NAVFAC
Naval Facilities Engineering Command

Off-Base Drinking Water Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Figure, SDG J17236-1

Naval Air Station Oceana
Virginia Beach, Virginia

July 2019

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

TestAmerica Job ID: 320-17236-1
TestAmerica SDG: CTO WE7G PFC Sampling
Client Project/Site: CTO WE7G PFC Sampling

For:
CH2M Hill, Inc.
5701 Cleveland Street
Suite 200
Virginia Beach, Virginia 23462

Attn: Laurie George

Authorized for release by:
2/29/2016 2:35:30 PM

Laura Turpen, Project Manager I
(916)374-4414
laura.turpen@testamericainc.com

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Job ID: 320-17236-1

Laboratory: TestAmerica Sacramento

Narrative

CASE NARRATIVE

Client: CH2M Hill, Inc.

Project: CTO WE7G PFC Sampling

Report Number: 320-17236-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica West Sacramento attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

TestAmerica utilizes USEPA approved methods and DOD QSM, where applicable, in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

All parameters for which TestAmerica West Sacramento has certification were evaluated to the QSM specified reporting convention or to the client specified format if different from QSM. Parameters not certified under QSM, if any, were evaluated to the detection limit (DL) and include qualified results where applicable.

The sample(s) that contain constituents flagged with U are undetected. The result associated with this flag is the limit of detection (LOD).

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

Receipt
The samples were received on 2/10/2016 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection date documented on the chain of custody: OF-FB70-0216 (320-17236-1), OF-RW70-0216 (320-17236-2), OF-FB44-0216 (320-17236-3), OF-RW44-0216 (320-17236-4), OF-RW44P-0216 (320-17236-5), OF-FB65-0216 (320-17236-6), OF-RW65-0216 (320-17236-7), OF-RW65-0216 (320-17236-7[MS]), OF-RW65-0216 (320-17236-7[MSD]), OF-FB21-0216 (320-17236-8) and OF-RW21-0216 (320-17236-9). The samples were logged in per container label date.

Subcontract Work

Job ID: 320-17236-1 (Continued)

Laboratory: TestAmerica Sacramento (Continued)

PFC: This method was subcontracted to Maxxam Analytics Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report. Any analytical or quality issues are noted in the subcontract portion of the report. DL/LOD/LOQ limits for Maxxam are included under "General Comments" in the subcontract report.

The DL/LOD/LOQ for samples OF-RW44-0216 (320-17236-4) and OF-RW44P-0216 (320-17236-5) were adjusted by a dilution factor of 50 for PFHxS, PFOA, and PFOS.

Certification Summary

Client: CH2M Hill, Inc.
Project/Site: CTO WE7G PFC Sampling

TestAmerica Job ID: 320-17236-1
SDG: CTO WE7G PFC Sampling

Laboratory: TestAmerica Sacramento

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17
Oregon	NELAP	10	CA200005	01-29-17

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: CTO WE7G PFC Sampling

TestAmerica Job ID: 320-17236-1
SDG: CTO WE7G PFC Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-17236-1	OF-FB70-0216	Water	02/08/16 09:45	02/10/16 09:15
320-17236-2	OF-RW70-0216	Water	02/08/16 09:47	02/10/16 09:15
320-17236-3	OF-FB44-0216	Water	02/08/16 10:25	02/10/16 09:15
320-17236-4	OF-RW44-0216	Water	02/08/16 10:30	02/10/16 09:15
320-17236-5	OF-RW44P-0216	Water	02/08/16 10:32	02/10/16 09:15
320-17236-6	OF-FB65-0216	Water	02/08/16 11:15	02/10/16 09:15
320-17236-7	OF-RW65-0216	Water	02/08/16 11:20	02/10/16 09:15
320-17236-8	OF-FB21-0216	Water	02/08/16 15:25	02/10/16 09:15
320-17236-9	OF-RW21-0216	Water	02/08/16 15:35	02/10/16 09:15

Maxxam
A Bureau Veritas Group Company

Your Project #: 320-17236
Your C.O.C. #: 283622

Attention:PFC Reporting Group

TestAmerica
Sacramento
880 Riverside Parkway
West Sacramento, CA
USA 95605

Report Date: 2016/02/29
Report #: R3912211
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B630799
Received: 2016/02/13, 13:40

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Low level PFOS and PFOA in water	9	2016/02/21	2016/02/23	CAM SOP-00894	EPA 537 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Melissa DiGrazia, Project Manager - ATUT
Email: MDiGrazia@maxxam.ca
Phone# (905) 817-5700

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

RESULTS OF ANALYSES OF WATER

Maxxam ID		BVX841	BVX842	BVX843			BVX844			
Sampling Date		2016/02/08 09:45	2016/02/08 09:47	2016/02/08 10:25			2016/02/08 10:30			
COC Number		283622	283622	283622			283622			
	UNITS	OF-FB70-0216	OF-RW70-0216	OF-FB44-0216	MDL	QC Batch	OF-RW44-0216	MDL	QC Batch	RDL
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	0.27 U	0.27	4389346	49	0.27	4389346	2.0
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	0.39 U	0.39	4389346	28	0.39	4389346	2.0
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.40 U	0.40 U	0.40	4389346	520 (1)	20	4394558	2.0
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	0.39 U	0.39	4389346	410 (1)	20	4394558	2.0
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	0.33 U	0.33	4389346	5.9	0.33	4389346	2.0
Perfluorooctane Sulfonate (PFOS)	ng/L	0.30 U	0.30 U	0.30 U	0.30	4389346	1100 (1)	15	4394558	2.0
Surrogate Recovery (%)										
13C4-Perfluoroheptanoic acid	%	56	35 (2)	67	N/A	4389346	46 (2)	N/A	4389346	N/A
13C4-Perfluorooctanesulfonate	%	61	33 (2)	71	N/A	4389346	96	N/A	4394558	N/A
13C4-Perfluorooctanoic acid	%	57	36 (2)	70	N/A	4389346	101	N/A	4394558	N/A
13C5-Perfluorononanoic acid	%	55	35 (2)	64	N/A	4389346	51	N/A	4389346	N/A
18O2-Perfluorohexanesulfonate	%	55	32 (2)	68	N/A	4389346	95	N/A	4394558	N/A

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, sample required dilution. Detection limit was adjusted accordingly.

(2) Surrogate recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the surrogate. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low surrogate recovery.

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Maxxam Job #: B630799
Report Date: 2016/02/29

TestAmerica
Client Project #: 320-17236

RESULTS OF ANALYSES OF WATER

Maxxam ID		BVX845			BVX846	BVX847	BVX850			
Sampling Date		2016/02/08 10:32			2016/02/08 11:15	2016/02/08 11:20	2016/02/08 15:25			
COC Number		283622			283622	283622	283622			
	UNITS	OF-RW44P-0216	MDL	QC Batch	OF-FB65-0216	OF-RW65-0216	OF-FB21-0216	MDL	QC Batch	RDL
Perfluorobutane Sulfonate (PFBS)	ng/L	46	0.27	4389346	0.27 U	0.27 U	0.27 U	0.27	4389346	2.0
Perfluoroheptanoic Acid (PFHpA)	ng/L	28	0.39	4389346	0.39 U	0.39 U	0.39 U	0.39	4389346	2.0
Perfluorohexane Sulfonate (PFHxS)	ng/L	580 (1)	20	4394558	0.40 U	0.40 U	0.40 U	0.40	4389346	2.0
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	460 (1)	20	4394558	0.39 U	0.39 U	0.39 U	0.39	4389346	2.0
Perfluorononanoic Acid (PFNA)	ng/L	6.5	0.33	4389346	0.33 U	0.33 U	0.33 U	0.33	4389346	2.0
Perfluorooctane Sulfonate (PFOS)	ng/L	1200 (1)	15	4394558	0.30 U	0.30 U	0.30 U	0.30	4389346	2.0
Surrogate Recovery (%)										
13C4-Perfluoroheptanoic acid	%	53	N/A	4389346	120	66	70	N/A	4389346	N/A
13C4-Perfluorooctanesulfonate	%	95	N/A	4394558	137 (2)	60	85	N/A	4389346	N/A
13C4-Perfluorooctanoic acid	%	98	N/A	4394558	134 (2)	66	76	N/A	4389346	N/A
13C5-Perfluorononanoic acid	%	52	N/A	4389346	127	65	76	N/A	4389346	N/A
18O2-Perfluorohexanesulfonate	%	93	N/A	4394558	132 (2)	68	84	N/A	4389346	N/A

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, sample required dilution. Detection limit was adjusted accordingly.

(2) Surrogate recovery was above the defined upper control limit (UCL). Laboratory spiked water resulted in satisfactory recovery of the surrogate. When considered together, these QC data suggest that matrix interferences may be biasing the data high. Because quantitation is performed using isotope dilution techniques, any apparent gains of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar gain of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the high surrogate recovery.

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RESULTS OF ANALYSES OF WATER

Maxxam ID		BVX851			
Sampling Date		2016/02/08 15:35			
COC Number		283622			
	UNITS	OF-RW21-0216	MDL	QC Batch	RDL
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27	4389346	2.0
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39	4389346	2.0
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.44 J	0.40	4389346	2.0
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39	4389346	2.0
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33	4389346	2.0
Perfluorooctane Sulfonate (PFOS)	ng/L	0.30 U	0.30	4389346	2.0
Surrogate Recovery (%)					
13C4-Perfluoroheptanoic acid	%	47 (1)	N/A	4389346	N/A
13C4-Perfluorooctanesulfonate	%	67	N/A	4389346	N/A
13C4-Perfluorooctanoic acid	%	51	N/A	4389346	N/A
13C5-Perfluorononanoic acid	%	52	N/A	4389346	N/A
18O2-Perfluorohexanesulfonate	%	71	N/A	4389346	N/A

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Surrogate recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the surrogate. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low surrogate recovery.

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TEST SUMMARY

Maxxam ID: BVX841 **Collected:** 2016/02/08
Sample ID: OF-FB70-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX842 **Collected:** 2016/02/08
Sample ID: OF-RW70-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX843 **Collected:** 2016/02/08
Sample ID: OF-FB44-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX844 **Collected:** 2016/02/08
Sample ID: OF-RW44-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX845 **Collected:** 2016/02/08
Sample ID: OF-RW44P-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX846 **Collected:** 2016/02/08
Sample ID: OF-FB65-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX847 **Collected:** 2016/02/08
Sample ID: OF-RW65-0216 **Shipped:**
Matrix: Water **Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

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Maxxam Job #: B630799
Report Date: 2016/02/29

TestAmerica
Client Project #: 320-17236

TEST SUMMARY

Maxxam ID: BVX850
Sample ID: OF-FB21-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX851
Sample ID: OF-RW21-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

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Maxxam Job #: B630799
Report Date: 2016/02/29

TestAmerica
Client Project #: 320-17236

GENERAL COMMENTS

Perfluoroheptanoic acid (PFHpA) MDL = 0.39, LOD = 1.0, LOQ = 2.0
Perfluorooctanoic acid (PFOA) MDL = 0.39, LOD = 1.0, LOQ = 2.0
Perfluorononanoic acid (PFNA) MDL = 0.33, LOD = 1.0, LOQ = 2.0
Perfluorobutane sulfonate (PFBS) MDL = 0.27, LOD = 1.0, LOQ = 2.0
Perfluorohexane sulfonate (PFHxA) MDL = 0.40, LOD = 1.0, LOQ = 2.0
Perfluorooctane sulfonate (PFOS) MDL = 0.30, LOD = 1.0, LOQ = 2.0
All Units are in ng/L
Sample BVX844, Low level PFOS and PFOA in water: Test repeated.
Sample BVX845, Low level PFOS and PFOA in water: Test repeated.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4389346	CM5	Matrix Spike	13C4-Perfluoroheptanoic acid	2016/02/23		60	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/23		65	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/23		72	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/23		63	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/23		69	%	50 - 130
4389346	CM5	Matrix Spike DUP	13C4-Perfluoroheptanoic acid	2016/02/23		56	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/23		63	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/23		61	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/23		55	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/23		64	%	50 - 130
4389346	CM5	Matrix Spike(BVX847)	Perfluorobutane Sulfonate (PFBS)	2016/02/23		136 (1)	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23		142 (1)	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23		141 (1)	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/23		130	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23		128	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/23		120	%	70 - 130
4389346	CM5	Matrix Spike DUP(BVX847)	Perfluorobutane Sulfonate (PFBS)	2016/02/23		132 (1)	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23		126	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23		144 (1)	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/23		136 (1)	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23		138 (1)	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/23		118	%	70 - 130
4389346	CM5	MS/MSD RPD	Perfluorobutane Sulfonate (PFBS)	2016/02/23	2.7		%	30
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23	12		%	30
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23	2.3		%	30
			Perfluorononanoic Acid (PFNA)	2016/02/23	4.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23	7.2		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/02/23	2.2		%	30
4389346	CM5	Spiked Blank	13C4-Perfluoroheptanoic acid	2016/02/23		102	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/23		106	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/23		100	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/23		94	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/23		100	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/23		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23		113	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23		118	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/23		128	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23		124	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/23		110	%	70 - 130
4389346	CM5	Method Blank	13C4-Perfluoroheptanoic acid	2016/02/22		88	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/22		95	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/22		96	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/22		86	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/22		87	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/22	0.27 U, MDL=0.27		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2016/02/22	0.39 U, MDL=0.39		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2016/02/22	0.40 U, MDL=0.40		ng/L	
			Perfluorononanoic Acid (PFNA)	2016/02/22	0.33 U, MDL=0.33		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/22	0.39 U, MDL=0.39		ng/L	

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonate (PFOS)	2016/02/22	0.30 U, MDL=0.30		ng/L	
4394558	SCH	Matrix Spike	13C4-Perfluorooctanesulfonate	2016/02/29		95	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		102	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		92	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29		123	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29		116	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/29		126	%	70 - 130
4394558	SCH	Matrix Spike DUP	13C4-Perfluorooctanesulfonate	2016/02/29		101	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		109	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		104	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29		110	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29		102	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/29		111	%	70 - 130
4394558	SCH	MS/MSD RPD	Perfluorohexane Sulfonate (PFHxS)	2016/02/29	12		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29	12		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/02/29	12		%	30
4394558	SCH	Spiked Blank	13C4-Perfluorooctanesulfonate	2016/02/29		99	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		109	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		108	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29		102	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29		101	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/29		113	%	70 - 130
4394558	SCH	Method Blank	13C4-Perfluorooctanesulfonate	2016/02/29		83	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		97	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		89	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29	0.40 U, MDL=0.40		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29	0.39 U, MDL=0.39		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2016/02/29	0.30 U, MDL=0.30		ng/L	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Sin Chii Chia, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

320-17236 Chain of Custody

CTO WE76

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
CH2M Hill	Bill Friedmann	02/08/16	283622
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
5701 Cleveland St, Suite 200	757-671-6223		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Virginia Beach / VA / 23462			
Project Name and Location (State)	**Carrier/Waybill Number**		
CTO WE76 PFC Sampling	FedEx		
Contract/Purchase Order/Quote No.			
PO# 10006-7-104000			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Select PFCs	Special Instructions/ Conditions of Receipt
OF-FB70-0216		0945		X			X						2	
OF-RW70-0216		0947		↓			↓						2	
OF-FB44-0216		1025											2	
OF-RW44-0216		1030											2	
OF-RW44P-0216		1032											2	
OF-FB65-0216		1115											2	
OF-RW65-0216		1120											2	
OF-RW65-0216-MS		1120											2	
OF-RW65-0216-SD		1120											2	
OF-FB21-0216		1525											2	
OF-RW21-0216		1535		↓			↓						2	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Kathryn Dutton	02/08/16	1930	1. Received By:	2/10/16	915
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

[redacted]

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

TI

320-17236 Chain of Custody

CTO WE76

Due 2/22

13-Feb-16 13:40

Hongmei Zhao (Grace)

B630799

AKP ENV-1123

Project Manager [redacted]		Date 02/08/16	Chain of Custody Number 283622
Telephone Number (Area Code)/Fax Number [redacted]		Lab Number	Page 1 of 1
Site Contact	Lab Contact	Analysis (Attach list if more space is needed)	
Carrier/Waybill Number FedEx			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Select PFCs	Special Instructions/ Conditions of Receipt
OF-FB70-0216		0945		X			X						2	
OF-RW70-0216		0947		↓			↓						2	
OF-FB44-0216		1025											2	
OF-RW44-0216		1030											2	
OF-RW44P-0216		1032											2	
OF-FB65-0216		1115											2	
OF-RW65-0216		1120											2	
OF-RW65-0216-MS		1120											2	
OF-RW65-0216-SD		1120											2	
OF-FB21-0216		1525											2	
OF-RW21-0216		1535		↓			↓						2	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By [redacted]	Date 02/08/16	Time 1930	1. Received By [redacted]	Date 2/10/16	Time 915
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By FedEx AK/A DATE	Date 2016/02/13	Time 13:40

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 320-17236-1
SDG Number: CTO WE7G PFC Sampling

Login Number: 17236
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No date on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 320-17236-1

SDG Number: CTO WE7G PFC Sampling

Job Description: CTO WE7G PFC Sampling

For:
CH2M Hill, Inc.
5701 Cleveland Street
Suite 200
Virginia Beach, VA 23462

Attention: Laurie George

Approved for release.
Laura Turpen
Project Manager I
3/11/2016 10:38 AM

Laura Turpen, Project Manager I
880 Riverside Parkway, West Sacramento, CA, 95605
(916)374-4414
laura.turpen@testamericainc.com
03/11/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: CH2M Hill, Inc.

Project: CTO WE7G PFC Sampling

Report Number: 320-17236-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica West Sacramento attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

TestAmerica utilizes USEPA approved methods and DOD QSM, where applicable, in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

All parameters for which TestAmerica West Sacramento has certification were evaluated to the QSM specified reporting convention or to the client specified format if different from QSM. Parameters not certified under QSM, if any, were evaluated to the detection limit (DL) and include qualified results where applicable.

The sample(s) that contain constituents flagged with U are undetected. The result associated with this flag is the limit of detection (LOD).

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

Receipt
The samples were received on 2/10/2016 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8º C.

Receipt Exceptions

The following samples were received at the laboratory without a sample collection date documented on the chain of custody: OF-FB70-0216 (320-17236-1), OF-RW70-0216 (320-17236-2), OF-FB44-0216 (320-17236-3), OF-RW44-0216 (320-17236-4), OF-RW44P-0216 (320-17236-5), OF-FB65-0216 (320-17236-6), OF-RW65-0216 (320-17236-7), OF-RW65-0216 (320-17236-7[MS]), OF-RW65-0216 (320-17236-7[MSD]), OF-FB21-0216 (320-17236-8) and OF-RW21-0216 (320-17236-9). The samples were logged in per container label date.

Subcontract Work
PFC: This method was subcontracted to Maxxam Analytics Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report. Any analytical or quality issues are noted in the subcontract portion of the report.

The DL/LOD/LOQ limits for Maxxam, along with information on the data qualifiers, are included in the narrative (Page 8 of 275 of the subcontract report; page 15 of 286 of the entire report).

The DL/LOD/LOQ for samples OF-RW44-0216 (320-17236-4) and OF-RW44P-0216 (320-17236-5) were adjusted by a dilution factor of 50 for PFHxS, PFOA, and PFOS.

Certification Summary

Client: CH2M Hill, Inc.
Project/Site: CTO WE7G PFC Sampling

TestAmerica Job ID: 320-17236-1
SDG: CTO WE7G PFC Sampling

Laboratory: TestAmerica Sacramento

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17
Oregon	NELAP	10	CA200005	01-29-17

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: CTO WE7G PFC Sampling

TestAmerica Job ID: 320-17236-1
SDG: CTO WE7G PFC Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-17236-1	OF-FB70-0216	Water	02/08/16 09:45	02/10/16 09:15
320-17236-2	OF-RW70-0216	Water	02/08/16 09:47	02/10/16 09:15
320-17236-3	OF-FB44-0216	Water	02/08/16 10:25	02/10/16 09:15
320-17236-4	OF-RW44-0216	Water	02/08/16 10:30	02/10/16 09:15
320-17236-5	OF-RW44P-0216	Water	02/08/16 10:32	02/10/16 09:15
320-17236-6	OF-FB65-0216	Water	02/08/16 11:15	02/10/16 09:15
320-17236-7	OF-RW65-0216	Water	02/08/16 11:20	02/10/16 09:15
320-17236-8	OF-FB21-0216	Water	02/08/16 15:25	02/10/16 09:15
320-17236-9	OF-RW21-0216	Water	02/08/16 15:35	02/10/16 09:15

Subcontract Data

Prepared for: Test America

Project: 320-17236

Analytical Data Package
(Level IV)

Analysis: Low level PFOS and PFOA in water (Method 537)

Maxxam Job #: B630799

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

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Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

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I hereby certify that to the best of my knowledge all analytical data presented in this report:

- Has been checked for completeness.
- Is accurate, legible and error free.
- Has been conducted in accordance with approved SOP's and that all deviations are clearly listed in the Case Narrative.
- This report has been generated in .pdf format.

Review Performed By:

M Di Grazia

Project Manager

Maxxam
A Bureau Veritas Group Company

Melissa DiGrazia
2016.03.11
13:15:54 -05'00'

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Glossary of Terms

- ***Detection Limit (DL)*** this can also be called ***Method Detection Limit (MDL***): The lowest concentration or amount of the target analyte that can be identified, measured, and reported with confidence that the analyte concentration is not a false positive value. (Clarification): The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence. At the DL, the false positive rate (Type I error) is 1%.

- ***Limit of Detection (LOD*)**: An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. (Clarification): The smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

- ***Limits of Quantitation (LOQ)*** this can also be called ***Reporting Detection Limit (RDL)***: The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. (Clarification): The lowest concentration that produces a quantitative result within specified limits of precision and bias. For DoD projects, the LOQ shall be set at or above the concentration of the lowest initial calibration standard.

- ***Acceptance Criteria*** are values used by the laboratory to determine that a process is in control.

- ***Accuracy*** is the degree of agreement of a measured value with the true or expected value.

- ***Calibration Standards*** are a set of solutions containing the analytes of interest at a specified concentration.

- ***Calibration Verification Standard*** consists of a calibration standard solution of intermediate concentration (mid-point initial calibration level) used to access whether the initial calibration is still valid

- ***Certified Reference Material*** is a stable homogenous material that is certified by repetitive analysis from a supplier who is certified to generate said materials.

- ***Internal Standard*** a deuterated or ^{13}C-labelled analyte that is added to a sample extract prior to instrumental analysis to compensate for injection variability.

- ***Isomer*** is a member of a group of compounds that differ from each other only in the locations of a specific number of common substituent atoms or groups of atoms on the parent compound.

- ***Method Blank*** is a laboratory control sample using reagents that are known to be free of contamination.

- ***Precision*** is the degree of agreement between the data generated from repetitive measurements under specific conditions.

- ***Quality Assurance*** is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality.

- ***Quality Control*** is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of the end user.

- ***RSD*** is the relative standard deviation.

- ***Blank Spike*** is a laboratory control sample that has been fortified with native analytes of interest.

- ***Window Defining Mixture*** is a solution containing only the earliest and latest eluting congeners within each homologous group of target analytes on a specified GC column.

- ***RPD*** or Relative Percent Difference. A measure used to compare duplicate sample analysis.

- ***EMPC/NDR –*** Peak detected does not meet ratio criteria and has resulted in a higher detection limit.

1.0 Project Narrative

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Sample Analysis

All samples were initially analyzed on QC batch 4389346 (2016/02/22). Recoveries of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) were above the upper control limit for Perfluorobutanesulfonate (PFBS), Perfluorohexanesulfonate (PFHxS), Perfluoroheptanoic acid (PFHpA), Perfluorooctanoic acid (PFOA), and Perfluorononanoic acid (PFNA). Laboratory spiked water (LCS) resulted in satisfactory recovery of the compounds of interest. When considered together, these QC data suggest that matrix interferences may be biasing the data high. For results that were U-flagged, this potential bias has no impact.

The concentrations of Perfluorohexanesulfonate (PFHxS), Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonate (PFOS) exceeded the upper calibration range for the following samples originally analyzed on QC batch 4389346 (2016/02/22):

BVX844 *OF-RW44-0216*
BVX845 *OF-RW44P-0216*

These samples were re-analyzed with appropriate dilutions for the specified compounds on QC batch 4394558 (2016/02/29). Detection limits were adjusted accordingly. Re-analysis for these compounds was performed after hold time had passed for these samples. Due to the chemical stability of perfluorinated compounds, the hold time exceedance is not expected to have a significant impact on data quality.

Internal Standard Responses

Isotopically labeled $^{18}O_2$-Perfluorohexanesulfonate (MPFHxS), $^{13}C_4$-Perfluoroheptanoic acid (MPFHpA), $^{13}C_4$-Perfluorooctanoic acid (MPFOA), $^{13}C_4$-Perfluorooctanesulfonate (MPFOS) and $^{13}C_5$-Perfluorononanoic acid MPFNA) are used as internal standards to quantify native Perfluorobutanesulfonate (PFBS) & Perfluorohexanesulfonate (PFHxS), Perfluoroheptanoic acid (PFHpA), Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonate (PFOS) and Perfluorononanoic acid (PFNA) respectively. The instrument responses observed for these labeled compounds were below the defined lower control limit (LCL) for the following sample:

BVX842 *OF-RW70-0216*

The instrument responses for the injection standard ($^{13}C_6$-Perfluorohexanoic acid, $^{13}C_6$-PFHxA) fell within the required tolerance limits. This indicates that the responses observed for these isotopically labeled internal standards were not a result of poor or inconsistent sample introduction into the liquid chromatograph/tandem mass spectrometer (LC/MS/MS).

Data Qualifiers

In the Results of Analyses, U-flags are applied to results that are less than the DL (MDL). J-flags are applied to results that are less than the RDL (LOQ) but greater than the DL (MDL). Due to limitations in LIMS, the results cannot be U-flagged to the LOD. The LODs for each analyte are presented in the table below.

Parameter	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
Perfluorobutane sulfonate (PFBS)	0.27	1.0	2.0
Perfluorohexane sulfonate (PFHxS)	0.40	1.0	2.0
Perfluoroheptanoic acid (PFHpA)	0.39	1.0	2.0
Perfluorooctanoic acid (PFOA)	0.39	1.0	2.0
Perfluorooctane sulfonate (PFOS)	0.30	1.0	2.0
Perfluorononanoic acid (PFNA)	0.33	1.0	2.0

Sin Chii Chia, B.Sc.
schia@maxxam.ca
Office 905 817 5700

PROJECT NARRATIVE

Maxxam Analytics
Client Project #: 320-17236

Client: TestAmerica
Client Project: 320-17236

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
Low level PFOS and PFOA in water						
BVX841	OF-FB70-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22
BVX842	OF-RW70-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22
BVX843	OF-FB44-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22
BVX844	OF-RW44-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/29
BVX845	OF-RW44P-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/29
BVX846	OF-FB65-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22
BVX847	OF-RW65-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22
BVX850	OF-FB21-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22
BVX851	OF-RW21-0216	2016/02/08	2016/02/13	2016/02/21	2016/02/23	2016/02/22

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: none encountered

c) Documentation Problems: none encountered

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: see Case Narrative

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

M Di Grazia

2016/03/11
Date

2. Sample Management Records

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

2.1 Sample Custody

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

[redacted]

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☑ No ☐

TI

320-17236 Chain of Custody

CTO WE76

Due 2/22

13-Feb-16 13:40

Hongmei Zhao (Grace)

B630799

AKP ENV-1123

Project Manager [redacted]		Date 02/08/16	Chain of Custody Number 283622
Telephone Number (Area Code)/Fax Number [redacted]		Lab Number	Page 1 of 1
Site Contact	Lab Contact	Analysis (Attach list if more space is needed)	
Carrier/Waybill Number FedEx		Select PFCs	Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/ NaOH	Select PFCs	Special Instructions/ Conditions of Receipt
OF-FB70-Ø216		0945		X			X						2	
OF-RW70-Ø216		0947		↓			↓						2	
OF-FB44-Ø216		1025											2	
OF-RW44-Ø216		1030											2	
OF-RW44P-Ø216		1032											2	
OF-FB65-Ø216		1115											2	
OF-RW65-Ø216		1120											2	
OF-RW65-Ø216-MS		1120											2	
OF-RW65-Ø216-SD		1120											2	
OF-FB21-Ø216		1525											2	
OF-RW21-Ø216		1535		↓			↓						2	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By [redacted]	02/08/16	1930	1. Received By	2/10/16	915
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By FEDEX AIRBILL	2016/02/13	13:40

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

3. Analytical Results

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

3.1 Summary Report

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Maxxam
A Bureau Veritas Group Company

Your Project #: 320-17236
Your C.O.C. #: 283622

Attention:PFC Reporting Group

TestAmerica
Sacramento
880 Riverside Parkway
West Sacramento, CA
USA 95605

Report Date: 2016/03/11
Report #: R3925725
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B630799
Received: 2016/02/13, 13:40

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Low level PFOS and PFOA in water	9	2016/02/21	2016/02/23	CAM SOP-00894	EPA 537 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Melissa DiGrazia, Project Manager - ATUT
Email: MDiGrazia@maxxam.ca
Phone# (905) 817-5700
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B630799
Report Date: 2016/03/11

TestAmerica
Client Project #: 320-17236

RESULTS OF ANALYSES OF WATER

Maxxam ID		BVX841	BVX842	BVX843				BVX844			
Sampling Date		2016/02/08 09:45	2016/02/08 09:47	2016/02/08 10:25				2016/02/08 10:30			
COC Number		283622	283622	283622				283622			
	UNITS	OF-FB70-0216	OF-RW70-0216	OF-FB44-0216	RDL	MDL	QC Batch	OF-RW44-0216	RDL	MDL	QC Batch
Miscellaneous Parameters											
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	0.27 U	2.0	0.27	4389346	49	2.0	0.27	4389346
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	0.39 U	2.0	0.39	4389346	28	2.0	0.39	4389346
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.40 U	0.40 U	2.0	0.40	4389346	520 (1)	100	20	4394558
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	0.39 U	2.0	0.39	4389346	410 (1)	100	20	4394558
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	0.33 U	2.0	0.33	4389346	5.9	2.0	0.33	4389346
Perfluorooctane Sulfonate (PFOS)	ng/L	0.30 U	0.30 U	0.30 U	2.0	0.30	4389346	1100 (1)	100	15	4394558
Surrogate Recovery (%)											
13C4-Perfluoroheptanoic acid	%	56	35 (2)	67	N/A	N/A	4389346	46 (2)	N/A	N/A	4389346
13C4-Perfluorooctanesulfonate	%	61	33 (2)	71	N/A	N/A	4389346	96	N/A	N/A	4394558
13C4-Perfluorooctanoic acid	%	57	36 (2)	70	N/A	N/A	4389346	101	N/A	N/A	4394558
13C5-Perfluorononanoic acid	%	55	35 (2)	64	N/A	N/A	4389346	51	N/A	N/A	4389346
18O2-Perfluorohexanesulfonate	%	55	32 (2)	68	N/A	N/A	4389346	95	N/A	N/A	4394558

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, sample required 50x dilution. Detection limit was adjusted accordingly.

(2) Surrogate recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the surrogate. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low surrogate recovery.

RESULTS OF ANALYSES OF WATER

Maxxam ID		BVX845				BVX846	BVX847			
Sampling Date		2016/02/08 10:32				2016/02/08 11:15	2016/02/08 11:20			
COC Number		283622				283622	283622			
	UNITS	OF-RW44P-0216	RDL	MDL	QC Batch	OF-FB65-0216	OF-RW65-0216	RDL	MDL	QC Batch
Miscellaneous Parameters										
Perfluorobutane Sulfonate (PFBS)	ng/L	46	2.0	0.27	4389346	0.27 U	0.27 U	2.0	0.27	4389346
Perfluoroheptanoic Acid (PFHpA)	ng/L	28	2.0	0.39	4389346	0.39 U	0.39 U	2.0	0.39	4389346
Perfluorohexane Sulfonate (PFHxS)	ng/L	580 (1)	100	20	4394558	0.40 U	0.40 U	2.0	0.40	4389346
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	460 (1)	100	20	4394558	0.39 U	0.39 U	2.0	0.39	4389346
Perfluorononanoic Acid (PFNA)	ng/L	6.5	2.0	0.33	4389346	0.33 U	0.33 U	2.0	0.33	4389346
Perfluorooctane Sulfonate (PFOS)	ng/L	1200 (1)	100	15	4394558	0.30 U	0.30 U	2.0	0.30	4389346
Surrogate Recovery (%)										
13C4-Perfluoroheptanoic acid	%	53	N/A	N/A	4389346	120	66	N/A	N/A	4389346
13C4-Perfluorooctanesulfonate	%	95	N/A	N/A	4394558	137 (2)	60	N/A	N/A	4389346
13C4-Perfluorooctanoic acid	%	98	N/A	N/A	4394558	134 (2)	66	N/A	N/A	4389346
13C5-Perfluorononanoic acid	%	52	N/A	N/A	4389346	127	65	N/A	N/A	4389346
18O2-Perfluorohexanesulfonate	%	93	N/A	N/A	4394558	132 (2)	68	N/A	N/A	4389346

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentration of the target analyte, sample required 50x dilution. Detection limit was adjusted accordingly.

(2) Surrogate recovery was above the defined upper control limit (UCL). Laboratory spiked water resulted in satisfactory recovery of the surrogate. When considered together, these QC data suggest that matrix interferences may be biasing the data high. Because quantitation is performed using isotope dilution techniques, any apparent gains of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar gain of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the high surrogate recovery.

RESULTS OF ANALYSES OF WATER

Maxxam ID		BVX850	BVX851			
Sampling Date		2016/02/08 15:25	2016/02/08 15:35			
COC Number		283622	283622			
	UNITS	OF-FB21-0216	OF-RW21-0216	RDL	MDL	QC Batch
Miscellaneous Parameters						
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	2.0	0.27	4389346
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	2.0	0.39	4389346
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.44 J	2.0	0.40	4389346
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	2.0	0.39	4389346
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	2.0	0.33	4389346
Perfluorooctane Sulfonate (PFOS)	ng/L	0.30 U	0.30 U	2.0	0.30	4389346
Surrogate Recovery (%)						
13C4-Perfluoroheptanoic acid	%	70	47 (1)	N/A	N/A	4389346
13C4-Perfluorooctanesulfonate	%	85	67	N/A	N/A	4389346
13C4-Perfluorooctanoic acid	%	76	51	N/A	N/A	4389346
13C5-Perfluorononanoic acid	%	76	52	N/A	N/A	4389346
18O2-Perfluorohexanesulfonate	%	84	71	N/A	N/A	4389346

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Surrogate recovery was below the defined lower control limit (LCL). Laboratory spiked water resulted in satisfactory recovery of the surrogate. When considered together, these QC data suggest that matrix interferences may be biasing the data low. Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low surrogate recovery.

Maxxam Job #: B630799
Report Date: 2016/03/11

TestAmerica
Client Project #: 320-17236

TEST SUMMARY

Maxxam ID: BVX841
Sample ID: OF-FB70-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX842
Sample ID: OF-RW70-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX843
Sample ID: OF-FB44-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX844
Sample ID: OF-RW44-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX845
Sample ID: OF-RW44P-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX846
Sample ID: OF-FB65-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX847
Sample ID: OF-RW65-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam Job #: B630799
Report Date: 2016/03/11

TestAmerica
Client Project #: 320-17236

TEST SUMMARY

Maxxam ID: BVX850
Sample ID: OF-FB21-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

Maxxam ID: BVX851
Sample ID: OF-RW21-0216
Matrix: Water

Collected: 2016/02/08
Shipped:
Received: 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4389346	2016/02/21	2016/02/23	Colm McNamara

GENERAL COMMENTS

Report revised to reflect updated remarks and DLs for dilutions

Perfluoroheptanoic acid (PFHpA) MDL = 0.39, LOD = 1.0, LOQ = 2.0
Perfluorooctanoic acid (PFOA) MDL = 0.39, LOD = 1.0, LOQ = 2.0
Perfluorononanoic acid (PFNA) MDL = 0.33, LOD = 1.0, LOQ = 2.0
Perfluorobutane sulfonate (PFBS) MDL = 0.27, LOD = 1.0, LOQ = 2.0
Perfluorohexane sulfonate (PFHxS) MDL = 0.40, LOD = 1.0, LOQ = 2.0
Perfluorooctane sulfonate (PFOS) MDL = 0.30, LOD = 1.0, LOQ = 2.0
All Units are in ng/L
Sample BVX844, Low level PFOS and PFOA in water: Test repeated.
Sample BVX845, Low level PFOS and PFOA in water: Test repeated.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4389346	CM5	Matrix Spike [BVX847-01]	13C4-Perfluoroheptanoic acid	2016/02/23		60	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/23		65	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/23		72	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/23		63	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/23		69	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/23		136 (1)	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23		142 (1)	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23		141 (1)	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/23		130	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23		128	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/23		120	%	70 - 130
4389346	CM5	RPD [BVX847-01]	Perfluorobutane Sulfonate (PFBS)	2016/02/23	2.7		%	30
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23	12		%	30
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23	2.3		%	30
			Perfluorononanoic Acid (PFNA)	2016/02/23	4.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23	7.2		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/02/23	2.2		%	30
4389346	CM5	Spiked Blank	13C4-Perfluoroheptanoic acid	2016/02/23		102	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/23		106	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/23		100	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/23		94	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/23		100	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/23		114	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/23		113	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/23		118	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/23		128	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/23		124	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/23		110	%	70 - 130
4389346	CM5	Method Blank	13C4-Perfluoroheptanoic acid	2016/02/22		88	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/22		95	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/22		96	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/22		86	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/22		87	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/22	0.27 U, MDL=0.27		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2016/02/22	0.39 U, MDL=0.39		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2016/02/22	0.40 U, MDL=0.40		ng/L	
			Perfluorononanoic Acid (PFNA)	2016/02/22	0.33 U, MDL=0.33		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/22	0.39 U, MDL=0.39		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2016/02/22	0.30 U, MDL=0.30		ng/L	
4394558	SCH	Matrix Spike	13C4-Perfluorooctanesulfonate	2016/02/29		95	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		102	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		92	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29		123	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29		116	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/29		126	%	70 - 130
4394558	SCH	RPD	Perfluorohexane Sulfonate (PFHxS)	2016/02/29	12		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29	12		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/02/29	12		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4394558	SCH	Spiked Blank	13C4-Perfluorooctanesulfonate	2016/02/29		99	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		109	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		108	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29		102	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29		101	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/29		113	%	70 - 130
4394558	SCH	Method Blank	13C4-Perfluorooctanesulfonate	2016/02/29		83	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/29		97	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/29		89	%	50 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/29	0.40 U, MDL=0.40		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/29	0.39 U, MDL=0.39		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2016/02/29	0.30 U, MDL=0.30		ng/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

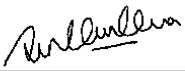
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Sin Chii Chia, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

METHOD 537

DETERMINATION OF SELECTED PERFLUORINATED ALKYL ACIDS IN DRINKING WATER BY SOLID PHASE EXTRACTION AND LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

3.2 Sample Chromatograms

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

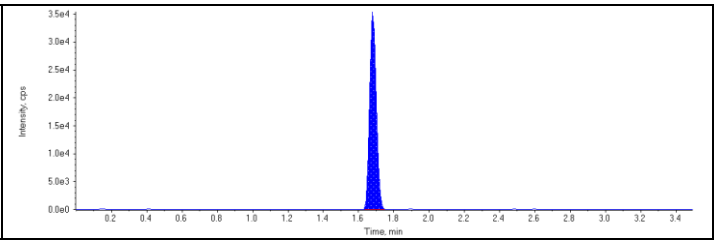
Sample Name	**4389346~BVX841-01**	**Injection Vial**	18
Sample ID	4389346~BVX841-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:12:33 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	92100.	1.68	1.00	-
MPFHpA	280000.	1.70	1.00	-
MPFOA	248000.	1.88	1.00	-
MPFOS	124000.	1.97	1.00	-
MPFNA	203000.	2.02	1.00	-
13C6-PFHxA IS	2370000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	92100	1.68	N/A	54.8	N/A
13C4-PFHpA	280000	1.70	N/A	56.0	N/A
13C4-PFOA	248000	1.88	N/A	57.3	N/A
13C4-PFOS	124000	1.97	N/A	60.7	N/A
13C5-PFNA	203000	2.02	N/A	55.1	N/A
13C6-PFHxA	2370000	1.43	N/A	103.	N/A

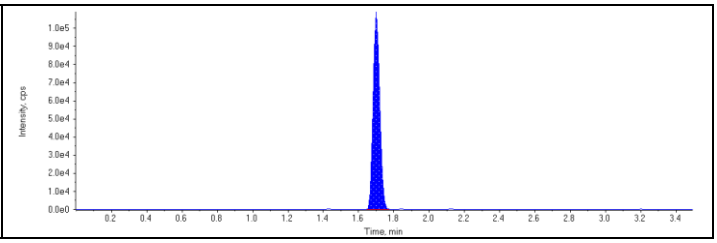
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



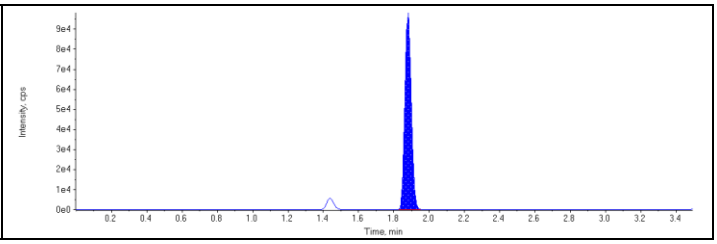
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



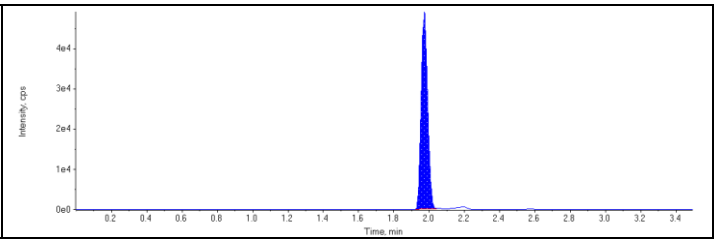
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



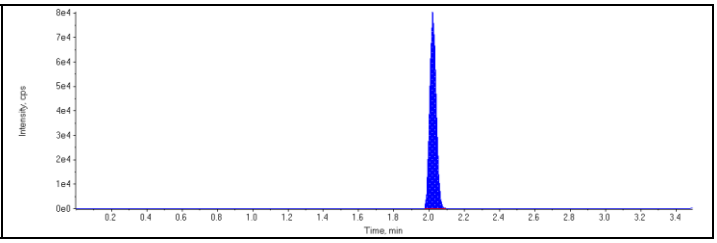
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



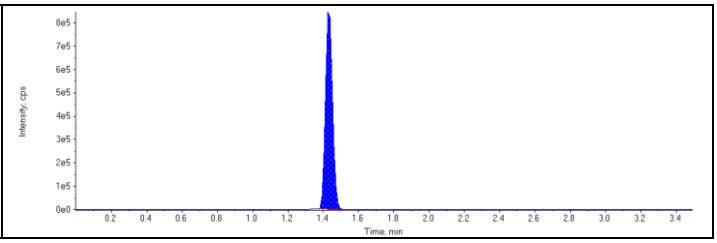
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

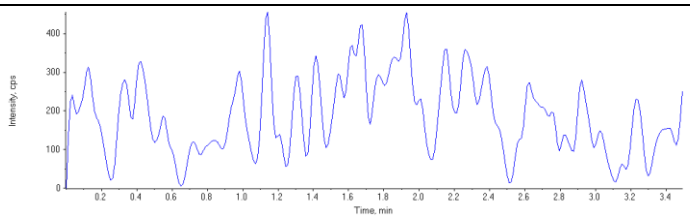
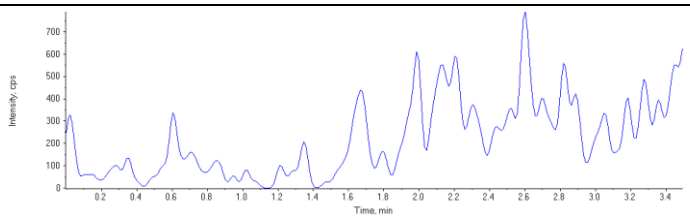
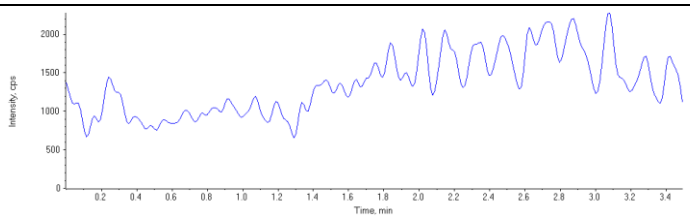
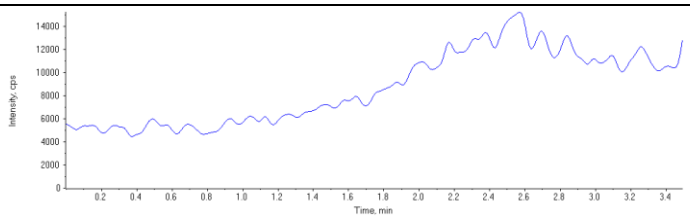
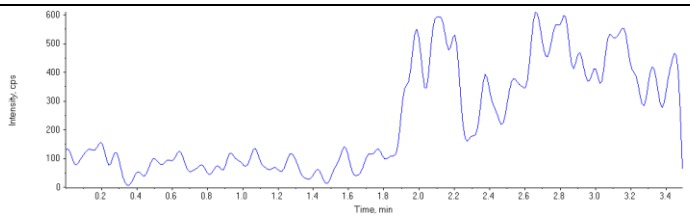
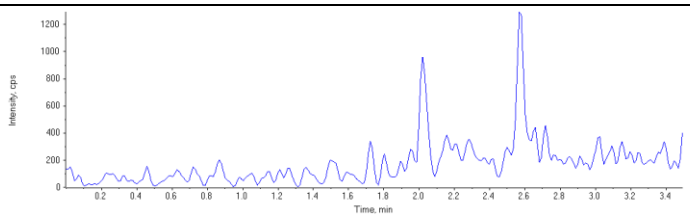
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.15) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 0.00 (1.68) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

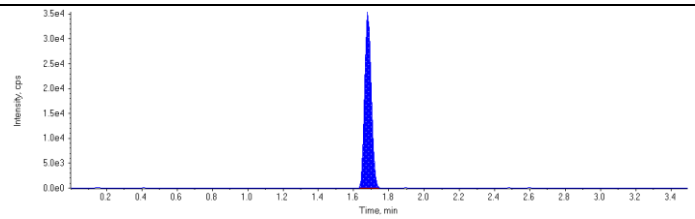
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 54.8 ng/L

Area Ratio: 0.0388

Sample Type: (Unknown)



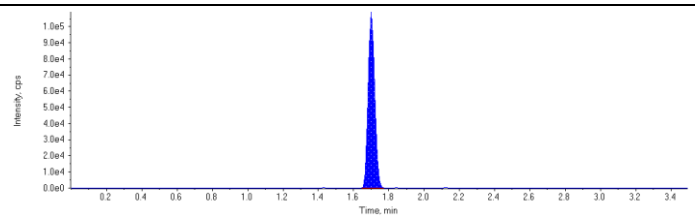
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.70 (1.75) min

Calculated Conc: 56.0 ng/L

Area Ratio: 0.118

Sample Type: (Unknown)



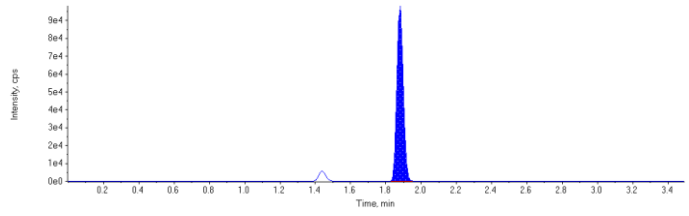
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.88 (1.88) min

Calculated Conc: 57.3 ng/L

Area Ratio: 0.104

Sample Type: (Unknown)



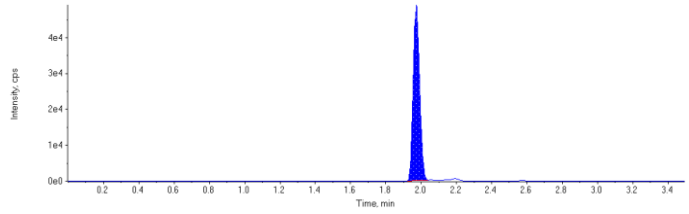
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 60.7 ng/L

Area Ratio: 0.0522

Sample Type: (Unknown)



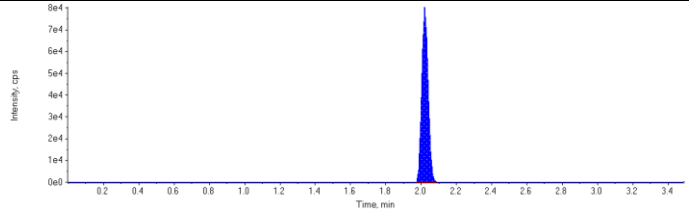
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 55.1 ng/L

Area Ratio: 0.0855

Sample Type: (Unknown)



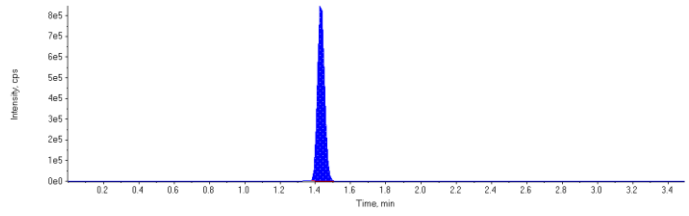
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 103. ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



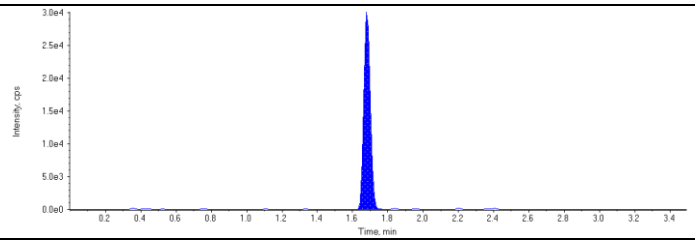
Sample Name	**4389346~BVX842-01**	Injection Vial	19
Sample ID	4389346~BVX842-01	Injection Volume (µL)	3
Sample Type	Unknown	Algorithm Used	Analyst Classic
Acquisition Date	2016/02/23 1:17:38 AM	Dilution Factor	1.00
Acquisition Method	PFC_Water_Low.dam	Sample Annotation	Re-injected
Project	Enviro\PFOS	Instrument Name	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	76700.	1.68	1.00	-
MPFHpA	242000.	1.70	1.00	-
MPFOA	231000.	1.88	1.00	-
MPFOS	82900.	1.97	1.00	-
MPFNA	183000.	2.02	1.00	-
13C6-PFHxA IS	3030000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	3720	1.11	N/A	0.599	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	76700	1.68	N/A	35.7	N/A
13C4-PFHpA	242000	1.70	N/A	38.0	N/A
13C4-PFOA	231000	1.88	N/A	41.9	N/A
13C4-PFOS	82900	1.97	N/A	31.8	N/A
13C5-PFNA	183000	2.02	N/A	38.9	N/A
13C6-PFHxA	3030000	1.43	N/A	132.	N/A

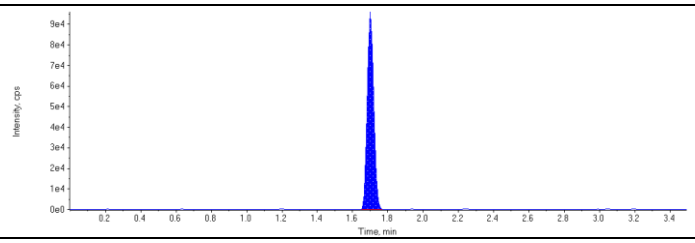
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



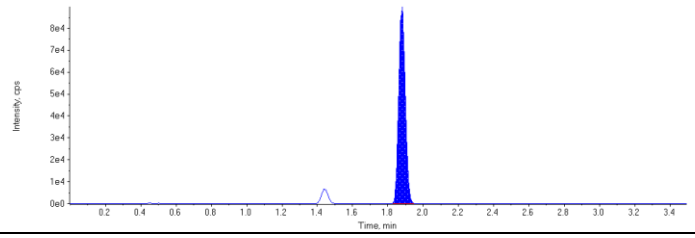
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



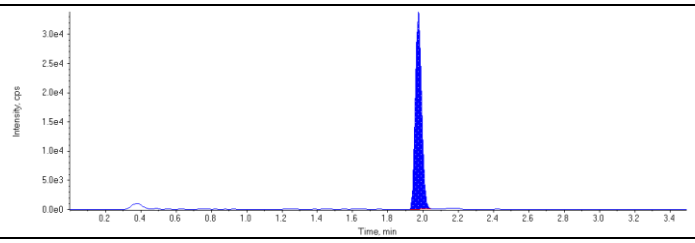
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



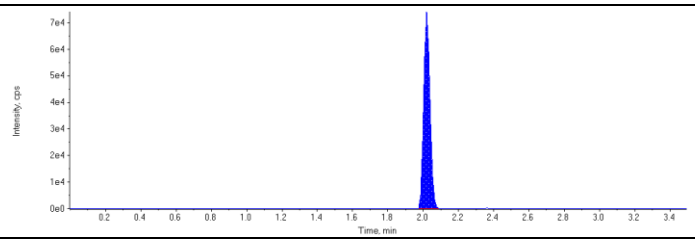
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



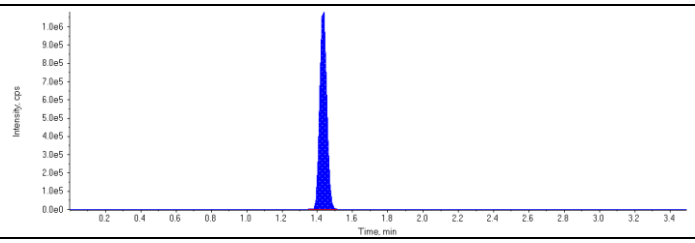
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

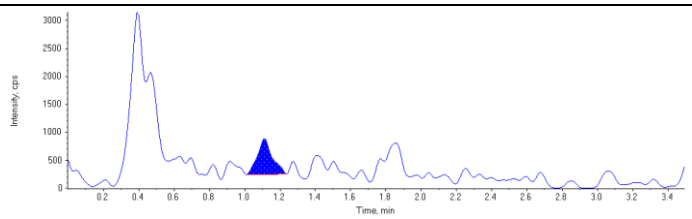
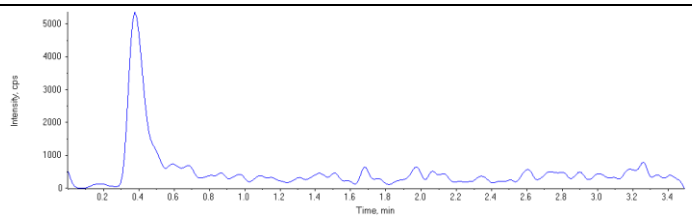
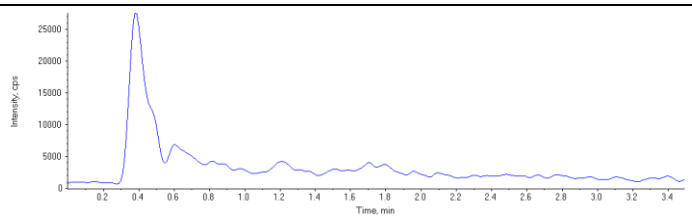
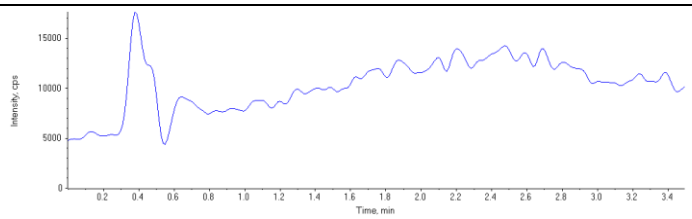
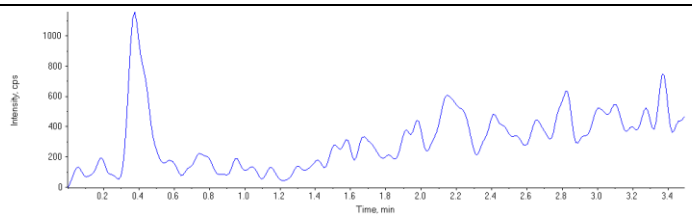
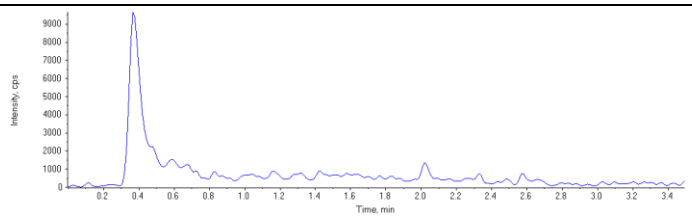
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

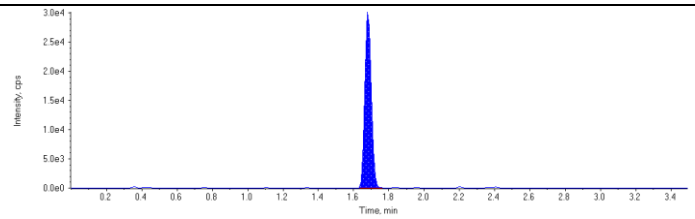
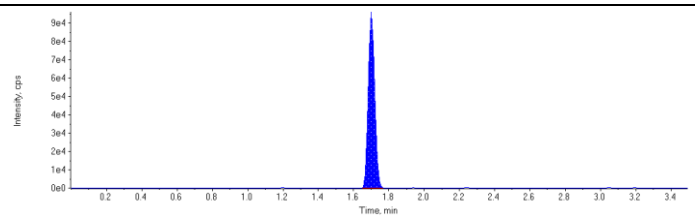
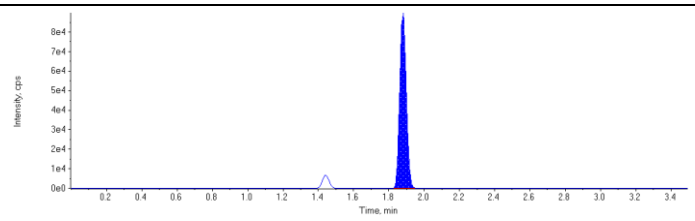
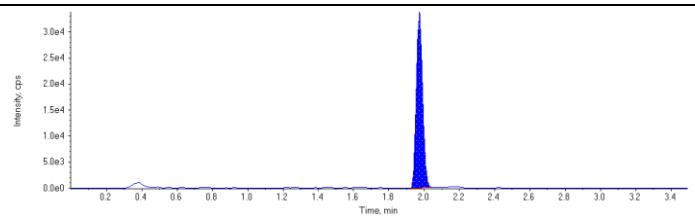
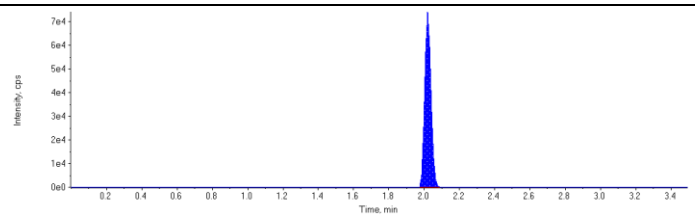
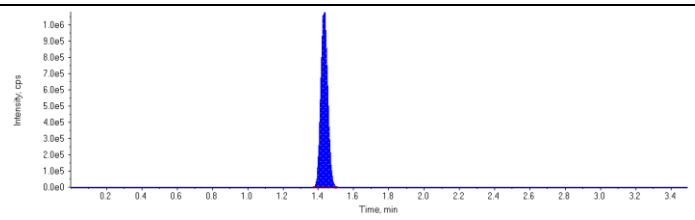


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 0.599 ng/L Area Ratio: 0.0485 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 0.00 (1.68) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 35.7 ng/L Area Ratio: 0.0253 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 38.0 ng/L Area Ratio: 0.0800 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 41.9 ng/L Area Ratio: 0.0763 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 31.8 ng/L Area Ratio: 0.0274 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 38.9 ng/L Area Ratio: 0.0604 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 132. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

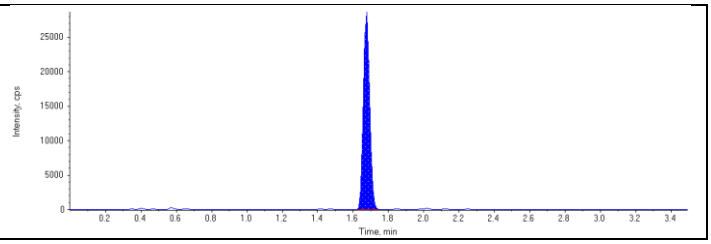
Sample Name	**4389346~BVX842-01**	**Injection Vial**	19
Sample ID	4389346~BVX842-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 7:35:11 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Reported
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	70600.	1.68	1.00	-
MPFHpA	227000.	1.69	1.00	-
MPFOA	203000.	1.87	1.00	-
MPFOS	87800.	1.97	1.00	-
MPFNA	169000.	2.01	1.00	-
13C6-PFHxA IS	3080000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	70600	1.68	N/A	32.4	N/A
13C4-PFHpA	227000	1.69	N/A	35.0	N/A
13C4-PFOA	203000	1.87	N/A	36.2	N/A
13C4-PFOS	87800	1.97	N/A	33.2	N/A
13C5-PFNA	169000	2.01	N/A	35.3	N/A
13C6-PFHxA	3080000	1.43	N/A	134.	N/A

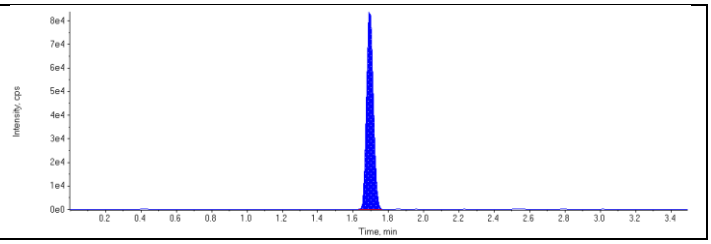
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



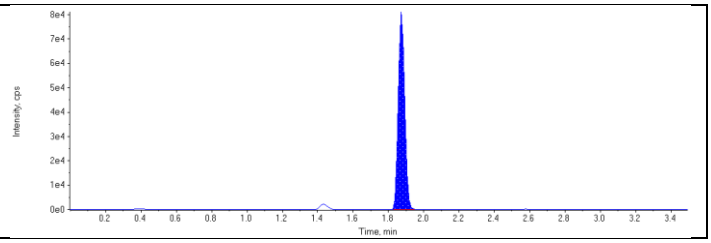
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



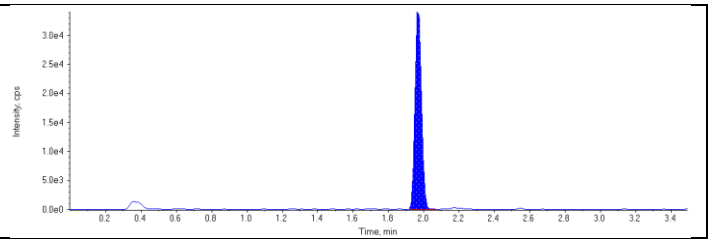
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



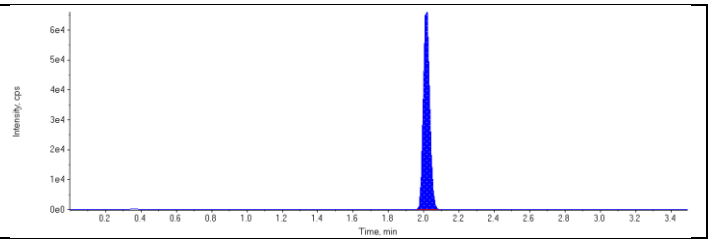
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



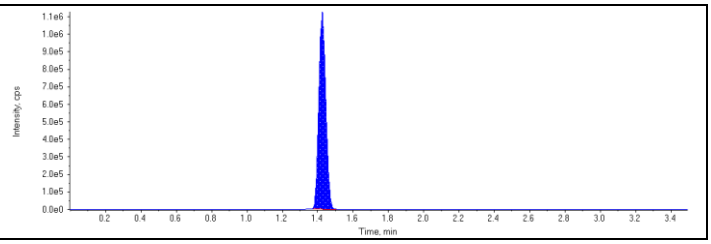
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

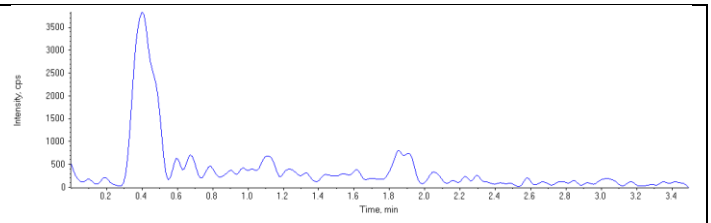
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 0.00 (1.15) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



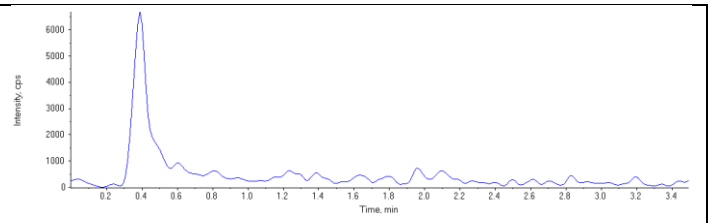
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 0.00 (1.68) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



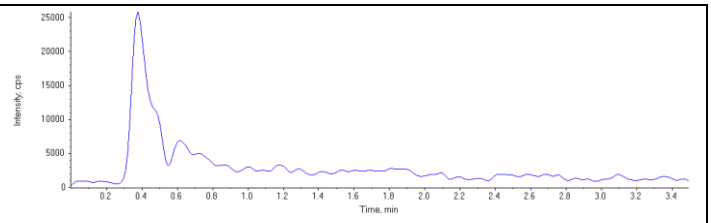
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 0.00 (1.75) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



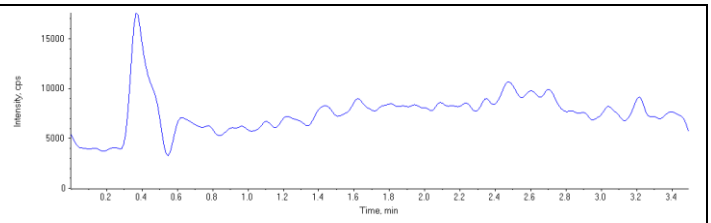
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 0.00 (1.92) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



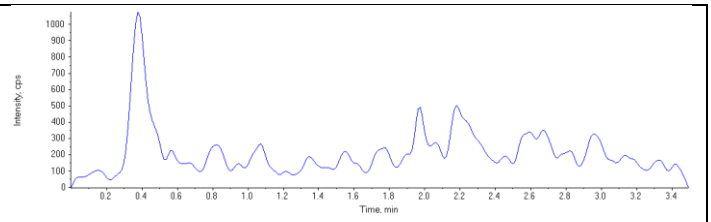
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 0.00 (1.97) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



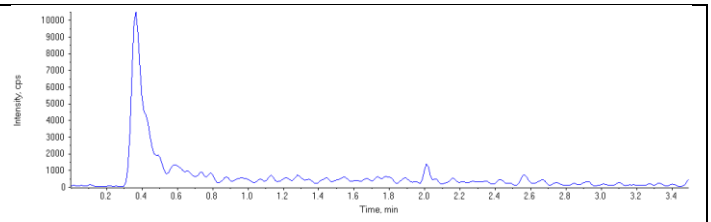
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 0.00 (2.02) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



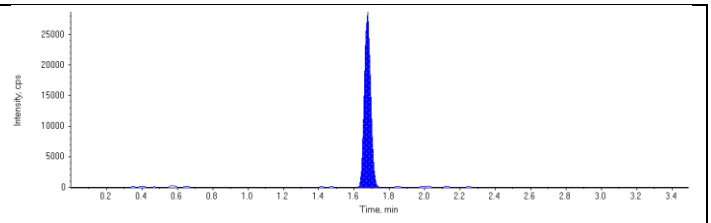
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 32.4 ng/L

Area Ratio: 0.0229

Sample Type: (Unknown)



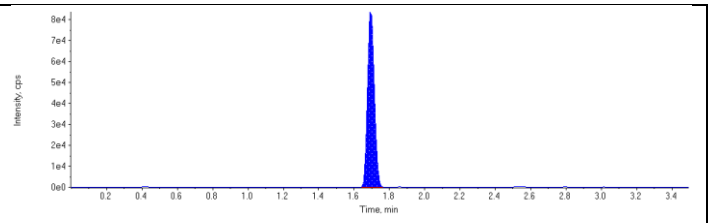
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.75) min

Calculated Conc: 35.0 ng/L

Area Ratio: 0.0737

Sample Type: (Unknown)



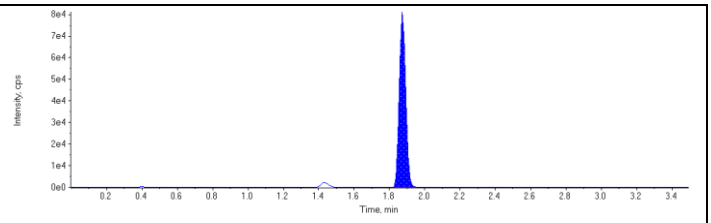
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 36.2 ng/L

Area Ratio: 0.0661

Sample Type: (Unknown)



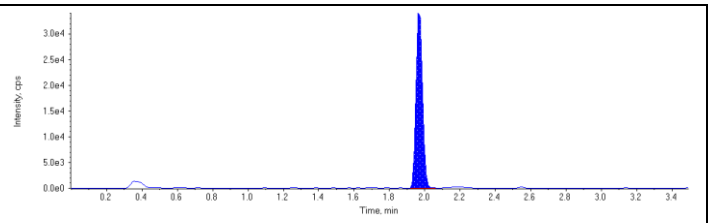
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 33.2 ng/L

Area Ratio: 0.0285

Sample Type: (Unknown)



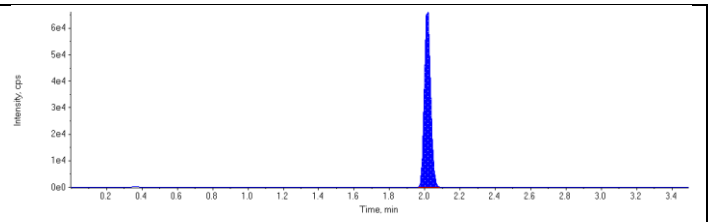
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 35.3 ng/L

Area Ratio: 0.0548

Sample Type: (Unknown)



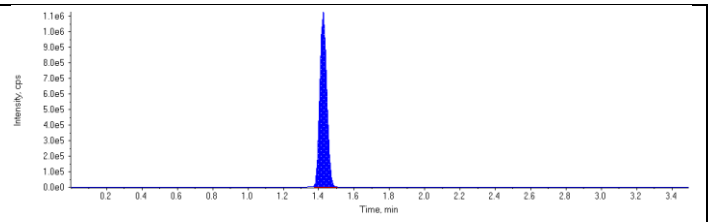
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 134. ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



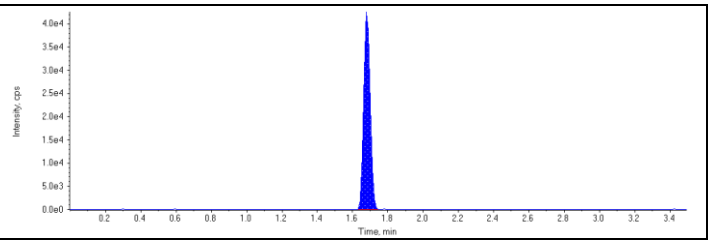
Sample Name	**4389346~BVX843-01**	**Injection Vial**	20
Sample ID	4389346~BVX843-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:22:44 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	108000.	1.68	1.00	-
MPFHpA	319000.	1.70	1.00	-
MPFOA	288000.	1.88	1.00	-
MPFOS	138000.	1.97	1.00	-
MPFNA	224000.	2.02	1.00	-
13C6-PFHxA IS	2260000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	108000	1.68	N/A	67.6	N/A
13C4-PFHpA	319000	1.70	N/A	66.9	N/A
13C4-PFOA	288000	1.88	N/A	69.9	N/A
13C4-PFOS	138000	1.97	N/A	70.8	N/A
13C5-PFNA	224000	2.02	N/A	63.9	N/A
13C6-PFHxA	2260000	1.43	N/A	98.6	N/A

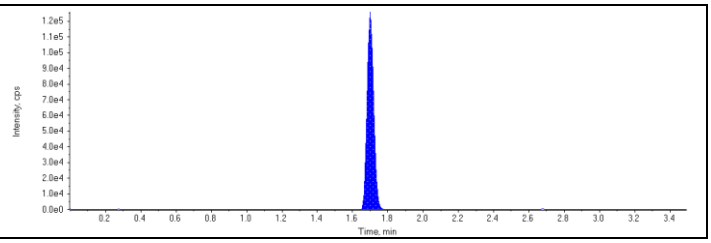
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



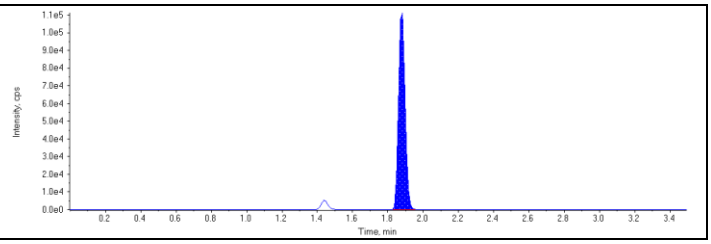
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



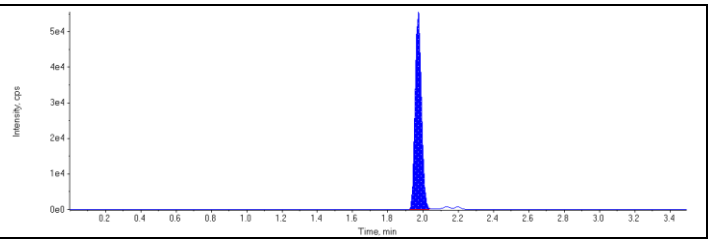
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



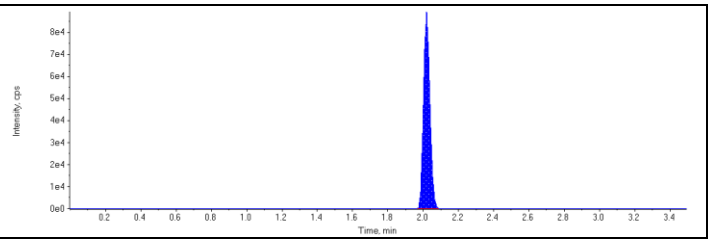
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



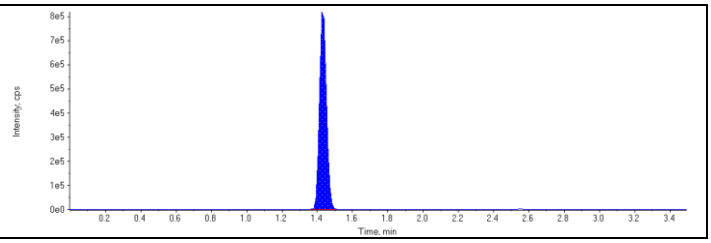
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

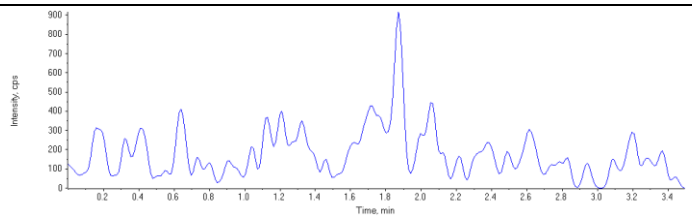
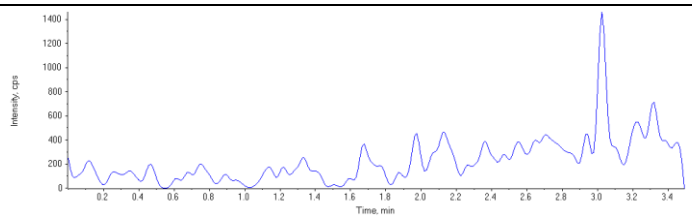
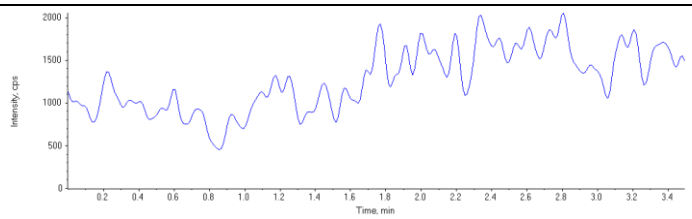
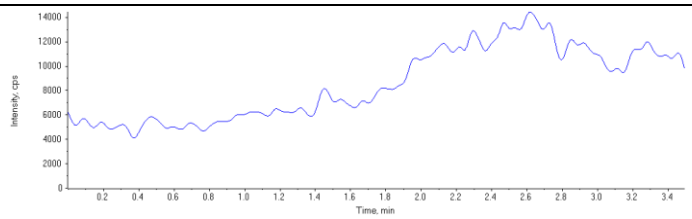
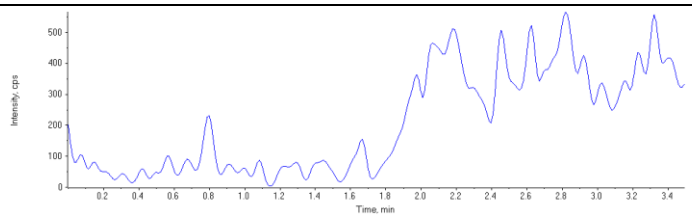
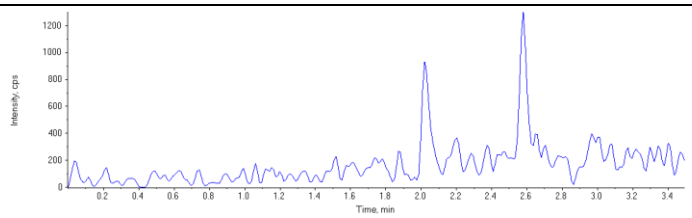
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

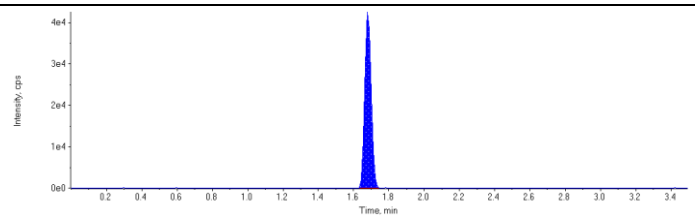
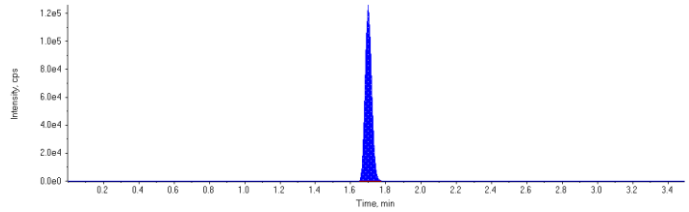
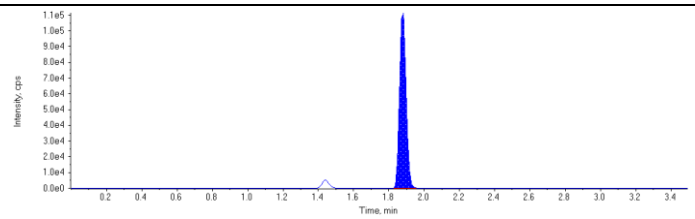
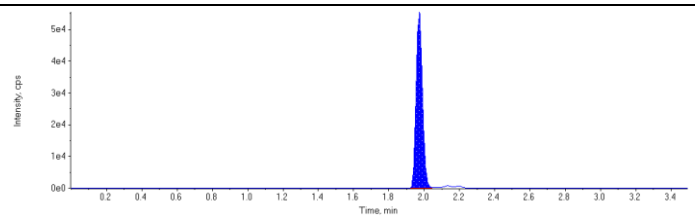
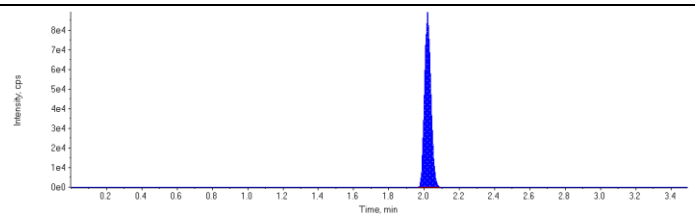
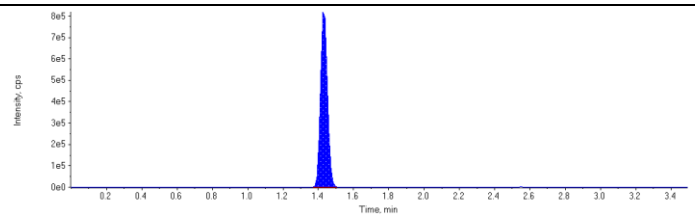


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.15) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 0.00 (1.68) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 67.6 ng/L Area Ratio: 0.0479 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 66.9 ng/L Area Ratio: 0.141 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 69.9 ng/L Area Ratio: 0.127 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 70.8 ng/L Area Ratio: 0.0609 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 63.9 ng/L Area Ratio: 0.0991 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 98.6 ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

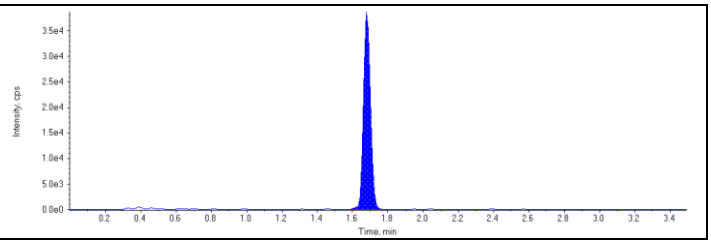
Sample Name	**4389346~BVX844-01**	**Injection Vial**	21
Sample ID	4389346~BVX844-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:27:50 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	106000.	1.68	1.00	-
MPFHpA	296000.	1.70	1.00	-
MPFOA	254000.	1.88	1.00	-
MPFOS	112000.	1.97	1.00	-
MPFNA	243000.	2.02	1.00	-
13C6-PFHxA IS	3040000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1510000	1.11	N/A	48.9	N/A
PFHxS 1	22900000	1.68	N/A	720.	N/A
PFHpA 1	1070000	1.70	N/A	28.4	N/A
PFOA 1	18100000	1.88	N/A	479.	N/A
PFOS 1	28400000	1.97	N/A	1450.	N/A
PFNA 1	198000	2.02	N/A	5.88	N/A
18O2-PFHxS	106000	1.68	N/A	49.0	N/A
13C4-PFHpA	296000	1.70	N/A	46.1	N/A
13C4-PFOA	254000	1.88	N/A	45.7	N/A
13C4-PFOS	112000	1.97	N/A	42.7	N/A
13C5-PFNA	243000	2.02	N/A	51.4	N/A
13C6-PFHxA	3040000	1.43	N/A	133.	N/A

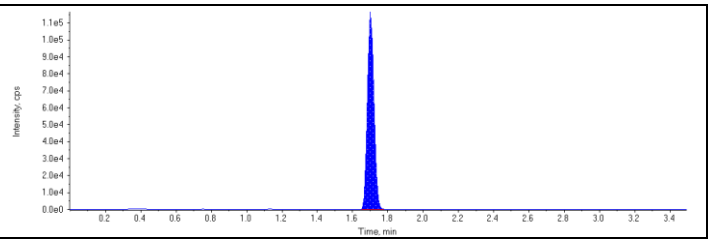
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



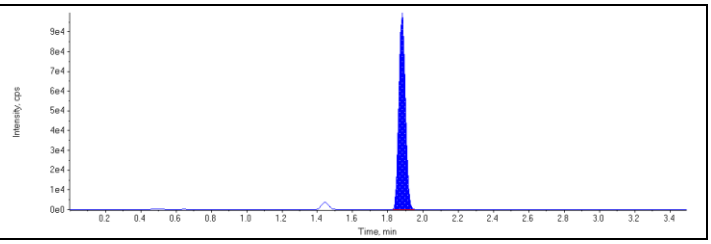
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



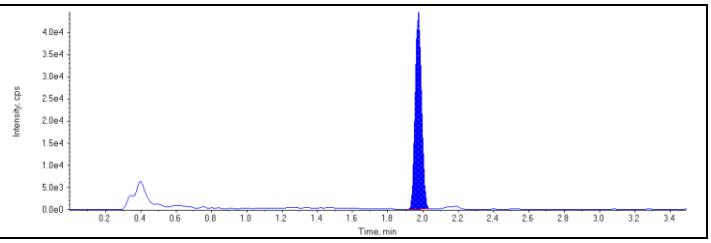
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



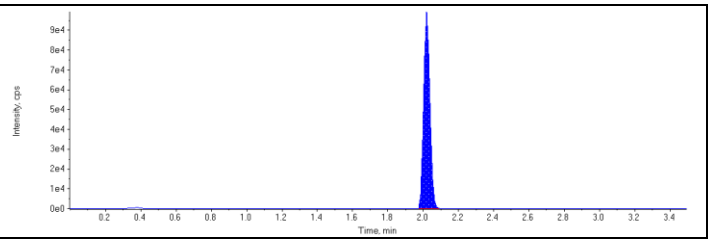
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



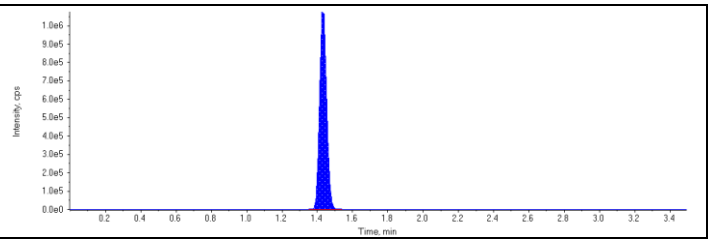
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

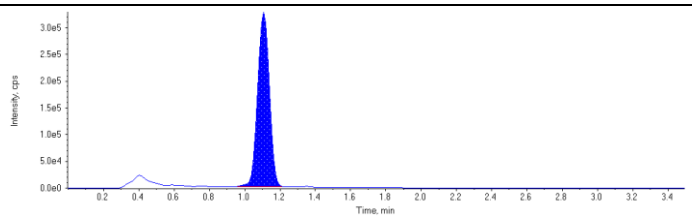
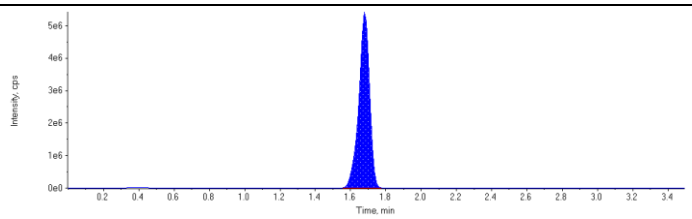
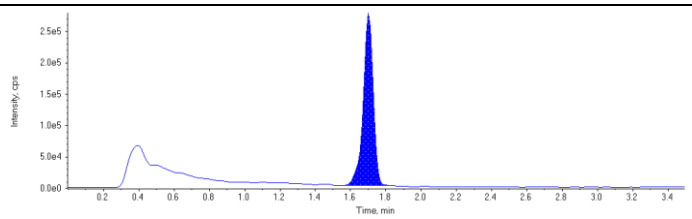
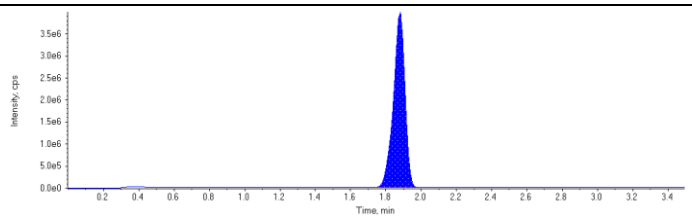
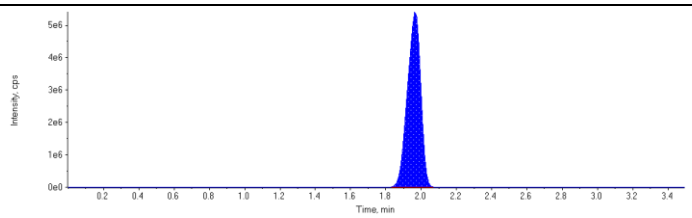
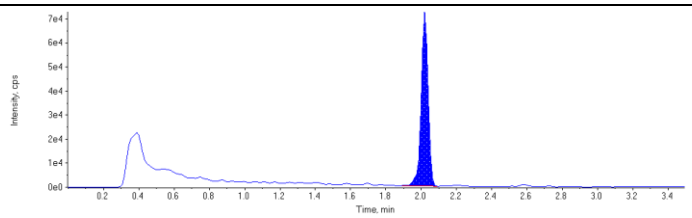
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

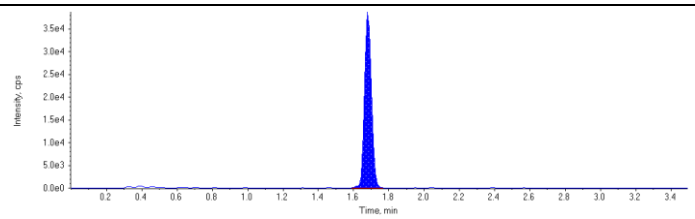
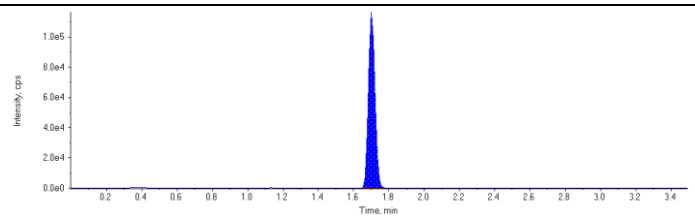
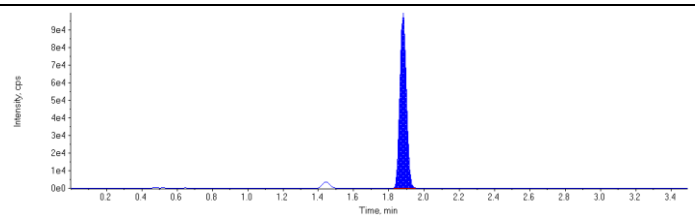
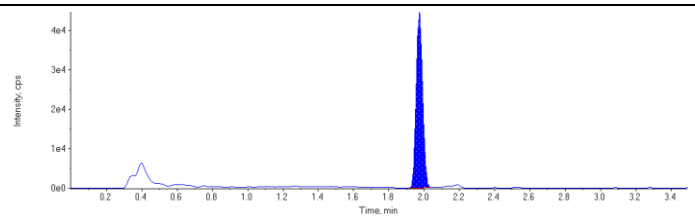
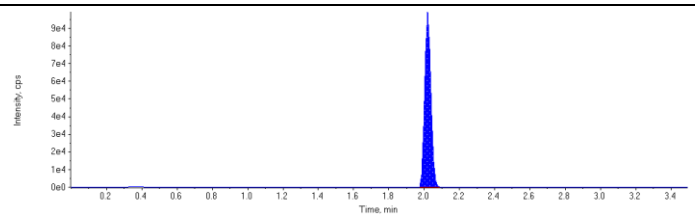
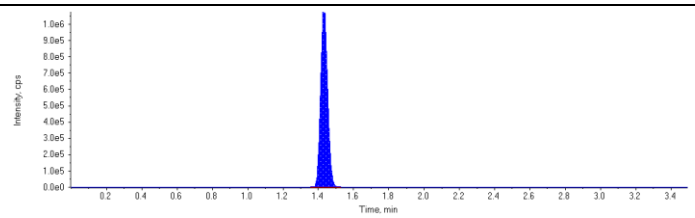


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 48.9 ng/L Area Ratio: 14.3 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 720. ng/L Area Ratio: 217. Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 28.4 ng/L Area Ratio: 3.62 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 479. ng/L Area Ratio: 71.4 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 1450. ng/L Area Ratio: 254. Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 5.88 ng/L Area Ratio: 0.814 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 49.0 ng/L Area Ratio: 0.0347 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 46.1 ng/L Area Ratio: 0.0971 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 45.7 ng/L Area Ratio: 0.0834 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 42.7 ng/L Area Ratio: 0.0367 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 51.4 ng/L Area Ratio: 0.0798 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 133. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

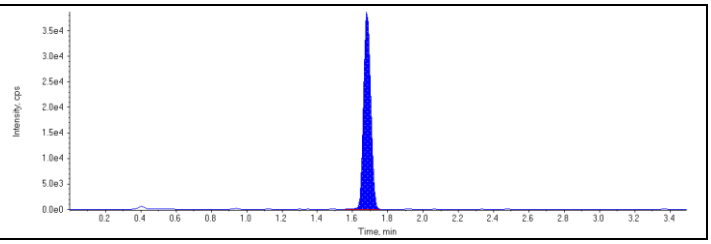
Sample Name	**4389346~BVX845-01**	**Injection Vial**	22
Sample ID	4389346~BVX845-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:38:01 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	109000.	1.68	1.00	-
MPFHpA	308000.	1.70	1.00	-
MPFOA	265000.	1.88	1.00	-
MPFOS	113000.	1.97	1.00	-
MPFNA	225000.	2.02	1.00	-
13C6-PFHxA IS	2780000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1460000	1.11	N/A	45.8	N/A
PFHxS 1	23200000	1.68	N/A	708.	N/A
PFHpA 1	1090000	1.70	N/A	27.7	N/A
PFOA 1	18300000	1.88	N/A	462.	N/A
PFOS 1	28800000	1.97	N/A	1450.	N/A
PFNA 1	204000	2.02	N/A	6.51	N/A
18O2-PFHxS	109000	1.68	N/A	55.2	N/A
13C4-PFHpA	308000	1.70	N/A	52.6	N/A
13C4-PFOA	265000	1.88	N/A	52.2	N/A
13C4-PFOS	113000	1.97	N/A	47.1	N/A
13C5-PFNA	225000	2.02	N/A	52.1	N/A
13C6-PFHxA	2780000	1.43	N/A	121.	N/A

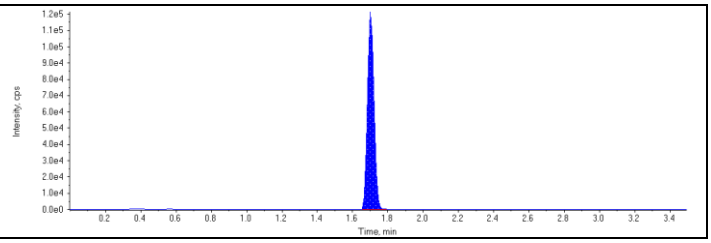
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



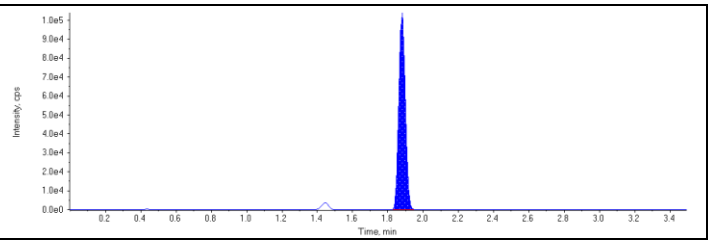
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



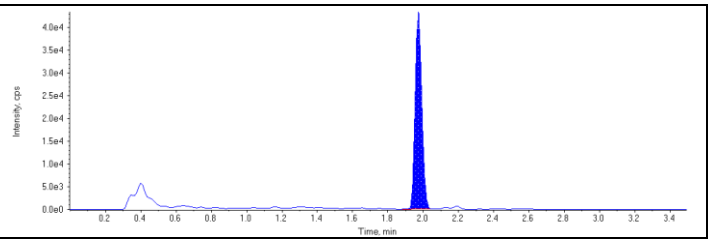
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



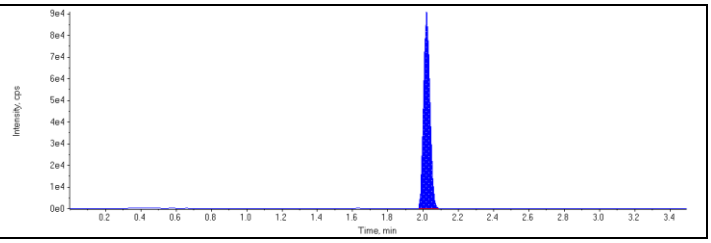
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



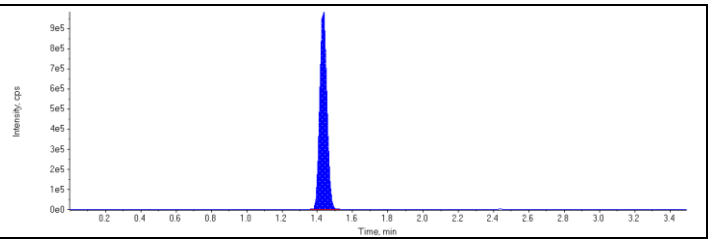
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

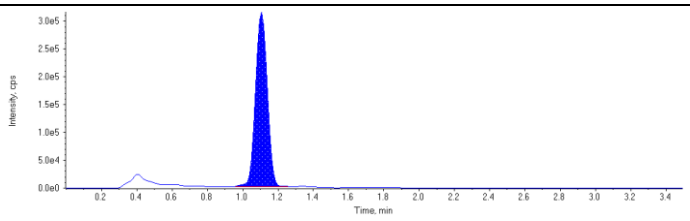
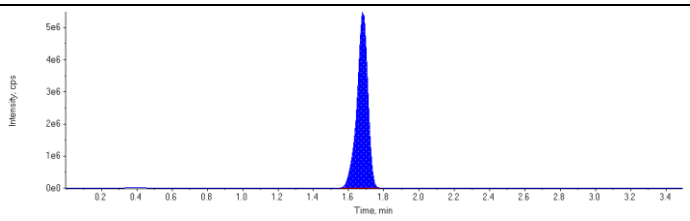
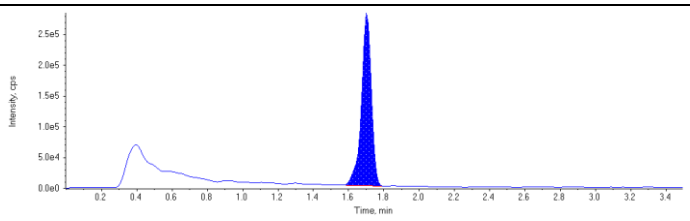
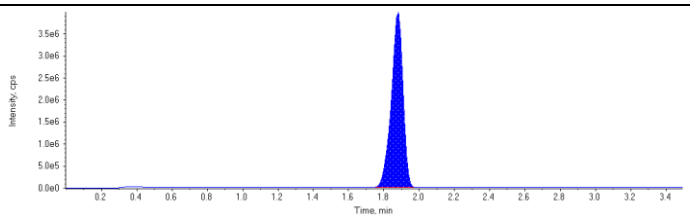
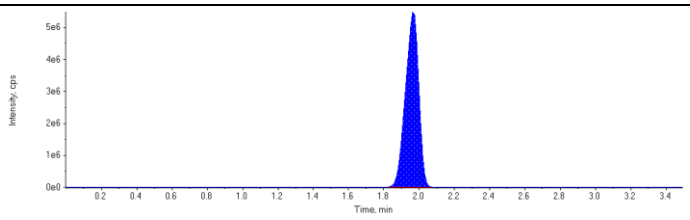
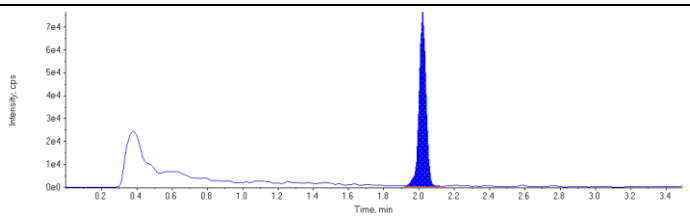
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

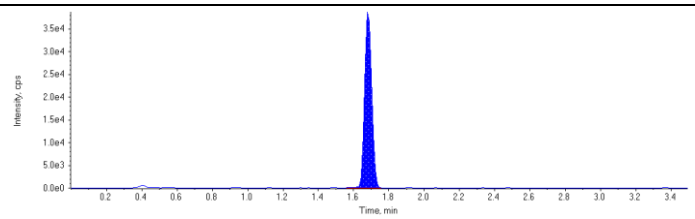
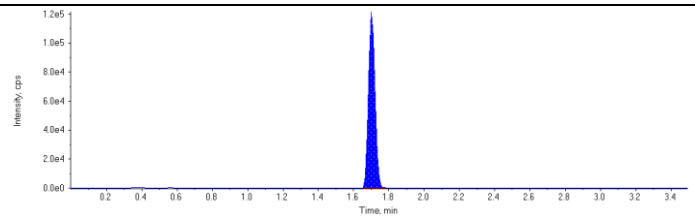
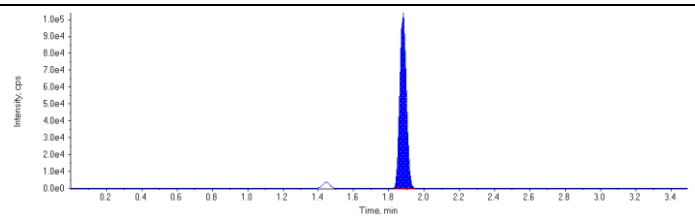
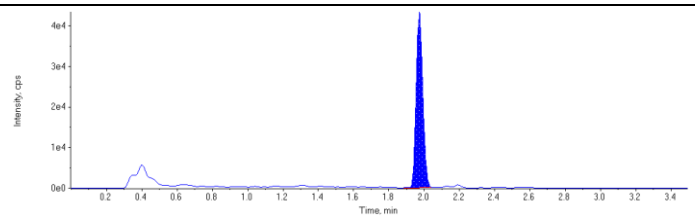
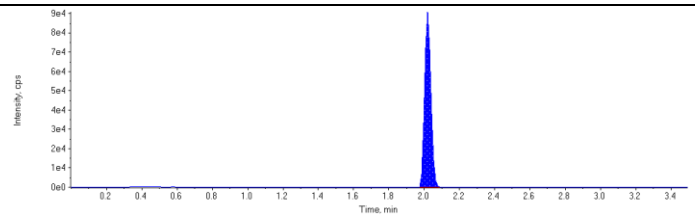
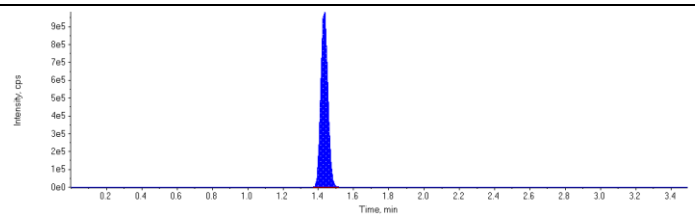


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 45.8 ng/L Area Ratio: 13.4 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 708. ng/L Area Ratio: 213. Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 27.7 ng/L Area Ratio: 3.54 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 462. ng/L Area Ratio: 68.9 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 1450. ng/L Area Ratio: 255. Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 6.51 ng/L Area Ratio: 0.904 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 55.2 ng/L Area Ratio: 0.0391 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 52.6 ng/L Area Ratio: 0.111 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 52.2 ng/L Area Ratio: 0.0952 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 47.1 ng/L Area Ratio: 0.0405 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 52.1 ng/L Area Ratio: 0.0809 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 121. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

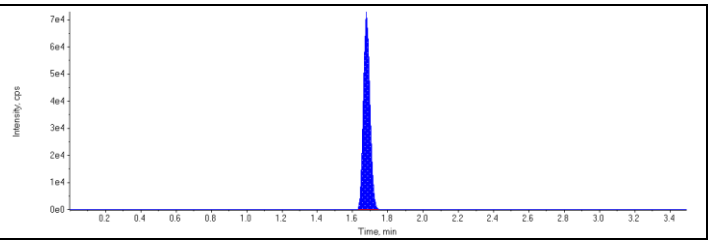
Sample Name	**4389346~BVX846-01**	**Injection Vial**	23
Sample ID	4389346~BVX846-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:43:07 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Re-injected
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	186000.	1.68	1.00	-
MPFHpA	536000.	1.70	1.00	-
MPFOA	513000.	1.88	1.00	-
MPFOS	246000.	1.97	1.00	-
MPFNA	410000.	2.02	1.00	-
13C6-PFHxA IS	1880000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	186000	1.68	N/A	140.	N/A
13C4-PFHpA	536000	1.70	N/A	135.	N/A
13C4-PFOA	513000	1.88	N/A	150.	N/A
13C4-PFOS	246000	1.97	N/A	152.	N/A
13C5-PFNA	410000	2.02	N/A	141.	N/A
13C6-PFHxA	1880000	1.43	N/A	81.9	N/A

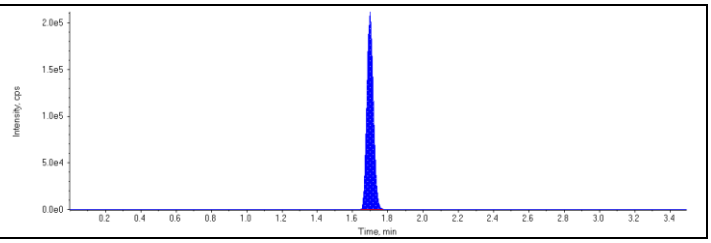
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



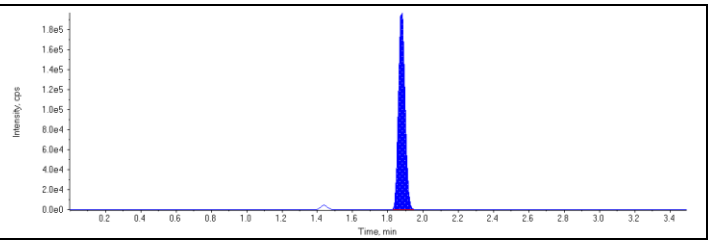
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



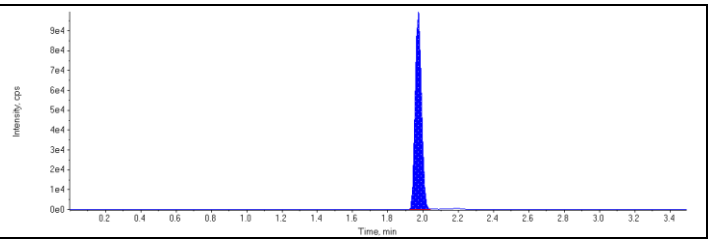
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



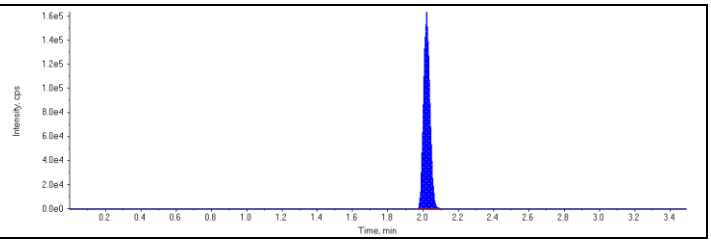
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



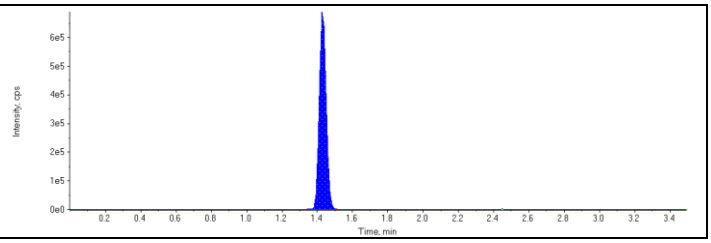
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

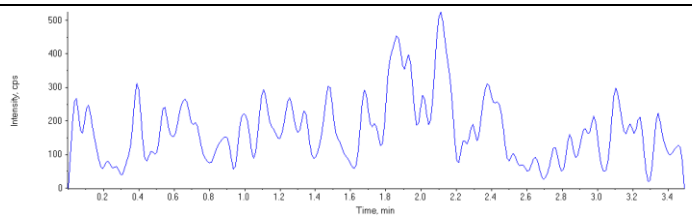
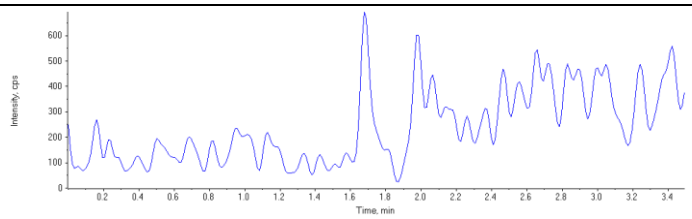
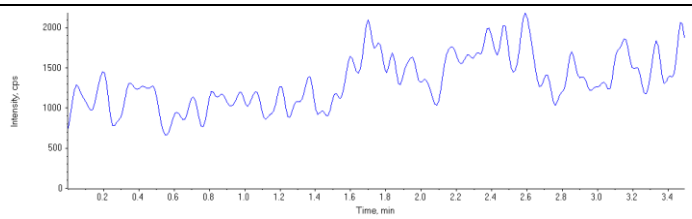
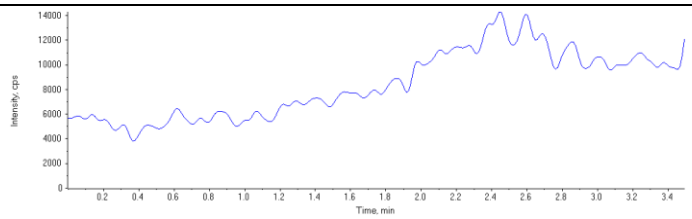
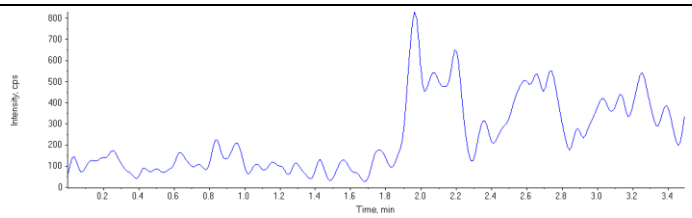
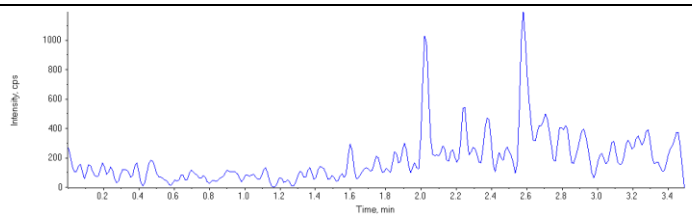
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

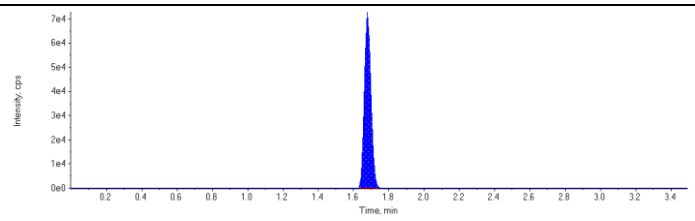
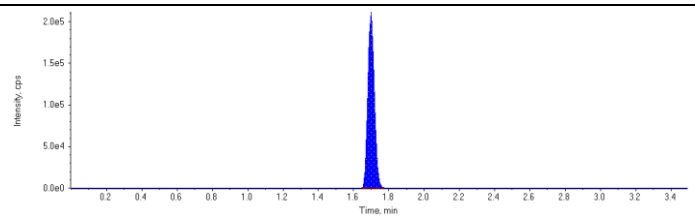
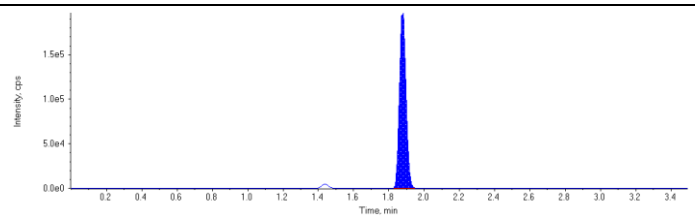
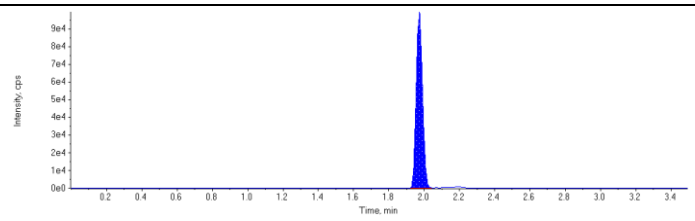
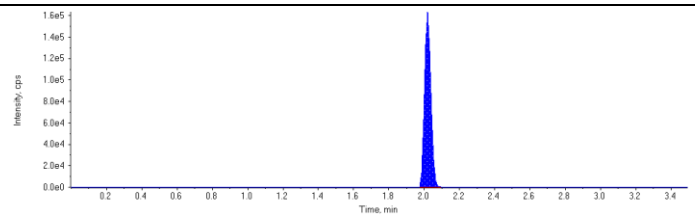
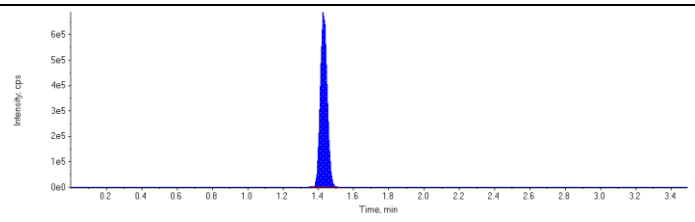


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.15) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 0.00 (1.68) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 140. ng/L Area Ratio: 0.0989 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 135. ng/L Area Ratio: 0.285 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 150. ng/L Area Ratio: 0.273 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 152. ng/L Area Ratio: 0.131 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 141. ng/L Area Ratio: 0.218 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 81.9 ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

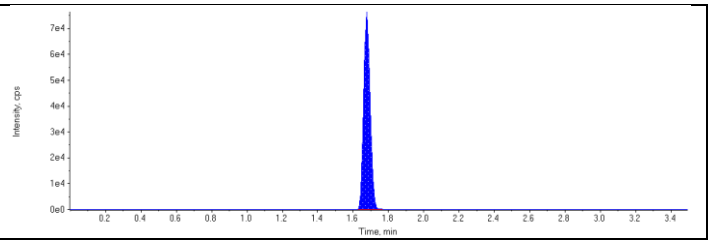
Sample Name	**4389346~BVX846-01**	**Injection Vial**	23
Sample ID	4389346~BVX846-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 7:40:20 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Reported
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	193000.	1.68	1.00	-
MPFHpA	524000.	1.70	1.00	-
MPFOA	505000.	1.88	1.00	-
MPFOS	244000.	1.97	1.00	-
MPFNA	408000.	2.02	1.00	-
13C6-PFHxA IS	2070000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	193000	1.68	N/A	132.	N/A
13C4-PFHpA	524000	1.70	N/A	120.	N/A
13C4-PFOA	505000	1.88	N/A	134.	N/A
13C4-PFOS	244000	1.97	N/A	137.	N/A
13C5-PFNA	408000	2.02	N/A	127.	N/A
13C6-PFHxA	2070000	1.43	N/A	90.3	N/A

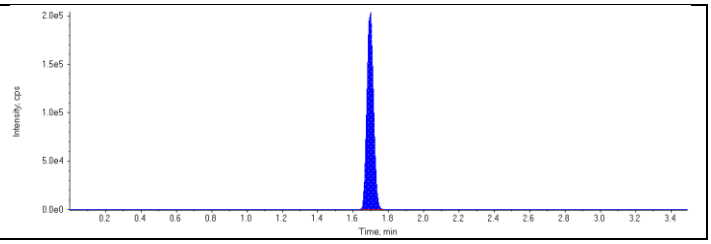
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



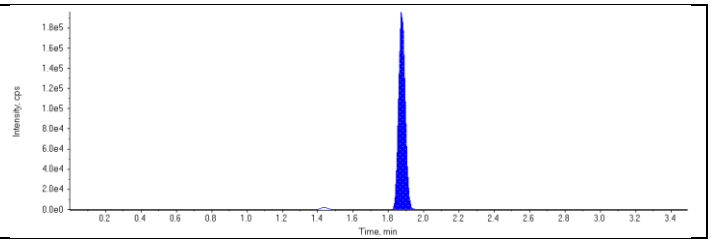
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



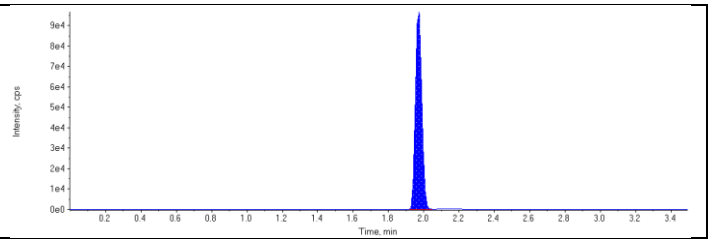
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



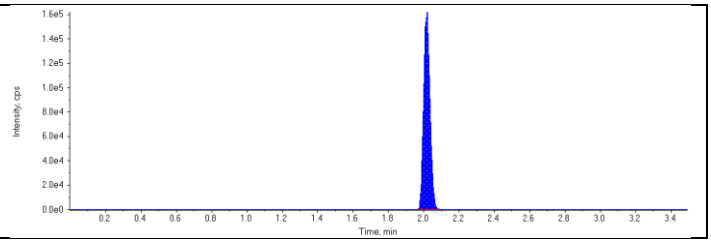
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



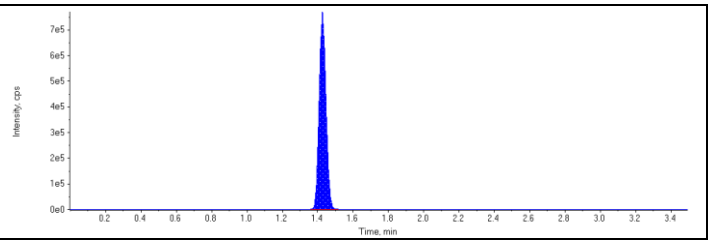
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

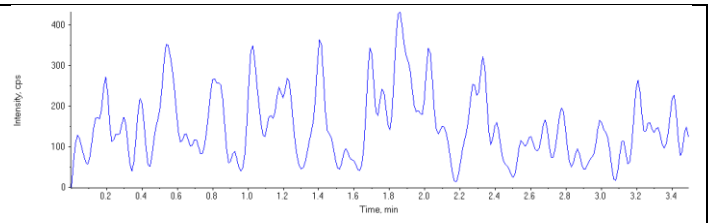
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 0.00 (1.15) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



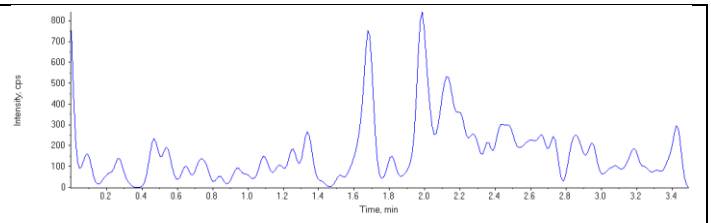
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 0.00 (1.68) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



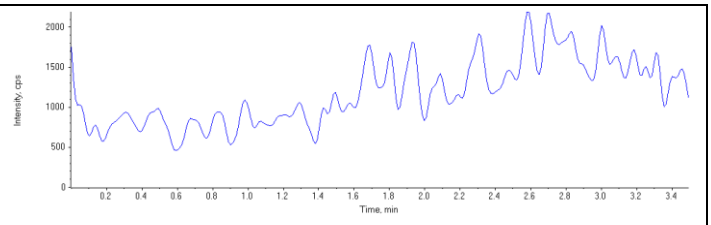
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 0.00 (1.75) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



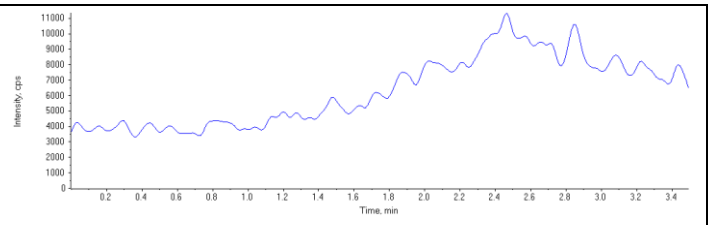
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 0.00 (1.92) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



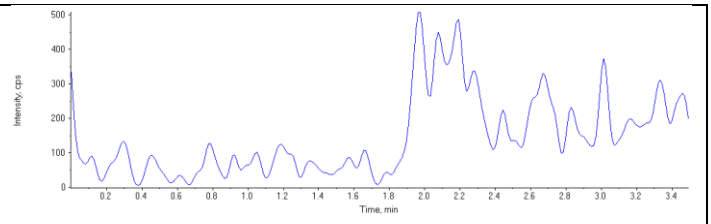
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 0.00 (1.97) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



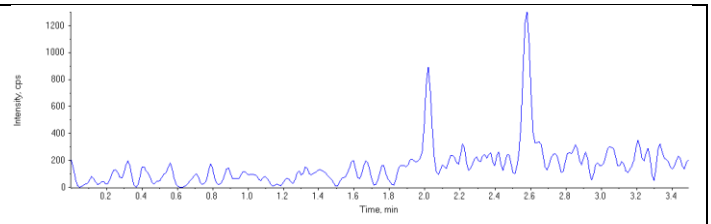
PFNA 1 (462.900/419.000 Da)

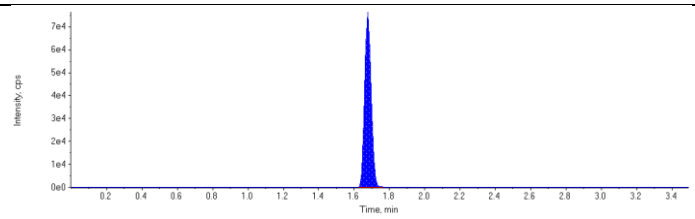
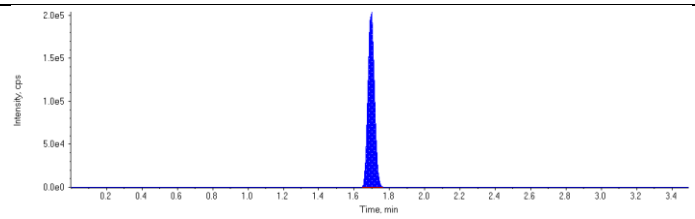
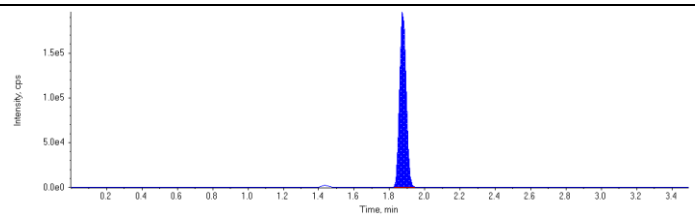
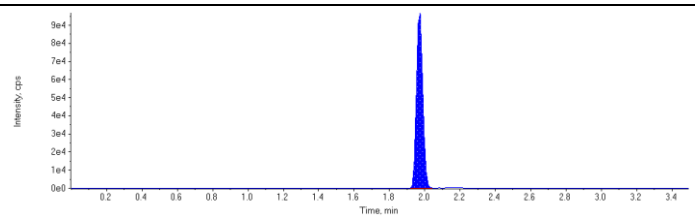
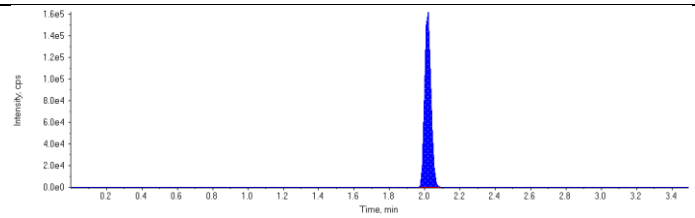
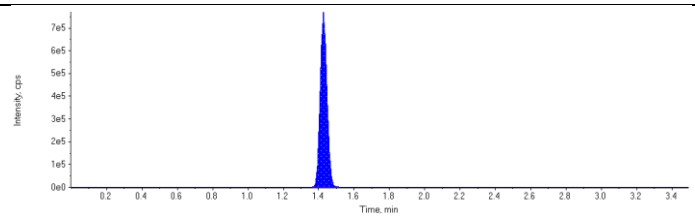
RT (Exp. RT): 0.00 (2.02) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 132. ng/L Area Ratio: 0.0934 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 120. ng/L Area Ratio: 0.253 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 134. ng/L Area Ratio: 0.244 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 137. ng/L Area Ratio: 0.118 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 127. ng/L Area Ratio: 0.197 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 90.3 ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

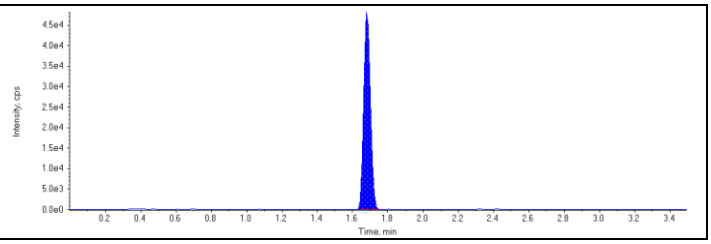
Sample Name	**4389346~BVX847-01**	**Injection Vial**	24
Sample ID	4389346~BVX847-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:48:12 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	126000.	1.68	1.00	-
MPFHpA	364000.	1.70	1.00	-
MPFOA	312000.	1.88	1.00	-
MPFOS	136000.	1.97	1.00	-
MPFNA	262000.	2.02	1.00	-
13C6-PFHxA IS	2620000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	126000	1.68	N/A	68.1	N/A
13C4-PFHpA	364000	1.70	N/A	66.1	N/A
13C4-PFOA	312000	1.88	N/A	65.5	N/A
13C4-PFOS	136000	1.97	N/A	60.3	N/A
13C5-PFNA	262000	2.02	N/A	64.6	N/A
13C6-PFHxA	2620000	1.43	N/A	114.	N/A

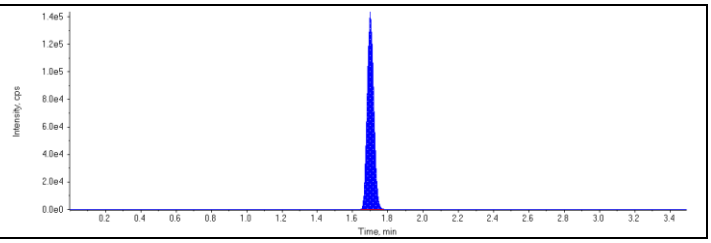
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



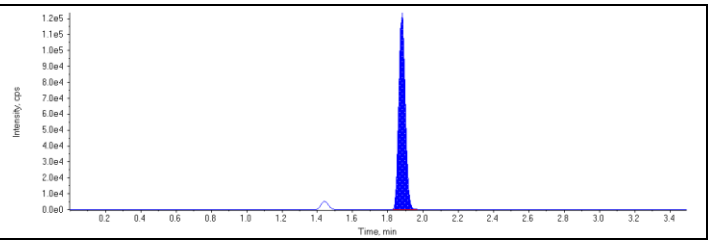
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



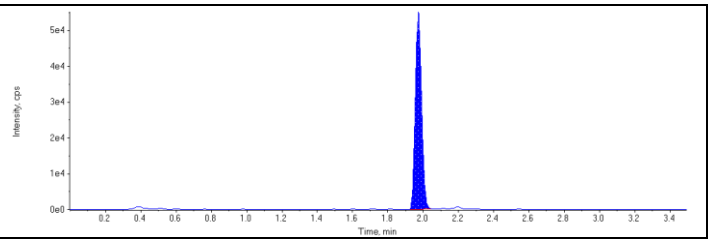
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



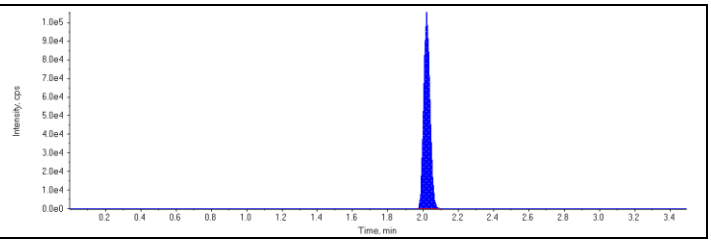
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



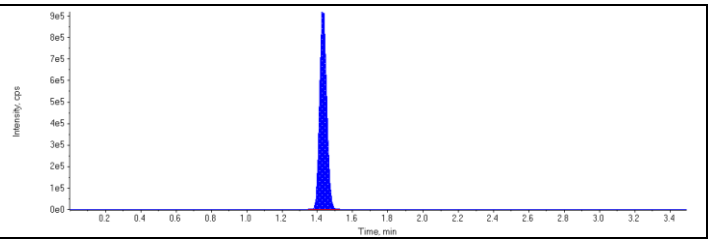
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

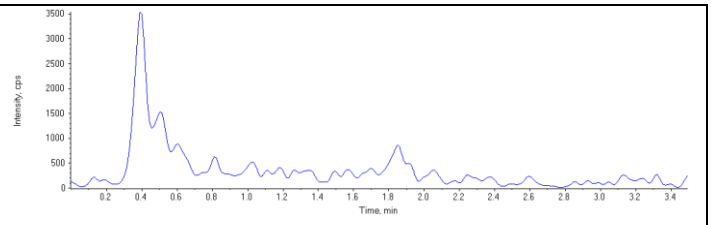
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 0.00 (1.15) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



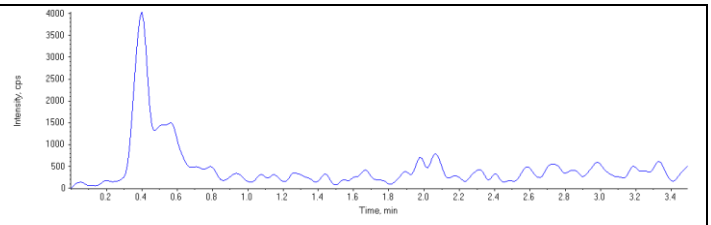
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 0.00 (1.68) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



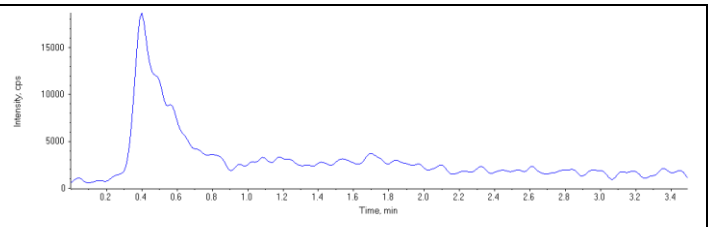
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 0.00 (1.75) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



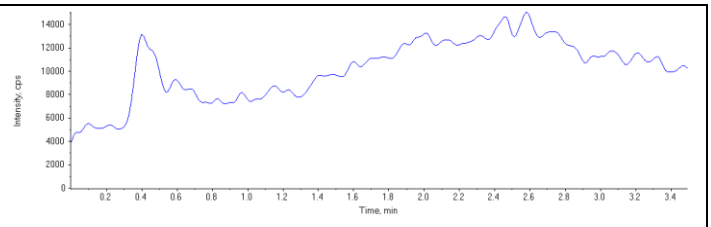
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 0.00 (1.92) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



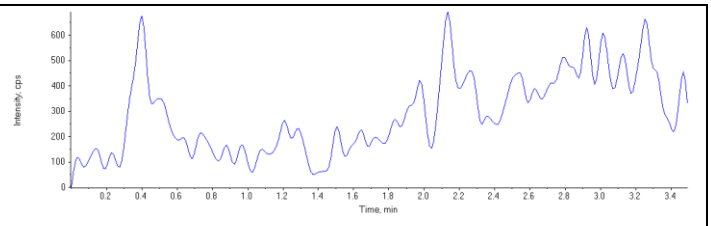
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 0.00 (1.97) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



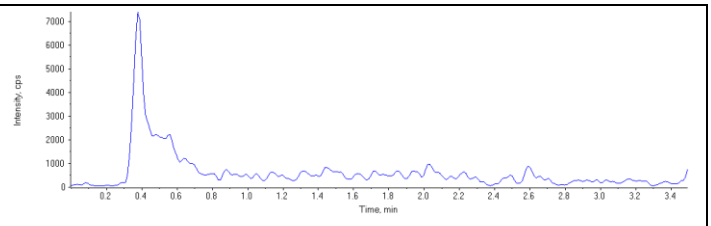
PFNA 1 (462.900/419.000 Da)

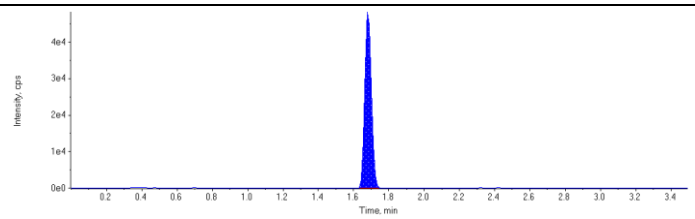
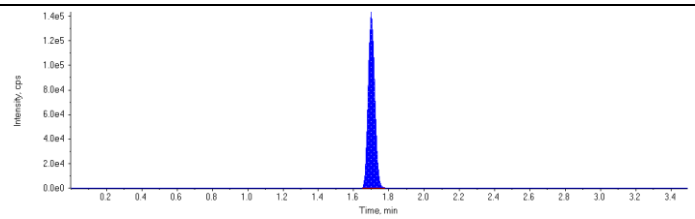
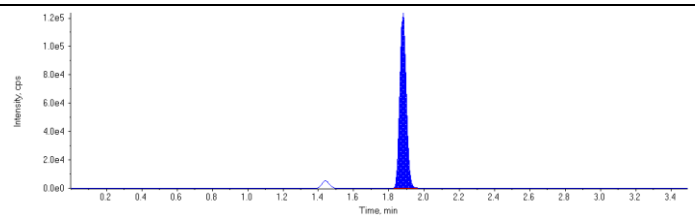
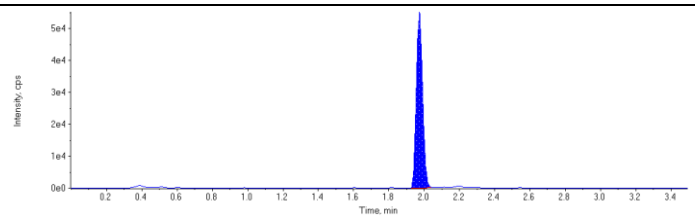
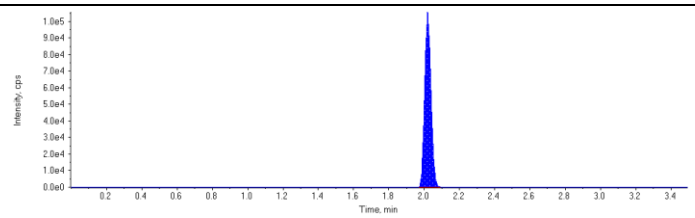
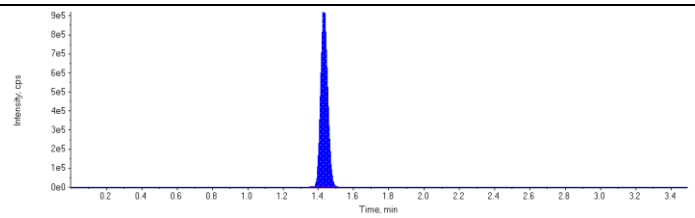
RT (Exp. RT): 0.00 (2.02) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 68.1 ng/L Area Ratio: 0.0483 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 66.1 ng/L Area Ratio: 0.139 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 65.5 ng/L Area Ratio: 0.119 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 60.3 ng/L Area Ratio: 0.0518 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 64.6 ng/L Area Ratio: 0.100 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 114. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

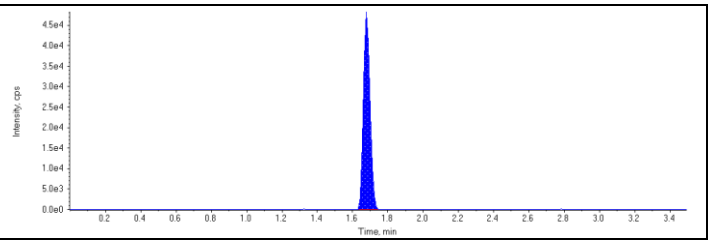
Sample Name	**4389346~BVX850-01**	**Injection Vial**	25
Sample ID	4389346~BVX850-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:53:17 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	125000.	1.68	1.00	-
MPFHpA	308000.	1.70	1.00	-
MPFOA	293000.	1.88	1.00	-
MPFOS	153000.	1.97	1.00	-
MPFNA	248000.	2.02	1.00	-
13C6-PFHxA IS	2110000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	0	0.00	N/A	N/A	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	125000	1.68	N/A	83.7	N/A
13C4-PFHpA	308000	1.70	N/A	69.5	N/A
13C4-PFOA	293000	1.88	N/A	76.4	N/A
13C4-PFOS	153000	1.97	N/A	84.6	N/A
13C5-PFNA	248000	2.02	N/A	76.0	N/A
13C6-PFHxA	2110000	1.43	N/A	91.9	N/A

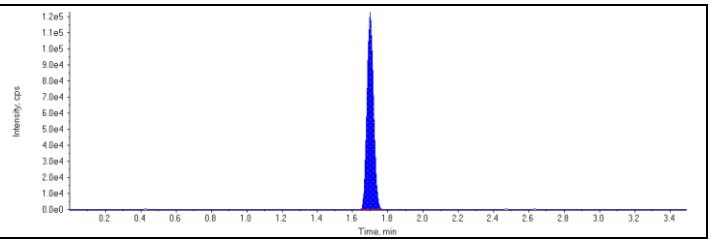
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



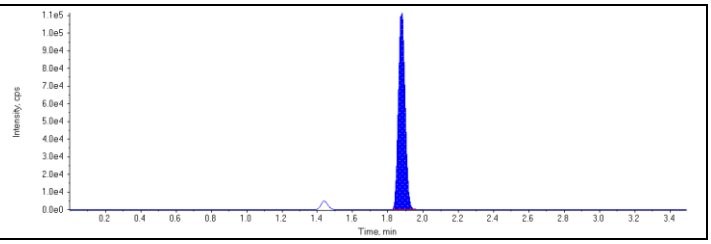
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



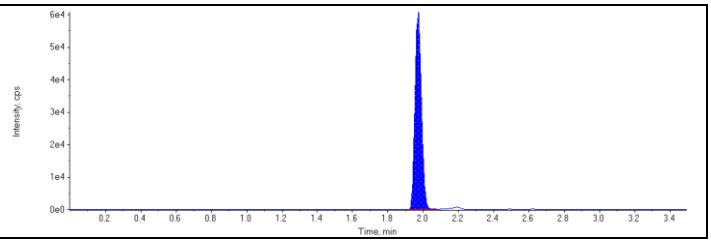
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



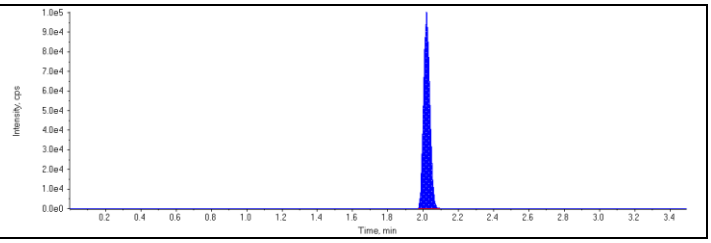
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



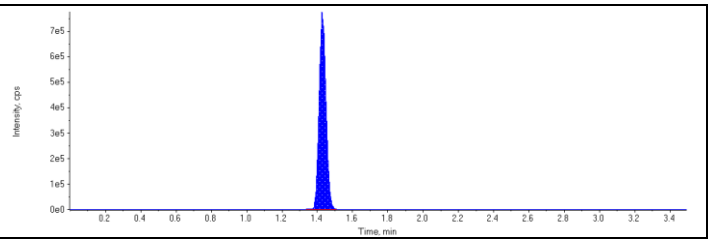
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

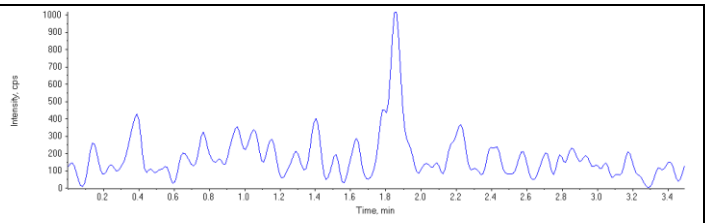
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 0.00 (1.15) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



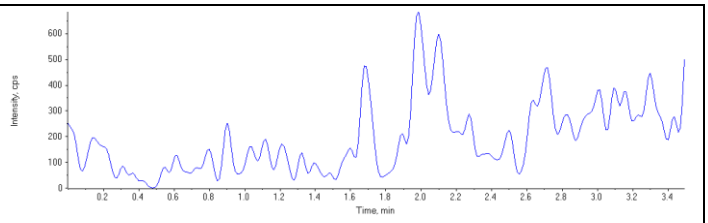
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 0.00 (1.68) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



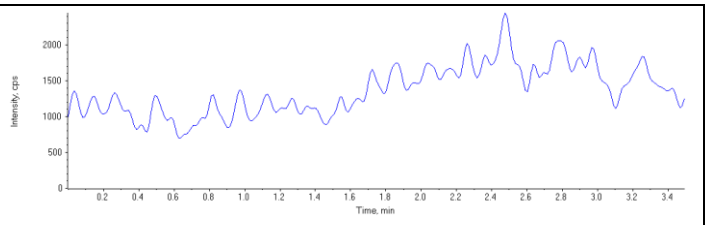
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 0.00 (1.75) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



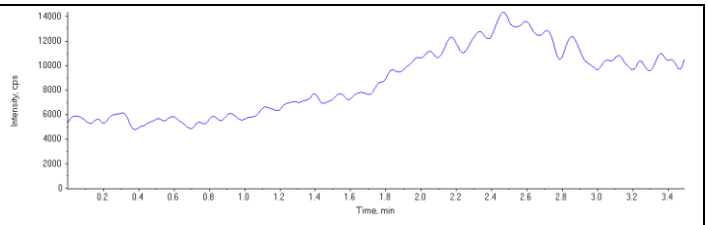
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 0.00 (1.92) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



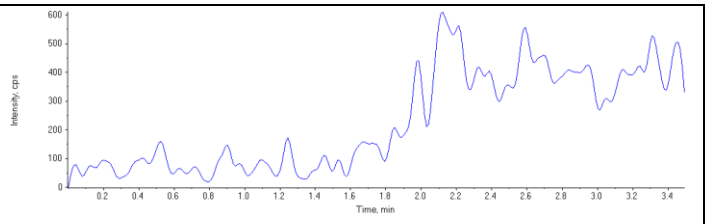
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 0.00 (1.97) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



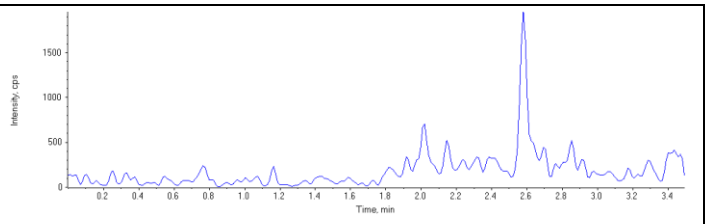
PFNA 1 (462.900/419.000 Da)

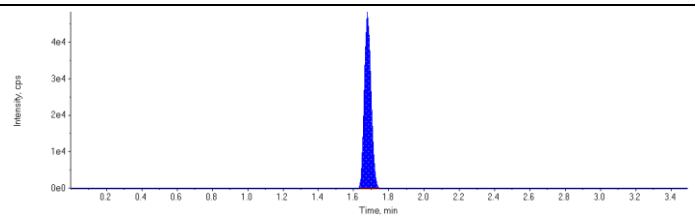
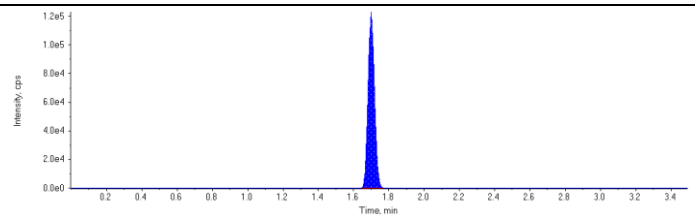
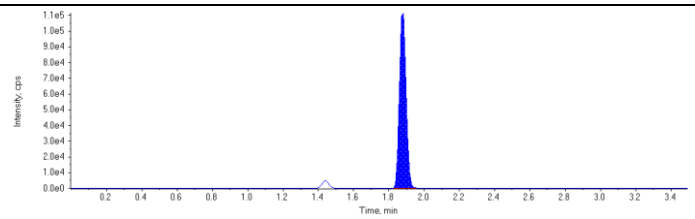
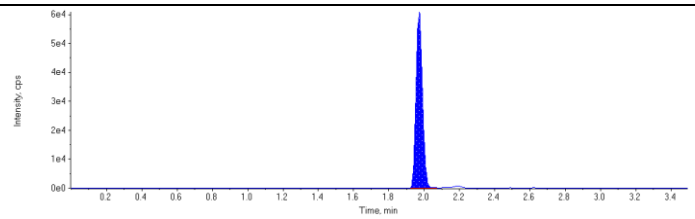
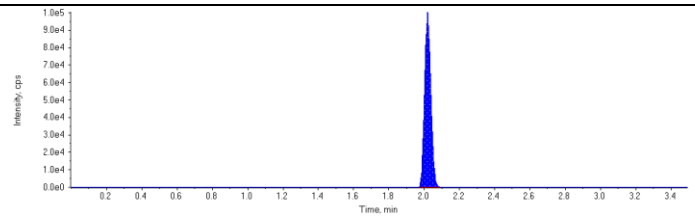
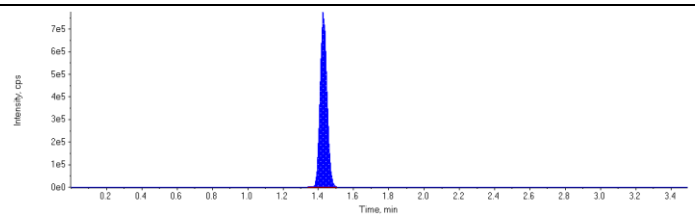
RT (Exp. RT): 0.00 (2.02) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 83.7 ng/L Area Ratio: 0.0593 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 69.5 ng/L Area Ratio: 0.146 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 76.4 ng/L Area Ratio: 0.139 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 84.6 ng/L Area Ratio: 0.0728 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 76.0 ng/L Area Ratio: 0.118 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 91.9 ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

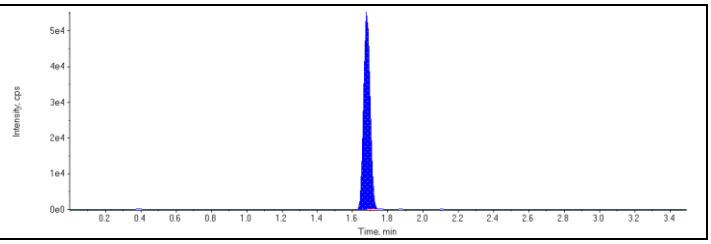
Sample Name	**4389346~BVX851-01**	**Injection Vial**	26
Sample ID	4389346~BVX851-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:58:24 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Re-injected
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	139000.	1.68	1.00	-
MPFHpA	263000.	1.70	1.00	-
MPFOA	258000.	1.88	1.00	-
MPFOS	156000.	1.97	1.00	-
MPFNA	209000.	2.02	1.00	-
13C6-PFHxA IS	2560000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	8120	1.68	N/A	0.400	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	139000	1.68	N/A	76.6	N/A
13C4-PFHpA	263000	1.70	N/A	48.9	N/A
13C4-PFOA	258000	1.88	N/A	55.3	N/A
13C4-PFOS	156000	1.97	N/A	71.0	N/A
13C5-PFNA	209000	2.02	N/A	52.7	N/A
13C6-PFHxA	2560000	1.43	N/A	112.	N/A

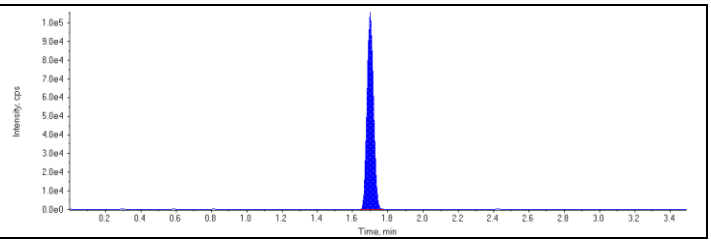
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



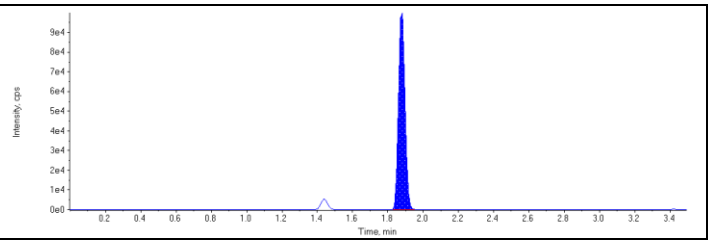
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



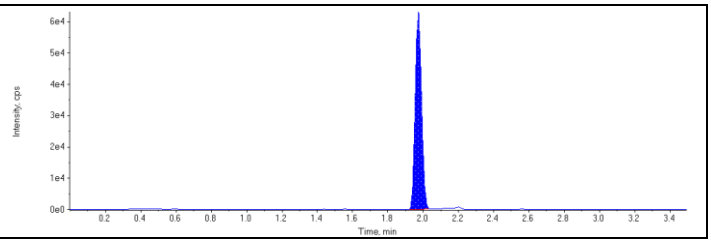
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



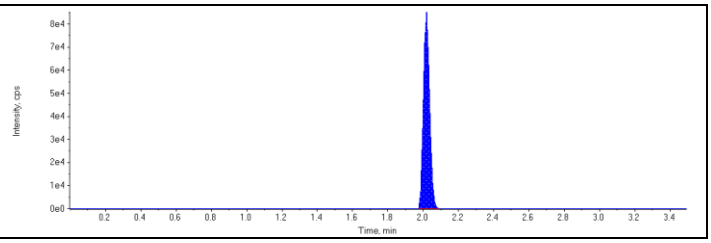
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



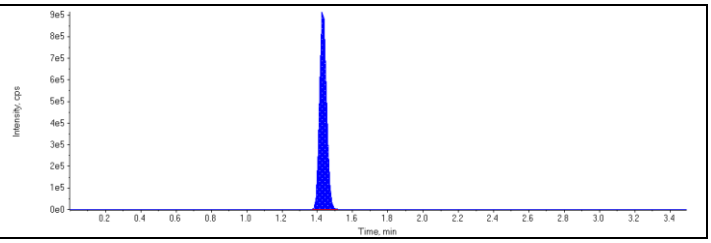
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

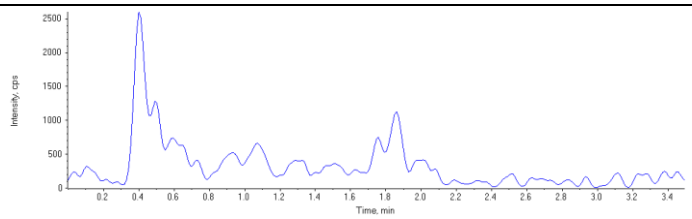
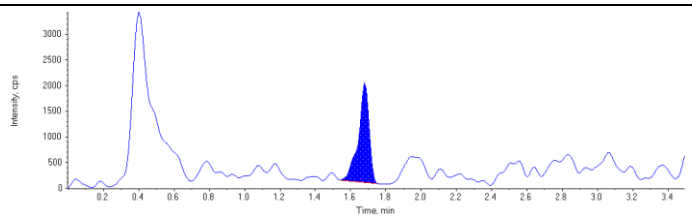
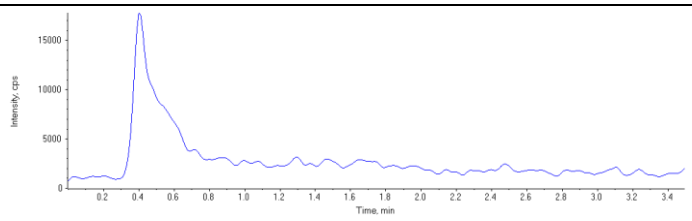
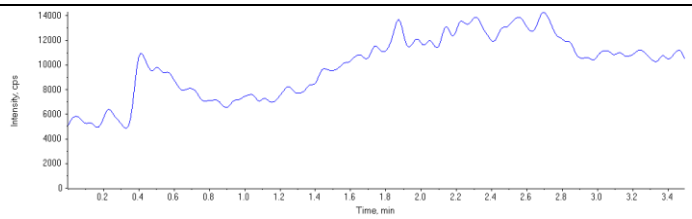
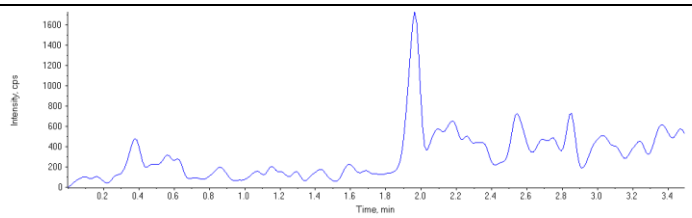
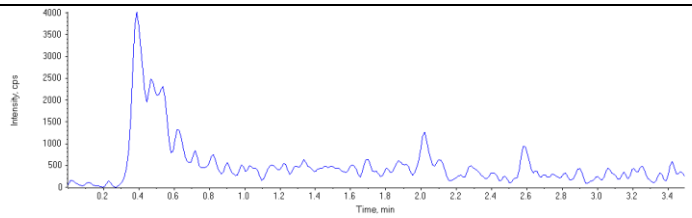
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

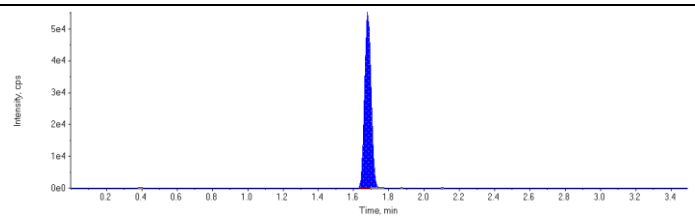
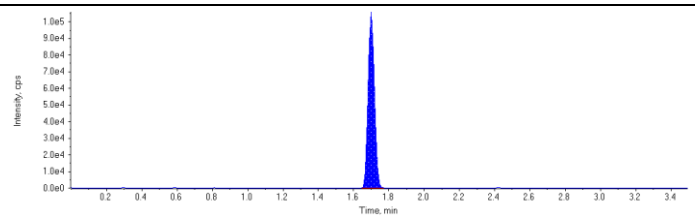
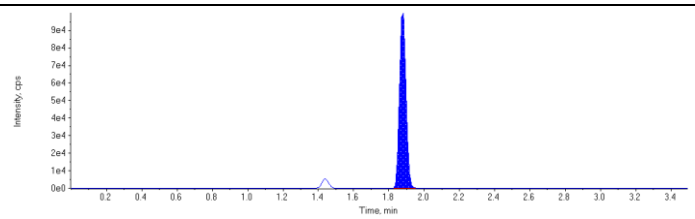
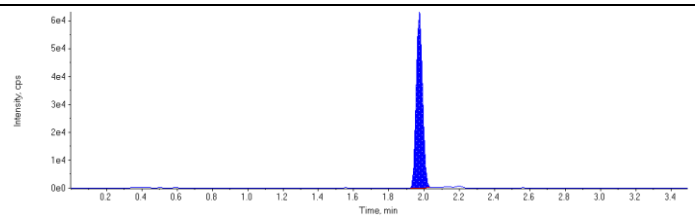
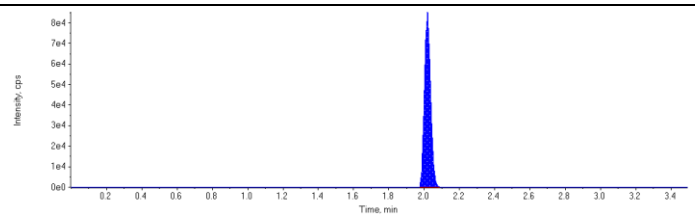
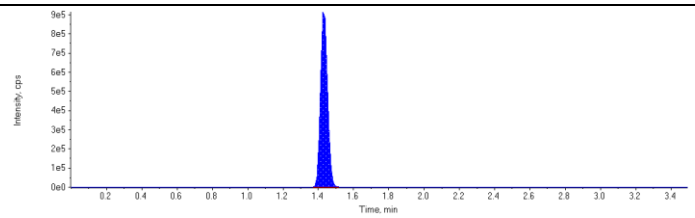


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.15) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 0.400 ng/L Area Ratio: 0.0585 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 76.6 ng/L Area Ratio: 0.0543 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 48.9 ng/L Area Ratio: 0.103 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 55.3 ng/L Area Ratio: 0.101 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 71.0 ng/L Area Ratio: 0.0611 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 52.7 ng/L Area Ratio: 0.0818 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 112. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

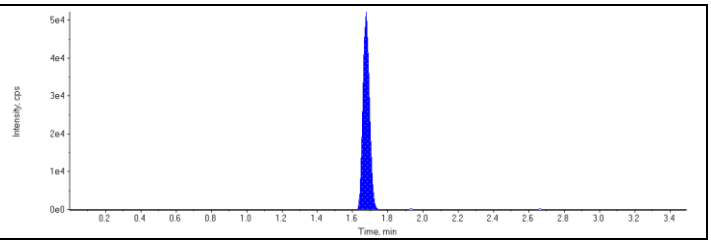
Sample Name	**4389346~BVX851-01**	**Injection Vial**	26
Sample ID	4389346~BVX851-01	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 7:45:26 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Reported
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	132000.	1.68	1.00	-
MPFHpA	258000.	1.70	1.00	-
MPFOA	245000.	1.87	1.00	-
MPFOS	150000.	1.97	1.00	-
MPFNA	212000.	2.02	1.00	-
13C6-PFHxA IS	2620000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFHxS 1	9140	1.67	N/A	0.436	N/A
PFHpA 1	0	0.00	N/A	N/A	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	132000	1.68	N/A	71.1	N/A
13C4-PFHpA	258000	1.70	N/A	46.9	N/A
13C4-PFOA	245000	1.87	N/A	51.4	N/A
13C4-PFOS	150000	1.97	N/A	66.8	N/A
13C5-PFNA	212000	2.02	N/A	52.3	N/A
13C6-PFHxA	2620000	1.43	N/A	114.	N/A

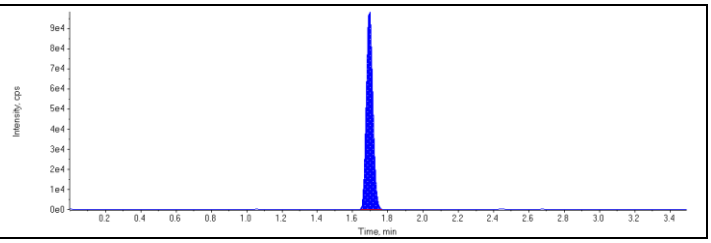
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



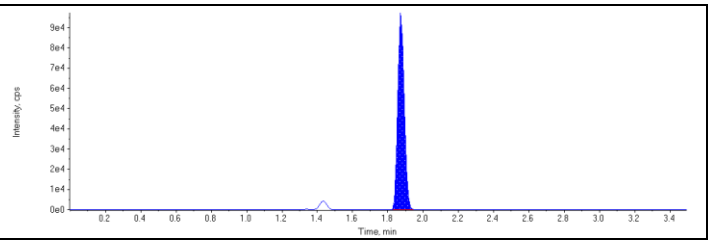
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



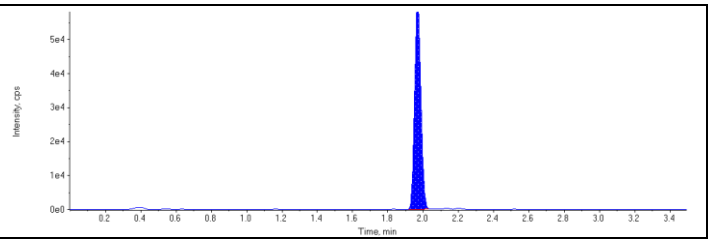
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



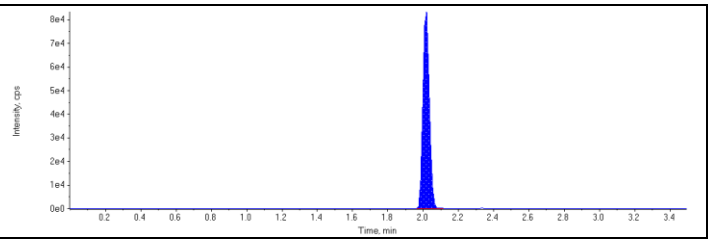
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



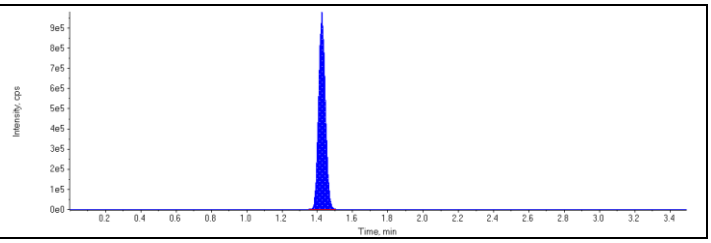
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

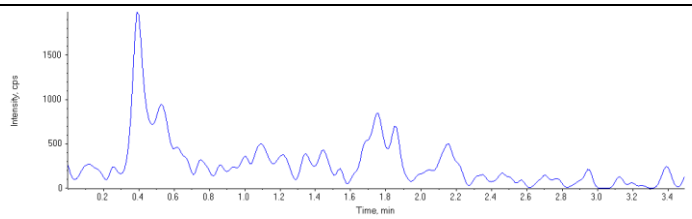
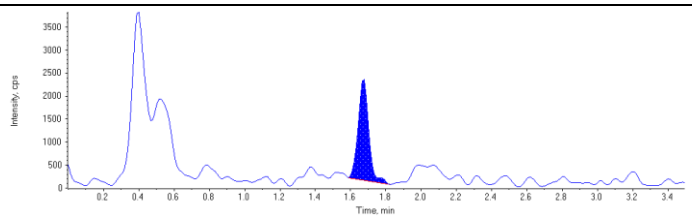
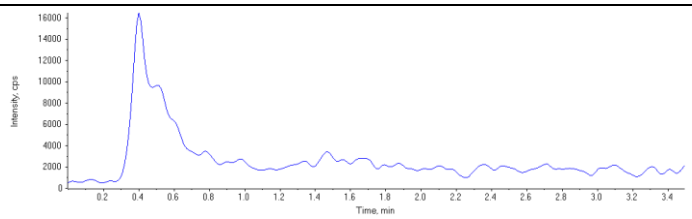
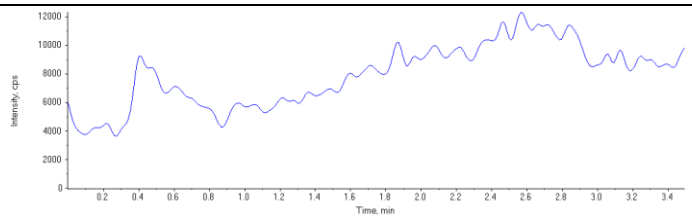
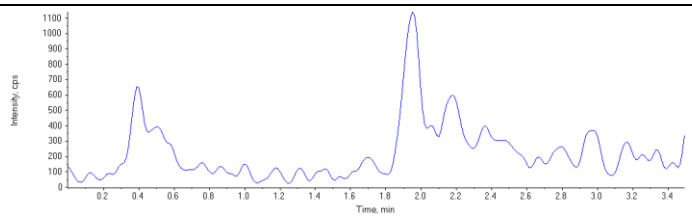
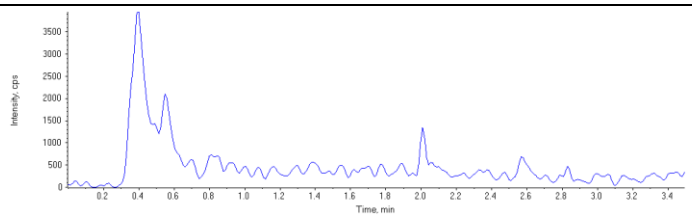
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)

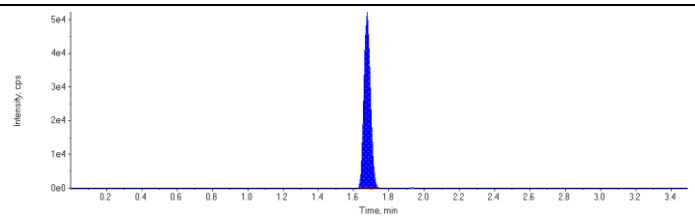
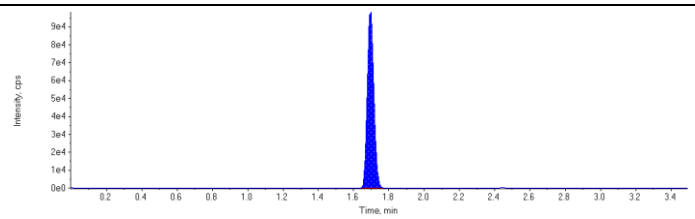
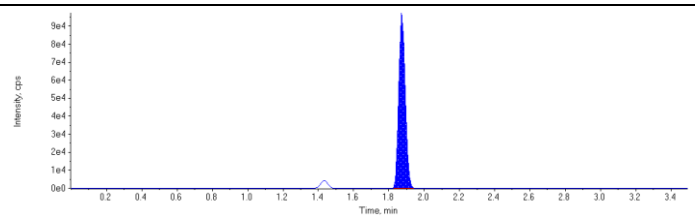
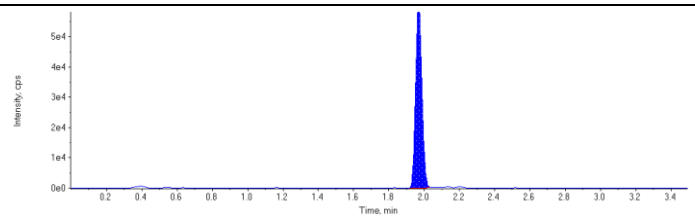
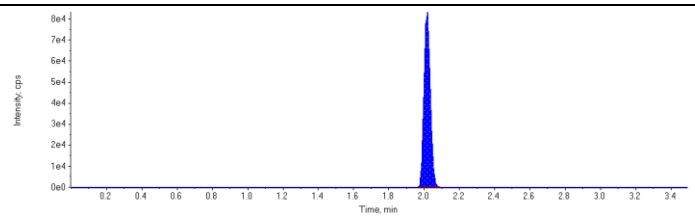
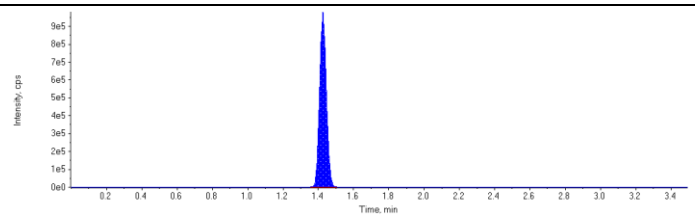


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.15) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 0.436 ng/L Area Ratio: 0.0693 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 71.1 ng/L Area Ratio: 0.0504 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 46.9 ng/L Area Ratio: 0.0988 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 51.4 ng/L Area Ratio: 0.0937 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 66.8 ng/L Area Ratio: 0.0574 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 52.3 ng/L Area Ratio: 0.0812 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 114. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

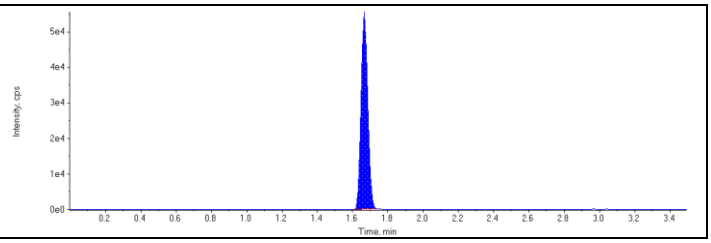
Sample Name	**4394558~BVX844-01(50X)**	**Injection Vial**	39
Sample ID	4394558~BVX844-01(50X)	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 11:05:56 AM	**Dilution Factor**	50.0
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	144000.	1.67	1.00	-
MPFHpA	445000.	1.69	1.00	-
MPFOA	396000.	1.87	1.00	-
MPFOS	177000.	1.96	1.00	-
MPFNA	299000.	2.01	1.00	-
13C6-PFHxA IS	2330000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	19300	1.12	N/A	45.0	N/A
PFHxS 1	426000	1.67	N/A	521.	N/A
PFHpA 1	19400	1.69	N/A	23.1	N/A
PFOA 1	470000	1.87	N/A	409.	N/A
PFOS 1	585000	1.95	N/A	1070.	N/A
PFNA 1	6570	2.01	N/A	7.95	N/A
18O2-PFHxS	144000	1.67	N/A	4770.	N/A
13C4-PFHpA	445000	1.69	N/A	4970.	N/A
13C4-PFOA	396000	1.87	N/A	5070.	N/A
13C4-PFOS	177000	1.96	N/A	4820.	N/A
13C5-PFNA	299000	2.01	N/A	4780.	N/A
13C6-PFHxA	2330000	1.43	N/A	4710.	N/A

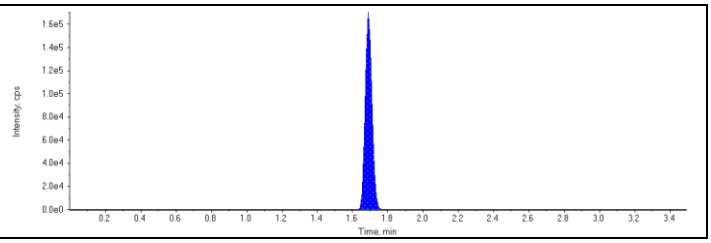
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



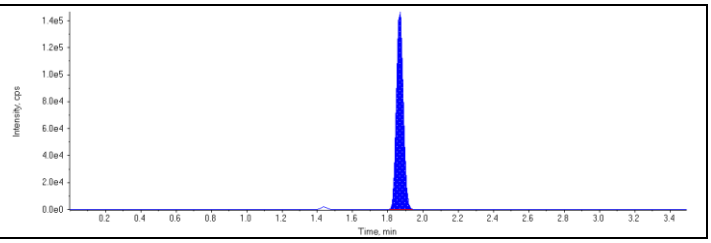
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



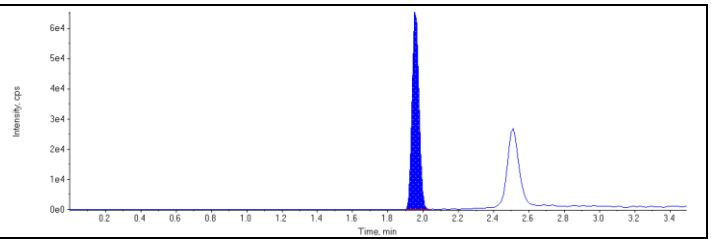
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



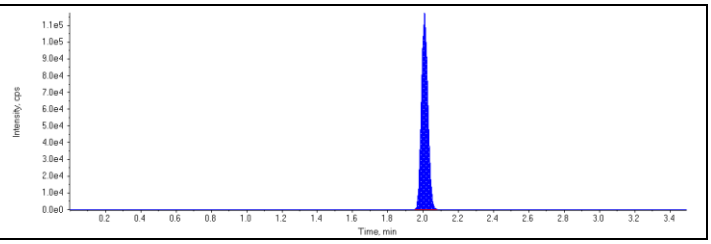
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



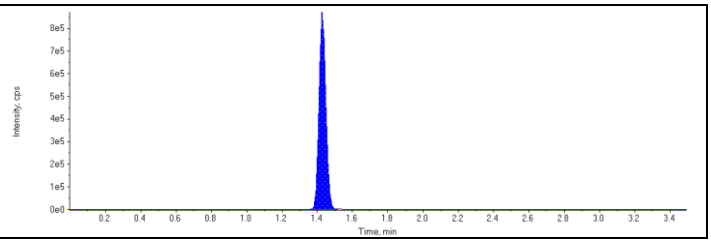
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

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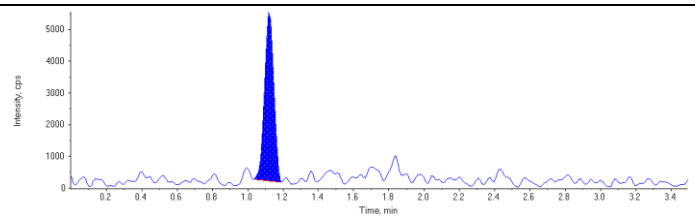
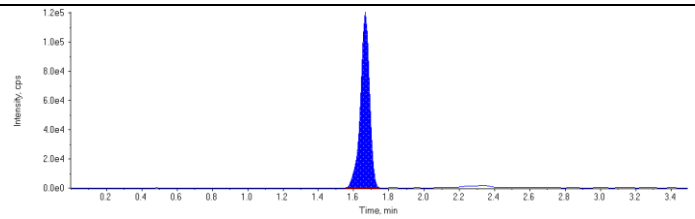
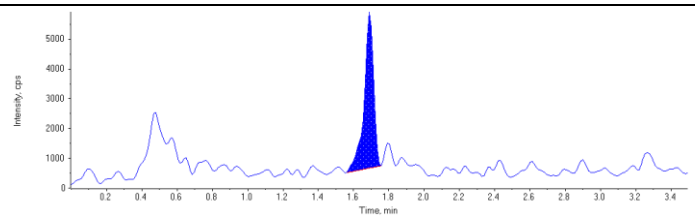
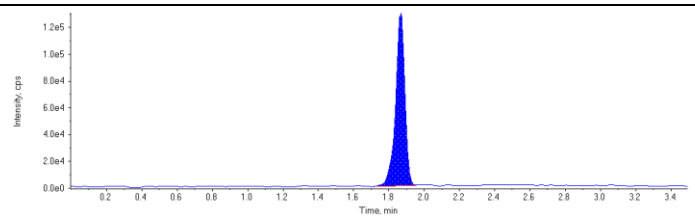
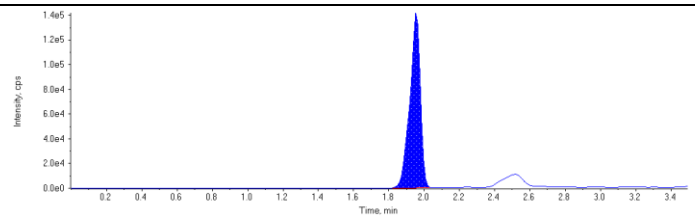
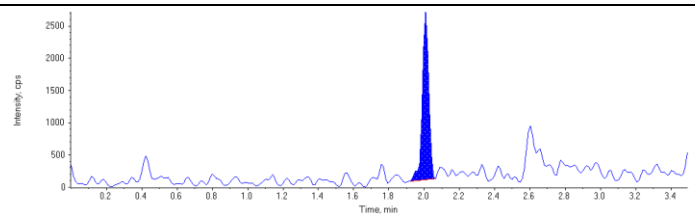
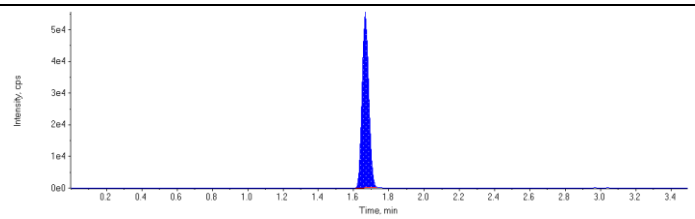
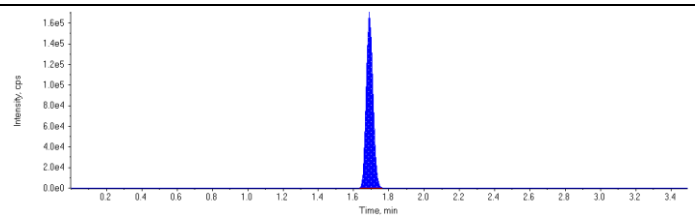
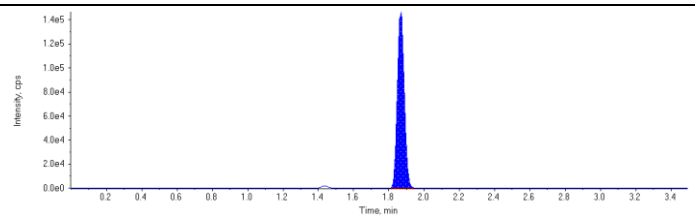
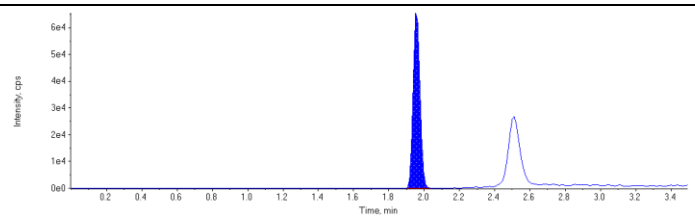
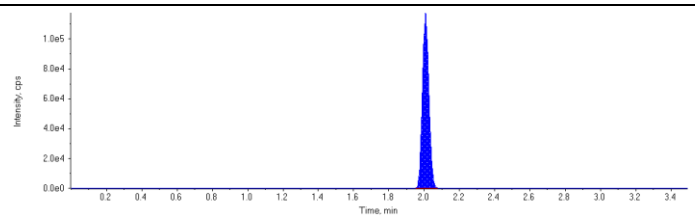
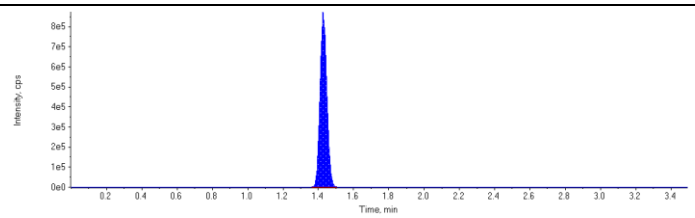
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.12 (1.09) min Calculated Conc: 45.0 ng/L Area Ratio: 0.135 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 521. ng/L Area Ratio: 2.97 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 23.1 ng/L Area Ratio: 0.0436 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 409. ng/L Area Ratio: 1.19 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.95 (1.97) min Calculated Conc: 1070. ng/L Area Ratio: 3.30 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 7.95 ng/L Area Ratio: 0.0220 Sample Type: (Unknown)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 4770. ng/L Area Ratio: 0.0615 Sample Type: (Unknown)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 4970. ng/L Area Ratio: 0.191 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 5070. ng/L Area Ratio: 0.170 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 4820. ng/L Area Ratio: 0.0760 Sample Type: (Unknown)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 4780. ng/L Area Ratio: 0.128 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 4710. ng/L Area Ratio: 0.00 Sample Type: (Unknown)	

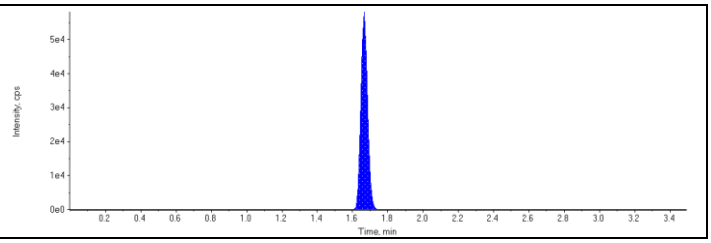
Sample Name	**4394558~BVX845-01(50X)**	**Injection Vial**	40
Sample ID	4394558~BVX845-01(50X)	**Injection Volume (µL)**	3
Sample Type	Unknown	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 11:11:02 AM	**Dilution Factor**	50.0
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	150000.	1.67	1.00	-
MPFHpA	447000.	1.69	1.00	-
MPFOA	410000.	1.87	1.00	-
MPFOS	187000.	1.96	1.00	-
MPFNA	321000.	2.01	1.00	-
13C6-PFHxA IS	2500000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	21000	1.10	N/A	46.0	N/A
PFHxS 1	491000	1.67	N/A	576.	N/A
PFHpA 1	24500	1.69	N/A	27.8	N/A
PFOA 1	550000	1.87	N/A	462.	N/A
PFOS 1	679000	1.95	N/A	1180.	N/A
PFNA 1	6540	2.01	N/A	7.35	N/A
18O2-PFHxS	150000	1.67	N/A	4640.	N/A
13C4-PFHpA	447000	1.69	N/A	4660.	N/A
13C4-PFOA	410000	1.87	N/A	4900.	N/A
13C4-PFOS	187000	1.96	N/A	4750.	N/A
13C5-PFNA	321000	2.01	N/A	4790.	N/A
13C6-PFHxA	2500000	1.43	N/A	5040.	N/A

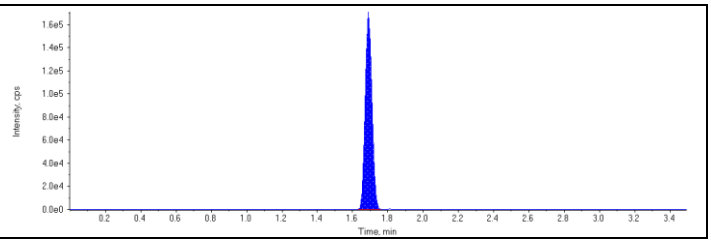
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



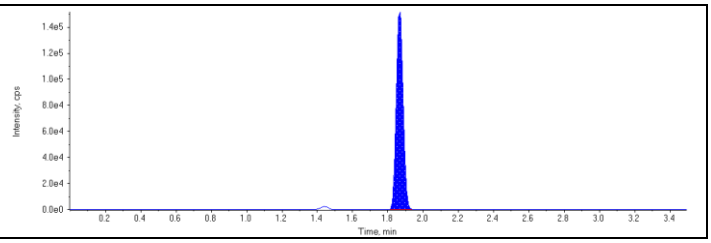
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



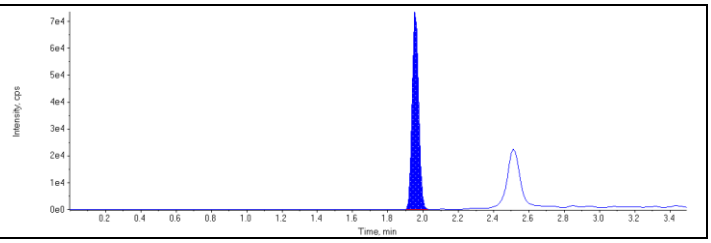
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



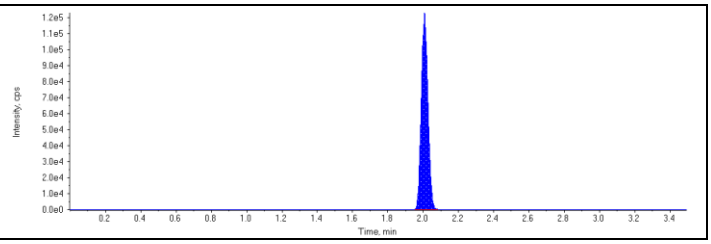
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



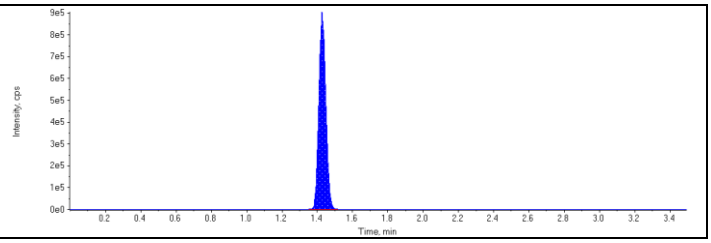
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



13C6-PFHxA IS (Internal Standard)

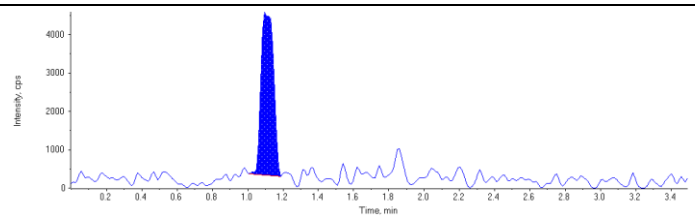
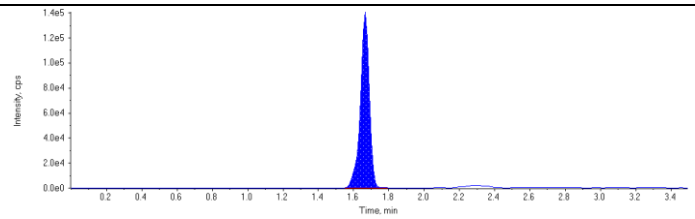
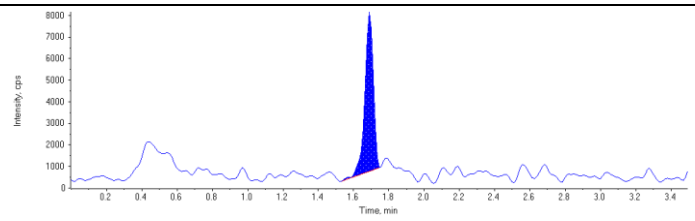
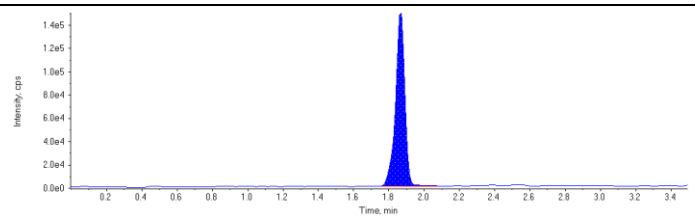
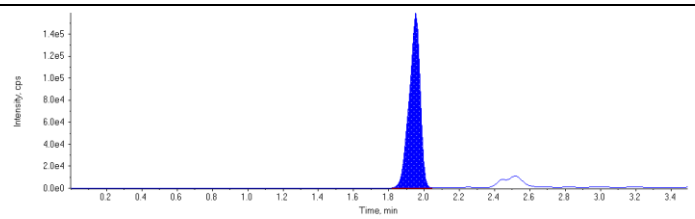
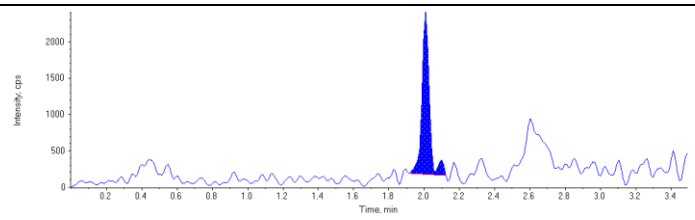
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Unknown)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Unknown)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.09) min Calculated Conc: 46.0 ng/L Area Ratio: 0.140 Sample Type: (Unknown)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 576. ng/L Area Ratio: 3.28 Sample Type: (Unknown)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 27.8 ng/L Area Ratio: 0.0549 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 462. ng/L Area Ratio: 1.34 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.95 (1.97) min Calculated Conc: 1180. ng/L Area Ratio: 3.63 Sample Type: (Unknown)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 7.35 ng/L Area Ratio: 0.0204 Sample Type: (Unknown)	

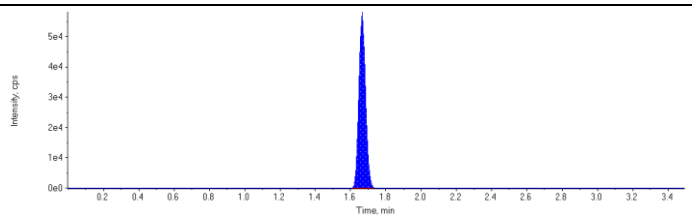
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 4640. ng/L

Area Ratio: 0.0599

Sample Type: (Unknown)



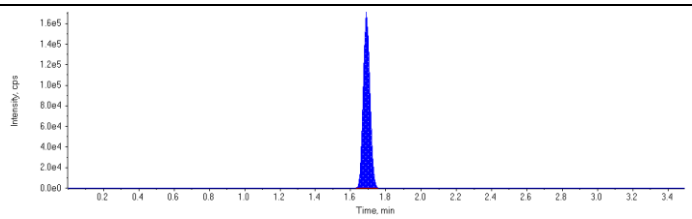
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 4660. ng/L

Area Ratio: 0.179

Sample Type: (Unknown)



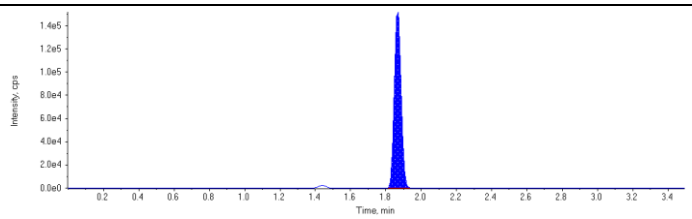
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 4900. ng/L

Area Ratio: 0.164

Sample Type: (Unknown)



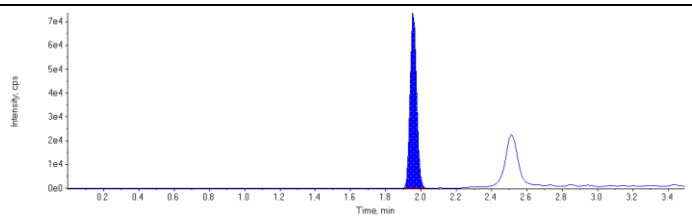
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 4750. ng/L

Area Ratio: 0.0749

Sample Type: (Unknown)



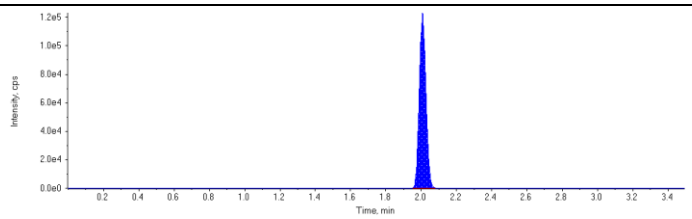
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 4790. ng/L

Area Ratio: 0.128

Sample Type: (Unknown)



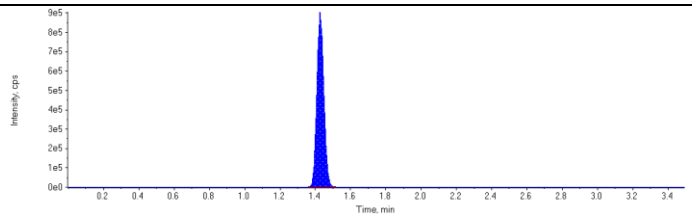
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 5040. ng/L

Area Ratio: 0.00

Sample Type: (Unknown)



4. QA/QC Data

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

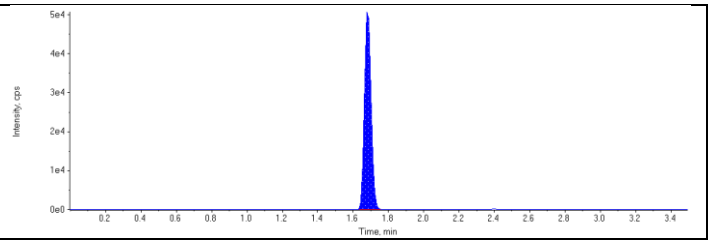
Sample Name	**4389346~BLANK**	**Injection Vial**	1
Sample ID	4389346~BLANK	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/22 11:40:54 PM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	133000.	1.68	1.00	-
MPFHpA	399000.	1.70	1.00	-
MPFOA	379000.	1.88	1.00	-
MPFOS	177000.	1.97	1.00	-
MPFNA	287000.	2.02	1.00	-
13C6-PFHxA IS	2160000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	0.00	N/A	0.0
PFHxS 1	0	0.00	0.00	N/A	0.0
PFHpA 1	0	0.00	0.00	N/A	0.0
PFOA 1	0	0.00	0.00	N/A	0.0
PFOS 1	0	0.00	0.00	N/A	0.0
PFNA 1	0	0.00	0.00	N/A	0.0
18O2-PFHxS	133000	1.68	100.	87.1	87.1
13C4-PFHpA	399000	1.70	100.	87.7	87.7
13C4-PFOA	379000	1.88	100.	96.3	96.3
13C4-PFOS	177000	1.97	100.	95.1	95.1
13C5-PFNA	287000	2.02	100.	85.5	85.5
13C6-PFHxA	2160000	1.43	100.	94.2	94.2

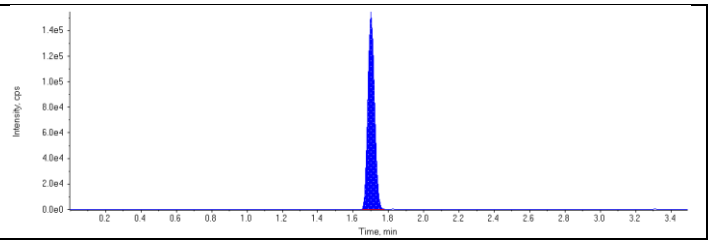
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



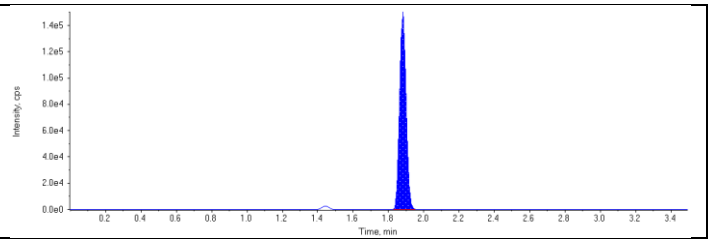
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



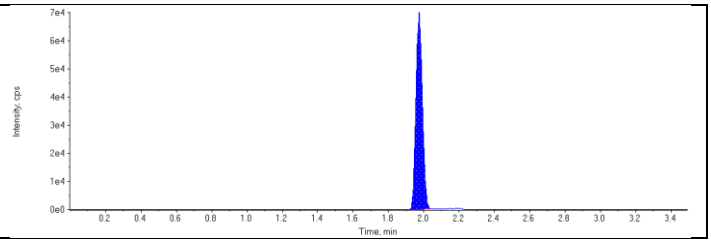
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



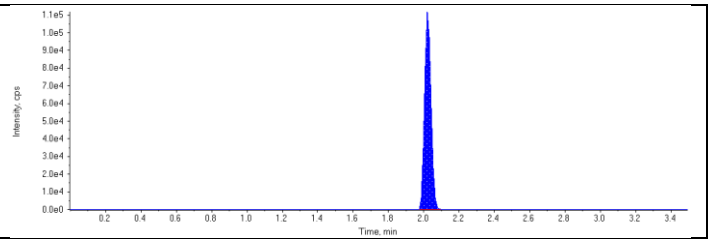
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



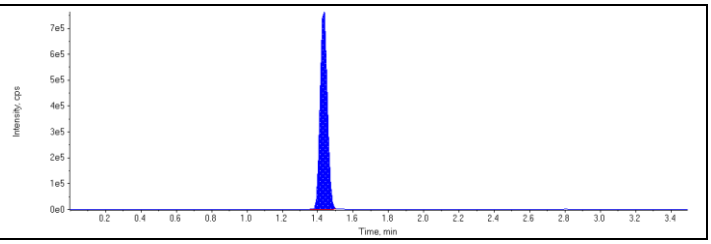
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

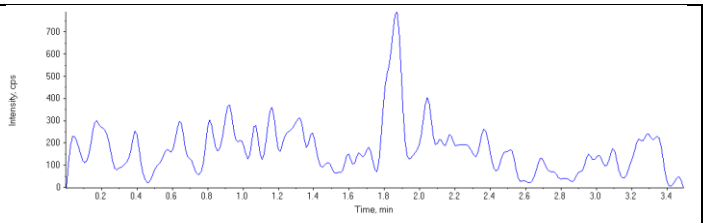
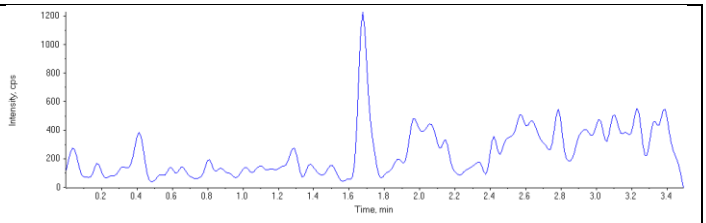
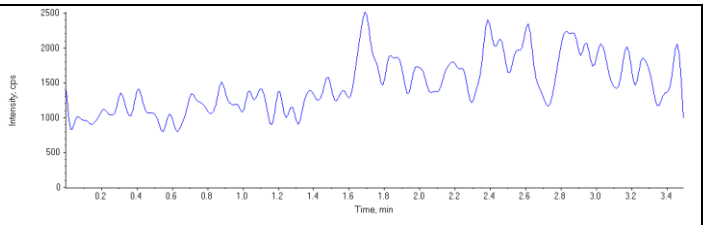
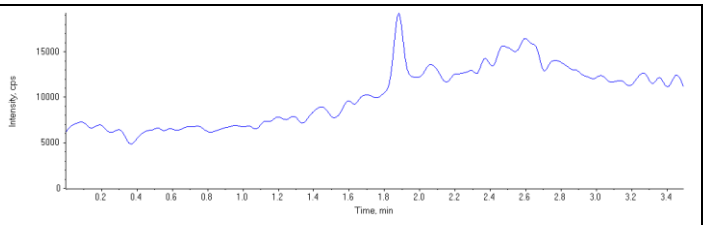
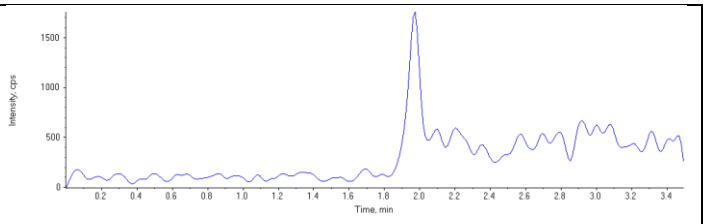
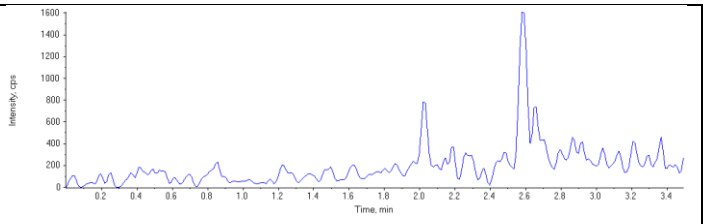
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

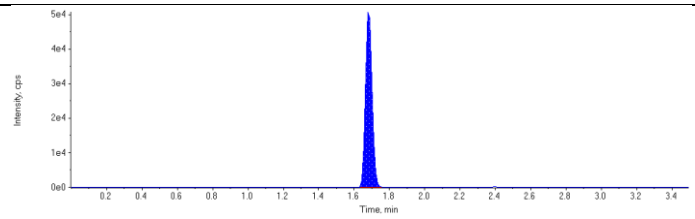
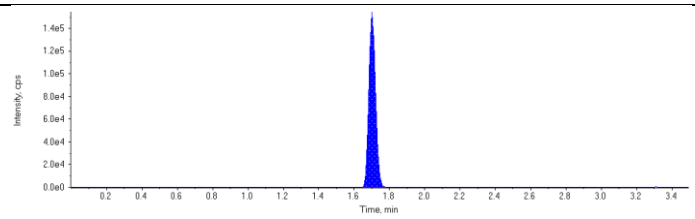
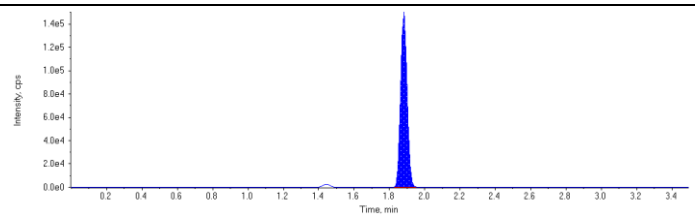
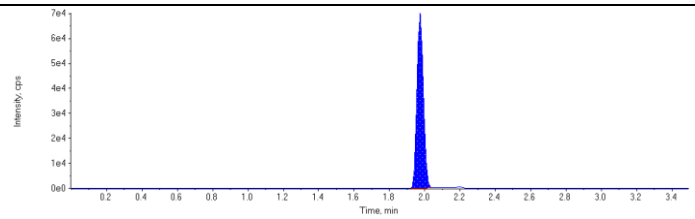
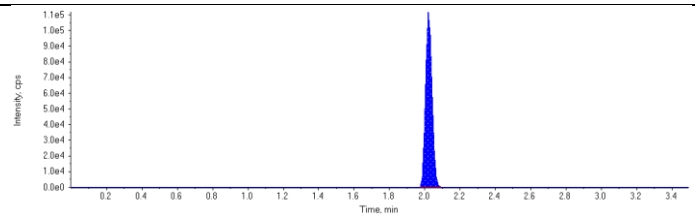
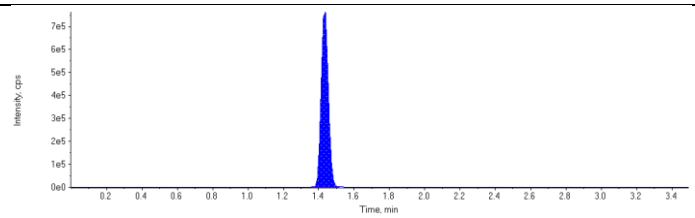


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.15) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 0.00 (1.68) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 0.00 (1.75) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.92) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 0.00 (2.02) min Calculated Conc: N/A ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 87.1 ng/L Area Ratio: 0.0617 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 87.7 ng/L Area Ratio: 0.185 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 96.3 ng/L Area Ratio: 0.175 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 95.1 ng/L Area Ratio: 0.0818 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 85.5 ng/L Area Ratio: 0.133 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 94.2 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

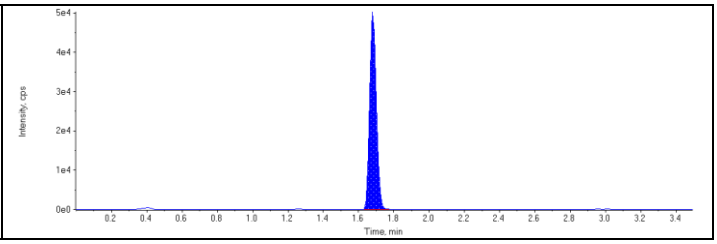
Sample Name	**4389346~MTRX SPK**	**Injection Vial**	9
Sample ID	4389346~MTRX SPK	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:26:43 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Re-injected
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	132000.	1.68	1.00	-
MPFHpA	412000.	1.70	1.00	-
MPFOA	351000.	1.88	1.00	-
MPFOS	150000.	1.97	1.00	-
MPFNA	284000.	2.02	1.00	-
13C6-PFHxA IS	2990000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	3080000	1.11	50.0	79.4	159.0
PFHxS 1	2840000	1.68	50.0	71.7	143.0
PFHpA 1	3310000	1.70	50.0	63.1	126.0
PFOA 1	3370000	1.88	50.0	64.3	129.0
PFOS 1	1620000	1.97	50.0	62.2	124.0
PFNA 1	2650000	2.02	50.0	65.7	131.0
18O2-PFHxS	132000	1.68	100.	62.4	62.4
13C4-PFHpA	412000	1.70	100.	65.5	65.5
13C4-PFOA	351000	1.88	100.	64.4	64.4
13C4-PFOS	150000	1.97	100.	58.3	58.3
13C5-PFNA	284000	2.02	100.	61.3	61.3
13C6-PFHxA	2990000	1.43	100.	130.	130.0

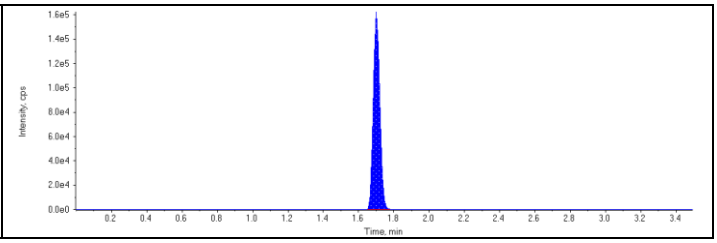
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



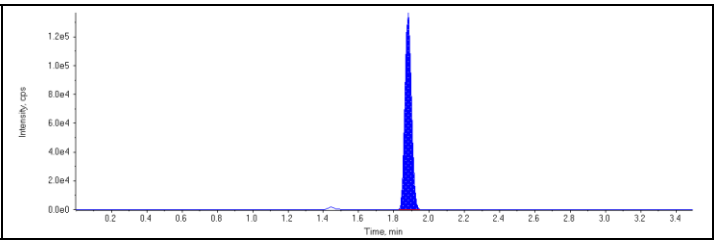
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



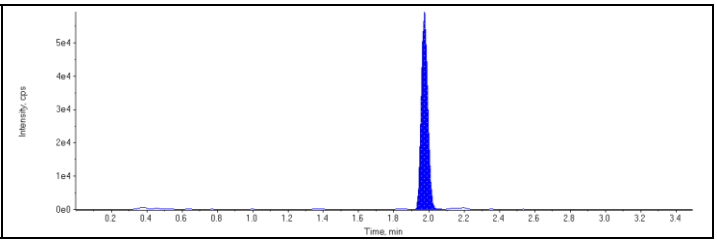
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



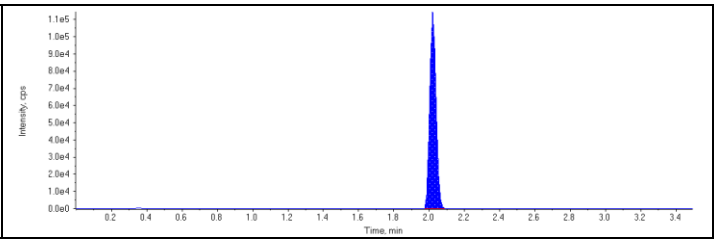
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



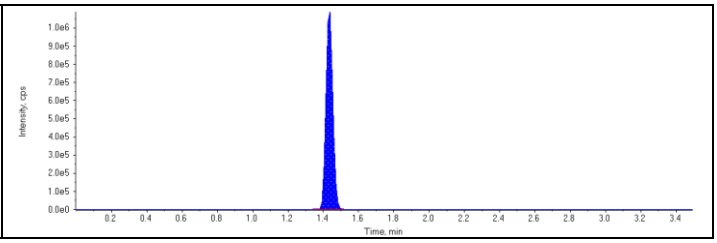
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

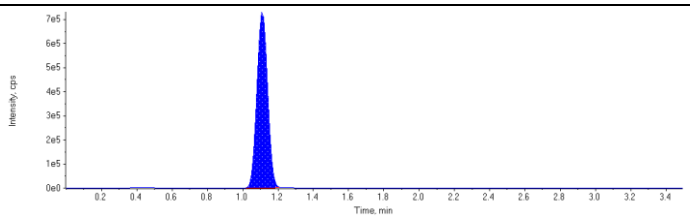
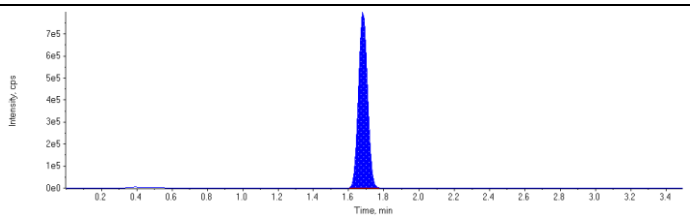
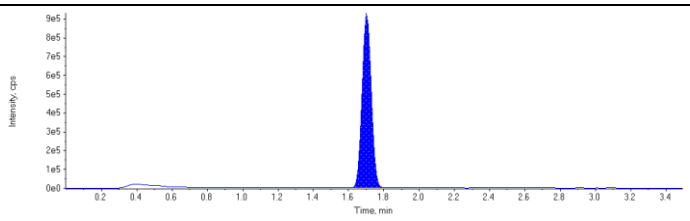
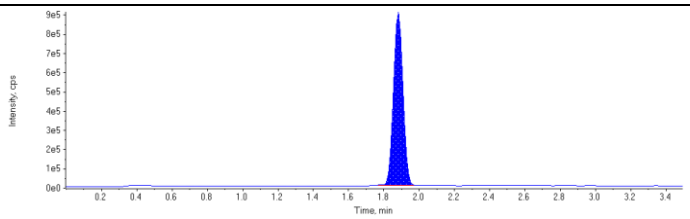
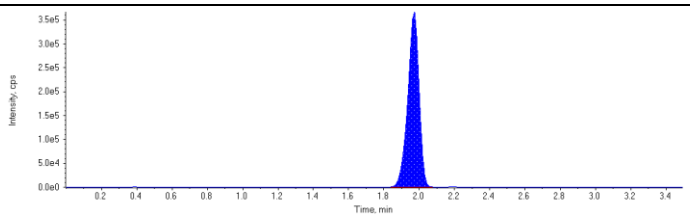
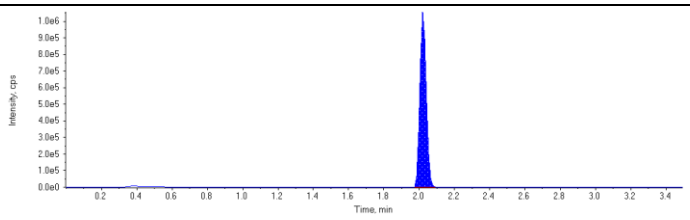
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

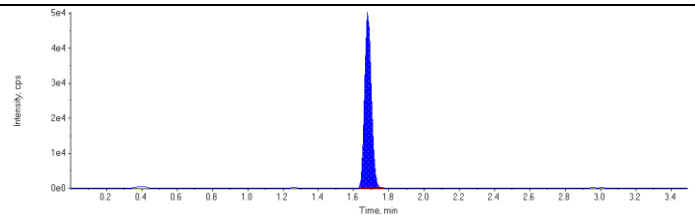
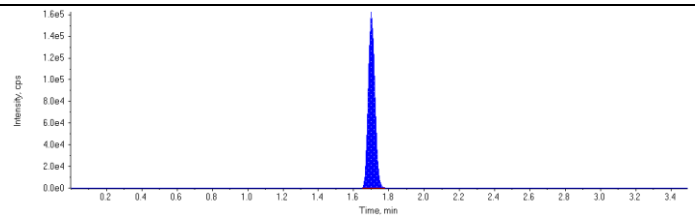
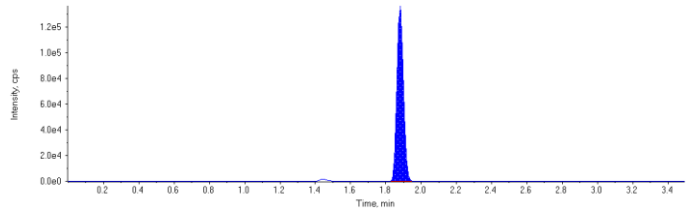
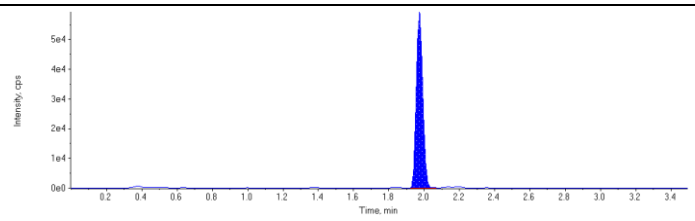
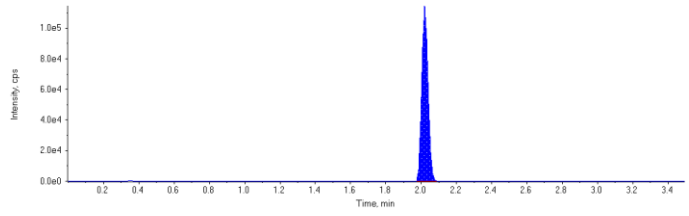
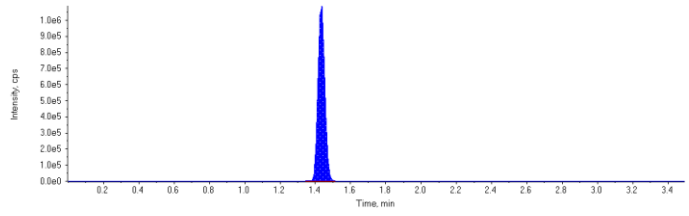


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 79.4 ng/L Area Ratio: 23.3 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 71.7 ng/L Area Ratio: 21.5 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 63.1 ng/L Area Ratio: 8.04 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 64.3 ng/L Area Ratio: 9.60 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 62.2 ng/L Area Ratio: 10.8 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 65.7 ng/L Area Ratio: 9.32 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 62.4 ng/L Area Ratio: 0.0442 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 65.5 ng/L Area Ratio: 0.138 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 64.4 ng/L Area Ratio: 0.117 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 58.3 ng/L Area Ratio: 0.0501 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 61.3 ng/L Area Ratio: 0.0951 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 130. ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

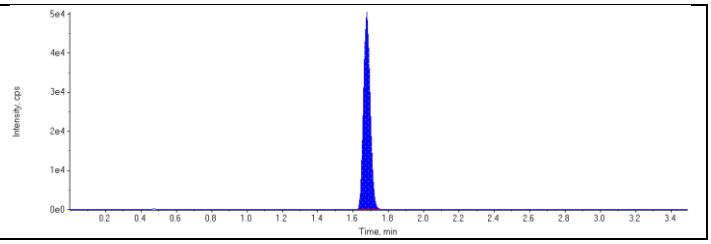
Sample Name	4389346~MTRX SPK	Injection Vial	9
Sample ID	4389346~MTRX SPK	Injection Volume (µL)	3
Sample Type	Quality Control	Algorithm Used	Analyst Classic
Acquisition Date	2016/02/23 7:19:54 AM	Dilution Factor	1.00
Acquisition Method	PFC_Water_Low.dam	Sample Annotation	Reported
Project	Enviro\PFOS	Instrument Name	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	129000.	1.68	1.00	-
MPFHpA	336000.	1.70	1.00	-
MPFOA	349000.	1.87	1.00	-
MPFOS	148000.	1.97	1.00	-
MPFNA	260000.	2.02	1.00	-
13C6-PFHxA IS	2660000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2560000	1.10	50.0	67.8	136.0
PFHxS 1	2720000	1.68	50.0	70.3	141.0
PFHpA 1	3030000	1.70	50.0	70.8	142.0
PFOA 1	3330000	1.88	50.0	64.0	128.0
PFOS 1	1560000	1.97	50.0	60.1	120.0
PFNA 1	2400000	2.02	50.0	65.1	130.0
18O2-PFHxS	129000	1.68	100.	68.5	68.5
13C4-PFHpA	336000	1.70	100.	60.1	60.1
13C4-PFOA	349000	1.87	100.	72.1	72.1
13C4-PFOS	148000	1.97	100.	65.0	65.0
13C5-PFNA	260000	2.02	100.	63.1	63.1
13C6-PFHxA	2660000	1.43	100.	116.	116.0

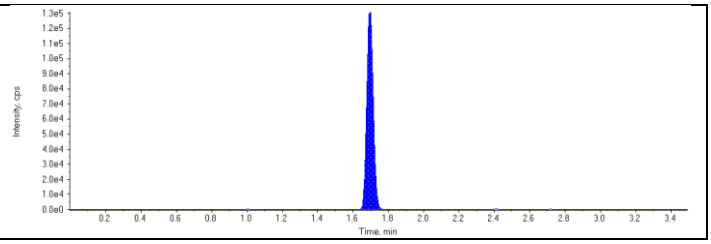
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



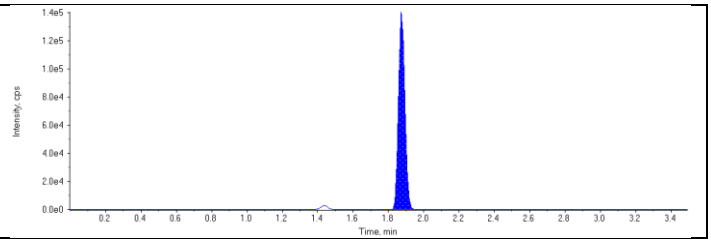
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



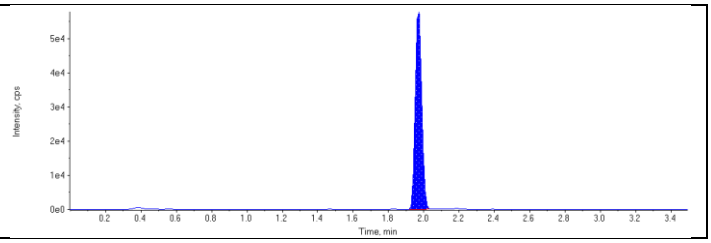
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



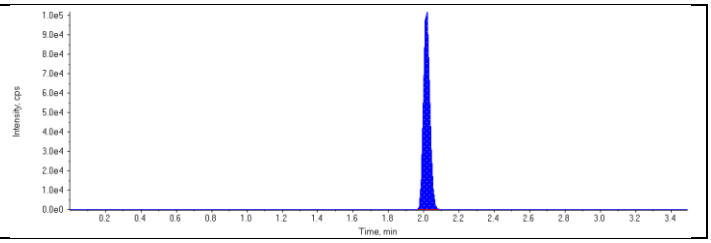
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



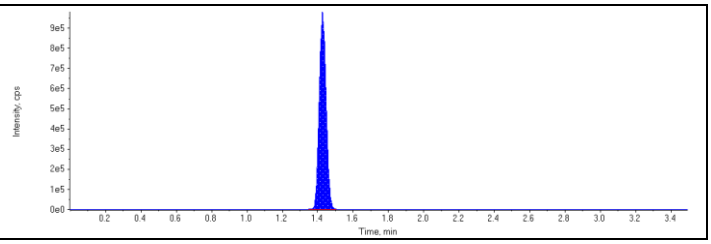
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

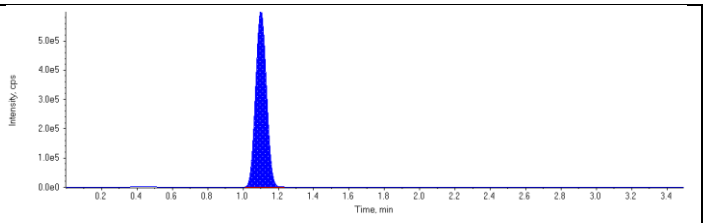
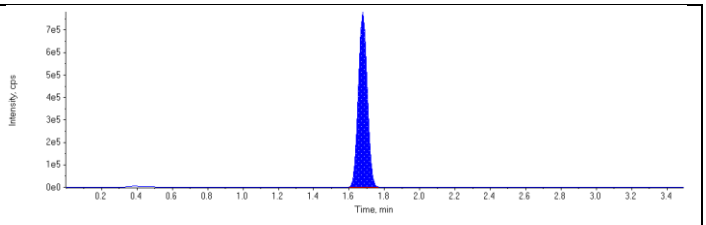
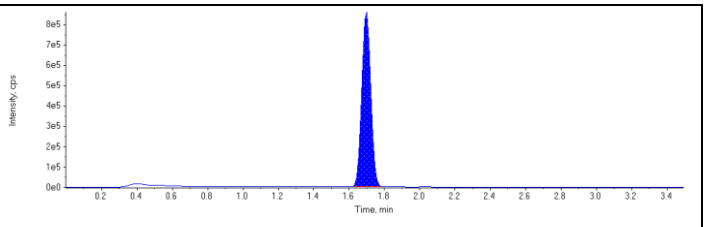
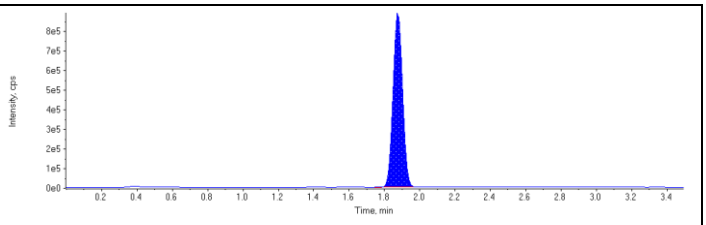
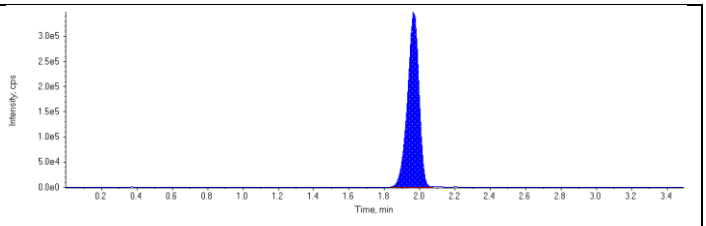
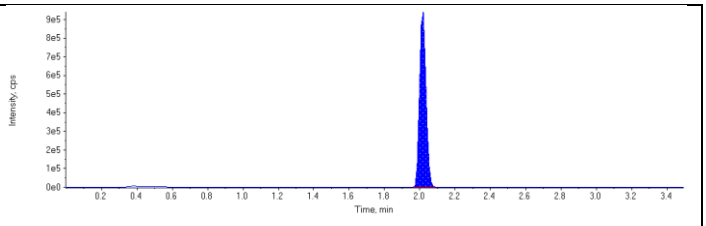
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.15) min Calculated Conc: 67.8 ng/L Area Ratio: 19.9 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 70.3 ng/L Area Ratio: 21.1 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 70.8 ng/L Area Ratio: 9.02 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 64.0 ng/L Area Ratio: 9.54 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 60.1 ng/L Area Ratio: 10.5 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 65.1 ng/L Area Ratio: 9.23 Sample Type: (Quality Control)	

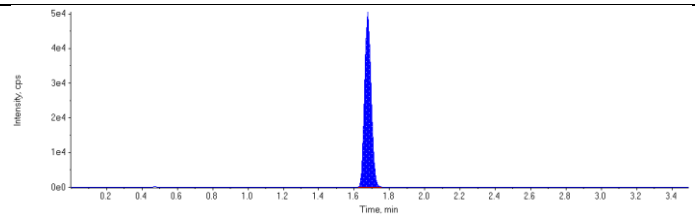
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 68.5 ng/L

Area Ratio: 0.0485

Sample Type: (Quality Control)



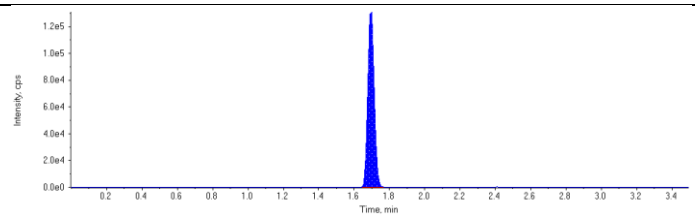
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.70 (1.75) min

Calculated Conc: 60.1 ng/L

Area Ratio: 0.127

Sample Type: (Quality Control)



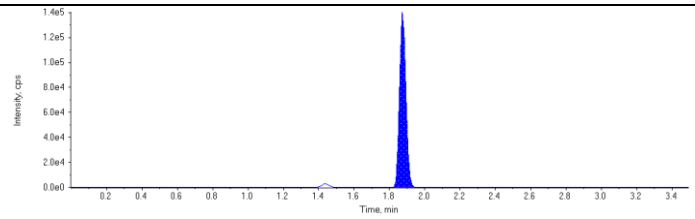
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 72.1 ng/L

Area Ratio: 0.131

Sample Type: (Quality Control)



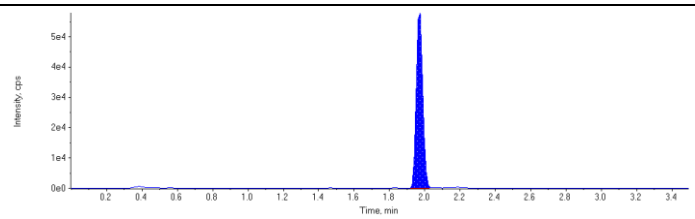
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 65.0 ng/L

Area Ratio: 0.0559

Sample Type: (Quality Control)



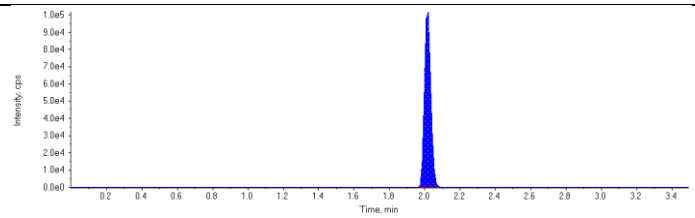
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 63.1 ng/L

Area Ratio: 0.0979

Sample Type: (Quality Control)



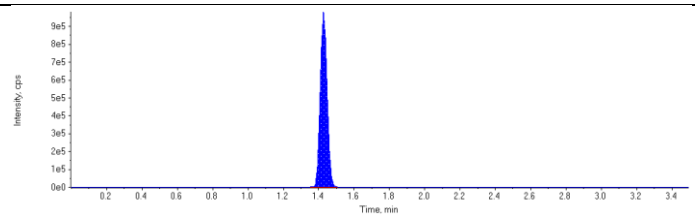
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 116. ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



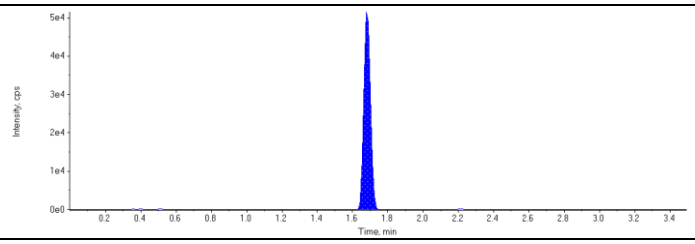
Sample Name	**4389346~MTRX SPK:D1**	**Injection Vial**	10
Sample ID	4389346~MTRX SPK:D1	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:31:48 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Re-injected
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	135000.	1.68	1.00	-
MPFHpA	357000.	1.70	1.00	-
MPFOA	329000.	1.88	1.00	-
MPFOS	143000.	1.97	1.00	-
MPFNA	254000.	2.02	1.00	-
13C6-PFHxA IS	2820000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2920000	1.11	50.0	73.6	147.0
PFHxS 1	2680000	1.68	50.0	66.3	133.0
PFHpA 1	2880000	1.70	50.0	63.4	127.0
PFOA 1	2930000	1.88	50.0	59.8	120.0
PFOS 1	1580000	1.97	50.0	63.0	126.0
PFNA 1	2380000	2.02	50.0	66.0	132.0
18O2-PFHxS	135000	1.68	100.	67.5	67.5
13C4-PFHpA	357000	1.70	100.	60.0	60.0
13C4-PFOA	329000	1.88	100.	64.0	64.0
13C4-PFOS	143000	1.97	100.	59.1	59.1
13C5-PFNA	254000	2.02	100.	58.0	58.0
13C6-PFHxA	2820000	1.43	100.	123.	123.0

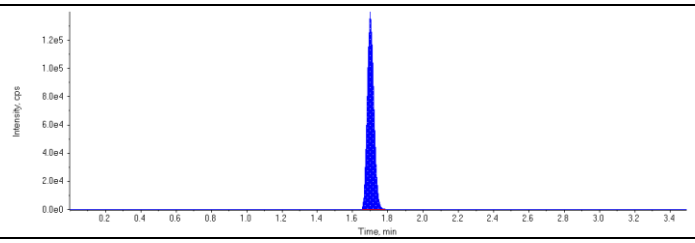
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



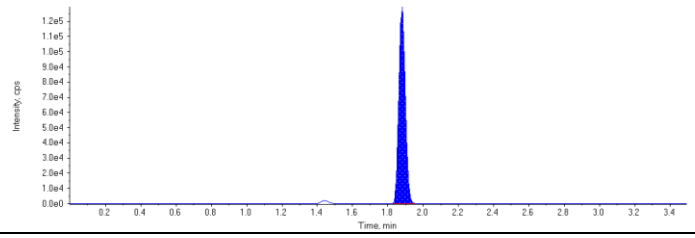
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



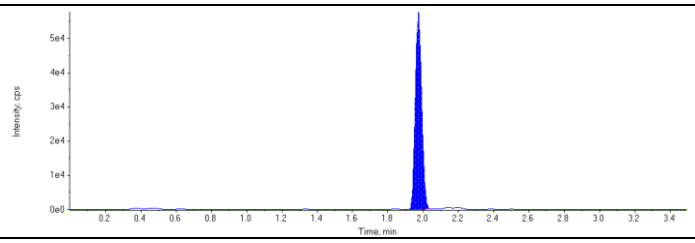
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



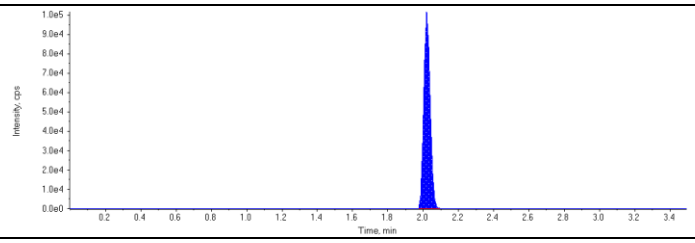
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



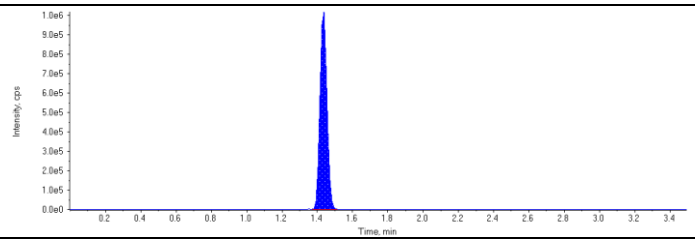
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

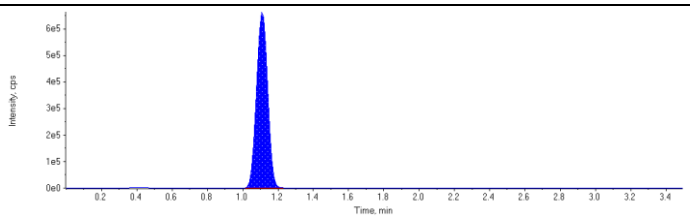
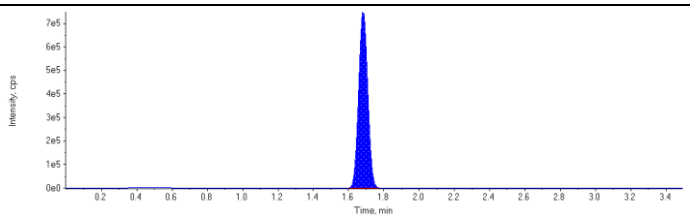
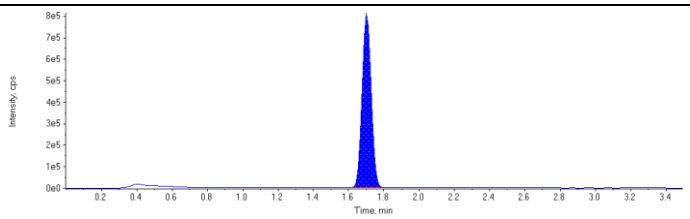
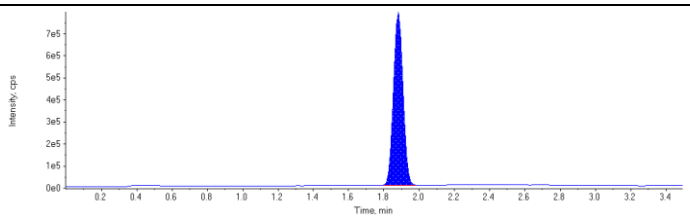
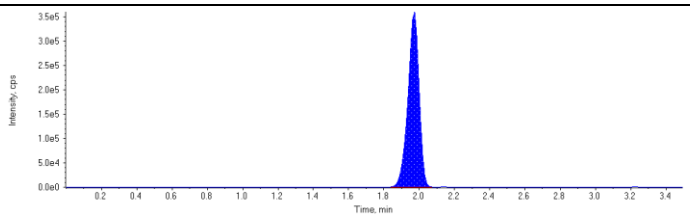
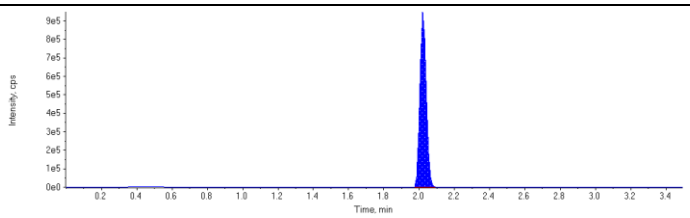
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

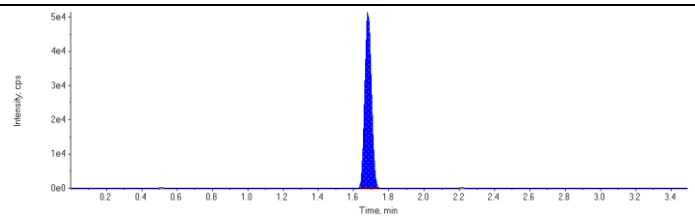
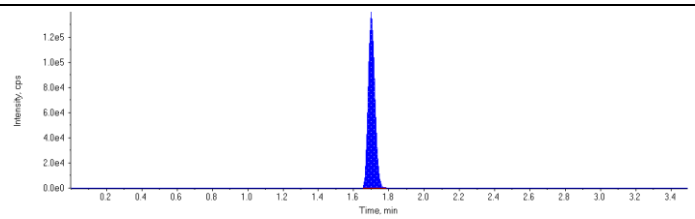
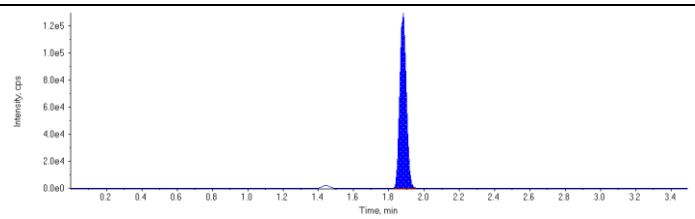
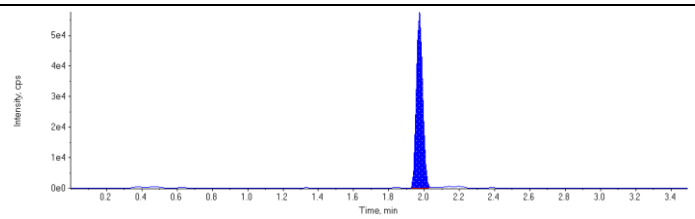
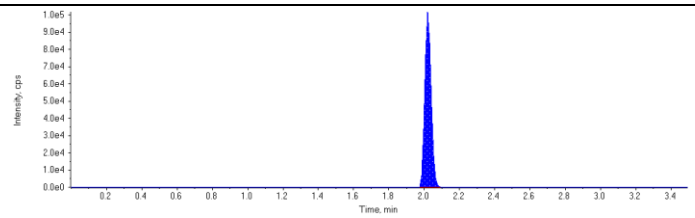
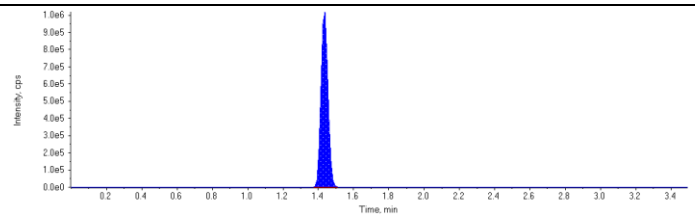


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 73.6 ng/L Area Ratio: 21.6 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 66.3 ng/L Area Ratio: 19.9 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 63.4 ng/L Area Ratio: 8.08 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 59.8 ng/L Area Ratio: 8.91 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 63.0 ng/L Area Ratio: 11.0 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 66.0 ng/L Area Ratio: 9.36 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 67.5 ng/L Area Ratio: 0.0478 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 60.0 ng/L Area Ratio: 0.126 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 64.0 ng/L Area Ratio: 0.117 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 59.1 ng/L Area Ratio: 0.0508 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 58.0 ng/L Area Ratio: 0.0901 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 123. ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

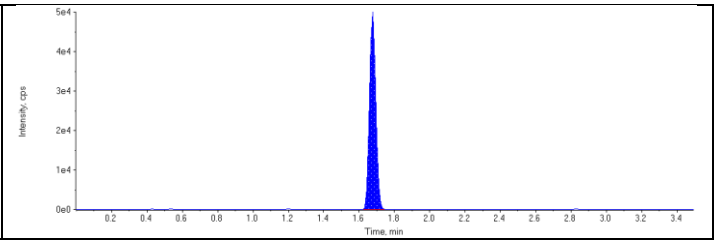
Sample Name	**4389346~MTRX SPK:D1**	**Injection Vial**	10
Sample ID	4389346~MTRX SPK:D1	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 7:24:59 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Reported
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	124000.	1.68	1.00	-
MPFHpA	319000.	1.69	1.00	-
MPFOA	299000.	1.87	1.00	-
MPFOS	148000.	1.97	1.00	-
MPFNA	233000.	2.02	1.00	-
13C6-PFHxA IS	2720000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2400000	1.10	50.0	66.0	132.0
PFHxS 1	2680000	1.68	50.0	71.9	144.0
PFHpA 1	2560000	1.70	50.0	62.9	126.0
PFOA 1	3070000	1.88	50.0	68.8	138.0
PFOS 1	1520000	1.97	50.0	58.8	118.0
PFNA 1	2240000	2.02	50.0	67.8	136.0
18O2-PFHxS	124000	1.68	100.	64.4	64.4
13C4-PFHpA	319000	1.69	100.	55.7	55.7
13C4-PFOA	299000	1.87	100.	60.5	60.5
13C4-PFOS	148000	1.97	100.	63.3	63.3
13C5-PFNA	233000	2.02	100.	55.2	55.2
13C6-PFHxA	2720000	1.43	100.	119.	119.0

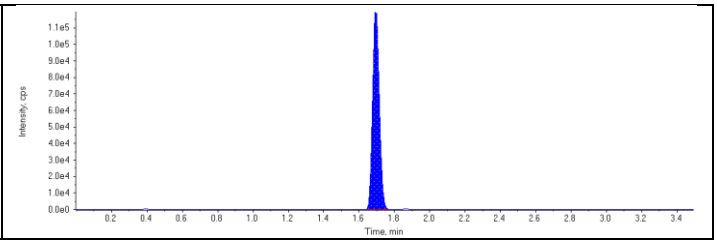
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



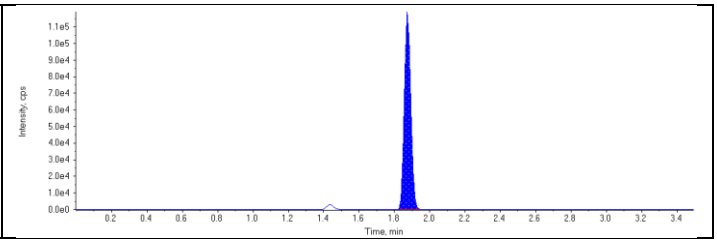
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



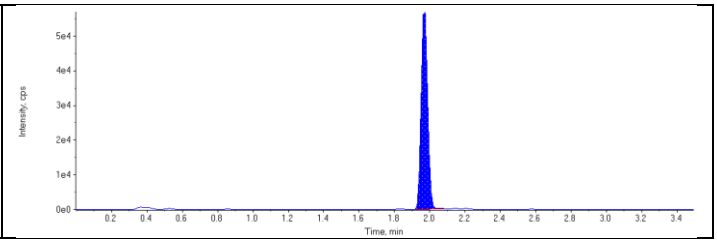
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



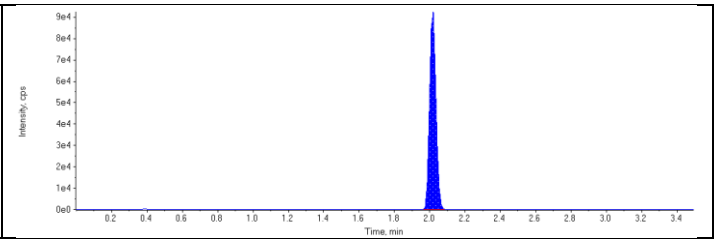
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



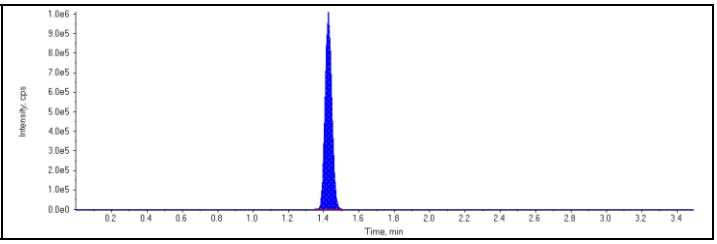
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

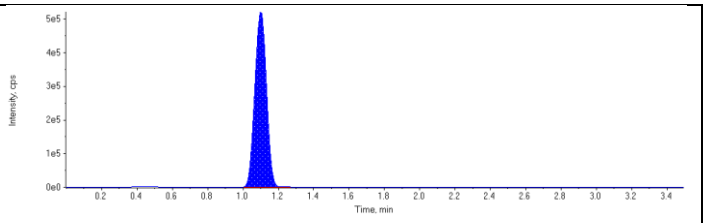
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.10 (1.15) min

Calculated Conc: 66.0 ng/L

Area Ratio: 19.4

Sample Type: (Quality Control)



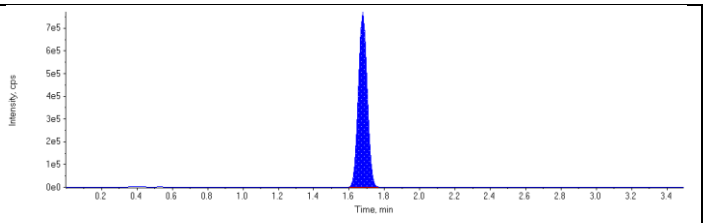
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 71.9 ng/L

Area Ratio: 21.6

Sample Type: (Quality Control)



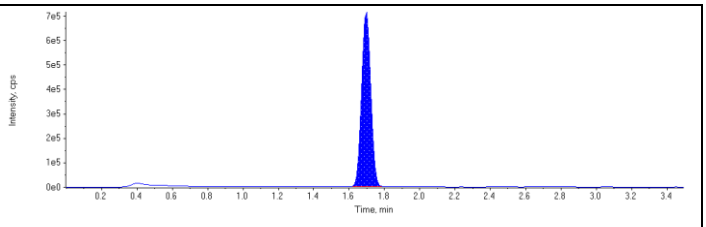
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.70 (1.75) min

Calculated Conc: 62.9 ng/L

Area Ratio: 8.02

Sample Type: (Quality Control)



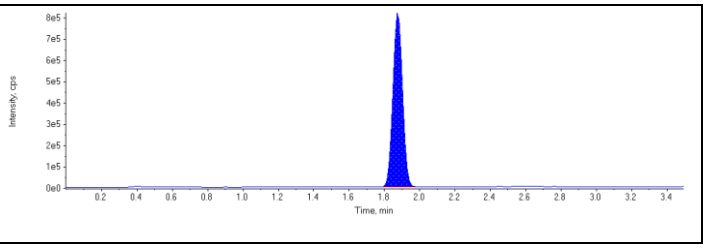
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.88 (1.92) min

Calculated Conc: 68.8 ng/L

Area Ratio: 10.3

Sample Type: (Quality Control)



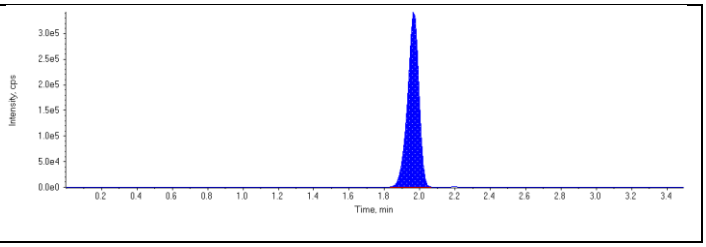
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 58.8 ng/L

Area Ratio: 10.3

Sample Type: (Quality Control)



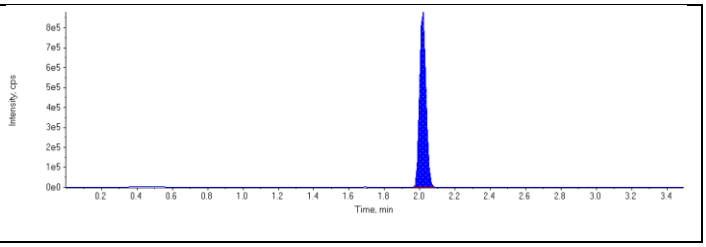
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 67.8 ng/L

Area Ratio: 9.62

Sample Type: (Quality Control)



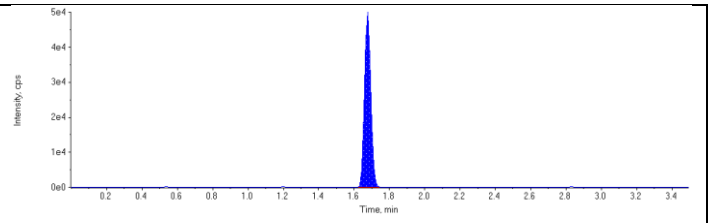
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 64.4 ng/L

Area Ratio: 0.0456

Sample Type: (Quality Control)



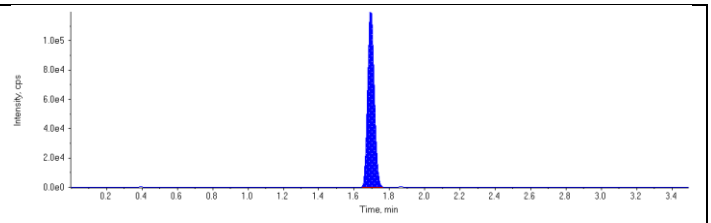
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.75) min

Calculated Conc: 55.7 ng/L

Area Ratio: 0.117

Sample Type: (Quality Control)



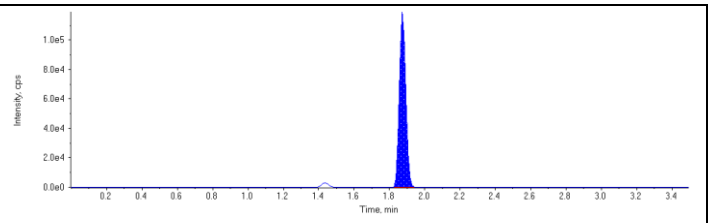
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 60.5 ng/L

Area Ratio: 0.110

Sample Type: (Quality Control)



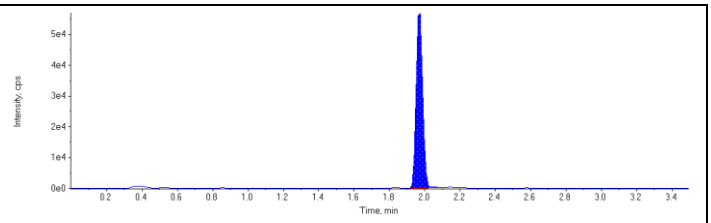
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 63.3 ng/L

Area Ratio: 0.0545

Sample Type: (Quality Control)



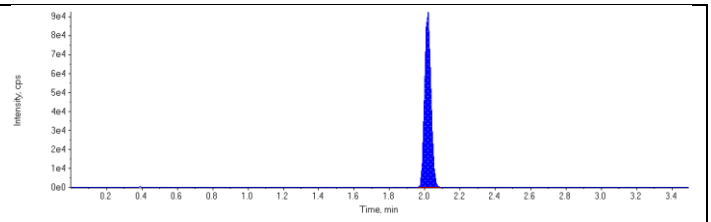
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 55.2 ng/L

Area Ratio: 0.0856

Sample Type: (Quality Control)



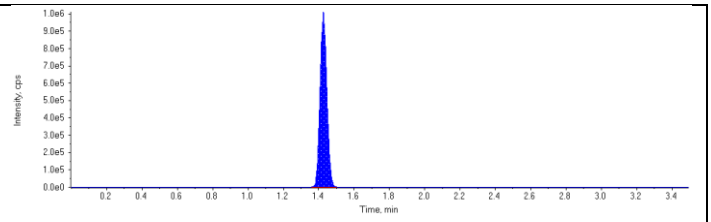
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 119. ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



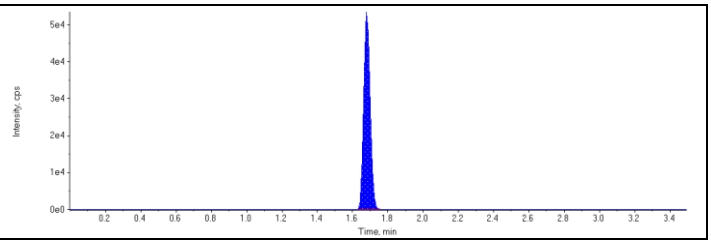
Sample Name	**4389346~SPIKE**	**Injection Vial**	11
Sample ID	4389346~SPIKE	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:36:53 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	134000.	1.68	1.00	-
MPFHpA	408000.	1.70	1.00	-
MPFOA	347000.	1.88	1.00	-
MPFOS	172000.	1.97	1.00	-
MPFNA	275000.	2.02	1.00	-
13C6-PFHxA IS	1900000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2240000	1.11	50.0	56.8	114.0
PFHxS 1	2380000	1.68	50.0	59.1	118.0
PFHpA 1	2940000	1.70	50.0	56.5	113.0
PFOA 1	3210000	1.88	50.0	62.0	124.0
PFOS 1	1660000	1.97	50.0	55.2	110.0
PFNA 1	2500000	2.02	50.0	64.0	128.0
18O2-PFHxS	134000	1.68	100.	100.	100.0
13C4-PFHpA	408000	1.70	100.	102.	102.0
13C4-PFOA	347000	1.88	100.	100.	100.0
13C4-PFOS	172000	1.97	100.	106.	106.0
13C5-PFNA	275000	2.02	100.	93.6	93.6
13C6-PFHxA	1900000	1.43	100.	82.7	82.7

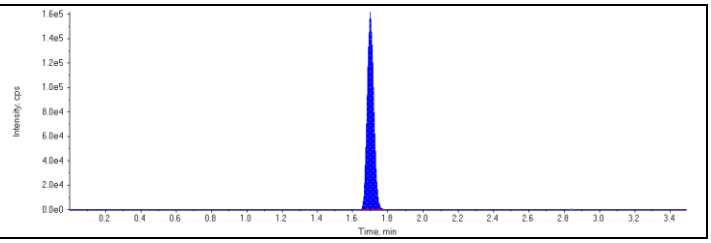
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



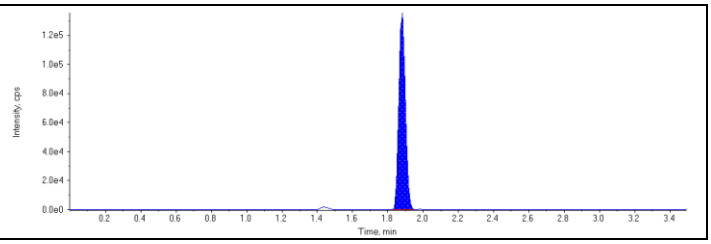
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



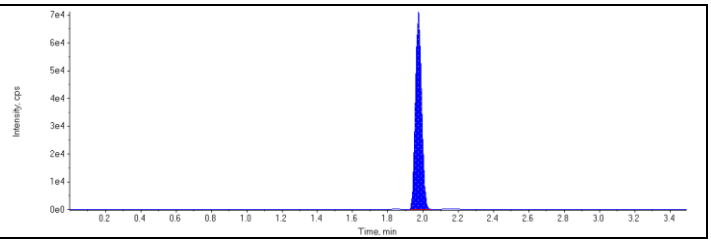
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



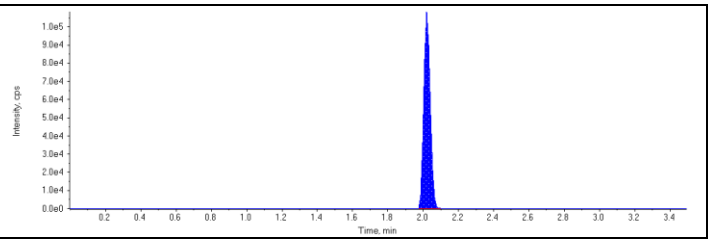
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



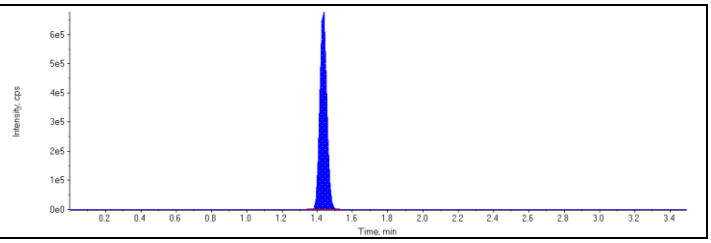
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

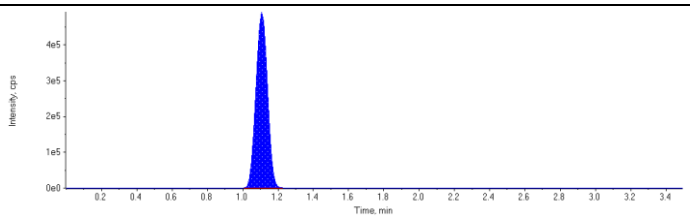
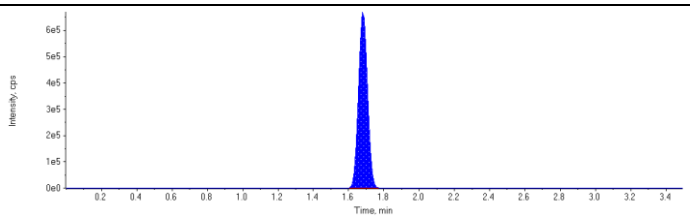
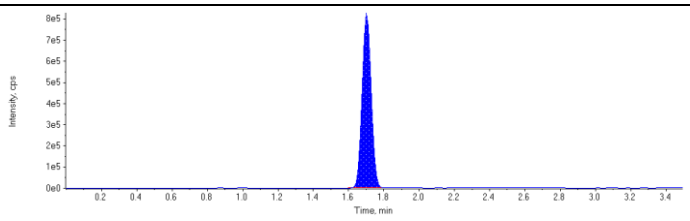
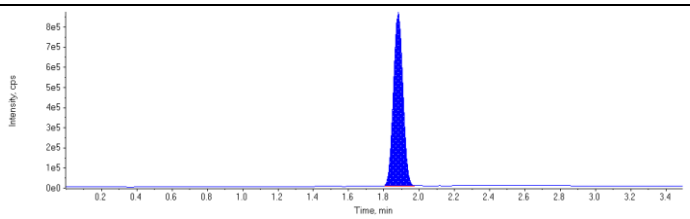
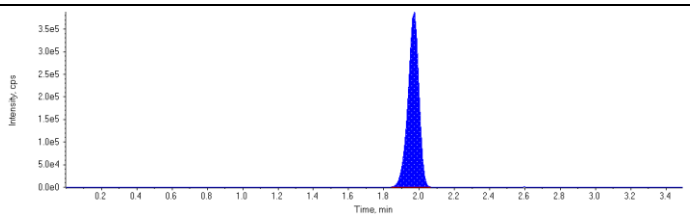
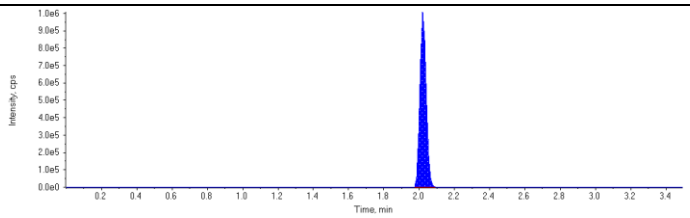
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

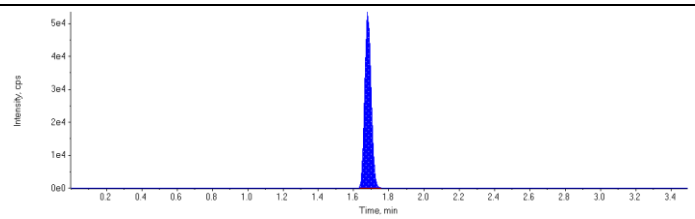
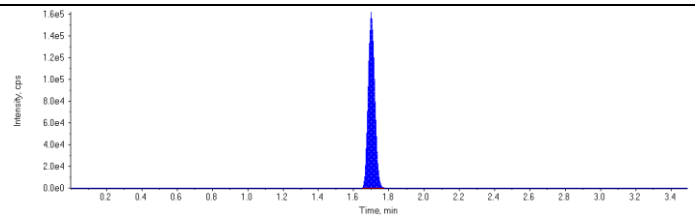
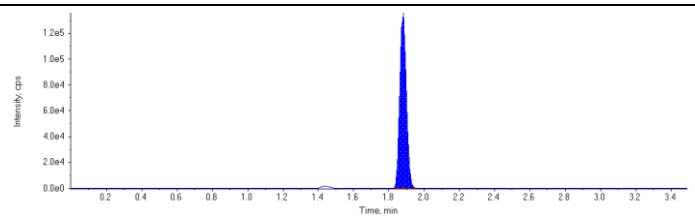
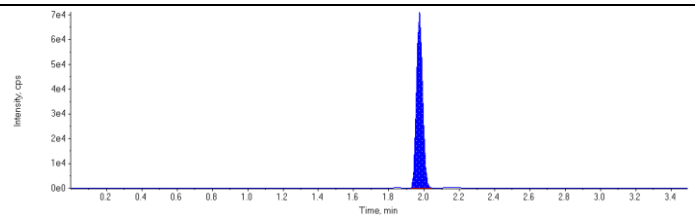
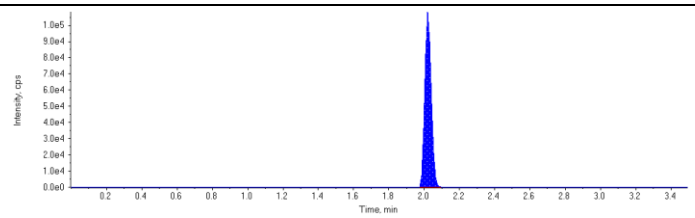
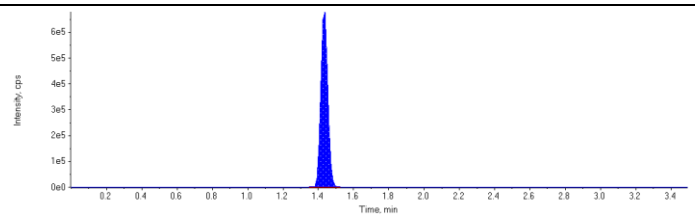


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 56.8 ng/L Area Ratio: 16.6 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 59.1 ng/L Area Ratio: 17.7 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 56.5 ng/L Area Ratio: 7.20 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 62.0 ng/L Area Ratio: 9.24 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 55.2 ng/L Area Ratio: 9.63 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 64.0 ng/L Area Ratio: 9.07 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 100. ng/L Area Ratio: 0.0709 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 102. ng/L Area Ratio: 0.215 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 100. ng/L Area Ratio: 0.183 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 106. ng/L Area Ratio: 0.0908 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 93.6 ng/L Area Ratio: 0.145 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 82.7 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

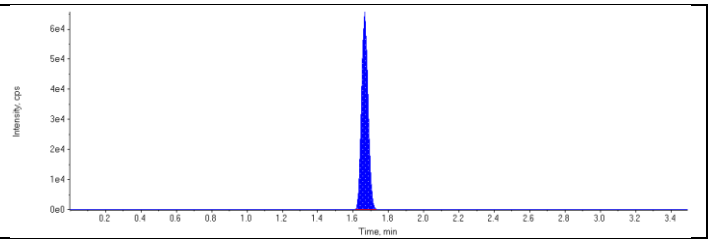
Sample Name	**4394558~BLANK**	**Injection Vial**	27
Sample ID	4394558~BLANK	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 8:55:42 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	166000.	1.67	1.00	-
MPFHpA	539000.	1.69	1.00	-
MPFOA	466000.	1.87	1.00	-
MPFOS	189000.	1.96	1.00	-
MPFNA	350000.	2.01	1.00	-
13C6-PFHxA IS	2880000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	0	0.00	0.00	N/A	0.0
PFHxS 1	0	0.00	0.00	N/A	0.0
PFHpA 1	0	0.00	0.00	N/A	0.0
PFOA 1	0	0.00	0.00	N/A	0.0
PFOS 1	0	0.00	0.00	N/A	0.0
PFNA 1	0	0.00	0.00	N/A	0.0
18O2-PFHxS	166000	1.67	100.	89.4	89.4
13C4-PFHpA	539000	1.69	100.	97.6	97.6
13C4-PFOA	466000	1.87	100.	96.9	96.9
13C4-PFOS	189000	1.96	100.	83.2	83.2
13C5-PFNA	350000	2.01	100.	90.8	90.8
13C6-PFHxA	2880000	1.42	100.	116.	116.0

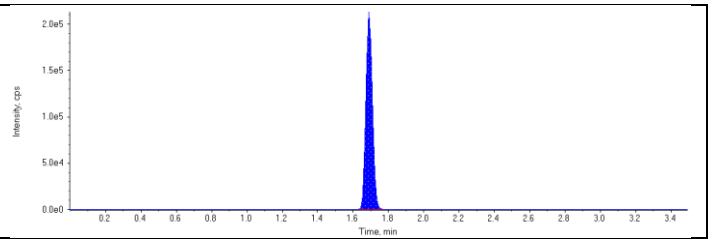
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



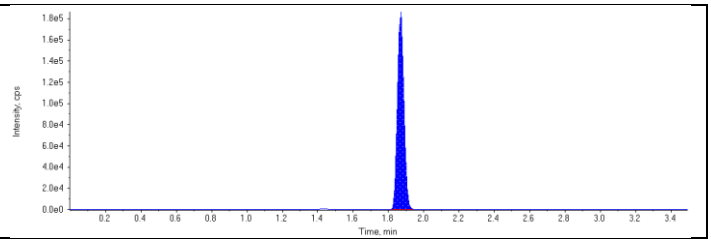
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



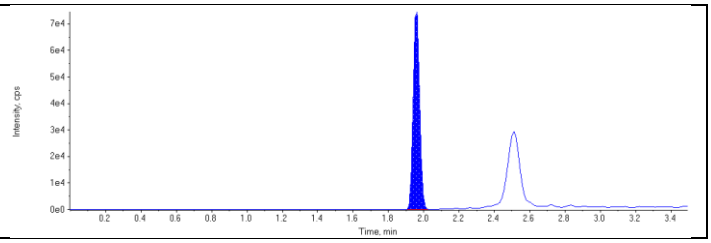
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



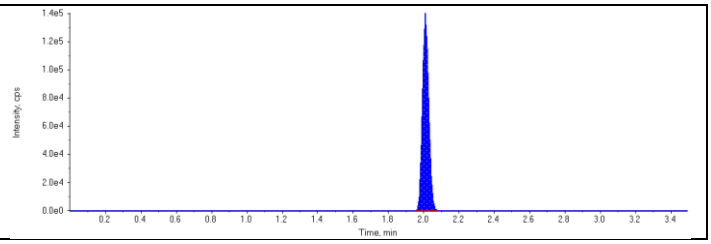
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



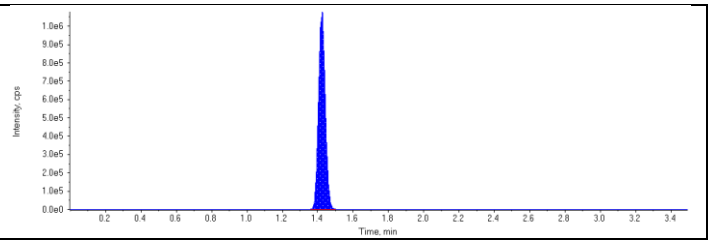
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

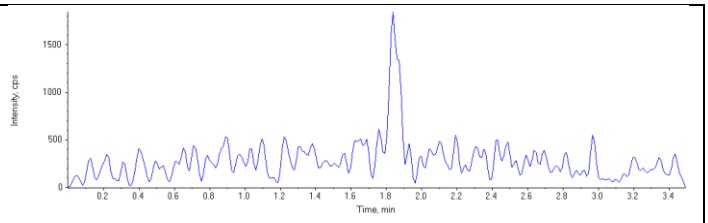
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 0.00 (1.09) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



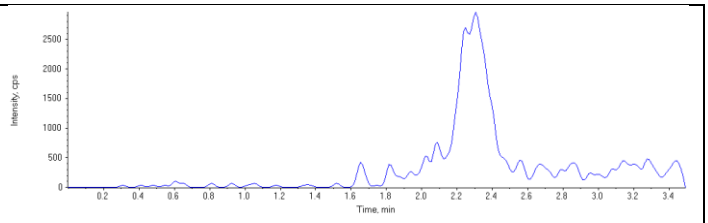
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 0.00 (1.68) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



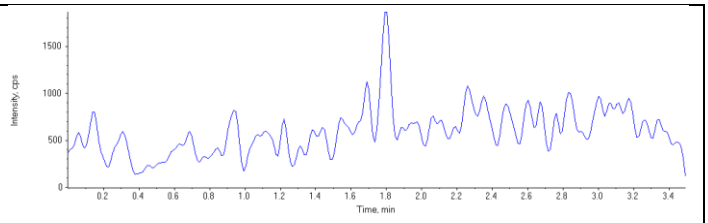
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 0.00 (1.70) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



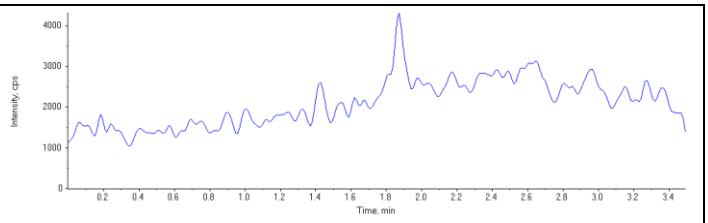
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 0.00 (1.88) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



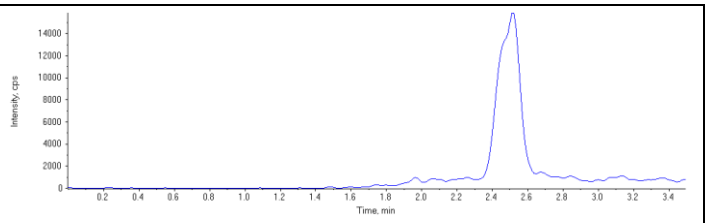
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 0.00 (1.97) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



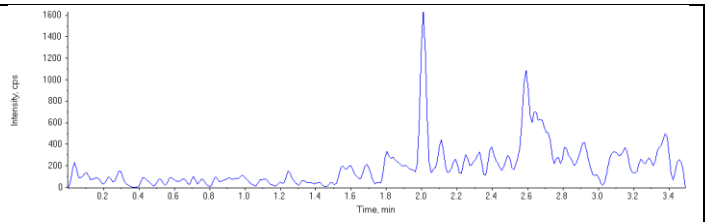
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 0.00 (2.02) min

Calculated Conc: N/A ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



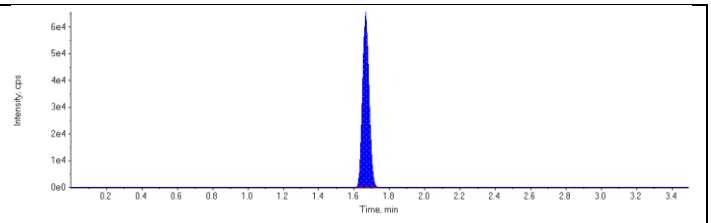
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 89.4 ng/L

Area Ratio: 0.0577

Sample Type: (Quality Control)



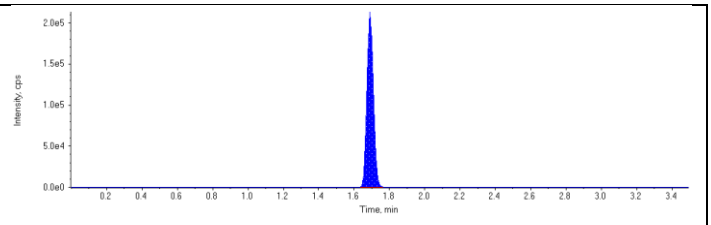
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 97.6 ng/L

Area Ratio: 0.187

Sample Type: (Quality Control)



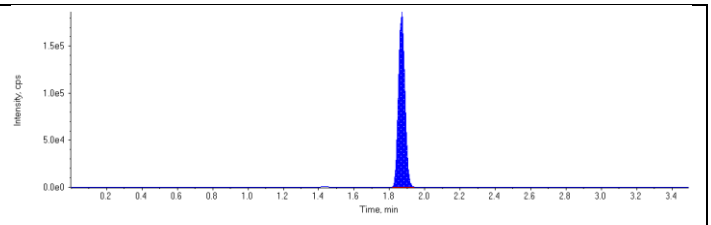
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 96.9 ng/L

Area Ratio: 0.162

Sample Type: (Quality Control)



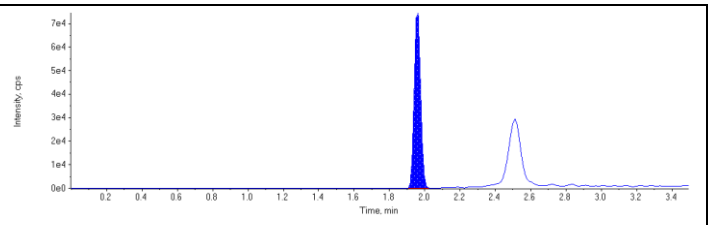
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 83.2 ng/L

Area Ratio: 0.0656

Sample Type: (Quality Control)



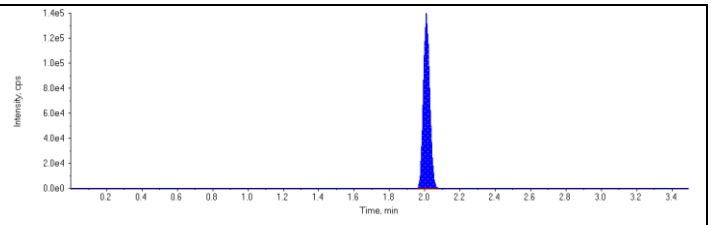
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 90.8 ng/L

Area Ratio: 0.122

Sample Type: (Quality Control)



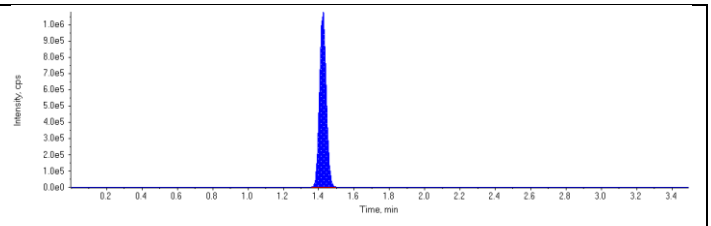
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.42 (1.42) min

Calculated Conc: 116. ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



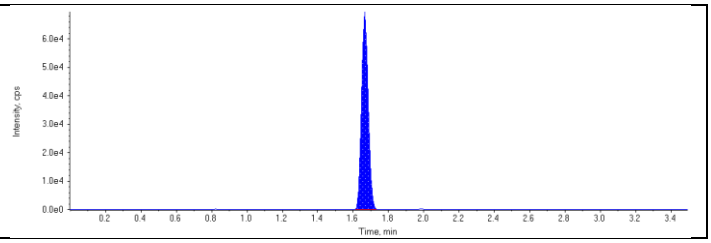
Sample Name	**4394558~MTRX SPK**	**Injection Vial**	28
Sample ID	4394558~MTRX SPK	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 10:09:47 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Re-injected
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	180000.	1.67	1.00	-
MPFHpA	422000.	1.69	1.00	-
MPFOA	348000.	1.87	1.00	-
MPFOS	155000.	1.96	1.00	-
MPFNA	261000.	2.01	1.00	-
13C6-PFHxA IS	3520000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2760000	1.11	0.00	54.6	0.0
PFHxS 1	3160000	1.67	0.00	60.3	0.0
PFHpA 1	3350000	1.69	0.00	66.4	0.0
PFOA 1	3420000	1.87	0.00	67.3	0.0
PFOS 1	1670000	1.96	0.00	69.3	0.0
PFNA 1	2340000	2.01	0.00	67.6	0.0
18O2-PFHxS	180000	1.67	100.	79.5	79.5
13C4-PFHpA	422000	1.69	100.	62.6	62.6
13C4-PFOA	348000	1.87	100.	59.1	59.1
13C4-PFOS	155000	1.96	100.	55.9	55.9
13C5-PFNA	261000	2.01	100.	55.5	55.5
13C6-PFHxA	3520000	1.42	100.	142.	142.0

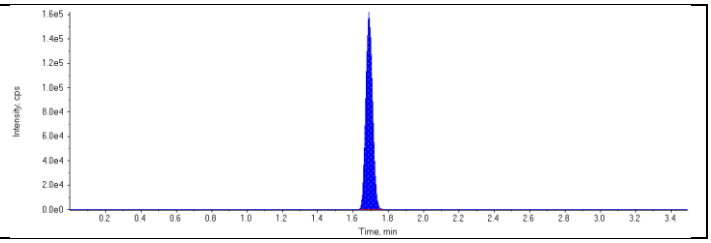
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



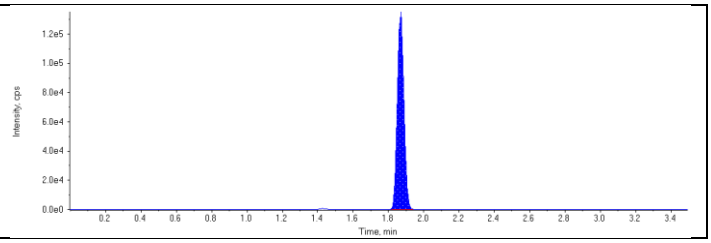
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



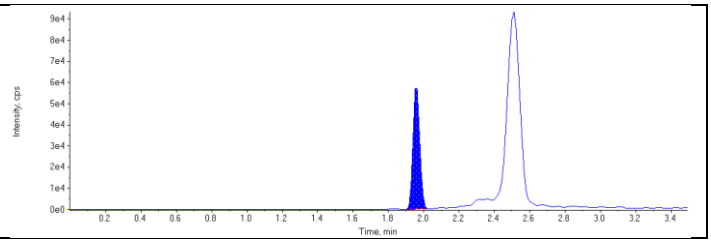
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



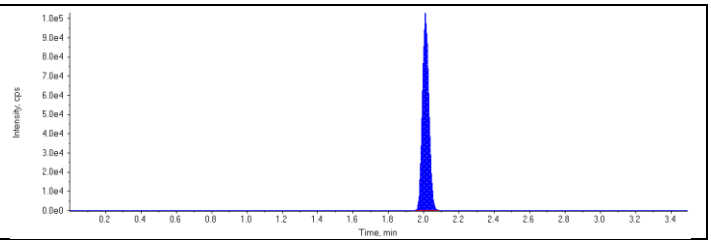
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



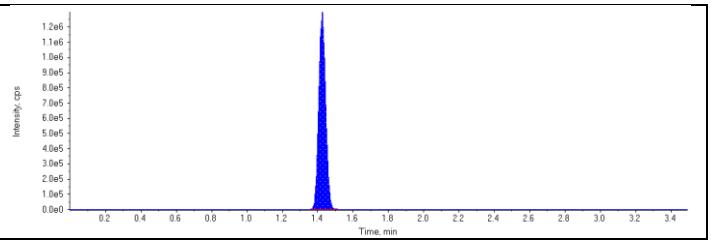
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

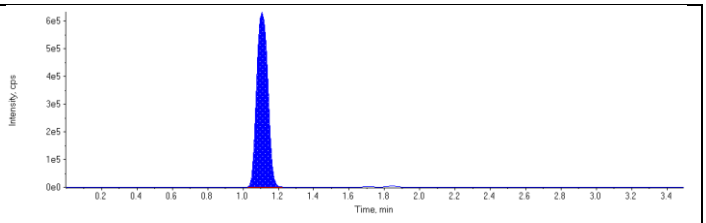
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.11 (1.09) min

Calculated Conc: 54.6 ng/L

Area Ratio: 15.3

Sample Type: (Quality Control)



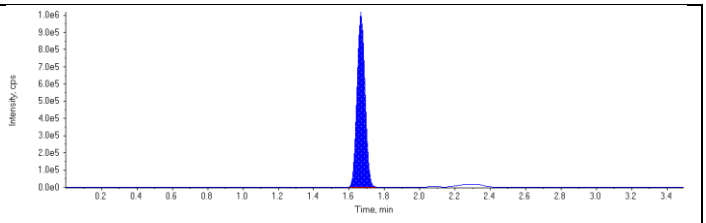
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 60.3 ng/L

Area Ratio: 17.5

Sample Type: (Quality Control)



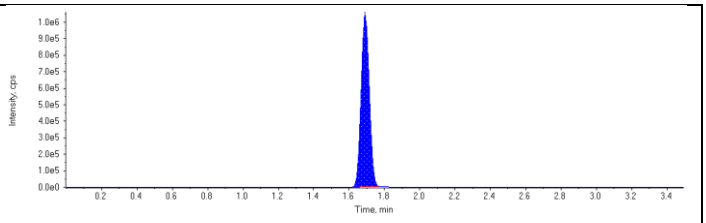
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 66.4 ng/L

Area Ratio: 7.94

Sample Type: (Quality Control)



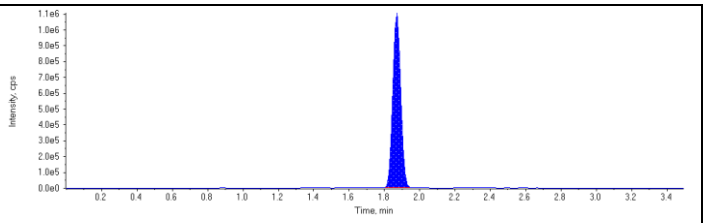
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 67.3 ng/L

Area Ratio: 9.84

Sample Type: (Quality Control)



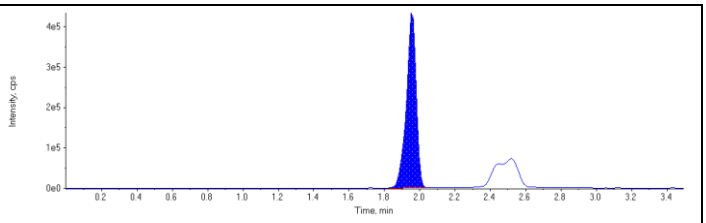
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 69.3 ng/L

Area Ratio: 10.8

Sample Type: (Quality Control)



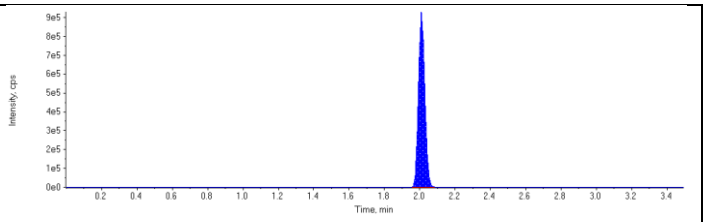
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 67.6 ng/L

Area Ratio: 8.95

Sample Type: (Quality Control)



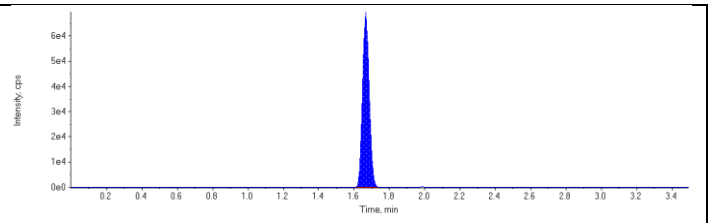
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 79.5 ng/L

Area Ratio: 0.0513

Sample Type: (Quality Control)



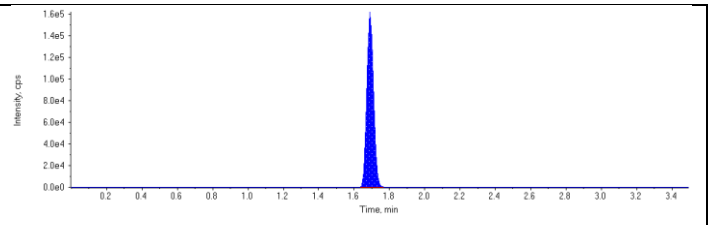
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 62.6 ng/L

Area Ratio: 0.120

Sample Type: (Quality Control)



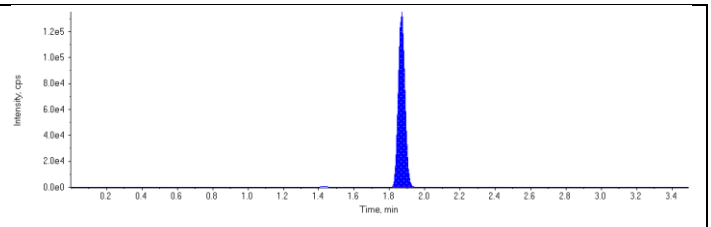
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 59.1 ng/L

Area Ratio: 0.0989

Sample Type: (Quality Control)



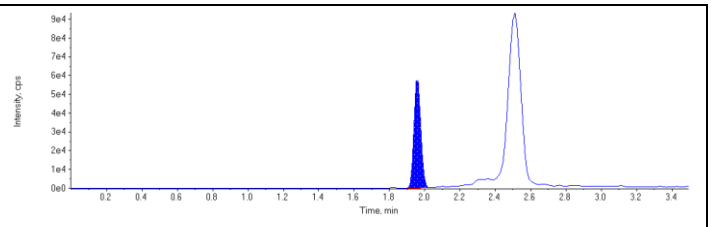
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 55.9 ng/L

Area Ratio: 0.0441

Sample Type: (Quality Control)



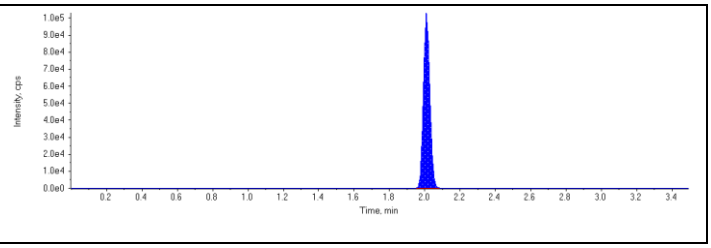
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 55.5 ng/L

Area Ratio: 0.0742

Sample Type: (Quality Control)



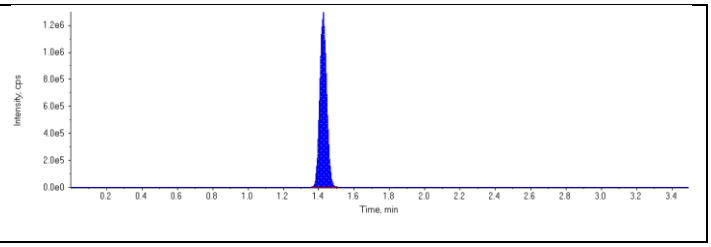
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.42 (1.42) min

Calculated Conc: 142. ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



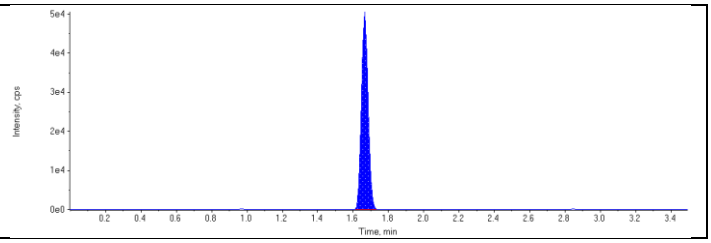
Sample Name	**4394558~MTRX SPK**	**Injection Vial**	28
Sample ID	4394558~MTRX SPK	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 11:26:22 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Reported
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	131000.	1.67	1.00	-
MPFHpA	405000.	1.69	1.00	-
MPFOA	373000.	1.87	1.00	-
MPFOS	164000.	1.96	1.00	-
MPFNA	275000.	2.01	1.00	-
13C6-PFHxA IS	2200000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2110000	1.11	0.00	57.4	0.0
PFHxS 1	2340000	1.67	0.00	61.6	0.0
PFHpA 1	2640000	1.69	0.00	54.4	0.0
PFOA 1	3160000	1.87	0.00	57.8	0.0
PFOS 1	1610000	1.95	0.00	62.9	0.0
PFNA 1	2370000	2.01	0.00	65.1	0.0
18O2-PFHxS	131000	1.67	100.	92.3	92.3
13C4-PFHpA	405000	1.69	100.	96.1	96.1
13C4-PFOA	373000	1.87	100.	102.	102.0
13C4-PFOS	164000	1.96	100.	94.8	94.8
13C5-PFNA	275000	2.01	100.	93.4	93.4
13C6-PFHxA	2200000	1.43	100.	88.6	88.6

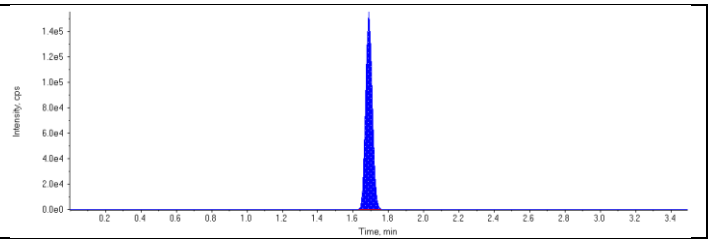
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



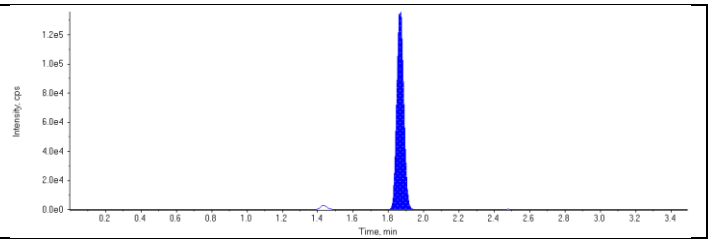
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



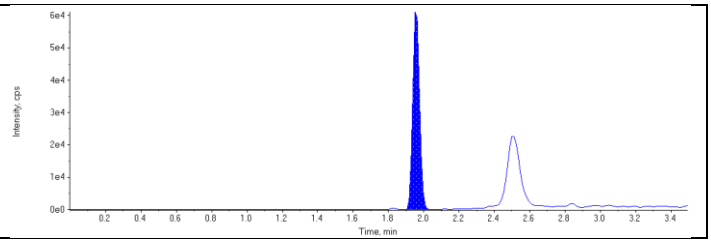
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



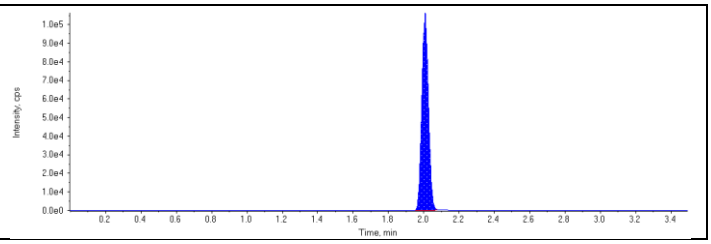
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



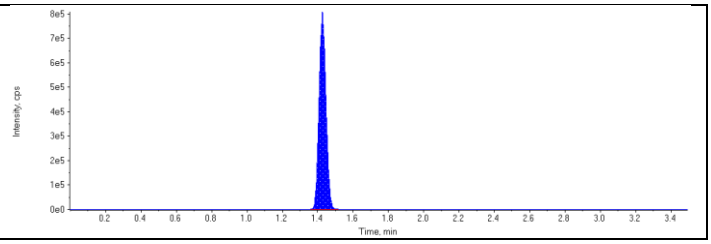
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

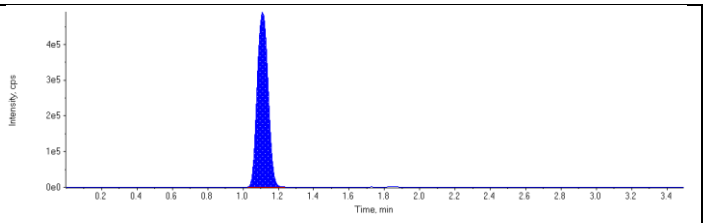
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.11 (1.09) min

Calculated Conc: 57.4 ng/L

Area Ratio: 16.1

Sample Type: (Quality Control)



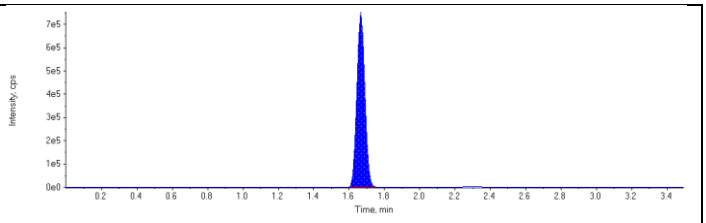
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 61.6 ng/L

Area Ratio: 17.9

Sample Type: (Quality Control)



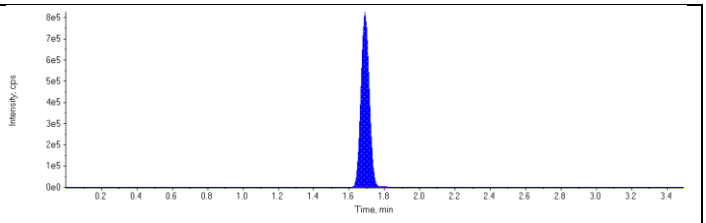
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 54.4 ng/L

Area Ratio: 6.51

Sample Type: (Quality Control)



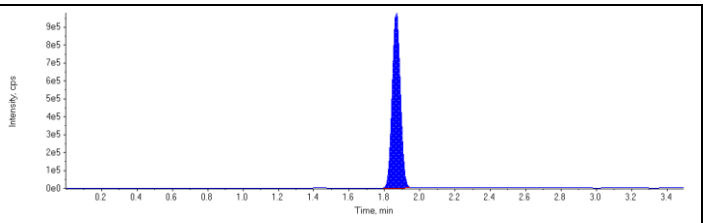
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 57.8 ng/L

Area Ratio: 8.45

Sample Type: (Quality Control)



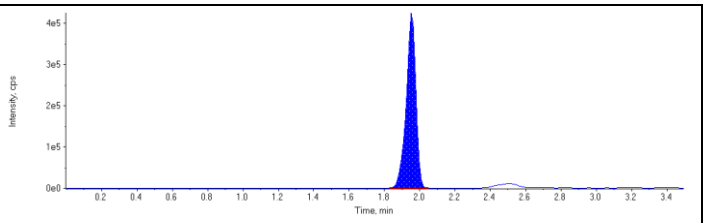
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.95 (1.97) min

Calculated Conc: 62.9 ng/L

Area Ratio: 9.78

Sample Type: (Quality Control)



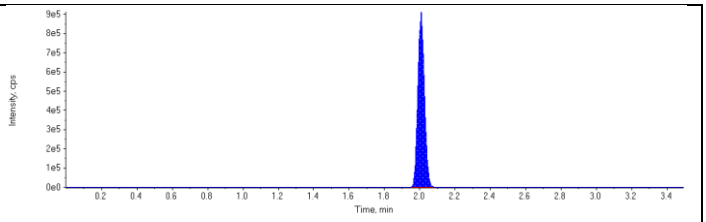
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 65.1 ng/L

Area Ratio: 8.62

Sample Type: (Quality Control)



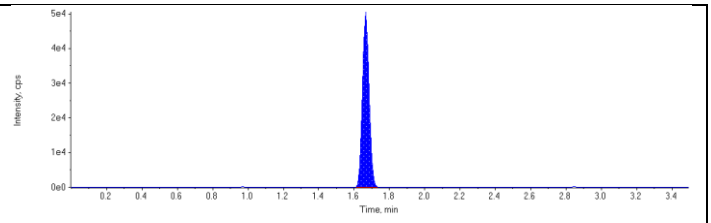
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 92.3 ng/L

Area Ratio: 0.0596

Sample Type: (Quality Control)



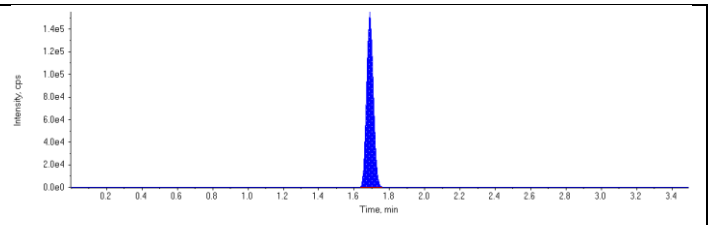
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 96.1 ng/L

Area Ratio: 0.184

Sample Type: (Quality Control)



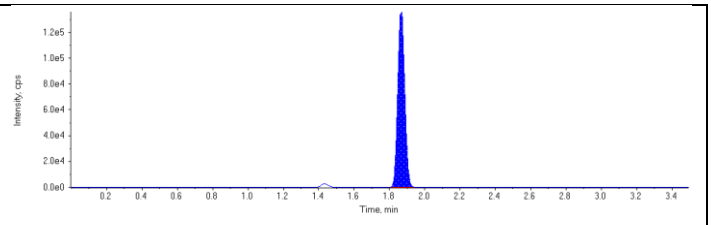
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 102. ng/L

Area Ratio: 0.170

Sample Type: (Quality Control)



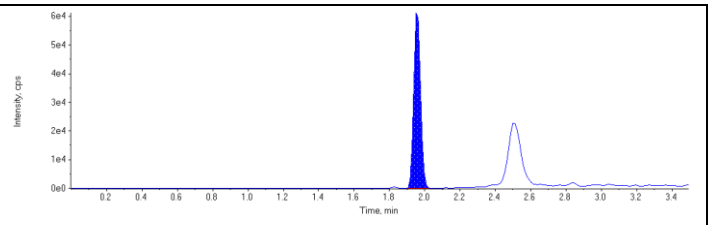
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 94.8 ng/L

Area Ratio: 0.0748

Sample Type: (Quality Control)



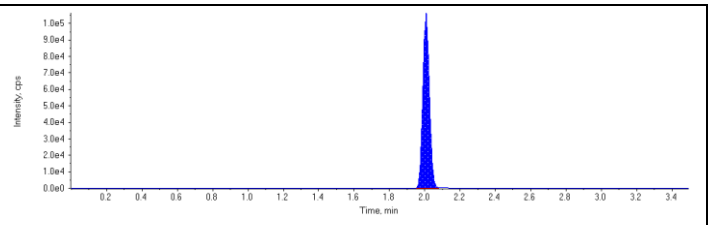
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 93.4 ng/L

Area Ratio: 0.125

Sample Type: (Quality Control)



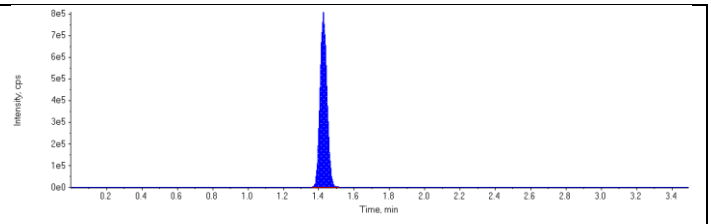
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 88.6 ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



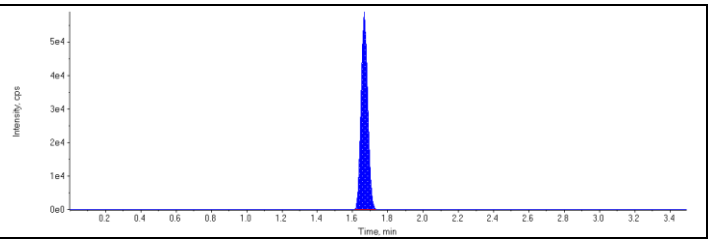
Sample Name	**4394558~MTRX SPK:D1**	**Injection Vial**	29
Sample ID	4394558~MTRX SPK:D1	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 10:14:52 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Re-injected
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	153000.	1.67	1.00	-
MPFHpA	434000.	1.69	1.00	-
MPFOA	376000.	1.87	1.00	-
MPFOS	161000.	1.96	1.00	-
MPFNA	275000.	2.01	1.00	-
13C6-PFHxA IS	2410000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2100000	1.12	0.00	49.1	0.0
PFHxS 1	2370000	1.67	0.00	53.4	0.0
PFHpA 1	2860000	1.69	0.00	55.2	0.0
PFOA 1	3060000	1.87	0.00	55.7	0.0
PFOS 1	1490000	1.95	0.00	59.4	0.0
PFNA 1	2270000	2.01	0.00	62.4	0.0
18O2-PFHxS	153000	1.67	100.	98.1	98.1
13C4-PFHpA	434000	1.69	100.	93.8	93.8
13C4-PFOA	376000	1.87	100.	93.1	93.1
13C4-PFOS	161000	1.96	100.	84.6	84.6
13C5-PFNA	275000	2.01	100.	85.1	85.1
13C6-PFHxA	2410000	1.43	100.	97.4	97.4

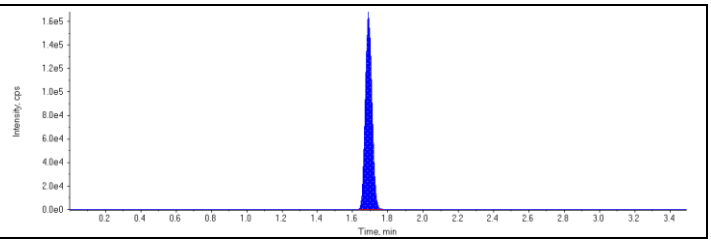
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



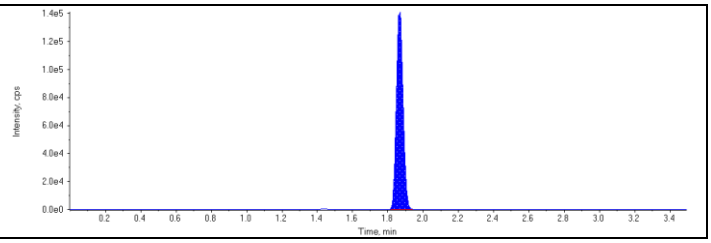
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



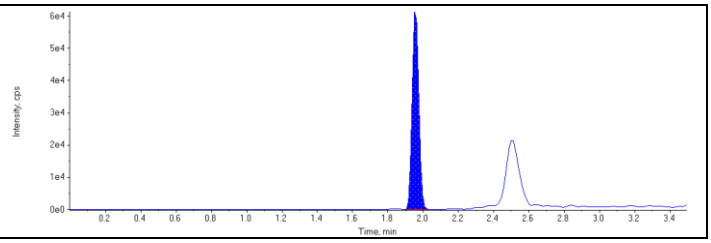
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



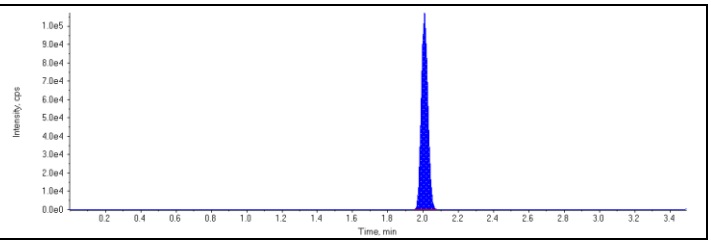
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



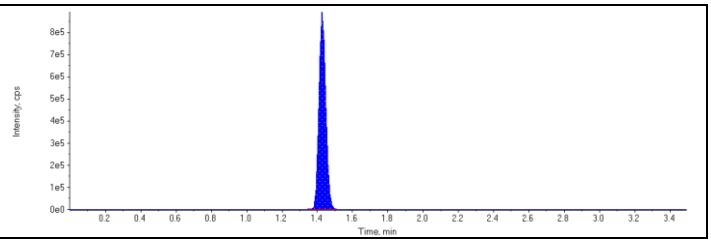
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

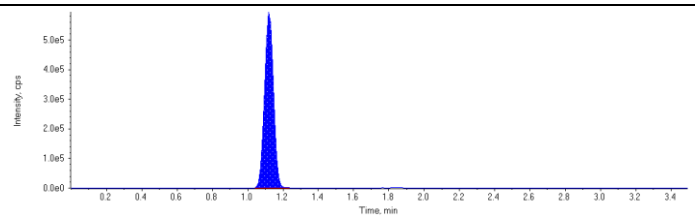
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.12 (1.09) min

Calculated Conc: 49.1 ng/L

Area Ratio: 13.7

Sample Type: (Quality Control)



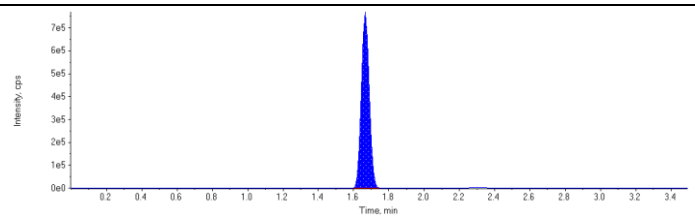
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 53.4 ng/L

Area Ratio: 15.5

Sample Type: (Quality Control)



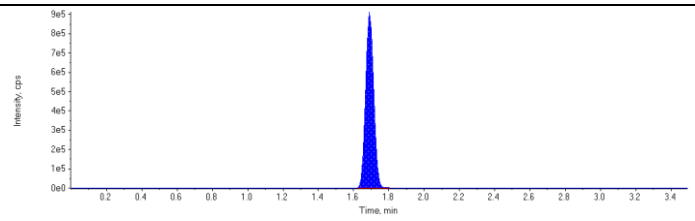
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 55.2 ng/L

Area Ratio: 6.60

Sample Type: (Quality Control)



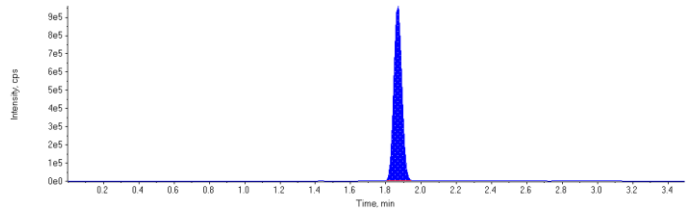
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 55.7 ng/L

Area Ratio: 8.13

Sample Type: (Quality Control)



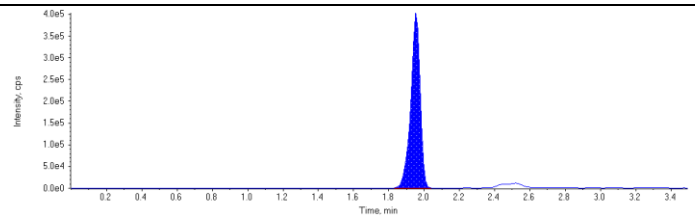
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.95 (1.97) min

Calculated Conc: 59.4 ng/L

Area Ratio: 9.24

Sample Type: (Quality Control)



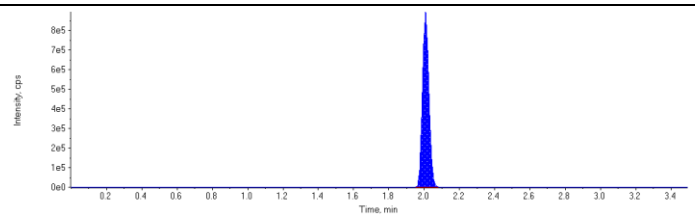
PFNA 1 (462.900/419.000 Da)

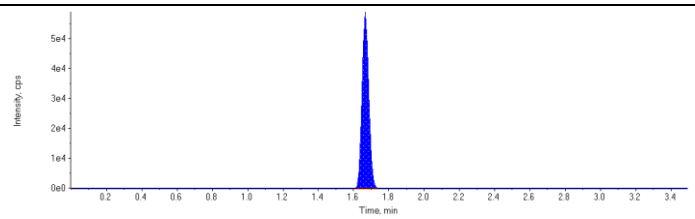
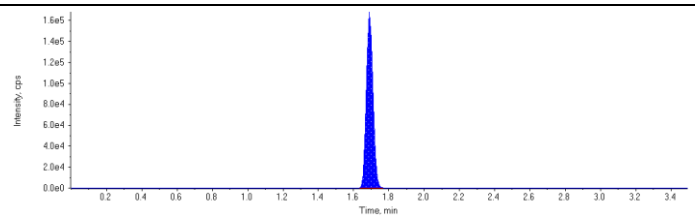
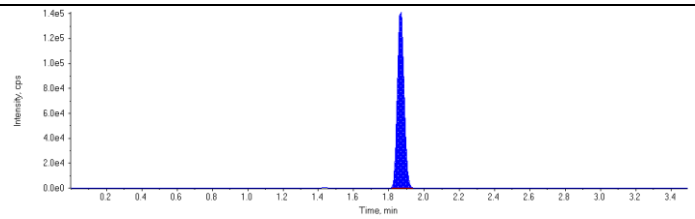
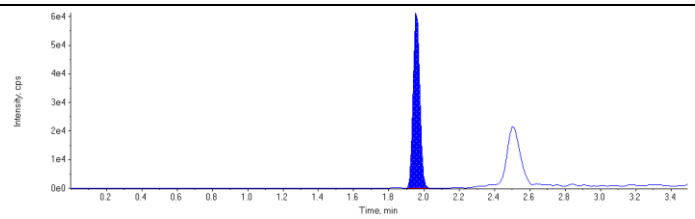
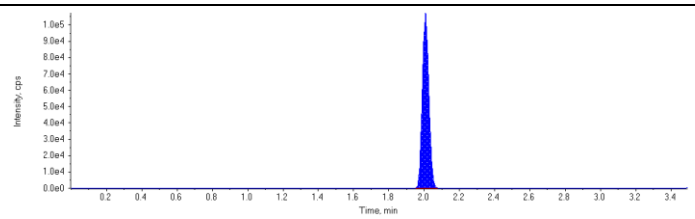
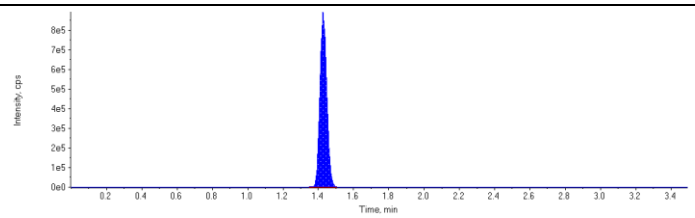
RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 62.4 ng/L

Area Ratio: 8.26

Sample Type: (Quality Control)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 98.1 ng/L Area Ratio: 0.0634 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 93.8 ng/L Area Ratio: 0.180 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 93.1 ng/L Area Ratio: 0.156 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 84.6 ng/L Area Ratio: 0.0667 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 85.1 ng/L Area Ratio: 0.114 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 97.4 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

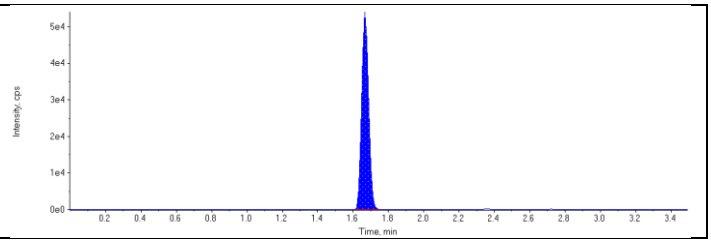
Sample Name	**4394558~MTRX SPK:D1**	**Injection Vial**	29
Sample ID	4394558~MTRX SPK:D1	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 11:31:29 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	Reported
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	146000.	1.67	1.00	-
MPFHpA	404000.	1.69	1.00	-
MPFOA	398000.	1.87	1.00	-
MPFOS	174000.	1.96	1.00	-
MPFNA	298000.	2.01	1.00	-
13C6-PFHxA IS	2190000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2100000	1.12	0.00	51.2	0.0
PFHxS 1	2320000	1.67	0.00	54.8	0.0
PFHpA 1	2560000	1.69	0.00	52.9	0.0
PFOA 1	2980000	1.87	0.00	51.2	0.0
PFOS 1	1500000	1.95	0.00	55.6	0.0
PFNA 1	2340000	2.01	0.00	59.4	0.0
18O2-PFHxS	146000	1.67	100.	104.	104.0
13C4-PFHpA	404000	1.69	100.	96.2	96.2
13C4-PFOA	398000	1.87	100.	109.	109.0
13C4-PFOS	174000	1.96	100.	101.	101.0
13C5-PFNA	298000	2.01	100.	102.	102.0
13C6-PFHxA	2190000	1.43	100.	88.2	88.2

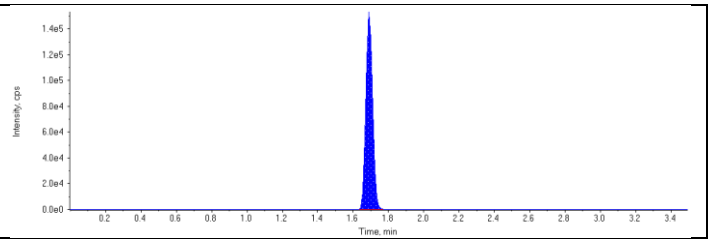
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



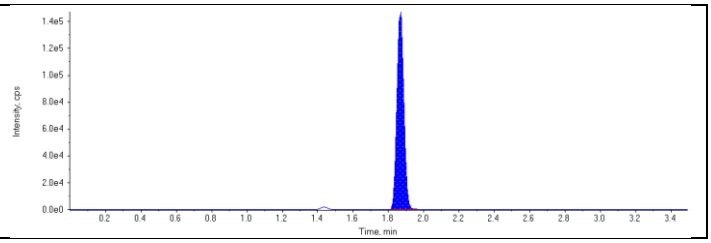
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



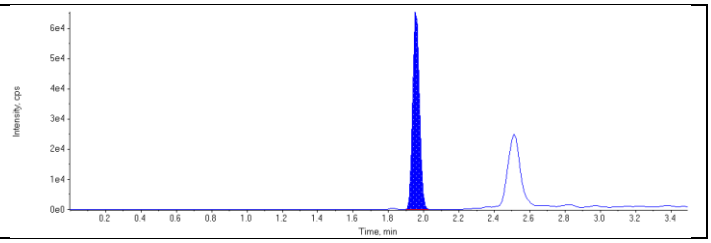
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



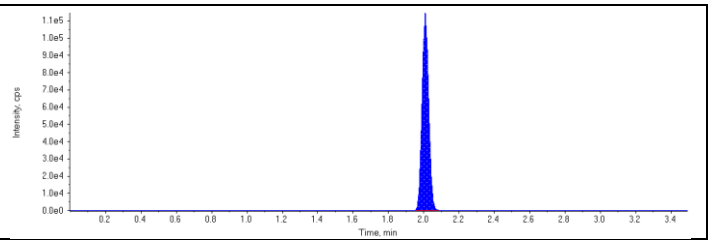
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



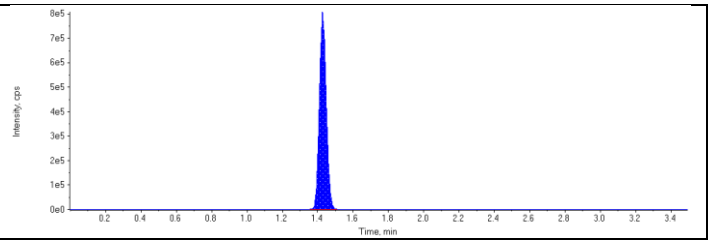
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

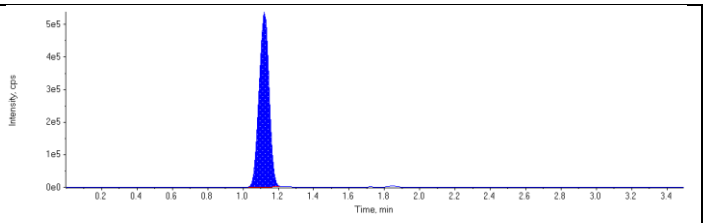
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.12 (1.09) min

Calculated Conc: 51.2 ng/L

Area Ratio: 14.3

Sample Type: (Quality Control)



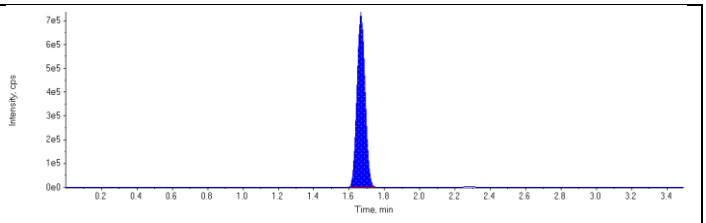
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 54.8 ng/L

Area Ratio: 15.9

Sample Type: (Quality Control)



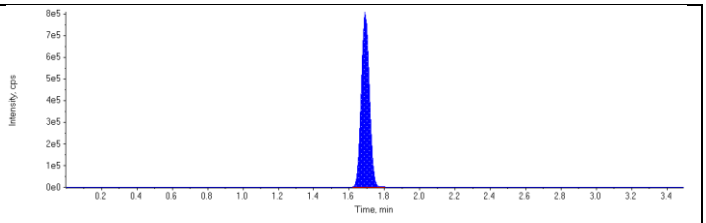
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 52.9 ng/L

Area Ratio: 6.33

Sample Type: (Quality Control)



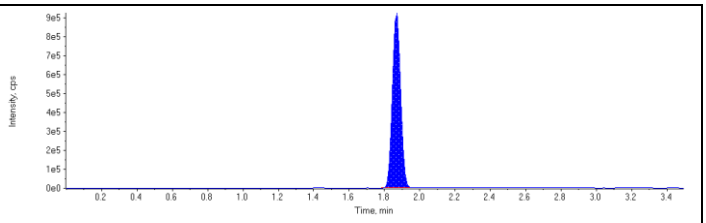
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 51.2 ng/L

Area Ratio: 7.48

Sample Type: (Quality Control)



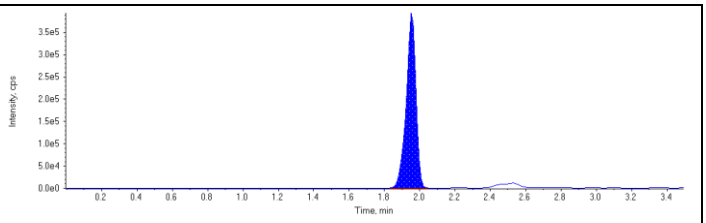
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.95 (1.97) min

Calculated Conc: 55.6 ng/L

Area Ratio: 8.64

Sample Type: (Quality Control)



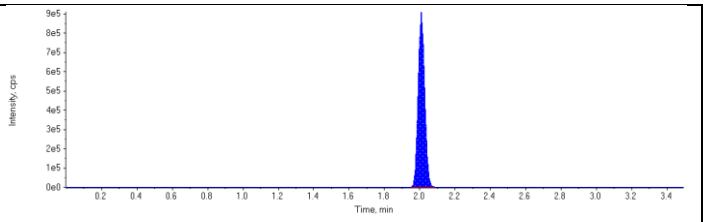
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 59.4 ng/L

Area Ratio: 7.85

Sample Type: (Quality Control)



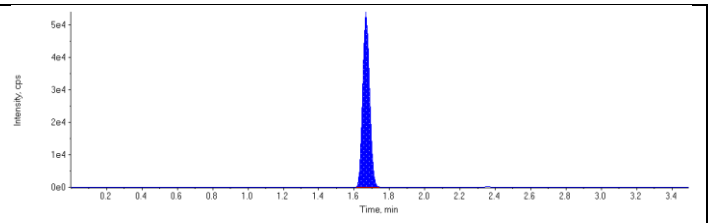
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 104. ng/L

Area Ratio: 0.0669

Sample Type: (Quality Control)



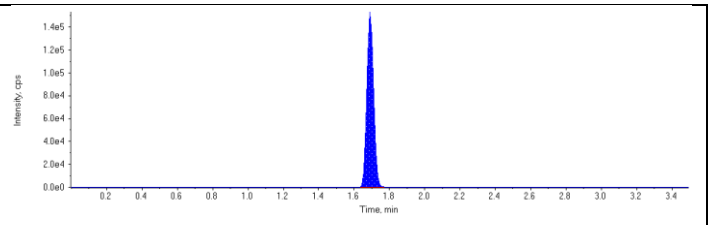
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 96.2 ng/L

Area Ratio: 0.185

Sample Type: (Quality Control)



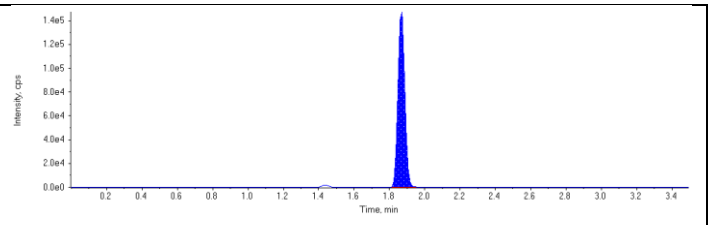
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 109. ng/L

Area Ratio: 0.182

Sample Type: (Quality Control)



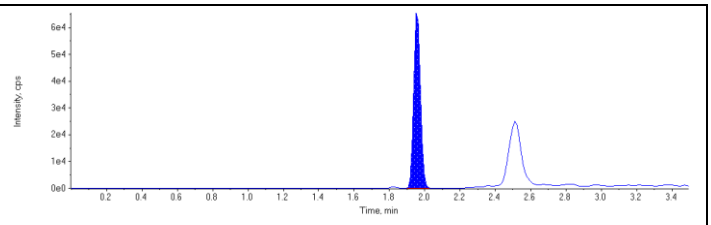
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 101. ng/L

Area Ratio: 0.0794

Sample Type: (Quality Control)



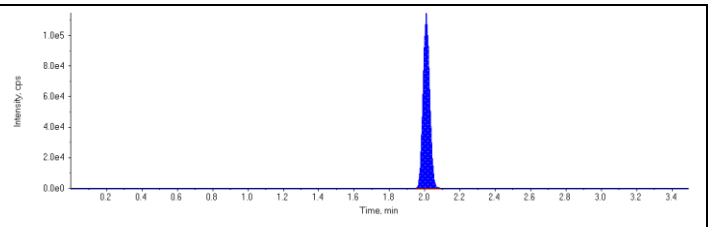
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 102. ng/L

Area Ratio: 0.136

Sample Type: (Quality Control)



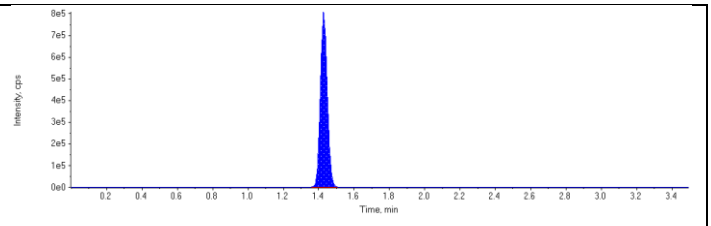
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 88.2 ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



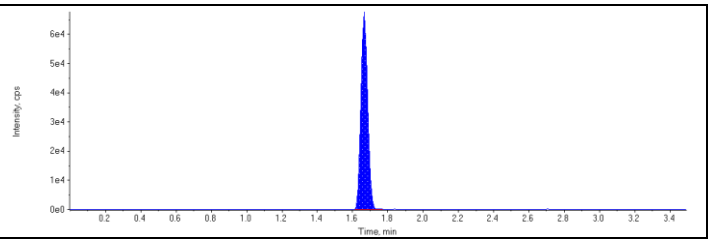
Sample Name	**4394558~SPIKE**	**Injection Vial**	30
Sample ID	4394558~SPIKE	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 10:19:58 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	178000.	1.67	1.00	-
MPFHpA	483000.	1.69	1.00	-
MPFOA	464000.	1.87	1.00	-
MPFOS	199000.	1.96	1.00	-
MPFNA	335000.	2.01	1.00	-
13C6-PFHxA IS	2540000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2450000	1.12	0.00	49.2	0.0
PFHxS 1	2630000	1.67	0.00	51.1	0.0
PFHpA 1	3130000	1.69	0.00	54.2	0.0
PFOA 1	3430000	1.87	0.00	50.6	0.0
PFOS 1	1740000	1.95	0.00	56.4	0.0
PFNA 1	2610000	2.01	0.00	58.9	0.0
18O2-PFHxS	178000	1.67	100.	108.	108.0
13C4-PFHpA	483000	1.69	100.	98.8	98.8
13C4-PFOA	464000	1.87	100.	109.	109.0
13C4-PFOS	199000	1.96	100.	99.0	99.0
13C5-PFNA	335000	2.01	100.	98.3	98.3
13C6-PFHxA	2540000	1.43	100.	103.	103.0

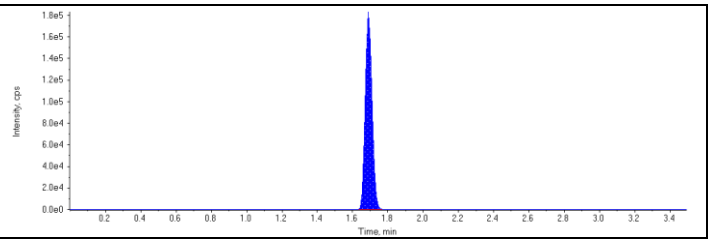
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



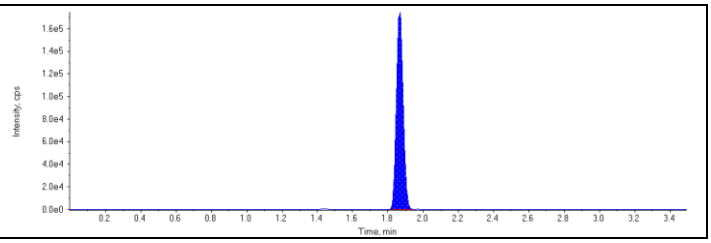
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



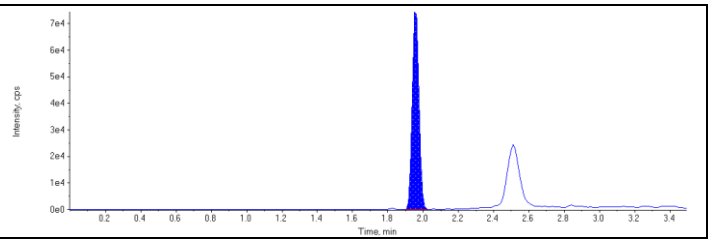
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



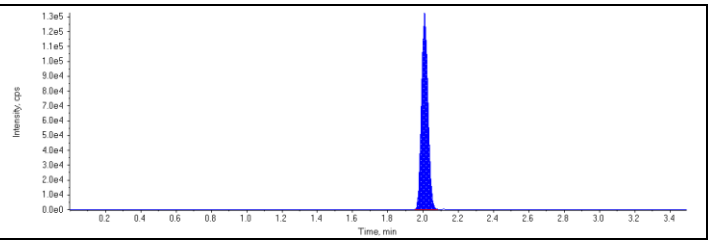
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



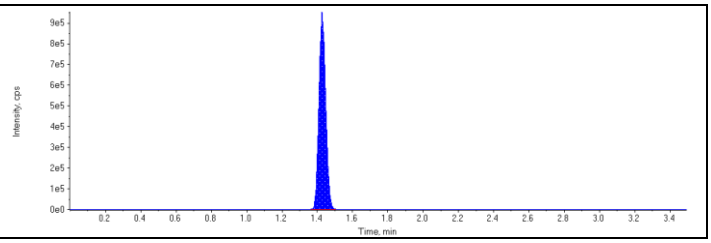
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

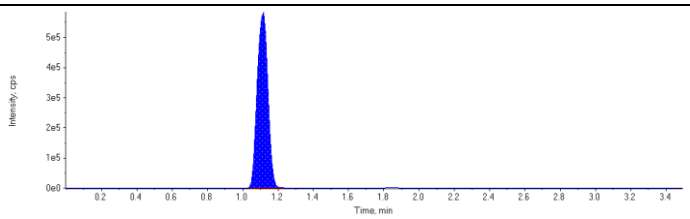
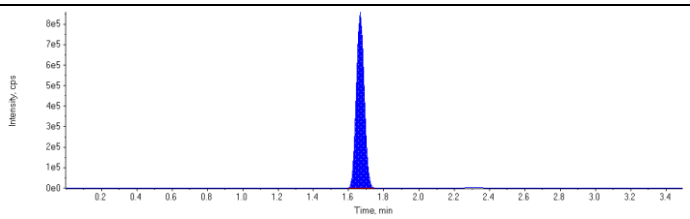
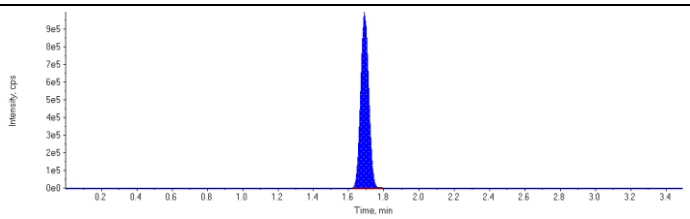
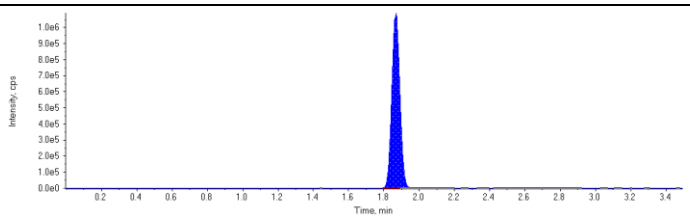
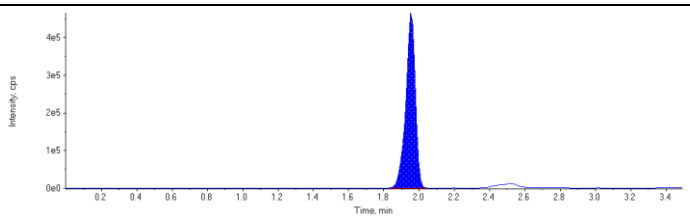
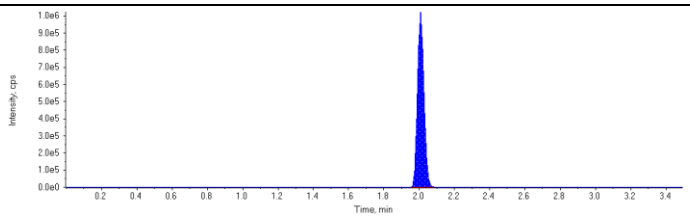
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

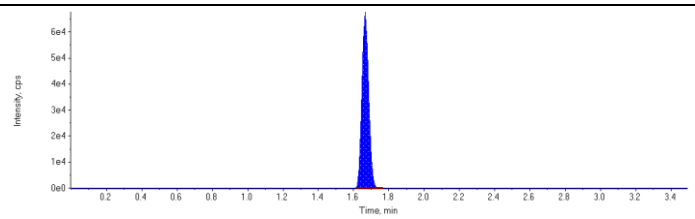
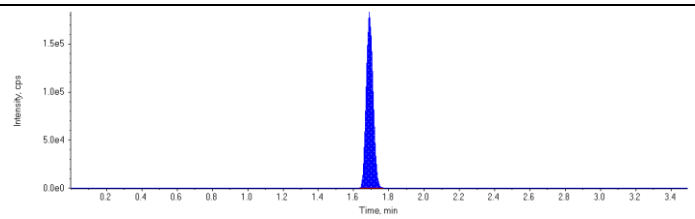
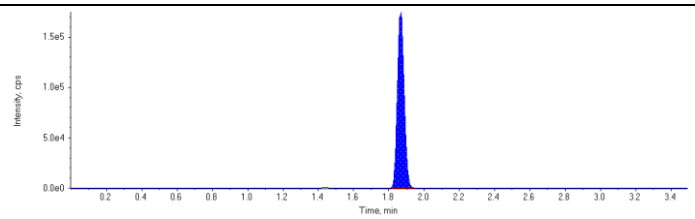
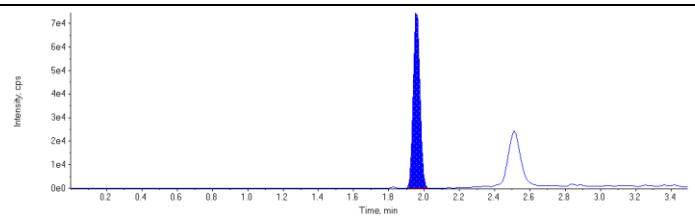
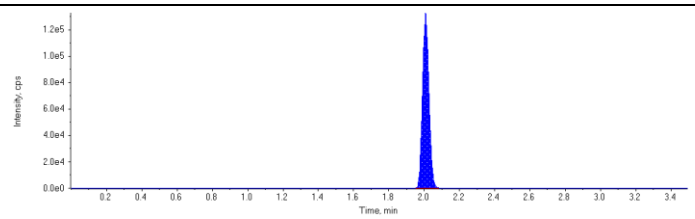
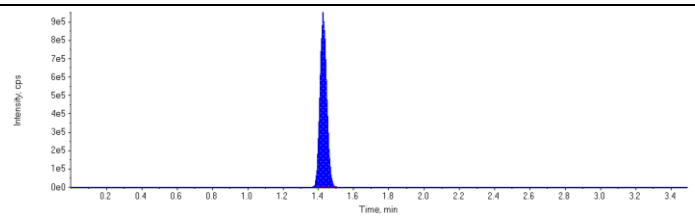


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.12 (1.09) min Calculated Conc: 49.2 ng/L Area Ratio: 13.8 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 51.1 ng/L Area Ratio: 14.8 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 54.2 ng/L Area Ratio: 6.48 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 50.6 ng/L Area Ratio: 7.39 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.95 (1.97) min Calculated Conc: 56.4 ng/L Area Ratio: 8.76 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 58.9 ng/L Area Ratio: 7.79 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 108. ng/L Area Ratio: 0.0699 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 98.8 ng/L Area Ratio: 0.190 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 109. ng/L Area Ratio: 0.182 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 99.0 ng/L Area Ratio: 0.0780 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 98.3 ng/L Area Ratio: 0.132 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 103. ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

DoD Projects - Internal Data Validation Checklist

Run date: 2016/02/22

Worksheet # (s): 438934b

Analysis: PFOSLOW – W

	Primary review by the analyst - 1st 100 % analysis review	1st 100% review yes	no	n/a	*2nd 100% review
1	Sample analyses meet hold time criteria	✓			✓
2	Analysis set-up meets method criteria	✓			✓
3	Tuning and correct calibration used - criteria meets method criteria	✓			✓
4	SQC/Control Charts updated, analysis in statistical/method control	✓			✓
5	Internal area counts checked (if applicable)	✓			✓
6	LCS, SRM are within acceptance criteria	✓			✓
7	Surrogate Recovery(s) is within acceptance criteria	✓			✓
8	Method Blank meets acceptance criteria	✓			✓
9	Matrix Spike recovery(s) meets acceptance criteria	✓			✓
10	Duplicate precision meets acceptance criteria	✓			✓
11	QC is documented on the run logs	✓			✓
12	Runs checked for carryover	✓			✓
13	Prep log / worksheet(s) are present, signed / dated by a prep / instrument analysts	✓			✓
14	Initial weights, splits, impringer volumes (where applicable) are documented	✓			✓
15	Standards and reagents traceable to Certificates of Analysis	✓			✓
16	Samples above calibration range diluted and reanalyzed	✓			✓
17	Dilution factors (where justified) have been checked for correctness and entered	✓			✓
18.	Analytical observations/anomalies documented in LIMS	✓			✓
19	Random calculation checked and in correct units	✓			✓
20	If corrective actions were applied they are documented, initialed & dated			✓	✓
21	Manual integration – before & after data with a reason included, initialed & dated			✓	✓
22	Transferred data is validated in LIMS for correctness	✓			✓
23	Data package assembled (where required)	✓			✓

Reviewed by: CM Date: 20160211b

Comments:

	Secondary Supervisor/Qualified Data Review Staff - 2nd 100% verification review	yes	no	n/a
1	Repeats documented and referenced	✓		
2	Method and sample deviations noted, anomalies described (if applicable)			✓
3	Data and QC validated in LIMS	✓		
4	Random calculation checked	✓		
5	Benchsheet (s) signed and dated	✓		
6	Data Package (if required) checked for completeness	✓		

Reviewed by: [signature] Date: 2016/02/23

Comments: samples BVX844 & BVX845 sent for rework with dilutions due to high concentrations of target analytes

*Note: 2nd 100% verification review documented by secondary qualified data review

Primary and Secondary Internal Data Review Check must be performed by a different person

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 4389346 Testcode: PFOSLOW-W

	Sample Preparation	yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded			✓
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: GSZ Date: 2016/02/21

Comments:

	Worksheet Approval	yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list	✓		
2	Calibration and CCV standards valid (haven't expired)	✓		
3	Initial calibration curve and DFTPP tune (if applicable) acceptable	✓		
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable	✓		
5	System performance check acceptable (if applicable)	✓		
6	Internal standard responses acceptable	✓		
7	Method blank meets acceptance criteria	✓		
8	Lab Control Samples recoveries meets acceptance criteria	✓		
9	Duplicate RPD meets acceptance criteria	✓		
10	Matrix spike recoveries meets acceptance criteria		✓	
11	Surrogate recoveries meets acceptance criteria	✓		
12	Appropriate control charts updated			✓
13	Samples above calibration range diluted and reanalyzed	✓		
14	Dilutions clearly documented on tracking record, inst file and verified during data upload	✓		
15	Samples following high level samples checked for carryover.	✓		
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			✓
17	Analytical observations / anomalies documented	✓		
18	DQW comments entered in LIMS, hardcopy in file			✓
19	Sample Prep section (above) reviewed and verified.	✓		
20	WS Approval performed in LIMS	✓		

Reviewed by: CM Date: 2016/02/23 See BAL FCD0002

Comments: CM 2016/02/23
CM 2016/02/23

	Worksheet Validation	yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

WS# : 4389346

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Sunday, February 21, 2016

Assigned to : Geoffrey Sanchez

Test Code : PFOSLOW-W

Instrument Id:

Test Description : Low level PFOS and PFOA in water by LC-MS/MS

Sediment

Job Number	Sample Number	ID	Sample ID	F	% Moisture (cm)	Wt or Vol (mL)	Final Vol (mL)	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date
	MTRX SPK	0	PFOSL BVX847-01		<0.1	125	0.3	1X					2016/02/21
	MTRX SPK	1	PFOSL BVX847-01		<0.1	125	0.3	1X					2016/02/21
	SPIKE		PFOSL		0	125	0.3	1X					2016/02/21
	BLANK				0	125	0.3	1X					2016/02/21
B630794*	*BVX806-01R		OF-FB47-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630794*	*BVX807-01R		OF-RW47-0216		<0.1	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630794*	*BVX808-01R		OF-FB47A-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630794*	*BVX809-01R		OF-RW47A-0216		<0.1	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630794*	*BVX810-01R		OF-FB48-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630794*	*BVX811-01R		OF-RW48-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX841-01R		OF-FB70-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX842-01R		OF-RW70-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX843-01R		OF-FB44-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX844-01R		OF-RW44-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX845-01R		OF-RW44P-0216		0	125	0.3	1X	1	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX846-01R		OF-FB65-0216		0	125	0.3	1X	2	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX847-01R		OF-RW65-0216		<0.1	125	0.3	1X	6	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX850-01R		OF-FB21-0216		0	125	0.3	1X	2	2016/02/22	2016/02/23 17:00		2016/02/21
B630799*	*BVX851-01R		OF-RW21-0216		<0.1	125	0.3	1X	2	2016/02/22	2016/02/23 17:00		2016/02/21

GSZ, 2016/02/21

Remarks:

Samples extracted by: Geoffrey Sanchez, GSZ 2016/02/21

Instrumentation performed by: [signature] Date: 2016/02/22 2016/02/22

Calculations performed by: [signature] Date: 2016/02/23

Validated by: [signature] Date: 2016/02/23

- 652, 2016/02/21

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB630794	MDG TestAmerica NREG PFOSLOW-W Level IV required Project #: 320-17219	PFC Reporting Group	Tier 1 (Air.)	Test America
GB630799	MDG TestAmerica NREG PFOSLOW-W MS/MSD required on BVX847 Level IV required Project #: 320-17236	PFC Reporting Group	Tier 1 (Air.)	Test America

Surrogates/Spikes		PFC Spk C	PFC Spk A	PFC Spk A (2nd Source)	IS	Method Spike	Spikes	Samples
Calib	MeOH	SK-6220	I-4675	I-4676	SI-6010			
STD	mL	mL	mL	mL	mL			
1 -	2825 +	25			+ 150			
2 -	2800 +	50			+ 150			
3 -	2700 +	150			+ 150			
4 -	2813 +		37.5		+ 150			
5 -	2775 +		75		+ 150			
6 -	2725 +		125		+ 150			
ICV -	2788 +			62.5	+ 150			

Sample	Preparation Remarks

Sample	Instrumentation Remarks

Worksheet Number: **4389346**

Low level PFOS and PFOA in water - Water

ng/L

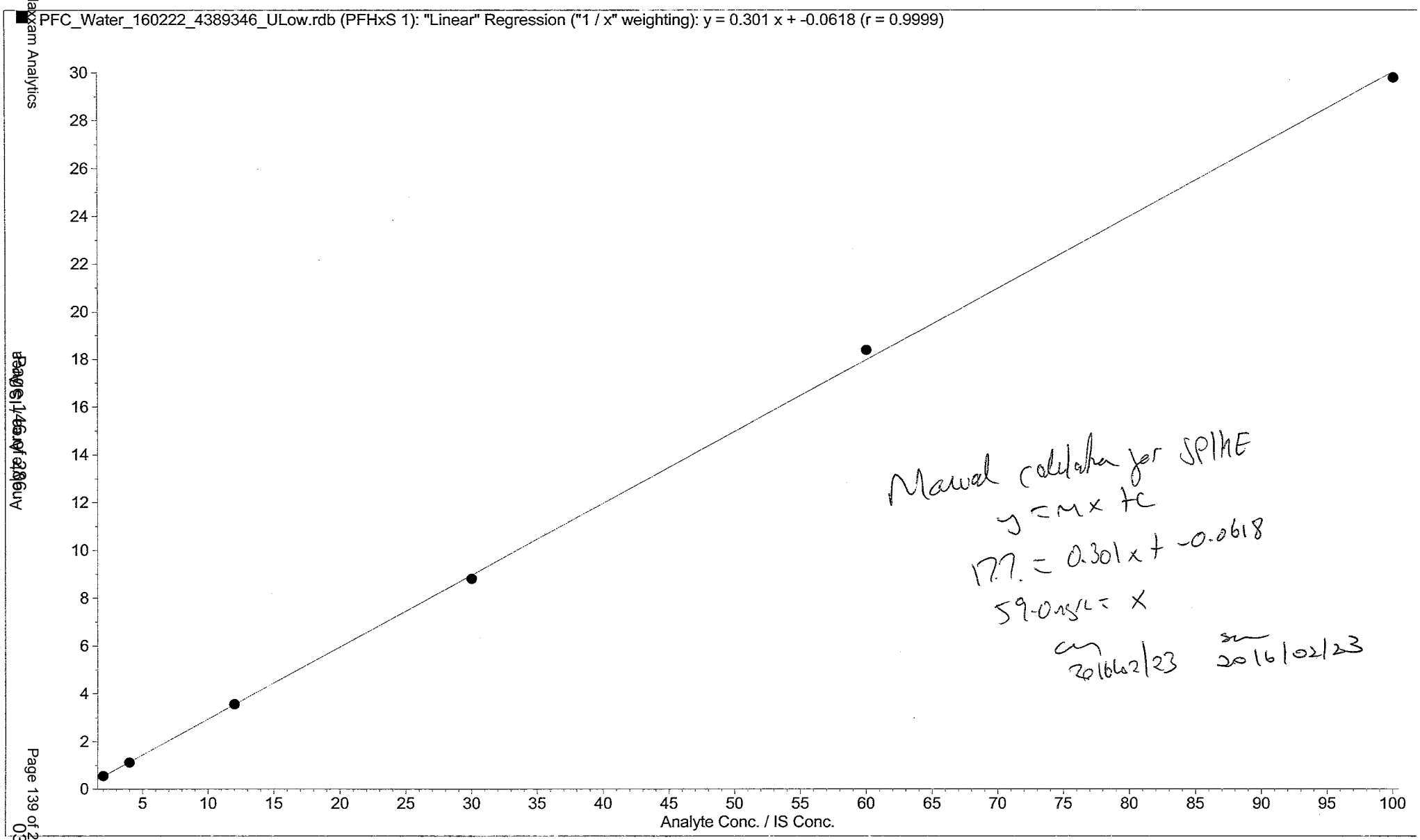
Parameter Name	Units	MTRX SPK	MTRX SPK Dup1	SPIKE	BLANK	DL	B630794 BVX806
Perfluorobutanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorobutane Sulfonate (PFBS)	ng/L	!! 135.600	!! 132.000	113.60000	0	2	0
Perfluorodecane Sulfonate	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluoroheptanoic Acid (PFHpA)	ng/L	!! 141.600	125.80000	113.00000	0	2	0
Perfluoroheptane sulfonate	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorohexanoic Acid (PFHxA)	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorohexane Sulfonate (PFHxS)	ng/L	!! 140.600	!! 143.800	118.20000	0	2	0
Perfluorononanoic Acid (PFNA)	ng/L	130.20000	!! 135.600	128.00000	0	2	0
Perfluoropentanoic Acid (PFPeA)	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorotetradecanoic Acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorotridecanoic Acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluoroundecanoic Acid (PFUnA)	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorodecanoic Acid (PFDA)	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluorododecanoic Acid (PFDoA)	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	128.00000	!! 137.600	124.00000	0	2	0
Perfluorooctane Sulfonate (PFOS)	ng/L	120.20000	117.60000	110.40000	0	2	0
13C2-perfluorotetradecanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C4-Perfluorobutanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C5-Perfluorononanoic acid	ng/L	63.1	55.2	93.6	85.5		87.4
13C2-Perfluorodecanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluorododecanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluorohexanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluoroundecanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C4-Perfluoroheptanoic acid	ng/L	60.1	55.7	102.	87.7		86.4
13C4-Perfluorooctanoic acid	ng/L	72.1	60.5	100.	96.3		91.0
13C4-Perfluorooctanesulfonate	ng/L	65.0	63.3	106.	95.1		84.0
13C5-Perfluoropentanoic acid	ng/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
18O2-Perfluorohexanesulfonate	ng/L	68.5	64.4	100.	87.1		80.0

Parameter Name	B630794 BVX807	B630794 BVX808	B630794 BVX809	B630794 BVX810	B630794 BVX811	B630799 BVX841	B630799 BVX842
Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorobutane Sulfonate (PFBS)	0.56900	0	0.52400	0	0	0	0
Perfluorodecane Sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluoroheptanoic Acid (PFHpA)	0	0	0	0	0	0	0
Perfluoroheptane sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorohexane Sulfonate (PFHxS)	0	0	0	0	0	0	0
Perfluorononanoic Acid (PFNA)	0	0	0	0	0	0	0
Perfluoropentanoic Acid (PFPeA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorotetradecanoic Acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorotridecanoic Acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluoroundecanoic Acid (PFUnA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorodecanoic Acid (PFDA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorododecanoic Acid (PFDoA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluoro-n-Octanoic Acid (PFOA)	0	0	0	0	0	0	0
Perfluorooctane Sulfonate (PFOS)	0	0	0	0	0	0	0
13C2-perfluorotetradecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C4-Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C5-Perfluorononanoic acid	!! 38.0	75.6	54.7	80.1	54.4	55.1	!! 35.3
13C2-Perfluorodecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluorododecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluorohexanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluoroundecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C4-Perfluoroheptanoic acid	!! 39.8	79.5	56.6	74.5	52.8	56.0	!! 35.0
13C4-Perfluorooctanoic acid	!! 43.0	80.7	59.7	79.4	59.2	57.3	!! 36.2
13C4-Perfluorooctanesulfonate	!! 41.2	78.3	58.9	84.0	57.9	60.7	!! 33.2
13C5-Perfluoropentanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
18O2-Perfluorohexanesulfonate	!! 44.4	84.2	60.3	76.7	56.4	54.8	!! 32.4

Low level PFOS and PFOA in water - Water
ng/L

Parameter Name	B630799 BVX843	B630799 BVX844	B630799 BVX845	B630799 BVX846	B630799 BVX847	B630799 BVX850	B630799 BVX851
Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorobutane Sulfonate (PFBS)	0	48.90000	45.80000	0	0	0	0
Perfluorodecane Sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluoroheptanoic Acid (PFHpA)	0	28.40000	27.70000	0	0	0	0
Perfluoroheptane sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorohexane Sulfonate (PFHxS)	0	720.00000	708.00000	0	0	0	0.43600
Perfluorononanoic Acid (PFNA)	0	5.88000	6.51000	0	0	0	0
Perfluoropentanoic Acid (PFPeA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorotetradecanoic Acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorotridecanoic Acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluoroundecanoic Acid (PFUnA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorodecanoic Acid (PFDA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorododecanoic Acid (PFDoA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluoro-n-Octanoic Acid (PFOA)	0	479.00000	462.00000	0	0	0	0
Perfluorooctane Sulfonate (PFOS)	0	1450.00000	1450.00000	0	0	0	0
13C2-perfluorotetradecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C4-Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C5-Perfluorononanoic acid	63.9	51.4	52.1	127.	64.6	76.0	52.3
13C2-Perfluorodecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluorododecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluorohexanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluoroundecanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C4-Perfluoroheptanoic acid	66.9	!! 46.1	52.6	120.	66.1	69.5	!! 46.9
13C4-Perfluorooctanoic acid	69.9	!! 45.7	52.2	!! 134.	65.5	76.4	51.4
13C4-Perfluorooctanesulfonate	70.8	!! 42.7	!! 47.1	!! 137.	60.3	84.6	66.8
13C5-Perfluoropentanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
18O2-Perfluorohexanesulfonate	67.6	!! 49.0	55.2	!! 132.	68.1	83.7	71.1

Parameter Name	DL	RDL	MDL	IDL			
Perfluorobutanoic acid	2	2	0.41	0			
Perfluorobutane Sulfonate (PFBS)	2	2	0.27	0			
Perfluorodecane Sulfonate	2	2	0.38	0			
Perfluoroheptanoic Acid (PFHpA)	2	2	0.39	0			
Perfluoroheptane sulfonate	2	2	0.4	0			
Perfluorohexanoic Acid (PFHxA)	2	2	0.42	0			
Perfluorohexane Sulfonate (PFHxS)	2	2	0.4	0			
Perfluorononanoic Acid (PFNA)	2	2	0.33	0			
Perfluoropentanoic Acid (PFPeA)	2	2	0.46	0			
Perfluorotetradecanoic Acid	2	2	0.61	0			
Perfluorotridecanoic Acid	2	2	0.6	0			
Perfluoroundecanoic Acid (PFUnA)	2	2	0.5	0			
Perfluorodecanoic Acid (PFDA)	2	2	0.24	0			
Perfluorododecanoic Acid (PFDoA)	2	2	0.63	0			
Perfluoro-n-Octanoic Acid (PFOA)	2	2	0.39	0			
Perfluorooctane Sulfonate (PFOS)	2	2	0.3	0			
13C2-perfluorotetradecanoic acid							
13C4-Perfluorobutanoic acid							
13C5-Perfluorononanoic acid							
13C2-Perfluorodecanoic acid							
13C2-Perfluorododecanoic acid							
13C2-Perfluorohexanoic acid							
13C2-Perfluoroundecanoic acid							
13C4-Perfluoroheptanoic acid							
13C4-Perfluorooctanoic acid							
13C4-Perfluorooctanesulfonate							
13C5-Perfluoropentanoic acid							
18O2-Perfluorohexanesulfonate							



Manual calculation for SPIKE

$y = mx + c$

$17.7 = 0.301x + -0.0618$

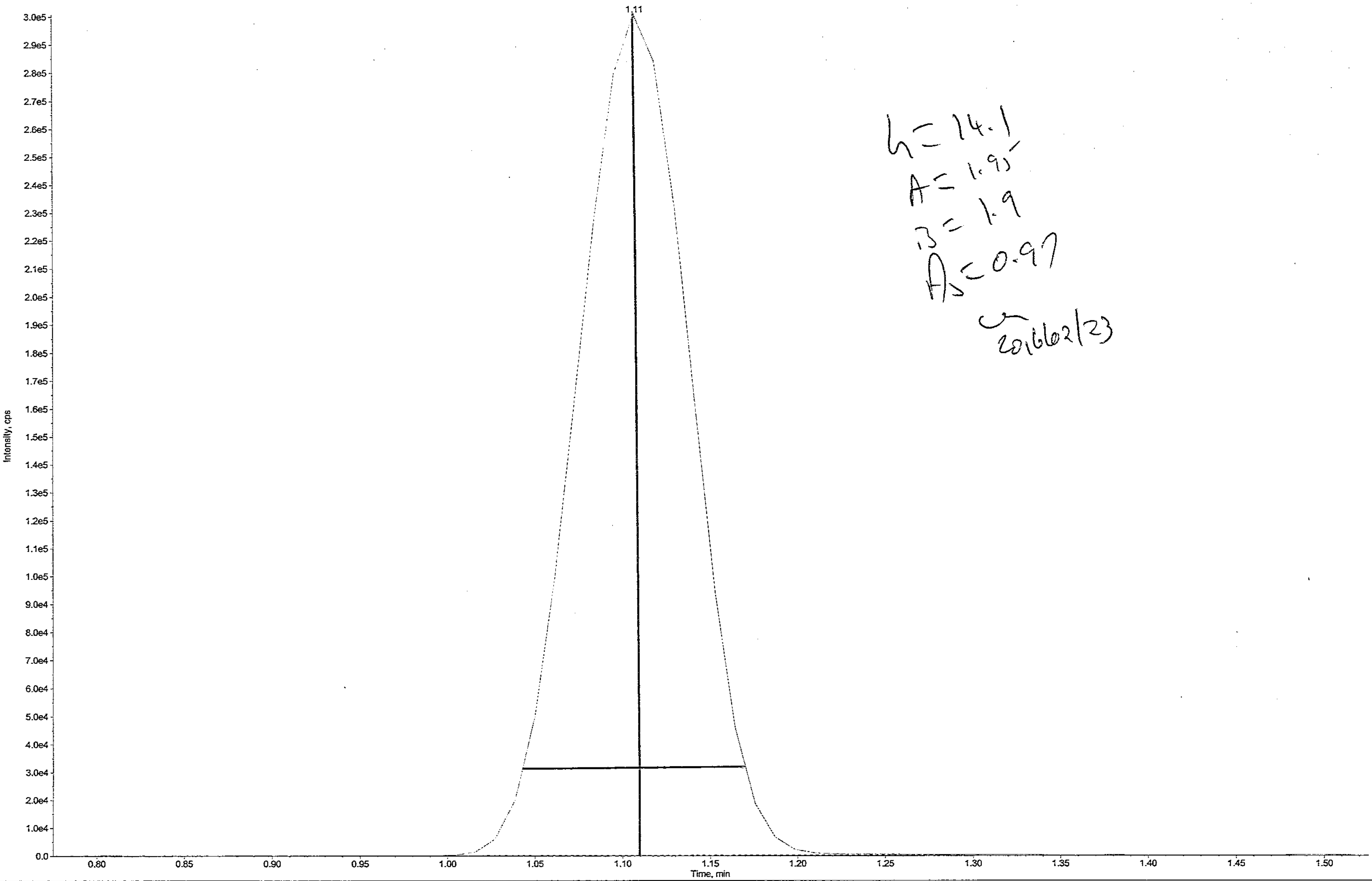
$59.0 \text{ ng/L} = x$

cm 2016/02/23 sm 2016/02/23

Results Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\PFOS\Results\PFC_Water_160222_4389346_ULow.rdb Printing Date: Tuesday, February 23, 2016

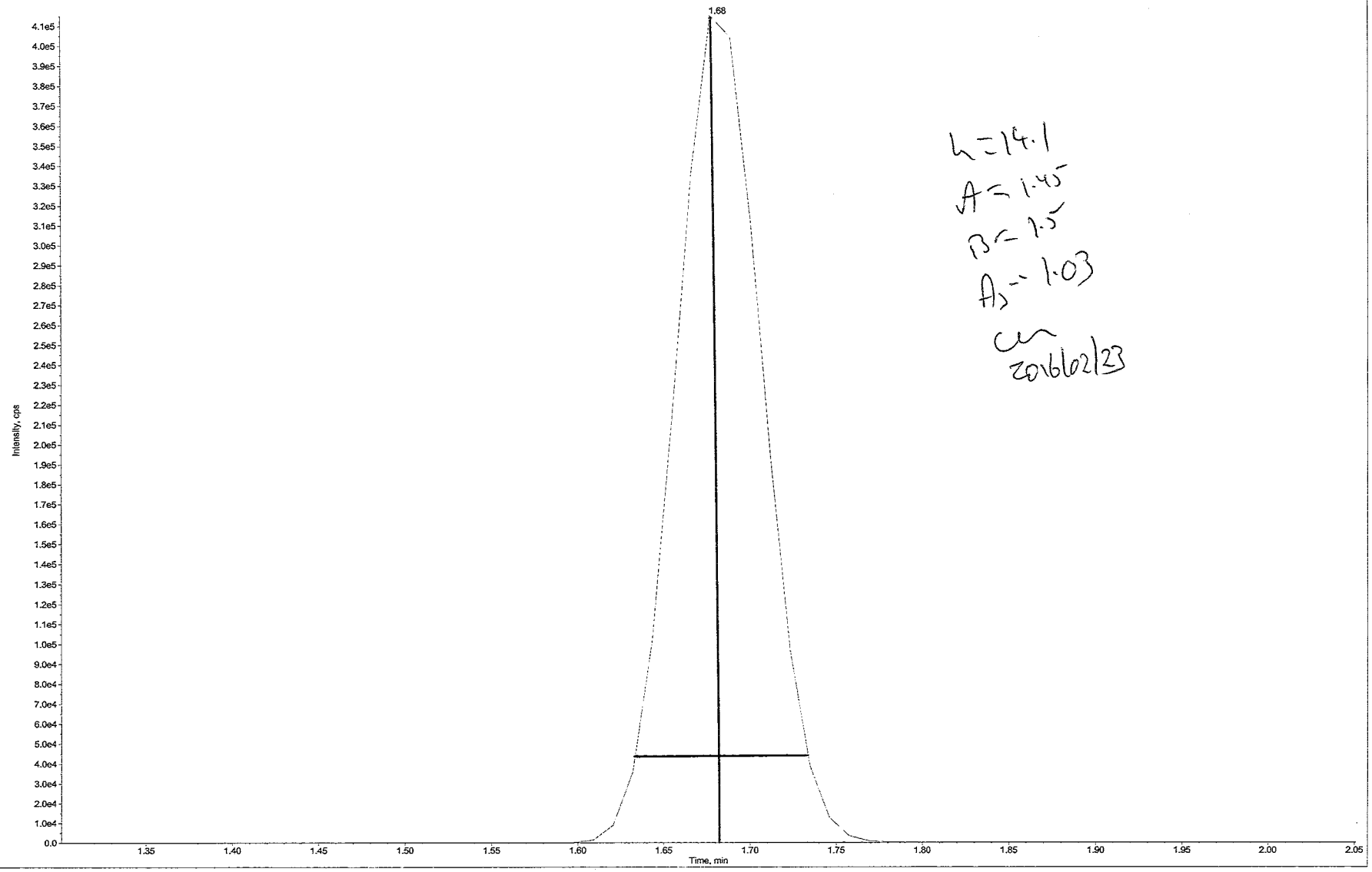
Sample Name: "STD 4" Sample ID: "" File: "WS#4389346.wiff"
Peak Name: "PFBS 1" Mass(es): "298.900/79.900 Da"
Comment: "" Annotation: ""

```
Sample Index:        13
Sample Type:         Standard
Concentration:       30.0     ng/L
Calculated Conc:     27.8     ng/L
Acq. Date:           2016/02/23
Acq. Time:           12:01:17 AM

Modified:            No
Proc. Algorithm: Analyst Classic
Bunching Factor:     1
Noise Threshold:     20.00    cps
Area Threshold: 2000.00       cps
,Num. Smooths:       5
Sep. Width:          0.00
Sep. Height:         0.00
Exp. Peak Ratio:     5.00
Exp. Adj. Ratio:     4.00
Exp. Val. Ratio:     3.00
RT Window:           10.0     sec
Expected RT:         1.15     min
Use Relative RT:     No

Int. Type:           Base To Base
Retention Time:      1.11     min
Area:                1360000. counts
Height:              3.01e+005 cps
Start Time:          0.981    min
End Time:            1.29     min
```



Sample Name: "STD 4" Sample ID: "" File: "WS#4389346.wiff"
Peak Name: "PFHxS 1" Mass(es): "398.900/79.900 Da"
Comment: "" Annotation: ""

Sample Index:	13
Sample Type:	Standard
Concentration:	30.0 ng/L
Calculated Conc:	29.5 ng/L
Acq. Date:	2016/02/23
Acq. Time:	12:01:17 AM
Modified:	No
Proc. Algorithm:	Analyst Classic
Bunching Factor:	1
Noise Threshold:	20.00 cps
Area Threshold:	5000.00 cps
,Num. Smooths:	6
Sep. Width:	0.00
Sep. Height:	0.00
Exp. Peak Ratio:	5.00
Exp. Adj. Ratio:	4.00
Exp. Val. Ratio:	3.00
RT Window:	30.0 sec
Expected RT:	1.68 min
Use Relative RT:	No
Int. Type:	Base To Base
Retention Time:	1.68 min
Area:	1490000. counts
Height:	4.22e+005 cps
Start Time:	1.59 min
End Time:	1.79 min



h = 14.1
A = 1.45
B = 1.5
A/B = 1.03
cw
2016/02/23

Report Name: Worksheet - Parameter Lists

Report Date: 2016/02/21

Test Code: **PFOSLOW-W**

Worksheet Number: **4389346**

Sample Number	Parameter
BVX806-01	Perfluorobutane Sulfonate (PFBS)
BVX807-01	Perfluoroheptanoic Acid (PFHpA)
BVX808-01	~~Perfluorohexanoic Acid (PFHxA)~~ sm 2016/02/23
BVX809-01	Perfluorohexane Sulfonate (PFHxS)
BVX810-01	Perfluorononanoic Acid (PFNA)
BVX811-01	Perfluoro-n-Octanoic Acid (PFOA)
	Perfluorooctane Sulfonate (PFOS)
BVX841-01	Perfluorobutane Sulfonate (PFBS)
BVX842-01	Perfluoroheptane sulfonate
BVX843-01	Perfluorohexane Sulfonate (PFHxS)
BVX844-01	Perfluorononanoic Acid (PFNA)
BVX845-01	Perfluoro-n-Octanoic Acid (PFOA)
BVX846-01	Perfluorooctane Sulfonate (PFOS)
BVX847-01	
BVX850-01	
BVX851-01	

1.	4389346:MTRX SPK	MTRX SPK
2.	4389346:MTRX SPK:D1	MTRX SPK :D1
3.	4389346:SPIKE	SPIKE
4.	4389346:BLANK	BLANK
5.	4389346:BVX806-01	OF-FB47-0216
6.	4389346:BVX807-01	OF-RW47-0216
7.	4389346:BVX808-01	OF-FB47A-0216
8.	4389346:BVX809-01	OF-RW47A-0216
9.	4389346:BVX810-01	OF-FB48-0216
10.	4389346:BVX811-01	OF-RW48-0216
11.	4389346:BVX841-01	OF-FB70-0216
12.	4389346:BVX842-01	OF-RW70-0216
13.	4389346:BVX843-01	OF-FB44-0216
14.	4389346:BVX844-01	OF-RW44-0216
15.	4389346:BVX845-01	OF-RW44P-0216
16.	4389346:BVX846-01	OF-FB65-0216
17.	4389346:BVX847-01	OF-RW65-0216
18.	4389346:BVX850-01	OF-FB21-0216
19.	4389346:BVX851-01	OF-RW21-0216

Worksheet Reagent Tracking Record Worksheet # 4389346

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk Volume (µL)		MS Volume (µL)		Samples Volume (µL)	
				Solid	Liquid	Solid	Liquid	Solid	Liquid
DGT Spike			100 ug/mL	60	30	60	30	NA	NA
Diquat Dibromide			50 ug/mL	NA	350	NA	350	NA	NA
Explosives Spiking solution A			20 ug/mL	250	100	250	100	NA	NA
Explosives Spiking solution B			20/80 ug/mL	250	100	250	100	NA	NA
Formaldehyde Spike			100 ug/mL	25	25	25	25	NA	NA
Glyphosate Spike			25 ug/mL	500	20	500	20	NA	NA
Nonylphenol Ethoxylate Spike			100 ug/mL	100	100	100	100	NA	NA
Nonylphenol Spike			10 ug/mL	100	100	100	100	NA	NA
Paraquat Cl Tetrahydrate			20 ug/mL	NA	125	NA	125	NA	NA
Perchlorate Standard Spike			10 ng/mL	NA	100	NA	100	NA	NA
Perchlorate Standard Spike			500 ng/mL	40	NA	40	NA	NA	NA
Perchlorate O-18 Internal Standard			0.10 ng/uL	20	20	20	20	20	20
Morpholine Intermediate Std.			5 ug/mL	NA	50	NA	20	NA	NA
Morpholine-D8 Internal Standard			10 ug/mL	NA	100	NA	100	NA	100
Comp. PFC Spiking Solution A			1ug/mL	62.5	NA	62.5	NA	NA	NA
Comp. PFC Spiking Solution B			250 ng/mL	NA	40 75	NA	40 75	NA	NA
Comp. PFC Spiking Solution C	✓	SK-6229	100 ng/mL	125	(62.5) NA	125	(62.5) NA	NA	NA
Internal Standard Solution A	✓	SI - 6010	50 ng/mL	50	(IS) 100	50	(IS) 100	50	(IS) 100
Internal Standard Solution B			250ng/mL	50	NA	50	NA	50	NA
(ICV)/CCV PFC	✓	I-4676	1ug/mL		(62.5)				

Solvent/Reagent	Supplier	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM	Fisher				50% NaOH			
Hexane	Fisher				20mM TBAS			
Acetone	Fisher				o-Phosphoric Acid			
Ottawa Sand	Fisher				Borax			
Methanol	Fisher (Aldrich)	✓	SHBG6076V	2012/02/21	Calcium Chloride			
2-Propanol (IPA)	Fisher				EDTA			
Acetonitrile	Fisher				Phosphate Buffer			
MTBE	Fisher				Sodium Thiosulphate			
Sodium Sulfate	Fisher				DNPH			
60:40 H2O:MeOH Recon Solution		✓	87-190	2016/02/12	5M Acetate Buffer			
DCM:Ethyl Ether (75:25)					FMOC			
Hexane:IPA (98:2)					0.25M Na_2CO_3			
2% Formic Acid		✓	87-131	2016/01/12	0.5M TBAS			
0.2% Formic Acid		✓	87-114	2015/12/31	1% NH_4OH 0.2%	✓	87-203	2016/02/21
0.05M KOH					Leachate Fluid		SHBG5572V	
0.05M HCl					Reagent Water	✓	~~SHBG6212V~~ GSZ	2016/02/21

Equipment	ID#	√	Equipment	ID#	√	Equipment	Lot #
Pipettor	M159446	✓	SPE Cartridge	0026353154	✓	10 mL Serological Pipet	
	K196099	✓				QC Balance ID	
	P297460	✓	Filter			Thermometer ID &Temp	SN 140614017 45°C
Dispenser			Centrifuge				
Syringe			Sonicator				

*Spiked by: GSZ
Spike Date: 2016/02/21
Spike Syringe ID# Pipettor: M23487B
Int. Std Syringe ID# Pipettor: M23487B
*Spiking Witnessed by: [signature]
Final pH

Bottle Tracking
Bottle# 14991
Cap# 14443
Systems plus Lot# 16-01-06

Comments: 125ml Ref Bottle (HDPE)
Inj IS - SI-6039 - 2016/02/19
HPLC Evaporator

* - SPIKING OF QC'S & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Project: D:\Analyst Data\Projects\Enviro\PFOS Batch:PFC_160222 Tab:Sample Set:SET1 AcqMethod:PFC_Water_Low.dam

Sample

	Sample Name	Rack Code	Rack Position	Plate Code	Plate Position	Vial Position	Data File	Inj.Volume (µl)
1	Rinse	2 Well Plates	1	*54VialPlate*	2	1	PFC_160222\WS#4387619	3.000
2	4387619~BLANK	2 Well Plates	1	*54VialPlate*	2	2	PFC_160222\WS#4387619	3.000
3	STD 1	2 Well Plates	1	*54VialPlate*	2	3	PFC_160222\WS#4387619	3.000
4	STD 2	2 Well Plates	1	*54VialPlate*	2	4	PFC_160222\WS#4387619	3.000
5	STD 3	2 Well Plates	1	*54VialPlate*	2	5	PFC_160222\WS#4387619	3.000
6	STD 4	2 Well Plates	1	*54VialPlate*	2	6	PFC_160222\WS#4387619	3.000
7	STD 5	2 Well Plates	1	*54VialPlate*	2	7	PFC_160222\WS#4387619	3.000
8	STD 6	2 Well Plates	1	*54VialPlate*	2	8	PFC_160222\WS#4387619	3.000
9	ICV	2 Well Plates	1	*54VialPlate*	2	9	PFC_160222\WS#4387619	3.000
10	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160222\WS#4387619	3.000
11	4387619~MTRX SPK	2 Well Plates	1	*54VialPlate*	2	10	PFC_160222\WS#4387619	3.000
12	4387619~MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	2	11	PFC_160222\WS#4387619	3.000
13	4387619~SPIKE	2 Well Plates	1	*54VialPlate*	2	12	PFC_160222\WS#4387619	3.000
14	4387619~BVX726-01	2 Well Plates	1	*54VialPlate*	2	13	PFC_160222\WS#4387619	3.000
15	4387619~BVX727-01	2 Well Plates	1	*54VialPlate*	2	14	PFC_160222\WS#4387619	3.000
16	4387619~BVX728-01	2 Well Plates	1	*54VialPlate*	2	15	PFC_160222\WS#4387619	3.000
17	4387619~BVX729-01	2 Well Plates	1	*54VialPlate*	2	16	PFC_160222\WS#4387619	3.000
18	4387619~BVX730-01	2 Well Plates	1	*54VialPlate*	2	17	PFC_160222\WS#4387619	3.000
19	4387619~BVX731-01	2 Well Plates	1	*54VialPlate*	2	18	PFC_160222\WS#4387619	3.000
20	4387619~BVX732-01	2 Well Plates	1	*54VialPlate*	2	19	PFC_160222\WS#4387619	3.000
21	4387619~BVX733-01	2 Well Plates	1	*54VialPlate*	2	20	PFC_160222\WS#4387619	3.000
22	4387619~BVX734-01	2 Well Plates	1	*54VialPlate*	2	21	PFC_160222\WS#4387619	3.000
23	4387619~BVX735-01	2 Well Plates	1	*54VialPlate*	2	22	PFC_160222\WS#4387619	3.000
24	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160222\WS#4387619	3.000
25	4387619~BVX736-01	2 Well Plates	1	*54VialPlate*	2	23	PFC_160222\WS#4387619	3.000
26	4387619~BVX737-01	2 Well Plates	1	*54VialPlate*	2	24	PFC_160222\WS#4387619	3.000
27	4387619~BVX738-01	2 Well Plates	1	*54VialPlate*	2	25	PFC_160222\WS#4387619	3.000
28	4387619~BVX739-01	2 Well Plates	1	*54VialPlate*	2	26	PFC_160222\WS#4387619	3.000
29	4387619~BVX740-01	2 Well Plates	1	*54VialPlate*	2	27	PFC_160222\WS#4387619	3.000
30	4387619~BVX741-01	2 Well Plates	1	*54VialPlate*	2	28	PFC_160222\WS#4387619	3.000
31	4387619~BVX743-01	2 Well Plates	1	*54VialPlate*	2	29	PFC_160222\WS#4387619	3.000
32	4387619~BVX744-01	2 Well Plates	1	*54VialPlate*	2	30	PFC_160222\WS#4387619	3.000
33	4387619~BVX745-01	2 Well Plates	1	*54VialPlate*	2	31	PFC_160222\WS#4387619	3.000
34	4387619~BVX746-01	2 Well Plates	1	*54VialPlate*	2	32	PFC_160222\WS#4387619	3.000
35	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160222\WS#4387619	3.000
36	4388131~BLANK	2 Well Plates	1	*54VialPlate*	2	33	PFC_160222\WS#4388131	3.000
37	4388131~MTRX SPK	2 Well Plates	1	*54VialPlate*	2	34	PFC_160222\WS#4388131	3.000
38	4388131~MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	2	35	PFC_160222\WS#4388131	3.000
39	4388131~SPIKE	2 Well Plates	1	*54VialPlate*	2	36	PFC_160222\WS#4388131	3.000
40	4388131~BVX819-01 (20x)	2 Well Plates	1	*54VialPlate*	2	37	PFC_160222\WS#4388131	3.000
41	4388131~BVX747-01	2 Well Plates	1	*54VialPlate*	2	38	PFC_160222\WS#4388131	3.000
42	4388131~BVX975-01	2 Well Plates	1	*54VialPlate*	2	39	PFC_160222\WS#4388131	3.000
43	4388131~BVX976-01	2 Well Plates	1	*54VialPlate*	2	40	PFC_160222\WS#4388131	3.000
44	4388131~BVX977-01	2 Well Plates	1	*54VialPlate*	2	41	PFC_160222\WS#4388131	3.000
45	4388131~BVX978-01	2 Well Plates	1	*54VialPlate*	2	42	PFC_160222\WS#4388131	3.000
46	4388131~BVX979-01	2 Well Plates	1	*54VialPlate*	2	43	PFC_160222\WS#4388131	3.000
47	4388131~BVX980-01	2 Well Plates	1	*54VialPlate*	2	44	PFC_160222\WS#4388131	3.000
48	4388131~BVX981-01	2 Well Plates	1	*54VialPlate*	2	45	PFC_160222\WS#4388131	3.000
49	4388131~BVX982-01	2 Well Plates	1	*54VialPlate*	2	46	PFC_160222\WS#4388131	3.000
50	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160222\WS#4388131	3.000
51	4388131~BVX983-01	2 Well Plates	1	*54VialPlate*	2	47	PFC_160222\WS#4388131	3.000
52	4388131~BVX984-01	2 Well Plates	1	*54VialPlate*	2	48	PFC_160222\WS#4388131	3.000
53	4388131~BVX985-01	2 Well Plates	1	*54VialPlate*	2	49	PFC_160222\WS#4388131	3.000
54	4388131~BVX986-01	2 Well Plates	1	*54VialPlate*	2	50	PFC_160222\WS#4388131	3.000
55	4388131~BVX987-01	2 Well Plates	1	*54VialPlate*	2	51	PFC_160222\WS#4388131	3.000
56	4388131~BVX988-01	2 Well Plates	1	*54VialPlate*	2	52	PFC_160222\WS#4388131	3.000
57	4388131~BVX989-01	2 Well Plates	1	*54VialPlate*	2	53	PFC_160222\WS#4388131	3.000
58	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160222\WS#4388131	3.000
59	4389346~BLANK	2 Well Plates	1	*54VialPlate*	1	1	PFC_160222\WS#4389346	3.000
60	STD 1	2 Well Plates	1	*54VialPlate*	1	2	PFC_160222\WS#4389346	3.000
61	STD 2	2 Well Plates	1	*54VialPlate*	1	3	PFC_160222\WS#4389346	3.000
62	STD 3	2 Well Plates	1	*54VialPlate*	1	4	PFC_160222\WS#4389346	3.000
63	STD 4	2 Well Plates	1	*54VialPlate*	1	5	PFC_160222\WS#4389346	3.000
64	STD 5	2 Well Plates	1	*54VialPlate*	1	6	PFC_160222\WS#4389346	3.000
65	STD 6	2 Well Plates	1	*54VialPlate*	1	7	PFC_160222\WS#4389346	3.000
66	ICV	2 Well Plates	1	*54VialPlate*	1	8	PFC_160222\WS#4389346	3.000
67	CCV	2 Well Plates	1	*54VialPlate*	1	5	PFC_160222\WS#4389346	3.000
68	4389346~MTRX SPK	2 Well Plates	1	*54VialPlate*	1	9	PFC_160222\WS#4389346	3.000
69	4389346~MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	1	10	PFC_160222\WS#4389346	3.000
70	4389346~SPIKE	2 Well Plates	1	*54VialPlate*	1	11	PFC_160222\WS#4389346	3.000
71	4389346~BVX806-01	2 Well Plates	1	*54VialPlate*	1	12	PFC_160222\WS#4389346	3.000
72	4389346~BVX807-01	2 Well Plates	1	*54VialPlate*	1	13	PFC_160222\WS#4389346	3.000
73	4389346~BVX808-01	2 Well Plates	1	*54VialPlate*	1	14	PFC_160222\WS#4389346	3.000
74	4389346~BVX809-01	2 Well Plates	1	*54VialPlate*	1	15	PFC_160222\WS#4389346	3.000
75	4389346~BVX810-01	2 Well Plates	1	*54VialPlate*	1	16	PFC_160222\WS#4389346	3.000
76	4389346~BVX811-01	2 Well Plates	1	*54VialPlate*	1	17	PFC_160222\WS#4389346	3.000
77	4389346~BVX841-01	2 Well Plates	1	*54VialPlate*	1	18	PFC_160222\WS#4389346	3.000
78	4389346~BVX842-01	2 Well Plates	1	*54VialPlate*	1	19	PFC_160222\WS#4389346	3.000
79	4389346~BVX843-01	2 Well Plates	1	*54VialPlate*	1	20	PFC_160222\WS#4389346	3.000
80	4389346~BVX844-01	2 Well Plates	1	*54VialPlate*	1	21	PFC_160222\WS#4389346	3.000
81	CCV	2 Well Plates	1	*54VialPlate*	1	5	PFC_160222\WS#4389346	3.000
82	4389346~BVX845-01	2 Well Plates	1	*54VialPlate*	1	22	PFC_160222\WS#4389346	3.000
83	4389346~BVX846-01	2 Well Plates	1	*54VialPlate*	1	23	PFC_160222\WS#4389346	3.000

Colum # 122
MPA = Soln # 515, FJREI7
MPB = MeOH, Fisher Lot # 152613
CN 2016 2/22

Project: D:\Analyst Data\Projects\Enviro\PFOS Batch:PFC_160222 Tab:Sample Set:SET1 AcqMethod:PFC_Water_Low.dam
Sample

	Sample Name	Rack Code	Rack Position	Plate Code	Plate Position	Vial Position	Data File	Inj.Volume (µl)
84	4389346~BVX847-01	2 Well Plates	1	*54VialPlate*	1	24	PFC_160222\WS#4389346	3.000
85	4389346~BVX850-01	2 Well Plates	1	*54VialPlate*	1	25	PFC_160222\WS#4389346	3.000
86	4389346~BVX851-01	2 Well Plates	1	*54VialPlate*	1	26	PFC_160222\WS#4389346	3.000
87	CCV	2 Well Plates	1	*54VialPlate*	1	5	PFC_160222\WS#4389346	3.000
88	4389348~BLANK	2 Well Plates	1	*54VialPlate*	1	27	PFC_160222\WS#4389348	3.000
89	4389348~MTRX SPK	2 Well Plates	1	*54VialPlate*	1	28	PFC_160222\WS#4389348	3.000
90	4389348~MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	1	29	PFC_160222\WS#4389348	3.000
91	4389348~SPIKE	2 Well Plates	1	*54VialPlate*	1	30	PFC_160222\WS#4389348	3.000
92	4389348~BWN179-01	2 Well Plates	1	*54VialPlate*	1	31	PFC_160222\WS#4389348	3.000
93	4389348~BWN180-01	2 Well Plates	1	*54VialPlate*	1	32	PFC_160222\WS#4389348	3.000
94	4389348~BWN181-01	2 Well Plates	1	*54VialPlate*	1	33	PFC_160222\WS#4389348	3.000
95	4389348~BWN182-01	2 Well Plates	1	*54VialPlate*	1	34	PFC_160222\WS#4389348	3.000
96	4389348~BWN183-01	2 Well Plates	1	*54VialPlate*	1	35	PFC_160222\WS#4389348	3.000
97	4389348~BWN184-01	2 Well Plates	1	*54VialPlate*	1	36	PFC_160222\WS#4389348	3.000
98	4389348~BWN185-01	2 Well Plates	1	*54VialPlate*	1	37	PFC_160222\WS#4389348	3.000
99	4389348~BWN186-01	2 Well Plates	1	*54VialPlate*	1	38	PFC_160222\WS#4389348	3.000
100	4389348~BWN187-01	2 Well Plates	1	*54VialPlate*	1	39	PFC_160222\WS#4389348	3.000
101	4389348~BWN188-01	2 Well Plates	1	*54VialPlate*	1	40	PFC_160222\WS#4389348	3.000
102	CCV	2 Well Plates	1	*54VialPlate*	1	5	PFC_160222\WS#4389348	3.000
103	4389348~BWN189-01	2 Well Plates	1	*54VialPlate*	1	41	PFC_160222\WS#4389348	3.000
104	4389348~BWN190-01	2 Well Plates	1	*54VialPlate*	1	42	PFC_160222\WS#4389348	3.000
105	4389348~BWN212-01	2 Well Plates	1	*54VialPlate*	1	43	PFC_160222\WS#4389348	3.000
106	4389348~BWN213-01	2 Well Plates	1	*54VialPlate*	1	44	PFC_160222\WS#4389348	3.000
107	4389348~BWN214-01	2 Well Plates	1	*54VialPlate*	1	45	PFC_160222\WS#4389348	3.000
108	4389348~BWN215-01	2 Well Plates	1	*54VialPlate*	1	46	PFC_160222\WS#4389348	3.000
109	4389348~BWN216-01	2 Well Plates	1	*54VialPlate*	1	47	PFC_160222\WS#4389348	3.000
110	4389348~BWN217-01	2 Well Plates	1	*54VialPlate*	1	48	PFC_160222\WS#4389348	3.000
111	4389348~BWN218-01	2 Well Plates	1	*54VialPlate*	1	49	PFC_160222\WS#4389348	3.000
112	4389348~BWN219-01	2 Well Plates	1	*54VialPlate*	1	50	PFC_160222\WS#4389348	3.000
113	CCV	2 Well Plates	1	*54VialPlate*	1	5	PFC_160222\WS#4389348	3.000

	Sample ID	Acquisition Date	Acquisition Method	File Name	Rack Type	Rack Position	Vial Position	Plate Type	Plate Position
1	4389346~BLANK	2016/02/22 11:40:54 PM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	1	*54VialPlate*	1
2	STD 1	2016/02/22 11:46:00 PM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	2	*54VialPlate*	1
3	STD 2	2016/02/22 11:51:06 PM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	3	*54VialPlate*	1
4	STD 3	2016/02/22 11:56:12 PM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	4	*54VialPlate*	1
5	STD 4	2016/02/23 12:01:17 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	5	*54VialPlate*	1
6	STD 5	2016/02/23 12:06:21 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	6	*54VialPlate*	1
7	STD 6	2016/02/23 12:11:27 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	7	*54VialPlate*	1
8	ICV	2016/02/23 12:16:32 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	8	*54VialPlate*	1
9	CCV	2016/02/23 12:21:38 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	5	*54VialPlate*	1
10	4389346~MTRX SPK	2016/02/23 12:26:43 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	9	*54VialPlate*	1
11	4389346~MTRX SPK:D1	2016/02/23 12:31:48 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	10	*54VialPlate*	1
12	4389346~SPIKE	2016/02/23 12:36:53 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	11	*54VialPlate*	1
13	4389346~BVX806-01	2016/02/23 12:41:59 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	12	*54VialPlate*	1
14	4389346~BVX807-01	2016/02/23 12:47:03 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	13	*54VialPlate*	1
15	4389346~BVX808-01	2016/02/23 12:52:09 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	14	*54VialPlate*	1
16	4389346~BVX809-01	2016/02/23 12:57:15 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	15	*54VialPlate*	1
17	4389346~BVX810-01	2016/02/23 1:02:21 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	16	*54VialPlate*	1
18	4389346~BVX811-01	2016/02/23 1:07:27 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	17	*54VialPlate*	1
19	4389346~BVX841-01	2016/02/23 1:12:33 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	18	*54VialPlate*	1
20	4389346~BVX842-01	2016/02/23 1:17:38 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	19	*54VialPlate*	1
21	4389346~BVX843-01	2016/02/23 1:22:44 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	20	*54VialPlate*	1
22	4389346~BVX844-01	2016/02/23 1:27:50 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	21	*54VialPlate*	1
23	CCV	2016/02/23 1:32:56 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	5	*54VialPlate*	1
24	4389346~BVX845-01	2016/02/23 1:38:01 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	22	*54VialPlate*	1
25	4389346~BVX846-01	2016/02/23 1:43:07 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	23	*54VialPlate*	1
26	4389346~BVX847-01	2016/02/23 1:48:12 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	24	*54VialPlate*	1
27	4389346~BVX850-01	2016/02/23 1:53:17 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	25	*54VialPlate*	1
28	4389346~BVX851-01	2016/02/23 1:58:24 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	26	*54VialPlate*	1
29	CCV	2016/02/23 2:03:30 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	5	*54VialPlate*	1
30	4389346~MTRX SPK	2016/02/23 7:19:54 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	9	*54VialPlate*	1
31	4389346~MTRX SPK:D1	2016/02/23 7:24:59 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	10	*54VialPlate*	1
32	4389346~BVX807-01	2016/02/23 7:30:05 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	13	*54VialPlate*	1
33	4389346~BVX842-01	2016/02/23 7:35:11 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	19	*54VialPlate*	1
34	4389346~BVX846-01	2016/02/23 7:40:20 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	23	*54VialPlate*	1
35	4389346~BVX851-01	2016/02/23 7:45:26 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	26	*54VialPlate*	1
36	CCV	2016/02/23 7:50:31 AM	PFC_Water_Low.dam	PFC_160222\WS#4389346.wiff	2 Well Plates	1	5	*54VialPlate*	1

DoD Projects - Internal Data Validation Checklist

Run date: 20160226

Worksheet # (s): 4394558

Analysis: PFOS/PFOA-W

	Primary review by the analyst - 1st 100 % analysis review	1st 100% review yes	no	n/a	*2nd 100% review
1	Sample analyses meet hold time criteria		—		✓
2	Analysis set-up meets method criteria	—			✓
3	Tuning and correct calibration used - criteria meets method criteria	—			✓
4	SQC/Control Charts updated, analysis in statistical/method control 20160229	✗		—	✓
5	Internal area counts checked (if applicable)	—			✓
6	LCS, SRM are within acceptance criteria	—			✓
7	Surrogate Recovery(s) is within acceptance criteria	—			✓
8	Method Blank meets acceptance criteria	—			✓
9	Matrix Spike recovery(s) meets acceptance criteria	—			✓
10	Duplicate precision meets acceptance criteria	—			✓
11	QC is documented on the run logs	—			✓
12	Runs checked for carryover	—			✓
13	Prep log / worksheet(s) are present, signed / dated by a prep / instrument analysts	—			✓
14	Initial weights, splits, impringer volumes (where applicable) are documented	—			✓
15	Standards and reagents traceable to Certificates of Analysis	—			✓
16	Samples above calibration range diluted and reanalyzed			—	✓
17	Dilution factors (where justified) have been checked for correctness and entered	—			✓
18	Analytical observations/anomalies documented in LIMS	—			✓
19	Random calculation checked and in correct units	—			✓
20	If corrective actions were applied they are documented, initialed & dated			—	✓
21	Manual integration – before & after data with a reason included, initialed & dated			—	✓
22	Transferred data is validated in LIMS for correctness	—			✓
23	Data package assembled (where required)	—			✓

Reviewed by: [signature] Date: 20160229

Comments:

	Secondary Supervisor/Qualified Data Review Staff - 2nd 100% verification review	yes	no	n/a
1	Repeats documented and referenced			✓
2	Method and sample deviations noted, anomalies described (if applicable)			✓
3	Data and QC validated in LIMS	✓		
4	Random calculation checked	✓		
5	Benchsheet (s) signed and dated	✓		
6	Data Package (if required) checked for completeness	✓		

Reviewed by: [signature] Date: 2016/02/29

Comments:

*Note: 2nd 100% verification review documented by secondary qualified data review
Primary and Secondary Internal Data Review Check must be performed by a different person

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 4394558 Testcode: ABSLOW-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓*	✓	
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: MM Date: 2016/02/25

Comments:
B630791 / B630799 : Samples are already expired. Re-analysis done past hold time. Reported dilution required. See copy of e-mail.

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list	✓		
2	Calibration and CCV standards valid (haven't expired)	✓		
3	Initial calibration curve and DFTPP tune (if applicable) acceptable	✓		
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable	✓		
5	System performance check acceptable (if applicable)	✓		
6	Internal standard responses acceptable	✓		
7	Method blank meets acceptance criteria	✓		
8	Lab Control Samples recoveries meets acceptance criteria	✓		
9	Duplicate RPD meets acceptance criteria	✓		
10	Matrix spike recoveries meets acceptance criteria	✓		
11	Surrogate recoveries meets acceptance criteria	✓		
12	Appropriate control charts updated			✓
13	Samples above calibration range diluted and reanalyzed			✓
14	Dilutions clearly documented on tracking record, inst file and verified during data upload	✓		
15	Samples following high level samples checked for carryover.	✓		
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			✓
17	Analytical observations / anomalies documented	✓		
18	DQW comments entered in LIMS, hardcopy in file			✓
19	Sample Prep section (above) reviewed and verified.	✓		
20	WS Approval performed in LIMS	✓		

Reviewed by: CM Date: 2016/02/29

Comments:

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable	✓		
2	Manual integrations verified			✓
3	Random calculation checked	✓		
4	Data and QC validated in LIMS	✓		
5	Comments reviewed for appropriateness	✓		
6	Reworks / relogs documented in file			✓
7	Worksheet signed and dated,	✓		
8	Worksheet approved and validated within LIMS	✓		

Reviewed by: SL Date: 2016/02/29

Comments:

WS# : 4394558

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Thursday, February 25, 2016

Assigned to : Melinda Molina

Test Code : PFOSLOW-W

Instrument Id:

Test Description : Low level PFOS and PFOA in water by LC-MS/MS

Job Number	Sample Number	ID	Sample ID	F	Moisture	Wt or Vol	Final Vol	DE or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date
	MTRX SPK	0	PFOSL BVX752-01		0	12.5	0.3	1X					2016/02/25
	MTRX SPK	1	PFOSL BVX752-01		0	12.5	0.3	1X					2016/02/25
	SPIKE		PFOSL		0	12.5	0.3	1X					2016/02/25
	BLANK				0	12.5	0.3	1X					2016/02/25
B630788	*BVX747-01R		ZWICKLBAVER	✓	0	12.5	0.3	1X	2	2016/02/25	2016/03/01 18:00		2016/02/25
B630789*	*BVX752-01R		OF-FB60-0216	✓	0	12.5	0.3	1X	2	2016/02/25	2016/02/23 18:00		2016/02/25
B630789*	*BVX753-01R		OF-RW60-0216	✓	0	12.5	0.3	1X	2	2016/02/25	2016/02/23 18:00		2016/02/25
B630789*	*BVX754-01R		OF-RW60P-0216	✓	<0.1	12.5	0.3	1X	2	2016/02/25	2016/02/23 18:00		2016/02/25
B630789*	*BVX755-01R		OF-FB46-0216	✓	0	12.5	0.3	1X	2	2016/02/25	2016/02/23 18:00		2016/02/25
B630789*	*BVX756-01R		OF-RW46-0216	✓	<0.1	12.5	0.3	1X	2	2016/02/25	2016/02/23 18:00		2016/02/25
B630791*	*BVX770-01R		OF-RW08-0216	✓	0	12.5	0.3	1X	1	2016/02/18	2016/02/23 18:00		2016/02/25
B630791*	*BVX771-01R		OF-RW08P-0216	✓	0	12.5	0.3	1X	1	2016/02/18	2016/02/23 18:00		2016/02/25
B630799*	*BVX844-01R		OF-RW44-0216	✓	0	2.5	0.3	1X	1	2016/02/22	2016/02/23 18:00		2016/02/25
B630799*	*BVX845-01R		OF-RW44P-0216	✓	0	2.5	0.3	1X	1	2016/02/22	2016/02/23 18:00		2016/02/25

Melinda Molina 2016/02/25

Remarks:

Samples extracted by: Melinda Molina 2016/02/25

Instrumentation performed by: Date: 2016/02/25

Calculations performed by: Date: 2016/02/29

Validated by: Date: 2016/02/29

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB630788	MDG TestAmerica NREG PFOSLOW-W Project #: 32007578	PFC Reporting Group	Tier 1 (Air.)	Test America
GB630789	MDG TestAmerica NREG PFOSLOW-W Level IV required Project #: 320-17278	PFC Reporting Group	Tier 1 (Air.)	Test America
GB630791	MDG TestAmerica NREG PFOSLOW-W MS/MSD required on BVX776 Level IV required Project #: 320-17185	PFC Reporting Group	Tier 1 (Air.)	Test America
GB630799	MDG TestAmerica NREG PFOSLOW-W MS/MSD required on BVX847 Level IV required Project #: 320-17236	PFC Reporting Group	Tier 1 (Air.)	Test America

Surrogates/Spikes	Method Spike	Spikes	Samples

Sample	Preparation Remarks
	Vol(mL) Amt. Spiked (mL) Conc. Reln Lot#
SJ1	2825 25
SJ2	2800 50 100ng/mL — JK 62290
SJ3	2700 150 mmd 2016/02/25
SJ4	2813 37.5
SJ5	2775 75 1 mg/mL — I467F
SJ6	2775 125
CCV	2788 62.5 — 1 mg/mL — I4676

Sample	Instrumentation Remarks
	mmd 2016/02/25

Worksheet Number: **4394558**

Low level PFOS and PFOA in water - Water

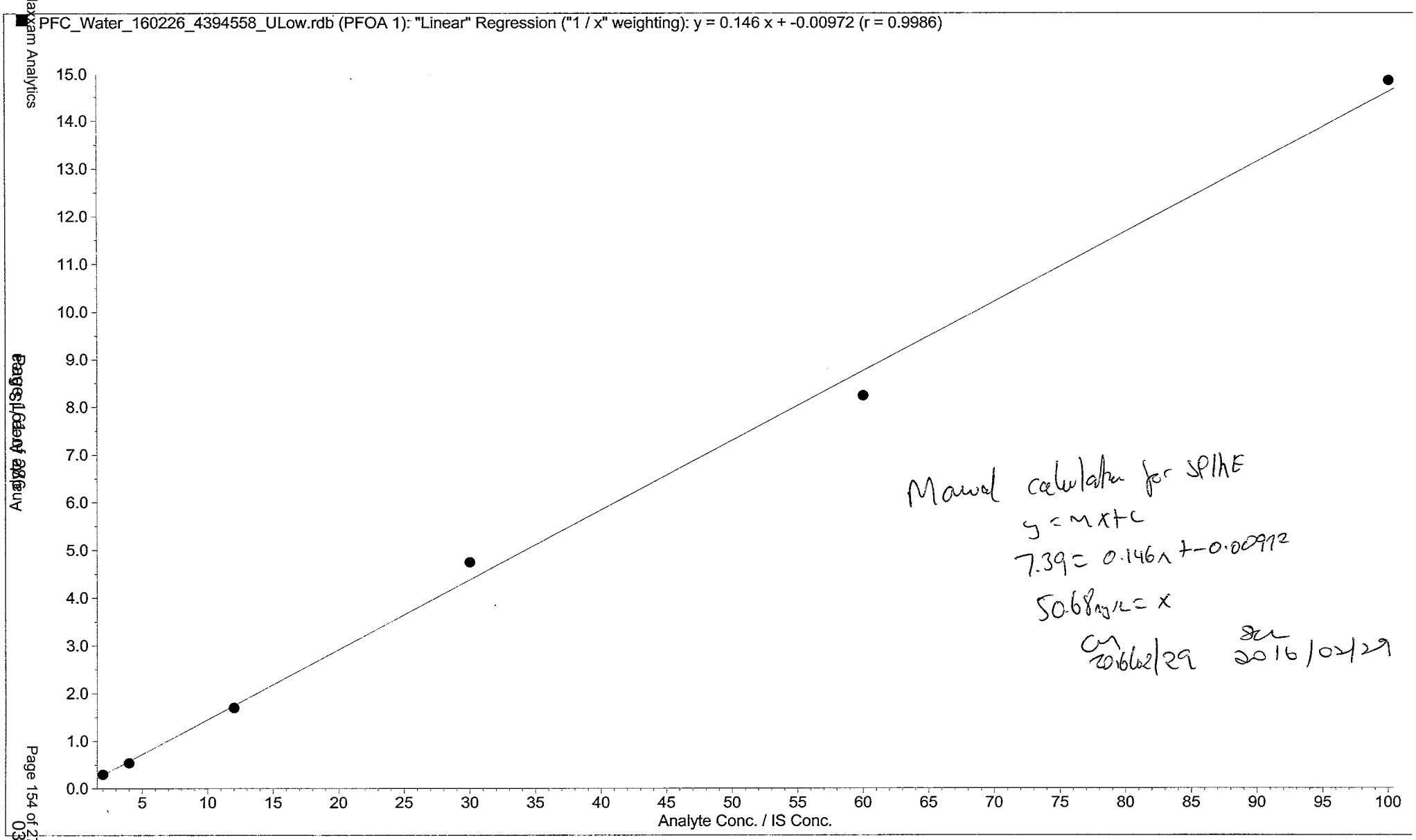
ng/L

Parameter Name	Units	MTRX SPK	MTRX SPK Dup1	SPIKE	BLANK	B630788 BVX747 ReWork	B630789 BVX752
Perfluorobutanoic acid	ng/L	102.80000	113.20000	84.20000	0	0	0
Perfluorobutane Sulfonate (PFBS)	ng/L	114.80000	102.40000	98.40000	0	0	0
Perfluorodecane Sulfonate	ng/L	120.80000	118.00000	117.20000	0	0	0
Perfluoroheptanoic Acid (PFHpA)	ng/L	108.80000	105.80000	108.40000	0	0	0
Perfluoroheptane sulfonate	ng/L	120.40000	118.60000	112.60000	0	0	0
Perfluorohexanoic Acid (PFHxA)	ng/L	119.78400	106.18400	105.20000	0	0	0.30800
Perfluorohexane Sulfonate (PFHxS)	ng/L	123.20000	109.60000	102.20000	0	0.32100	0
Perfluorononanoic Acid (PFNA)	ng/L	130.20000	118.80000	117.80000	0	0	0
Perfluoropentanoic Acid (PFPeA)	ng/L	130.20000	111.00000	107.00000	0	0	0
Perfluorotetradecanoic Acid	ng/L	124.60000	121.40000	112.40000	0	0.33500	0
Perfluorotridecanoic Acid	ng/L	108.04600	105.84600	110.20000	0	0.14400	0.17700
Perfluoroundecanoic Acid (PFUnA)	ng/L	124.20000	121.00000	114.80000	0	0	0
Perfluorodecanoic Acid (PFDA)	ng/L	128.20000	123.20000	107.40000	0	0	0
Perfluorododecanoic Acid (PFDoA)	ng/L	121.63200	121.03200	120.20000	0	0.11800	0.18400
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	115.60000	102.40000	101.20000	0	0	0
Perfluorooctane Sulfonate (PFOS)	ng/L	125.80000	111.20000	112.80000	0	0	0
13C2-perfluorotetradecanoic acid	ng/L	81.4	83.3	99.1	88.1	87.4	84.5
13C4-Perfluorobutanoic acid	ng/L	77.2	74.9	92.1	80.7	71.8	85.2
13C5-Perfluorononanoic acid	ng/L	93.4	102.	98.3	90.8	98.0	98.4
13C2-Perfluorodecanoic acid	ng/L	83.0	82.2	96.6	87.5	93.3	96.7
13C2-Perfluorododecanoic acid	ng/L	76.9	71.2	90.1	85.9	76.4	86.3
13C2-Perfluorohexanoic acid	ng/L	88.7	97.6	97.0	90.7	94.4	103.
13C2-Perfluoroundecanoic acid	ng/L	74.1	81.6	99.7	89.7	83.3	89.8
13C4-Perfluoroheptanoic acid	ng/L	96.1	96.2	98.8	97.6	99.0	104.
13C4-Perfluorooctanoic acid	ng/L	102.	109.	109.	96.9	103.	110.
13C4-Perfluorooctanesulfonate	ng/L	94.8	101.	99.0	83.2	96.2	103.
13C5-Perfluoropentanoic acid	ng/L	83.8	88.4	93.5	95.2	95.6	96.6
18O2-Perfluorohexanesulfonate	ng/L	92.3	104.	108.	89.4	103.	108.

Parameter Name	B630789 BVX753	B630789 BVX754	B630789 BVX755	B630789 BVX756	DL	B630791 BVX770 ReWork	B630791 BVX771 ReWork
Perfluorobutanoic acid	2.84000	2.41000	0	0	2	0	0
Perfluorobutane Sulfonate (PFBS)	0.72000	0.84800	0	0	2	9.09000	8.27000
Perfluorodecane Sulfonate	0	0.03690	0	0	2	0	0
Perfluoroheptanoic Acid (PFHpA)	0.57200	0.61900	0	0	2	3.17000	3.85000
Perfluoroheptane sulfonate	0.68700	0.69200	0.66900	0	2	7.65000	7.76000
Perfluorohexanoic Acid (PFHxA)	0.61700	0.42700	0	0.26200	2	7.25000	8.56000
Perfluorohexane Sulfonate (PFHxS)	0.98700	1.12000	0	0	2	53.00000	51.20000
Perfluorononanoic Acid (PFNA)	0.67300	0.69300	0	0	2	0	0
Perfluoropentanoic Acid (PFPeA)	0	0	0	0	2	0	0
Perfluorotetradecanoic Acid	0	0.19900	0	0	2	0	0
Perfluorotridecanoic Acid	0	0	0	0	2	0	0
Perfluoroundecanoic Acid (PFUnA)	0	0	0	0	2	0	0
Perfluorodecanoic Acid (PFDA)	0	0	0	0	2	0	0
Perfluorododecanoic Acid (PFDoA)	0	0	0	0	2	0	0
Perfluoro-n-Octanoic Acid (PFOA)	1.70000	1.49000	0.20900	0.23800	2	13.90000	13.90000
Perfluorooctane Sulfonate (PFOS)	2.13000	1.92000	0	0	2	181.00000	173.00000
13C2-perfluorotetradecanoic acid	64.3	73.3	84.9	78.9		78.7	77.1
13C4-Perfluorobutanoic acid	59.5	57.3	95.7	II 41.8		99.4	74.0
13C5-Perfluorononanoic acid	58.1	66.8	101.	72.7		93.9	86.2
13C2-Perfluorodecanoic acid	78.5	80.1	95.8	93.1		86.2	87.3
13C2-Perfluorododecanoic acid	53.5	66.9	79.2	85.0		72.7	79.2
13C2-Perfluorohexanoic acid	61.8	68.8	113.	74.3		91.9	80.3
13C2-Perfluoroundecanoic acid	76.5	83.5	84.8	79.7		82.3	83.2
13C4-Perfluoroheptanoic acid	70.8	69.3	120.	76.5		95.8	89.7
13C4-Perfluorooctanoic acid	66.6	70.2	125.	81.6		100.	98.1
13C4-Perfluorooctanesulfonate	57.1	65.2	106.	69.0		88.8	88.3
13C5-Perfluoropentanoic acid	69.6	77.7	105.	64.8		87.7	85.2
18O2-Perfluorohexanesulfonate	73.8	72.4	113.	69.0		96.2	89.4

Low level PFOS and PFOA in water - Water
ng/L

Parameter Name	DL	B630799 BVX844 ReWork	B630799 BVX845 ReWork	DL	RDL	MDL	IDL
Perfluorobutanoic acid	20	0	0	100	2	0.41	0
Perfluorobutane Sulfonate (PFBS)	20	45.00000	46.00000	100	2	0.27	0
Perfluorodecane Sulfonate	20	0	0	100	2	0.38	0
Perfluoroheptanoic Acid (PFHpA)	20	23.10000	27.80000	100	2	0.39	0
Perfluoroheptane sulfonate	20	47.60000	51.30000	100	2	0.4	0
Perfluorohexanoic Acid (PFHxA)	20	68.80000	77.50000	100	2	0.42	0
Perfluorohexane Sulfonate (PFHxS)	20	521.00000	576.00000	100	2	0.4	0
Perfluorononanoic Acid (PFNA)	20	7.95000	7.35000	100	2	0.33	0
Perfluoropentanoic Acid (PFPeA)	20	37.80000	37.90000	100	2	0.46	0
Perfluorotetradecanoic Acid	20	0	0	100	2	0.61	0
Perfluorotridecanoic Acid	20	0	0	100	2	0.6	0
Perfluoroundecanoic Acid (PFUnA)	20	0	0	100	2	0.5	0
Perfluorodecanoic Acid (PFDA)	20	0	0	100	2	0.24	0
Perfluorododecanoic Acid (PFDoA)	20	0	0	100	2	0.63	0
Perfluoro-n-Octanoic Acid (PFOA)	20	409.00000	462.00000	100	2	0.39	0
Perfluorooctane Sulfonate (PFOS)	20	1070.00000	1180.00000	100	2	0.3	0
13C2-perfluorotetradecanoic acid		64.2	71.9				
13C4-Perfluorobutanoic acid		112.	76.2				
13C5-Perfluorononanoic acid		95.7	95.9				
13C2-Perfluorodecanoic acid		88.9	84.6				
13C2-Perfluorododecanoic acid		74.7	66.7				
13C2-Perfluorohexanoic acid		98.6	90.0				
13C2-Perfluoroundecanoic acid		78.7	78.5				
13C4-Perfluoroheptanoic acid		99.4	93.1				
13C4-Perfluorooctanoic acid		101.	97.9				
13C4-Perfluorooctanesulfonate		96.4	95.0				
13C5-Perfluoropentanoic acid		88.5	87.7				
18O2-Perfluorohexanesulfonate		95.3	92.7				



Manual calculation for SPIKE

$y = mx + c$

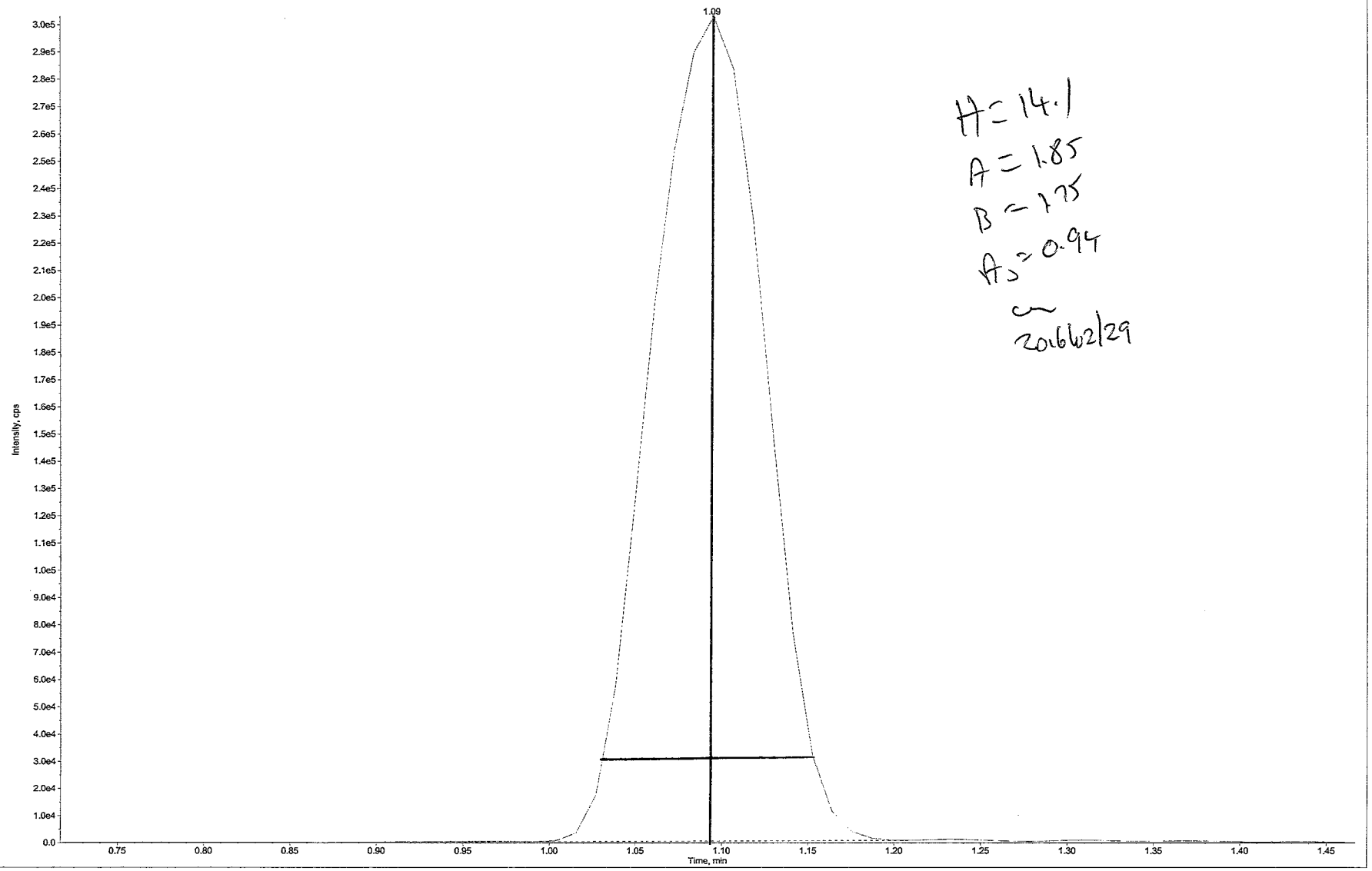
$7.39 = 0.146x + 0.00972$

$50.68 \text{ ng/L} = x$

On 2016/02/29 Jen 2016/02/29

Sample Name: "STD 4" Sample ID: "" File: "WS#4394551.wiff"
Peak Name: "PFBS 1" Mass(es): "298.900/79.900 Da"
Comment: "" Annotation: ""

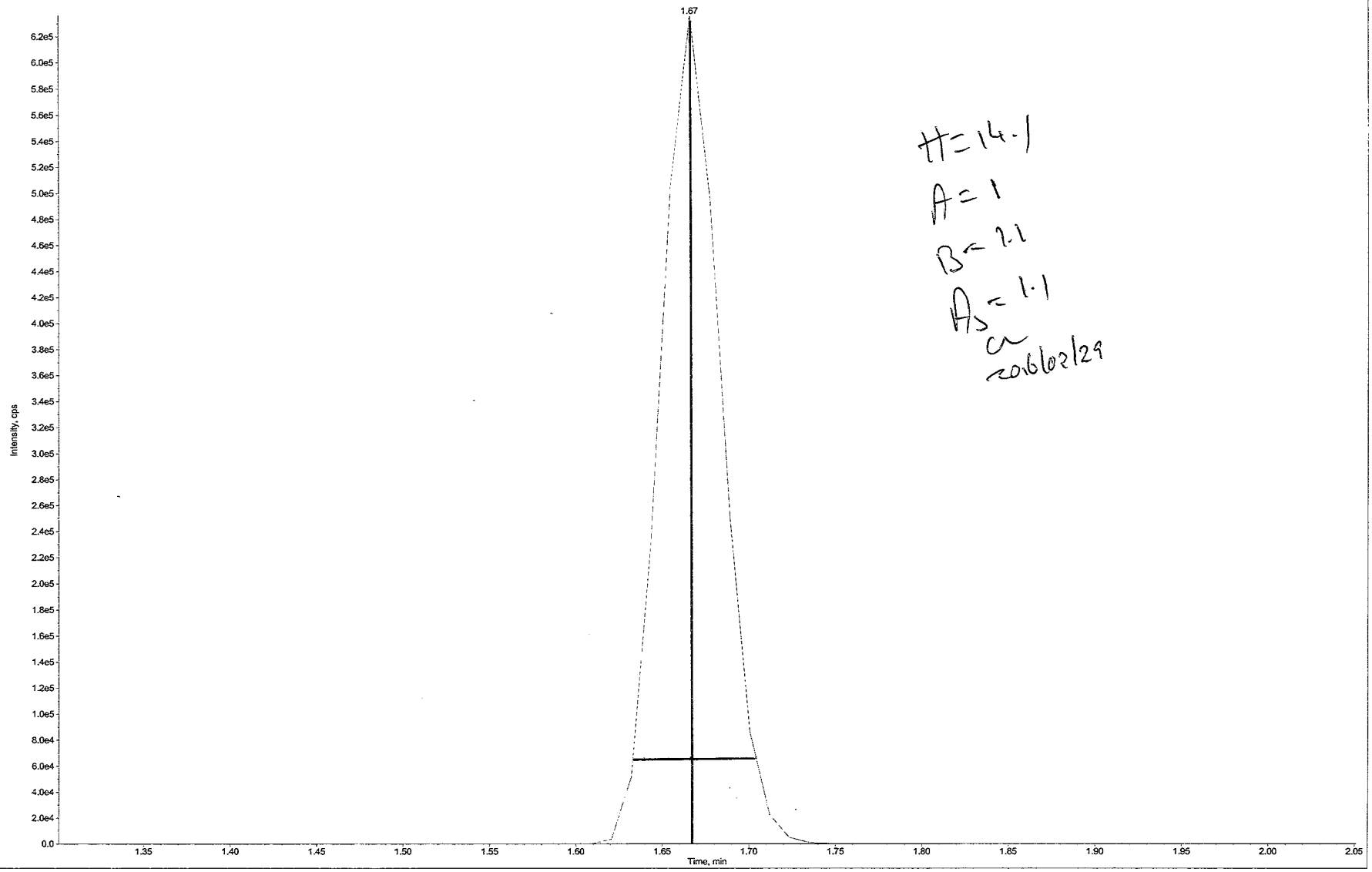
Sample Index:	74
Sample Type:	Standard
Concentration:	30.0 ng/L
Calculated Conc:	29.9 ng/L
Acq. Date:	2016/02/29
Acq. Time:	9:16:09 AM
Modified:	No
Proc. Algorithm:	Analyst Classic
Bunching Factor:	1
Noise Threshold:	20.00 cps
Area Threshold:	2500.00 cps
Num. Smooths:	2
Sep. Width:	0.00
Sep. Height:	0.00
Exp. Peak Ratio:	5.00
Exp. Adj. Ratio:	4.00
Exp. Val. Ratio:	3.00
RT Window:	30.0 sec
Expected RT:	1.09 min
Use Relative RT:	No
Int. Type:	Base To Base
Retention Time:	1.09 min
Area:	1390000. counts
Height:	3.03e+005 cps
Start Time:	0.879 min
End Time:	1.21 min



H = 14.1
A = 1.85
B = 1.75
A_s = 0.94
2016/02/29

Sample Name: "STD 4" Sample ID: "" File: "WS#4394551.wiff"
Peak Name: "PFHxS 1" Mass(es): "398.900/79.900 Da"
Comment: "" Annotation: ""

Sample Index:	74
Sample Type:	Standard
Concentration:	30.0 ng/L
Calculated Conc:	32.4 ng/L
Acq. Date:	2016/02/29
Acq. Time:	9:16:09 AM
Modified:	No
Proc. Algorithm:	Analyst Classic
Bunching Factor:	1
Noise Threshold:	20.00 cps
Area Threshold:	2000.00 cps
,Num. Smooths:	2
Sep. Width:	0.00
Sep. Height:	0.00
Exp. Peak Ratio:	5.00
Exp. Adj. Ratio:	4.00
Exp. Val. Ratio:	3.00
RT Window:	30.0 sec
Expected RT:	1.68 min
Use Relative RT:	No
Int. Type:	Base To Base
Retention Time:	1.67 min
Area:	1570000. counts
Height:	6.36e+005 cps
Start Time:	1.60 min
End Time:	1.76 min



Tr=14.1
A=1
B=1.1
As=1.1
on
2016/02/29

Manually Integrated

Page 163 of 286

Page 156 of 275

03/11/2016

Report Name: Worksheet - Parameter Lists

Report Date: 2016/02/25

Test Code: **PFOSLOW-W**

Worksheet Number: **4394558**

Sample Number	Parameter
BVX747-01	Perfluorobutanoic acid
	Perfluorobutane Sulfonate (PFBS)
	Perfluorodecanoic Acid (PFDA)
	Perfluorododecanoic Acid (PFDoA)
	Perfluorodecane Sulfonate
	Perfluoroheptanoic Acid (PFHpA)
	Perfluoroheptane sulfonate
	Perfluorohexanoic Acid (PFHxA)
	Perfluorohexane Sulfonate (PFHxS)
	Perfluorononanoic Acid (PFNA)
	Perfluoro-n-Octanoic Acid (PFOA)
	Perfluorooctane Sulfonate (PFOS)
	Perfluoropentanoic Acid (PFPeA)
	Perfluorotetradecanoic Acid
	Perfluorotridecanoic Acid
	Perfluoroundecanoic Acid (PFUnA)
BVX752-01	Perfluorobutane Sulfonate (PFBS)
BVX753-01	Perfluoroheptanoic Acid (PFHpA)
BVX754-01	Perfluorohexane Sulfonate (PFHxS)
BVX755-01	Perfluorononanoic Acid (PFNA)
BVX756-01	Perfluoro-n-Octanoic Acid (PFOA)
	Perfluorooctane Sulfonate (PFOS)
BVX770-01	Perfluorooctane Sulfonate (PFOS)
BVX771-01	
BVX844-01	Perfluorohexane Sulfonate (PFHxS)
BVX845-01	Perfluoro-n-Octanoic Acid (PFOA)
	Perfluorooctane Sulfonate (PFOS)

Worksheet Reagent Tracking Record Worksheet # 4354558

Volume (µL)

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk		MS		Samples	
				Solid	Liquid	Solid	Liquid	Solid	Liquid
DGT Spike			100 ug/mL	60	30	60	30	NA	NA
Diquat Dibromide			50 ug/mL	NA	350	NA	350	NA	NA
Explosives Spiking solution A			20 ug/mL	250	100	250	100	NA	NA
Explosives Spiking solution B			20/80 ug/mL	250	100	250	100	NA	NA
Formaldehyde Spike			100 ug/mL	25	25	25	25	NA	NA
Glyphosate Spike			25 ug/mL	500	20	500	20	NA	NA
Nonylphenol Ethoxylate Spike			100 ug/mL	100	100	100	100	NA	NA
Nonylphenol Spike			10 ug/mL	100	100	100	100	NA	NA
Paraquat Cl Tetrahydrate			20 ug/mL	NA	125	NA	125	NA	NA
Perchlorate Standard Spike			10 ng/mL	NA	100	NA	100	NA	NA
Perchlorate Standard Spike			500 ng/mL	40	NA	40	NA	NA	NA
Perchlorate O-18 Internal Standard			0.10 ng/uL	20	20	20	20	20	20
Morpholine Intermediate Std.			5 ug/mL	NA	50	NA	20	NA	NA
Morpholine-D8 Internal Standard			10 ug/mL	NA	100	NA	100	NA	100
Comp. PFC Spiking Solution A			1ug/mL	62.5	NA	62.5	NA	NA	NA
Comp. PFC Spiking Solution B			250 ng/mL	NA	40 75	NA	40 75	NA	NA
Comp. PFC Spiking Solution C	✓	SK6229	100 ng/mL	125	NA 62.5	125	NA 62.5	NA	NA
Internal Standard Solution A	✓	SI 6010 (4/4)	50 ng/mL	50	100 IS	50	100 IS	50	100 IS
Internal Standard Solution B			250ng/mL	50	NA	50	NA	50	NA
ICV/CCV	✓	I 4076	1ug/mL		62.5				

Solvent/Reagent	Supplier	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM	Fisher				50% NaOH			
Hexane	Fisher				20mM TBAS			
Acetone	Fisher				o-Phosphoric Acid			
Ottawa Sand	Fisher				Borax			
Methanol	Fisher	✓	SHBG6076V	2016/01/25	Calcium Chloride			
2-Propanol (IPA)	Fisher				EDTA			
Acetonitrile	Fisher				Phosphate Buffer			
MTBE	Fisher				Sodium Thiosulphate			
Sodium Sulfate	Fisher				DNPH			
Recon Solution					5M Acetate Buffer			
DCM:Ethyl Ether (75:25)					FMOC			
Hexane:IPA (98:2)					0.25M Na_2CO_3			
2% Formic Acid		✓	PRLRE87-131		0.5M TBAS			
0.2% Formic Acid		✓	PRLRE87-114		1% NH_4OH 0.2% NH_4OH		PRLRE87-211	
0.05M KOH					Leachate Fluid			
0.05M HCl					Reagent Water	✓	SHBG5172V	2016/02/25

*Spiked by: [signature]

Spike Date: 2016/02/25

Spike Syringe ID#: M23487B

Int. Std Syringe ID#: M23487B

*Spiking Witnessed by: SSV

Final pH:

Equipment	ID#	√	Equipment	ID#	√	Equipment	Lot #
Pipettor 1mL	P297460	✓	SPE Cartridge	0002635375A	✓	10 mL Serological Pipet	
Pipettor 200uL	P460090	✓	Filter			QC Balance ID	
Dispenser 100 mL	M23487B	✓	Centrifuge			Thermometer ID &Temp	
Syringe			Sonicator				

Bottle Tracking	
Bottle#	14991
Cap#	14443
Systems plus Lot#	16-01-06

Comments: (60:40 (H2O : MeOH) PRLRE87-190
Inj. I.S. (20uL) SI 6039

* - SPIKING OF SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 4394558

Dilution and Column Cleanup Worksheet

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL	Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL DATE	Column Clean Up
B630791	BVX770-01R	1X	10X	12.5	112.5	15	125	mma 2016/02/25	-
	BVX771-01R	1X	10X	12.5	112.5	15	125	mma 2016/02/25	-
B630799	BVX844-01R	1X	50X	2.5	122.5	15	125	mma 2016/02/25	-
	BVX845-01R	1X	50X	2.5	122.5	15	125	mma 2016/02/25	-
H2O used: SHBG 5372 V									
Pipette: (10mL) I16205B									
125 mL ref. bottle.									
				mma	2016/02/25				

PFOSLOW-W Re-works

Colm McNamara

Sent: Tuesday, February 23, 2016 7:25 AM
To: Melinda Molina; Geoffrey Sanchez; Emily Henderson
Cc: Adam Robinson; Araya Belay; Cristian Ginj; Sin Chii Chia; Melissa DiGrazia

Hi,

The following samples require re-work with dilutions.

WS# 4387619
B630787
BVX741 20x
BVX743 20x

WS#4389346
B630799
BVX844 50x
BVX845 50x

Colm McNamara
Analyst II, Liquid Chromatography
Secretary, Joint Health and Safety Committee

Office 905 817 5700, ext. 4009
Toll free 800 563 6266
6740 Campobello Road / Mississauga, ON Canada L5N 2L8

PFOSLOW-W Re-works

Colm McNamara
Sent: Friday, February 19, 2016 11:07 AM
To: Melinda Molina; Geoffrey Sanchez; Emily Henderson
Cc: Adam Robinson; Araya Belay; Cristian Ginj; Sin Chii Chia

Hi,

WS#4386408

BVX770 10x
BVX771 10x

Colm McNamara
Analyst II, Liquid Chromatography
Secretary, Joint Health and Safety Committee

Office 905 817 5700, ext. 4009
Toll free 800 563 6266
6740 Campobello Road / Mississauga, ON Canada L5N 2L8

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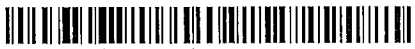
1.	 4394558:MTRX SPK	MTRX SPK
2.	 4394558:MTRX SPK:D1	MTRX SPK :D1
3.	 4394558:SPIKE	SPIKE
4.	 4394558:BLANK	BLANK
5.	 4394558:BVX747-01	ZWICKLBAVER
6.	 4394558:BVX752-01	OF-FB60-0216
7.	 4394558:BVX753-01	OF-RW60-0216
8.	 4394558:BVX754-01	OF-RW60P-0216
9.	 4394558:BVX755-01	OF-FB46-0216
10.	 4394558:BVX756-01	OF-RW46-0216
11.	 4394558:BVX770-01	OF-RW08-0216
12.	 4394558:BVX771-01	OF-RW08P-0216
13.	 4394558:BVX844-01	OF-RW44-0216
14.	 4394558:BVX845-01	OF-RW44P-0216

Project: D:\Analyst Data\Projects\Enviro\PFOS Batch:PFC_160226 Tab:Sample Set:SET1 AcqMethod:PFC_Water_Low.dam
Sample

	Sample Name	Rack Code	Rack Position	Plate Code	Plate Position	Vial Position	Data File	Inj.Volume (µl)
1	RINSE	2 Well Plate	1	*54VialPlate	2	1	PFC_160226\WS#4394551	3.000
2	4394551~BLANK	2 Well Plate	1	*54VialPlate	2	2	PFC_160226\WS#4394551	3.000
3	STD 1	2 Well Plate	1	*54VialPlate	2	3	PFC_160226\WS#4394551	3.000
4	STD 2	2 Well Plate	1	*54VialPlate	2	4	PFC_160226\WS#4394551	3.000
5	STD 3	2 Well Plate	1	*54VialPlate	2	5	PFC_160226\WS#4394551	3.000
6	STD 4	2 Well Plate	1	*54VialPlate	2	6	PFC_160226\WS#4394551	3.000
7	STD 5	2 Well Plate	1	*54VialPlate	2	7	PFC_160226\WS#4394551	3.000
8	STD 6	2 Well Plate	1	*54VialPlate	2	8	PFC_160226\WS#4394551	3.000
9	ICV	2 Well Plate	1	*54VialPlate	2	9	PFC_160226\WS#4394551	3.000
10	CCV	2 Well Plate	1	*54VialPlate	2	6	PFC_160226\WS#4394551	3.000
11	4394551~MTRX SPK	2 Well Plate	1	*54VialPlate	2	10	PFC_160226\WS#4394551	3.000
12	4394551~MTRX SPK:D1	2 Well Plate	1	*54VialPlate	2	11	PFC_160226\WS#4394551	3.000
13	4394551~SPIKE	2 Well Plate	1	*54VialPlate	2	12	PFC_160226\WS#4394551	3.000
14	4394551~BVX757-01	2 Well Plate	1	*54VialPlate	2	13	PFC_160226\WS#4394551	3.000
15	4394551~BVX758-01	2 Well Plate	1	*54VialPlate	2	14	PFC_160226\WS#4394551	3.000
16	4394551~BVX759-01	2 Well Plate	1	*54VialPlate	2	15	PFC_160226\WS#4394551	3.000
17	4394551~BVX760-01	2 Well Plate	1	*54VialPlate	2	16	PFC_160226\WS#4394551	3.000
18	4394551~BVX761-01	2 Well Plate	1	*54VialPlate	2	17	PFC_160226\WS#4394551	3.000
19	4394551~BVX762-01(50X)	2 Well Plate	1	*54VialPlate	2	18	PFC_160226\WS#4394551	3.000
20	4394551~BVX763-01	2 Well Plate	1	*54VialPlate	2	19	PFC_160226\WS#4394551	3.000
21	4394551~BVX764-01	2 Well Plate	1	*54VialPlate	2	20	PFC_160226\WS#4394551	3.000
22	4394551~BVX765-01	2 Well Plate	1	*54VialPlate	2	21	PFC_160226\WS#4394551	3.000
23	4394551~BVX766-01	2 Well Plate	1	*54VialPlate	2	22	PFC_160226\WS#4394551	3.000
24	CCV	2 Well Plate	1	*54VialPlate	2	6	PFC_160226\WS#4394551	3.000
25	4394551~BVX767-01	2 Well Plate	1	*54VialPlate	2	23	PFC_160226\WS#4394551	3.000
26	4394551~BVX768-01	2 Well Plate	1	*54VialPlate	2	24	PFC_160226\WS#4394551	3.000
27	4394551~BVX762-01(10X)	2 Well Plate	1	*54VialPlate	2	25	PFC_160226\WS#4394551	3.000
28	4394551~BVX762-01	2 Well Plate	1	*54VialPlate	2	26	PFC_160226\WS#4394551	3.000
29	CCV	2 Well Plate	1	*54VialPlate	2	6	PFC_160226\WS#4394558	3.000
30	4394558~BLANK	2 Well Plate	1	*54VialPlate	2	27	PFC_160226\WS#4394558	3.000
31	4394558~MTRX SPK	2 Well Plate	1	*54VialPlate	2	28	PFC_160226\WS#4394558	3.000
32	4394558~MTRX SPK:D1	2 Well Plate	1	*54VialPlate	2	29	PFC_160226\WS#4394558	3.000
33	4394558~SPIKE	2 Well Plate	1	*54VialPlate	2	30	PFC_160226\WS#4394558	3.000
34	4394558~BVX747-01	2 Well Plate	1	*54VialPlate	2	31	PFC_160226\WS#4394558	3.000
35	4394558~BVX752-01	2 Well Plate	1	*54VialPlate	2	32	PFC_160226\WS#4394558	3.000
36	4394558~BVX753-01	2 Well Plate	1	*54VialPlate	2	33	PFC_160226\WS#4394558	3.000
37	4394558~BVX754-01	2 Well Plate	1	*54VialPlate	2	34	PFC_160226\WS#4394558	3.000
38	4394558~BVX755-01	2 Well Plate	1	*54VialPlate	2	35	PFC_160226\WS#4394558	3.000
39	4394558~BVX756-01	2 Well Plate	1	*54VialPlate	2	36	PFC_160226\WS#4394558	3.000
40	4394558~BVX770-01(10X)	2 Well Plate	1	*54VialPlate	2	37	PFC_160226\WS#4394558	3.000
41	4394558~BVX771-01(10X)	2 Well Plate	1	*54VialPlate	2	38	PFC_160226\WS#4394558	3.000
42	4394558~BVX844-01(50X)	2 Well Plate	1	*54VialPlate	2	39	PFC_160226\WS#4394558	3.000
43	4394558~BVX845-01(50X)	2 Well Plate	1	*54VialPlate	2	40	PFC_160226\WS#4394558	3.000
44	CCV	2 Well Plate	1	*54VialPlate	2	6	PFC_160226\WS#4394558	3.000
45	RINSE	2 Well Plate	1	*54VialPlate	2	1	PFC_160226\WS#4395833	3.000
46	4395833~BLANK	2 Well Plate	1	*54VialPlate	1	1	PFC_160226\WS#4395833	3.000
47	STD 1	2 Well Plate	1	*54VialPlate	1	2	PFC_160226\WS#4395833	3.000
48	STD 2	2 Well Plate	1	*54VialPlate	1	3	PFC_160226\WS#4395833	3.000
49	STD 3	2 Well Plate	1	*54VialPlate	1	4	PFC_160226\WS#4395833	3.000
50	STD 4	2 Well Plate	1	*54VialPlate	1	5	PFC_160226\WS#4395833	3.000
51	STD 5	2 Well Plate	1	*54VialPlate	1	6	PFC_160226\WS#4395833	3.000
52	STD 6	2 Well Plate	1	*54VialPlate	1	7	PFC_160226\WS#4395833	3.000
53	ICV	2 Well Plate	1	*54VialPlate	1	8	PFC_160226\WS#4395833	3.000
54	CCV	2 Well Plate	1	*54VialPlate	1	5	PFC_160226\WS#4395833	3.000
55	4395833~MTRX SPK	2 Well Plate	1	*54VialPlate	1	9	PFC_160226\WS#4395833	3.000
56	4395833~MTRX SPK:D1	2 Well Plate	1	*54VialPlate	1	10	PFC_160226\WS#4395833	3.000
57	4395833~SPIKE	2 Well Plate	1	*54VialPlate	1	11	PFC_160226\WS#4395833	3.000
58	4395833~BVX702-01	2 Well Plate	1	*54VialPlate	1	12	PFC_160226\WS#4395833	3.000
59	4395833~BVX703-01	2 Well Plate	1	*54VialPlate	1	13	PFC_160226\WS#4395833	3.000
60	4395833~BVX704-01	2 Well Plate	1	*54VialPlate	1	14	PFC_160226\WS#4395833	3.000
61	4395833~BVX705-01	2 Well Plate	1	*54VialPlate	1	15	PFC_160226\WS#4395833	3.000
62	4395833~BVX706-01	2 Well Plate	1	*54VialPlate	1	16	PFC_160226\WS#4395833	3.000
63	4395833~BVX707-01	2 Well Plate	1	*54VialPlate	1	17	PFC_160226\WS#4395833	3.000
64	4395833~BVX708-01	2 Well Plate	1	*54VialPlate	1	18	PFC_160226\WS#4395833	3.000
65	4395833~BVX709-01	2 Well Plate	1	*54VialPlate	1	19	PFC_160226\WS#4395833	3.000
66	4395833~BVX710-01	2 Well Plate	1	*54VialPlate	1	20	PFC_160226\WS#4395833	3.000
67	4395833~BVX711-01	2 Well Plate	1	*54VialPlate	1	21	PFC_160226\WS#4395833	3.000
68	CCV	2 Well Plate	1	*54VialPlate	1	5	PFC_160226\WS#4395833	3.000
69	4395833~BVX712-01	2 Well Plate	1	*54VialPlate	1	22	PFC_160226\WS#4395833	3.000
70	4395833~BVX713-01	2 Well Plate	1	*54VialPlate	1	23	PFC_160226\WS#4395833	3.000
71	4395833~BVX714-01 (10x)	2 Well Plate	1	*54VialPlate	1	24	PFC_160226\WS#4395833	3.000
72	4395833~BVX715-01	2 Well Plate	1	*54VialPlate	1	25	PFC_160226\WS#4395833	3.000
73	4395833~BVX716-01	2 Well Plate	1	*54VialPlate	1	26	PFC_160226\WS#4395833	3.000
74	4395833~BVX717-01 (10x)	2 Well Plate	1	*54VialPlate	1	27	PFC_160226\WS#4395833	3.000
75	4395833~BVX718-01	2 Well Plate	1	*54VialPlate	1	28	PFC_160226\WS#4395833	3.000
76	4395833~BVX719-01	2 Well Plate	1	*54VialPlate	1	29	PFC_160226\WS#4395833	3.000
77	4395833~BVX720-01	2 Well Plate	1	*54VialPlate	1	30	PFC_160226\WS#4395833	3.000
78	4395833~BVX721-01	2 Well Plate	1	*54VialPlate	1	31	PFC_160226\WS#4395833	3.000
79	CCV	2 Well Plate	1	*54VialPlate	1	5	PFC_160226\WS#4395833	3.000
80	4395833~BVX714-01	2 Well Plate	1	*54VialPlate	1	32	PFC_160226\WS#4395833	3.000
81	4395833~BVX717-01	2 Well Plate	1	*54VialPlate	1	33	PFC_160226\WS#4395833	3.000
82	CCV	2 Well Plate	1	*54VialPlate	1	5	PFC_160226\WS#4395833	3.000

Column #123

MPA = soln #513, FSRE17

MPB = Methanol
Fisher lot# 158013

SCN 2016/02/26

	Sample ID	Acquisition Date	Acquisition Method	File Name	Rack Type	Rack Position	Vial Position	Plate Type	Plate Position
1	4394558~BLANK	2016/02/29 8:55:42 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	27	*54VialPlate*	2
2	STD 1	2016/02/29 9:00:47 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	3	*54VialPlate*	2
3	STD 2	2016/02/29 9:05:58 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	4	*54VialPlate*	2
4	STD 3	2016/02/29 9:11:03 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	5	*54VialPlate*	2
5	STD 4	2016/02/29 9:16:09 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	6	*54VialPlate*	2
6	STD 5	2016/02/29 9:21:15 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	7	*54VialPlate*	2
7	STD 6	2016/02/29 9:26:22 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	8	*54VialPlate*	2
8	ICV	2016/02/29 9:41:39 AM	PFC_Water_Low.dam	PFC_160226\WS#4394551.wiff	2 Well Plates	1	9	*54VialPlate*	2
9	CCV	2016/02/29 9:46:45 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	6	*54VialPlate*	2
10	4394558~MTRX SPK	2016/02/29 10:09:47 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	28	*54VialPlate*	2
11	4394558~MTRX SPK:D1	2016/02/29 10:14:52 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	29	*54VialPlate*	2
12	4394558~SPIKE	2016/02/29 10:19:58 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	30	*54VialPlate*	2
13	4394558~BVX747-01	2016/02/29 10:25:08 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	31	*54VialPlate*	2
14	4394558~BVX752-01	2016/02/29 10:30:15 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	32	*54VialPlate*	2
15	4394558~BVX753-01	2016/02/29 10:35:21 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	33	*54VialPlate*	2
16	4394558~BVX754-01	2016/02/29 10:40:27 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	34	*54VialPlate*	2
17	4394558~BVX755-01	2016/02/29 10:45:33 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	35	*54VialPlate*	2
18	4394558~BVX756-01	2016/02/29 10:50:39 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	36	*54VialPlate*	2
19	4394558~BVX770-01(10X)	2016/02/29 10:55:45 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	37	*54VialPlate*	2
20	4394558~BVX771-01(10X)	2016/02/29 11:00:50 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	38	*54VialPlate*	2
21	4394558~BVX844-01(50X)	2016/02/29 11:05:56 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	39	*54VialPlate*	2
22	4394558~BVX845-01(50X)	2016/02/29 11:11:02 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	40	*54VialPlate*	2
23	CCV	2016/02/29 11:21:13 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	6	*54VialPlate*	2
24	4394558~MTRX SPK	2016/02/29 11:26:22 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	28	*54VialPlate*	2
25	4394558~MTRX SPK:D1	2016/02/29 11:31:29 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	29	*54VialPlate*	2
26	CCV	2016/02/29 11:36:34 AM	PFC_Water_Low.dam	PFC_160226\WS#4394558.wiff	2 Well Plates	1	6	*54VialPlate*	2

5. Initial Calibration

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

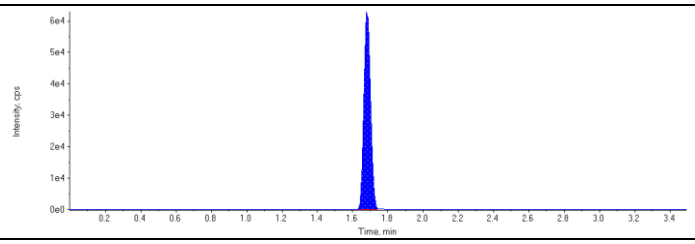
Sample Name	**STD 1**	Injection Vial	2
Sample ID	STD 1	Injection Volume (µL)	3
Sample Type	Standard	Algorithm Used	Analyst Classic
Acquisition Date	2016/02/22 11:46:00 PM	Dilution Factor	1.00
Acquisition Method	PFC_Water_Low.dam	Sample Annotation	-
Project	Enviro\PFOS	Instrument Name	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	165000.	1.68	1.00	-
MPFHpA	494000.	1.70	1.00	-
MPFOA	430000.	1.88	1.00	-
MPFOS	202000.	1.97	1.00	-
MPFNA	363000.	2.02	1.00	-
13C6-PFHxA IS	2220000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	84600	1.11	2.00	2.17	109.0
PFHxS 1	90900	1.68	2.00	2.03	102.0
PFHpA 1	125000	1.70	2.00	1.97	98.4
PFOA 1	129000	1.88	2.00	1.97	98.7
PFOS 1	65900	1.97	2.00	2.26	113.0
PFNA 1	100000	2.02	2.00	2.10	105.0
18O2-PFHxS	165000	1.68	100.	105.	105.0
13C4-PFHpA	494000	1.70	100.	106.	106.0
13C4-PFOA	430000	1.88	100.	106.	106.0
13C4-PFOS	202000	1.97	100.	106.	106.0
13C5-PFNA	363000	2.02	100.	105.	105.0
13C6-PFHxA	2220000	1.43	100.	96.8	96.8

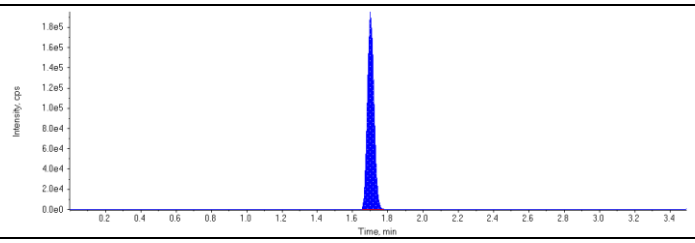
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



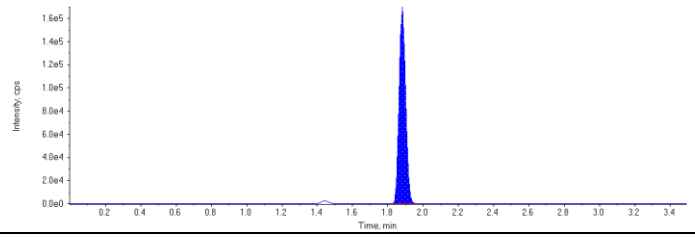
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



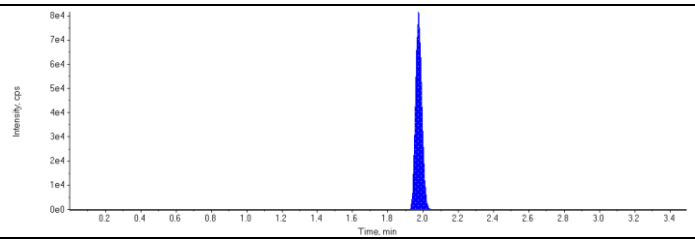
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



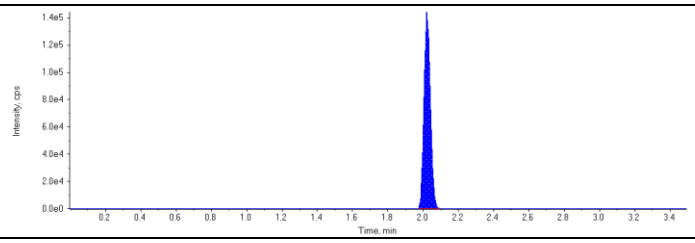
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



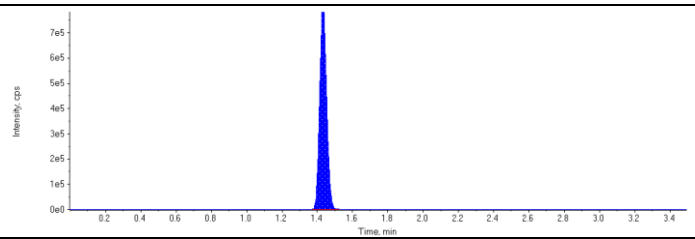
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

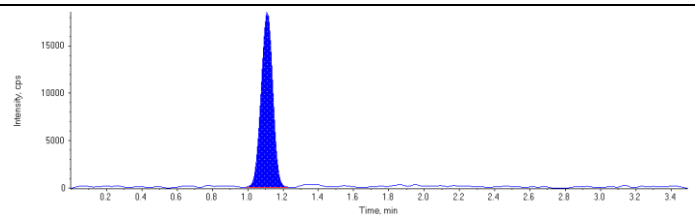
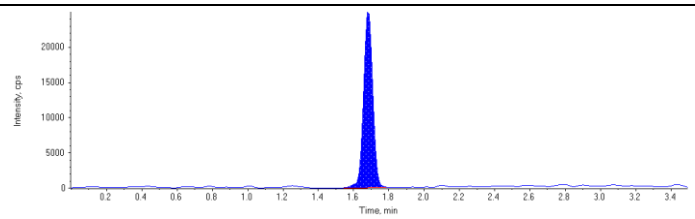
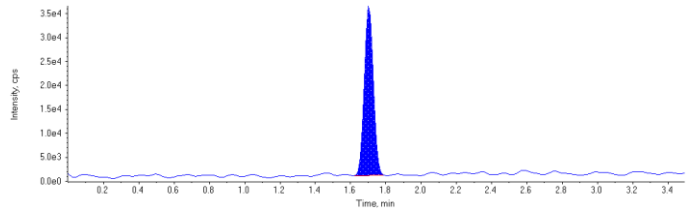
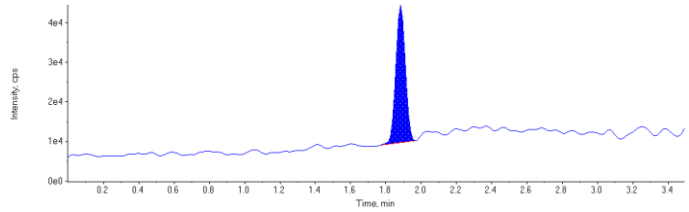
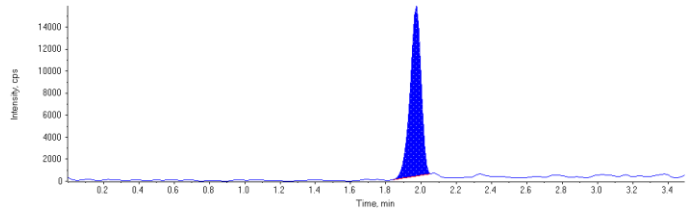
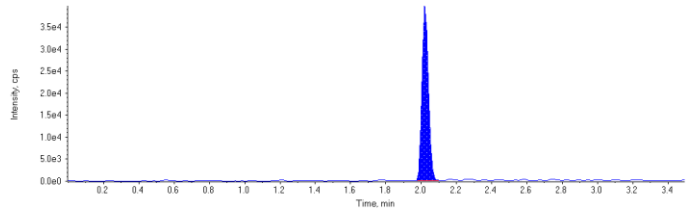
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

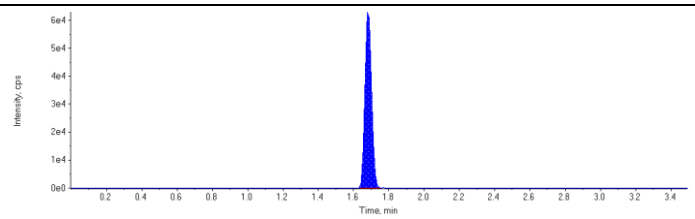
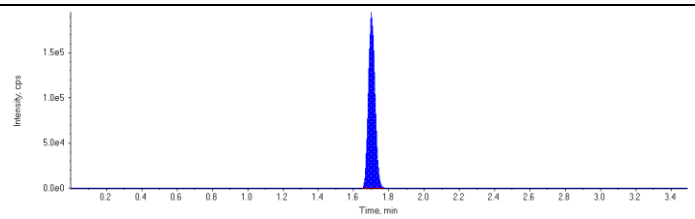
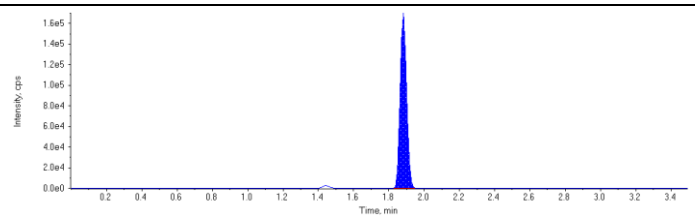
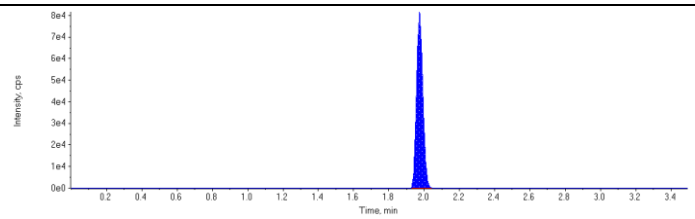
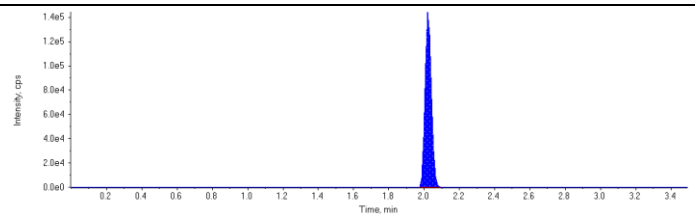
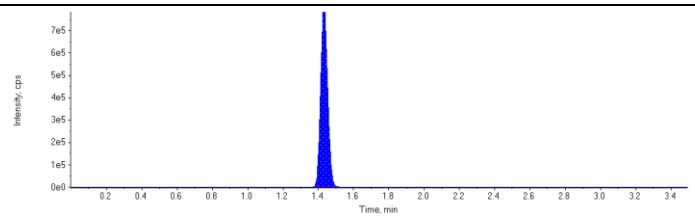


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 2.17 ng/L Area Ratio: 0.513 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 2.03 ng/L Area Ratio: 0.551 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 1.97 ng/L Area Ratio: 0.254 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 1.97 ng/L Area Ratio: 0.299 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 2.26 ng/L Area Ratio: 0.327 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 2.10 ng/L Area Ratio: 0.277 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 105. ng/L Area Ratio: 0.0743 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 106. ng/L Area Ratio: 0.223 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 106. ng/L Area Ratio: 0.194 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 106. ng/L Area Ratio: 0.0909 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 105. ng/L Area Ratio: 0.163 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 96.8 ng/L Area Ratio: 0.00 Sample Type: (Standard)	

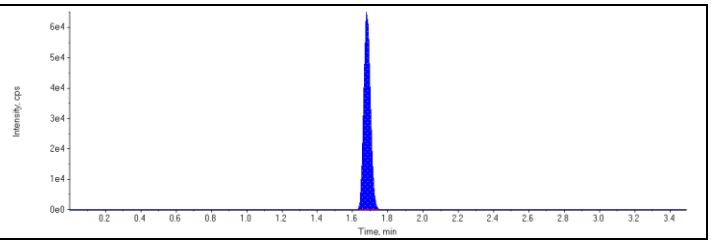
Sample Name	**STD 2**	**Injection Vial**	3
Sample ID	STD 2	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/22 11:51:06 PM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	170000.	1.68	1.00	-
MPFHpA	492000.	1.70	1.00	-
MPFOA	404000.	1.88	1.00	-
MPFOS	202000.	1.97	1.00	-
MPFNA	355000.	2.02	1.00	-
13C6-PFHxA IS	2330000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	172000	1.11	4.00	3.86	96.6
PFHxS 1	190000	1.68	4.00	3.93	98.2
PFHpA 1	246000	1.70	4.00	3.91	97.6
PFOA 1	249000	1.88	4.00	4.10	102.0
PFOS 1	123000	1.97	4.00	3.85	96.3
PFNA 1	194000	2.02	4.00	3.98	99.6
18O2-PFHxS	170000	1.68	100.	103.	103.0
13C4-PFHpA	492000	1.70	100.	100.	100.0
13C4-PFOA	404000	1.88	100.	95.2	95.2
13C4-PFOS	202000	1.97	100.	101.	101.0
13C5-PFNA	355000	2.02	100.	98.4	98.4
13C6-PFHxA	2330000	1.43	100.	101.	101.0

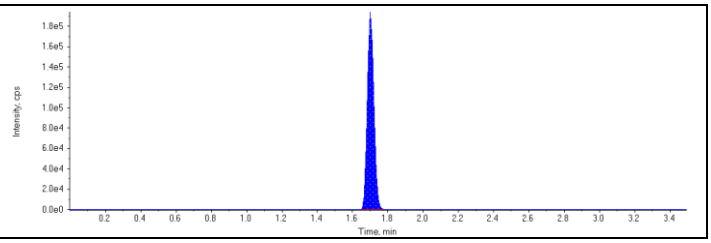
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



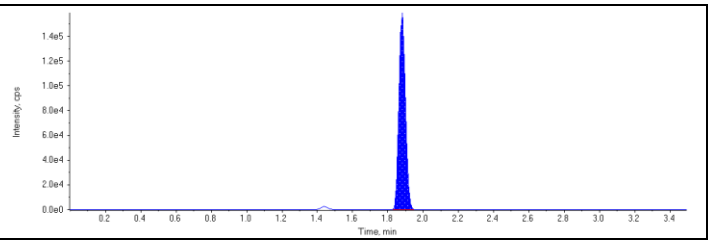
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



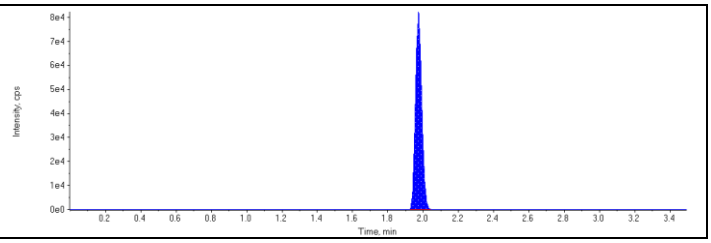
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



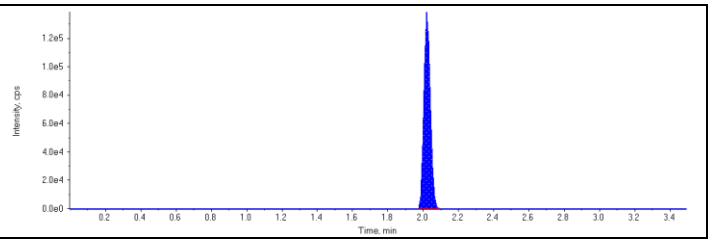
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



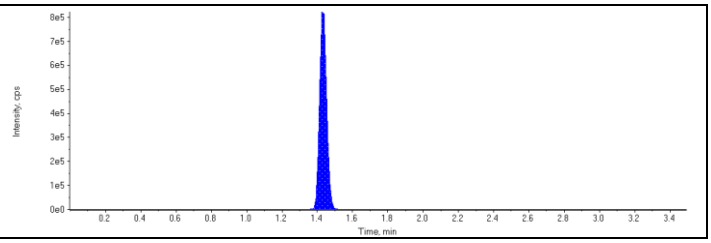
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

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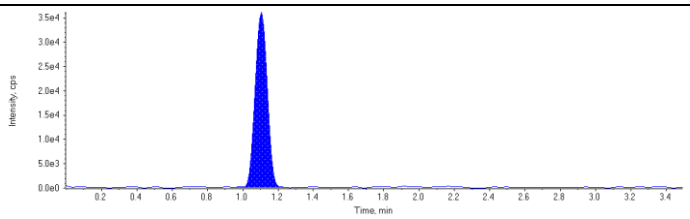
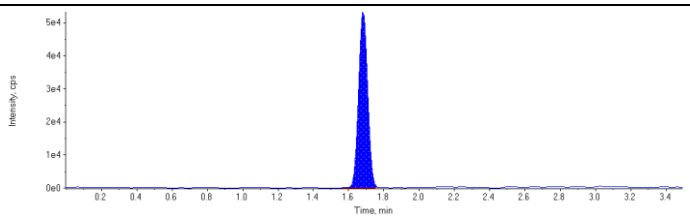
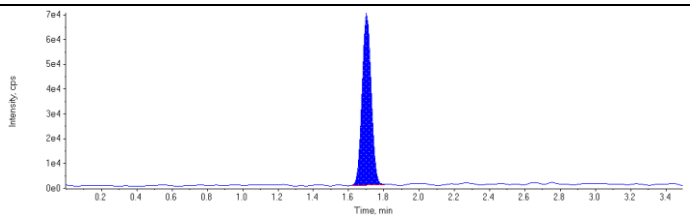
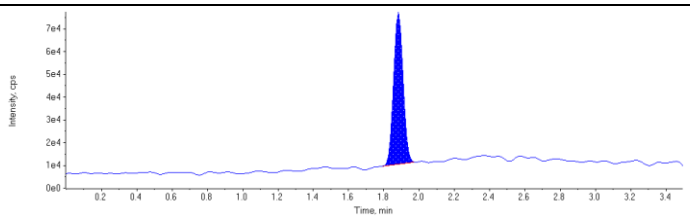
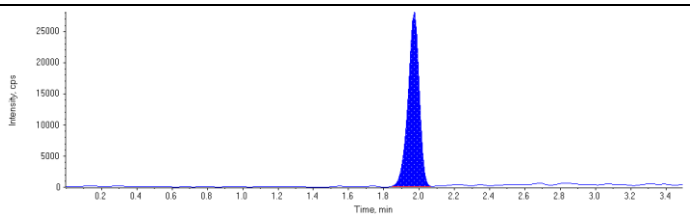
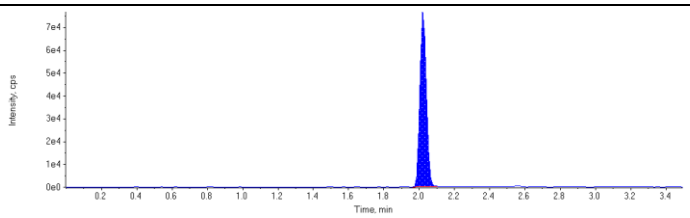
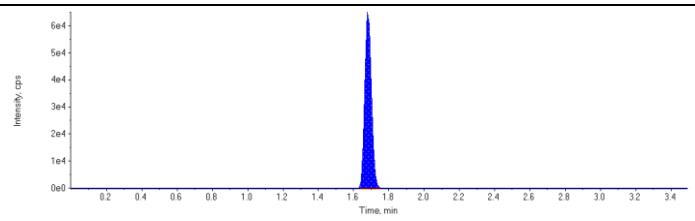
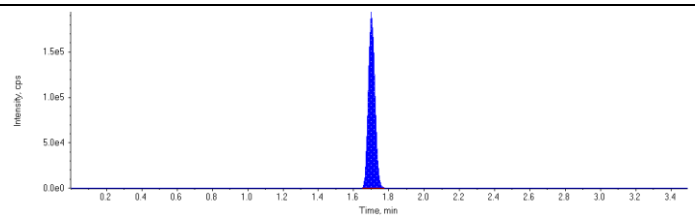
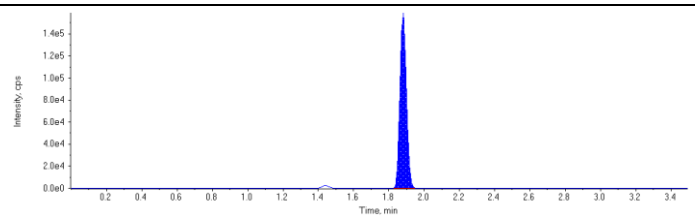
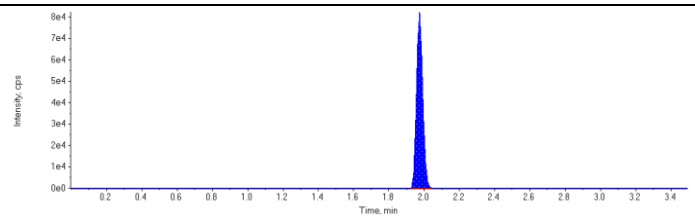
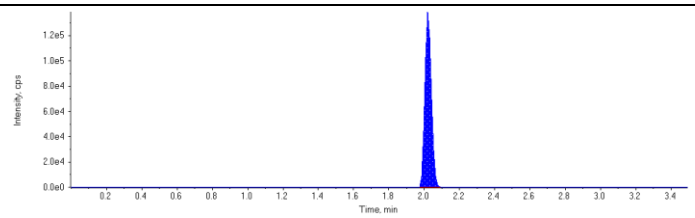
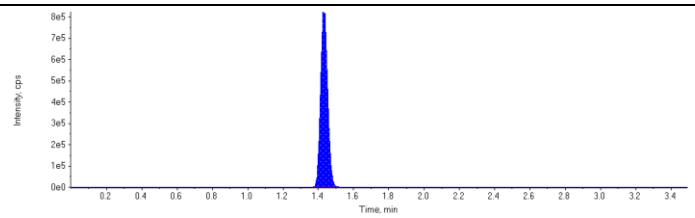
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 3.86 ng/L Area Ratio: 1.01 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 3.93 ng/L Area Ratio: 1.12 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 3.91 ng/L Area Ratio: 0.501 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 4.10 ng/L Area Ratio: 0.616 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 3.85 ng/L Area Ratio: 0.606 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 3.98 ng/L Area Ratio: 0.545 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 103. ng/L Area Ratio: 0.0729 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 100. ng/L Area Ratio: 0.211 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 95.2 ng/L Area Ratio: 0.173 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 101. ng/L Area Ratio: 0.0869 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 98.4 ng/L Area Ratio: 0.153 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 101. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

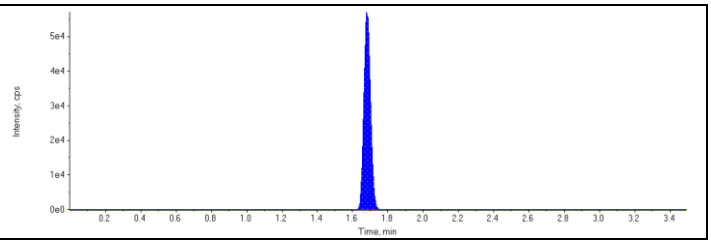
Sample Name	**STD 3**	**Injection Vial**	4
Sample ID	STD 3	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/22 11:56:12 PM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	151000.	1.68	1.00	-
MPFHpA	489000.	1.70	1.00	-
MPFOA	427000.	1.88	1.00	-
MPFOS	195000.	1.97	1.00	-
MPFNA	377000.	2.02	1.00	-
13C6-PFHxA IS	2180000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	505000	1.11	12.0	11.8	98.2
PFHxS 1	536000	1.68	12.0	12.0	100.0
PFHpA 1	741000	1.70	12.0	11.9	98.9
PFOA 1	751000	1.88	12.0	11.8	98.0
PFOS 1	356000	1.97	12.0	10.8	90.3
PFNA 1	574000	2.02	12.0	10.9	90.5
18O2-PFHxS	151000	1.68	100.	97.6	97.6
13C4-PFHpA	489000	1.70	100.	107.	107.0
13C4-PFOA	427000	1.88	100.	108.	108.0
13C4-PFOS	195000	1.97	100.	104.	104.0
13C5-PFNA	377000	2.02	100.	112.	112.0
13C6-PFHxA	2180000	1.43	100.	94.9	94.9

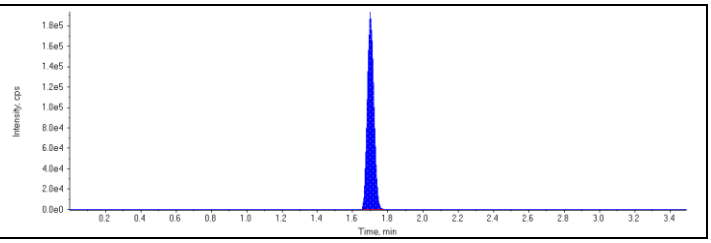
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



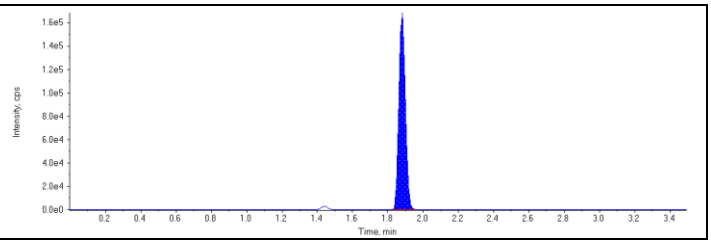
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



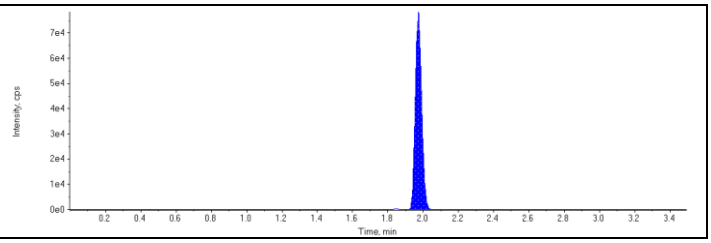
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



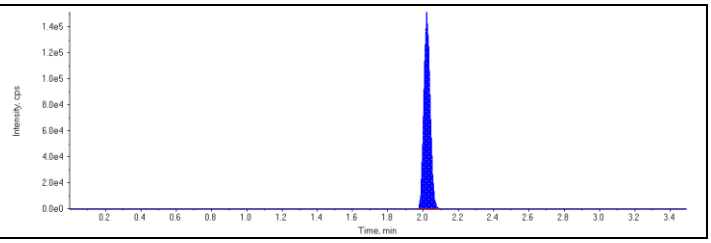
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



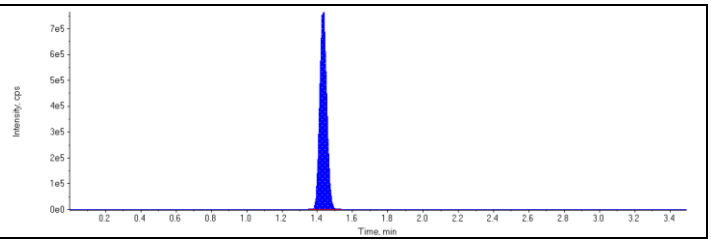
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

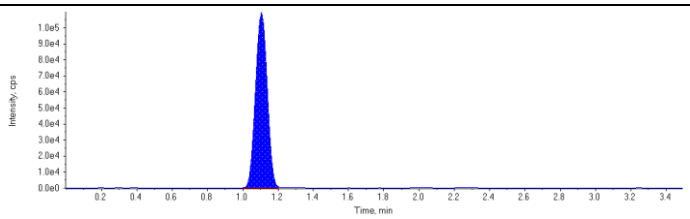
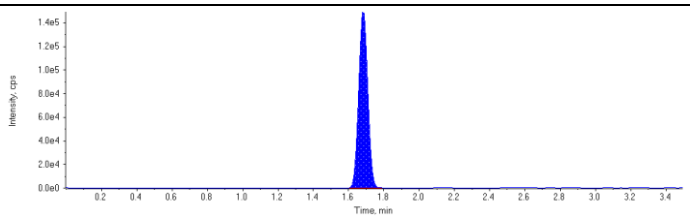
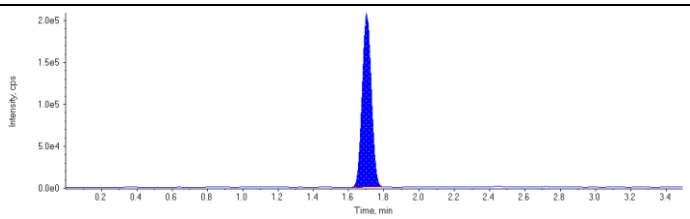
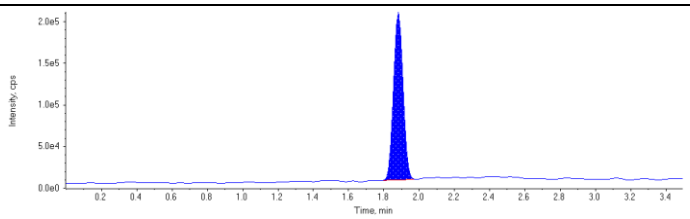
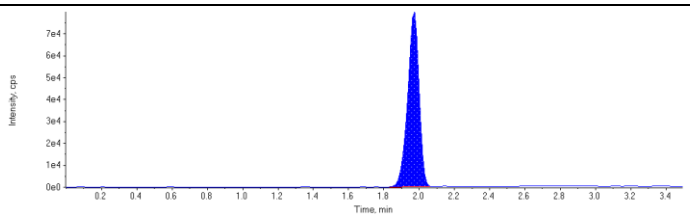
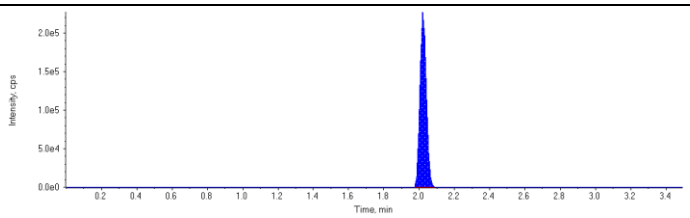
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

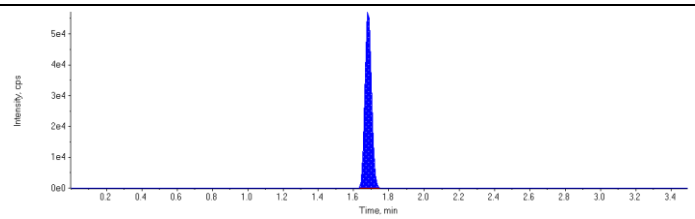
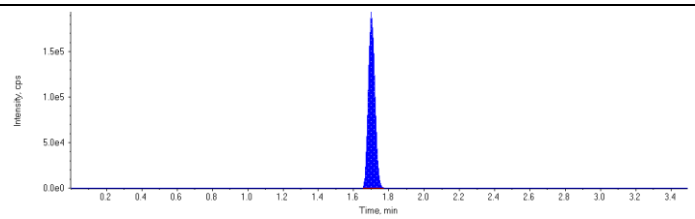
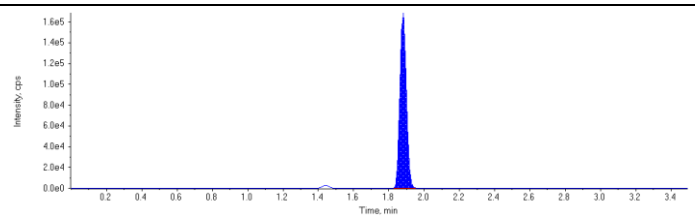
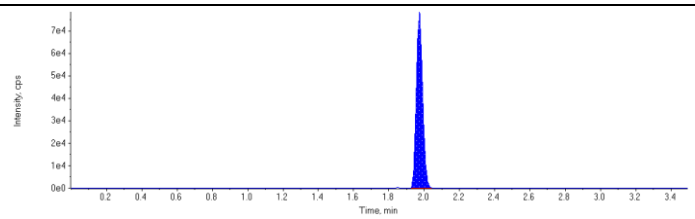
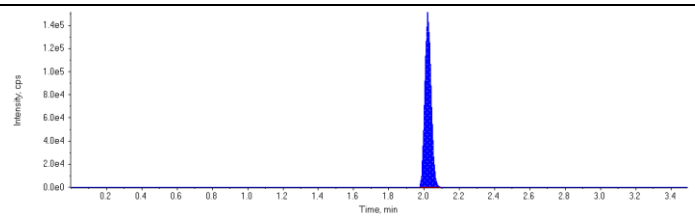
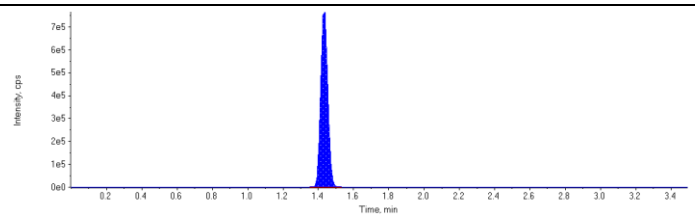


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 11.8 ng/L Area Ratio: 3.35 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 12.0 ng/L Area Ratio: 3.56 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 11.9 ng/L Area Ratio: 1.52 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 11.8 ng/L Area Ratio: 1.76 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 10.8 ng/L Area Ratio: 1.83 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 10.9 ng/L Area Ratio: 1.52 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 97.6 ng/L Area Ratio: 0.0691 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 107. ng/L Area Ratio: 0.225 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 108. ng/L Area Ratio: 0.196 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 104. ng/L Area Ratio: 0.0893 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 112. ng/L Area Ratio: 0.173 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 94.9 ng/L Area Ratio: 0.00 Sample Type: (Standard)	

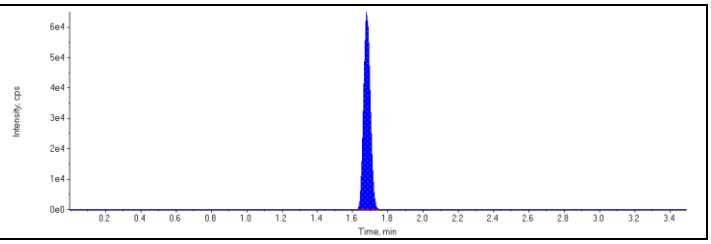
Sample Name	**STD 4**	**Injection Vial**	5
Sample ID	STD 4	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:01:17 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	169000.	1.68	1.00	-
MPFHpA	468000.	1.70	1.00	-
MPFOA	407000.	1.88	1.00	-
MPFOS	200000.	1.97	1.00	-
MPFNA	353000.	2.02	1.00	-
13C6-PFHxA IS	2240000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1360000	1.11	30.0	27.8	92.8
PFHxS 1	1490000	1.68	30.0	29.5	98.3
PFHpA 1	1950000	1.70	30.0	32.6	109.0
PFOA 1	1870000	1.88	30.0	30.8	103.0
PFOS 1	1020000	1.97	30.0	29.4	97.9
PFNA 1	1580000	2.02	30.0	31.6	105.0
18O2-PFHxS	169000	1.68	100.	106.	106.0
13C4-PFHpA	468000	1.70	100.	99.2	99.2
13C4-PFOA	407000	1.88	100.	99.5	99.5
13C4-PFOS	200000	1.97	100.	104.	104.0
13C5-PFNA	353000	2.02	100.	102.	102.0
13C6-PFHxA	2240000	1.43	100.	97.7	97.7

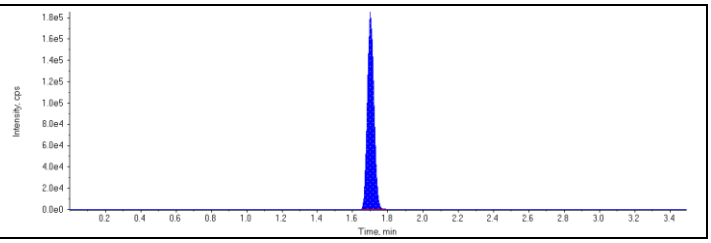
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



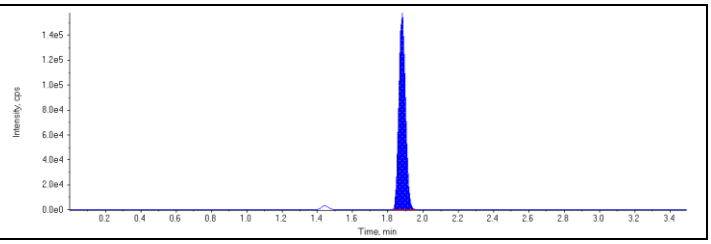
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



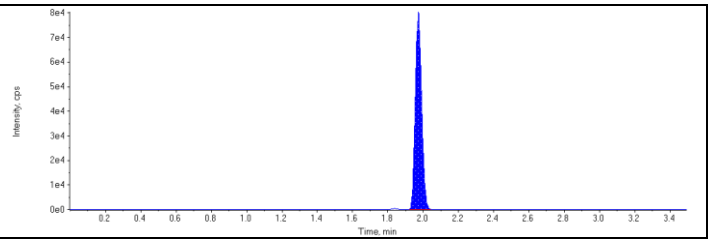
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



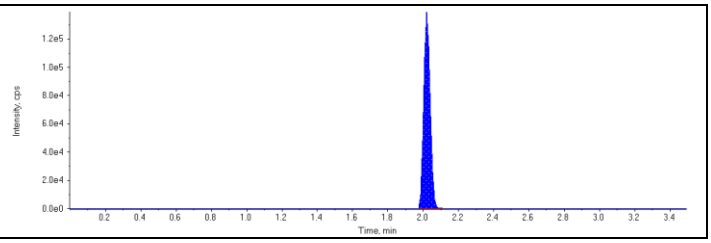
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



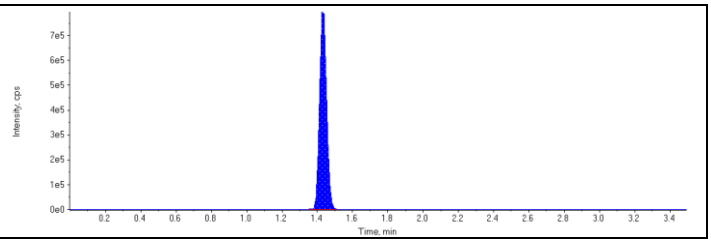
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

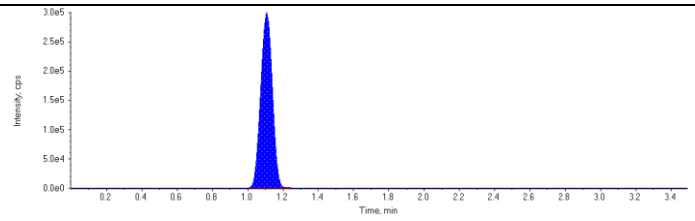
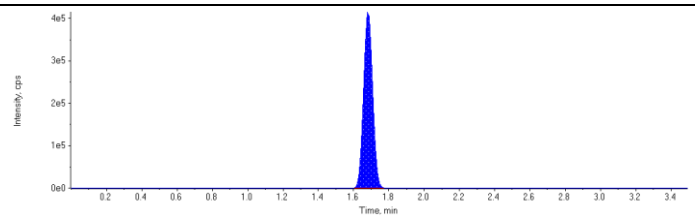
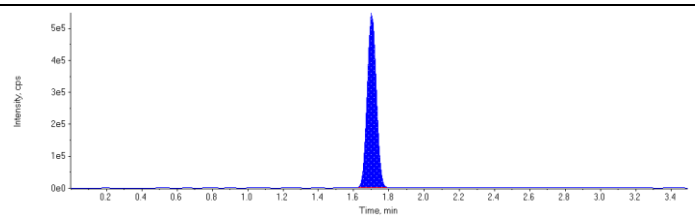
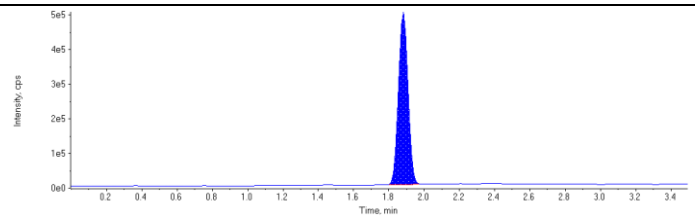
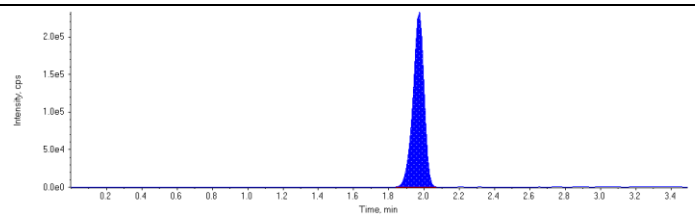
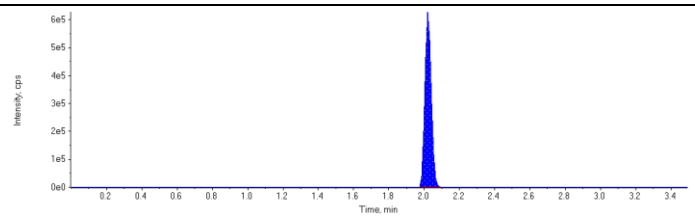
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

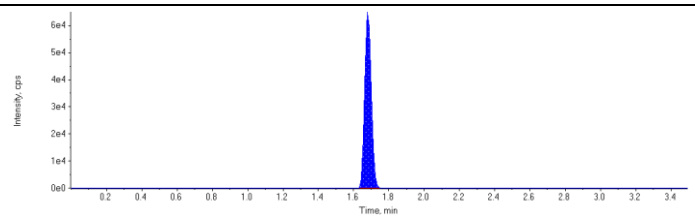
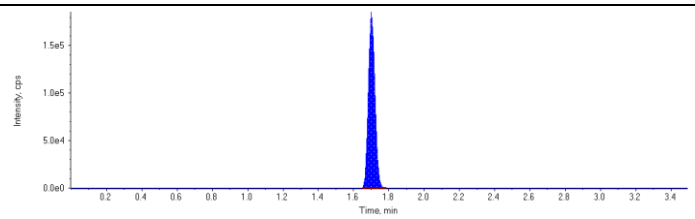
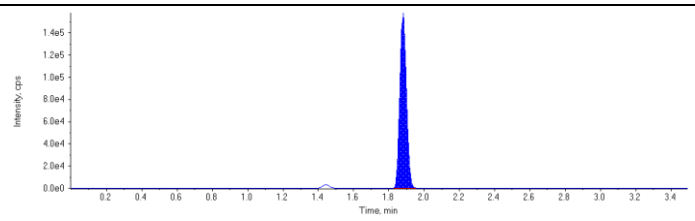
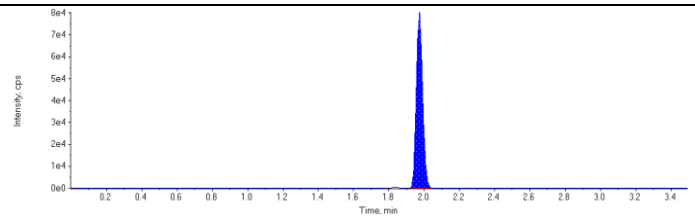
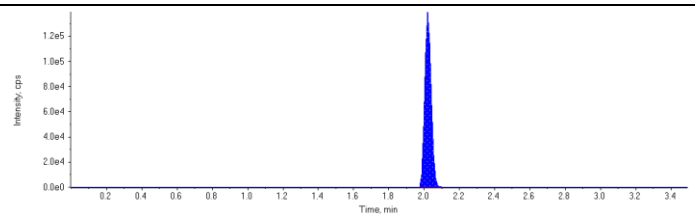
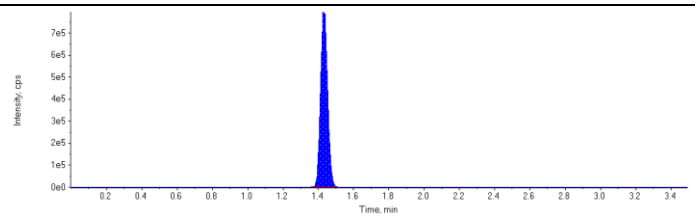


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 27.8 ng/L Area Ratio: 8.09 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 29.5 ng/L Area Ratio: 8.82 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 32.6 ng/L Area Ratio: 4.16 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 30.8 ng/L Area Ratio: 4.59 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 29.4 ng/L Area Ratio: 5.09 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 31.6 ng/L Area Ratio: 4.46 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 106. ng/L Area Ratio: 0.0752 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 99.2 ng/L Area Ratio: 0.209 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 99.5 ng/L Area Ratio: 0.181 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 104. ng/L Area Ratio: 0.0891 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 102. ng/L Area Ratio: 0.158 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 97.7 ng/L Area Ratio: 0.00 Sample Type: (Standard)	

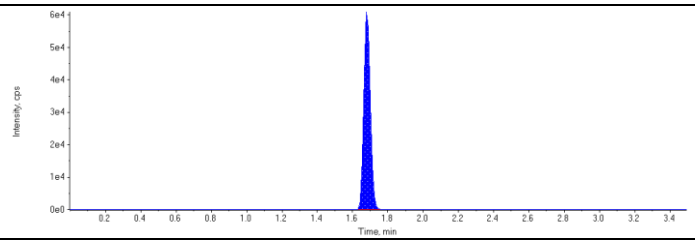
Sample Name	**STD 5**	**Injection Vial**	6
Sample ID	STD 5	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:06:21 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	156000.	1.68	1.00	-
MPFHpA	473000.	1.70	1.00	-
MPFOA	429000.	1.88	1.00	-
MPFOS	194000.	1.97	1.00	-
MPFNA	339000.	2.02	1.00	-
13C6-PFHxA IS	2330000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2840000	1.11	60.0	62.2	104.0
PFHxS 1	2870000	1.68	60.0	61.4	102.0
PFHpA 1	3500000	1.70	60.0	58.1	96.8
PFOA 1	3730000	1.88	60.0	58.3	97.2
PFOS 1	2060000	1.97	60.0	60.9	102.0
PFNA 1	2910000	2.02	60.0	60.5	101.0
18O2-PFHxS	156000	1.68	100.	94.4	94.4
13C4-PFHpA	473000	1.70	100.	96.5	96.5
13C4-PFOA	429000	1.88	100.	101.	101.0
13C4-PFOS	194000	1.97	100.	96.7	96.7
13C5-PFNA	339000	2.02	100.	93.8	93.8
13C6-PFHxA	2330000	1.43	100.	101.	101.0

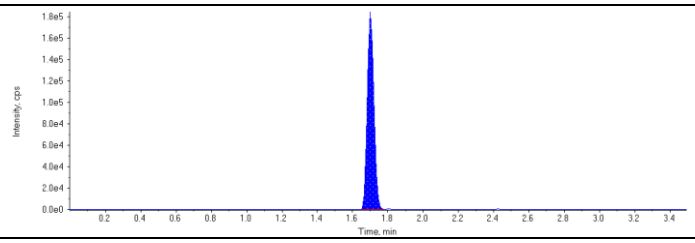
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



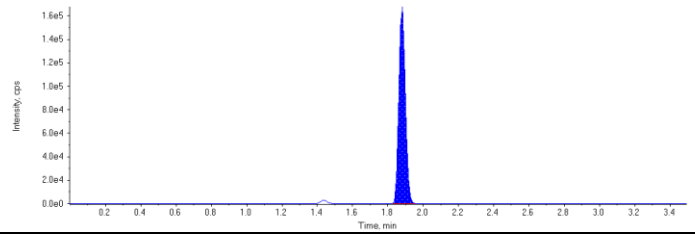
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



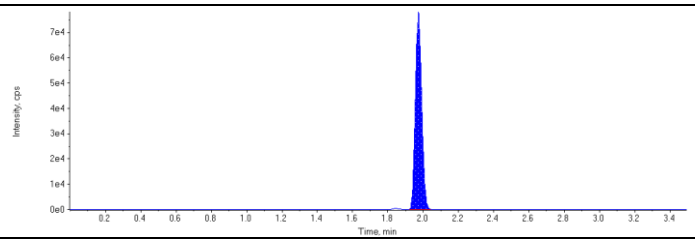
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



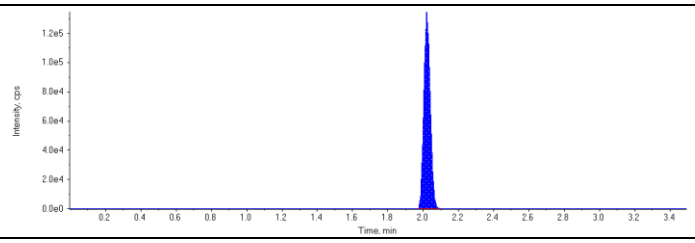
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



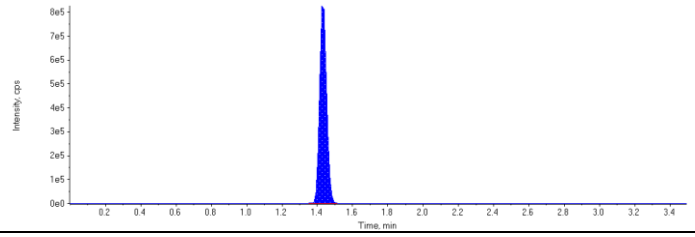
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

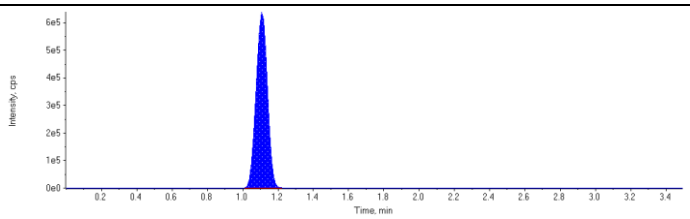
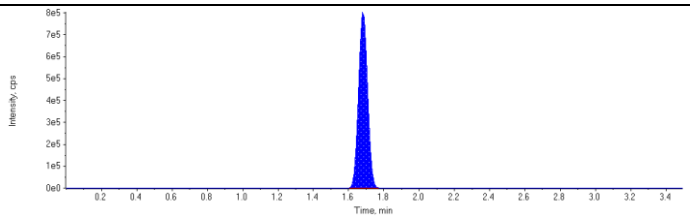
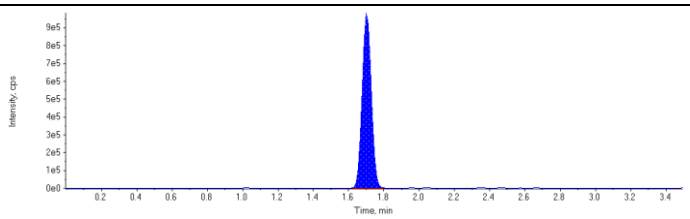
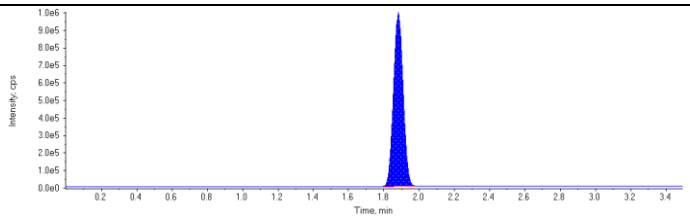
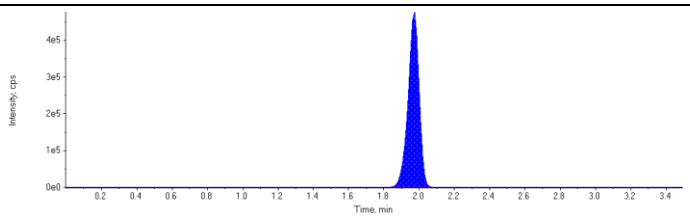
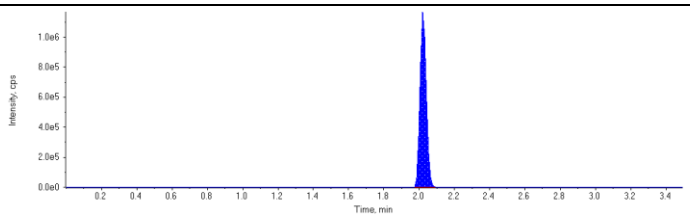
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

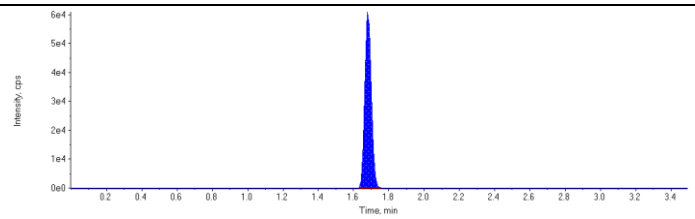
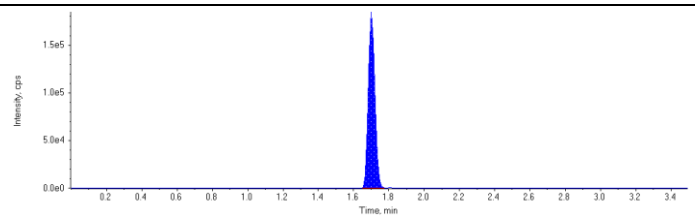
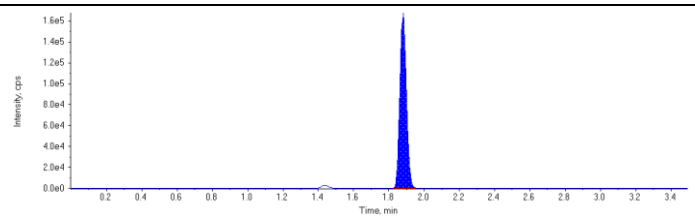
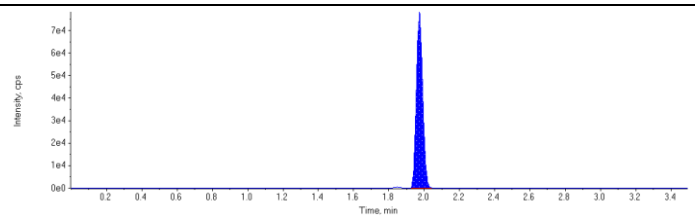
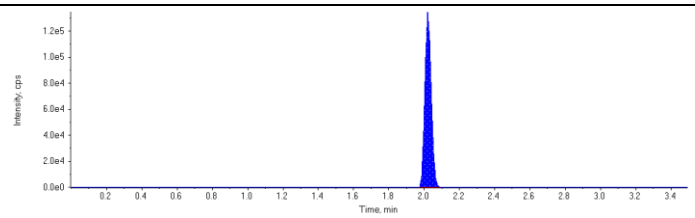
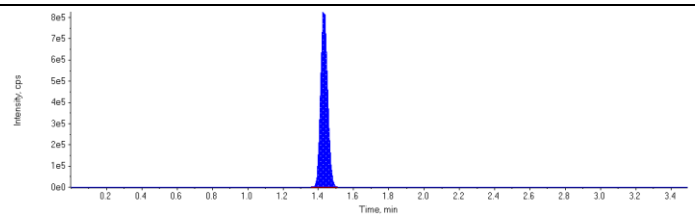


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 62.2 ng/L Area Ratio: 18.2 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 61.4 ng/L Area Ratio: 18.4 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 58.1 ng/L Area Ratio: 7.41 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 58.3 ng/L Area Ratio: 8.69 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 60.9 ng/L Area Ratio: 10.6 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 60.5 ng/L Area Ratio: 8.58 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 94.4 ng/L Area Ratio: 0.0669 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 96.5 ng/L Area Ratio: 0.203 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 101. ng/L Area Ratio: 0.184 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 96.7 ng/L Area Ratio: 0.0832 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 93.8 ng/L Area Ratio: 0.146 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 101. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

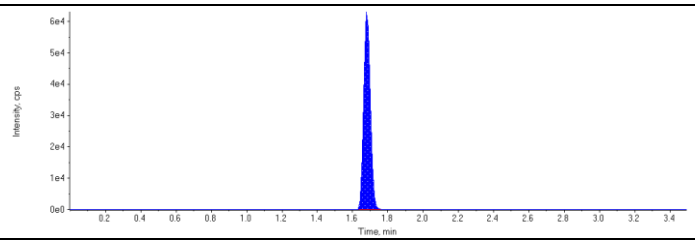
Sample Name	**STD 6**	**Injection Vial**	7
Sample ID	STD 6	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:11:27 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	164000.	1.68	1.00	-
MPFHpA	476000.	1.70	1.00	-
MPFOA	406000.	1.88	1.00	-
MPFOS	189000.	1.97	1.00	-
MPFNA	342000.	2.02	1.00	-
13C6-PFHxA IS	2470000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	4840000	1.11	100.	100.	100.0
PFHxS 1	4900000	1.68	100.	99.1	99.1
PFHpA 1	6040000	1.70	100.	99.6	99.6
PFOA 1	6120000	1.88	100.	101.	101.0
PFOS 1	3330000	1.97	100.	101.	101.0
PFNA 1	4800000	2.02	100.	99.0	99.0
18O2-PFHxS	164000	1.68	100.	94.0	94.0
13C4-PFHpA	476000	1.70	100.	91.5	91.5
13C4-PFOA	406000	1.88	100.	90.3	90.3
13C4-PFOS	189000	1.97	100.	89.1	89.1
13C5-PFNA	342000	2.02	100.	89.2	89.2
13C6-PFHxA	2470000	1.43	100.	108.	108.0

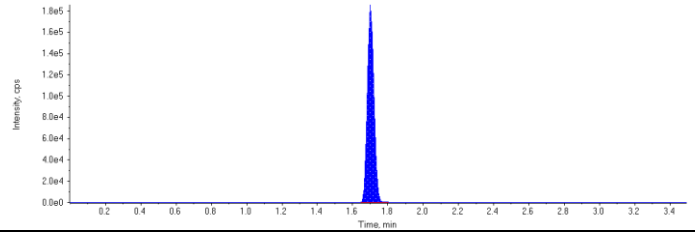
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



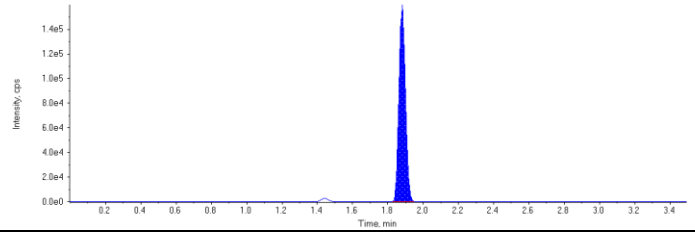
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



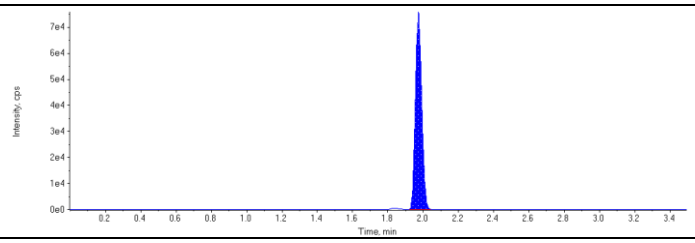
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



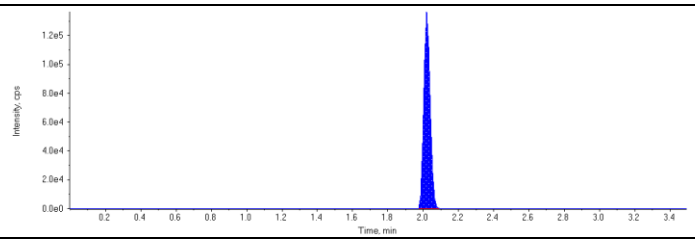
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



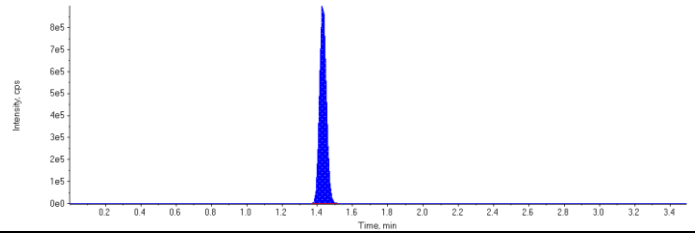
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

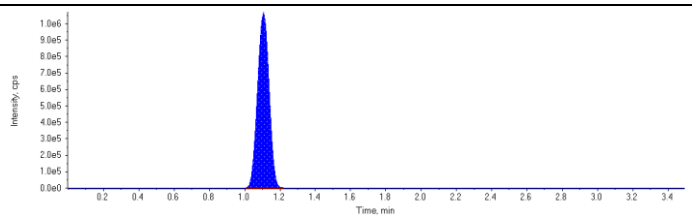
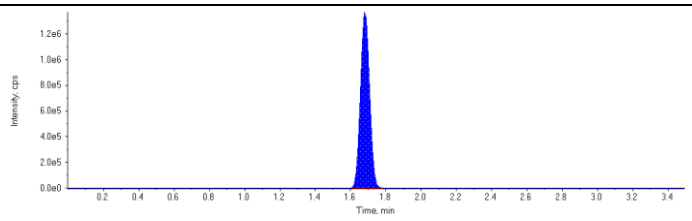
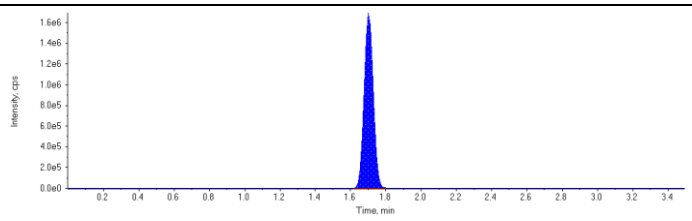
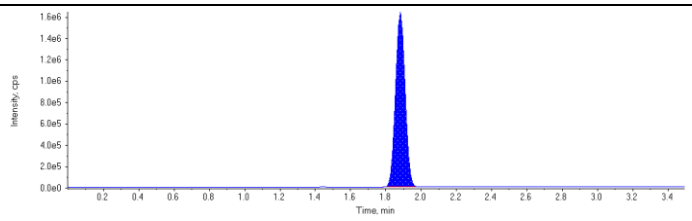
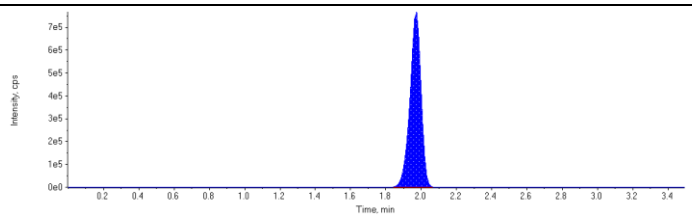
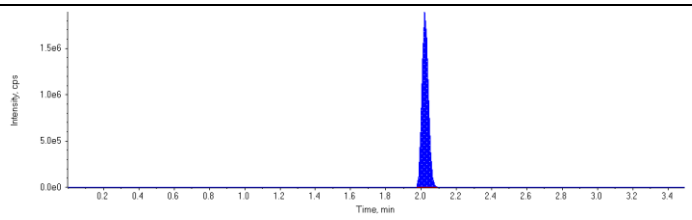
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

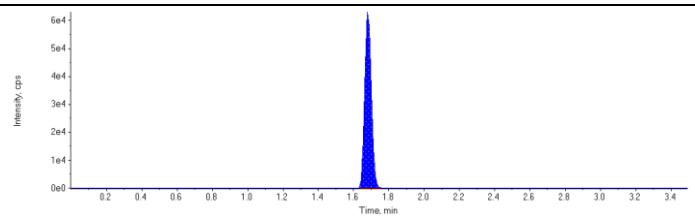
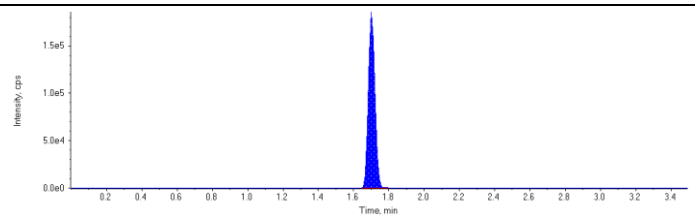
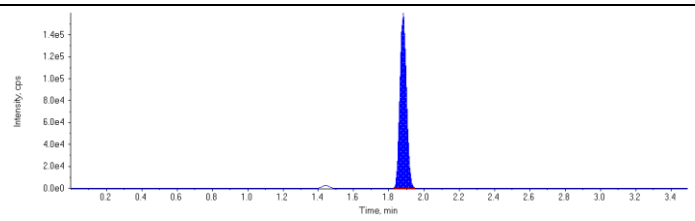
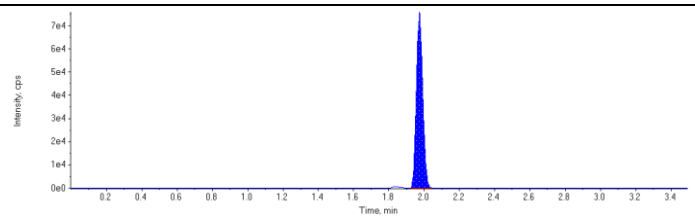
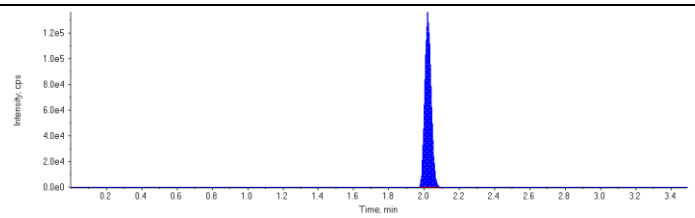
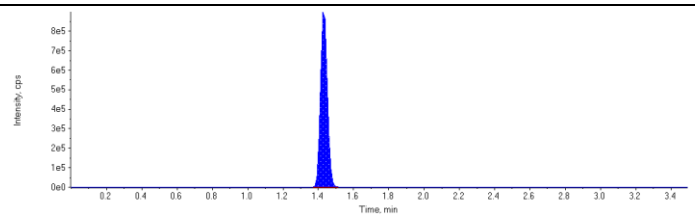


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 100. ng/L Area Ratio: 29.4 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 99.1 ng/L Area Ratio: 29.8 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 99.6 ng/L Area Ratio: 12.7 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 101. ng/L Area Ratio: 15.1 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 101. ng/L Area Ratio: 17.6 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 99.0 ng/L Area Ratio: 14.0 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 94.0 ng/L Area Ratio: 0.0666 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 91.5 ng/L Area Ratio: 0.193 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 90.3 ng/L Area Ratio: 0.165 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 89.1 ng/L Area Ratio: 0.0766 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 89.2 ng/L Area Ratio: 0.138 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 108. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

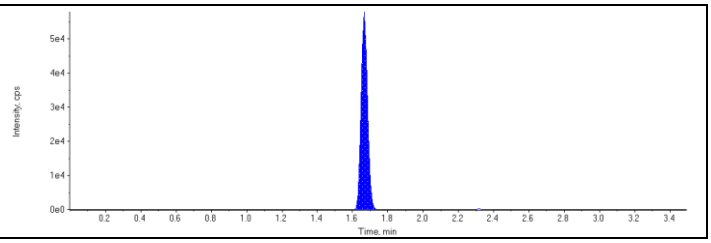
Sample Name	**STD 1**	**Injection Vial**	3
Sample ID	STD 1	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:00:47 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	143000.	1.67	1.00	-
MPFHpA	491000.	1.69	1.00	-
MPFOA	404000.	1.87	1.00	-
MPFOS	192000.	1.96	1.00	-
MPFNA	325000.	2.01	1.00	-
13C6-PFHxA IS	2590000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	83500	1.09	2.00	2.50	125.0
PFHxS 1	88300	1.67	2.00	2.37	119.0
PFHpA 1	116000	1.69	2.00	2.07	104.0
PFOA 1	120000	1.87	2.00	2.10	105.0
PFOS 1	56300	1.96	2.00	2.26	113.0
PFNA 1	89800	2.01	2.00	2.08	104.0
18O2-PFHxS	143000	1.67	100.	85.3	85.3
13C4-PFHpA	491000	1.69	100.	98.9	98.9
13C4-PFOA	404000	1.87	100.	93.3	93.3
13C4-PFOS	192000	1.96	100.	93.9	93.9
13C5-PFNA	325000	2.01	100.	93.9	93.9
13C6-PFHxA	2590000	1.42	100.	104.	104.0

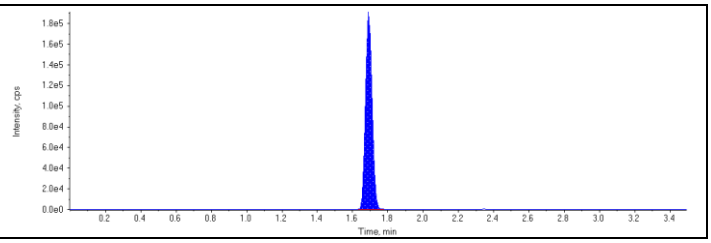
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



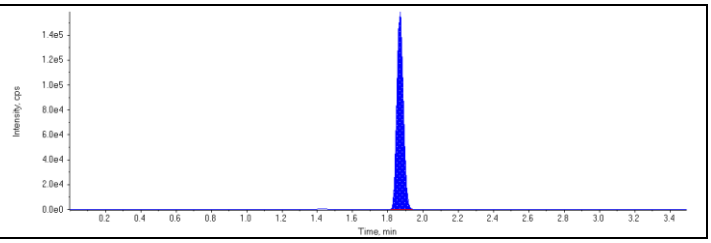
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



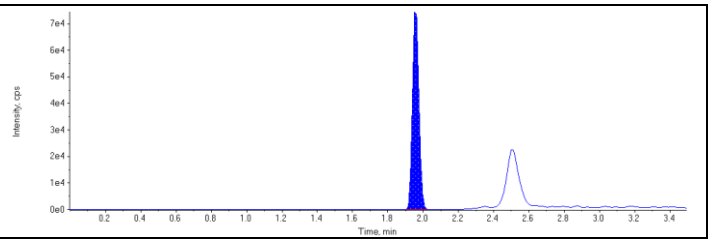
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



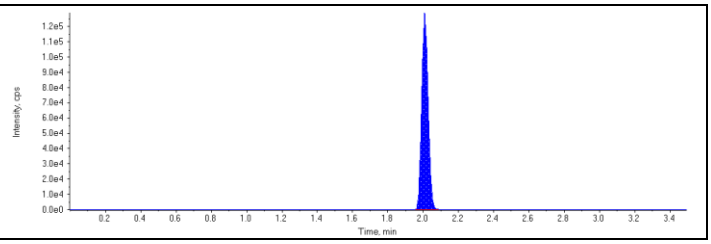
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



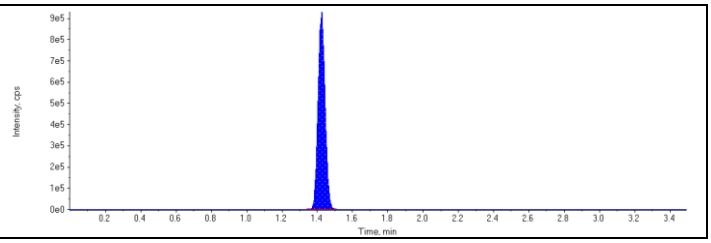
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

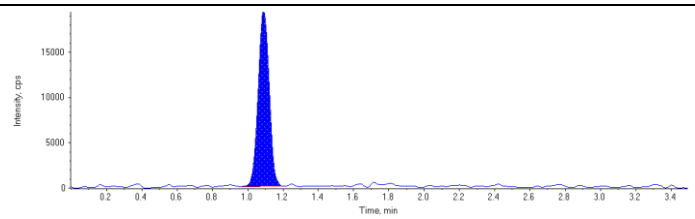
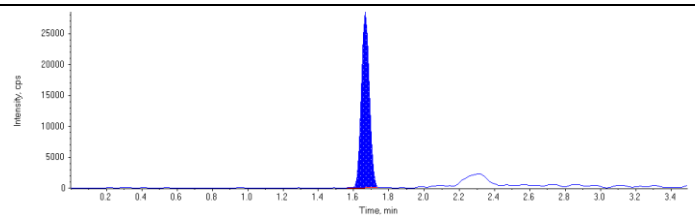
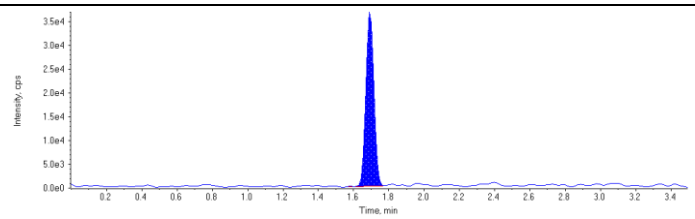
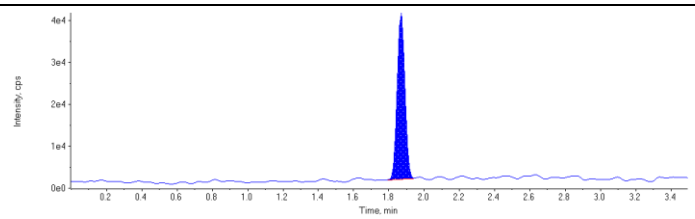
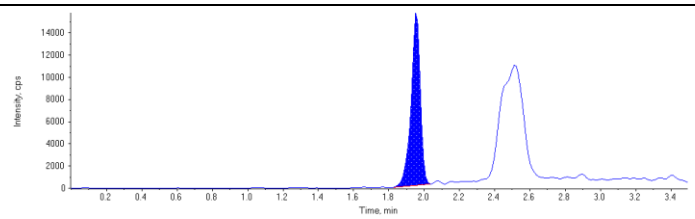
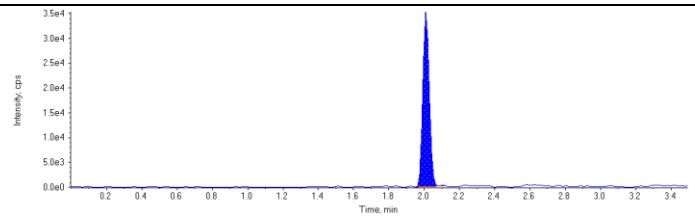
RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

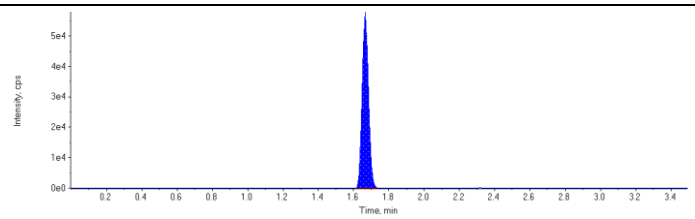
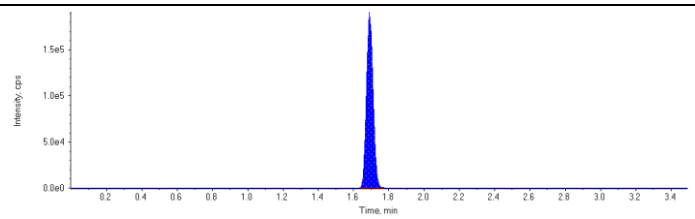
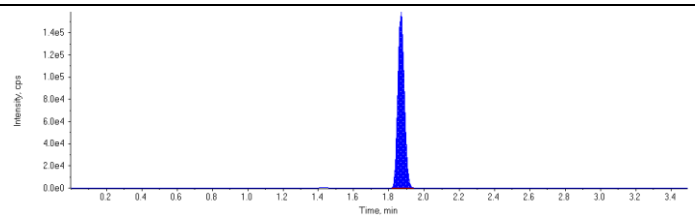
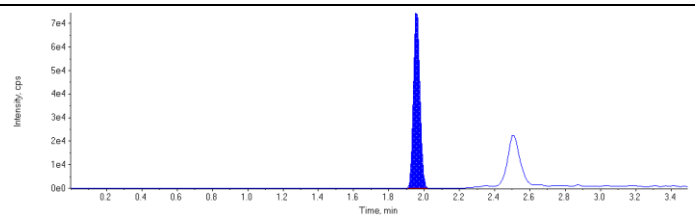
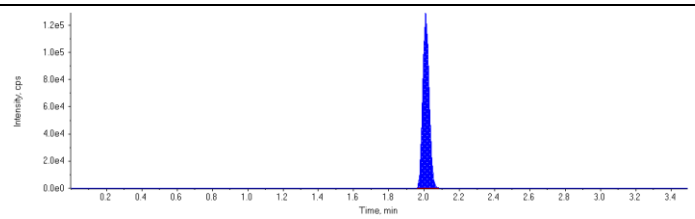
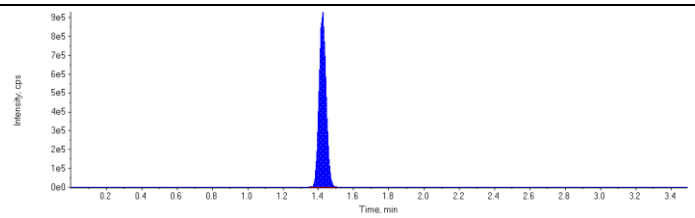


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.09 (1.09) min Calculated Conc: 2.50 ng/L Area Ratio: 0.586 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 2.37 ng/L Area Ratio: 0.620 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 2.07 ng/L Area Ratio: 0.236 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 2.10 ng/L Area Ratio: 0.297 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 2.26 ng/L Area Ratio: 0.294 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 2.08 ng/L Area Ratio: 0.276 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 85.3 ng/L Area Ratio: 0.0551 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 98.9 ng/L Area Ratio: 0.190 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 93.3 ng/L Area Ratio: 0.156 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 93.9 ng/L Area Ratio: 0.0740 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 93.9 ng/L Area Ratio: 0.126 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 104. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

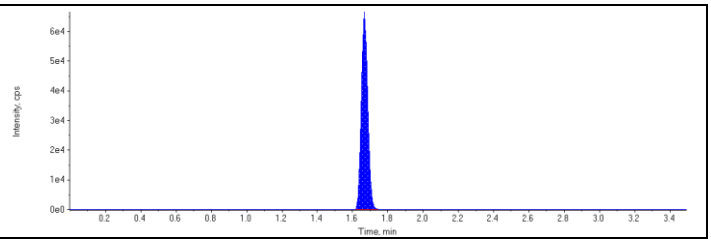
Sample Name	**STD 2**	**Injection Vial**	4
Sample ID	STD 2	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:05:58 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	165000.	1.67	1.00	-
MPFHpA	475000.	1.69	1.00	-
MPFOA	434000.	1.87	1.00	-
MPFOS	198000.	1.96	1.00	-
MPFNA	328000.	2.01	1.00	-
13C6-PFHxA IS	2530000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	149000	1.10	4.00	3.62	90.5
PFHxS 1	157000	1.67	4.00	3.50	87.5
PFHpA 1	221000	1.69	4.00	3.99	99.7
PFOA 1	234000	1.87	4.00	3.75	93.8
PFOS 1	104000	1.96	4.00	3.72	93.0
PFNA 1	173000	2.01	4.00	3.97	99.3
18O2-PFHxS	165000	1.67	100.	101.	101.0
13C4-PFHpA	475000	1.69	100.	98.0	98.0
13C4-PFOA	434000	1.87	100.	103.	103.0
13C4-PFOS	198000	1.96	100.	99.7	99.7
13C5-PFNA	328000	2.01	100.	97.1	97.1
13C6-PFHxA	2530000	1.43	100.	102.	102.0

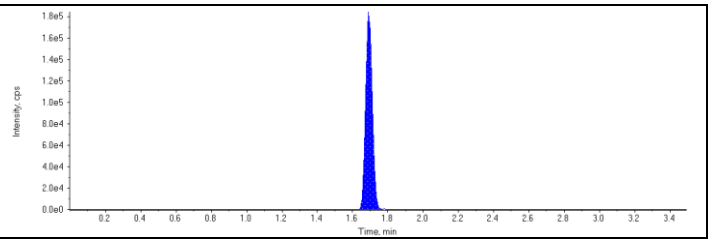
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



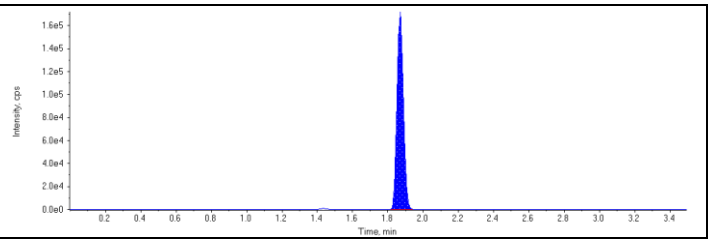
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



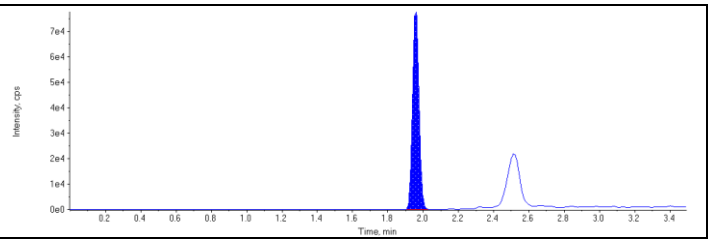
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



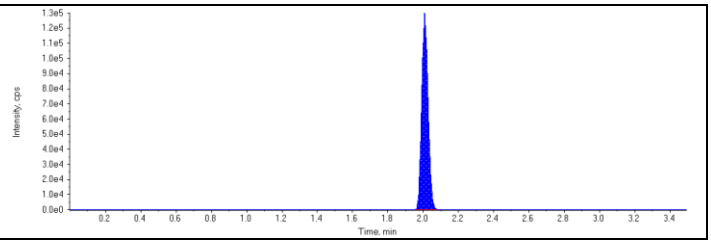
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



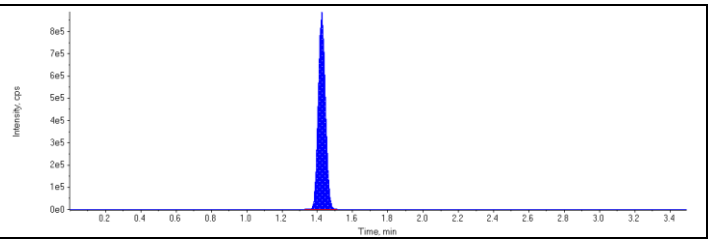
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

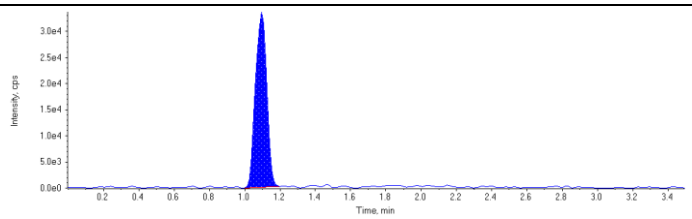
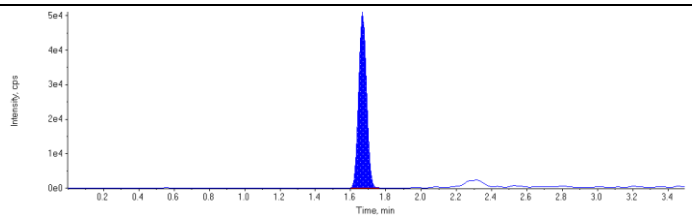
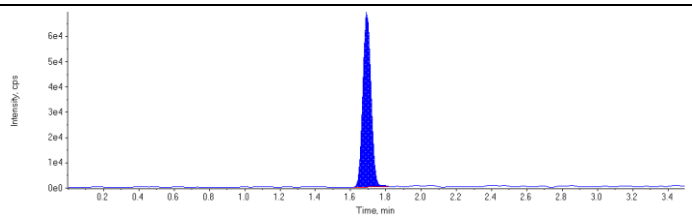
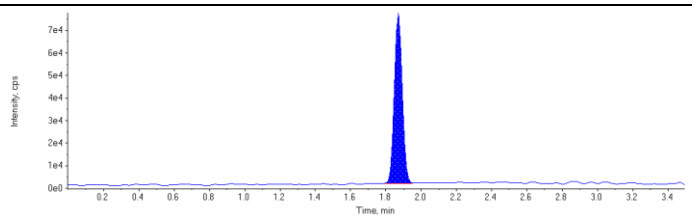
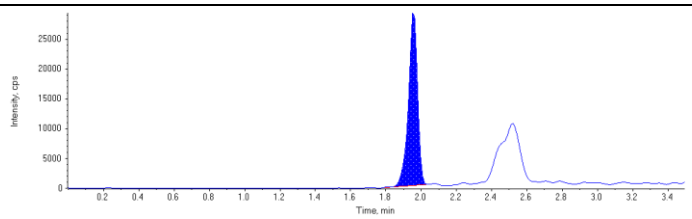
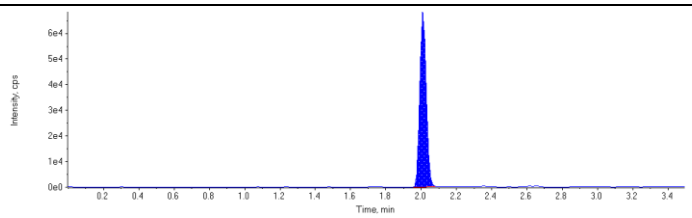
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

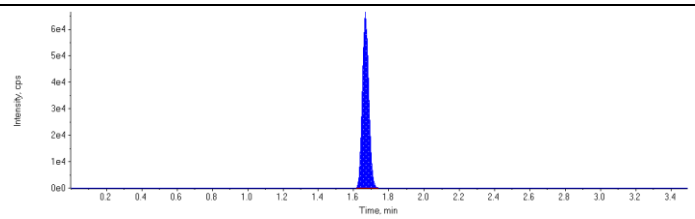
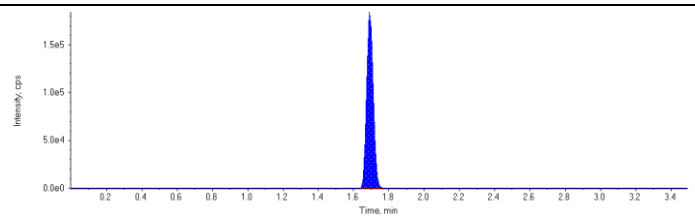
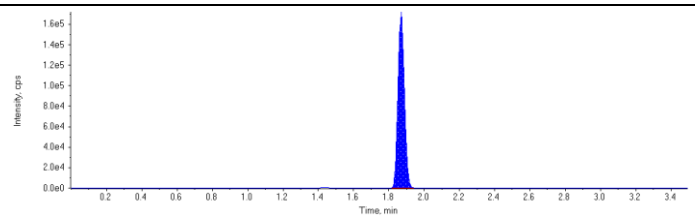
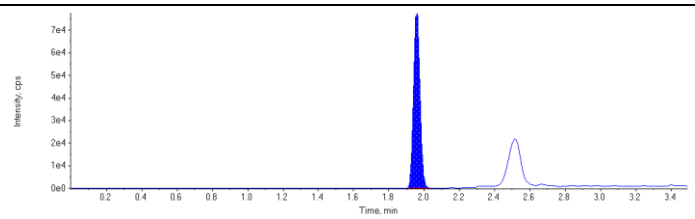
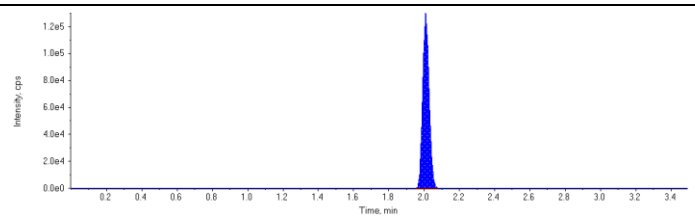
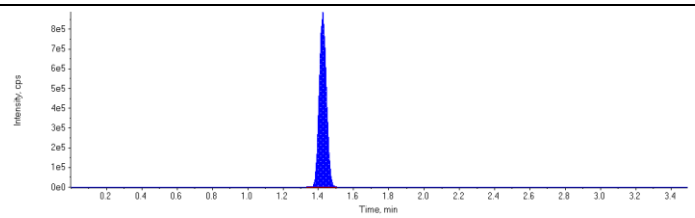


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.09) min Calculated Conc: 3.62 ng/L Area Ratio: 0.903 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 3.50 ng/L Area Ratio: 0.948 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 3.99 ng/L Area Ratio: 0.466 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 3.75 ng/L Area Ratio: 0.539 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 3.72 ng/L Area Ratio: 0.523 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 3.97 ng/L Area Ratio: 0.526 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 101. ng/L Area Ratio: 0.0655 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 98.0 ng/L Area Ratio: 0.188 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 103. ng/L Area Ratio: 0.172 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 99.7 ng/L Area Ratio: 0.0786 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 97.1 ng/L Area Ratio: 0.130 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 102. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

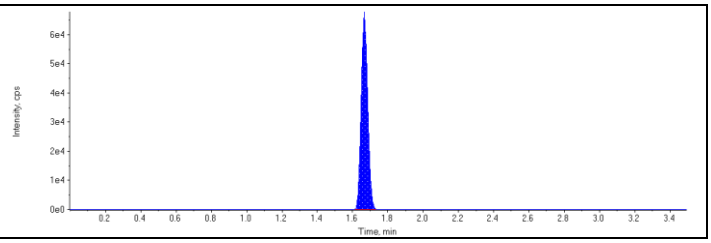
Sample Name	**STD 3**	**Injection Vial**	5
Sample ID	STD 3	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:11:03 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	171000.	1.67	1.00	-
MPFHpA	484000.	1.69	1.00	-
MPFOA	424000.	1.87	1.00	-
MPFOS	204000.	1.96	1.00	-
MPFNA	340000.	2.01	1.00	-
13C6-PFHxA IS	2270000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	490000	1.10	12.0	10.5	87.8
PFHxS 1	526000	1.67	12.0	10.8	89.9
PFHpA 1	633000	1.69	12.0	11.0	91.7
PFOA 1	719000	1.87	12.0	11.7	97.3
PFOS 1	342000	1.96	12.0	11.1	92.6
PFNA 1	527000	2.01	12.0	11.7	97.7
18O2-PFHxS	171000	1.67	100.	117.	117.0
13C4-PFHpA	484000	1.69	100.	111.	111.0
13C4-PFOA	424000	1.87	100.	111.	111.0
13C4-PFOS	204000	1.96	100.	114.	114.0
13C5-PFNA	340000	2.01	100.	112.	112.0
13C6-PFHxA	2270000	1.42	100.	91.7	91.7

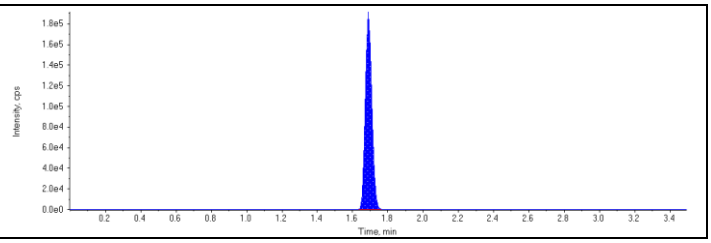
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



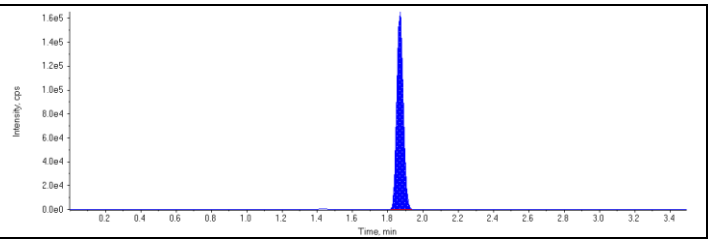
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



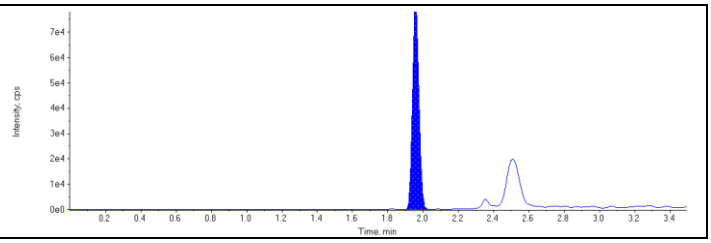
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



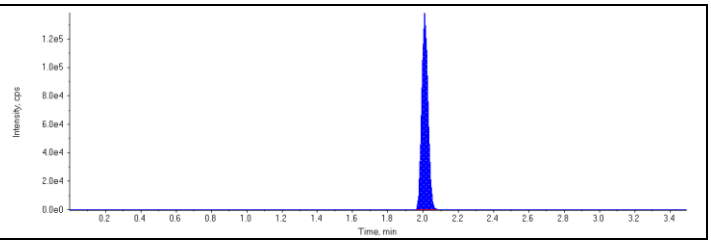
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



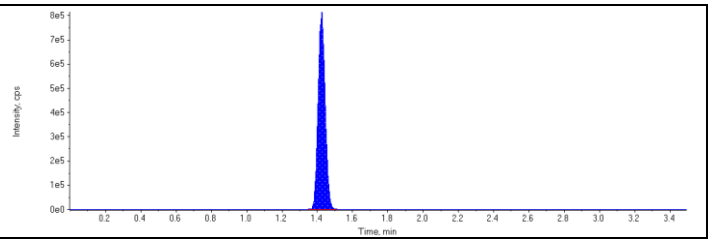
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

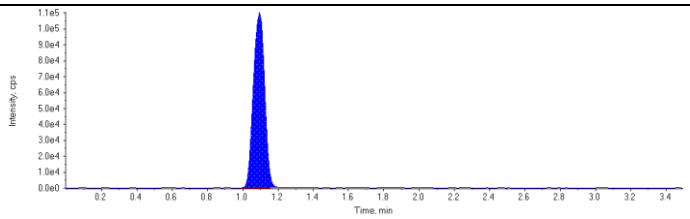
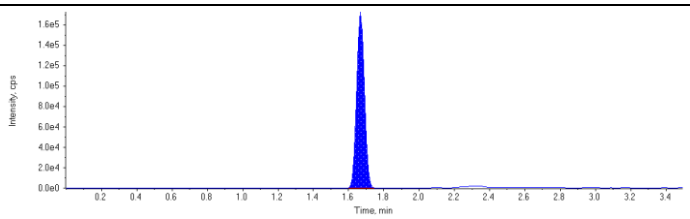
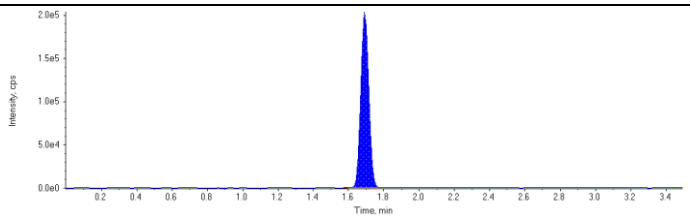
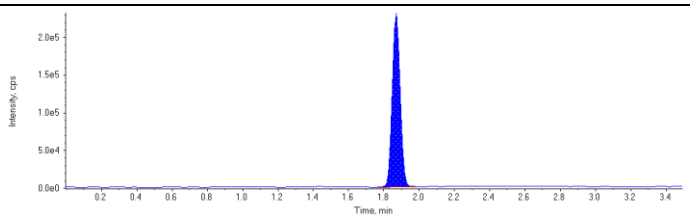
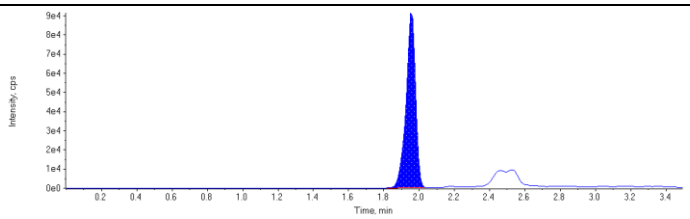
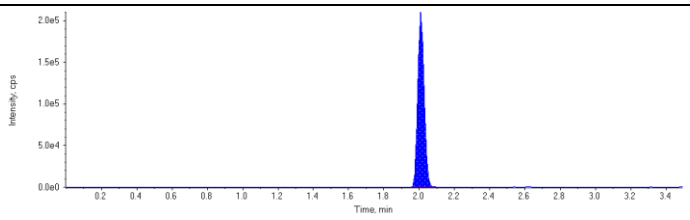
RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

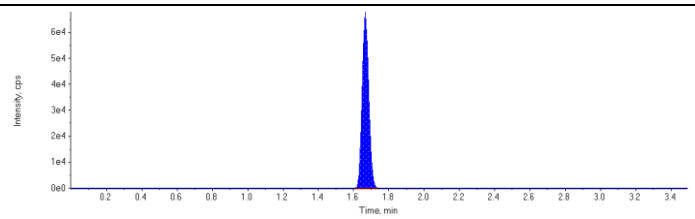
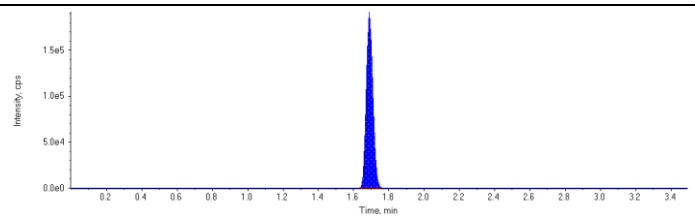
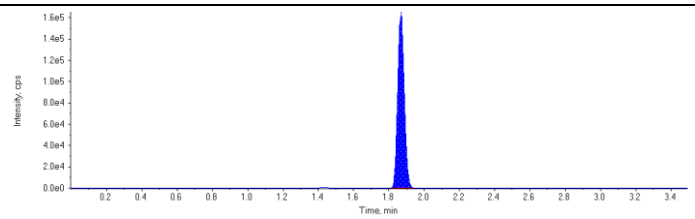
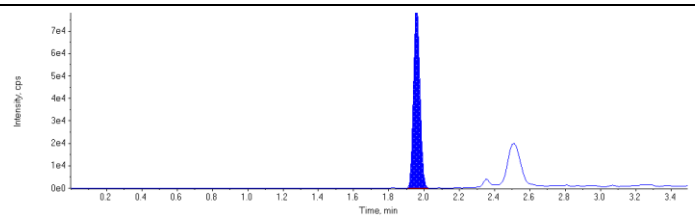
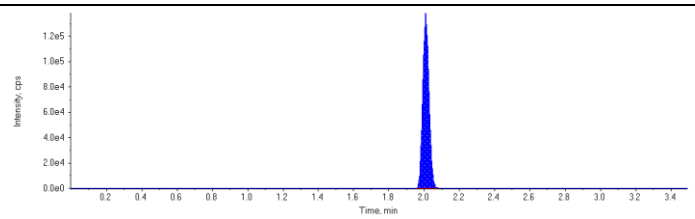
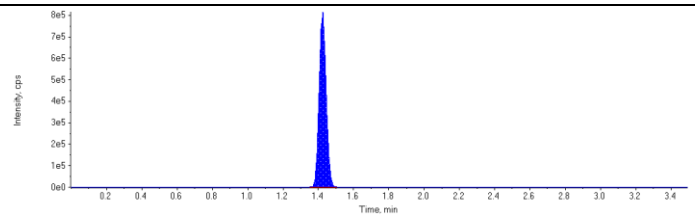


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.09) min Calculated Conc: 10.5 ng/L Area Ratio: 2.86 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 10.8 ng/L Area Ratio: 3.07 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 11.0 ng/L Area Ratio: 1.31 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 11.7 ng/L Area Ratio: 1.70 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 11.1 ng/L Area Ratio: 1.68 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 11.7 ng/L Area Ratio: 1.55 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 117. ng/L Area Ratio: 0.0754 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 111. ng/L Area Ratio: 0.213 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 111. ng/L Area Ratio: 0.186 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 114. ng/L Area Ratio: 0.0897 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 112. ng/L Area Ratio: 0.150 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 91.7 ng/L Area Ratio: 0.00 Sample Type: (Standard)	

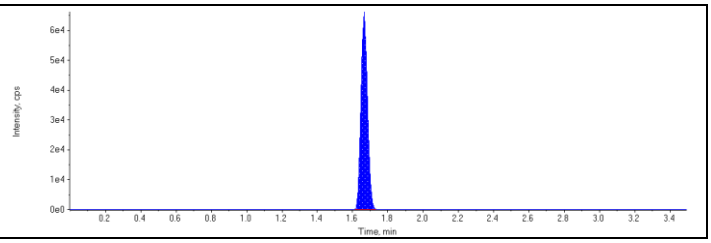
Sample Name	**STD 4**	**Injection Vial**	6
Sample ID	STD 4	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:16:09 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	167000.	1.67	1.00	-
MPFHpA	516000.	1.69	1.00	-
MPFOA	425000.	1.87	1.00	-
MPFOS	214000.	1.96	1.00	-
MPFNA	359000.	2.01	1.00	-
13C6-PFHxA IS	2530000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1390000	1.09	30.0	29.9	99.5
PFHxS 1	1570000	1.67	30.0	32.4	108.0
PFHpA 1	1950000	1.69	30.0	31.6	105.0
PFOA 1	2020000	1.87	30.0	32.5	108.0
PFOS 1	1010000	1.96	30.0	30.5	102.0
PFNA 1	1420000	2.01	30.0	30.0	100.0
18O2-PFHxS	167000	1.67	100.	102.	102.0
13C4-PFHpA	516000	1.69	100.	106.	106.0
13C4-PFOA	425000	1.87	100.	100.	100.0
13C4-PFOS	214000	1.96	100.	107.	107.0
13C5-PFNA	359000	2.01	100.	106.	106.0
13C6-PFHxA	2530000	1.42	100.	102.	102.0

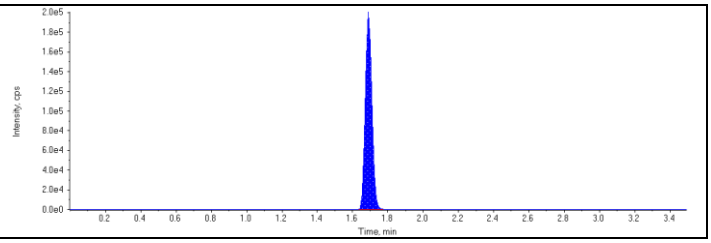
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



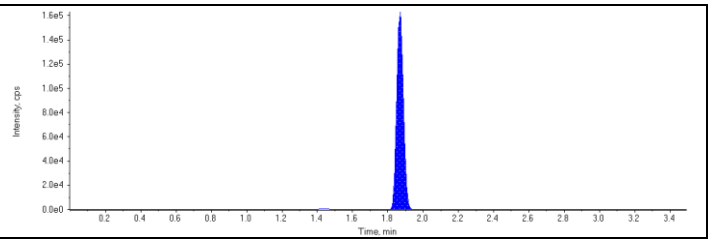
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



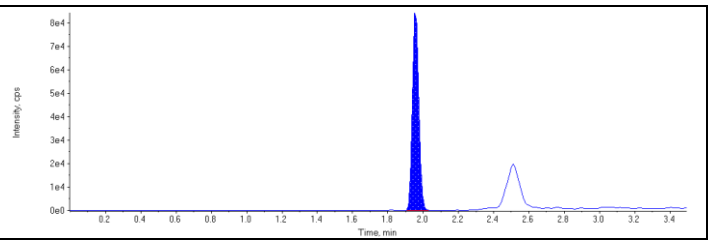
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



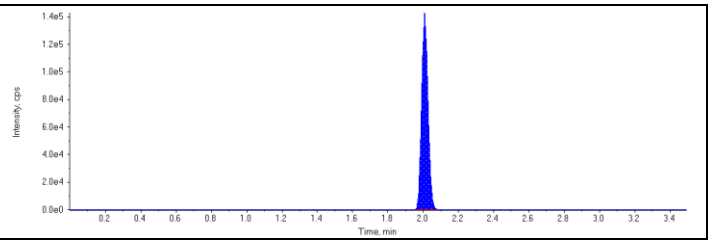
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



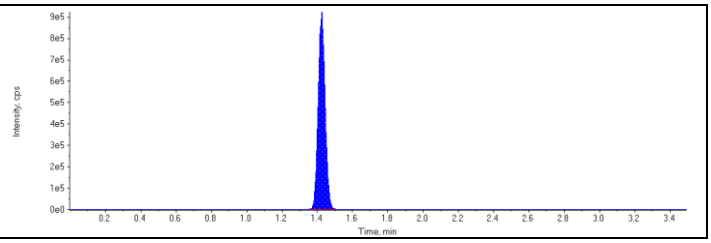
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

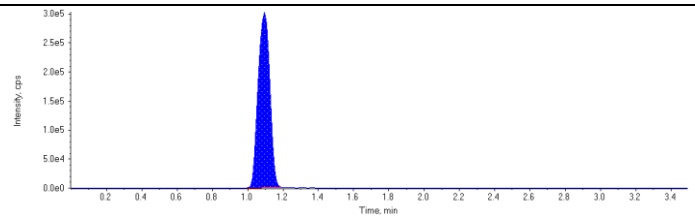
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.09 (1.09) min

Calculated Conc: 29.9 ng/L

Area Ratio: 8.31

Sample Type: (Standard)



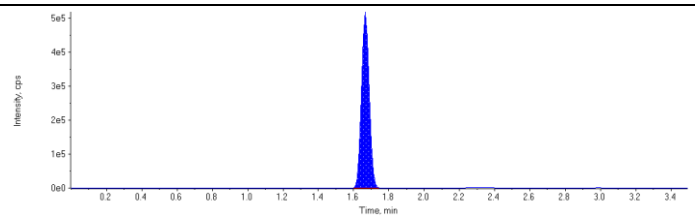
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 32.4 ng/L

Area Ratio: 9.37

Sample Type: (Standard)



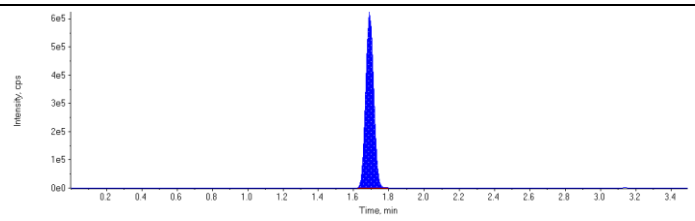
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 31.6 ng/L

Area Ratio: 3.77

Sample Type: (Standard)



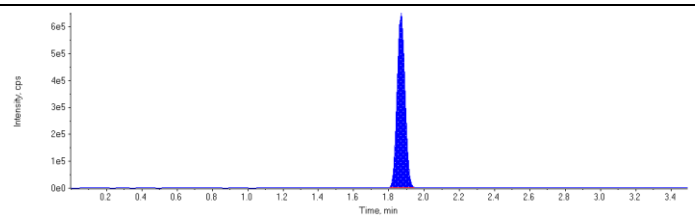
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 32.5 ng/L

Area Ratio: 4.74

Sample Type: (Standard)



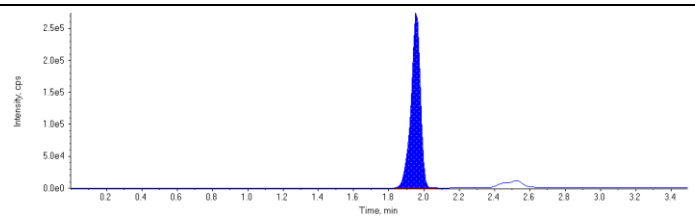
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 30.5 ng/L

Area Ratio: 4.71

Sample Type: (Standard)



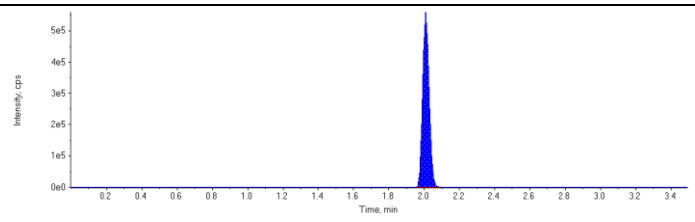
PFNA 1 (462.900/419.000 Da)

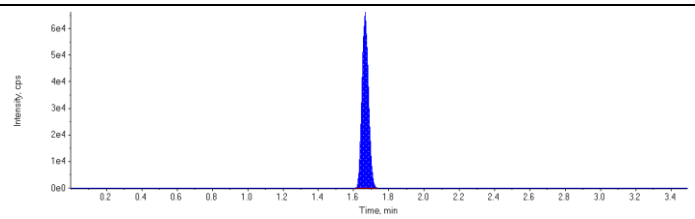
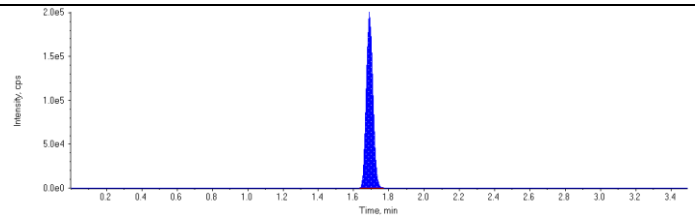
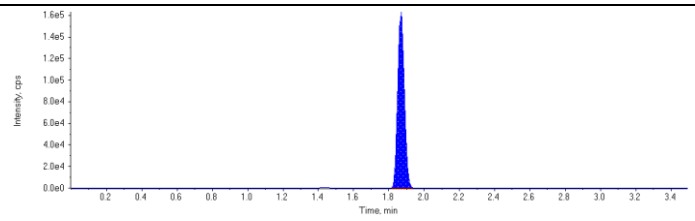
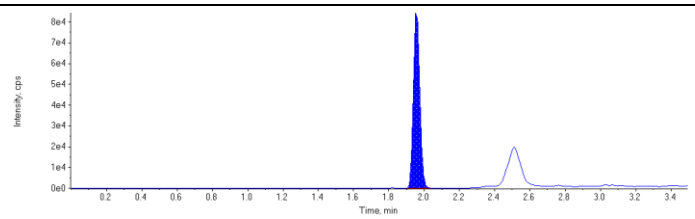
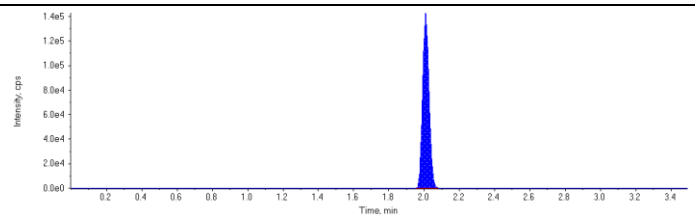
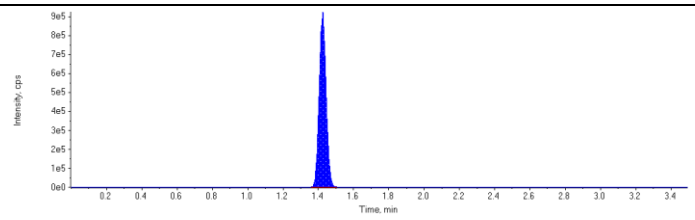
RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 30.0 ng/L

Area Ratio: 3.97

Sample Type: (Standard)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 102. ng/L Area Ratio: 0.0660 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 106. ng/L Area Ratio: 0.204 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 100. ng/L Area Ratio: 0.168 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 107. ng/L Area Ratio: 0.0844 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 106. ng/L Area Ratio: 0.142 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 102. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

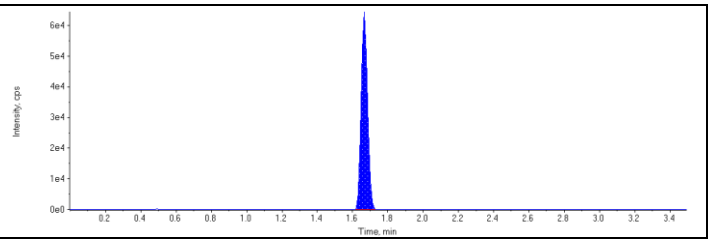
Sample Name	**STD 5**	**Injection Vial**	7
Sample ID	STD 5	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:21:15 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	160000.	1.67	1.00	-
MPFHpA	431000.	1.69	1.00	-
MPFOA	409000.	1.87	1.00	-
MPFOS	177000.	1.96	1.00	-
MPFNA	316000.	2.01	1.00	-
13C6-PFHxA IS	2470000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2410000	1.10	60.0	53.6	89.3
PFHxS 1	2580000	1.67	60.0	55.6	92.6
PFHpA 1	3110000	1.69	60.0	60.5	101.0
PFOA 1	3370000	1.87	60.0	56.4	94.0
PFOS 1	1630000	1.96	60.0	59.0	98.4
PFNA 1	2430000	2.01	60.0	58.2	97.0
18O2-PFHxS	160000	1.67	100.	101.	101.0
13C4-PFHpA	431000	1.69	100.	90.9	90.9
13C4-PFOA	409000	1.87	100.	99.0	99.0
13C4-PFOS	177000	1.96	100.	91.2	91.2
13C5-PFNA	316000	2.01	100.	95.6	95.6
13C6-PFHxA	2470000	1.42	100.	99.6	99.6

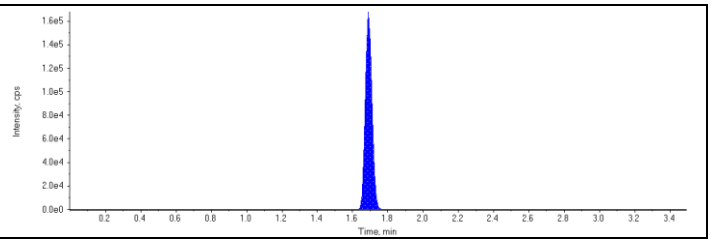
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



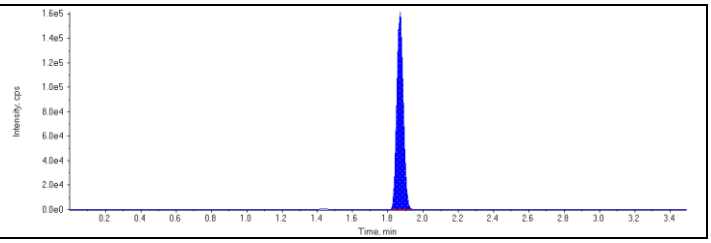
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



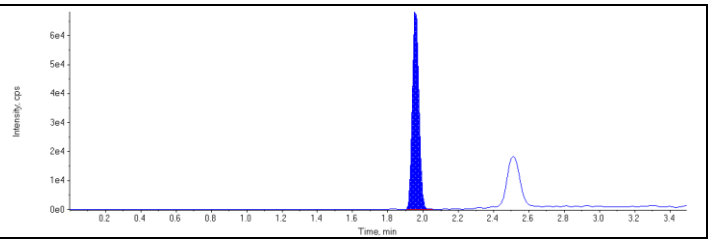
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



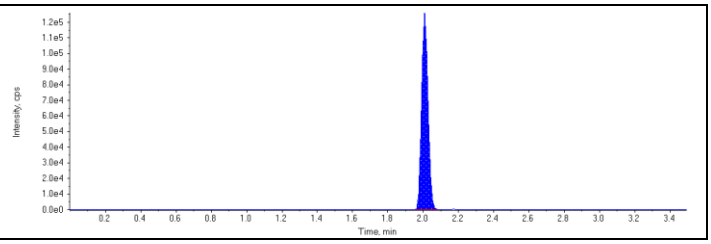
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



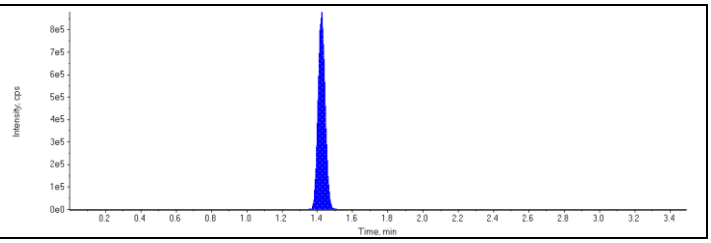
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

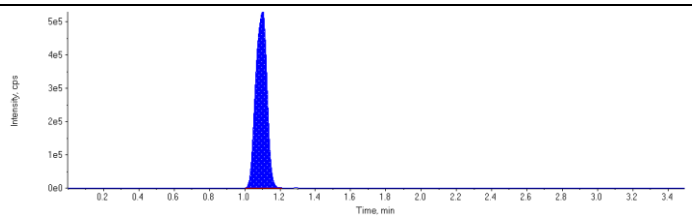
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.10 (1.09) min

Calculated Conc: 53.6 ng/L

Area Ratio: 15.0

Sample Type: (Standard)



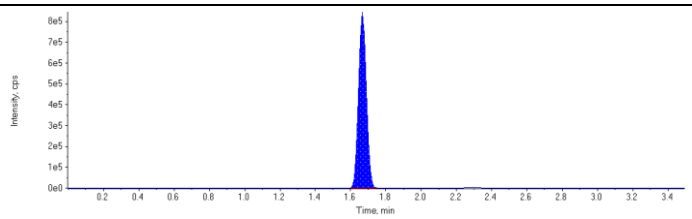
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 55.6 ng/L

Area Ratio: 16.1

Sample Type: (Standard)



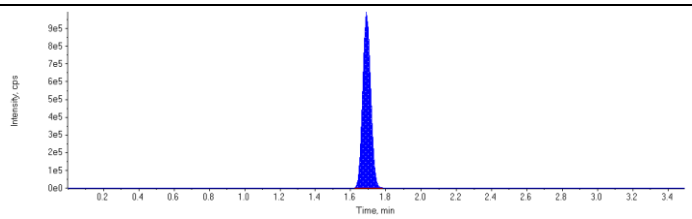
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 60.5 ng/L

Area Ratio: 7.23

Sample Type: (Standard)



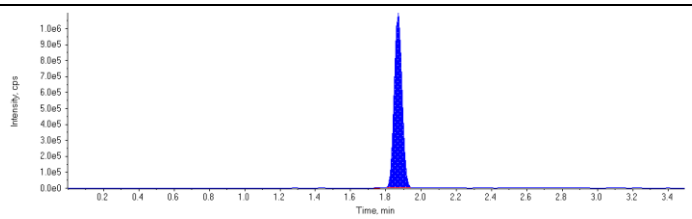
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 56.4 ng/L

Area Ratio: 8.24

Sample Type: (Standard)



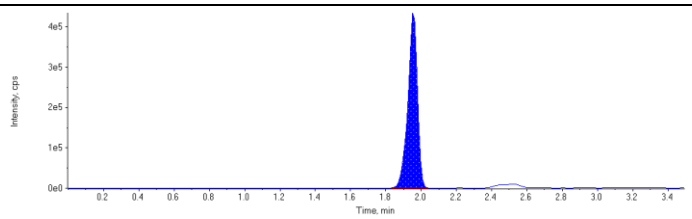
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 59.0 ng/L

Area Ratio: 9.17

Sample Type: (Standard)



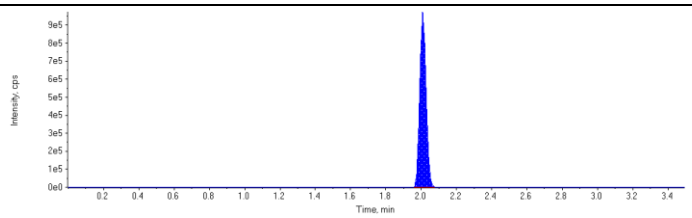
PFNA 1 (462.900/419.000 Da)

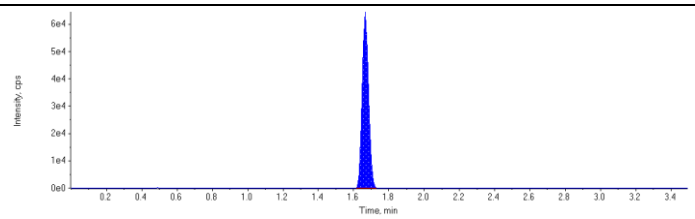
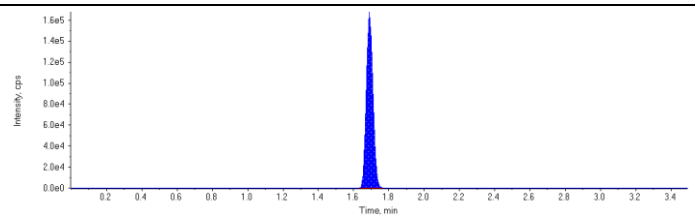
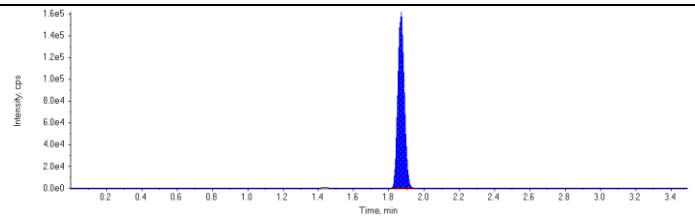
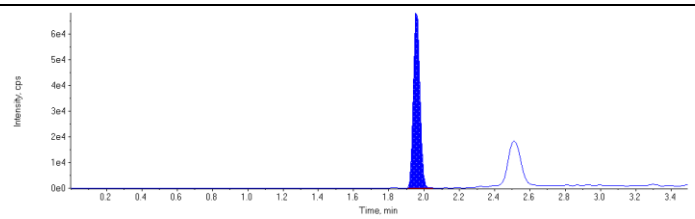
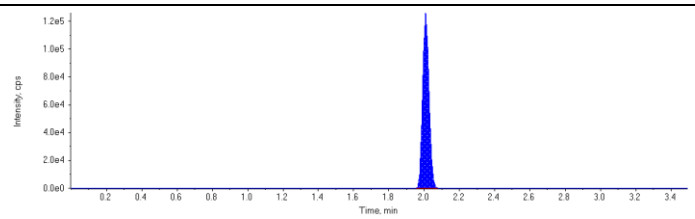
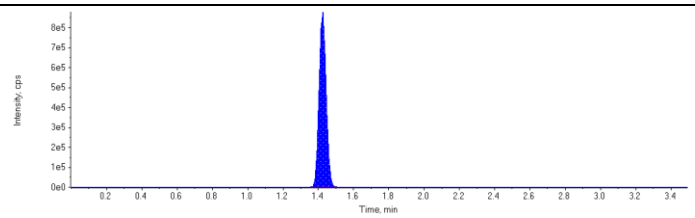
RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 58.2 ng/L

Area Ratio: 7.70

Sample Type: (Standard)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 101. ng/L Area Ratio: 0.0650 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 90.9 ng/L Area Ratio: 0.174 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 99.0 ng/L Area Ratio: 0.166 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 91.2 ng/L Area Ratio: 0.0719 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 95.6 ng/L Area Ratio: 0.128 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 99.6 ng/L Area Ratio: 0.00 Sample Type: (Standard)	

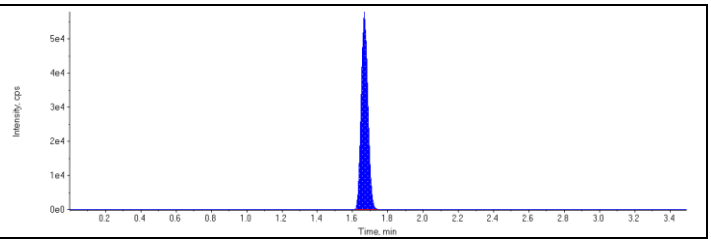
Sample Name	**STD 6**	**Injection Vial**	8
Sample ID	STD 6	**Injection Volume (µL)**	3
Sample Type	Standard	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:26:22 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	150000.	1.67	1.00	-
MPFHpA	453000.	1.69	1.00	-
MPFOA	386000.	1.87	1.00	-
MPFOS	185000.	1.96	1.00	-
MPFNA	318000.	2.01	1.00	-
13C6-PFHxA IS	2480000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	4540000	1.10	100.	108.	108.0
PFHxS 1	4500000	1.67	100.	103.	103.0
PFHpA 1	5360000	1.69	100.	98.9	98.9
PFOA 1	5740000	1.87	100.	102.	102.0
PFOS 1	2920000	1.96	100.	101.	101.0
PFNA 1	4290000	2.01	100.	102.	102.0
18O2-PFHxS	150000	1.67	100.	93.4	93.4
13C4-PFHpA	453000	1.69	100.	95.1	95.1
13C4-PFOA	386000	1.87	100.	93.1	93.1
13C4-PFOS	185000	1.96	100.	94.4	94.4
13C5-PFNA	318000	2.01	100.	95.8	95.8
13C6-PFHxA	2480000	1.42	100.	100.	100.0

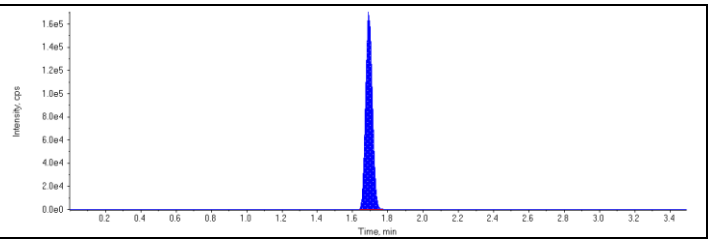
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



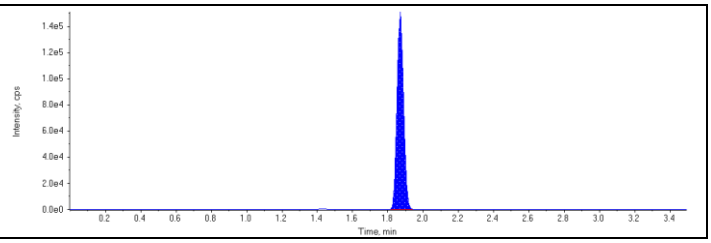
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



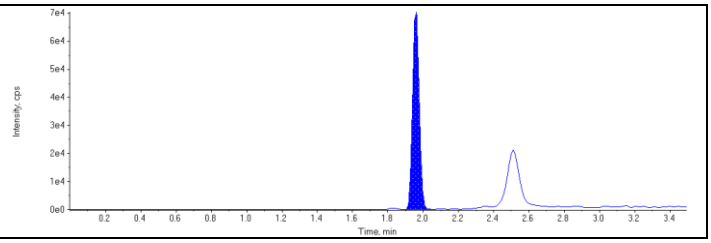
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



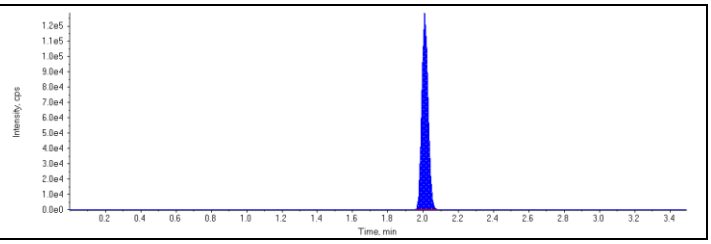
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



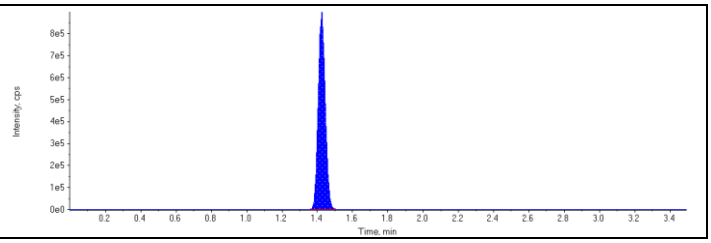
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Standard)



13C6-PFHxA IS (Internal Standard)

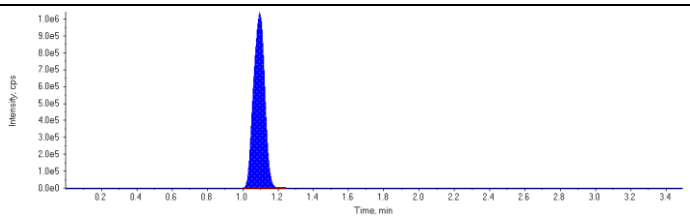
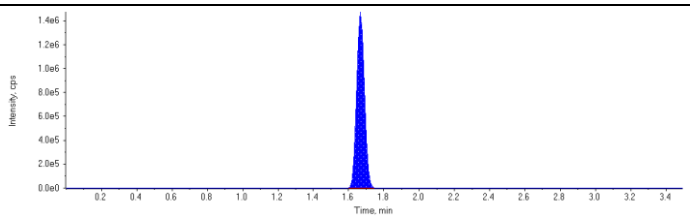
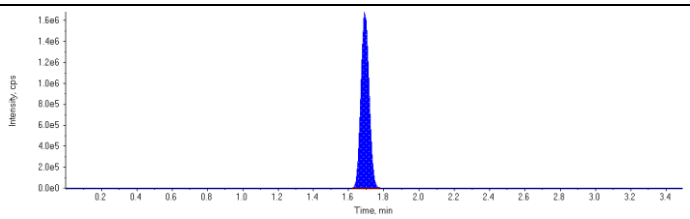
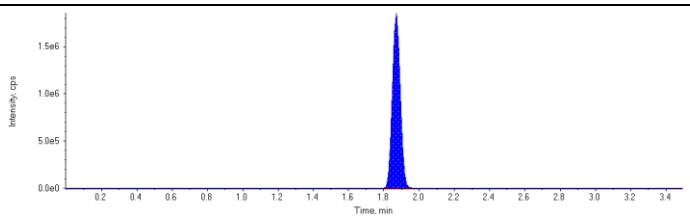
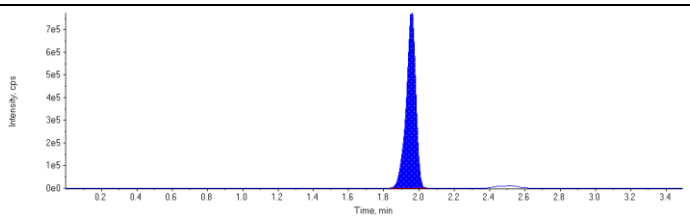
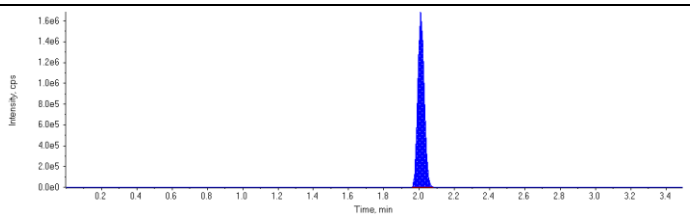
RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Standard)

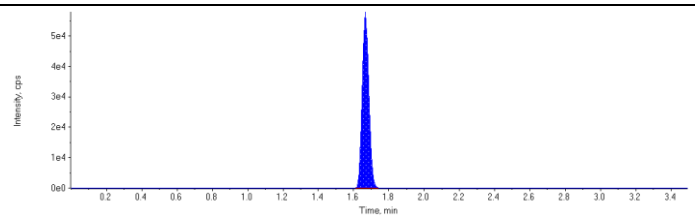
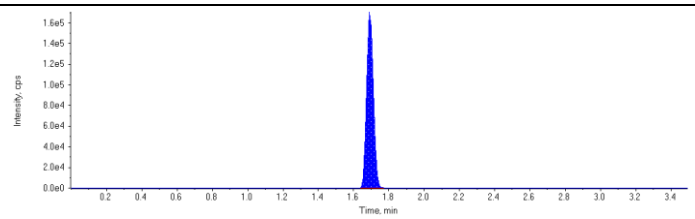
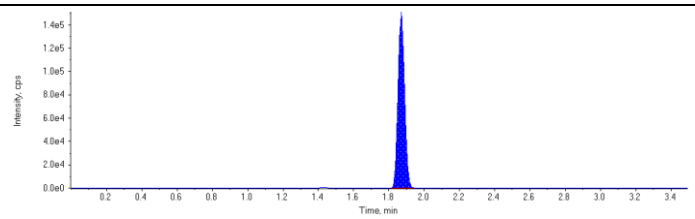
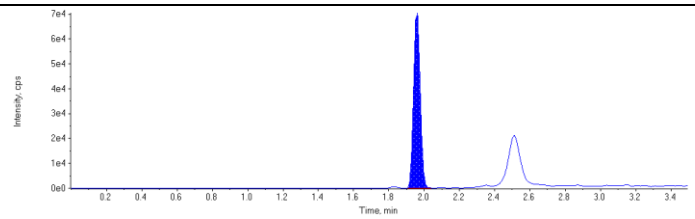
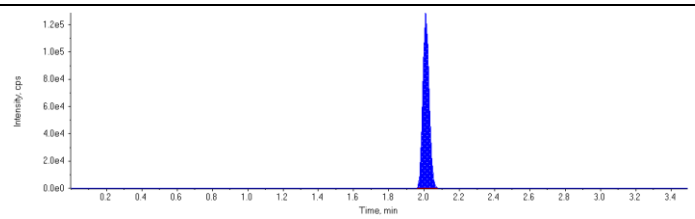
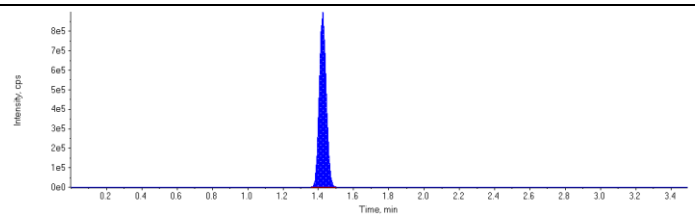


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Standard)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.09) min Calculated Conc: 108. ng/L Area Ratio: 30.3 Sample Type: (Standard)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 103. ng/L Area Ratio: 30.1 Sample Type: (Standard)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 98.9 ng/L Area Ratio: 11.8 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 102. ng/L Area Ratio: 14.8 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 101. ng/L Area Ratio: 15.8 Sample Type: (Standard)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 102. ng/L Area Ratio: 13.5 Sample Type: (Standard)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 93.4 ng/L Area Ratio: 0.0603 Sample Type: (Standard)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 95.1 ng/L Area Ratio: 0.182 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 93.1 ng/L Area Ratio: 0.156 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 94.4 ng/L Area Ratio: 0.0744 Sample Type: (Standard)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 95.8 ng/L Area Ratio: 0.128 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 100. ng/L Area Ratio: 0.00 Sample Type: (Standard)	

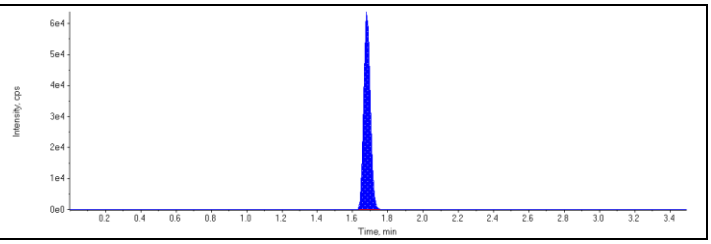
Sample Name	**ICV**	**Injection Vial**	8
Sample ID	ICV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:16:32 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	164000.	1.68	1.00	-
MPFHpA	473000.	1.70	1.00	-
MPFOA	404000.	1.88	1.00	-
MPFOS	184000.	1.97	1.00	-
MPFNA	334000.	2.02	1.00	-
13C6-PFHxA IS	2350000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2210000	1.11	50.0	45.9	91.8
PFHxS 1	2510000	1.68	50.0	51.0	102.0
PFHpA 1	2990000	1.70	50.0	49.6	99.3
PFOA 1	3100000	1.88	50.0	51.3	103.0
PFOS 1	1550000	1.97	50.0	48.3	96.7
PFNA 1	2520000	2.02	50.0	53.4	107.0
18O2-PFHxS	164000	1.68	100.	98.5	98.5
13C4-PFHpA	473000	1.70	100.	95.4	95.4
13C4-PFOA	404000	1.88	100.	94.2	94.2
13C4-PFOS	184000	1.97	100.	91.1	91.1
13C5-PFNA	334000	2.02	100.	91.3	91.3
13C6-PFHxA	2350000	1.43	100.	103.	103.0

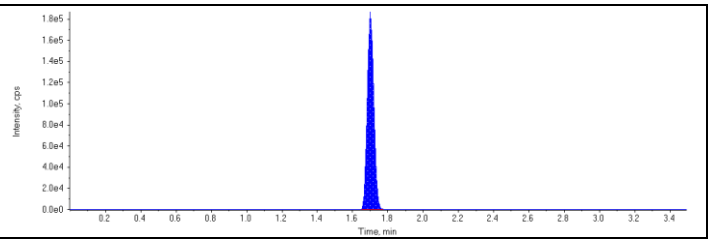
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



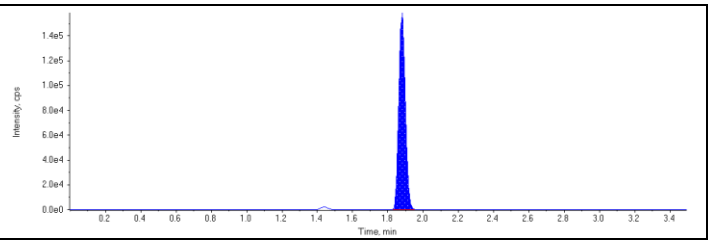
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



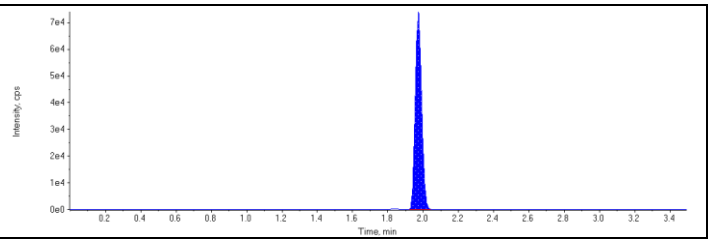
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



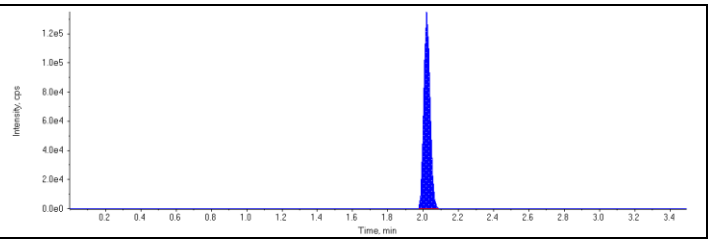
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



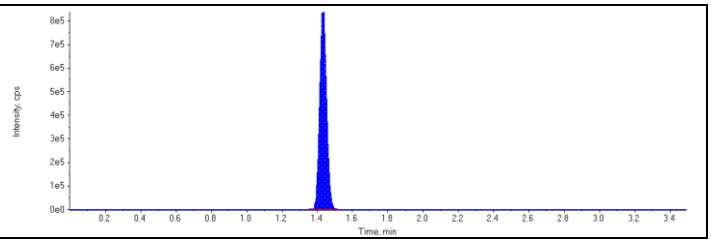
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

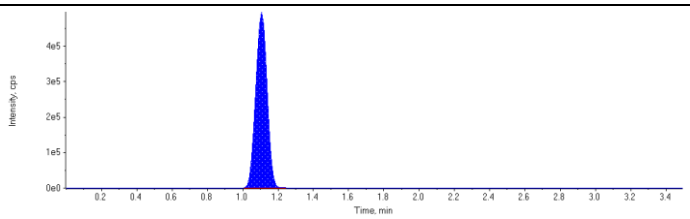
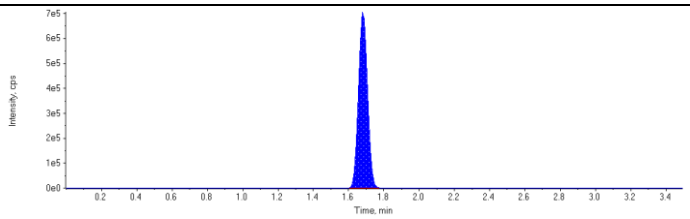
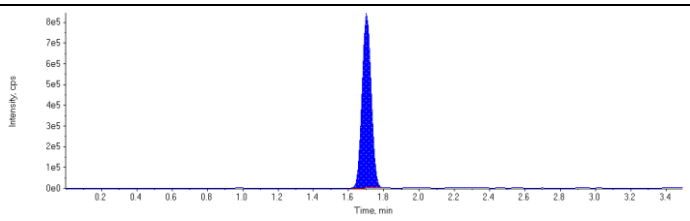
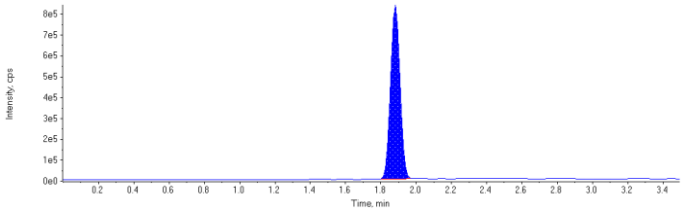
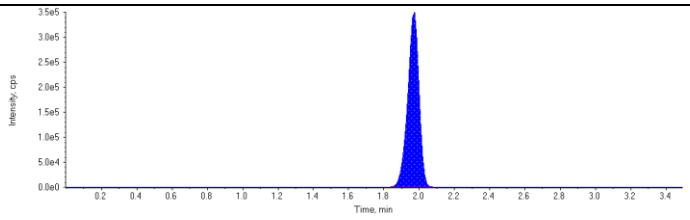
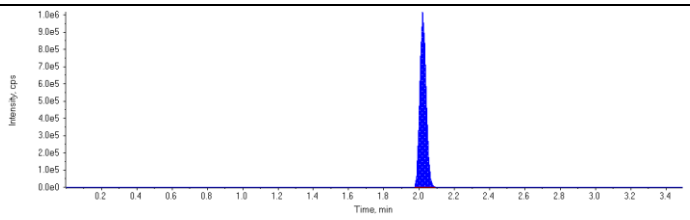
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

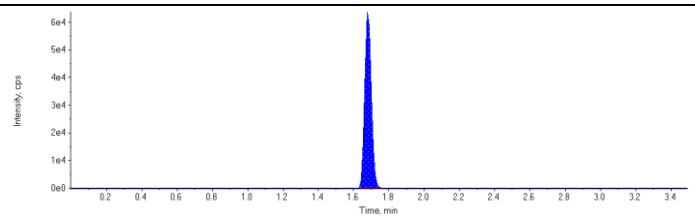
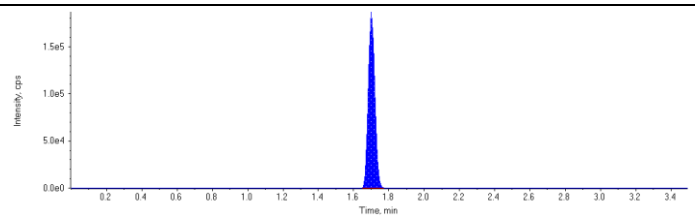
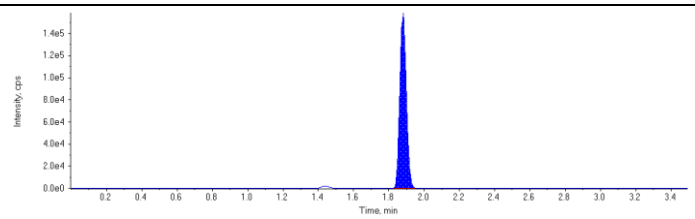
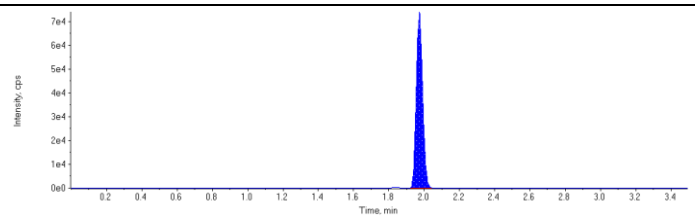
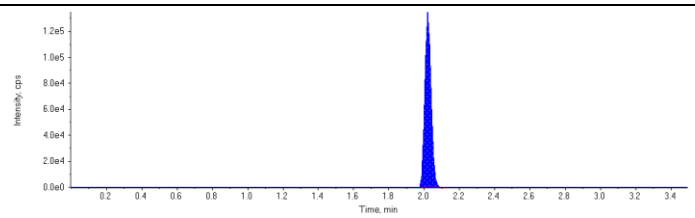
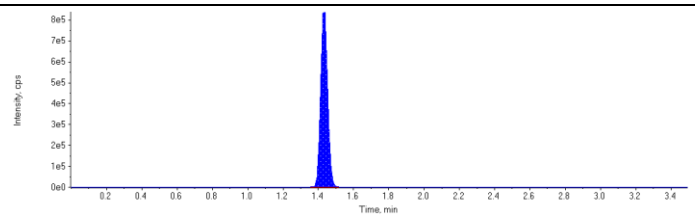


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 45.9 ng/L Area Ratio: 13.4 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 51.0 ng/L Area Ratio: 15.3 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 49.6 ng/L Area Ratio: 6.33 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 51.3 ng/L Area Ratio: 7.66 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 48.3 ng/L Area Ratio: 8.42 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 53.4 ng/L Area Ratio: 7.56 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 98.5 ng/L Area Ratio: 0.0698 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 95.4 ng/L Area Ratio: 0.201 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 94.2 ng/L Area Ratio: 0.172 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 91.1 ng/L Area Ratio: 0.0783 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 91.3 ng/L Area Ratio: 0.142 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 103. ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

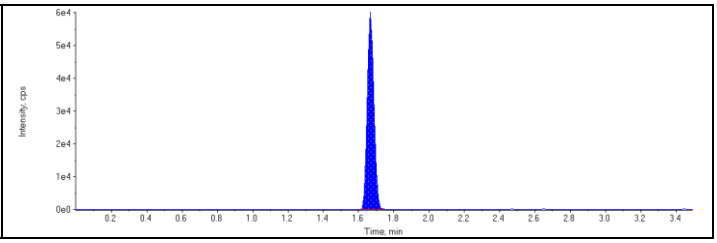
Sample Name	**ICV**	**Injection Vial**	9
Sample ID	ICV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:41:39 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394551.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	156000.	1.67	1.00	-
MPFHpA	489000.	1.69	1.00	-
MPFOA	406000.	1.87	1.00	-
MPFOS	186000.	1.96	1.00	-
MPFNA	338000.	2.01	1.00	-
13C6-PFHxA IS	2180000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2090000	1.10	50.0	47.9	95.9
PFHxS 1	2190000	1.67	50.0	48.6	97.2
PFHpA 1	2650000	1.69	50.0	45.3	90.7
PFOA 1	2580000	1.87	50.0	43.5	87.0
PFOS 1	1340000	1.96	50.0	46.4	92.8
PFNA 1	2170000	2.01	50.0	48.4	96.9
18O2-PFHxS	156000	1.67	100.	111.	111.0
13C4-PFHpA	489000	1.69	100.	117.	117.0
13C4-PFOA	406000	1.87	100.	112.	112.0
13C4-PFOS	186000	1.96	100.	108.	108.0
13C5-PFNA	338000	2.01	100.	116.	116.0
13C6-PFHxA	2180000	1.42	100.	87.9	87.9

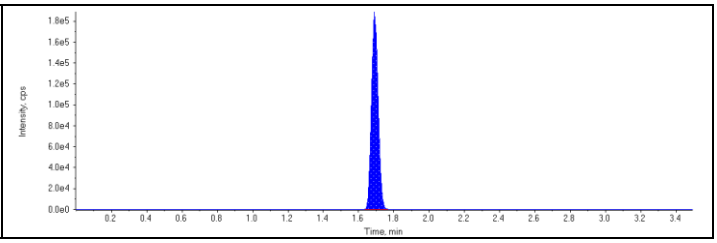
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



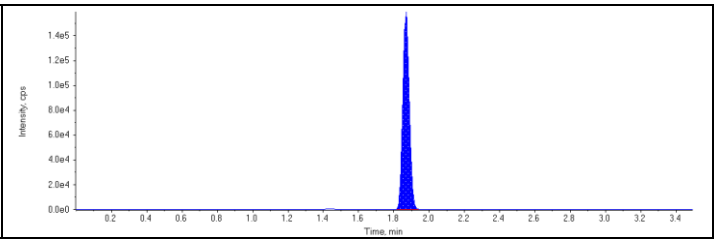
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



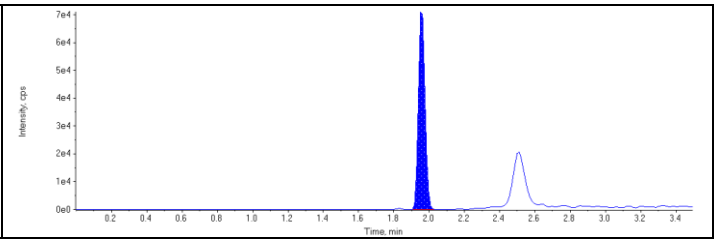
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



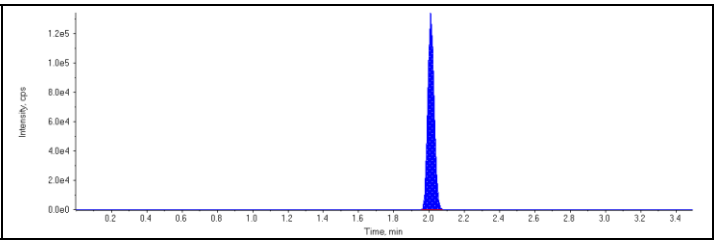
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



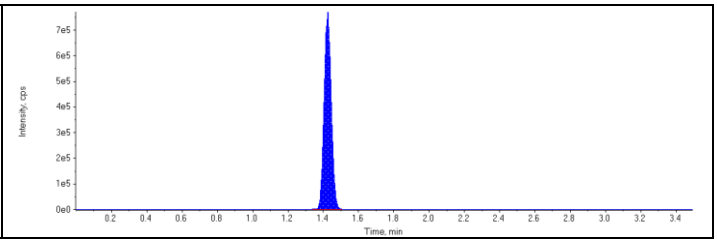
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

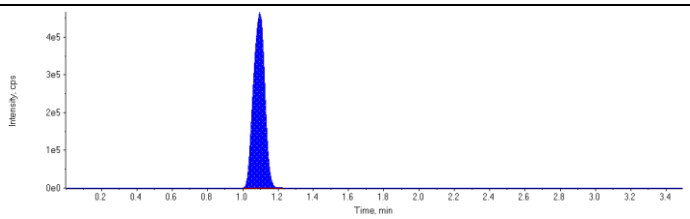
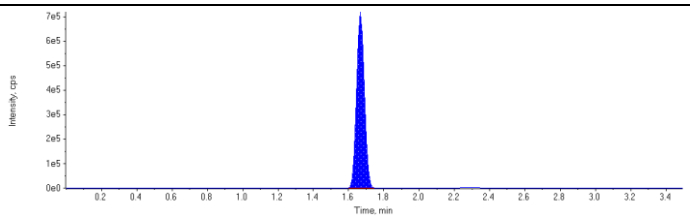
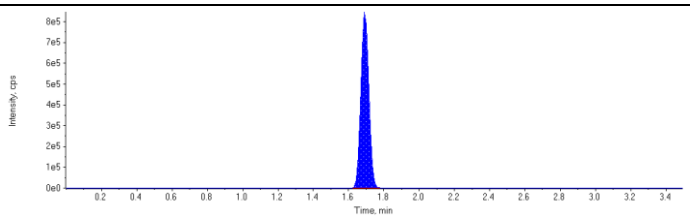
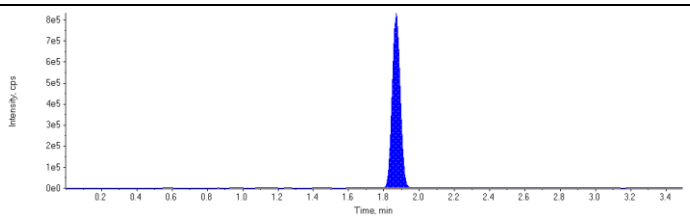
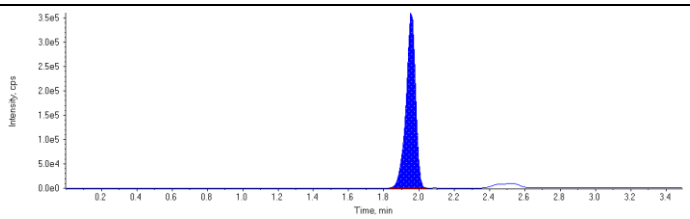
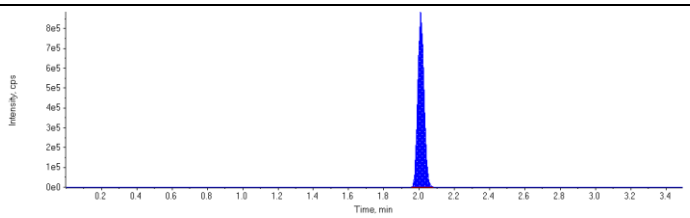
RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

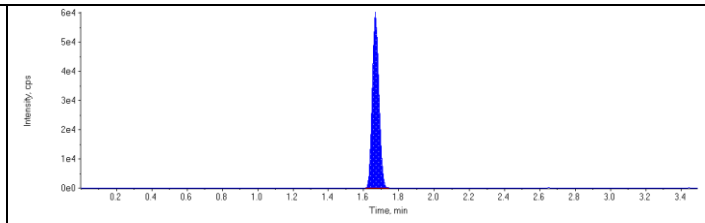
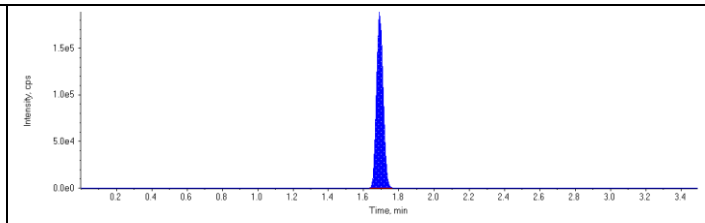
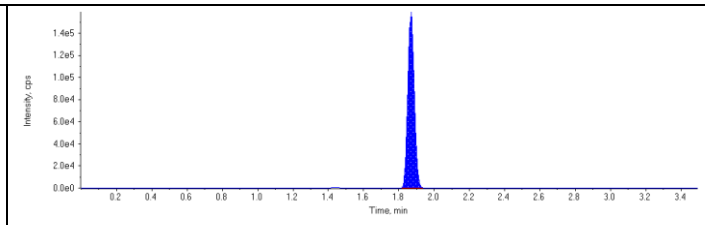
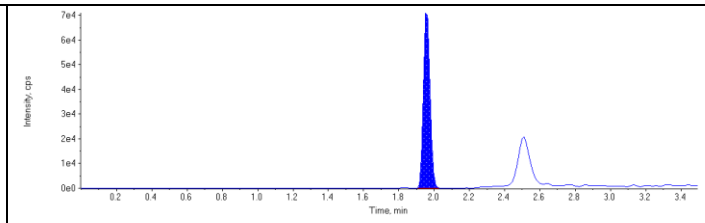
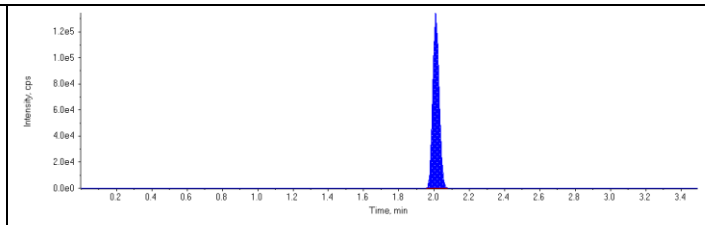
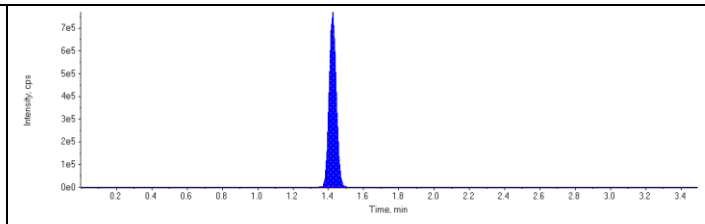


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.09) min Calculated Conc: 47.9 ng/L Area Ratio: 13.4 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 48.6 ng/L Area Ratio: 14.1 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 45.3 ng/L Area Ratio: 5.42 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 43.5 ng/L Area Ratio: 6.35 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 46.4 ng/L Area Ratio: 7.20 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 48.4 ng/L Area Ratio: 6.41 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 111. ng/L Area Ratio: 0.0715 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 117. ng/L Area Ratio: 0.225 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 112. ng/L Area Ratio: 0.187 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 108. ng/L Area Ratio: 0.0855 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 116. ng/L Area Ratio: 0.155 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 87.9 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Perfluorinated Compound Internal Standard (IS) Evaluation

Sample Name	Analyte	PFBS		PFHxS		PFHpA		PFOA		PFOS		PFNA	
	Mass labeled IS	MPFHxS		MPFHxS		MPFHpA		MPFOA		MPFOS		MPFNA	
	Average IS Area in ICAL	162500		162500		482000		417167		197000		354833	
		IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)
4389346~BLANK		133000	82	133000	82	399000	83	379000	91	177000	90	287000	81
STD 1		165000	102	165000	102	494000	102	430000	103	202000	103	363000	102
STD 2		170000	105	170000	105	492000	102	404000	97	202000	103	355000	100
STD 3		151000	93	151000	93	489000	101	427000	102	195000	99	377000	106
STD 4		169000	104	169000	104	468000	97	407000	98	200000	102	353000	99
STD 5		156000	96	156000	96	473000	98	429000	103	194000	98	339000	96
STD 6		164000	101	164000	101	476000	99	406000	97	189000	96	342000	96
ICV		164000	101	164000	101	473000	98	404000	97	184000	93	334000	94
CCV		156000	96	156000	96	494000	102	435000	104	198000	101	358000	101
4389346~MTRX SPK		132000	81	132000	81	412000	85	351000	84	150000	76	284000	80
4389346~MTRX SPK:D1		135000	83	135000	83	357000	74	329000	79	143000	73	254000	72
4389346~SPIKE		134000	82	134000	82	408000	85	347000	83	172000	87	275000	78
4389346~BVX806-01		116000	71	116000	71	371000	77	338000	81	147000	75	277000	78
4389346~BVX807-01		94800	58	94800	58	283000	59	259000	62	110000	56	192000	54
4389346~BVX808-01		120000	74	120000	74	336000	70	295000	71	135000	69	235000	66
4389346~BVX809-01		116000	71	116000	71	323000	67	295000	71	137000	70	230000	65
4389346~BVX810-01		99300	61	99300	61	287000	60	265000	64	132000	67	227000	64
4389346~BVX811-01		105000	65	105000	65	293000	61	284000	68	131000	66	222000	63
4389346~BVX841-01		92100	57	92100	57	280000	58	248000	59	124000	63	203000	57
4389346~BVX842-01		76700	**47**	76700	**47**	242000	50	231000	55	82900	**42**	183000	52
4389346~BVX843-01		108000	66	108000	66	319000	66	288000	69	138000	70	224000	63
4389346~BVX844-01		106000	65	106000	65	296000	61	254000	61	112000	57	243000	68
CCV		140000	86	140000	86	426000	88	386000	93	191000	97	327000	92
4389346~BVX845-01		109000	67	109000	67	308000	64	265000	64	113000	57	225000	63
4389346~BVX846-01		186000	114	186000	114	536000	111	513000	123	246000	125	410000	116
4389346~BVX847-01		126000	78	126000	78	364000	76	312000	75	136000	69	262000	74
4389346~BVX850-01		125000	77	125000	77	308000	64	293000	70	153000	78	248000	70
4389346~BVX851-01		139000	86	139000	86	263000	55	258000	62	156000	79	209000	59
CCV		141000	87	141000	87	411000	85	393000	94	197000	100	331000	93
4389346~MTRX SPK		129000	79	129000	79	336000	70	349000	84	148000	75	260000	73
4389346~MTRX SPK:D1		124000	76	124000	76	319000	66	299000	72	148000	75	233000	66
4389346~BVX807-01		95700	59	95700	59	255000	53	238000	57	108000	55	179000	50
4389346~BVX842-01		70600	**43**	70600	**43**	227000	**47**	203000	**49**	87800	**45**	169000	**48**
4389346~BVX846-01		193000	119	193000	119	524000	109	505000	121	244000	124	408000	115
4389346~BVX851-01		132000	81	132000	81	258000	54	245000	59	150000	76	212000	60
CCV		144000	89	144000	89	399000	83	367000	88	181000	92	305000	86

Perfluorinated Compound Internal Standard (IS) Evaluation

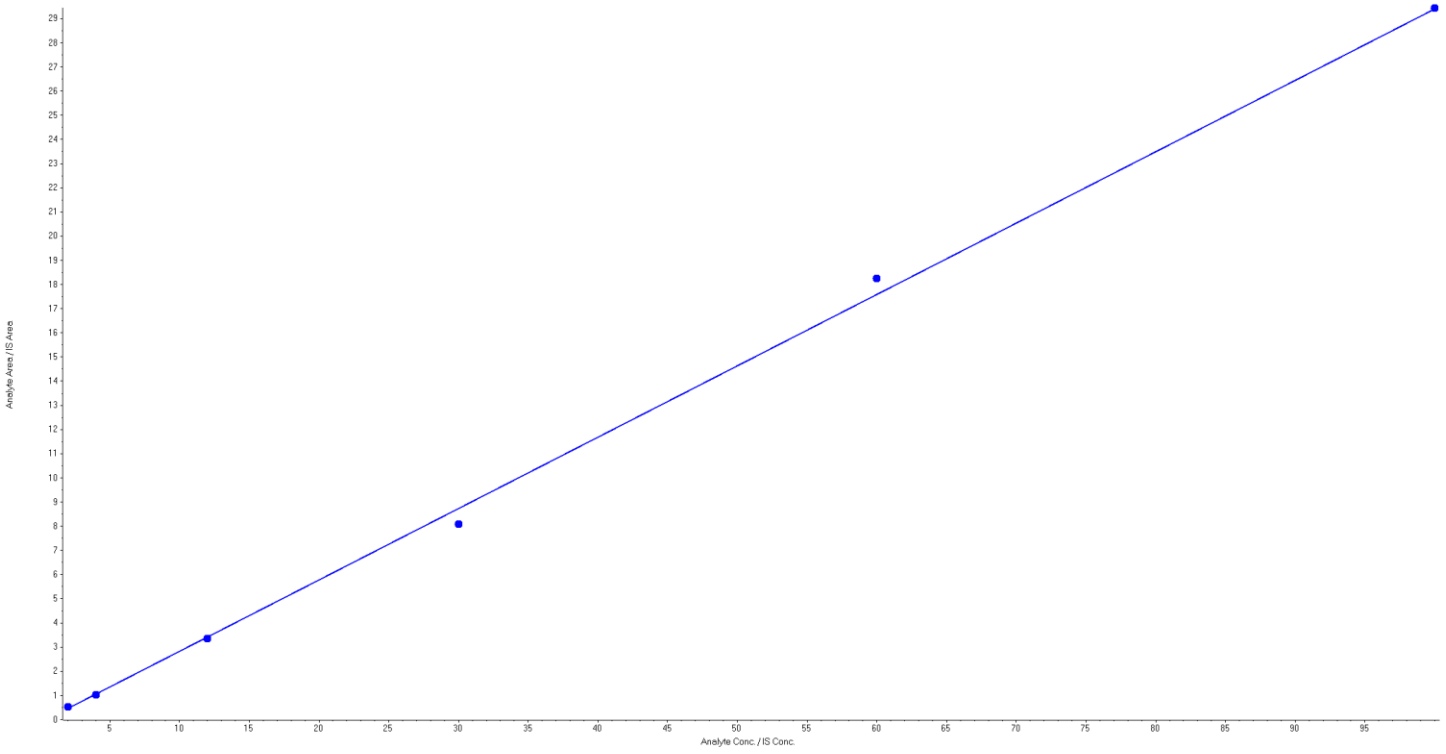
Sample Name	Analyte	PFBS		PFHxS		PFHpA		PFOA		PFOS		PFNA	
	Mass labeled IS	MPFHxS		MPFHxS		MPFHpA		MPFOA		MPFOS		MPFNA	
	Average IS Area in ICAL	159333		159333		475000		413667		195000		331000	
		IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)
4394558~BLANK		166000	104	166000	104	539000	113	466000	113	189000	97	350000	106
STD 1		143000	90	143000	90	491000	103	404000	98	192000	98	325000	98
STD 2		165000	104	165000	104	475000	100	434000	105	198000	102	328000	99
STD 3		171000	107	171000	107	484000	102	424000	102	204000	105	340000	103
STD 4		167000	105	167000	105	516000	109	425000	103	214000	110	359000	108
STD 5		160000	100	160000	100	431000	91	409000	99	177000	91	316000	95
STD 6		150000	94	150000	94	453000	95	386000	93	185000	95	318000	96
ICV		156000	98	156000	98	489000	103	406000	98	186000	95	338000	102
CCV		166000	104	166000	104	500000	105	470000	114	215000	110	366000	111
4394558~MTRX SPK		180000	113	180000	113	422000	89	348000	84	155000	79	261000	79
4394558~MTRX SPK:D1		153000	96	153000	96	434000	91	376000	91	161000	83	275000	83
4394558~SPIKE		178000	112	178000	112	483000	102	464000	112	199000	102	335000	101
4394558~BVX747-01		145000	91	145000	91	416000	88	379000	92	166000	85	287000	87
4394558~BVX752-01		156000	98	156000	98	446000	94	412000	100	182000	93	295000	89
4394558~BVX753-01		139000	87	139000	87	396000	83	325000	79	131000	67	227000	69
4394558~BVX754-01		143000	90	143000	90	407000	86	359000	87	157000	81	274000	83
4394558~BVX755-01		158000	99	158000	99	500000	105	455000	110	182000	93	294000	89
4394558~BVX756-01		146000	92	146000	92	482000	101	448000	108	178000	91	319000	96
4394558~BVX770-01(10X)		164000	103	164000	103	486000	102	443000	107	185000	95	332000	100
4394558~BVX771-01(10X)		144000	90	144000	90	430000	91	410000	99	174000	89	288000	87
4394558~BVX844-01(50X)		144000	90	144000	90	445000	94	396000	96	177000	91	299000	90
4394558~BVX845-01(50X)		150000	94	150000	94	447000	94	410000	99	187000	96	321000	97
CCV		162000	102	162000	102	482000	101	419000	101	204000	105	340000	103
4394558~MTRX SPK		131000	82	131000	82	405000	85	373000	90	164000	84	275000	83
4394558~MTRX SPK:D1		146000	92	146000	92	404000	85	398000	96	174000	89	298000	90
CCV		159000	100	159000	100	477000	100	425000	103	223000	114	354000	107

Analyte Name: PFBS 1
Internal Standard: MPFHxS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.295 x + -0.128 (r = 0.9992)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.17	108.6
4	1	3.86	96.6
12	1	11.79	98.2
30	1	27.84	92.8
60	1	62.20	103.7
100	1	100.14	100.1

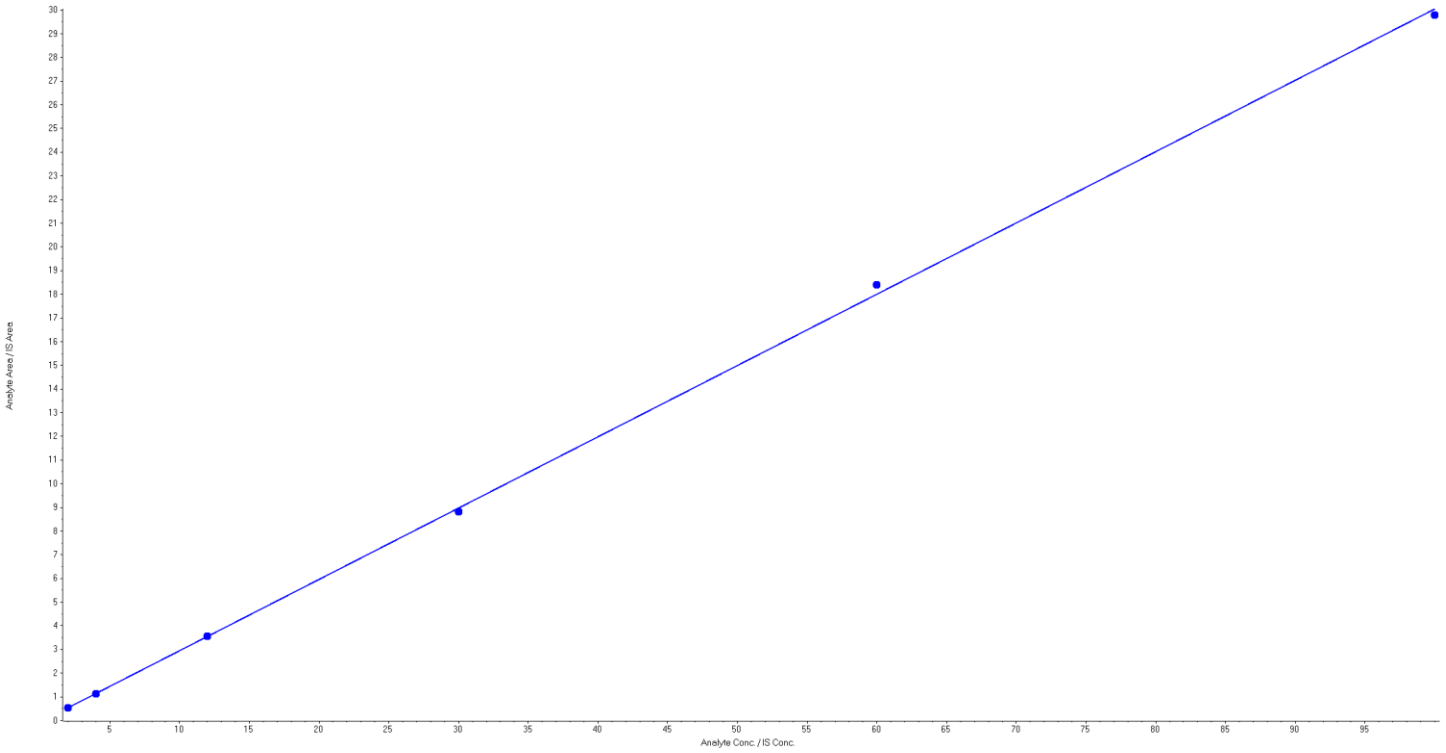


Analyte Name: PFHxS 1
Internal Standard: MPFHxS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.301 x + -0.0618 (r = 0.9999)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.03	101.7
4	1	3.93	98.2
12	1	12.04	100.3
30	1	29.49	98.3
60	1	61.36	102.3
100	1	99.15	99.1

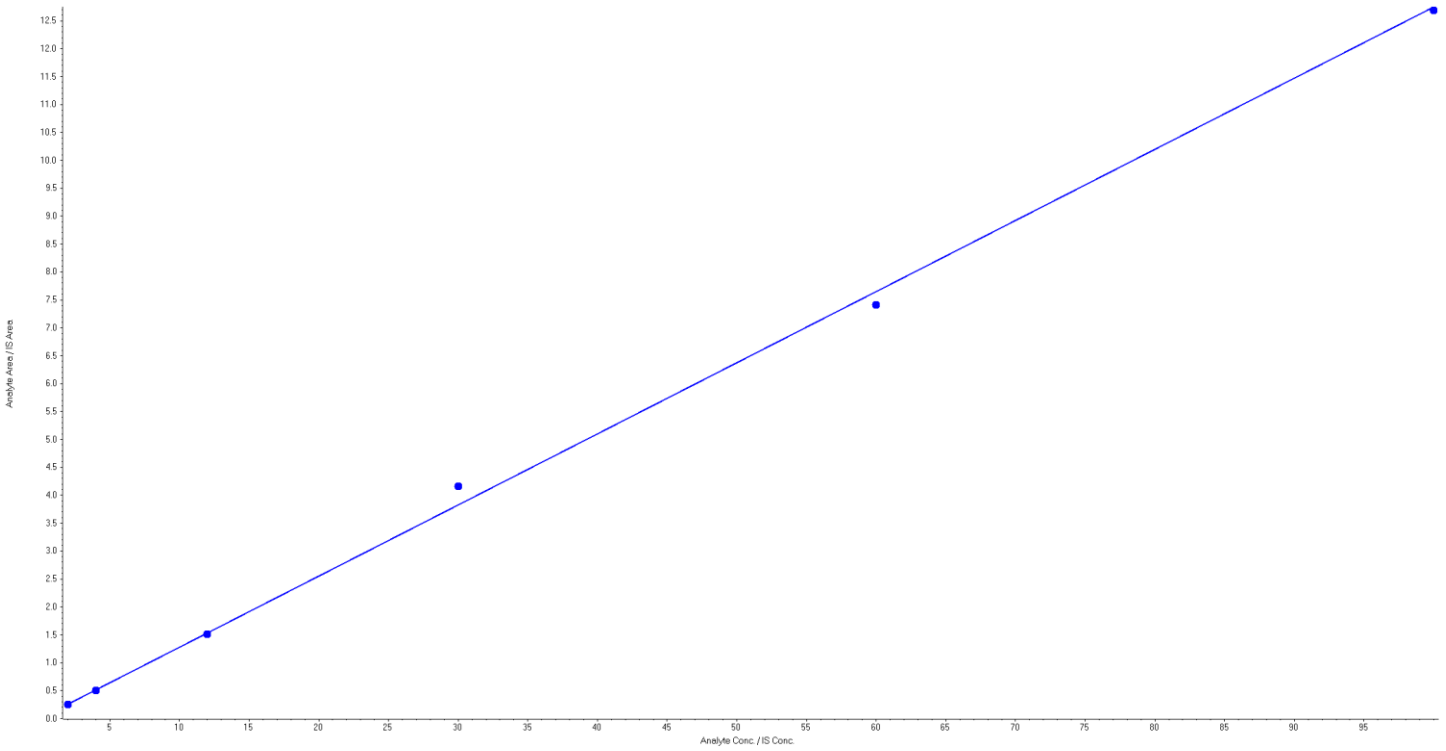


Analyte Name: PFHpA 1
Internal Standard: MPFHpA

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.127 x + 0.00305 (r = 0.9991)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	1.97	98.4
4	1	3.91	97.6
12	1	11.87	98.9
30	1	32.60	108.7
60	1	58.11	96.8
100	1	99.55	99.6

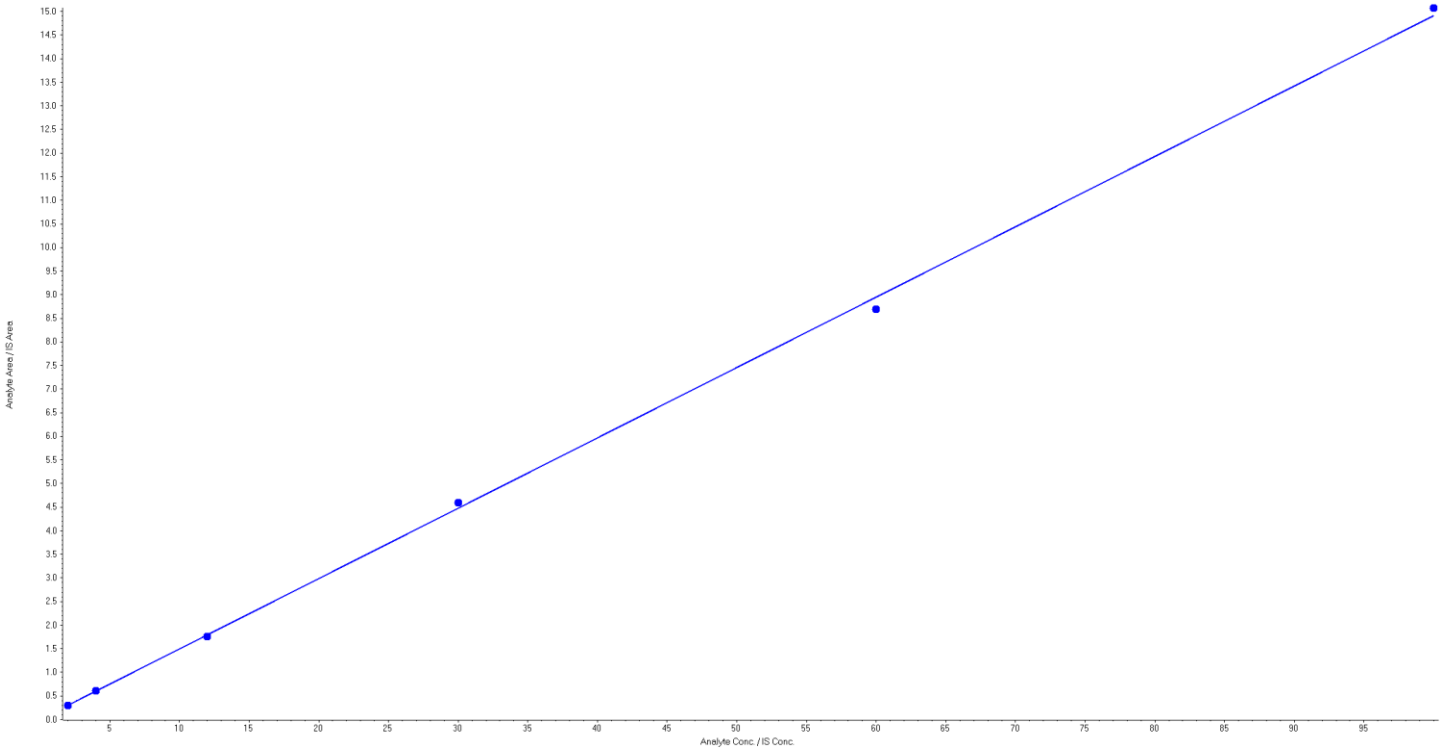


Analyte Name: PFOA 1
Internal Standard: MPFOA

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.149 x + 0.00499 (r = 0.9997)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	1.97	98.7
4	1	4.10	102.4
12	1	11.77	98.0
30	1	30.79	102.6
60	1	58.29	97.2
100	1	101.08	101.1

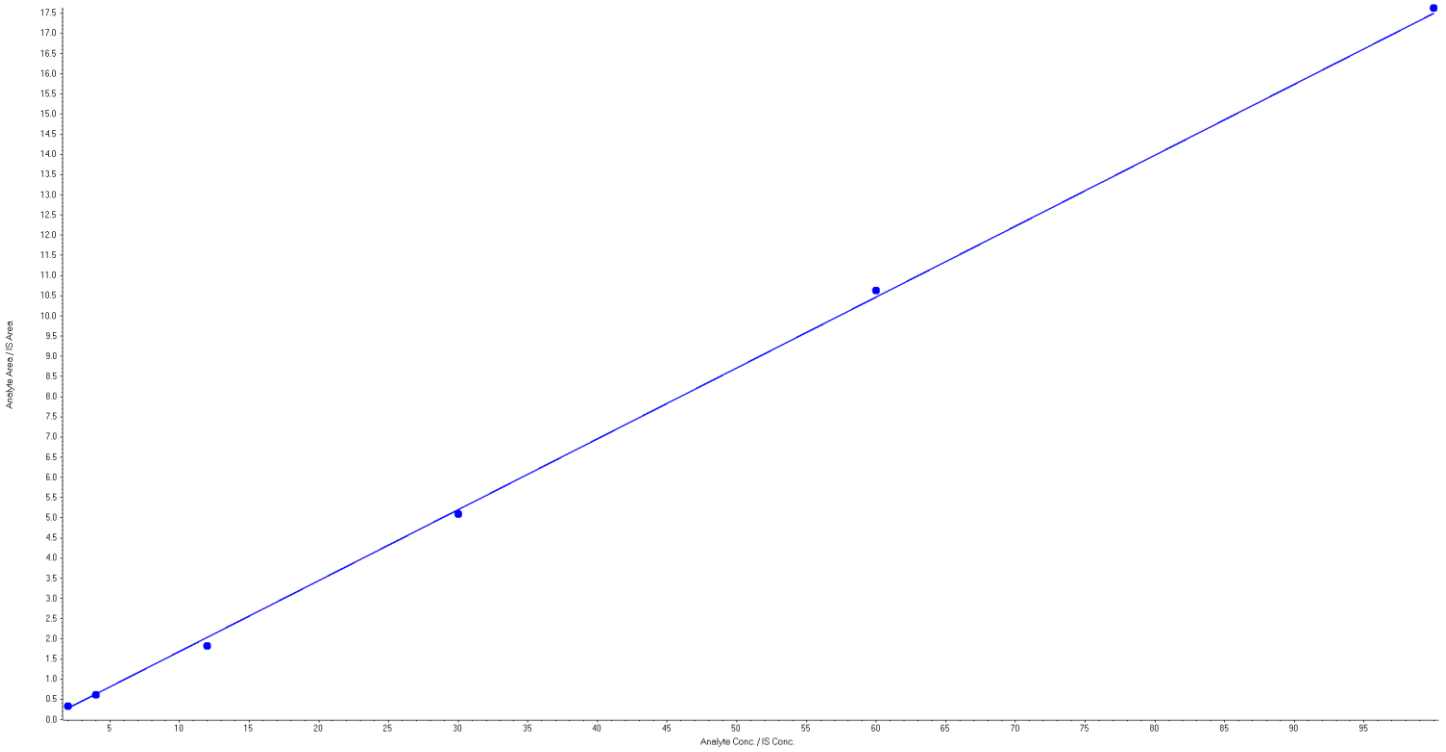


Analyte Name: PFOS 1
Internal Standard: MPFOS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.176 x + -0.0708 (r = 0.9994)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.26	113.2
4	1	3.85	96.3
12	1	10.83	90.3
30	1	29.37	97.9
60	1	60.93	101.5
100	1	100.75	100.8

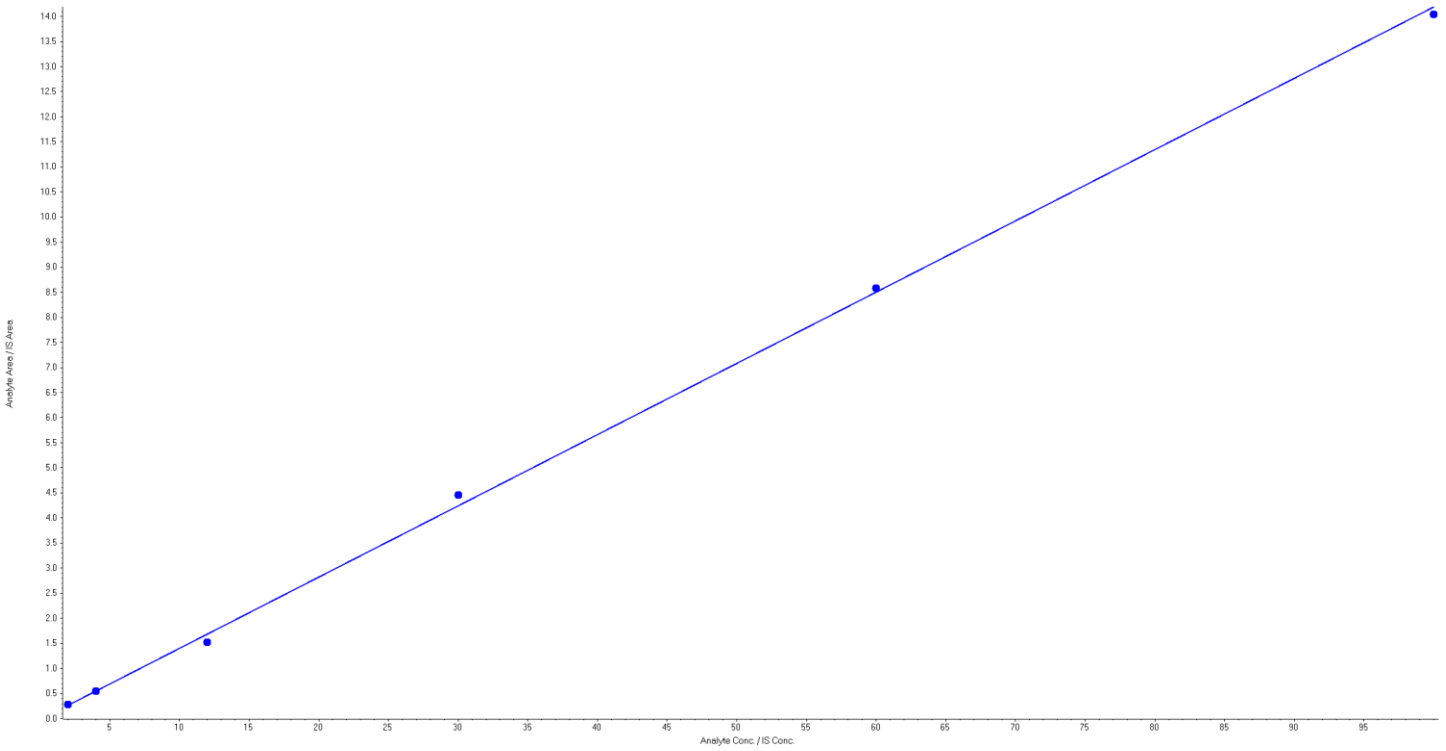


Analyte Name: PFNA 1
Internal Standard: MPFNA

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.142 x + -0.0211 (r = 0.9994)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.10	104.9
4	1	3.98	99.6
12	1	10.86	90.5
30	1	31.56	105.2
60	1	60.54	100.9
100	1	98.96	99.0

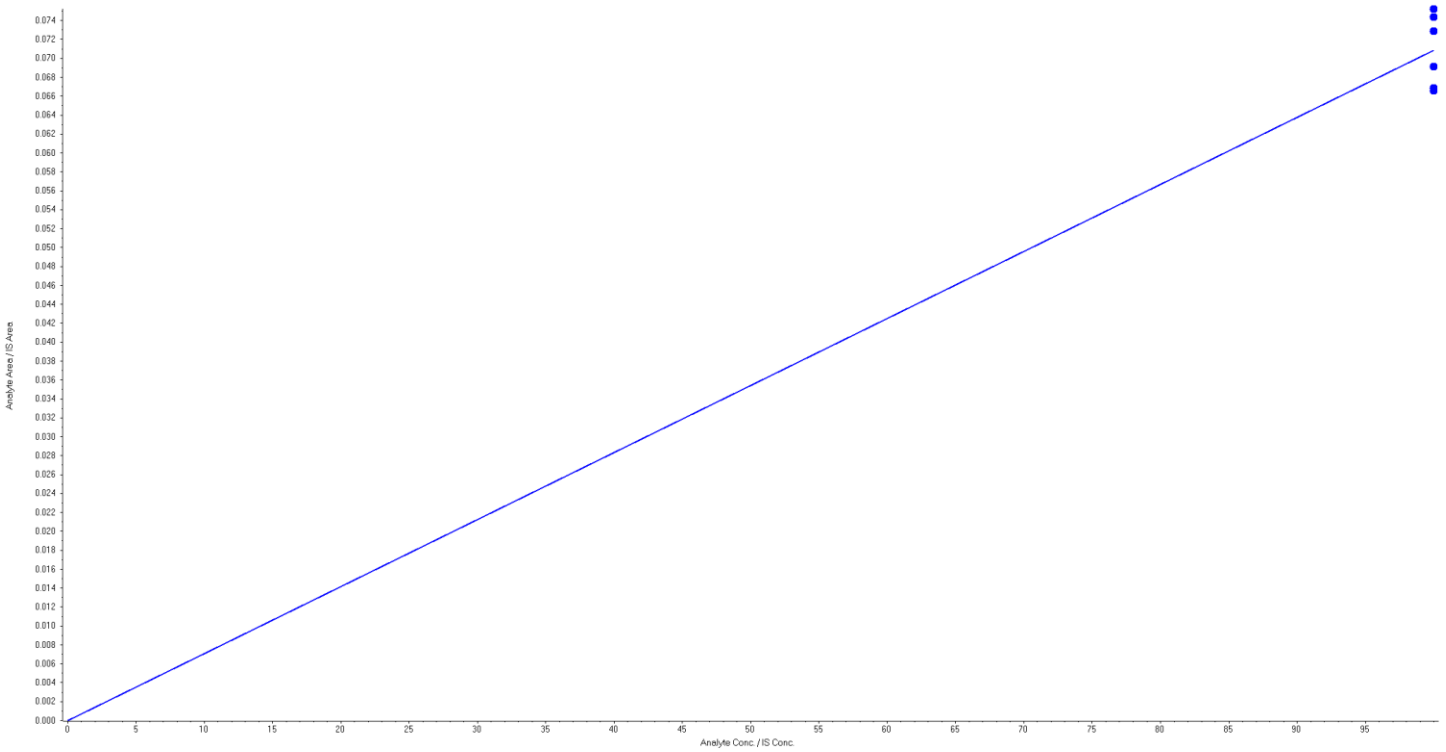


Analyte Name: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.000708 x (r = 0.9988)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

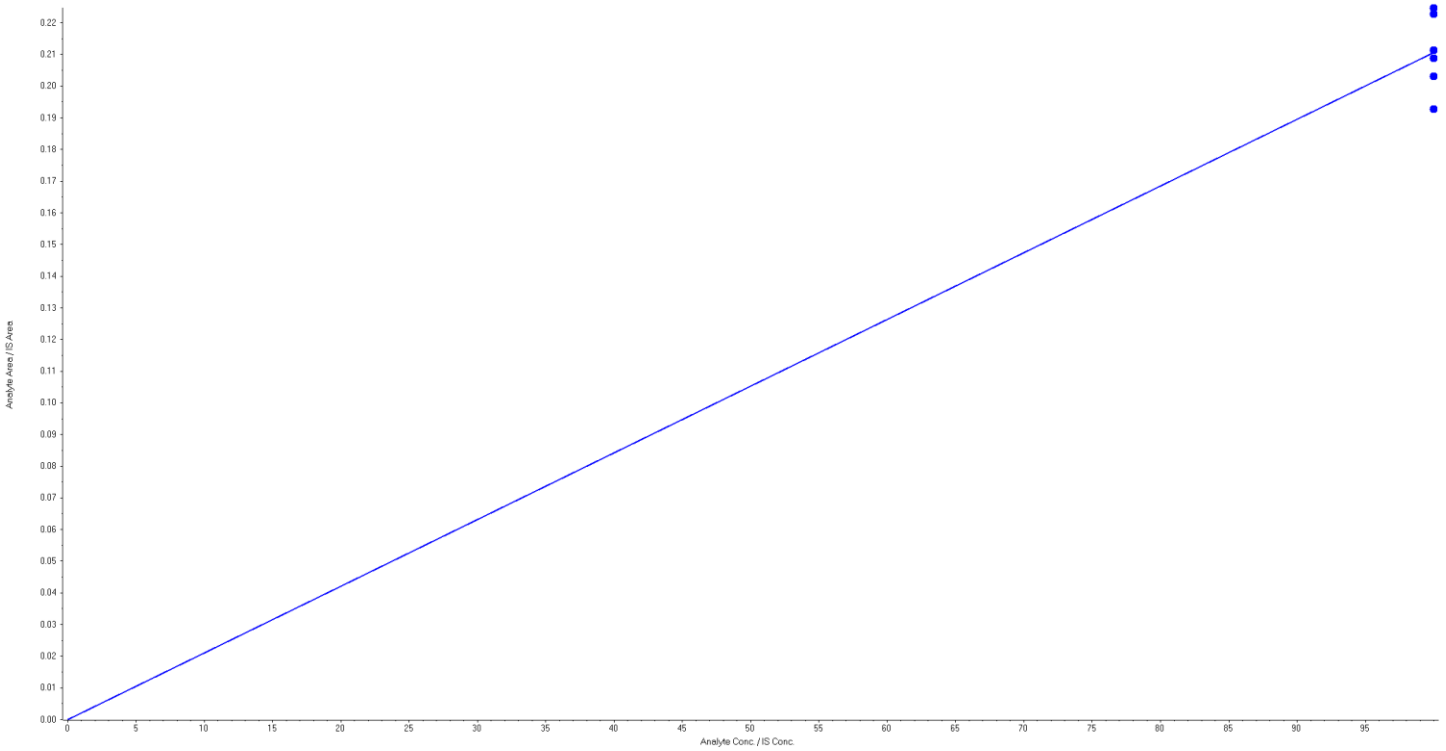


Analyte Name: 13C4-PFHpA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00211 x (r = 0.9986)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

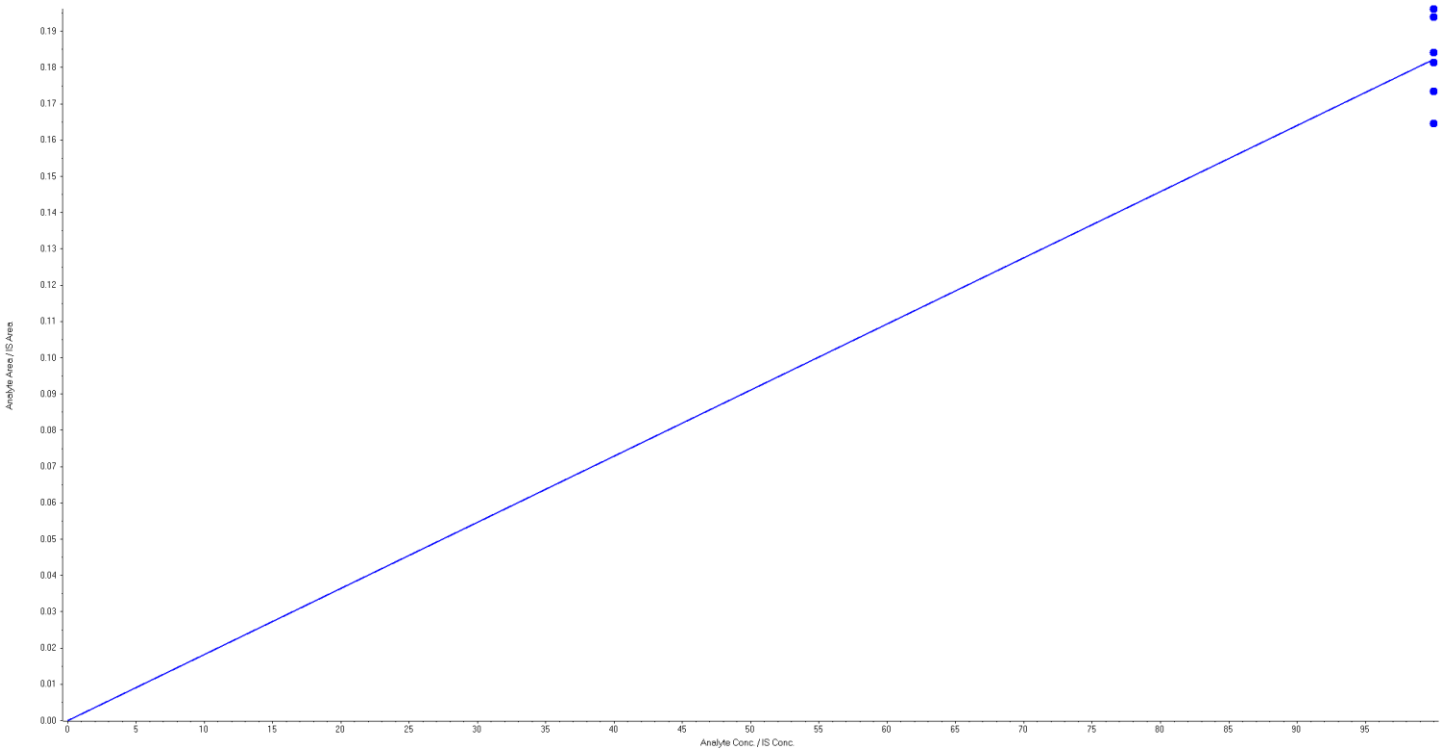


Analyte Name: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00182 x (r = 0.9982)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

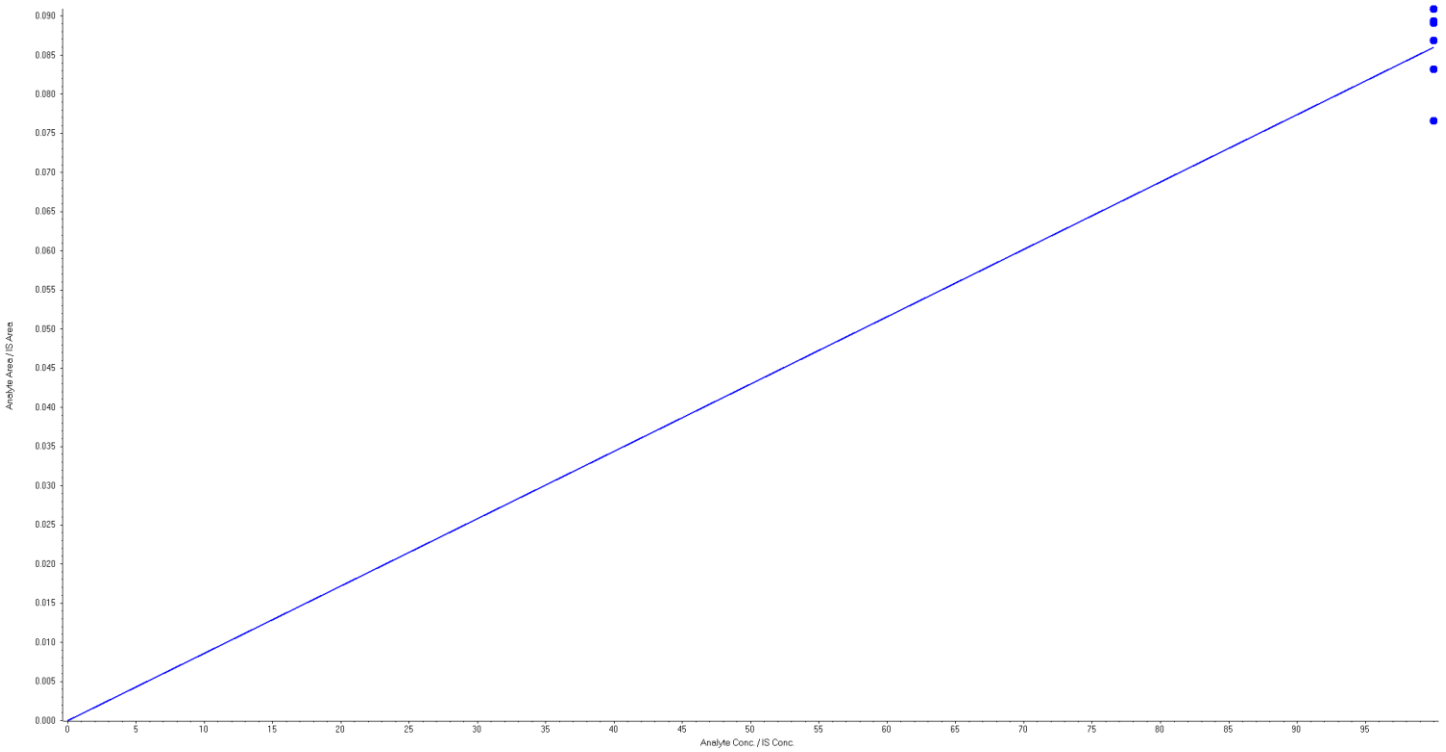


Analyte Name: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00086 x (r = 0.9984)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

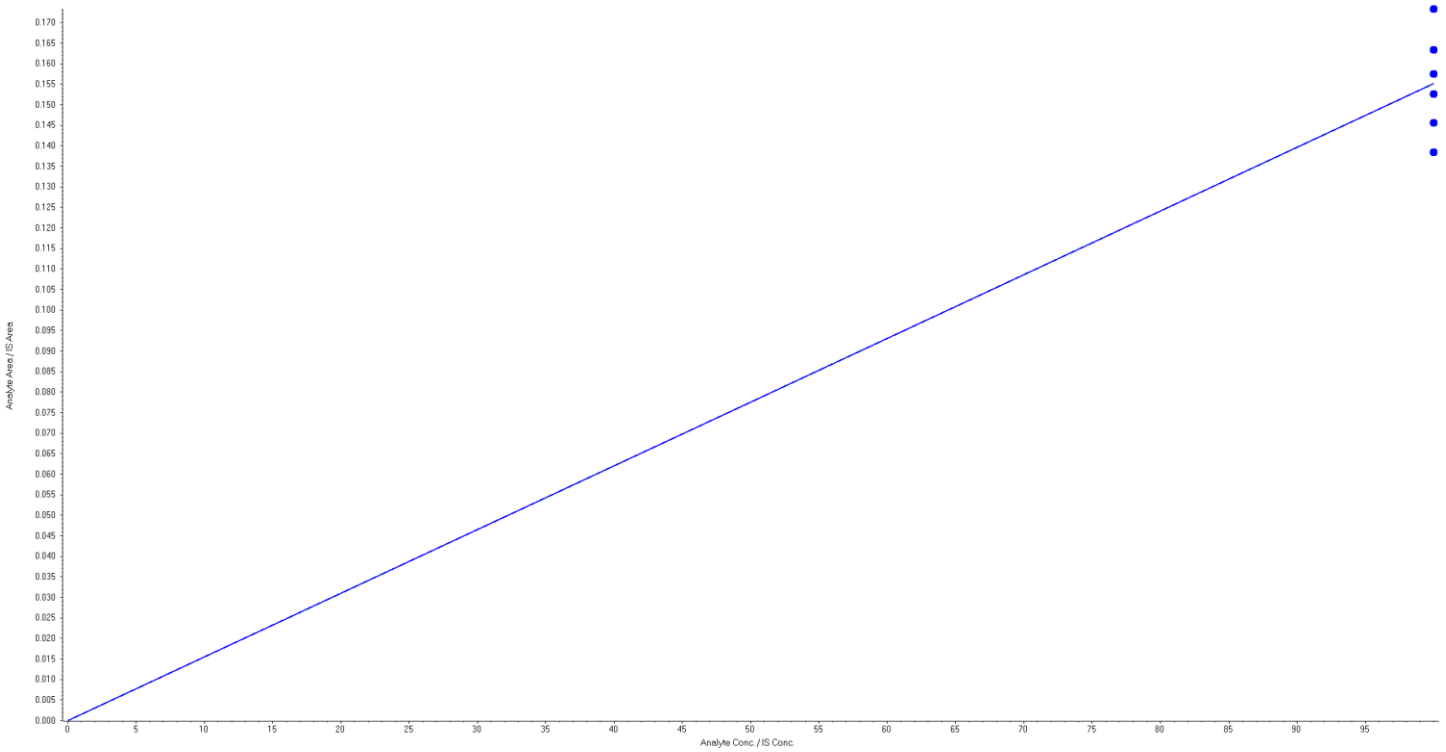


Analyte Name: 13C5-PFNA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160222\WS#4389346.wiff	**Result Table**	PFC_Water_160222_4389346_ULow.rdb
Acquisition Date	2016/02/22 11:40:54 PM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00155 x (r = 0.9973)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

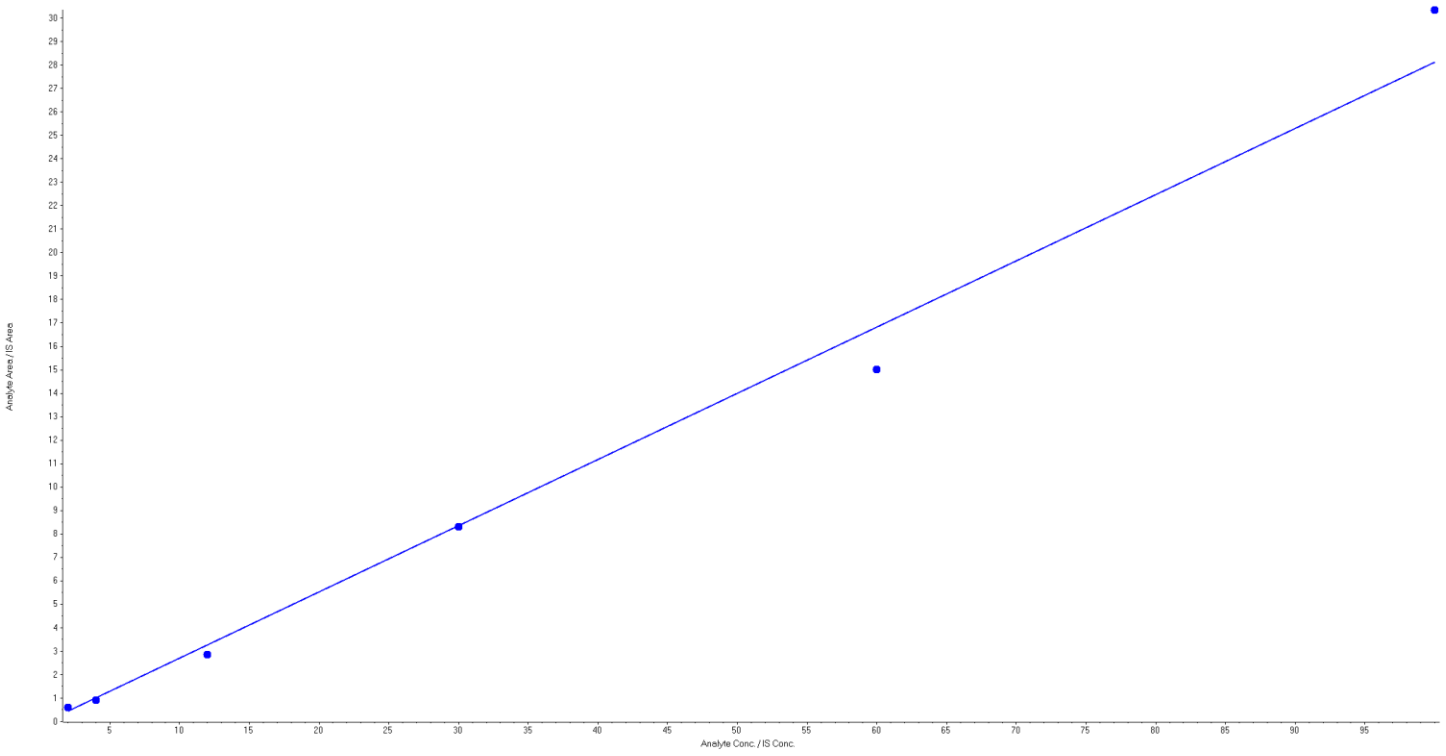


Analyte Name: PFBS 1
Internal Standard: MPFHxS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.282 x + -0.119 (r = 0.9951)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.50	124.9
4	1	3.62	90.5
12	1	10.54	87.8
30	1	29.86	99.5
60	1	53.60	89.3
100	1	107.88	107.9

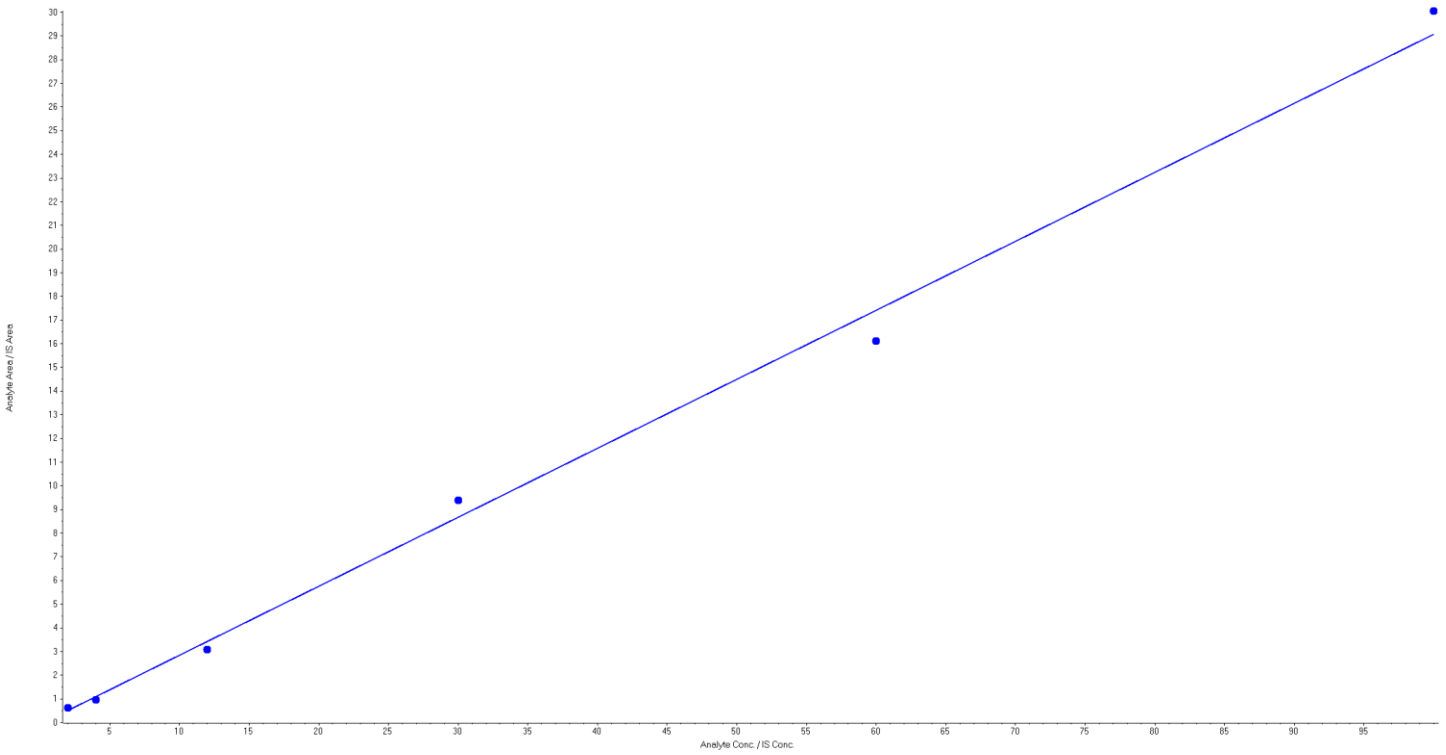


Analyte Name: PFHxS 1
Internal Standard: MPFHxS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.291 x + -0.0719 (r = 0.9974)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.37	118.7
4	1	3.50	87.5
12	1	10.78	89.9
30	1	32.41	108.0
60	1	55.56	92.6
100	1	103.37	103.4

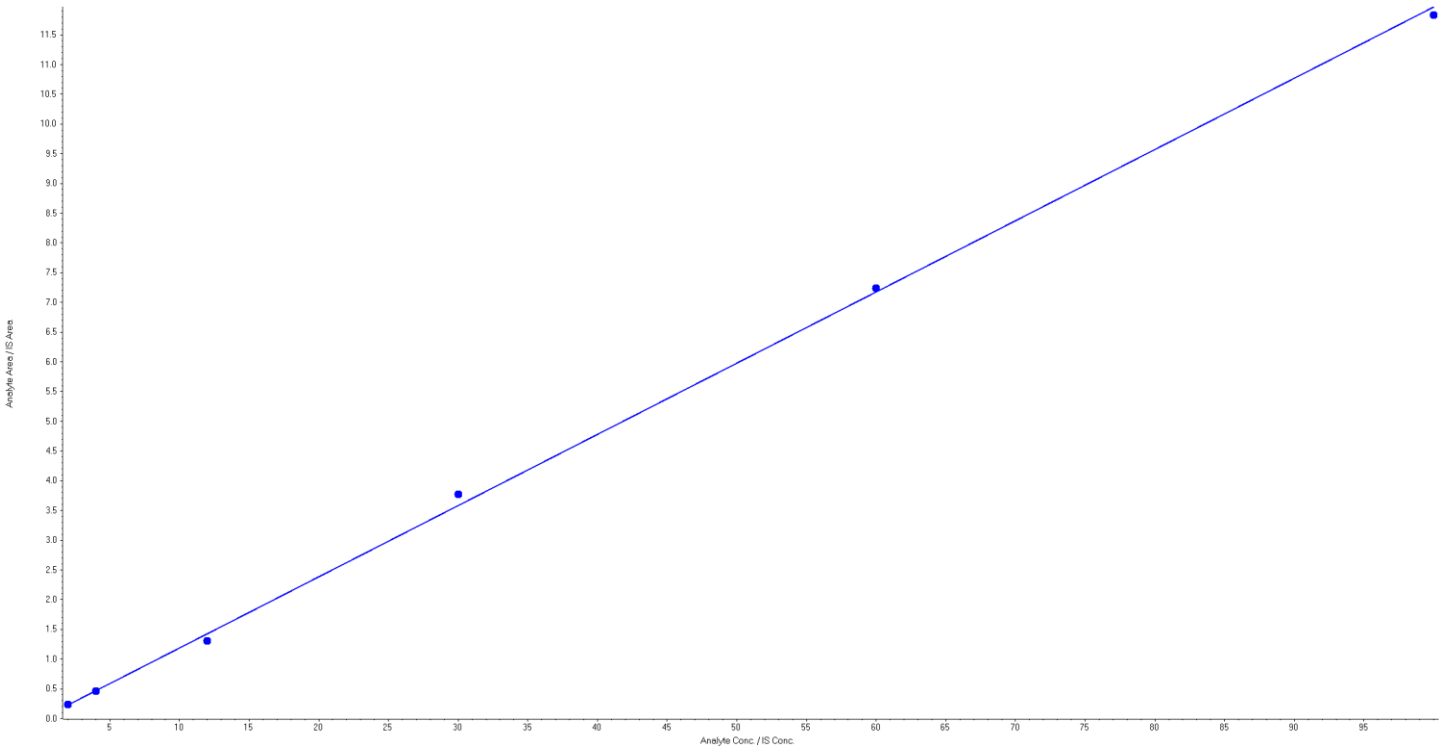


Analyte Name: PFHpA 1
Internal Standard: MPFHpA

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.12 x + -0.0118 (r = 0.9994)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.07	103.6
4	1	3.99	99.7
12	1	11.00	91.7
30	1	31.59	105.3
60	1	60.49	100.8
100	1	98.86	98.9

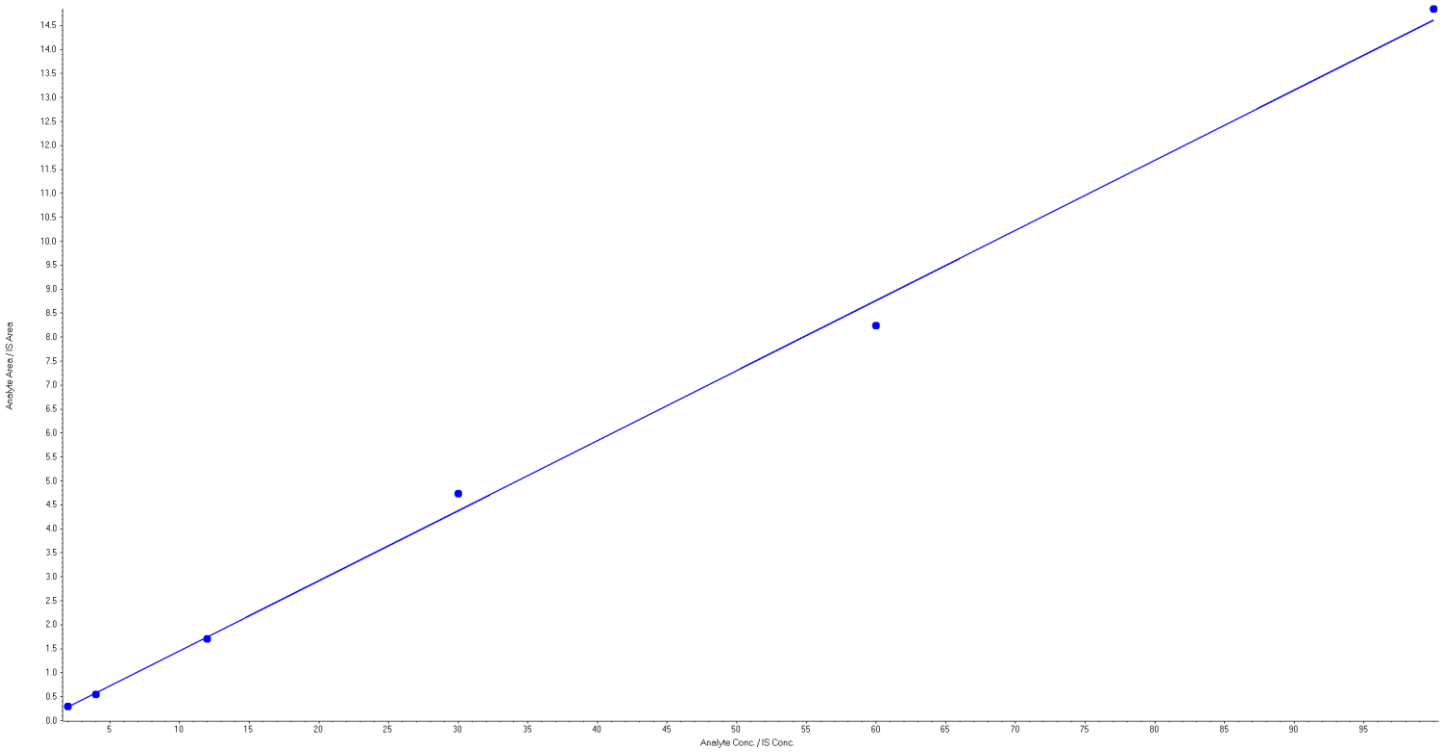


Analyte Name: PFOA 1
Internal Standard: MPFOA

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.146 x + -0.00972 (r = 0.9986)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.10	105.0
4	1	3.75	93.8
12	1	11.67	97.3
30	1	32.48	108.3
60	1	56.42	94.0
100	1	101.57	101.6

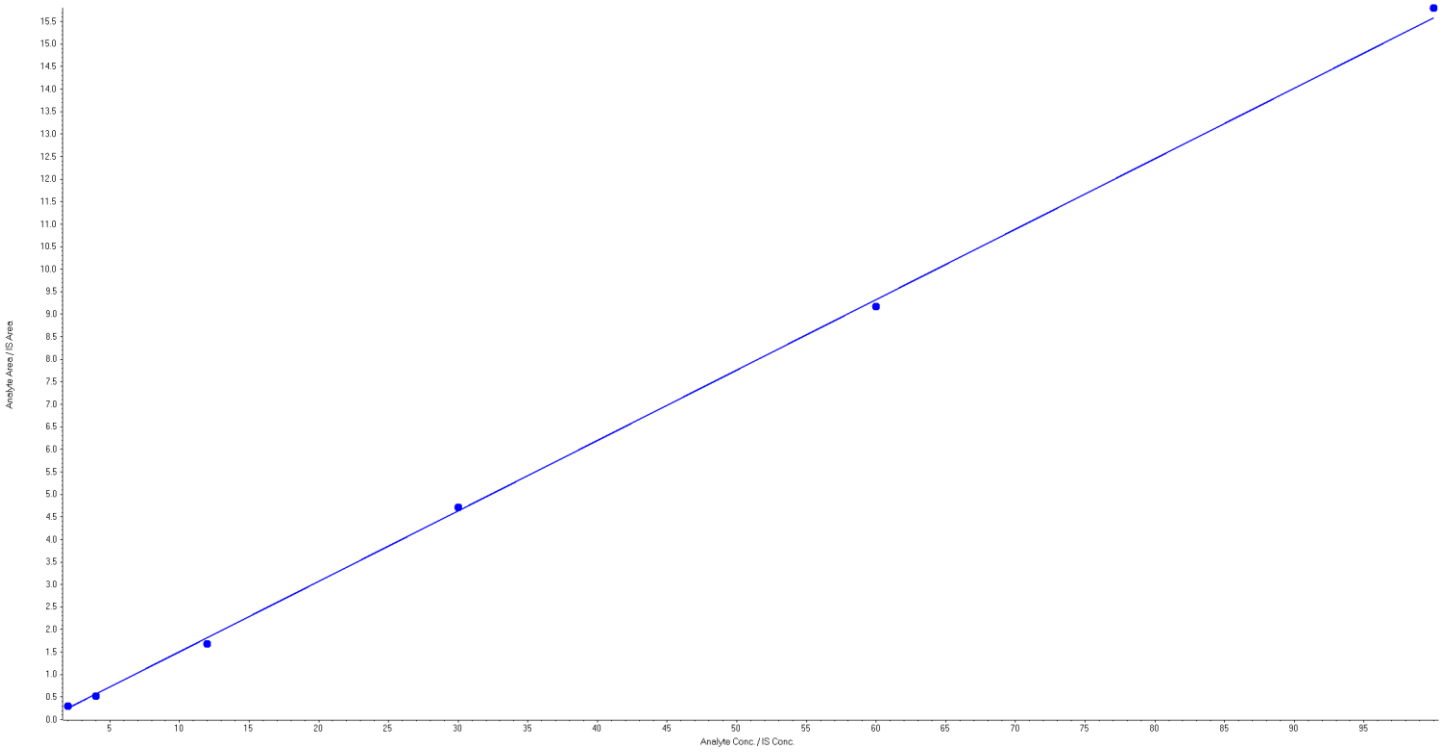


Analyte Name: PFOS 1
Internal Standard: MPFOS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.156 x + -0.0591 (r = 0.9995)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.26	112.9
4	1	3.72	93.0
12	1	11.12	92.6
30	1	30.50	101.7
60	1	59.01	98.4
100	1	101.39	101.4

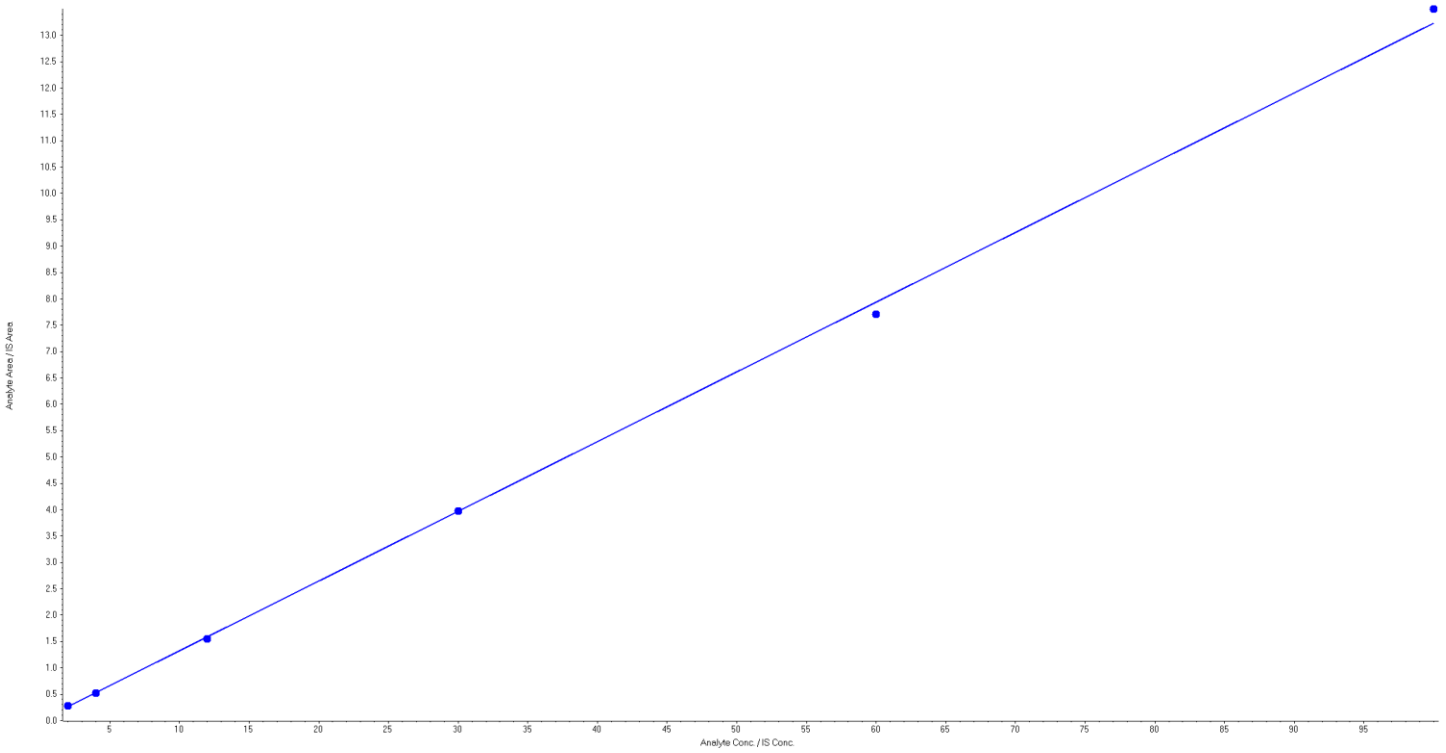


Analyte Name: PFNA 1
Internal Standard: MPFNA

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.132 x + 0.000931 (r = 0.9997)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2	1	2.08	104.1
4	1	3.97	99.3
12	1	11.72	97.7
30	1	29.99	100.0
60	1	58.21	97.0
100	1	102.03	102.0

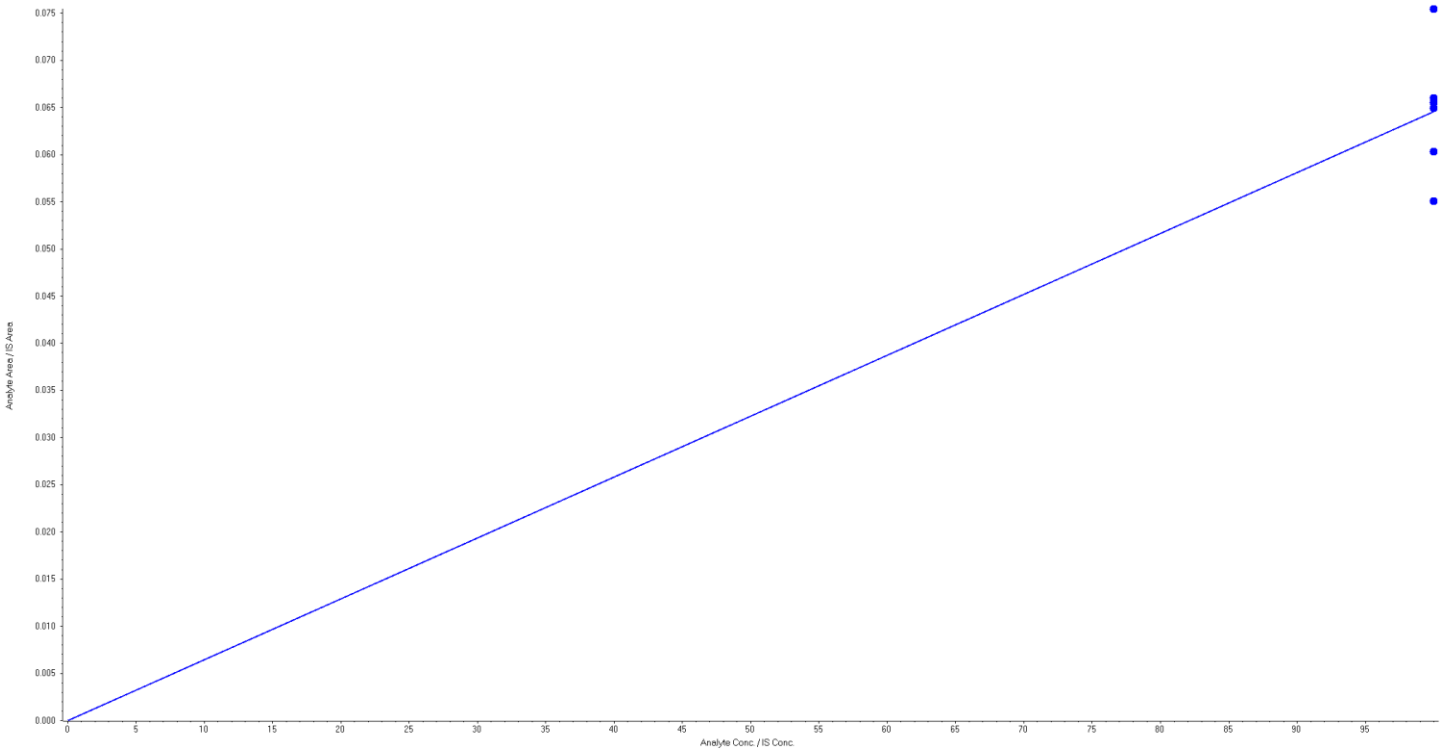


Analyte Name: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.000646 x (r = 0.9954)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

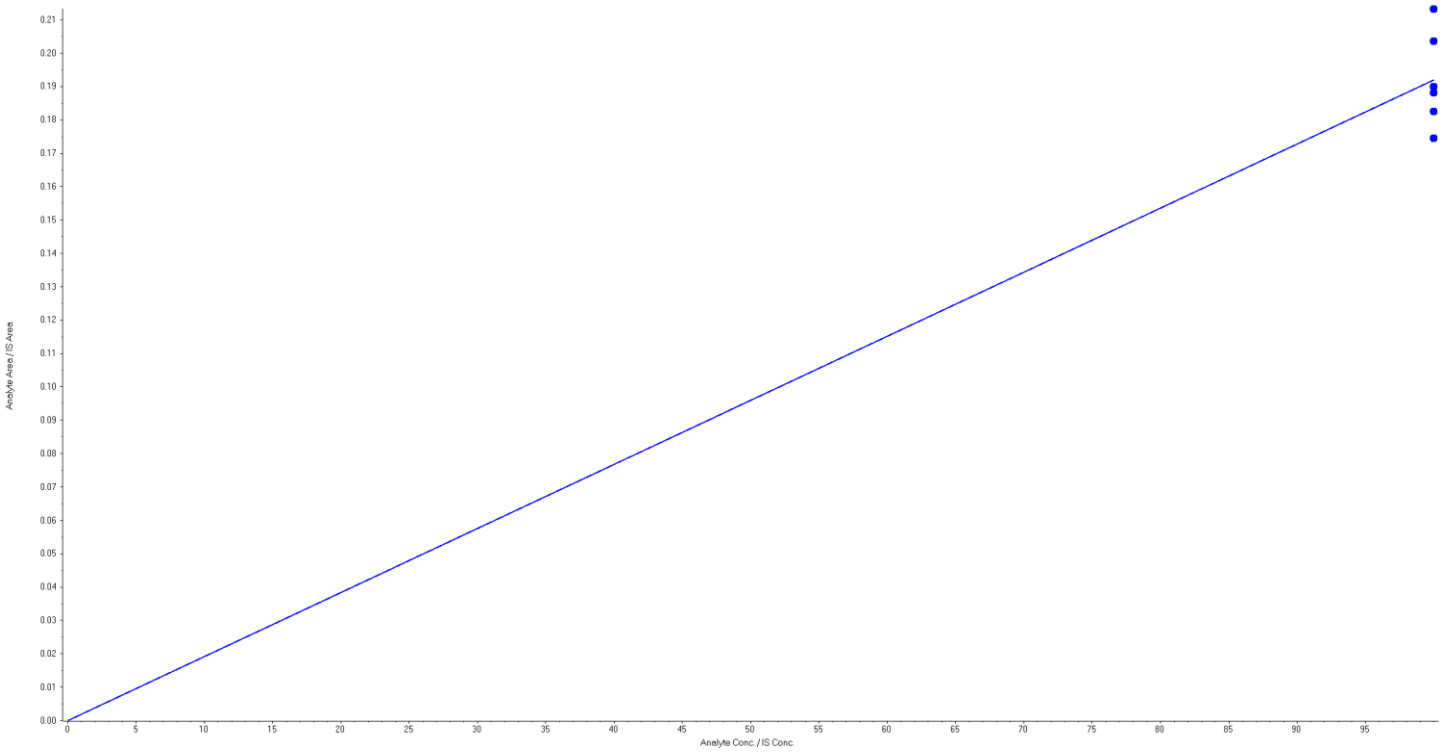


Analyte Name: 13C4-PFHpA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00192 x (r = 0.9977)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

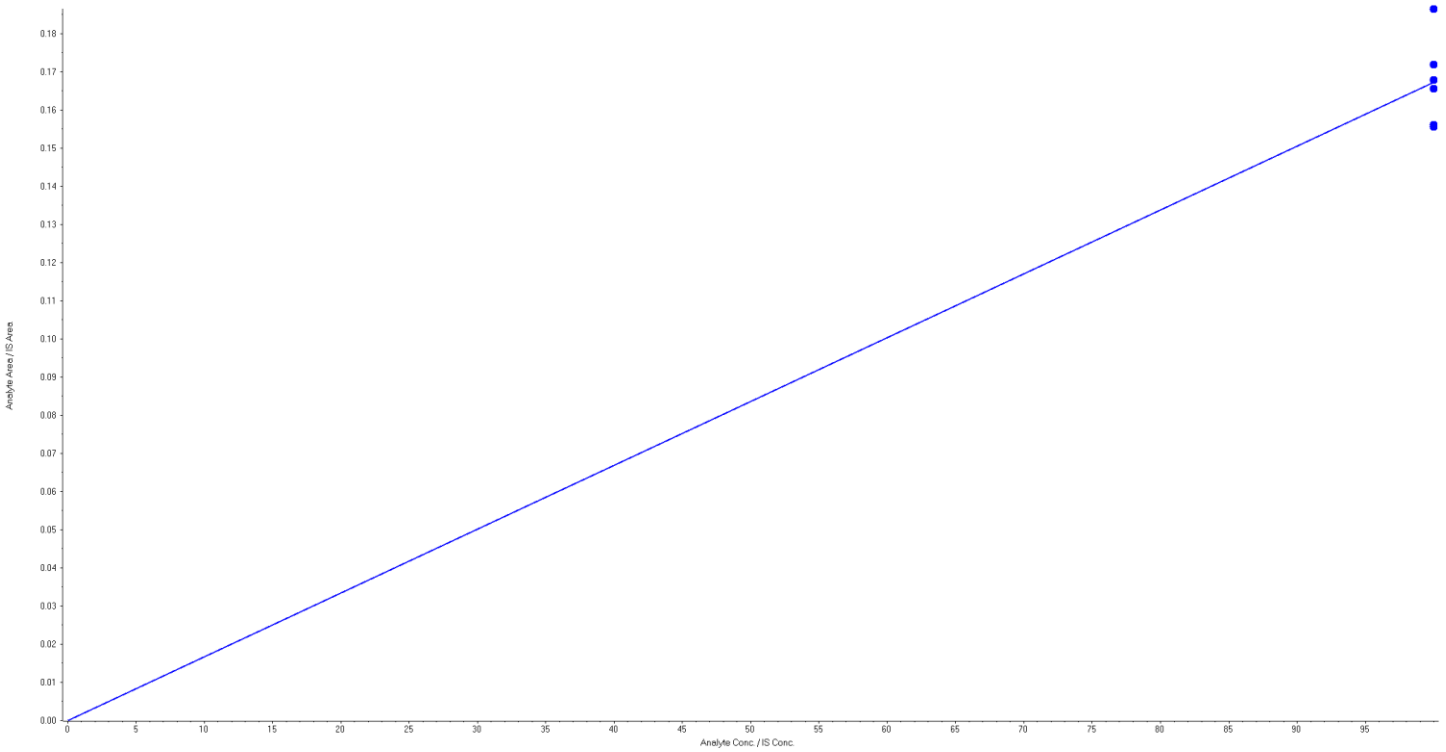


Analyte Name: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00167 x (r = 0.9981)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

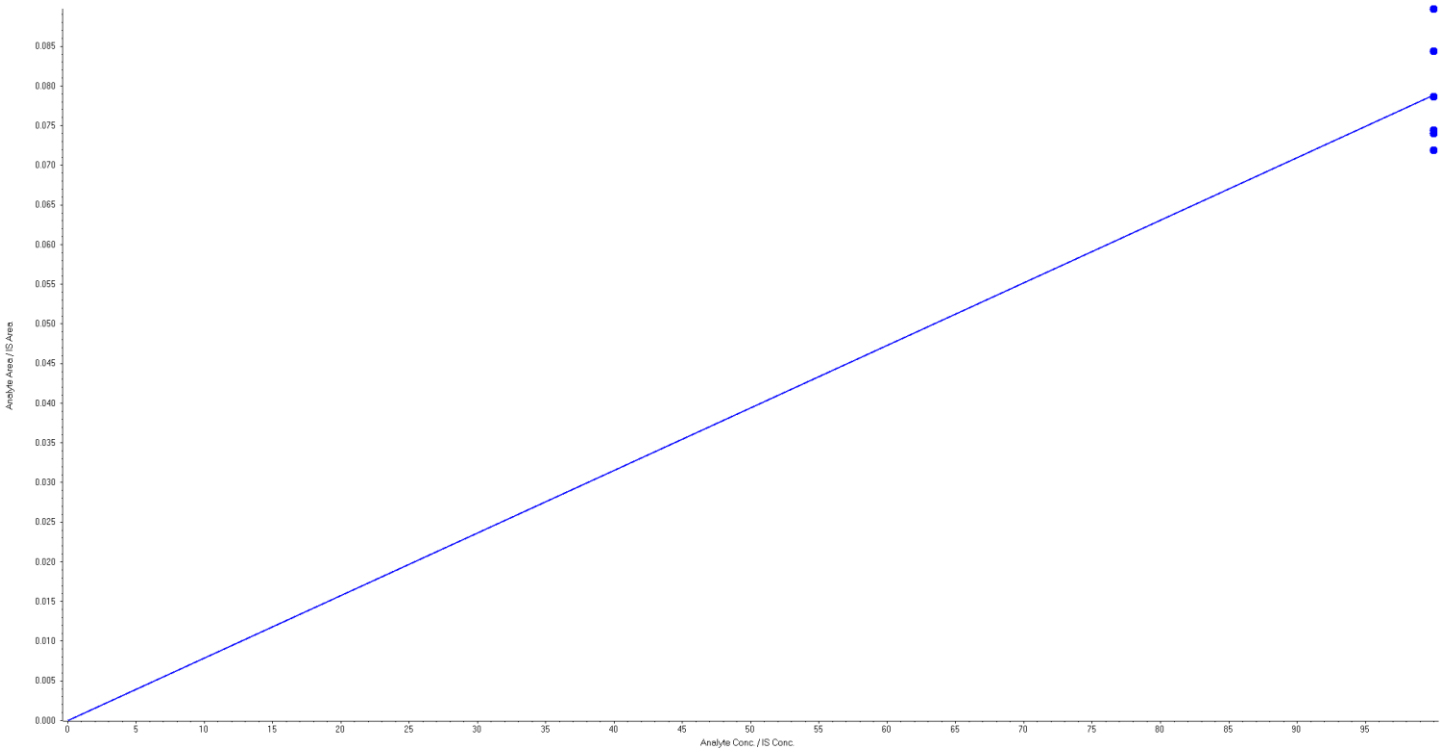


Analyte Name: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.000788 x (r = 0.9968)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0

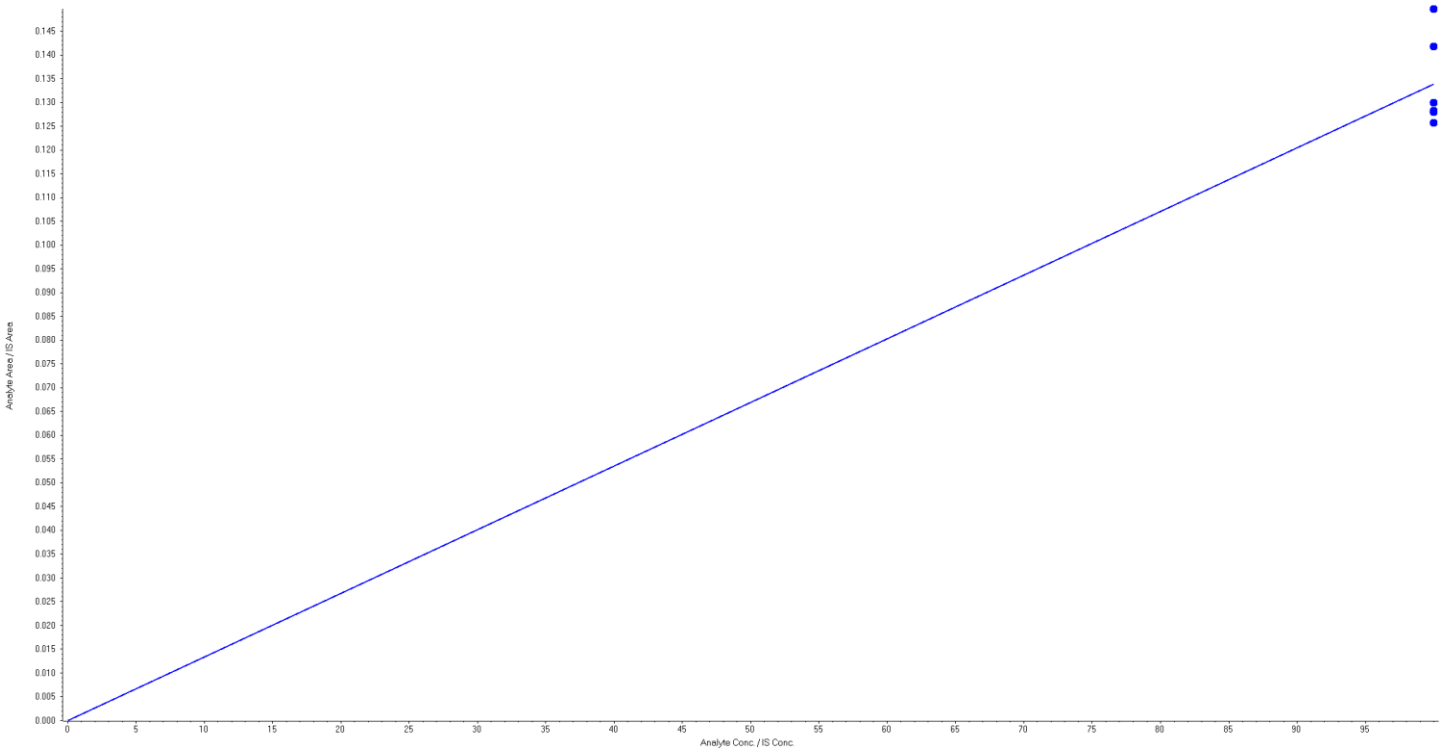


Analyte Name: 13C5-PFNA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160226\WS#4394558.wiff	**Result Table**	PFC_Water_160226_4394558_ULow_6.rdb
Acquisition Date	2016/02/29 8:55:42 AM	**Project**	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	**Instrument Name**	LCMS03

Regression Equation: y = 0.00134 x (r = 0.9979)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
100	6	100.00	100.0



6. Continuing Calibration

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

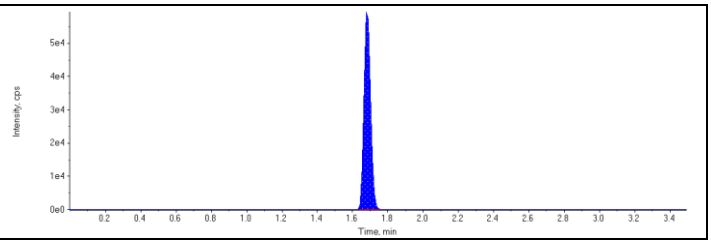
Sample Name	**CCV**	**Injection Vial**	5
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 12:21:38 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	156000.	1.68	1.00	-
MPFHpA	494000.	1.70	1.00	-
MPFOA	435000.	1.88	1.00	-
MPFOS	198000.	1.97	1.00	-
MPFNA	358000.	2.02	1.00	-
13C6-PFHxA IS	2290000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1380000	1.11	30.0	30.4	101.0
PFHxS 1	1480000	1.68	30.0	31.9	106.0
PFHpA 1	1960000	1.70	30.0	31.2	104.0
PFOA 1	1950000	1.88	30.0	30.0	100.0
PFOS 1	1040000	1.97	30.0	30.3	101.0
PFNA 1	1530000	2.02	30.0	30.1	100.0
18O2-PFHxS	156000	1.68	100.	96.0	96.0
13C4-PFHpA	494000	1.70	100.	103.	103.0
13C4-PFOA	435000	1.88	100.	104.	104.0
13C4-PFOS	198000	1.97	100.	101.	101.0
13C5-PFNA	358000	2.02	100.	101.	101.0
13C6-PFHxA	2290000	1.43	100.	99.8	99.8

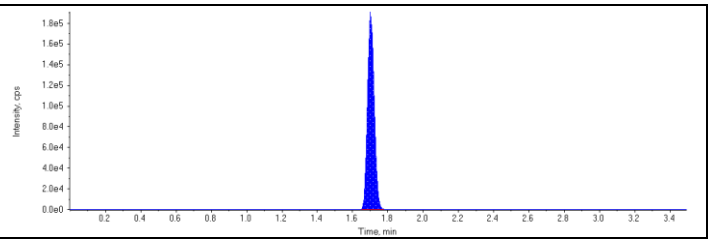
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



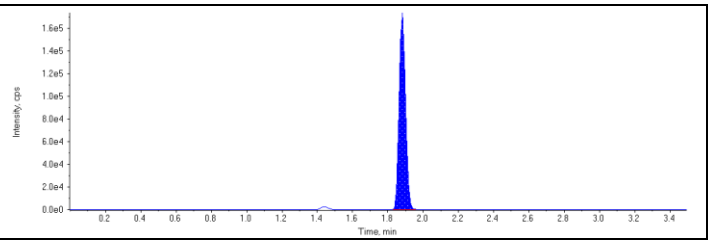
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



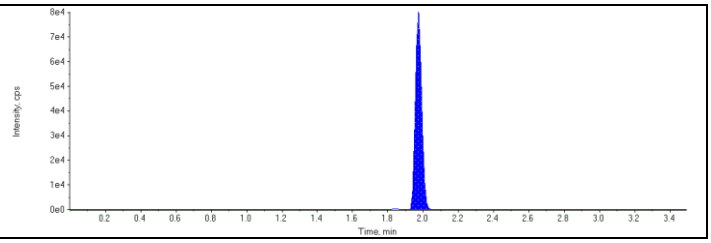
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



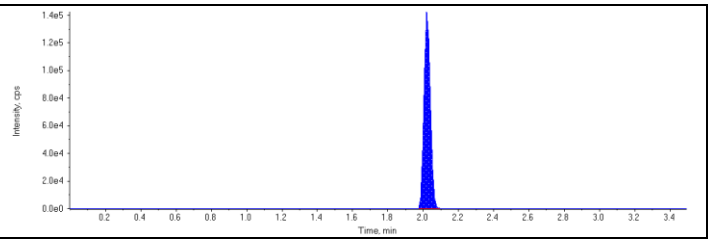
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



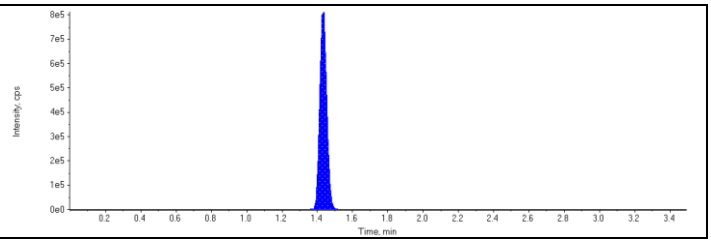
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

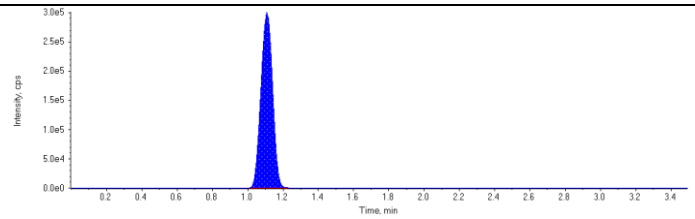
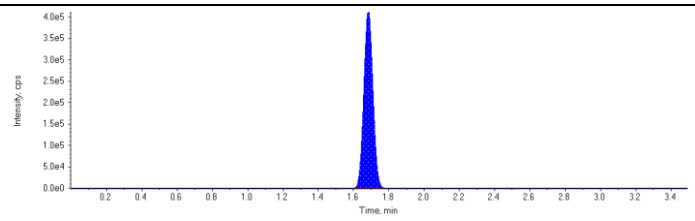
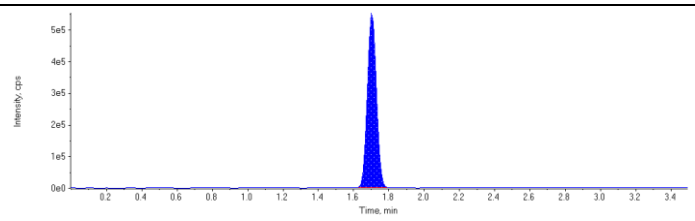
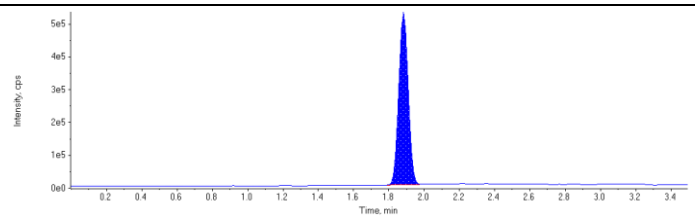
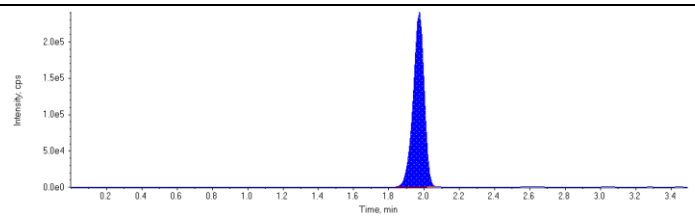
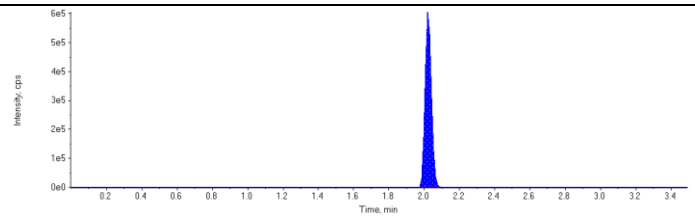
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

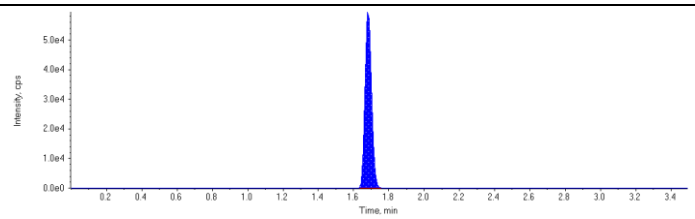
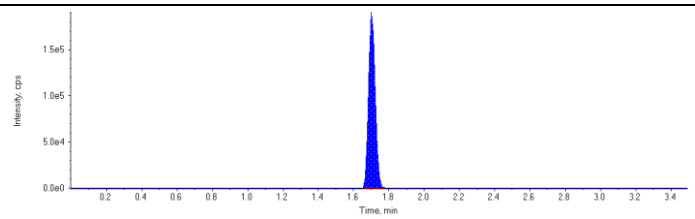
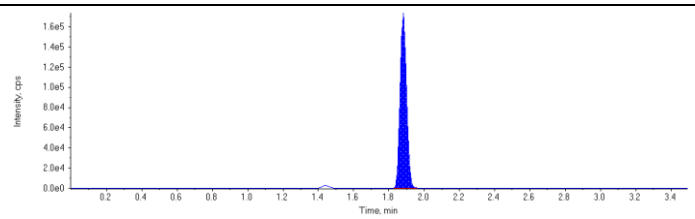
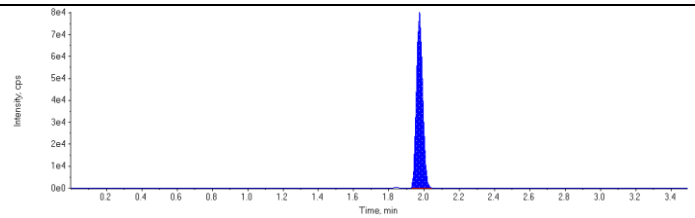
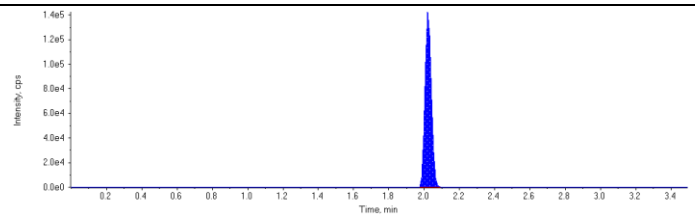
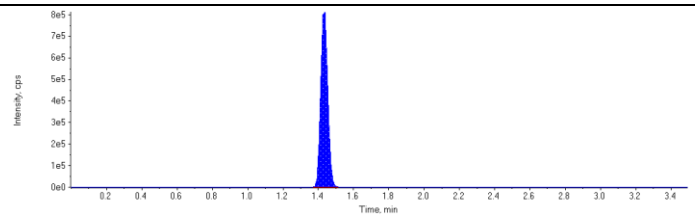


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.11 (1.15) min Calculated Conc: 30.4 ng/L Area Ratio: 8.86 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 31.9 ng/L Area Ratio: 9.53 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 31.2 ng/L Area Ratio: 3.97 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 30.0 ng/L Area Ratio: 4.48 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 30.3 ng/L Area Ratio: 5.25 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 30.1 ng/L Area Ratio: 4.26 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 96.0 ng/L Area Ratio: 0.0680 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 103. ng/L Area Ratio: 0.216 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 104. ng/L Area Ratio: 0.190 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 101. ng/L Area Ratio: 0.0866 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 101. ng/L Area Ratio: 0.157 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 99.8 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

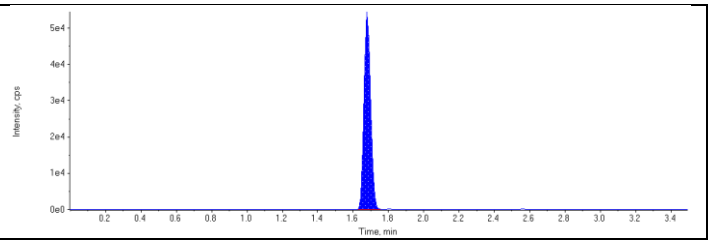
Sample Name	**CCV**	**Injection Vial**	5
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 1:32:56 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	140000.	1.68	1.00	-
MPFHpA	426000.	1.70	1.00	-
MPFOA	386000.	1.88	1.00	-
MPFOS	191000.	1.97	1.00	-
MPFNA	327000.	2.02	1.00	-
13C6-PFHxA IS	2030000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1190000	1.11	30.0	29.2	97.2
PFHxS 1	1320000	1.68	30.0	31.4	105.0
PFHpA 1	1670000	1.70	30.0	30.8	103.0
PFOA 1	1790000	1.88	30.0	31.1	104.0
PFOS 1	930000	1.97	30.0	28.1	93.6
PFNA 1	1400000	2.02	30.0	30.4	101.0
18O2-PFHxS	140000	1.68	100.	97.4	97.4
13C4-PFHpA	426000	1.70	100.	99.4	99.4
13C4-PFOA	386000	1.88	100.	104.	104.0
13C4-PFOS	191000	1.97	100.	109.	109.0
13C5-PFNA	327000	2.02	100.	104.	104.0
13C6-PFHxA	2030000	1.43	100.	88.7	88.7

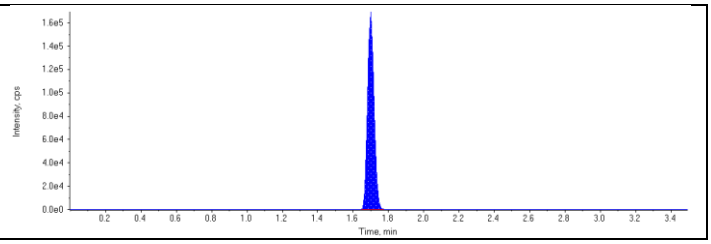
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



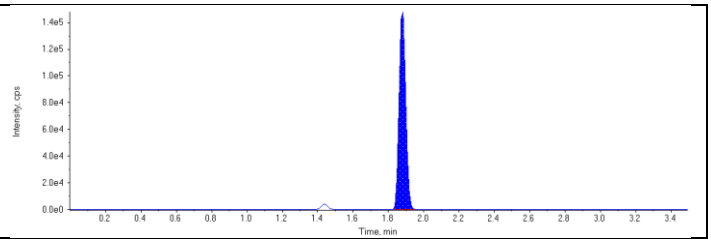
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



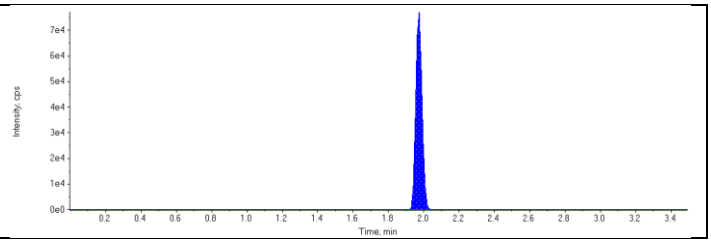
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



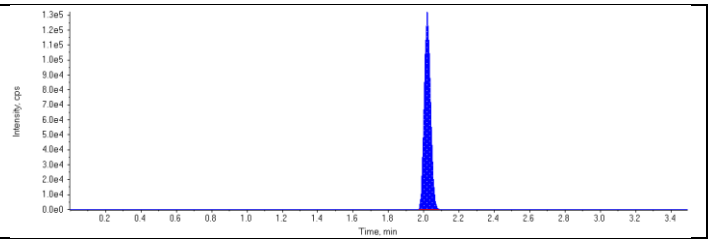
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



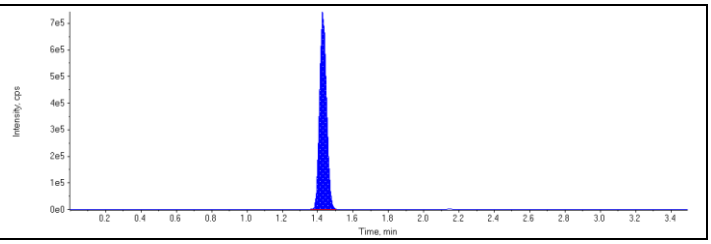
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

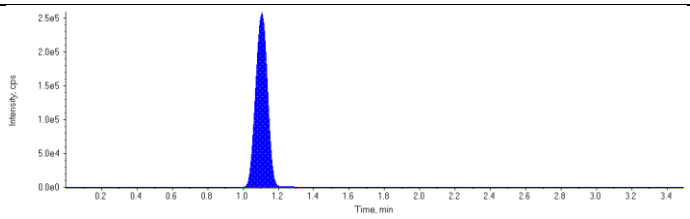
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.11 (1.15) min

Calculated Conc: 29.2 ng/L

Area Ratio: 8.48

Sample Type: (Quality Control)



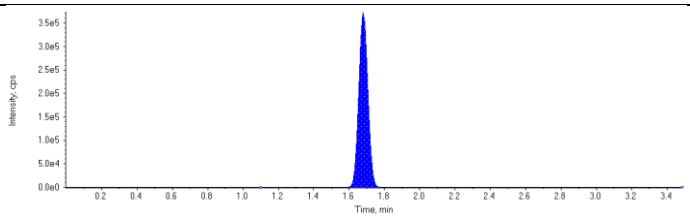
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 31.4 ng/L

Area Ratio: 9.38

Sample Type: (Quality Control)



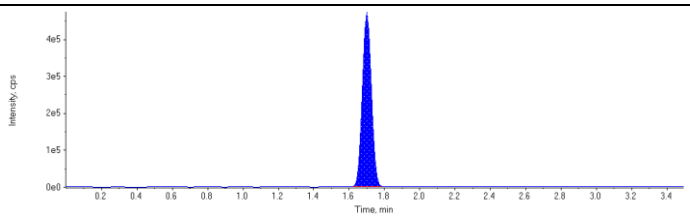
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.70 (1.75) min

Calculated Conc: 30.8 ng/L

Area Ratio: 3.93

Sample Type: (Quality Control)



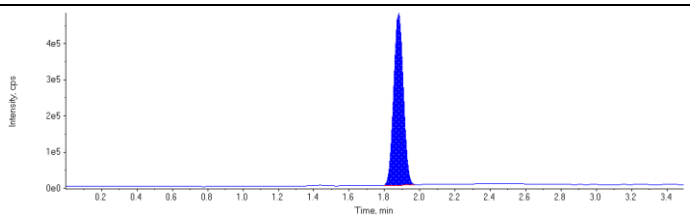
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.88 (1.92) min

Calculated Conc: 31.1 ng/L

Area Ratio: 4.65

Sample Type: (Quality Control)



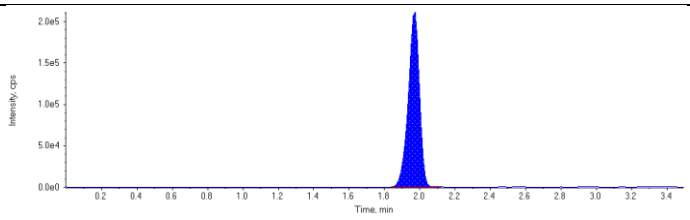
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 28.1 ng/L

Area Ratio: 4.86

Sample Type: (Quality Control)



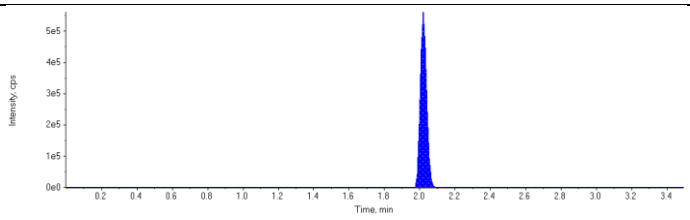
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 30.4 ng/L

Area Ratio: 4.29

Sample Type: (Quality Control)



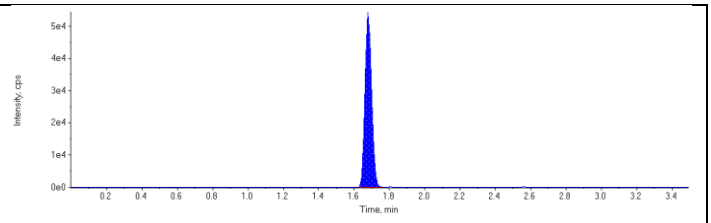
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 97.4 ng/L

Area Ratio: 0.0690

Sample Type: (Quality Control)



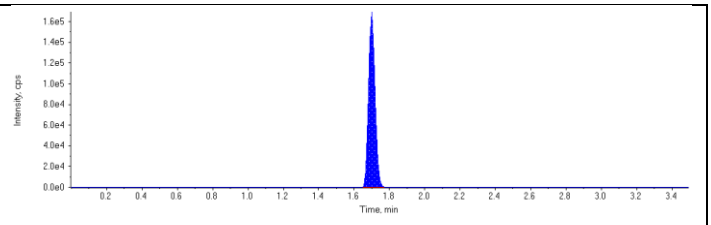
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.70 (1.75) min

Calculated Conc: 99.4 ng/L

Area Ratio: 0.209

Sample Type: (Quality Control)



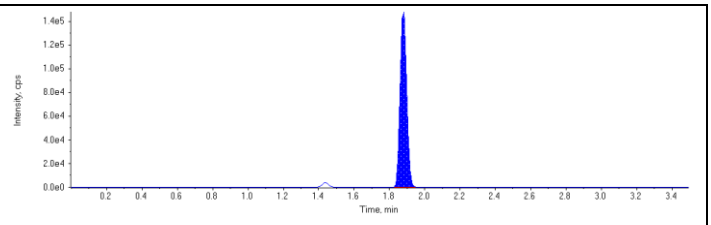
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.88 (1.88) min

Calculated Conc: 104. ng/L

Area Ratio: 0.190

Sample Type: (Quality Control)



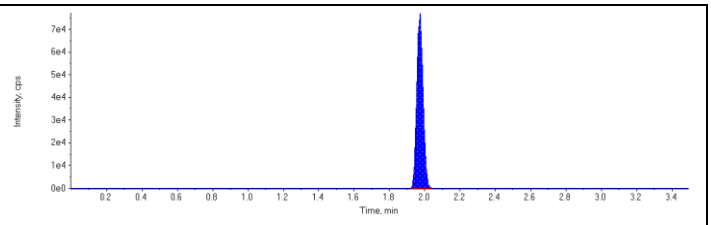
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 109. ng/L

Area Ratio: 0.0941

Sample Type: (Quality Control)



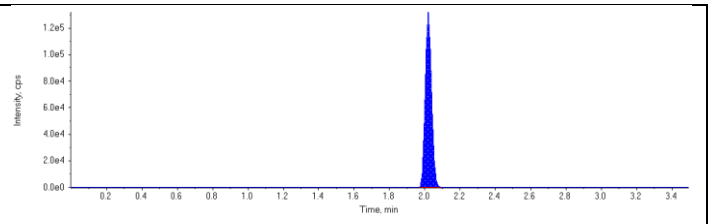
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 104. ng/L

Area Ratio: 0.161

Sample Type: (Quality Control)



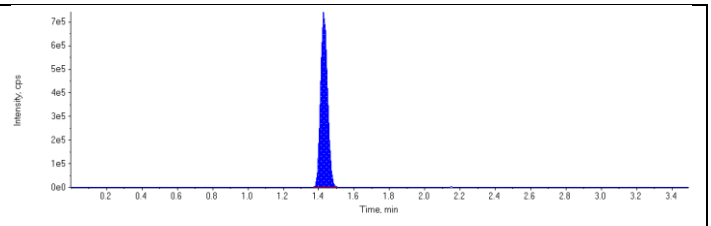
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.43 (1.42) min

Calculated Conc: 88.7 ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



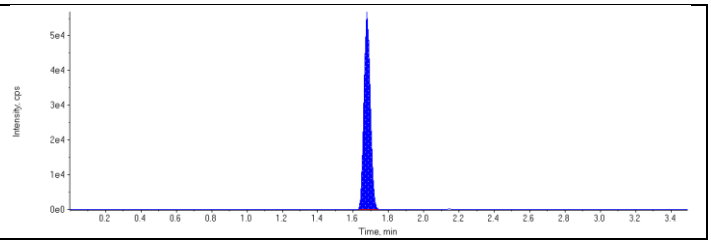
Sample Name	**CCV**	**Injection Vial**	5
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 2:03:30 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	141000.	1.68	1.00	-
MPFHpA	411000.	1.70	1.00	-
MPFOA	393000.	1.88	1.00	-
MPFOS	197000.	1.97	1.00	-
MPFNA	331000.	2.02	1.00	-
13C6-PFHxA IS	2140000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1180000	1.10	30.0	28.7	95.8
PFHxS 1	1310000	1.68	30.0	31.2	104.0
PFHpA 1	1760000	1.70	30.0	33.6	112.0
PFOA 1	1750000	1.88	30.0	29.8	99.5
PFOS 1	924000	1.97	30.0	27.1	90.2
PFNA 1	1480000	2.02	30.0	31.7	106.0
18O2-PFHxS	141000	1.68	100.	92.6	92.6
13C4-PFHpA	411000	1.70	100.	91.0	91.0
13C4-PFOA	393000	1.88	100.	101.	101.0
13C4-PFOS	197000	1.97	100.	107.	107.0
13C5-PFNA	331000	2.02	100.	99.5	99.5
13C6-PFHxA	2140000	1.43	100.	93.4	93.4

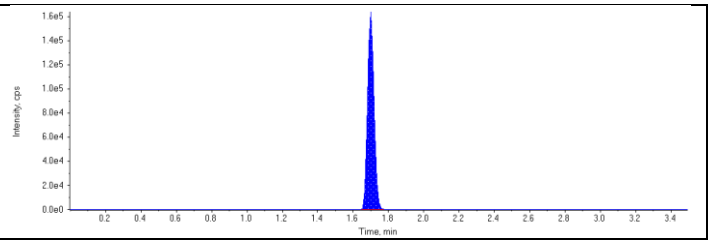
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



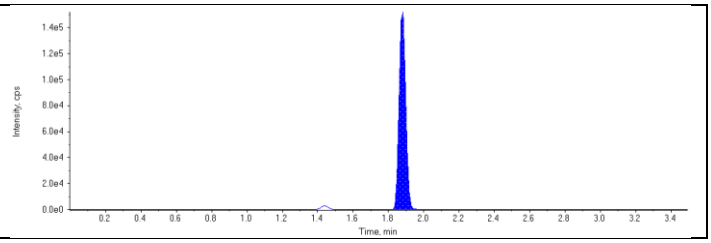
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



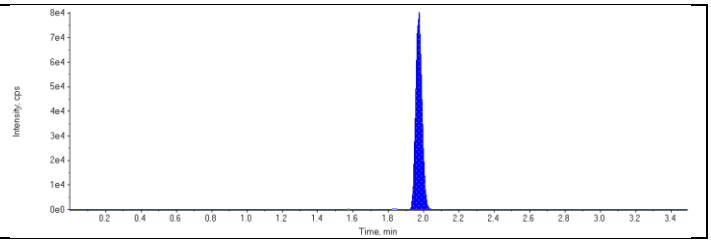
MPFOA (Internal Standard)

RT (Exp. RT): 1.88(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



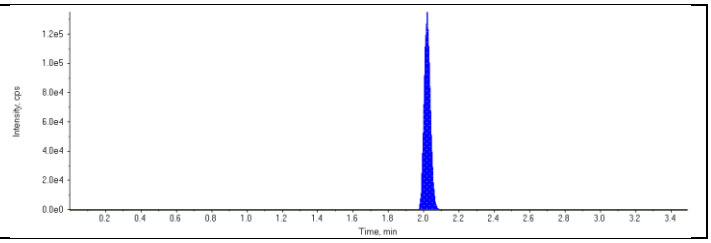
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



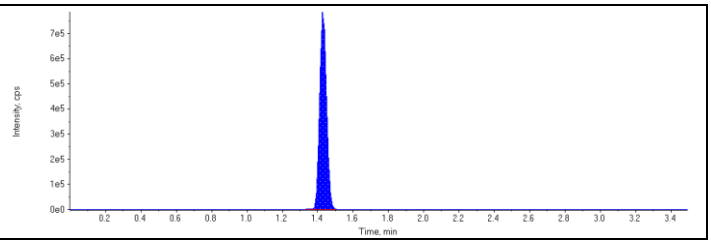
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

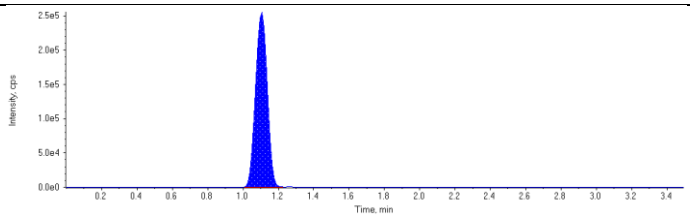
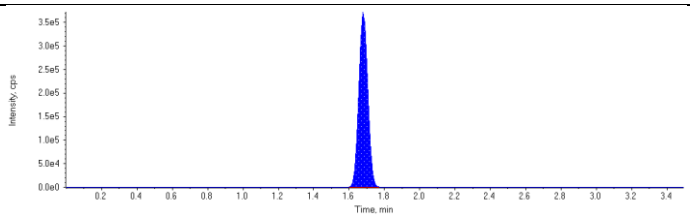
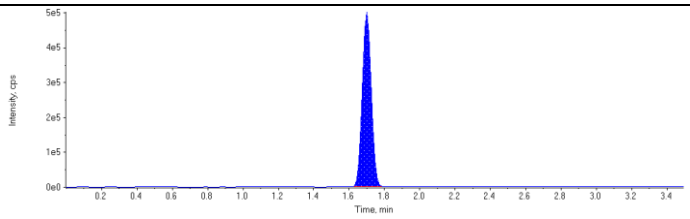
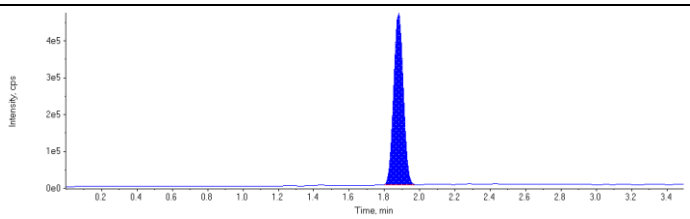
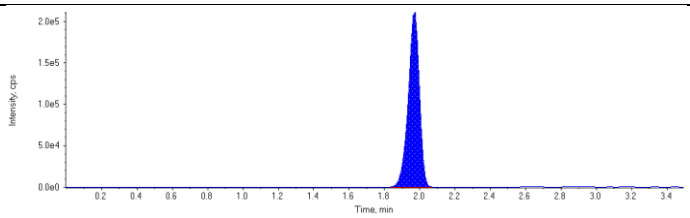
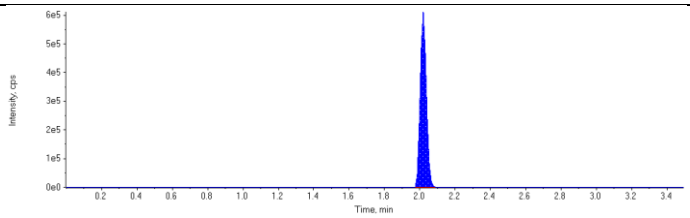
RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

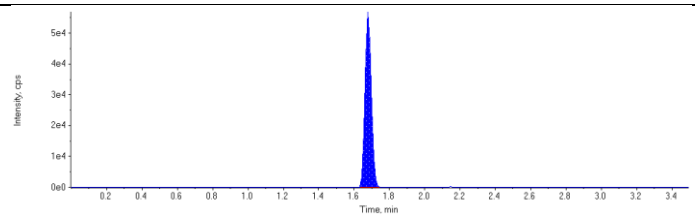
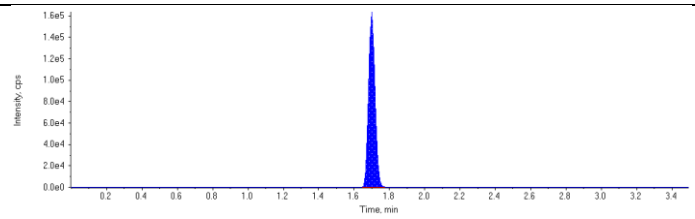
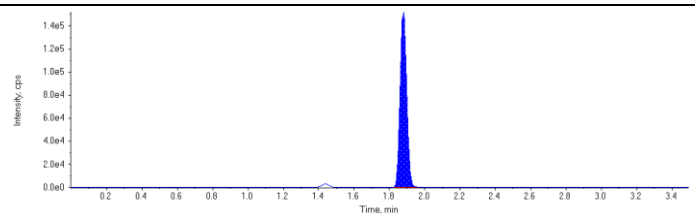
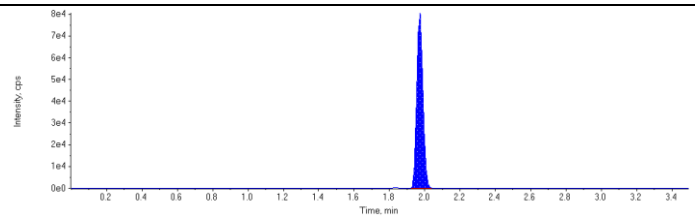
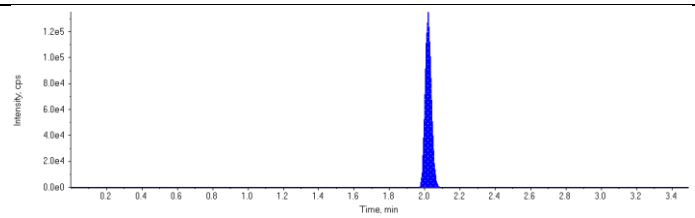
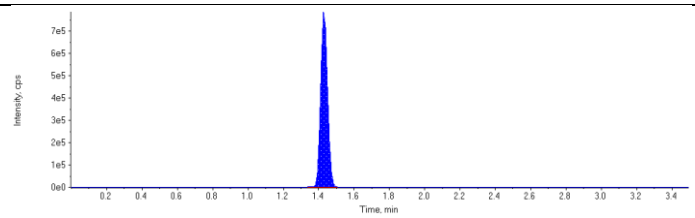


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.15) min Calculated Conc: 28.7 ng/L Area Ratio: 8.36 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 31.2 ng/L Area Ratio: 9.33 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 33.6 ng/L Area Ratio: 4.29 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.88 (1.92) min Calculated Conc: 29.8 ng/L Area Ratio: 4.45 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 27.1 ng/L Area Ratio: 4.68 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 31.7 ng/L Area Ratio: 4.48 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 92.6 ng/L Area Ratio: 0.0656 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 91.0 ng/L Area Ratio: 0.192 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.88 (1.88) min Calculated Conc: 101. ng/L Area Ratio: 0.183 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 107. ng/L Area Ratio: 0.0922 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 99.5 ng/L Area Ratio: 0.154 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 93.4 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

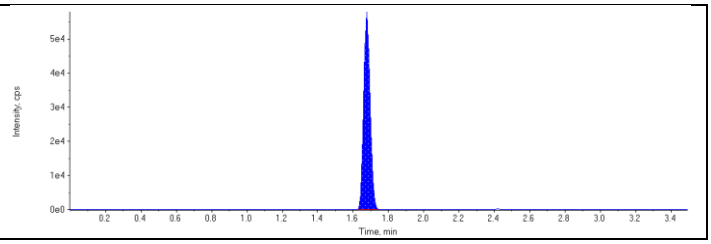
Sample Name	**CCV**	**Injection Vial**	5
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/23 7:50:31 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160222\WS#4389346.wiff		
Result Table	PFC_Water_160222_4389346_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	144000.	1.68	1.00	-
MPFHpA	399000.	1.70	1.00	-
MPFOA	367000.	1.87	1.00	-
MPFOS	181000.	1.97	1.00	-
MPFNA	305000.	2.02	1.00	-
13C6-PFHxA IS	2160000.	1.43	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1170000	1.10	30.0	27.9	93.1
PFHxS 1	1300000	1.68	30.0	30.0	100.0
PFHpA 1	1770000	1.70	30.0	34.8	116.0
PFOA 1	1830000	1.88	30.0	33.5	112.0
PFOS 1	930000	1.97	30.0	29.7	98.9
PFNA 1	1440000	2.02	30.0	33.4	111.0
18O2-PFHxS	144000	1.68	100.	94.2	94.2
13C4-PFHpA	399000	1.70	100.	87.6	87.6
13C4-PFOA	367000	1.87	100.	93.2	93.2
13C4-PFOS	181000	1.97	100.	97.3	97.3
13C5-PFNA	305000	2.02	100.	90.8	90.8
13C6-PFHxA	2160000	1.43	100.	94.3	94.3

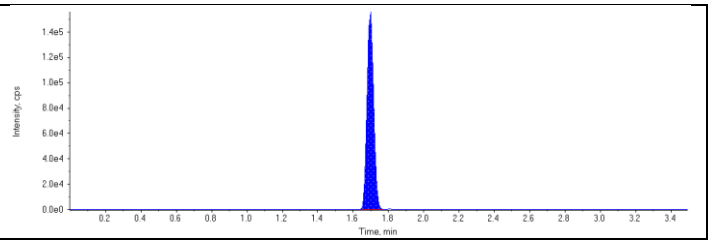
MPFHxS (Internal Standard)

RT (Exp. RT): 1.68(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



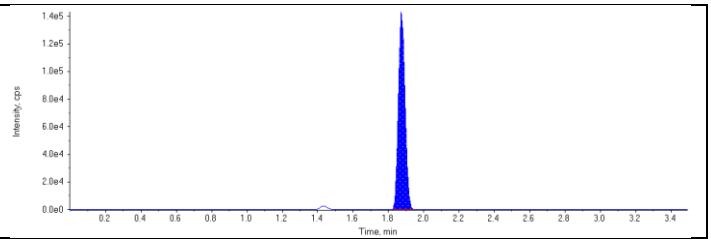
MPFHpA (Internal Standard)

RT (Exp. RT): 1.70(1.75) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



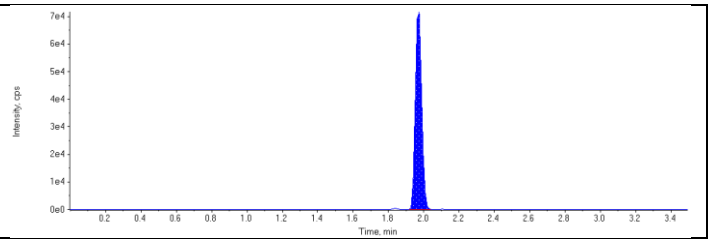
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



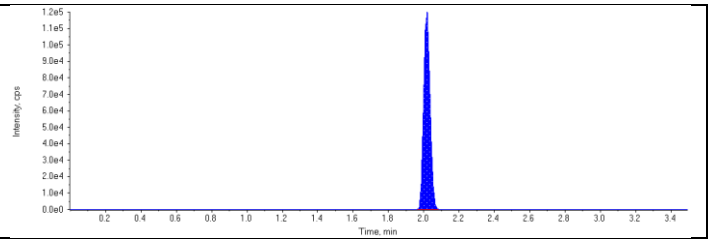
MPFOS (Internal Standard)

RT (Exp. RT): 1.97(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



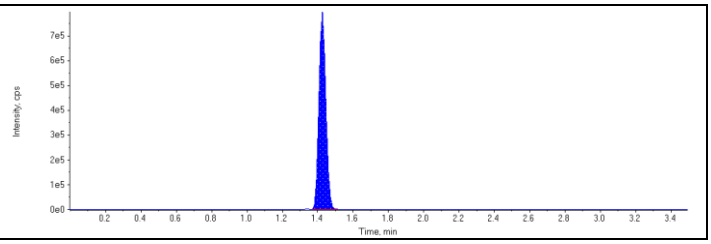
MPFNA (Internal Standard)

RT (Exp. RT): 2.02(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.43(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

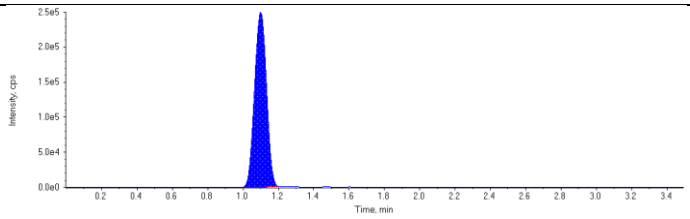
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.10 (1.15) min

Calculated Conc: 27.9 ng/L

Area Ratio: 8.12

Sample Type: (Quality Control)



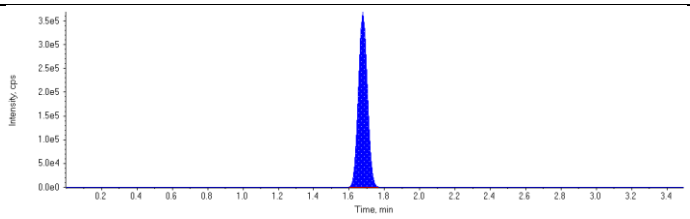
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.68 (1.68) min

Calculated Conc: 30.0 ng/L

Area Ratio: 8.98

Sample Type: (Quality Control)



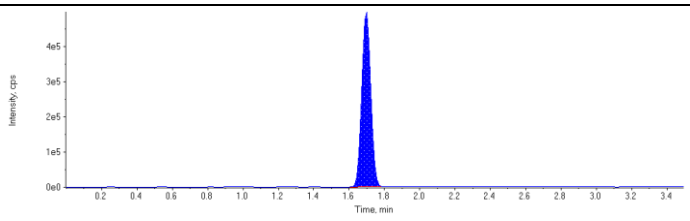
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.70 (1.75) min

Calculated Conc: 34.8 ng/L

Area Ratio: 4.43

Sample Type: (Quality Control)



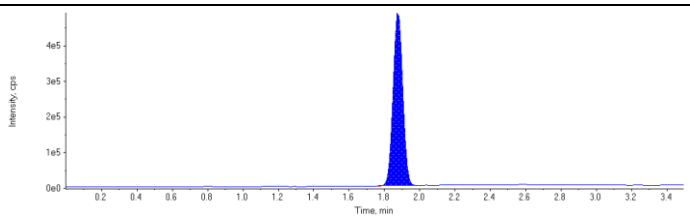
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.88 (1.92) min

Calculated Conc: 33.5 ng/L

Area Ratio: 4.99

Sample Type: (Quality Control)



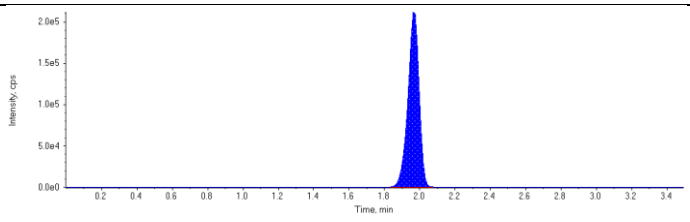
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.97 (1.97) min

Calculated Conc: 29.7 ng/L

Area Ratio: 5.14

Sample Type: (Quality Control)



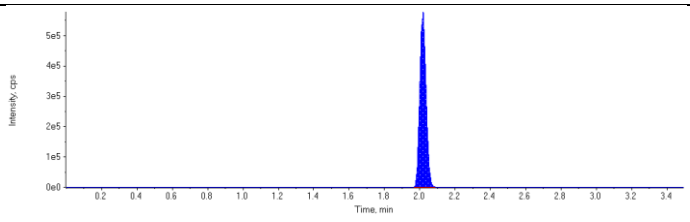
PFNA 1 (462.900/419.000 Da)

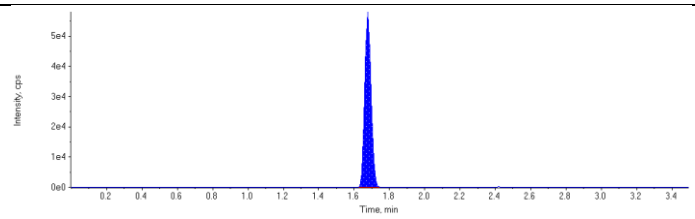
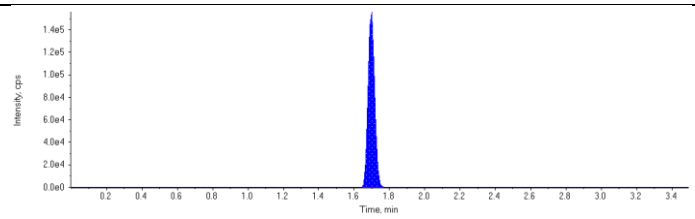
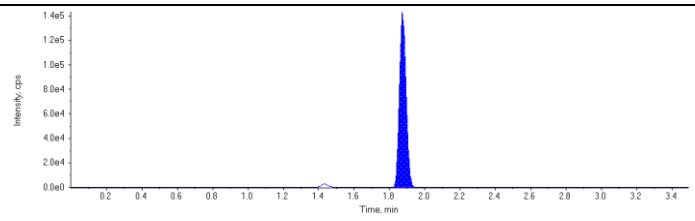
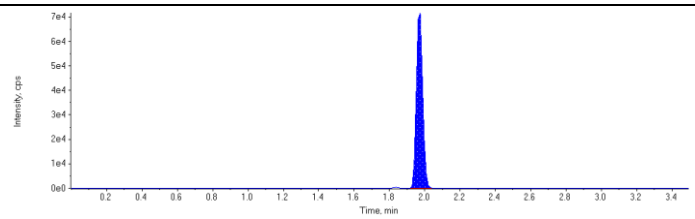
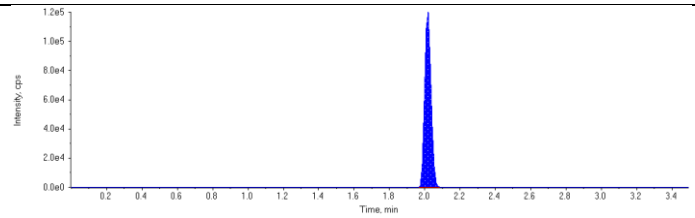
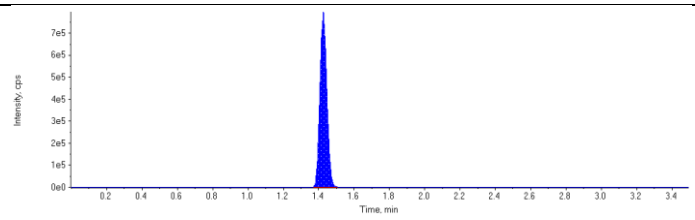
RT (Exp. RT): 2.02 (2.02) min

Calculated Conc: 33.4 ng/L

Area Ratio: 4.72

Sample Type: (Quality Control)



18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.68 (1.68) min Calculated Conc: 94.2 ng/L Area Ratio: 0.0668 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.70 (1.75) min Calculated Conc: 87.6 ng/L Area Ratio: 0.185 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 93.2 ng/L Area Ratio: 0.170 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 97.3 ng/L Area Ratio: 0.0837 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.02 (2.02) min Calculated Conc: 90.8 ng/L Area Ratio: 0.141 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.43 (1.42) min Calculated Conc: 94.3 ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

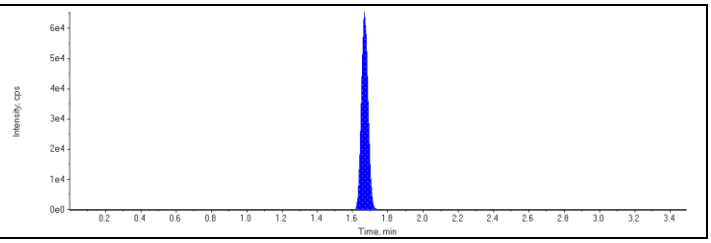
Sample Name	**CCV**	**Injection Vial**	6
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 9:46:45 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	166000.	1.67	1.00	-
MPFHpA	500000.	1.69	1.00	-
MPFOA	470000.	1.87	1.00	-
MPFOS	215000.	1.96	1.00	-
MPFNA	366000.	2.01	1.00	-
13C6-PFHxA IS	2530000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1510000	1.10	30.0	32.6	109.0
PFHxS 1	1430000	1.67	30.0	29.6	98.8
PFHpA 1	1950000	1.69	30.0	32.6	109.0
PFOA 1	2090000	1.87	30.0	30.4	101.0
PFOS 1	978000	1.96	30.0	29.4	98.0
PFNA 1	1470000	2.01	30.0	30.4	101.0
18O2-PFHxS	166000	1.67	100.	102.	102.0
13C4-PFHpA	500000	1.69	100.	103.	103.0
13C4-PFOA	470000	1.87	100.	111.	111.0
13C4-PFOS	215000	1.96	100.	108.	108.0
13C5-PFNA	366000	2.01	100.	108.	108.0
13C6-PFHxA	2530000	1.42	100.	102.	102.0

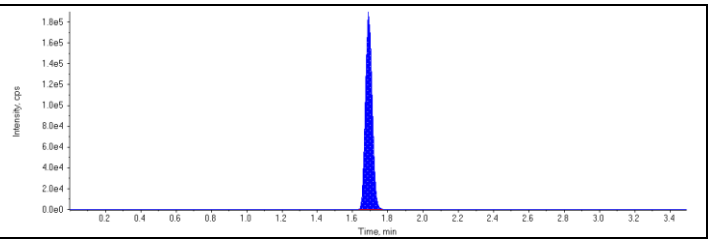
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



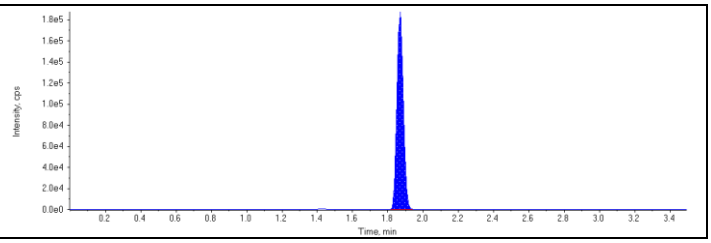
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



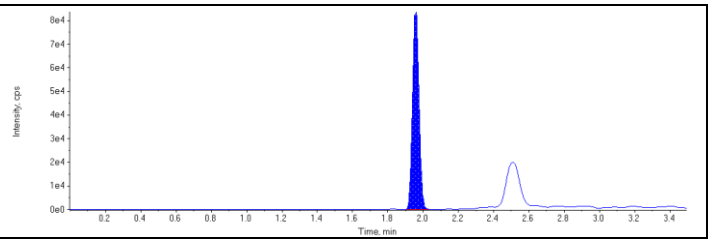
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



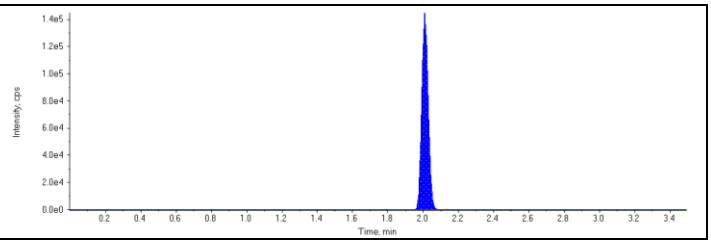
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



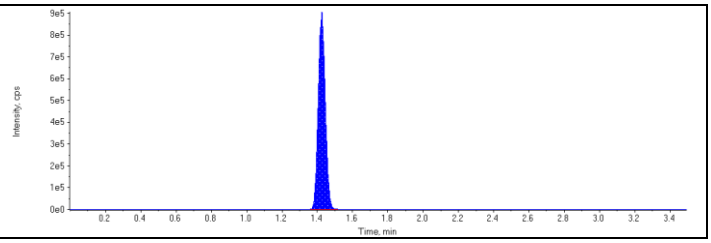
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

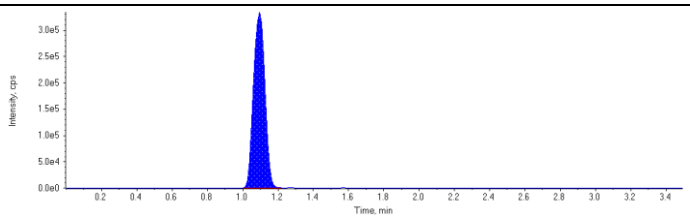
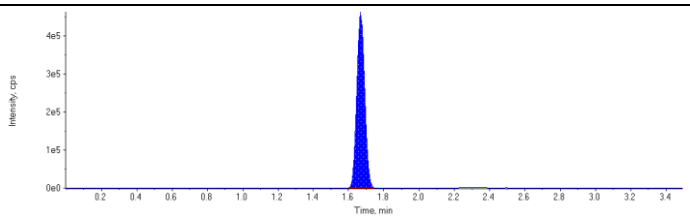
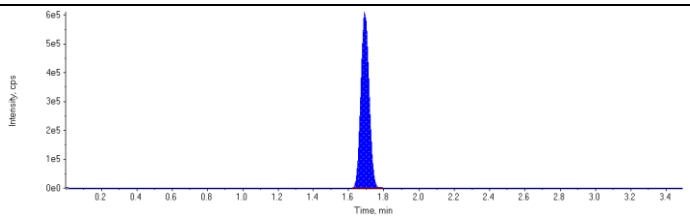
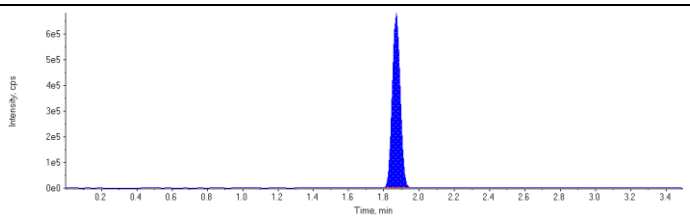
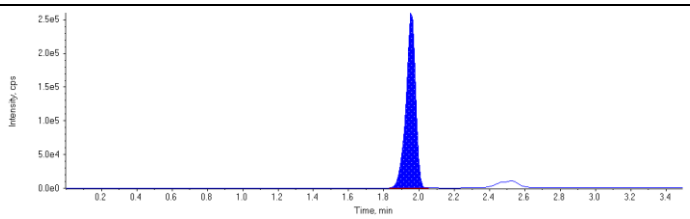
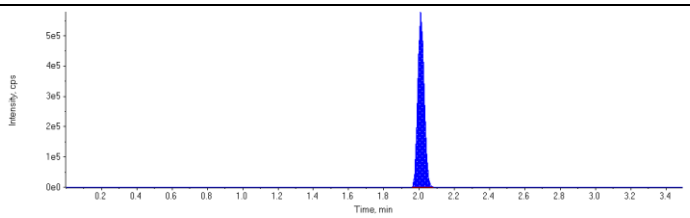
RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)

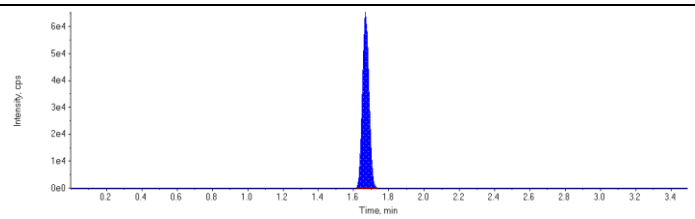
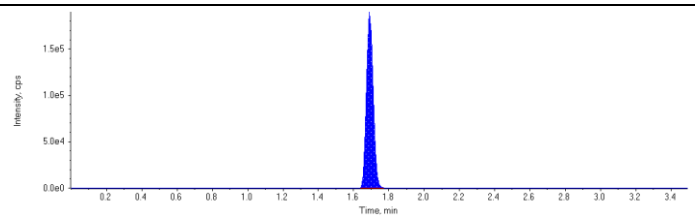
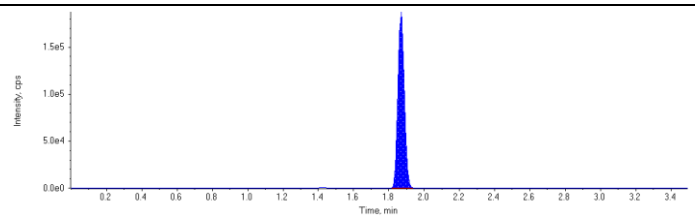
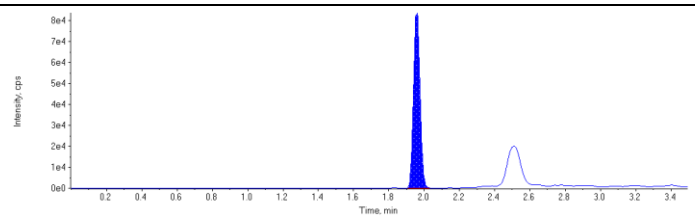
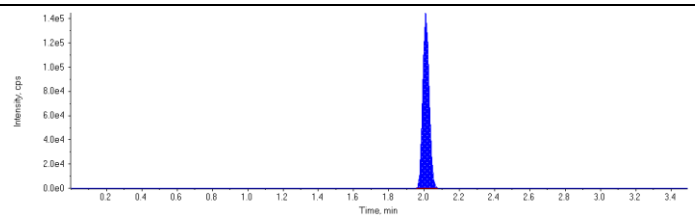
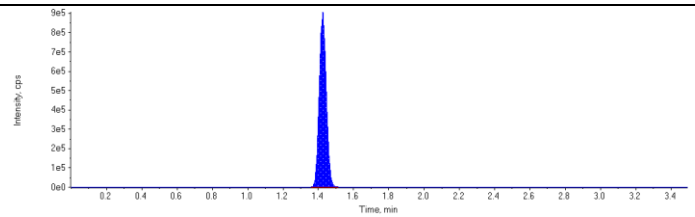


N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.10 (1.09) min Calculated Conc: 32.6 ng/L Area Ratio: 9.08 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 29.6 ng/L Area Ratio: 8.57 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 1.69 (1.70) min Calculated Conc: 32.6 ng/L Area Ratio: 3.90 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 30.4 ng/L Area Ratio: 4.44 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 29.4 ng/L Area Ratio: 4.54 Sample Type: (Quality Control)	
PFNA 1 (462.900/419.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 30.4 ng/L Area Ratio: 4.02 Sample Type: (Quality Control)	

18O2-PFHxS (402.900/84.000 Da) RT (Exp. RT): 1.67 (1.68) min Calculated Conc: 102. ng/L Area Ratio: 0.0659 Sample Type: (Quality Control)	
13C4-PFHpA (366.900/322.000 Da) RT (Exp. RT): 1.69 (1.69) min Calculated Conc: 103. ng/L Area Ratio: 0.198 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.87 (1.88) min Calculated Conc: 111. ng/L Area Ratio: 0.186 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.96 (1.97) min Calculated Conc: 108. ng/L Area Ratio: 0.0853 Sample Type: (Quality Control)	
13C5-PFNA (467.900/423.000 Da) RT (Exp. RT): 2.01 (2.02) min Calculated Conc: 108. ng/L Area Ratio: 0.145 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.42 (1.42) min Calculated Conc: 102. ng/L Area Ratio: 0.00 Sample Type: (Quality Control)	

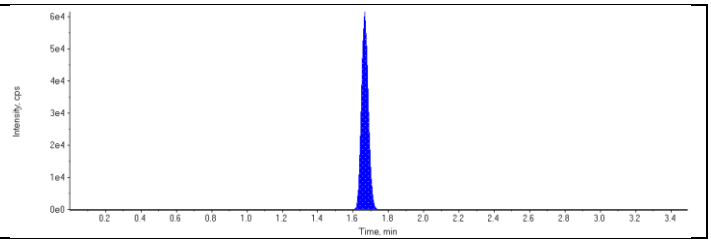
Sample Name	**CCV**	**Injection Vial**	6
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 11:21:13 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	162000.	1.67	1.00	-
MPFHpA	482000.	1.69	1.00	-
MPFOA	419000.	1.87	1.00	-
MPFOS	204000.	1.96	1.00	-
MPFNA	340000.	2.01	1.00	-
13C6-PFHxA IS	2290000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1340000	1.09	30.0	29.7	99.1
PFHxS 1	1450000	1.67	30.0	30.9	103.0
PFHpA 1	1800000	1.69	30.0	31.3	104.0
PFOA 1	1980000	1.87	30.0	32.3	108.0
PFOS 1	963000	1.96	30.0	30.5	102.0
PFNA 1	1450000	2.01	30.0	32.1	107.0
18O2-PFHxS	162000	1.67	100.	110.	110.0
13C4-PFHpA	482000	1.69	100.	110.	110.0
13C4-PFOA	419000	1.87	100.	110.	110.0
13C4-PFOS	204000	1.96	100.	113.	113.0
13C5-PFNA	340000	2.01	100.	111.	111.0
13C6-PFHxA	2290000	1.42	100.	92.3	92.3

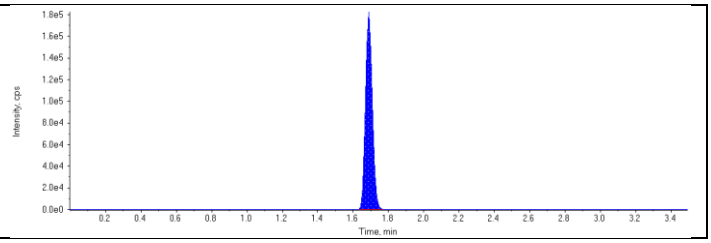
MPFHxS (Internal Standard)

RT (Exp. RT): 1.67(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



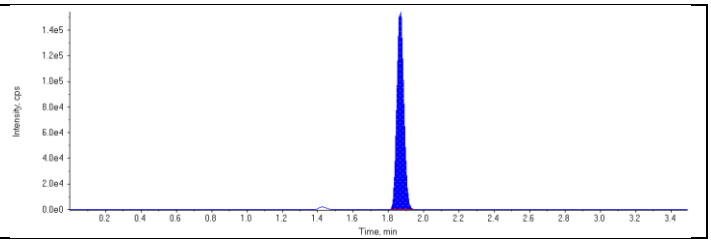
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



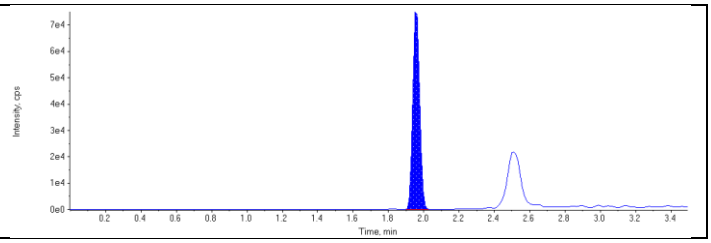
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



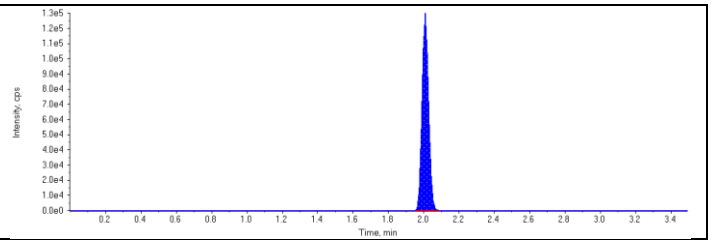
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



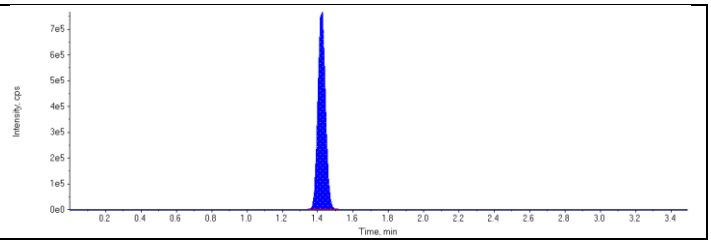
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

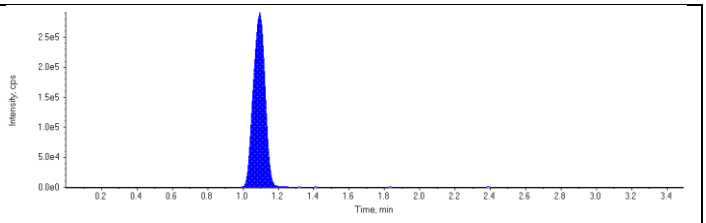
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.09 (1.09) min

Calculated Conc: 29.7 ng/L

Area Ratio: 8.28

Sample Type: (Quality Control)



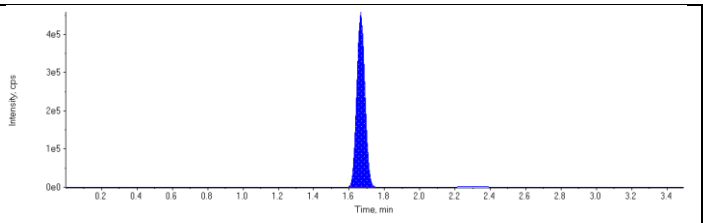
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 30.9 ng/L

Area Ratio: 8.94

Sample Type: (Quality Control)



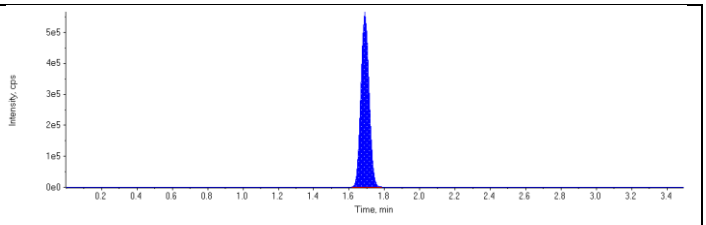
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 31.3 ng/L

Area Ratio: 3.74

Sample Type: (Quality Control)



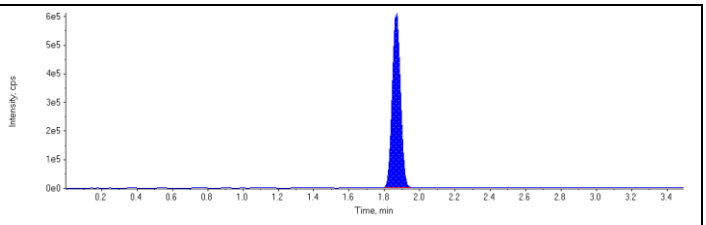
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 32.3 ng/L

Area Ratio: 4.71

Sample Type: (Quality Control)



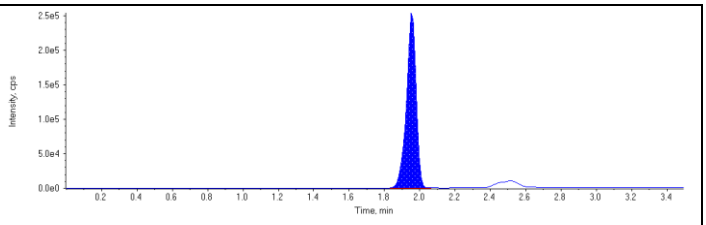
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 30.5 ng/L

Area Ratio: 4.71

Sample Type: (Quality Control)



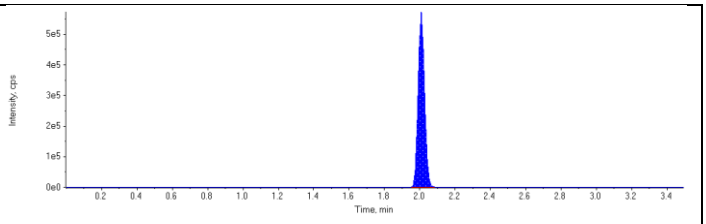
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 32.1 ng/L

Area Ratio: 4.25

Sample Type: (Quality Control)



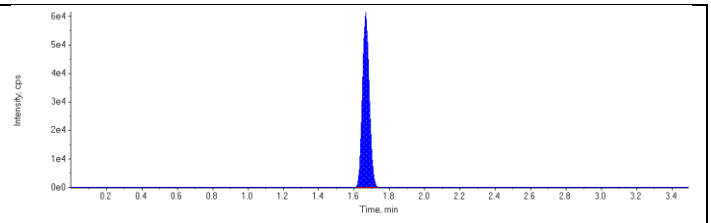
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 110. ng/L

Area Ratio: 0.0708

Sample Type: (Quality Control)



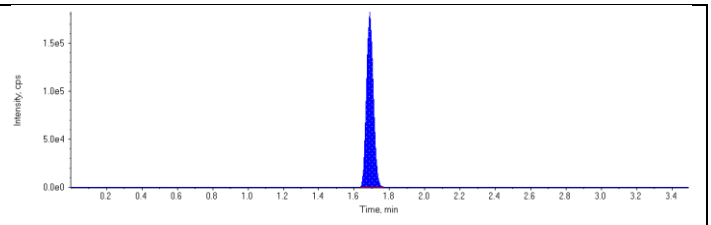
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 110. ng/L

Area Ratio: 0.211

Sample Type: (Quality Control)



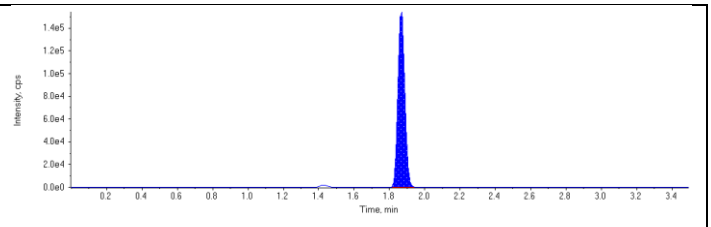
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 110. ng/L

Area Ratio: 0.183

Sample Type: (Quality Control)



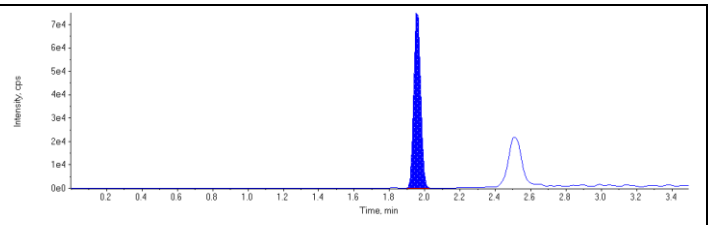
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 113. ng/L

Area Ratio: 0.0893

Sample Type: (Quality Control)



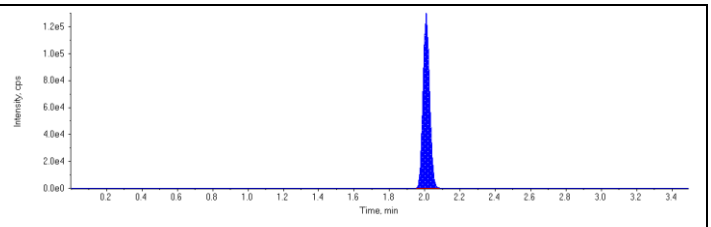
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 111. ng/L

Area Ratio: 0.149

Sample Type: (Quality Control)



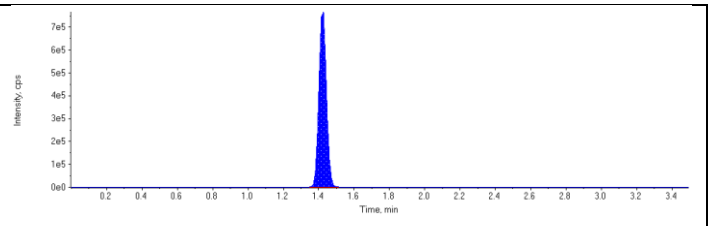
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.42 (1.42) min

Calculated Conc: 92.3 ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



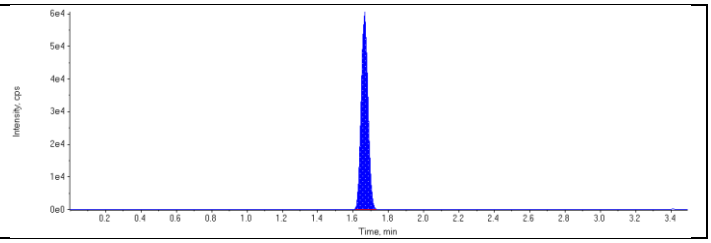
Sample Name	**CCV**	**Injection Vial**	6
Sample ID	CCV	**Injection Volume (µL)**	3
Sample Type	Quality Control	**Algorithm Used**	Analyst Classic
Acquisition Date	2016/02/29 11:36:34 AM	**Dilution Factor**	1.00
Acquisition Method	PFC_Water_Low.dam	**Sample Annotation**	-
Project	Enviro\PFOS	**Instrument Name**	LCMS03
Data File	PFC_160226\WS#4394558.wiff		
Result Table	PFC_Water_160226_4394558_ULow_6.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	159000.	1.66	1.00	-
MPFHpA	477000.	1.69	1.00	-
MPFOA	425000.	1.87	1.00	-
MPFOS	223000.	1.96	1.00	-
MPFNA	354000.	2.01	1.00	-
13C6-PFHxA IS	2390000.	1.42	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1320000	1.09	30.0	29.7	99.1
PFHxS 1	1410000	1.67	30.0	30.6	102.0
PFHpA 1	1720000	1.69	30.0	30.2	101.0
PFOA 1	1910000	1.87	30.0	30.8	103.0
PFOS 1	1020000	1.95	30.0	29.6	98.6
PFNA 1	1370000	2.01	30.0	29.2	97.4
18O2-PFHxS	159000	1.66	100.	103.	103.0
13C4-PFHpA	477000	1.69	100.	104.	104.0
13C4-PFOA	425000	1.87	100.	106.	106.0
13C4-PFOS	223000	1.96	100.	119.	119.0
13C5-PFNA	354000	2.01	100.	111.	111.0
13C6-PFHxA	2390000	1.42	100.	96.3	96.3

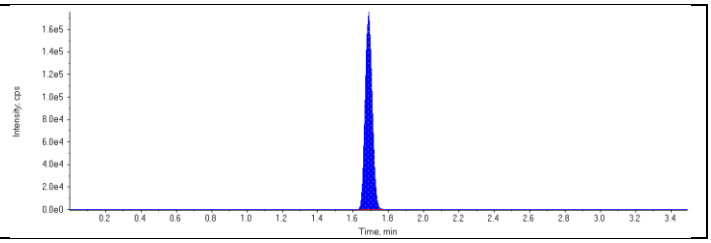
MPFHxS (Internal Standard)

RT (Exp. RT): 1.66(1.68) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



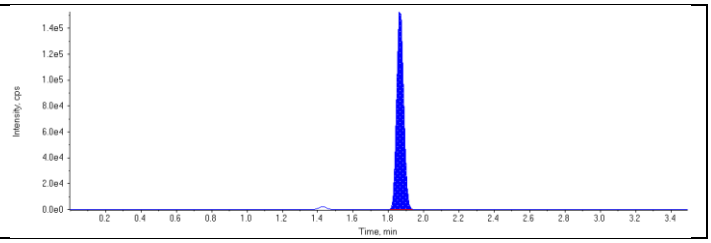
MPFHpA (Internal Standard)

RT (Exp. RT): 1.69(1.69) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



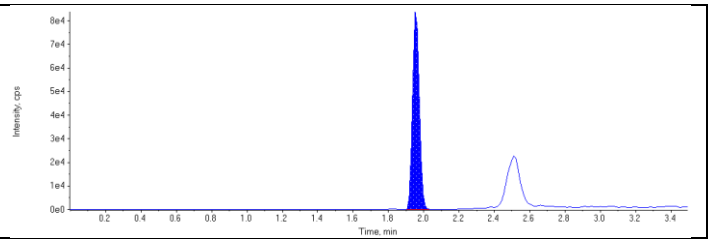
MPFOA (Internal Standard)

RT (Exp. RT): 1.87(1.88) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



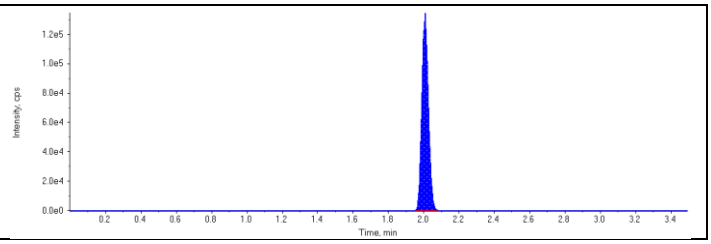
MPFOS (Internal Standard)

RT (Exp. RT): 1.96(1.97) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



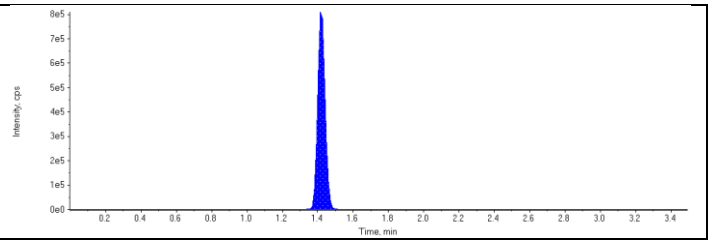
MPFNA (Internal Standard)

RT (Exp. RT): 2.01(2.02) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



13C6-PFHxA IS (Internal Standard)

RT (Exp. RT): 1.42(1.42) min
Concentration: 1.00 ng/L
Sample Type: (Quality Control)



N/A (Internal Standard)

RT (Exp. RT): N/A(N/A) min
Concentration: N/A N/A
Sample Type: (Quality Control)

This image is not available

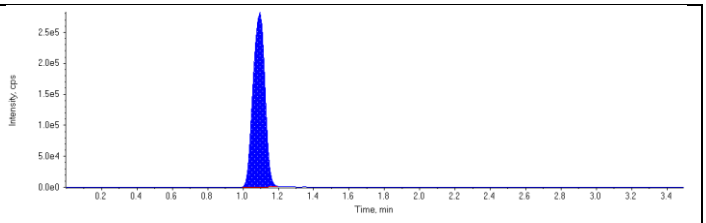
PFBS 1 (298.900/79.900 Da)

RT (Exp. RT): 1.09 (1.09) min

Calculated Conc: 29.7 ng/L

Area Ratio: 8.28

Sample Type: (Quality Control)



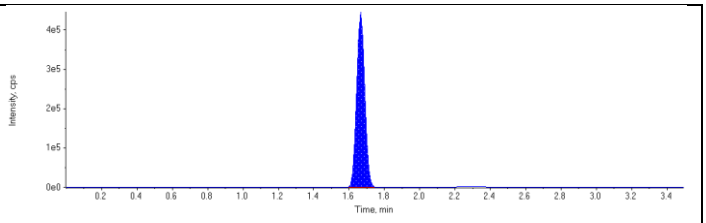
PFHxS 1 (398.900/79.900 Da)

RT (Exp. RT): 1.67 (1.68) min

Calculated Conc: 30.6 ng/L

Area Ratio: 8.86

Sample Type: (Quality Control)



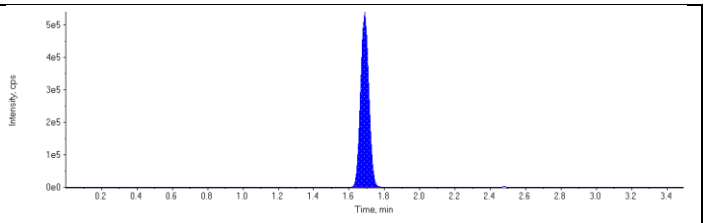
PFHpA 1 (363.000/319.000 Da)

RT (Exp. RT): 1.69 (1.70) min

Calculated Conc: 30.2 ng/L

Area Ratio: 3.61

Sample Type: (Quality Control)



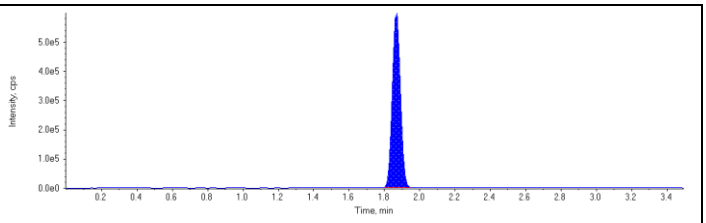
PFOA 1 (413.100/369.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 30.8 ng/L

Area Ratio: 4.49

Sample Type: (Quality Control)



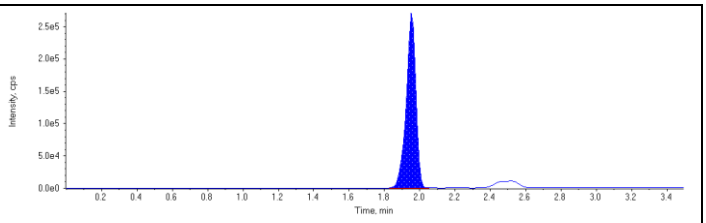
PFOS 1 (498.900/79.900 Da)

RT (Exp. RT): 1.95 (1.97) min

Calculated Conc: 29.6 ng/L

Area Ratio: 4.57

Sample Type: (Quality Control)



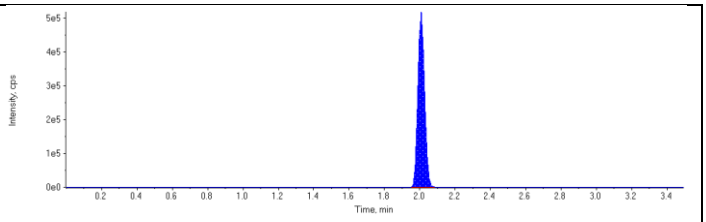
PFNA 1 (462.900/419.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 29.2 ng/L

Area Ratio: 3.86

Sample Type: (Quality Control)



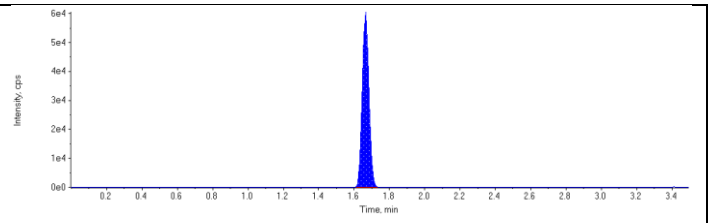
18O2-PFHxS (402.900/84.000 Da)

RT (Exp. RT): 1.66 (1.68) min

Calculated Conc: 103. ng/L

Area Ratio: 0.0666

Sample Type: (Quality Control)



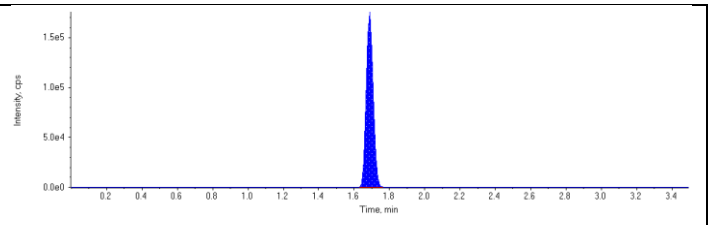
13C4-PFHpA (366.900/322.000 Da)

RT (Exp. RT): 1.69 (1.69) min

Calculated Conc: 104. ng/L

Area Ratio: 0.200

Sample Type: (Quality Control)



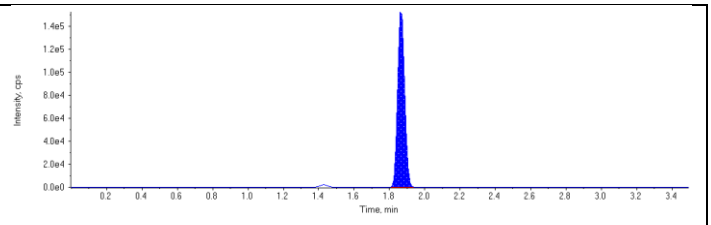
13C4-PFOA (416.900/372.000 Da)

RT (Exp. RT): 1.87 (1.88) min

Calculated Conc: 106. ng/L

Area Ratio: 0.178

Sample Type: (Quality Control)



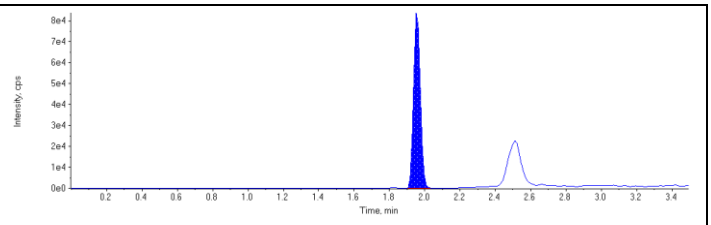
13C4-PFOS (502.900/79.900 Da)

RT (Exp. RT): 1.96 (1.97) min

Calculated Conc: 119. ng/L

Area Ratio: 0.0935

Sample Type: (Quality Control)



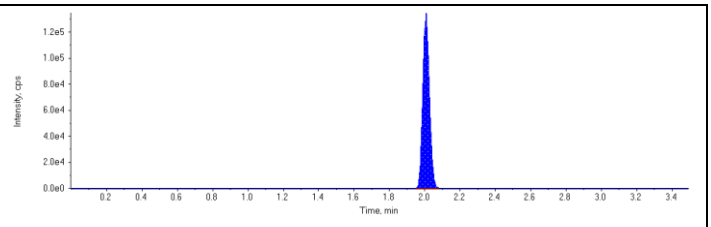
13C5-PFNA (467.900/423.000 Da)

RT (Exp. RT): 2.01 (2.02) min

Calculated Conc: 111. ng/L

Area Ratio: 0.148

Sample Type: (Quality Control)



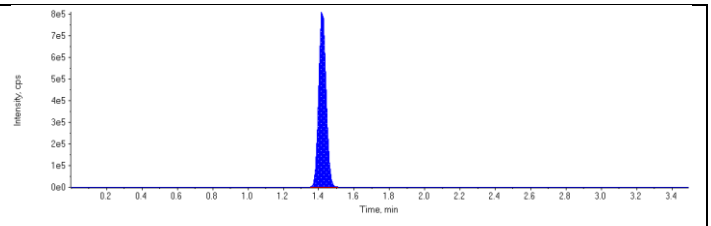
13C6-PFHxA (318.900/274.000 Da)

RT (Exp. RT): 1.42 (1.42) min

Calculated Conc: 96.3 ng/L

Area Ratio: 0.00

Sample Type: (Quality Control)



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Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Shipping and Receiving Documents

Chain of Custody Record

Temperature on Receipt ______

Drinking Water? Yes ☒ No ☐

320-17236 Chain of Custody

CTO WE7G

TAL-4124 (1007)

Client: CH2M Hill	Project Manager: Bill Friedmann	Date: 02/08/16	Chain of Custody Number: 283622
Address: 5701 Cleveland St, Suite 200	Telephone Number (Area Code)/Fax Number: 757-671-6223	Lab Number:	Page 1 of 1
City: Virginia Beach; State: VA; Zip Code: 23462	Site Contact: ; Lab Contact:		
Project Name and Location (State): CTO WE7G PFC Sampling	Carrier/Waybill Number: FedEx		
Contract/Purchase Order/Quote No.: PO# 10006-7-104000			

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed	Soil		Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Select PFCs
OF-FB70-Ø216		0945		X				X							2
OF-RW70-Ø216		0947		↓				↓							2
OF-FB44-Ø216		1025		↓				↓							2
OF-RW44-Ø216		1030		↓				↓							2
OF-RW44P-Ø216		1032		↓				↓							2
OF-FB65-Ø216		1115		↓				↓							2
OF-RW65-Ø216		1120		↓				↓							2
OF-RW65-Ø216-MS		1120		↓				↓							2
OF-RW65-Ø216-SD		1120		↓				↓							2
OF-FB21-Ø216		1525		↓				↓							2
OF-RW21-Ø216		1535		↓				↓							2

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ______

QC Requirements (Specify)

1. Relinquished By: [illegible]	Date: 02/08/16	Time: 1930	1. Received By: [illegible]	Date: 2/10/16	Time: 915
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

[redacted]

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

TI

320-17236 Chain of Custody

CTO WE76

Due 2/22

13-Feb-16 13:40

Hongmei Zhao (Grace)

B630799

AKP ENV-1123

Project Manager [redacted]		Date 02/08/16	Chain of Custody Number 283622
Telephone Number (Area Code)/Fax Number [redacted]		Lab Number	Page 1 of 1
Site Contact	Lab Contact	Analysis (Attach list if more space is needed)	
Carrier/Waybill Number FedEx			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Select PFCs	Special Instructions/ Conditions of Receipt
OF-FB70-Ø216		0945		X			X						2	
OF-RW70-Ø216		0947		↓			↓						2	
OF-FB44-Ø216		1025											2	
OF-RW44-Ø216		1030											2	
OF-RW44P-Ø216		1032											2	
OF-FB65-Ø216		1115											2	
OF-RW65-Ø216		1120											2	
OF-RW65-Ø216-MS		1120											2	
OF-RW65-Ø216-SD		1120											2	
OF-FB21-Ø216		1525											2	
OF-RW21-Ø216		1535		↓			↓						2	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	02/08/16	1930	1. Received By	2/10/16	915
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By FEDEX AIRBILL	2016/02/13	13:40

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 320-17236-1
SDG Number: CTO WE7G PFC Sampling

Login Number: 17236
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No date on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	CH2M_Code	Analysis_Group	Analytical_Method	PRC_Code	Lab_Code	Lab_Name	Leachate_Method	Sample_Basis	Extraction_Method	Result_Type	Lab_QC_Type	Sample_Medium	QC_Level	DateTime_Collected	Date_Received	Leachate_Date	Leachate_Time	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Dilution	Run_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier	GC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validator_Name	Val_Date
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.019	0.019	UG_L			PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.007	0.007	UG_L			PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	10	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.36	0.36	UG_L	D	D	PR	TRG					00000000				5.0	0.004	0.01	0.02	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.00080	0.00080	UG_L	J	J	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	10	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.580	0.580	UG_L	D	D	PR	TRG					00000000				5.0	0.003	0.01	0.02	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.087	0.087	UG_L			PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.00075	0.00075	UG_L	J	J	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.0015	0.0015	UG_L	J	J	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.0065	0.0065	UG_L			PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0058	0.0058	UG_L			PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.022	0.022	UG_L			PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.0011	0.0011	UG_L	J	J	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.044	0.044	UG_L			PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.03	0.03	UG_L			PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			13C4 PFOA	13C4 PFOA	104	104	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			13C4 PFOA	13C4 PFOA	86	86	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			13C4 PFOA	13C4 PFOA	107	107	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			13C4 PFOA	13C4 PFOA	81	81	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			13C4 PFOA	13C4 PFOA	107	107	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			13C4 PFOA	13C4 PFOA	96	96	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			13C4 PFOA	13C4 PFOA	125	125	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			13C4 PFOA	13C4 PFOA	68	68	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			13C4 PFOA	13C4 PFOA	113	113	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			13C4 PFOA	13C4 PFOA	91	91	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			13C4 PFOA	13C4 PFOA	130	130	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			13C4 PFOA	13C4 PFOA	79	79	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			13C4 PFOA	13C4 PFOA	114	114	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			13C4 PFOA	13C4 PFOA	140	140	PCT_REC	C	C	PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			13C4 PFOA	13C4 PFOA	75	75	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			13C4 PFOA	13C4 PFOA	83	83	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			13C4 PFOS	13C4 PFOS	110	110	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			13C4 PFOS	13C4 PFOS	71	71	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			13C4 PFOS	13C4 PFOS	103	103	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			13C4 PFOS	13C4 PFOS	72	72	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			13C4 PFOS	13C4 PFOS	105	105	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			13C4 PFOS	13C4 PFOS	105	105	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			13C4 PFOS	13C4 PFOS	102	102	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			13C4 PFOS	13C4 PFOS	53	53	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			13C4 PFOS	13C4 PFOS	107	107	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			13C4 PFOS	13C4 PFOS	81	81	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			13C4 PFOS	13C4 PFOS	136	136	PCT_REC	C	C	PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			13C4 PFOS	13C4 PFOS	75	75	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			13C4 PFOS	13C4 PFOS	107	107	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			13C4 PFOS	13C4 PFOS	132	132	PCT_REC	C	C	PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			13C4 PFOS	13C4 PFOS	66	66	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			13C4 PFOS	13C4 PFOS	71	71	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			13C4-PFHPA	13C4-PFHPA	116	116	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			13C4-PFHPA	13C4-PFHPA	84	84	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			13C4-PFHPA	13C4-PFHPA	105	105	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			13C4-PFHPA	13C4-PFHPA	76	76	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			13C4-PFHPA	13C4-PFHPA	108	108	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			13C4-PFHPA	13C4-PFHPA	83	83	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			13C4-PFHPA	13C4-PFHPA	104	104	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			13C4-PFHPA	13C4-PFHPA	68	68	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			13C4-PFHPA	13C4-PFHPA	105	105	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			13C4-PFHPA	13C4-PFHPA	86	86	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			13C4-PFHPA	13C4-PFHPA	120	120	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			13C4-PFHPA	13C4-PFHPA	79	79	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			13C4-PFHPA	13C4-PFHPA	102	102	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			13C4-PFHPA	13C4-PFHPA	137	137	PCT_REC	C	C	PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			13C4-PFHPA	13C4-PFHPA	69	69	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			13C4-PFHPA	13C4-PFHPA	81	81	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			13C5 PFNA	13C5 PFNA	104	104	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			13C5 PFNA	13C5 PFNA	79	79	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			13C5 PFNA	13C5 PFNA	94	94	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			13C5 PFNA	13C5 PFNA	75	75	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			13C5 PFNA	13C5 PFNA	106	106	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			13C5 PFNA	13C5 PFNA	91	91	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			13C5 PFNA	13C5 PFNA	119	119	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			13C5 PFNA	13C5 PFNA	68	68	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			13C5 PFNA	13C5 PFNA	105	105	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			13C5 PFNA	13C5 PFNA	81	81	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			13C5 PFNA	13C5 PFNA	121	121	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			13C5 PFNA	13C5 PFNA	80	80	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			13C5 PFNA	13C5 PFNA	103	103	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			13C5 PFNA	13C5 PFNA	136	136	PCT_REC	C	C	PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			13C5 PFNA	13C5 PFNA	69	69	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			13C5 PFNA	13C5 PFNA	82	82	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			18O2 PFHXS	18O2 PFHXS	103	103	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:20	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-2	1	1			18O2 PFHXS	18O2 PFHXS	85	85	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			18O2 PFHXS	18O2 PFHXS	101	101	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:50	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-4	1	1			18O2 PFHXS	18O2 PFHXS	74	74	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			18O2 PFHXS	18O2 PFHXS	95	95	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-6	1	1			18O2 PFHXS	18O2 PFHXS	105	105	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			18O2 PFHXS	18O2 PFHXS	101	101	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:42	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-8	1	1			18O2 PFHXS	18O2 PFHXS	67	67	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			18O2 PFHXS	18O2 PFHXS	106	106	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:47	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-10	1	1			18O2 PFHXS	18O2 PFHXS	88	88	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			18O2 PFHXS	18O2 PFHXS	117	117	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:16	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-12	1	1			18O2 PFHXS	18O2 PFHXS	79	79	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			18O2 PFHXS	18O2 PFHXS	99	99	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			18O2 PFHXS	18O2 PFHXS	137	137	PCT_REC	C	C	PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			18O2 PFHXS	18O2 PFHXS	77	77	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			18O2 PFHXS	18O2 PFHXS	84	84	PCT_REC			PR	SURR		SLSA	130	50	00000000				5.0				320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	91	91	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	146	146	PCT_REC	C	C	PR	TRG		MSA	130	70	00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	147	147	PCT_REC	C	C	PR	TRG		MSP	130	70	00000000				5.0	0.00027	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	92	92	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	118	118	PCT_REC			PR	TRG		MSA	130	70	00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	111	111	PCT_REC			PR	TRG		MSP	130	70	00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	96	96	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	122	122	PCT_REC			PR	TRG		MSA	130	70	00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	133	133	PCT_REC	C	C	PR	TRG		MSP	130	70	00000000				5.0	0.0004	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	101	101	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	127	127	PCT_REC			PR	TRG		MSA	130	70	00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			Perfluorononanoic acid (PFNA)	375-95-1	119	119	PCT_REC			PR	TRG		MSP	130	70	00000000				5.0	0.00033	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	102	102	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	NC	NC	PCT_REC	U	U	PR	TRG		MSA	130	70	00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	NC	NC	PCT_REC	C	C	PR	TRG		MSP	130	70	00000000				5.0	0.0003	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB34-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 10:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-9	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB38-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:10	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-11	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB50-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 17:35	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-7	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB59-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 14:30	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-5	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB62-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:15	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-1	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-FB63-0216	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	REG	W	4	02/09/2016 09:40	02/10/2016			20160225	00:00:00	20160229	00:00:00	320-17241-3	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-BLK	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	LB1	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-BLK	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.001	0.001	UG_L	U	U	PR	TRG					00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	4394551-LCS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	BS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-LCS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	93	93	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MS	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MS	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	NC	NC	PCT_REC	U	U	PR	TRG		MSA	130	70	00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		
N6247011D8012	WE7G		OCEANA_NAS	OF-RW63-0216 MSD	NONS	SVOA	537_MOD	ORG	MA	MAXXAM ANALYTICAL	NONE	NA	METHOD	000	MSD	W	4	02/25/2016 00:00	02/25/2016			20160225	00:00:00	20160229	00:00:00	4394551-MS Dup	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	NC	NC	PCT_REC	C	C	PR	TRG		MSP	130	70	00000000				5.0	0.00039	0.001	0.002	320-17241	100272-4394551		

Data Validation Summary

Oceana CTO-WE44, NALF Fentress

TO: Juliana Dean/VBO

Anita Dodson/VBO

FROM: Tiffany McGlynn/GNV

CC: Herb Kelly/GNV

DATE: March 18, 2016

Introduction

The following data validation report discusses the data validation process and findings for TestAmerica Laboratories and Maxxam Laboratories in the Sample Delivery Groups (SDGs) listed in the table below.

Samples were analyzed using the following analytical methods:

- WS-LC-0025 & 537 MOD Perfluorinated Hydrocarbons

The samples included in these SDGs are listed in the table below.

SDG	Sample Name	Matrix
320-17150	OF-RW42B-0216	Water
320-17150	OF-RW39-0216	Water
320-17150	OF-FB40-0216	Water
320-17150	OF-RW40-0216	Water
320-17150	OF-FB43-0216	Water
320-17150	OF-RW43-0216	Water
320-17150	OF-FB42B-0216	Water
320-17150	OF-RW42A-0216	Water
320-17150	OF-FB42A-0216	Water
320-17150	OF-RW35-0216	Water
320-17150	OF-FB35-0216	Water

SDG	Sample Name	Matrix
320-17150	OF-RW58-0216	Water
320-17150	OF-FB58-0216	Water
320-17150	OF-FB39-0216	Water
320-17154	OF-FB09-0216	Water
320-17154	OF-FB67-0216	Water
320-17154	OF-RW09-0216	Water
320-17154	OF-FB37-0216	Water
320-17154	OF-RW37-0216	Water
320-17154	OF-RW11-0216	Water
320-17154	OF-FB11-0216	Water
320-17154	OF-RW28-0216	Water
320-17154	OF-FB28-0216	Water
320-17154	OF-RW67-0216	Water
320-17183	OF-RW66-0216	Water
320-17183	OF-FB27-0216	Water
320-17183	OF-FB66-0216	Water
320-17183	OF-RW49-0216	Water
320-17183	OF-FB49-0216	Water
320-17183	OF-RW36A-0216	Water
320-17183	OF-FB36A-0216	Water
320-17183	OF-RW51A-0216	Water
320-17183	OF-FB51A-0216	Water
320-17183	OF-RW27-0216	Water
320-17184	OF-RW20-0216	Water
320-17184	OF-FB30-0216	Water
320-17184	OF-FB69-0216	Water
320-17184	OF-RW69-0216	Water
320-17184	OF-FB26-0216	Water
320-17184	OF-RW26-0216	Water
320-17184	OF-FB20-0216	Water
320-17184	OF-RW55-0216	Water
320-17184	OF-FB55-0216	Water
320-17184	OF-RW54-0216	Water
320-17184	OF-FB54-0216	Water
320-17184	OF-RW68-0216	Water
320-17184	OF-FB68-0216	Water
320-17184	OF-RW30-0216	Water
320-17185	OF-FB08-0216	Water
320-17185	OF-RW51-0216	Water
320-17185	OF-RW51P-0216	Water

SDG	Sample Name	Matrix
320-17185	OF-RW08-0216	Water
320-17185	OF-RW08P-0216	Water
320-17185	OF-FB41-0216	Water
320-17185	OF-RW41-0216	Water
320-17185	OF-RW41P-0216	Water
320-17185	OF-FB56-0216	Water
320-17185	OF-RW56-0216	Water
320-17185	OF-FB51-0216	Water
320-17190	OF-FB12-0216	Water
320-17190	OF-RW12-0216	Water
320-17190	OF-FB57-0216	Water
320-17190	OF-RW57-0216	Water
320-17190	OF-RW57P-0216	Water
320-17190	OF-FB25-0216	Water
320-17190	OF-RW25-0216	Water
320-17190	OF-FB16-0216	Water
320-17190	OF-RW16-0216	Water
320-17219	OF-FB47-0216	Water
320-17219	OF-RW47-0216	Water
320-17219	OF-FB47A-0216	Water
320-17219	OF-RW47A-0216	Water
320-17219	OF-FB48-0216	Water
320-17219	OF-RW48-0216	Water
320-17236	OF-FB70-0216	Water
320-17236	OF-RW70-0216	Water
320-17236	OF-FB44-0216	Water
320-17236	OF-RW44-0216	Water
320-17236	OF-RW44P-0216	Water
320-17236	OF-FB65-0216	Water
320-17236	OF-RW65-0216	Water
320-17236	OF-FB21-0216	Water
320-17236	OF-RW21-0216	Water
320-17241	OF-FB62-0216	Water
320-17241	OF-RW34-0216	Water
320-17241	OF-FB38-0216	Water
320-17241	OF-RW38-0216	Water
320-17241	OF-RW62-0216	Water
320-17241	OF-FB63-0216	Water
320-17241	OF-RW63-0216	Water
320-17241	OF-FB59-0216	Water

SDG	Sample Name	Matrix
320-17241	OF-RW59-0216	Water
320-17241	OF-FB50-0216	Water
320-17241	OF-RW50-0216	Water
320-17241	OF-FB34-0216	Water
320-17278	OF-FB24-0216	Water
320-17278	OF-RW24-0216	Water
320-17278	OF-FB31-0216	Water
320-17278	OF-RW31-0216	Water
320-17278	OF-FB60-0216	Water
320-17278	OF-RW60-0216	Water
320-17278	OF-RW60P-0216	Water
320-17278	OF-FB46-0216	Water
320-17278	OF-RW46-0216	Water
320-17321	OF-FB02-0216	Water
320-17321	OF-RW02-0216	Water
320-17321	OF-FB15-0216	Water
320-17321	OF-RW15-0216	Water
320-17321	OF-FB18-0216	Water
320-17321	OF-RW18-0216	Water
320-17859	OF-FB07-0316	Water
320-17859	OF-RW07-0316	Water
320-17859	OF-HPFB01-0316	Water
320-17859	OF-HP01-0316	Water

Data Evaluation

Data was evaluated in accordance with the analytical methods and with the criteria found in the following guidance documents: Sampling and Analysis Plan Perfluorinated Compound Investigation, Naval Auxiliary Landing Field Fentress, Chesapeake, Virginia Contract Task Order WE44 (December 2015) and National Functional Guidelines for Organic Data Review (August 2014) with Region 3 Modification (Use of 'B' qualifier) as applicable. The samples were evaluated based on the following criteria:

- Data Completeness
- Technical Holding Times
- Tuning Instrument
- Initial/Continuing Calibrations
- Blanks

- Internal Standards
- Laboratory Control Samples
- Isotope Dilution Analyte
- Field Duplicates
- Identification/Quantitation
- Reporting Limits

Overall Evaluation of Data/Potential Usability Issues

Specific details regarding qualification of the data are addressed in the sections below. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte, the validator has chosen the qualifier that best indicates possible bias in the results and qualified these data accordingly.

Data Completeness

The SDG was received complete and intact.

Technical Holding Times

According to the chain of custody records, sampling was performed on 2/3/16 through 2/16/16. Samples were received at the laboratory 2/4/16 through 2/17/16. All sample preparation and analyses were performed within holding time requirements with the exception of the samples listed below. Affected data are summarized in **Attachment 1**.

Sample Name	SDG
OF-RW42B-0216	320-17150
OF-RW08-0216	320-17185
OF-RW08P-0216	320-17185
OF-FB62-0216	320-17241
OF-RW34-0216	320-17241
OF-FB38-0216	320-17241
OF-RW38-0216	320-17241
OF-RW62-0216	320-17241
OF-FB63-0216	320-17241
OF-RW63-0216	320-17241
OF-FB59-0216	320-17241

Sample Name	SDG
OF-RW59-0216	320-17241
OF-FB50-0216	320-17241
OF-RW50-0216	320-17241
OF-FB34-0216	320-17241

Blanks

Several compounds were detected in the field blanks and method blanks as listed below. Affected data are summarized in **Attachment 1**.

SDG	Blank ID	Compound	Conc.	Units
320-17183	OF-FB49-0216	Perfluorohexanesulfonic acid (PFHxS)	0.00068	UG_L
320-17183	OF-FB36A-0216	Perfluorooctane Sulfonate (PFOS)	0.00042	UG_L
320-17185	OF-FB51-0216	Perfluorobutanesulfonic acid (PFBS)	0.00063	UG_L
320-17190	OF-FB12-0216	Perfluorohexanesulfonic acid (PFHxS)	0.00079	UG_L
320-17190	OF-FB57-0216	Perfluorohexanesulfonic acid (PFHxS)	0.00083	UG_L
320-17190	OF-FB25-0216	Perfluorobutanesulfonic acid (PFBS)	0.00092	UG_L
320-17190	OF-FB16-0216	Perfluorobutanesulfonic acid (PFBS)	0.0011	UG_L
320-17190	MB 320-100277/1-A	Perfluorobutanesulfonic acid (PFBS)	0.00103	UG_L
320-17190	MB 320-100277/1-A	Perfluorohexanesulfonic acid (PFHxS)	0.00102	UG_L
320-17190	MB 320-100277/1-A	Perfluorooctane Sulfonate (PFOS)	0.00144	UG_L
320-17859	MB 320-104553/1-A	Perfluorooctanoic acid (PFOA)	0.00217	UG_L

Field Duplicate Precision

Perfluoroheptanoic acid (PFHpA) did not meet required precision criteria in native sample OF-RW51-0216 and field duplicate OF-RW51P-0216. Affected data are summarized in **Attachment 1**.

Matrix Spike/Spike Duplicate

For spiked sample OF-RW56-0216 in SDG 320-17185, perfluorobutanesulfonic acid (PFBS) exhibited high recoveries in the MS/MSD. Affected data are summarized in **Attachment 1**.

Surrogates

Surrogates for the samples listed below exhibited low recoveries. Affected data are summarized in **Attachment 1**.

Sample Name	SDG
OF-RW67-0216	320-17154
OF-RW47-0216	320-17219
OF-RW70-0216	320-17236

Sample Name	SDG
OF-RW24-0216	320-17278

Internal Standards

Internal standards exhibited low recoveries for the samples listed below. Affected data are summarized in **Attachment 1**.

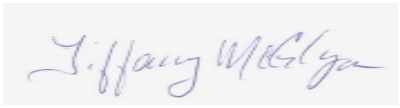
Sample Name	SDG
OF-RW37-0216	320-17154
OF-FB56-0216	320-17185

Conclusion

These data can be used in the project decision-making process as qualified by the data quality evaluation process.

Please do not hesitate to contact us about this validation report.

Sincerely,



Tiffany McGlynn

Qualification Flags

Exclude	More appropriate data exist for this analyte.
R	Data were rejected for use.
UL	Analyte not detected, quantitation limit is potentially biased low.
UJ	Analyte not detected, estimated quantitation limit.
U	Analyte not detected.
B	Not detected substantially above the level reported in laboratory or field blanks.
L	Analyte present, estimated value potentially biased low.
K	Analyte present, estimated value potentially biased high.
N	Analyte identification presumptive; no second column analysis performed or GC/MS tentative identification.
J	Analyte present, estimated value.
NJ	Analysis indicates the presence of an analyte that was "tentatively identified" and the associated value represents its approximate concentration.
None	Placeholder for calculating quality control issues that do not require flagging.
=	Analyte was detected at a concentration greater than the quantitation limit.

Qualifier Code Reference

Value	Description
%SOL	High Moisture content
2C	Second Column – Poor Dual Column Reproducibility
2S	Second Source – Bad reproducibility between tandem detectors
BD	Blank Spike/Blank Spike Duplicate(LCS/LCSD) Precision
BRL	Below Reporting Limit
BSH	Blank Spike/LCS – High Recovery
BSL	Blank Spike/LCS – Low Recovery
CC	Continuing Calibration
CCBL	Continuing Calibration Blank Contamination
CCH	Continuing Calibration Verification – High Recovery
CCL	Continuing Calibration Verification – Low Recovery
DL	Redundant Result – due to Dilution
EBL	Equipment Blank Contamination
EMPC	Estimated Possible Maximum Concentration
ESH	Extraction Standard - High Recovery
ESL	Extraction Standard - Low Recovery
FBL	Field Blank Contamination
FD	Field Duplicate
HT	Holding Time
ICB	Initial Calibration – Bad Linearity or Curve Function
ICH	Initial Calibration – High Relative Response Factors
ICL	Initial Calibration – Low Relative Response Factors
IR15	Ion ratio exceeds +/- 15% difference
ISH	Internal Standard – High Recovery
ISL	Internal Standard – Low Recovery
LD	Lab Duplicate Reproducibility
LR	Concentration Exceeds Linear Range
MBL	Method Blank Contamination
MDP	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix interference obscuring the raw data

Value	Description
MSH	Matrix Spike and/or Matrix Spike Duplicate – High Recovery
MSL	Matrix Spike and/or Matrix Spike Duplicate – Low Recovery
OT	Other
PD	Pesticide Degradation
RE	Redundant Result - due to Reanalysis or Re-extraction
SD	Serial Dilution Reproducibility
SSH	Spiked Surrogate – High Recovery
SSL	Spiked Surrogate – Low Recovery
TBL	Trip Blank Contamination
TN	Tune

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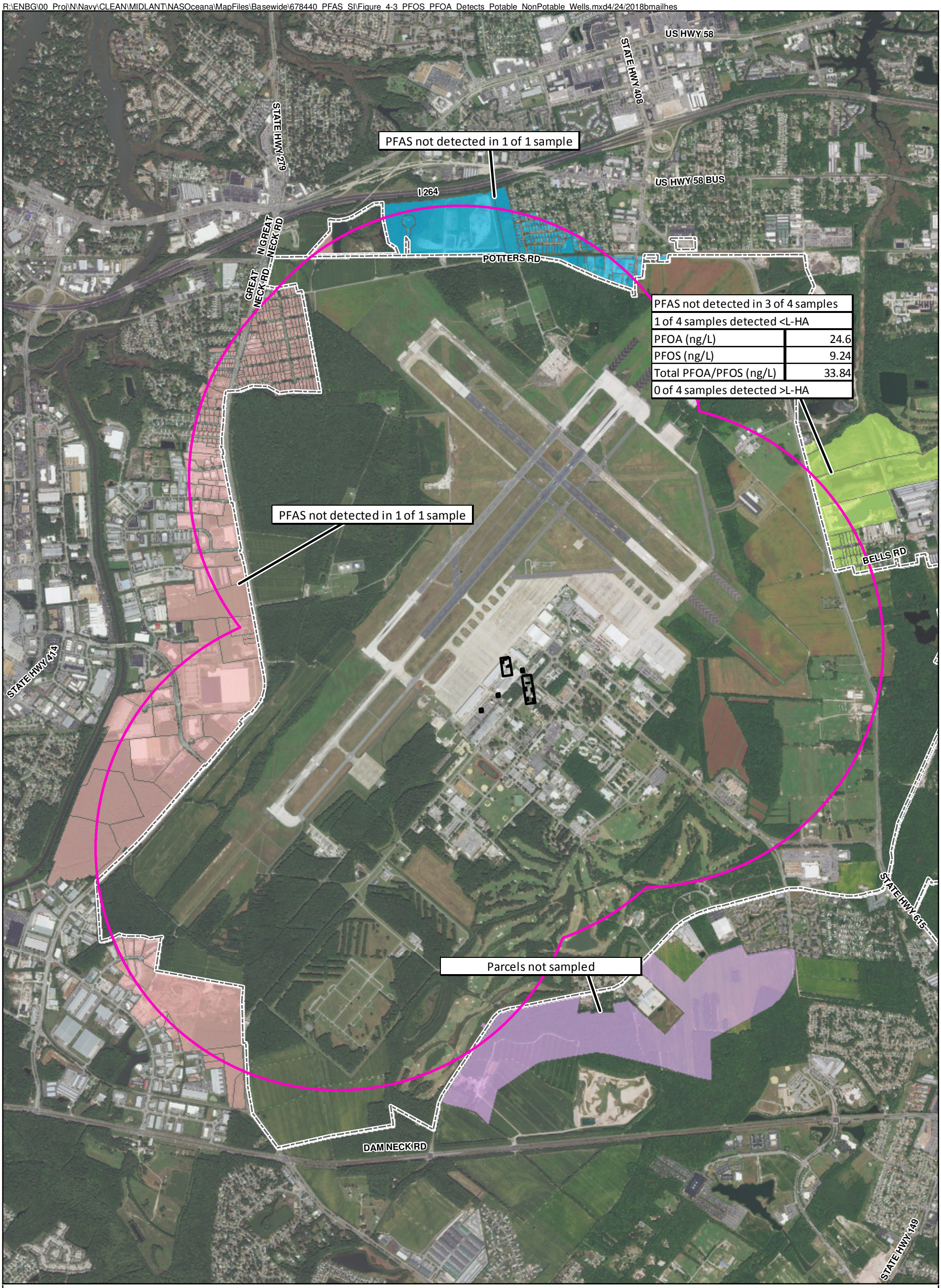

Legend

- Non-Core Target Treatment Area (2004)
- Core Target Treatment Area (2004) (Core)
- Sampling Area
- Installation Boundary

Off-Base Parcels

- East
- North
- South
- West

N
W E
S

0 1,000 2,000 4,000 Feet

Imagery Source: ©2017 Esri

Figure 4-3
COCs Detections in Potable Wells Sampled from Parcels Located Off-Base
Basewide Per- and Polyfluoroalkyl Substances Site Inspection Report
NAS Oceana, Virginia Beach, Virginia

ch2m