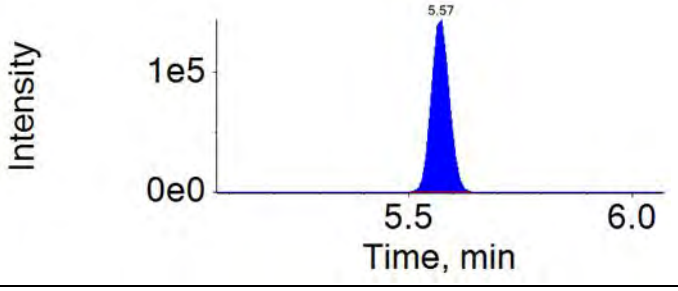
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

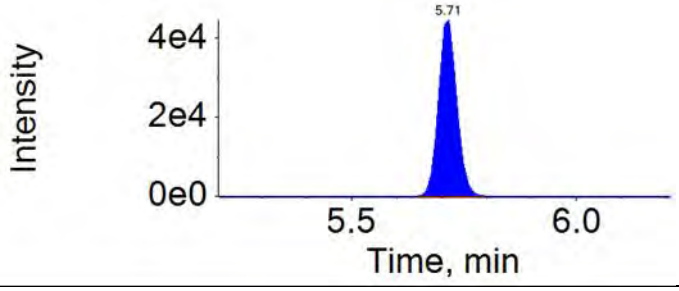
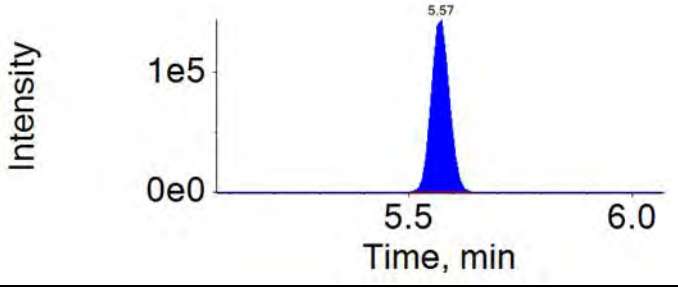
APPROVED
By MCD at 3:52 pm, 12/11/18

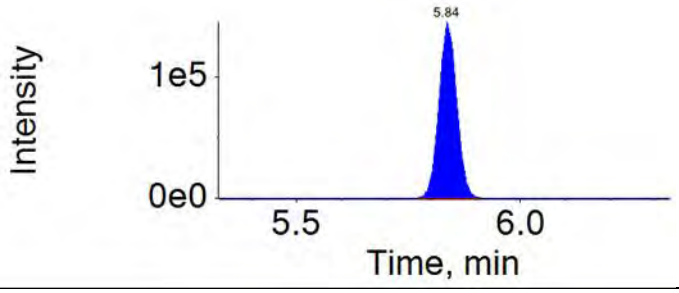
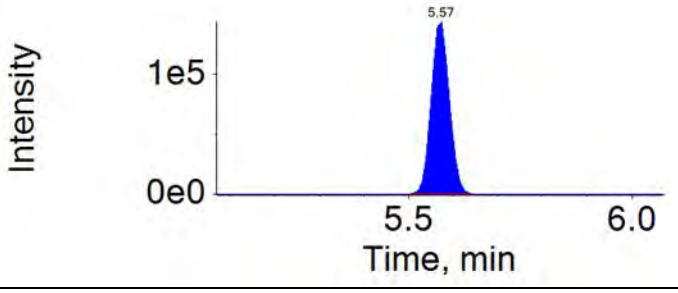
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

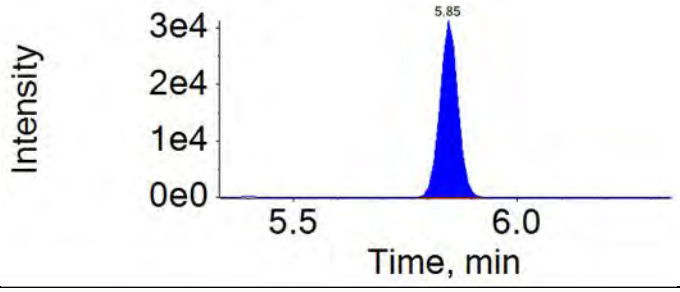
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

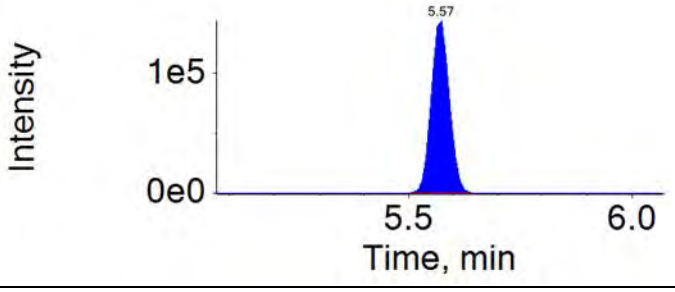
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

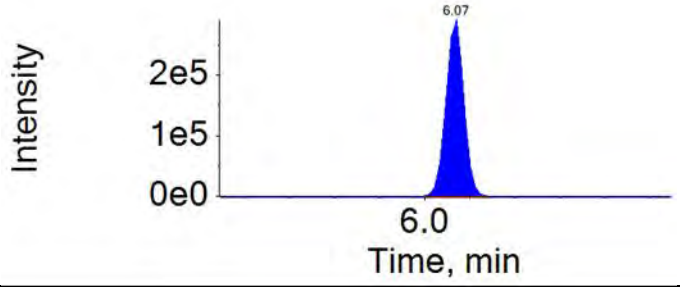
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

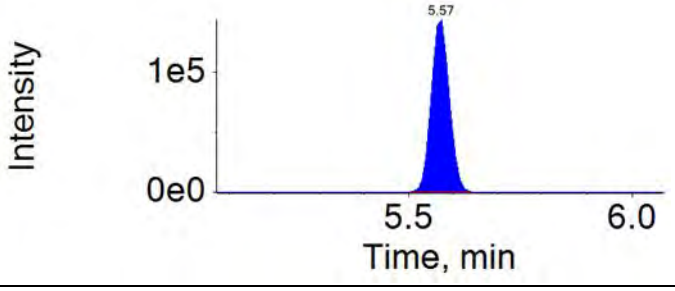
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



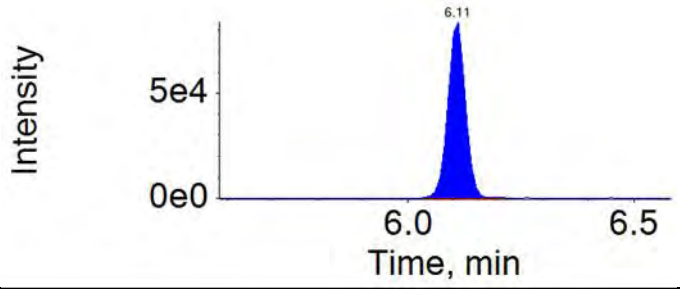


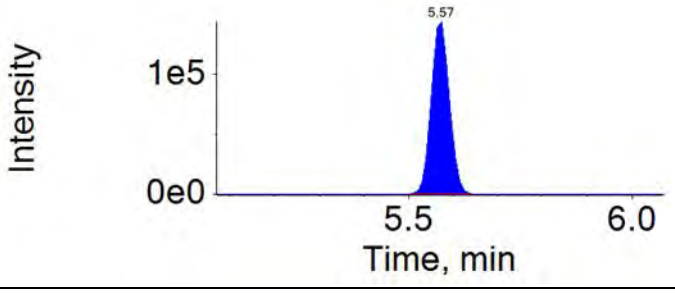
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



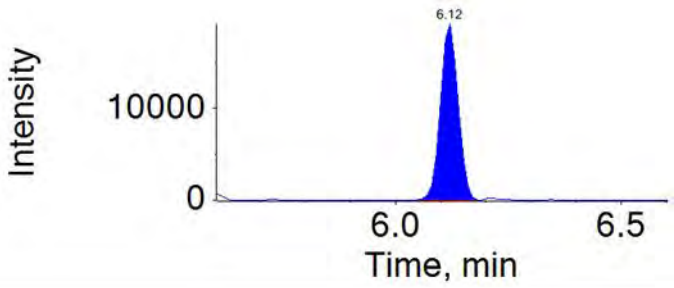


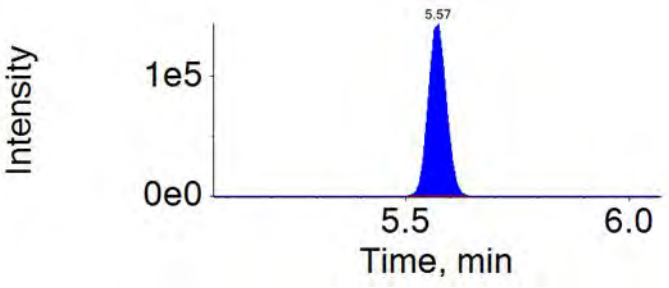
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



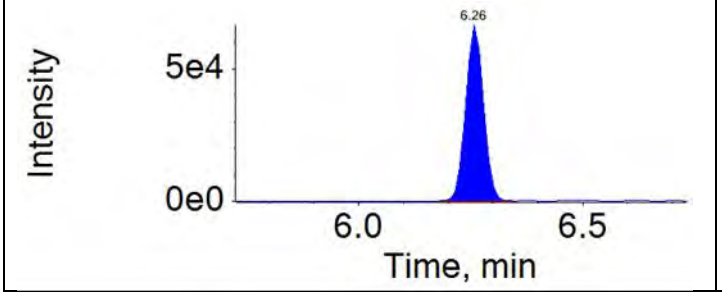


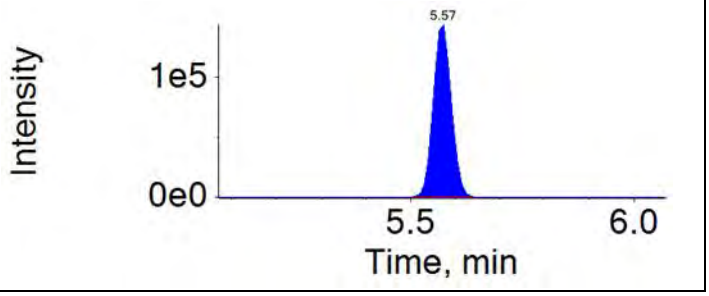
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

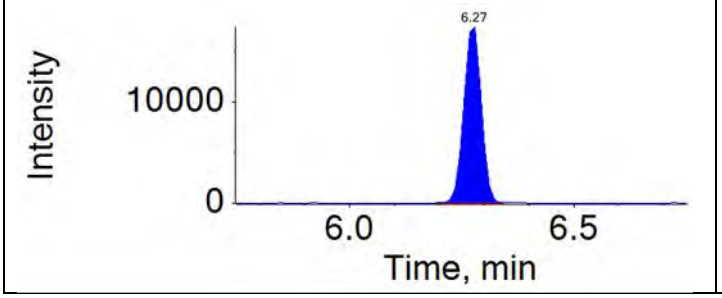
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

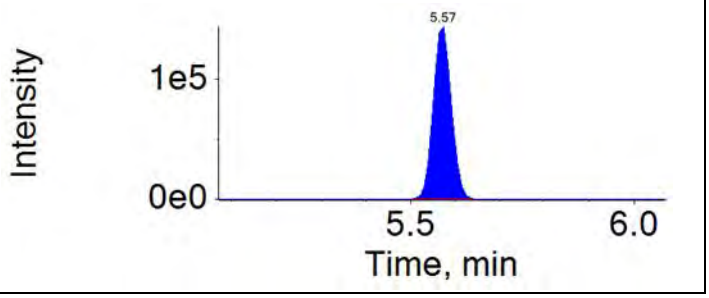
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



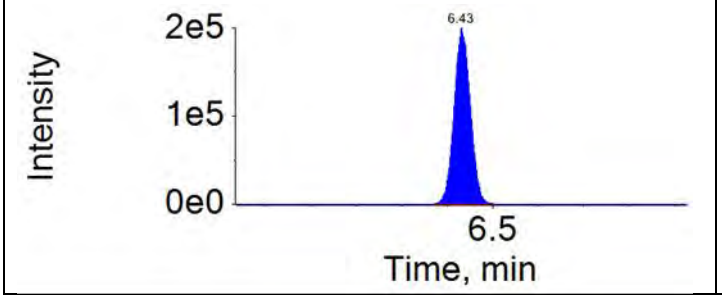


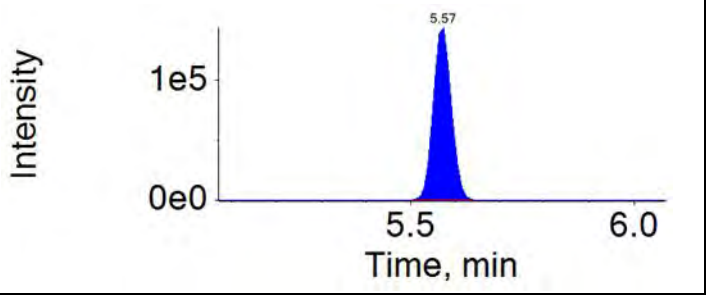
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



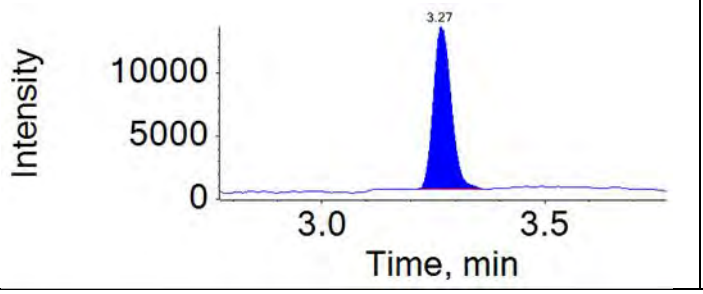


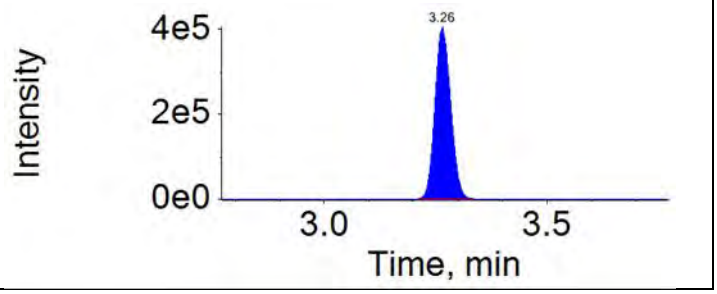
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

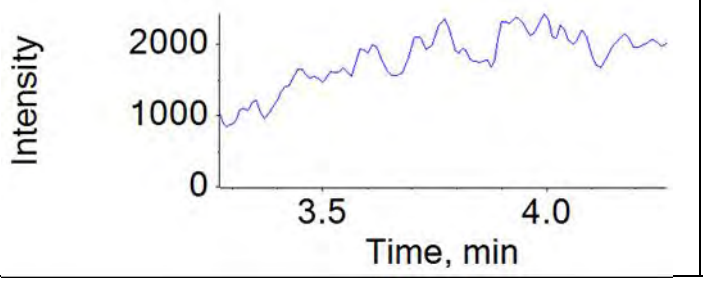
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

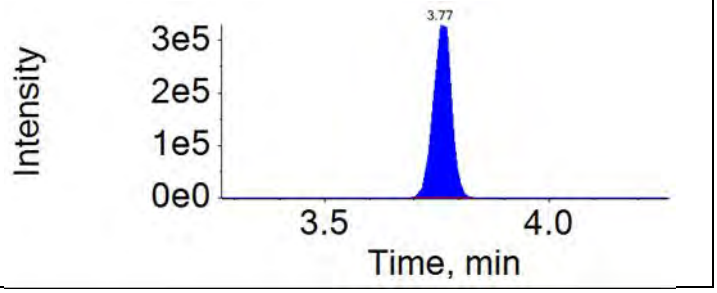
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



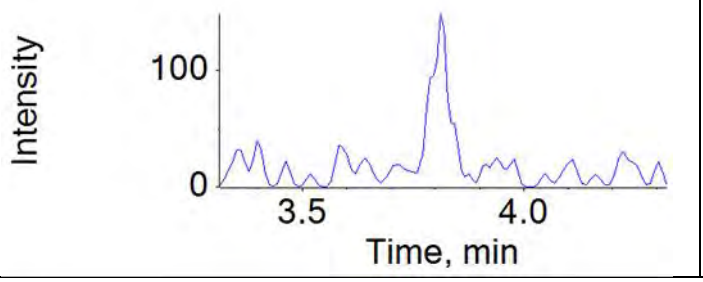


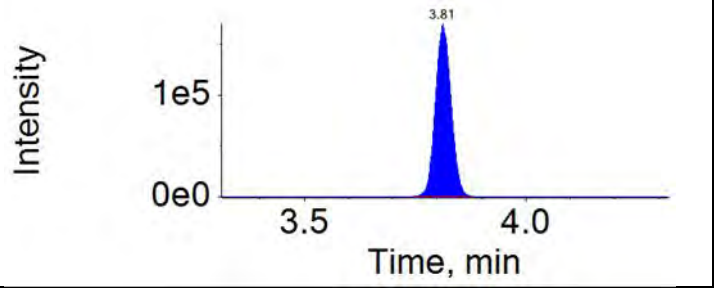
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



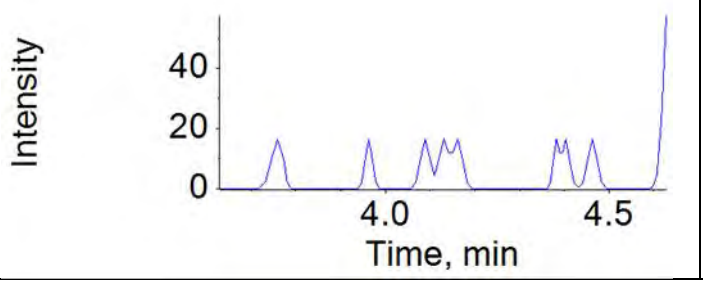


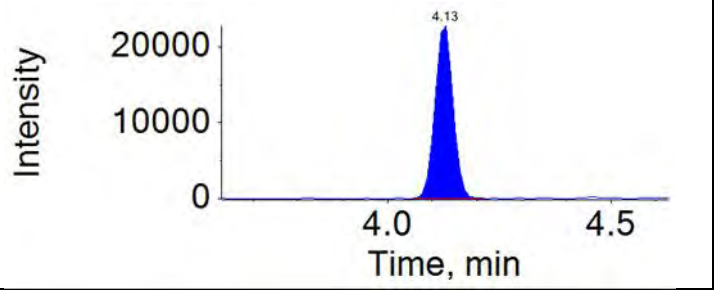
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



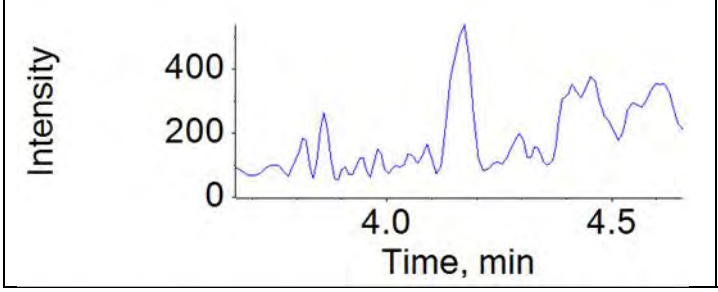


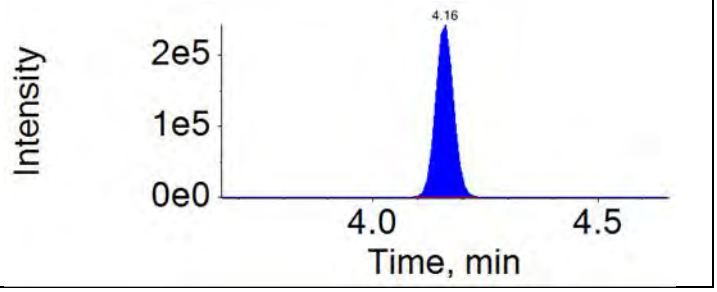
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

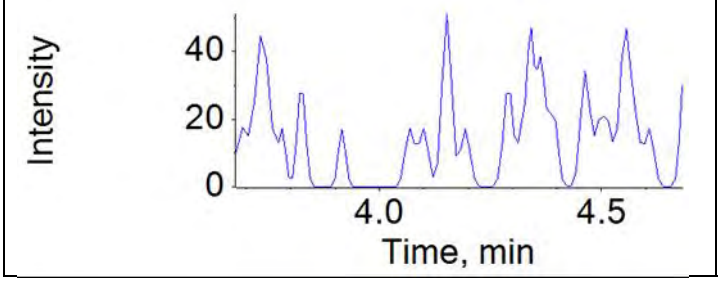
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

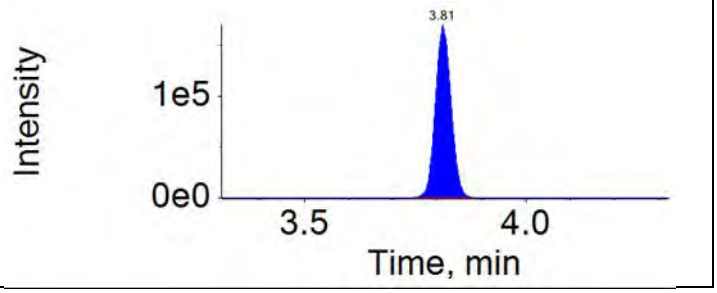
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



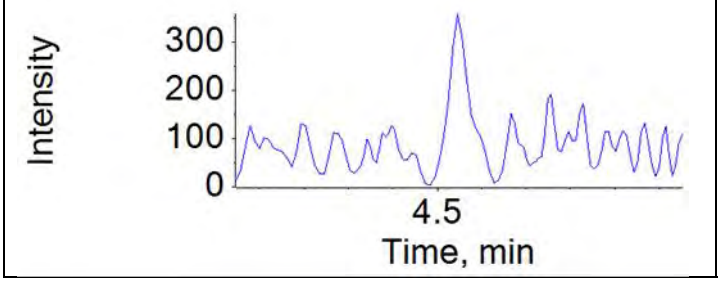


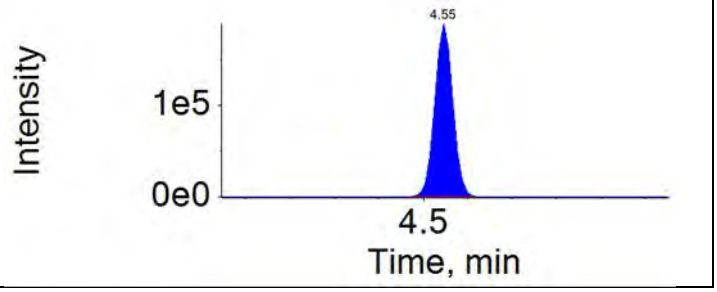
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



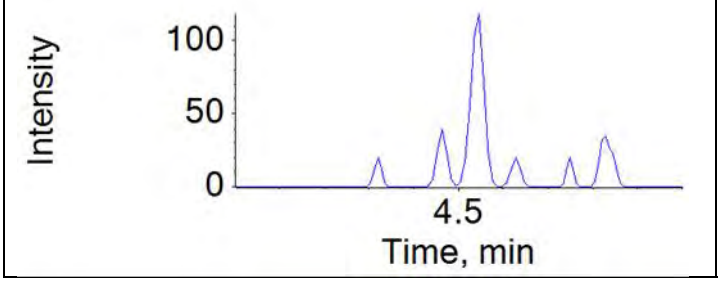


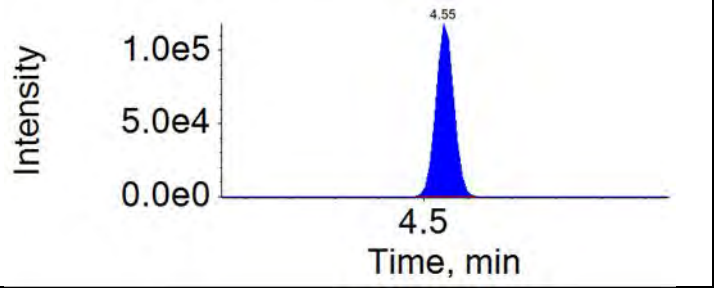
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



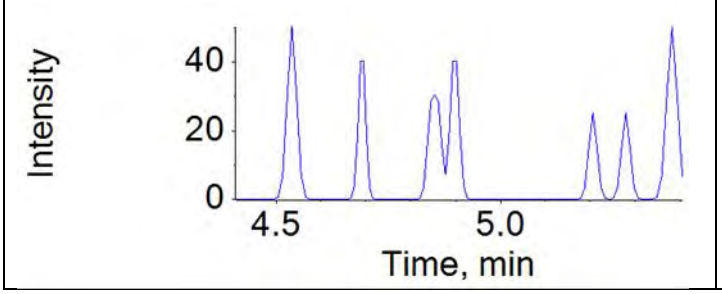


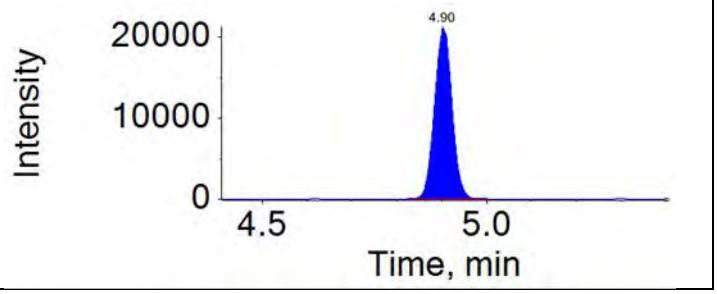
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

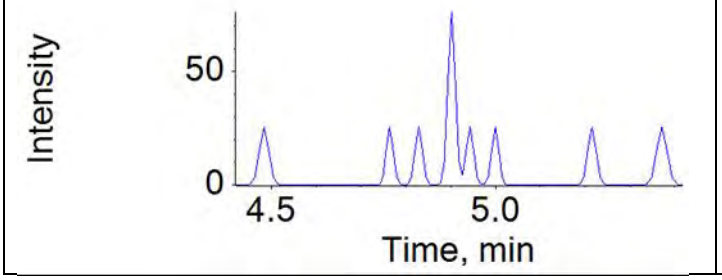
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

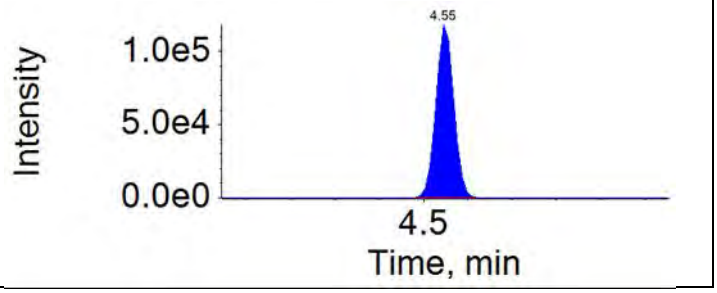
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



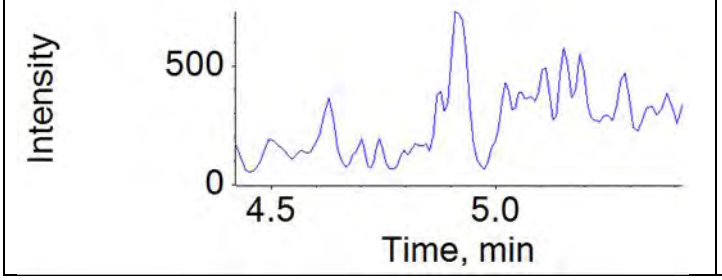


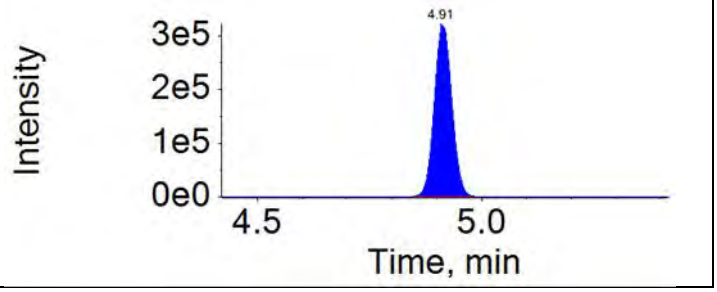
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



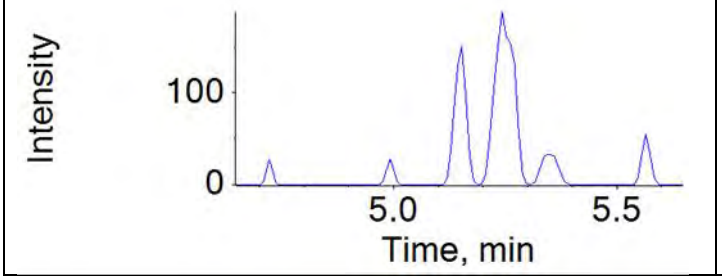


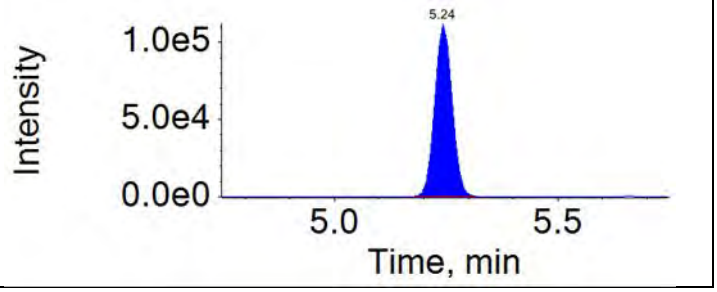
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



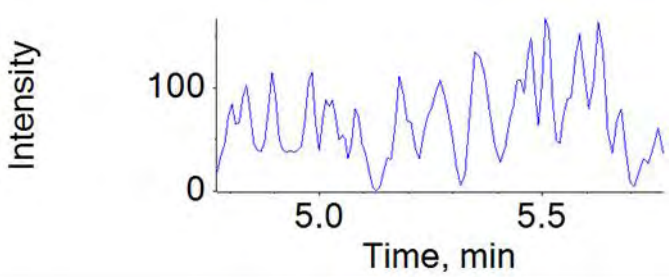


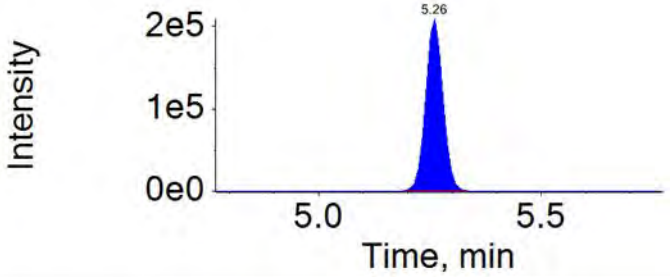
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

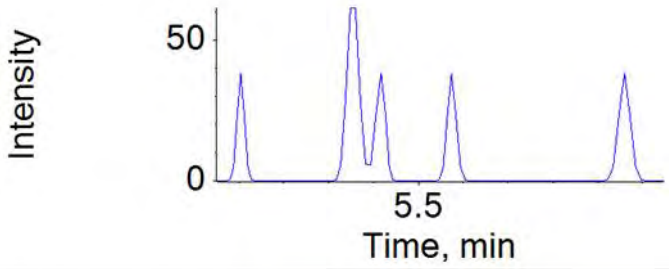
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

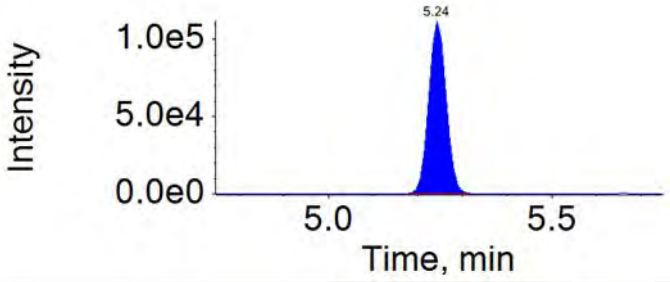
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



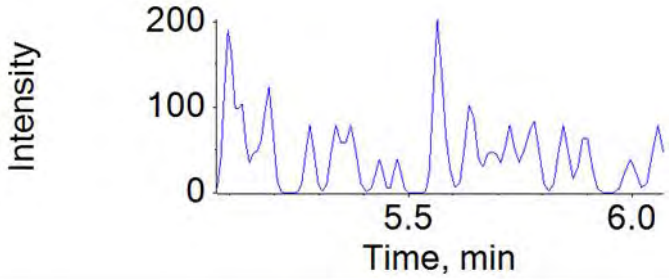


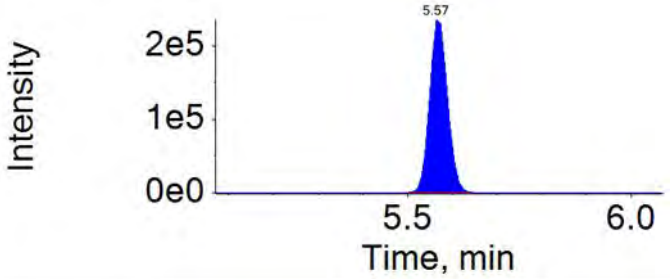
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



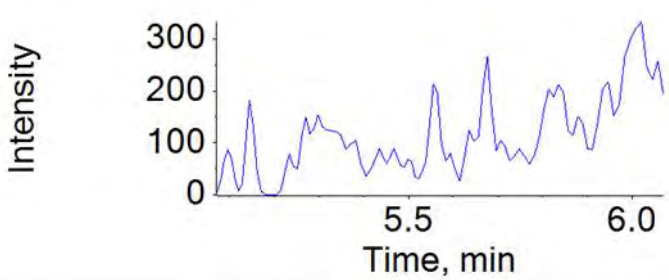


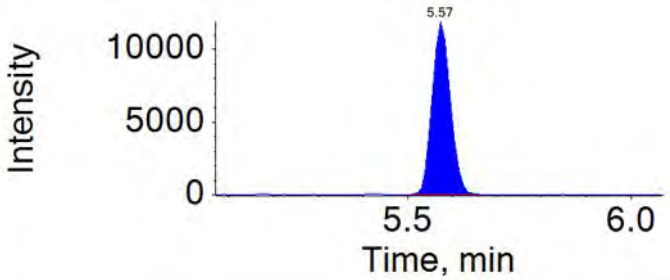
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



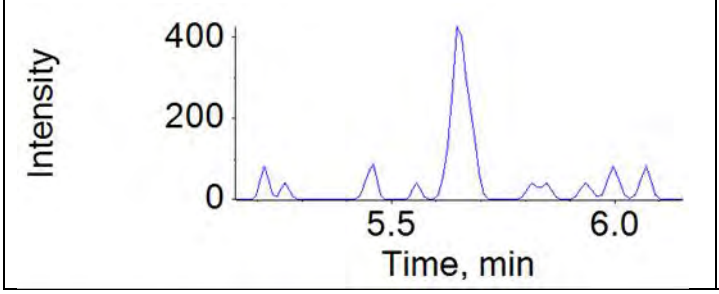


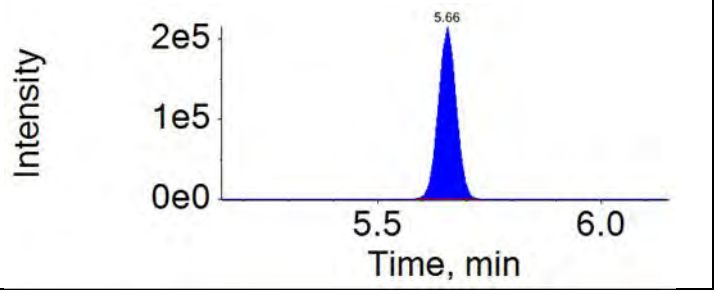
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

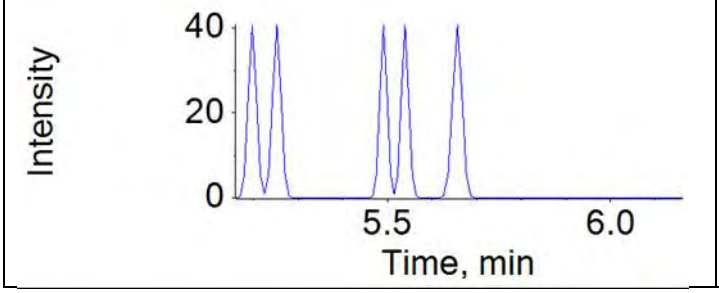
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

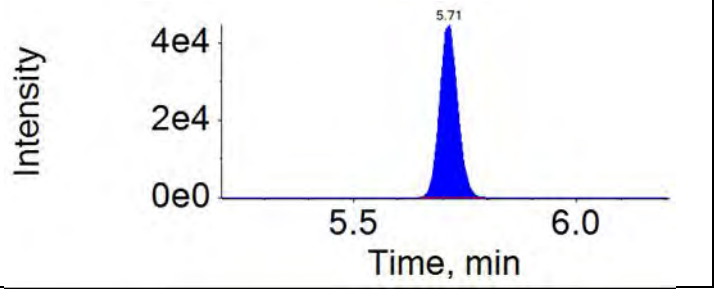
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



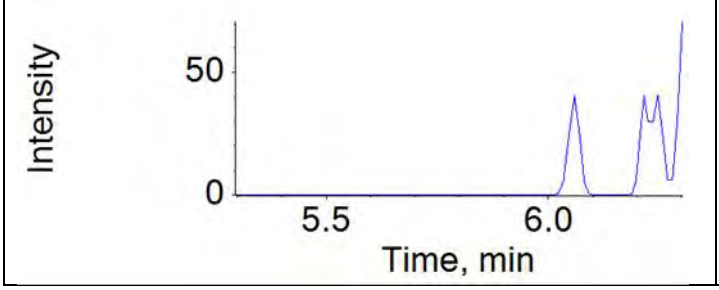


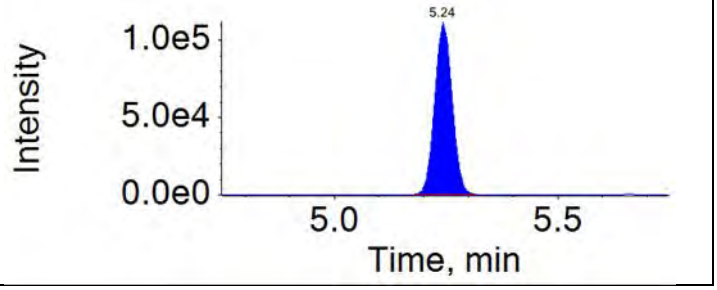
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



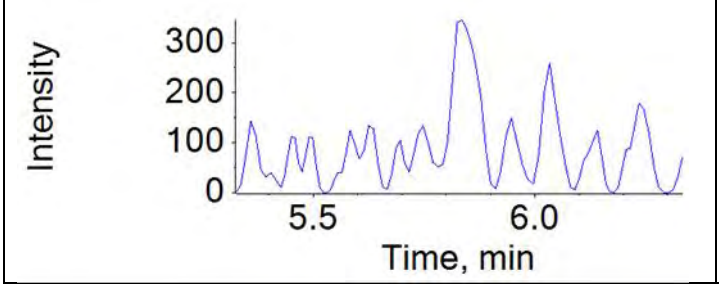


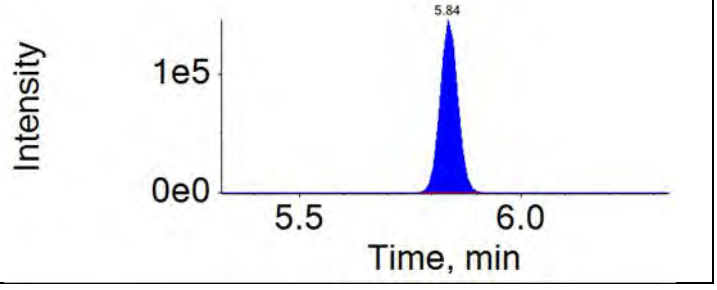
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



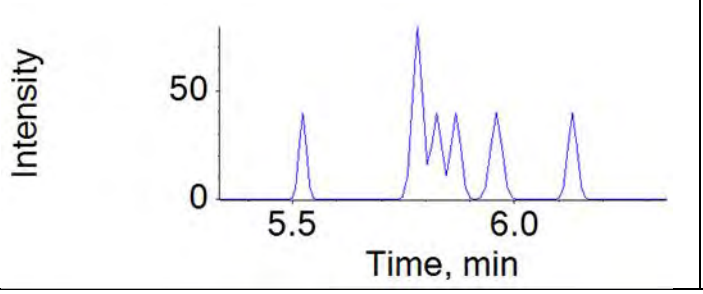


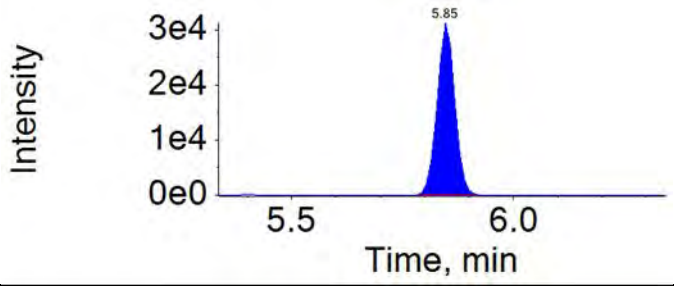
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

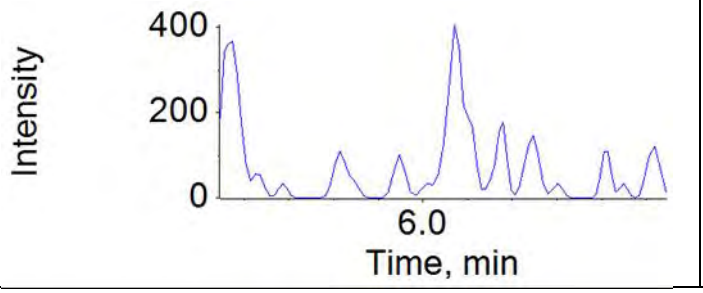
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

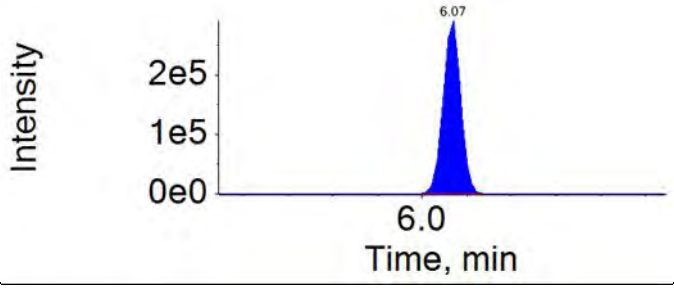
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



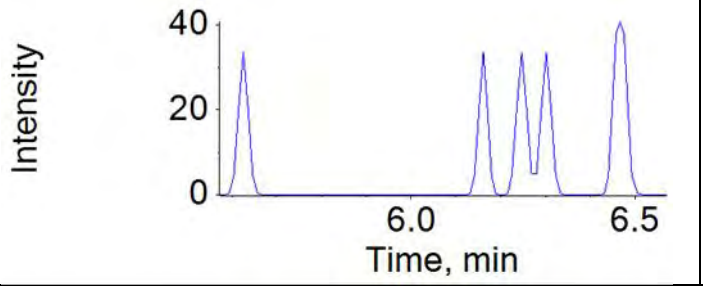


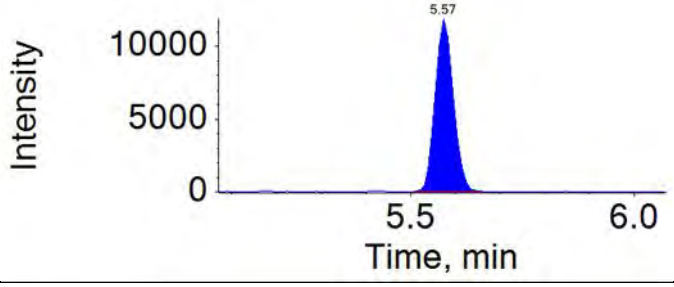
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



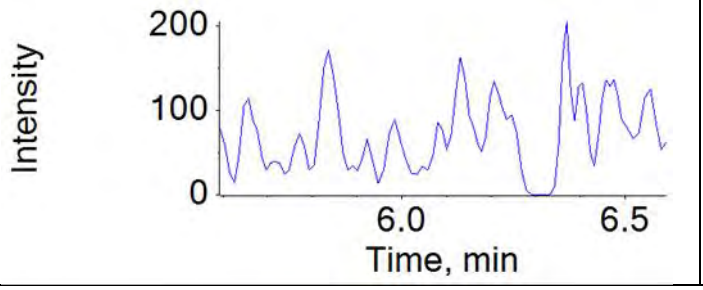


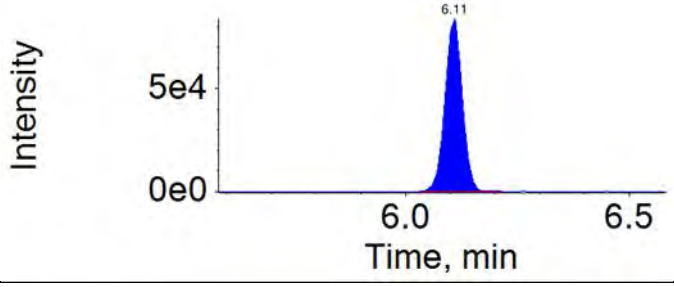
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



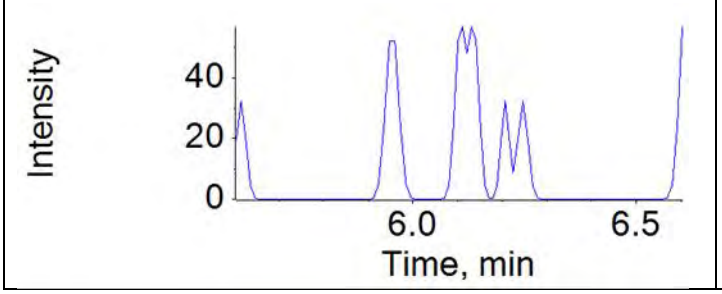


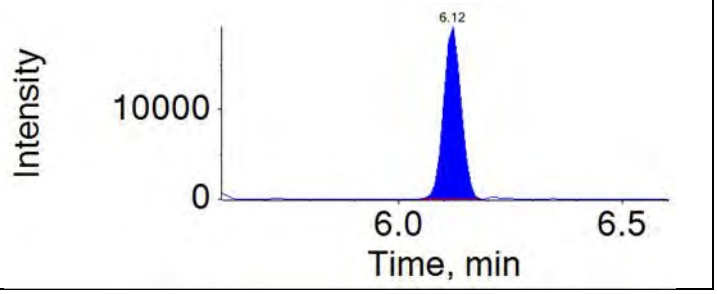
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

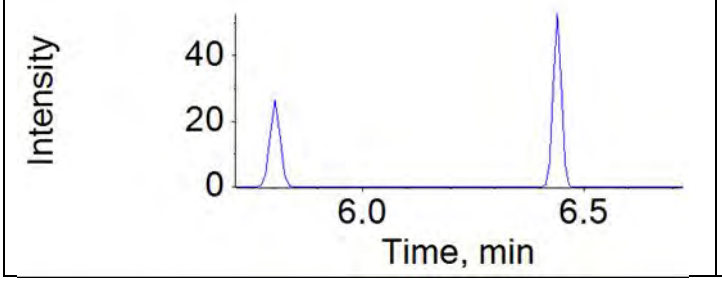
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

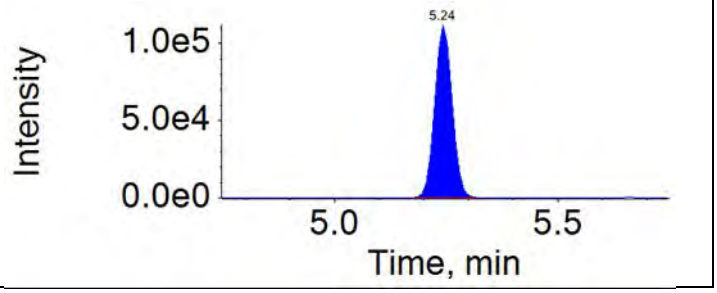
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



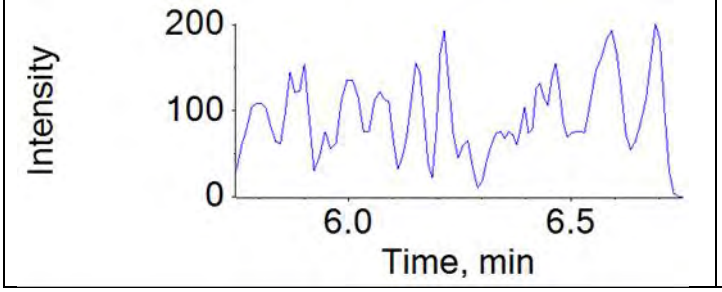


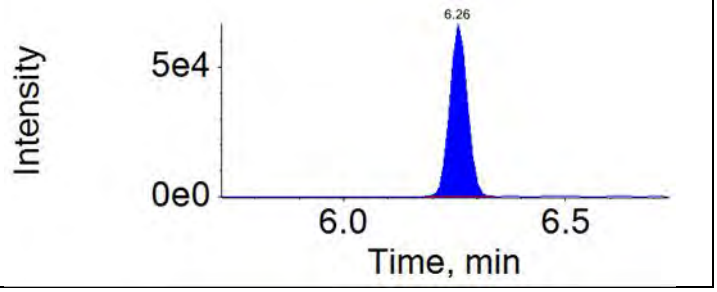
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



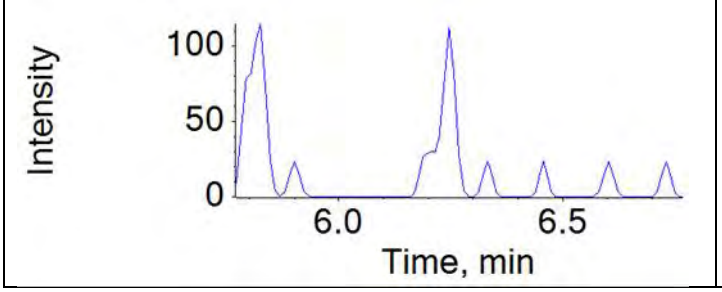


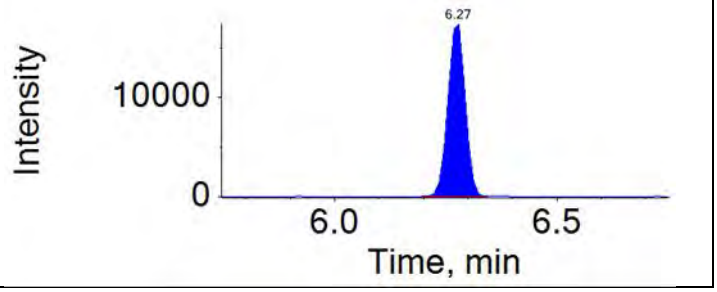
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

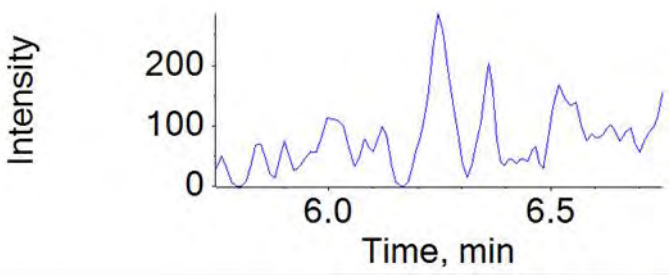
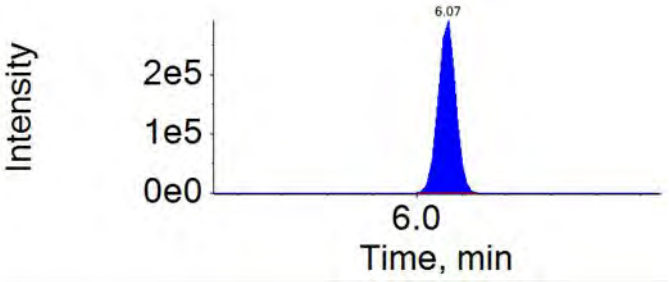


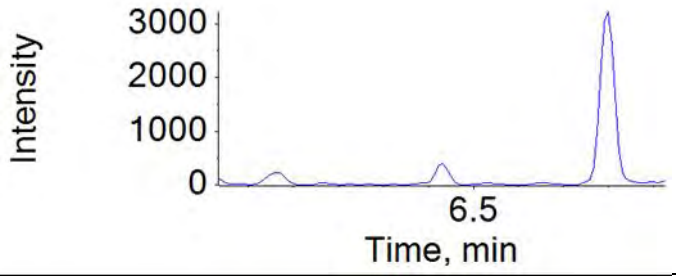
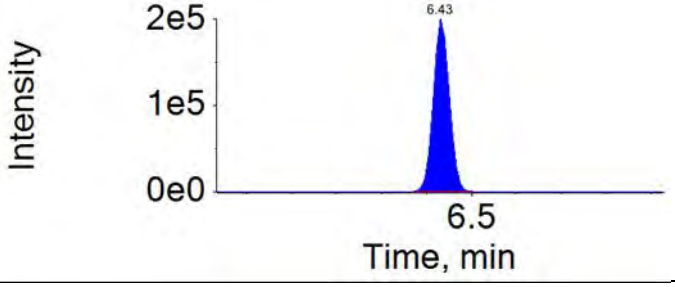


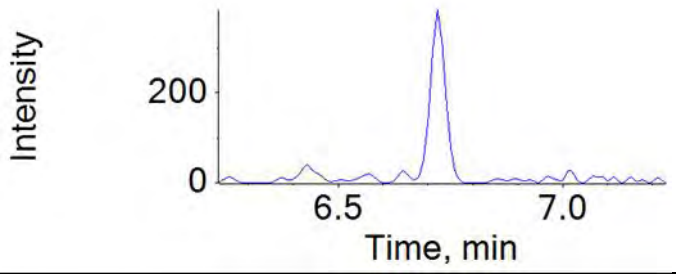
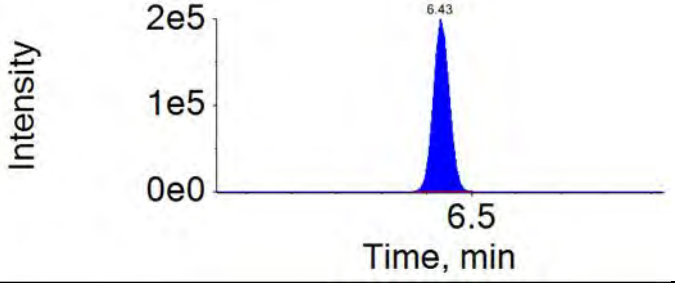
APPROVED
By MCD at 3:52 pm, 12/11/18

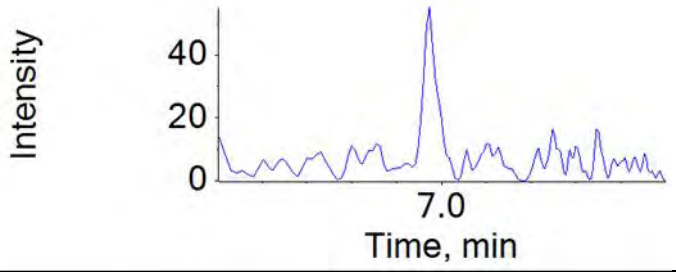
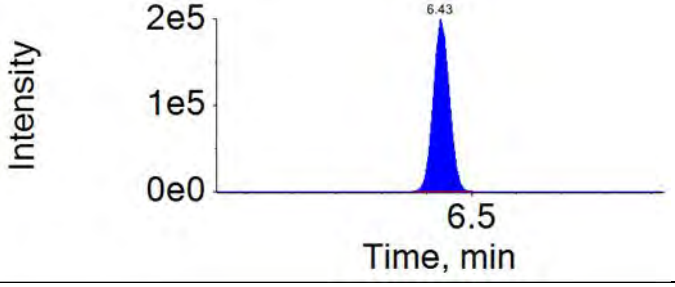
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Ion Ratio Report

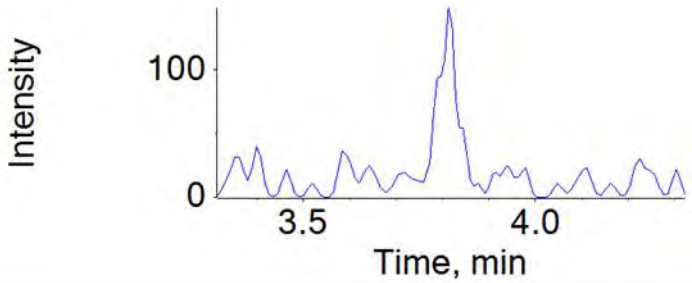
Sample Name: BLK340014 **Instrument Name:** LM27631 **File Name:** 18DEC10D-68.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

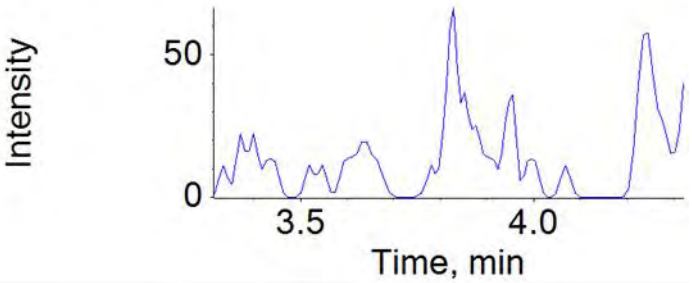
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

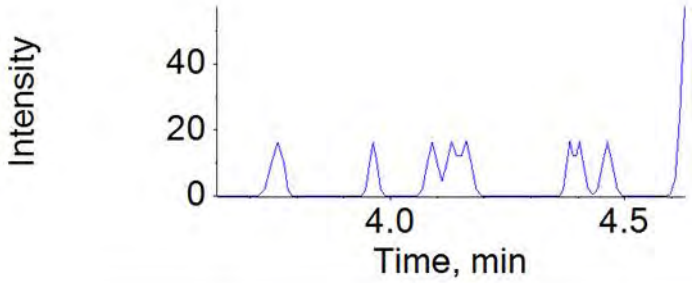
Component: PFBS
Primary Mass: 299.0 / 80.0



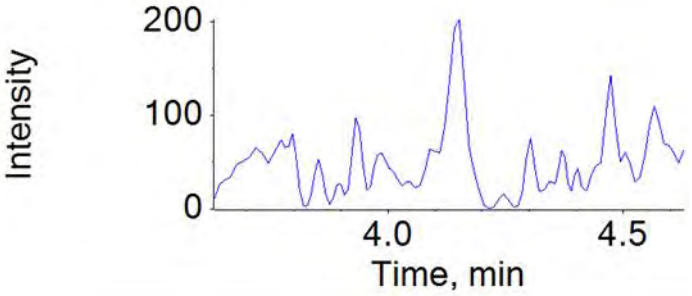
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



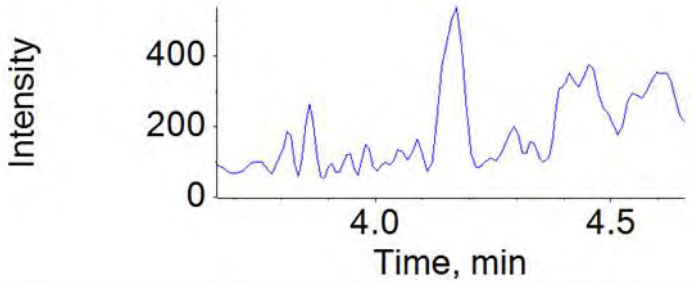
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



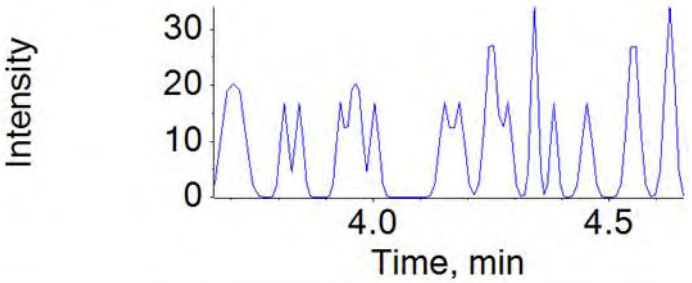
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



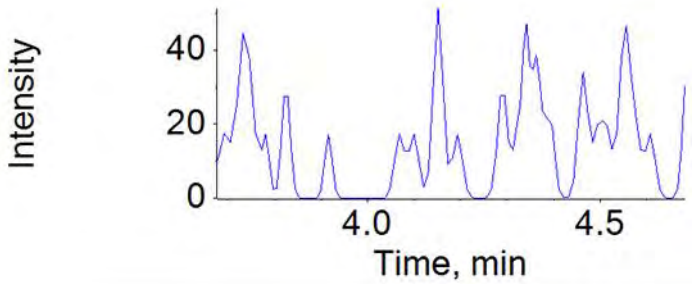
Component: PFHxA
Primary Mass: 313.0 / 269.0



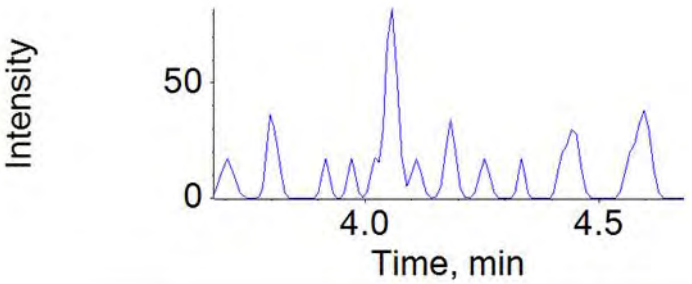
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



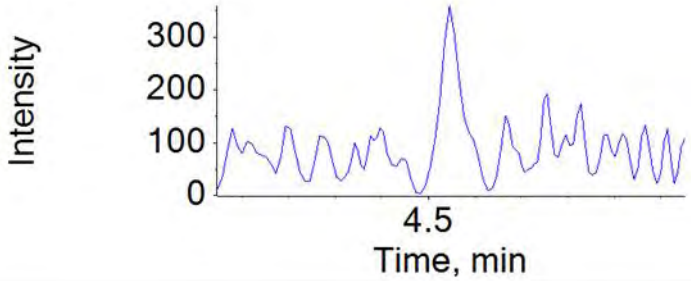
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



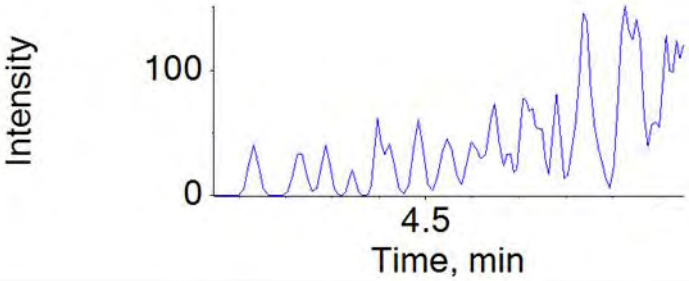
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

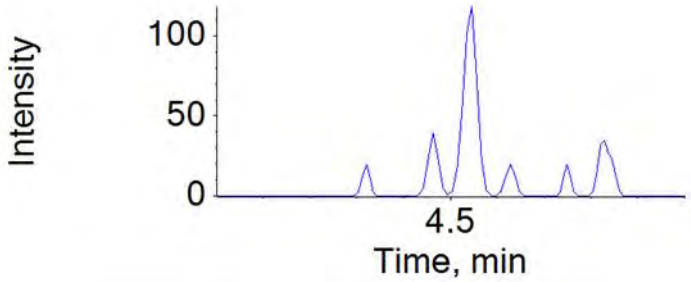
Component: PFHpA
Primary Mass: 363.0 / 319.0



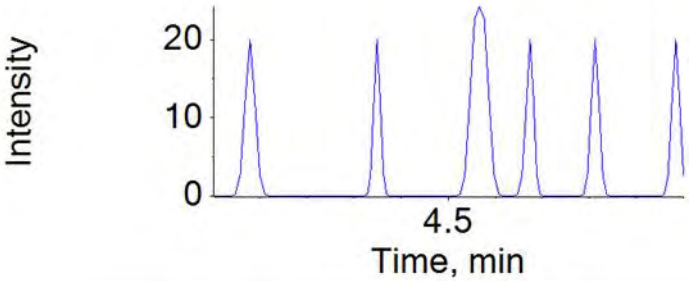
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



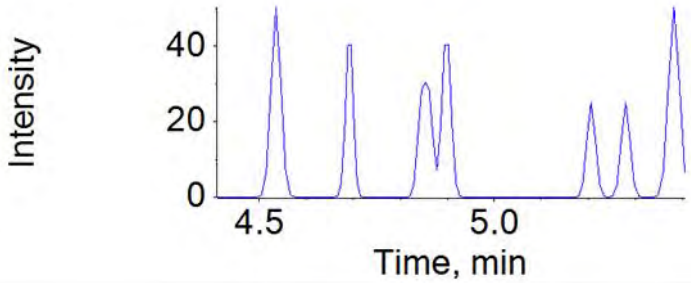
Component: PFHxS
Primary Mass: 399.0 / 80.0



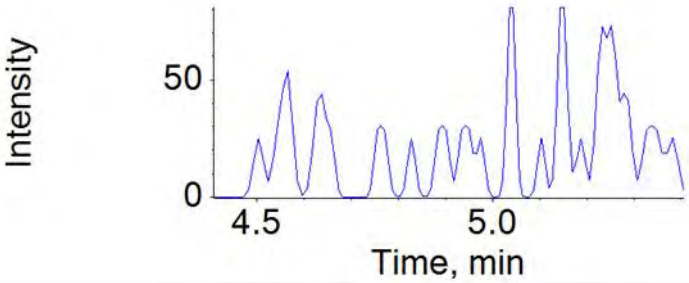
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



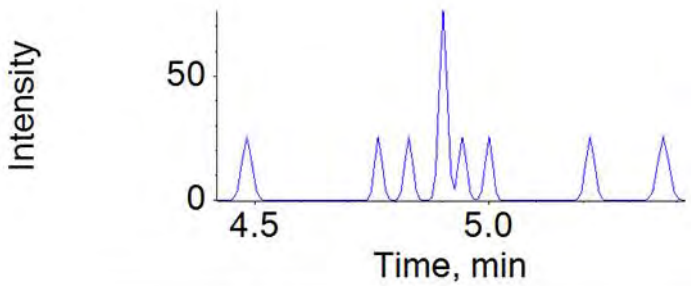
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



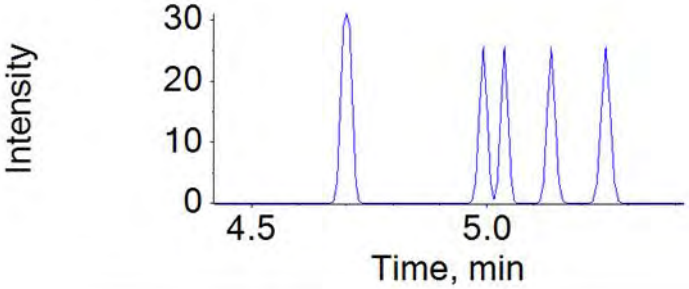
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



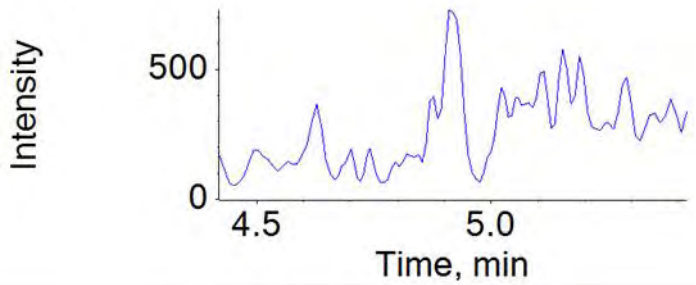
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



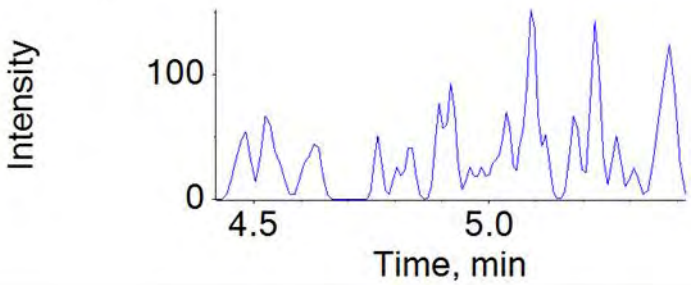
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

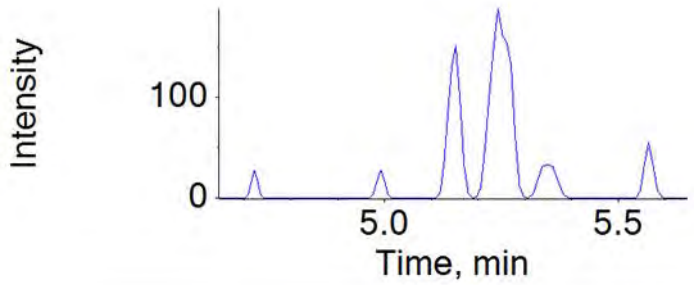
Component: PFOA
Primary Mass: 413.0 / 369.0



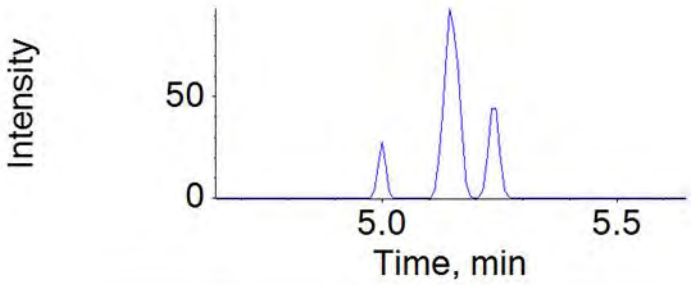
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



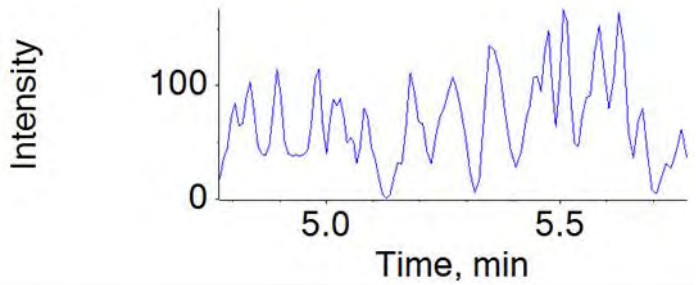
Component: PFOS
Primary Mass: 499.0 / 80.0



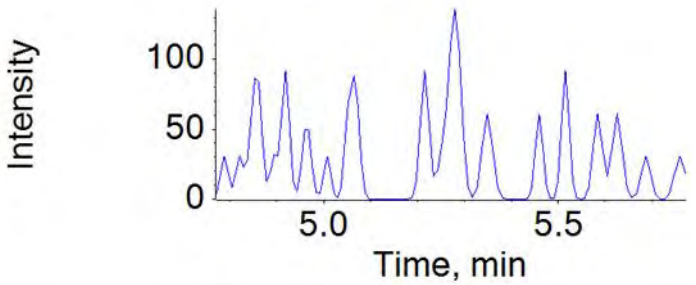
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



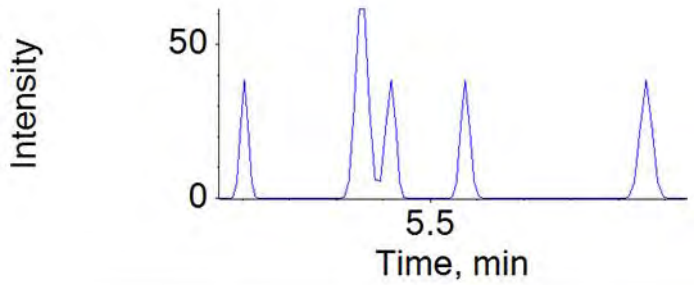
Component: PFNA
Primary Mass: 463.0 / 419.0



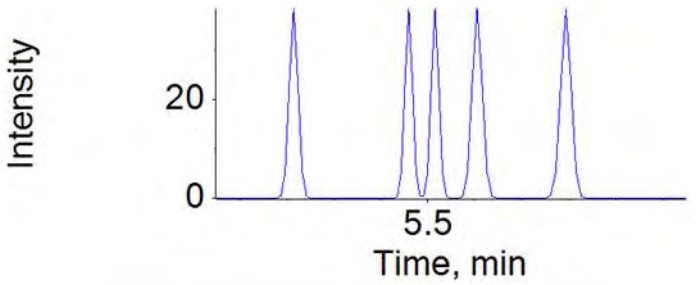
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



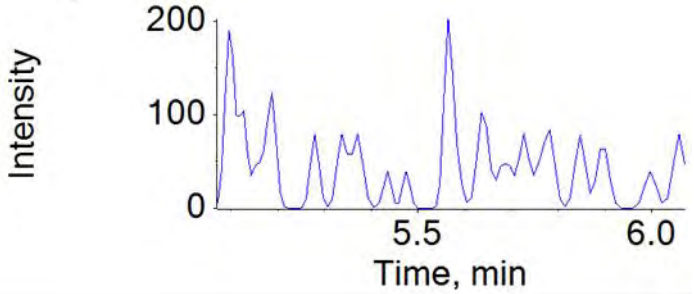
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



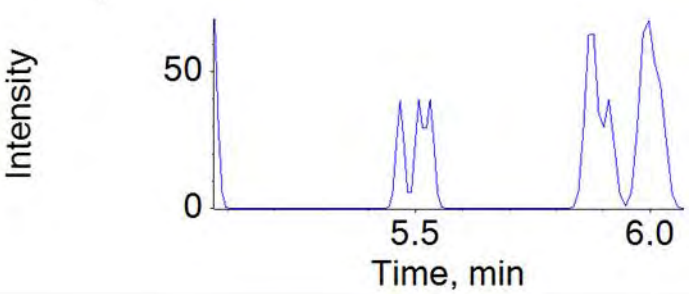
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

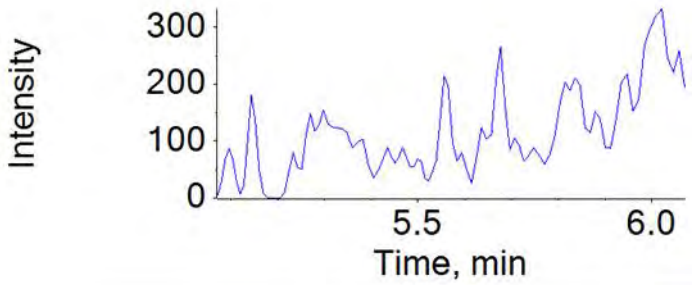
Component: PFDA
Primary Mass: 513.0 / 469.0



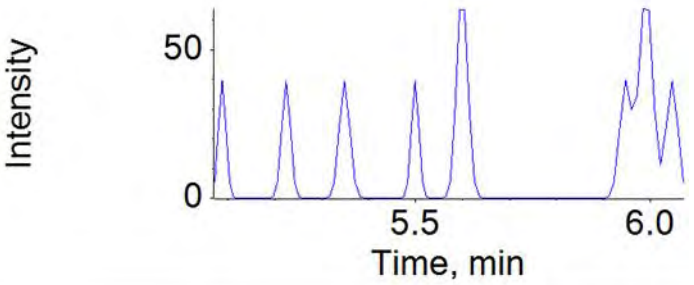
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



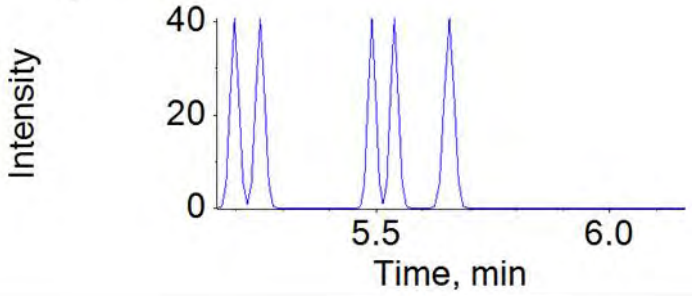
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



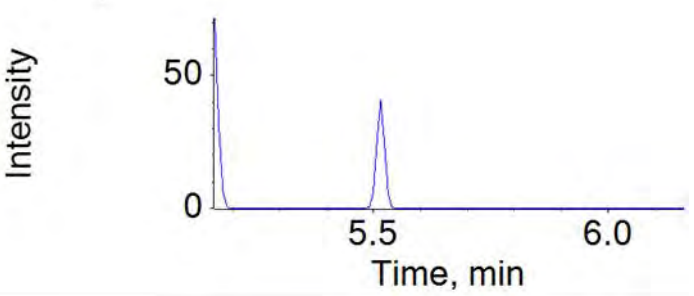
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



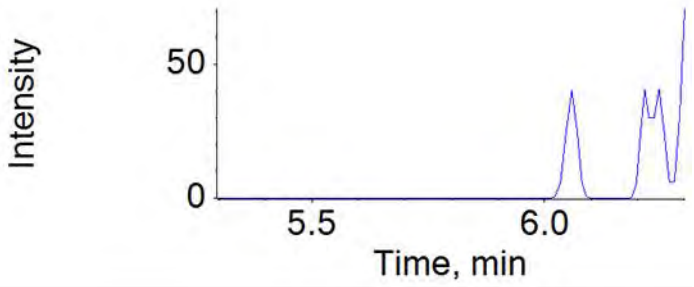
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



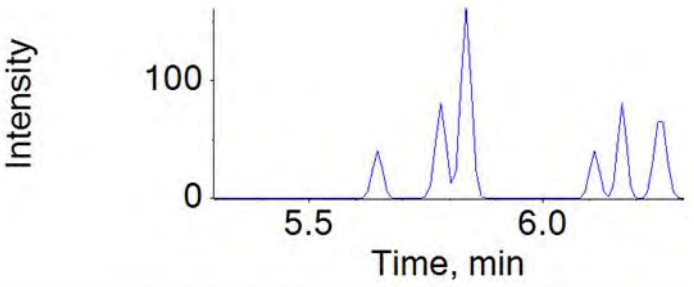
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



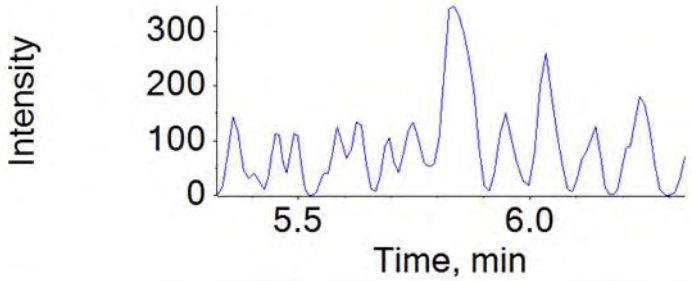
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



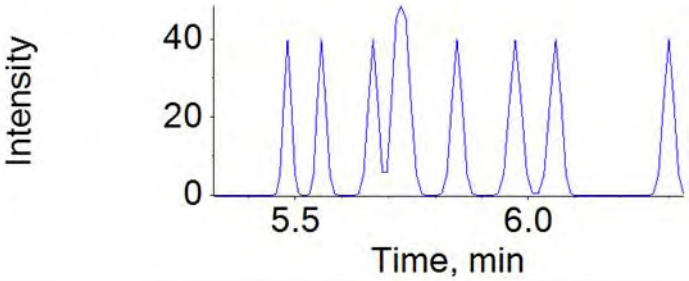
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

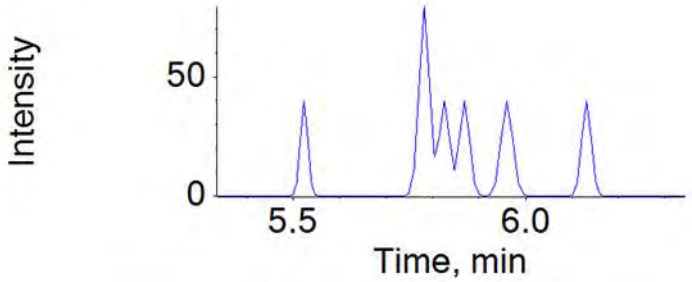
Component: PFUnDA
Primary Mass: 563.0 / 519.0



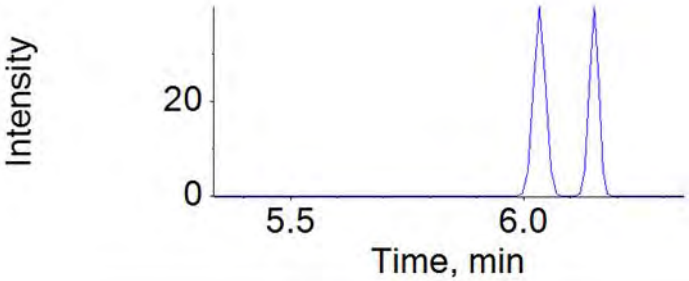
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



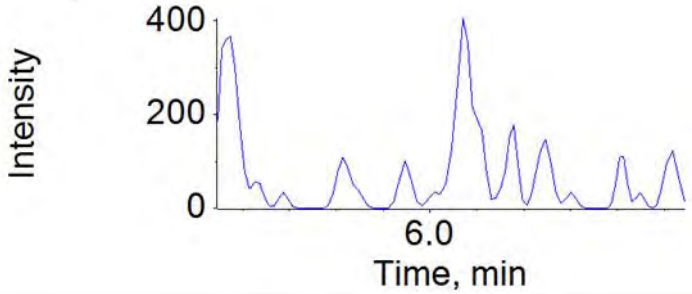
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



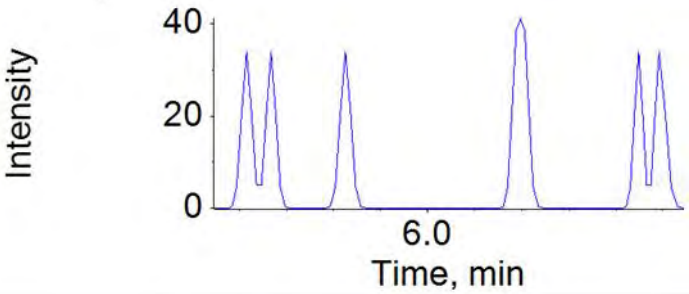
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



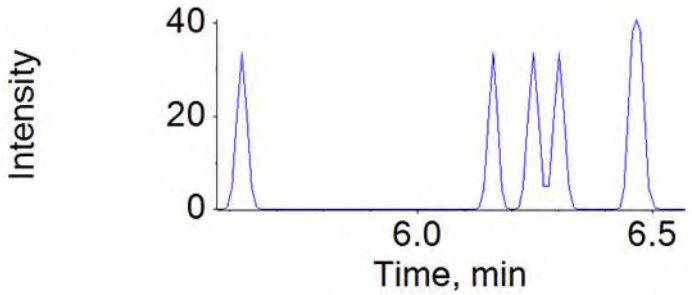
Component: PFDoDA
Primary Mass: 613.0 / 569.0



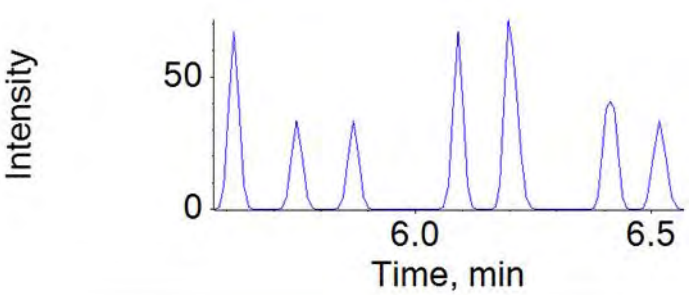
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



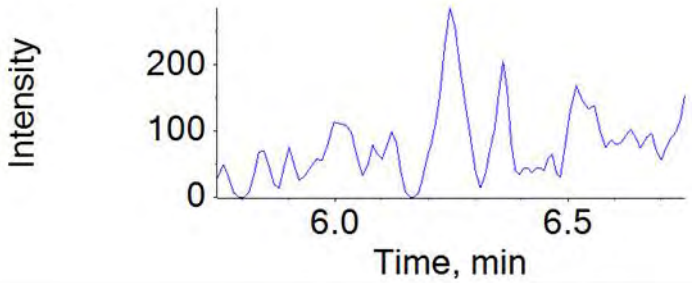
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



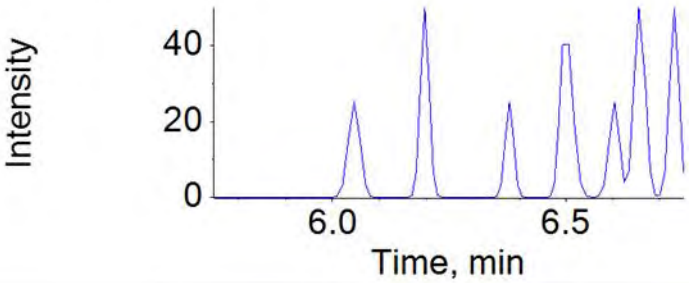
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

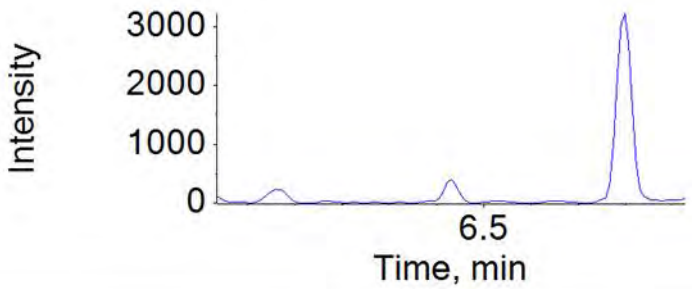
Component: PFTrDA
Primary Mass: 663.0 / 619.0



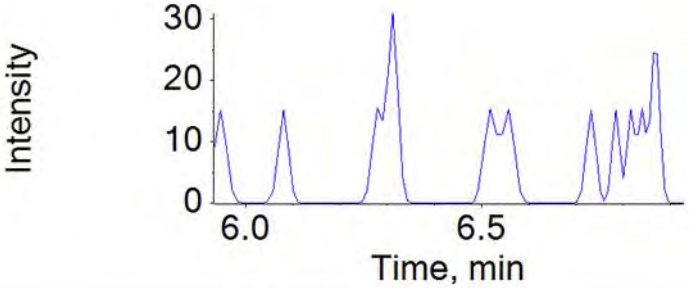
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



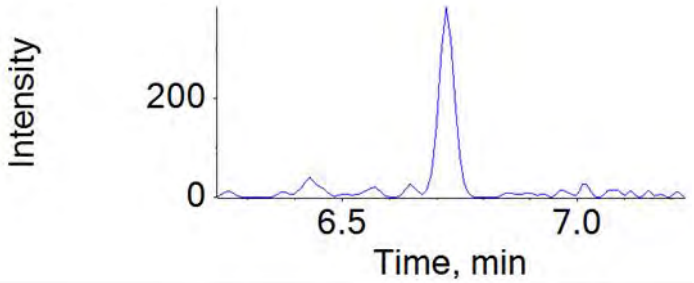
Component: PFTeDA
Primary Mass: 713.0 / 669.0



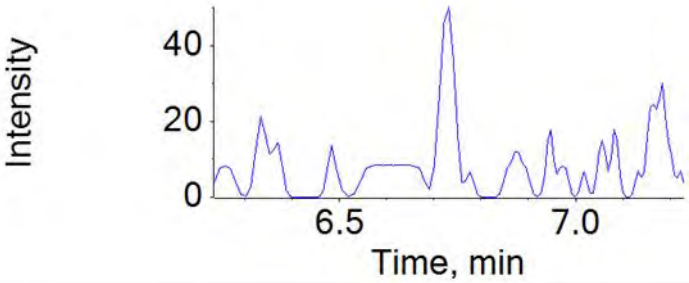
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



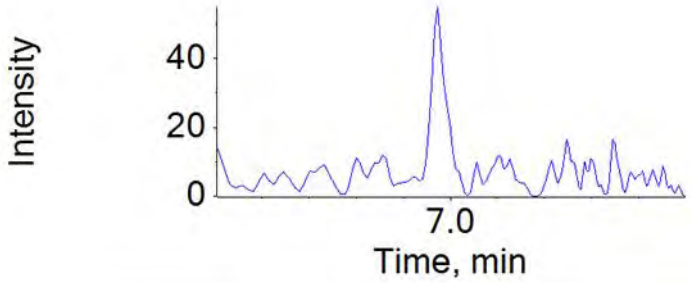
Component: PFHxDA
Primary Mass: 813.0 / 769.0



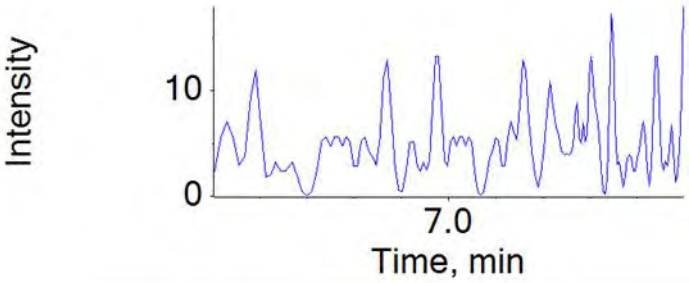
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



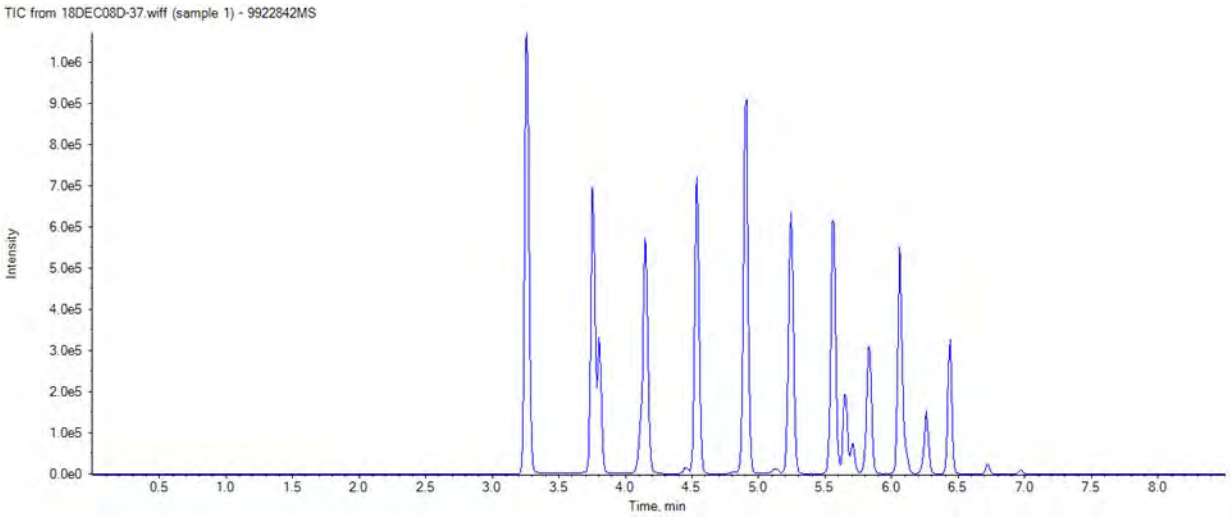
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:24:55 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922842MS	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 MS Grab Groundwater	18DEC08D-37.wiff	2018-12-08T13:32:06



Injection Standard Area Reference File**:** 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	964608.9	936973.7	3	50	
13C2-PFOA	5.00	533005.9	474841.3	12	50	
13C4-PFOS	4.78	316824.1	294668.0	8	50	
13C2-PFDA	5.00	403459.0	373990.9	8	50	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:24:55 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922842MS	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 MS Grab Groundwater	18DEC08D-37.wiff	2018-12-08T13:32:06

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBS	165245.5	457727.5	0.361	4.271	6.353	149	72-127	OOS
PFHxA	461678.8	764090.1	0.604	4.828	9.347	194	77-132	OOS
PFHpA	337911.3	629683.6	0.537	4.828	6.273	130	75-139	
PFHxS	261232.2	365664.0	0.714	4.566	12.017	263	71-130	OOS
PFOA	324116.1	948445.2	0.342	4.828	6.630	137	76-136	OOS
PFOS	151620.7	338332.7	0.448	4.615	6.599	143	67-134	OOS
PFNA	237483.3	611917.1	0.388	4.828	5.078	105	73-144	
PFDA	198283.4	710844.2	0.279	4.828	5.574	115	67-141	
NMeFOSAA	22645.1	137511.6	0.165	4.828	3.867	80	67-124	
PFUnDA	189860.9	432377.2	0.439	4.828	4.773	99	83-132	
NEtFOSAA	26063.3	85184.8	0.306	4.828	5.490	114	60-131	
PFDoDA	242735.7	861650.2	0.282	4.828	5.265	109	72-137	
PFTrDA	219231.1	861650.2	0.254	4.828	5.916	123	57-137	
PFTeDA	146013.0	546327.9	0.267	4.828	5.426	112	70-142	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:24:55 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922842MS			**Data File:**		18DEC08D-37.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 MS Grab Groundwater			**Acquis Date:**		2018-12-08T13:32:06
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	59			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.28167			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	964608.9	936973.7	3	50	
13C2-PFOA	5.0	533005.9	474841.3	12	50	
13C4-PFOS	4.8	316824.1	294668.0	8	50	
13C2-PFDA	5.0	403459.0	373990.9	8	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	457727.5	13C3-PFBA	964608.9	0.475	16.509	14.280	87	50-150	
E13C5-PFHxA	764090.1	13C2-PFOA	533005.9	1.434	17.751	17.088	96	50-150	
E13C3-PFHxS	365664.0	13C2-PFOA	533005.9	0.686	16.793	15.622	93	50-150	
E13C4-PFHpA	629683.6	13C2-PFOA	533005.9	1.181	17.751	17.831	100	50-150	
E13C8-PFOA	948445.2	13C2-PFOA	533005.9	1.779	17.751	17.858	101	50-150	
E13C8-PFOS	338332.7	13C4-PFOS	316824.1	1.068	16.970	17.014	100	50-150	
E13C9-PFNA	611917.1	13C4-PFOS	316824.1	1.931	17.751	19.377	109	50-150	
E13C6-PFDA	710844.2	13C2-PFDA	403459.0	1.762	17.751	16.576	93	50-150	
Ed3-NMeFOSAA	137511.6	13C2-PFDA	403459.0	0.341	17.751	21.444	121	50-150	
E13C7-PFUnDA	432377.2	13C2-PFDA	403459.0	1.072	17.751	18.664	105	50-150	
Ed5-NEtFOSAA	85184.8	13C2-PFDA	403459.0	0.211	17.751	16.547	93	50-150	
E13C2-PFDoDA	861650.2	13C2-PFDA	403459.0	2.136	17.751	15.911	90	50-150	
E13C2-PFTeDA	546327.9	13C2-PFDA	403459.0	1.354	17.751	14.269	80	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

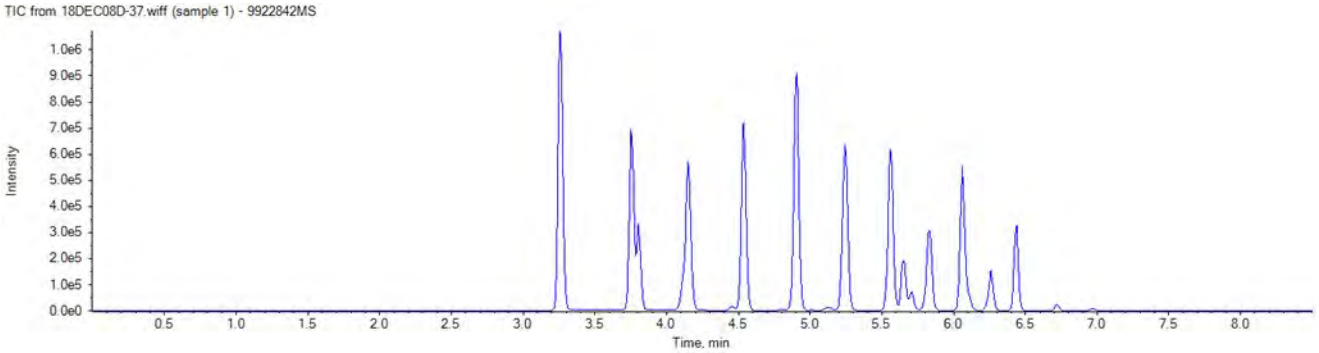
Analyte Quantitation Peak Table

Sample Name: 9922842MS **Instrument Name:** LM27631 **File Name:** 18DEC08D-37.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28167	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.80	1.000	165245.5		A	13C3-PFBS	3.81	457727.5	0.361	6.353
PFHxA	4.15	1.000	461678.8		A	13C5-PFHxA	4.15	764090.1	0.604	9.347
PFHpA	4.54	1.000	337911.3		A	13C4-PFHpA	4.54	629683.6	0.537	6.273
PFHxS	4.54	1.000	261232.2		M	13C3-PFHxS	4.54	365664.0	0.714	12.017
PFOA	4.90	1.000	324116.1		M	13C8-PFOA	4.90	948445.2	0.342	6.630
PFOS	5.23	1.000	151620.7		M	13C8-PFOS	5.24	338332.7	0.448	6.599
PFNA	5.25	1.000	237483.3		A	13C9-PFNA	5.25	611917.1	0.388	5.078
PFDA	5.56	1.000	198283.4		A	13C6-PFDA	5.56	710844.2	0.279	5.574
NMeFOSAA	5.71	1.000	22645.1		A	d3-NMeFOSAA	5.71	137511.6	0.165	3.867
PFUnDA	5.83	1.000	189860.9		A	13C7-PFUnDA	5.83	432377.2	0.439	4.773
NEtFOSAA	5.85	1.000	26063.3		A	d5-NEtFOSAA	5.84	85184.8	0.306	5.490
PFDoDA	6.06	1.000	242735.7		A	13C2-PFDoDA	6.06	861650.2	0.282	5.265
PFTrDA	6.26	1.030	219231.1		A	13C2-PFDoDA	6.06	861650.2	0.254	5.916
PFTeDA	6.44	1.000	146013.0		A	13C2-PFTeDA	6.44	546327.9	0.267	5.426

Total Ion Chromatogram

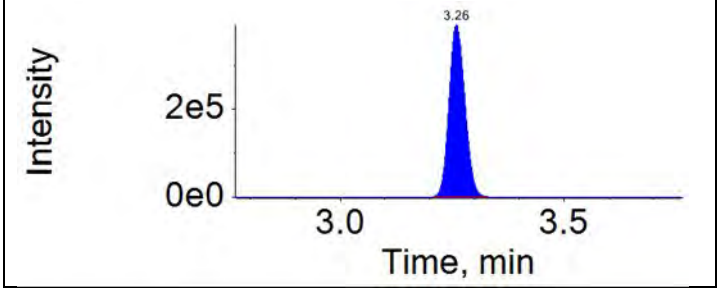


APPROVED
By MCD at 7:42 pm, 12/10/18

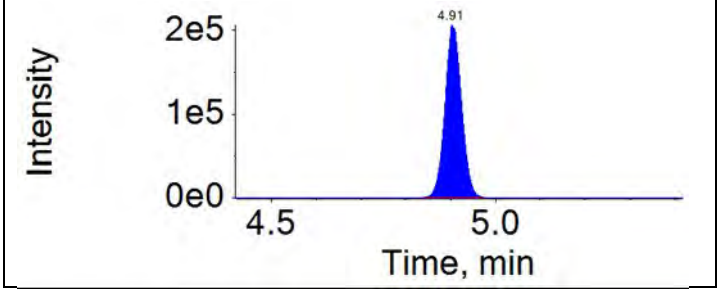
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

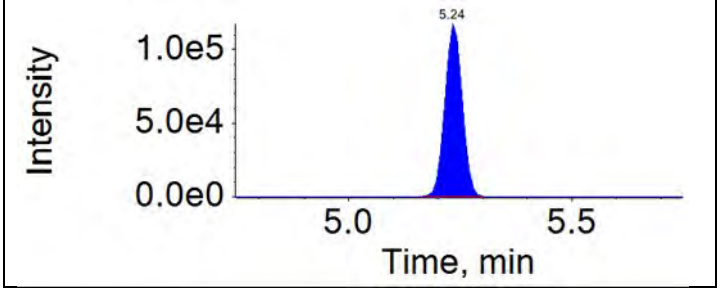
Injection Standard: 13C3-PFBA
216.0 / 172.0



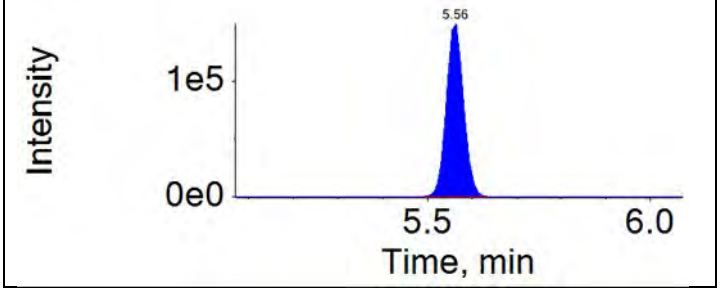
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

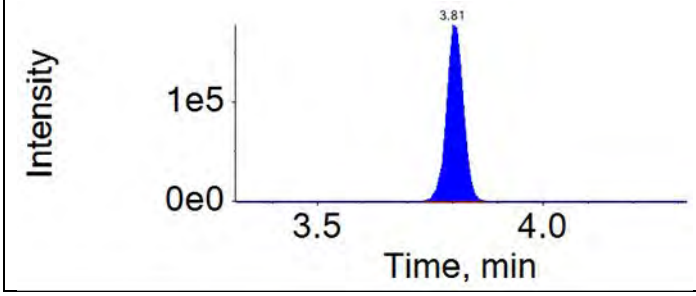


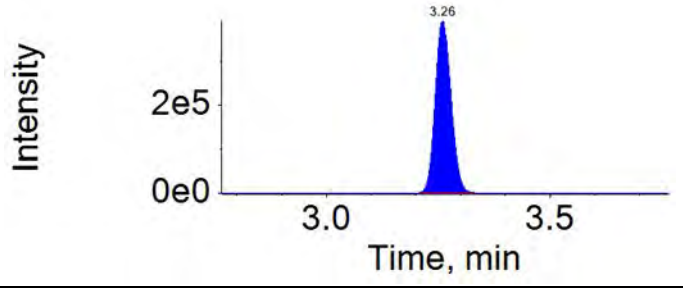
Injection Standard: 13C2-PFDA
515.0 / 470.0



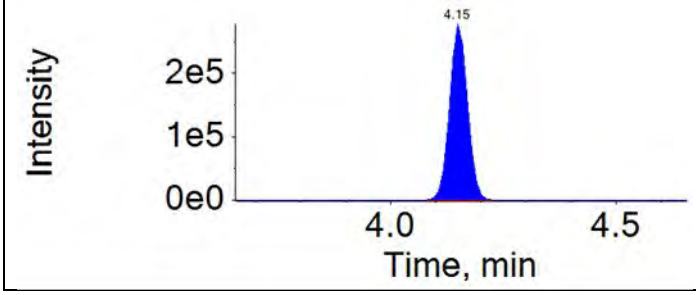
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

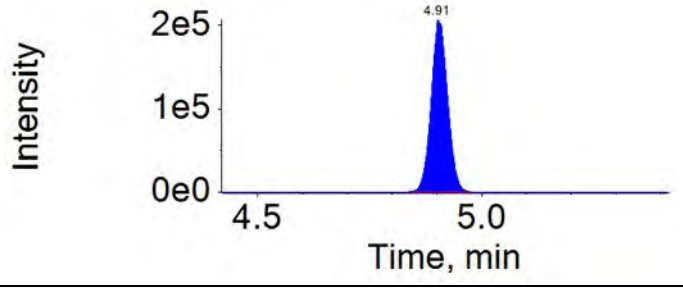
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



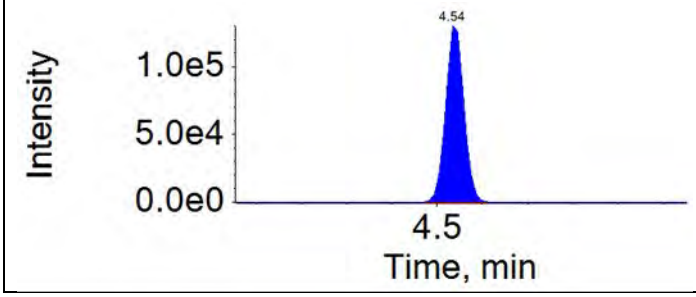


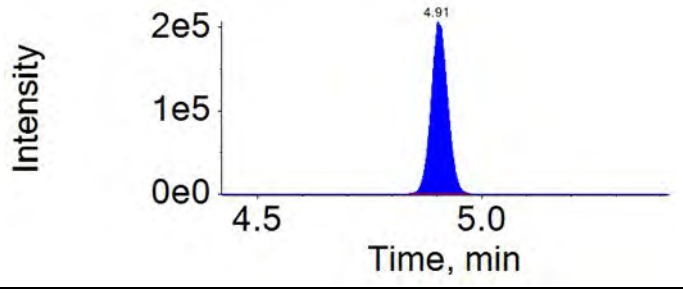
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



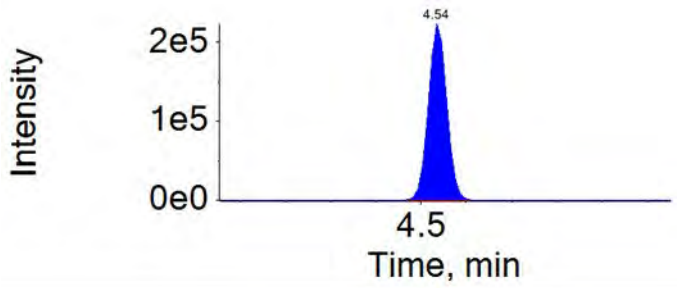


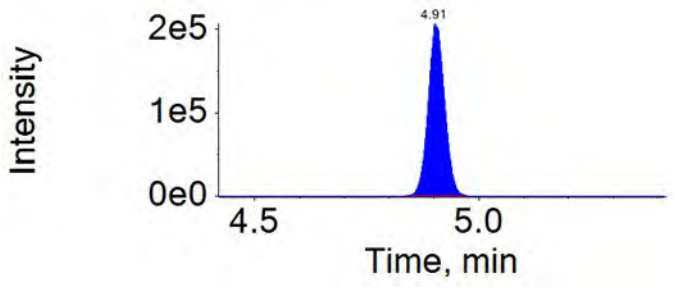
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

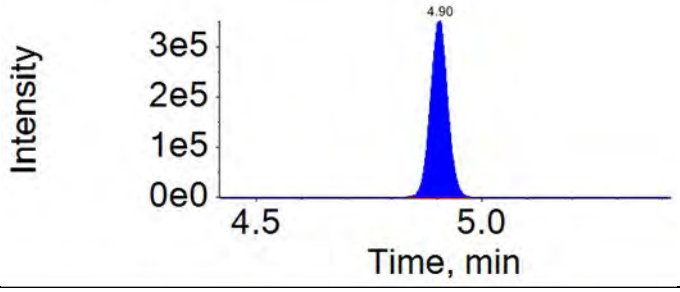
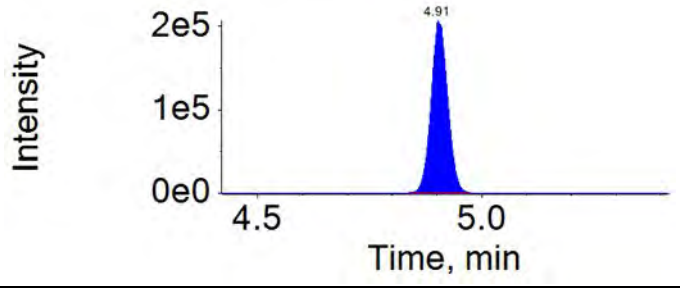


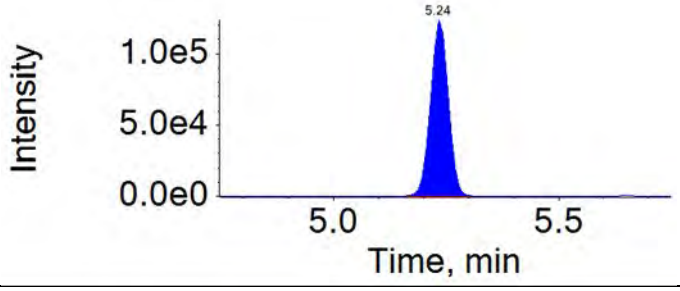
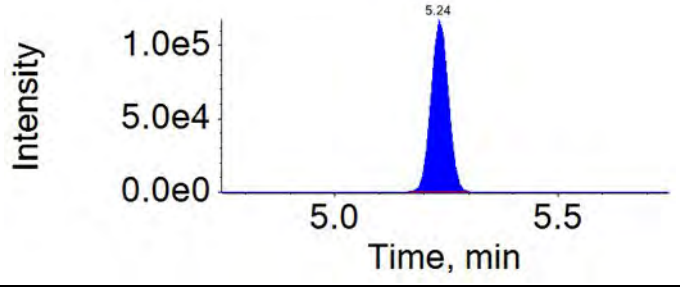


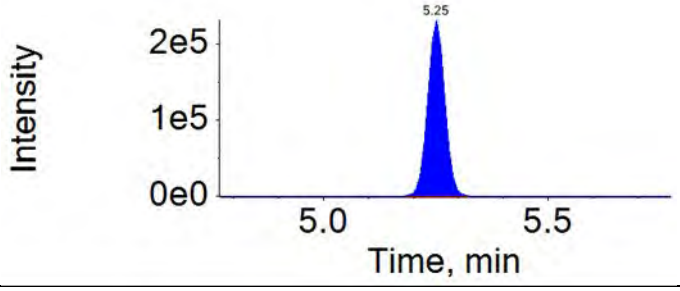
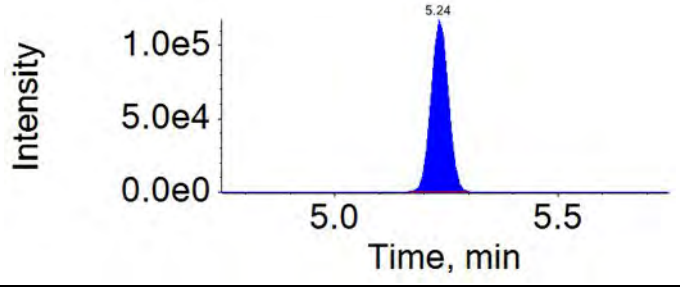
APPROVED
By MCD at 7:42 pm, 12/10/18

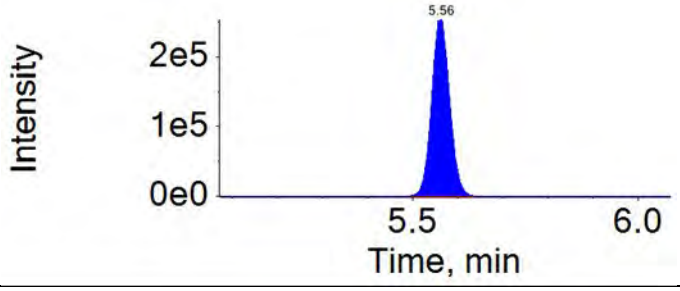
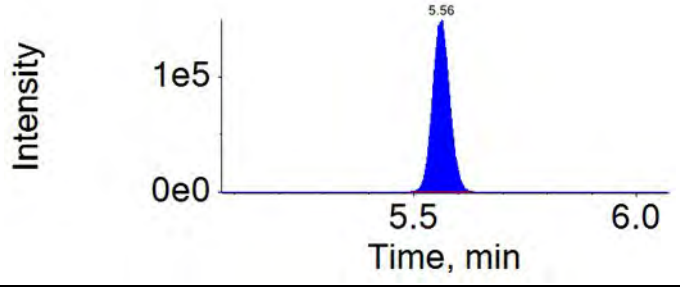
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

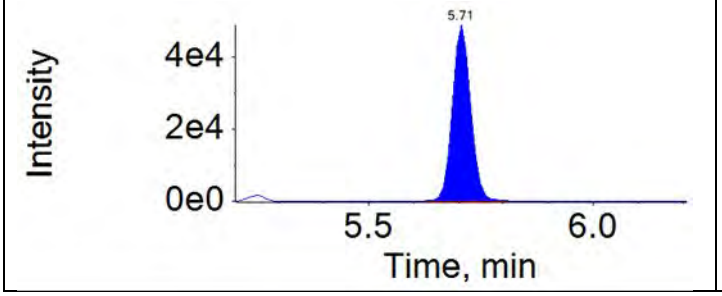
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

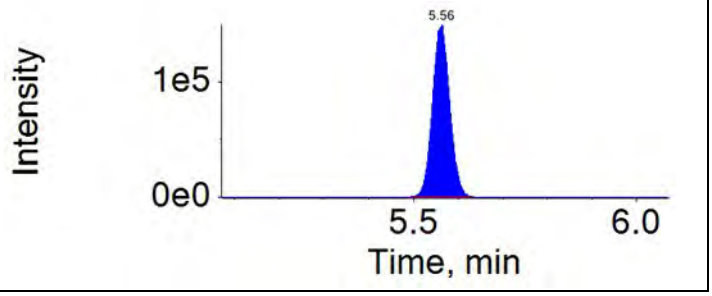
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

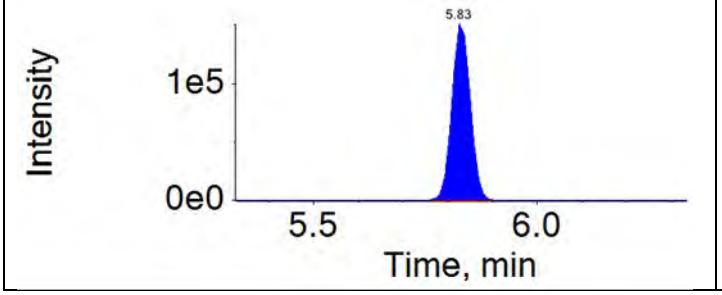
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

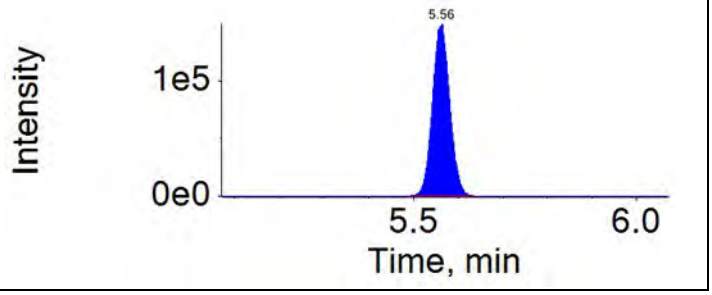
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



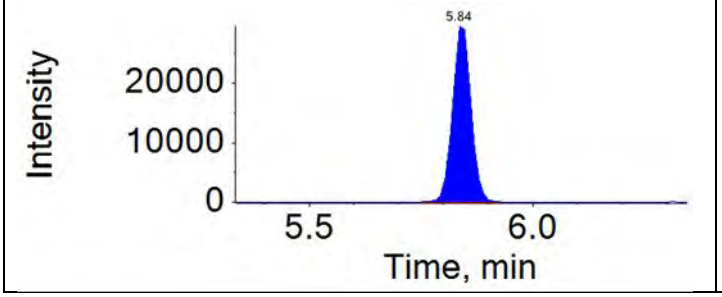


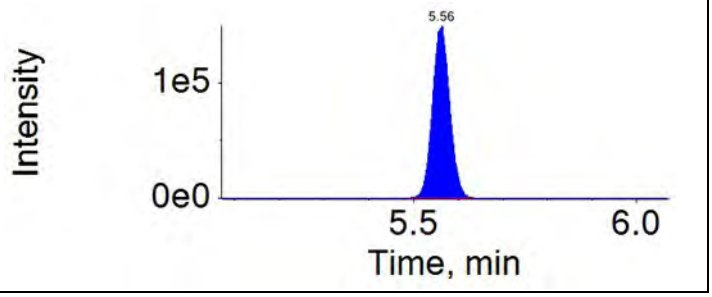
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



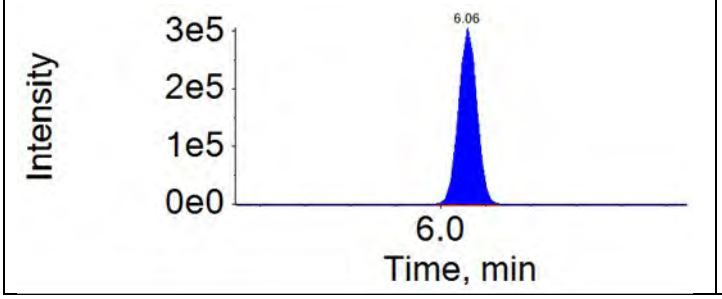


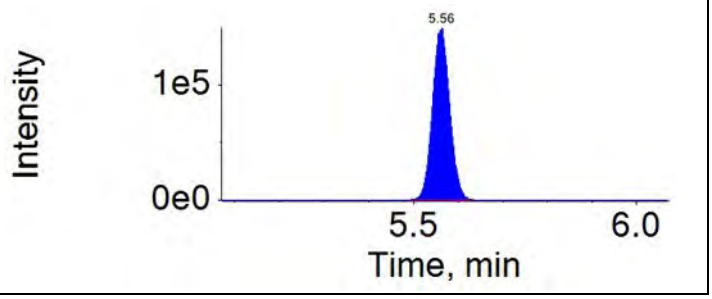
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

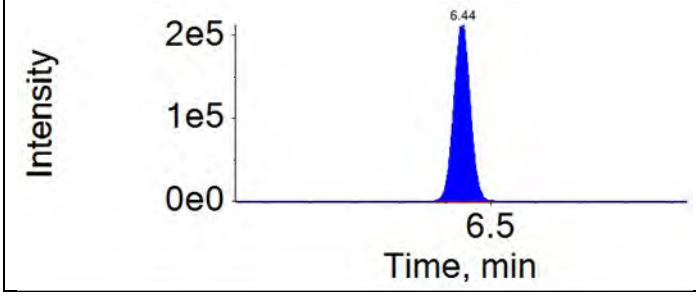
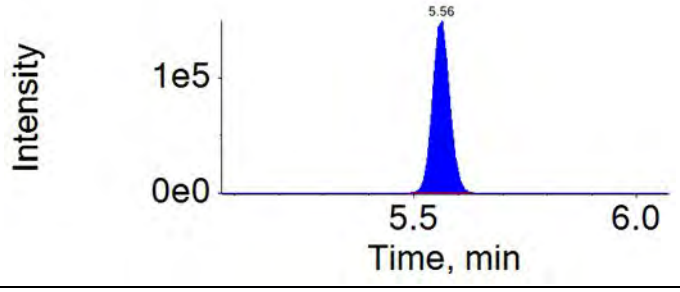




APPROVED
By MCD at 7:42 pm, 12/10/18

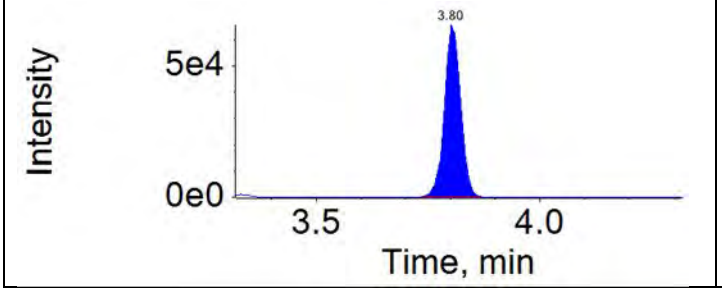
REVIEWED
By HMK at 12:27 pm, 12/13/18

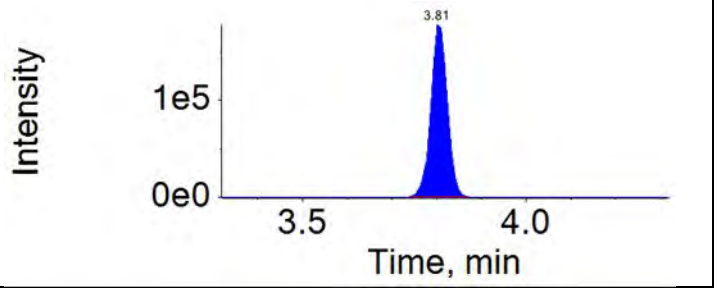
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

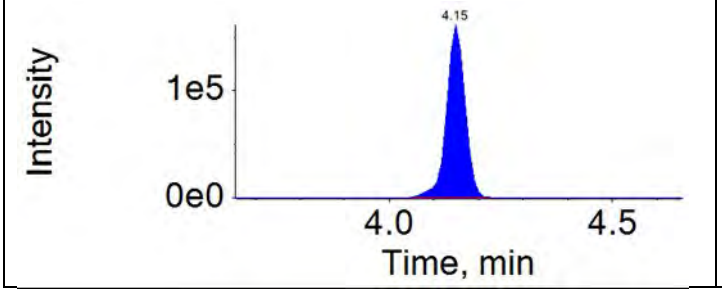
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

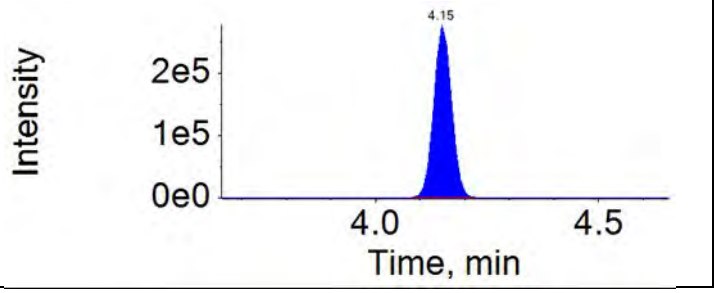
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



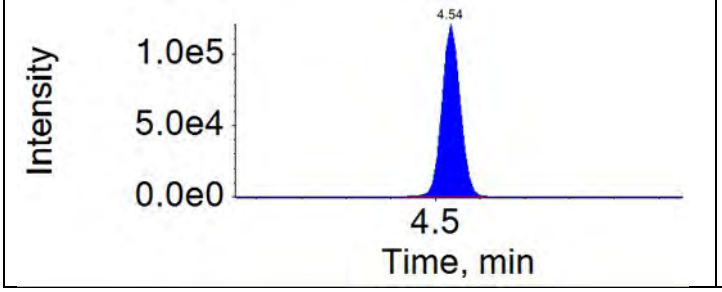


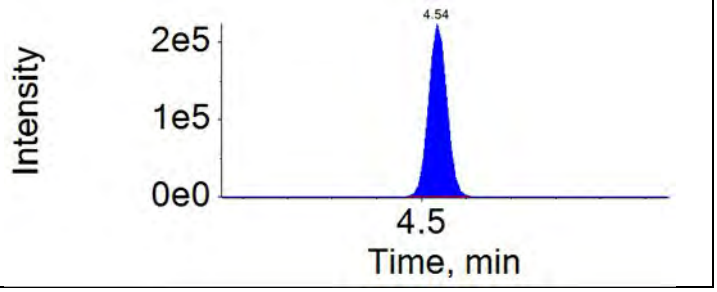
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



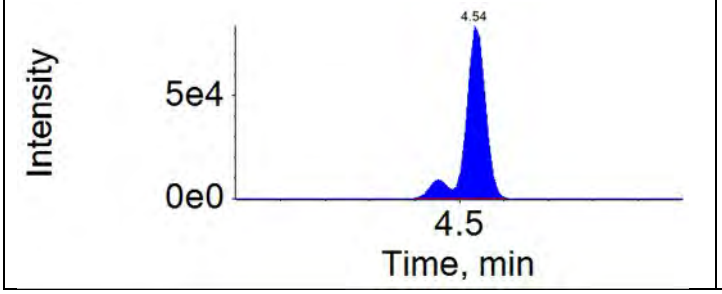


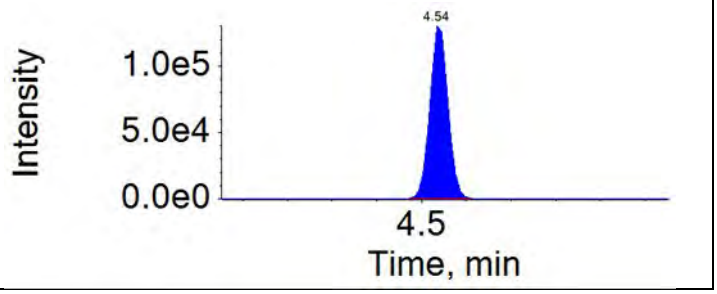
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

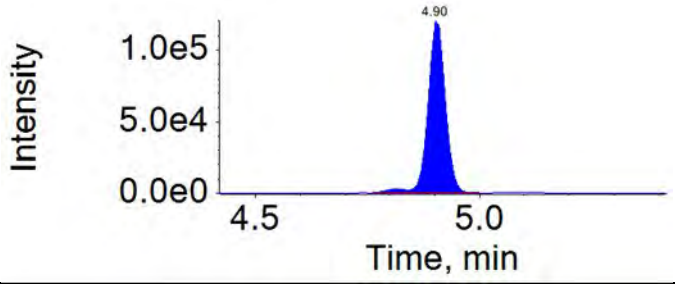
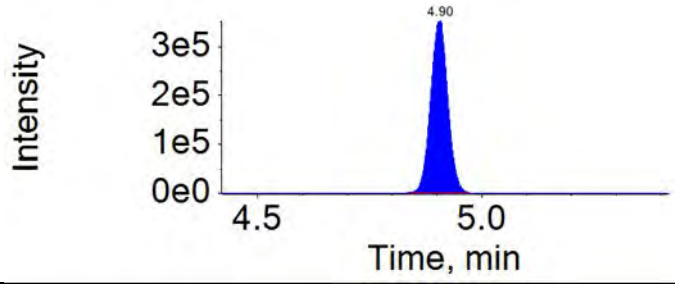


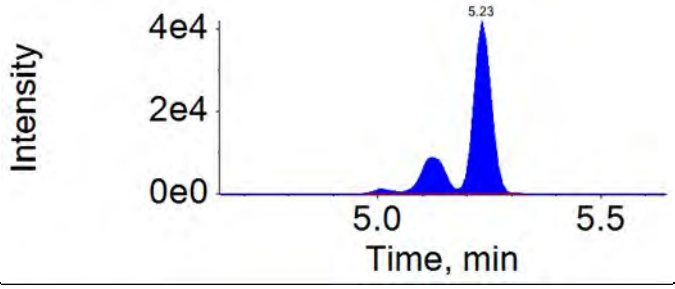
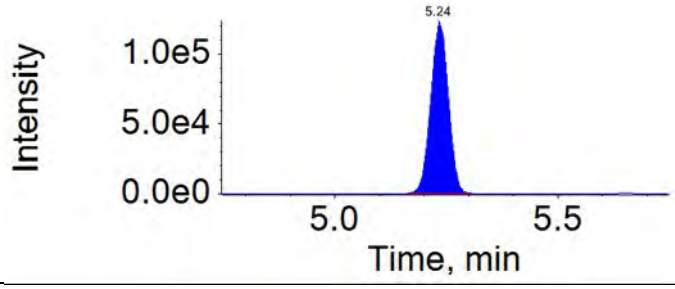


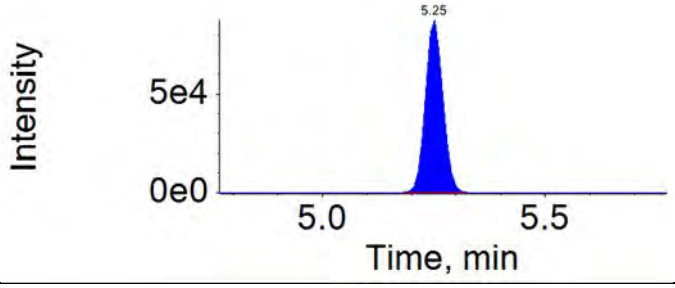
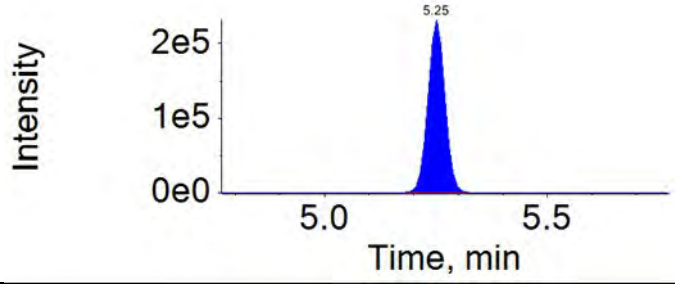
APPROVED
By MCD at 7:42 pm, 12/10/18

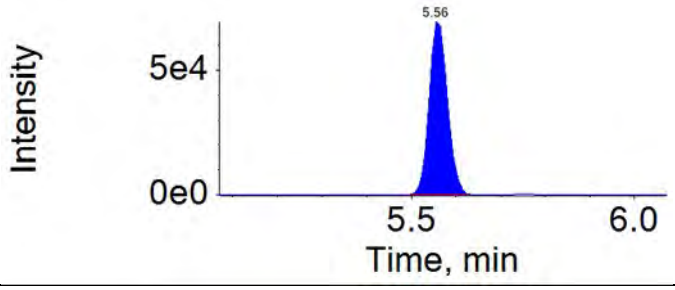
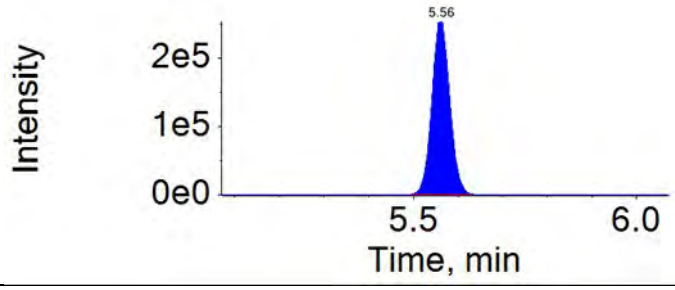
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

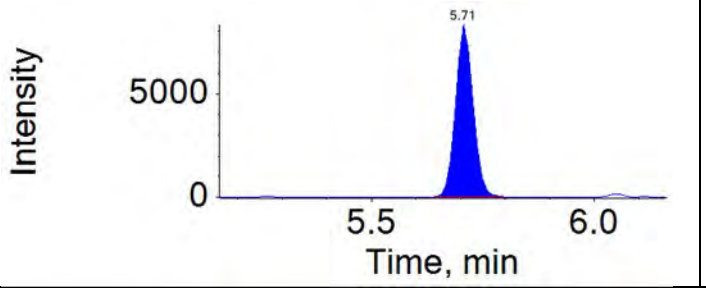
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

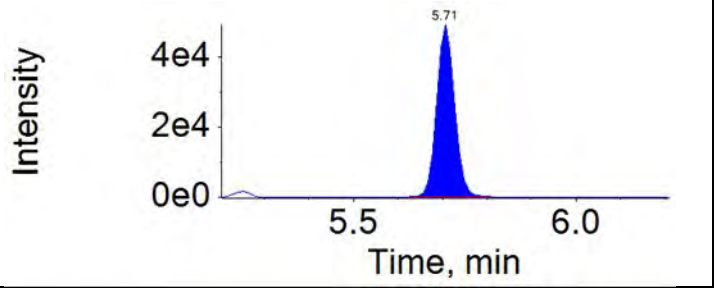
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

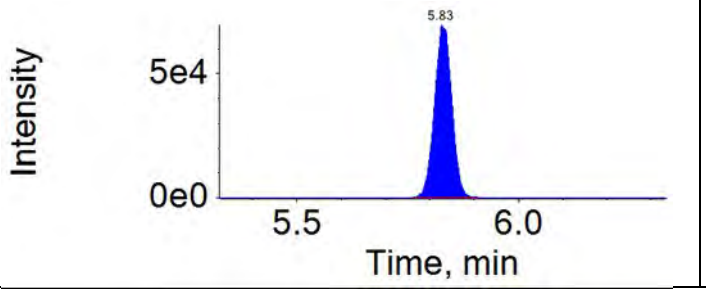
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

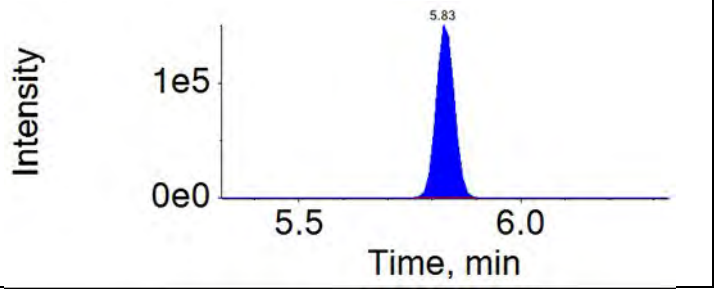
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



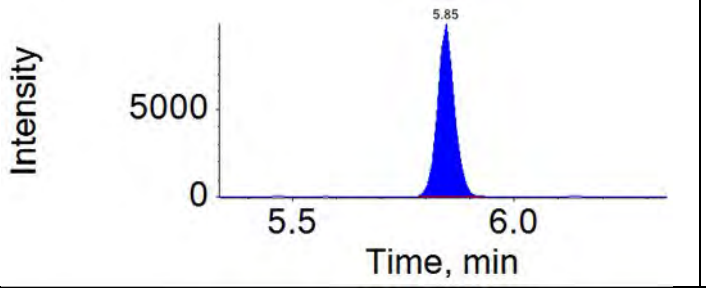


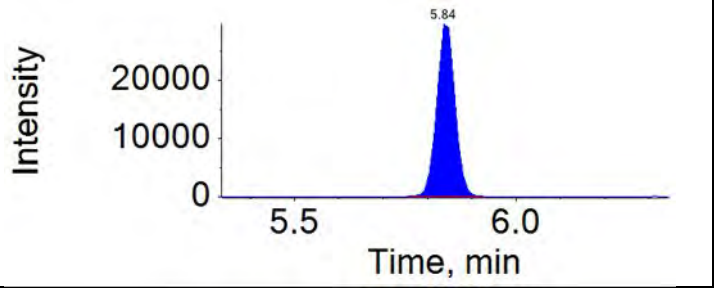
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



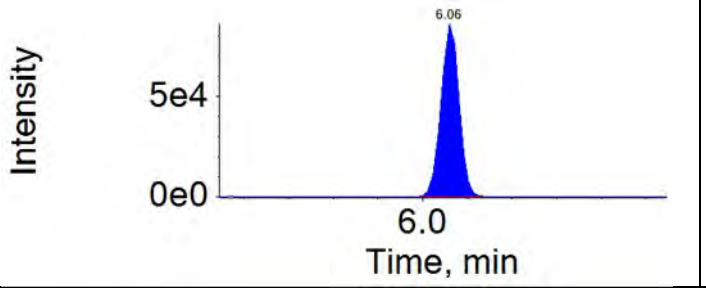


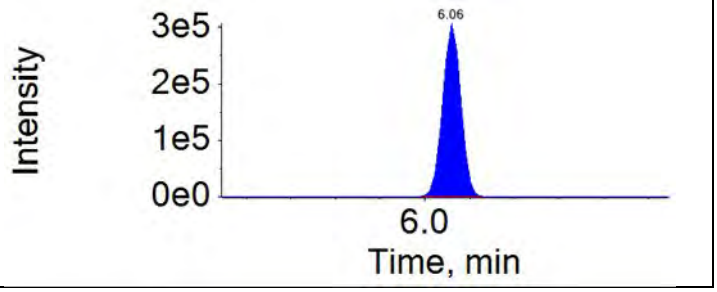
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



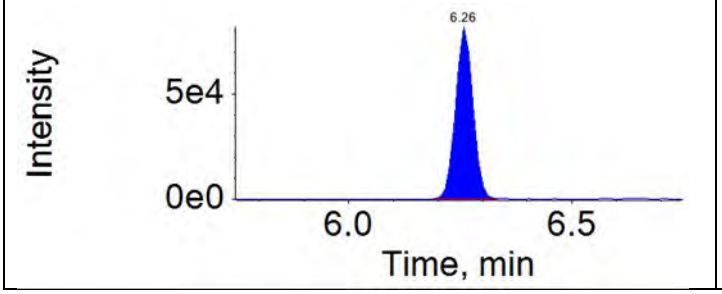


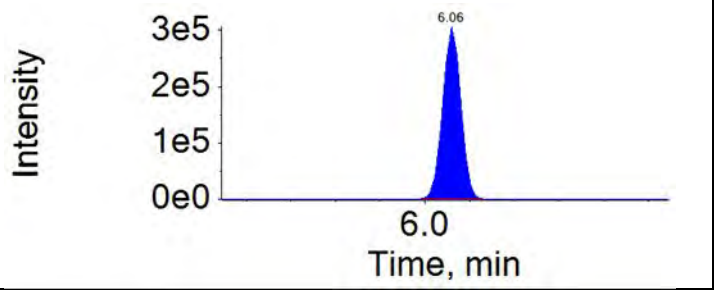
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

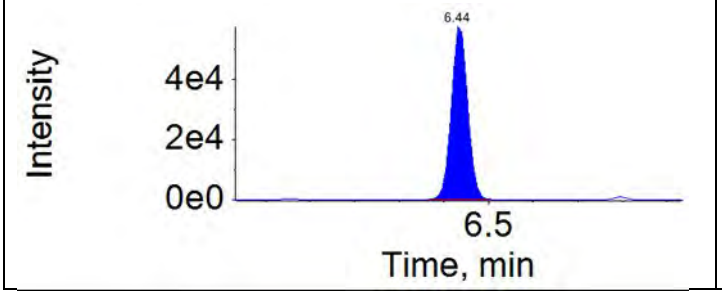
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

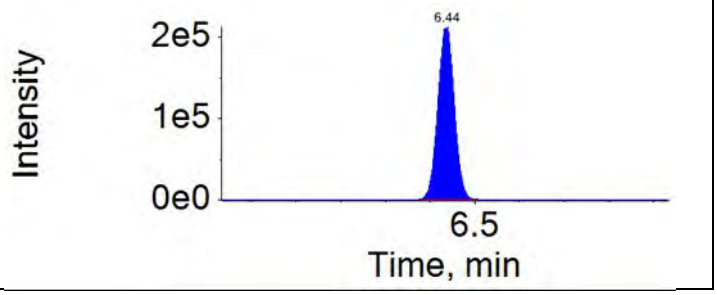
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



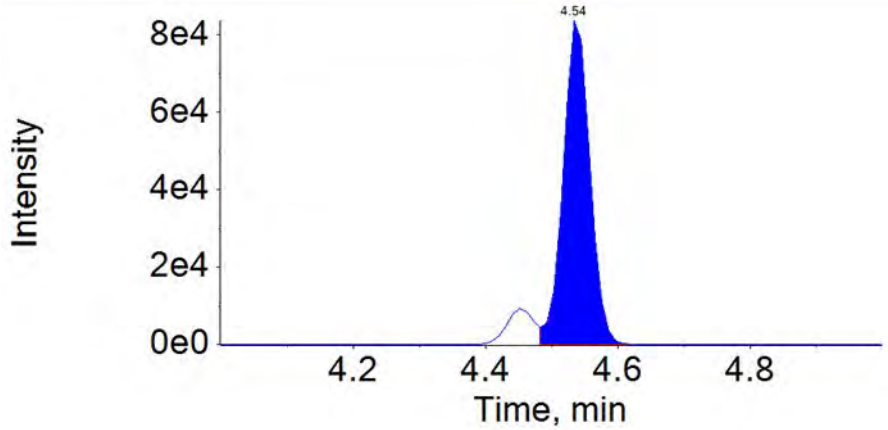


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

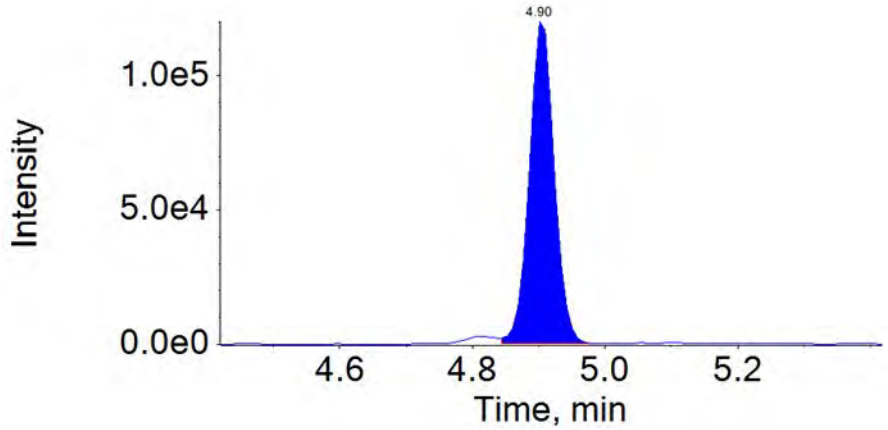
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
235155.6
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



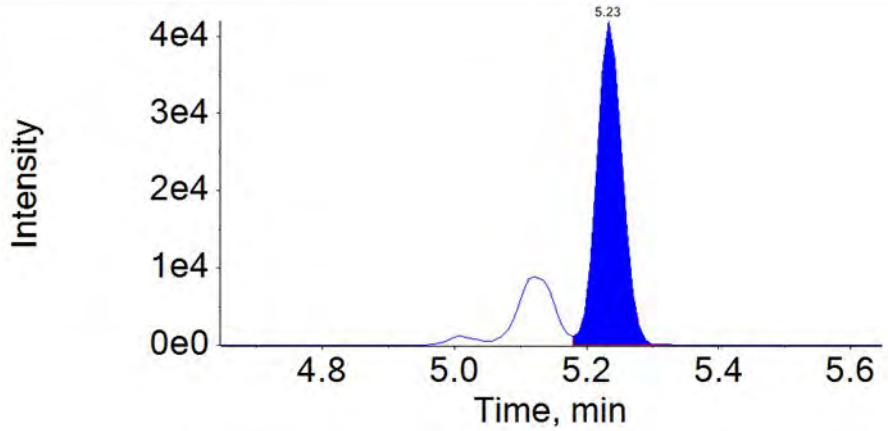
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.90
Peak Area:
314963.9
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
113513.0
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



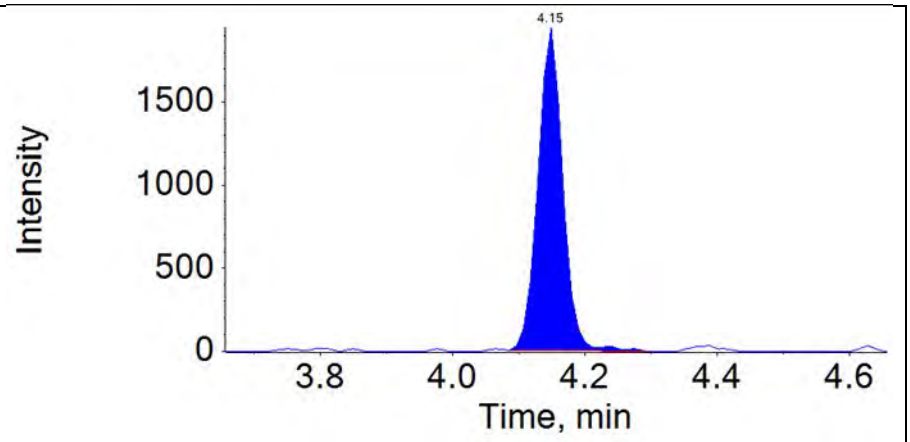
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

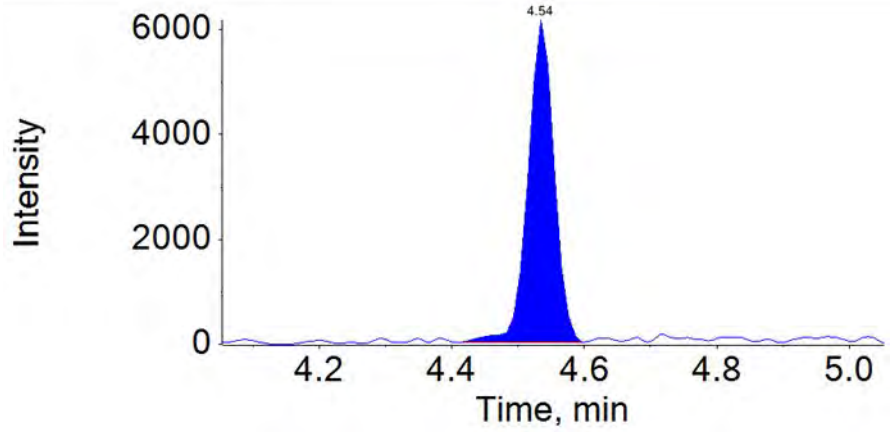
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
4.15
Peak Area:
5069.3
Mass Range:
313.0 / 119.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



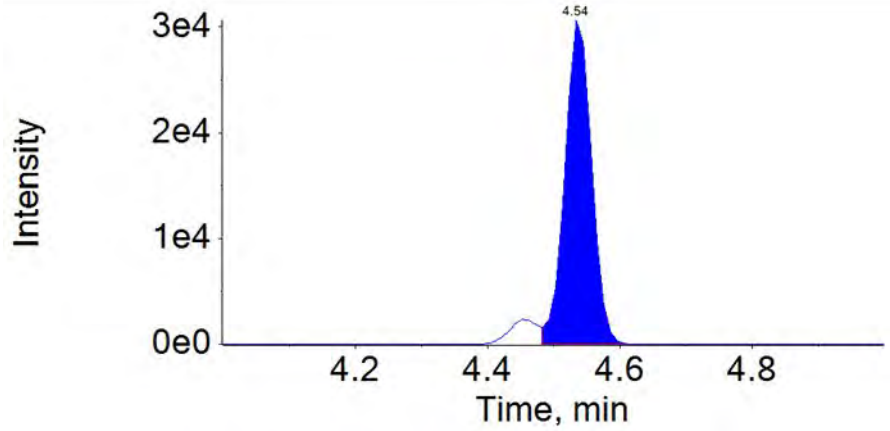
Integration Comment: incorrect integration

Component Name:
PFHpA_2
RT (min.):
4.54
Peak Area:
16814.8
Mass Range:
363.0 / 169.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
86345.9
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



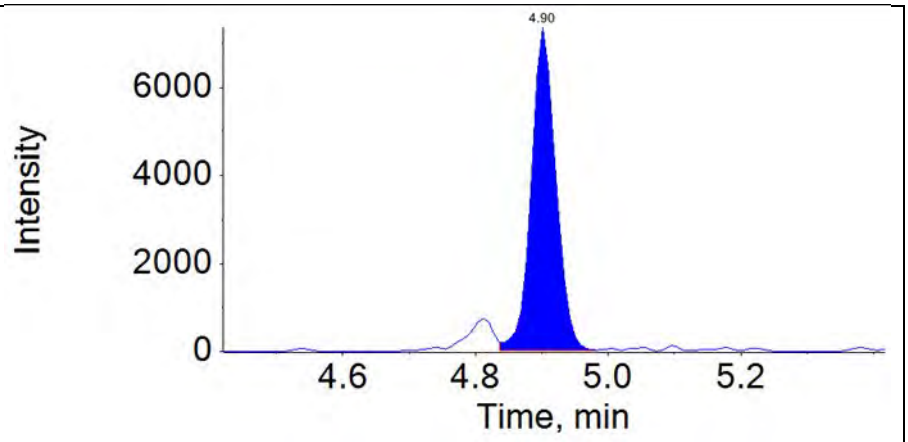
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

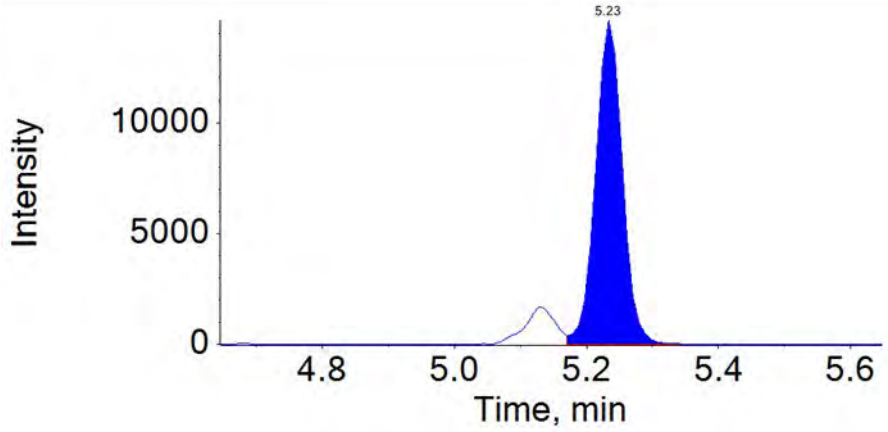
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.90
Peak Area:
18841.7
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
41169.4
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-37.wiff
Sample Name:
9922842MS



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

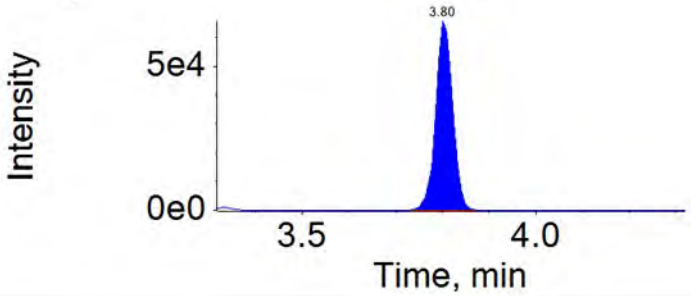
Sample Name: 9922842MS **Instrument Name:** LM27631 **File Name:** 18DEC08D-37.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	165245.5	A	N/A	0.3577			
PFBS_2	3.80	1.00	59114.1	A	N/A	0.3577	0	50	
PFHxA	4.15	1.00	461678.8	A	N/A	0.0108			
PFHxA_2	4.15	1.00	5001.8	M	N/A	0.0108	22	50	
PFHpA	4.54	1.00	337911.3	A	N/A	0.0488			
PFHpA_2	4.54	1.00	16506.4	M	N/A	0.0488	-13	50	
PFHxS	4.54	1.00	261232.2	M	N/A	0.3573			
PFHxS_2	4.54	1.00	93338.3	M	N/A	0.3573	-3	50	
PFOA	4.90	1.00	324116.1	M	N/A	0.0639			
PFOA_2	4.90	1.00	20697.0	M	N/A	0.0639	3	50	
PFOS	5.23	1.00	151620.7	M	N/A	0.3072			
PFOS_2	5.23	1.00	46584.8	M	N/A	0.3072	1	50	
PFNA	5.25	1.00	237483.3	A	N/A	0.0193			
PFNA_2	5.25	1.00	4594.5	A	N/A	0.0193	3	50	
PFDA	5.56	1.00	198283.4	A	N/A	0.0078			
PFDA_2	5.55	1.00	1552.1	A	N/A	0.0078	-26	50	
NMeFOSAA	5.71	1.00	22645.1	A	N/A	0.2401			
NMeFOSAA_2	5.71	1.00	5437.1	A	N/A	0.2401	-9	50	
PFUnDA	5.83	1.00	189860.9	A	N/A	0.0048			
PFUnDA_2	5.83	1.00	910.1	A	N/A	0.0048	15	50	
NEtFOSAA	5.85	1.00	26063.3	A	N/A	0.5681			
NEtFOSAA_2	5.85	1.00	14807.5	A	N/A	0.5681	-16	50	
PFDoDA	6.06	1.00	242735.7	A	N/A	0.0137			
PFDoDA_2	6.07	1.00	3333.9	A	N/A	0.0137	3	50	
PFTrDA	6.26	1.03	219231.1	A	N/A	0.0076			
PFTrDA_2	6.26	1.03	1670.4	A	N/A	0.0076	11	50	
PFTeDA	6.44	1.00	146013.0	A	N/A	0.0053			
PFTeDA_2	6.43	1.00	770.7	A	N/A	0.0053	-21	50	

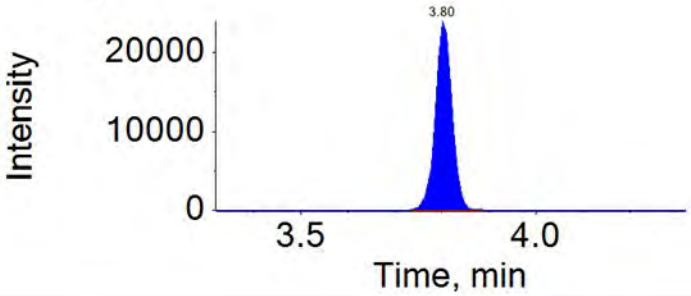
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

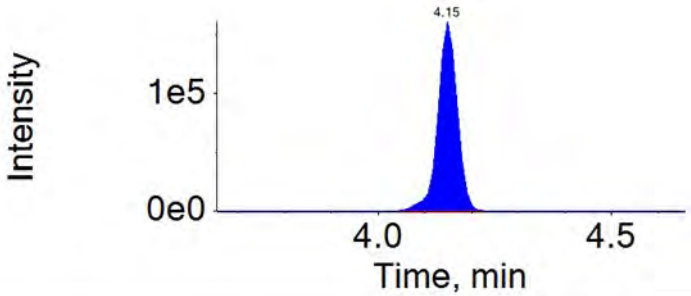
Component: PFBS
Primary Mass: 299.0 / 80.0



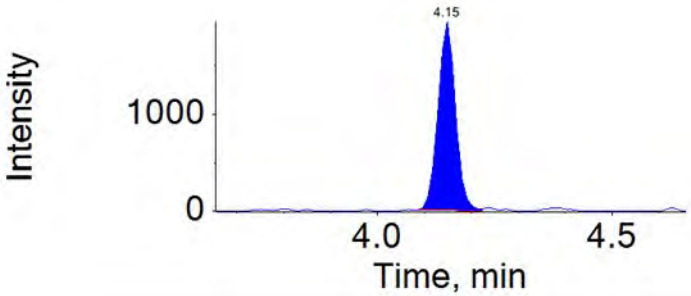
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



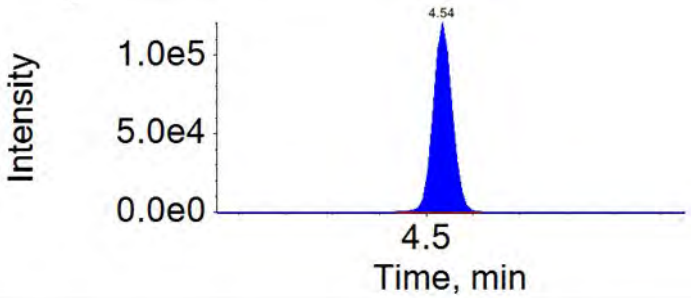
Component: PFHxA
Primary Mass: 313.0 / 269.0



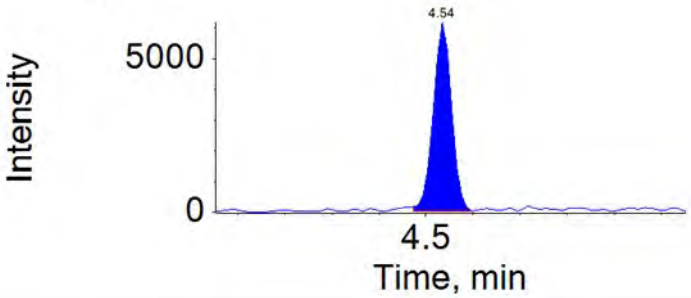
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



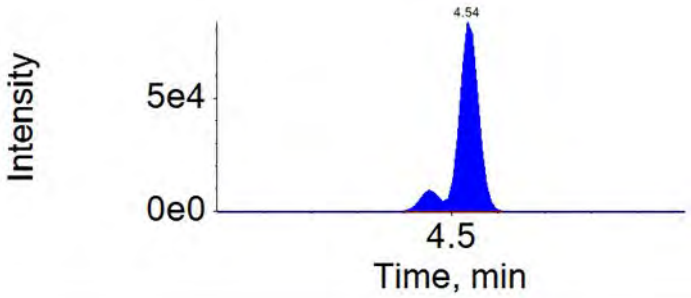
Component: PFHpA
Primary Mass: 363.0 / 319.0



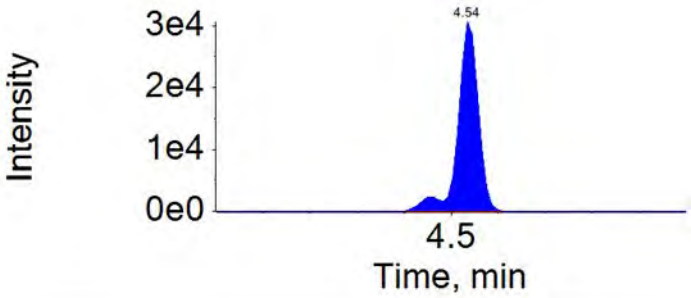
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



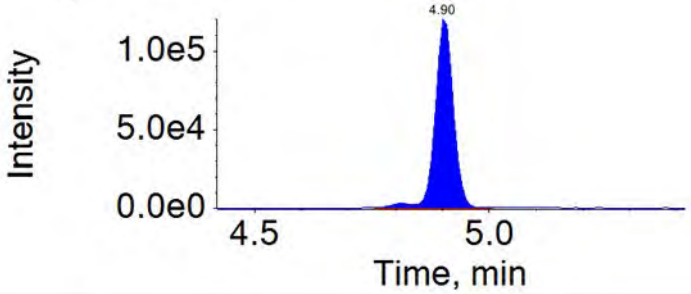
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



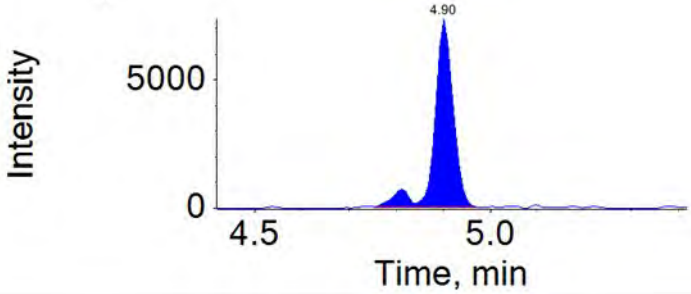
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

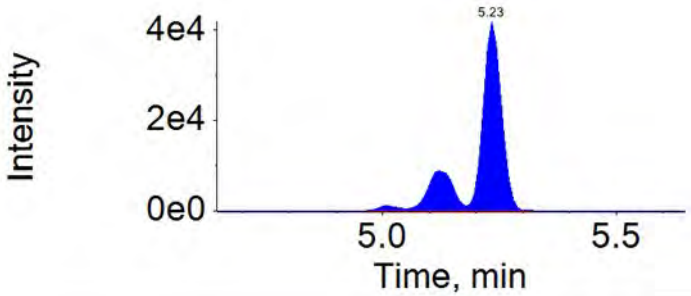
Component: PFOA
Primary Mass: 413.0 / 369.0



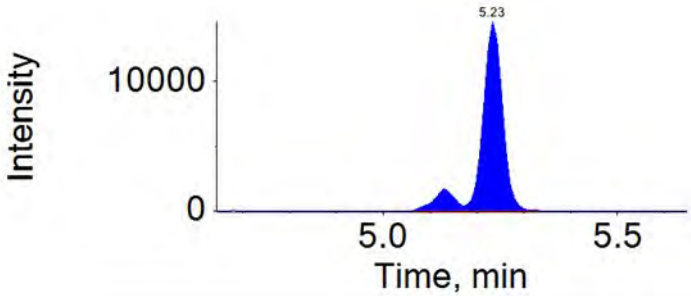
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



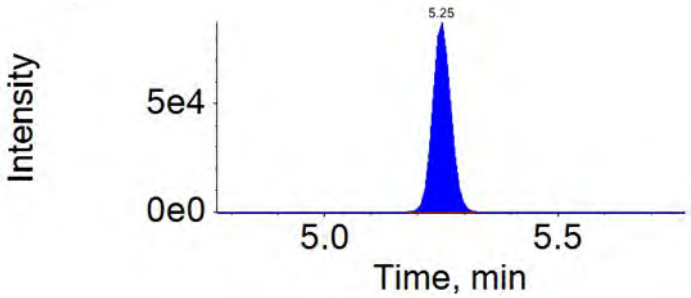
Component: PFOS
Primary Mass: 499.0 / 80.0



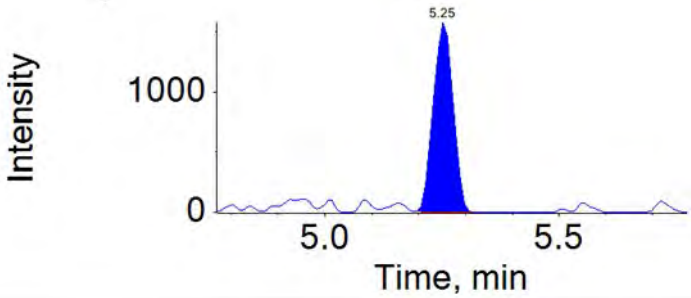
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



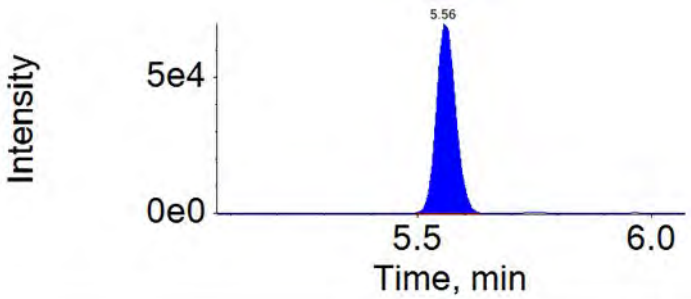
Component: PFNA
Primary Mass: 463.0 / 419.0



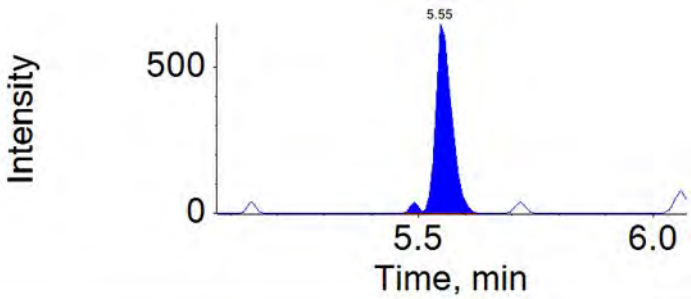
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



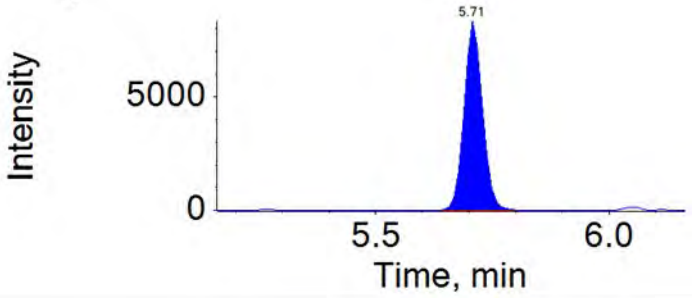
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



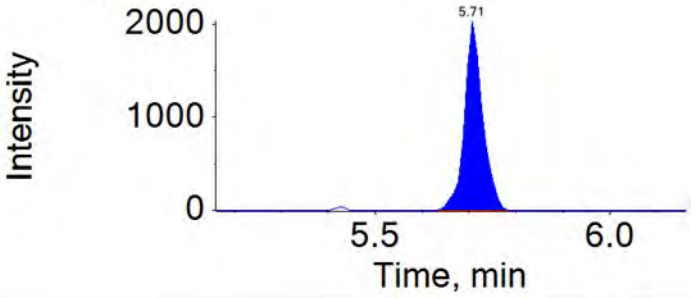
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

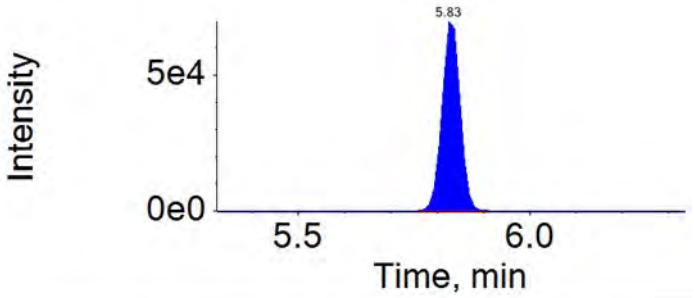
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



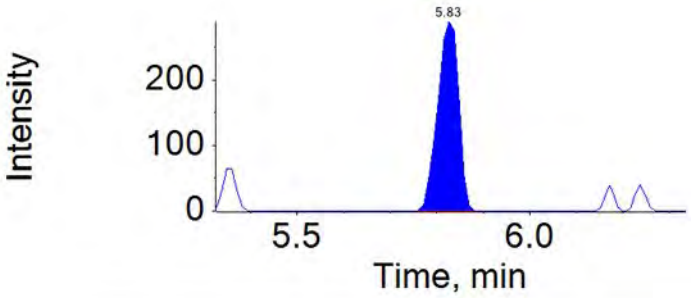
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



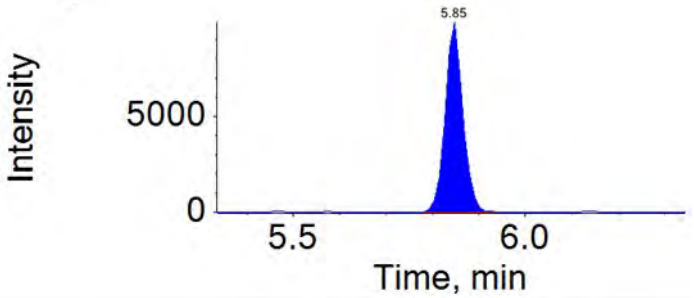
Component: PFUnDA
Primary Mass: 563.0 / 519.0



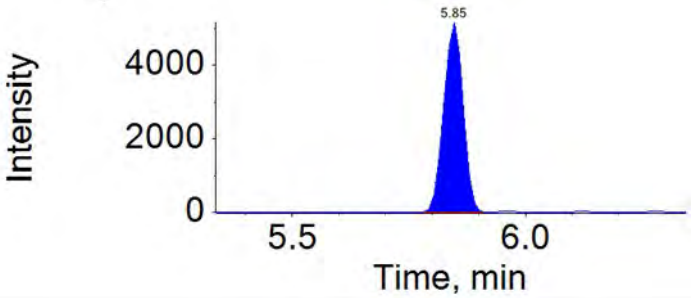
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



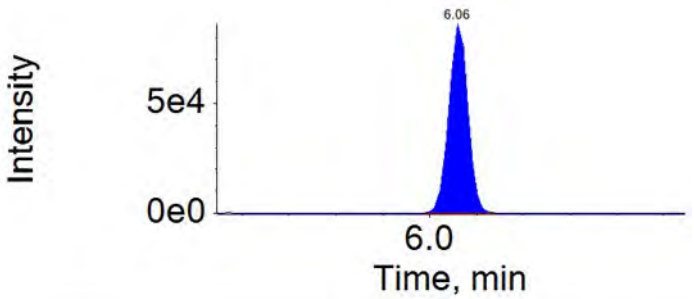
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



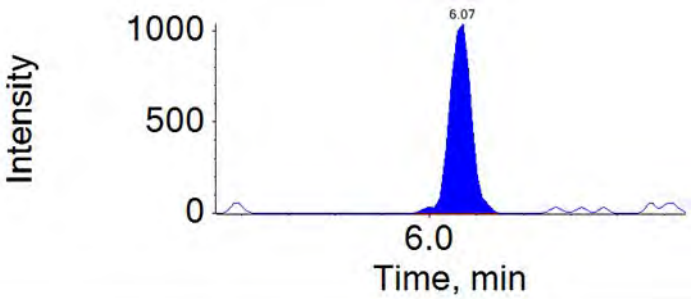
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



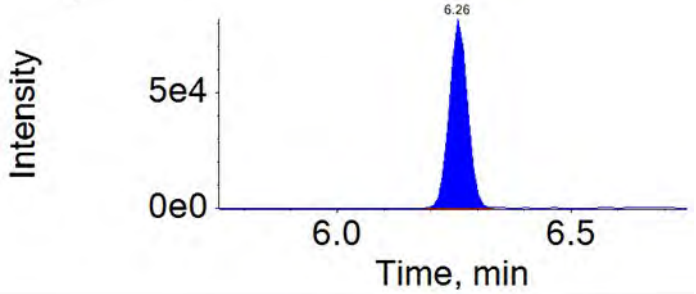
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



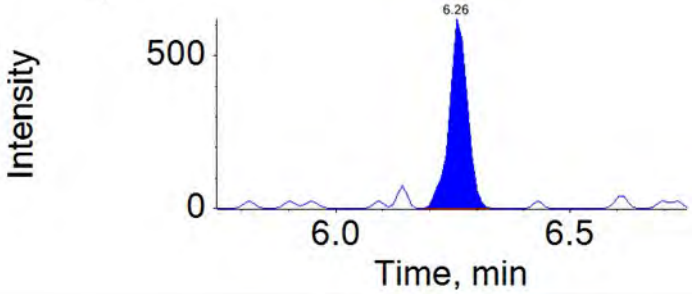
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

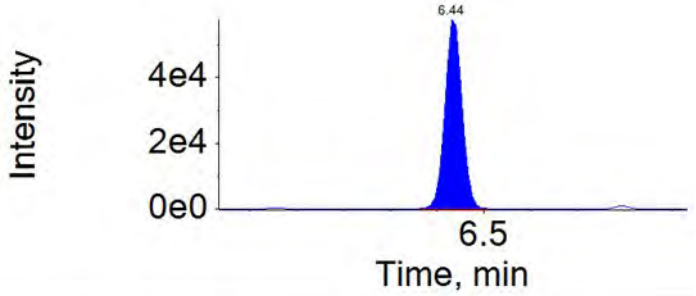
Component: PFTrDA
Primary Mass: 663.0 / 619.0



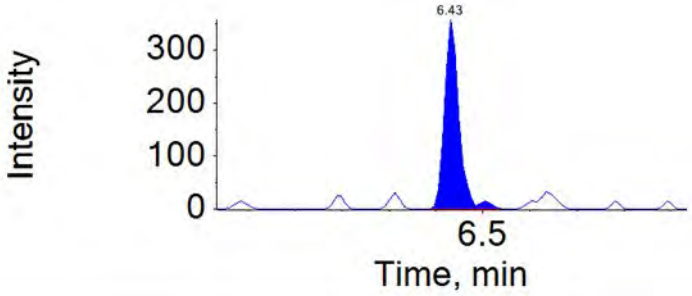
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



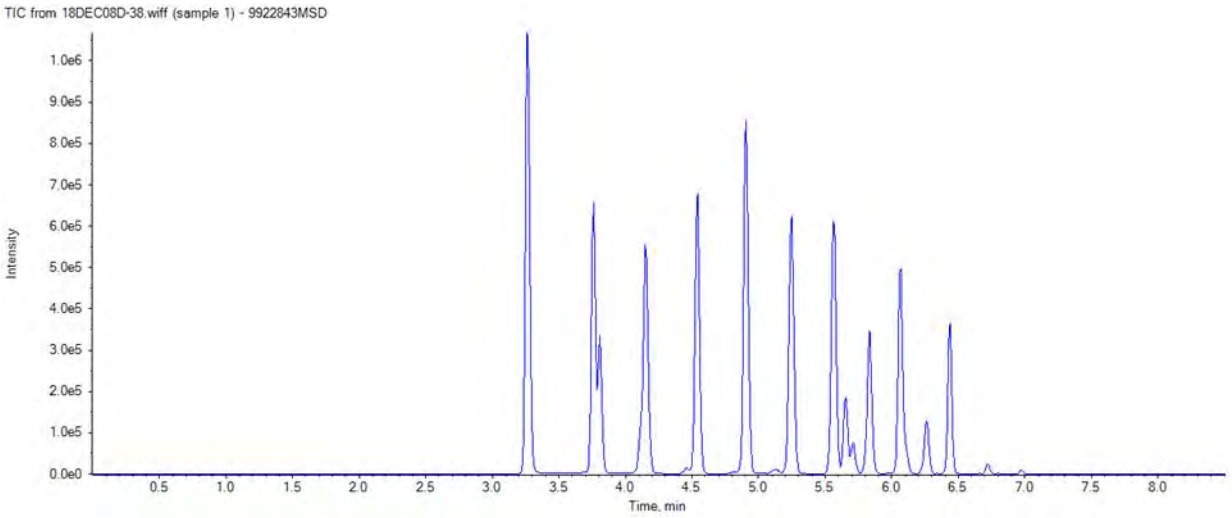
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:24:55 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922843MSD	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 MSD Grab Groundwater	18DEC08D-38.wiff	2018-12-08T13:41:09



Injection Standard Area Reference File**:** 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	955123.1	936973.7	2	50	
13C2-PFOA	5.00	515892.5	474841.3	9	50	
13C4-PFOS	4.78	308575.5	294668.0	5	50	
13C2-PFDA	5.00	402065.6	373990.9	8	50	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:24:55 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922843MSD	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 MSD Grab Groundwater	18DEC08D-38.wiff	2018-12-08T13:41:09

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBS	158559.8	454861.8	0.349	4.392	6.308	144	72-127	OOS
PFHxA	454232.2	728563.4	0.623	4.965	9.918	200	77-132	OOS
PFHpA	323557.9	589836.0	0.549	4.965	6.594	133	75-139	
PFHxS	249567.4	364717.5	0.684	4.695	11.837	252	71-130	OOS
PFOA	290000.9	912824.3	0.318	4.965	6.339	128	76-136	
PFOS	149766.4	325116.1	0.461	4.746	6.976	147	67-134	OOS
PFNA	228686.8	623635.3	0.367	4.965	4.934	99	73-144	
PFDA	184605.1	739955.8	0.249	4.965	5.127	103	67-141	
NMeFOSAA	22824.5	142685.5	0.160	4.965	3.863	78	67-124	
PFUnDA	194808.7	444268.6	0.438	4.965	4.902	99	83-132	
NEtFOSAA	23937.3	80696.2	0.297	4.965	5.473	110	60-131	
PFDoDA	243455.2	850808.3	0.286	4.965	5.499	111	72-137	
PFTrDA	201354.7	850808.3	0.237	4.965	5.659	114	57-137	
PFTeDA	158896.6	607054.5	0.262	4.965	5.465	110	70-142	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:24:55 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922843MSD			**Data File:**		18DEC08D-38.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013 OUI-PMW-6-01 MSD Grab Groundwater			**Acquis Date:**		2018-12-08T13:41:09
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	60			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.27391			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	955123.1	936973.7	2	50	
13C2-PFOA	5.0	515892.5	474841.3	9	50	
13C4-PFOS	4.8	308575.5	294668.0	5	50	
13C2-PFDA	5.0	402065.6	373990.9	8	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	454861.8	13C3-PFBA	955123.1	0.476	16.976	14.737	87	50-150	
E13C5-PFHxA	728563.4	13C2-PFOA	515892.5	1.412	18.254	17.310	95	50-150	
E13C3-PFHxS	364717.5	13C2-PFOA	515892.5	0.707	17.268	16.555	96	50-150	
E13C4-PFHpA	589836.0	13C2-PFOA	515892.5	1.143	18.254	17.745	97	50-150	
E13C8-PFOA	912824.3	13C2-PFOA	515892.5	1.769	18.254	18.260	100	50-150	
E13C8-PFOS	325116.1	13C4-PFOS	308575.5	1.054	17.451	17.262	99	50-150	
E13C9-PFNA	623635.3	13C4-PFOS	308575.5	2.021	18.254	20.850	114	50-150	
E13C6-PFDA	739955.8	13C2-PFDA	402065.6	1.840	18.254	17.805	98	50-150	
Ed3-NMeFOSAA	142685.5	13C2-PFDA	402065.6	0.355	18.254	22.960	126	50-150	
E13C7-PFUnDA	444268.6	13C2-PFDA	402065.6	1.105	18.254	19.789	108	50-150	
Ed5-NEtFOSAA	80696.2	13C2-PFDA	402065.6	0.201	18.254	16.175	89	50-150	
E13C2-PFDoDA	850808.3	13C2-PFDA	402065.6	2.116	18.254	16.212	89	50-150	
E13C2-PFTeDA	607054.5	13C2-PFDA	402065.6	1.510	18.254	16.360	90	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

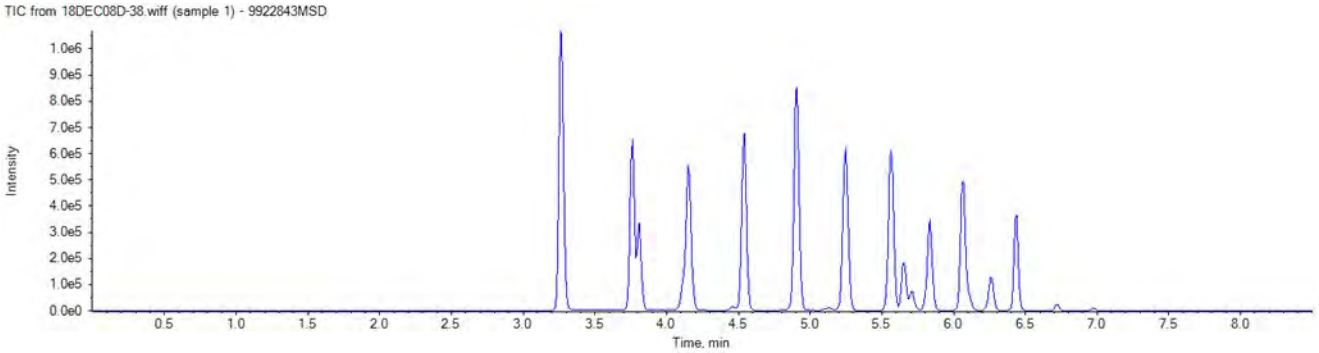
Analyte Quantitation Peak Table

Sample Name: 9922843MSD **Instrument Name:** LM27631 **File Name:** 18DEC08D-38.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27391	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	158559.8		A	13C3-PFBS	3.81	454861.8	0.349	6.308
PFHxA	4.15	1.000	454232.2		A	13C5-PFHxA	4.15	728563.4	0.623	9.918
PFHpA	4.54	1.000	323557.9		A	13C4-PFHpA	4.54	589836.0	0.549	6.594
PFHxS	4.54	1.000	249567.4		M	13C3-PFHxS	4.54	364717.5	0.684	11.837
PFOA	4.91	1.000	290000.9		M	13C8-PFOA	4.91	912824.3	0.318	6.339
PFOS	5.24	1.000	149766.4		M	13C8-PFOS	5.24	325116.1	0.461	6.976
PFNA	5.25	1.000	228686.8		A	13C9-PFNA	5.25	623635.3	0.367	4.934
PFDA	5.56	1.000	184605.1		A	13C6-PFDA	5.56	739955.8	0.249	5.127
NMeFOSAA	5.71	1.000	22824.5		M	d3-NMeFOSAA	5.71	142685.5	0.160	3.863
PFUnDA	5.83	1.000	194808.7		A	13C7-PFUnDA	5.83	444268.6	0.438	4.902
NEtFOSAA	5.85	1.000	23937.3		A	d5-NEtFOSAA	5.84	80696.2	0.297	5.473
PFDoDA	6.06	1.000	243455.2		A	13C2-PFDoDA	6.06	850808.3	0.286	5.499
PFTrDA	6.26	1.030	201354.7		A	13C2-PFDoDA	6.06	850808.3	0.237	5.659
PFTeDA	6.44	1.000	158896.6		A	13C2-PFTeDA	6.44	607054.5	0.262	5.465

Total Ion Chromatogram

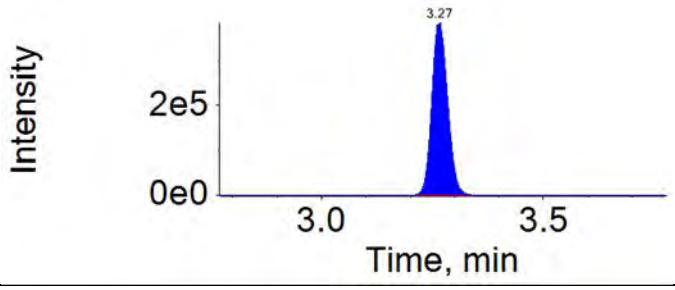


APPROVED
By MCD at 7:42 pm, 12/10/18

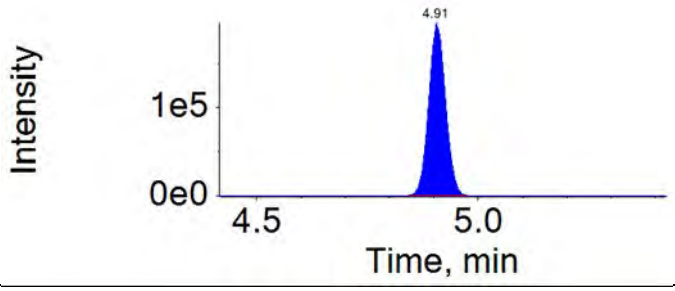
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

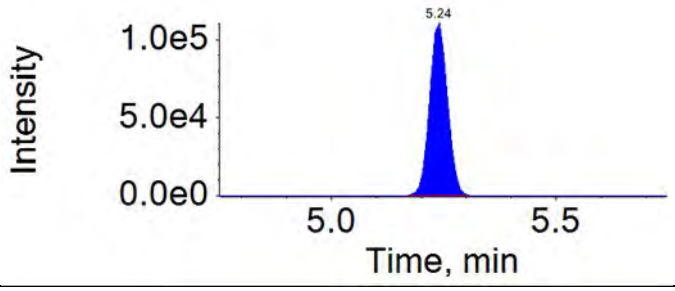
Injection Standard: 13C3-PFBA
216.0 / 172.0



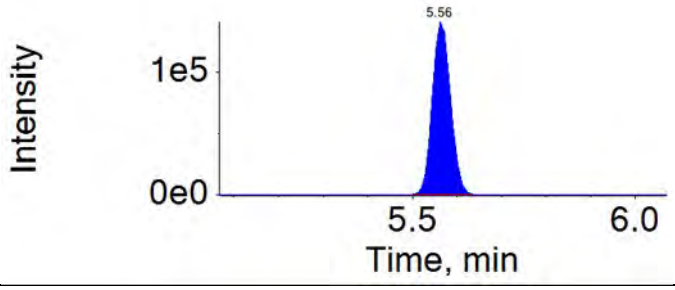
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

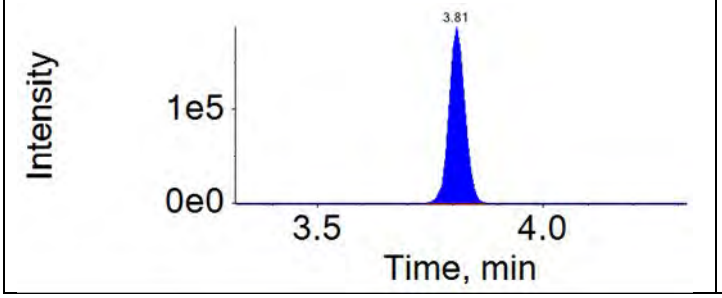


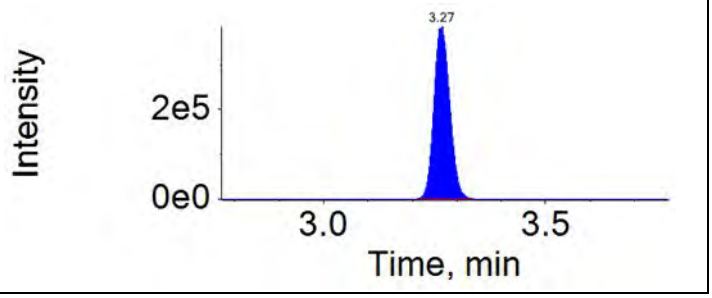
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

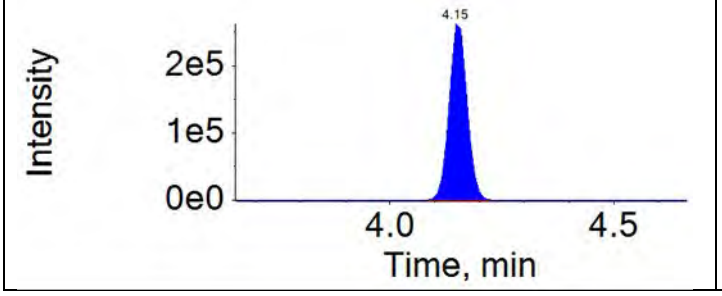
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

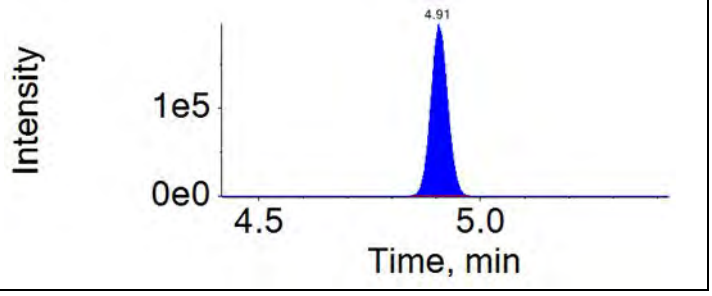
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



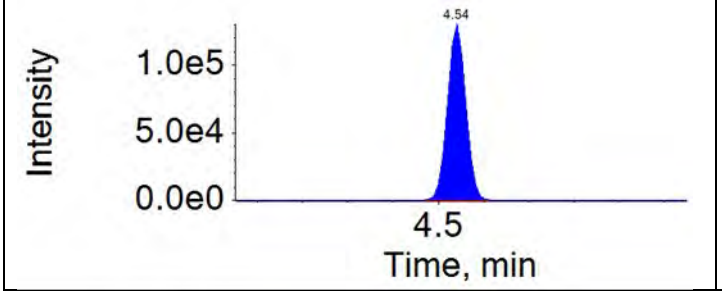


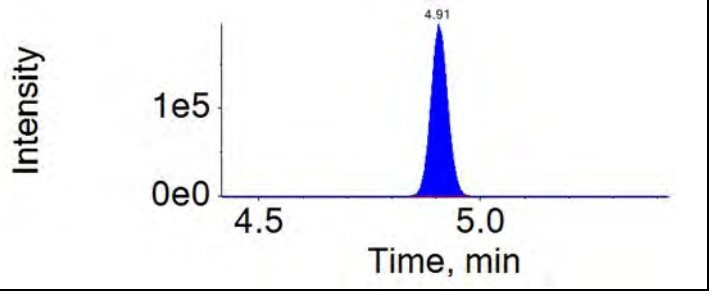
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



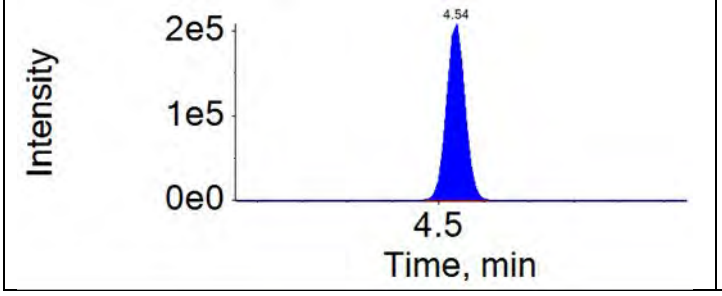


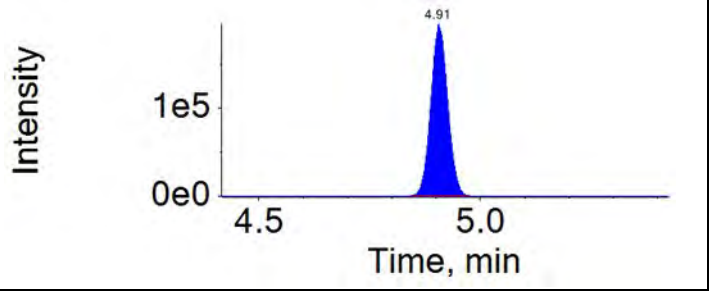
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

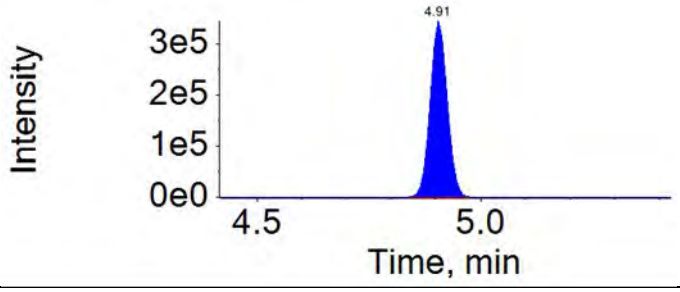
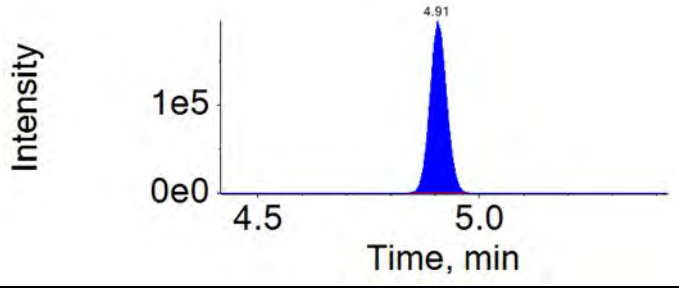


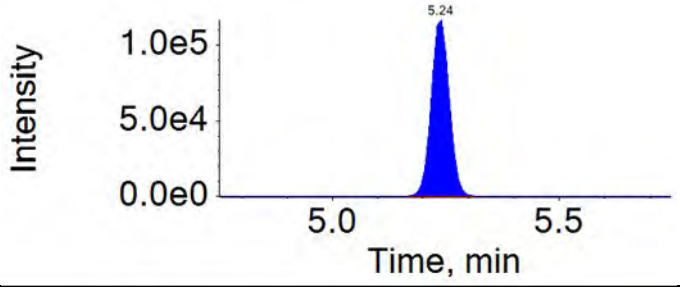
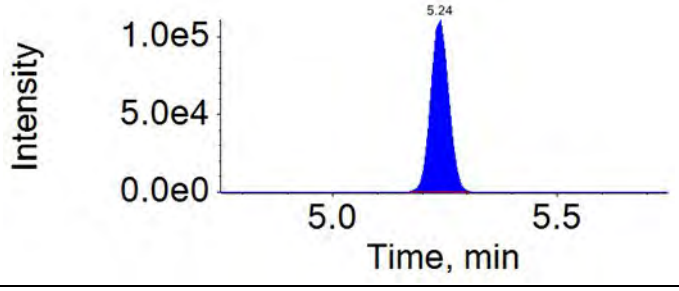


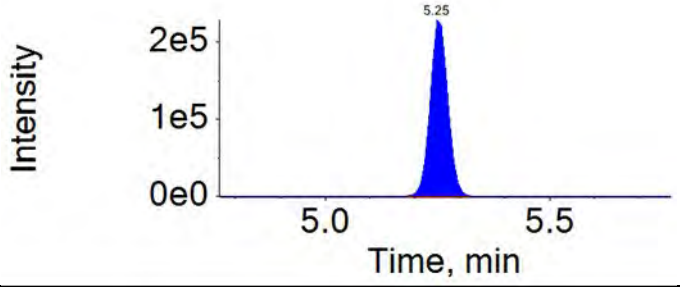
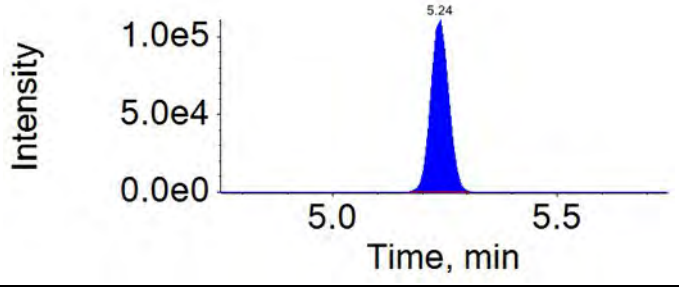
APPROVED
By MCD at 7:42 pm, 12/10/18

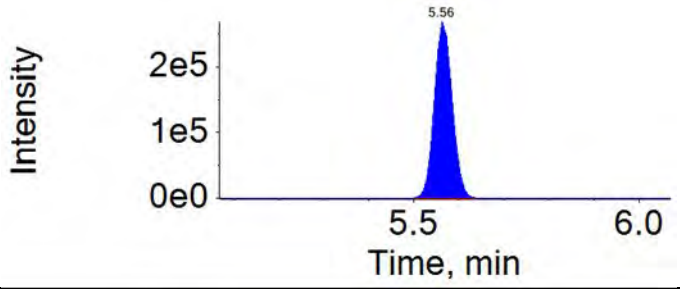
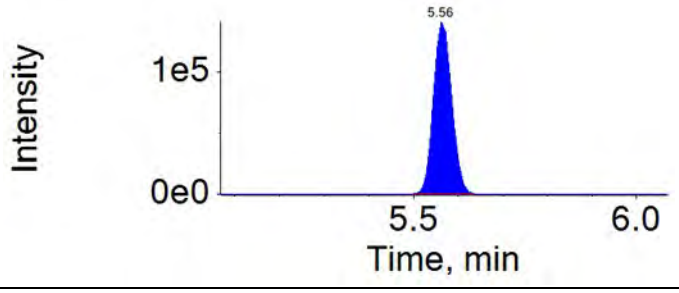
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

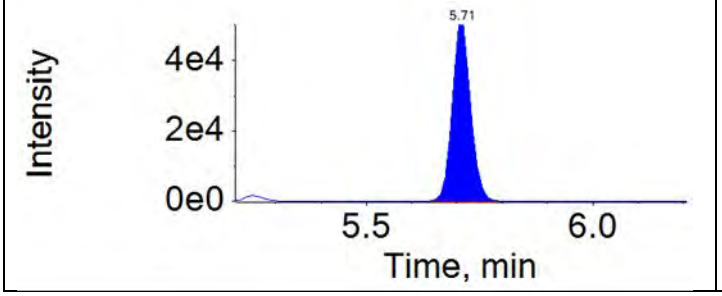
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

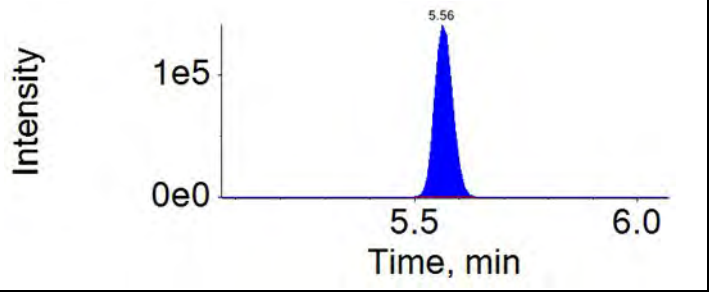
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

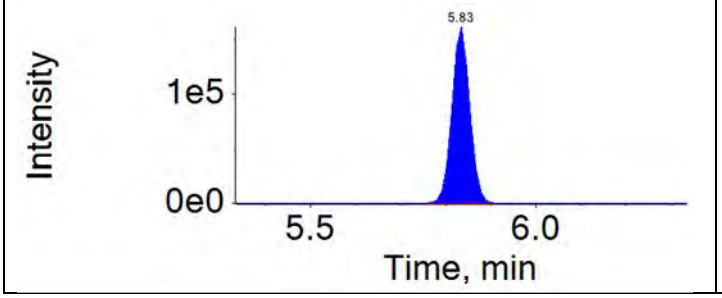
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

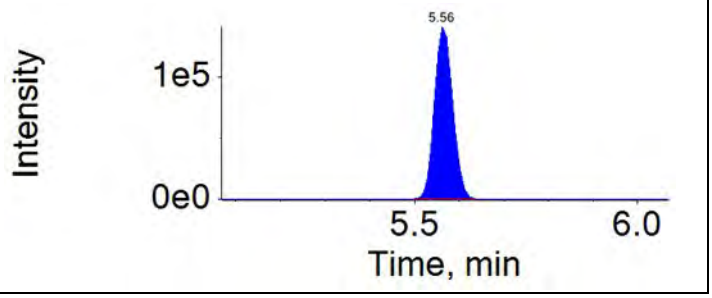
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



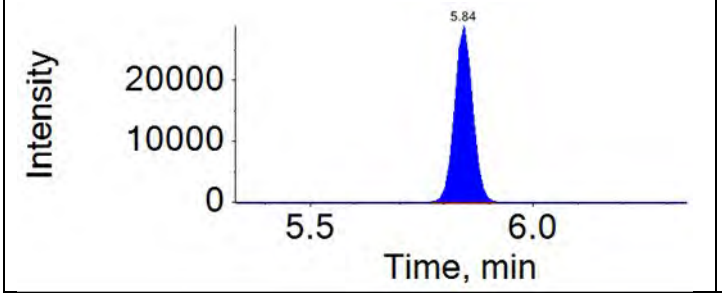


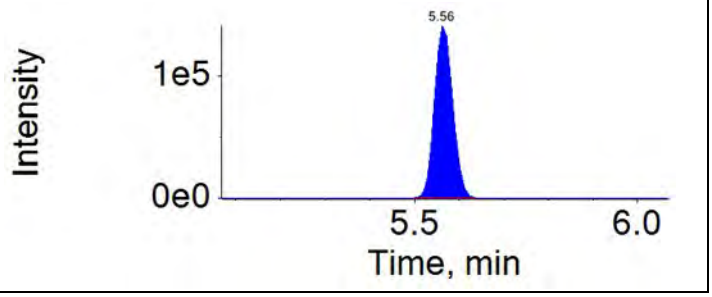
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



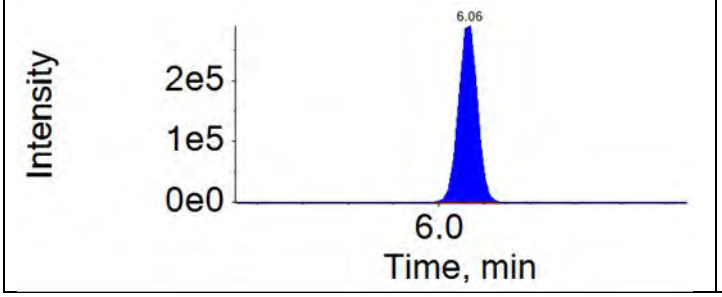


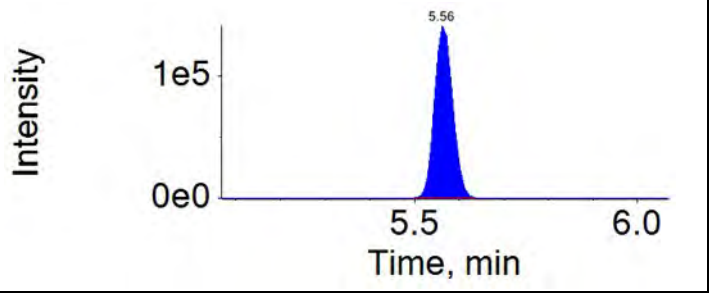
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

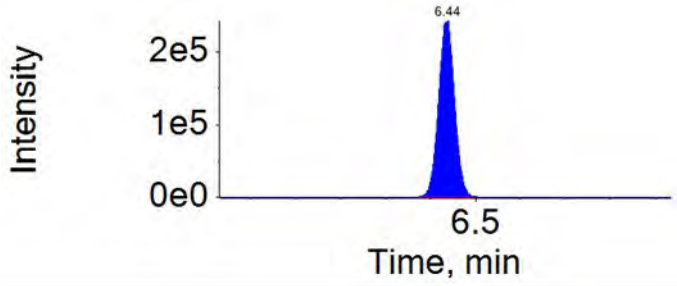
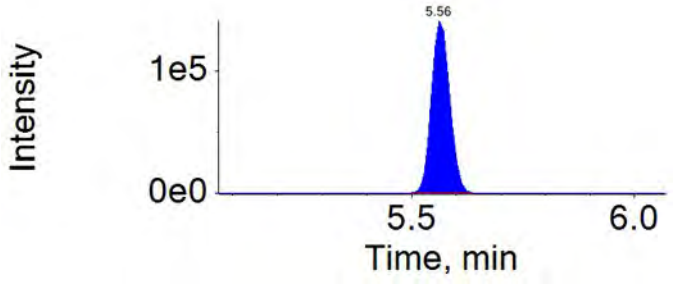




APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

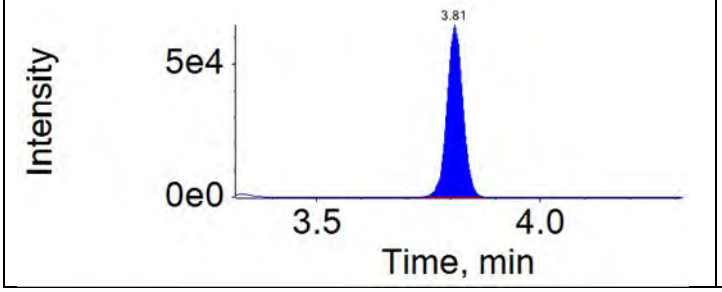
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

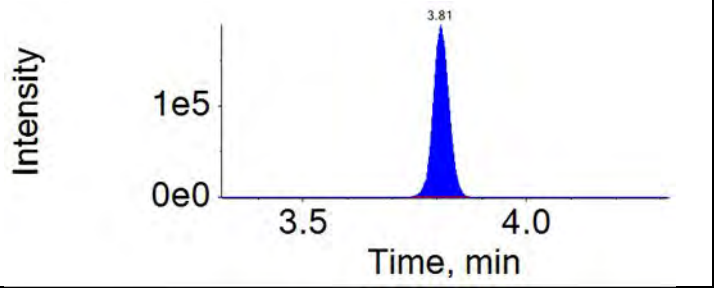
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

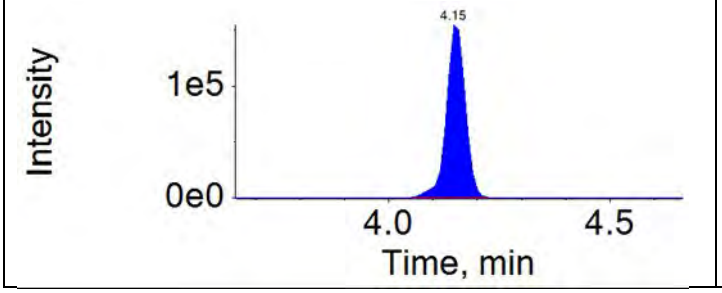
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

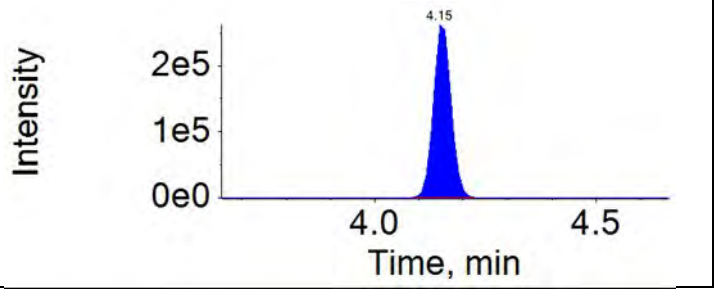
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



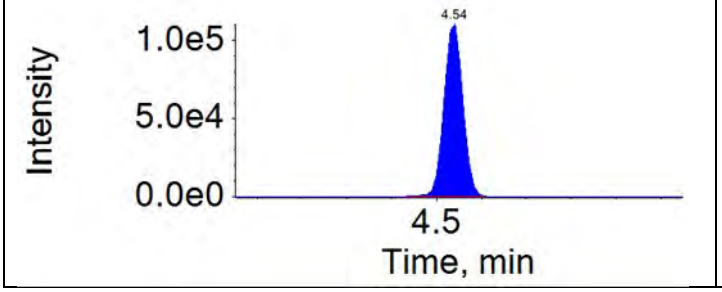


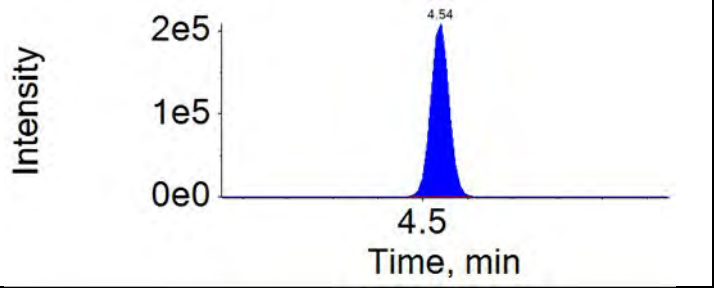
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



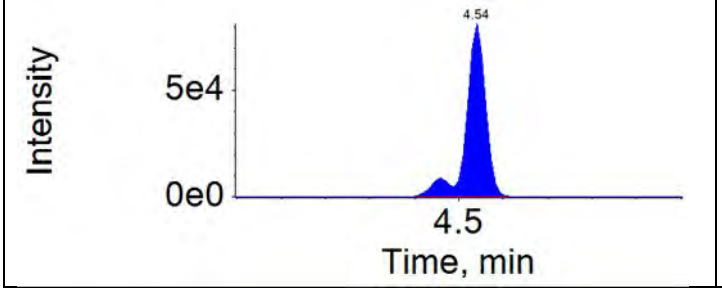


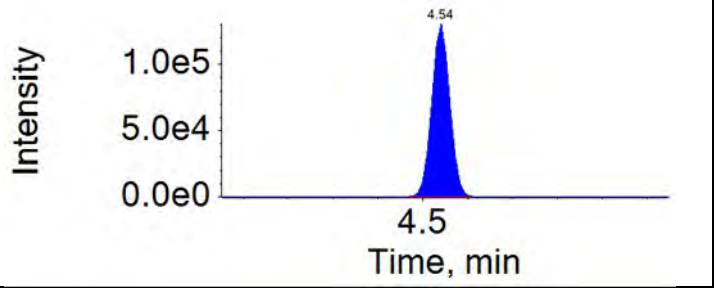
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

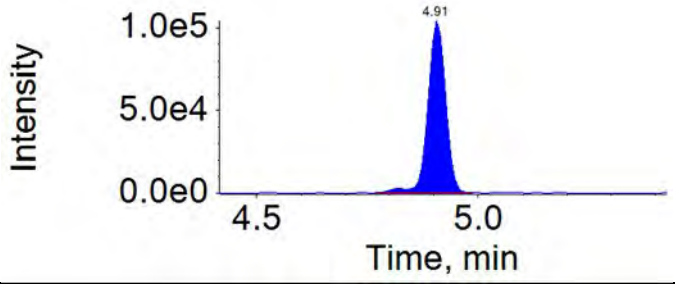
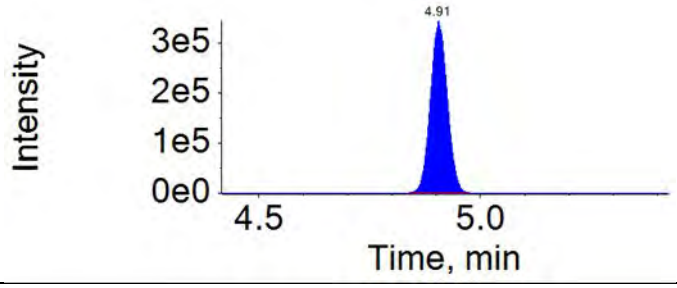


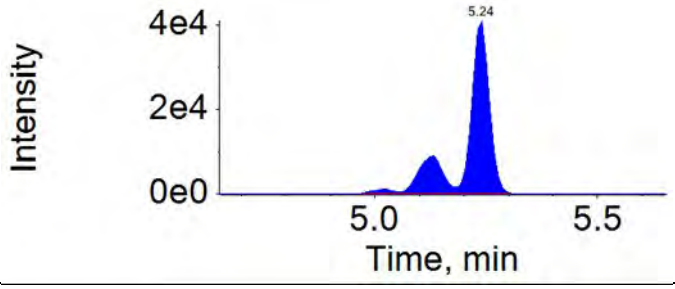
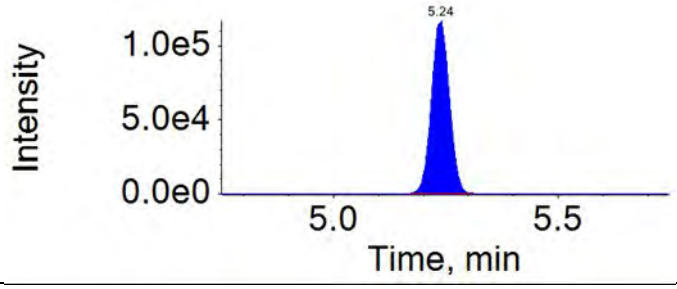


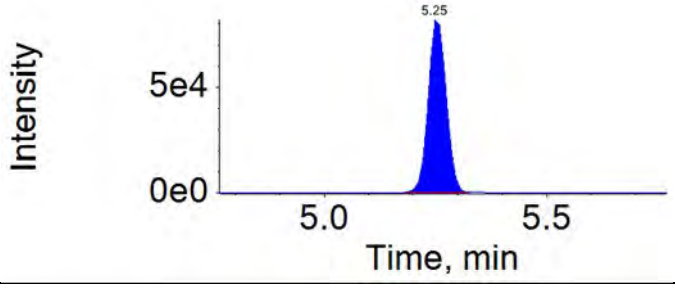
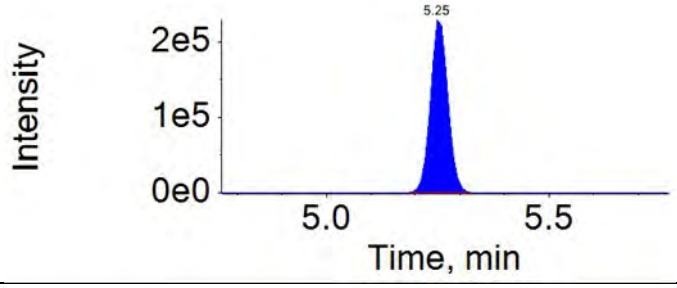
APPROVED
By MCD at 7:42 pm, 12/10/18

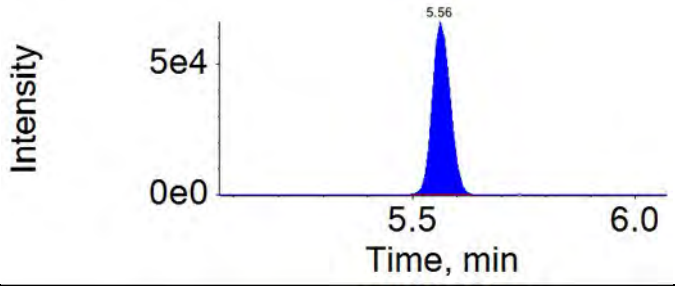
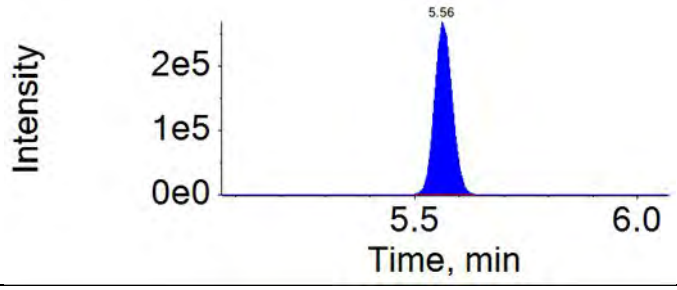
REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

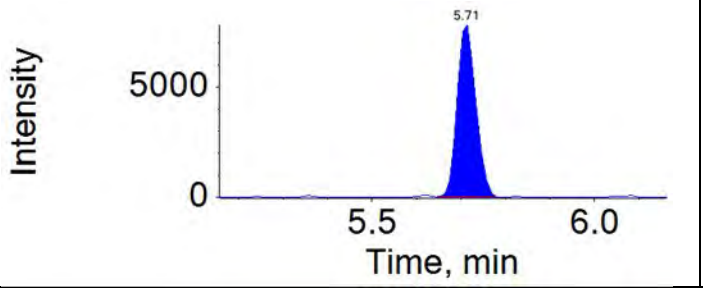
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

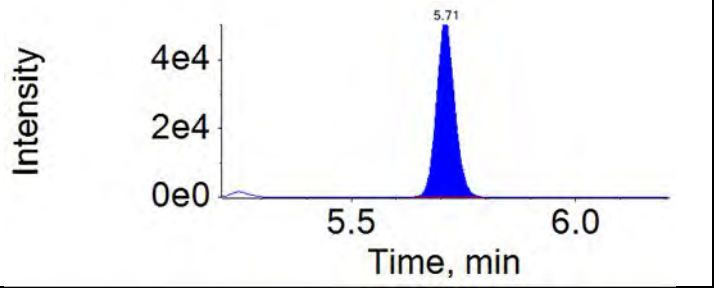
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

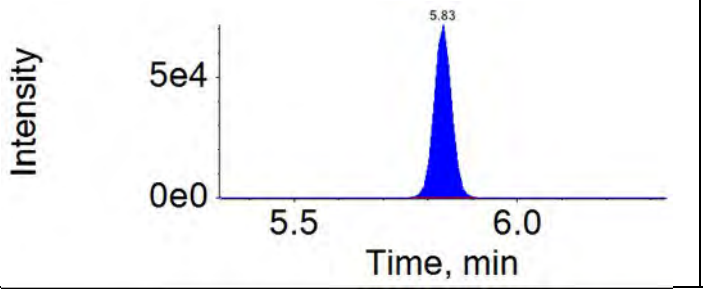
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

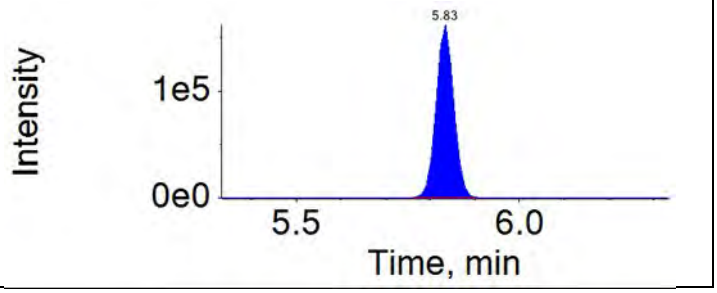
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



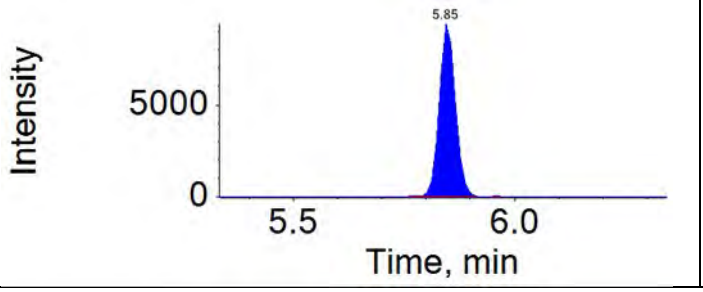


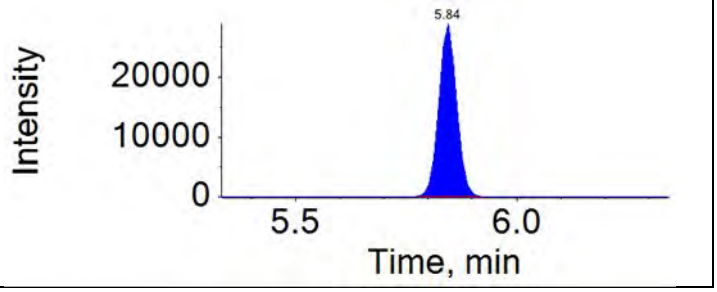
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



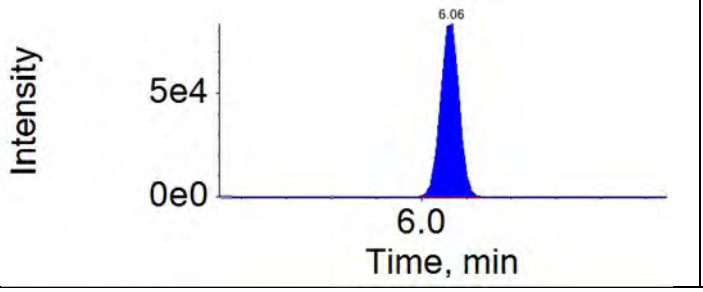


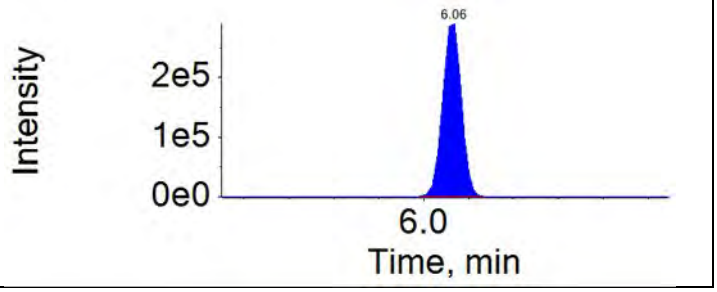
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

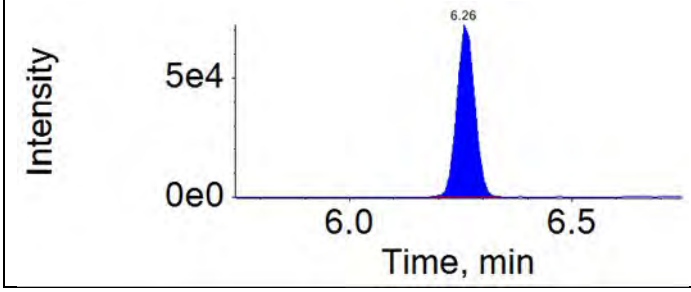
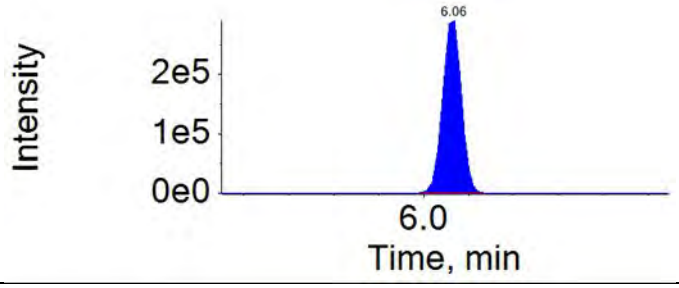


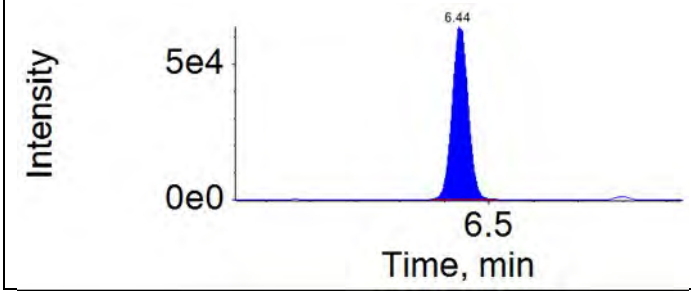
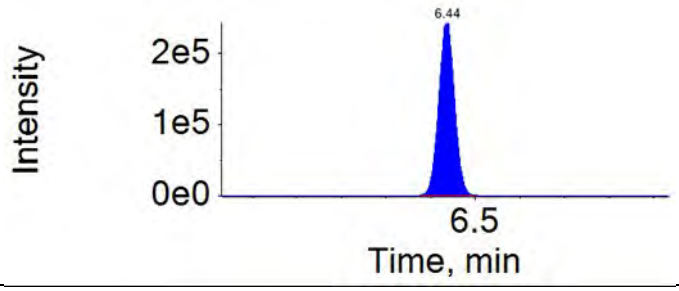


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

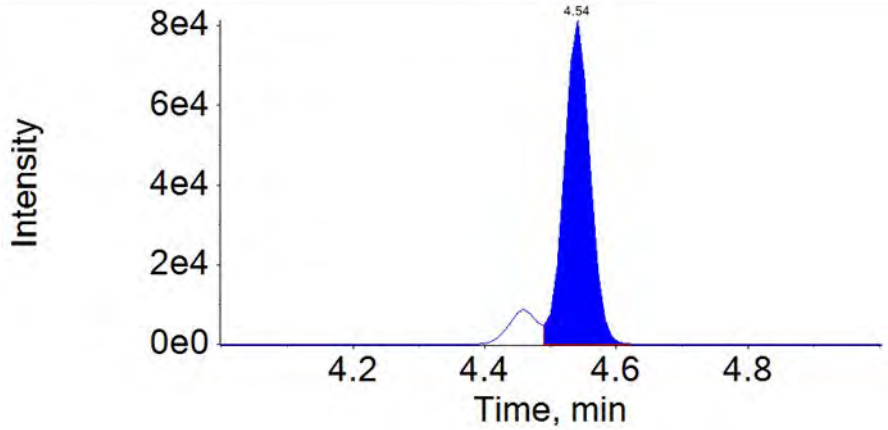
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

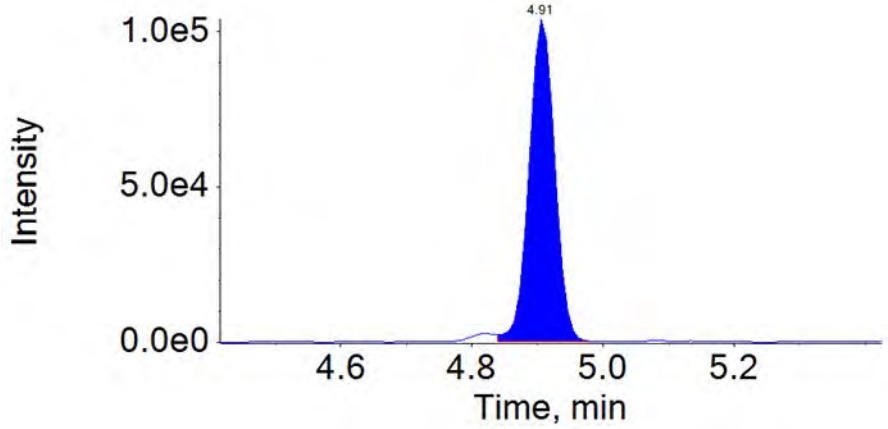
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
223032.6
Mass Range:
399.0 / 80.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



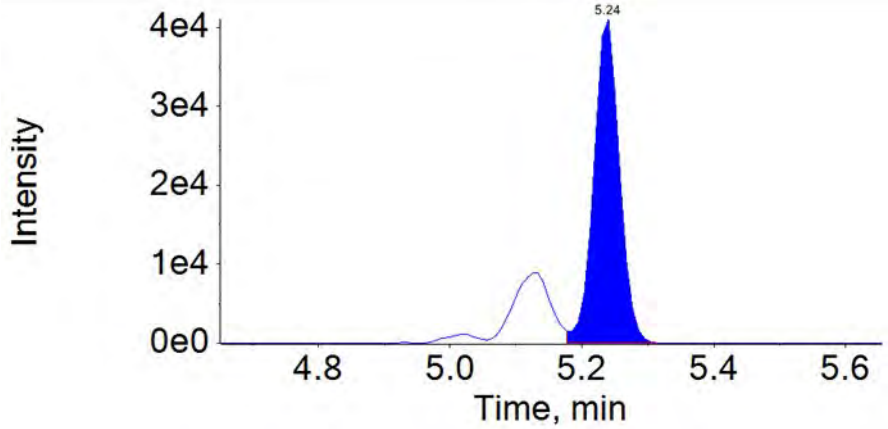
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
283136.7
Mass Range:
413.0 / 369.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
111128.4
Mass Range:
499.0 / 80.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



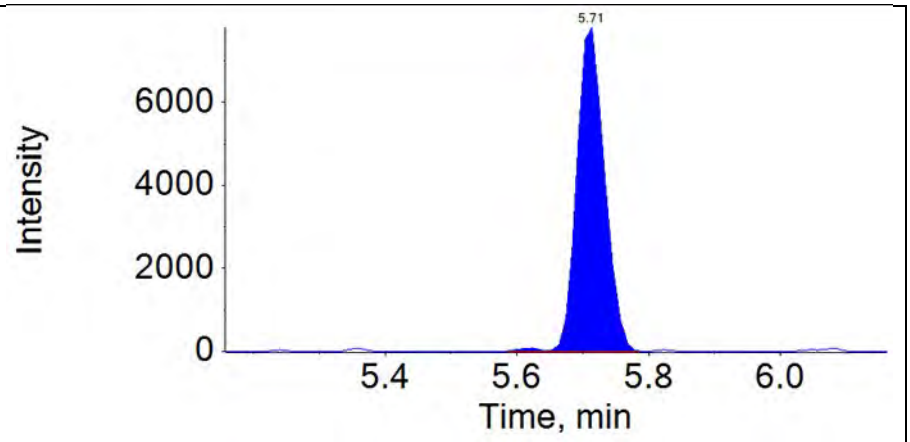
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

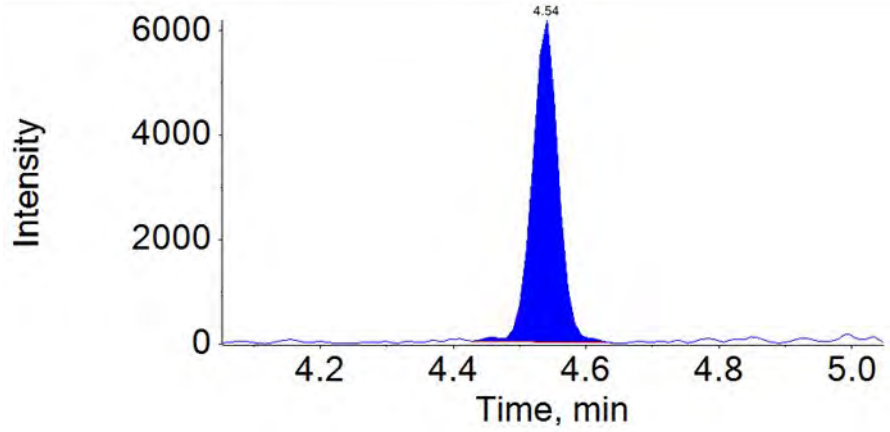
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
23014.8
Mass Range:
570.0 / 419.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



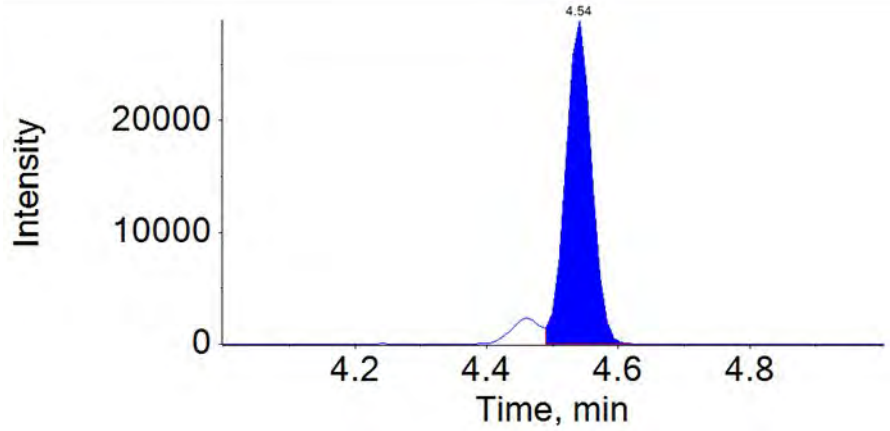
Integration Comment: incorrect integration

Component Name:
PFHpA_2
RT (min.):
4.54
Peak Area:
16782.8
Mass Range:
363.0 / 169.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
79202.0
Mass Range:
399.0 / 99.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



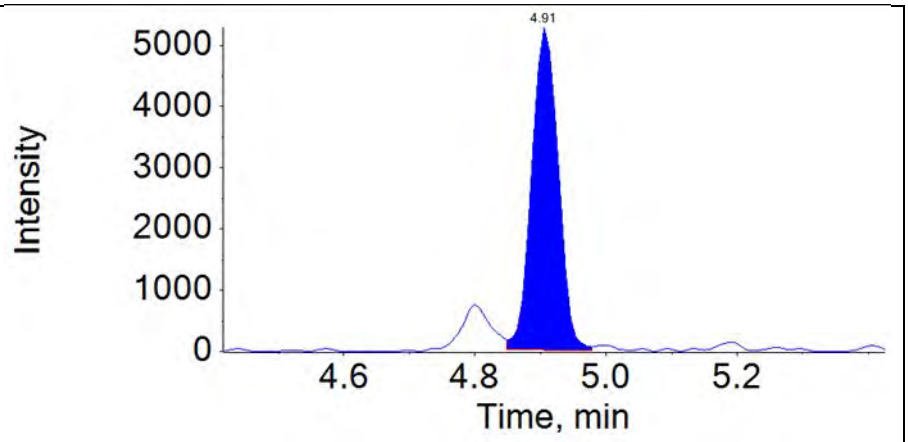
Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

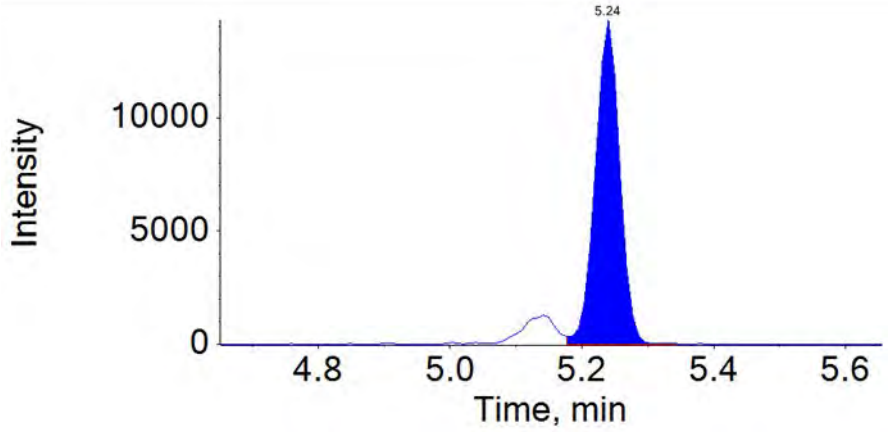
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
14818.7
Mass Range:
413.0 / 169.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



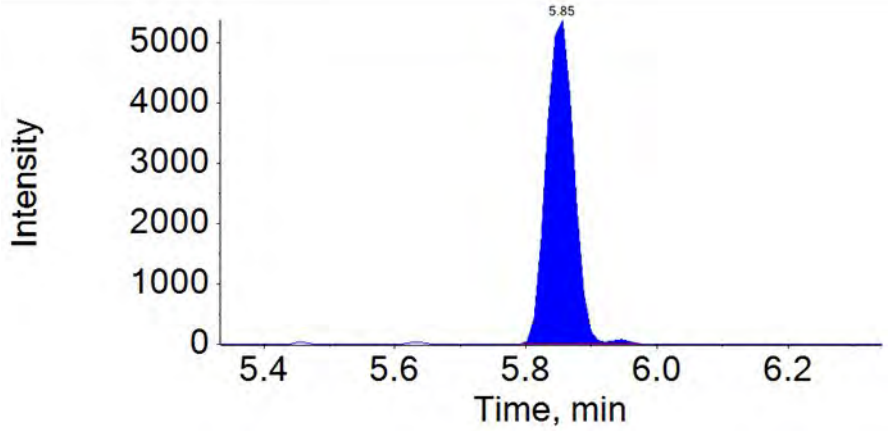
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
36920.7
Mass Range:
499.0 / 99.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
15729.9
Mass Range:
584.0 / 526.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



Integration Comment: incorrect integration

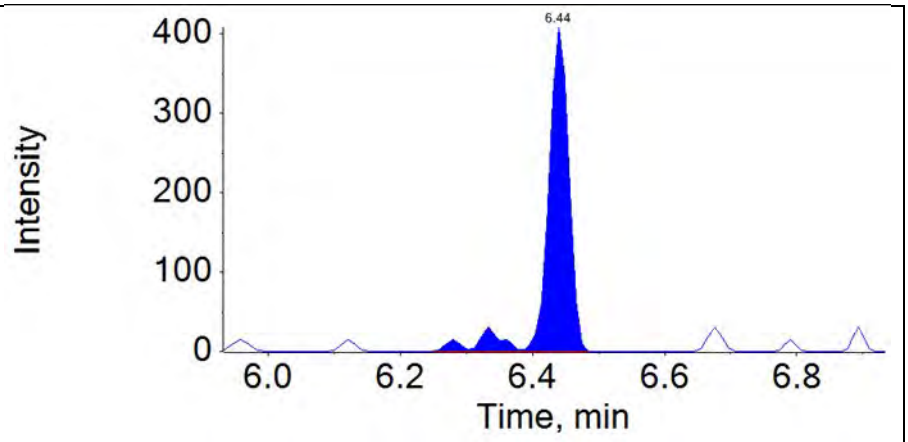
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFTeDA_2
RT (min.):
6.44
Peak Area:
935.7
Mass Range:
713.0 / 169.0
File Name:
18DEC08D-38.wiff
Sample Name:
9922843MSD



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Ion Ratio Report

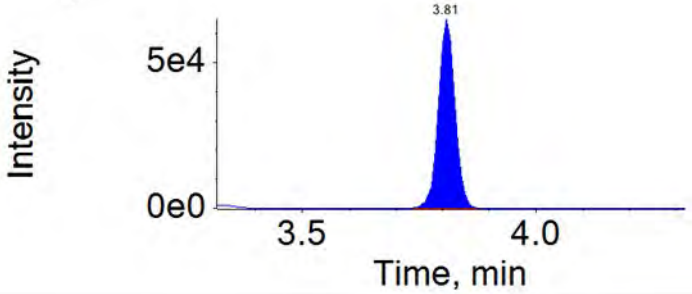
Sample Name: 9922843MSD **Instrument Name:** LM27631 **File Name:** 18DEC08D-38.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	158559.8	A	N/A	0.3668			
PFBS_2	3.81	1.00	58157.1	A	N/A	0.3668	2	50	
PFHxA	4.15	1.00	454232.2	A	N/A	0.0086			
PFHxA_2	4.15	1.00	3922.4	A	N/A	0.0086	-3	50	
PFHpA	4.54	1.00	323557.9	A	N/A	0.0516			
PFHpA_2	4.54	1.00	16698.6	M	N/A	0.0516	-8	50	
PFHxS	4.54	1.00	249567.4	M	N/A	0.3465			
PFHxS_2	4.54	1.00	86483.9	M	N/A	0.3465	-6	50	
PFOA	4.91	1.00	290000.9	M	N/A	0.0601			
PFOA_2	4.91	1.00	17426.7	M	N/A	0.0601	-3	50	
PFOS	5.24	1.00	149766.4	M	N/A	0.2777			
PFOS_2	5.24	1.00	41592.5	M	N/A	0.2777	-8	50	
PFNA	5.25	1.00	228686.8	A	N/A	0.0170			
PFNA_2	5.25	1.00	3897.3	A	N/A	0.0170	-9	50	
PFDA	5.56	1.00	184605.1	A	N/A	0.0053			
PFDA_2	5.57	1.00	976.1	A	N/A	0.0053	-50	50	
NMeFOSAA	5.71	1.00	22824.5	M	N/A	0.2286			
NMeFOSAA_2	5.71	1.00	5217.2	A	N/A	0.2286	-13	50	
PFUnDA	5.83	1.00	194808.7	A	N/A	0.0013			
PFUnDA_2	5.84	1.00	259.5	A	N/A	0.0013	-68	50	OOS
NEtFOSAA	5.85	1.00	23937.3	A	N/A	0.6508			
NEtFOSAA_2	5.85	1.00	15578.0	M	N/A	0.6508	-4	50	
PFDoDA	6.06	1.00	243455.2	A	N/A	0.0128			
PFDoDA_2	6.07	1.00	3104.3	A	N/A	0.0128	-5	50	
PFTrDA	6.26	1.03	201354.7	A	N/A	0.0060			
PFTrDA_2	6.26	1.03	1215.0	A	N/A	0.0060	-12	50	
PFTeDA	6.44	1.00	158896.6	A	N/A	0.0053			
PFTeDA_2	6.44	1.00	843.6	M	N/A	0.0053	-21	50	

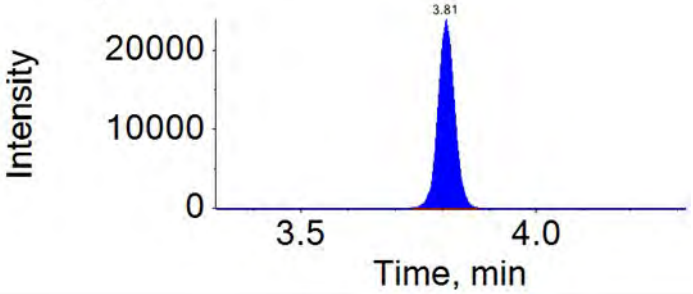
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

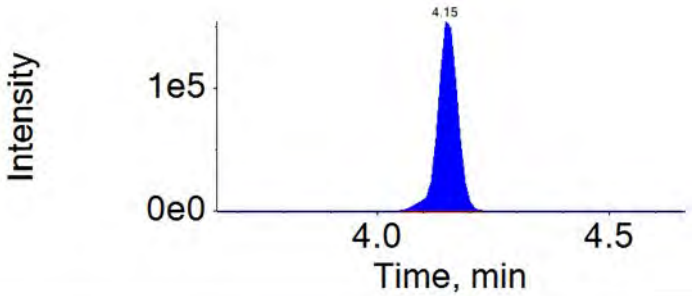
Component: PFBS
Primary Mass: 299.0 / 80.0



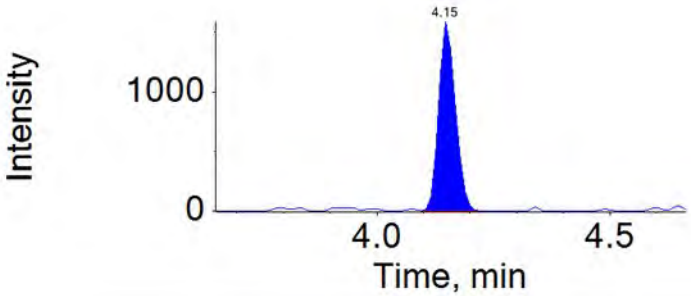
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



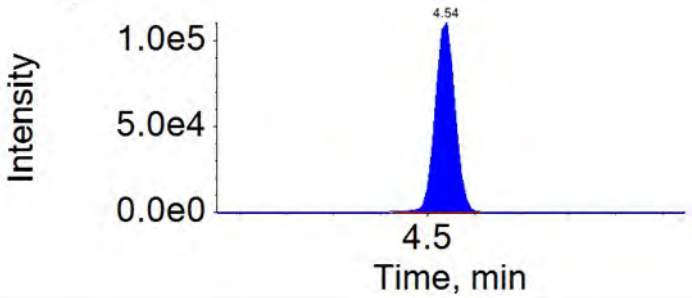
Component: PFHxA
Primary Mass: 313.0 / 269.0



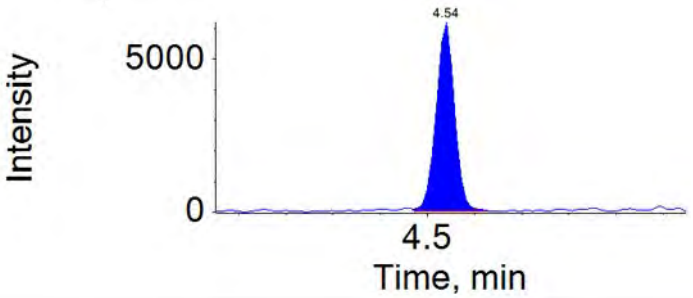
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



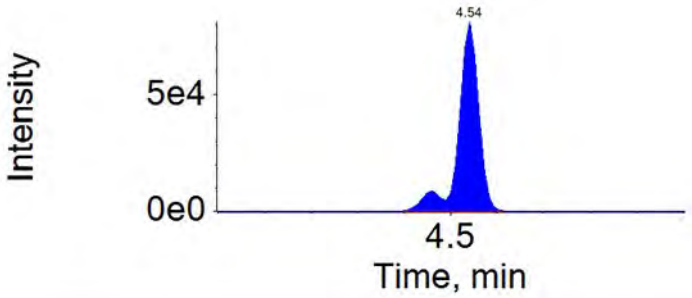
Component: PFHpA
Primary Mass: 363.0 / 319.0



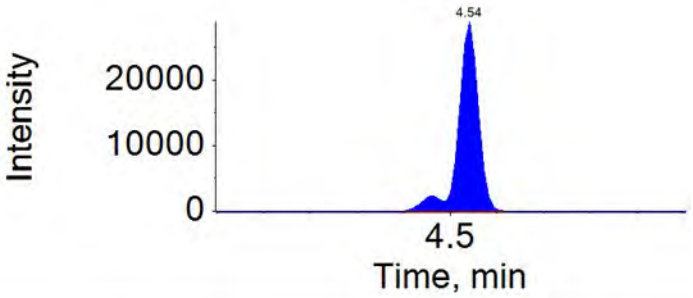
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



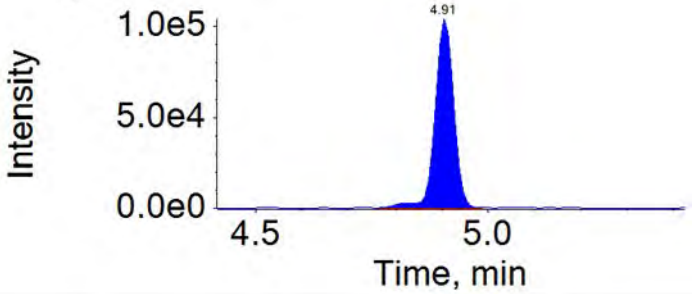
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



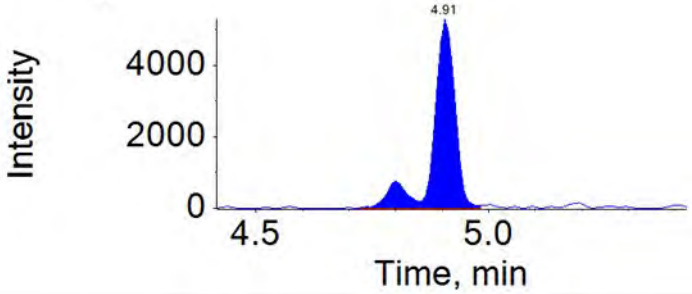
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

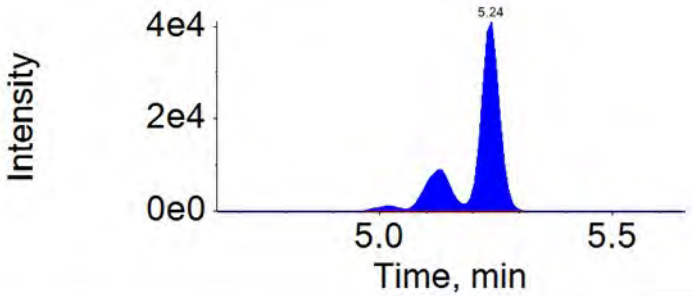
Component: PFOA
Primary Mass: 413.0 / 369.0



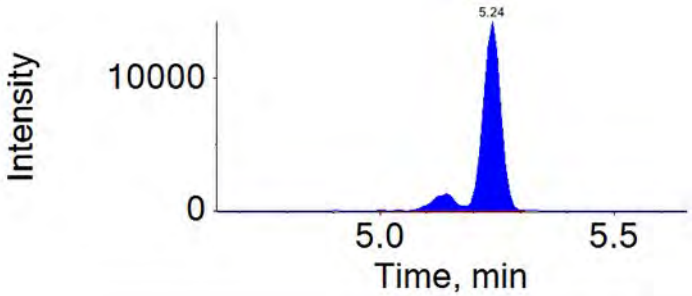
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



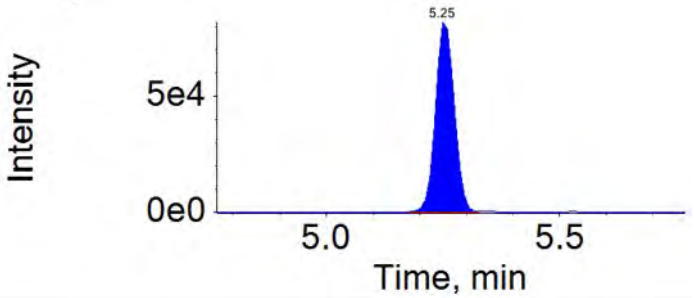
Component: PFOS
Primary Mass: 499.0 / 80.0



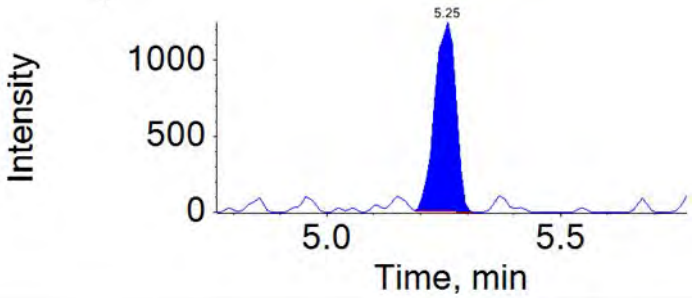
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



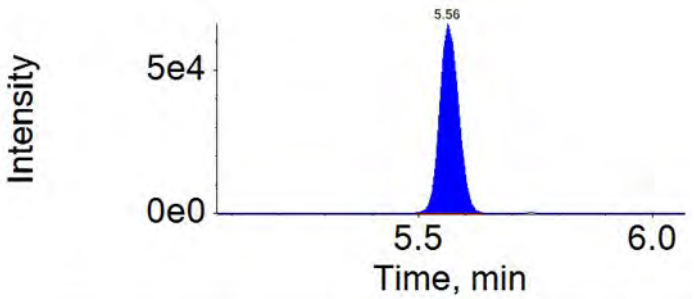
Component: PFNA
Primary Mass: 463.0 / 419.0



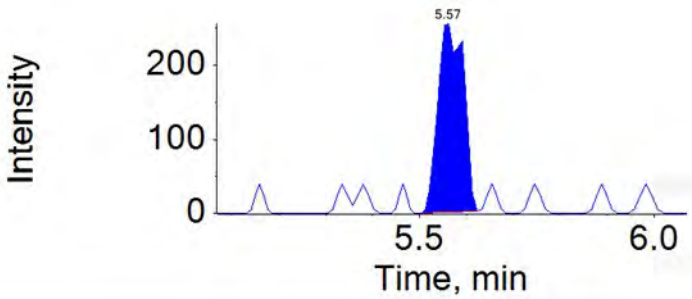
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



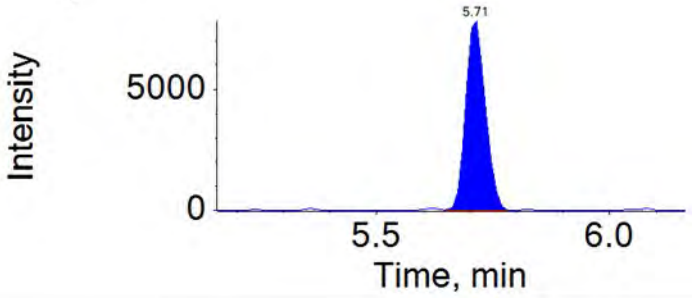
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



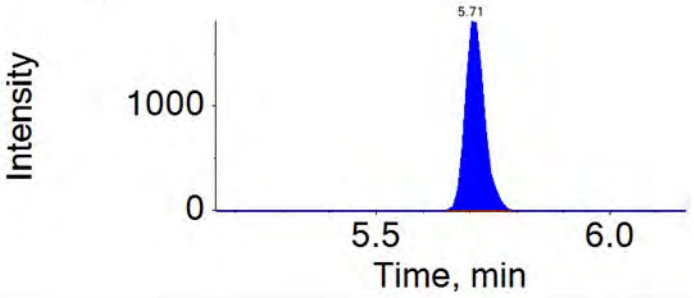
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

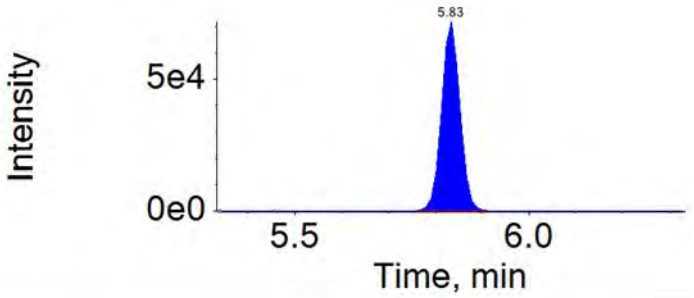
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



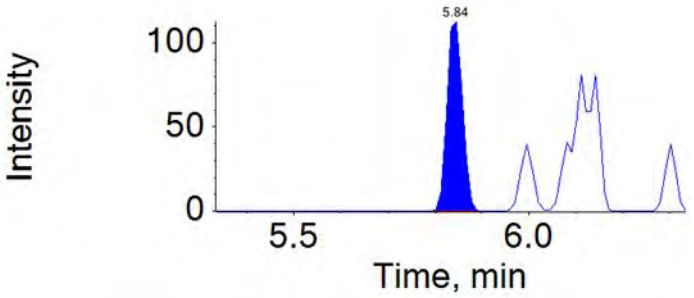
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



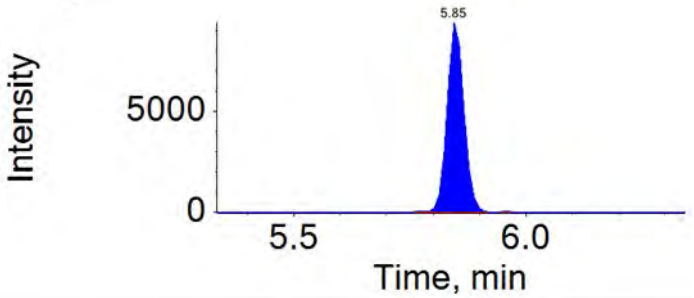
Component: PFUnDA
Primary Mass: 563.0 / 519.0



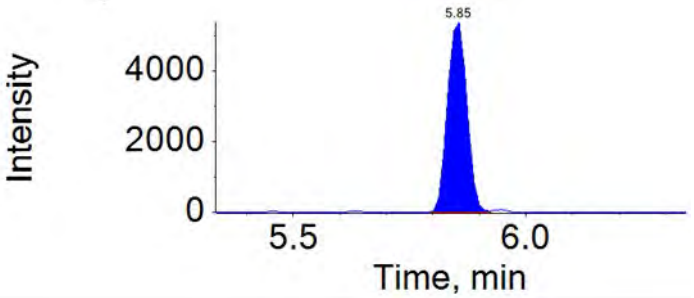
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



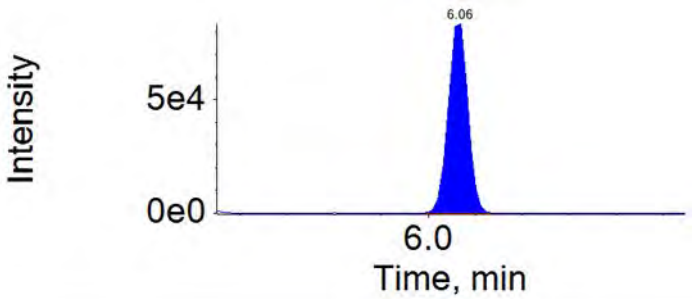
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



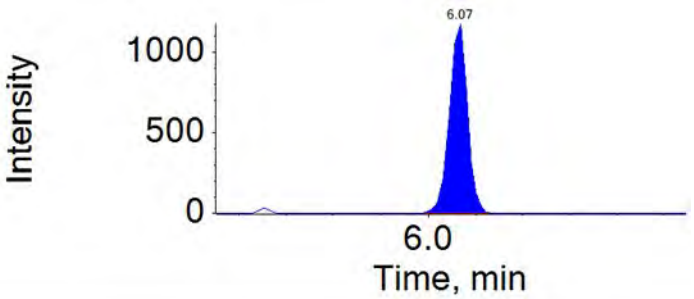
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



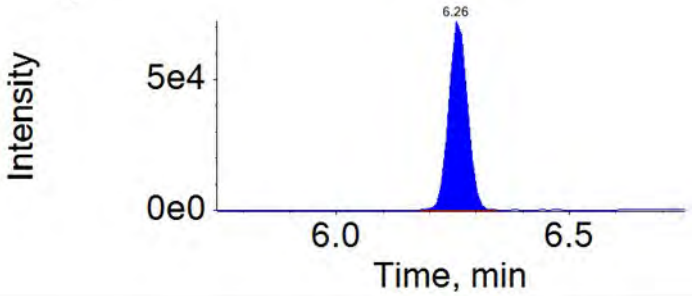
Component: PFDoDA
Primary Mass: 613.0 / 569.0



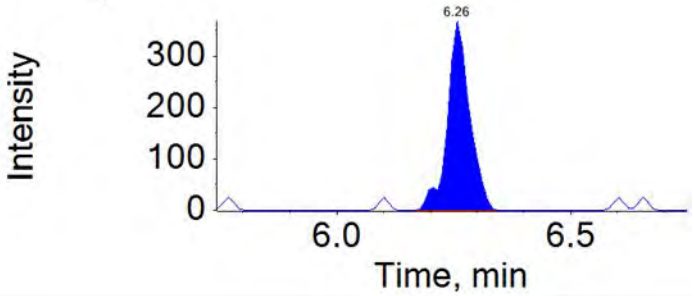
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



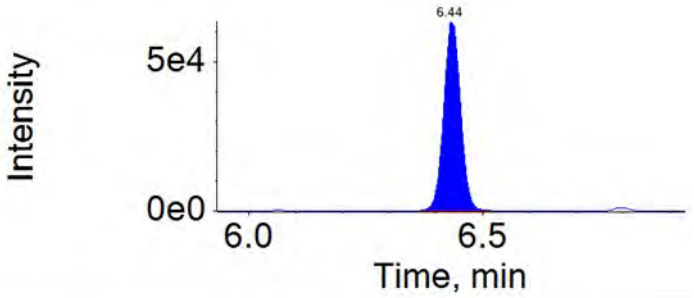
Component: PFTrDA
Primary Mass: 663.0 / 619.0



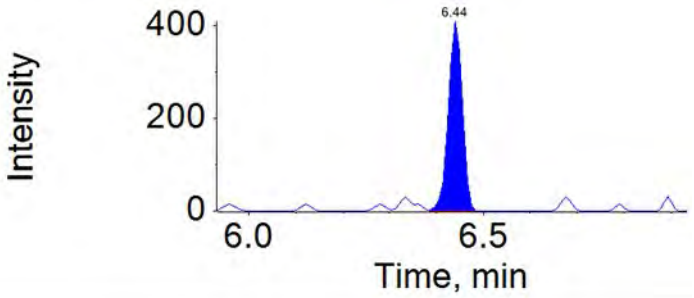
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



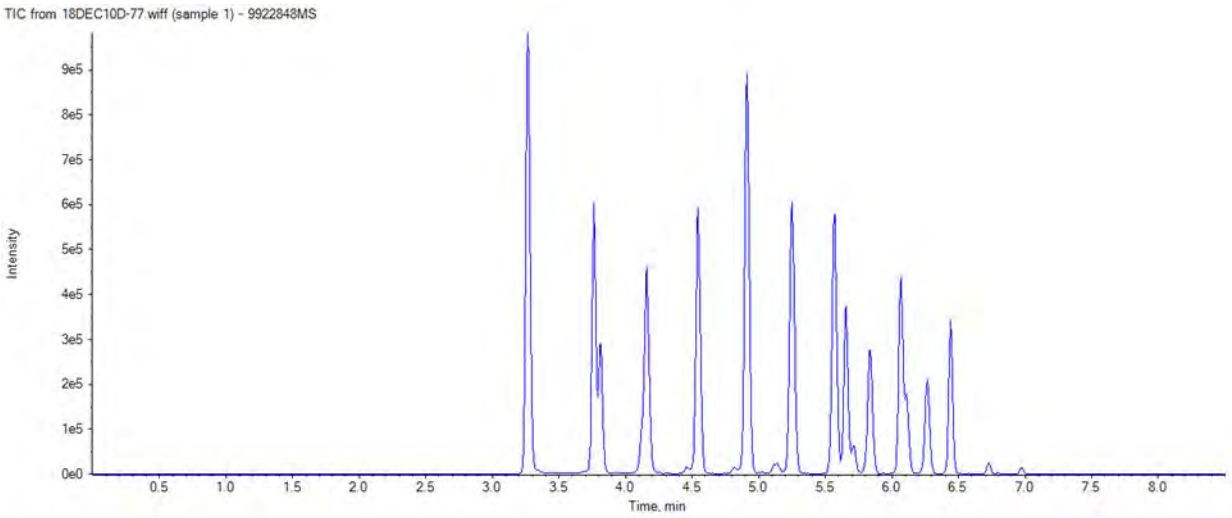
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:27 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922848MS	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 MS Grab Groundwater	18DEC10D-77.wiff	2018-12-11T00:01:10



Injection Standard Area Reference File**:** 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	938938.4	968978.6	-3	50	
13C2-PFOA	5.00	554979.0	507254.2	9	50	
13C4-PFOS	4.78	310333.0	302410.5	3	50	
13C2-PFDA	5.00	415835.4	392614.4	6	50	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922848MS	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 MS Grab Groundwater	18DEC10D-77.wiff	2018-12-11T00:01:10

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBS	134955.9	413271.3	0.327	4.146	5.579	135	72-127	OOS
PFHxA	253837.5	689305.4	0.368	4.688	5.531	118	77-132	
PFHpA	241563.2	535522.1	0.451	4.688	5.119	109	75-139	
PFHxS	217077.6	319282.0	0.680	4.432	11.103	250	71-130	OOS
PFOA	415504.5	904384.9	0.459	4.688	8.654	185	76-136	OOS
PFOS	214387.2	291197.3	0.736	4.481	10.525	235	67-134	OOS
PFNA	196629.4	590050.4	0.333	4.688	4.233	90	73-144	
PFDA	162825.0	657872.3	0.248	4.688	4.802	102	67-141	
NMeFOSAA	20660.1	122083.6	0.169	4.688	3.858	82	67-124	
PFUnDA	153137.9	388021.3	0.395	4.688	4.165	89	83-132	
NEtFOSAA	18968.1	84504.1	0.224	4.688	3.910	83	60-131	
PFDoDA	200209.7	742281.2	0.270	4.688	4.894	104	72-137	
PFTrDA	175178.4	742281.2	0.236	4.688	5.328	114	57-137	
PFTeDA	142277.6	560750.3	0.254	4.688	5.001	107	70-142	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922848MS			**Data File:**		18DEC10D-77.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 MS Grab Groundwater			**Acquis Date:**		2018-12-11T00:01:10
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	66			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.29013			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	938938.4	968978.6	-3	50	
13C2-PFOA	5.0	554979.0	507254.2	9	50	
13C4-PFOS	4.8	310333.0	302410.5	3	50	
13C2-PFDA	5.0	415835.4	392614.4	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	413271.3	13C3-PFBA	938938.4	0.440	16.027	12.859	80	50-150	
E13C5-PFHxA	689305.4	13C2-PFOA	554979.0	1.242	17.234	14.373	83	50-150	
E13C3-PFHxS	319282.0	13C2-PFOA	554979.0	0.575	16.303	12.719	78	50-150	
E13C4-PFHpA	535522.1	13C2-PFOA	554979.0	0.965	17.234	14.139	82	50-150	
E13C8-PFOA	904384.9	13C2-PFOA	554979.0	1.630	17.234	15.877	92	50-150	
E13C8-PFOS	291197.3	13C4-PFOS	310333.0	0.938	16.475	14.514	88	50-150	
E13C9-PFNA	590050.4	13C4-PFOS	310333.0	1.901	17.234	18.519	107	50-150	
E13C6-PFDA	657872.3	13C2-PFDA	415835.4	1.582	17.234	14.450	84	50-150	
Ed3-NMeFOSAA	122083.6	13C2-PFDA	415835.4	0.294	17.234	17.933	104	50-150	
E13C7-PFUnDA	388021.3	13C2-PFDA	415835.4	0.933	17.234	15.777	92	50-150	
Ed5-NEtFOSAA	84504.1	13C2-PFDA	415835.4	0.203	17.234	15.462	90	50-150	
E13C2-PFDoDA	742281.2	13C2-PFDA	415835.4	1.785	17.234	12.911	75	50-150	
E13C2-PFTeDA	560750.3	13C2-PFDA	415835.4	1.348	17.234	13.795	80	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

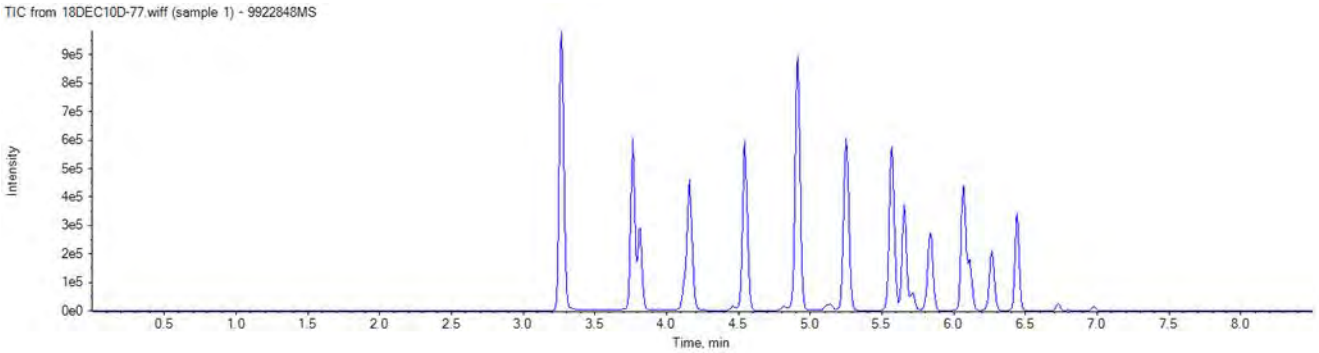
Analyte Quantitation Peak Table

Sample Name: 9922848MS **Instrument Name:** LM27631 **File Name:** 18DEC10D-77.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.29013	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	134955.9		A	13C3-PFBS	3.81	413271.3	0.327	5.579
PFHxA	4.16	1.000	253837.5		A	13C5-PFHxA	4.16	689305.4	0.368	5.531
PFHpA	4.54	1.000	241563.2		A	13C4-PFHpA	4.54	535522.1	0.451	5.119
PFHxS	4.55	1.000	217077.6		M	13C3-PFHxS	4.55	319282.0	0.680	11.103
PFOA	4.91	1.000	415504.5		M	13C8-PFOA	4.91	904384.9	0.459	8.654
PFOS	5.24	1.000	214387.2		M	13C8-PFOS	5.24	291197.3	0.736	10.525
PFNA	5.26	1.000	196629.4		A	13C9-PFNA	5.26	590050.4	0.333	4.233
PFDA	5.57	1.000	162825.0		A	13C6-PFDA	5.57	657872.3	0.248	4.802
NMeFOSAA	5.72	1.000	20660.1		A	d3-NMeFOSAA	5.71	122083.6	0.169	3.858
PFUnDA	5.83	1.000	153137.9		A	13C7-PFUnDA	5.84	388021.3	0.395	4.165
NEtFOSAA	5.85	1.000	18968.1		A	d5-NEtFOSAA	5.85	84504.1	0.224	3.910
PFDoDA	6.07	1.000	200209.7		A	13C2-PFDoDA	6.07	742281.2	0.270	4.894
PFTrDA	6.26	1.030	175178.4		A	13C2-PFDoDA	6.07	742281.2	0.236	5.328
PFTeDA	6.44	1.000	142277.6		A	13C2-PFTeDA	6.44	560750.3	0.254	5.001

Total Ion Chromatogram

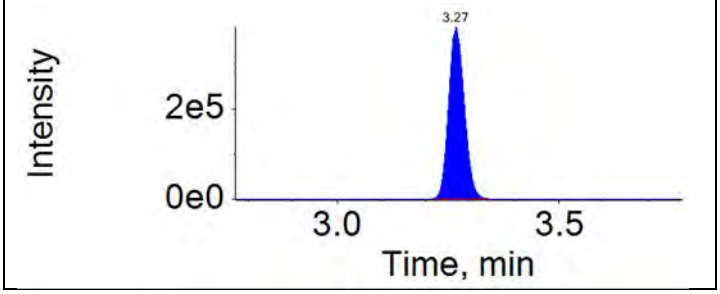


APPROVED
By MCD at 3:52 pm, 12/11/18

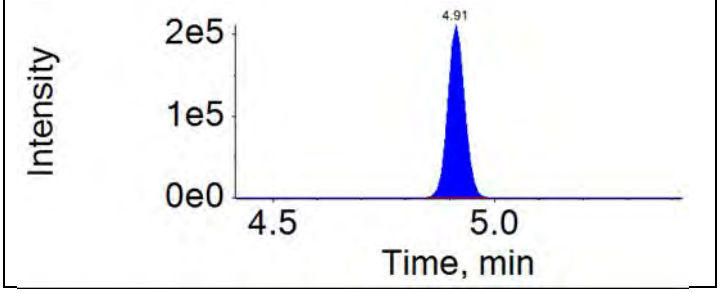
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

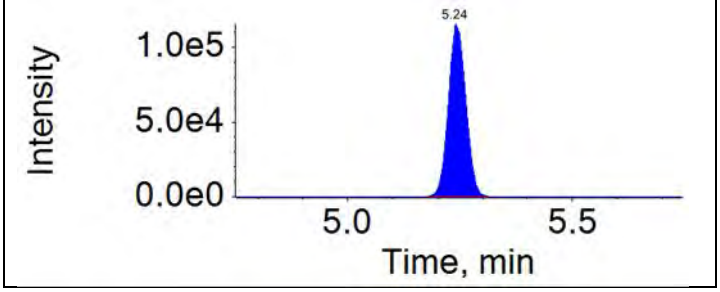
Injection Standard: 13C3-PFBA
216.0 / 172.0



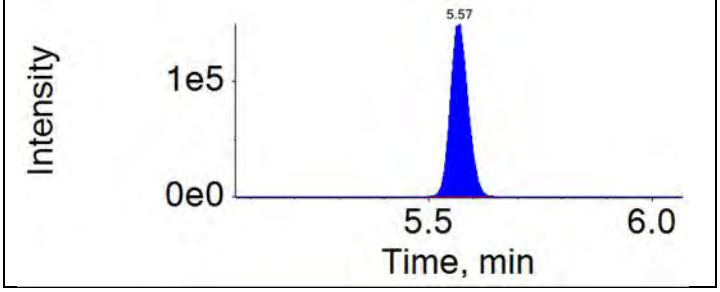
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



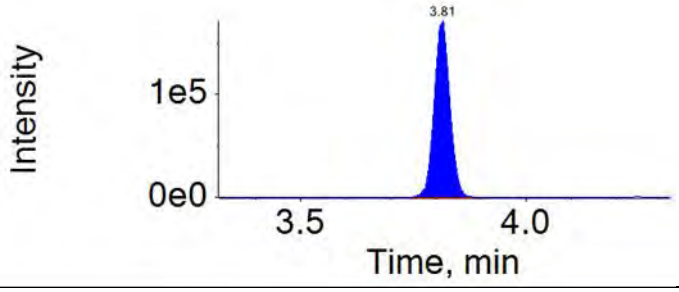
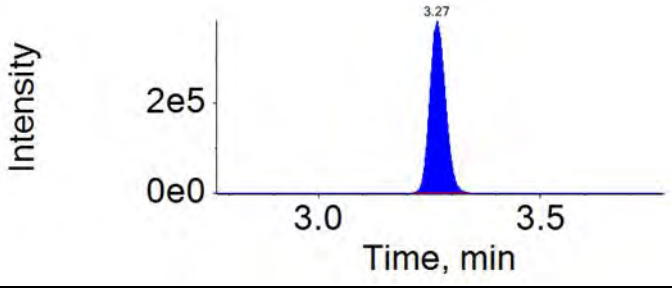
Injection Standard: 13C2-PFDA
515.0 / 470.0

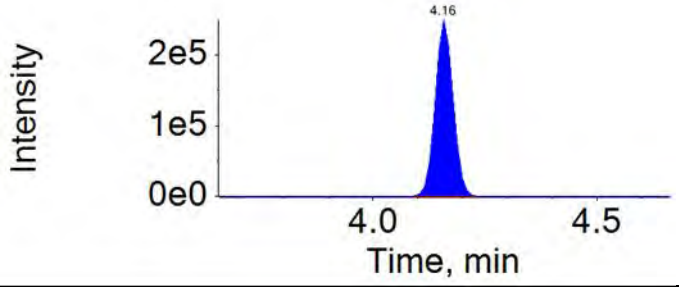
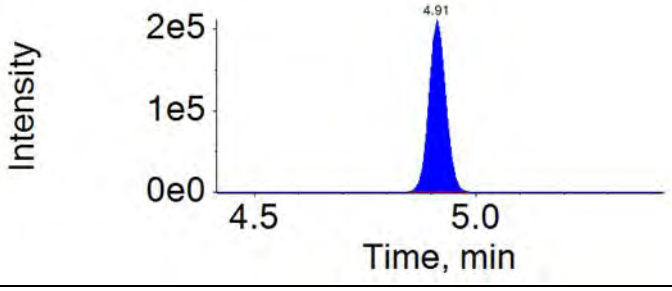


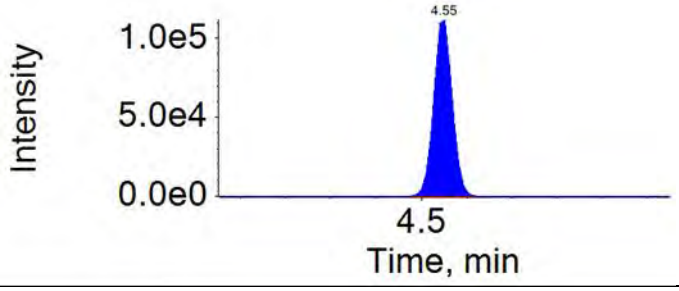
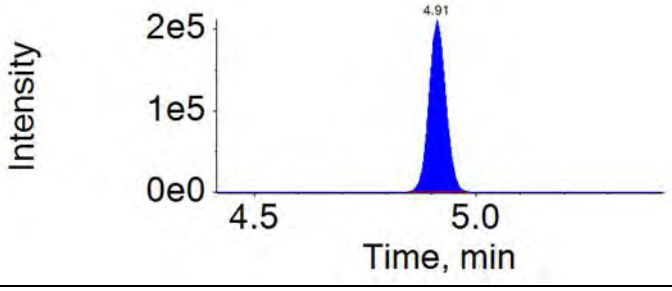
APPROVED
By MCD at 3:52 pm, 12/11/18

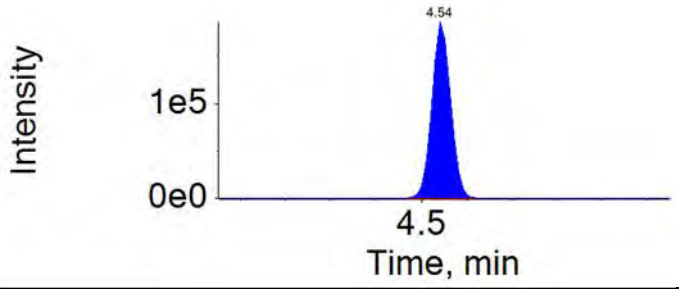
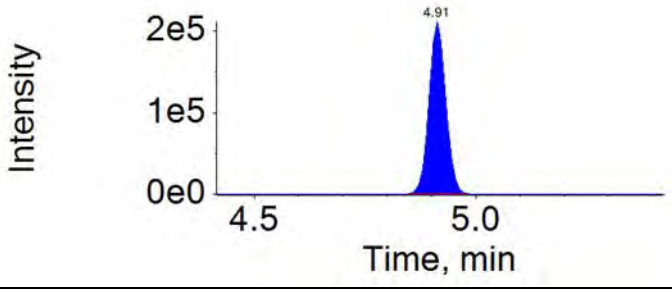
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

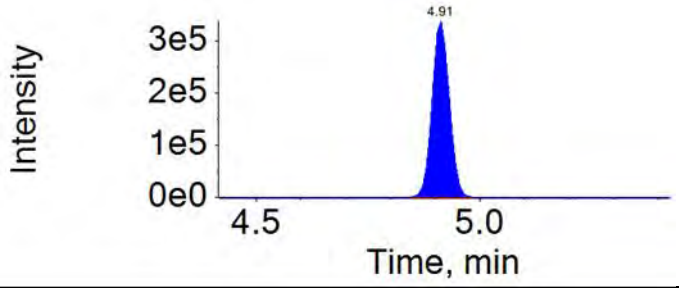
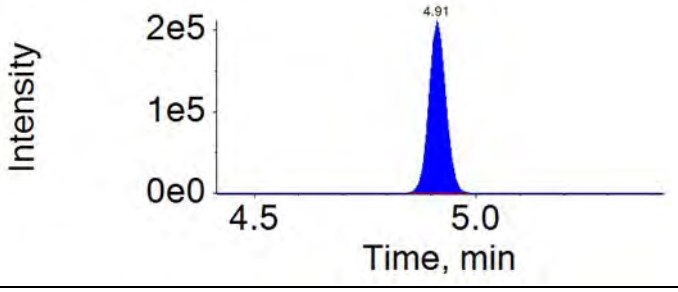
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

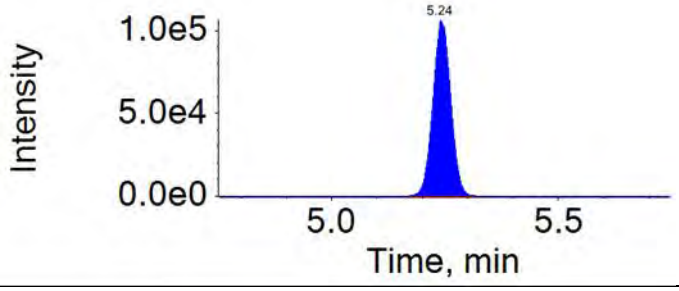
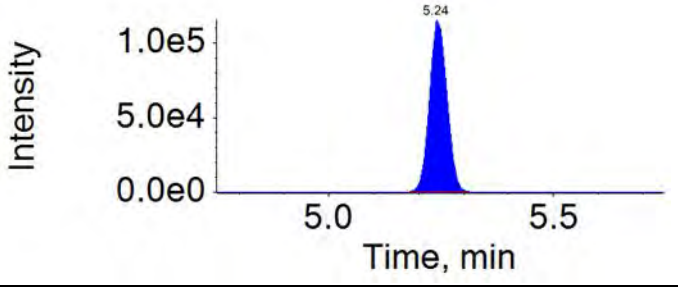
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

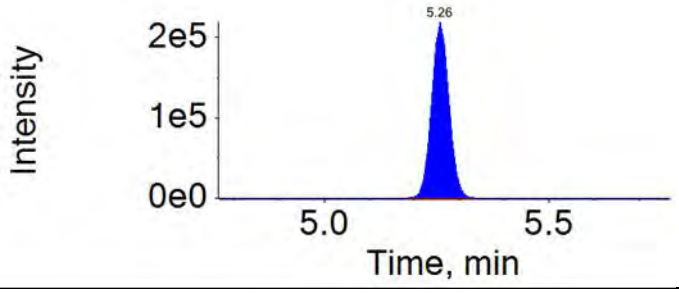
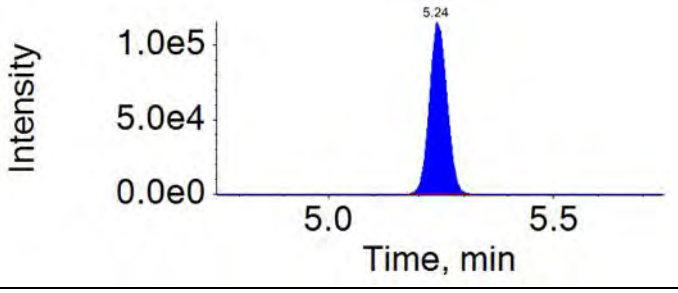
APPROVED
By MCD at 3:52 pm, 12/11/18

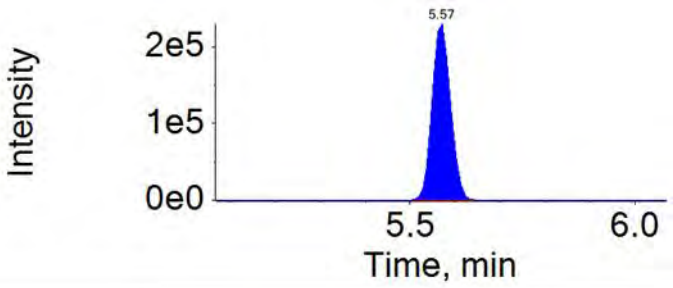
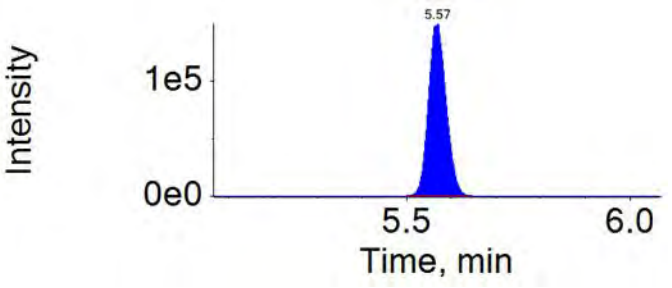
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

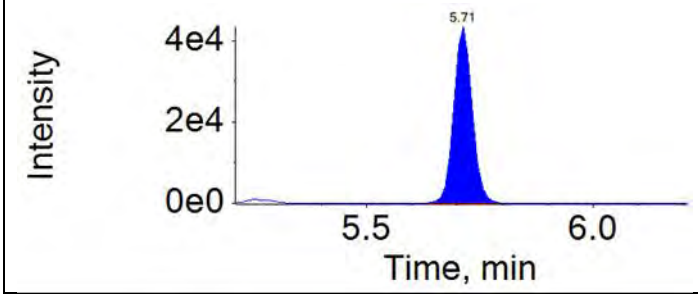
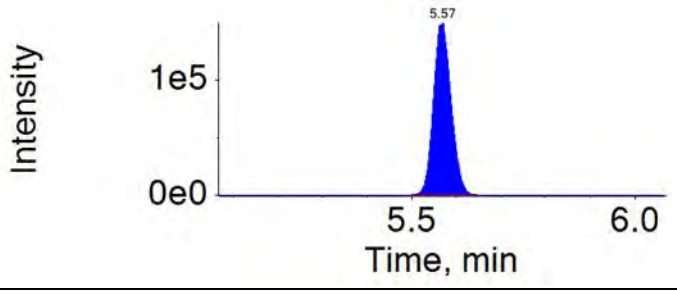
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

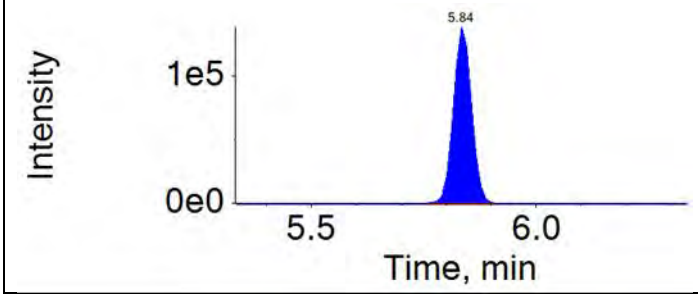
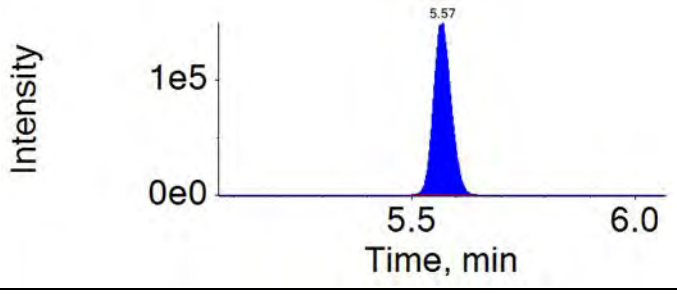
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

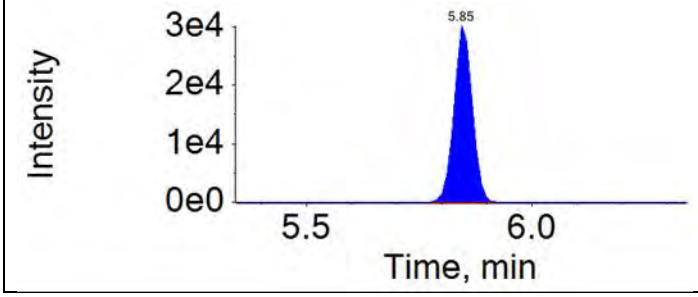
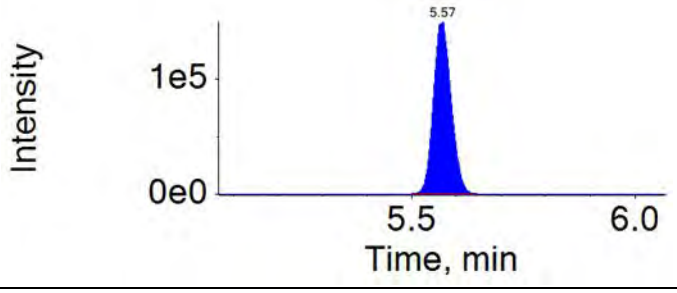
APPROVED
By MCD at 3:52 pm, 12/11/18

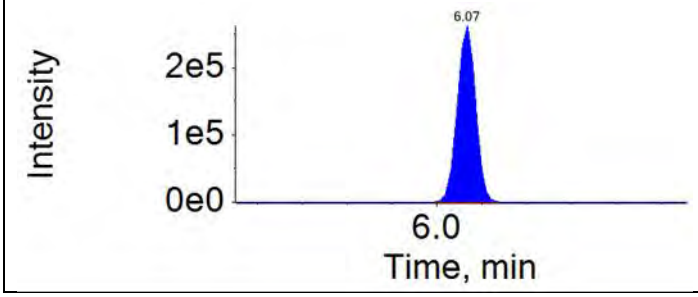
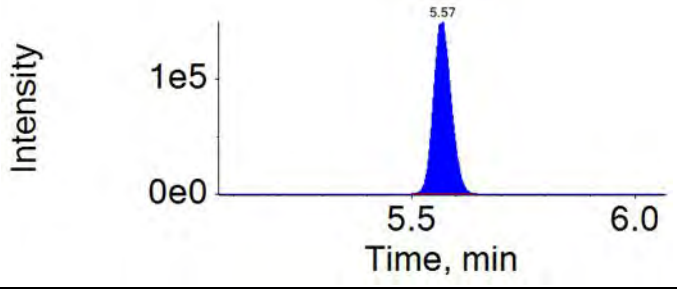
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

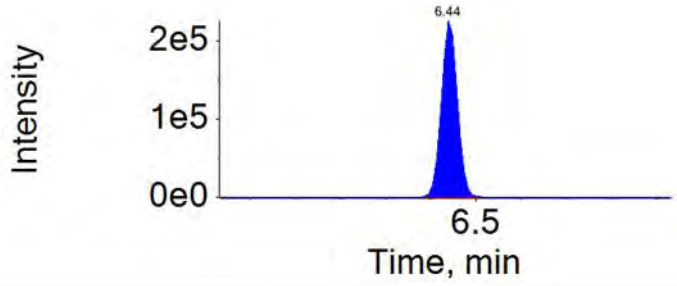
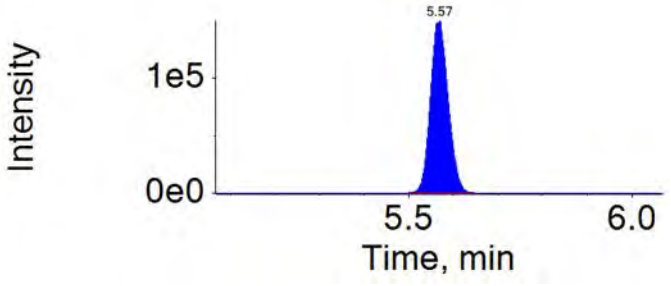
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

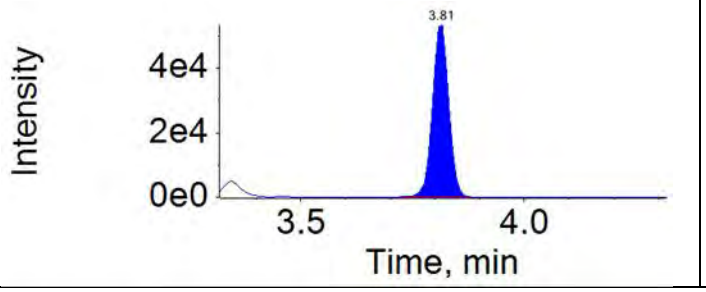
REVIEWED
By umar at 1:17 pm, 12/13/18

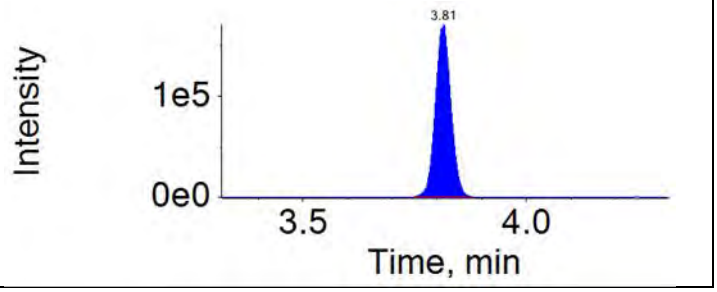
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

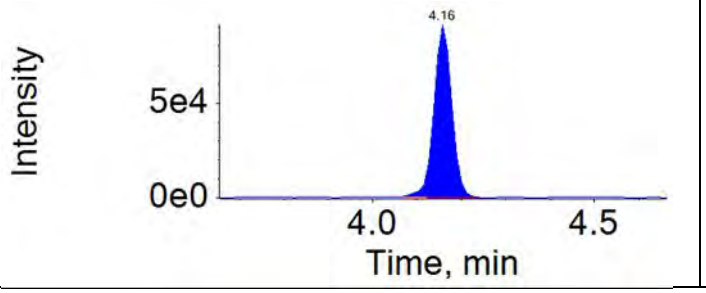
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

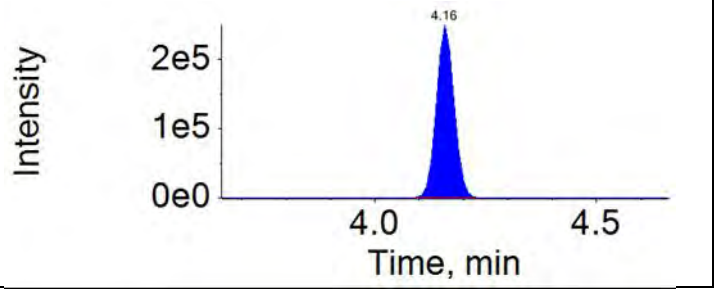
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



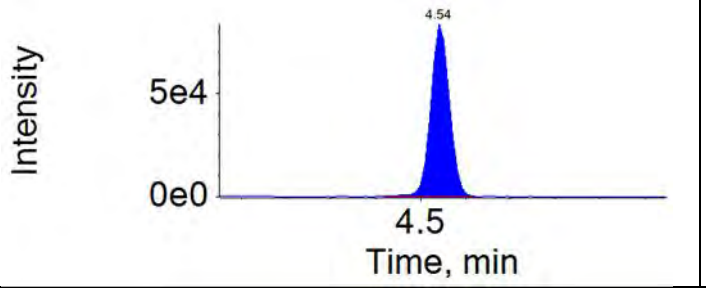


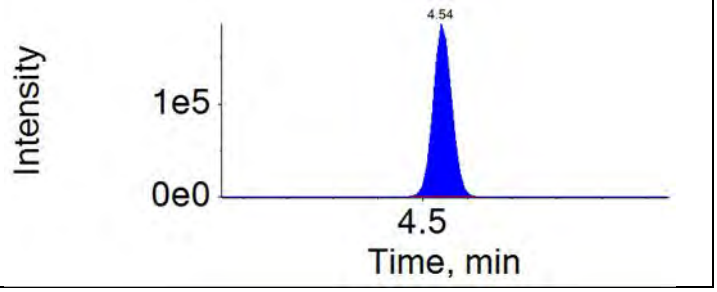
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



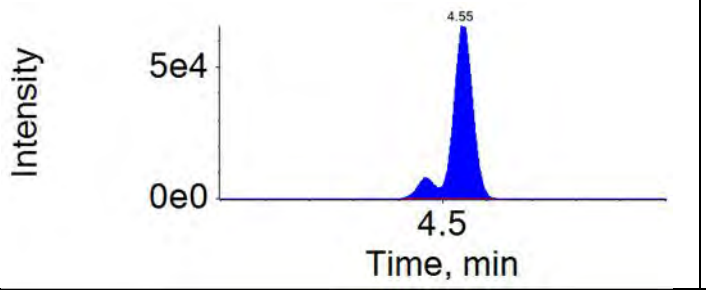


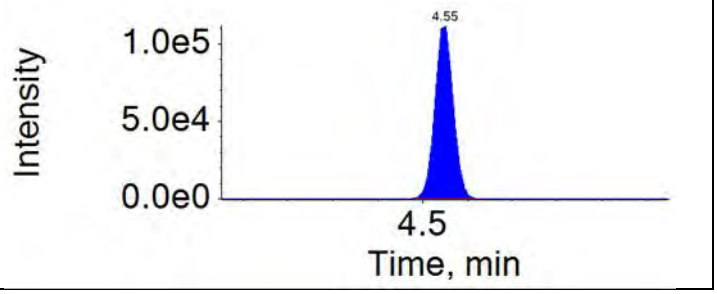
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



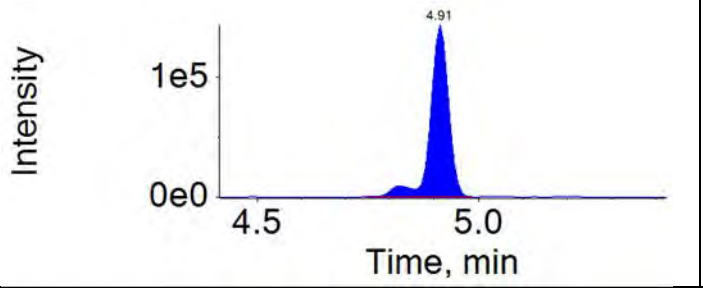


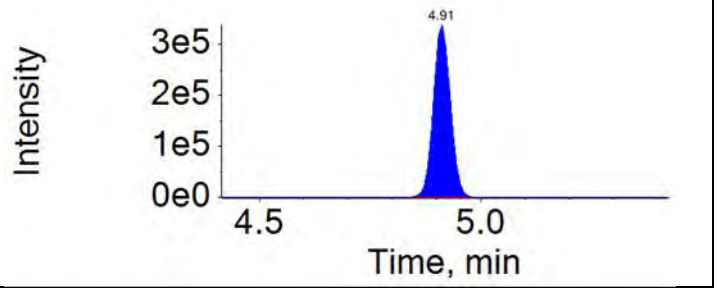
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

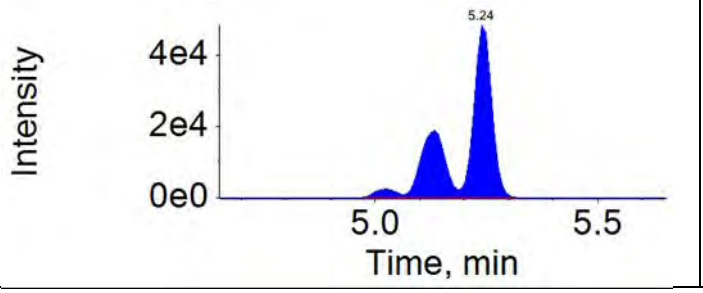
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

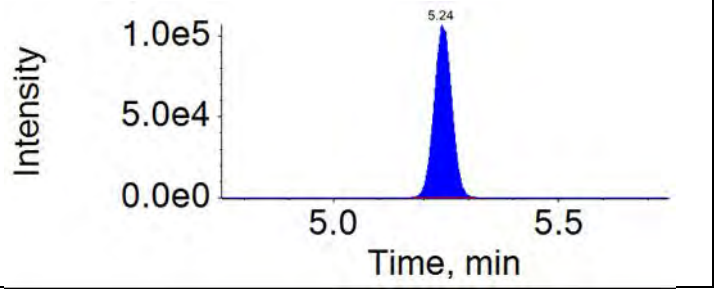
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



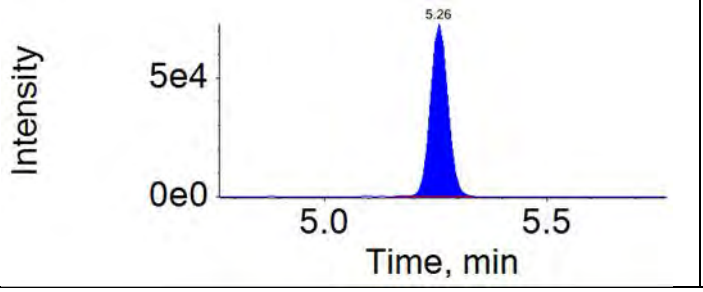


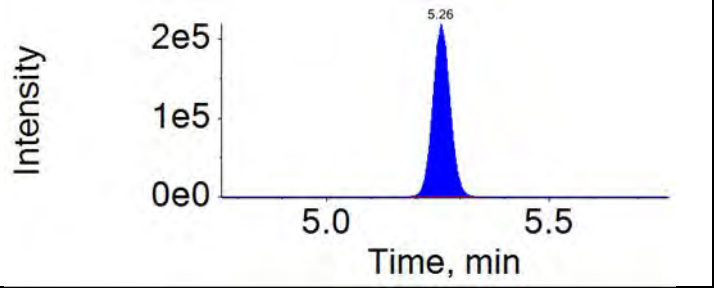
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



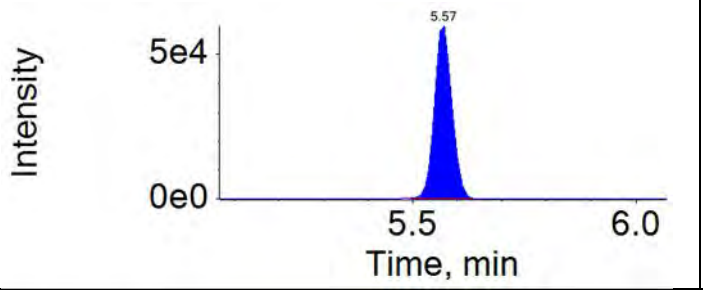


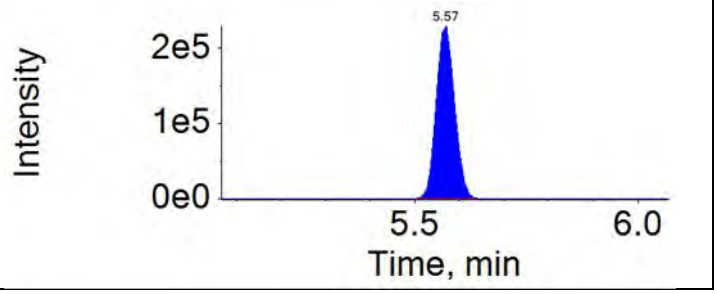
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

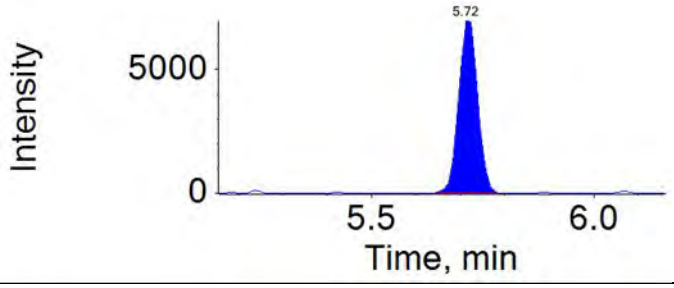
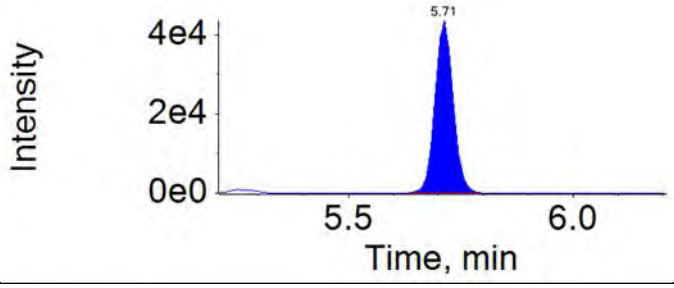


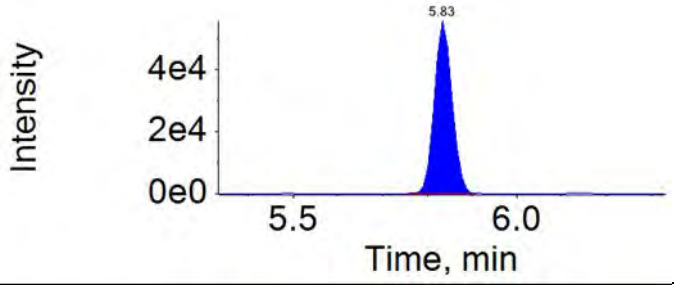
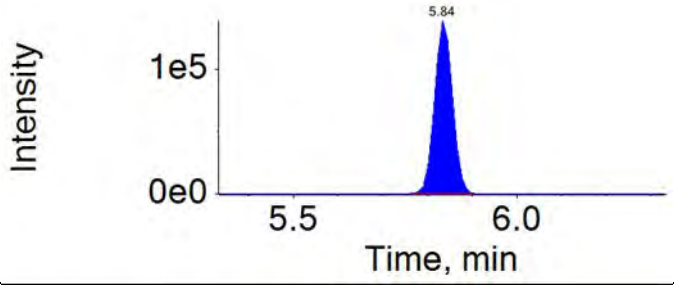


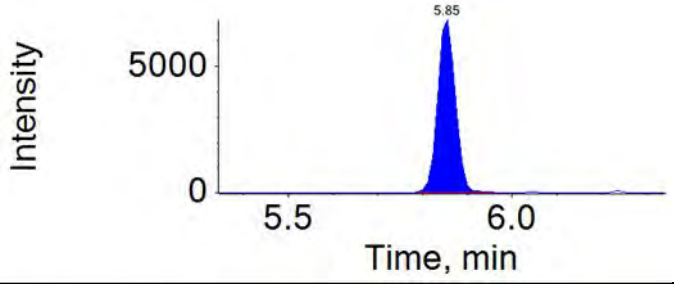
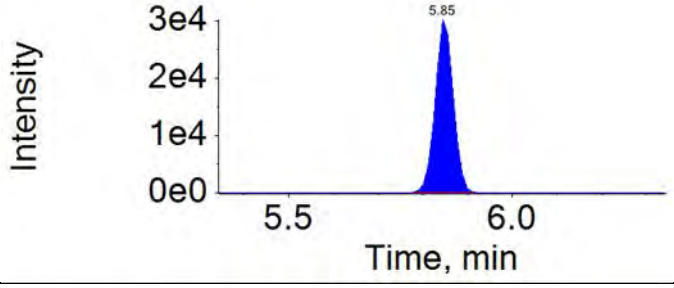
APPROVED
By MCD at 3:52 pm, 12/11/18

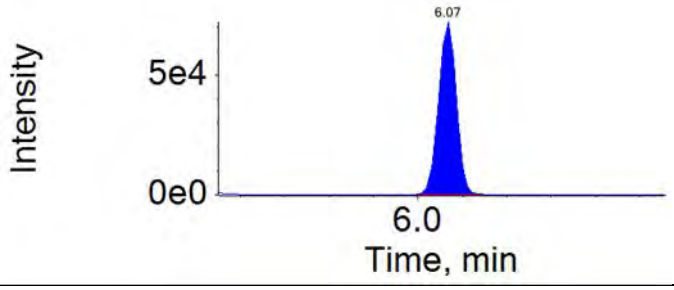
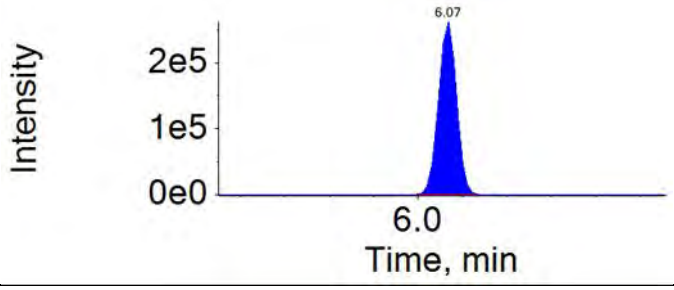
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

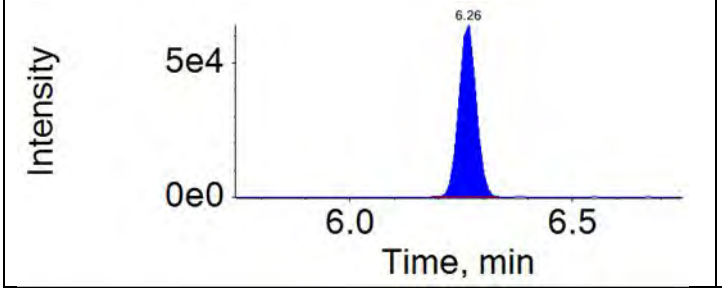
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

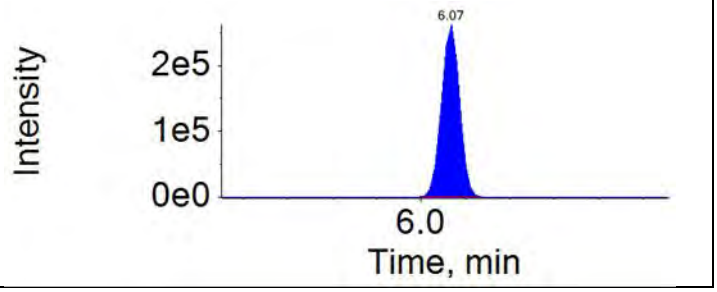
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

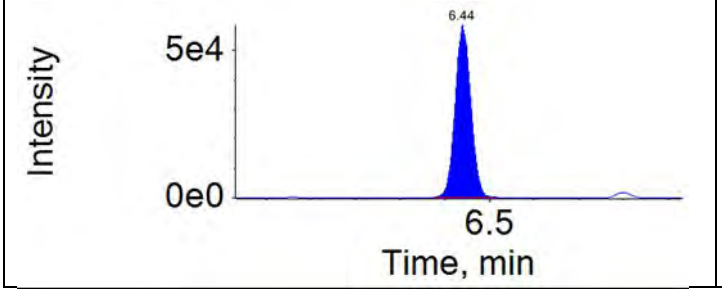
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

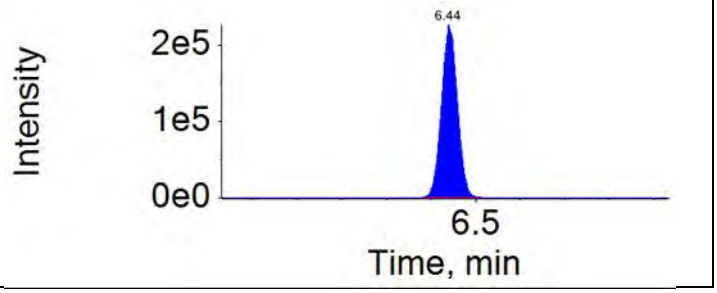
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



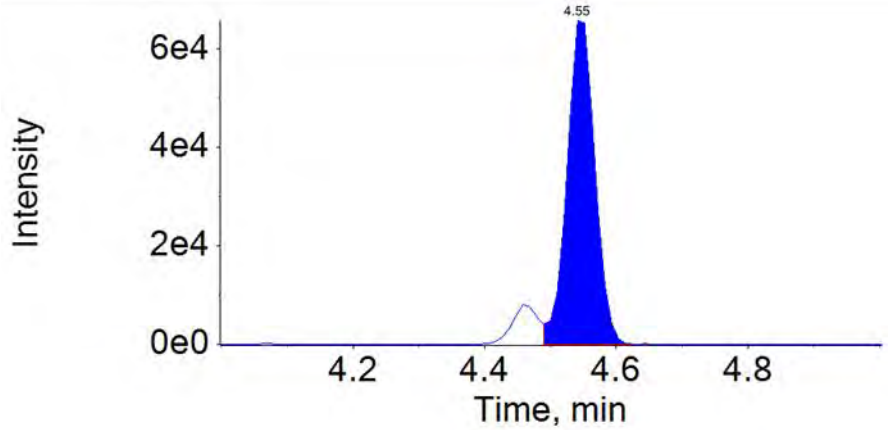


APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

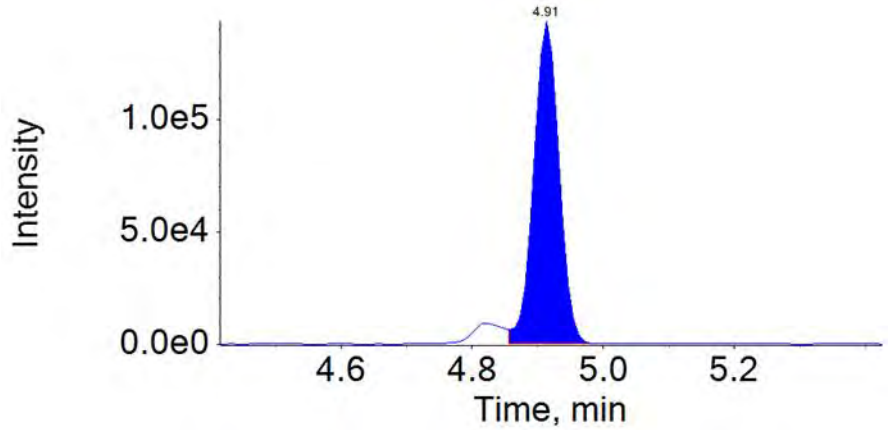
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
195347.7
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-77.wiff
Sample Name:
9922848MS



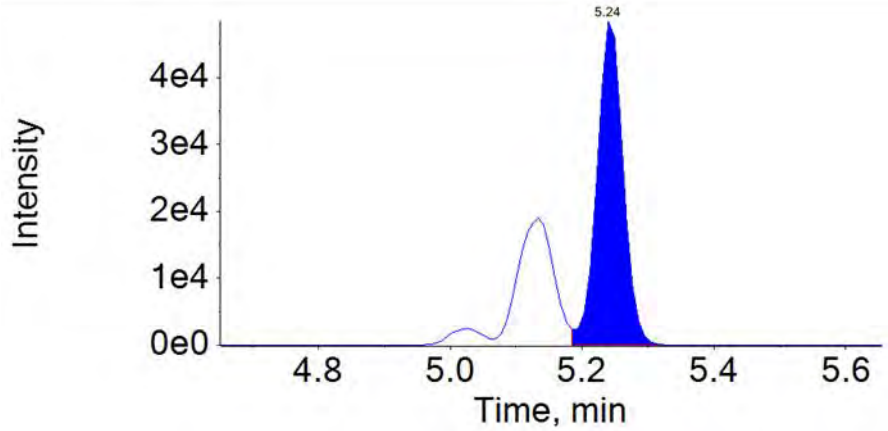
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
385408.5
Mass Range:
413.0 / 369.0
File Name:
18DEC10D-77.wiff
Sample Name:
9922848MS



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
133904.0
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-77.wiff
Sample Name:
9922848MS



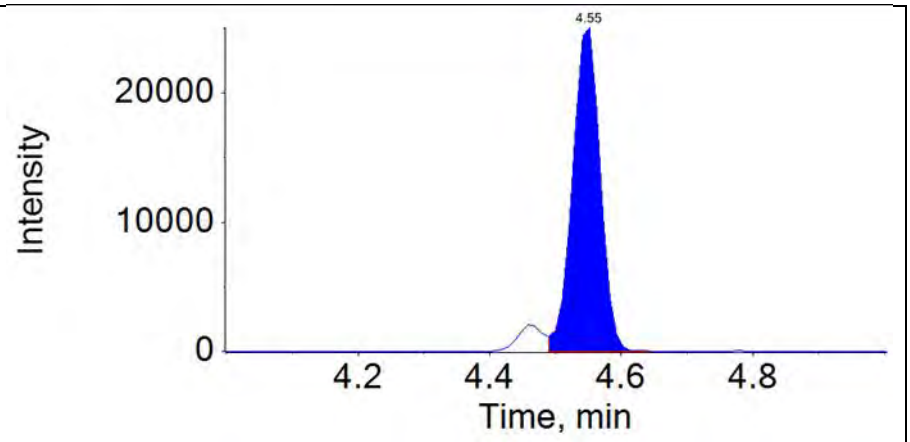
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

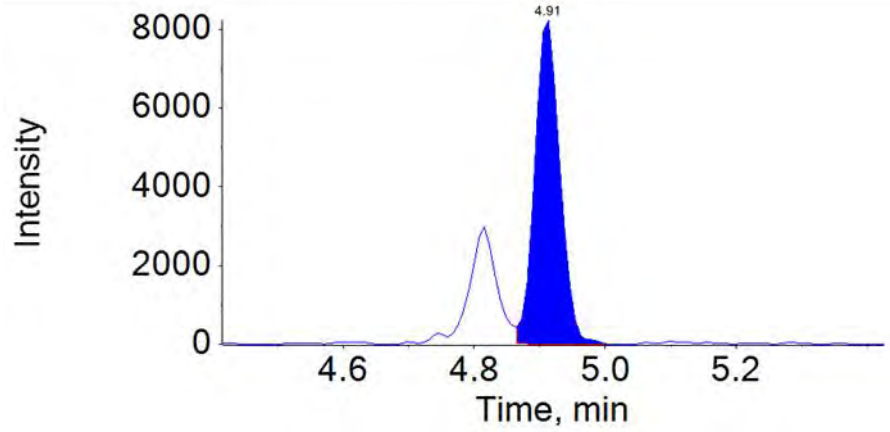
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
73382.7
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-77.wiff
Sample Name:
9922848MS



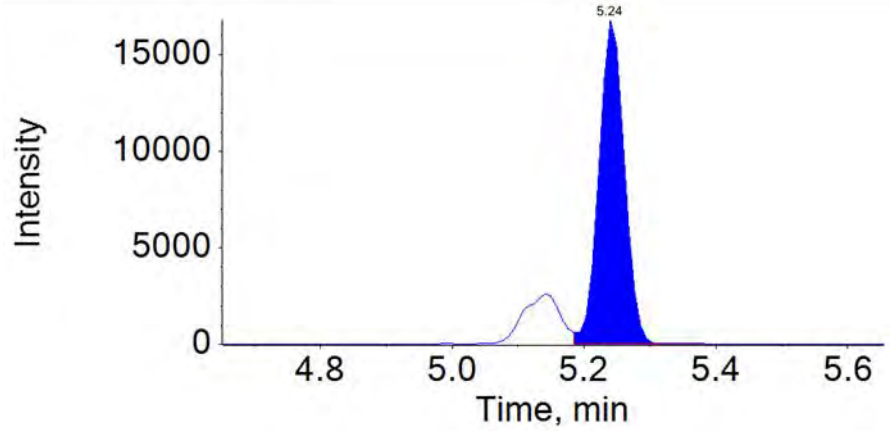
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
22000.1
Mass Range:
413.0 / 169.0
File Name:
18DEC10D-77.wiff
Sample Name:
9922848MS



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
45349.5
Mass Range:
499.0 / 99.0
File Name:
18DEC10D-77.wiff
Sample Name:
9922848MS



Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

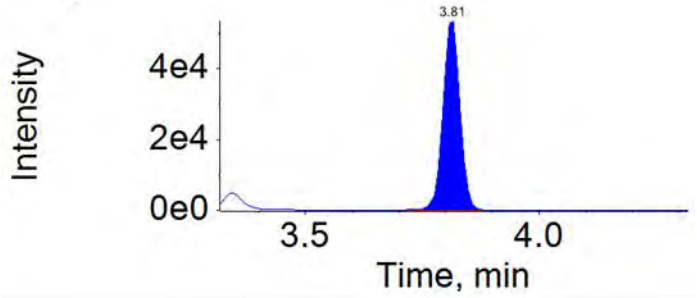
Sample Name: 9922848MS **Instrument Name:** LM27631 **File Name:** 18DEC10D-77.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	134955.9	A	N/A	1.0000			
PFBS_2	3.81	1.00	49080.0	A	N/A	0.3637	0	50	
PFHxA	4.16	1.00	253837.5	A	N/A	1.0000			
PFHxA_2	4.16	1.00	3036.5	A	N/A	0.0120	23	50	
PFHpA	4.54	1.00	241563.2	A	N/A	1.0000			
PFHpA_2	4.55	1.00	14670.6	A	N/A	0.0607	8	50	
PFHxS	4.55	1.00	217077.6	M	N/A	1.0000			
PFHxS_2	4.55	1.00	78849.5	M	N/A	0.3632	0	50	
PFOA	4.91	1.00	415504.5	M	N/A	1.0000			
PFOA_2	4.91	1.00	30274.6	M	N/A	0.0729	18	50	
PFOS	5.24	1.00	214387.2	M	N/A	1.0000			
PFOS_2	5.24	1.00	55476.3	M	N/A	0.2588	-14	50	
PFNA	5.26	1.00	196629.4	A	N/A	1.0000			
PFNA_2	5.26	1.00	3202.8	A	N/A	0.0163	-15	50	
PFDA	5.57	1.00	162825.0	A	N/A	1.0000			
PFDA_2	5.57	1.00	1052.3	A	N/A	0.0065	-33	50	
NMeFOSAA	5.72	1.00	20660.1	A	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	4339.9	A	N/A	0.2101	-21	50	
PFUnDA	5.83	1.00	153137.9	A	N/A	1.0000			
PFUnDA_2	5.83	1.00	780.0	A	N/A	0.0051	24	50	
NEtFOSAA	5.85	1.00	18968.1	A	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	13217.0	A	N/A	0.6968	4	50	
PFDoDA	6.07	1.00	200209.7	A	N/A	1.0000			
PFDoDA_2	6.06	1.00	2445.0	A	N/A	0.0122	-8	50	
PFTrDA	6.26	1.03	175178.4	A	N/A	1.0000			
PFTrDA_2	6.27	1.03	731.3	A	N/A	0.0042	-45	50	
PFTeDA	6.44	1.00	142277.6	A	N/A	1.0000			
PFTeDA_2	6.43	1.00	764.4	A	N/A	0.0054	-19	50	

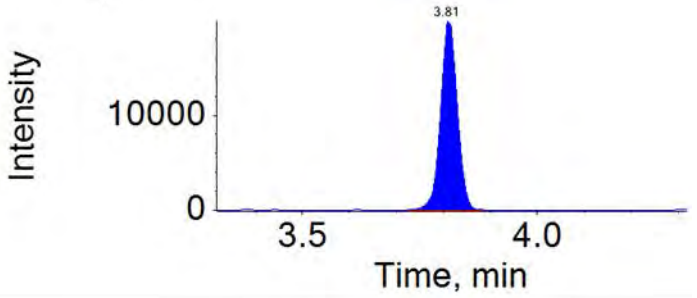
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

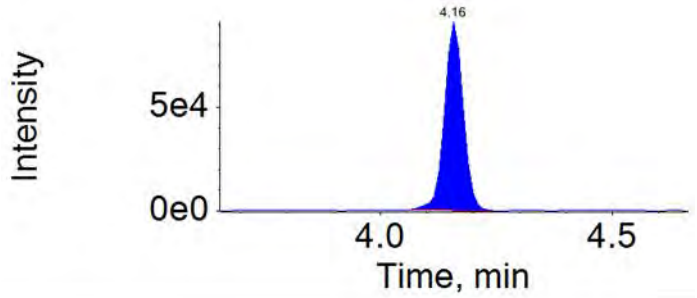
Component: PFBS
Primary Mass: 299.0 / 80.0



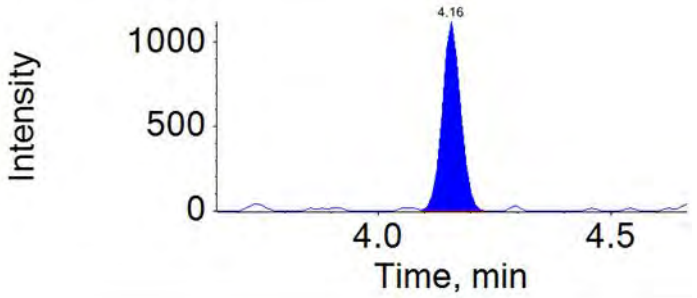
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



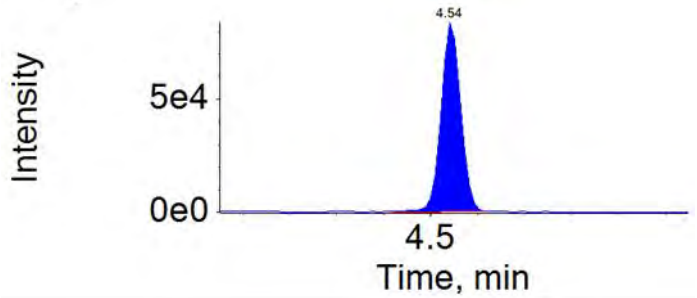
Component: PFHxA
Primary Mass: 313.0 / 269.0



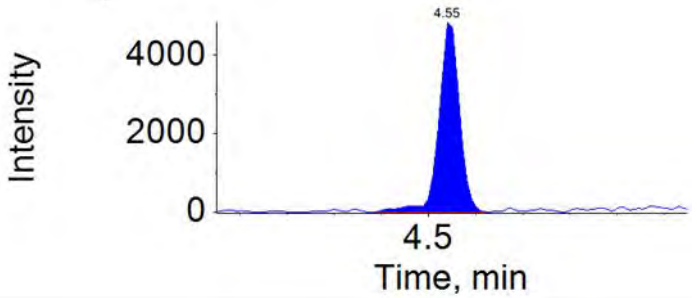
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



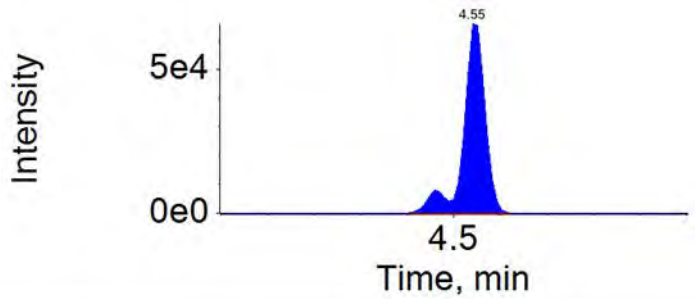
Component: PFHpA
Primary Mass: 363.0 / 319.0



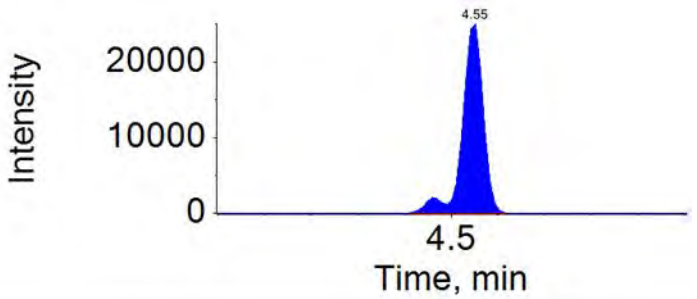
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



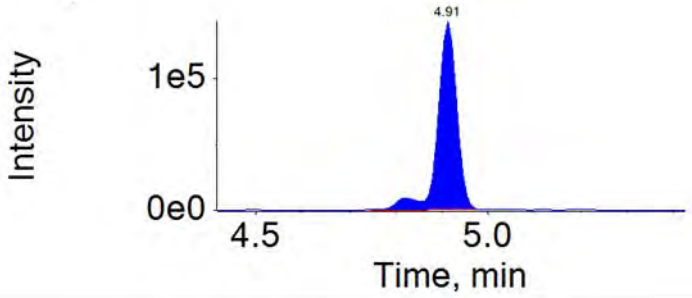
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



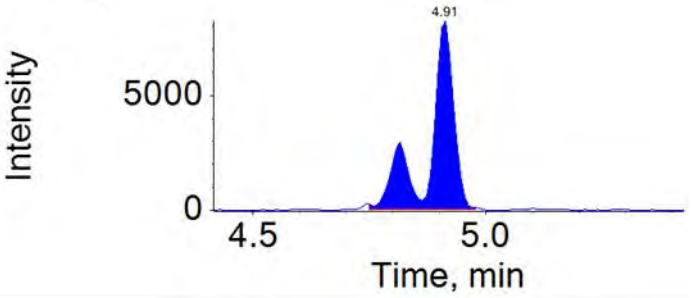
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

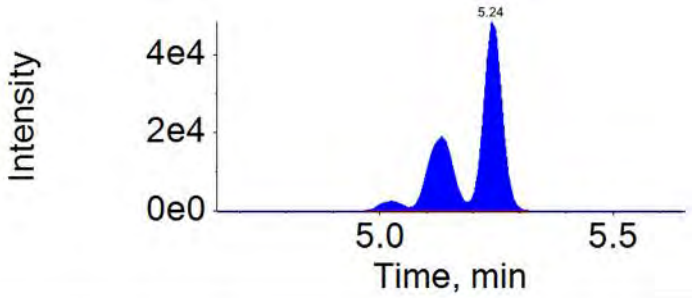
Component: PFOA
Primary Mass: 413.0 / 369.0



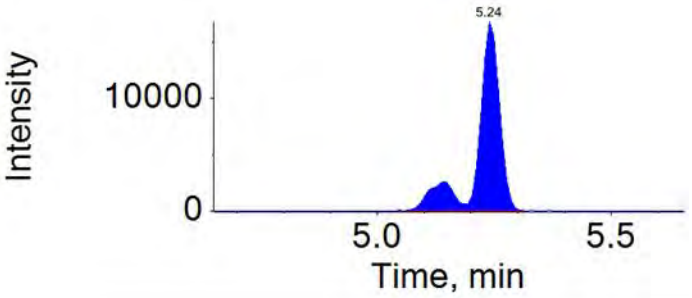
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



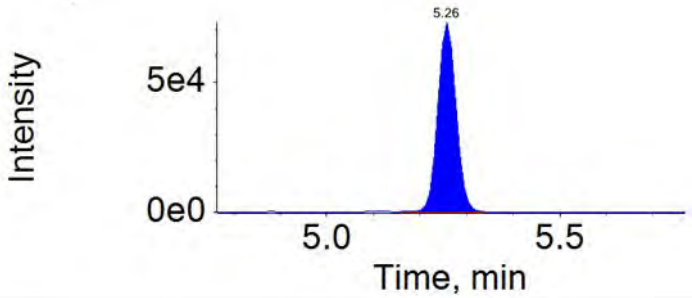
Component: PFOS
Primary Mass: 499.0 / 80.0



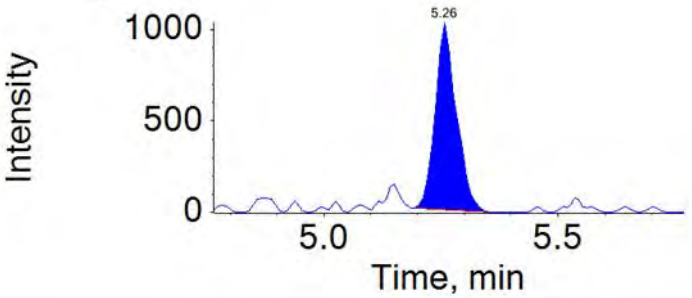
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



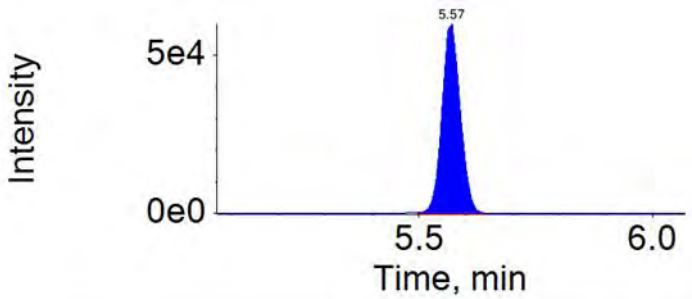
Component: PFNA
Primary Mass: 463.0 / 419.0



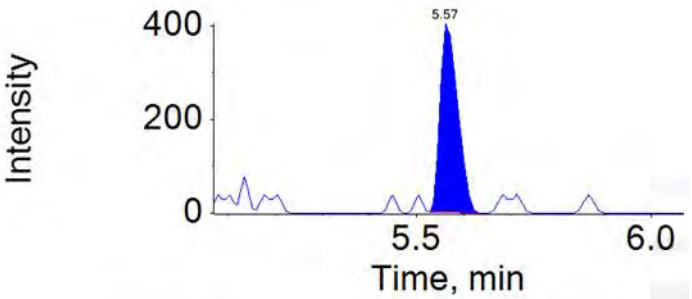
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



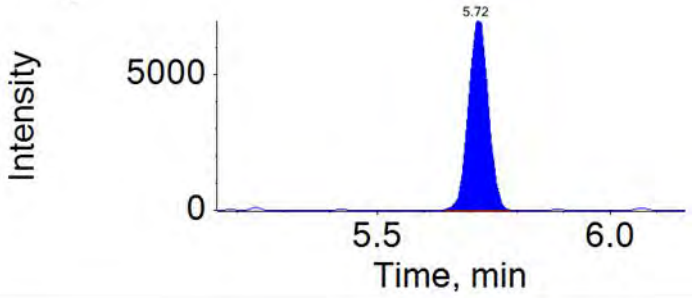
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



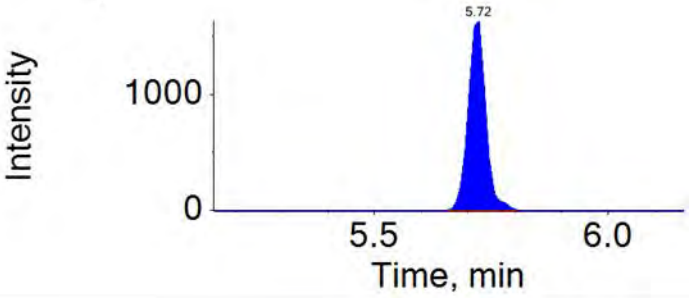
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

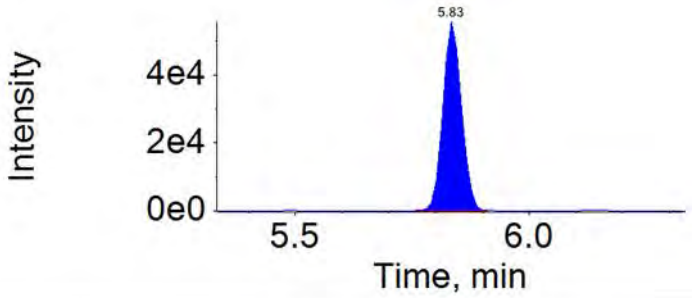
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



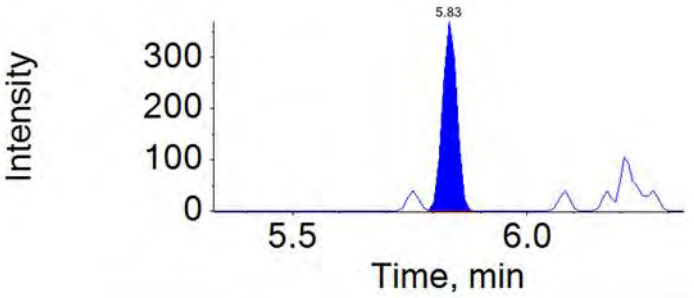
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



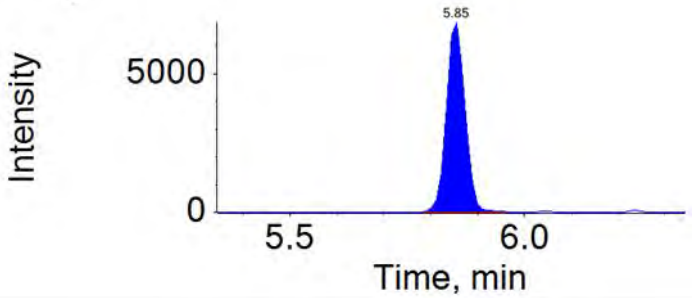
Component: PFUnDA
Primary Mass: 563.0 / 519.0



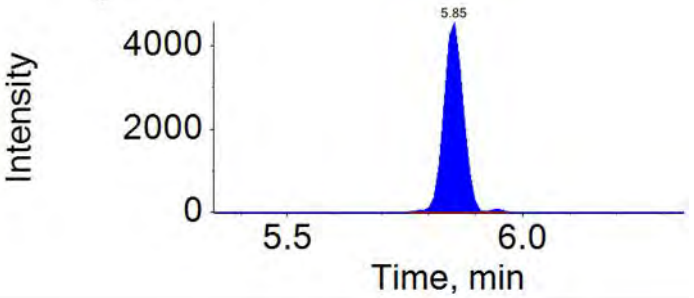
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



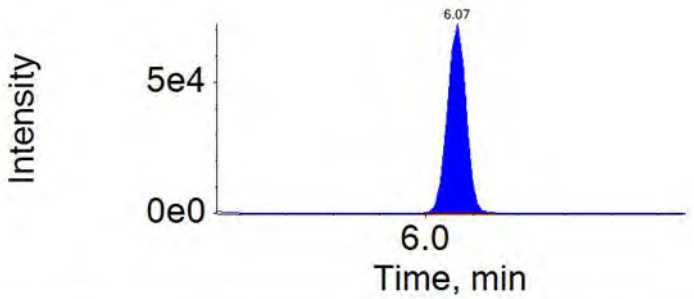
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



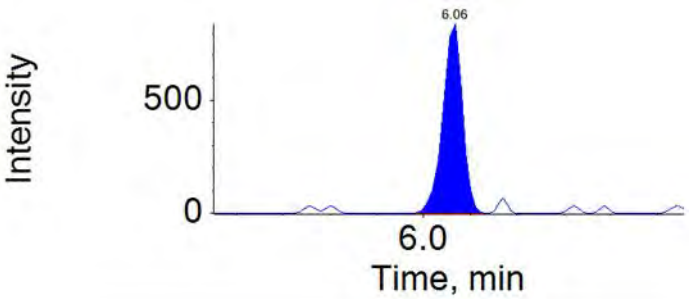
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



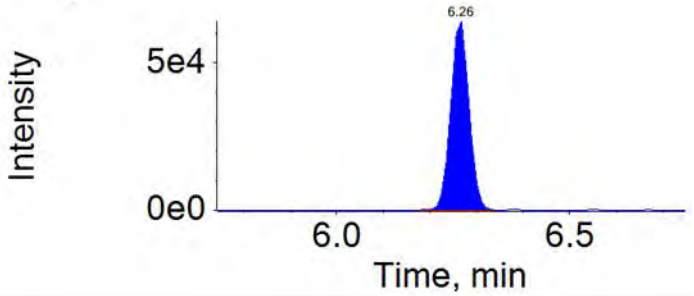
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



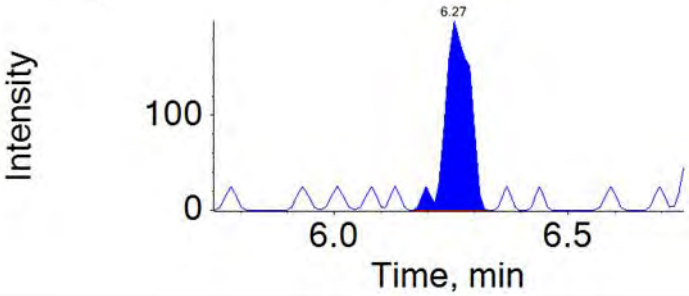
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

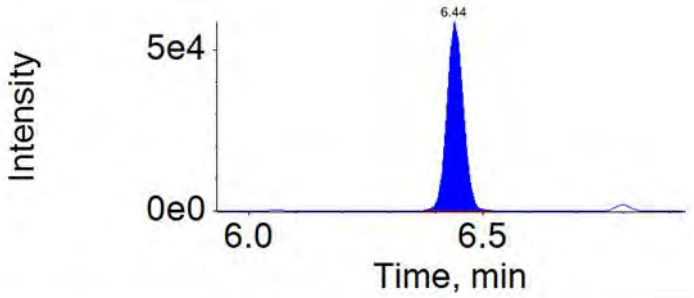
Component: PFTrDA
Primary Mass: 663.0 / 619.0



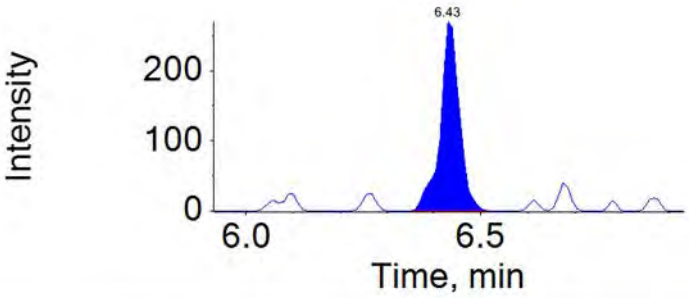
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



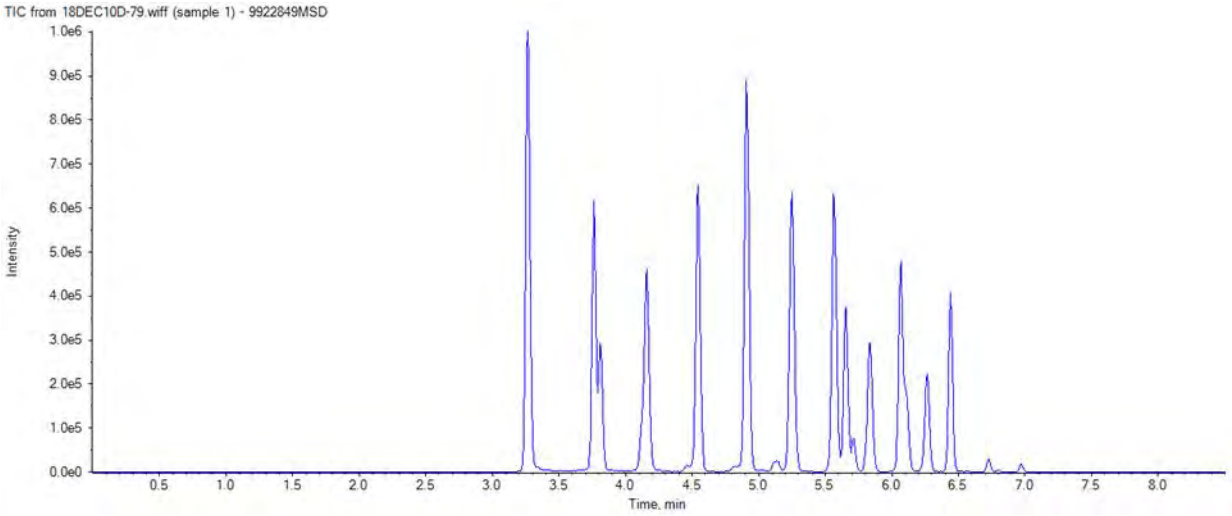
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922849MSD	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 MSD Grab Groundwater	18DEC10D-79.wiff	2018-12-11T00:19:13



Injection Standard Area Reference File**:** 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	935908.7	968978.6	-3	50	
13C2-PFOA	5.00	540330.7	507254.2	7	50	
13C4-PFOS	4.78	313571.9	302410.5	4	50	
13C2-PFDA	5.00	442867.1	392614.4	13	50	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9922849MSD	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 MSD Grab Groundwater	18DEC10D-79.wiff	2018-12-11T00:19:13

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBS	138904.4	423289.6	0.328	4.273	5.777	135	72-127	OOS
PFHxA	257585.4	731991.7	0.352	4.830	5.446	113	77-132	
PFHpA	262869.0	613990.0	0.428	4.830	5.007	104	75-139	
PFHxS	240148.3	343847.5	0.698	4.567	11.753	257	71-130	OOS
PFOA	420769.2	921284.0	0.457	4.830	8.865	184	76-136	OOS
PFOS	235168.0	312204.2	0.753	4.617	11.096	240	67-134	OOS
PFNA	193755.2	627688.4	0.309	4.830	4.040	84	73-144	
PFDA	175928.4	737161.3	0.239	4.830	4.771	99	67-141	
NMeFOSAA	23787.6	138357.0	0.172	4.830	4.039	84	67-124	
PFUnDA	163592.8	422729.8	0.387	4.830	4.208	87	83-132	
NEtFOSAA	22118.1	87322.1	0.253	4.830	4.547	94	60-131	
PFDoDA	206607.3	804940.2	0.257	4.830	4.799	99	72-137	
PFTrDA	181516.2	804940.2	0.226	4.830	5.246	109	57-137	
PFTeDA	161771.6	702114.6	0.230	4.830	4.680	97	70-142	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Matrix Spike Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9922849MSD			**Data File:**		18DEC10D-79.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014 OUI-YIMW-8-01 MSD Grab Groundwater			**Acquis Date:**		2018-12-11T00:19:13
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	67			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.28156			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC10D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	935908.7	968978.6	-3	50	
13C2-PFOA	5.0	540330.7	507254.2	7	50	
13C4-PFOS	4.8	313571.9	302410.5	4	50	
13C2-PFDA	5.0	442867.1	392614.4	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	423289.6	13C3-PFBA	935908.7	0.452	16.515	13.616	82	50-150	
E13C5-PFHxA	731991.7	13C2-PFOA	540330.7	1.355	17.758	16.154	91	50-150	
E13C3-PFHxS	343847.5	13C2-PFOA	540330.7	0.636	16.799	14.497	86	50-150	
E13C4-PFHpA	613990.0	13C2-PFOA	540330.7	1.136	17.758	17.157	97	50-150	
E13C8-PFOA	921284.0	13C2-PFOA	540330.7	1.705	17.758	17.118	96	50-150	
E13C8-PFOS	312204.2	13C4-PFOS	313571.9	0.996	16.977	15.869	93	50-150	
E13C9-PFNA	627688.4	13C4-PFOS	313571.9	2.002	17.758	20.090	113	50-150	
E13C6-PFDA	737161.3	13C2-PFDA	442867.1	1.665	17.758	15.666	88	50-150	
Ed3-NMeFOSAA	138357.0	13C2-PFDA	442867.1	0.312	17.758	19.663	111	50-150	
E13C7-PFUnDA	422729.8	13C2-PFDA	442867.1	0.955	17.758	16.630	94	50-150	
Ed5-NEtFOSAA	87322.1	13C2-PFDA	442867.1	0.197	17.758	15.459	87	50-150	
E13C2-PFDoDA	804940.2	13C2-PFDA	442867.1	1.818	17.758	13.547	76	50-150	
E13C2-PFTeDA	702114.6	13C2-PFDA	442867.1	1.585	17.758	16.712	94	50-150	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

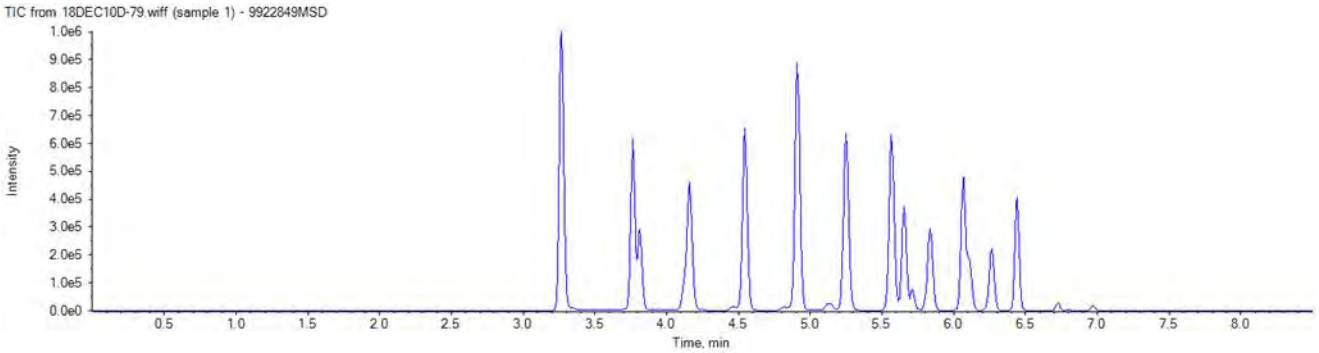
Analyte Quantitation Peak Table

Sample Name: 9922849MSD **Instrument Name:** LM27631 **File Name:** 18DEC10D-79.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28156	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	138904.4		A	13C3-PFBS	3.81	423289.6	0.328	5.777
PFHxA	4.16	1.000	257585.4		A	13C5-PFHxA	4.16	731991.7	0.352	5.446
PFHpA	4.54	1.000	262869.0		A	13C4-PFHpA	4.54	613990.0	0.428	5.007
PFHxS	4.55	1.000	240148.3		M	13C3-PFHxS	4.55	343847.5	0.698	11.753
PFOA	4.91	1.000	420769.2		M	13C8-PFOA	4.91	921284.0	0.457	8.865
PFOS	5.24	1.000	235168.0		M	13C8-PFOS	5.24	312204.2	0.753	11.096
PFNA	5.26	1.000	193755.2		A	13C9-PFNA	5.26	627688.4	0.309	4.040
PFDA	5.57	1.000	175928.4		A	13C6-PFDA	5.57	737161.3	0.239	4.771
NMeFOSAA	5.71	1.000	23787.6		A	d3-NMeFOSAA	5.71	138357.0	0.172	4.039
PFUnDA	5.83	1.000	163592.8		A	13C7-PFUnDA	5.84	422729.8	0.387	4.208
NEtFOSAA	5.85	1.000	22118.1		A	d5-NEtFOSAA	5.85	87322.1	0.253	4.547
PFDoDA	6.07	1.000	206607.3		A	13C2-PFDoDA	6.07	804940.2	0.257	4.799
PFTrDA	6.26	1.030	181516.2		A	13C2-PFDoDA	6.07	804940.2	0.226	5.246
PFTeDA	6.44	1.000	161771.6		A	13C2-PFTeDA	6.44	702114.6	0.230	4.680

Total Ion Chromatogram

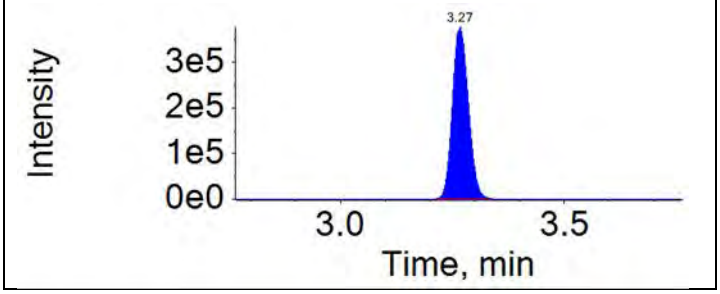


APPROVED
By MCD at 3:52 pm, 12/11/18

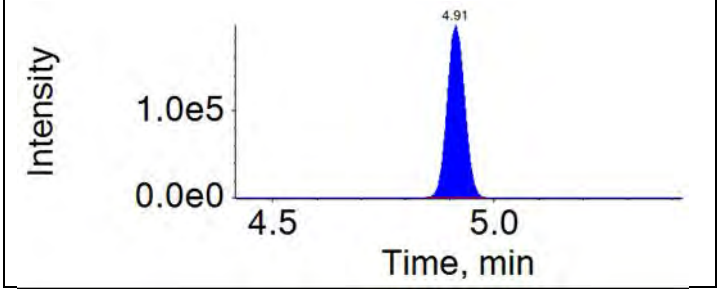
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

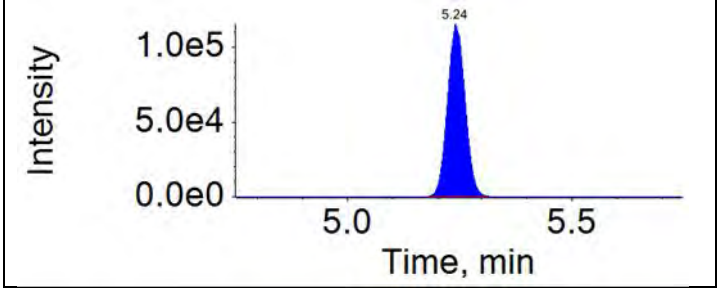
Injection Standard: 13C3-PFBA
216.0 / 172.0



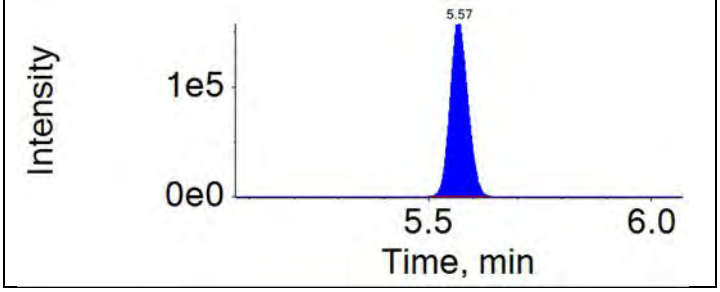
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

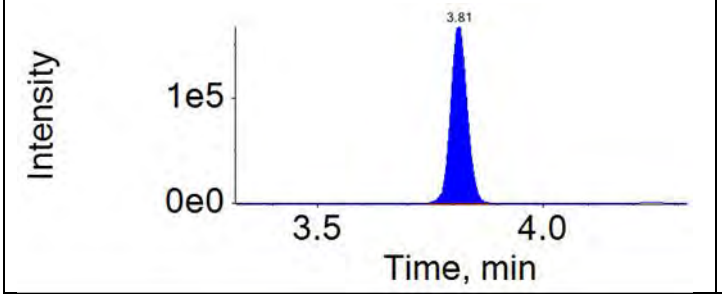


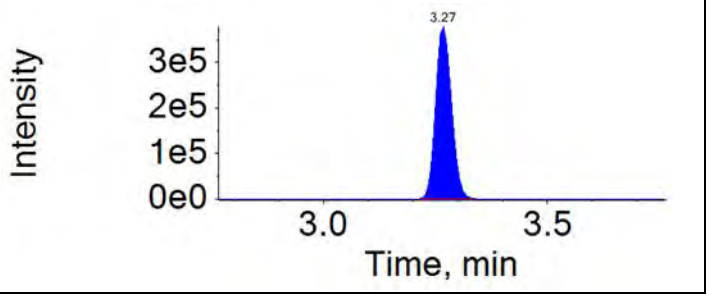
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

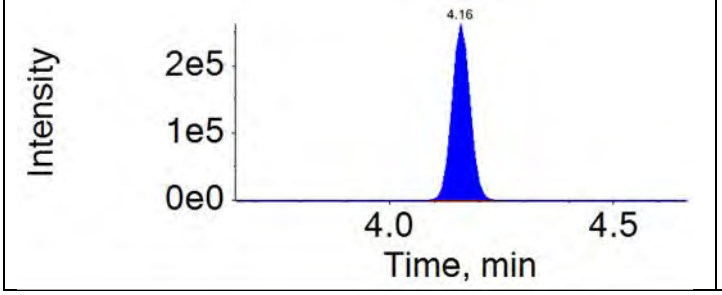
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

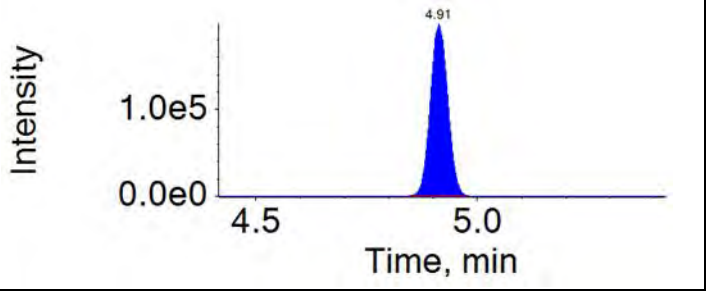
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



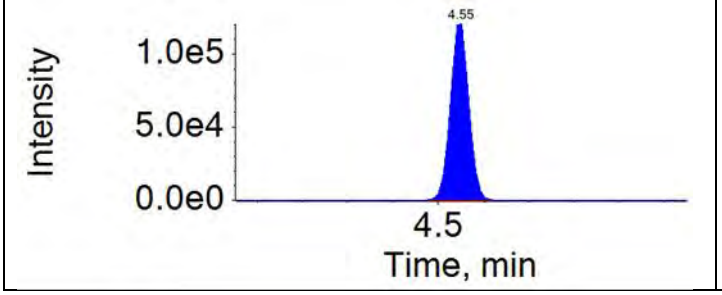


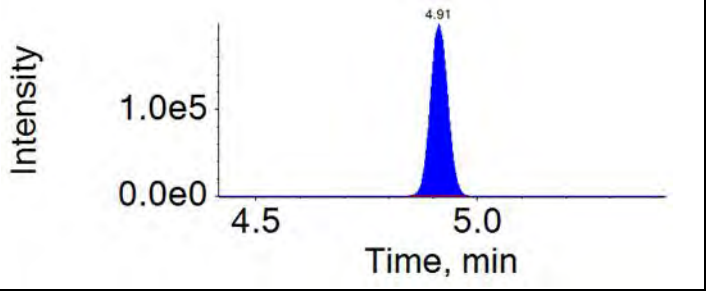
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



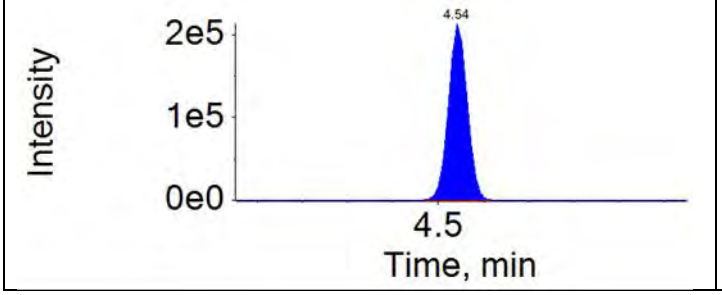


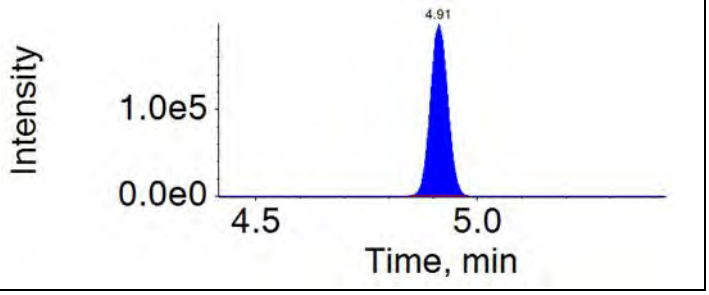
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

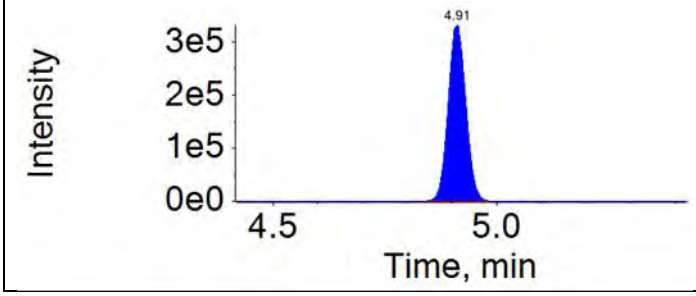
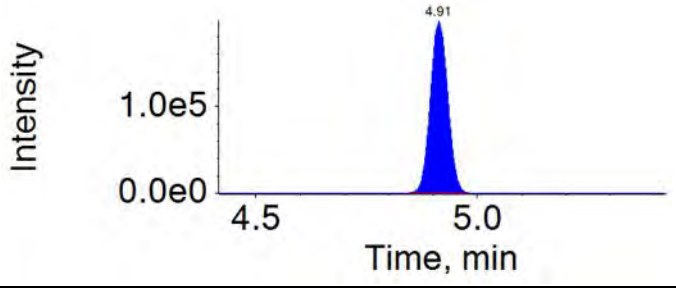


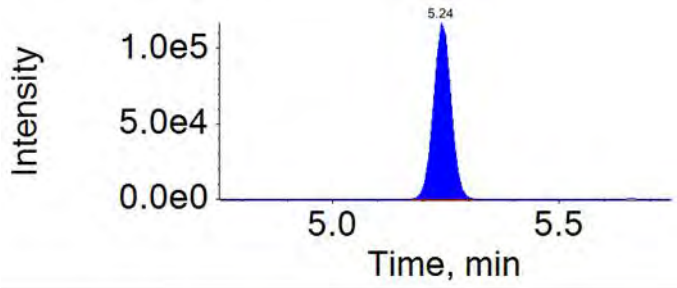
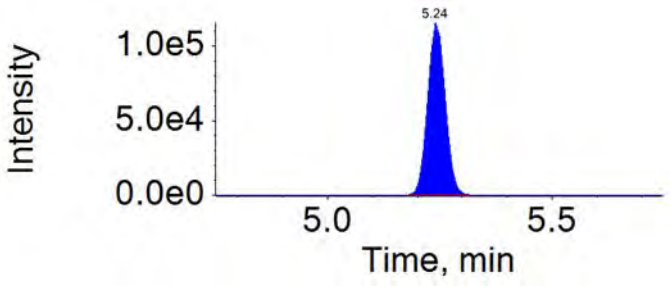


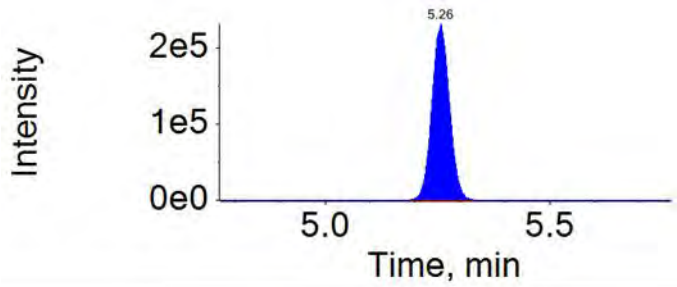
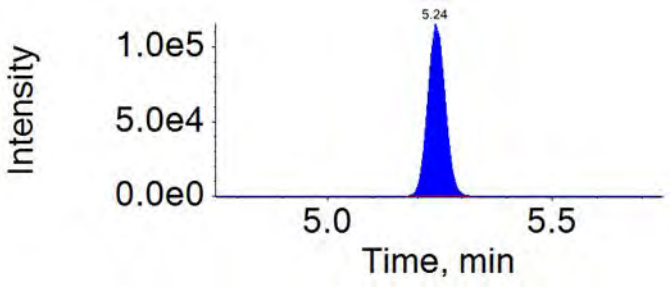
APPROVED
By MCD at 3:52 pm, 12/11/18

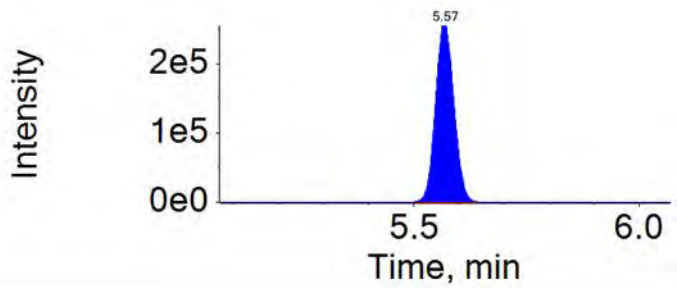
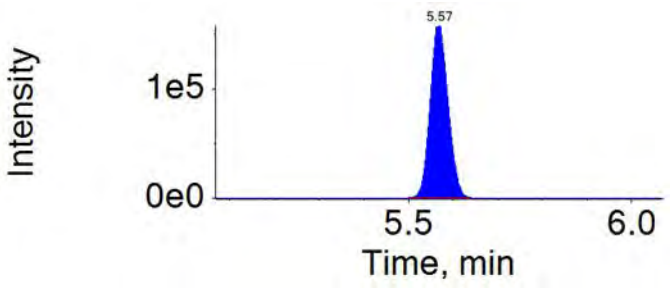
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

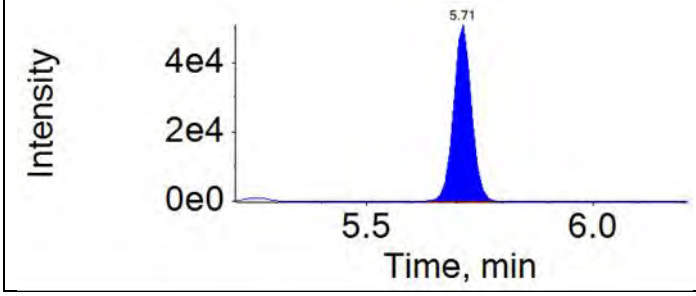
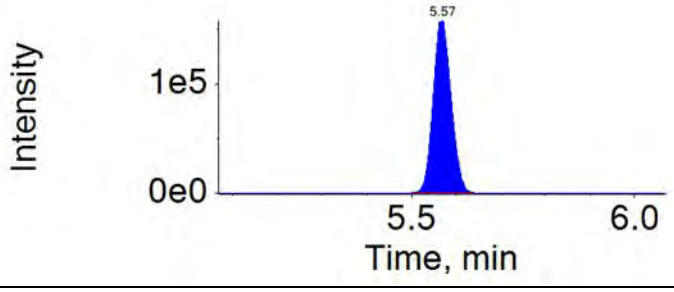
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

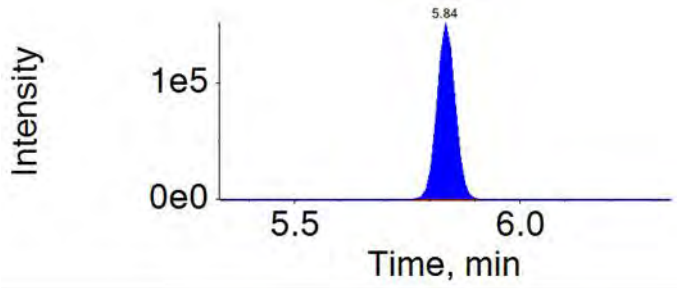
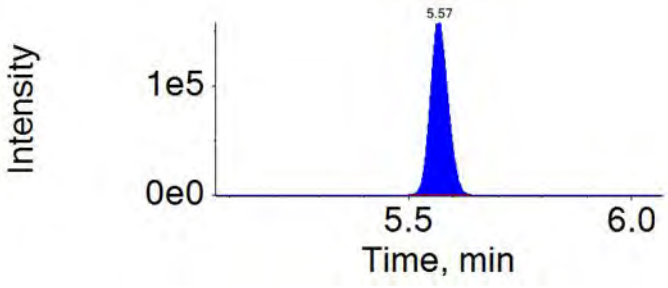
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

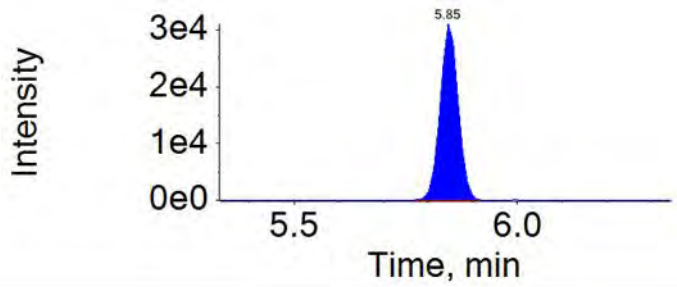
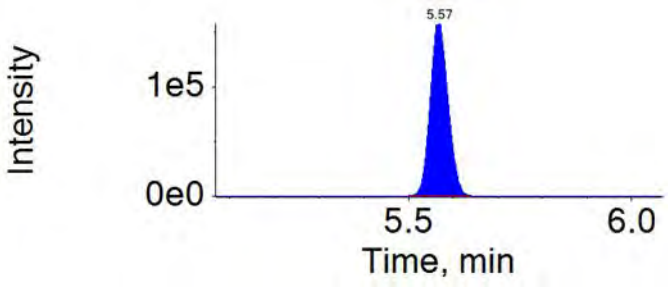
APPROVED
By MCD at 3:52 pm, 12/11/18

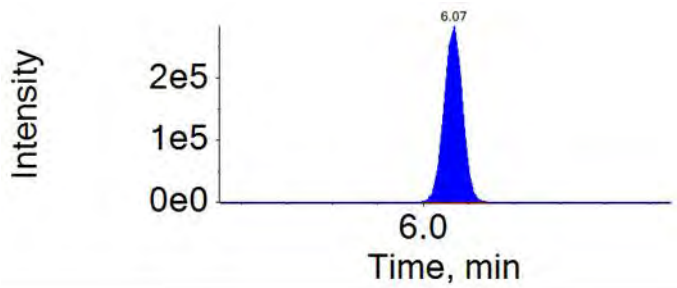
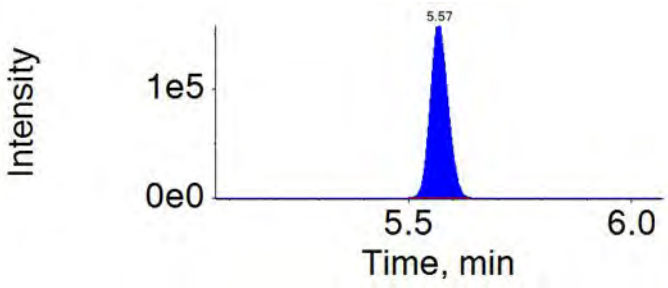
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

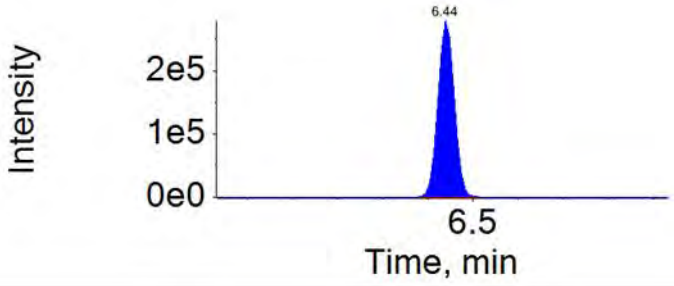
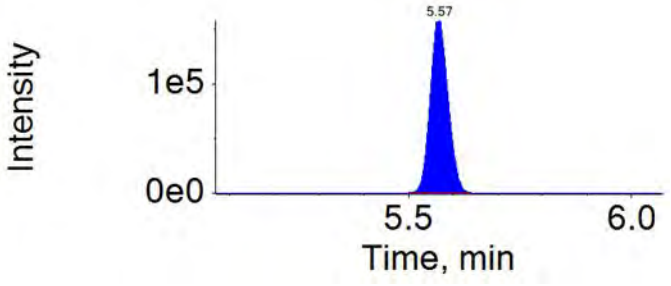
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

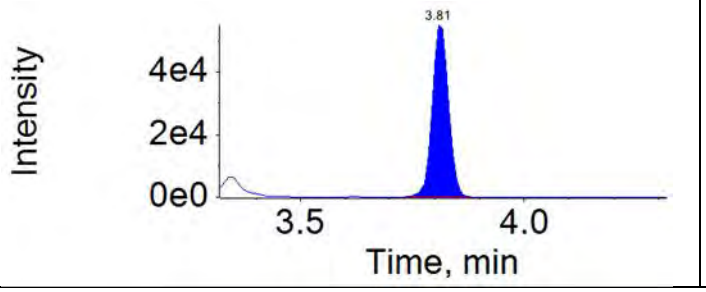
REVIEWED
By umar at 1:17 pm, 12/13/18

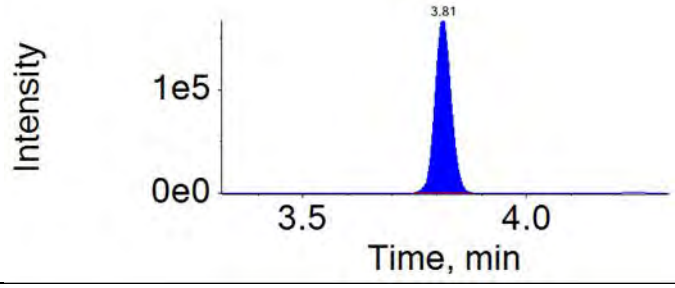
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

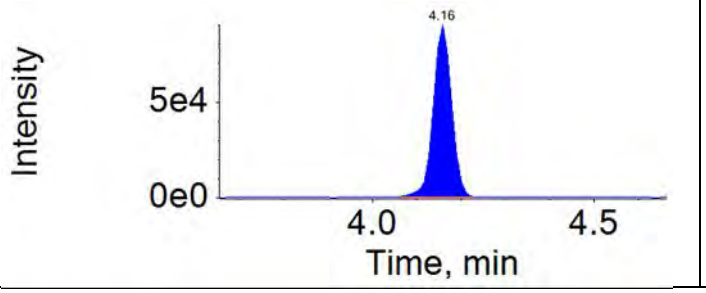
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

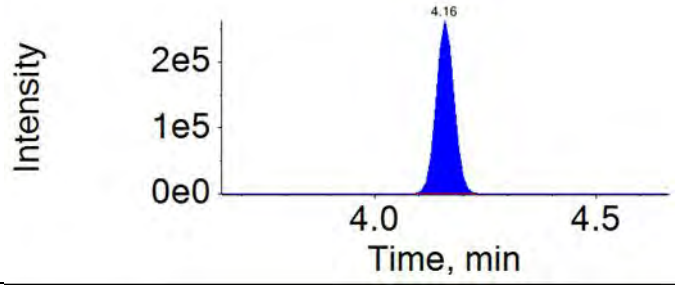
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



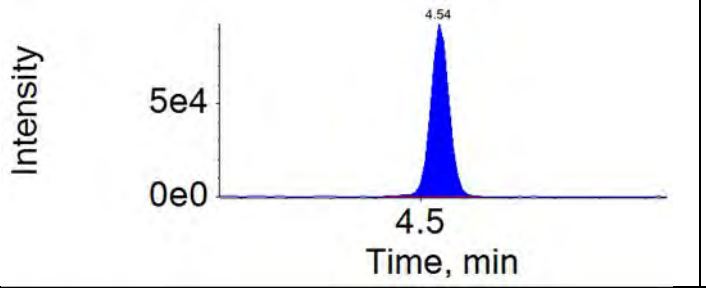


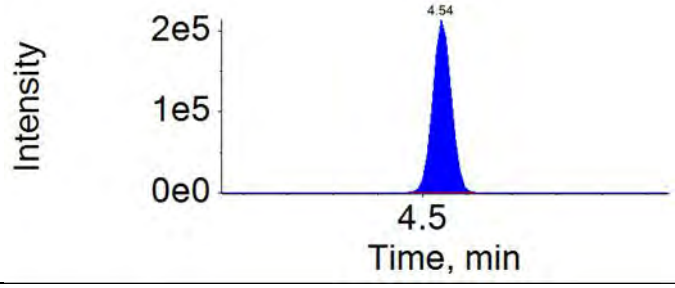
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



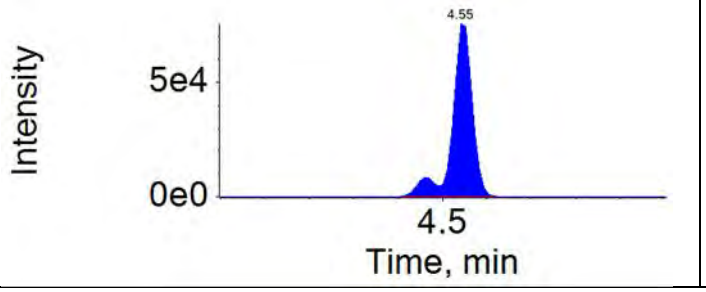


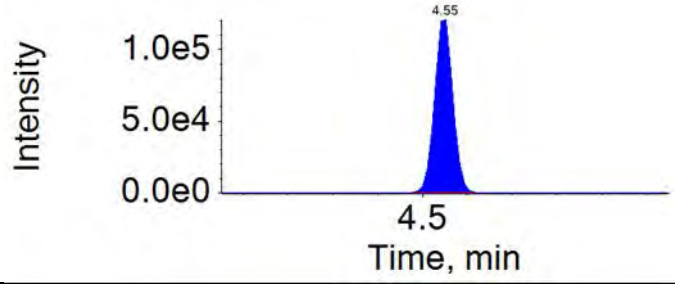
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



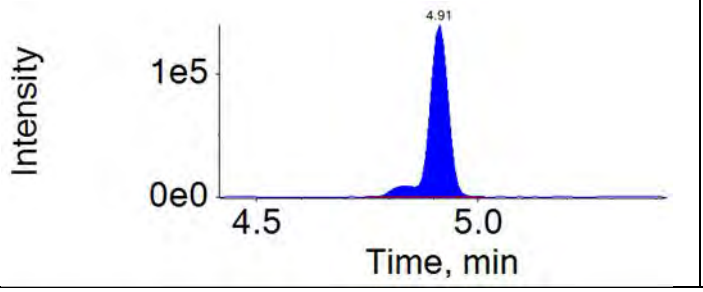


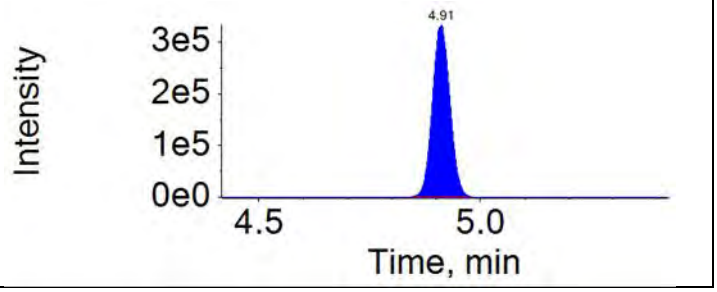
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

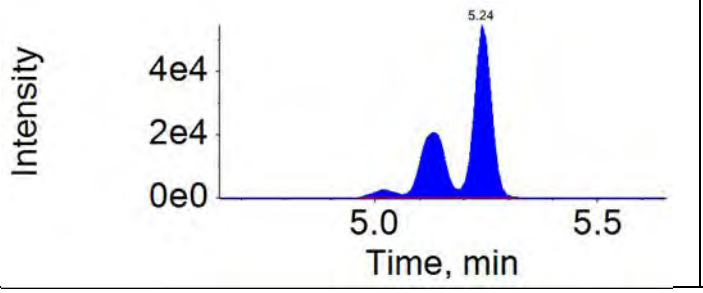
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

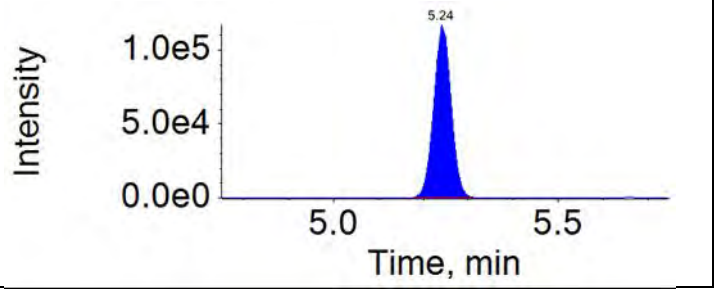
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



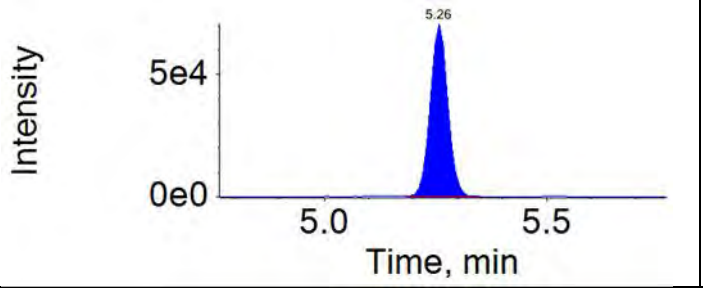


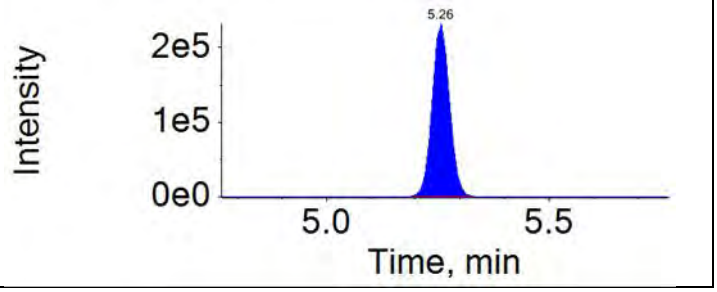
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



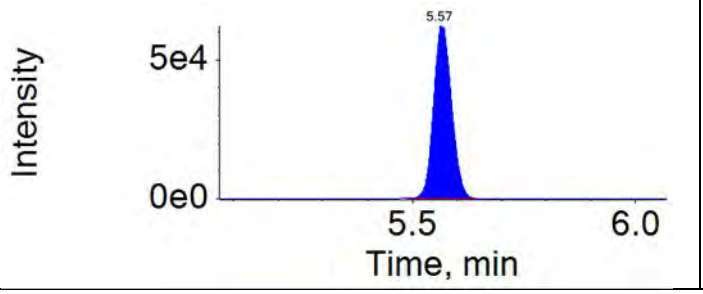


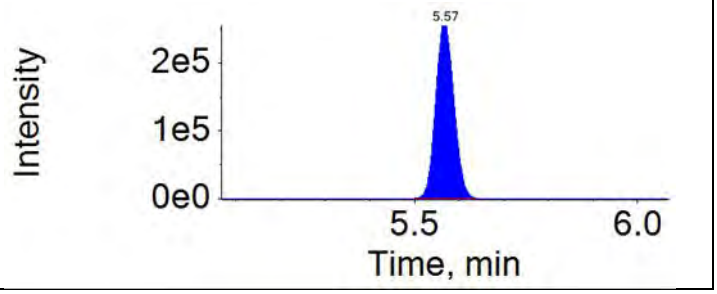
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

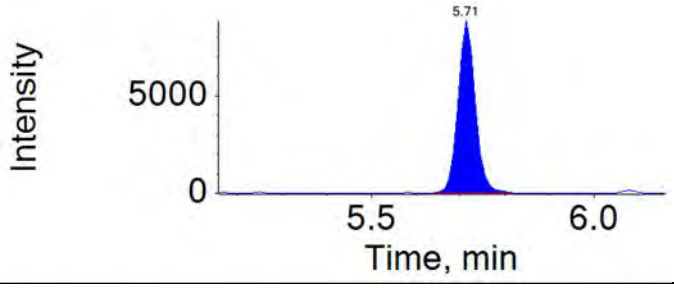
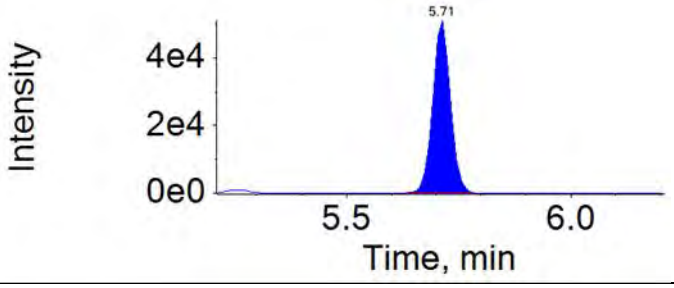


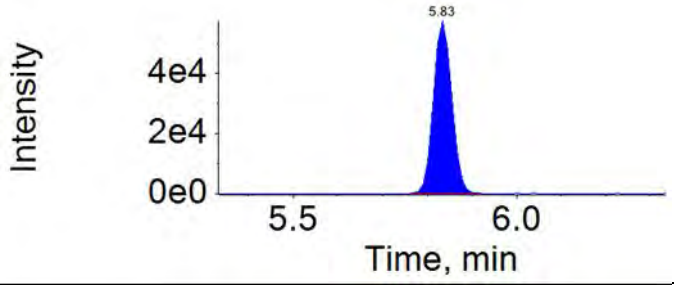
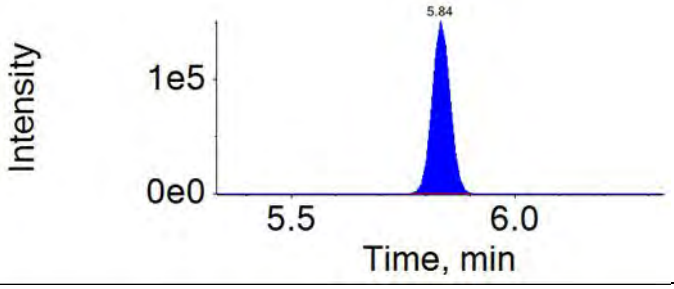


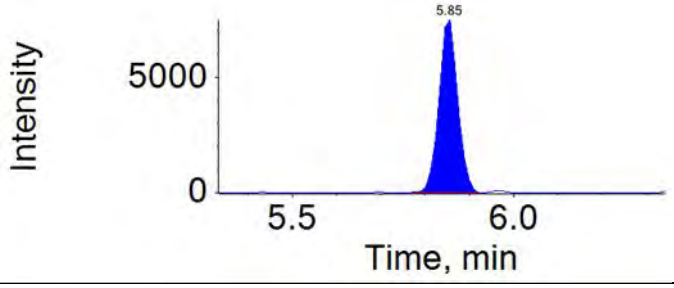
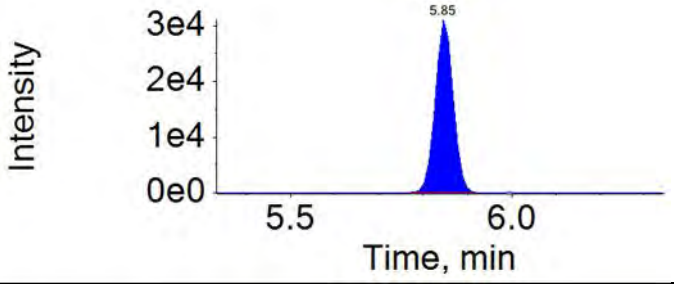
APPROVED
By MCD at 3:52 pm, 12/11/18

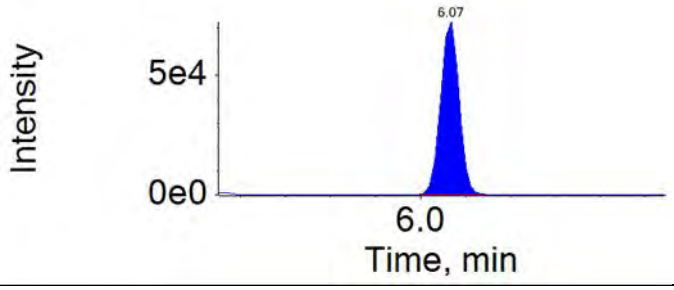
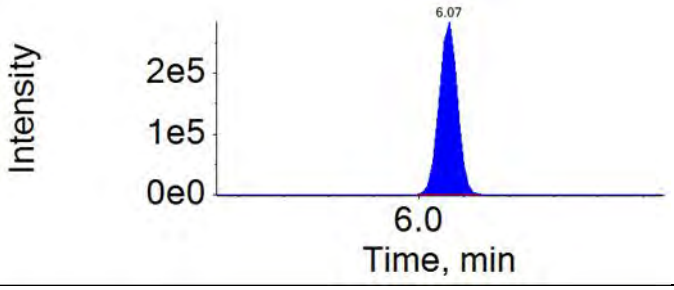
REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

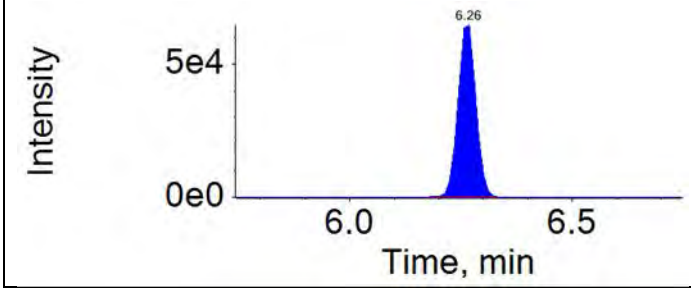
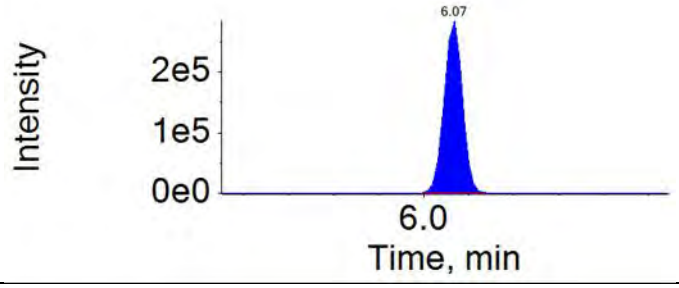
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

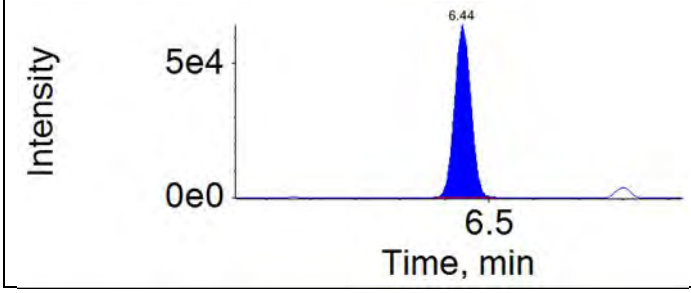
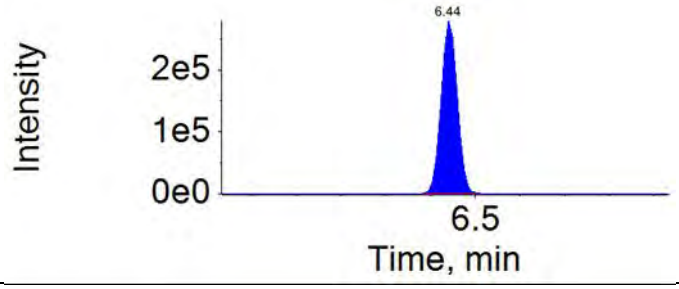
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:24:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

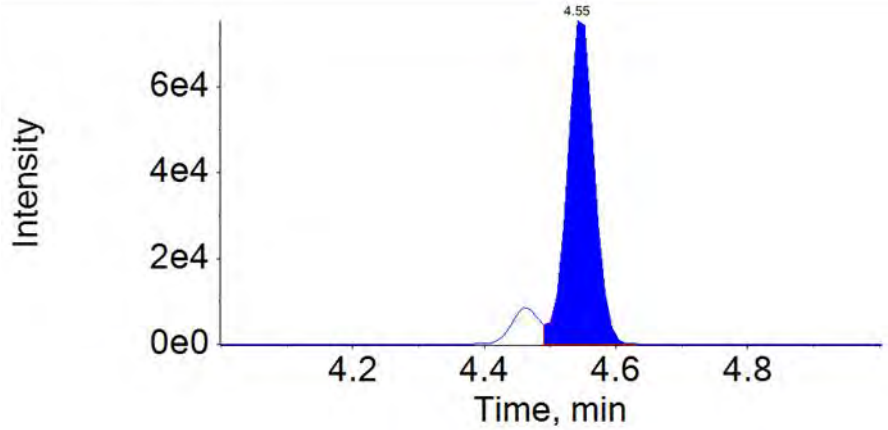
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

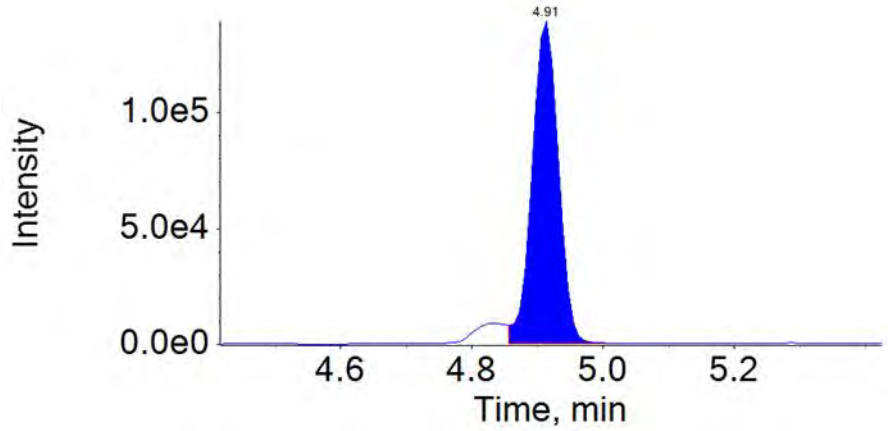
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
215851.3
Mass Range:
399.0 / 80.0
File Name:
18DEC10D-79.wiff
Sample Name:
9922849MSD



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
389974.3
Mass Range:
413.0 / 369.0
File Name:
18DEC10D-79.wiff
Sample Name:
9922849MSD



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
146330.4
Mass Range:
499.0 / 80.0
File Name:
18DEC10D-79.wiff
Sample Name:
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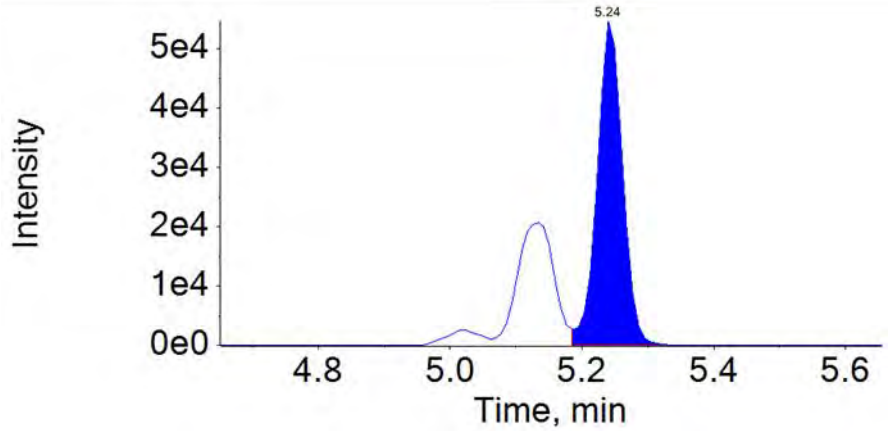


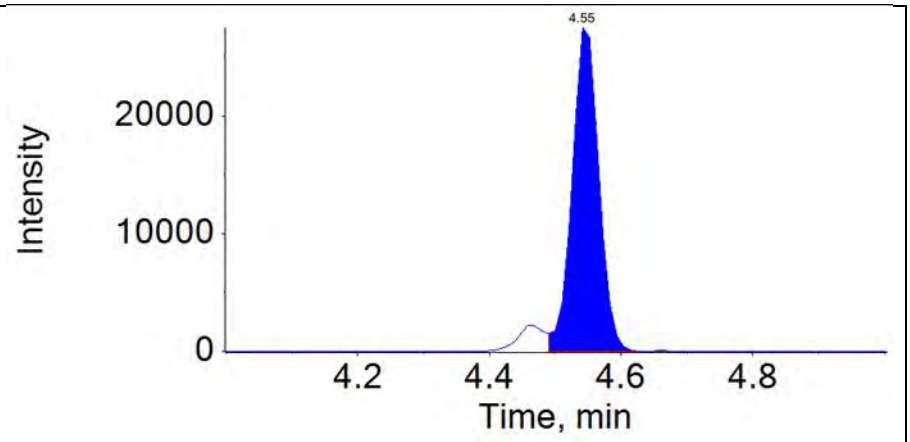
Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

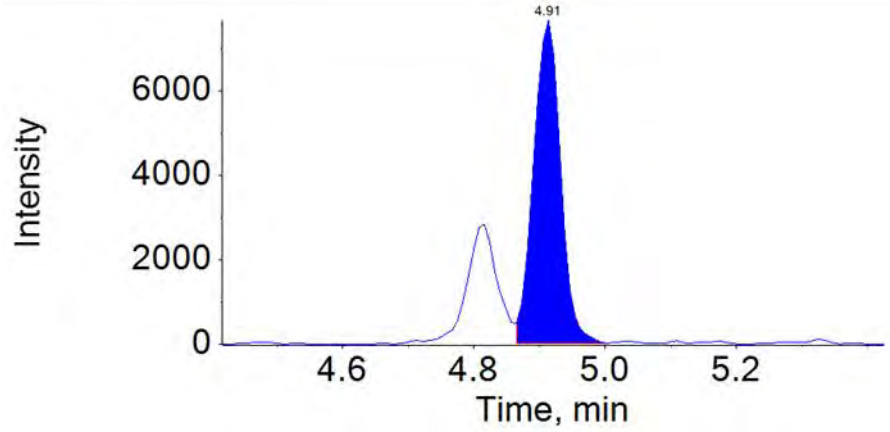
Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
78018.9
Mass Range:
399.0 / 99.0
File Name:
18DEC10D-79.wiff
Sample Name:
9922849MSD



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
21884.0
Mass Range:
413.0 / 169.0
File Name:
18DEC10D-79.wiff
Sample Name:
9922849MSD



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
50232.5
Mass Range:
499.0 / 99.0
File Name:
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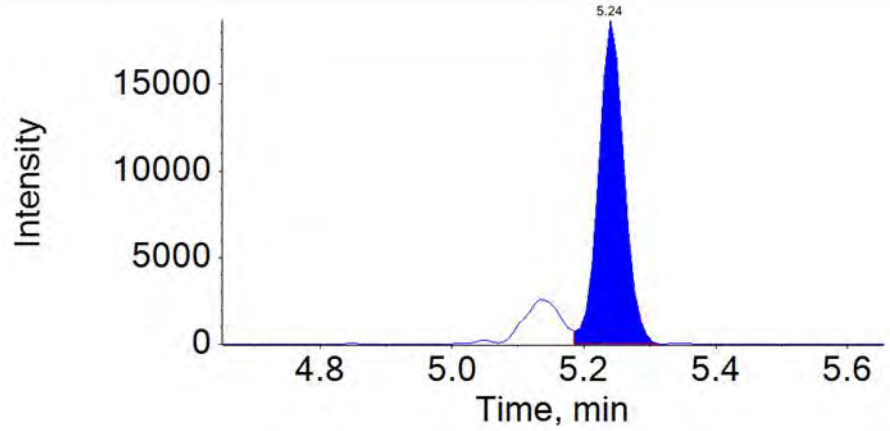
Sample Name:
9922849MSD



Integration Comment: incorrect integration

APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Results Table Name: 18340014
Results Table Date: 12/11/2018 3:24:52 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

Sample Name: 9922849MSD **Instrument Name:** LM27631 **File Name:** 18DEC10D-79.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	138904.4	A	N/A	1.0000			
PFBS_2	3.81	1.00	50614.0	A	N/A	0.3644	0	50	
PFHxA	4.16	1.00	257585.4	A	N/A	1.0000			
PFHxA_2	4.16	1.00	3274.9	A	N/A	0.0127	31	50	
PFHpA	4.54	1.00	262869.0	A	N/A	1.0000			
PFHpA_2	4.54	1.00	12979.0	A	N/A	0.0494	-13	50	
PFHxS	4.55	1.00	240148.3	M	N/A	1.0000			
PFHxS_2	4.55	1.00	84270.6	M	N/A	0.3509	-4	50	
PFOA	4.91	1.00	420769.2	M	N/A	1.0000			
PFOA_2	4.91	1.00	31407.4	M	N/A	0.0746	21	50	
PFOS	5.24	1.00	235168.0	M	N/A	1.0000			
PFOS_2	5.24	1.00	60791.2	M	N/A	0.2585	-14	50	
PFNA	5.26	1.00	193755.2	A	N/A	1.0000			
PFNA_2	5.26	1.00	3285.6	A	N/A	0.0170	-12	50	
PFDA	5.57	1.00	175928.4	A	N/A	1.0000			
PFDA_2	5.56	1.00	861.5	A	N/A	0.0049	-49	50	
NMeFOSAA	5.71	1.00	23787.6	A	N/A	1.0000			
NMeFOSAA_2	5.72	1.00	6333.2	A	N/A	0.2662	0	50	
PFUnDA	5.83	1.00	163592.8	A	N/A	1.0000			
PFUnDA_2	5.83	1.00	843.9	A	N/A	0.0052	26	50	
NEtFOSAA	5.85	1.00	22118.1	A	N/A	1.0000			
NEtFOSAA_2	5.85	1.00	14484.9	A	N/A	0.6549	-3	50	
PFDoDA	6.07	1.00	206607.3	A	N/A	1.0000			
PFDoDA_2	6.06	1.00	1997.4	A	N/A	0.0097	-27	50	
PFTrDA	6.26	1.03	181516.2	A	N/A	1.0000			
PFTrDA_2	6.27	1.03	1752.1	A	N/A	0.0097	28	50	
PFTeDA	6.44	1.00	161771.6	A	N/A	1.0000			
PFTeDA_2	6.44	1.00	763.9	A	N/A	0.0047	-29	50	

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By MCD at 3:52 pm, 12/11/18

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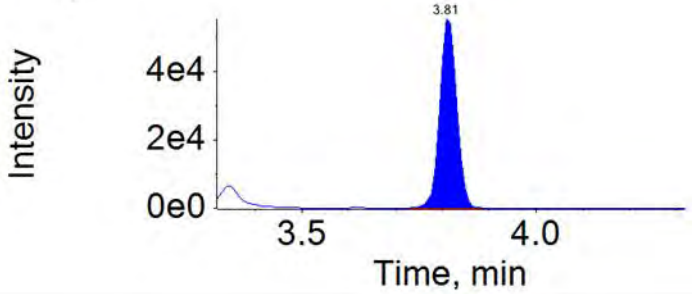
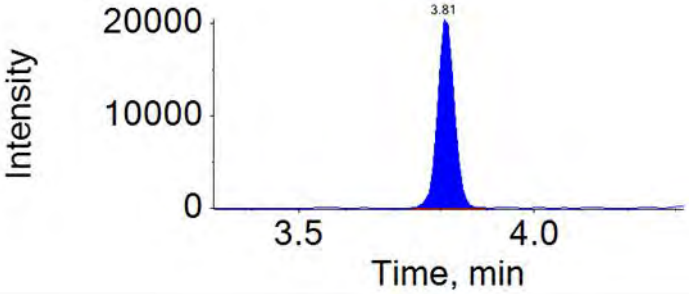
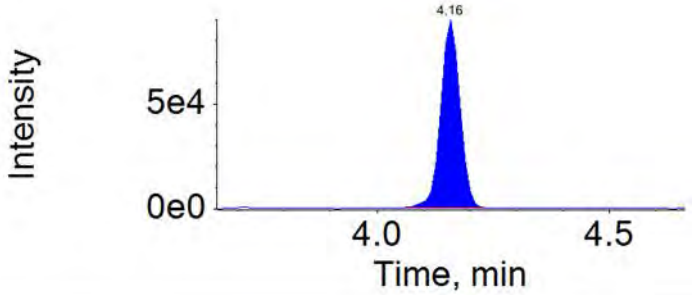
Component: PFBS
Primary Mass: 299.0 / 80.0



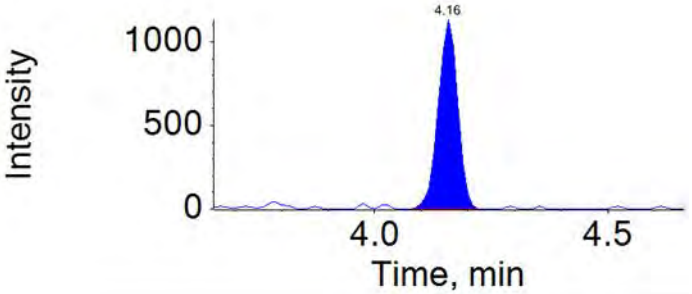
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



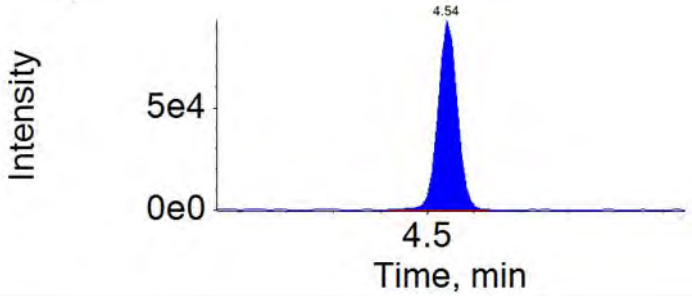
Component: PFHxA
Primary Mass: 313.0 / 269.0



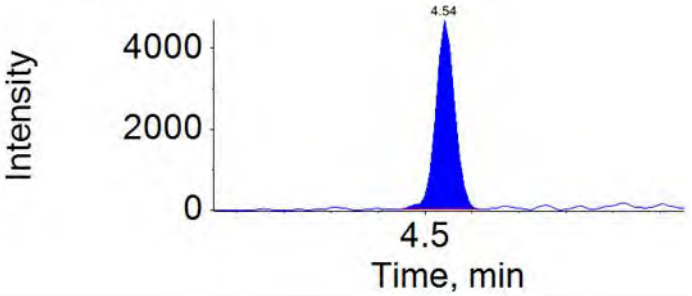
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



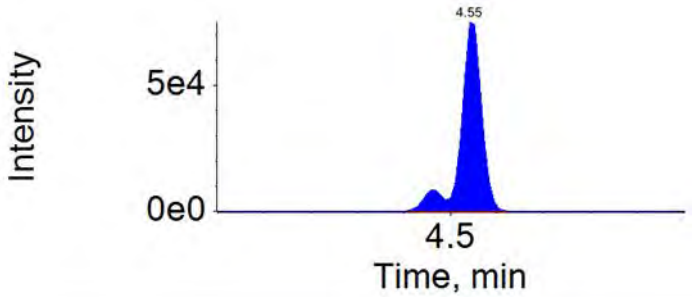
Component: PFHpA
Primary Mass: 363.0 / 319.0



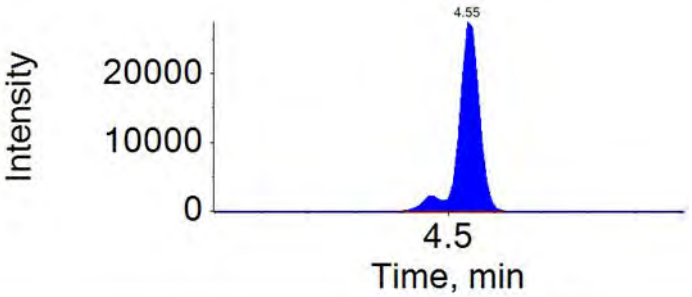
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



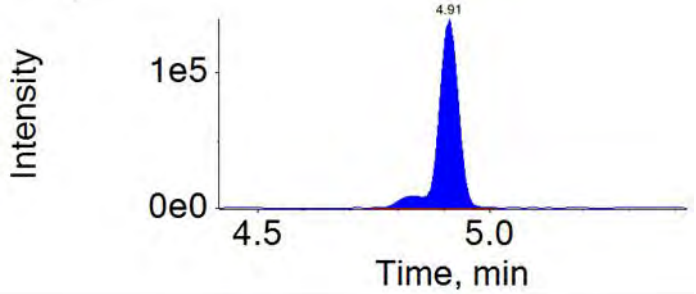
Component: PFHxS
Primary Mass: 399.0 / 80.0



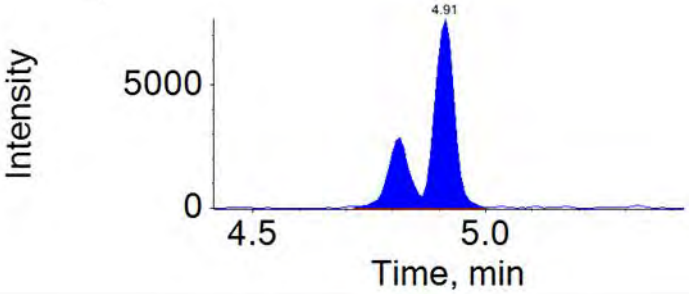
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



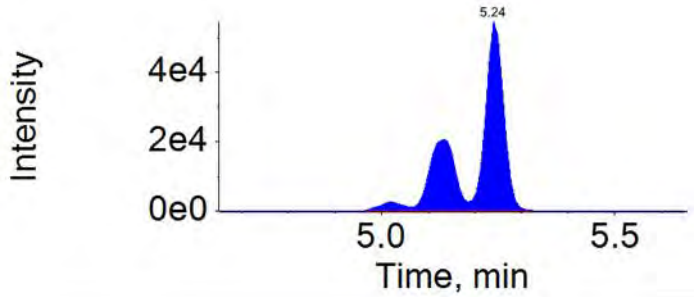
Component: PFOA
Primary Mass: 413.0 / 369.0



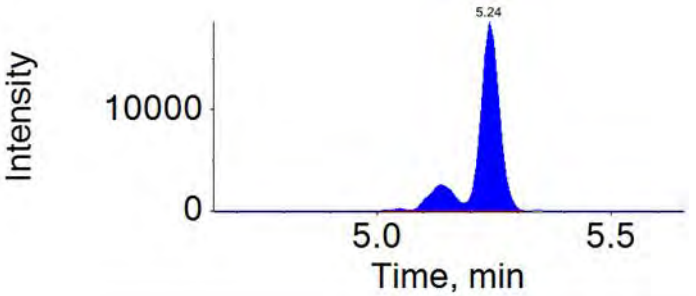
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



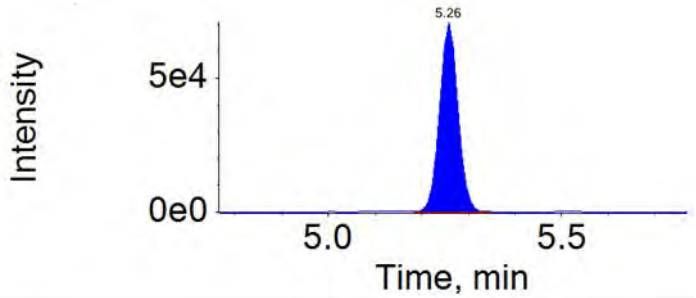
Component: PFOS
Primary Mass: 499.0 / 80.0



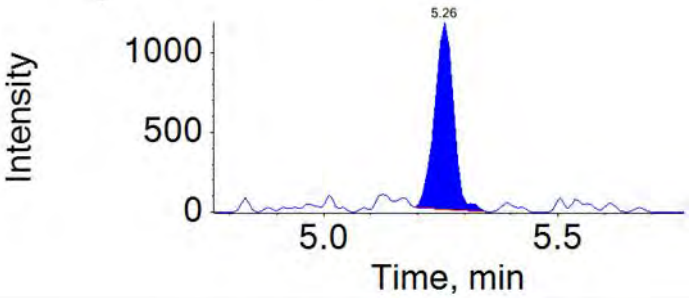
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



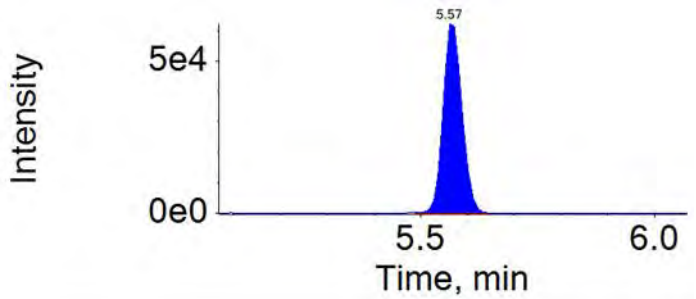
Component: PFNA
Primary Mass: 463.0 / 419.0



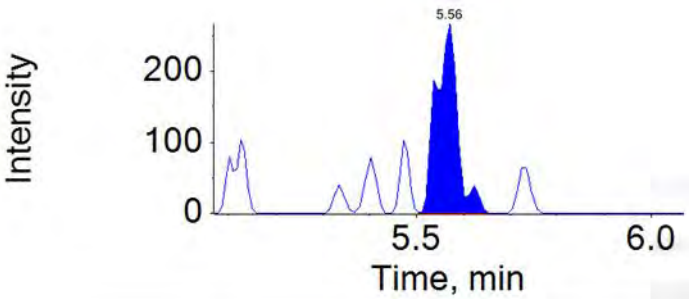
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



Component: PFDA_2
Secondary Mass: 513.0 / 169.0



APPROVED
By MCD at 3:52 pm, 12/11/18

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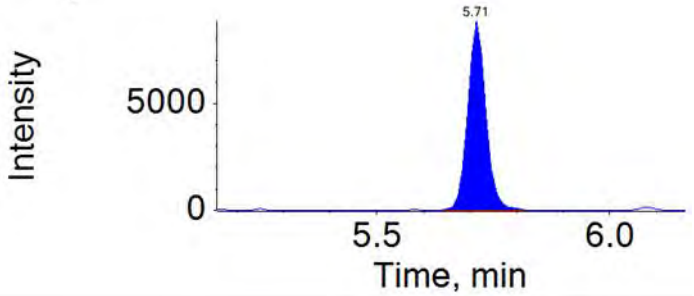
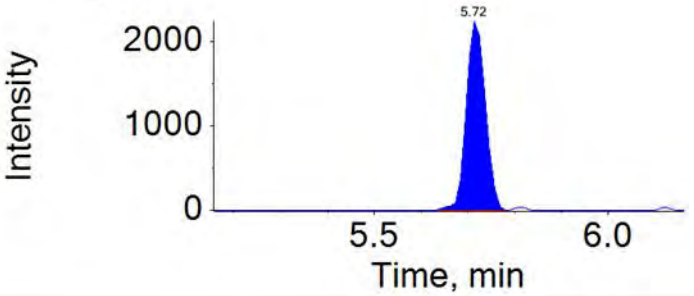
By umar at 1:17 pm, 12/13/18

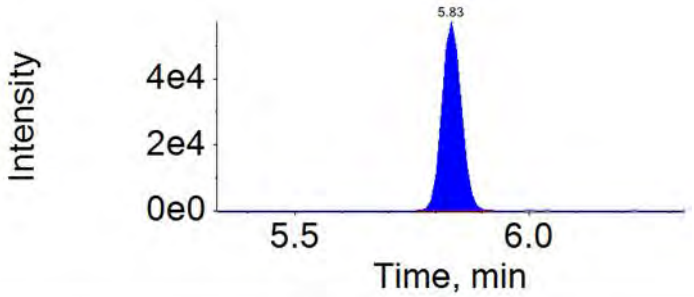
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFUnDA
Primary Mass: 563.0 / 519.0



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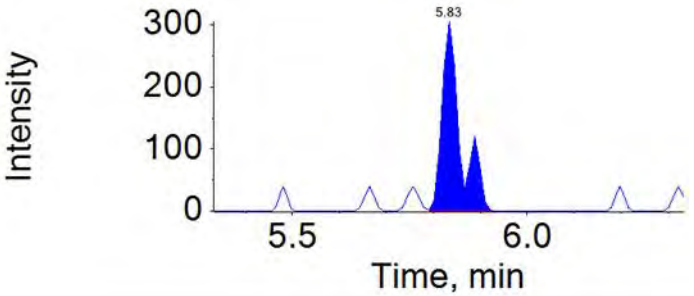
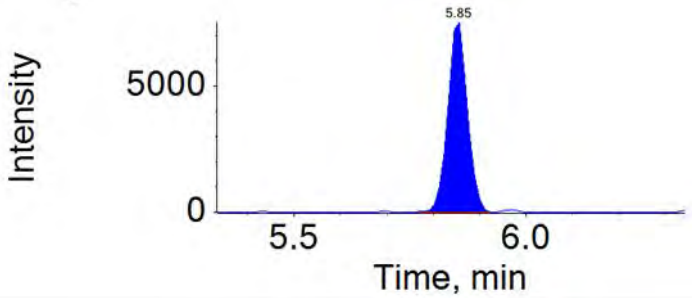
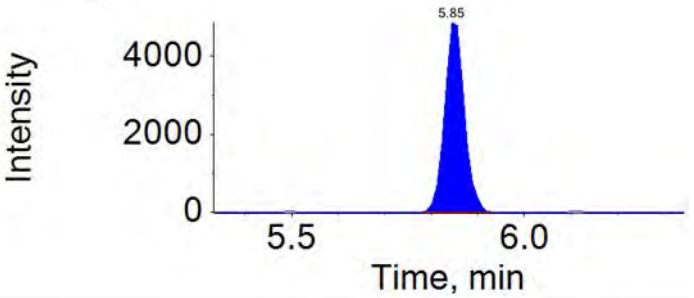
Secondary Mass: 563.0 / 169.0



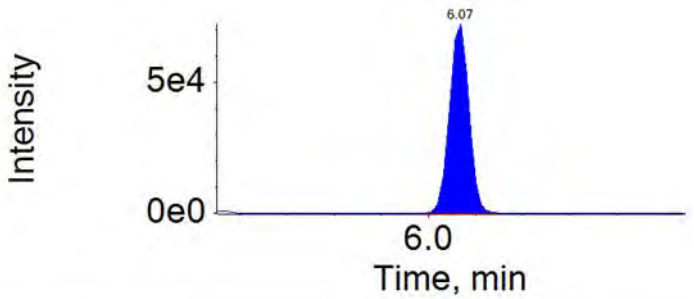
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



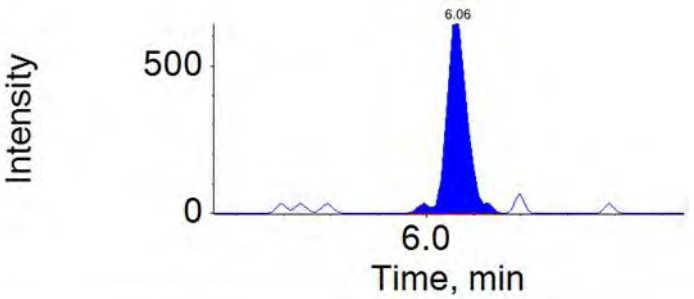
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



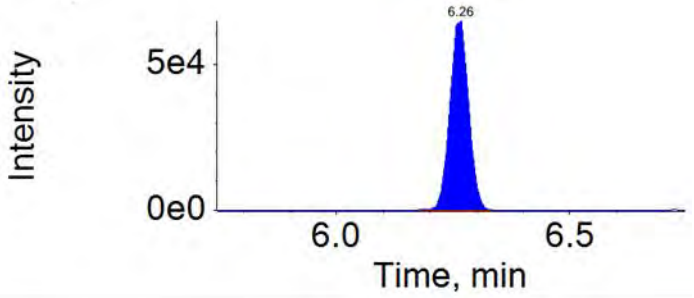
Component: PFDoDA
Primary Mass: 613.0 / 569.0



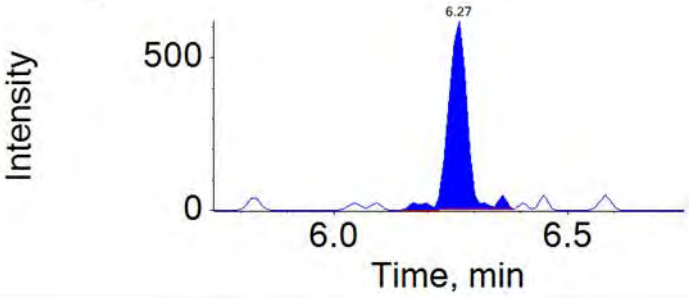
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



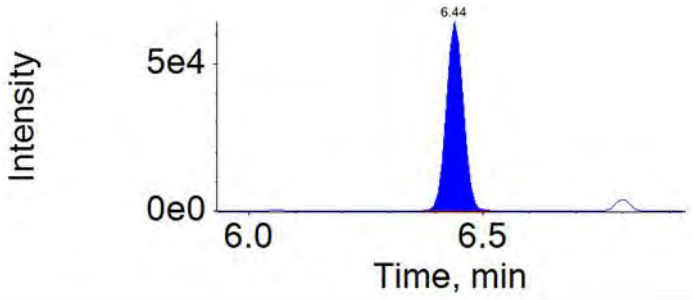
Component: PFTrDA
Primary Mass: 663.0 / 619.0



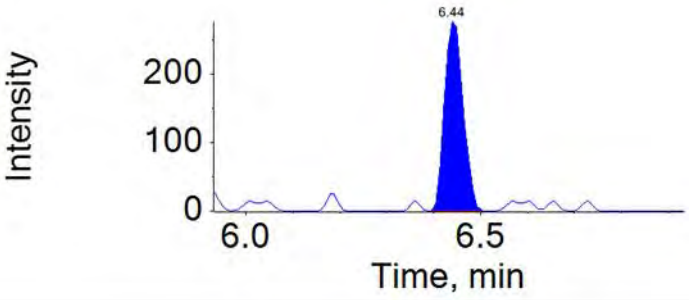
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



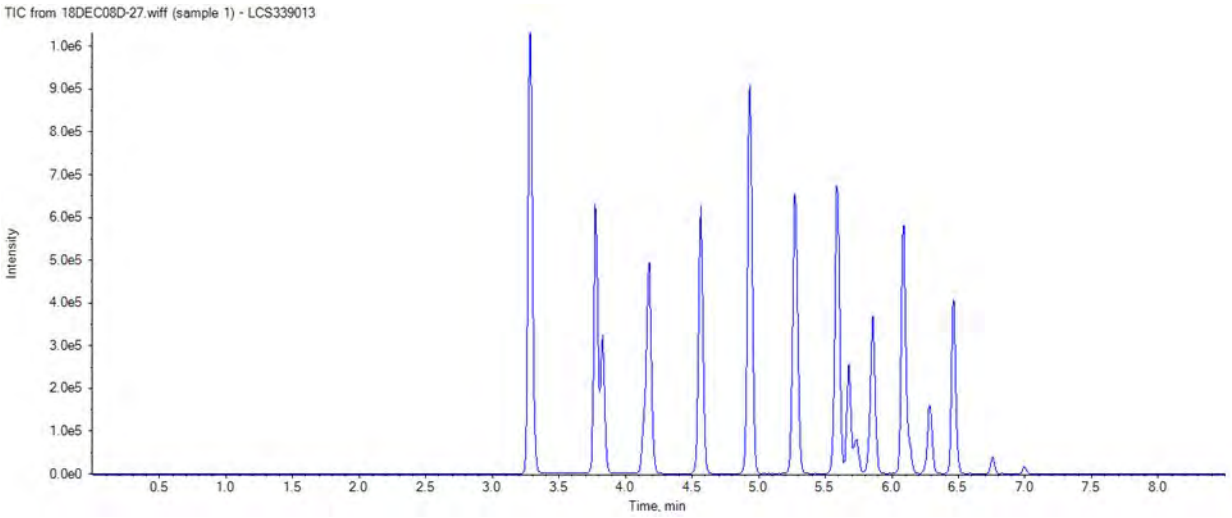
APPROVED
By MCD at 3:52 pm, 12/11/18

REVIEWED
By umar at 1:17 pm, 12/13/18

Lab Control Sample Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:24:55 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS339013	EPA 537 mod QSM 5.1 table B-15 18339013	18DEC08D-27.wiff	2018-12-08T12:01:54



Injection Standard Area Reference File**:** 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	974584.1	936973.7	4	50	
13C2-PFOA	5.00	505013.2	474841.3	6	50	
13C4-PFOS	4.78	315659.6	294668.0	7	50	
13C2-PFDA	5.00	399328.9	373990.9	7	50	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Lab Control Sample Recovery

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:24:55 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS339013	EPA 537 mod QSM 5.1 table B-15 18339013	18DEC08D-27.wiff	2018-12-08T12:01:54

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	320508.5	1122383.6	0.286	5.440	6.302	116	70-130	
PFPeA	328911.3	1042873.1	0.315	5.440	6.637	122	70-130	
PFBS	129965.2	477149.5	0.272	4.812	5.400	112	72-127	
4:2-FTS	108474.9	84632.8	1.282	14.944	13.742	92	70-130	
PFHxA	286371.6	782355.4	0.366	5.440	6.380	117	77-132	
PFPeS	73930.4	477149.5	0.155	5.104	6.137	120	70-130	
PFHpA	295989.6	583731.0	0.507	5.440	6.678	123	75-139	
PFHxS	106022.2	396228.4	0.268	5.144	5.071	99	71-130	
6:2-FTS	101915.5	85911.9	1.186	15.168	11.783	78	70-130	
PFHpS	102190.8	396228.4	0.258	5.176	5.663	109	70-130	
PFOA	296239.4	1016674.1	0.291	5.440	6.370	117	76-136	
PFOS	103603.1	349951.4	0.296	5.200	4.912	94	67-134	
PFNA	251883.5	666932.5	0.378	5.440	5.567	102	73-144	
PFNS	74381.5	349951.4	0.213	5.224	5.471	105	70-130	
PFDA	208063.4	790613.1	0.263	5.440	5.925	109	67-141	
8:2-FTS	86295.5	48223.1	1.790	15.328	15.510	101	70-130	
PFOSA	115188.5	456377.0	0.252	5.440	5.238	96	70-130	
NMeFOSAA	29692.3	163673.3	0.181	5.440	4.800	88	67-124	
PFDS	60681.8	349951.4	0.173	5.240	5.608	107	70-130	
PFUnDA	212835.6	461165.8	0.462	5.440	5.652	104	83-132	
NEtFOSAA	26597.8	107149.9	0.248	5.440	5.018	92	60-131	
PFDoDA	267142.1	988664.4	0.270	5.440	5.689	105	72-137	
10:2-FTS	63726.1	48223.1	1.321	15.424	14.002	91	70-130	
NMePFOSAE	30246.2	93477.7	0.324	5.440	5.624	103	70-130	
NMePFOSA	2634.2	13850.8	0.190	5.440	3.838	71	70-130	
PFDoS	30086.1	349951.4	0.086	5.280	5.243	99	70-130	
NEtPFOSAE	26260.3	74935.6	0.350	5.440	4.697	86	70-130	
NEtPFOSA	2210.7	11031.8	0.200	5.440	3.837	71	70-130	
PFTrDA	255370.4	988664.4	0.258	5.440	6.767	124	57-137	
PFTeDA	194750.6	717496.0	0.271	5.440	6.209	114	70-142	
PFHxDA	75926.5	717496.0	0.106	5.440	5.301	97	70-130	
PFODA	34945.2	717496.0	0.049	5.440	3.127	57	70-130	OOS

Lab Control Sample Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:24:55 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18339013 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	LCS339013			**Data File:**		18DEC08D-27.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18339013			**Acquis Date:**		2018-12-08T12:01:54
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	50			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18339013
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18339013			**Operator:**		MCD7824
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC08D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	974584.1	936973.7	4	50	
13C2-PFOA	5.0	505013.2	474841.3	6	50	
13C4-PFOS	4.8	315659.6	294668.0	7	50	
13C2-PFDA	5.0	399328.9	373990.9	7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1122383.6	13C3-PFBA	974584.1	1.152	20.000	20.388	102	50-150	
E13C5-PFPeA	1042873.1	13C3-PFBA	974584.1	1.070	20.000	20.329	102	50-150	
E13C3-PFBS	477149.5	13C3-PFBA	974584.1	0.490	18.600	16.600	89	50-150	
E13C2-4:2-FTS	84632.8	13C2-PFOA	505013.2	0.168	18.680	26.267	141	50-150	
E13C5-PFHxA	782355.4	13C2-PFOA	505013.2	1.549	20.000	20.805	104	50-150	
E13C3-PFHxS	396228.4	13C2-PFOA	505013.2	0.785	18.920	20.130	106	50-150	
E13C4-PFHpA	583731.0	13C2-PFOA	505013.2	1.156	20.000	19.656	98	50-150	
E13C2-6:2-FTS	85911.9	13C2-PFOA	505013.2	0.170	19.000	42.155	222	50-150	OOS
E13C8-PFOA	1016674.1	13C2-PFOA	505013.2	2.013	20.000	22.763	114	50-150	
E13C8-PFOS	349951.4	13C4-PFOS	315659.6	1.109	19.120	19.901	104	50-150	
E13C9-PFNA	666932.5	13C4-PFOS	315659.6	2.113	20.000	23.882	119	50-150	
E13C6-PFDA	790613.1	13C2-PFDA	399328.9	1.980	20.000	20.986	105	50-150	
E13C2-8:2-FTS	48223.1	13C2-PFDA	399328.9	0.121	19.160	31.536	165	50-150	OOS
E13C8-PFOSA	456377.0	13C2-PFDA	399328.9	1.143	20.000	10.812	54	50-150	
Ed3-NMeFOSAA	163673.3	13C2-PFDA	399328.9	0.410	20.000	29.054	145	50-150	
E13C7-PFUnDA	461165.8	13C2-PFDA	399328.9	1.155	20.000	22.660	113	50-150	
Ed5-NEtFOSAA	107149.9	13C2-PFDA	399328.9	0.268	20.000	23.693	118	50-150	
E13C2-PFDoDA	988664.4	13C2-PFDA	399328.9	2.476	20.000	20.782	104	50-150	
Ed7-NMePFOSAE	93477.7	13C2-PFDA	399328.9	0.234	20.000	5.394	27	50-150	OOS
Ed3-NMePFOSA	13850.8	13C2-PFDA	399328.9	0.035	20.000	2.528	13	50-150	OOS
Ed9-NEtPFOSAE	74935.6	13C2-PFDA	399328.9	0.188	20.000	5.176	26	50-150	OOS
Ed5-NEtPFOSA	11031.8	13C2-PFDA	399328.9	0.028	20.000	2.487	12	50-150	OOS
E13C2-PFTeDA	717496.0	13C2-PFDA	399328.9	1.797	20.000	21.331	107	50-150	

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

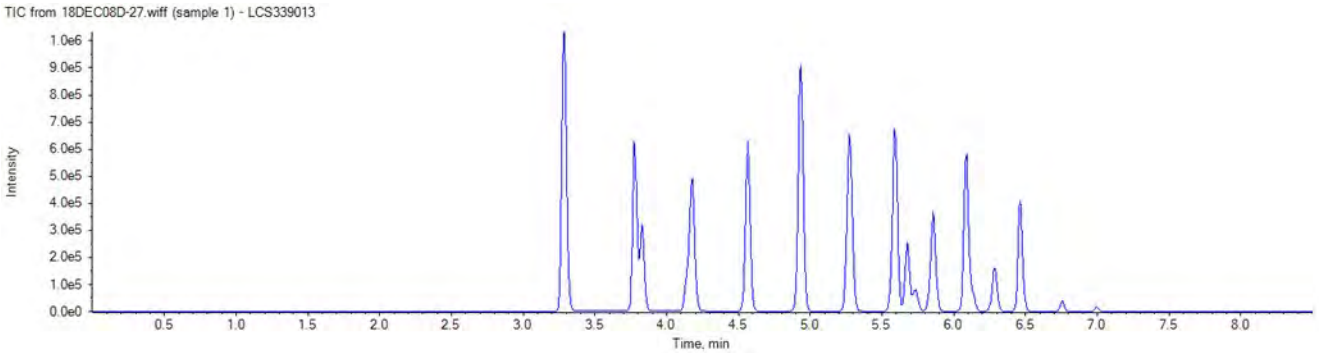
Analyte Quantitation Peak Table

Sample Name: LCS339013 **Instrument Name:** LM27631 **File Name:** 18DEC08D-27.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.28	1.000	320508.5		A	13C4-PFBA	3.28	1122383.6	0.286	6.302
PFPeA	3.78	1.000	328911.3		A	13C5-PFPeA	3.78	1042873.1	0.315	6.637
PFBS	3.83	1.000	129965.2		A	13C3-PFBS	3.83	477149.5	0.272	5.400
4:2-FTS	4.14	1.000	108474.9		A	13C2-4:2-FTS	4.14	84632.8	1.282	13.742
PFHxA	4.17	1.000	286371.6		A	13C5-PFHxA	4.18	782355.4	0.366	6.380
PFPeS	4.20	1.100	73930.4		A	13C3-PFBS	3.83	477149.5	0.155	6.137
PFHpA	4.56	1.000	295989.6		A	13C4-PFHpA	4.56	583731.0	0.507	6.678
PFHxS	4.57	1.000	106022.2		A	13C3-PFHxS	4.57	396228.4	0.268	5.071
6:2-FTS	4.92	1.000	101915.5		A	13C2-6:2-FTS	4.92	85911.9	1.186	11.783
PFHpS	4.93	1.080	102190.8		A	13C3-PFHxS	4.57	396228.4	0.258	5.663
PFOA	4.94	1.000	296239.4		A	13C8-PFOA	4.94	1016674.1	0.291	6.370
PFOS	5.27	1.000	103603.1		A	13C8-PFOS	5.27	349951.4	0.296	4.912
PFNA	5.28	1.000	251883.5		A	13C9-PFNA	5.28	666932.5	0.378	5.567
PFNS	5.57	1.060	74381.5		A	13C8-PFOS	5.27	349951.4	0.213	5.471
PFDA	5.59	1.000	208063.4		A	13C6-PFDA	5.59	790613.1	0.263	5.925
8:2-FTS	5.59	1.000	86295.5		A	13C2-8:2-FTS	5.59	48223.1	1.790	15.510
PFOSA	5.68	1.000	115188.5		A	13C8-PFOSA	5.68	456377.0	0.252	5.238
NMeFOSAA	5.74	1.000	29692.3		A	d3-NMeFOSAA	5.73	163673.3	0.181	4.800
PFDS	5.83	1.110	60681.8		A	13C8-PFOS	5.27	349951.4	0.173	5.608
PFUnDA	5.86	1.000	212835.6		A	13C7-PFUnDA	5.86	461165.8	0.462	5.652
NEtFOSAA	5.87	1.000	26597.8		A	d5-NEtFOSAA	5.87	107149.9	0.248	5.018
PFDoDA	6.09	1.000	267142.1		A	13C2-PFDoDA	6.09	988664.4	0.270	5.689
10:2-FTS	6.10	1.090	63726.1		A	13C2-8:2-FTS	5.59	48223.1	1.321	14.002
NMePFOSAE	6.14	1.000	30246.2		A	d7-NMePFOSAE	6.13	93477.7	0.324	5.624
NMePFOSA	6.14	1.000	2634.2		A	d3-NMePFOSA	6.14	13850.8	0.190	3.838
PFDoS	6.26	1.190	30086.1		A	13C8-PFOS	5.27	349951.4	0.086	5.243
NEtPFOSAE	6.30	1.000	26260.3		A	d9-NEtPFOSAE	6.28	74935.6	0.350	4.697
NEtPFOSA	6.31	1.000	2210.7		A	d5-NEtPFOSA	6.30	11031.8	0.200	3.837
PFTrDA	6.29	1.030	255370.4		A	13C2-PFDoDA	6.09	988664.4	0.258	6.767
PFTeDA	6.46	1.000	194750.6		A	13C2-PFTeDA	6.46	717496.0	0.271	6.209
PFHxDA	6.76	1.050	75926.5		A	13C2-PFTeDA	6.46	717496.0	0.106	5.301
PFODA	7.00	1.080	34945.2		A	13C2-PFTeDA	6.46	717496.0	0.049	3.127

Total Ion Chromatogram

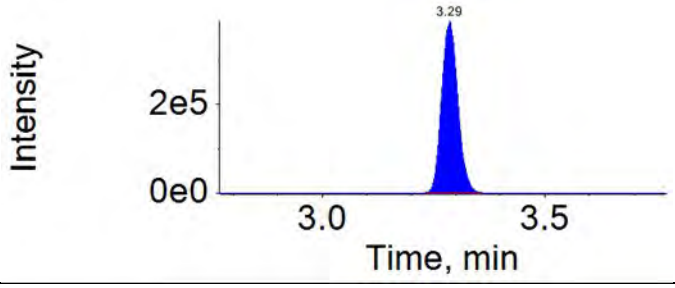


APPROVED
By MCD at 7:42 pm, 12/10/18

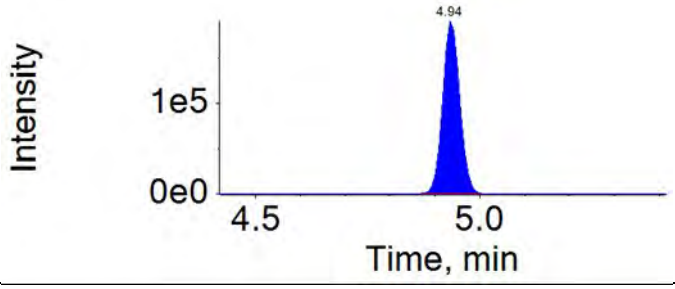
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

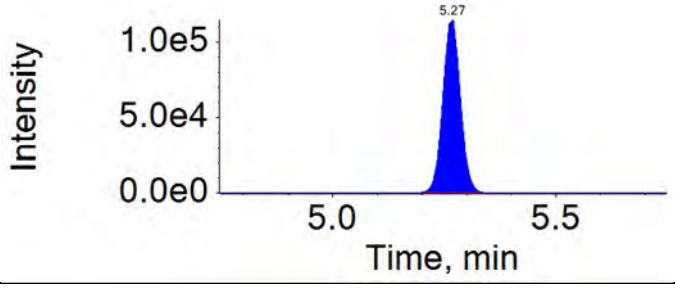
Injection Standard: 13C3-PFBA
216.0 / 172.0



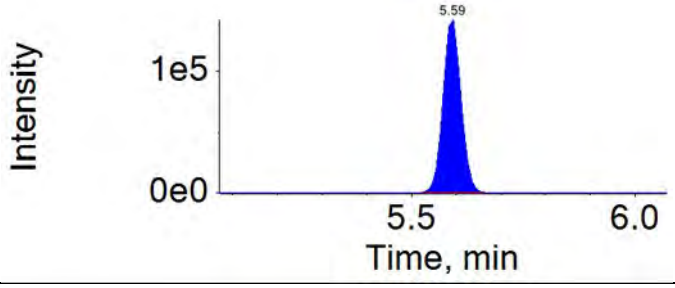
Injection Standard: 13C2-PFOA
415.0 / 370.0



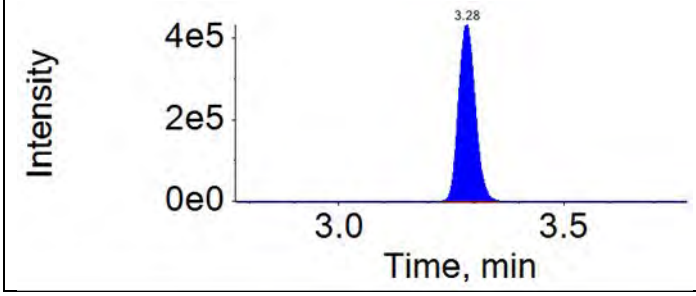
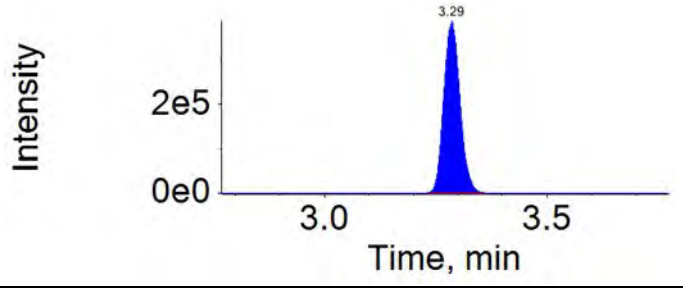
Injection Standard: 13C4-PFOS
503.0 / 80.0

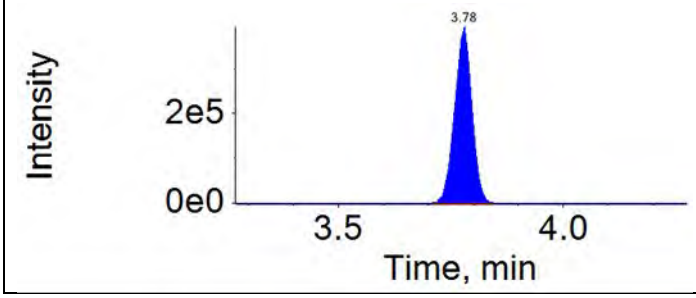
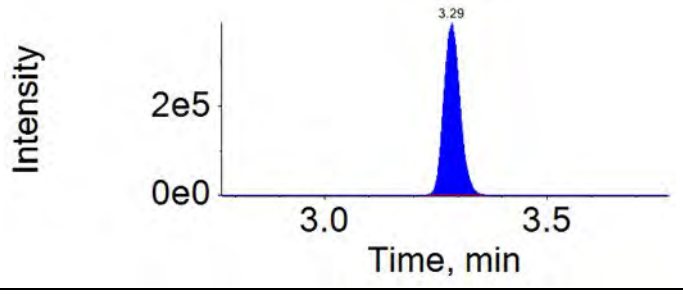


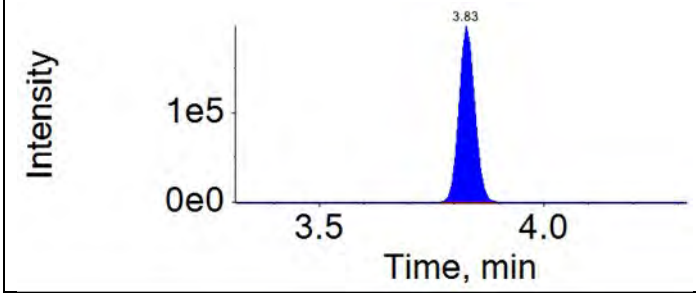
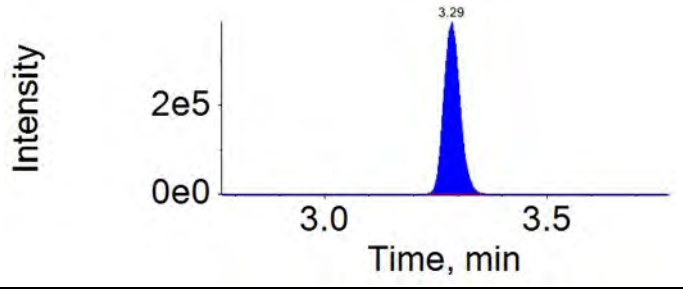
Injection Standard: 13C2-PFDA
515.0 / 470.0

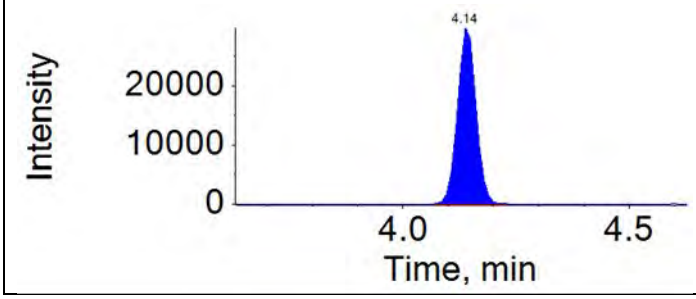
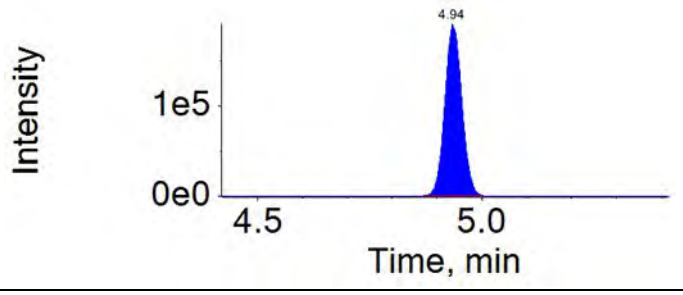


ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

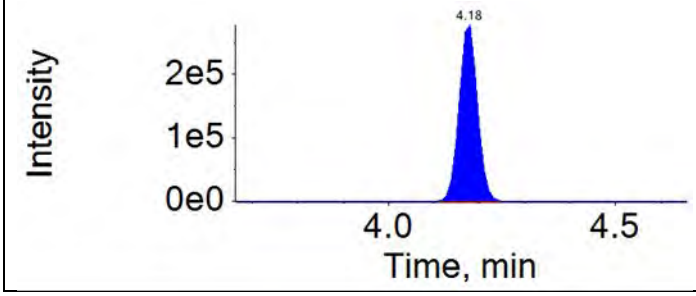
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

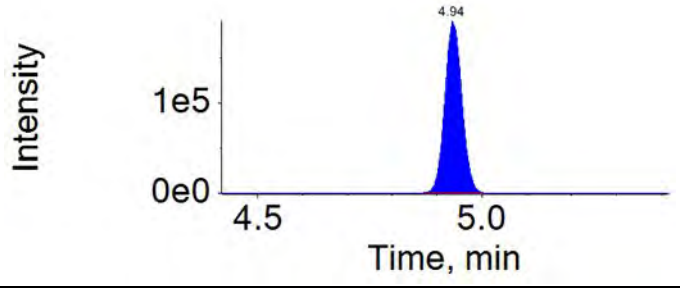
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

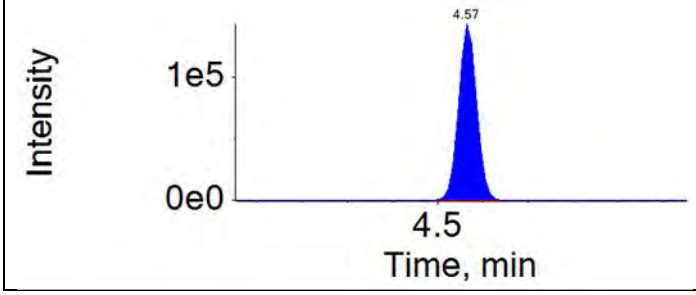
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

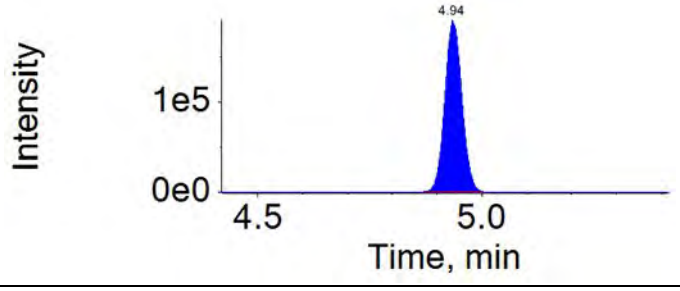
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



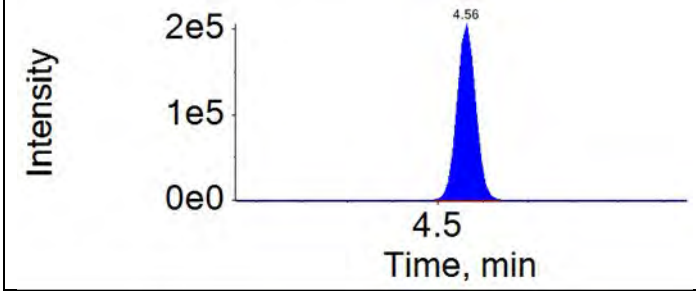


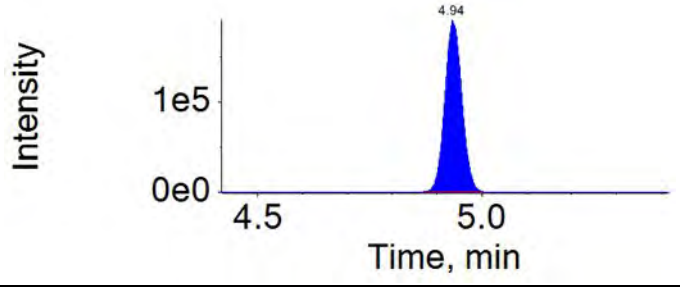
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



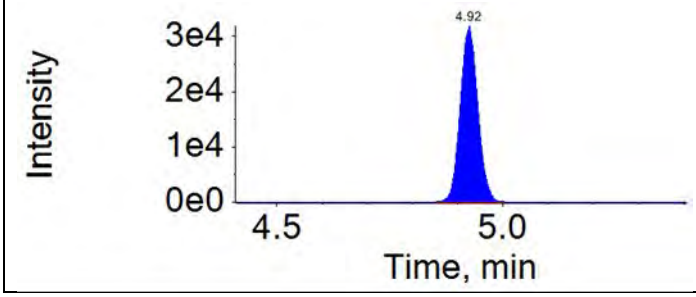


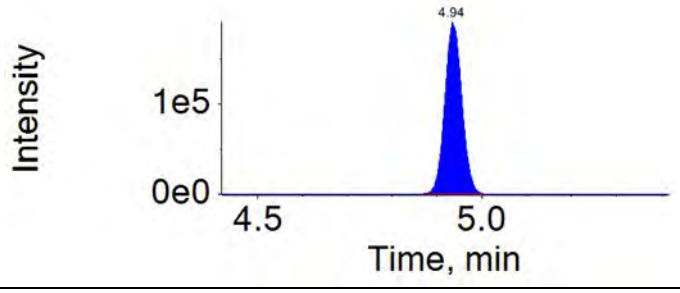
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



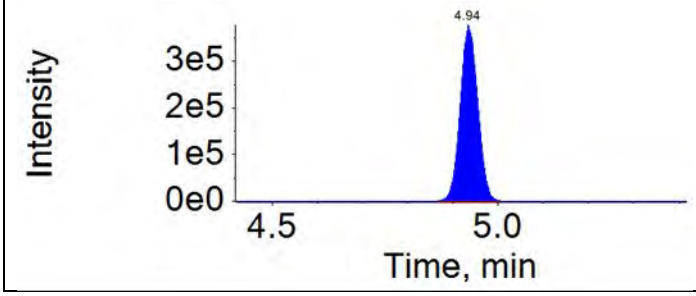
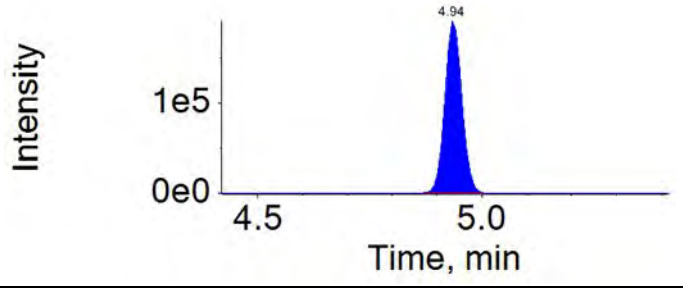


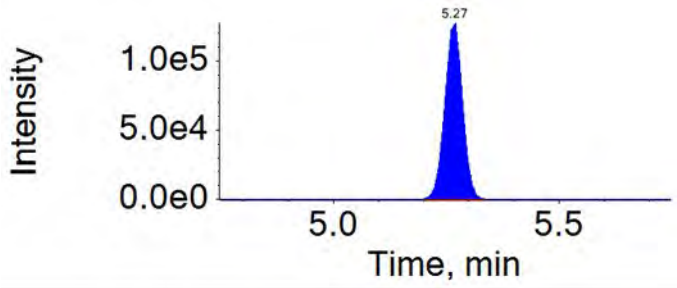
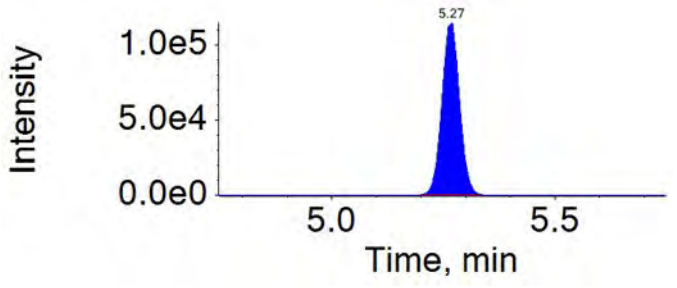
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

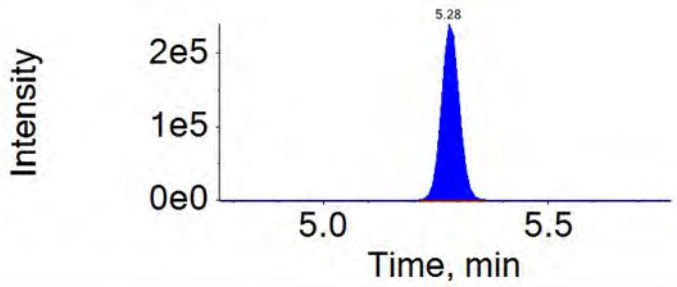
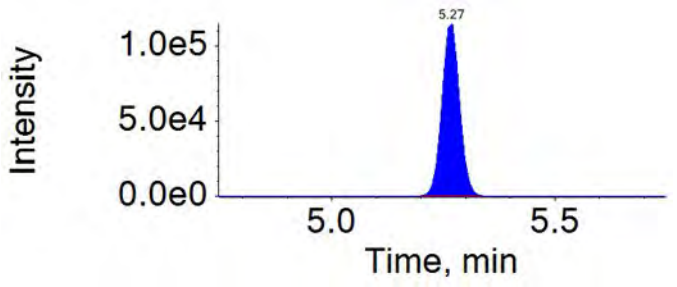


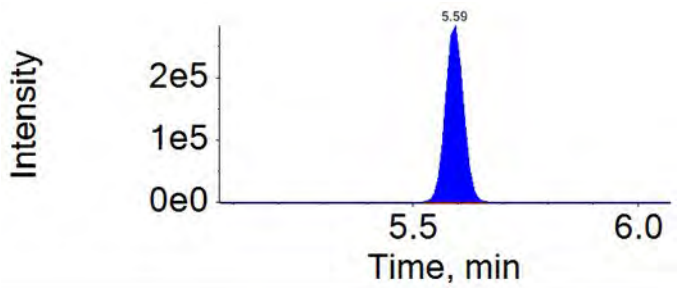
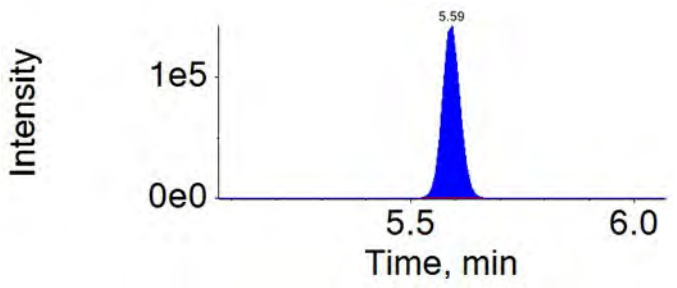


ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

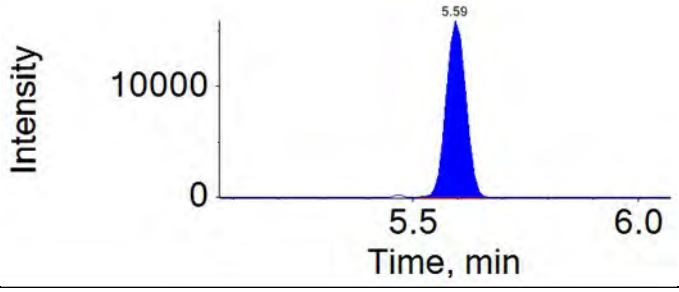
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

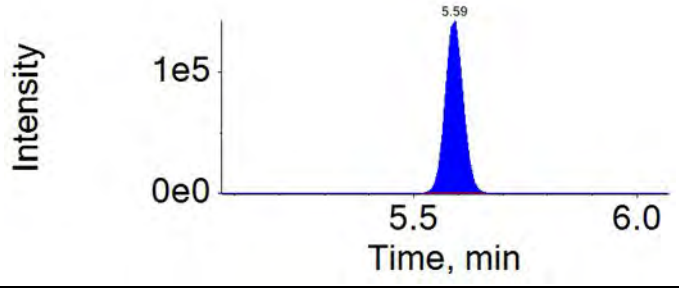
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

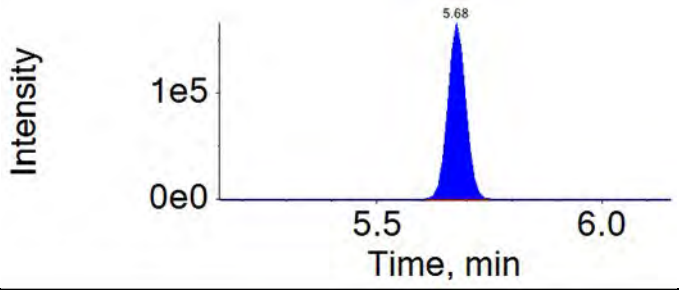
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

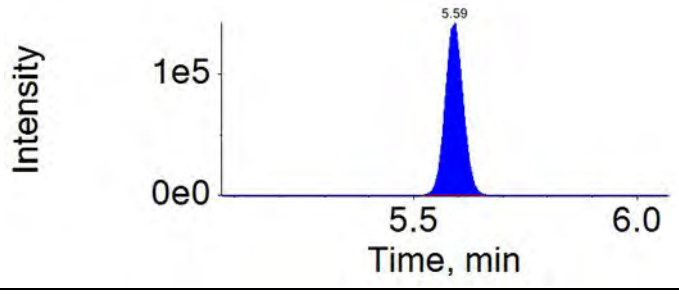
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



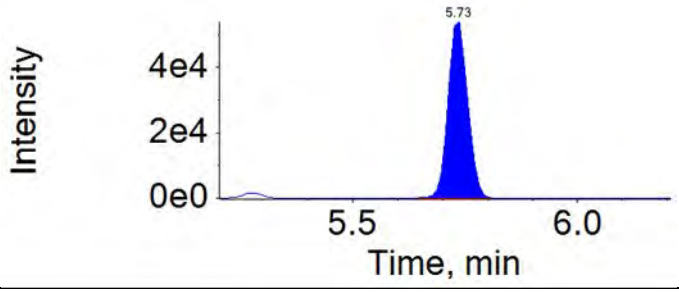


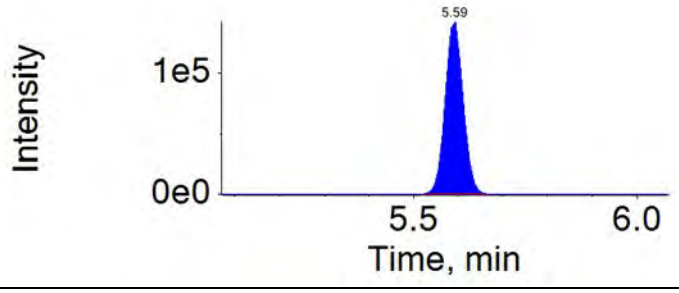
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



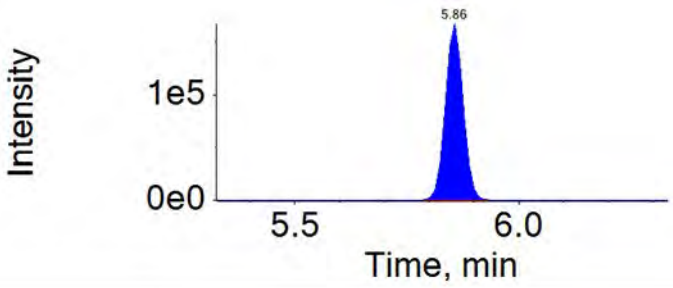


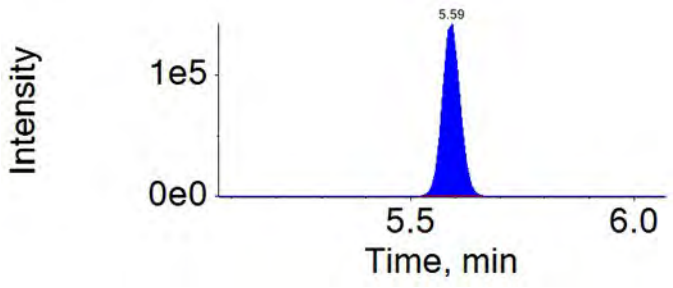
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



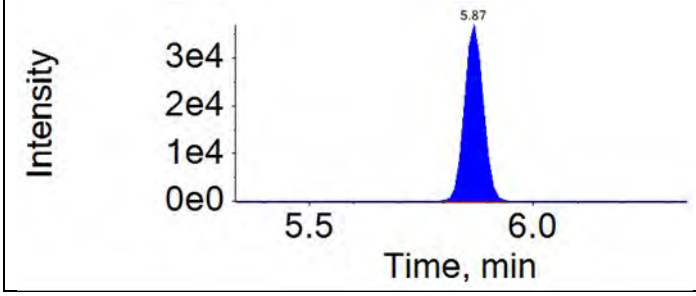


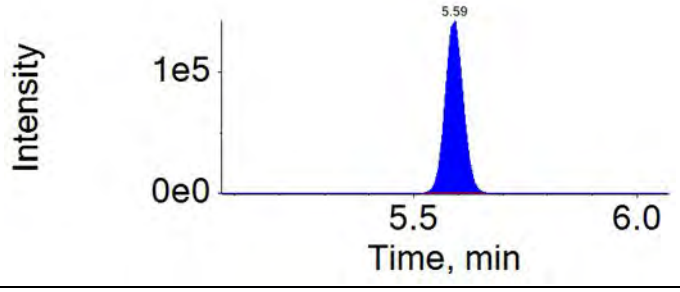
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

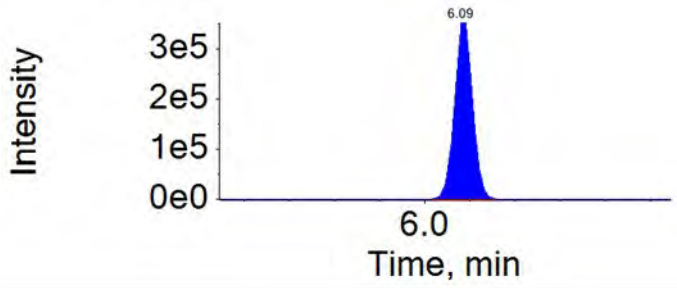
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

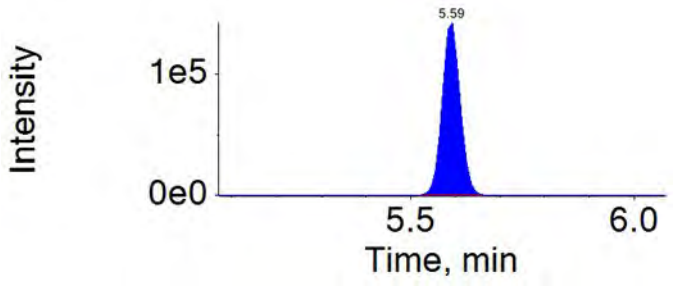
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



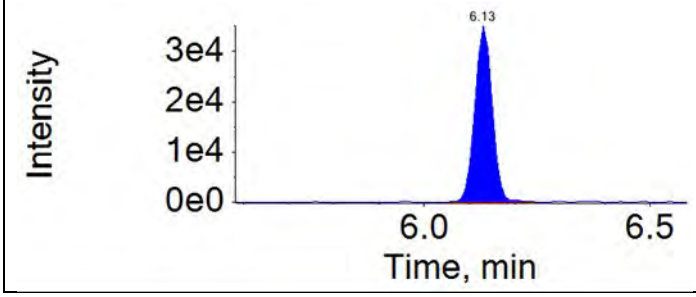


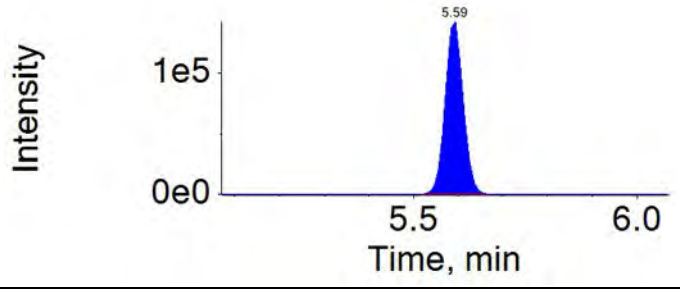
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



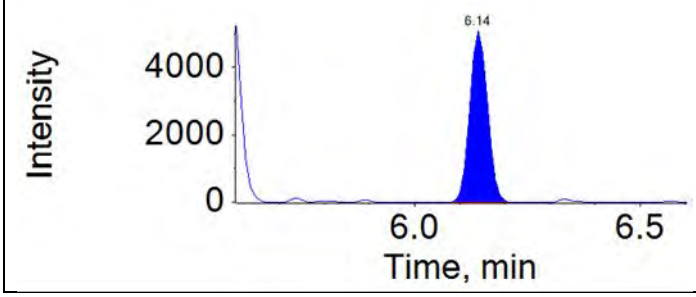


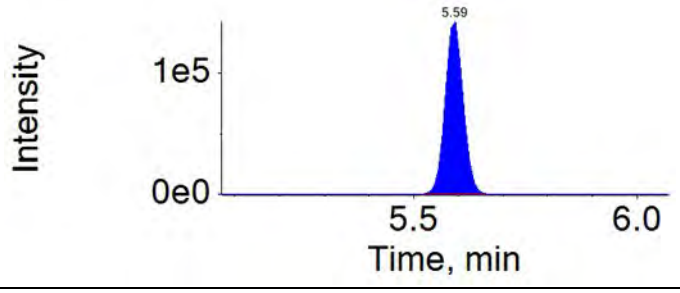
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



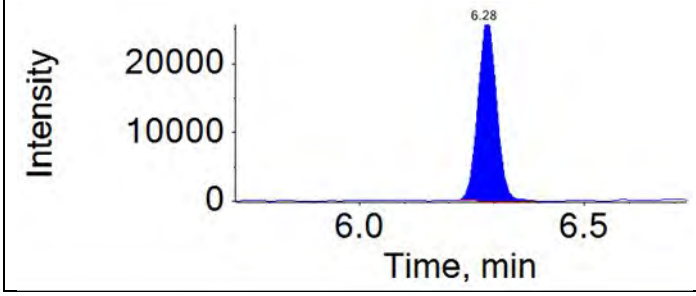


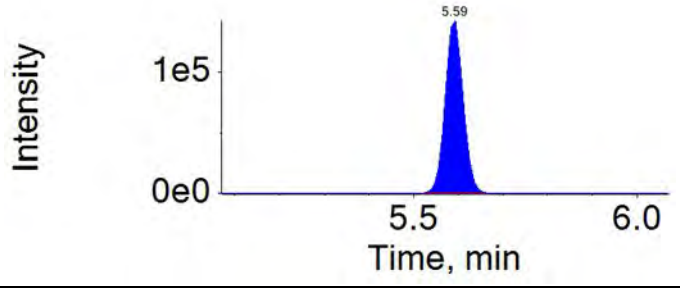
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

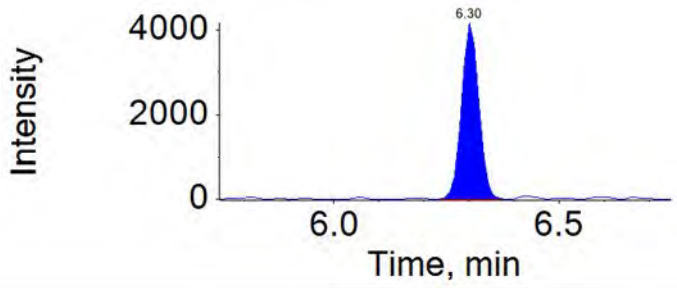
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

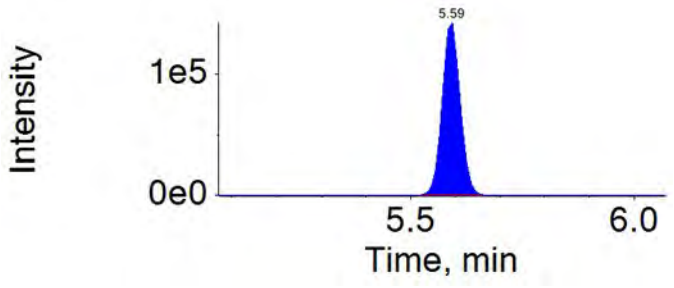
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



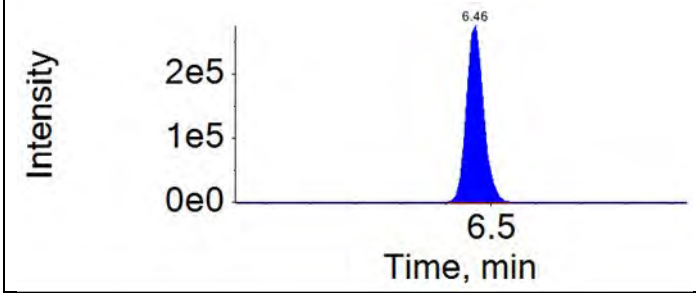


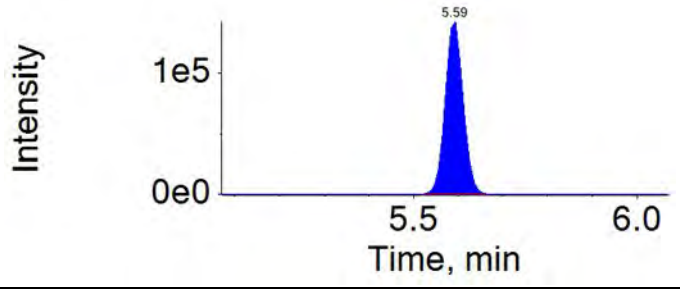
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

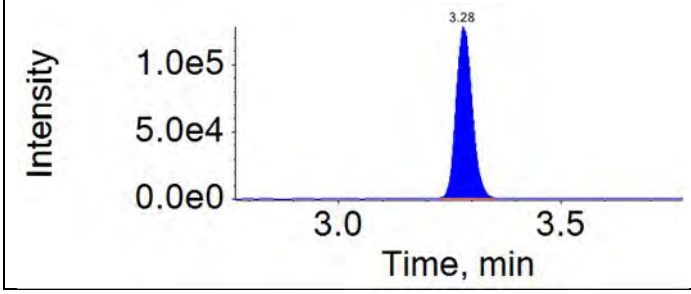
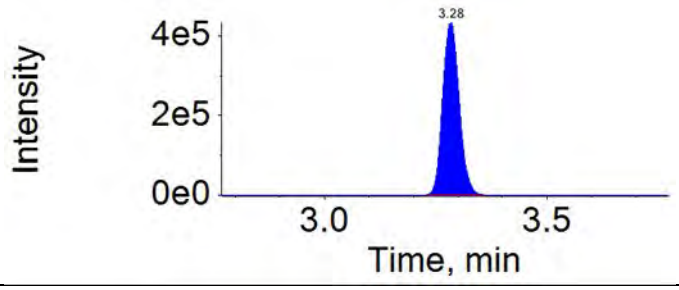


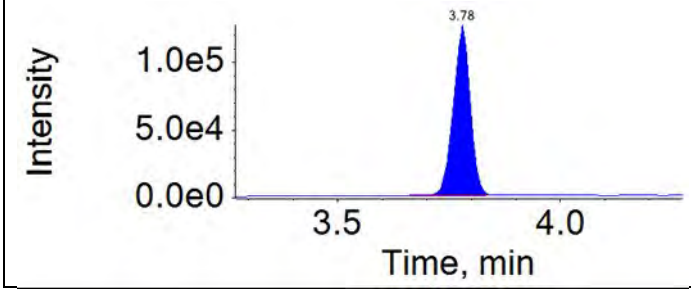
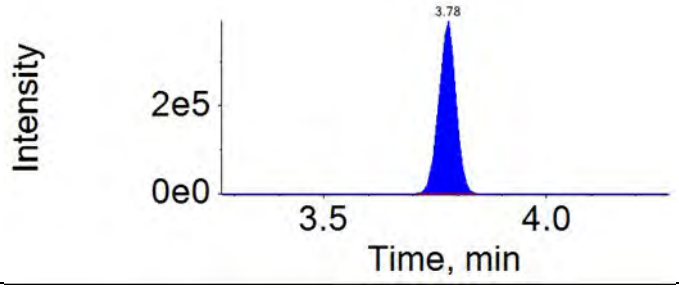


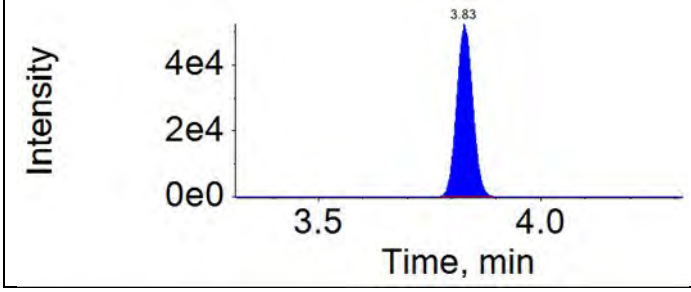
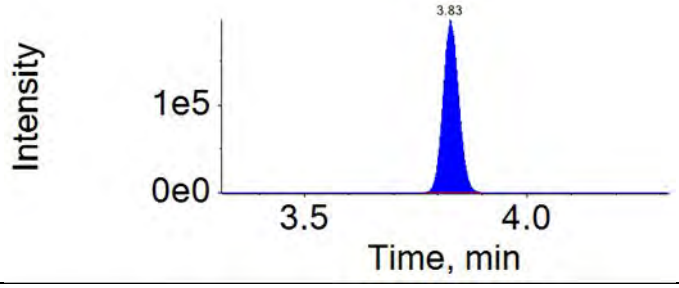
APPROVED
By MCD at 7:42 pm, 12/10/18

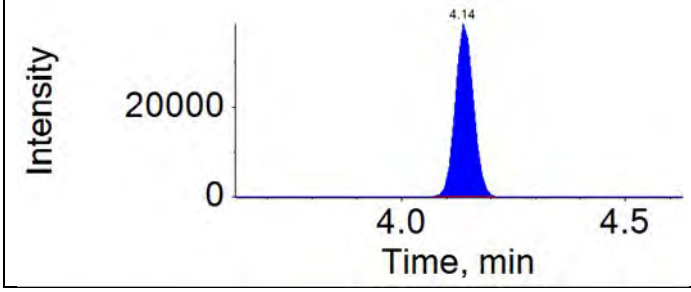
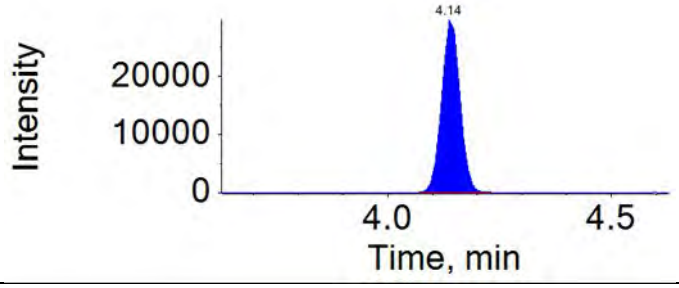
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

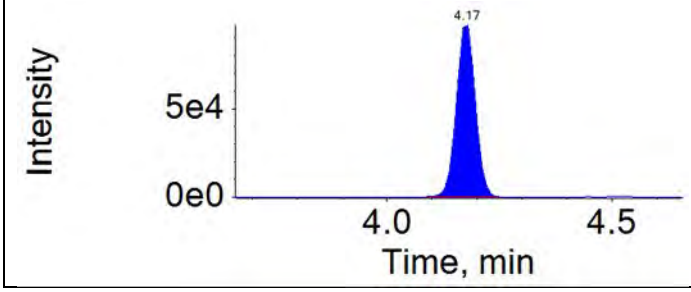
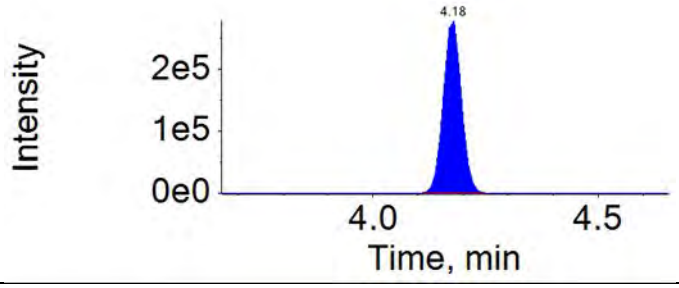
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

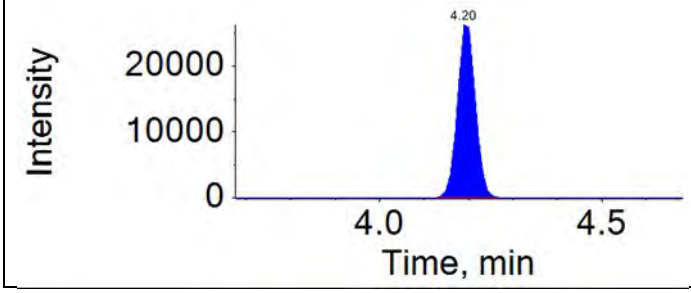
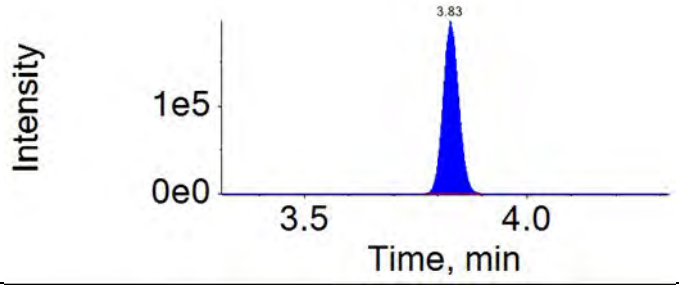
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

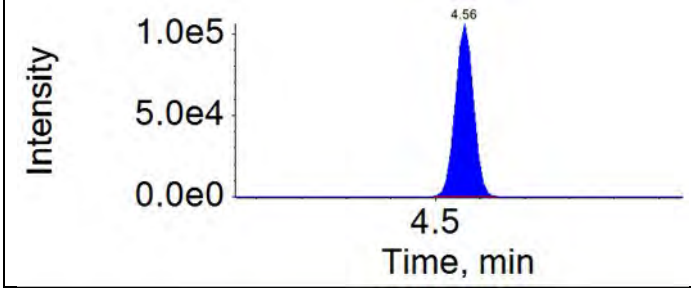
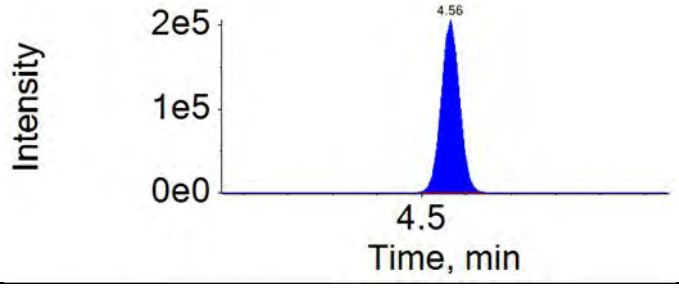
APPROVED
By MCD at 7:42 pm, 12/10/18

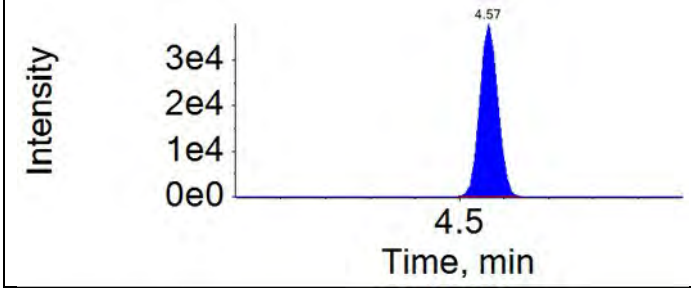
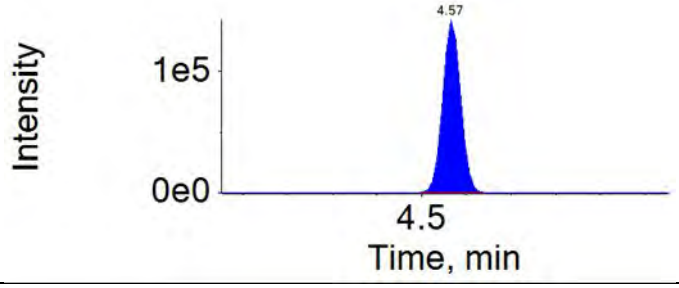
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

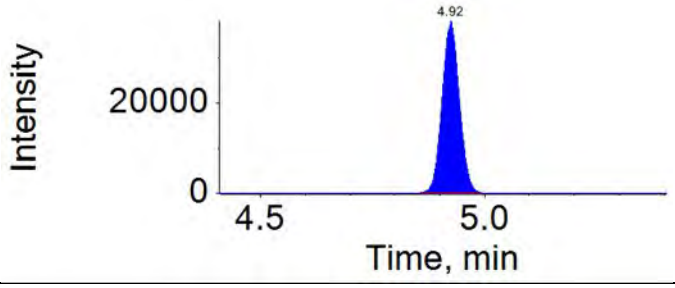
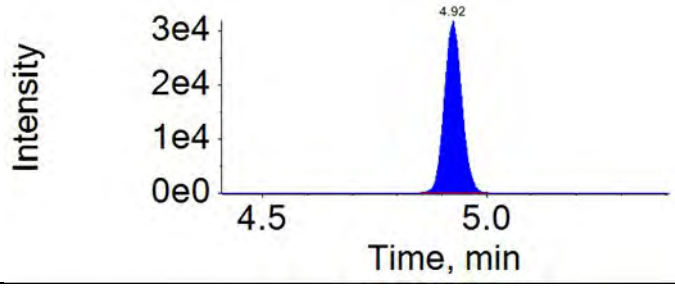
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

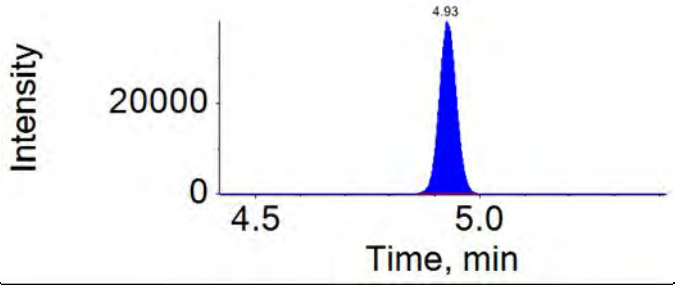
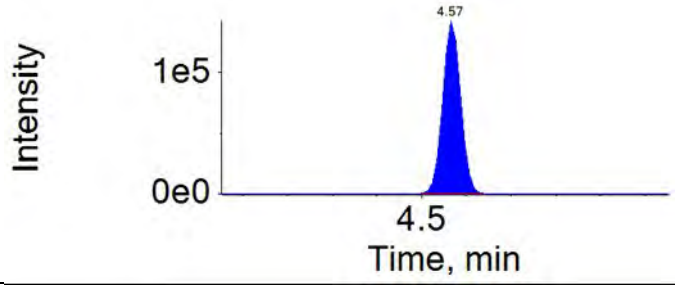
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

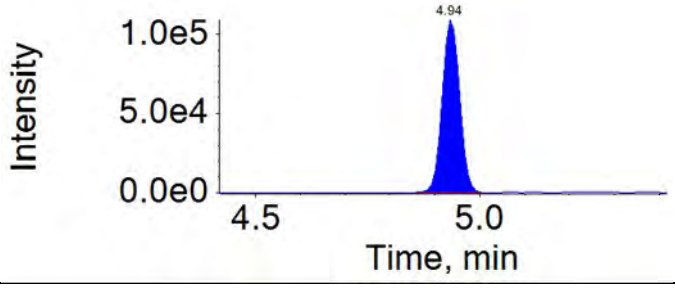
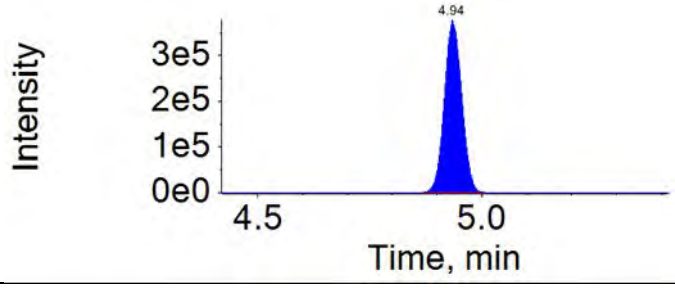
APPROVED
By MCD at 7:42 pm, 12/10/18

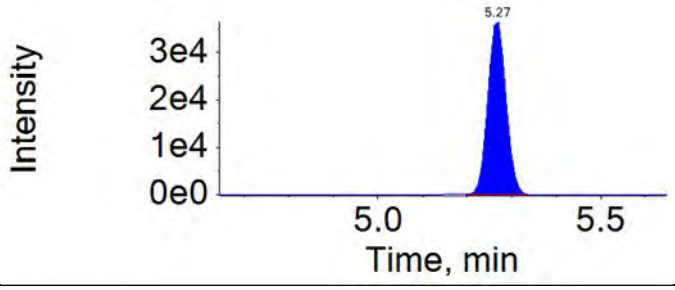
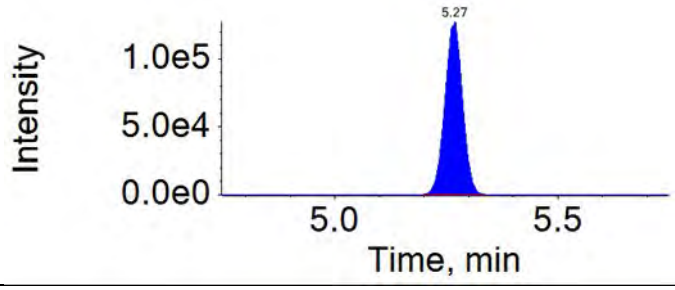
REVIEWED
By HMK at 12:28 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

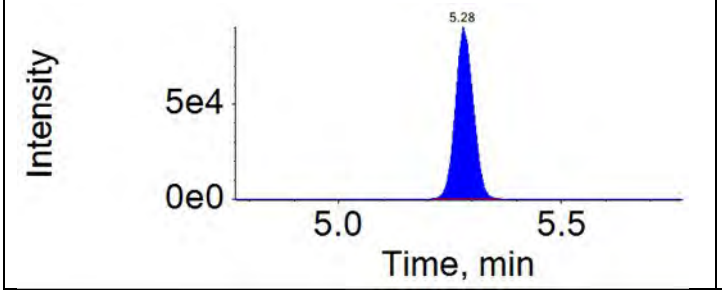
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

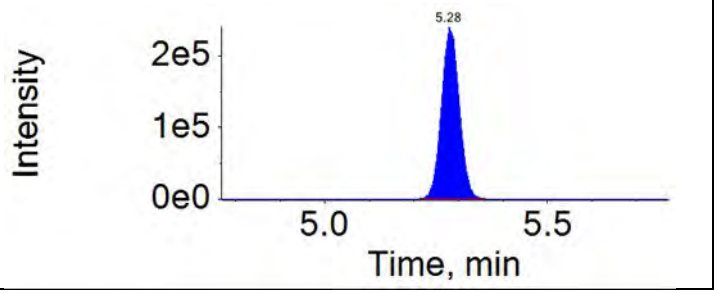
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

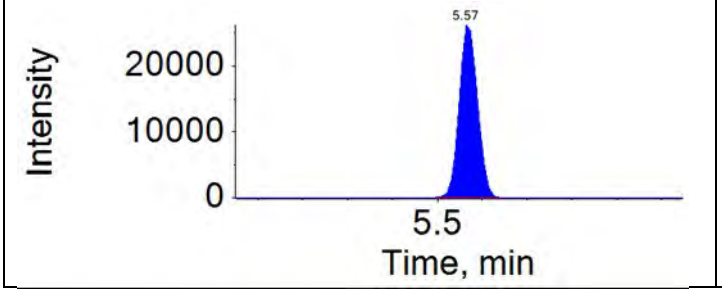
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

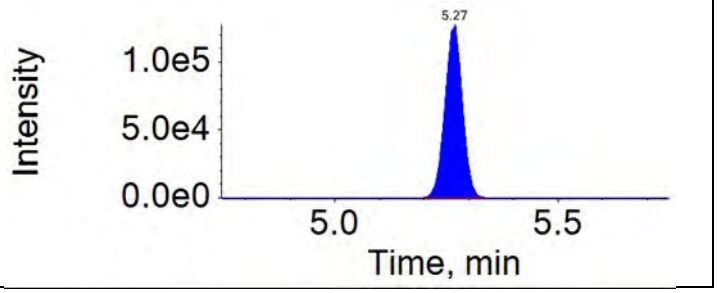
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



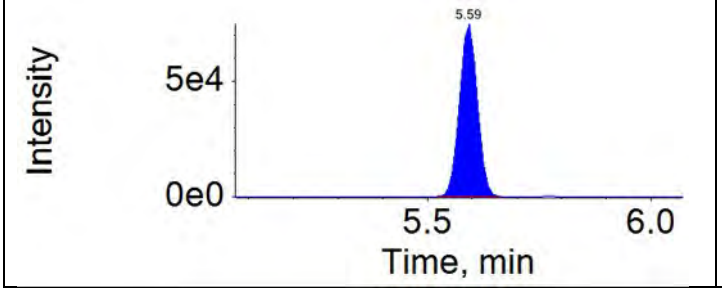


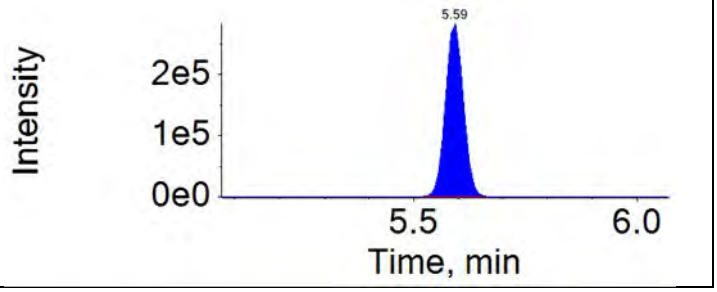
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



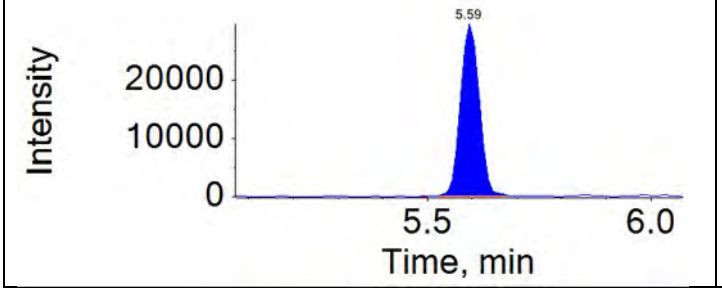


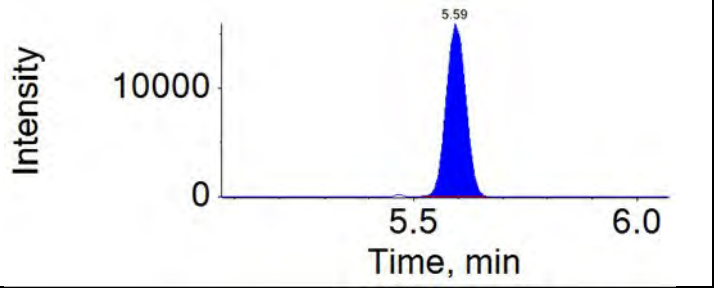
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



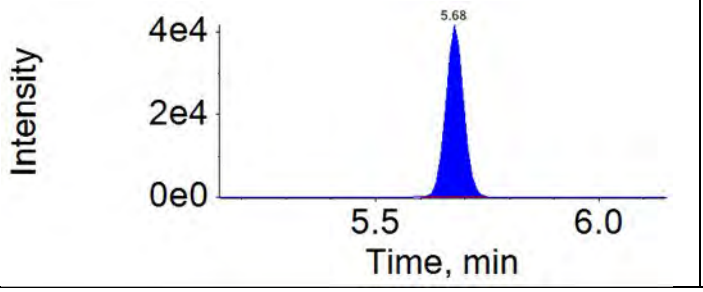


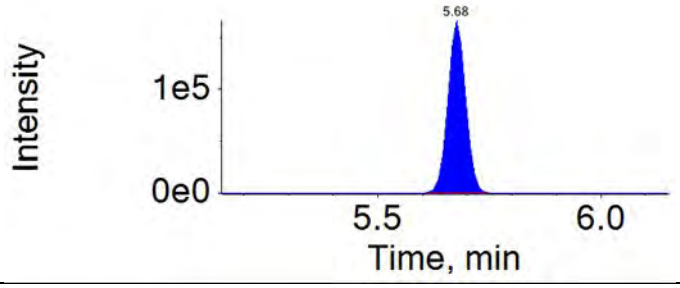
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

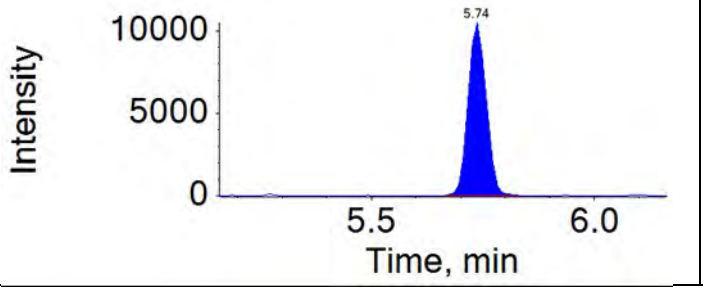
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

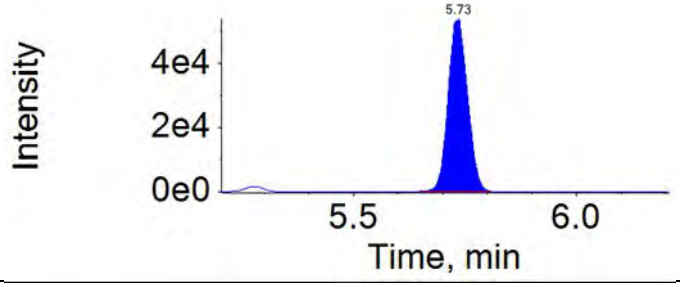
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



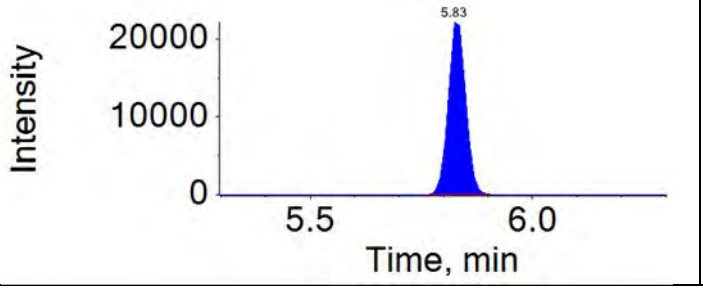


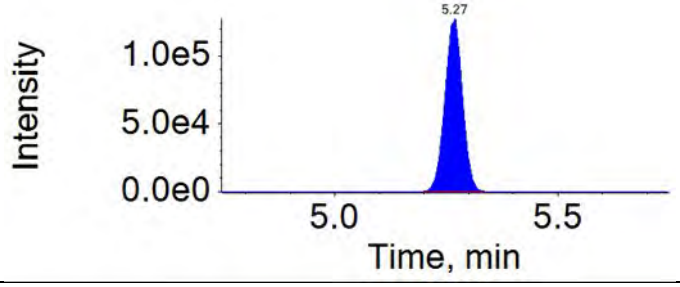
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



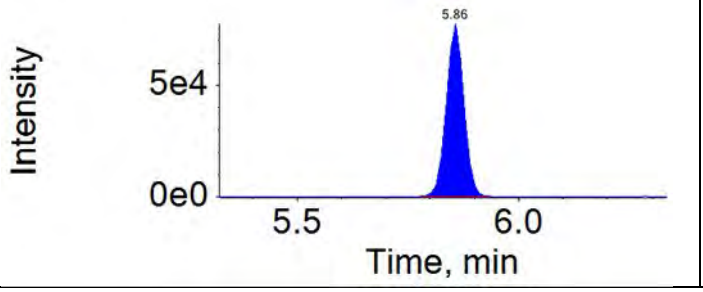


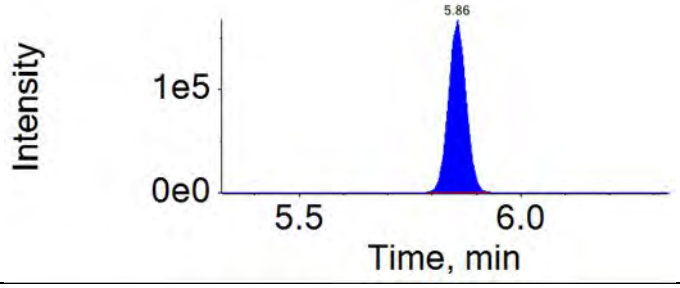
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



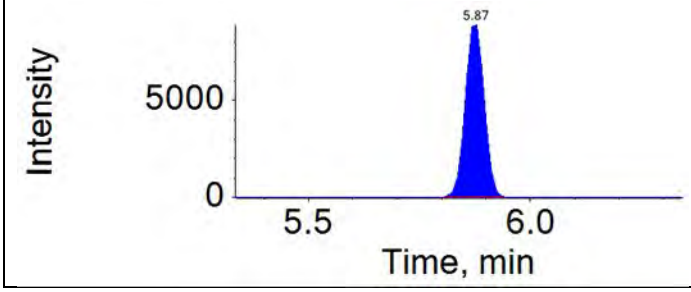


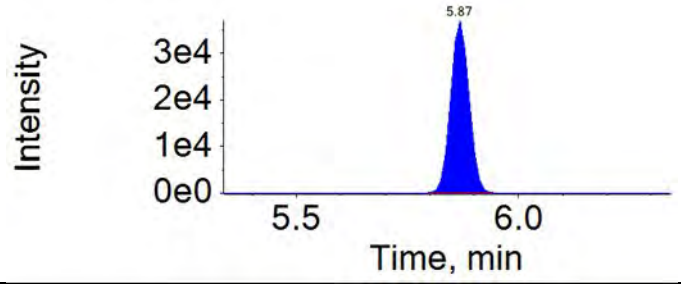
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

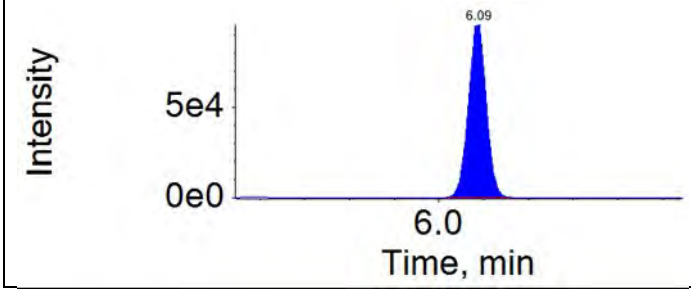
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

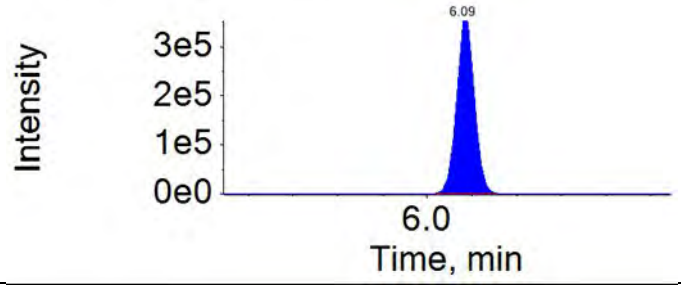
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



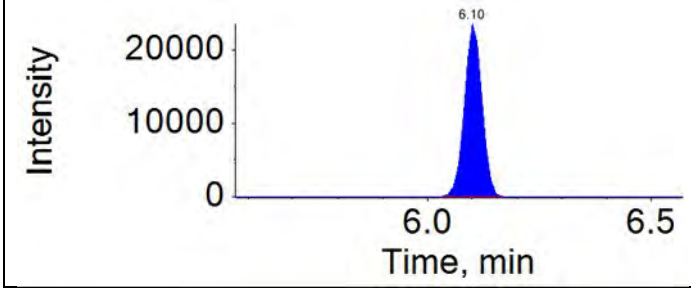


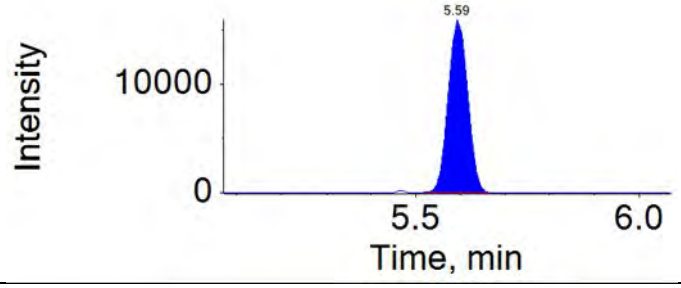
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



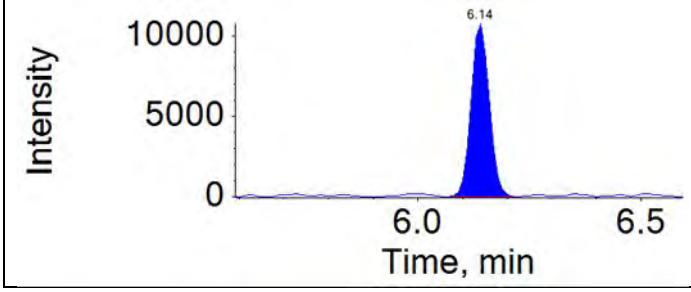


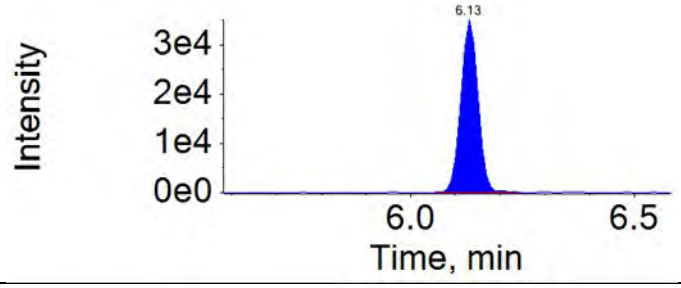
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



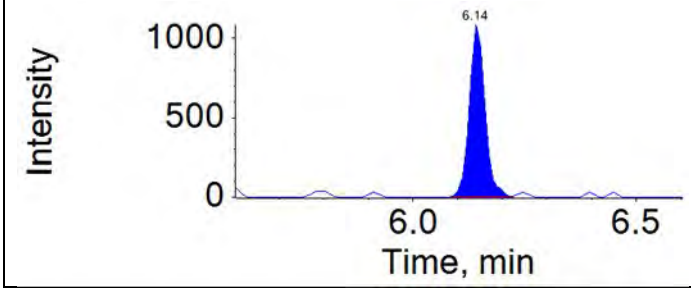


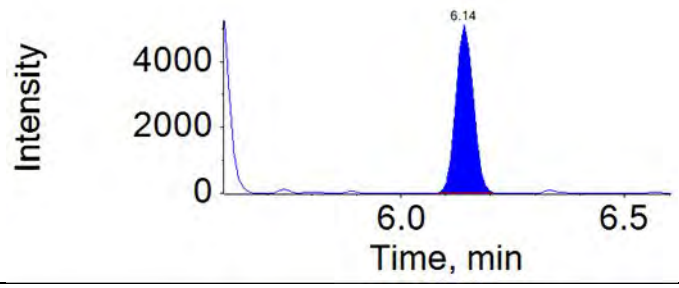
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

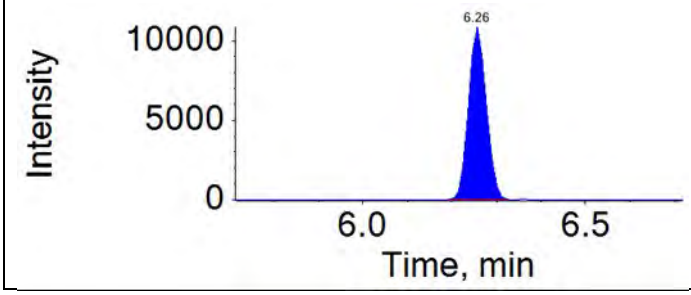
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

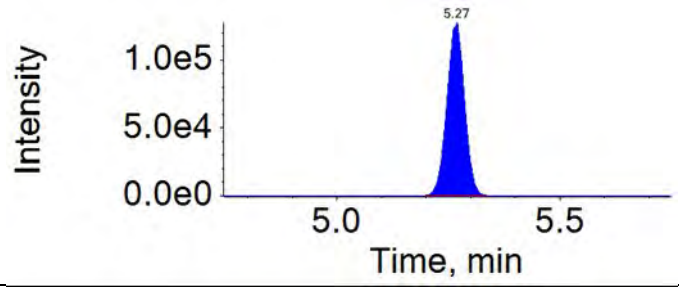
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



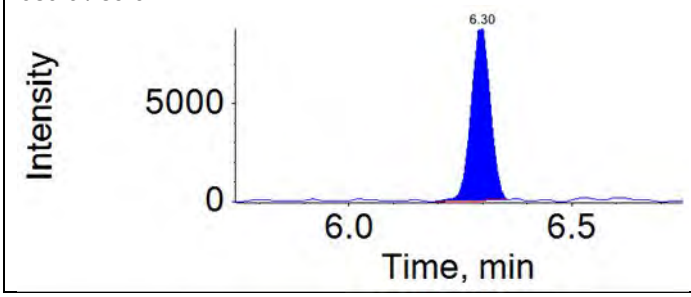


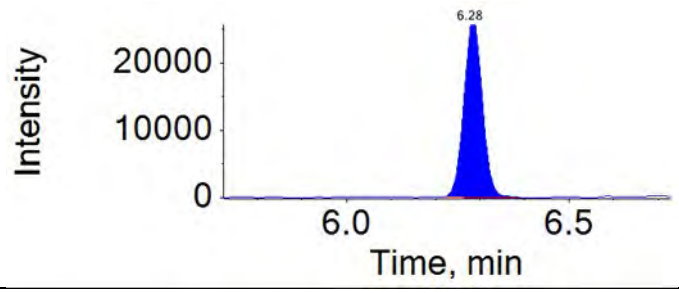
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



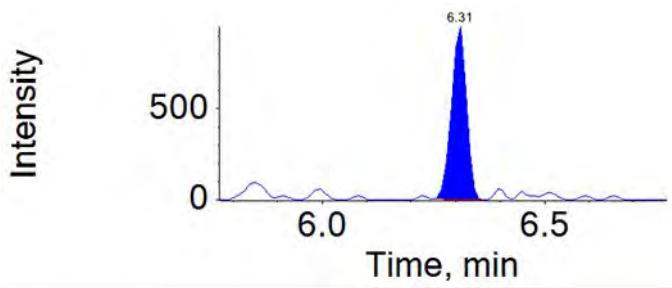


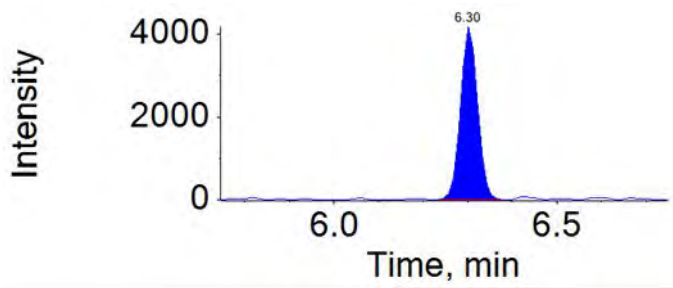
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



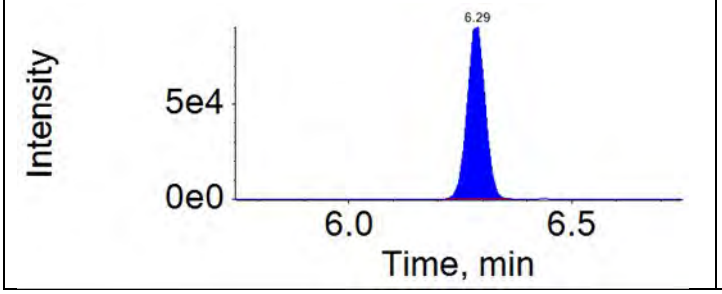


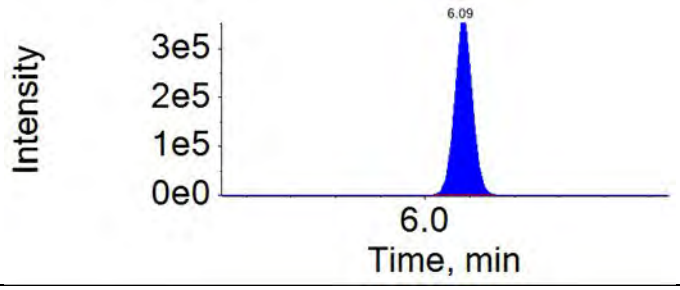
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

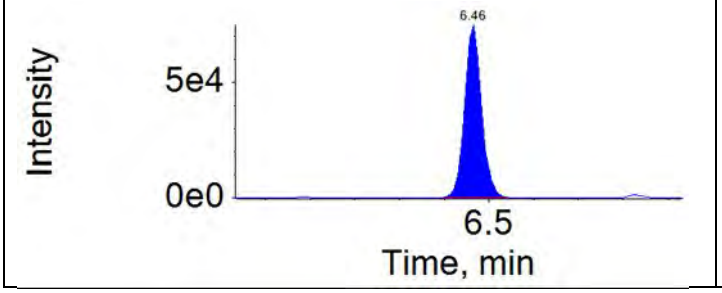
ICAL Name: 18DEC06DCAL **Result Table:** 18339013 12/10/2018 7:26:49 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

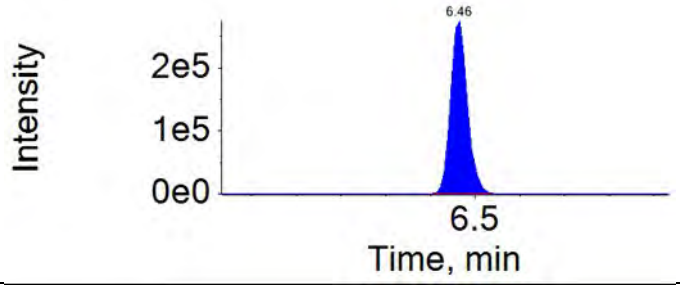
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



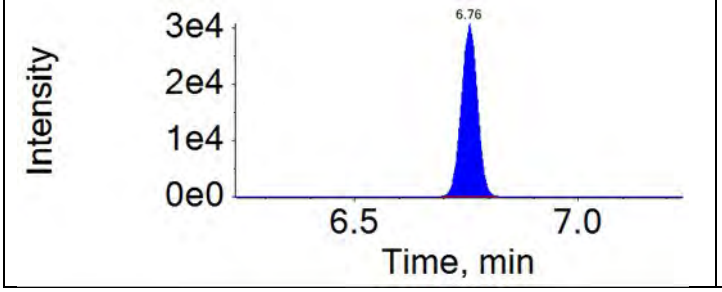


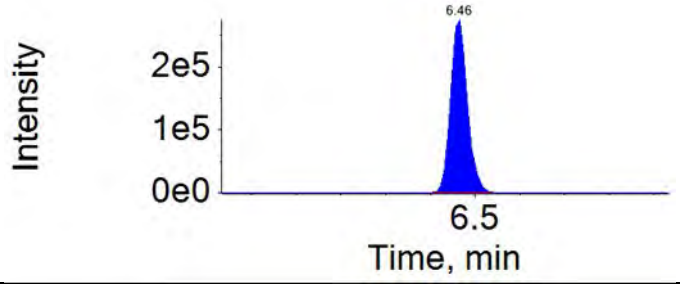
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



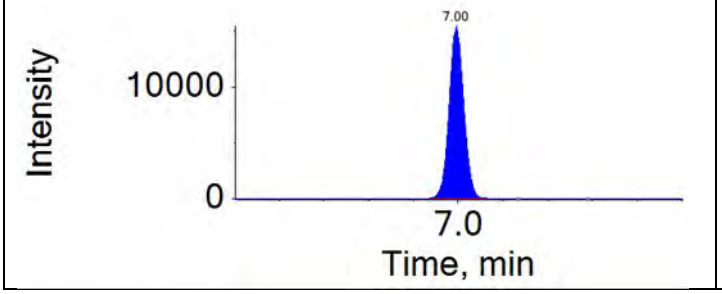


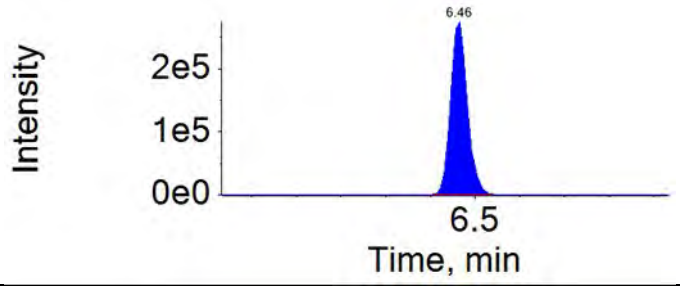
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



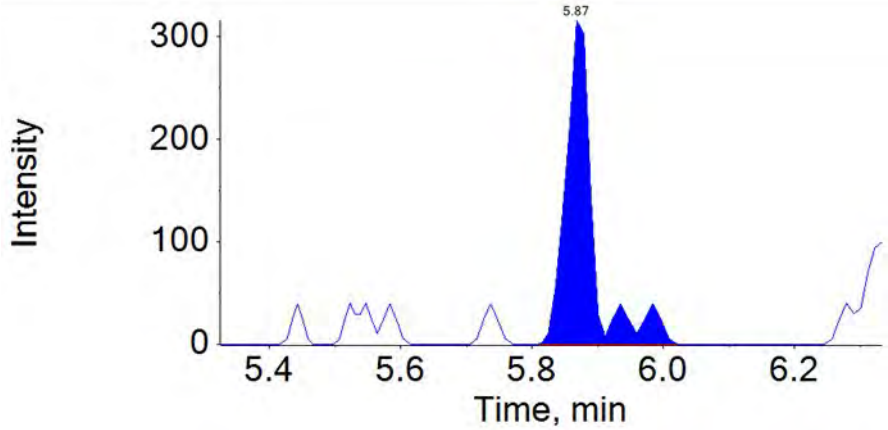


APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

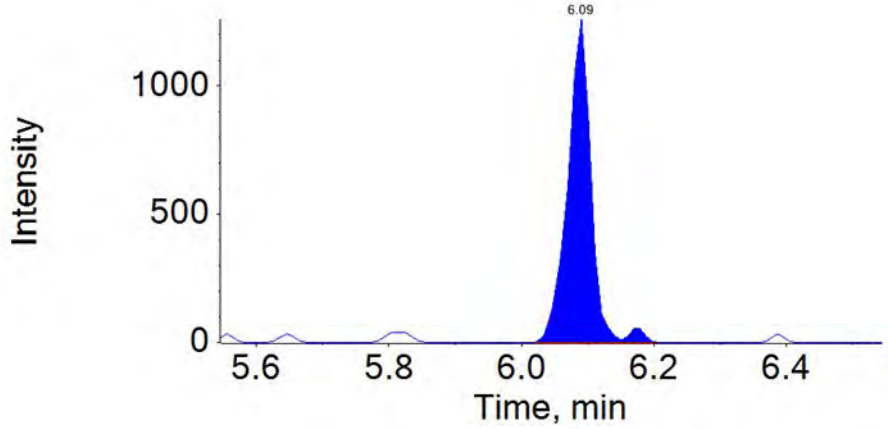
Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFUnDA_2
RT (min.):
5.87
Peak Area:
926.6
Mass Range:
563.0 / 169.0
File Name:
18DEC08D-27.wiff
Sample Name:
LCS339013



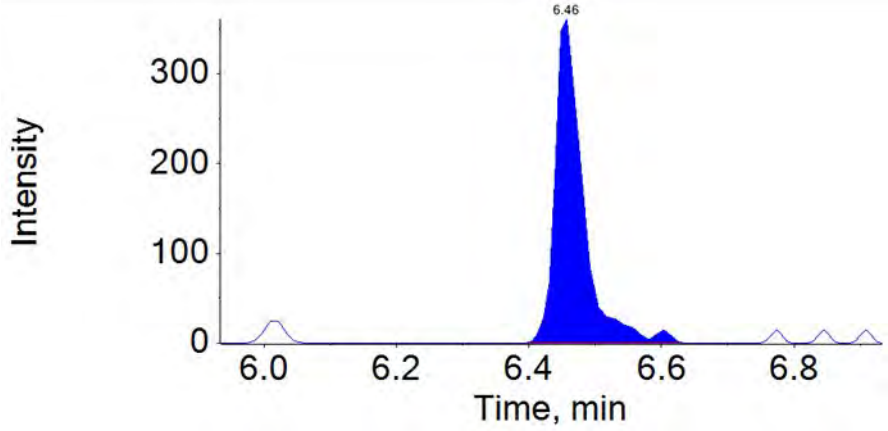
Integration Comment: incorrect integration

Component Name:
PFDoDA_2
RT (min.):
6.09
Peak Area:
3120.0
Mass Range:
613.0 / 169.0
File Name:
18DEC08D-27.wiff
Sample Name:
LCS339013



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
6.46
Peak Area:
1073.9
Mass Range:
713.0 / 169.0
File Name:
18DEC08D-27.wiff
Sample Name:
LCS339013



Integration Comment: incorrect integration

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Results Table Name: 18339013
Results Table Date: 12/10/2018 7:26:49 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Ion Ratio Report

Sample Name: LCS339013 **Instrument Name:** LM27631 **File Name:** 18DEC08D-27.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.83	1.00	129965.2	A	N/A	0.3743			
PFBS_2	3.83	1.00	48643.6	A	N/A	0.3743	4	50	
4:2-FTS	4.14	1.00	108474.9	A	N/A	0.6542			
4:2-FTS_2	4.14	1.00	70968.8	A	N/A	0.6542	-1	50	
PFHxA	4.17	1.00	286371.6	A	N/A	0.0088			
PFHxA_2	4.18	1.00	2513.8	A	N/A	0.0088	-2	50	
PFPeS	4.20	1.10	73930.4	A	N/A	0.4885			
PFPeS_2	4.19	1.10	36111.4	A	N/A	0.4885	-7	50	
PFHpA	4.56	1.00	295989.6	A	N/A	0.0539			
PFHpA_2	4.56	1.00	15956.2	A	N/A	0.0539	-4	50	
PFHxS	4.57	1.00	106022.2	A	N/A	0.3629			
PFHxS_2	4.57	1.00	38478.5	A	N/A	0.3629	-2	50	
6:2-FTS	4.92	1.00	101915.5	A	N/A	0.6291			
6:2-FTS_2	4.93	1.00	64115.3	A	N/A	0.6291	2	50	
PFHpS	4.93	1.08	102190.8	A	N/A	0.4238			
PFHpS_2	4.93	1.08	43310.7	A	N/A	0.4238	2	50	
PFOA	4.94	1.00	296239.4	A	N/A	0.0548			
PFOA_2	4.94	1.00	16246.1	A	N/A	0.0548	-11	50	
PFOS	5.27	1.00	103603.1	A	N/A	0.3487			
PFOS_2	5.27	1.00	36126.0	A	N/A	0.3487	15	50	
PFNA	5.28	1.00	251883.5	A	N/A	0.0218			
PFNA_2	5.28	1.00	5489.5	A	N/A	0.0218	16	50	
PFNS	5.57	1.06	74381.5	A	N/A	0.4770			
PFNS_2	5.57	1.06	35483.1	A	N/A	0.4770	-4	50	
PFDA	5.59	1.00	208063.4	A	N/A	0.0071			
PFDA_2	5.60	1.00	1487.5	A	N/A	0.0071	-32	50	
8:2-FTS	5.59	1.00	86295.5	A	N/A	0.6249			
8:2-FTS_2	5.59	1.00	53923.0	A	N/A	0.6249	-1	50	
NMeFOSAA	5.74	1.00	29692.3	A	N/A	0.2350			
NMeFOSAA_2	5.74	1.00	6978.1	A	N/A	0.2350	-11	50	
PFDS	5.83	1.11	60681.8	A	N/A	0.4739			
PFDS_2	5.83	1.11	28759.6	A	N/A	0.4739	-5	50	
PFUnDA	5.86	1.00	212835.6	A	N/A	0.0037			
PFUnDA_2	5.87	1.00	781.4	M	N/A	0.0037	-12	50	
NEtFOSAA	5.87	1.00	26597.8	A	N/A	0.6427			
NEtFOSAA_2	5.87	1.00	17094.4	A	N/A	0.6427	-5	50	
PFDoDA	6.09	1.00	267142.1	A	N/A	0.0113			
PFDoDA_2	6.09	1.00	3029.1	M	N/A	0.0113	-15	50	
10:2-FTS	6.10	1.09	63726.1	A	N/A	0.7843			
10:2-FTS_2	6.10	1.09	49982.9	A	N/A	0.7843	13	50	
PFTrDA	6.29	1.03	255370.4	A	N/A	0.0064			
PFTrDA_2	6.28	1.03	1628.2	A	N/A	0.0064	-7	50	
PFTeDA	6.46	1.00	194750.6	A	N/A	0.0054			
PFTeDA_2	6.46	1.00	1049.7	M	N/A	0.0054	-19	50	
PFHxDA	6.76	1.05	75926.5	A	N/A	0.0625			
PFHxDA_2	6.76	1.05	4746.6	A	N/A	0.0625	3	50	
PFODA	7.00	1.08	34945.2	A	N/A	0.0223			
PFODA_2	7.00	1.08	778.2	A	N/A	0.0223	-19	50	

APPROVED
By MCD at 7:42 pm, 12/10/18

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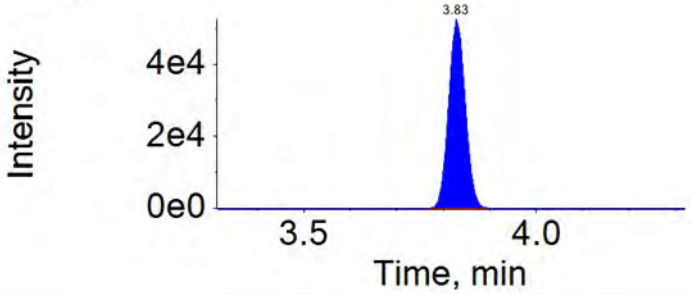
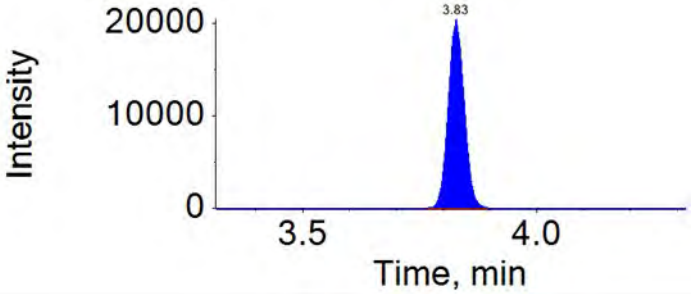
By HMK at 12:28 pm, 12/13/18

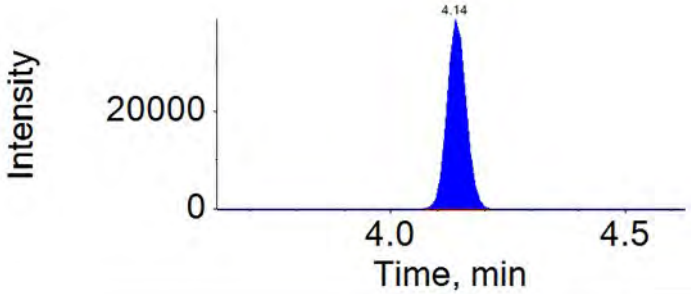
Component: PFBS
Primary Mass: 299.0 / 80.0



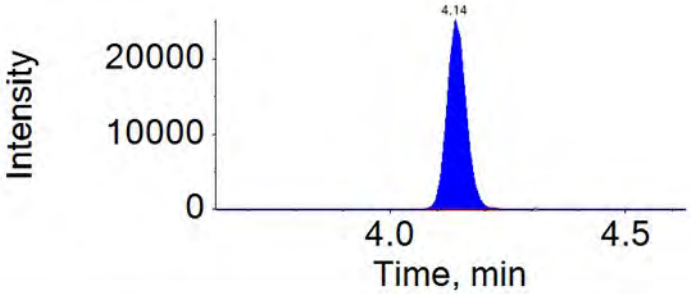
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



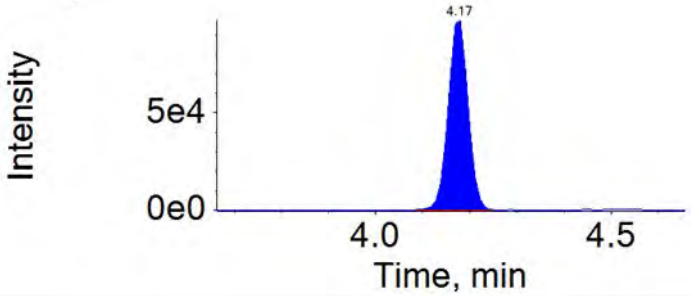
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



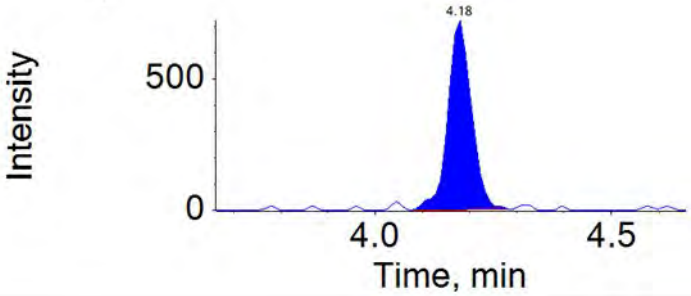
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



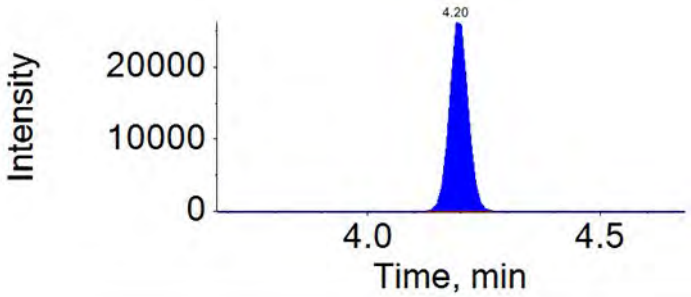
Component: PFHxA
Primary Mass: 313.0 / 269.0



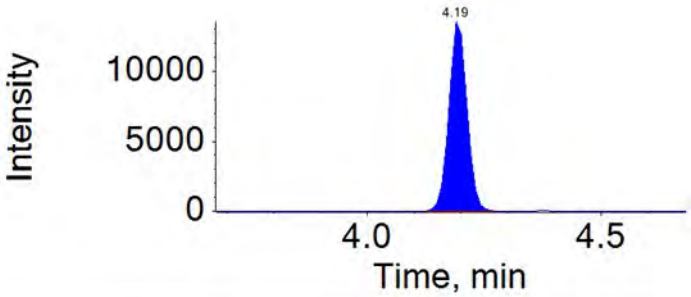
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



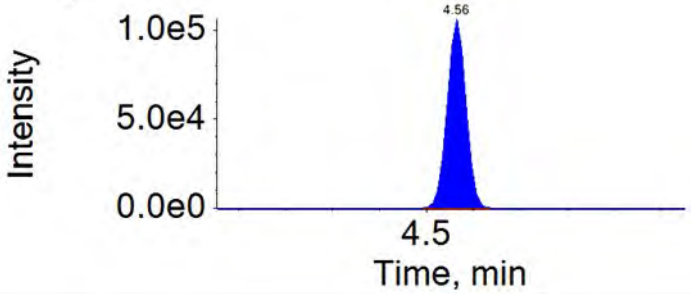
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



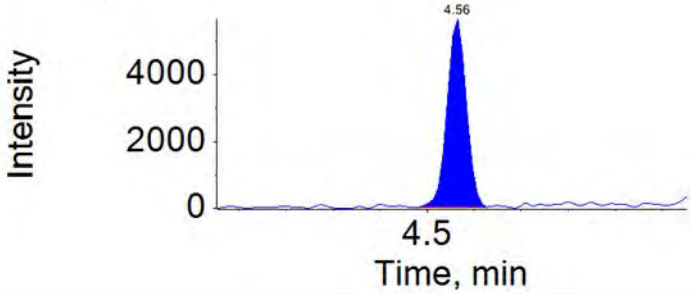
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

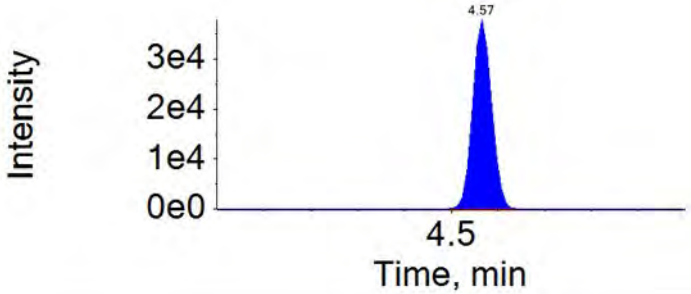
Component: PFHpA
Primary Mass: 363.0 / 319.0



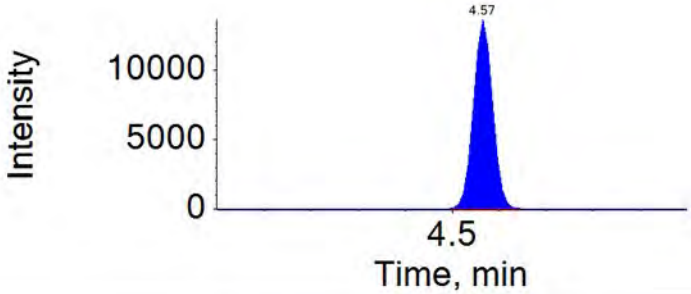
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



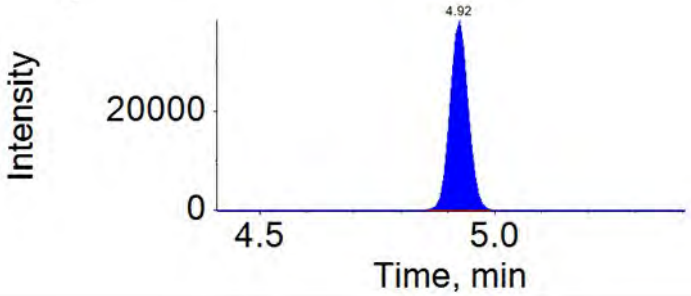
Component: PFHxS
Primary Mass: 399.0 / 80.0



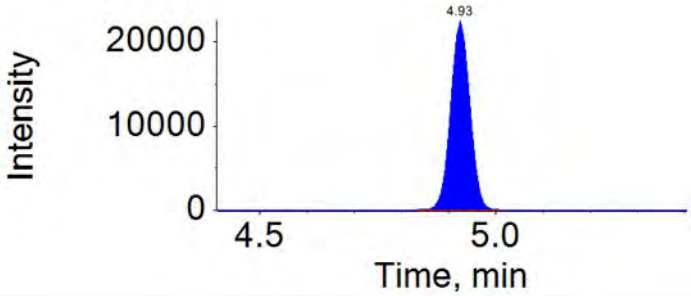
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



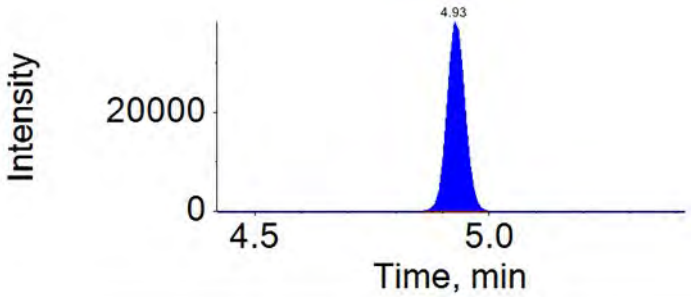
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



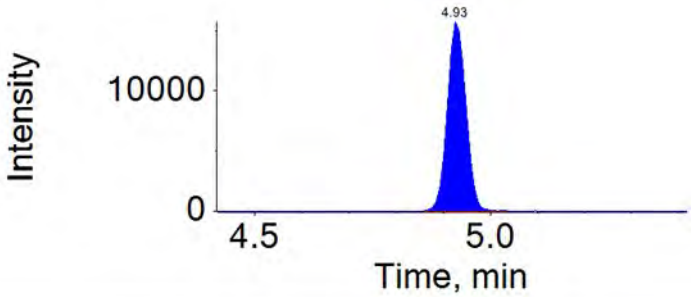
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



APPROVED
By MCD at 7:42 pm, 12/10/18

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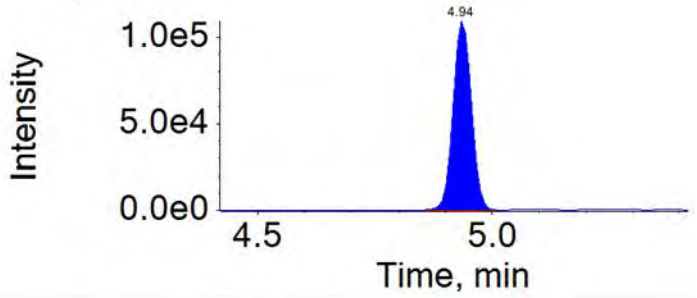
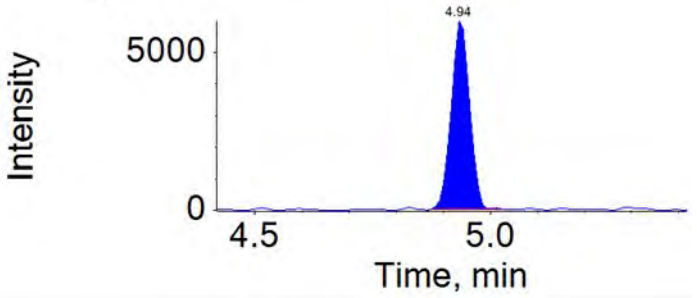
By HMK at 12:28 pm, 12/13/18

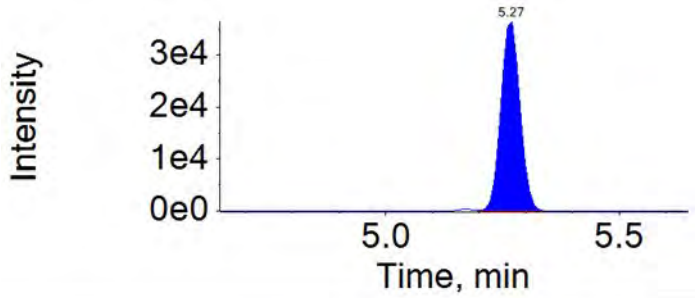
Component: PFOA
Primary Mass: 413.0 / 369.0



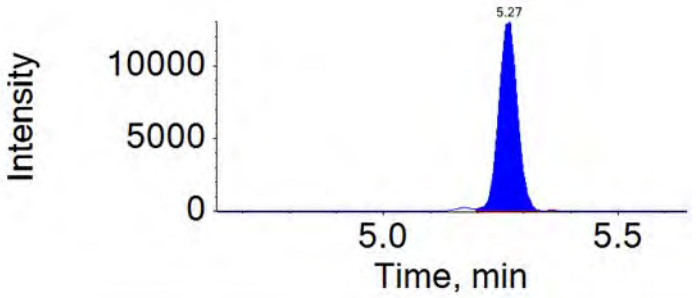
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



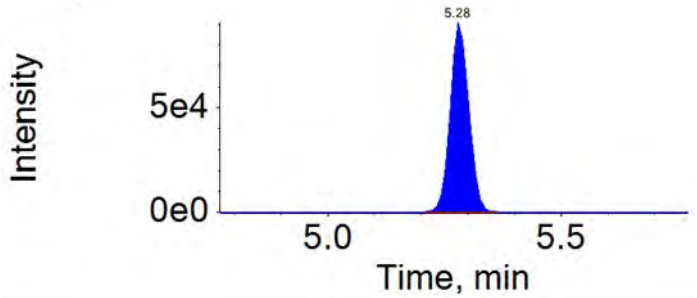
Component: PFOS
Primary Mass: 499.0 / 80.0



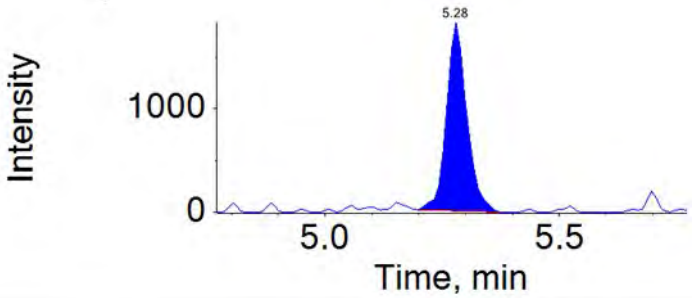
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



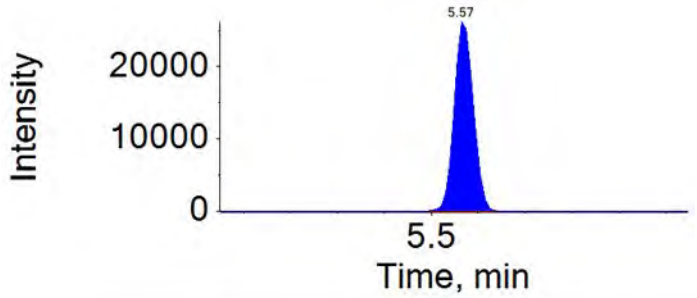
Component: PFNA
Primary Mass: 463.0 / 419.0



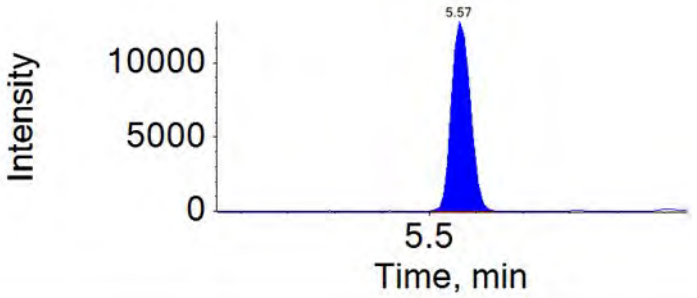
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



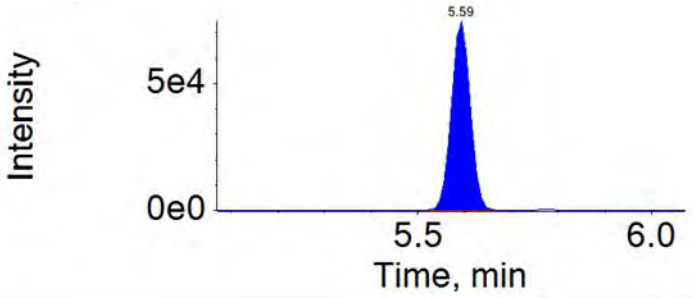
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



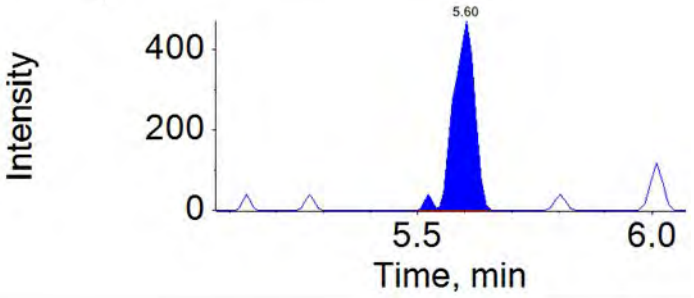
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

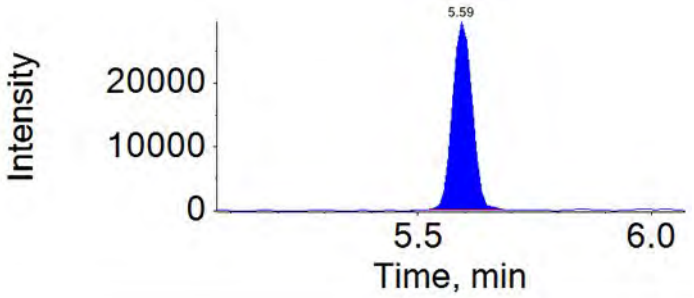
Component: PFDA
Primary Mass: 513.0 / 469.0



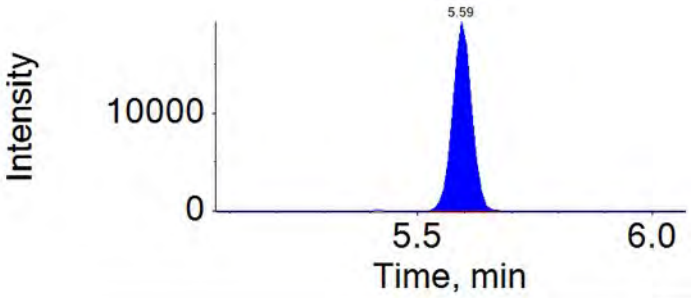
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



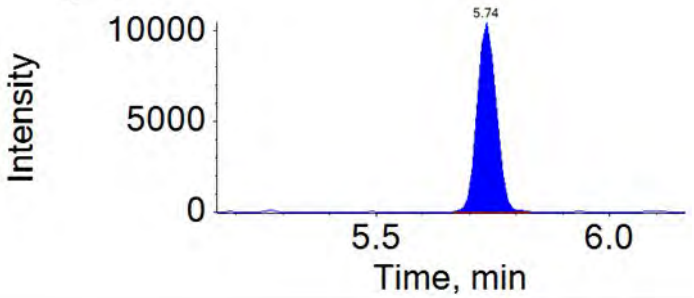
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



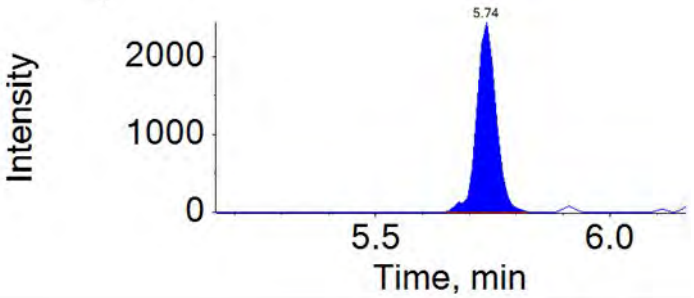
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



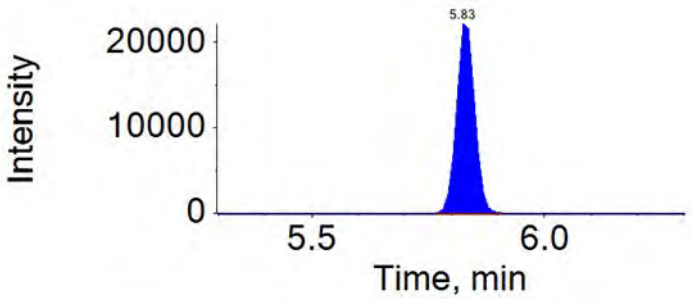
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



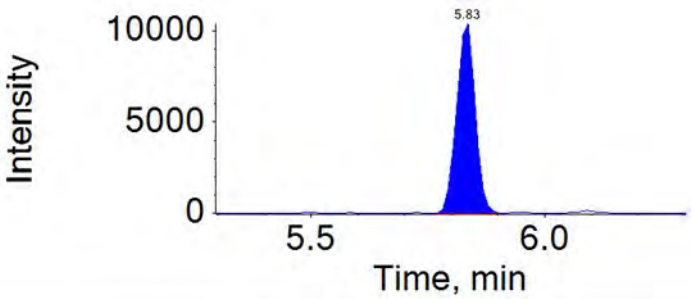
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



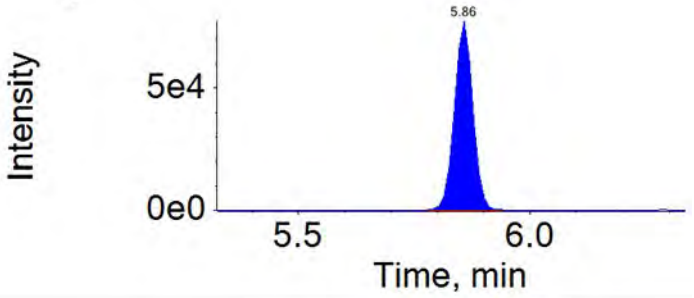
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



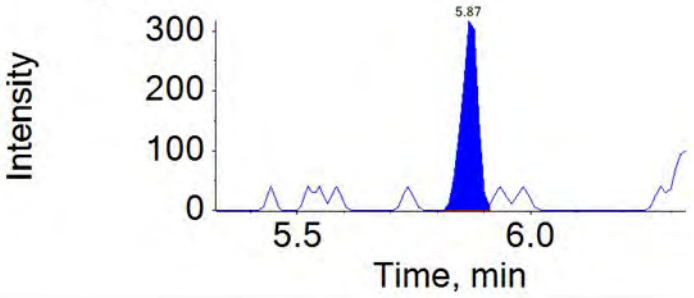
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

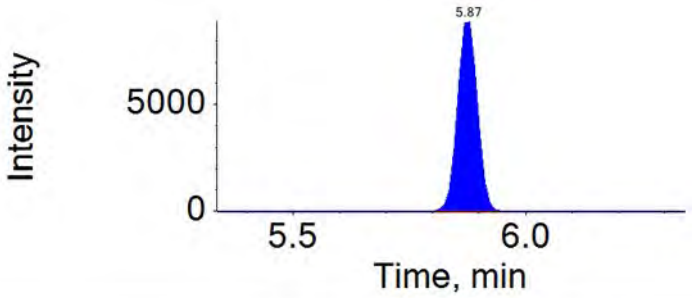
Component: PFUnDA
Primary Mass: 563.0 / 519.0



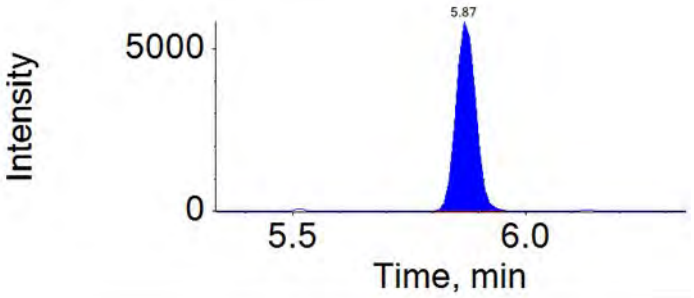
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



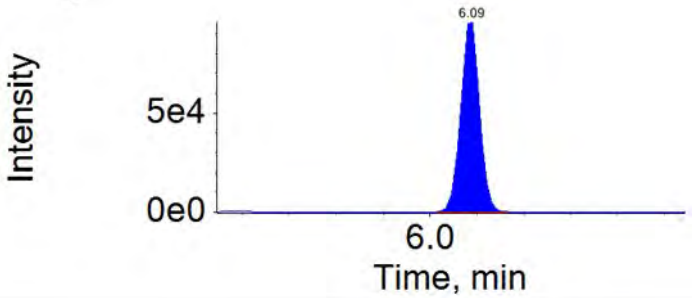
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



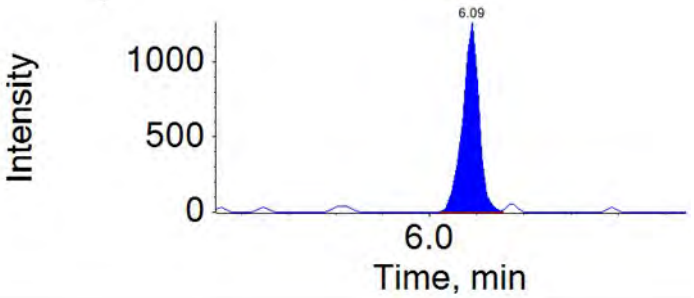
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



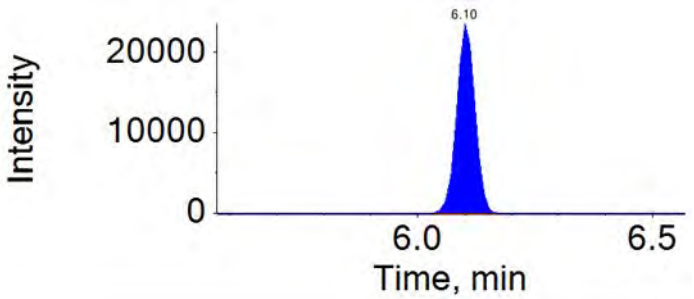
Component: PFDoDA
Primary Mass: 613.0 / 569.0



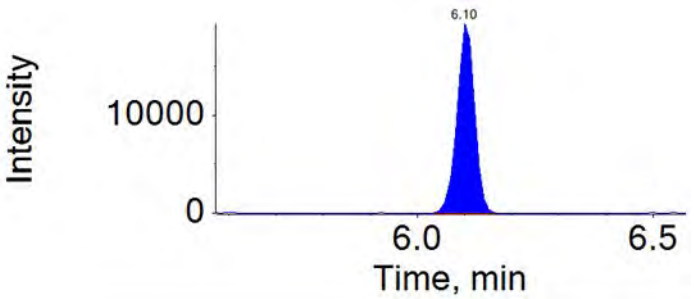
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



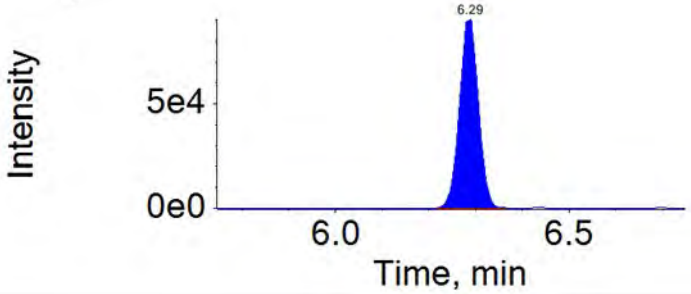
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



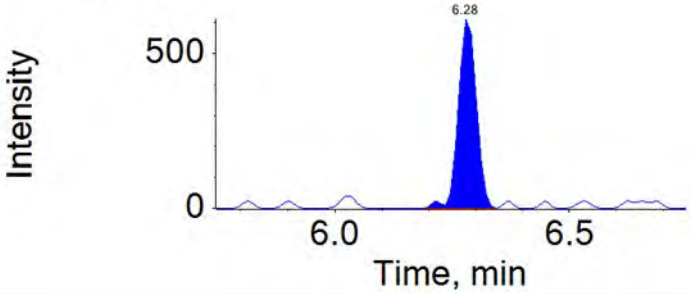
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

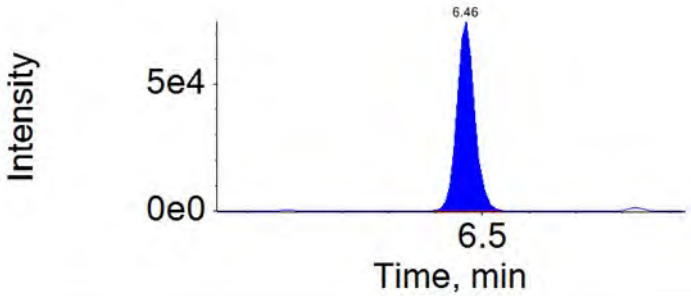
Component: PFTrDA
Primary Mass: 663.0 / 619.0



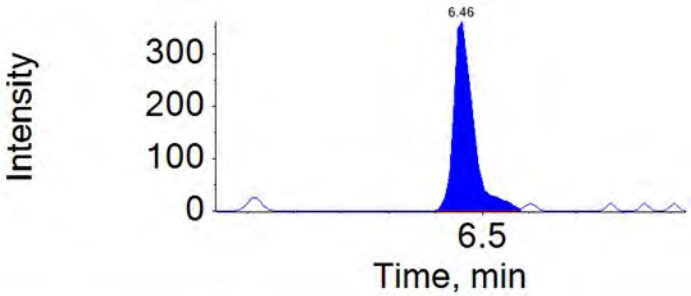
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



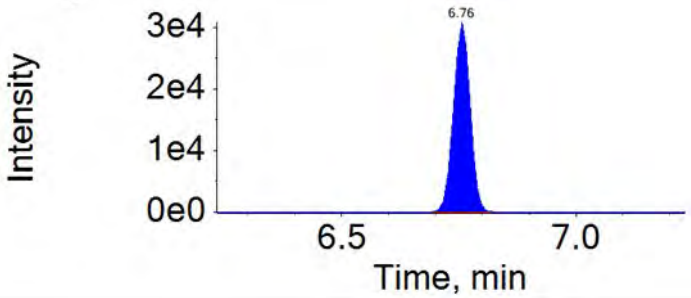
Component: PFTeDA
Primary Mass: 713.0 / 669.0



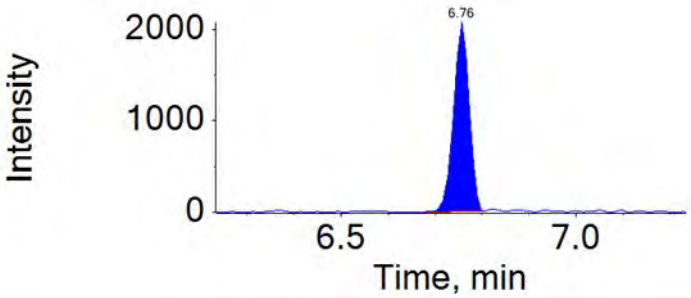
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



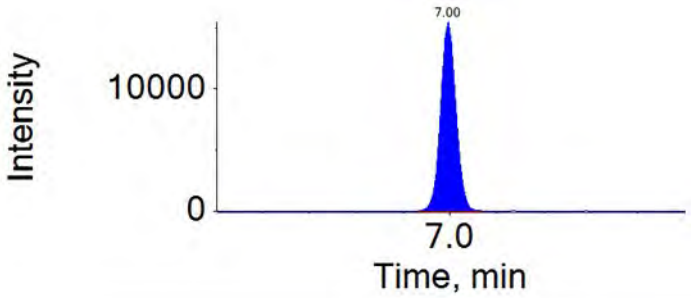
Component: PFHxDA
Primary Mass: 813.0 / 769.0



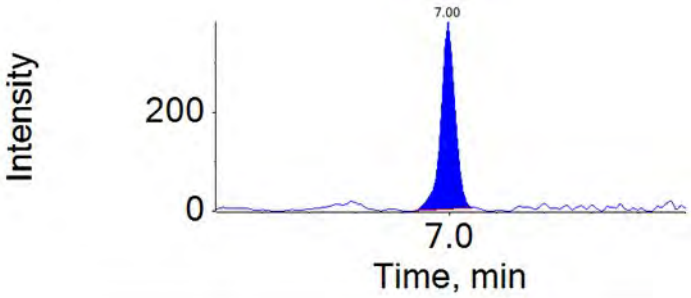
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



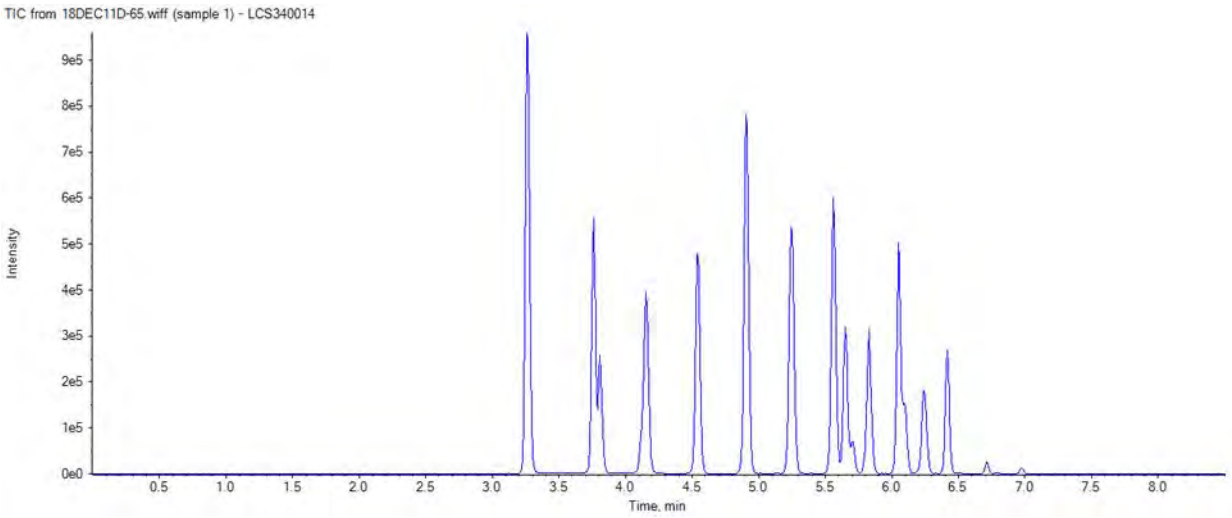
APPROVED
By MCD at 7:42 pm, 12/10/18

REVIEWED
By HMK at 12:28 pm, 12/13/18

Lab Control Sample Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:37:19 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS340014	EPA 537 mod QSM 5.1 table B-15 18340014	18DEC11D-65.wiff	12/11/2018 2:36:59 PM



Injection Standard Area Reference File**:** 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	965634.2	953492.0	1	50	
13C2-PFOA	5.00	531471.3	500971.3	6	50	
13C4-PFOS	4.78	290672.7	310746.2	-6	50	
13C2-PFDA	5.00	424986.5	419040.9	1	50	

APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

Lab Control Sample Recovery

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS340014	EPA 537 mod QSM 5.1 table B-15 18340014	18DEC11D-65.wiff	12/11/2018 2:36:59 PM

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	252190.6	952520.6	0.265	5.440	5.843	107	70-130	
PFPeA	222446.1	895374.9	0.248	5.440	5.228	96	70-130	
PFBS	90566.6	378408.9	0.239	4.812	4.745	99	72-127	
4:2-FTS	68708.2	56557.9	1.215	14.944	13.025	87	70-130	
PFHxA	207588.0	650228.4	0.319	5.440	5.565	102	77-132	
PFPeS	50102.7	378408.9	0.132	5.104	5.244	103	70-130	
PFHpA	218814.7	515945.9	0.424	5.440	5.585	103	75-139	
PFHxS	73532.4	301639.5	0.244	5.144	4.620	90	71-130	
6:2-FTS	59969.8	55034.6	1.090	15.168	10.823	71	70-130	
PFHpS	72180.4	301639.5	0.239	5.176	5.254	102	70-130	
PFOA	214564.8	857381.4	0.250	5.440	5.471	101	76-136	
PFOS	65361.8	290879.6	0.225	5.200	3.728	72	67-134	
PFNA	183846.9	578920.3	0.318	5.440	4.681	86	73-144	
PFNS	49857.2	290879.6	0.171	5.224	4.412	84	70-130	
PFDA	152752.9	660888.5	0.231	5.440	5.204	96	67-141	
8:2-FTS	50678.6	31993.8	1.584	15.328	13.729	90	70-130	
PFOSA	139394.9	600226.8	0.232	5.440	4.819	89	70-130	
NMeFOSAA	21030.7	131597.8	0.160	5.440	4.228	78	67-124	
PFDS	41170.0	290879.6	0.142	5.240	4.578	87	70-130	
PFUnDA	151571.9	397414.4	0.381	5.440	4.671	86	83-132	
NEtFOSAA	22202.4	80791.3	0.275	5.440	5.556	102	60-131	
PFDoDA	194772.4	747995.7	0.260	5.440	5.483	101	72-137	
10:2-FTS	38034.3	31993.8	1.189	15.424	12.596	82	70-130	
NMePFOSAE	54189.0	209534.8	0.259	5.440	4.495	83	70-130	
NMePFOSA	11009.0	58372.9	0.189	5.440	3.806	70	70-130	
PFDoS	19599.6	290879.6	0.067	5.280	4.109	78	70-130	
NEtPFOSAE	55873.0	179426.3	0.311	5.440	4.173	77	70-130	
NEtPFOSA	11333.1	50076.8	0.226	5.440	4.334	80	70-130	
PFTrDA	165734.2	747995.7	0.222	5.440	5.805	107	57-137	
PFTeDA	106581.6	476858.0	0.224	5.440	5.113	94	70-142	
PFHxDA	47130.9	476858.0	0.099	5.440	4.951	91	70-130	
PFODA	26912.4	476858.0	0.056	5.440	3.624	67	70-130	OOS

APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

Lab Control Sample Recovery

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:37:19 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

ICAL Name: 18DEC06DCAL
QMethod Name: 18AUG20QM
Result Table: 18340014 12/11/2018 3:37:19 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	LCS340014			**Data File:**		18DEC11D-65.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18340014			**Acquis Date:**		12/11/2018 2:36:59 PM
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	58			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18340014
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC06DCAL
Batch Number:	18340014			**Operator:**		JPT12262
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC11D-01

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	965634.2	953492.0	1	50	
13C2-PFOA	5.0	531471.3	500971.3	6	50	
13C4-PFOS	4.8	290672.7	310746.2	-6	50	
13C2-PFDA	5.0	424986.5	419040.9	1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	952520.6	13C3-PFBA	965634.2	0.986	20.000	17.463	87	50-150	
E13C5-PFPeA	895374.9	13C3-PFBA	965634.2	0.927	20.000	17.615	88	50-150	
E13C3-PFBS	378408.9	13C3-PFBA	965634.2	0.392	18.600	13.287	71	50-150	
E13C2-4:2-FTS	56557.9	13C2-PFOA	531471.3	0.106	18.680	16.680	89	50-150	
E13C5-PFHxA	650228.4	13C2-PFOA	531471.3	1.223	20.000	16.431	82	50-150	
E13C3-PFHxS	301639.5	13C2-PFOA	531471.3	0.568	18.920	14.561	77	50-150	
E13C4-PFHpA	515945.9	13C2-PFOA	531471.3	0.971	20.000	16.508	83	50-150	
E13C2-6:2-FTS	55034.6	13C2-PFOA	531471.3	0.104	19.000	25.660	135	50-150	
E13C8-PFOA	857381.4	13C2-PFOA	531471.3	1.613	20.000	18.241	91	50-150	
E13C8-PFOS	290879.6	13C4-PFOS	290672.7	1.001	19.120	17.964	94	50-150	
E13C9-PFNA	578920.3	13C4-PFOS	290672.7	1.992	20.000	22.512	113	50-150	
E13C6-PFDA	660888.5	13C2-PFDA	424986.5	1.555	20.000	16.484	82	50-150	
E13C2-8:2-FTS	31993.8	13C2-PFDA	424986.5	0.075	19.160	19.660	103	50-150	
E13C8-PFOSA	600226.8	13C2-PFDA	424986.5	1.412	20.000	13.361	67	50-150	
Ed3-NMeFOSAA	131597.8	13C2-PFDA	424986.5	0.310	20.000	21.950	110	50-150	
E13C7-PFUnDA	397414.4	13C2-PFDA	424986.5	0.935	20.000	18.349	92	50-150	
Ed5-NEtFOSAA	80791.3	13C2-PFDA	424986.5	0.190	20.000	16.786	84	50-150	
E13C2-PFDoDA	747995.7	13C2-PFDA	424986.5	1.760	20.000	14.774	74	50-150	
Ed7-NMePFOSAE	209534.8	13C2-PFDA	424986.5	0.493	20.000	11.361	57	50-150	
Ed3-NMePFOSA	58372.9	13C2-PFDA	424986.5	0.137	20.000	10.011	50	50-150	
Ed9-NEtPFOSAE	179426.3	13C2-PFDA	424986.5	0.422	20.000	11.645	58	50-150	
Ed5-NEtPFOSA	50076.8	13C2-PFDA	424986.5	0.118	20.000	10.607	53	50-150	
E13C2-PFTeDA	476858.0	13C2-PFDA	424986.5	1.122	20.000	13.321	67	50-150	

APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

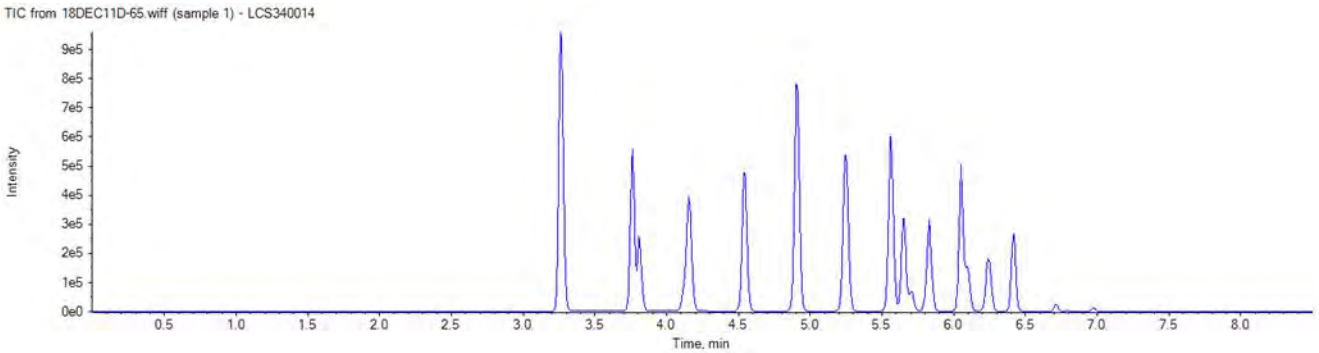
Analyte Quantitation Peak Table

Sample Name: LCS340014 **Instrument Name:** LM27631 **File Name:** 18DEC11D-65.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.26	1.000	252190.6		A	13C4-PFBA	3.26	952520.6	0.265	5.843
PFPeA	3.76	1.000	222446.1		A	13C5-PFPeA	3.76	895374.9	0.248	5.228
PFBS	3.81	1.000	90566.6		A	13C3-PFBS	3.81	378408.9	0.239	4.745
4:2-FTS	4.12	1.000	68708.2		A	13C2-4:2-FTS	4.12	56557.9	1.215	13.025
PFHxA	4.15	1.000	207588.0		A	13C5-PFHxA	4.16	650228.4	0.319	5.565
PFPeS	4.17	1.100	50102.7		A	13C3-PFBS	3.81	378408.9	0.132	5.244
PFHpA	4.54	1.000	218814.7		A	13C4-PFHpA	4.54	515945.9	0.424	5.585
PFHxS	4.54	1.000	73532.4		A	13C3-PFHxS	4.54	301639.5	0.244	4.620
6:2-FTS	4.90	1.000	59969.8		A	13C2-6:2-FTS	4.90	55034.6	1.090	10.823
PFHpS	4.90	1.080	72180.4		A	13C3-PFHxS	4.54	301639.5	0.239	5.254
PFOA	4.91	1.000	214564.8		A	13C8-PFOA	4.91	857381.4	0.250	5.471
PFOS	5.24	1.000	65361.8		A	13C8-PFOS	5.24	290879.6	0.225	3.728
PFNA	5.25	1.000	183846.9		A	13C9-PFNA	5.25	578920.3	0.318	4.681
PFNS	5.54	1.060	49857.2		A	13C8-PFOS	5.24	290879.6	0.171	4.412
PFDA	5.56	1.000	152752.9		A	13C6-PFDA	5.56	660888.5	0.231	5.204
8:2-FTS	5.56	1.000	50678.6		A	13C2-8:2-FTS	5.57	31993.8	1.584	13.729
PFOSA	5.65	1.000	139394.9		A	13C8-PFOSA	5.65	600226.8	0.232	4.819
NMeFOSAA	5.71	1.000	21030.7		A	d3-NMeFOSAA	5.71	131597.8	0.160	4.228
PFDS	5.80	1.110	41170.0		A	13C8-PFOS	5.24	290879.6	0.142	4.578
PFUnDA	5.83	1.000	151571.9		A	13C7-PFUnDA	5.83	397414.4	0.381	4.671
NEtFOSAA	5.85	1.000	22202.4		A	d5-NEtFOSAA	5.84	80791.3	0.275	5.556
PFDoDA	6.05	1.000	194772.4		A	13C2-PFDoDA	6.05	747995.7	0.260	5.483
10:2-FTS	6.07	1.090	38034.3		A	13C2-8:2-FTS	5.57	31993.8	1.189	12.596
NMePFOSAE	6.10	1.000	54189.0		A	d7-NMePFOSAE	6.09	209534.8	0.259	4.495
NMePFOSA	6.11	1.000	11009.0		A	d3-NMePFOSA	6.11	58372.9	0.189	3.806
PFDoS	6.21	1.190	19599.6		A	13C8-PFOS	5.24	290879.6	0.067	4.109
NEtPFOSAE	6.25	1.000	55873.0		A	d9-NEtPFOSAE	6.24	179426.3	0.311	4.173
NEtPFOSA	6.26	1.000	11333.1		A	d5-NEtPFOSA	6.26	50076.8	0.226	4.334
PFTrDA	6.24	1.030	165734.2		A	13C2-PFDoDA	6.05	747995.7	0.222	5.805
PFTeDA	6.42	1.000	106581.6		A	13C2-PFTeDA	6.42	476858.0	0.224	5.113
PFHxDA	6.71	1.050	47130.9		A	13C2-PFTeDA	6.42	476858.0	0.099	4.951
PFODA	6.97	1.090	26912.4		A	13C2-PFTeDA	6.42	476858.0	0.056	3.624

Total Ion Chromatogram

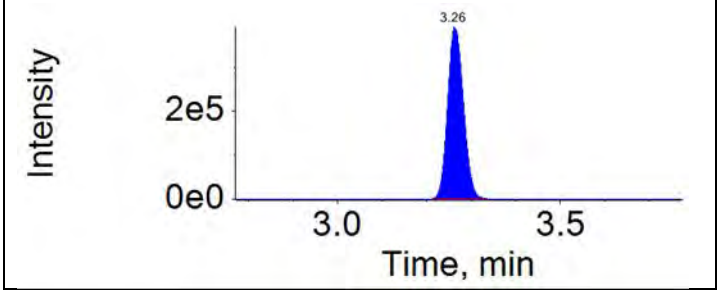


APPROVED
By MCD at 3:53 pm, 12/11/18

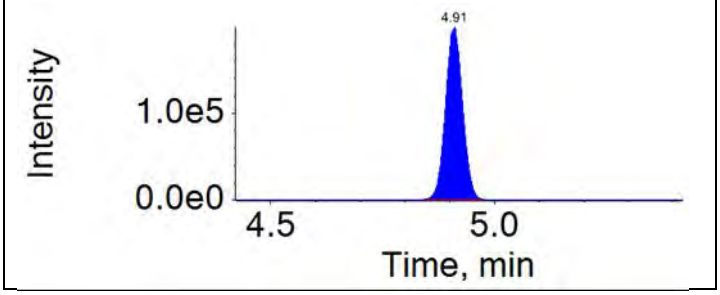
REVIEWED
By umar at 1:22 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

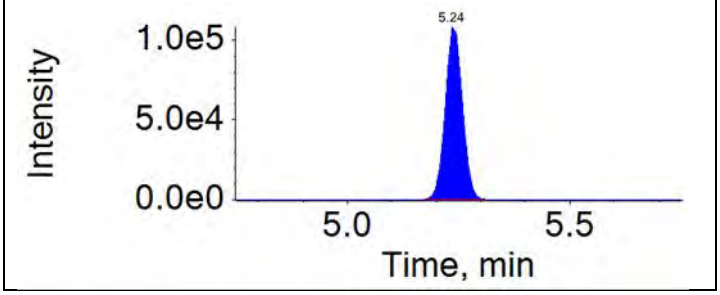
Injection Standard: 13C3-PFBA
216.0 / 172.0



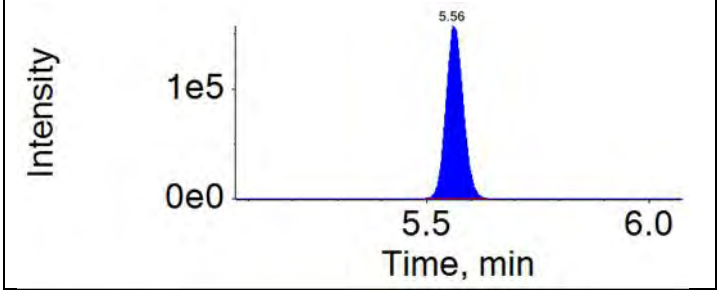
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

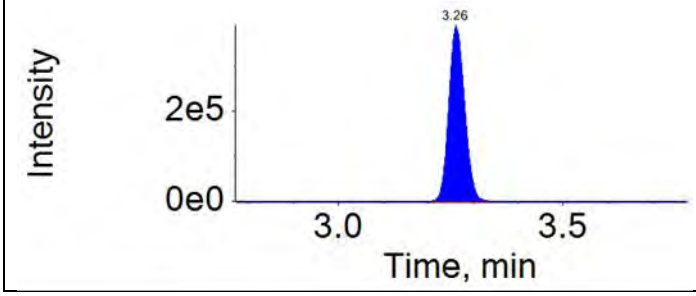


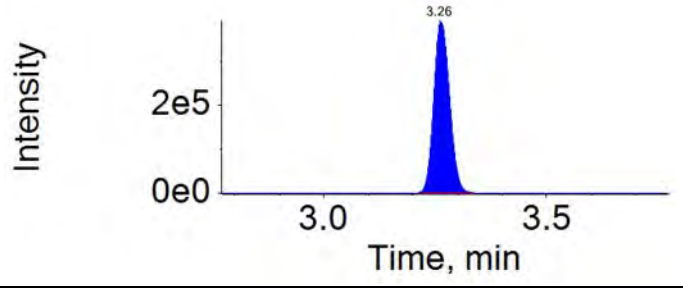
Injection Standard: 13C2-PFDA
515.0 / 470.0



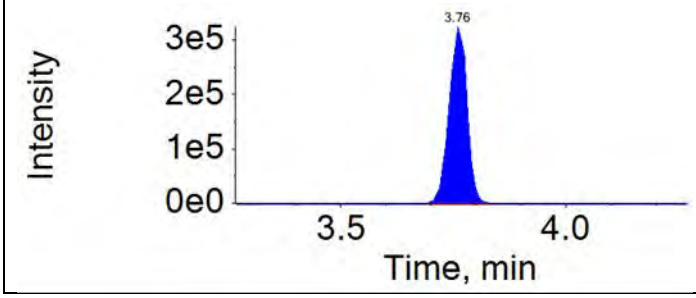
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

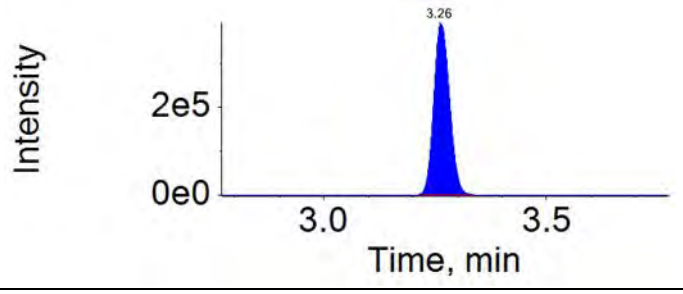
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



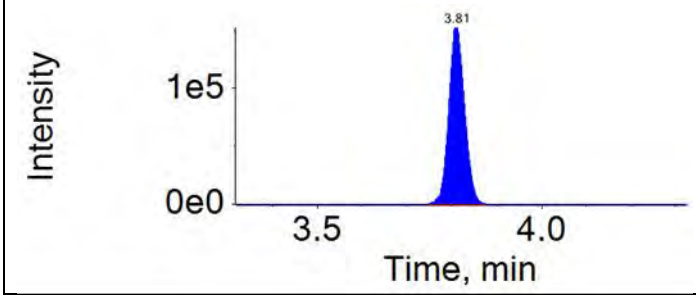


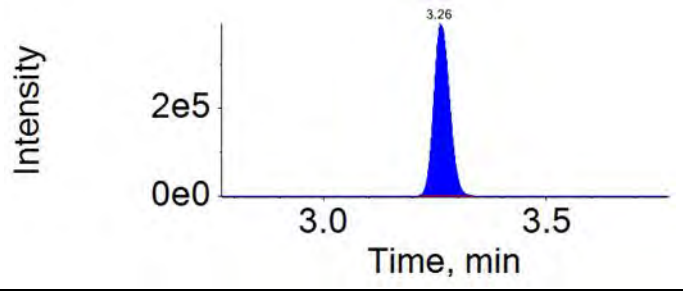
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



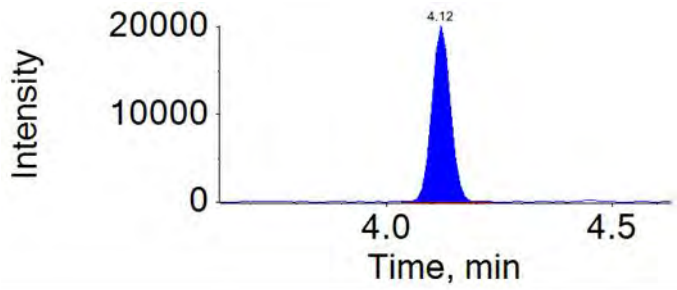


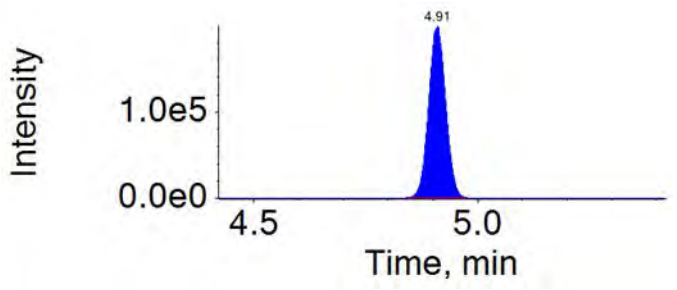
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



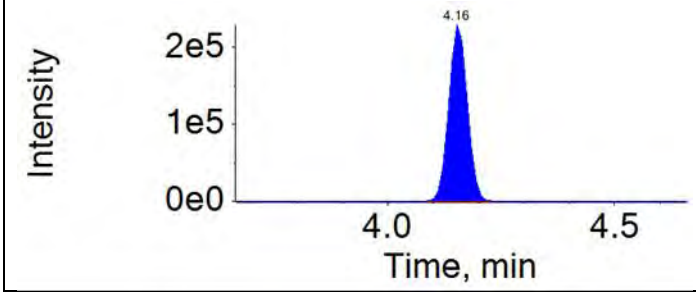


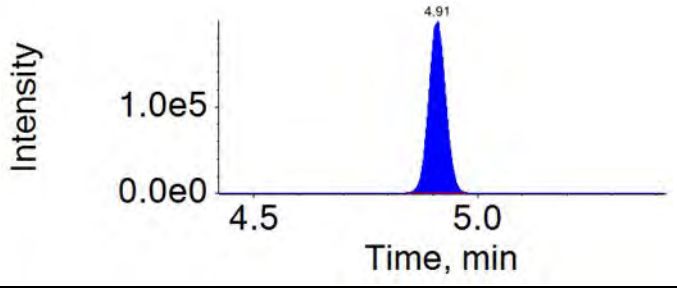
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

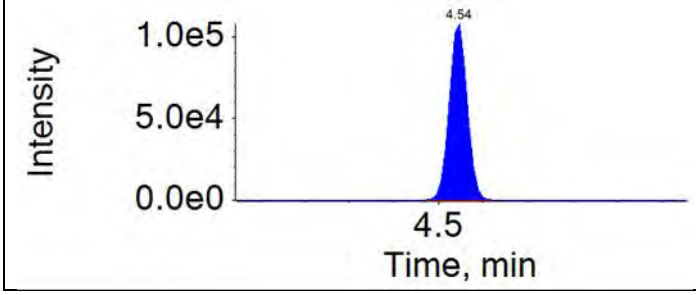
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

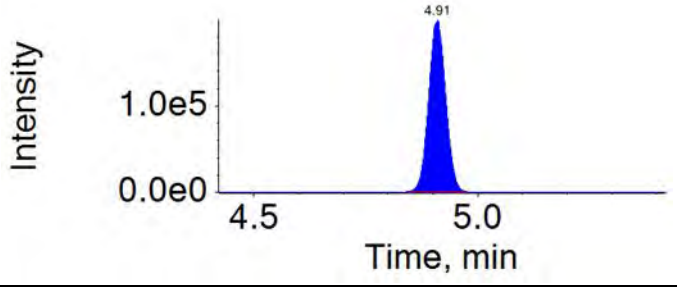
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



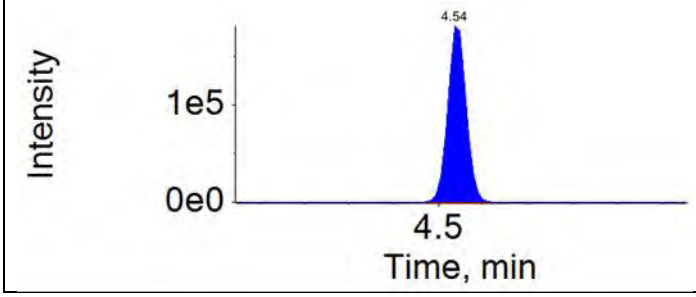


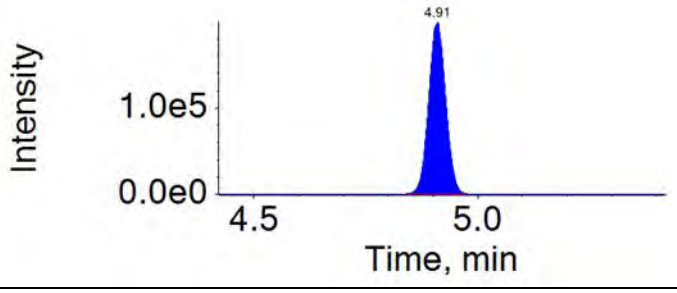
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



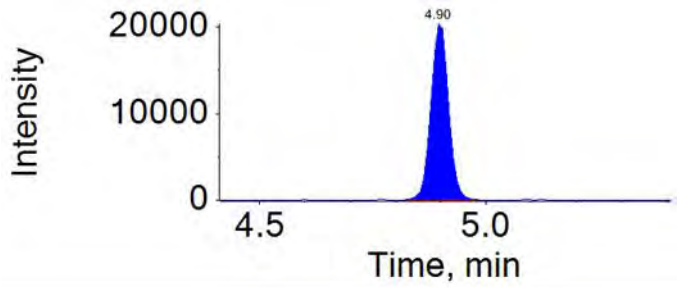


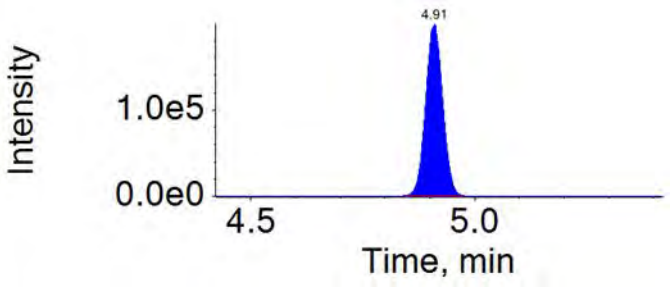
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

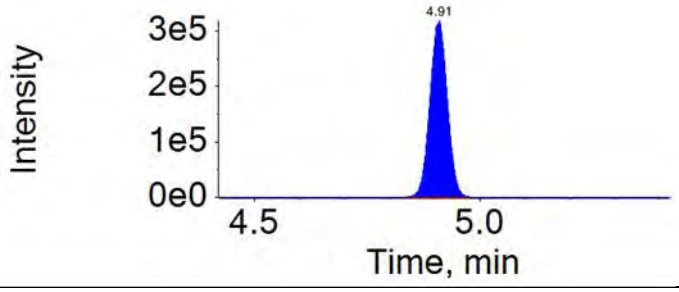
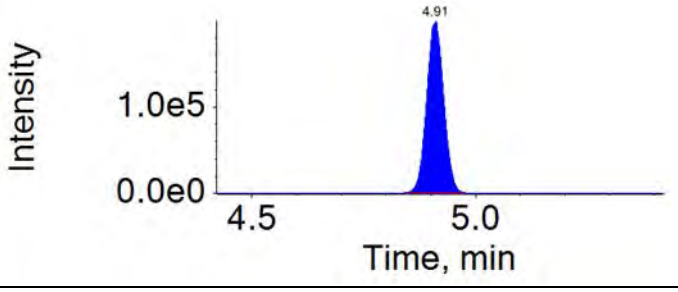


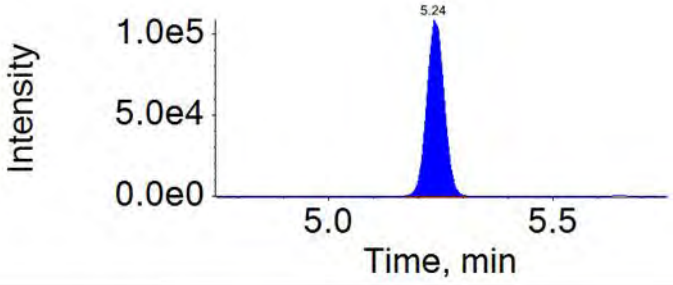
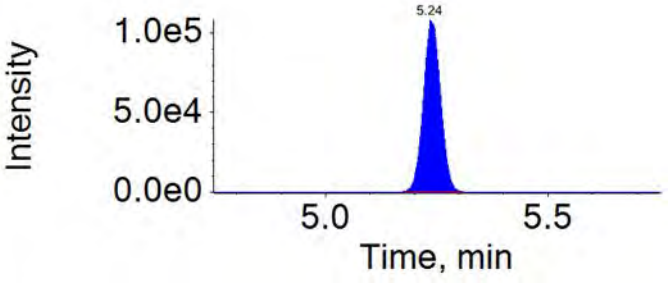


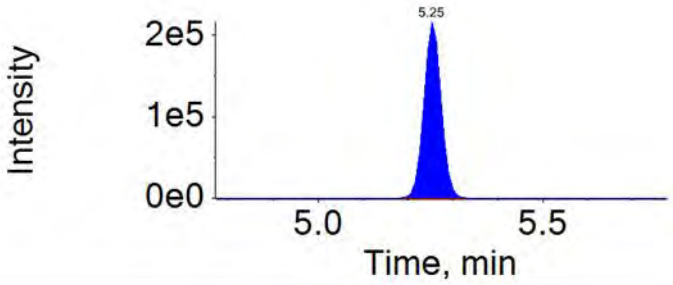
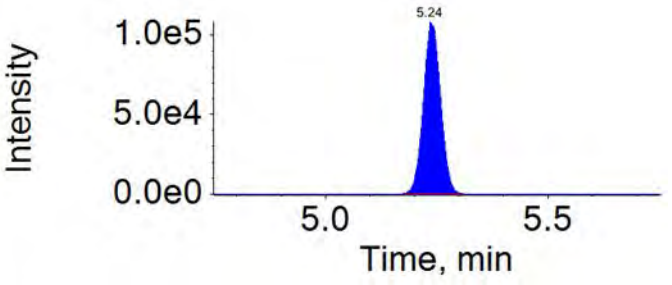
APPROVED
By MCD at 3:53 pm, 12/11/18

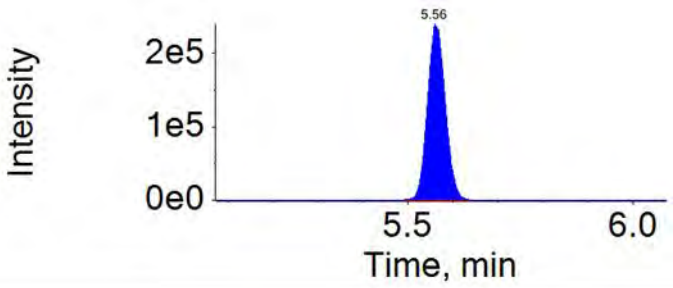
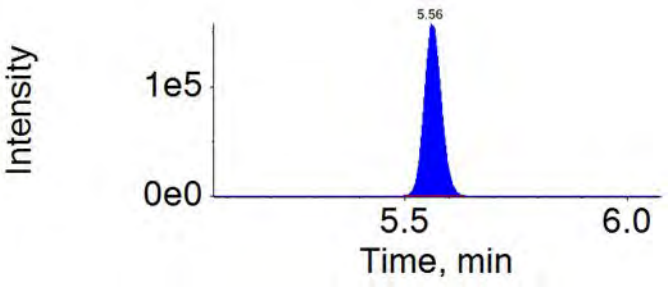
REVIEWED
By umar at 1:22 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

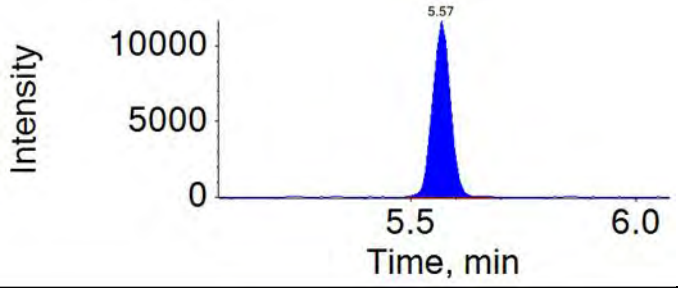
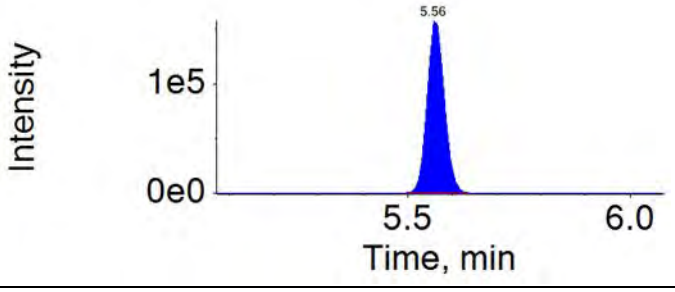
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

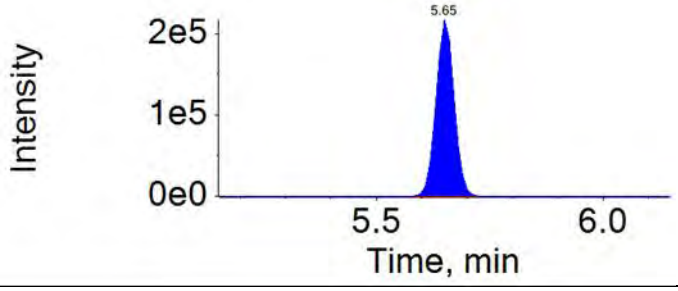
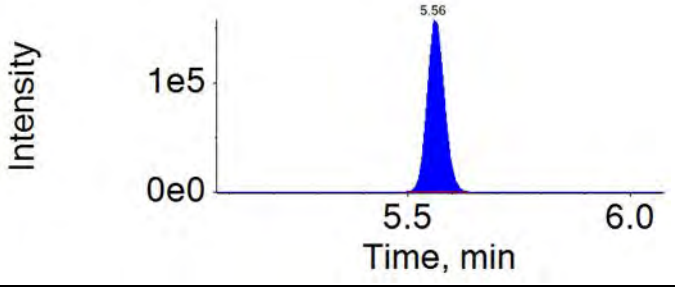
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

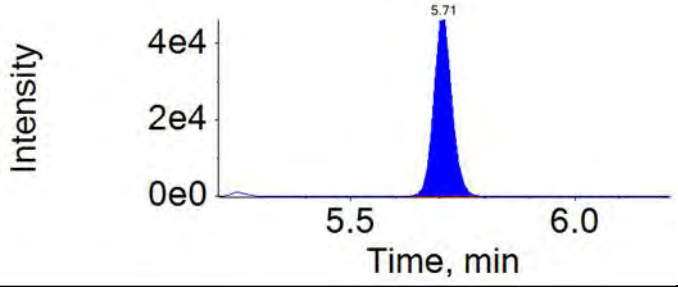
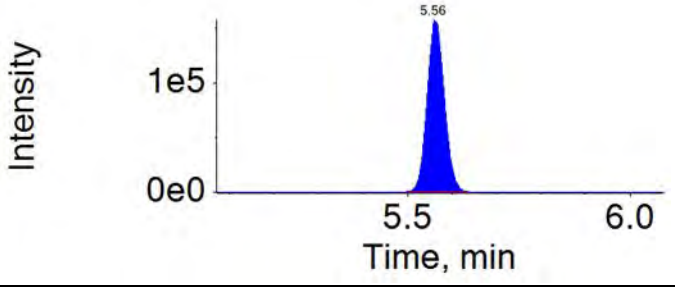
APPROVED
By MCD at 3:53 pm, 12/11/18

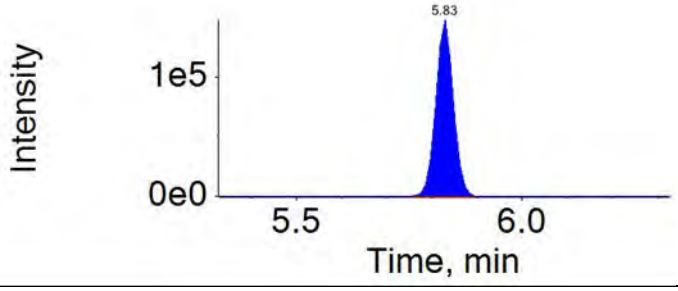
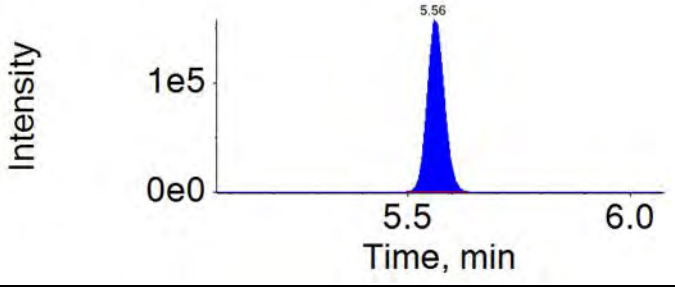
REVIEWED
By umar at 1:22 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

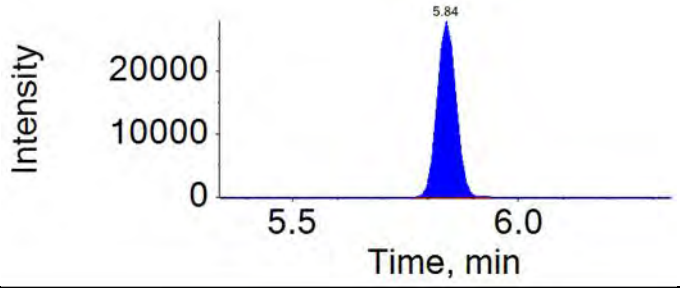
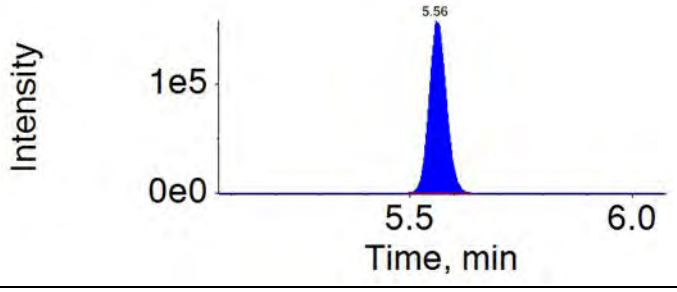
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

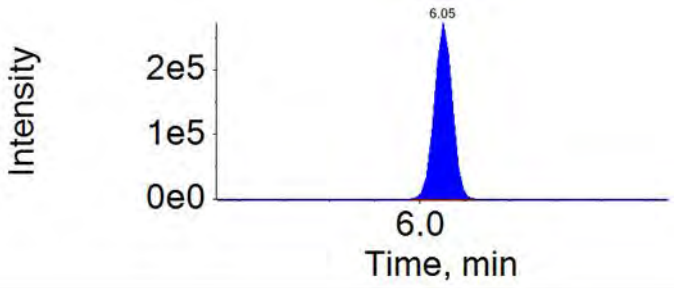
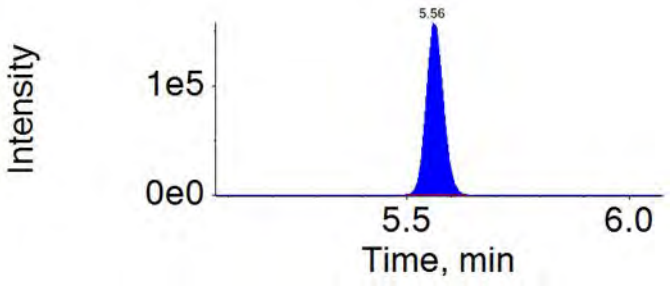
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

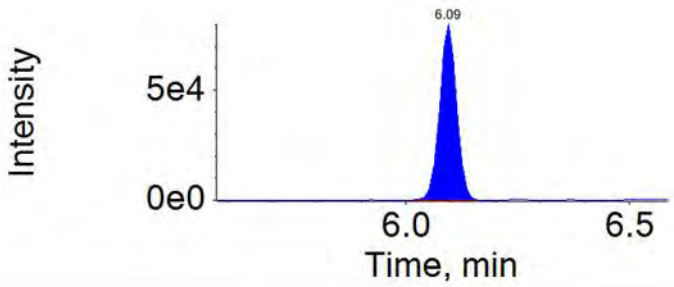
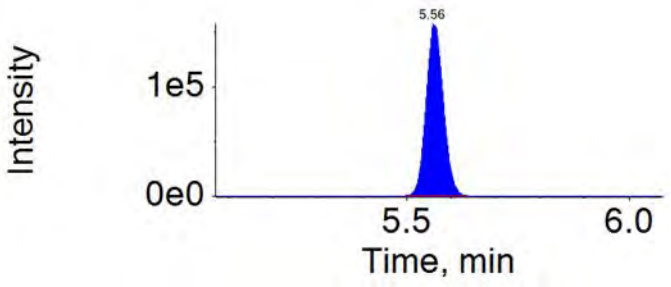
APPROVED
By MCD at 3:53 pm, 12/11/18

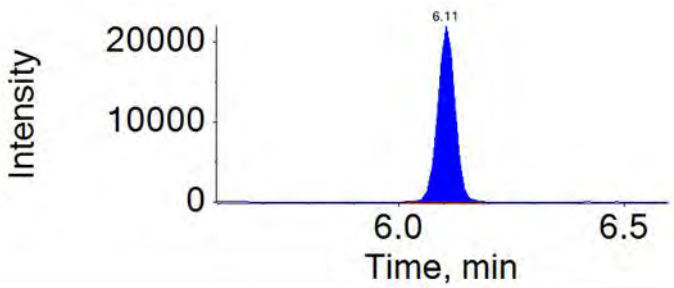
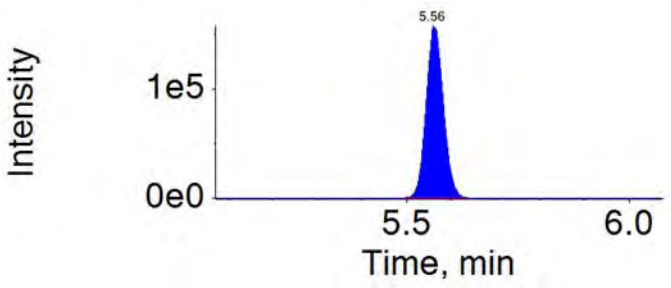
REVIEWED
By umar at 1:22 pm, 12/13/18

ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

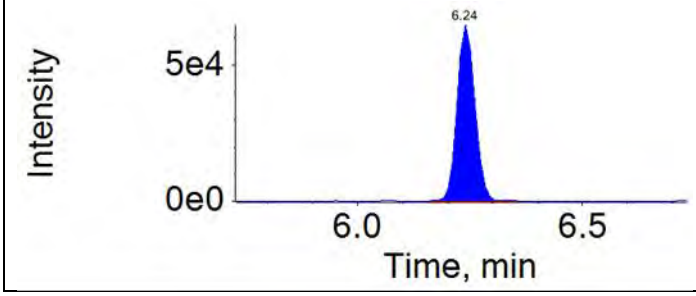
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

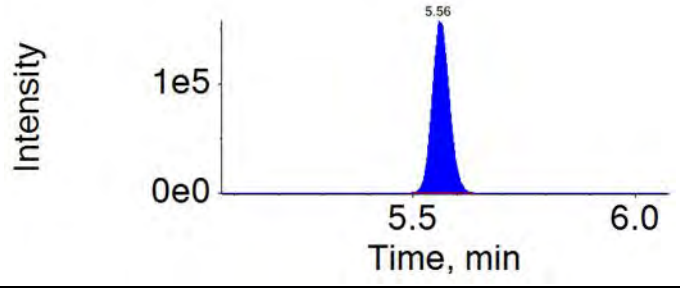
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

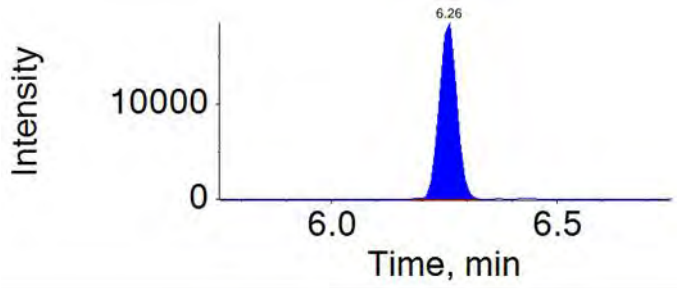
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

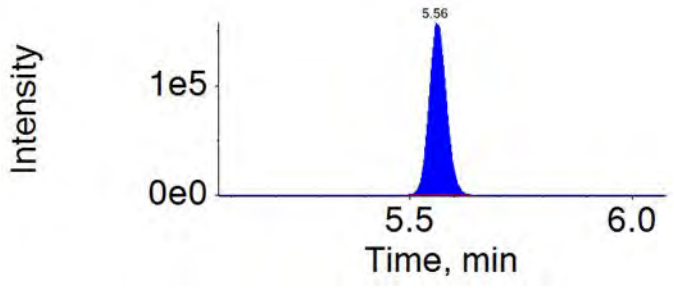
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



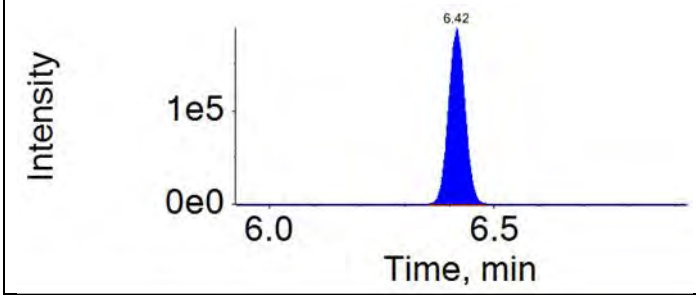


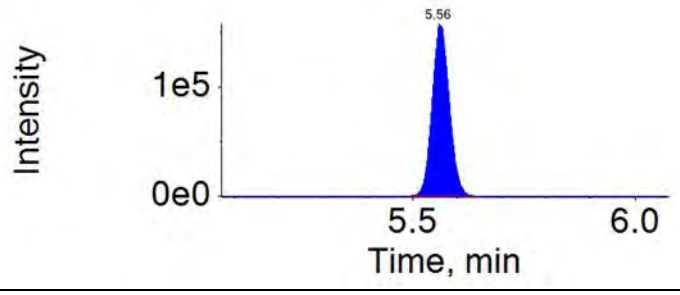
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





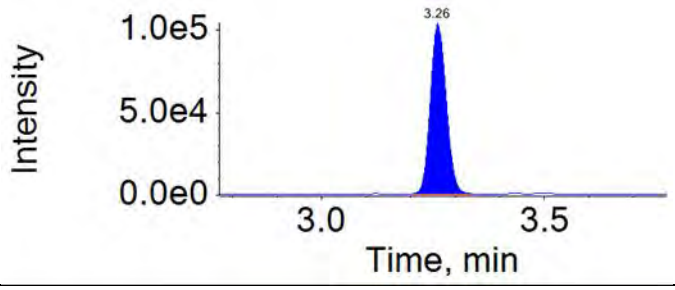
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

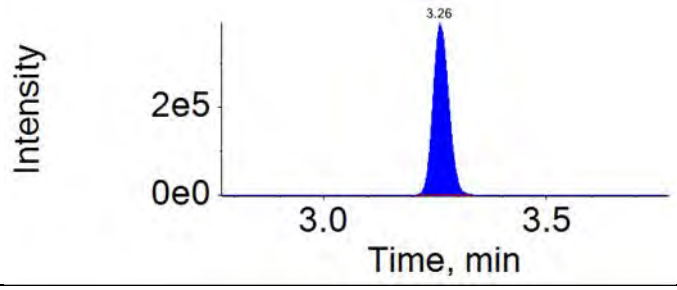




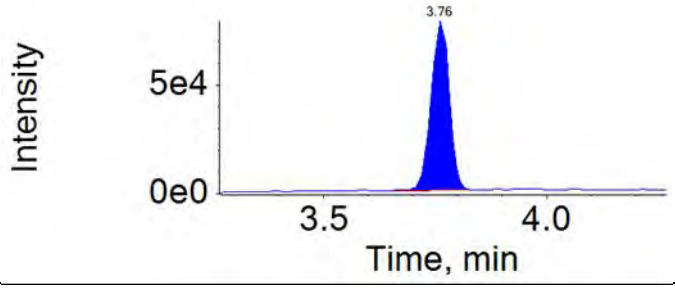
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

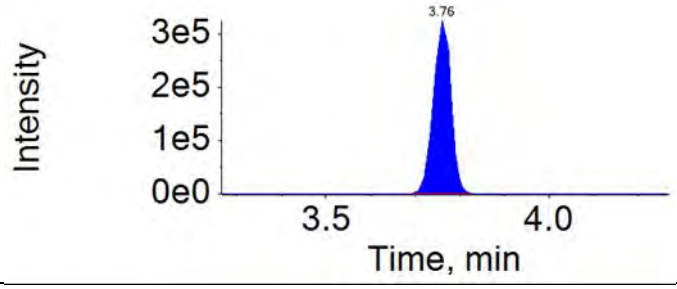
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



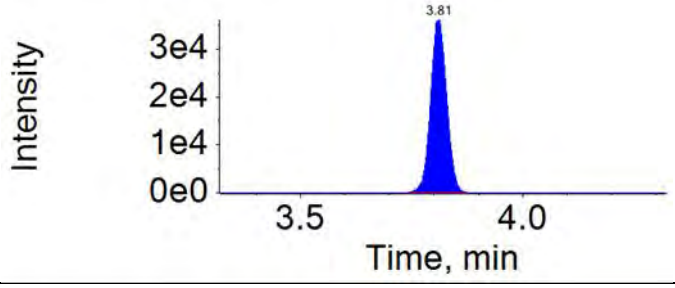


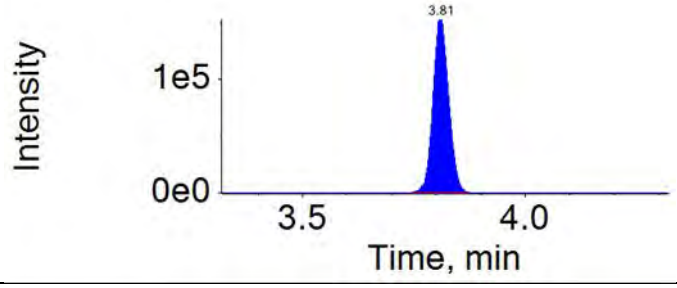
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



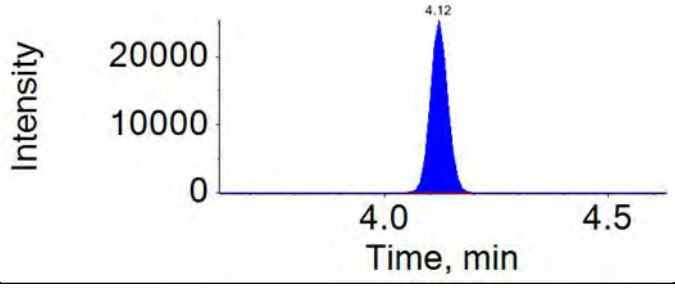


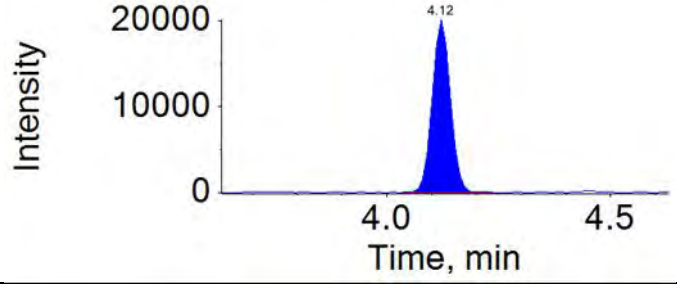
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



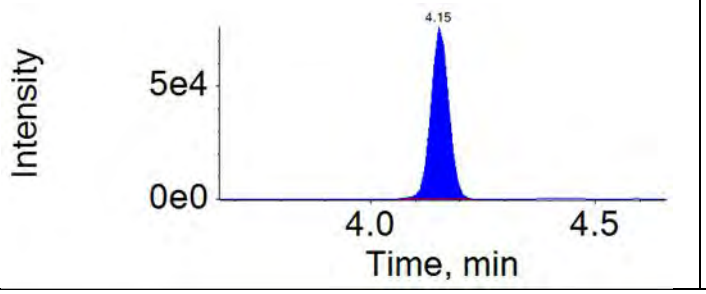


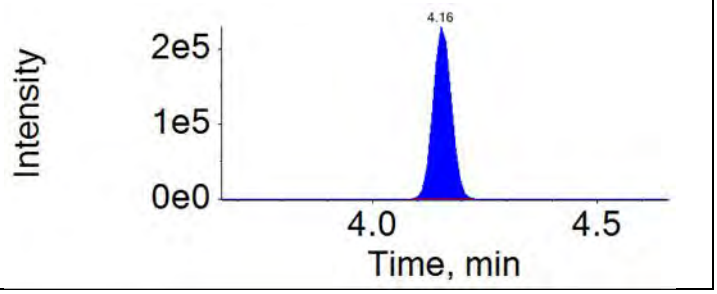
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

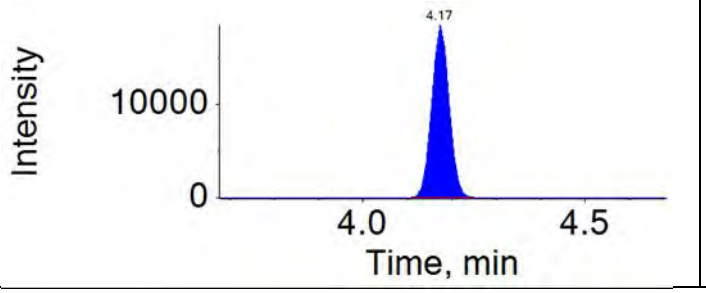
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

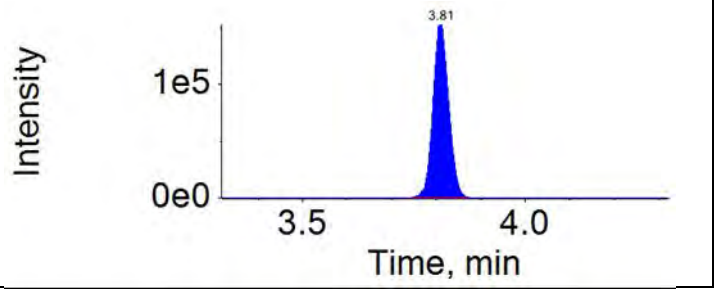
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



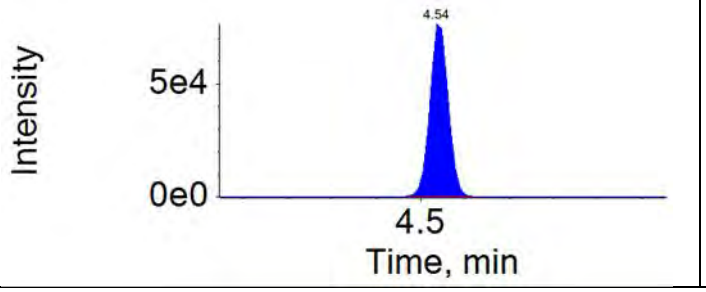


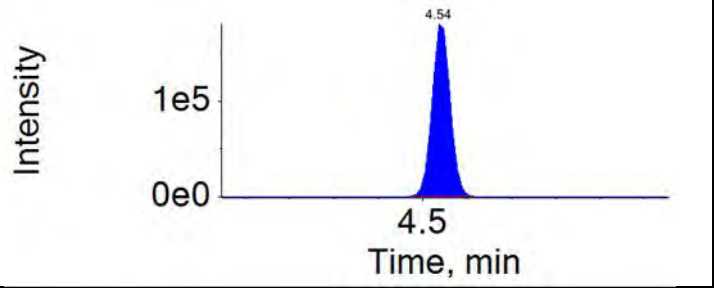
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



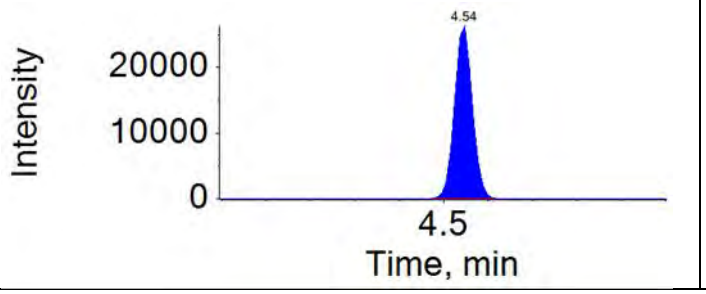


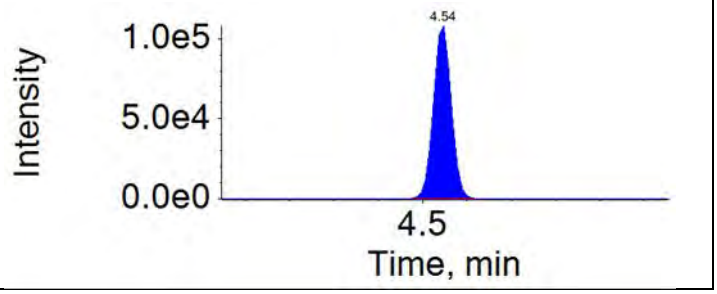
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0



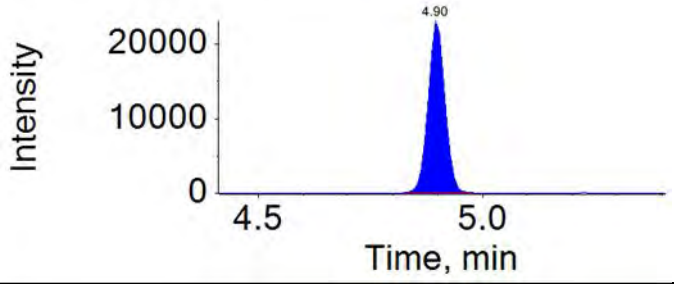
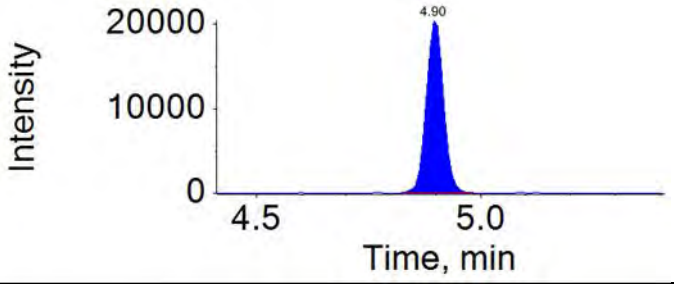


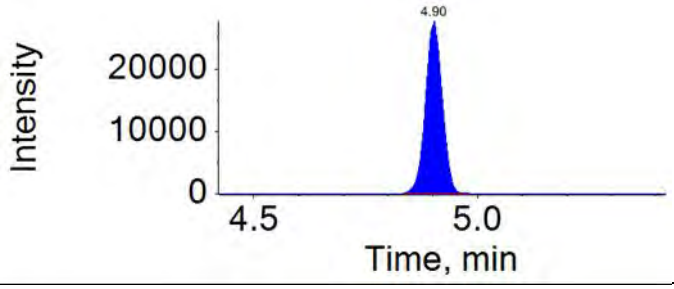
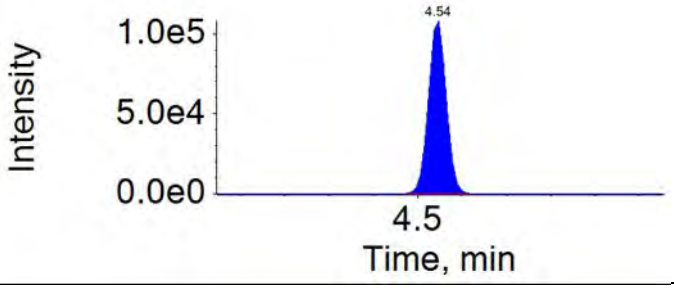
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

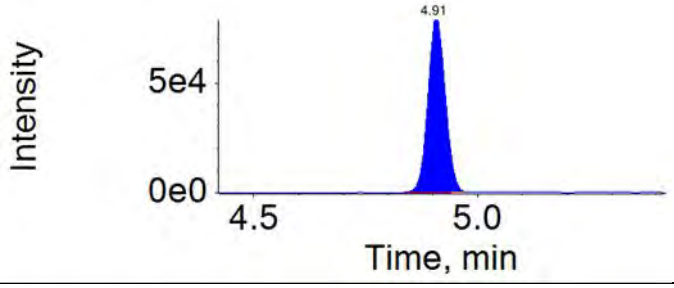
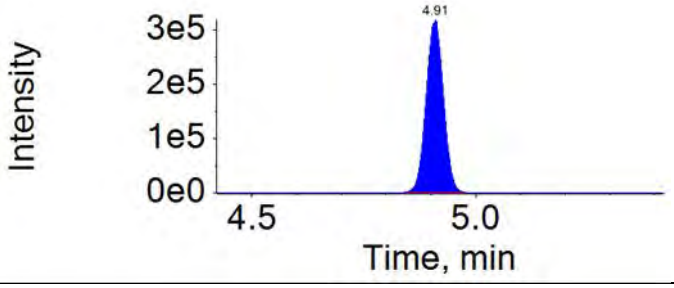


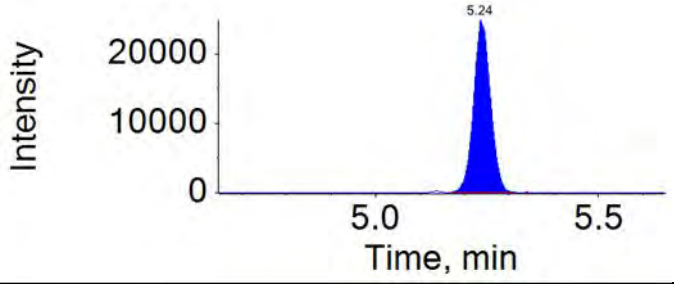
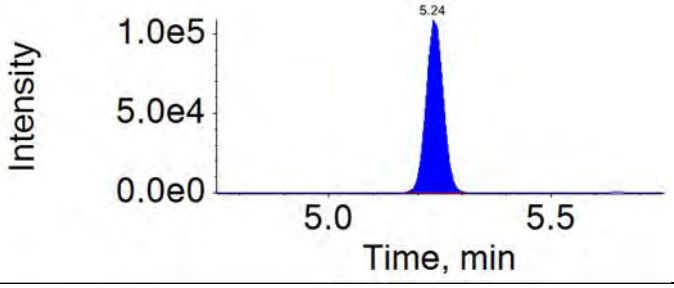


ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

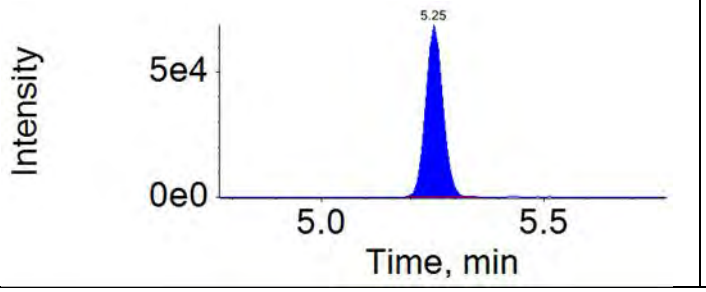
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

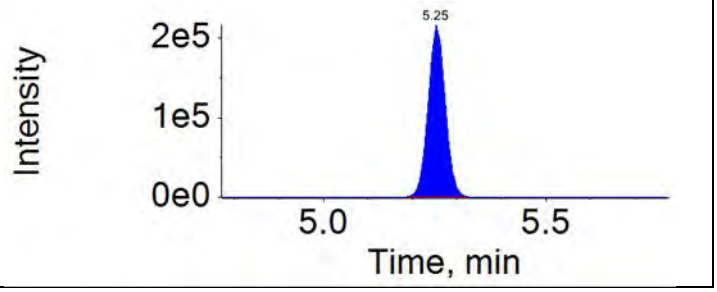
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

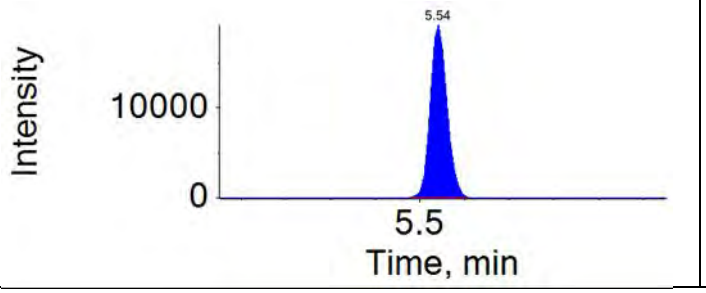
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

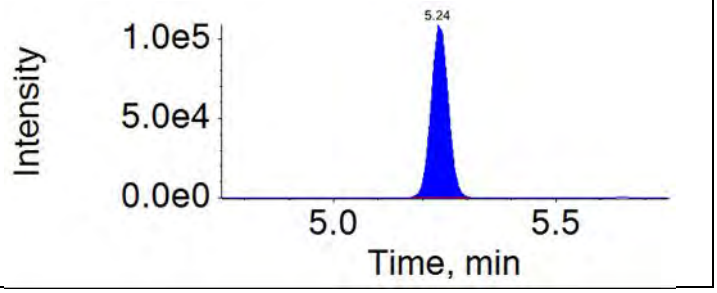
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



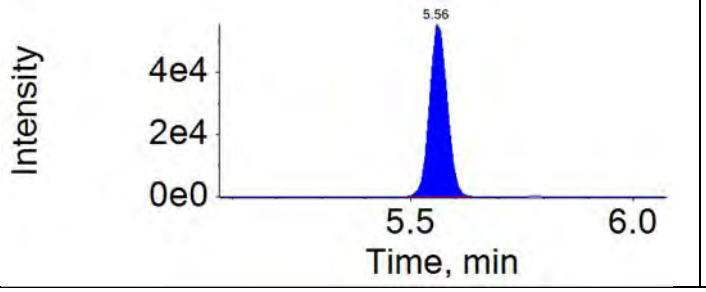


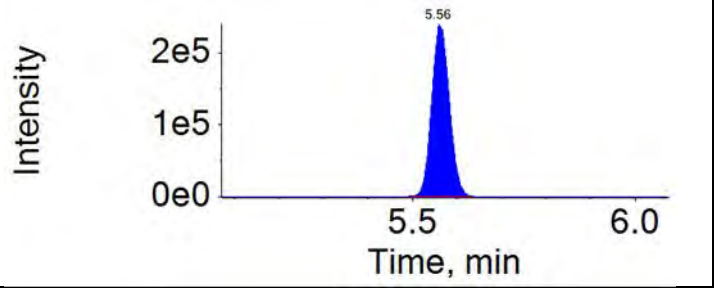
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



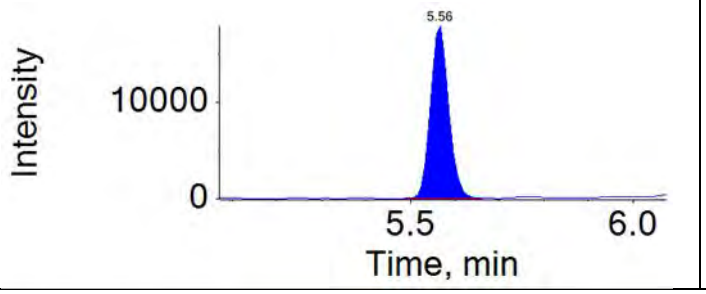


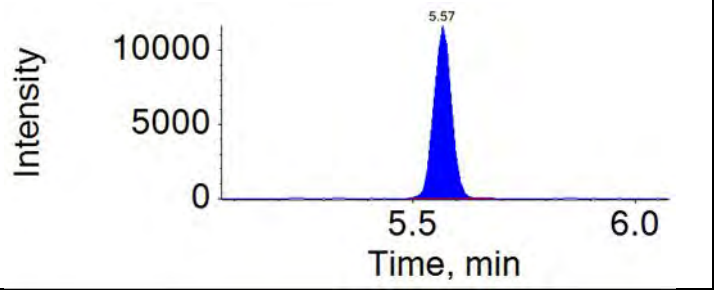
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



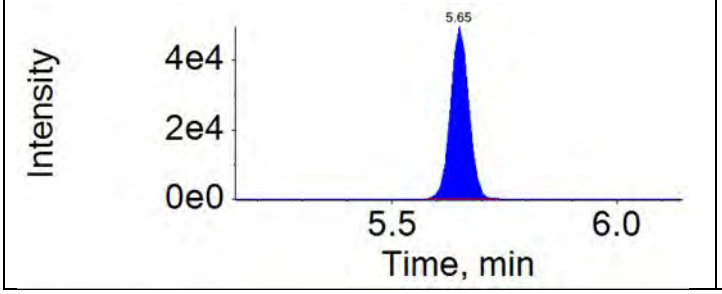


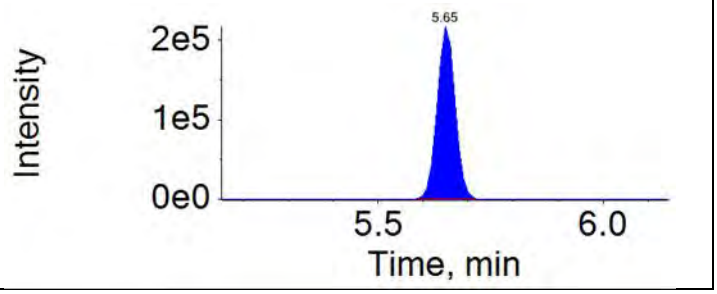
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

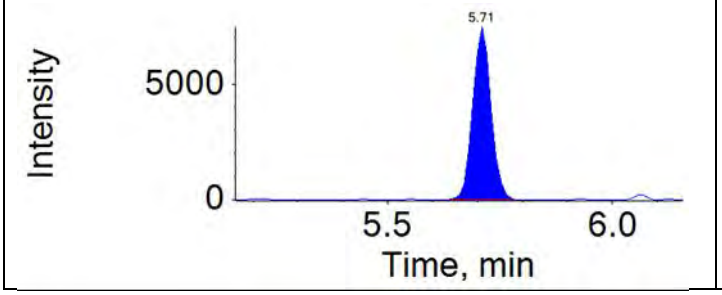
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

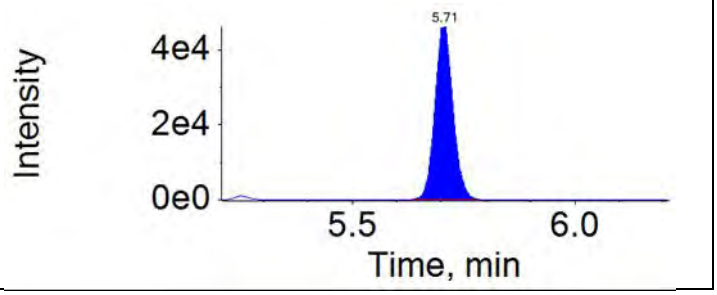
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



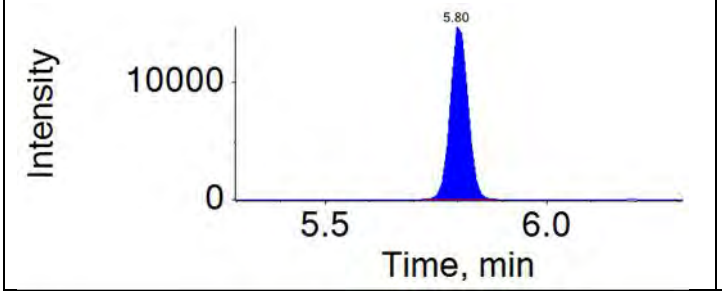


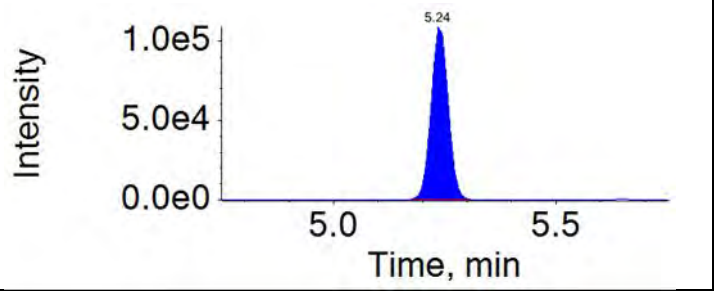
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



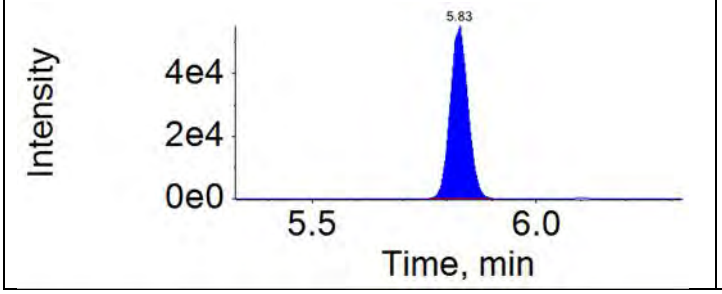


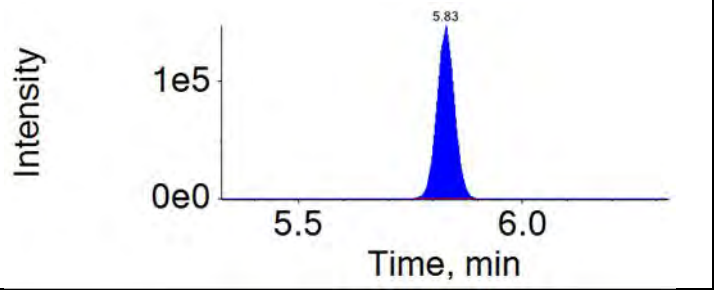
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



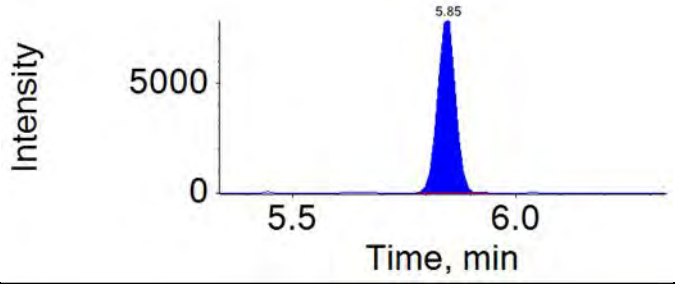


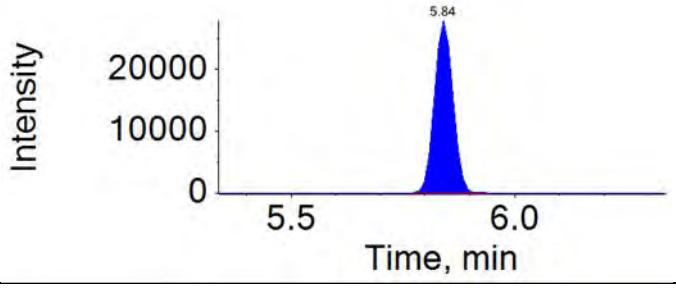
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

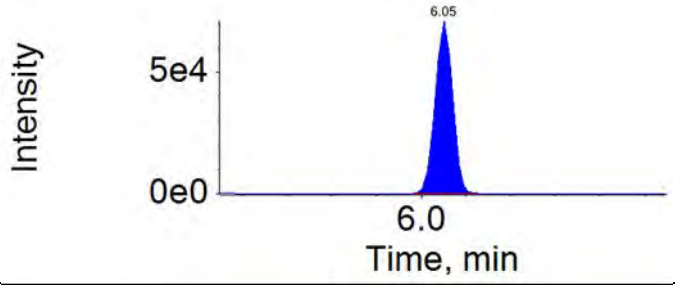
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

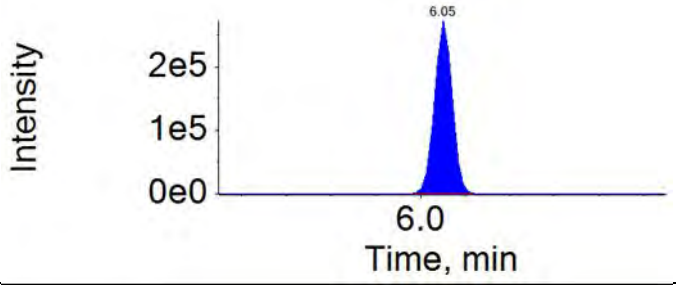
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



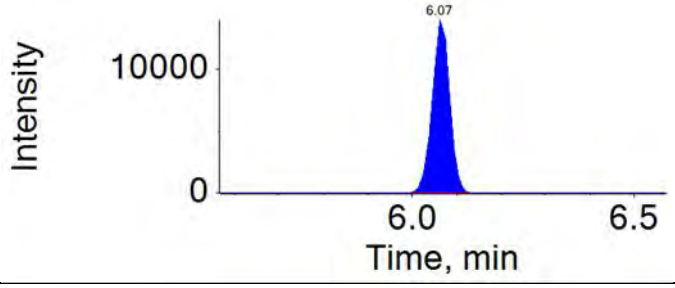


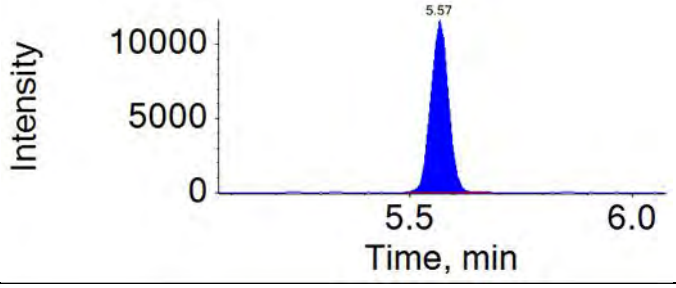
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



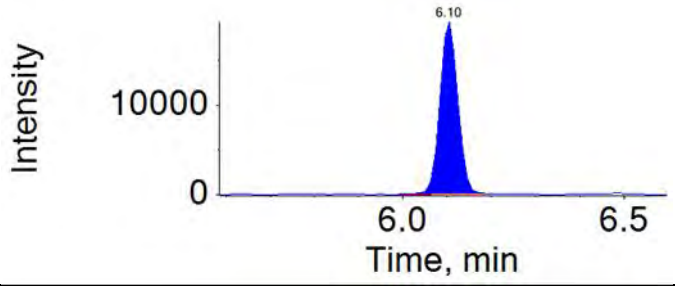


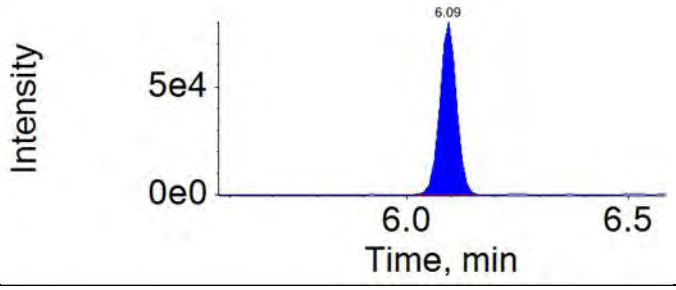
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



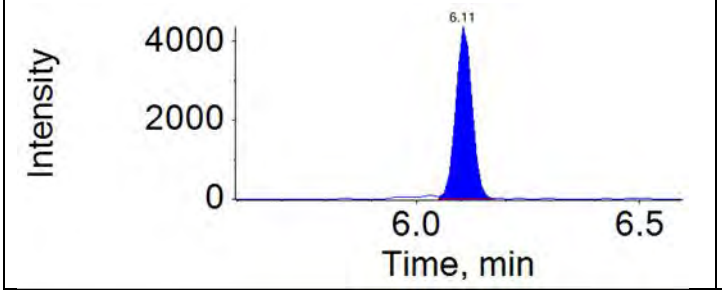


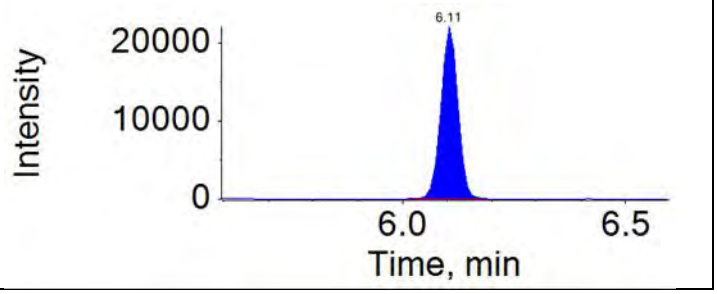
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

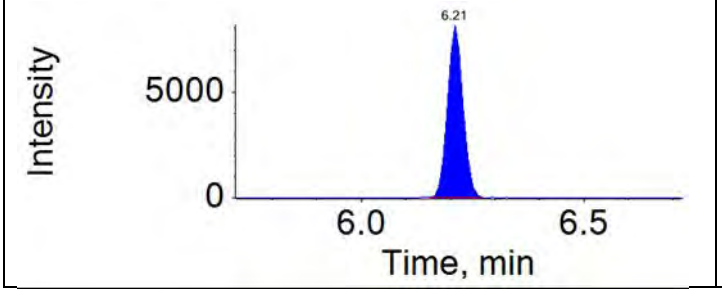
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

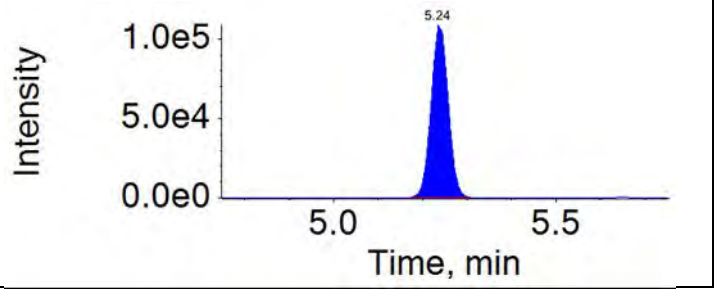
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



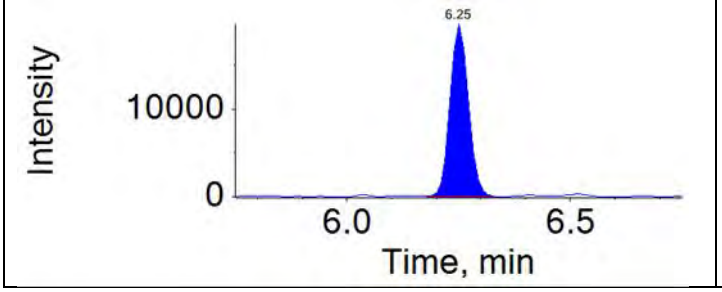


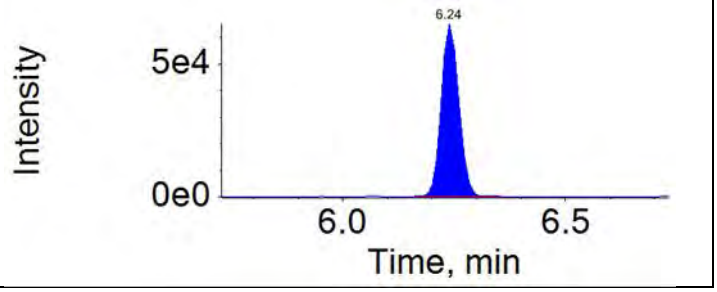
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



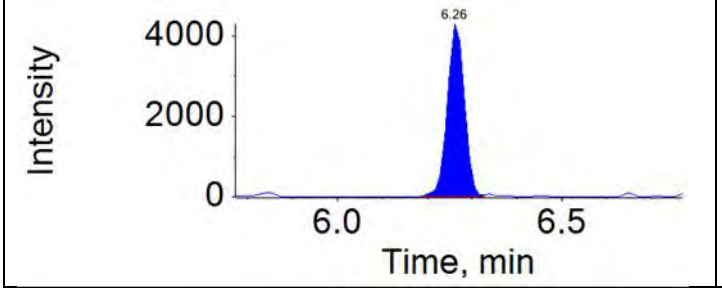


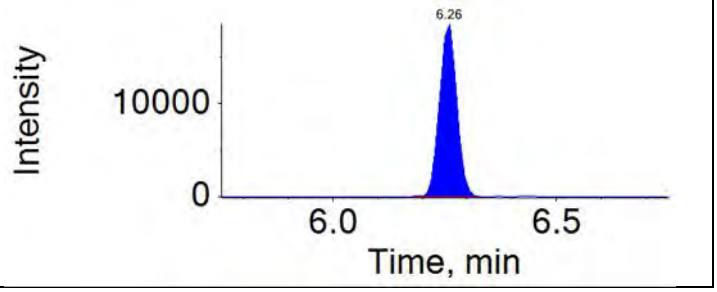
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



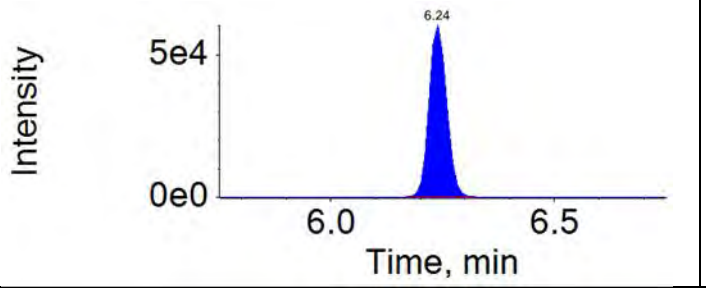


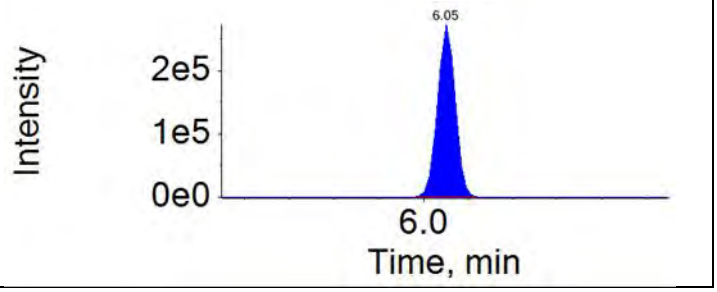
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

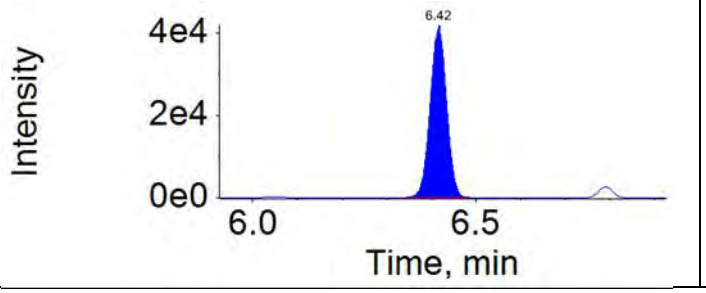
ICAL Name: 18DEC06DCAL **Result Table:** 18340014 12/11/2018 3:37:19 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

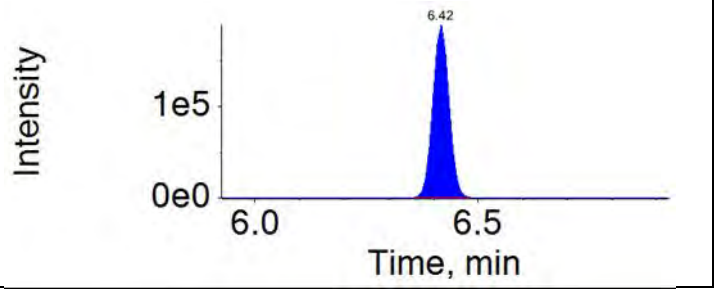
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



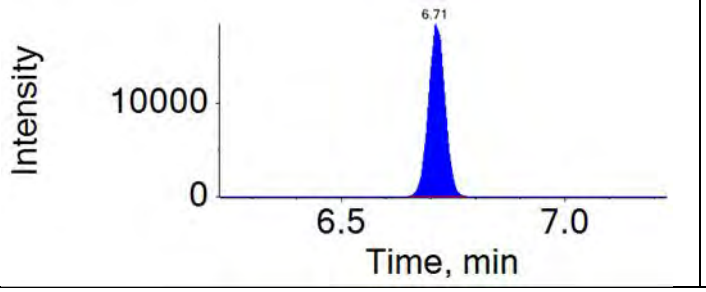


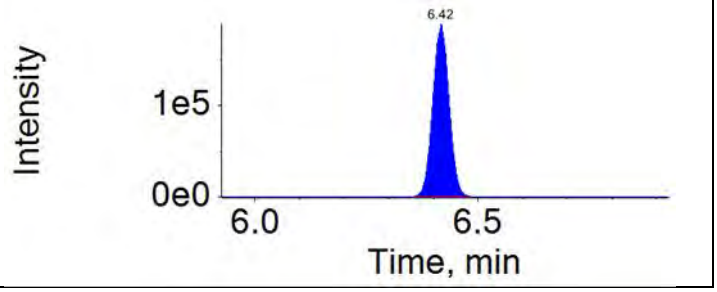
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



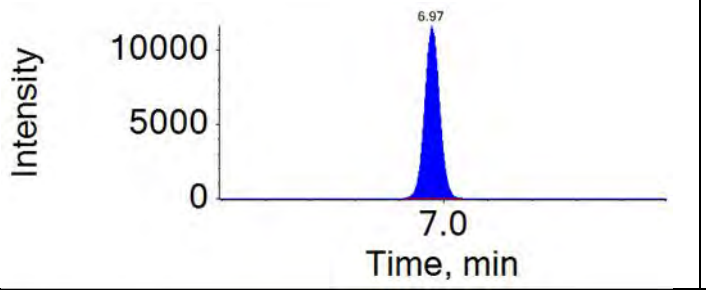


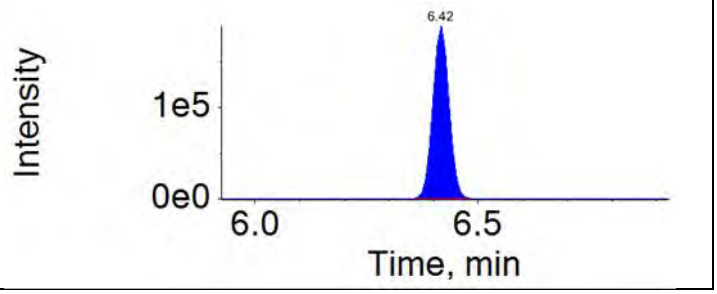
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

Ion Ratio Report

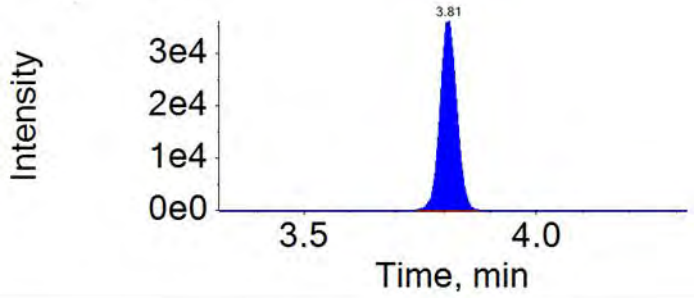
Sample Name: LCS340014 **Instrument Name:** LM27631 **File Name:** 18DEC11D-65.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	90566.6	A	N/A	1.0000			
PFBS_2	3.81	1.00	34805.5	A	N/A	0.3843	6	50	
4:2-FTS	4.12	1.00	68708.2	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	41554.3	A	N/A	0.6048	-8	50	
PFHxA	4.15	1.00	207588.0	A	N/A	1.0000			
PFHxA_2	4.15	1.00	2681.8	A	N/A	0.0129	33	50	
PFPeS	4.17	1.10	50102.7	A	N/A	1.0000			
PFPeS_2	4.17	1.10	24718.4	A	N/A	0.4934	-6	50	
PFHpA	4.54	1.00	218814.7	A	N/A	1.0000			
PFHpA_2	4.54	1.00	12014.1	A	N/A	0.0549	-3	50	
PFHxS	4.54	1.00	73532.4	A	N/A	1.0000			
PFHxS_2	4.54	1.00	26799.6	A	N/A	0.3645	0	50	
6:2-FTS	4.90	1.00	59969.8	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	37134.6	A	N/A	0.6192	-1	50	
PFHpS	4.90	1.08	72180.4	A	N/A	1.0000			
PFHpS_2	4.90	1.08	30108.2	A	N/A	0.4171	0	50	
PFOA	4.91	1.00	214564.8	A	N/A	1.0000			
PFOA_2	4.91	1.00	12357.9	A	N/A	0.0576	-6	50	
PFOS	5.24	1.00	65361.8	A	N/A	1.0000			
PFOS_2	5.24	1.00	20948.6	A	N/A	0.3205	6	50	
PFNA	5.25	1.00	183846.9	A	N/A	1.0000			
PFNA_2	5.25	1.00	3461.2	A	N/A	0.0188	-2	50	
PFNS	5.54	1.06	49857.2	A	N/A	1.0000			
PFNS_2	5.54	1.06	23253.0	A	N/A	0.4664	-4	50	
PFDA	5.56	1.00	152752.9	A	N/A	1.0000			
PFDA_2	5.57	1.00	1009.1	A	N/A	0.0066	-31	50	
8:2-FTS	5.56	1.00	50678.6	A	N/A	1.0000			
8:2-FTS_2	5.57	1.00	29531.9	A	N/A	0.5827	-5	50	
NMeFOSAA	5.71	1.00	21030.7	A	N/A	1.0000			
NMeFOSAA_2	5.71	1.00	6380.2	A	N/A	0.3034	13	50	
PFDS	5.80	1.11	41170.0	A	N/A	1.0000			
PFDS_2	5.81	1.11	18398.1	A	N/A	0.4469	-10	50	
PFUnDA	5.83	1.00	151571.9	A	N/A	1.0000			
PFUnDA_2	5.84	1.00	716.6	A	N/A	0.0047	15	50	
NEtFOSAA	5.85	1.00	22202.4	A	N/A	1.0000			
NEtFOSAA_2	5.84	1.00	12490.3	A	N/A	0.5626	-16	50	
PFDoDA	6.05	1.00	194772.4	A	N/A	1.0000			
PFDoDA_2	6.05	1.00	1887.2	A	N/A	0.0097	-27	50	
10:2-FTS	6.07	1.09	38034.3	A	N/A	1.0000			
10:2-FTS_2	6.06	1.09	25610.8	A	N/A	0.6734	-3	50	
PFTrDA	6.24	1.03	165734.2	A	N/A	1.0000			
PFTrDA_2	6.24	1.03	1348.3	A	N/A	0.0081	8	50	
PFTeDA	6.42	1.00	106581.6	A	N/A	1.0000			
PFTeDA_2	6.41	1.00	623.7	A	N/A	0.0059	-11	50	
PFHxDA	6.71	1.05	47130.9	A	N/A	1.0000			
PFHxDA_2	6.71	1.05	2792.0	A	N/A	0.0592	-4	50	
PFODA	6.97	1.09	26912.4	A	N/A	1.0000			
PFODA_2	6.97	1.09	659.3	A	N/A	0.0245	-10	50	

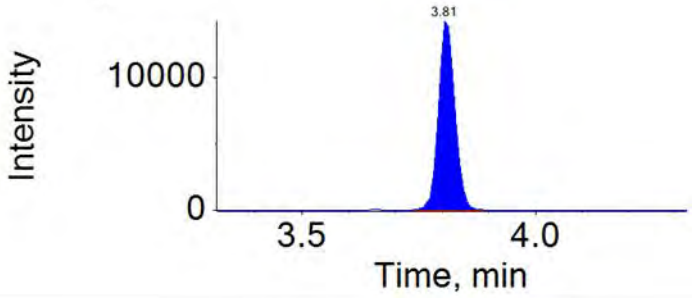
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

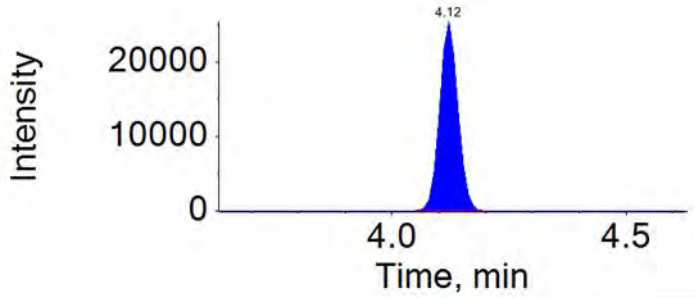
Component: PFBS
Primary Mass: 299.0 / 80.0



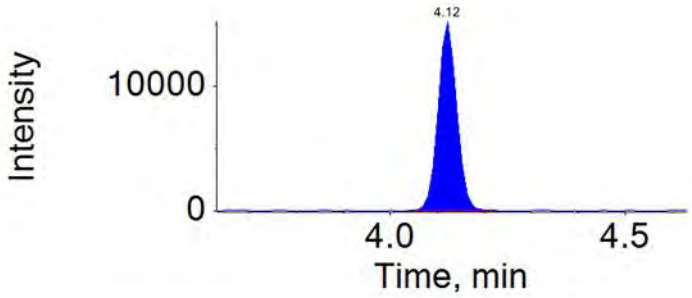
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



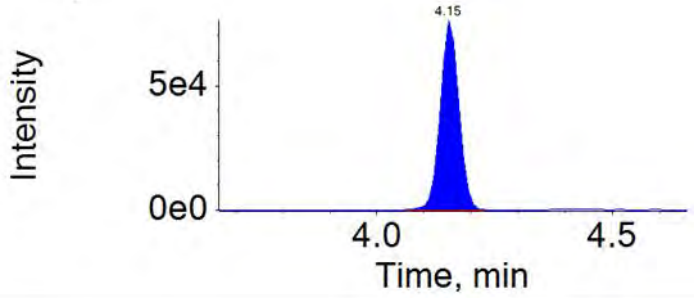
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



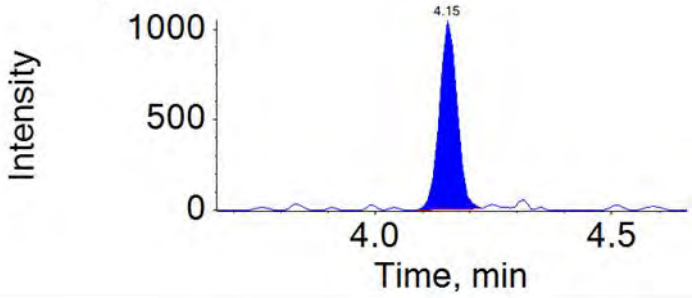
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



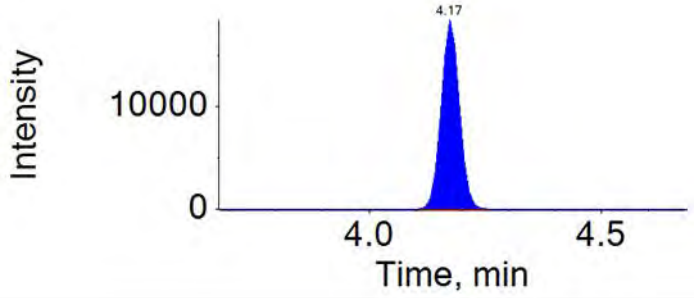
Component: PFHxA
Primary Mass: 313.0 / 269.0



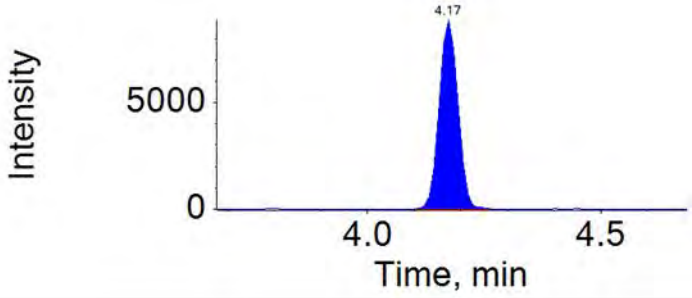
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



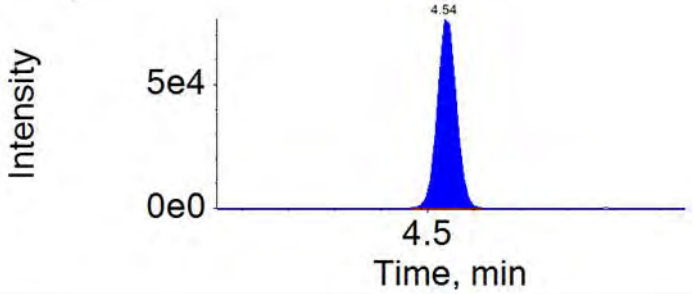
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



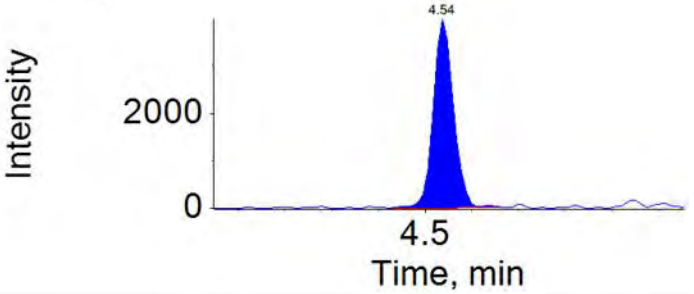
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

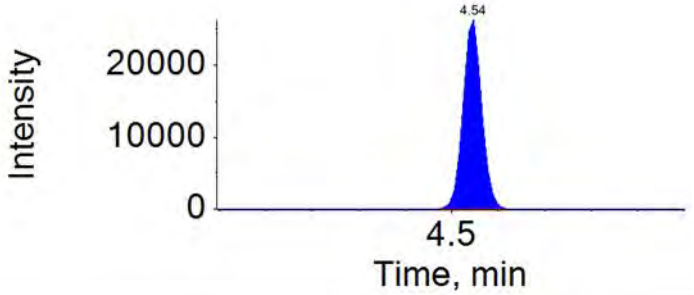
Component: PFHpA
Primary Mass: 363.0 / 319.0



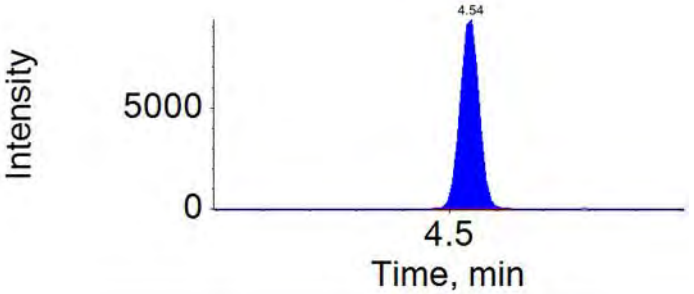
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



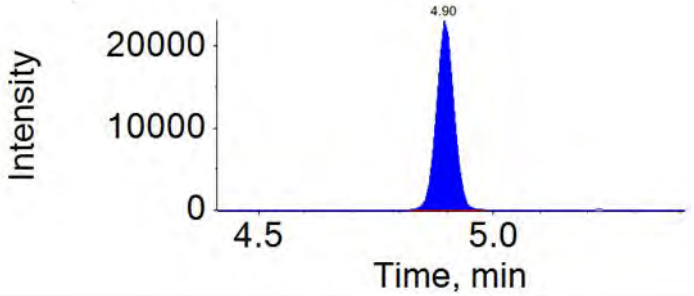
Component: PFHxS
Primary Mass: 399.0 / 80.0



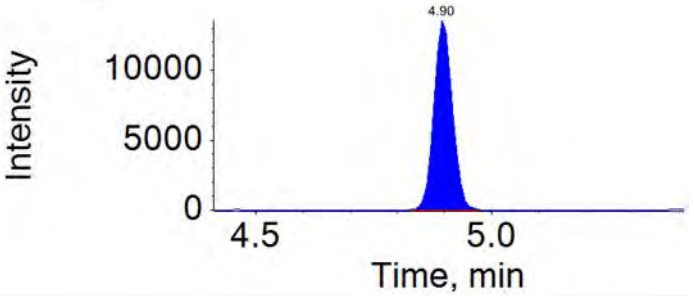
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



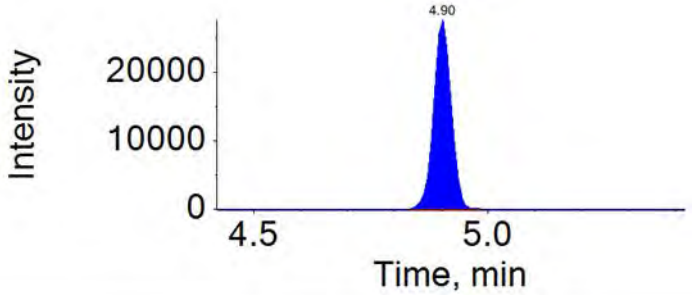
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



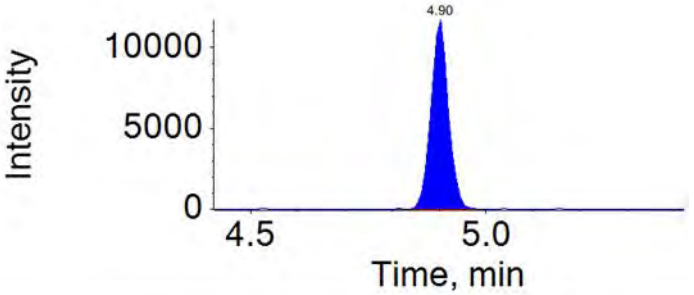
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



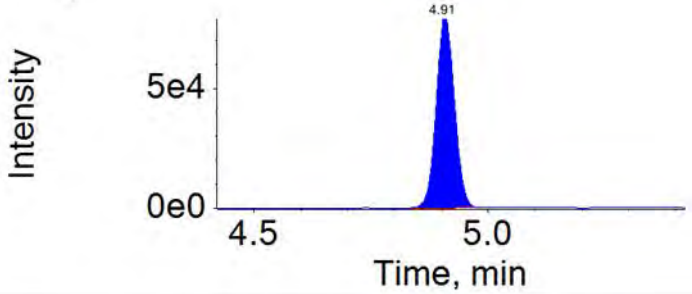
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



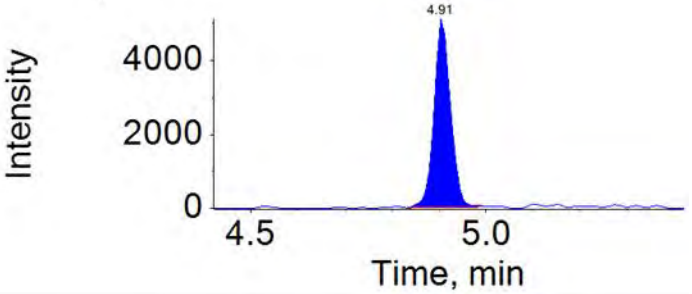
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

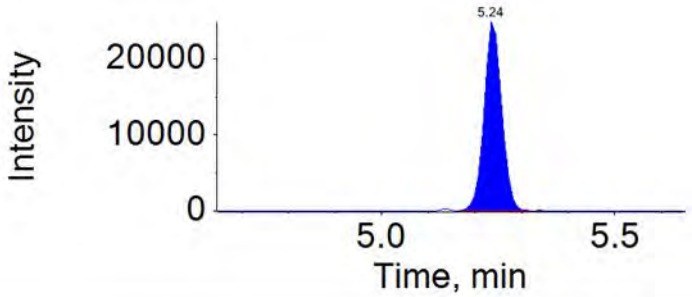
Component: PFOA
Primary Mass: 413.0 / 369.0



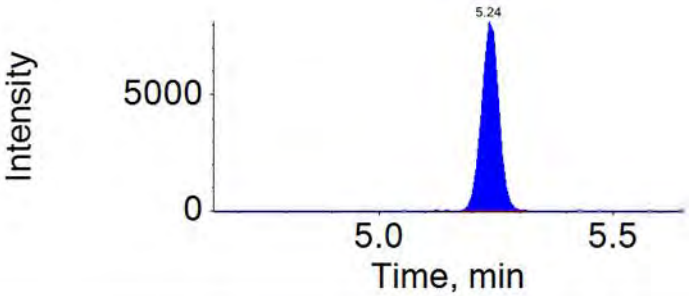
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



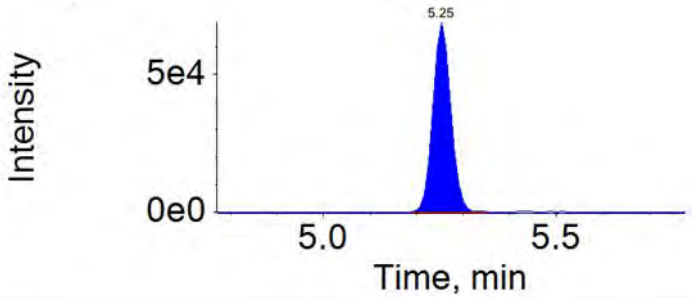
Component: PFOS
Primary Mass: 499.0 / 80.0



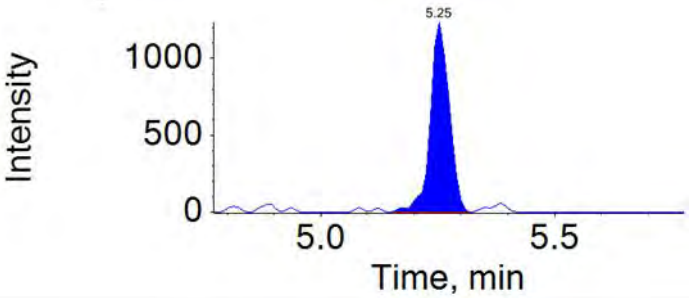
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



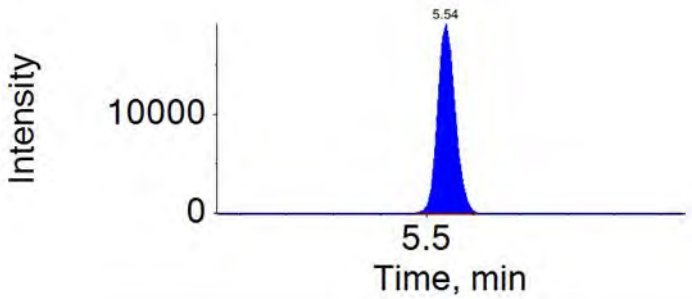
Component: PFNA
Primary Mass: 463.0 / 419.0



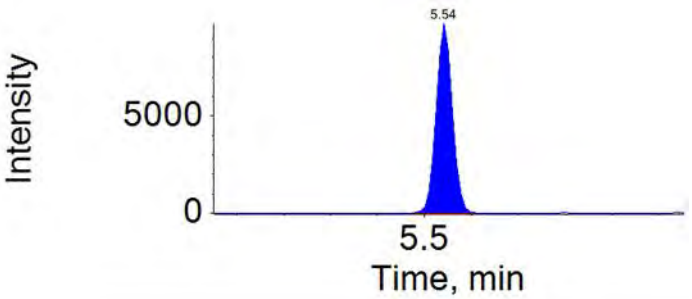
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



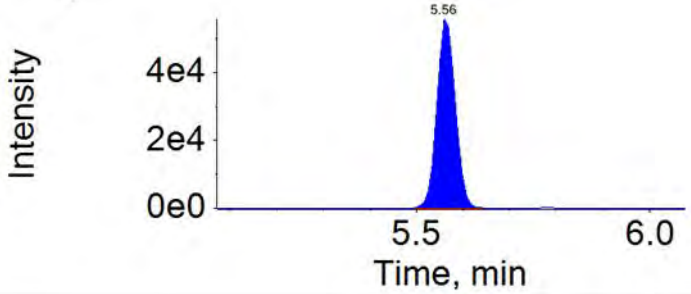
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



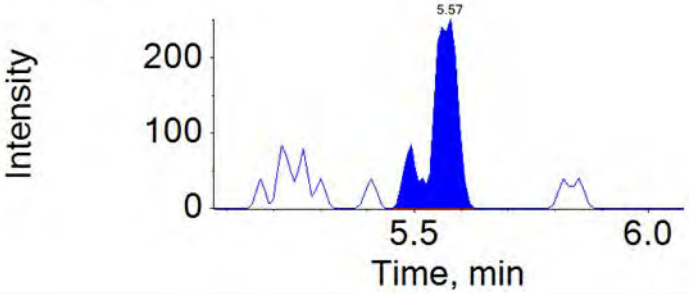
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

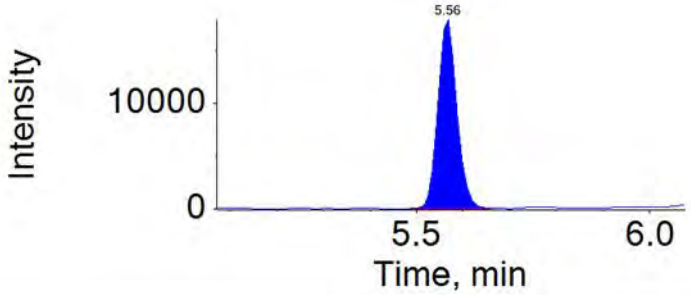
Component: PFDA
Primary Mass: 513.0 / 469.0



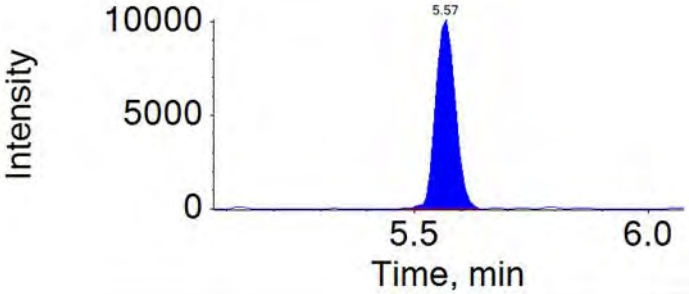
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



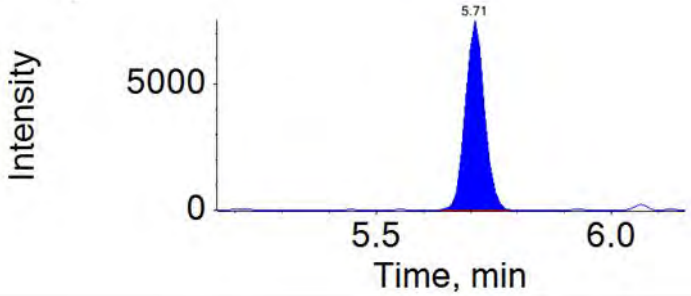
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



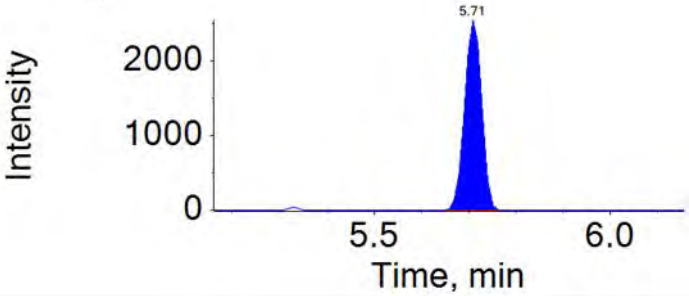
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



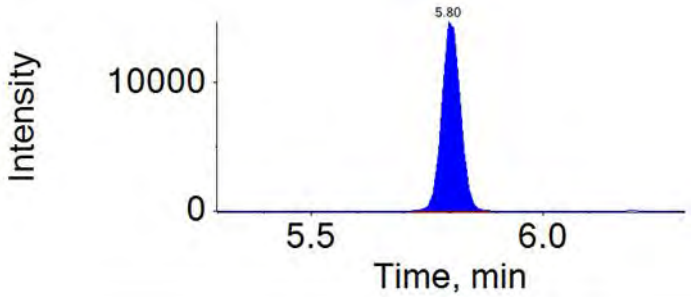
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



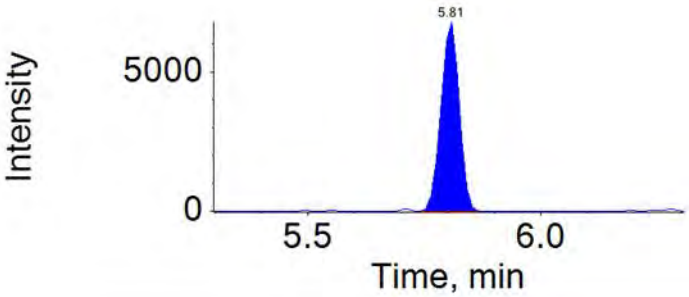
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



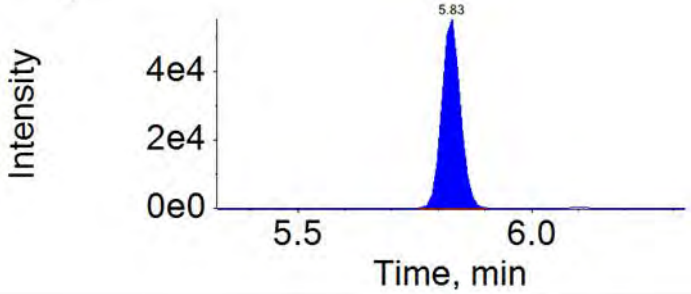
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



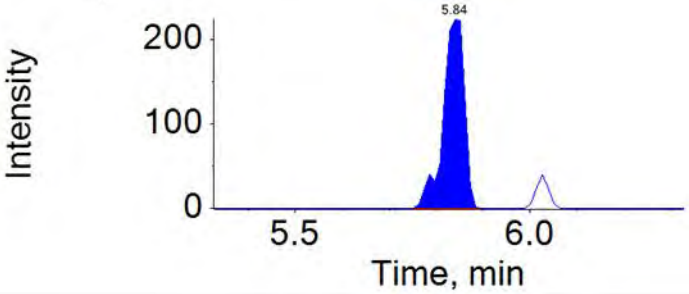
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

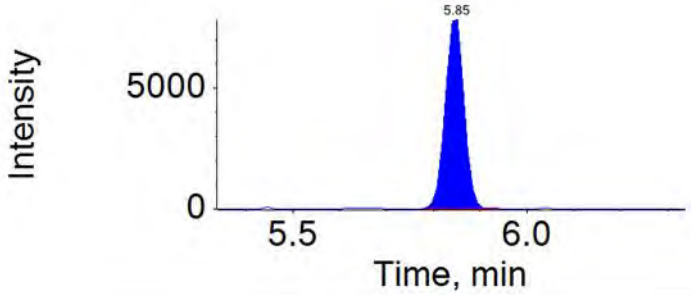
Component: PFUnDA
Primary Mass: 563.0 / 519.0



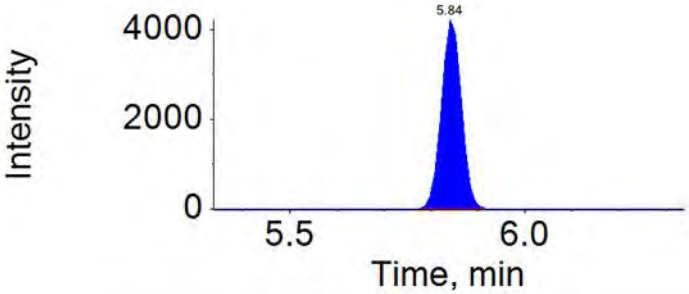
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



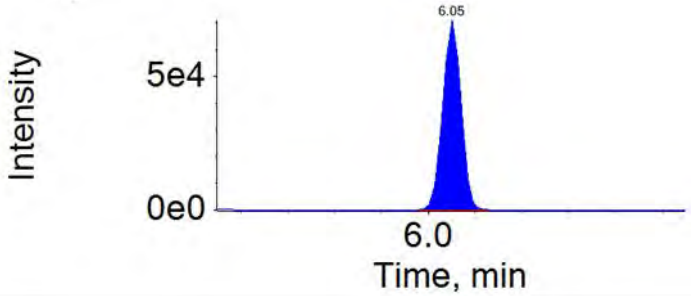
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



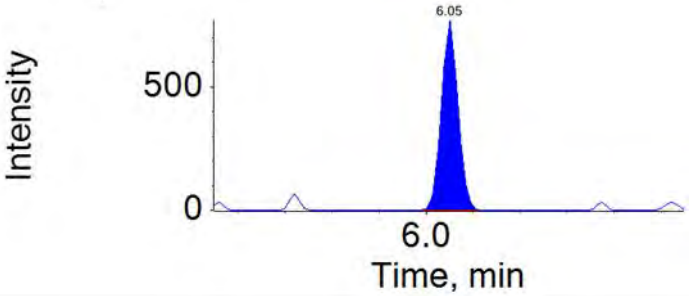
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



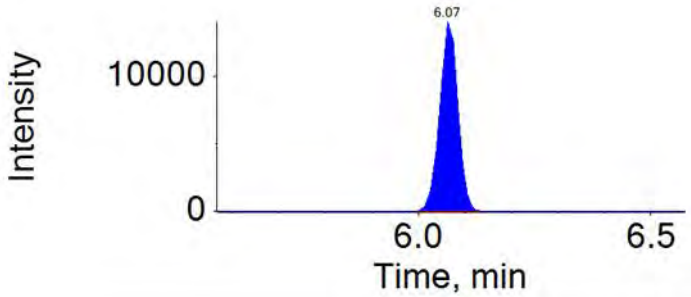
Component: PFDoDA
Primary Mass: 613.0 / 569.0



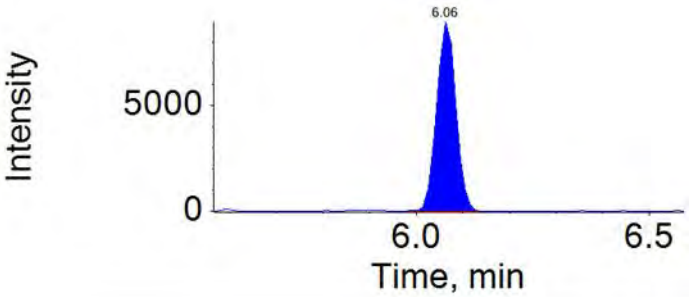
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



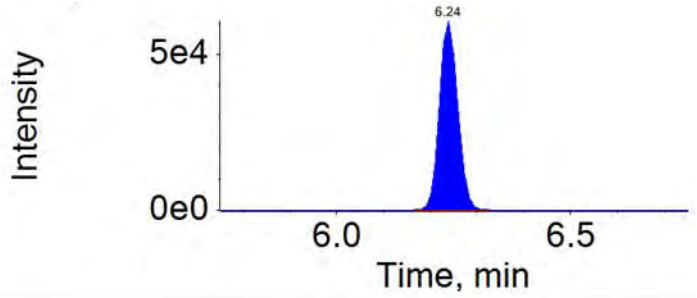
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



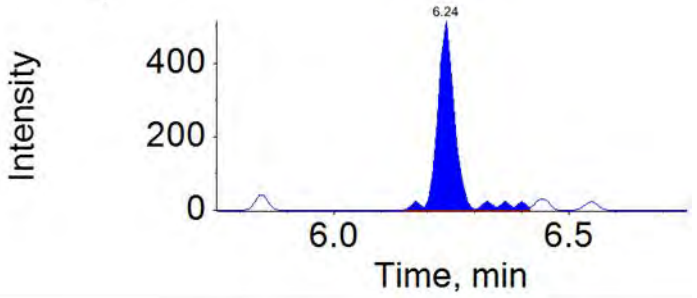
APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

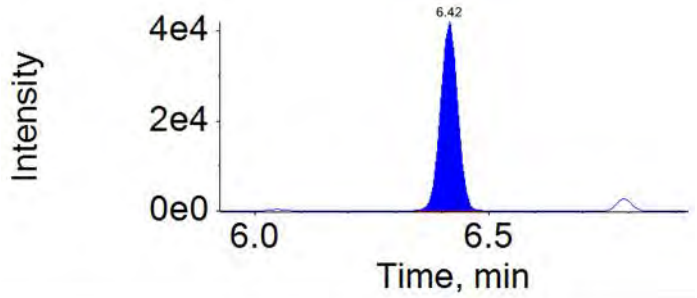
Component: PFTrDA
Primary Mass: 663.0 / 619.0



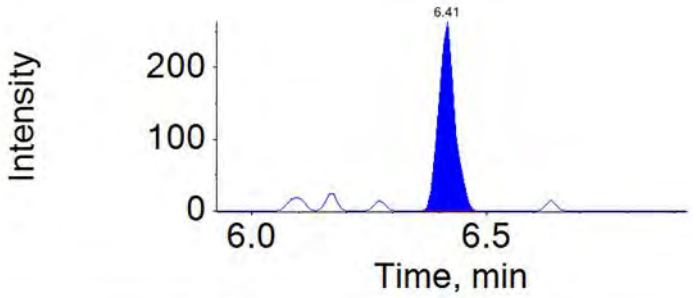
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



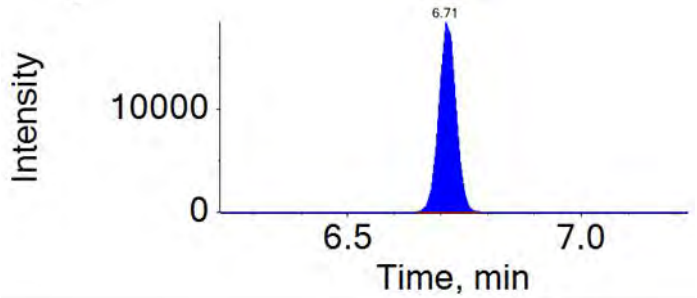
Component: PFTeDA
Primary Mass: 713.0 / 669.0



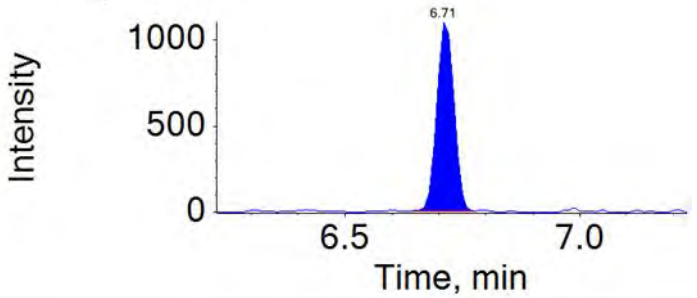
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



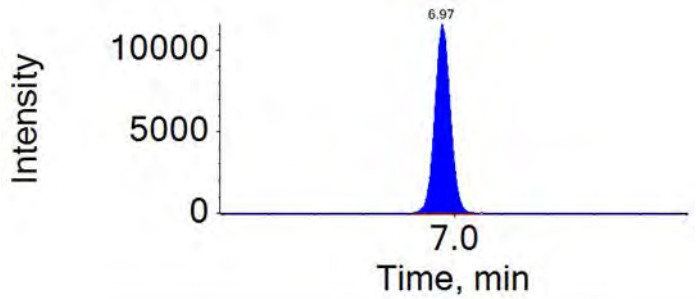
Component: PFHxDA
Primary Mass: 813.0 / 769.0



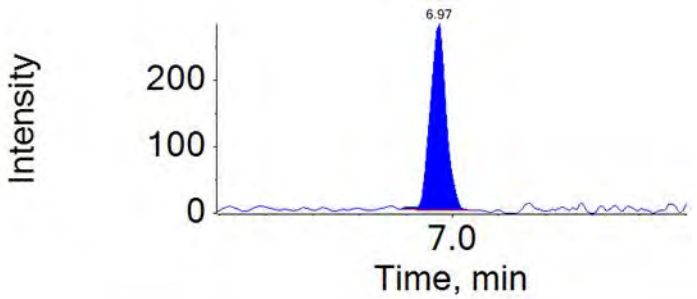
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 3:53 pm, 12/11/18

REVIEWED
By umar at 1:22 pm, 12/13/18

Preparation Logs

PFAS by LC/MS/MS

Organic Extraction Batchlog Assigned to: 26543 Anthony Polaski Reviewed by: MCD7824 Start Date: 12/5/18 Start time: 16:00

18339013 Tech 1: ACP26543 Tech 2: PJR9213

Analyses on Batch: PFAS in Water by LC/MS/MS-DoD

Dept: 33 Prep Analysis: 14465 PFAS Water Prep - DoD (3) mL ACP26543 12/5/18

Port#	QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (3) ~~(uL)~~	IS amt (uL)	BC	Comments
9	9922842MS	15206	281.67	SSMODX1833CH	.025	MSMODX1833AV	.04	1	20	173a	
10	9922843MSD	15206	273.91	SSMODX1833CH	.025	MSMODX1833AV	.04	1	↓	173a	
1	BLANKA	BLK339013	250.00	SSMODX1833CH	.025	N/A	N/A	1	↓	Z	
2	LCSA	LCS339013	↓	SSMODX1833CH	.025	MSMODX1833AV	.04	1	↓	Z	

Spike Solutions: Witness: _____ Instrument: LM27631

MSMODX1833AV PFAS 537 Native Spike

SSMODX1833CH PFAS 537 Modified Extraction/Surrogate Spik Sequence: 18DEC06D00 / 18DEC08D

Port#		Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (3) ~~(uL)~~	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio
3	1	9922836	1520	287.71	SSMODX1833CH	.025	1	20	173a		14434	12/13/2018	N
4	2	9922837	EB 1520	277.34	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N
5	3	9922838	EB 1520	294.97	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N
6	4	9922839	1520	286.45	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N
7	5	9922840	1520	271.95	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N
8	6	9922841	BKG 1520	280.03	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N
11	7	9922844	1520	282.02	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N
12	8	9922845	1520	278.93	SSMODX1833CH	.025	1	↓	173a		14434	12/13/2018	N

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NA MCD7824 12/10/18

18339013

Organic Extraction Batchlog **18339013**

Port#	Sample #	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (uL)	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio

Reagents used During Extraction

Reagent/Material/Equip	Lot No./ID No.
0.3% NH4OH:MeOH	273191204 1833 A
1:1 ACN:MeOH	265431204 1833 A
Auto-pipette (dilutions)	—
Auto-pipette (extract vialin	P1000-3
Envi-Carb	107563
Internal Standard	IS1833833B
Methanol	DV136-US
Milli-Q H2O	House A372
SPE Cartridge #1	6424575-01
Syringe (IS)	PFAS 11
Syringe (MS)	PFAS 10
Syringe (SS)	PFAS 9
Trizma	NA

ACP26543 12/5/18

NA MCD7824 12/10/18

Balance #	B629764122	SPE Manifold	7	N-evap	(*) C

(*) Appropriate temp was used for concentrating samples + batch QC to near dryness.
MCD7824
12/10/18

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

18339013

NA MCD7824 12/10/18

ESS23 Page 1416 of 1418

Organic Extraction Batchlog Assigned to: 26543 Anthony Polaski Reviewed by: JPT12262 Start Date: 12/6/18 Start time: 16:00

18340014 Tech 1: ACP26543 Tech 2: PJR9213

Analyses on Batch: PFAS in Water by LC/MS/MS-DoD

Dept: 33 Prep Analysis: 14465 PFAS Water Prep - DoD (3) ml. ACP26543 12/6/18

Port#	QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (3) ~~(uL)~~	IS amt (uL)	BC	Comments
6	9922848MS	15210	290.13	SSMODX1833CI	.025	MSMODX1833AW	.04	1	20	173a	
7	9922849MSD	15210	281.56	SSMODX1833CI	.025	MSMODX1833AW	.04	1	↓	173a	
1	BLANKA	BLK340014	250.00	SSMODX1833CI	.025	N/A	N/A	1		~~7~~	
2	LCSA	LCS340014	↓	SSMODX1833CI	.025	MSMODX1833AW	.04	1	↓	~~7~~	

Spike Solutions: Witness: DDM25478 Instrument: LM27631

MSMODX1833AW PFAS 537 Native Spike

SSMODX1833CI PFAS 537 Modified Extraction/Surrogate Spik Sequence: 18DEC06DOD-18DEC10D & 18DEC11D

Port#	Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV ~~(uL)~~	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio
3	1 9913119 R	BARC	289.65	SSMODX1833CI	.025	1	20	173b		14434	12/06/2018	N
4	2 9922846 *	1520	200.63	SSMODX1833CI	.025	1	↓	173a	sediment	14434	12/13/2018	N
5	3 9922847	BKG 1521	277.24	SSMODX1833CI	.025	1		173a		14434	12/13/2018	N
8	4 9922850	EB 1521	285.03	SSMODX1833CI	.025	1		173a		14434	12/13/2018	N
9	5 9922851	EB 1521	282.66	SSMODX1833CI	.025	1		173a		14434	12/13/2018	N
10	6 9922852	1521	289.17	SSMODX1833CI	.025	1		173a		14434	12/13/2018	N
11	7 9922853	1521	277.36	SSMODX1833CI	.025	1	↓	173a		14434	12/13/2018	N

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* Took 200 ml. of sample, decanted into new bottle, and added 50 ml. of Milli-Q H_2O. ACP26543 12/6/18

N/A JPT12262 12/11/18

18340014

Organic Extraction Batchlog **18340014**

Port#	Sample #	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (uL)	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio

Reagents used During Extraction

Reagent/Material/Equip	Lot No./ID No.
0.3% NH4OH:MeOH	27319120418 33 A
1:1 ACN:MeOH	26543120418 33 A
Auto-pipette (dilutions)	N/A JPT12262 12/11/18
Auto-pipette (extract vialin	P1000-3
Envi-Carb	107563
Internal Standard	IS18338 33B
Methanol	DV136-US
Milli-Q H2O	House A372
SPE Cartridge #1	6424575-01
Syringe (IS)	PFAS 11
Syringe (MS)	PFAS 10
Syringe (SS)	PFAS 9
Trizma	NA

N/A JPT12262 12/11/18

ACP26543 12/6/18

Balance #	B629764122	SPE Manifold	6	N-evap	C	35 C

PJR9213 12/7/18

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

18340014

N/A JPT12262 12/11/18

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CONTRACT_ID DO_CTO_NUMBER PHASE INSTALLATION_ID SAMPLE_NAME ANALYTICAL_METHOD LAB_NAME
CONTRACTOR_NAME LEACHATE_METHOD SAMPLE_BASIS EXTRACTION_METHOD RESULT_TYPE SAMPLE_MEDIUM
CLEANUP_METHOD QC_LEVEL LEACHATE_DATE LEACHATE_TIME EXTRACTION_DATE EXTRACTION_TIME
ANALYSIS_DATE ANALYSIS_TIME LAB_SAMPLE_ID LAB_REPORT_DATE LAB_REPORT_NUMBER FILTER_SIZE DILUTION
RUN_NUMBER PERCENT_MOISTURE PERCENT_LIPID ANALYTE_ID ANALYTE_VALUE ORIGINAL_ANALYTE_VALUE
RESULT_UNITS LAB_QUALIFIER VALIDATOR_QUALIFIER FINAL_QUALIFIER DETECTED GC_COLUMN_TYPE
ANALYSIS_RESULT_TYPE RADIOLOGICAL_ERROR RESULT_NARRATIVE RETENTION_TIME QC_CONTROL_LIMIT_CODE
QC_ACCURACY_UPPER QC_ACCURACY_LOWER CONTROL_LIMIT_DATE RELATIVE_PCT_DIFF QC_NARRATIVE MDL
CDL IDL PQL CRQL DETECTION_LIMIT VALIDATOR_DET_LIMIT VALIDATOR_MDL DL LOD LOQ SDG
LEACH_LOT METHOD_BATCH PREP_BATCH RUN_BATCH ANALYSIS_BATCH VALIDATOR_NAME VALIDATION_QC
VAL_DATE REPORTABLE_RESULT

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
335-67-1 0.82 0.82 NG_L J Y TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
375-95-1 1.0 0 NG_L U N TRG 0.35 0.35
0.35 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
335-76-2 1.0 0 NG_L U N TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
2058-94-8 1.0 0 NG_L U N TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
307-55-1 1.0 0 NG_L U N TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
72629-94-8 1.0 0 NG_L U N TRG 0.52 0.52
0.52 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
376-06-7 1.0 0 NG_L U N TRG 0.52 0.52
0.52 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
307-24-4 27 27 NG_L Y TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
375-85-9 9.5 9.5 NG_L Y TRG 0.35 0.35
0.35 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
375-73-5 2.8 2.8 NG_L Y TRG 0.26 0.26
0.26 0.96 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
355-46-4 3.3 3.3 NG_L Y TRG 0.35 0.35
0.35 0.96 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
1763-23-1 1.0 0 NG_L U N TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.87 0.87
0.87 2.1 2.6 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:10:00 9922836 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.87 0.87
0.87 2.1 2.6 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36
0.36 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.36 0.36
0.36 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
375-73-5 0.99 0 NG_L U N TRG 0.27 0.27
0.27 0.99 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
355-46-4 0.99 0 NG_L U N TRG 0.36 0.36
0.36 0.99 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:19:00 9922837 20181213 2014748 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
335-67-1 1.0 0 NG_L U N TRG 0.42 0.42
0.42 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
375-95-1 1.0 0 NG_L U N TRG 0.34 0.34
0.34 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
335-76-2 1.0 0 NG_L U N TRG 0.42 0.42
0.42 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
2058-94-8 1.0 0 NG_L U N TRG 0.42 0.42
0.42 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
307-55-1 1.0 0 NG_L U N TRG 0.42 0.42
0.42 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
72629-94-8 1.0 0 NG_L U N TRG 0.51 0.51
0.51 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
376-06-7 1.0 0 NG_L U N TRG 0.51 0.51
0.51 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
307-24-4 1.0 0 NG_L U N TRG 0.42 0.42
0.42 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
375-85-9 1.0 0 NG_L U N TRG 0.34 0.34
0.34 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
375-73-5 0.93 0 NG_L U N TRG 0.25 0.25
0.25 0.93 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
355-46-4 0.93 0 NG_L U N TRG 0.34 0.34
0.34 0.93 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
1763-23-1 1.0 0 NG_L U N TRG 0.42 0.42
0.42 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
2991-50-6 2.0 0 NG_L U N TRG 0.85 0.85
0.85 2.0 2.5 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS15-2-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:28:00 9922838 20181213 2014748 0.00 1 1
2355-31-9 2.0 0 NG_L U N TRG 0.85 0.85
0.85 2.0 2.5 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
335-67-1 9.4 9.4 NG_L Y TRG 0.44 0.44
0.44 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
375-95-1 1.0 0 NG_L U N TRG 0.35 0.35
0.35 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
335-76-2 1.0 0 NG_L U N TRG 0.44 0.44
0.44 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
2058-94-8 1.0 0 NG_L U N TRG 0.44 0.44
0.44 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
307-55-1 1.0 0 NG_L U N TRG 0.44 0.44
0.44 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
72629-94-8 1.0 0 NG_L U N TRG 0.52 0.52
0.52 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
376-06-7 1.0 0 NG_L U N TRG 0.52 0.52

0.52 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
307-24-4 1.1 1.1 NG_L J Y TRG 0.44 0.44
0.44 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
375-85-9 0.55 0.55 NG_L J Y TRG 0.35 0.35 0.35
1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
375-73-5 2.6 2.6 NG_L Y TRG 0.26 0.26 0.26
0.96 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
355-46-4 12 12 NG_L Y TRG 0.35 0.35 0.35
0.96 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
1763-23-1 14 14 NG_L Y TRG 0.44 0.44
0.44 1.0 1.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.87 0.87
0.87 2.1 2.6 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:37:00 9922839 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.87 0.87
0.87 2.1 2.6 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
335-67-1 8.6 8.6 NG_L Y TRG 0.46 0.46 0.46
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.37 0.37 0.37
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.46 0.46 0.46
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.46 0.46
0.46 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.46 0.46 0.46
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.55 0.55
0.55 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.55 0.55 0.55
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
307-24-4 1.0 1.0 NG_L J Y TRG 0.46 0.46 0.46
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
375-85-9 0.53 0.53 NG_L J Y TRG 0.37 0.37 0.37
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
375-73-5 2.5 2.5 NG_L Y TRG 0.28 0.28 0.28
1.0 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
355-46-4 12 12 NG_L Y TRG 0.37 0.37 0.37
1.0 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
1763-23-1 22 22 NG_L Y TRG 0.46 0.46
0.46 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.92 0.92
0.92 2.2 2.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS21-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:46:00 9922840 20181213 2014748 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.92 0.92
0.92 2.2 2.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
335-67-1 0.93 0.93 NG_L J Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1

307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
307-24-4 4.1 4.1 NG_L Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
375-85-9 0.83 0.83 NG_L J Y TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
375-73-5 1.3 1.3 NG_L J Y TRG 0.27 0.27 0.27
0.98 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
355-46-4 7.2 7.2 NG_L Y TRG 0.36 0.36 0.36
0.98 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
1763-23-1 2.3 2.3 NG_L Y TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.89 0.89
0.89 2.1 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-PMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 12:55:00 9922841 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.89 0.89
0.89 2.1 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
335-67-1 1.5 1.5 NG_L J Y TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35 0.35
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44
0.44 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53
0.53 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
307-24-4 0.48 0.48 NG_L J Y TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.35 0.35 0.35
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
375-73-5 1.3 1.3 NG_L J Y TRG 0.27 0.27 0.27
0.98 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
355-46-4 5.0 5.0 NG_L Y TRG 0.35 0.35 0.35
0.98 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
1763-23-1 3.2 3.2 NG_L Y TRG 0.44 0.44
0.44 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.89 0.89
0.89 2.1 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:05:00 9922844 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.89 0.89
0.89 2.1 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
335-67-1 1.5 1.5 NG_L J Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA

METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
307-24-4 0.47 0.47 NG_L J Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
375-73-5 1.4 1.4 NG_L J Y TRG 0.27 0.27 0.27
0.99 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
355-46-4 5.1 5.1 NG_L Y TRG 0.36 0.36 0.36
0.99 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
1763-23-1 3.4 3.4 NG_L Y TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YS20-3-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181205 16:00:00 20181208 13:23:00 9922845 20181213 2014748 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18339013 18339013 18339013 18339013 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
335-67-1 5.8 5.8 NG_L Y TRG 0.62 0.62 0.62
1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
375-95-1 0.76 0.76 NG_L J Y TRG 0.50 0.50 0.50
1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
335-76-2 1.5 0 NG_L U N TRG 0.62 0.62 0.62
1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
2058-94-8 1.5 0 NG_L U N TRG 0.62 0.62
0.62 1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
307-55-1 1.5 0 NG_L U N TRG 0.62 0.62 0.62
1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
72629-94-8 1.5 0 NG_L U N TRG 0.75 0.75
0.75 1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
376-06-7 1.5 0 NG_L U N TRG 0.75 0.75 0.75
1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
307-24-4 1.5 0 NG_L U N TRG 0.62 0.62 0.62
1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
375-85-9 1.5 0 NG_L U N TRG 0.50 0.50 0.50
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N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
375-73-5 21 21 NG_L Y TRG 0.37 0.37 0.37
1.4 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
355-46-4 18 18 NG_L Y TRG 0.50 0.50 0.50
1.4 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
1763-23-1 31 31 NG_L Y TRG 0.62 0.62
0.62 1.5 2.5 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
2991-50-6 3.0 0 NG_L U N TRG 1.2 1.2
1.2 3.0 3.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NGW01-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:07:00 9922846 20181213 2014748 0.00 1 1
2355-31-9 3.0 0 NG_L U N TRG 1.2 1.2
1.2 3.0 3.7 BSI23 18340014 18340014 18340014 18340014 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
335-67-1 4.3 4.3 NG_L Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
307-24-4 0.62 0.62 NG_L J Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
375-85-9 0.41 0.41 NG_L J Y TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
375-73-5 1.6 1.6 NG_L J Y TRG 0.27 0.27 0.27
0.99 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
355-46-4 8.1 8.1 NG_L Y TRG 0.36 0.36 0.36
0.99 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
1763-23-1 7.1 7.1 NG_L Y TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:16:00 9922847 20181213 2014748 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35 0.35
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44
0.44 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53
0.53 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.35 0.35
0.35 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
375-73-5 0.96 0 NG_L U N TRG 0.26 0.26
0.26 0.96 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
355-46-4 0.96 0 NG_L U N TRG 0.35 0.35
0.35 0.96 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.44 0.44

0.44 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.88 0.88
0.88 2.1 2.6 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:25:00 9922850 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.88 0.88
0.88 2.1 2.6 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.44 0.44
0.44 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35
0.35 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44
0.44 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53
0.53 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.35 0.35 0.35
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
375-73-5 0.97 0 NG_L U N TRG 0.27 0.27 0.27
0.97 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
355-46-4 0.97 0 NG_L U N TRG 0.35 0.35 0.35
0.97 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.44 0.44
0.44 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.88 0.88
0.88 2.1 2.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-8-W-02 537_MOD EUROFINS BRADY GCE II NONE
NA METHOD 000 W UNK 20181206 16:00:00 20181210 23:34:00 9922851 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.88 0.88
0.88 2.1 2.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
335-67-1 7.5 7.5 NG_L Y TRG 0.43 0.43 0.43
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
375-95-1 0.71 0.71 NG_L J Y TRG 0.35 0.35 0.35
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
335-76-2 1.0 0 NG_L U N TRG 0.43 0.43 0.43
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
2058-94-8 1.0 0 NG_L U N TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
307-55-1 1.0 0 NG_L U N TRG 0.43 0.43 0.43
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
72629-94-8 1.0 0 NG_L U N TRG 0.52 0.52
0.52 1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
376-06-7 1.0 0 NG_L U N TRG 0.52 0.52 0.52
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
307-24-4 1.7 1.7 NG_L J Y TRG 0.43 0.43 0.43
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
375-85-9 0.70 0.70 NG_L J Y TRG 0.35 0.35 0.35
1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1

375-73-5 2.0 2.0 NG_L Y TRG 0.26 0.26 0.26
0.95 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
355-46-4 9.4 9.4 NG_L Y TRG 0.35 0.35 0.35
0.95 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
1763-23-1 12 12 NG_L Y TRG 0.43 0.43
0.43 1.0 1.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.86 0.86
0.86 2.1 2.6 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-YIMW-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:43:00 9922852 20181213 2014748 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.86 0.86
0.86 2.1 2.6 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
335-67-1 19 19 NG_L Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
375-95-1 0.67 0.67 NG_L J Y TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
307-24-4 92 92 NG_L Y TRG 0.45 0.45 0.45
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
375-85-9 6.2 6.2 NG_L Y TRG 0.36 0.36 0.36
1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
375-73-5 25 25 NG_L Y TRG 0.27 0.27 0.27
0.99 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
355-46-4 22 22 NG_L Y TRG 0.36 0.36 0.36
0.99 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
1763-23-1 23 23 NG_L Y TRG 0.45 0.45
0.45 1.1 1.8 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18340014 18340014 18340014 18340014 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OUI-NNE-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181206 16:00:00 20181210 23:52:00 9922853 20181213 2014748 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.90 0.90
0.90 2.2 2.7 BSI23 18340014 18340014 18340014 18340014 Y

SAMPLE_NAME CONTRACT_ID DO_CTO_NUMBER PHASE INSTALLATION_ID SITE_NAME LOCATION_NAME
SPECIMEN_NAME BIOLOGICAL_CLASS SEX AGE_CLASS EXCAVATION_NAMEPARENT_SAMPLE_NAME SAMPLE_MATRIX
SAMPLE_TYPE SAMPLING_EQUIPMENT PROJECT_PHASE COMPOSITE WATER_COLUMN COLLECT_DATE COLLECT_TIME
DATUM_ELEV ELEV_UNITSDATUM_MLLW DATUM_DESC START_DEPTH END_DEPTH DEPTH_UNITS REMOVED
REMOVED_DATE AMBIENT_BLANK EQUIPMENT_BLANK SOURCE_BLANK TRIP_BLANK SAMPLE_NARRATIVE

OUI-YS15-2-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS15-2-01 WG N
N 20181129 09:34:00 29111801
OUI-YS15-2-W-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS15-2-W-01 W EB
N 20181129 09:50:00
OUI-YS15-2-W-02 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS15-2-W-02 W EB
N 20181129 09:55:00
OUI-YS21-3-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS21-3-01 WG N
N 20181129 11:49:00 30111803
OUI-YS21-3-02 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS21-3-02 WG N
N 20181129 11:50:00 30111803
OUI-PMW-6-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 PMW-6-01 WG N
N 20181129 13:57:00 30111803
OUI-PMW-6-01 MS N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 PMW-6-01 OUI-
PMW-6-01 WG MS N 20181129 13:57:00 30111803
OUI-PMW-6-01 MSD N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 PMW-6-01 OUI-
PMW-6-01 WG SD N 20181129 13:57:00 30111803
OUI-YS20-3-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS20-3-01 WG N
N 20181129 16:01:00 30111803
OUI-YS20-3-02 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YS20-3-02 WG N
N 20181129 16:02:00 30111803
OUI-NGW01-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 NGW01-01 WG N
N 20181130 10:05:00 30111803
OUI-YIMW-8-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 YIMW-8-01 WG N
N 20181130 12:23:00 30111803

OUI-YIMW-8-01 MS N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 YIMW-8-01 OUI-
YIMW-8-01 WG MS N 20181130 12:23:00 30111803
OUI-YIMW-8-01 MSD N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 YIMW-8-01 OUI-
YIMW-8-01 WG SD N 20181130 12:23:00 30111803
OUI-YIMW-8-W-01 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 YIMW-8-W-01
W EB N 20181130 12:45:00
OUI-YIMW-8-W-02 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 YIMW-8-W-02
W EB N 20181130 12:50:00
OUI-YIMW-6-01 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 YIMW-6-01 WG N
N 20181130 14:35:00
OUI-NNE-5-01 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 NNE-5-01 WG N
N 20181130 16:05:00
BLK18339013 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 W LB
N
LCS18339013 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 W BS N
BLK18340014 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 W LB
N
LCS18340014 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000 W BS N

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Guiterrez Canales Engineering, P.C.
2655 Camino del Rio North, Suite 100
San Diego, CA 92108
ATTN: Mr. Jesse MacNeill

February 5, 2019

SUBJECT: REVISED Barstow Site Inspection, Data Validation

Dear Mr. MacNeill

Enclosed are the revised validation reports for the fraction listed below. These SDGs were received on January 10, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #44154_RV1:

SDG #	Fraction
BSI20/2010255, BSI21/2010258 BSI22/2012436, BSI23/2014748 BSI24/2015917, BSI27/2017387 SBI22/2011587, SBI23/2011591	Perfluoroalkyl & Polyfluoroalkyl Substances

The data validation was performed under Stage 2B & 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA; October 2018
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1; 2017
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
pgeng@lab-data.com
Project Manager/Senior Chemist

80/20 - NEDD - 2B/4	LDC #44154 (Guiterrez Canales Engineering, P.C. - San Diego, CA / Barstow)																																					
LDC	SDG#	DATE REC'D	(3) DATE DUE	PFAs (537M)																																			
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	BSI20/2010255	01/10/19	01/30/19	7	0																																		
B	BSI21/2010258	01/10/19	01/30/19	10	0																																		
C	BSI22/2012436	01/10/19	01/30/19	7	0																																		
D	BSI23/2014748	01/10/19	01/30/19	14	0																																		
E	BSI24/2015917	01/10/19	01/30/19	9	0																																		
F	BSI27/2017387	01/10/19	01/30/19	12	0																																		
G	SBI22/2011587	01/10/19	01/30/19	17	0																																		
H	SBI23/2011591	01/10/19	01/30/19	10	0																																		
Total	J/PG			86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B review). These sample counts do not include MS, MSD, or DUP's.

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI20/2010255

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-NNE-14-01	9903613	Water	11/14/18
OU1-NNE-14-W-01	9903614	Water	11/14/18
OU1-NNE-14-W-02	9903615	Water	11/14/18
OU1-NNE-17-01	9903616	Water	11/14/18
OU1-9N1W12L05-01	9903617	Water	11/14/18
OU1-NEP-2-01	9903618	Water	11/14/18
OU1-NRF-1-01	9903619	Water	11/14/18
OU1-NRF-1-01MS	9903620MS	Water	11/14/18
OU1-NRF-1-01MSD	9903621MSD	Water	11/14/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample OU1-NNE-14-W-01 was identified as an equipment blank. No contaminants were found.

Sample OU1-NNE-14-W-02 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
OU1-NRF-1-01MS/MSD (OU1-NRF-1-01)	Perfluoroundecanoic acid	-	79 (83-132)	UJ (all non-detects)	A

For OU1-NRF-1-01MS/MSD, no data were qualified for Perfluorooctanoic acid percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
OU1-NNE-14-01	13C2-Perfluorododecanoic acid	35 (50-150)	Perfluorododecanoic acid Perlfuorotridecanoic acid	UJ (all non-detects) UJ (all non-detects)	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R and labeled compound %R, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI20/2010255

Sample	Compound	Flag	A or P	Reason
OU1-NRF-1-01	Perfluoroundecanoic acid	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
OU1-NNE-14-01	Perfluorododecanoic acid Perlfuorotridecanoic acid	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI20/2010255

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI20/2010255

No Sample Data Qualified in this SDG

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Analysis Report

Sample Description: OU1-NNE-14-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 09:00
SDG#: BSI20-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9903613
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	1.7 J	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D. UJ	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	14	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	83	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	54	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	1.8 J	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	36	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	58	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D. UJ	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

The recovery for labeled compound 13C2-PFDoDA is outside of QC acceptance limits as noted on the QC Summary.

Sufficient sample was not available to repeat the analysis.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:32	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19 D

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNE-14-W-01 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 10:15
SDG#: BSI20-02BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903614
ELLE Group #: 2010255
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:41	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19 R

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNE-14-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 10:20
SDG#: BSI20-03BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903615
ELLE Group #: 2010255
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:50	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNE-17-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 11:14
SDG#: BSI20-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9903616
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	16	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	1.2 J	0.48	1.2	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.2	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	21	0.38	1.2	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	130	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	74	0.48	1.2	1.9	1
14434	Perfluorononanoic acid	375-95-1	1.7 J	0.38	1.2	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	51	0.48	1.2	1.9	1
14434	Perfluorooctanoic acid	335-67-1	99	0.48	1.2	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.58	1.2	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.58	1.2	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.2	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:59	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-9N1W12L05-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 12:36
SDG#: BSI20-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9903617
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.1	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	16	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.87 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	6.1	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.76 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/27/2018 00:08	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

4/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NEP-2-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 14:30
SDG#: BSI20-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9903618
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	20	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	0.63 J	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	11	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	69	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	97	4.5	11	18	10
14434	Perfluorononanoic acid	375-95-1	1.2 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	49	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	62	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/27/2018 00:17	Marissa C Drexinger	1
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/28/2018 10:24	Joshua P Trost	10
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NRF-1-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 16:25
SDG#: BSI20-07BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9903619
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	18	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.2	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.0	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	21	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	7.3	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.8	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	44	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	23	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/27/2018 00:26	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

LDC #: 44154A96
SDG #: BSI20/2010255
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B, 4

Date: 1/24/19
Page: 1 of 1
Reviewer: Q
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 20% r². ICV/ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV/ISC ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2. SB = 2
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-NNE-14-01	9903613	Water	11/14/18
2	OU1-NNE-14-W-01	9903614	Water	11/14/18
3	OU1-NNE-14-W-02	9903615	Water	11/14/18
4	OU1-NNE-17-01	9903616	Water	11/14/18
5	OU1-9N1W12L05-01	9903617	Water	11/14/18
6	OU1-NEP-2-01	9903618	Water	11/14/18
7	OU1-NRF-1-01	9903619	Water	11/14/18
8	OU1-NRF-1-01MS	9903620MS	Water	11/14/18
9	OU1-NRF-1-01MSD	9903621MSD	Water	11/14/18
10				
11				

Notes:

	BK3-230-2B						

LDC #: KK154A96

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: JVG

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			

LDC #: 44154A90

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: JVG

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: ~~44154A96~~

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: Q
2nd Reviewer: JVG

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed for each matrix in this SDG?
Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?
Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?
Y N N/A Were all duplicate sample relative percent differences (RPD) or differences within QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		8/9	#R	( )	T9 (83-132)	( )	T (NO)	J+UJ/A
			N	( )	1ST (76-136)	( )		NO qual >4x
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )	

LDC #: ~~44544~~96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Page: 1 of 1
Reviewer: CT
2nd Reviewer: JM

METHOD: LC/MS PFAS (EPA Method 537M)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y/N N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		1 (ND)	13C2-PFDoDA	35 (50-150)	J/UJ/A (E, Q)
				( )	
				( )	
				( )	
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				( )	
				( )	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/26/2018	PFOA	1	0.040	0.0410393
		2	0.120	0.1035112
		3	0.400	0.4268136
		4	1.600	1.4766669
		5	4.000	3.8556006
		6	10.000	8.9604514
		7	20.000	17.4262605

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*0.87925184*	0.892990
Correlation Coefficient	*0.999777*	0.99927
Coefficient of Determination (r^2)	*0.999555*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/26/2018	PFOS	1	0.039	0.0433728
		2	0.116	0.1149304
		3	0.387	0.4449716
		4	1.548	1.5784137
		5	3.870	4.3035052
		6	9.686	10.5549627
		7	19.372	22.0735376

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*1.12840566*	1.116930
Correlation Coefficient	*0.999823*	0.99961
Coefficient of Determination (r^2)	*0.999647*	

LDC #: ~~HBAA96~~

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: T
2nd Reviewer: SVO

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccv2_cal3	11/26/18	~~PFOA~~ (1st internal standard)	2.00	2.38	2.38	18.77	18.77
			~~PFOS~~ (2nd internal standard)	1.85	1.97	1.97	6.23	6.23
			(3rd internalstandard)					
2	ccv3_cal4	11/26/18	↓ (1st internal standard)	8.00	9.02	9.02	12.79	12.79
			↓ (2nd internal standard)	7.40	6.91	6.91	6.56	6.56
			(3rd internalstandard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Privileged and Confidential

LDC #[illegible]

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: [illegible]
2nd Reviewer: JM

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 8/9

Compound	Spike Added (ng/L)		Sample Concentration (ng/L)	Spiked Sample Concentration (ng/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
PFOA	4.77	4.84	23.33	29.72	30.95	134	134	157	#157	4	4
PFOS	~~4.56~~	4.63	43.52	48.1	48.58	102	100	109	109	1	1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Privileged and Confidential

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS320128

Compound	Spike Added (ng/L)		Spike Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
PFOA	5.14	NA	5.31	NA	98	98				
PFOS	5.20	↓	3.79	↓	T3	T3				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Privileged and Confidential

LDC #: 44154A96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: JV

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1, PFOA:

Conc. = $\frac{(28T1900.4)(5.00)(1)(\quad)(\quad)}{(1026299.3)(0.89299)(0.27153)(\quad)(\quad)}$

= 57.71 ng/L

#	Sample ID	Compound	Reported Concentration (ng/L)	Calculated Concentration ( )	Qualification
	1	PFOA	58		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI21/2010258

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-GW-10-01	9903630	Water	11/13/18
OU1-GW-10-W-01	9903633	Water	11/13/18
OU1-GW-10-W-02	9903634	Water	11/13/18
OU1-MW-A-01	9903635	Water	11/13/18
OU1-MW-A-02	9903636	Water	11/13/18
OU1-NPZ-16-01	9903637	Water	11/13/18
OU1-NPZ-8-01	9903638	Water	11/13/18
OU1-NPZ-7-01	9903639	Water	11/13/18
OU1-NWP-6-01	9903640	Water	11/13/18
OU1-NWP-6-02	9903641	Water	11/13/18
OU1-GW-10-01MS	9903631MS	Water	11/13/18
OU1-GW-10-01MSD	9903632MSD	Water	11/13/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample OU1-GW-10-W-01 was identified as an equipment blank. No contaminants were found.

Sample OU1-GW-10-W-02 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. For OU1-GW-10-01MS/MSD, no data were qualified for percent recoveries (%R) and relative percent differences (RPD) outside the QC limits since the MS/MSD was analyzed at greater than or equal to a 5X dilution.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples OU1-MW-A-01 and OU1-MW-A-02 and samples OU1-NWP-6-01 and OU1-NWP-6-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-MW-A-01	OU1-MW-A-02			
NEtFOSAA	2.6	2.8	7 (≤30)	-	-
NMeFOSAA	1.5	1.3	14 (≤30)	-	-
Perfluorobutanesulfonate	17	18	6 (≤30)	-	-
Perfluorodecanoic acid	4.9	4.7	4 (≤30)	-	-
Perfluoroheptanoic acid	2.4	2.4	0 (≤30)	-	-
Perfluorohexanesulfonate	15	15	0 (≤30)	-	-
Perfluorohexanoic acid	6.7	6.4	5 (≤30)	-	-
Perfluorononanoic acid	4.0	4.2	5 (≤30)	-	-
Perfluoro-octanesulfonate	47	53	12 (≤30)	-	-
Perfluorooctanoic acid	22	22	0 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-NWP-6-01	OU1-NWP-6-02			
NEtFOSAA	1.0	1.3	26 (≤30)	-	-
Perfluorobutanesulfonate	19	24	23 (≤30)	-	-
Perfluorodecanoic acid	4.7	5.4	14 (≤30)	-	-
Perfluoroheptanoic acid	2.9	3.6	22 (≤30)	-	-
Perfluorohexanesulfonate	21	25	17 (≤30)	-	-
Perfluorohexanoic acid	6.7	7.9	16 (≤30)	-	-
Perfluorononanoic acid	6.1	6.8	11 (≤30)	-	-
Perfluoro-octanesulfonate	79	94	17 (≤30)	-	-
Perfluorooctanoic acid	27	33	20 (≤30)	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI21/2010258

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI21/2010258

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI21/2010258

No Sample Data Qualified in this SDG

Sample Description: OU1-GW-10-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 09:00
SDG#: BSI21-01BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9903630
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	8.8	21	27	10
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	8.8	21	27	10
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6,400	27	97	180	100
14434	Perfluorodecanoic acid	335-76-2	N.D.	4.4	11	18	10
14434	Perfluorododecanoic acid	307-55-1	N.D.	4.4	11	18	10
14434	Perfluoroheptanoic acid	375-85-9	2,000	35	110	180	100
14434	Perfluorohexanesulfonate	355-46-4	6,400	35	97	180	100
14434	Perfluorohexanoic acid	307-24-4	32,000	440	1,100	1,800	1000
14434	Perfluorononanoic acid	375-95-1	N.D.	3.5	11	18	10
14434	Perfluoro-octanesulfonate	1763-23-1	31	4.4	11	18	10
14434	Perfluorooctanoic acid	335-67-1	1,500	4.4	11	18	10
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	5.3	11	18	10
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	5.3	11	18	10
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	4.4	11	18	10

The recovery for labeled compound used as extraction standard 13C5-PFHxA is outside of QC acceptance limits as noted on the QC Summary. The recovery for labeled compound used as extraction standard 13C5-PFHxA is also outside of QC acceptance limits in the associated matrix spike and duplicate samples, indicating a matrix effect.

Reporting limits were raised due to interference from the sample matrix.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/28/2018 10:42	Joshua P Trost	10
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/28/2018 10:51	Joshua P Trost	100
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/28/2018 12:16	Joshua P Trost	1000
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-GW-10-W-01 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 09:15
SDG#: BSI21-02BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903633
ELLE Group #: 2010258
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 13:37	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-GW-10-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 09:20
SDG#: BSI21-03BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903634
ELLE Group #: 2010258
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.84	2.0	2.5	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.84	2.0	2.5	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.25	0.93	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.42	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.42	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.93	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.42	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.42	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 13:46	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-MW-A-01 Grab Groundwater**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 10:44
SDG#: BSI21-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9903635
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	2.6	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.5 J	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	17	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.9	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	2.4	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	15	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	6.7	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.0	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	47	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	22	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 13:55	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-MW-A-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 10:45
SDG#: BSI21-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9903636
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	2.8	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.3 J	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	18	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.7	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	2.4	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	15	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	6.4	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.2	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	53	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	22	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:04	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-16-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 12:13
SDG#: BSI21-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9903637
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	24	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.0	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.8	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.6	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.7	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	50	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	24	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:13	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-NPZ-8-01 Grab Groundwater**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 13:34
SDG#: BSI21-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9903638
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	19	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.6	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.1	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	15	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	6.3	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	4.3	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	47	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	24	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:22	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-7-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 15:01
SDG#: BSI21-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9903639
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6.9	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.4	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	46	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	26	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	4.9	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	41	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:31	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19 JL

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-NWP-6-01 Grab Groundwater**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 16:36
SDG#: BSI21-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9903640
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	1.0 J	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	19	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	4.7	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.9	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	21	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	6.7	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	6.1	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	79	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	27	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:40	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NWP-6-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 16:37
SDG#: BSI21-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9903641
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	1.3 J	0.85	2.0	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	24	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	5.4	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.6	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	25	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	7.9	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	6.8	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	94	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	33	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:58	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/16/19

*=This limit was used in the evaluation of the final result

LDC #: 44154B96
SDG #: BSI21/2010258
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer: 1
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD<20% .Y. TME/ICV≤30%
IV.	Continuing calibration/ISC	A	ECV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=2. SB=3.
VII.	Matrix spike/Matrix spike duplicates	SW	11/12: %R and RPD out >5x of LCS
VIII.	Laboratory control samples	A	
IX.	Field duplicates	SW	D=4+5. 9+10
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-GW-10-01	9903630	Water	11/13/18
2	OU1-GW-10-W-01	9903633	Water	11/13/18
3	OU1-GW-10-W-02	9903634	Water	11/13/18
4	OU1-MW-A-01	9903635	Water	11/13/18
5	OU1-MW-A-02	9903636	Water	11/13/18
6	OU1-NPZ-16-01	9903637	Water	11/13/18
7	OU1-NPZ-8-01	9903638	Water	11/13/18
8	OU1-NPZ-7-01	9903639	Water	11/13/18
9	OU1-NWP-6-01	9903640	Water	11/13/18
10	OU1-NWP-6-02	9903641	Water	11/13/18
11	OU1-GW-10-01MS	9903631MS	Water	11/13/18
12	OU1-GW-10-01MSD	9903632MSD	Water	11/13/18
13				
14				
15				

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC#: 44154B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: PG
2nd Reviewer: JM

METHOD: LC MS PFCs (EPA Method 537-Mod)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	4	5		
A	2.6	2.8	7	
B	1.5	1.3	14	
C	17	18	6	
F	4.9	4.7	4	
H	2.4	2.4	0	
I	15	15	0	
J	6.7	6.4	5	
K	4.0	4.2	5	
M	47	53	12	
N	22	22	0	

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	9	10		
A	1.0	1.3	26	
C	19	24	23	
F	4.7	5.4	14	
H	2.9	3.6	22	
I	21	25	17	
J	6.7	7.9	16	
K	6.1	6.8	11	
M	79	94	17	
N	27	33	20	

LDC #: 44154B96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JVC

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery	(Limit:)	Qualifications
		1	13C5-PFHxA	42	(50-150)	(J) 9
					( )	
		11 (MS)		40	(50-150)	No qual
					( )	
		12 (MSD)	↓	41	( )	↓
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
					( )	
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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI22/2012436

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU2N-TIM3-01	9913119	Water	11/20/18
OU1-NSP-2-01	9913120	Water	11/20/18
OU1-NS7-4-01	9913121	Water	11/21/18
OU1-NS7-4-W-01	9913122	Water	11/21/18
OU1-NS7-4-W-02	9913123	Water	11/21/18
OU1-NS7-8-01	9913124	Water	11/21/18
OU1-NS7-3-01	9913125	Water	11/21/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample OU1-NS7-4-W-01 was identified as an equipment blank. No contaminants were found.

Sample OU1-NS7-4-W-02 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
OU2N-TIM3-01	13C2-Perfluorotetradecanoic acid	46 (50-150)	Perfluorotetradecanoic acid	UJ (all non-detects)	P

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified as estimated in one samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI22/2012436

Sample	Compound	Flag	A or P	Reason
OU2N-TIM3-01	Perfluorotetradecanoic acid	UJ (all non-detects)	P	Labeled compounds (%R)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI22/2012436

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI22/2012436

No Sample Data Qualified in this SDG

Sample Description: OU2N-TIM3-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/20/2018 12:57
SDG#: BSI22-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9913119
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	2.2 J	0.85	2.0	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	20	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	6.0	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.8	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	16	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.2	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	5.6	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	60	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	24	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D. UJ	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:04	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSP-2-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/20/2018 14:05
SDG#: BSI22-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9913120
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:13	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: **OU1-NS7-4-01 Grab Groundwater MCLB Barstow**

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 09:02
SDG#: BSI22-03

Gutierrez Canales Engineering
ELLE Sample #: GW 9913121
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15			**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.51 J	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.9	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.3	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	0.98 J	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	3.1	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	2.4	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.0	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	4.6	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	0.61 J	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:22	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS7-4-W-01 Grab Water
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 09:15
SDG#: BSI22-04EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9913122
ELLE Group #: 2012436
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:41	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NS7-4-W-02 Grab Water
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 09:20
SDG#: BSI22-05EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9913123
ELLE Group #: 2012436
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:50	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS7-8-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 11:26
SDG#: BSI22-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9913124
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	6.8	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	0.93 J	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.7 J	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	2.5	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.4	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	1.9	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	2.5	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:59	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS7-3-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 14:30
SDG#: BSI22-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9913125
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 20:08	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

1/16/19

*=This limit was used in the evaluation of the final result

LDC #: 44154C96
SDG #: BSI22/2012436
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: JVG

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	%RSD<20% or r^2. TMO/ICV=30%
IV.	Continuing calibration/CCV	A	CCV/ISC=30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB=4. SB=5.
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU2N-TIM3-01	9913119	Water	11/20/18
2	OU1-NSP-2-01	9913120	Water	11/20/18
3	OU1-NS7-4-01	9913121	Water	11/21/18
4	OU1-NS7-4-W-01	9913122	Water	11/21/18
5	OU1-NS7-4-W-02	9913123	Water	11/21/18
6	OU1-NS7-8-01	9913124	Water	11/21/18
7	OU1-NS7-3-01	9913125	Water	11/21/18
8				
9				
10				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: ~~#1154c96~~

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: 1
2nd Reviewer: JVG

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		1 (~~dets~~) (ND)	13C2-PFTeDA	46 (50-150)	J/UJ/R (P)
				( )	
				( )	
				( )

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI23/2014748

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OUI-YS15-2-01	9922836	Water	11/29/18
OUI-YS15-2-W-01	9922837	Water	11/29/18
OUI-YS15-2-W-02	9922838	Water	11/29/18
OUI-YS21-3-01	9922839	Water	11/29/18
OUI-YS21-3-02	9922840	Water	11/29/18
OUI-PMW-6-01	9922841	Water	11/29/18
OUI-YS20-3-01	9922844	Water	11/29/18
OUI-YS20-3-02	9922845	Water	11/29/18
OUI-NGW01-01	9922846	Water	11/30/18
OUI-YIMW-8-01	9922847	Water	11/30/18
OUI-YIMW-8-W-01	9922850	Water	11/30/18
OUI-YIMW-8-W-02	9922851	Water	11/30/18
OUI-YIMW-6-01	9922852	Water	11/30/18
OUI-NNE-5-01	9922853	Water	11/30/18
OUI-PMW-6-01MS	9922842MS	Water	11/29/18
OUI-PMW-6-01MSD	9922843MSD	Water	11/29/18
OUI-YIMW-8-01MS	9922848MS	Water	11/30/18
OUI-YIMW-8-01MSD	9922849MSD	Water	11/30/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OUI-YS15-2-W-01 and OUI-YIMW-8-W-01 were identified as equipment blanks. No contaminants were found.

Samples OUI-YS15-2-W-02 and OUI-YIMW-8-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
OUI-YIMW-8-01MS/MSD (OUI-YIMW-8-01)	Perfluorohexanesulfonate	68 (71-130)	-	J (all detects)	A

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples OUI-YS21-3-01 and OUI-YS21-3-02 and samples OUI-YS20-3-01 and OUI-YS20-3-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OUI-YS21-3-01	OUI-YS21-3-02			
Perfluorobutanesulfonate	2.6	2.5	4 (≤30)	-	-
Perfluoroheptanoic acid	0.55	0.53	4 (≤30)	-	-
Perfluorohexanesulfonate	12	12	0 (≤30)	-	-
Perfluorohexanoic acid	1.1	1.0	10 (≤30)	-	-
Perfluoro-octanesulfonate	14	22	44 (≤30)	J (all detects)	A
Perfluorooctanoic acid	9.4	8.6	9 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OUI-YS20-3-01	OUI-YS20-3-02			
Perfluorobutanesulfonate	1.3	1.4	7 (≤30)	-	-
Perfluorohexanesulfonate	5.0	5.1	2 (≤30)	-	-
Perfluorohexanoic acid	0.48	0.47	2 (≤30)	-	-
Perfluoro-octanesulfonate	3.2	3.4	6 (≤30)	-	-
Perfluorooctanoic acid	1.5	1.5	0 (≤30)	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R and field duplicate RPD, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI23/2014748

Sample	Compound	Flag	A or P	Reason
OUI-YIMW-8-01	Perfluorohexanesulfonate	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
OUI-YS21-3-01 OUI-YS21-3-02	Perfluoro-octanesulfonate	J (all detects)	A	Field duplicates (RPD)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI23/2014748

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI23/2014748

No Sample Data Qualified in this SDG

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Analysis Report

Sample Description: OUI-YS15-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:34
SDG#: BSI23-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9922836
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.8	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	9.5	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	3.3	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	27	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	0.82 J	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:10	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS15-2-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:50
SDG#: BSI23-02EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922837
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:19	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS15-2-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:55
SDG#: BSI23-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922838
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.85	2.0	2.5	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.5	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.25	0.93	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.42	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.42	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.93	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.42	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.42	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:28	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS21-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 11:49
SDG#: BSI23-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9922839
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.6	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.55 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.1 J	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	14 J	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	9.4	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:37	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS21-3-02 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 11:50
SDG#: BSI23-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9922840
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.5	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.53 J	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.0 J	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	22 J	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	8.6	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:46	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-PMW-6-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 13:57
SDG#: BSI23-06BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9922841
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.3 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.83 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	7.2	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.1	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.3	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.93 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:55	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

12/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS20-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 16:01
SDG#: BSI23-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9922844
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.3 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.0	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.48 J	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.2	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	1.5 J	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:05	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS20-3-02 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 16:02
SDG#: BSI23-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9922845
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.4 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.1	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.47 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.4	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	1.5 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:23	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-NGW01-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 10:05
SDG#: BSI23-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9922846
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	1.2	3.0	3.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	1.2	3.0	3.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	21	0.37	1.4	2.5	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.62	1.5	2.5	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.62	1.5	2.5	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.50	1.5	2.5	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.50	1.4	2.5	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.62	1.5	2.5	1
14434	Perfluorononanoic acid	375-95-1	0.76 J	0.50	1.5	2.5	1
14434	Perfluoro-octanesulfonate	1763-23-1	31	0.62	1.5	2.5	1
14434	Perfluorooctanoic acid	335-67-1	5.8	0.62	1.5	2.5	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.75	1.5	2.5	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.75	1.5	2.5	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.62	1.5	2.5	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:07	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-8-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:23
SDG#: BSI23-10BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9922847
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.6 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.41 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	8.1 J	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.62 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	7.1	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	4.3	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:16	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-8-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:45
SDG#: BSI23-11EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922850
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:25	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-8-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:50
SDG#: BSI23-12EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922851
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:34	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-6-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 14:35
SDG#: BSI23-13

Gutierrez Canales Engineering
ELLE Sample #: GW 9922852
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.0	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.70 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	9.4	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.7 J	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.71 J	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	12	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	7.5	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:43	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-NNE-5-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 16:05
SDG#: BSI23-14

Gutierrez Canales Engineering
ELLE Sample #: GW 9922853
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	25	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.2	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	22	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	92	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	0.67 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	23	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	19	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:52	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

1/24/19

*=This limit was used in the evaluation of the final result

LDC #: 44154D96
SDG #: BSI23/2014748
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 2
Reviewer: Q
2nd Reviewer: SM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20% r^2. True/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=2,11,12 SB=3,12
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D=4+5. T+8.
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OUI-YS15-2-01	9922836	Water	11/29/18
2	OUI-YS15-2-W-01	9922837	Water	11/29/18
3	OUI-YS15-2-W-02	9922838	Water	11/29/18
4	OUI-YS21-3-01	9922839	Water	11/29/18
5	OUI-YS21-3-02	9922840	Water	11/29/18
6	OUI-PMW-6-01	9922841	Water	11/29/18
7	OUI-YS20-3-01	9922844	Water	11/29/18
8	OUI-YS20-3-02	9922845	Water	11/29/18
9	OUI-NGW01-01	9922846	Water	11/30/18
10	OUI-YIMW-8-W-01	9922847	Water	11/30/18
11	OUI-YIMW-8-W-01	9922850	Water	11/30/18
12	OUI-YIMW-8-W-02	9922851	Water	11/30/18
13	OUI-YIMW-6-01	9922852	Water	11/30/18
14	OUI-NNE-5-01	9922853	Water	11/30/18
15	OUI-PMW-6-01MS	9922842MS	Water	11/29/18

LDC #: 44154D96
SDG #: BSI23/2014748
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/31/19
Page: 2 of 2
Reviewer:
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

	Client ID	Lab ID	Matrix	Date
16	OUI-PMW-6-01MSD	9922843MSD	Water	11/29/18
17	OUI-YIMW-8-01MS	9922848MS	Water	11/30/18
18	OUI-YIMW-8-01MSD	9922849MSD	Water	11/30/18
19				
20				
21				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: ~~44154096~~

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JM

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed for each matrix in this SDG?
Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?
Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?
Y N N/A Were all duplicate sample relative percent differences (RPD) or differences within QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		17/18	I	68 (71-130)	( )	( )	ID (dets)	J/UJ/A
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 44154D96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: PG
2nd Reviewer: JYG

METHOD: LC MS PFCs (EPA Method 537-Mod)

Y N NA Were field duplicate pairs identified in this SDG?
Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	4	5		
C	2.6	2.5	4	
H	0.55	0.53	4	
I	12	12	0	
J	1.1	1.0	10	
M	14	22	44	Jdets/A
N	9.4	8.6	9	

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	7	8		
C	1.3	1.4	7	
I	5.0	5.1	2	
J	0.48	0.47	2	
M	3.2	3.4	6	
N	1.5	1.5	0	

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2018\44154D96.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI24/2015917

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-YEP-3-01	9927672	Water	12/04/18
OU1-YEP-3-W-01	9927673	Water	12/04/18
OU1-YEP-3-W-02	9927674	Water	12/04/18
OU1-YS35-4-01	9927675	Water	12/04/18
OU1-YCW16-4-01	9927676	Water	12/04/18
OU1-YCW16-2-01	9927677	Water	12/04/18
OU1-Y4-2-01	9927678	Water	12/05/18
OU1-Y4-2-W-01	9927679	Water	12/05/18
OU1-Y4-2-W-02	9927680	Water	12/05/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-YEP-3-W-01 and OU1-Y4-2-W-01 were identified as equipment blanks. No contaminants were found.

Samples OU1-YEP-3-W-02 and OU1-Y4-2-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI24/2015917

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI24/2015917

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI24/2015917

No Sample Data Qualified in this SDG

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Analysis Report

Sample Description: OU1-YEP-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 10:25
SDG#: BSI24-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9927672
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.0	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	1.5 J	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	2.4	0.34	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	14	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	0.81 J	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 13:53	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YEP-3-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 10:40
SDG#: BSI24-02RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9927673
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 05:53	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/24/19 D

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YEP-3-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 10:45
SDG#: BSI24-03BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9927674
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:02	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YS35-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 11:50
SDG#: BSI24-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9927675
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.4	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.54 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.60 J	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	14	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:11	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 13:21
SDG#: BSI24-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9927676
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.95	2.3	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.95	2.3	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.9	0.28	1.0	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.47	1.1	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.47	1.1	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	0.69 J	0.38	1.1	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.38	1.0	1.9	1
14434	Perfluorohexanoic acid	307-24-4	8.0	0.47	1.1	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.1	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.47	1.1	1.9	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.47	1.1	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.57	1.1	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.57	1.1	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.47	1.1	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:20	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 15:04
SDG#: BSI24-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9927677
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.3	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.48	1.2	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.2	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	0.77 J	0.38	1.2	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	1.1 J	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	8.7	0.48	1.2	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.2	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.48	1.2	1.9	1
14434	Perfluorooctanoic acid	335-67-1	0.65 J	0.48	1.2	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.58	1.2	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.58	1.2	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.2	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:29	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y4-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/05/2018 08:18
SDG#: BSI24-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9927678
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.8	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.99 J	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	2.1	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.67 J	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	15	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	15	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:38	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19 JT

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y4-2-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/05/2018 08:45
SDG#: BSI24-08RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9927679
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:56	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-Y4-2-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/05/2018 08:50
SDG#: BSI24-09BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9927680
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 07:05	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19 O

*=This limit was used in the evaluation of the final result

LDC #: 44154E96
SDG #: BSI24/2015917
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer:
2nd Reviewer: JVC

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 20% or r^2, TMC/ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV/ISC ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2.8 SB = 3, 9
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-YEP-3-01	9927672	Water	12/04/18
2	OU1-YEP-3-W-01	9927673	Water	12/04/18
3	OU1-YEP-3-W-02	9927674	Water	12/04/18
4	OU1-YS35-4-01	9927675	Water	12/04/18
5	OU1-YCW16-4-01	9927676	Water	12/04/18
6	OU1-YCW16-2-01	9927677	Water	12/04/18
7	OU1-Y4-2-01	9927678	Water	12/05/18
8	OU1-Y4-2-W-01	9927679	Water	12/05/18
9	OU1-Y4-2-W-02	9927680	Water	12/05/18
10				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI27/2017387

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-Y15-5-01	9934777	Water	12/05/18
OU1-Y9-5-01	9934778	Water	12/05/18
OU1-YS16-6-01	9934779	Water	12/06/18
OU1-YCW16-1-01	9934780	Water	12/07/18
OU1-YS16-6-W-01	9934781	Water	12/07/18
OU1-YS16-6-W-02	9934782	Water	12/07/18
OU1-YCW16-1-W-01	9934783	Water	12/07/18
OU1-YCW16-1-W-02	9934784	Water	12/07/18
OU1-YCW16-3-01	9934785	Water	12/07/18
OU1-YIMW-4-01	9934786	Water	12/07/18
OU1-PMW-2-01	9934787	Water	12/07/18
OU1-Y9-4-01	9934788	Water	12/07/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-YS16-6-W-01 and OU1-YCW16-1-W-01 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
OU1-YCW16-1-W-01	12/07/18	Perfluorobutanesulfonate	0.41 ng/L	OU1-YCW16-1-01 OU1-YCW16-3-01 OU1-YIMW-4-01 OU1-PMW-2-01 OU1-Y9-4-01

Samples OU1-YS16-6-W-02 and OU1-YCW16-1-W-02 were identified as source blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
OU1-YCW16-1-01	Perfluorobutanesulfonate	1.8 ng/L	1.8U ng/L
OU1-YIMW-4-01	Perfluorobutanesulfonate	1.7 ng/L	1.7U ng/L

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
OU1-Y9-5-01	13C2-Perfluorotetradecanoic acid	36 (50-150)	Perfluorotetradecanoic acid	UJ (all non-detects)	P
OU1-YIMW-4-01	13C2-Perfluorotetradecanoic acid	43 (50-150)	Perfluorotetradecanoic acid	UJ (all non-detects)	P

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified as estimated in two samples.

Due to equipment blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI27/2017387

Sample	Compound	Flag	A or P	Reason
OU1-Y9-5-01 OU1-YIMW-4-01	Perfluorotetradecanoic acid	UJ (all non-detects)	P	Labeled compounds (%R)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI27/2017387

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI27/2017387

Sample	Compound	Modified Final Concentration	A or P
OU1-YCW16-1-01	Perfluorobutanesulfonate	1.8U ng/L	A
OU1-YIMW-4-01	Perfluorobutanesulfonate	1.7U ng/L	A

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Analysis Report

Sample Description: OU1-Y15-5-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/05/2018 13:50
SDG#: BSI27-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9934777
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	4.2	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.7	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	11	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.0	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	2.5	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:02	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/24/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y9-5-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/05/2018 17:16
SDG#: BSI27-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9934778
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.6	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	14	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	3.4	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	0.42 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	13	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	14	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D. UJ	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:11	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-YS16-6-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/06/2018 16:57
SDG#: BSI27-03

Gutierrez Canales Engineering
ELLE Sample #: GW 9934779
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	4.9	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.94 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.58 J	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	15	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:29	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

12/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-1-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:03
SDG#: BSI27-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9934780
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.8 U	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.64 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	2.0	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.1	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.70 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:38	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YS16-6-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 08:00
SDG#: BSI27-05RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9934781
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:47	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YS16-6-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 08:05
SDG#: BSI27-06BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9934782
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:56	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-1-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:30
SDG#: BSI27-07RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9934783
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.41 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:05	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-1-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:35
SDG#: BSI27-08BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9934784
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:14	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 10:29
SDG#: BSI27-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9934785
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.1	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.48	1.1	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.1	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	2.7	0.38	1.1	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	1.3 J	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	19	0.48	1.1	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.1	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	0.55 J	0.48	1.1	1.9	1
14434	Perfluorooctanoic acid	335-67-1	1.1 J	0.48	1.1	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.57	1.1	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.57	1.1	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.1	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:23	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YIMW-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 12:44
SDG#: BSI27-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9934786
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.7 J U	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.46 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	9.3	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.1 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	10	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	7.1	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D. UJ	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:32	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-PMW-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 14:31
SDG#: BSI27-11

Gutierrez Canales Engineering
ELLE Sample #: GW 9934787
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.6	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.69 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.2	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	2.2	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.3	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	9.5	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:41	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y9-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 15:57
SDG#: BSI27-12

Gutierrez Canales Engineering
ELLE Sample #: GW 9934788
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.7	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	9.7	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	50	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	20	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.3	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	26	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	29	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:50	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

LDC #: 44154F96
SDG #: BSI27/2017387
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	RSD≤20%, r², TMC/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	TW	EB=5·7 SB=6, 8
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	TW	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-Y15-5-01	9934777	Water	12/05/18
2	OU1-Y9-5-01	9934778	Water	12/05/18
3	OU1-YS16-6-01	9934779	Water	12/06/18
4	OU1-YCW16-1-01	9934780	Water	12/07/18
5	OU1-YS16-6-W-01 EB	9934781	Water	12/07/18
6	OU1-YS16-6-W-02	9934782	Water	12/07/18
7	OU1-YCW16-1-W-01	9934783	Water	12/07/18
8	OU1-YCW16-1-W-02	9934784	Water	12/07/18
9	OU1-YCW16-3-01	9934785	Water	12/07/18
10	OU1-YIMW-4-01	9934786	Water	12/07/18
11	OU1-PMW-2-01	9934787	Water	12/07/18
12	OU1-Y9-4-01	9934788	Water	12/07/18
13				
14				
15				

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: 41514F96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: 9
2nd Reviewer: SVG

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ng/L **Associated sample units:** ng/L
Sampling date: 13/4/18
Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: 1, 9-12

Compound	Blank ID	Sample Identification								
	7	1	10							
C	0.41	1.8/U	1.7/U							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

Privileged and Confidential

LDC #: 44154T96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Page: 1 of 1
Reviewer: 9
2nd Reviewer: SV6

METHOD: LC/MS PFAS (EPA Method 537M)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		2 (ND)	13C2-PFTeDA	36 (50-150)	Y/M/P (P)
				( )	
		10		43 ( )	
				( )	
				( )	
				( )	
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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): SBI22/2011587

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-GW-9-01	9909715	Water	11/15/18
OU1-GW-9-02	9909716	Water	11/15/18
OU1-GW-9-W-01	9909717	Water	11/15/18
OU1-GW-9-W-02	9909718	Water	11/15/18
OU1-NS2-2-01	9909719	Water	11/15/18
OU1-NS2-2-02	9909720	Water	11/15/18
OU1-MW-D-01	9909721	Water	11/15/18
OU1-NNP-2-01	9909722	Water	11/15/18
OU1-NPZ-17-01	9909723	Water	11/15/18
OU1-NS2-1-01	9909724	Water	11/15/18
OU1-NSI-3-01	9909725	Water	11/16/18
OU1-NSI-3-W-01	9909726	Water	11/16/18
OU1-NSI-3-W-02	9909727	Water	11/16/18
OU1-NGW-04-01	9909728	Water	11/16/18
OU1-NGW-06-01	9909729	Water	11/16/18
OU1-MW-B-01	9909730	Water	11/16/18
OU1-NPZ-18-01	9909731	Water	11/16/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-GW-9-W-01 and OU1-NSI-3-W-01 were identified as equipment blanks. No contaminants were found.

Samples OU1-GW-9-W-02 and OU1-NSI-3-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

Samples OU1-MW-A-01 and OU1-MW-A-02 and samples OU1-NWP-6-01 and OU1-NWP-6-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-MW-A-01	OU1-MW-A-02			
Perfluorobutanesulfonate	16	15	6 (≤30)	-	-
Perfluorodecanoic acid	2.7	2.8	4 (≤30)	-	-
Perfluoroheptanoic acid	5.6	5.4	4 (≤30)	-	-
Perfluorohexanesulfonate	18	17	6 (≤30)	-	-
Perfluorohexanoic acid	18	16	12 (≤30)	-	-
Perfluorononanoic acid	5.3	4.7	12 (≤30)	-	-
Perfluoro-octanesulfonate	54	53	2 (≤30)	-	-
Perfluorooctanoic acid	23	23	0 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-NWP-6-01	OU1-NWP-6-02			
Perfluorobutanesulfonate	26	25	4 (≤30)	-	-
Perfluorodecanoic acid	1.7	1.7	0 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-NWP-6-01	OU1-NWP-6-02			
Perfluoroheptanoic acid	4.6	4.7	2 (≤30)	-	-
Perfluorohexanesulfonate	33	33	0 (≤30)	-	-
Perfluorohexanoic acid	13	14	7 (≤30)	-	-
Perfluorononanoic acid	3.6	3.8	5 (≤30)	-	-
Perfluoro-octanesulfonate	51	50	2 (≤30)	-	-
Perfluorooctanoic acid	52	53	2 (≤30)	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG SBI22/2011587

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG SBI22/2011587

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG SBI22/2011587

No Sample Data Qualified in this SDG

Sample Description: OU1-GW-9-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:13
SDG#: SBI22-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9909715
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	16	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.7	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	5.6	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	18	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	5.3	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	54	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	23	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:03	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 4

*=This limit was used in the evaluation of the final result

Sample Description: OU1-GW-9-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:14
SDG#: SBI22-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9909716
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	15	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	2.8	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.4	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	17	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	16	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.7	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	53	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	23	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:12	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-GW-9-W-01 Grab Water**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:35
SDG#: SBI22-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909717
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:21	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 9+

*=This limit was used in the evaluation of the final result

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Sample Description: OU1-GW-9-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:40
SDG#: SBI22-04EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909718
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:30	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS2-2-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 09:48
SDG#: SBI22-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9909719
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	26	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	1.7 J	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.6	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	33	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	13	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.6	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	51	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	52	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:39	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 CL

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NS2-2-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 09:49
SDG#: SBI22-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9909720
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	25	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	1.7 J	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.7	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	33	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	14	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.8	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	50	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	53	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:48	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-MW-D-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 11:01
SDG#: SBI22-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9909721
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	26	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.1	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.9	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	45	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	11	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	6.2	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	68	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	46	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:57	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-2-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 12:53
SDG#: SBI22-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9909722
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	3.1	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	3.1	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	25	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	5.7	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.8	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	60	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	32	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:15	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-17-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 14:16
SDG#: SBI22-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9909723
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	4.8	1.0	2.4	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.3 J	1.0	2.4	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	18	0.30	1.1	2.0	1
14434	Perfluorodecanoic acid	335-76-2	10	0.51	1.2	2.0	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.51	1.2	2.0	1
14434	Perfluoroheptanoic acid	375-85-9	3.8	0.41	1.2	2.0	1
14434	Perfluorohexanesulfonate	355-46-4	30	0.41	1.1	2.0	1
14434	Perfluorohexanoic acid	307-24-4	4.9	0.51	1.2	2.0	1
14434	Perfluorononanoic acid	375-95-1	8.0	0.41	1.2	2.0	1
14434	Perfluoro-octanesulfonate	1763-23-1	120	0.51	1.2	2.0	1
14434	Perfluorooctanoic acid	335-67-1	44	0.51	1.2	2.0	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.61	1.2	2.0	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.61	1.2	2.0	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.51	1.2	2.0	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:24	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS2-1-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 15:47
SDG#: SBI22-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9909724
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	1.8 J	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.1 J	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6.7	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	3.1	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.1 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	17	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.2 J	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.2	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	49	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	28	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:33	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSI-3-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 09:01
SDG#: SBI22-11

Gutierrez Canales Engineering
ELLE Sample #: GW 9909725
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	13	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.6	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.4	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	35	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	12	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.1	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	50	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	32	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:42	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSI-3-W-01 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 09:30
SDG#: SBI22-12EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909726
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:51	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSI-3-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 09:35
SDG#: SBI22-13EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909727
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 19:00	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NGW-04-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 10:42
SDG#: SBI22-14

Gutierrez Canales Engineering
ELLE Sample #: GW 9909728
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	13	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	0.91 J	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	4.6	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	39	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	6.9	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	2.6	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	62	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	30	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 19:09	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NGW-06-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 12:05
SDG#: SBI22-15

Gutierrez Canales Engineering
ELLE Sample #: GW 9909729
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	0.64 J	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.3	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	54	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	3.5	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	2.6	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	80	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	30	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 19:18	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-MW-B-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 13:44
SDG#: SBI22-16

Gutierrez Canales Engineering
ELLE Sample #: GW 9909730
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	28	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	3.3	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.8	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	26	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	10	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	5.6	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	73	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	32	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:21	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-18-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 14:53
SDG#: SBI22-17

Gutierrez Canales Engineering
ELLE Sample #: GW 9909731
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	24	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	3.3	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.2	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	23	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	16	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	5.2	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	61	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	27	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:30	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

LDC #: 44154G96
SDG #: SBI22/2011587
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 4-2B

Date: 4/19/19
Page: 1 of 2
Reviewer:
2nd Reviewer: SW

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20%. r^2. TME/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV≤30%. ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=3.12 SB=4.13
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	SW	D=1+2. 5+6
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-GW-9-01	9909715	Water	11/15/18
2	OU1-GW-9-02	9909716	Water	11/15/18
3	OU1-GW-9-W-01	9909717	Water	11/15/18
4	OU1-GW-9-W-02	9909718	Water	11/15/18
5	OU1-NS2-2-01	9909719	Water	11/15/18
6	OU1-NS2-2-02	9909720	Water	11/15/18
7	OU1-MW-D-01	9909721	Water	11/15/18
8	OU1-NNP-2-01	9909722	Water	11/15/18
9	OU1-NPZ-17-01	9909723	Water	11/15/18
10	OU1-NS2-1-01	9909724	Water	11/15/18
11	OU1-NSI-3-01	9909725	Water	11/16/18
12	OU1-NSI-3-W-01	9909726	Water	11/16/18
13	OU1-NSI-3-W-02	9909727	Water	11/16/18
14	OU1-NGW-04-01	9909728	Water	11/16/18
15	OU1-NGW-06-01	9909729	Water	11/16/18

LDC #: 44154G96
SDG #: SBI22/2011587
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 4

Date: 1/21/19

Reviewer:
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

	Client ID	Lab ID	Matrix	Date
16	OU1-MW-B-01	9909730	Water	11/16/18
17	OU1-NPZ-18-01	9909731	Water	11/16/18
18				
19				
20				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC#: 44154G96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: PG
2nd Reviewer: JVM

METHOD: LC MS PFCs (EPA Method 537-Mod)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	1	2		
C	16	15	6	
F	2.7	2.8	4	
H	5.6	5.4	4	
I	18	17	6	
J	18	16	12	
K	5.3	4.7	12	
M	54	53	2	
N	23	23	0	

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	5	6		
C	26	25	4	
F	1.7	1.7	0	
H	4.6	4.7	2	
I	33	33	0	
J	13	14	7	
K	3.6	3.8	5	
M	51	50	2	
N	52	53	2	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: February 5, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Eurofins

Sample Delivery Group (SDG): SBI23/2011591

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-NSP-3-01	9909753	Water	11/19/18
OU1-NSP-3-W-01	9909754	Water	11/19/18
OU1-NSP-3-W-02	9909755	Water	11/19/18
OU1-NC-8-01	9909756	Water	11/19/18
OU1-NC-6-01	9909757	Water	11/19/18
OU1-NC-1-01	9909758	Water	11/19/18
OU1-NNP-3-01	9909759	Water	11/20/18
OU1-NNP-3-W-01	9909760	Water	11/20/18
OU1-NNP-3-W-02	9909761	Water	11/20/18
OU1-NWP-5-01	9909762	Water	11/20/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-NSP-3-W-01 and OU1-NNP-3-W-01 were identified as equipment blanks. No contaminants were found.

Samples OU1-NSP-3-W-02 and OU1-NNP-3-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

All compound quantitations met validation criteria.

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG SBI23/2011591

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG SBI23/2011591

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG SBI23/2011591

No Sample Data Qualified in this SDG

Sample Description: **OU1-NSP-3-01 Grab Groundwater**
Barstow Site Investigation

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 10:59
SDG#: SBI23-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9909753
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	0.60 J	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:39	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSP-3-W-01 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 11:15
SDG#: SBI23-02EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909754
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:48	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSP-3-W-02 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 11:20
SDG#: SBI23-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909755
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:57	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NC-8-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 12:55
SDG#: SBI23-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9909756
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.2 J	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	0.56 J	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.3	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	2.3	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.2	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.71 J	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	15	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:06	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NC-6-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 14:35
SDG#: SBI23-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9909757
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.98	2.4	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.98	2.4	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.30 J	0.29	1.1	2.0	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.49	1.2	2.0	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.49	1.2	2.0	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.39	1.2	2.0	1
14434	Perfluorohexanesulfonate	355-46-4	0.70 J	0.39	1.1	2.0	1
14434	Perfluorohexanoic acid	307-24-4	6.3	0.49	1.2	2.0	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.39	1.2	2.0	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.49	1.2	2.0	1
14434	Perfluorooctanoic acid	335-67-1	7.6	0.49	1.2	2.0	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.59	1.2	2.0	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.59	1.2	2.0	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.49	1.2	2.0	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18337008	12/04/2018 16:40	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18337008	12/03/2018 16:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NC-1-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 16:32
SDG#: SBI23-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9909758
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.29 J	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.7 J	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.76 J	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	8.3	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	8.6	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:24	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 9

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-3-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 08:21
SDG#: SBI23-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9909759
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.26	0.96	1.8	1
14434	Perfluorodecanoic acid	335-76-2	2.9	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	3.0	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	25	0.35	0.96	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.7	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.6	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	45	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	30	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:42	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-3-W-01 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 08:30
SDG#: SBI23-08EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909760
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:51	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/6/19 q

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NNP-3-W-02 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 08:35
SDG#: SBI23-09EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909761
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 22:00	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-5-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 10:19
SDG#: SBI23-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9909762
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	2.6 J	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	26	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.0	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.8	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	79	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	39	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	13	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	97	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	23	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/29/2018 21:32	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/16/19

*=This limit was used in the evaluation of the final result

LDC #: 44154H96
SDG #: SBI23/2011591
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B4

Date: 1/31/19
Page: 1 of 1
Reviewer: 1
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20%. r^2. TM0/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=2.8 SB=3,9
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-NSP-3-01	9909753	Water	11/19/18
2	OU1-NSP-3-W-01	9909754	Water	11/19/18
3	OU1-NSP-3-W-02	9909755	Water	11/19/18
4	OU1-NC-8-01	9909756	Water	11/19/18
5	OU1-NC-6-01	9909757	Water	11/19/18
6	OU1-NC-1-01	9909758	Water	11/19/18
7	OU1-NNP-3-01	9909759	Water	11/20/18
8	OU1-NNP-3-W-01	9909760	Water	11/20/18
9	OU1-NNP-3-W-02	9909761	Water	11/20/18
10	OU1-NNP-5-01	9909762	Water	11/20/18
11				
12				

Notes:

LDC #: 44154H96

VALIDATION FINDINGS CHECKLIST

Page: 1 of 3
Reviewer: 9
2nd Reviewer: JW

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			

LDC #: 44154#96

VALIDATION FINDINGS CHECKLIST

Reviewer: Q
2nd Reviewer: JV6

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC: 44154H96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewwe: 9
2nd Reviewer: JVG

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/28/2018	PFOA	1	0.040	0.0412551
		2	0.120	0.1032343
		3	0.400	0.4251480
		4	1.600	1.6180283
		5	4.000	3.9501116
		6	10.000	9.4990554
		7	20.000	17.3013685

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*0.88598307*	0.967630
Correlation Coefficient	*0.999027*	0.99955
Coefficient of Determination (r^2)	*0.998054*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/28/2018	PFOS	1	0.039	0.0410015
		2	0.116	0.1089653
		3	0.387	0.4501466
		4	1.548	1.6273983
		5	3.870	4.3562471
		6	9.686	10.8403194
		7	19.372	22.4809355

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*1.15088058*	1.139530
Correlation Coefficient	*0.999874*	0.99969
Coefficient of Determination (r^2)	*0.999747*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
12/4/2018	PFOA	1	0.040	0.0410375
		2	0.120	0.1078823
		3	0.400	0.4266144
		4	1.600	1.5216516
		5	4.000	4.0864872
		6	10.000	9.5327125
		7	20.000	18.4415655

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*0.93134901*	0.944630
Correlation Coefficient	*0.999759*	0.99936
Coefficient of Determination (r^2)	*0.999518*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
12/4/2018	PFOS	1	0.039	0.0470742
		2	0.116	0.1128684
		3	0.387	0.4282712
		4	1.548	1.6316595
		5	3.870	4.2854714
		6	9.686	10.5344483
		7	19.372	22.4560318

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*1.14323595*	1.127850
Correlation Coefficient	*0.999666*	0.99945
Coefficient of Determination (r^2)	*0.999332*	

LDC #: ~~44C4~~ #96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JRV

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV4_ISC	12/4/18	~~PFOA~~ (1st internal standard)	0.60	0.60	0.60	0.79	0.79
	CCL2		~~PFOS~~ (2nd internal standard)	0.56	0.45	0.45	19.33	19.95
			(3rd internalstandard)					
2	CCV2_CAL3	11/28/18	(1st internal standard)	2.00	2.16	~~2.16~~	8.20	8.20
			(2nd internal standard)	1.85	1.87	1.87	1.00	1.00
			(3rd internalstandard)					
3	CCV3_CAL4	11/28/18	(1st internal standard)	8.00	7.55	7.55	5.57	5.57
			(2nd internal standard)	7.40	6.90	6.90	6.69	6.69
			(3rd internalstandard)					
4	CCV4_ISC -	11/28/18	(1st internal standard)	0.60	0.55	0.55	9.12	9.12
	CAL2		(2nd internal standard)	0.56	0.47	0.47	16.20	16.94
			(3rd internalstandard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Privileged and Confidential

LDC #: 44154#96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: JVC

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccVT-ISC_	11/29/18	PFOA (1st internal standard)	0.60	0.56	0.56	6.71	6.71
	ccV2		PFOS (2nd internal standard)	0.56	0.47	0.47	15.33	16.1
			(3rd internalstandard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

Privileged and Confidential

LDC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: 9
2nd Reviewer: JM

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 330013

Compound	Spike Added (ng/L)		Spike Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
PFOA	5.14	5.14	5.49	5.63	101	101	104	104	3	3
PFOS	5.20	5.20	4.21	4.22	81	81	81	81	0	0

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Privileged and Confidential

LDC #: 44544/96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: JVG

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1, PFOS

Conc. = $\frac{(13139)(4.78)(1)}{(31646)(1.13953)(0.2880)}$ = 0.604 ng/L

#	Sample ID	Compound	Reported Concentration (ng/L)	Calculated Concentration ( )	Qualification
	1	PFOS	0.60		

Privileged and Confidential

LDC #: 44154

EDD POPULATION COMPLETENESS WORKSHEET

Date: 1/29
Page: 1 of 1
2nd Reviewer: FM

The LDC job number listed above was entered by JE.
Entered from Body or Summary

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	Y	
IIb.	- Reason Codes used? If so, note which codes.	—	
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	—	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	Y/Y	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	Y	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	-Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

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
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18

		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18

		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-01	WQ	Water for QC samples	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18
PMW-6	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6901692.03	2148768.82	Perfluoroalkyl Compounds	OU1-PMW-6-01	WG	Ground water	29-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-01	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YIMW-8-W-02	WQ	Water for QC samples	30-Nov-18
		BARSTOW_MCLB			BSI23			Perfluoroalkyl Compounds	OU1-YS15-2-W-02	WQ	Water for QC samples	29-Nov-18

YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YIMW-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6903473.65	2148434.08	Perfluoroalkyl Compounds	OU1-YIMW-6-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-02	WG	Ground water	29-Nov-18
NNE-5	SITE 00038	BARSTOW_MCLB	WL	Well	BSI23	6880716.56	2141551.07	Perfluoroalkyl Compounds	OU1-NNE-5-01	WG	Ground water	30-Nov-18
YS21-3	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6903244.82	2147739.46	Perfluoroalkyl Compounds	OU1-YS21-3-01	WG	Ground water	29-Nov-18
YS15-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6906796.26	2149405.59	Perfluoroalkyl Compounds	OU1-YS15-2-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-02	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YS20-3	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6901817.99	2148242.42	Perfluoroalkyl Compounds	OU1-YS20-3-01	WG	Ground water	29-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
NGW-1	SITE 00038	BARSTOW_MCLB	WLM	Monitoring well	BSI23	6874083.81	2145170.55	Perfluoroalkyl Compounds	OU1-NGW01-01	WG	Ground water	30-Nov-18
YIMW-8	SITE 00037	BARSTOW_MCLB	WL	Well	BSI23	6902932.63	2148548.22	Perfluoroalkyl Compounds	OU1-YIMW-8-01	WG	Ground water	30-Nov-18