



**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 J17183-1**

*Naval Air Station Oceana  
Virginia Beach, Virginia*

July 2019

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

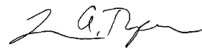
## ANALYTICAL REPORT

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

TestAmerica Job ID: 320-17183-1  
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:  
2/28/2016 11:17:12 AM

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

### LINKS

Review your project  
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Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

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

TestAmerica Job ID: 320-17183-1  
SDG: CTO WE7G PFC Sampling

**Job ID: 320-17183-1**

**Laboratory: TestAmerica Sacramento**

**Narrative**

## CASE NARRATIVE

**Client: CH2M Hill, Inc.**

**Project: CTO WE7G PFC Sampling**

**Report Number: 320-17183-1**

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 02/04/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.7° C.

### **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. DL/LOD/LOQ limits for Maxxam are included under "General Comments" in the subcontract report.

# Certification Summary

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

TestAmerica Job ID: 320-17183-1  
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

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# Sample Summary

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

TestAmerica Job ID: 320-17183-1  
SDG: CTO WE7G PFC Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-17183-1	OF-RW66-0216	Water	02/04/16 17:35	02/05/16 10:00
320-17183-2	OF-FB66-0216	Water	02/04/16 17:37	02/05/16 10:00
320-17183-3	OF-RW49-0216	Water	02/04/16 15:26	02/05/16 10:00
320-17183-4	OF-FB49-0216	Water	02/04/16 15:28	02/05/16 10:00
320-17183-5	OF-RW36A-0216	Water	02/04/16 13:57	02/05/16 10:00
320-17183-6	OF-FB36A-0216	Water	02/04/16 13:50	02/05/16 10:00
320-17183-7	OF-RW51A-0216	Water	02/04/16 11:30	02/05/16 10:00
320-17183-8	OF-FB51A-0216	Water	02/04/16 11:25	02/05/16 10:00
320-17183-9	OF-RW27-0216	Water	02/04/16 14:50	02/05/16 10:00
320-17183-10	OF-FB27-0216	Water	02/04/16 14:40	02/05/16 10:00



Your Project #: 320-17183  
Your C.O.C. #: 283625

**Attention:PFC Reporting Group**

TestAmerica  
Sacramento  
880 Riverside Parkway  
West Sacramento, CA  
USA 95605

**Report Date: 2016/02/26**  
Report #: R3910268  
Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**MAXXAM JOB #: B630792**

**Received: 2016/02/13, 13:40**

Sample Matrix: Water  
# Samples Received: 10

Analyses	Date		Laboratory Method	Reference
	Quantity Extracted	Date Analyzed		
Low level PFOS and PFOA in water	10	2016/02/18	2016/02/19 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) 332-8788

=====

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 is a NELAP accredited laboratory. Certificates #04012 and #4079-001. This certificate shall not be reproduced except in full, without the written approval of Maxxam.



Maxxam Job #: B630792  
Report Date: 2016/02/26

TestAmerica  
Client Project #: 320-17183

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		BVX782	BVX783	BVX784	BVX785	BVX786			
Sampling Date		2016/02/04 17:35	2016/02/04 17:37	2016/02/04 15:26	2016/02/04 15:28	2016/02/04 13:57			
COC Number		283625	283625	283625	283625	283625			
	UNITS	OF-RW66-0216	OF-FB66-0216	OF-RW49-0216	OF-FB49-0216	OF-RW36A-0216	MDL	QC Batch	RDL
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	0.27 U	0.27 U	0.74 J	0.27	4385888	2.0
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39	4385888	2.0
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.40 U	0.88 J	0.68 J	0.69 J	0.40	4385888	2.0
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39	4385888	2.0
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33	4385888	2.0
Perfluorooctane Sulfonate (PFOS)	ng/L	0.30 U	0.30 U	0.41 J	0.30 U	0.30 U	0.30	4385888	2.0
<b>Surrogate Recovery (%)</b>									
13C4-Perfluoroheptanoic acid	%	92	98	93	95	73	N/A	4385888	N/A
13C4-Perfluorooctanesulfonate	%	88	112	105	106	73	N/A	4385888	N/A
13C4-Perfluorooctanoic acid	%	92	109	102	100	78	N/A	4385888	N/A
13C5-Perfluorononanoic acid	%	105	116	111	110	80	N/A	4385888	N/A
18O2-Perfluorohexanesulfonate	%	91	97	98	91	74	N/A	4385888	N/A
QC Batch = Quality Control Batch N/A = Not Applicable									

Maxxam ID		BVX787	BVX788	BVX789	BVX790	BVX791			
Sampling Date		2016/02/04 13:50	2016/02/04 11:30	2016/02/04 11:25	2016/02/04 14:50	2016/02/04 14:40			
COC Number		283625	283625	283625	283625	283625			
	UNITS	OF-FB36A-0216	OF-RW51A-0216	OF-FB51A-0216	OF-RW27-0216	OF-FB27-0216	MDL	QC Batch	RDL
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	0.27 U	0.67 J	0.27 U	0.27	4385888	2.0
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39	4385888	2.0
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.68 J	0.40 U	0.66 J	0.40 U	0.40	4385888	2.0
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39	4385888	2.0
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33	4385888	2.0
Perfluorooctane Sulfonate (PFOS)	ng/L	0.42 J	0.30 U	0.30 U	0.30 U	0.30 U	0.30	4385888	2.0
<b>Surrogate Recovery (%)</b>									
13C4-Perfluoroheptanoic acid	%	92	70	96	77	101	N/A	4385888	N/A
13C4-Perfluorooctanesulfonate	%	97	68	101	80	108	N/A	4385888	N/A
13C4-Perfluorooctanoic acid	%	94	72	94	83	102	N/A	4385888	N/A
13C5-Perfluorononanoic acid	%	113	75	107	88	121	N/A	4385888	N/A
18O2-Perfluorohexanesulfonate	%	71	68	84	80	84	N/A	4385888	N/A
QC Batch = Quality Control Batch N/A = Not Applicable									





Maxxam Job #: B630792  
Report Date: 2016/02/26

TestAmerica  
Client Project #: 320-17183

**TEST SUMMARY**

**Maxxam ID:** BVX782  
**Sample ID:** OF-RW66-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX783  
**Sample ID:** OF-FB66-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX784  
**Sample ID:** OF-RW49-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX785  
**Sample ID:** OF-FB49-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX786  
**Sample ID:** OF-RW36A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX787  
**Sample ID:** OF-FB36A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX788  
**Sample ID:** OF-RW51A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara



Maxxam Job #: B630792  
Report Date: 2016/02/26

TestAmerica  
Client Project #: 320-17183

**TEST SUMMARY**

**Maxxam ID:** BVX789  
**Sample ID:** OF-FB51A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX790  
**Sample ID:** OF-RW27-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX791  
**Sample ID:** OF-FB27-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara



Maxxam Job #: B630792  
Report Date: 2016/02/26

TestAmerica  
Client Project #: 320-17183

**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

**Results relate only to the items tested.**



Maxxam Job #: B630792  
Report Date: 2016/02/26

TestAmerica  
Client Project #: 320-17183

**QUALITY ASSURANCE REPORT**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4385888	CM5	Matrix Spike	13C4-Perfluoroheptanoic acid	2016/02/19		103	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/19		103	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/19		105	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/19		115	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/19		96	%	50 - 130
4385888	CM5	Matrix Spike DUP	13C4-Perfluoroheptanoic acid	2016/02/19		93	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/19		102	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/19		105	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/19		117	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/19		89	%	50 - 130
4385888	CM5	Matrix Spike(BVX789)	Perfluorobutane Sulfonate (PFBS)	2016/02/19		75	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19		95	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19		97	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/19		93	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19		93	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/19		96	%	70 - 130
4385888	CM5	Matrix Spike DUP(BVX789)	Perfluorobutane Sulfonate (PFBS)	2016/02/19		85	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19		107	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19		109	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/19		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19		98	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/19		104	%	70 - 130
4385888	CM5	MS/MSD RPD	Perfluorobutane Sulfonate (PFBS)	2016/02/19	13		%	30
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19	12		%	30
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19	12		%	30
			Perfluorononanoic Acid (PFNA)	2016/02/19	12		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19	4.8		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/02/19	8.2		%	30
4385888	CM5	Spiked Blank	13C4-Perfluoroheptanoic acid	2016/02/19		96	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/19		110	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/19		105	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/19		119	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/19		93	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/19		77	%	70 - 130
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19		97	%	70 - 130
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19		94	%	70 - 130
			Perfluorononanoic Acid (PFNA)	2016/02/19		94	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19		93	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/02/19		93	%	70 - 130
4385888	CM5	Method Blank	13C4-Perfluoroheptanoic acid	2016/02/19		86	%	50 - 130
			13C4-Perfluorooctanesulfonate	2016/02/19		97	%	50 - 130
			13C4-Perfluorooctanoic acid	2016/02/19		96	%	50 - 130
			13C5-Perfluorononanoic acid	2016/02/19		103	%	50 - 130
			18O2-Perfluorohexanesulfonate	2016/02/19		84	%	50 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/02/19	0.27 U, MDL=0.27		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19	0.39 U, MDL=0.39		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19	0.40 U, MDL=0.40		ng/L	
			Perfluorononanoic Acid (PFNA)	2016/02/19	0.33 U, MDL=0.33		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19	0.39 U, MDL=0.39		ng/L	

Maxxam Job #: B630792  
Report Date: 2016/02/26

TestAmerica  
Client Project #: 320-17183

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC				Date		%		
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	UNITS	QC Limits
			Perfluorooctane Sulfonate (PFOS)	2016/02/19	0.30 U, MDL=0.30		ng/L	
<p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>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.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p>								



Maxxam Job #: B630792  
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### VALIDATION SIGNATURE PAGE

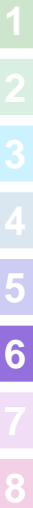
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



\_\_\_\_\_  
Sin Chii Chia, Scientific Services

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# Chain of Custody Record

Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No



320-17183 Chain of Custody

CTU WE 76

TAL-4124 (1007)

Client: **CH2M HILL** Project Manager: **Bill Friedman** Chain of Custody Number: **283625**  
 Address: **5701 Cleveland St, Suite 200** Telephone Number (Area Code)/Fax Number: **757-691-6223** Lab Number: **02/04/16**  
 City: **Virginia Beach** State: **VA** Zip Code: **23462** Site Contact: \_\_\_\_\_ Lab Contact: \_\_\_\_\_ Page: **1** of **1**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives						Special Instructions/ Conditions of Receipt		
			Air	soil	Sed	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc		NaOH	
<del>OF-FB69-0216</del> <b>PA</b>	02/04/16		X			X								
OF-RW66-0216	02/04/16	1735	X			X								
OF-FB66-0216		1737												
OF-RW49-0216		1526												
OF-FB49-0216		1528												
OF-RW36A-0216		1357												
OF-FB36A-0216		1350												
OF-RW51A-0216		1130												
OF-FB51A-0216		1125												
OF-RW27-0216		1450												
OF-RW24A-FB27-0216		1440												

Analysis: (Attach list if more space is needed) **Select PFCs**

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

QC Requirements (Specify): \_\_\_\_\_

1. Relinquished By: **[Signature]** Date: **02/04/16** Time: **1930**  
 2. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \_\_\_\_\_



**Chain of Custody Record**

Due 2/22

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes  No



320-17183 Chain of Custody

CTU WE 70  
IG

Project Manager: [Redacted] Date: 02/04/16 Chain of Custody Number: 283625  
 Telephone Number (Area Code)/Fax Number: [Redacted] Lab Number: [Redacted]  
 Site Contact: [Redacted] Lab Contact: [Redacted] Page 1 of 1

Carrier/Waybill Number: FedEx  
 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	Matrix					Containers & Preservatives					Select PFCs		
			Air	Aqueous	Sed	Soil	Urnines	H2SO4	HNO3	HCl	MeOH	20% NaOH			
DF-FB69-0216	02/04/16			X				X							
DF-RW66-0216	02/04/16	1735		X				X							
DF-FB66-0216		1737													
DF-RW49-0216		1526													
DF-FB49-0216		1528													
DF-RW36A-0216		1357													
DF-FB36A-0216		1350													
DF-RW51A-0216		1130													
DF-FB51A-0216		1125													
DF-RW27-0216		1450													
DF-RW27 FB27-0216		1440													

13-Feb-16 13:40  
 Hongmei Zhao (Grace)  
  
 B630792  
 RGN ENV-951

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: [Signature]	Date: 02/04/16	Time: 1930	1. Received By: [Signature]	Date: 2/5/16	Time: 1000
2. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:
3. Relinquished By:	Date:	Time:	3. Received By: [Signature]	Date: 2/6/2016	Time: 1340

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: 320-17183-1  
SDG Number: CTO WE7G PFC Sampling

**Login Number: 17183**  
**List Number: 1**  
**Creator: Alltucker, David R**

**List Source: TestAmerica Sacramento**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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?	True	
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.	True	
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: 320-17183-1  
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  
3/8/2016 11:24 AM

---

Laura Turpen, Project Manager I  
880 Riverside Parkway, West Sacramento, CA, 95605  
(916)374-4414  
laura.turpen@testamericainc.com  
03/08/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, 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.

**TestAmerica Laboratories, Inc.**

TestAmerica Sacramento 880 Riverside Parkway, West Sacramento, CA 95605  
Tel (916) 373-5600 Fax (916) 372-1059 [www.testamericainc.com](http://www.testamericainc.com)



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# Definitions/Glossary

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

TestAmerica Job ID: 320-17183-1  
SDG: CTO WE7G PFC Sampling

## Glossary

---

<b>Abbreviation</b>	<b>These commonly used abbreviations may or may not be present in this report.</b>
α	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: 320-17183-1

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 02/04/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.7° C.

### **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 153 of the subcontract report; page 15 of 164 of the entire report).

# Certification Summary

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

TestAmerica Job ID: 320-17183-1  
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: 320-17183-1  
SDG: CTO WE7G PFC Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-17183-1	OF-RW66-0216	Water	02/04/16 17:35	02/05/16 10:00
320-17183-2	OF-FB66-0216	Water	02/04/16 17:37	02/05/16 10:00
320-17183-3	OF-RW49-0216	Water	02/04/16 15:26	02/05/16 10:00
320-17183-4	OF-FB49-0216	Water	02/04/16 15:28	02/05/16 10:00
320-17183-5	OF-RW36A-0216	Water	02/04/16 13:57	02/05/16 10:00
320-17183-6	OF-FB36A-0216	Water	02/04/16 13:50	02/05/16 10:00
320-17183-7	OF-RW51A-0216	Water	02/04/16 11:30	02/05/16 10:00
320-17183-8	OF-FB51A--0216	Water	02/04/16 11:25	02/05/16 10:00
320-17183-9	OF-RW27-0216	Water	02/04/16 14:50	02/05/16 10:00
320-17183-10	OF-FB27-0216	Water	02/04/16 14:40	02/05/16 10:00

# Subcontract Data





Prepared for: Test America

Project: 320-17183

# **Analytical Data Package (Level IV)**

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

Maxxam Job #: B630792

Maxxam Analytics International  
6740 Campobello Rd.  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)



## Table of Contents

Maxxam Analytics International  
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Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)

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2.1 Sample Custody

3. Analytical Results

3.1 Summary Report

3.2 Sample Chromatograms

4. QA/QC Data

5. Initial Calibration

6. Continuing Calibration

Last Page



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:

Maxxam Analytics International  
6740 Campobello Rd.  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://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 assess 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  $^{13}\text{C}$ -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](http://www.maxxamanalytics.com)

**Maxxam Job: B630792**

Sample Analysis

All samples were analyzed on QC batch 4385888 (2016/02/19).

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 #: 320-17183**



**Client: TestAmerica**  
**Client Project: 320-17183**

**I. SAMPLE RECEIPT/ANALYSIS**

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
<b>Low level PFOS and PFOA in water</b>						
BVX782	OF-RW66-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX783	OF-FB66-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX784	OF-RW49-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX785	OF-FB49-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX786	OF-RW36A-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX787	OF-FB36A-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX788	OF-RW51A-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX789	OF-FB51A-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX790	OF-RW27-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19
BVX791	OF-FB27-0216	2016/02/04	2016/02/13	2016/02/18	2016/02/19	2016/02/19

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: Number of containers per sample is marked as 2 on CoC. Only 1 container was received.

**II. SAMPLE PREP:**

No problems encountered

**III. SAMPLE ANALYSIS:**

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

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.

2016/03/08

Date



## 2. Sample Management Records

Maxxam Analytics International  
6740 Campobello Rd  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://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](http://www.maxxamanalytics.com)

# Chain of Custody Record

Temperature on Receipt \_\_\_\_\_  
Drinking Water? Yes  No



320-17183 Chain of Custody

CTU WE 70

Due 2/22

Project Manager: \_\_\_\_\_  
 Telephone Number (Area Code)/Fax Number: \_\_\_\_\_  
 Site Contact: \_\_\_\_\_  
 Current Mail Number: **FEDEx**  
 Lab Contact: \_\_\_\_\_

Date: 02/04/16  
 Chain of Custody Number: 283625  
 Page 1 of 1

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	Matrix				Containers & Preservatives						Special Instructions/Conditions of Receipt				
			Air	Soil	Water	Other	Impres	H2SO4	HNO3	HCl	H2O2	None					
OF-FB69-0216-01	02/04/16	1735	X														
OF-RW66-0216	02/04/16	1737	X														
OF-RW49-0216		1526															
OF-FB49-0216		1528															
OF-RW36A-0216		1357															
OF-FB36A-0216		1350															
OF-RW51A-0216		1130															
OF-FB51A-0216		1125															
OF-RW27-0216		1450															
OF-RW24A-FB27-0216		1440															

13-Feb-16 13:40  
 Hongmei Zhao (Grace)  
 B630792  
 RGN ENV-951

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poisonous  Unknown  Return To Client  Dispose By Lab  Archive For \_\_\_\_\_ Months \_\_\_\_\_ Months \_\_\_\_\_ Months  
 (A line 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 \_\_\_\_\_

Relinquished By: *John Smith* Date: 02/04/16 Time: 1930  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: *ADD ALVA DATE*

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  
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## 3.1 Summary Report

Maxxam Analytics International  
6740 Campobello Rd  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)



Your Project #: 320-17183  
Your C.O.C. #: 283625

**Attention:PFC Reporting Group**

TestAmerica  
Sacramento  
880 Riverside Parkway  
West Sacramento, CA  
USA 95605

**Report Date: 2016/03/08**  
Report #: R3920704  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**MAXXAM JOB #: B630792**  
**Received: 2016/02/13, 13:40**

Sample Matrix: Water  
# Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Low level PFOS and PFOA in water	10	2016/02/18	2016/02/19	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.  
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**RESULTS OF ANALYSES OF WATER**

Maxxam ID		BVX782	BVX783	BVX784	BVX785	BVX786			
Sampling Date		2016/02/04 17:35	2016/02/04 17:37	2016/02/04 15:26	2016/02/04 15:28	2016/02/04 13:57			
COC Number		283625	283625	283625	283625	283625			
	UNITS	OF-RW66-0216	OF-FB66-0216	OF-RW49-0216	OF-FB49-0216	OF-RW36A-0216	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	0.27 U	0.27 U	0.74 J	2.0	0.27	4385888
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	2.0	0.39	4385888
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.40 U	0.88 J	0.68 J	0.69 J	2.0	0.40	4385888
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	2.0	0.39	4385888
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	2.0	0.33	4385888
Perfluorooctane Sulfonate (PFOS)	ng/L	0.30 U	0.30 U	0.41 J	0.30 U	0.30 U	2.0	0.30	4385888

Surrogate Recovery (%)									
13C4-Perfluoroheptanoic acid	%	92	98	93	95	73	N/A	N/A	4385888
13C4-Perfluorooctanesulfonate	%	88	112	105	106	73	N/A	N/A	4385888
13C4-Perfluorooctanoic acid	%	92	109	102	100	78	N/A	N/A	4385888
13C5-Perfluorononanoic acid	%	105	116	111	110	80	N/A	N/A	4385888
18O2-Perfluorohexanesulfonate	%	91	97	98	91	74	N/A	N/A	4385888

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
N/A = Not Applicable

Maxxam ID		BVX787	BVX788	BVX789	BVX790	BVX791			
Sampling Date		2016/02/04 13:50	2016/02/04 11:30	2016/02/04 11:25	2016/02/04 14:50	2016/02/04 14:40			
COC Number		283625	283625	283625	283625	283625			
	UNITS	OF-FB36A-0216	OF-RW51A-0216	OF-FB51A-0216	OF-RW27-0216	OF-FB27-0216	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ng/L	0.27 U	0.27 U	0.27 U	0.67 J	0.27 U	2.0	0.27	4385888
Perfluoroheptanoic Acid (PFHpA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	2.0	0.39	4385888
Perfluorohexane Sulfonate (PFHxS)	ng/L	0.40 U	0.68 J	0.40 U	0.66 J	0.40 U	2.0	0.40	4385888
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	2.0	0.39	4385888
Perfluorononanoic Acid (PFNA)	ng/L	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	2.0	0.33	4385888
Perfluorooctane Sulfonate (PFOS)	ng/L	0.42 J	0.30 U	0.30 U	0.30 U	0.30 U	2.0	0.30	4385888

Surrogate Recovery (%)									
13C4-Perfluoroheptanoic acid	%	92	70	96	77	101	N/A	N/A	4385888
13C4-Perfluorooctanesulfonate	%	97	68	101	80	108	N/A	N/A	4385888
13C4-Perfluorooctanoic acid	%	94	72	94	83	102	N/A	N/A	4385888
13C5-Perfluorononanoic acid	%	113	75	107	88	121	N/A	N/A	4385888
18O2-Perfluorohexanesulfonate	%	71	68	84	80	84	N/A	N/A	4385888

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
N/A = Not Applicable



**TEST SUMMARY**

**Maxxam ID:** BVX782  
**Sample ID:** OF-RW66-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX783  
**Sample ID:** OF-FB66-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX784  
**Sample ID:** OF-RW49-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX785  
**Sample ID:** OF-FB49-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX786  
**Sample ID:** OF-RW36A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX787  
**Sample ID:** OF-FB36A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX788  
**Sample ID:** OF-RW51A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**TEST SUMMARY**

**Maxxam ID:** BVX789  
**Sample ID:** OF-FB51A-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX790  
**Sample ID:** OF-RW27-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

**Maxxam ID:** BVX791  
**Sample ID:** OF-FB27-0216  
**Matrix:** Water

**Collected:** 2016/02/04  
**Shipped:**  
**Received:** 2016/02/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low level PFOS and PFOA in water	LCMS	4385888	2016/02/18	2016/02/19	Colm McNamara

### GENERAL COMMENTS

Report revised to remove qualifier legend

Perfluorinated Compounds (PFCs):

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

**Results relate only to the items tested.**

### QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4385888	CM5	Matrix Spike [BVX789-01]	13C4-Perfluoroheptanoic acid	2016/02/19		103	%	50 - 130	
			13C4-Perfluorooctanesulfonate	2016/02/19		103	%	50 - 130	
			13C4-Perfluorooctanoic acid	2016/02/19		105	%	50 - 130	
			13C5-Perfluorononanoic acid	2016/02/19		115	%	50 - 130	
			18O2-Perfluorohexanesulfonate	2016/02/19		96	%	50 - 130	
			Perfluorobutane Sulfonate (PFBS)	2016/02/19		75	%	70 - 130	
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19		95	%	70 - 130	
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19		97	%	70 - 130	
			Perfluorononanoic Acid (PFNA)	2016/02/19		93	%	70 - 130	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19		93	%	70 - 130	
			Perfluorooctane Sulfonate (PFOS)	2016/02/19		96	%	70 - 130	
4385888	CM5	RPD [BVX789-01]	Perfluorobutane Sulfonate (PFBS)	2016/02/19	13		%	30	
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19	12		%	30	
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19	12		%	30	
			Perfluorononanoic Acid (PFNA)	2016/02/19	12		%	30	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19	4.8		%	30	
			Perfluorooctane Sulfonate (PFOS)	2016/02/19	8.2		%	30	
4385888	CM5	Spiked Blank	13C4-Perfluoroheptanoic acid	2016/02/19		96	%	50 - 130	
			13C4-Perfluorooctanesulfonate	2016/02/19		110	%	50 - 130	
			13C4-Perfluorooctanoic acid	2016/02/19		105	%	50 - 130	
			13C5-Perfluorononanoic acid	2016/02/19		119	%	50 - 130	
			18O2-Perfluorohexanesulfonate	2016/02/19		93	%	50 - 130	
			Perfluorobutane Sulfonate (PFBS)	2016/02/19		77	%	70 - 130	
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19		97	%	70 - 130	
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19		94	%	70 - 130	
			Perfluorononanoic Acid (PFNA)	2016/02/19		94	%	70 - 130	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19		93	%	70 - 130	
			Perfluorooctane Sulfonate (PFOS)	2016/02/19		93	%	70 - 130	
4385888	CM5	Method Blank	13C4-Perfluoroheptanoic acid	2016/02/19		86	%	50 - 130	
			13C4-Perfluorooctanesulfonate	2016/02/19		97	%	50 - 130	
			13C4-Perfluorooctanoic acid	2016/02/19		96	%	50 - 130	
			13C5-Perfluorononanoic acid	2016/02/19		103	%	50 - 130	
			18O2-Perfluorohexanesulfonate	2016/02/19		84	%	50 - 130	
			Perfluorobutane Sulfonate (PFBS)	2016/02/19	0.27 U, MDL=0.27		ng/L		
			Perfluoroheptanoic Acid (PFHpA)	2016/02/19	0.39 U, MDL=0.39		ng/L		
			Perfluorohexane Sulfonate (PFHxS)	2016/02/19	0.40 U, MDL=0.40		ng/L		
			Perfluorononanoic Acid (PFNA)	2016/02/19	0.33 U, MDL=0.33		ng/L		
			Perfluoro-n-Octanoic Acid (PFOA)	2016/02/19	0.39 U, MDL=0.39		ng/L		
			Perfluorooctane Sulfonate (PFOS)	2016/02/19	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.

### VALIDATION SIGNATURE PAGE

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



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Sin Chii Chia, Scientific Services

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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.



**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](http://www.maxxamanalytics.com)



## 3.2 Sample Chromatograms

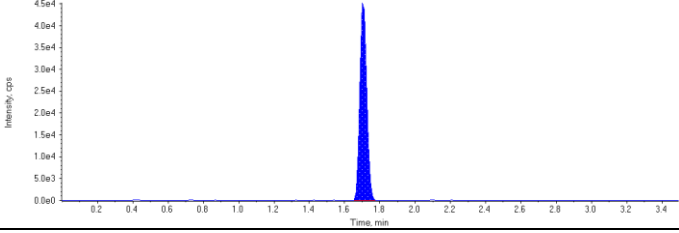
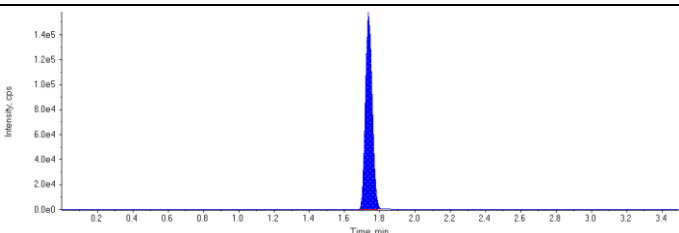
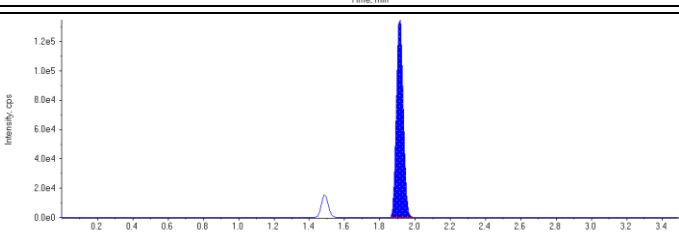
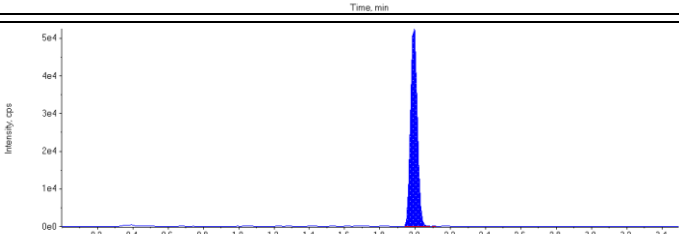
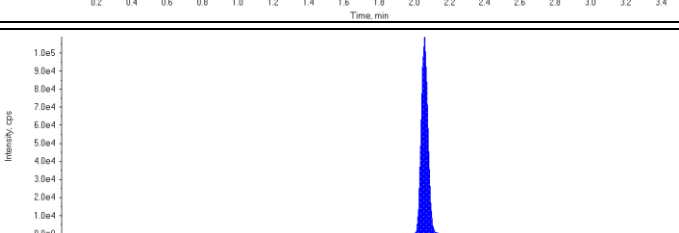
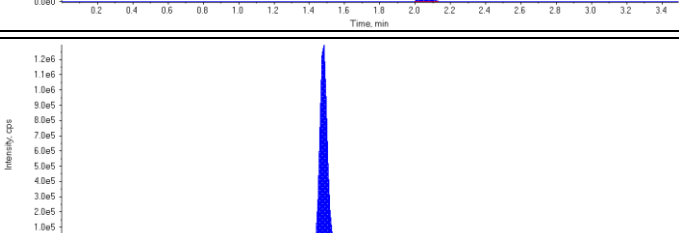
Maxxam Analytics International  
6740 Campobello Rd  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)

<b>Sample Name</b>	<b>4385888~BVX782-01</b>	<b>Injection Vial</b>	5
<b>Sample ID</b>	4385888~BVX782-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:21:31 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
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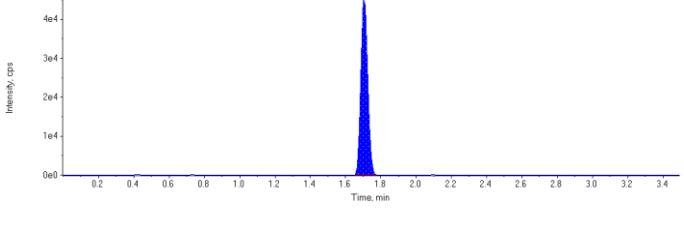
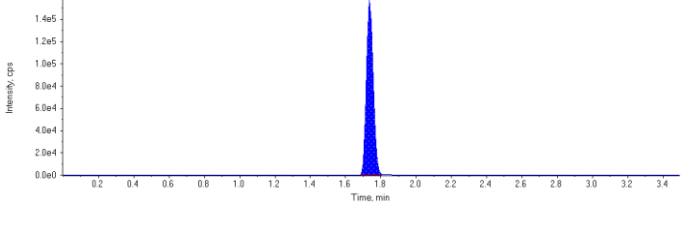
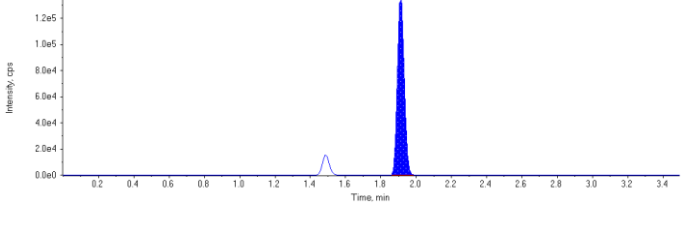
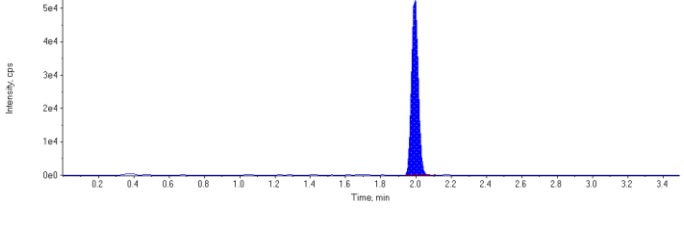
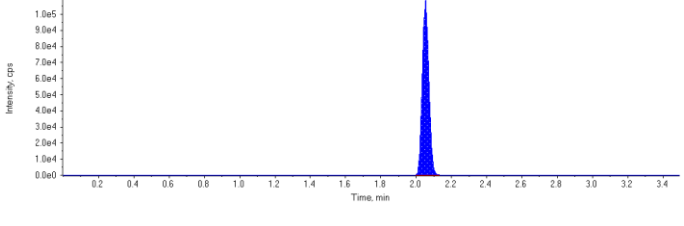
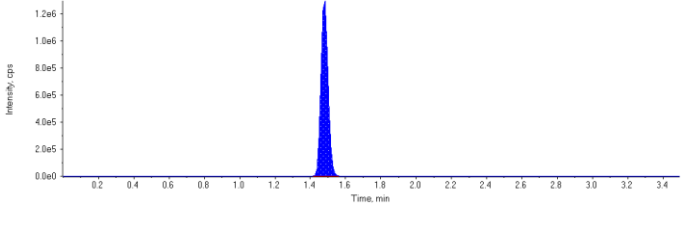
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	123000.	1.71	1.00	-
MPFHpA	418000.	1.74	1.00	-
MPFOA	366000.	1.91	1.00	-
MPFOS	141000.	1.99	1.00	-
MPFNA	284000.	2.05	1.00	-
13C6-PFHxA IS	3680000.	1.48	1.00	-
N/A	N/A	N/A	N/A	-

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	123000	1.71	N/A	90.7	N/A
13C4-PFHpA	418000	1.74	N/A	91.7	N/A
13C4-PFOA	366000	1.91	N/A	92.3	N/A
13C4-PFOS	141000	1.99	N/A	88.3	N/A
13C5-PFNA	284000	2.05	N/A	105.	N/A
13C6-PFHxA	3680000	1.48	N/A	92.3	N/A



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

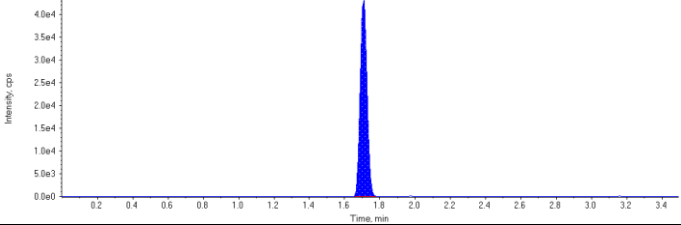
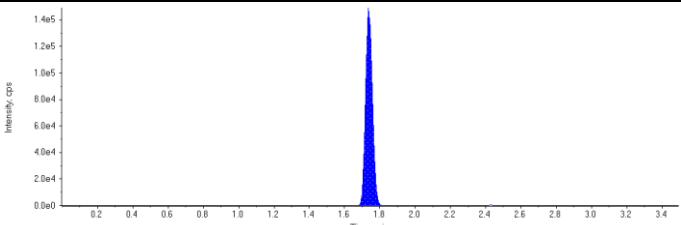
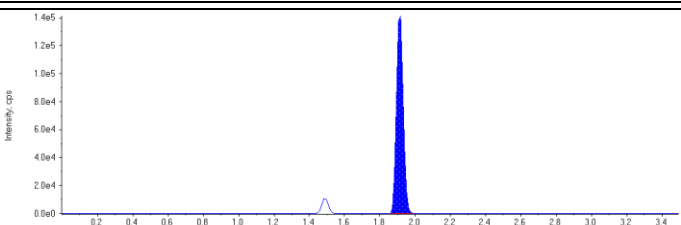
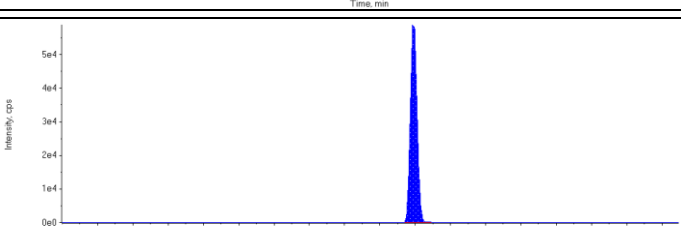
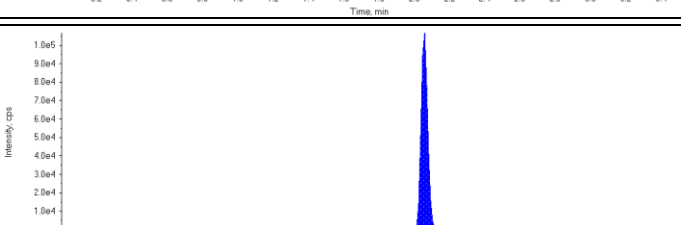
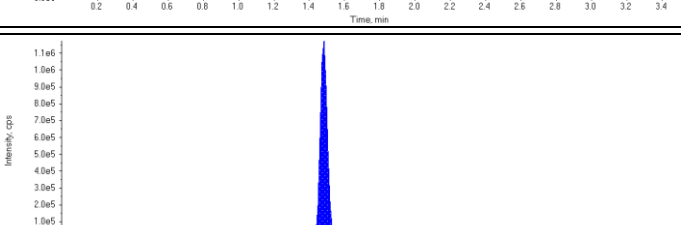
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.68) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p>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

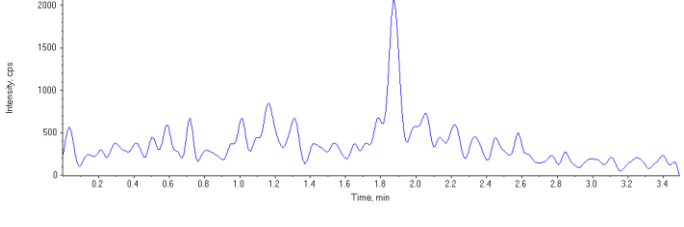
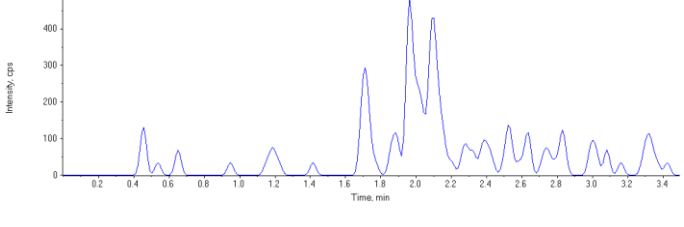
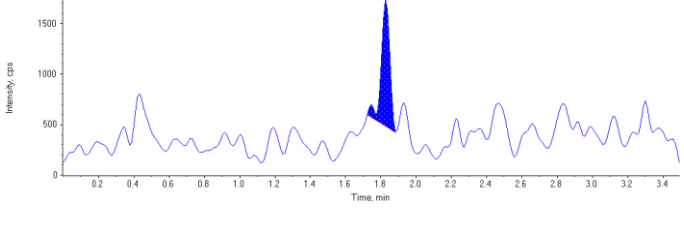
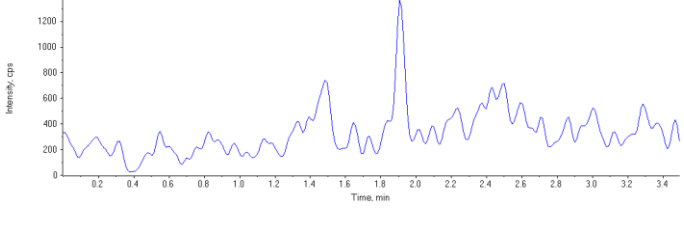
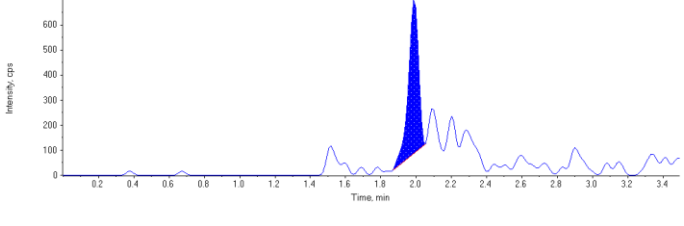
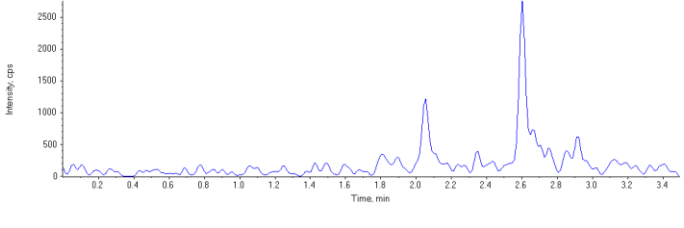
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 90.7 µg/L</p> <p>Area Ratio: 0.0334</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 91.7 µg/L</p> <p>Area Ratio: 0.113</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 92.3 µg/L</p> <p>Area Ratio: 0.0995</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 88.3 µg/L</p> <p>Area Ratio: 0.0382</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.0772</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 92.3 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

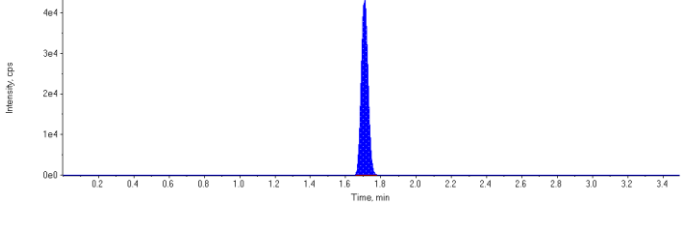
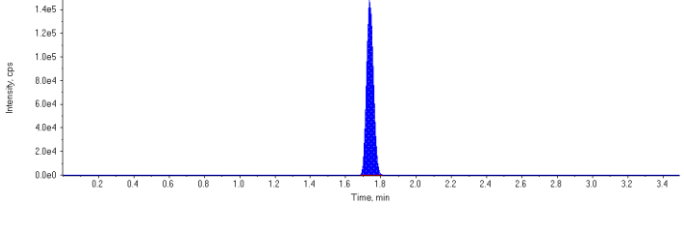
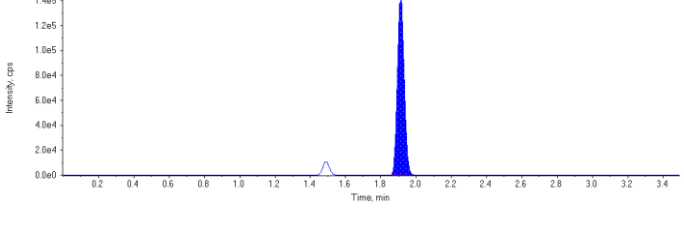
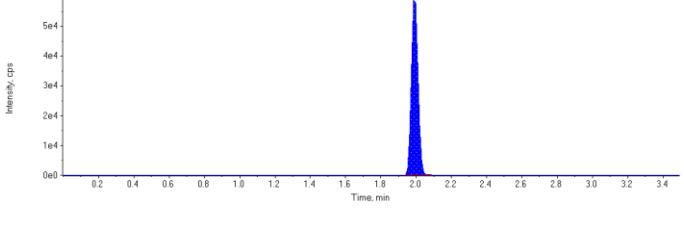
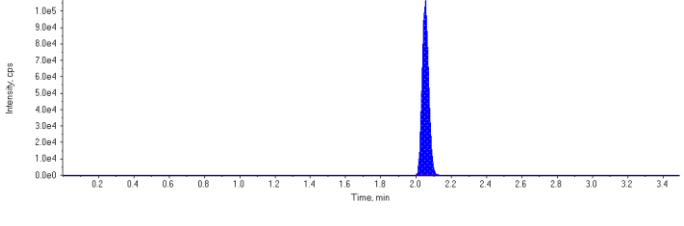
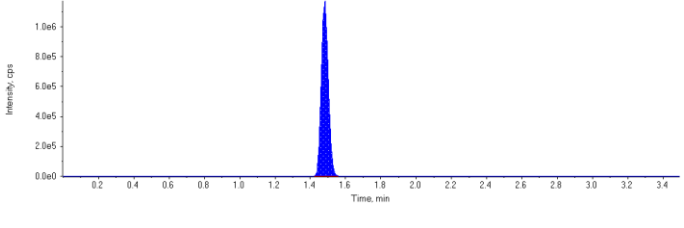
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<b>Sample ID</b>	4385888~BVX783-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:26:37 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	116000.	1.71	1.00	-
MPFHpA	397000.	1.74	1.00	-
MPFOA	382000.	1.91	1.00	-
MPFOS	157000.	1.99	1.00	-
MPFNA	279000.	2.05	1.00	-
13C6-PFHxA IS	3260000.	1.48	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	4190	1.83	N/A	0.151	N/A
PFOA 1	0	0.00	N/A	N/A	N/A
PFOS 1	2440	1.99	N/A	0.272	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	116000	1.71	N/A	97.1	N/A
13C4-PFHpA	397000	1.74	N/A	98.4	N/A
13C4-PFOA	382000	1.91	N/A	109.	N/A
13C4-PFOS	157000	1.99	N/A	112.	N/A
13C5-PFNA	279000	2.05	N/A	116.	N/A
13C6-PFHxA	3260000	1.48	N/A	81.6	N/A

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.68) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.83 (1.75) min</p> <p>Calculated Conc: 0.151 µg/L</p> <p>Area Ratio: 0.0106</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 0.272 µg/L</p> <p>Area Ratio: 0.0155</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

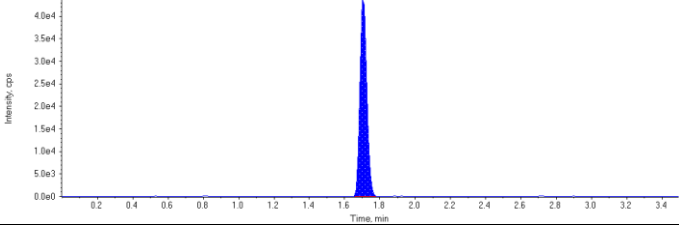
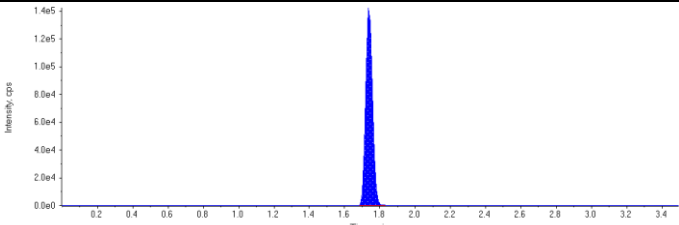
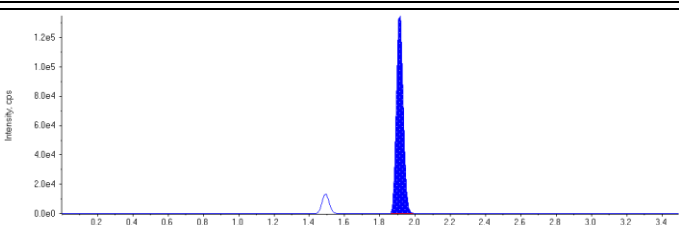
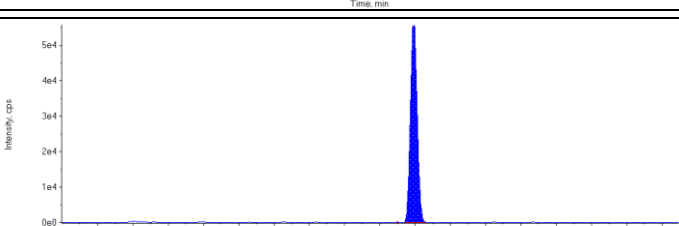
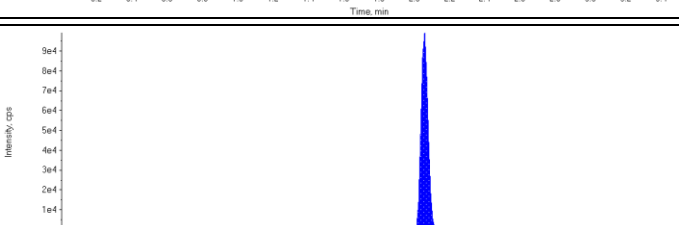
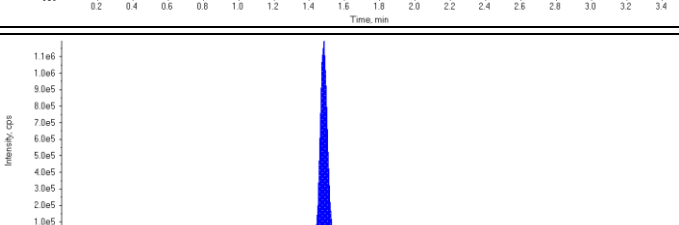
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 97.1 µg/L</p> <p>Area Ratio: 0.0357</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 98.4 µg/L</p> <p>Area Ratio: 0.122</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 109. µg/L</p> <p>Area Ratio: 0.117</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 112. µg/L</p> <p>Area Ratio: 0.0483</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 116. µg/L</p> <p>Area Ratio: 0.0855</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 81.6 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

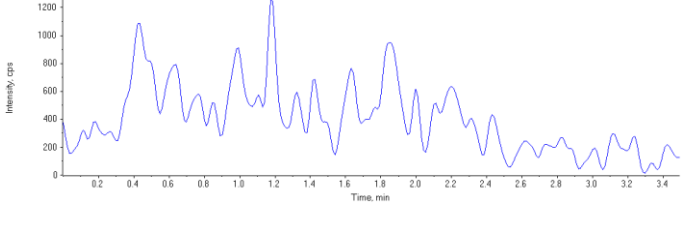
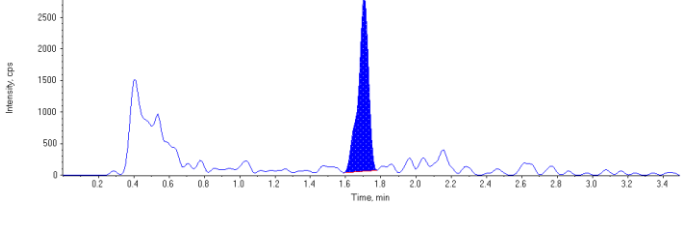
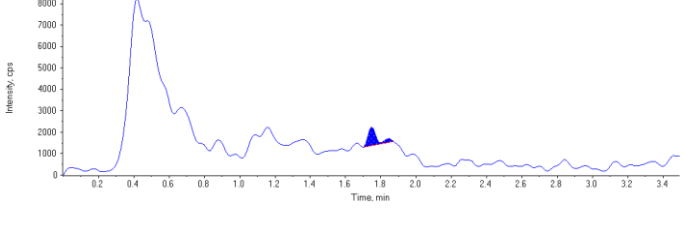
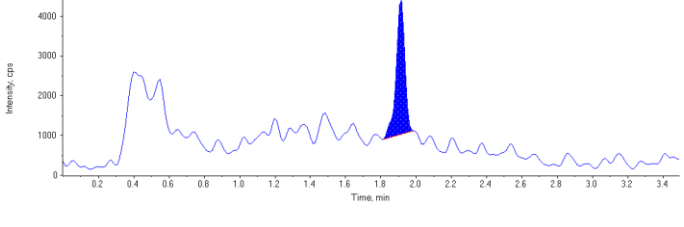
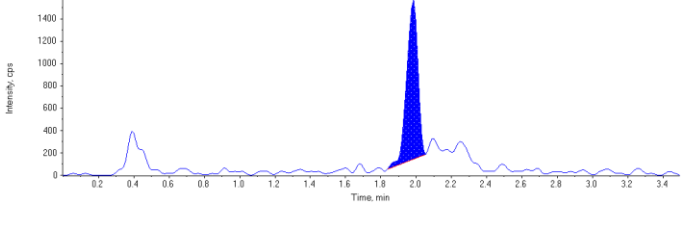
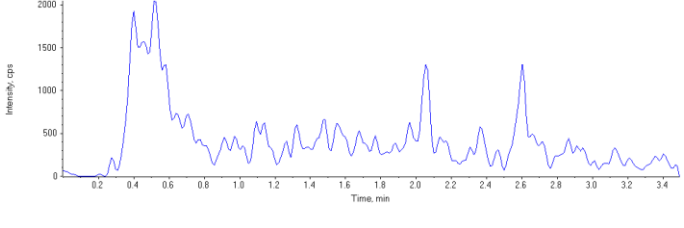
<b>Sample Name</b>	4385888~BVX784-01	<b>Injection Vial</b>	7
<b>Sample ID</b>	4385888~BVX784-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:31:43 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
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<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

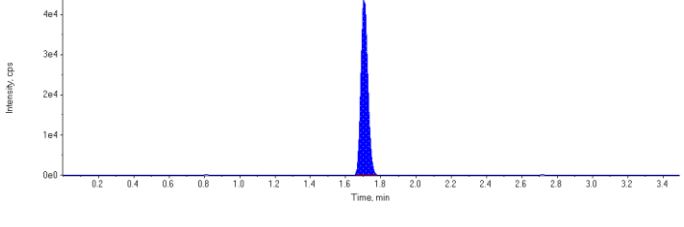
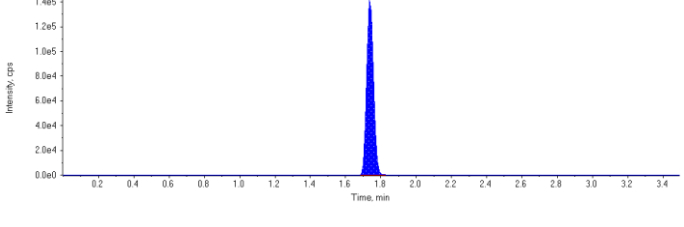
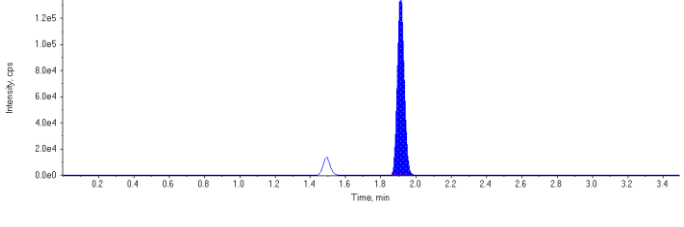
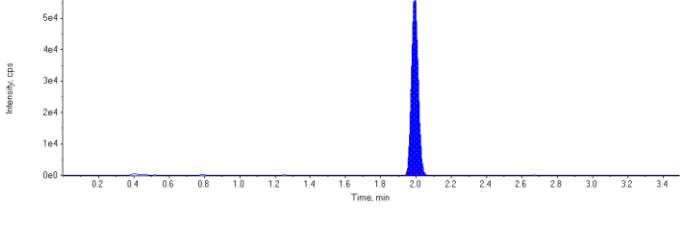
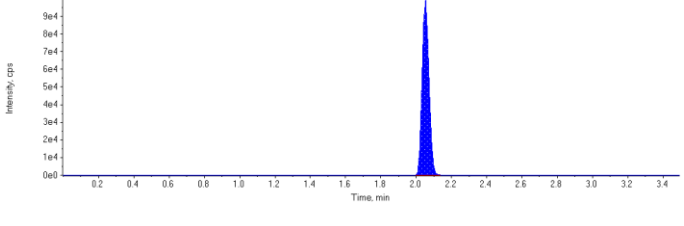
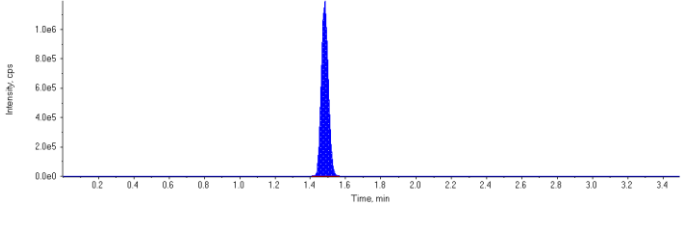
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	119000.	1.71	1.00	-
MPFHpA	382000.	1.74	1.00	-
MPFOA	366000.	1.91	1.00	-
MPFOS	151000.	1.99	1.00	-
MPFNA	270000.	2.05	1.00	-
13C6-PFHxA IS	3320000.	1.48	1.00	-
N/A	N/A	N/A	N/A	-

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	11100	1.71	N/A	0.875	N/A
PFHpA 1	3010	1.75	N/A	0.131	N/A
PFOA 1	11600	1.91	N/A	0.388	N/A
PFOS 1	6240	1.98	N/A	0.414	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	119000	1.71	N/A	97.7	N/A
13C4-PFHpA	382000	1.74	N/A	93.2	N/A
13C4-PFOA	366000	1.91	N/A	102.	N/A
13C4-PFOS	151000	1.99	N/A	105.	N/A
13C5-PFNA	270000	2.05	N/A	111.	N/A
13C6-PFHxA	3320000	1.48	N/A	83.1	N/A



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

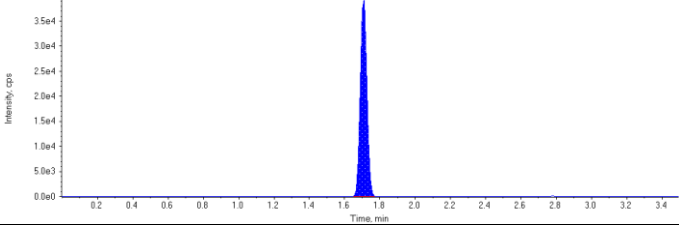
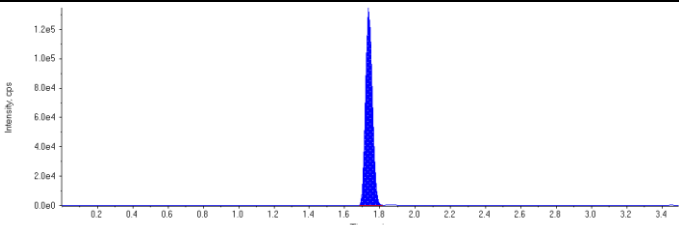
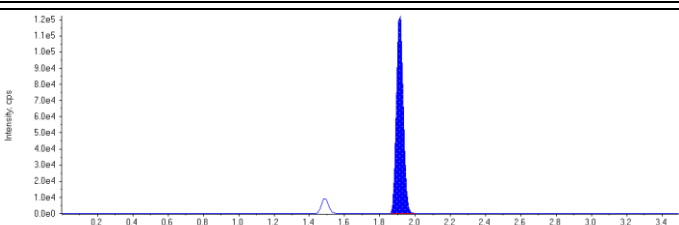
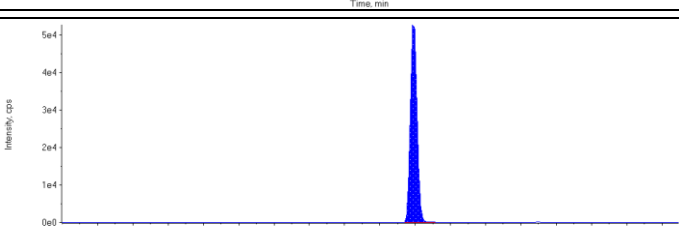
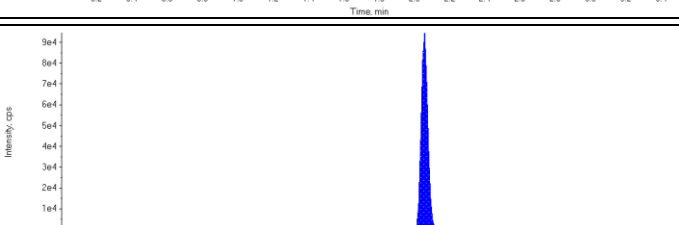
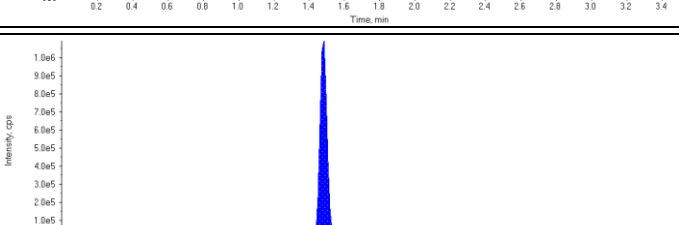
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 0.875 µg/L</p> <p>Area Ratio: 0.0931</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.75 (1.75) min</p> <p>Calculated Conc: 0.131 µg/L</p> <p>Area Ratio: 0.00787</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 0.388 µg/L</p> <p>Area Ratio: 0.0316</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.98 (1.97) min</p> <p>Calculated Conc: 0.414 µg/L</p> <p>Area Ratio: 0.0414</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

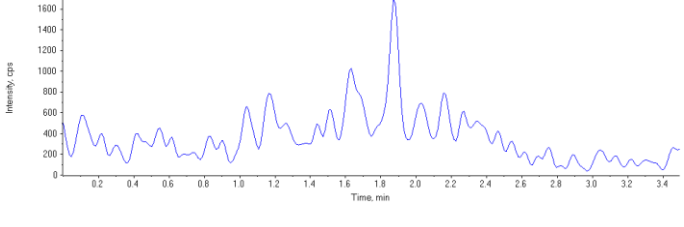
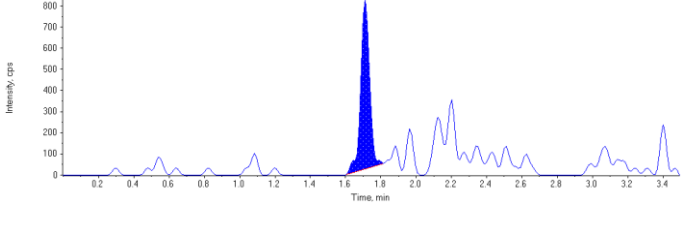
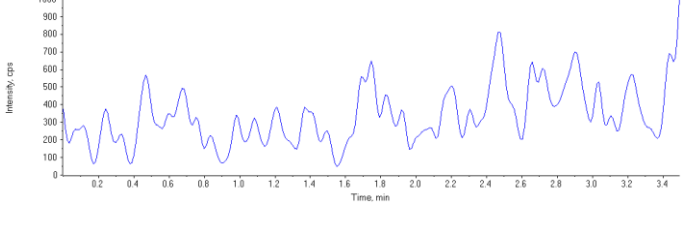
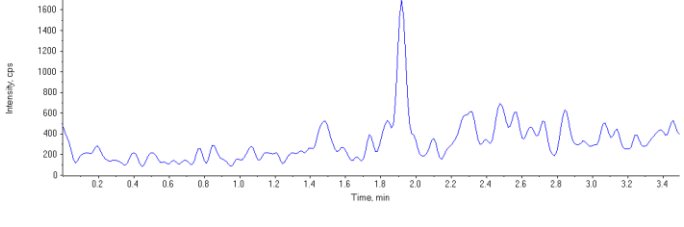
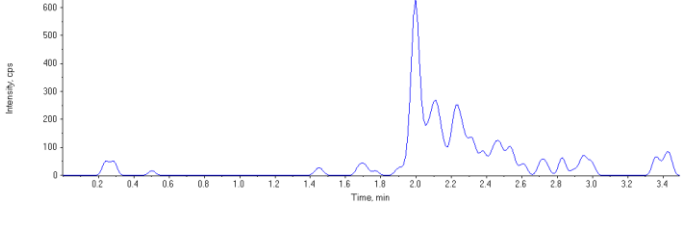
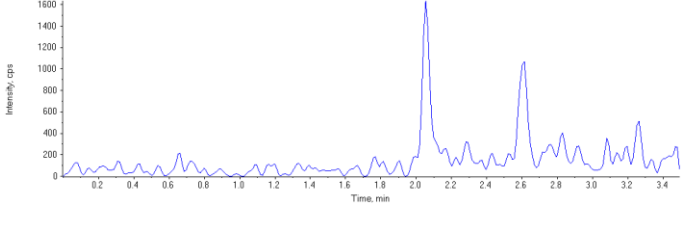
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 97.7 µg/L</p> <p>Area Ratio: 0.0360</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 93.2 µg/L</p> <p>Area Ratio: 0.115</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.110</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.0454</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 111. µg/L</p> <p>Area Ratio: 0.0815</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 83.1 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

<b>Sample Name</b>	<b>4385888~BVX785-01</b>	<b>Injection Vial</b>	8
<b>Sample ID</b>	4385888~BVX785-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:36:49 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	103000.	1.71	1.00	-
MPFHpA	358000.	1.74	1.00	-
MPFOA	331000.	1.91	1.00	-
MPFOS	140000.	1.99	1.00	-
MPFNA	247000.	2.05	1.00	-
13C6-PFHxA IS	3060000.	1.48	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	2800	1.71	N/A	0.677	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	103000	1.71	N/A	91.3	N/A
13C4-PFHpA	358000	1.74	N/A	94.6	N/A
13C4-PFOA	331000	1.91	N/A	100.	N/A
13C4-PFOS	140000	1.99	N/A	106.	N/A
13C5-PFNA	247000	2.05	N/A	110.	N/A
13C6-PFHxA	3060000	1.48	N/A	76.6	N/A

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 0.677 <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.0273</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.75) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.97) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

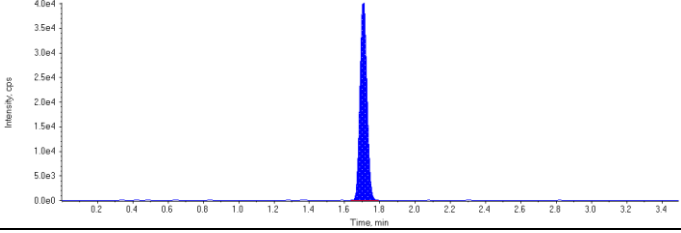
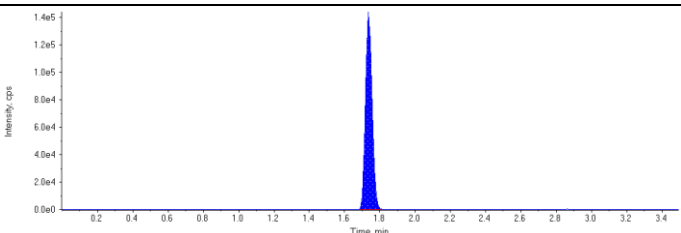
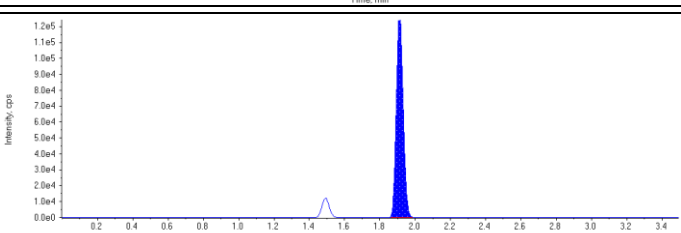
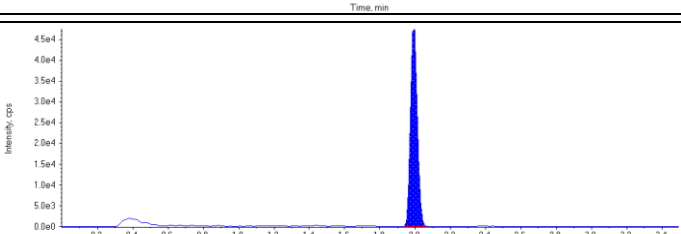
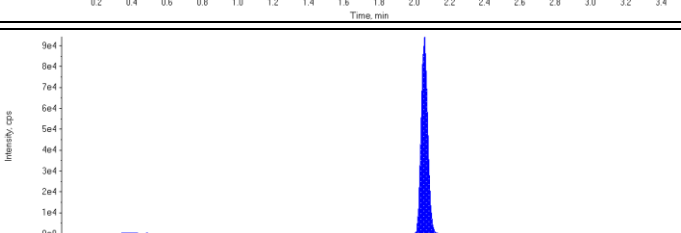
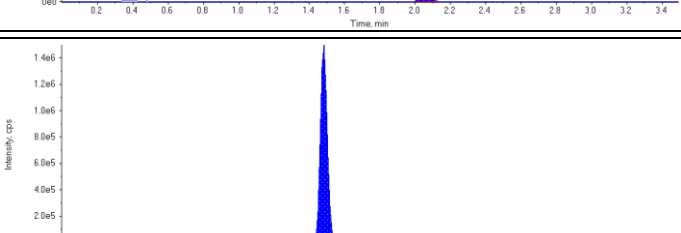
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 91.3 µg/L</p> <p>Area Ratio: 0.0336</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 94.6 µg/L</p> <p>Area Ratio: 0.117</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 100. µg/L</p> <p>Area Ratio: 0.108</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 106. µg/L</p> <p>Area Ratio: 0.0459</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 110. µg/L</p> <p>Area Ratio: 0.0809</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 76.6 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

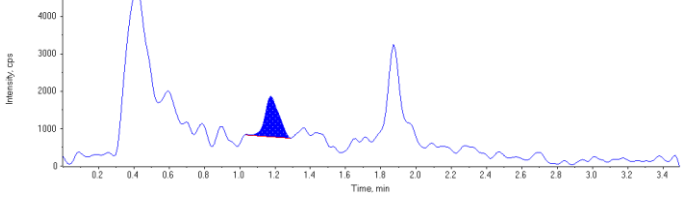
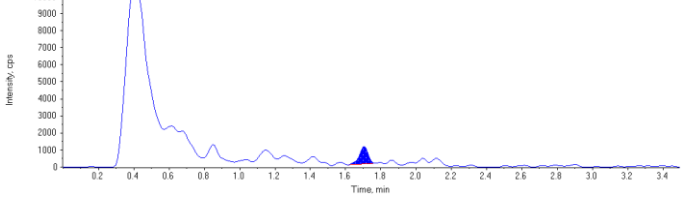
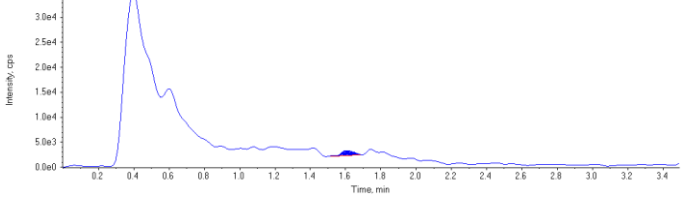
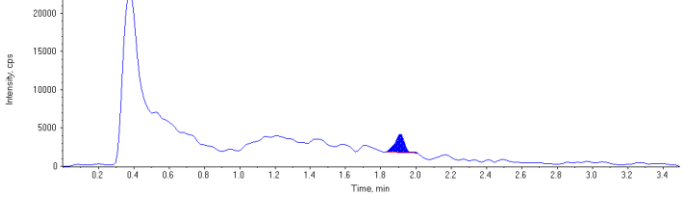
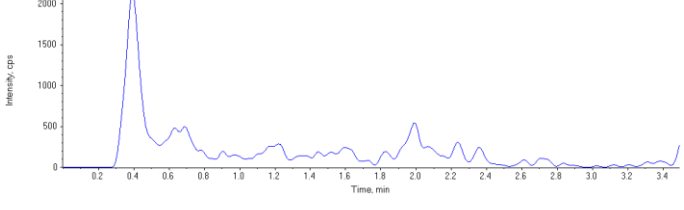
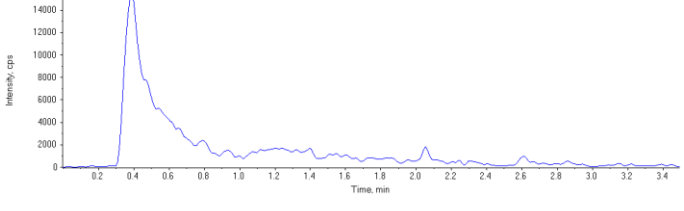
<b>Sample Name</b>	4385888~BVX786-01	<b>Injection Vial</b>	9
<b>Sample ID</b>	4385888~BVX786-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:41:55 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	112000.	1.71	1.00	-
MPFHpA	372000.	1.74	1.00	-
MPFOA	345000.	1.91	1.00	-
MPFOS	129000.	1.99	1.00	-
MPFNA	242000.	2.05	1.00	-
13C6-PFHxA IS	4110000.	1.48	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	5870	1.18	N/A	0.740	N/A
PFHxS 1	3540	1.71	N/A	0.690	N/A
PFHpA 1	5010	1.61	N/A	0.173	N/A
PFOA 1	9110	1.91	N/A	0.356	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	112000	1.71	N/A	74.0	N/A
13C4-PFHpA	372000	1.74	N/A	73.2	N/A
13C4-PFOA	345000	1.91	N/A	77.7	N/A
13C4-PFOS	129000	1.99	N/A	72.6	N/A
13C5-PFNA	242000	2.05	N/A	80.0	N/A
13C6-PFHxA	4110000	1.48	N/A	103.	N/A



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

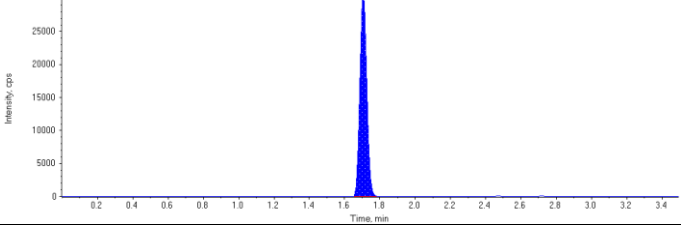
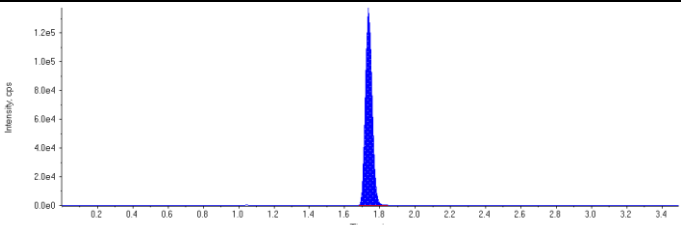
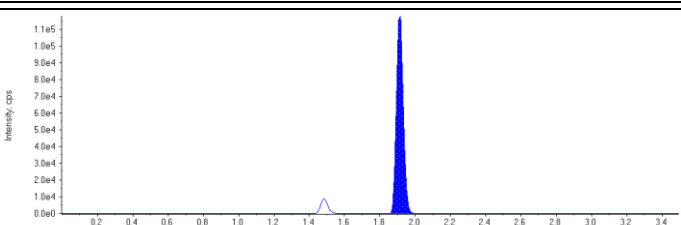
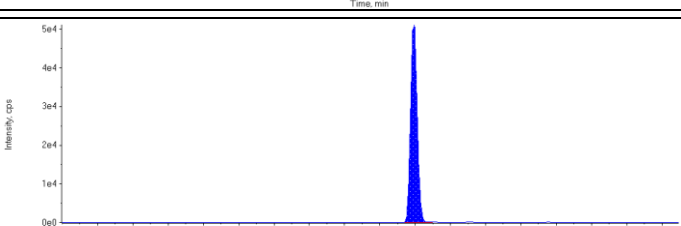
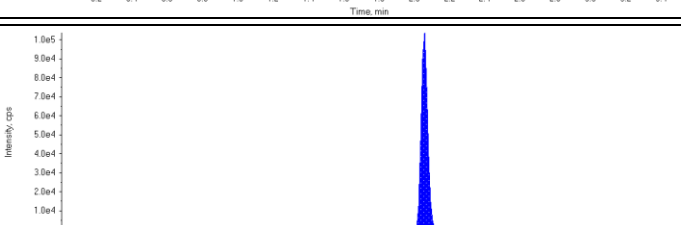
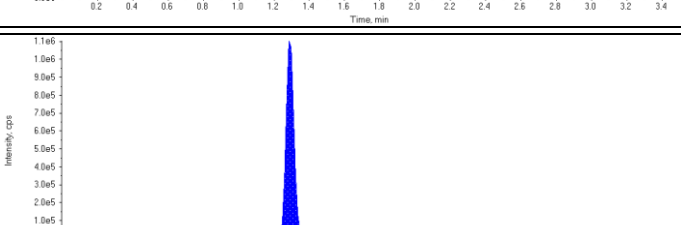
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.18 (1.15) min</p> <p>Calculated Conc: 0.740 µg/L</p> <p>Area Ratio: 0.0525</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 0.690 µg/L</p> <p>Area Ratio: 0.0316</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.61 (1.75) min</p> <p>Calculated Conc: 0.173 µg/L</p> <p>Area Ratio: 0.0135</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 0.356 µg/L</p> <p>Area Ratio: 0.0264</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.97) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

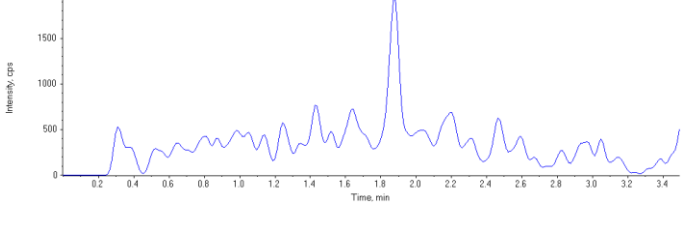
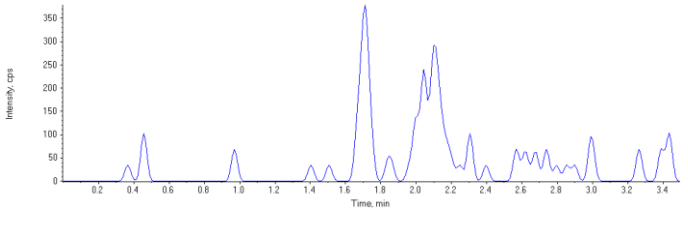
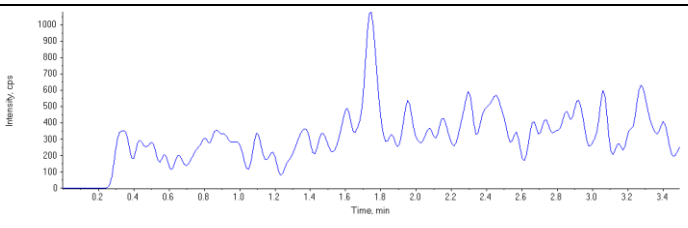
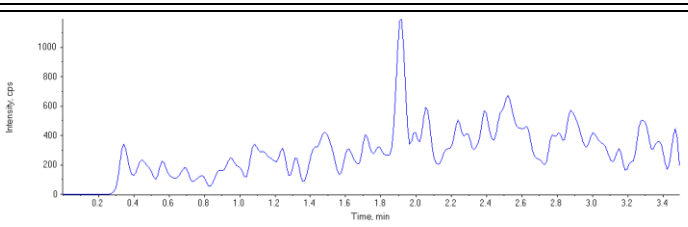
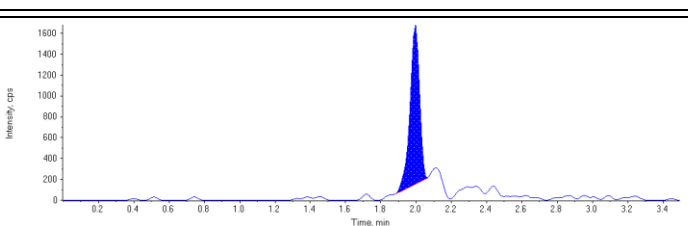
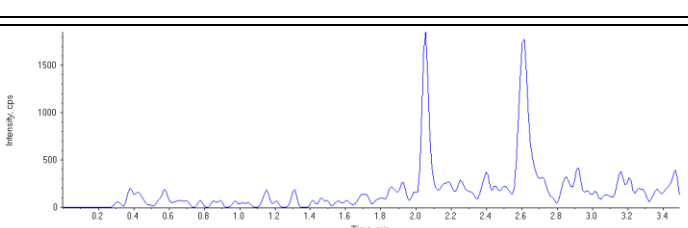
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 74.0 µg/L</p> <p>Area Ratio: 0.0272</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 73.2 µg/L</p> <p>Area Ratio: 0.0905</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 77.7 µg/L</p> <p>Area Ratio: 0.0839</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 72.6 µg/L</p> <p>Area Ratio: 0.0314</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 80.0 µg/L</p> <p>Area Ratio: 0.0588</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

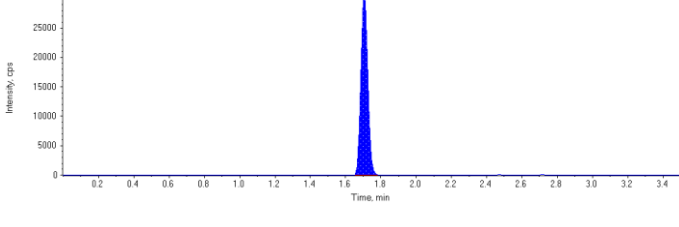
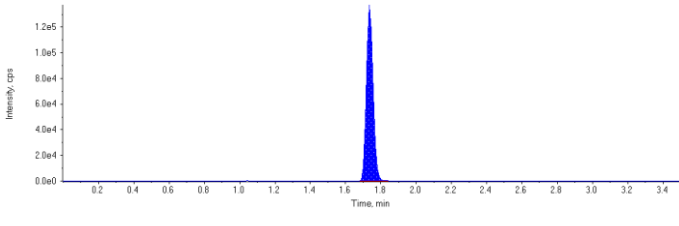
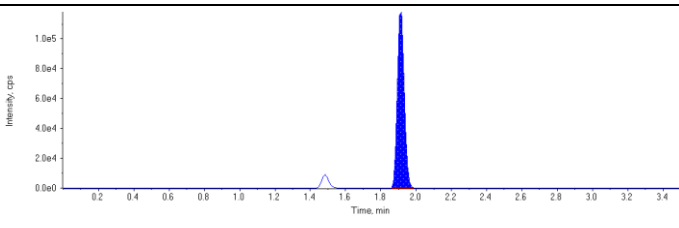
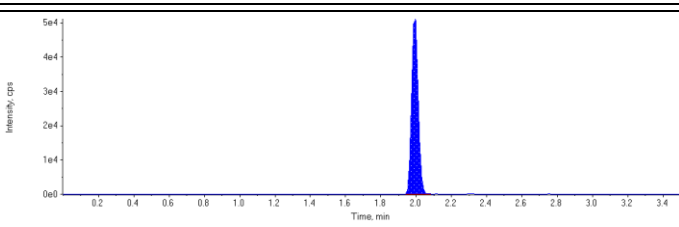
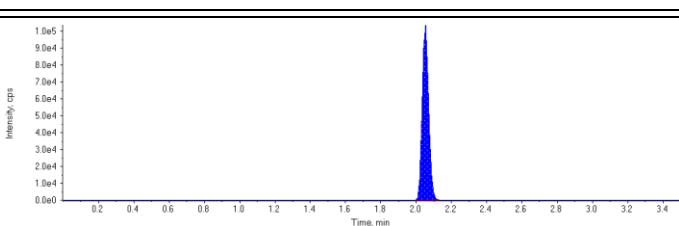
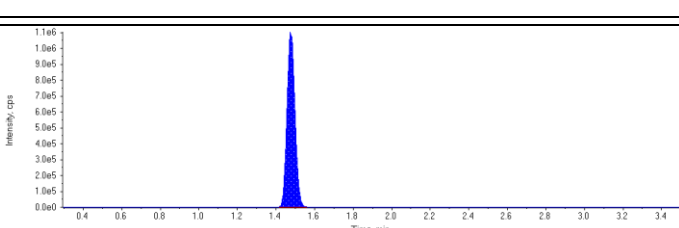
<b>Sample Name</b>	<b>4385888~BVX787-01</b>	<b>Injection Vial</b>	10
<b>Sample ID</b>	4385888~BVX787-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:47:01 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	83300.	1.71	1.00	-
MPFHpA	361000.	1.74	1.00	-
MPFOA	323000.	1.91	1.00	-
MPFOS	134000.	1.99	1.00	-
MPFNA	265000.	2.05	1.00	-
13C6-PFHxA IS	3180000.	1.48	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	5720	1.99	N/A	0.422	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	83300	1.71	N/A	71.1	N/A
13C4-PFHpA	361000	1.74	N/A	91.6	N/A
13C4-PFOA	323000	1.91	N/A	94.0	N/A
13C4-PFOS	134000	1.99	N/A	97.3	N/A
13C5-PFNA	265000	2.05	N/A	113.	N/A
13C6-PFHxA	3180000	1.48	N/A	79.7	N/A

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.68) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.75) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 0.422 µg/L</p> <p>Area Ratio: 0.0428</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

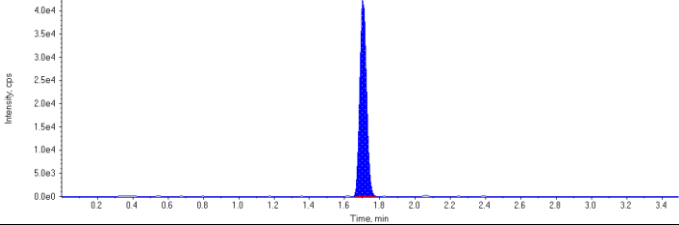
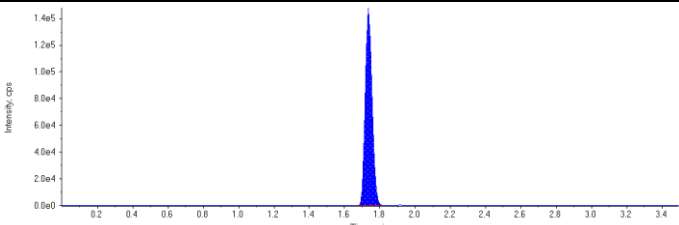
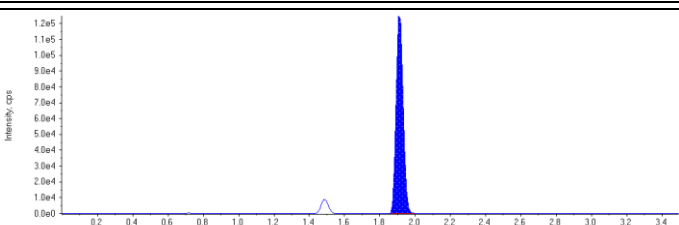
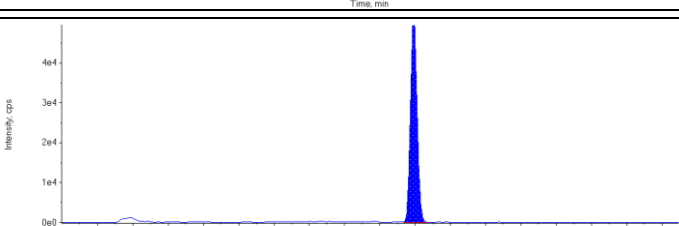
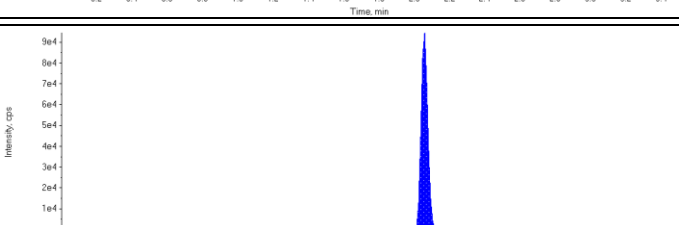
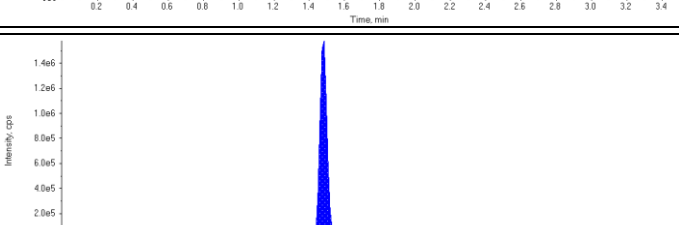
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 71.1 µg/L</p> <p>Area Ratio: 0.0262</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 91.6 µg/L</p> <p>Area Ratio: 0.113</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 94.0 µg/L</p> <p>Area Ratio: 0.101</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 97.3 µg/L</p> <p>Area Ratio: 0.0420</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 113. µg/L</p> <p>Area Ratio: 0.0832</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 79.7 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

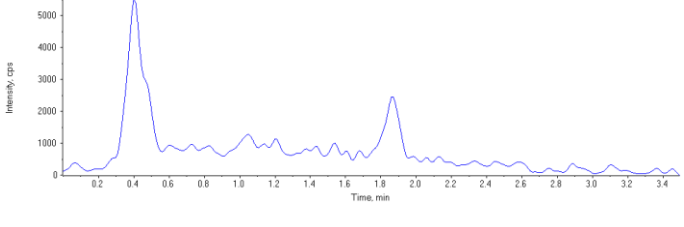
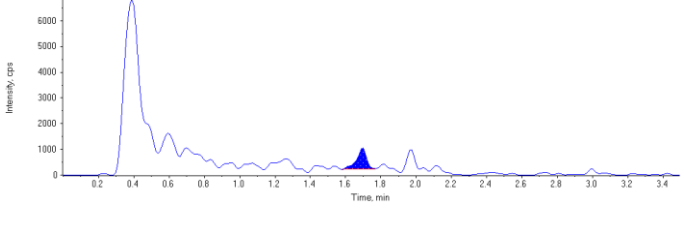
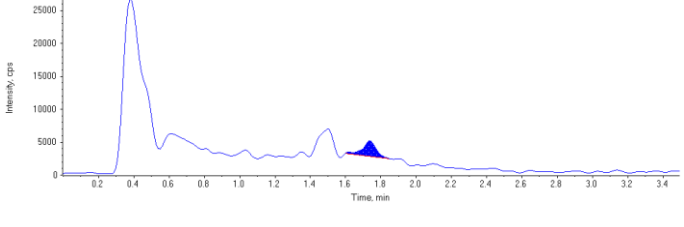
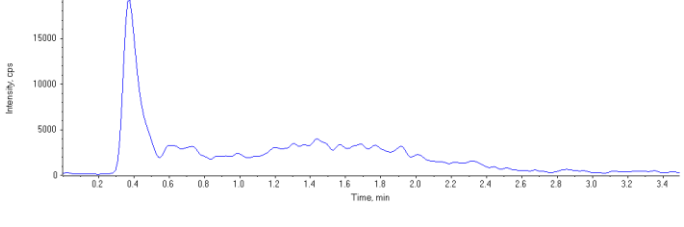
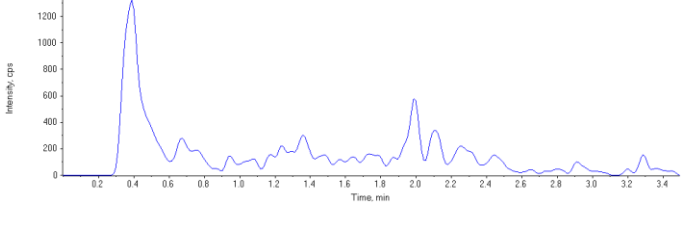
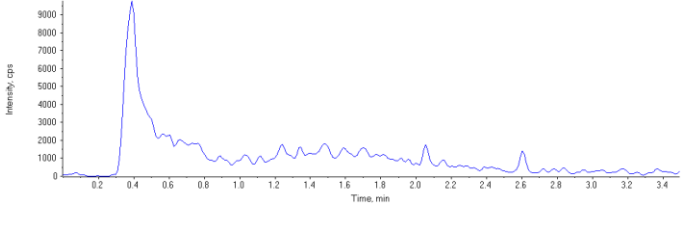
<b>Sample Name</b>	<b>4385888~BVX788-01</b>	<b>Injection Vial</b>	11
<b>Sample ID</b>	4385888~BVX788-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:52:07 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	112000.	1.70	1.00	-
MPFHpA	392000.	1.74	1.00	-
MPFOA	350000.	1.91	1.00	-
MPFOS	133000.	1.99	1.00	-
MPFNA	248000.	2.05	1.00	-
13C6-PFHxA IS	4500000.	1.48	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	3150	1.70	N/A	0.679	N/A
PFHpA 1	12700	1.74	N/A	0.314	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	112000	1.70	N/A	67.9	N/A
13C4-PFHpA	392000	1.74	N/A	70.4	N/A
13C4-PFOA	350000	1.91	N/A	72.1	N/A
13C4-PFOS	133000	1.99	N/A	68.3	N/A
13C5-PFNA	248000	2.05	N/A	75.0	N/A
13C6-PFHxA	4500000	1.48	N/A	113.	N/A



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

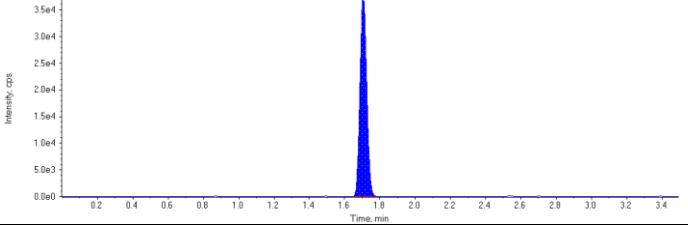
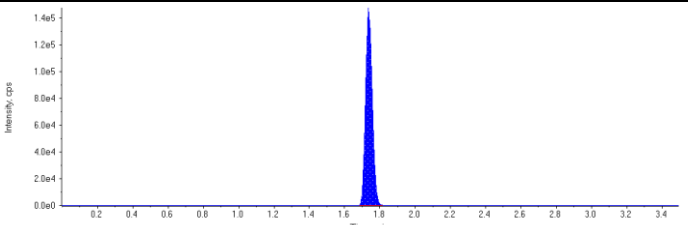
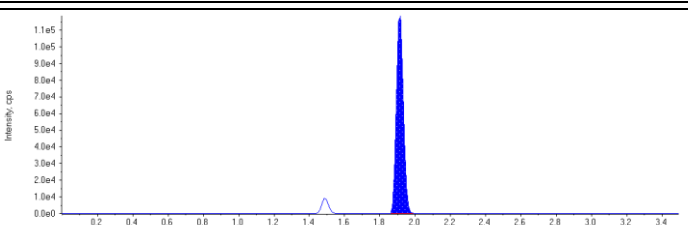
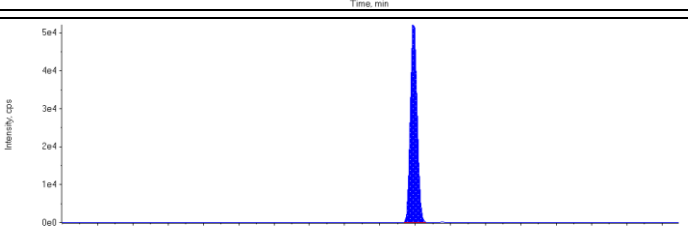
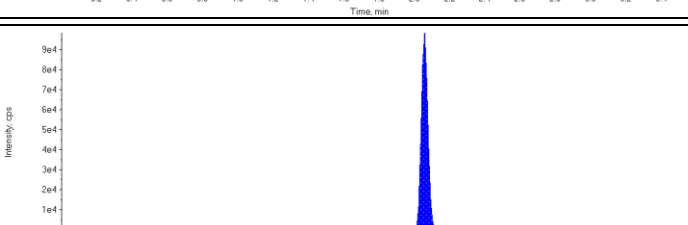
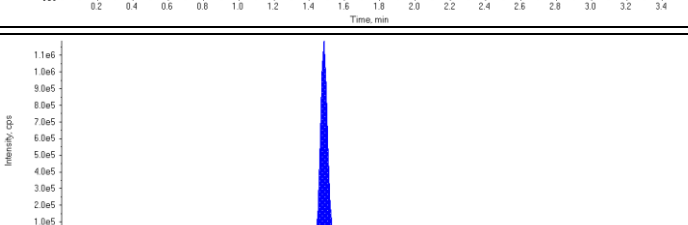
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 0.679 µg/L</p> <p>Area Ratio: 0.0280</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 0.314 µg/L</p> <p>Area Ratio: 0.0325</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.97) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

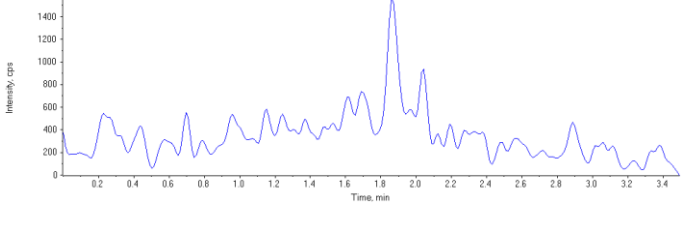
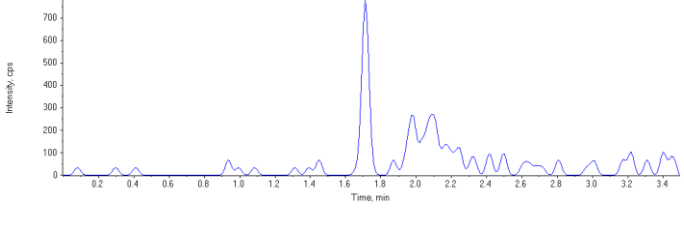
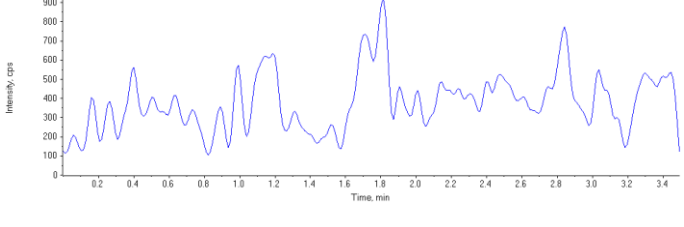
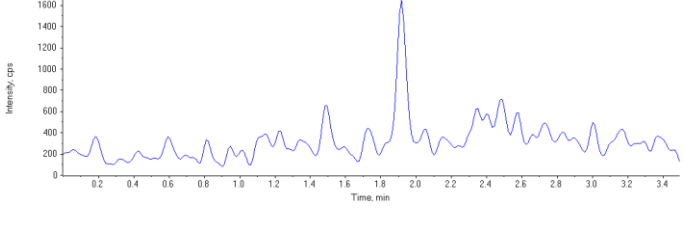
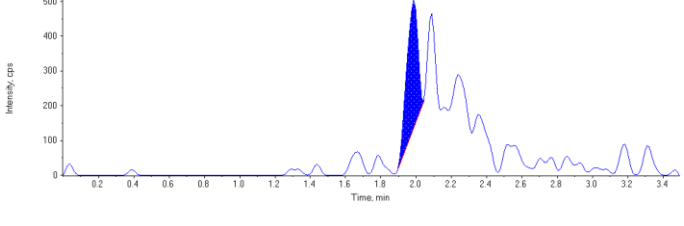
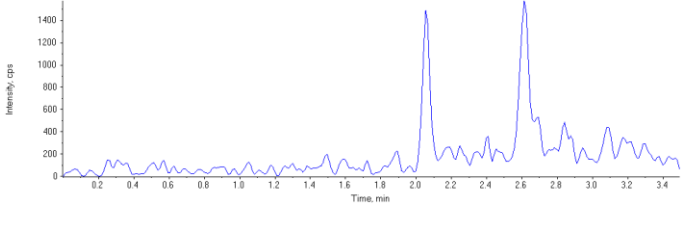
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 67.9 µg/L</p> <p>Area Ratio: 0.0250</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 70.4 µg/L</p> <p>Area Ratio: 0.0871</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 72.1 µg/L</p> <p>Area Ratio: 0.0778</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 68.3 µg/L</p> <p>Area Ratio: 0.0295</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 75.0 µg/L</p> <p>Area Ratio: 0.0552</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 113. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

<b>Sample Name</b>	<b>4385888~BVX789-01</b>	<b>Injection Vial</b>	12
<b>Sample ID</b>	4385888~BVX789-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:57:13 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	99800.	1.71	1.00	-
MPFHpA	385000.	1.74	1.00	-
MPFOA	330000.	1.91	1.00	-
MPFOS	142000.	1.99	1.00	-
MPFNA	254000.	2.05	1.00	-
13C6-PFHxA IS	3240000.	1.48	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	1620	1.99	N/A	0.250	N/A
PFNA 1	0	0.00	N/A	N/A	N/A
18O2-PFHxS	99800	1.71	N/A	83.7	N/A
13C4-PFHpA	385000	1.74	N/A	96.2	N/A
13C4-PFOA	330000	1.91	N/A	94.4	N/A
13C4-PFOS	142000	1.99	N/A	101.	N/A
13C5-PFNA	254000	2.05	N/A	107.	N/A
13C6-PFHxA	3240000	1.48	N/A	81.1	N/A

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.68) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.75) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 0.250 µg/L</p> <p>Area Ratio: 0.0115</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

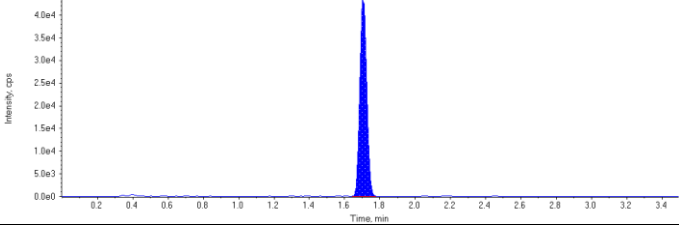
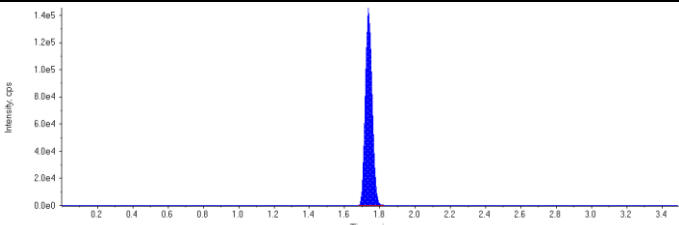
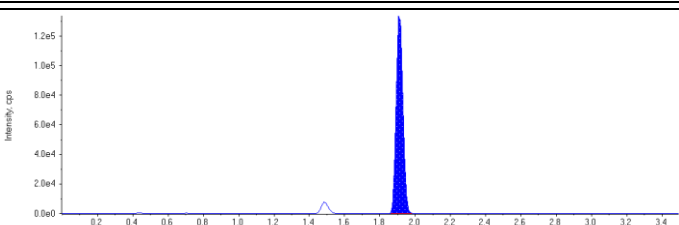
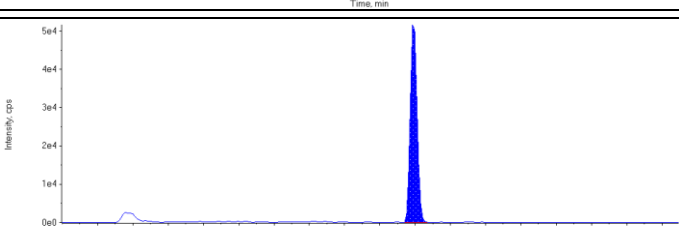
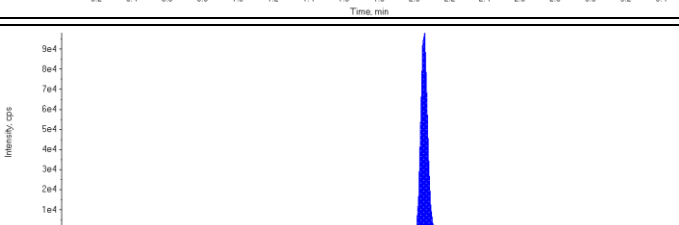
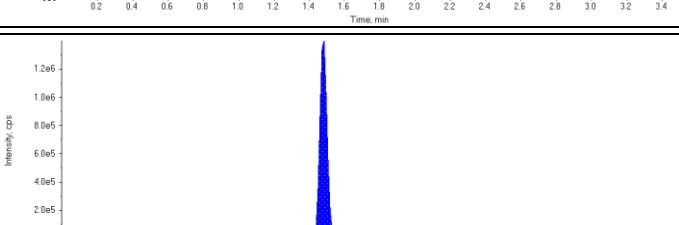
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 83.7 µg/L</p> <p>Area Ratio: 0.0308</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 96.2 µg/L</p> <p>Area Ratio: 0.119</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 94.4 µg/L</p> <p>Area Ratio: 0.102</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.0438</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 107. µg/L</p> <p>Area Ratio: 0.0784</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 81.1 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

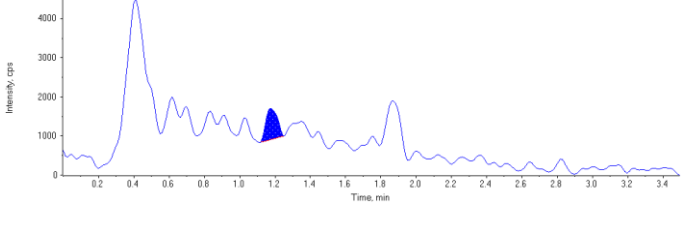
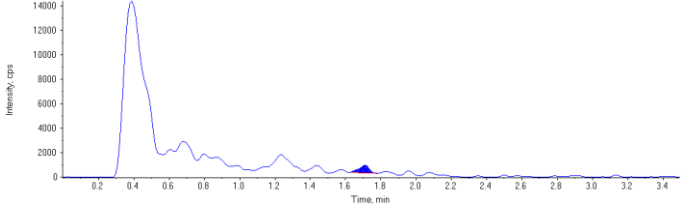
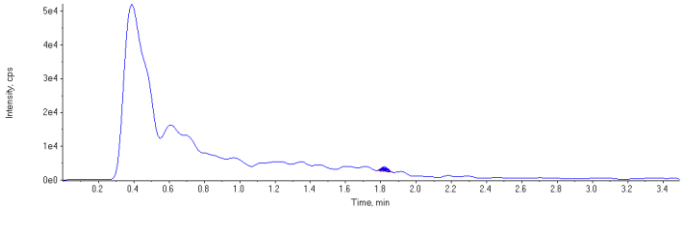
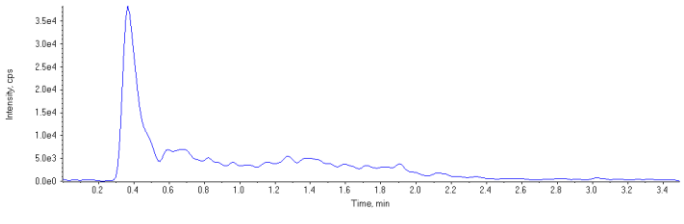
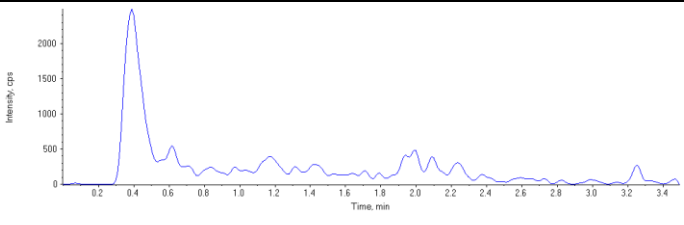
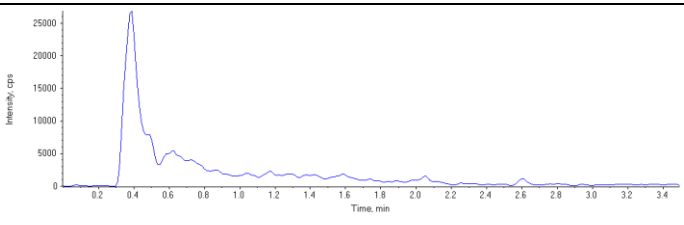
<b>Sample Name</b>	<b>4385888~BVX790-01</b>	<b>Injection Vial</b>	13
<b>Sample ID</b>	4385888~BVX790-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 2:02:18 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	119000.	1.71	1.00	-
MPFHpA	385000.	1.74	1.00	-
MPFOA	359000.	1.91	1.00	-
MPFOS	140000.	1.99	1.00	-
MPFNA	261000.	2.05	1.00	-
13C6-PFHxA IS	4030000.	1.48	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	3590	1.18	N/A	0.668	N/A
PFHxS 1	2550	1.71	N/A	0.660	N/A
PFHpA 1	4020	1.82	N/A	0.150	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	119000	1.71	N/A	80.2	N/A
13C4-PFHpA	385000	1.74	N/A	77.1	N/A
13C4-PFOA	359000	1.91	N/A	82.5	N/A
13C4-PFOS	140000	1.99	N/A	80.3	N/A
13C5-PFNA	261000	2.05	N/A	87.8	N/A
13C6-PFHxA	4030000	1.48	N/A	101.	N/A



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

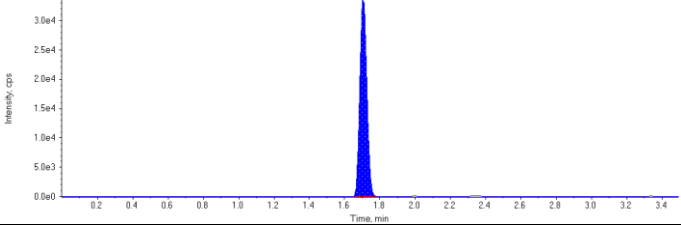
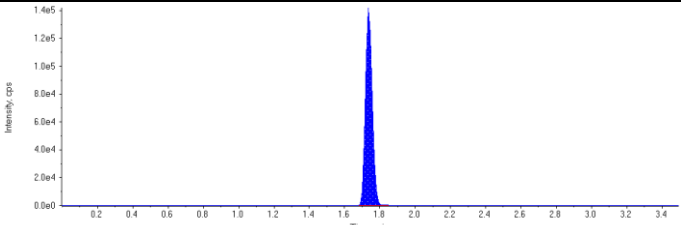
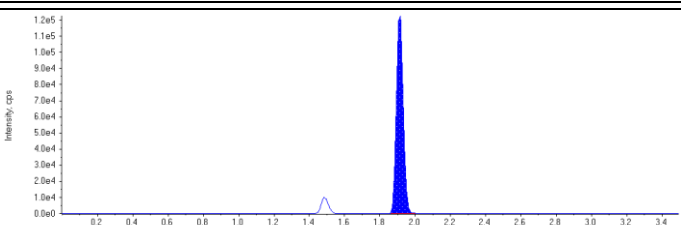
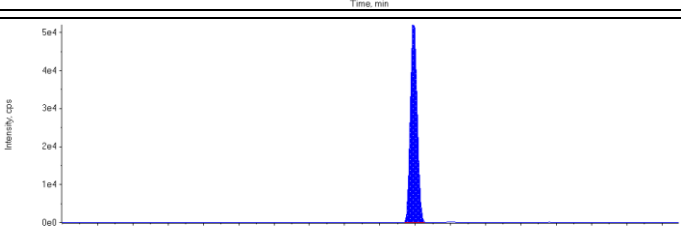
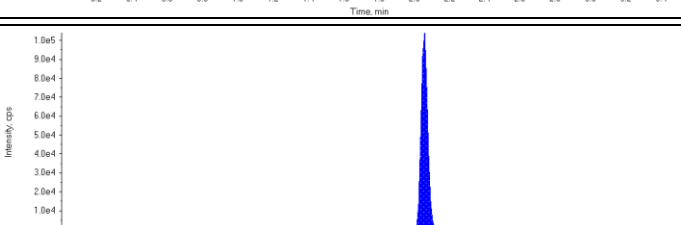
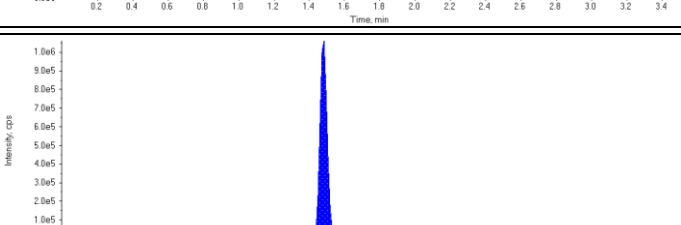
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.18 (1.15) min</p> <p>Calculated Conc: 0.668 µg/L</p> <p>Area Ratio: 0.0301</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 0.660 µg/L</p> <p>Area Ratio: 0.0214</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.82 (1.75) min</p> <p>Calculated Conc: 0.150 µg/L</p> <p>Area Ratio: 0.0104</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.97) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

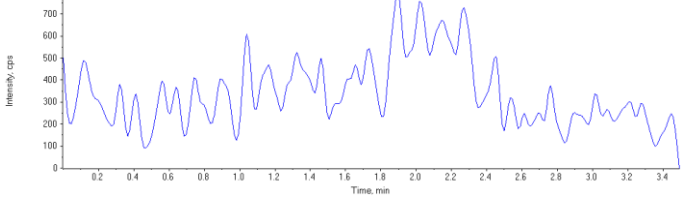
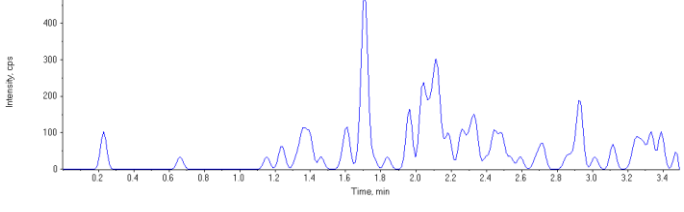
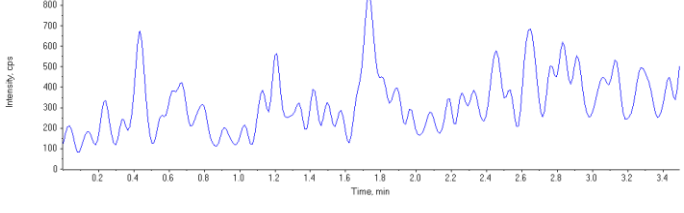
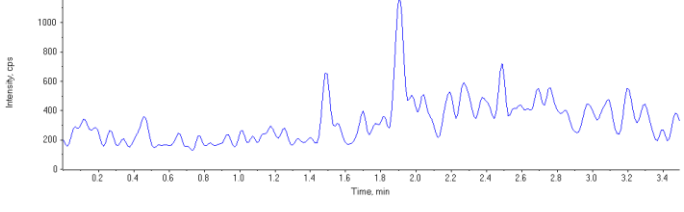
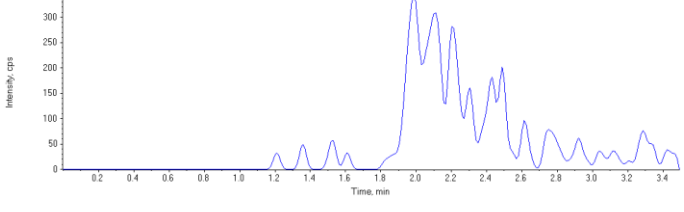
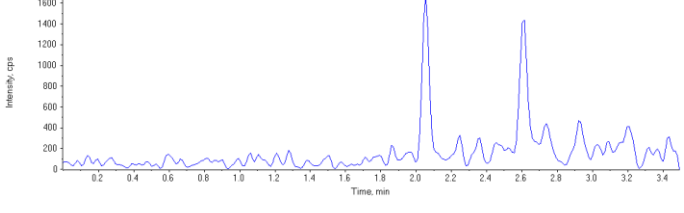
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 80.2 µg/L</p> <p>Area Ratio: 0.0295</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 77.1 µg/L</p> <p>Area Ratio: 0.0954</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 82.5 µg/L</p> <p>Area Ratio: 0.0890</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 80.3 µg/L</p> <p>Area Ratio: 0.0347</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 87.8 µg/L</p> <p>Area Ratio: 0.0646</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

<b>Sample Name</b>	4385888~BVX791-01	<b>Injection Vial</b>	14
<b>Sample ID</b>	4385888~BVX791-01	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Unknown	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 2:07:25 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	93900.	1.71	1.00	-
MPFHpA	377000.	1.74	1.00	-
MPFOA	334000.	1.91	1.00	-
MPFOS	142000.	1.99	1.00	-
MPFNA	269000.	2.05	1.00	-
13C6-PFHxA IS	3030000.	1.48	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	93900	1.71	N/A	84.1	N/A
13C4-PFHpA	377000	1.74	N/A	101.	N/A
13C4-PFOA	334000	1.91	N/A	102.	N/A
13C4-PFOS	142000	1.99	N/A	108.	N/A
13C5-PFNA	269000	2.05	N/A	121.	N/A
13C6-PFHxA	3030000	1.48	N/A	76.0	N/A

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Unknown)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.68) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.75) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 0.00 (1.92) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.97) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 0.00 (2.02) min</p> <p>Calculated Conc: N/A <math>\mu\text{g/L}</math></p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	

<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 84.1 µg/L</p> <p>Area Ratio: 0.0310</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.124</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.110</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 108. µg/L</p> <p>Area Ratio: 0.0469</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 121. µg/L</p> <p>Area Ratio: 0.0888</p> <p>Sample Type: (Unknown)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 76.0 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Unknown)</p>	



## 4. QA/QC Data

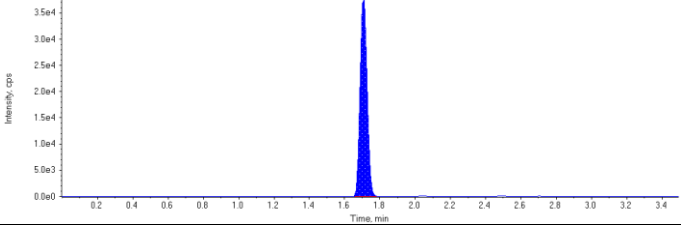
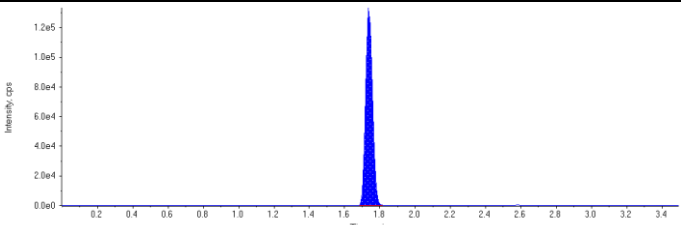
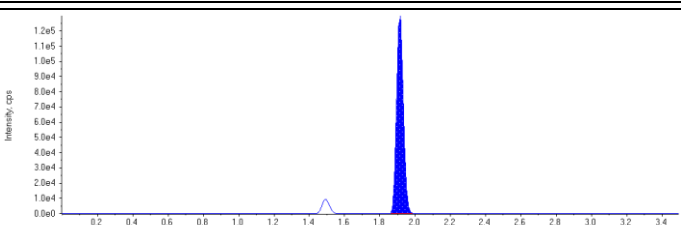
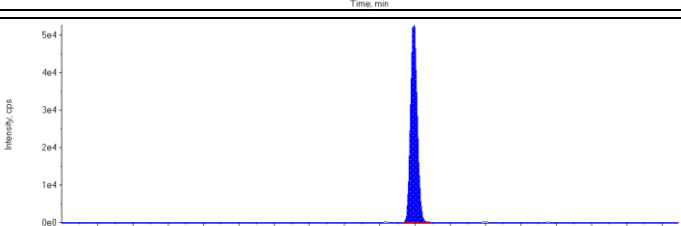
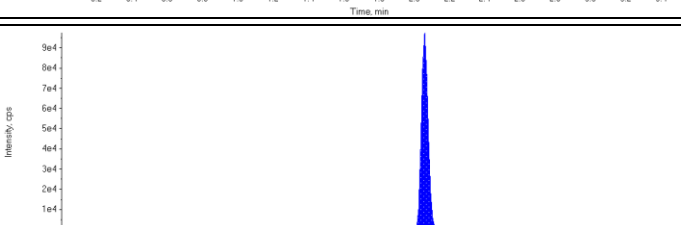
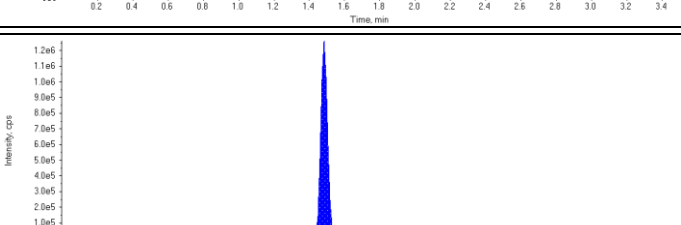
Maxxam Analytics International  
6740 Campobello Rd  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)

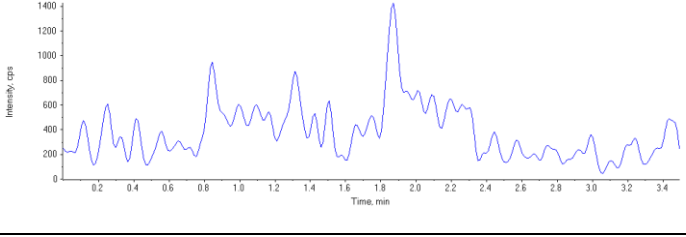
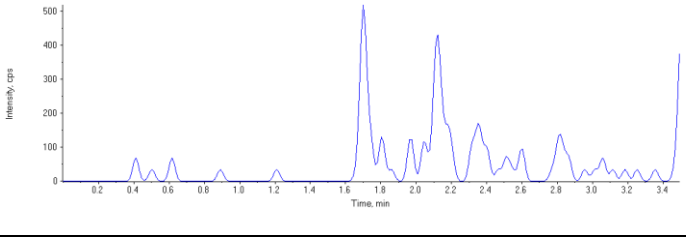
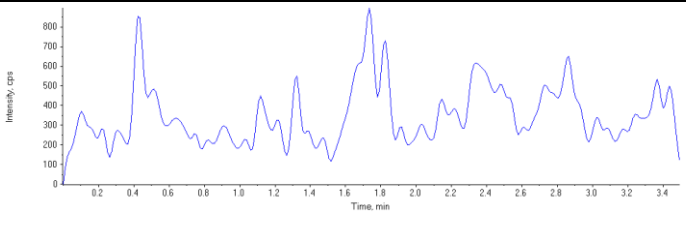
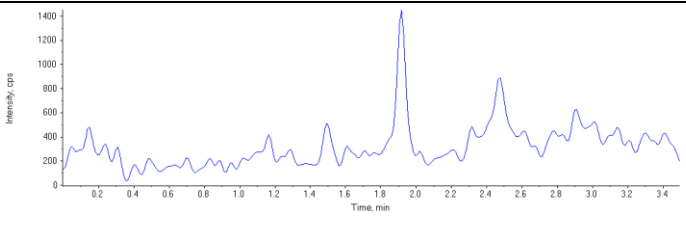
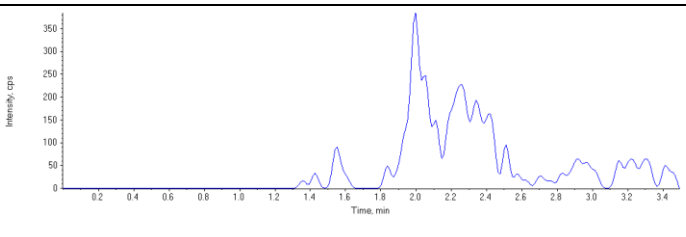
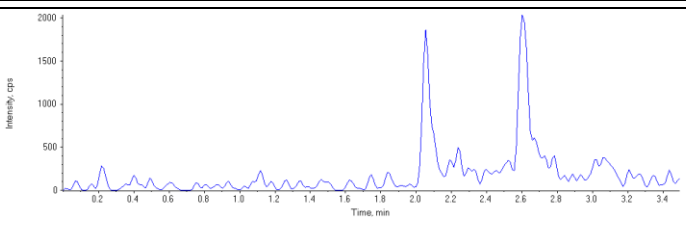


<b>Sample Name</b>	4385888~BLANK	<b>Injection Vial</b>	1
<b>Sample ID</b>	4385888~BLANK	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:01:06 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	105000.	1.71	1.00	-
MPFHpA	359000.	1.74	1.00	-
MPFOA	348000.	1.91	1.00	-
MPFOS	141000.	1.99	1.00	-
MPFNA	254000.	2.05	1.00	-
13C6-PFHxA IS	3360000.	1.48	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	105000	1.71	100.	84.4	84.4
13C4-PFHpA	359000	1.74	100.	86.4	86.4
13C4-PFOA	348000	1.91	100.	95.9	95.9
13C4-PFOS	141000	1.99	100.	97.2	97.2
13C5-PFNA	254000	2.05	100.	103.	103.0
13C6-PFHxA	3360000	1.48	100.	84.3	84.3

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min          Concentration: 1.00 ng/L          Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min          Concentration: 1.00 ng/L          Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min          Concentration: 1.00 ng/L          Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min          Concentration: 1.00 ng/L          Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min          Concentration: 1.00 ng/L          Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min          Concentration: 1.00 ng/L          Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min          Concentration: N/A N/A          Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

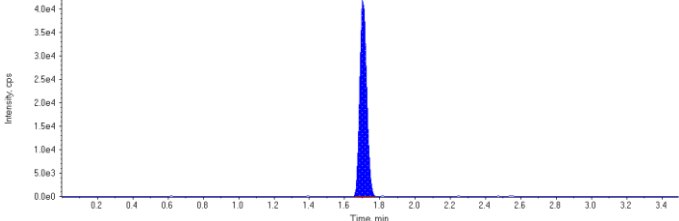
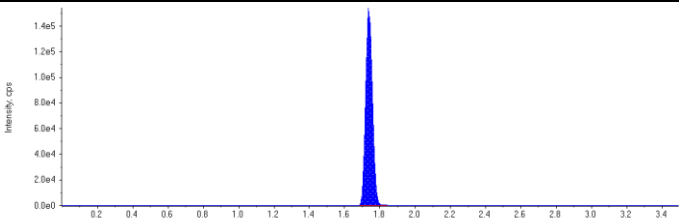
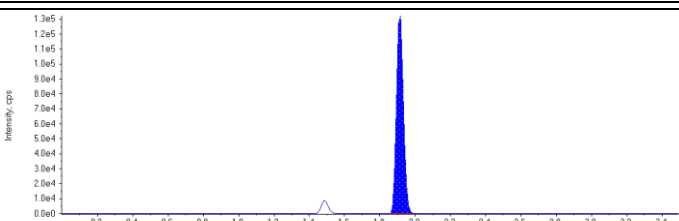
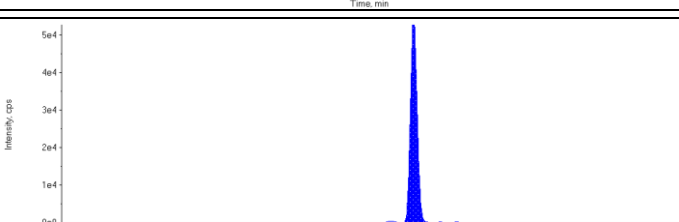
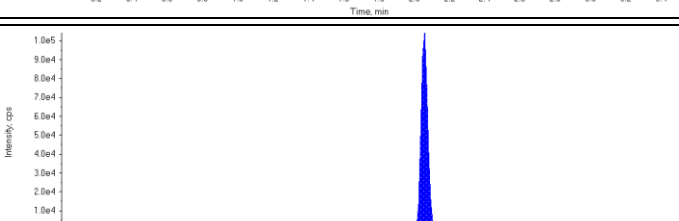
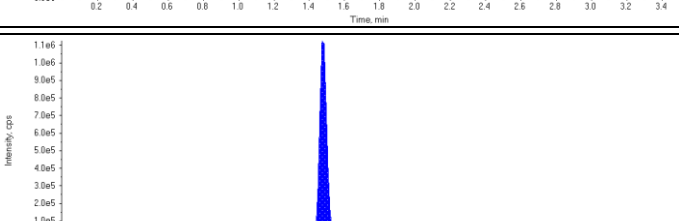
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.15) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 0.00 (1.68) min</p> <p>Calculated Conc: N/A µg/L</p> <p>Area Ratio: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

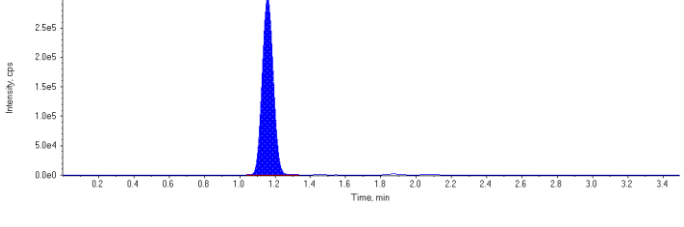
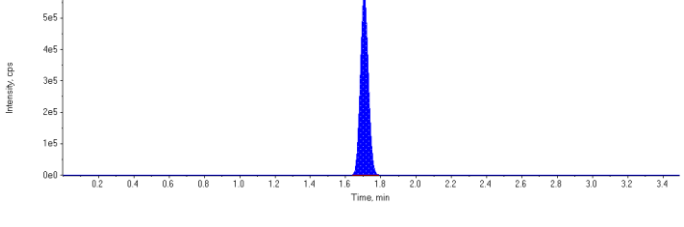
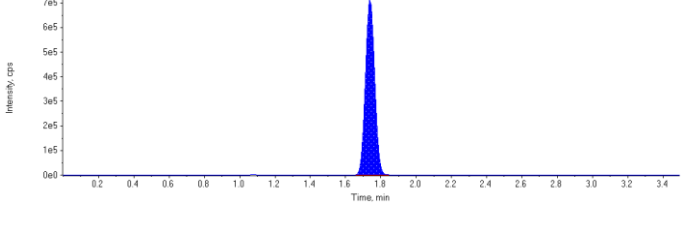
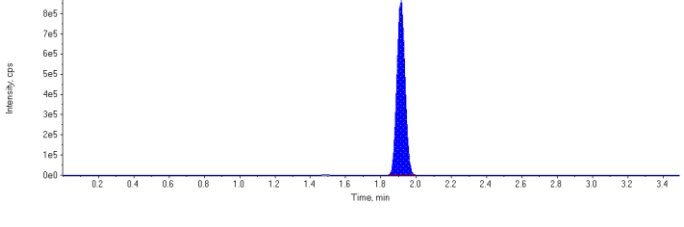
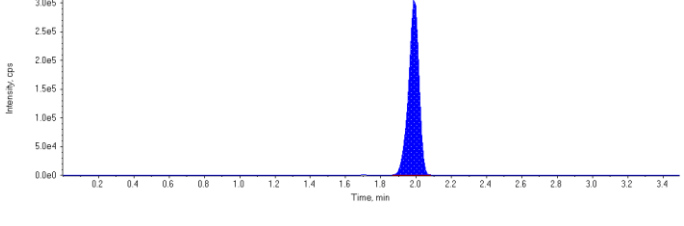
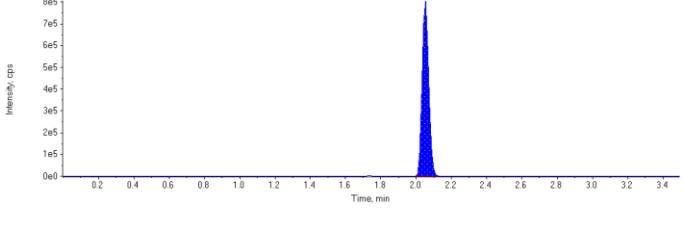
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 84.4 µg/L</p> <p>Area Ratio: 0.0311</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 86.4 µg/L</p> <p>Area Ratio: 0.107</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 95.9 µg/L</p> <p>Area Ratio: 0.103</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 97.2 µg/L</p> <p>Area Ratio: 0.0420</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.0756</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 84.3 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

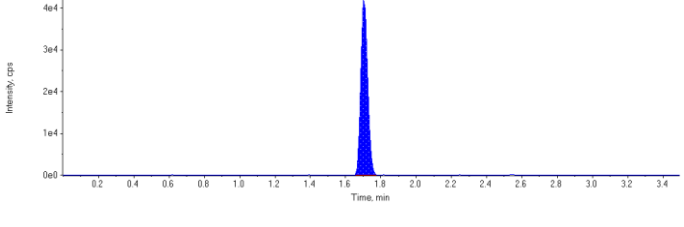
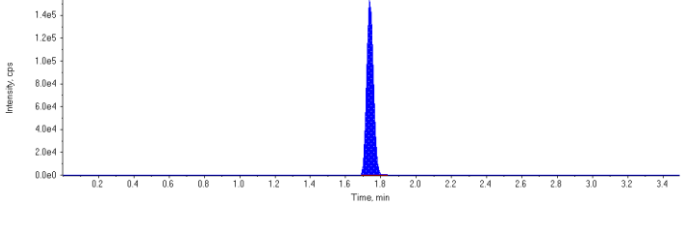
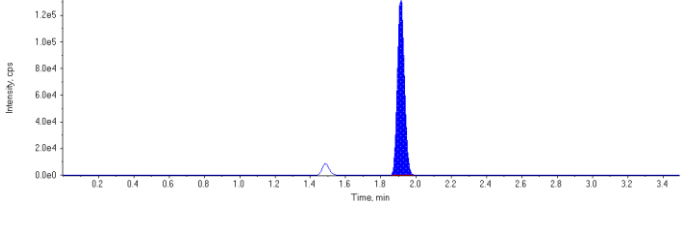
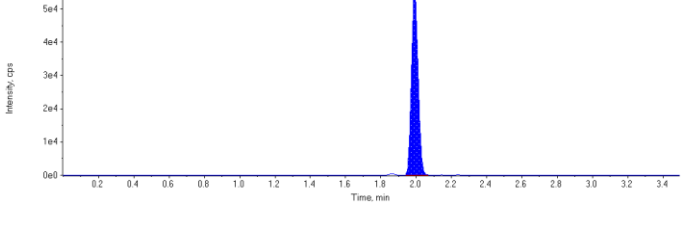
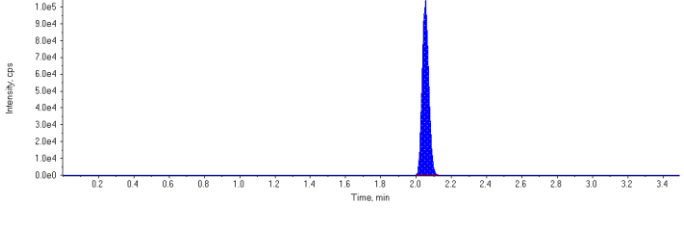
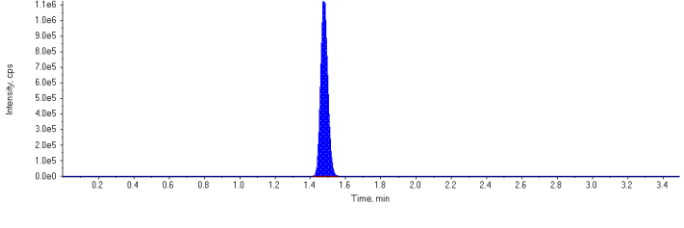
<b>Sample Name</b>	<b>4385888~MTRX SPK</b>	<b>Injection Vial</b>	2
<b>Sample ID</b>	4385888~MTRX SPK (BVX789)	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:06:13 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	114000.	1.70	1.00	-
MPFHpA	409000.	1.74	1.00	-
MPFOA	363000.	1.91	1.00	-
MPFOS	143000.	1.99	1.00	-
MPFNA	272000.	2.05	1.00	-
13C6-PFHxA IS	3210000.	1.48	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	1310000	1.16	50.0	37.4	74.7
PFHxS 1	1810000	1.71	50.0	48.5	96.9
PFHpA 1	2600000	1.74	50.0	47.3	94.6
PFOA 1	2780000	1.91	50.0	46.5	93.0
PFOS 1	1250000	1.99	50.0	48.2	96.4
PFNA 1	2100000	2.05	50.0	46.5	93.0
18O2-PFHxS	114000	1.70	100.	96.1	96.1
13C4-PFHpA	409000	1.74	100.	103.	103.0
13C4-PFOA	363000	1.91	100.	105.	105.0
13C4-PFOS	143000	1.99	100.	103.	103.0
13C5-PFNA	272000	2.05	100.	115.	115.0
13C6-PFHxA	3210000	1.48	100.	80.5	80.5

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1 (298.900/79.900 Da)</b></p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 37.4 µg/L</p> <p>Area Ratio: 11.5</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1 (398.900/79.900 Da)</b></p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 48.5 µg/L</p> <p>Area Ratio: 15.9</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1 (363.000/319.000 Da)</b></p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 47.3 µg/L</p> <p>Area Ratio: 6.36</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1 (413.100/369.000 Da)</b></p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 46.5 µg/L</p> <p>Area Ratio: 7.65</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1 (498.900/79.900 Da)</b></p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 48.2 µg/L</p> <p>Area Ratio: 8.75</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1 (462.900/419.000 Da)</b></p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 46.5 µg/L</p> <p>Area Ratio: 7.71</p> <p>Sample Type: (Quality Control)</p>	

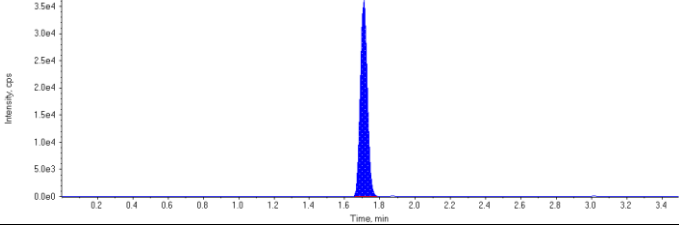
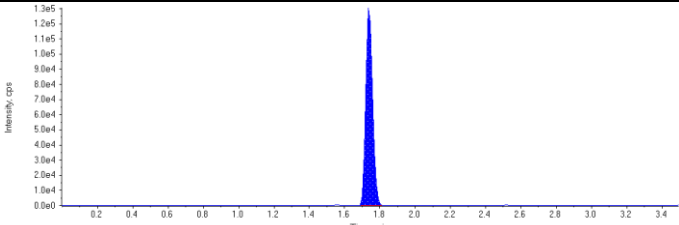
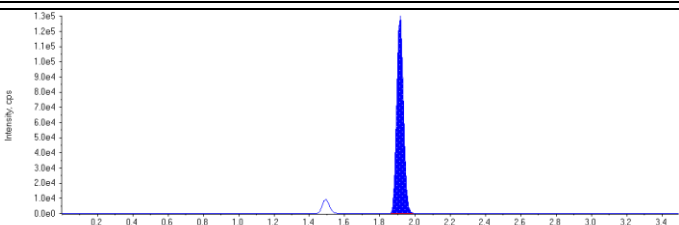
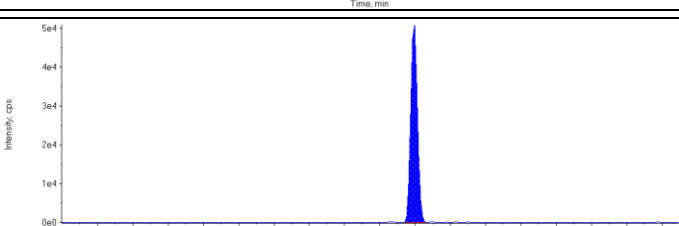
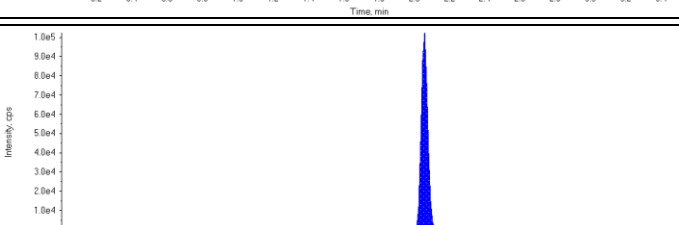
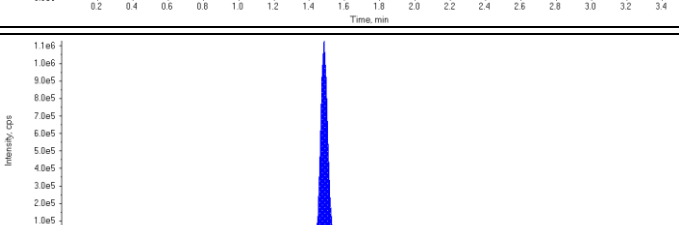
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 96.1 µg/L</p> <p>Area Ratio: 0.0354</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.127</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.113</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.0446</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 115. µg/L</p> <p>Area Ratio: 0.0846</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 80.5 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

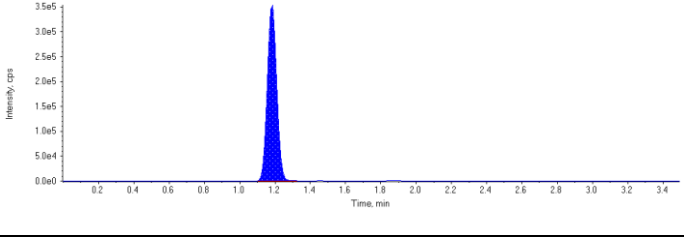
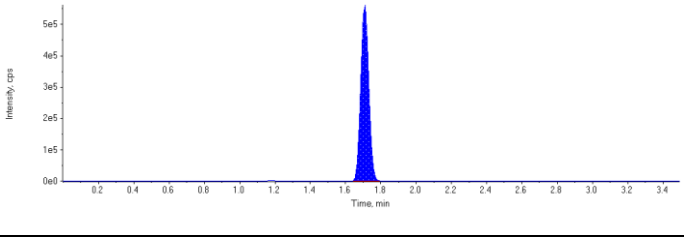
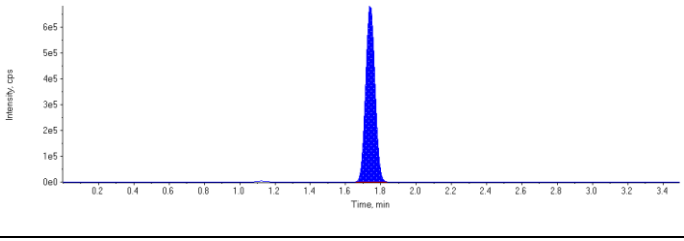
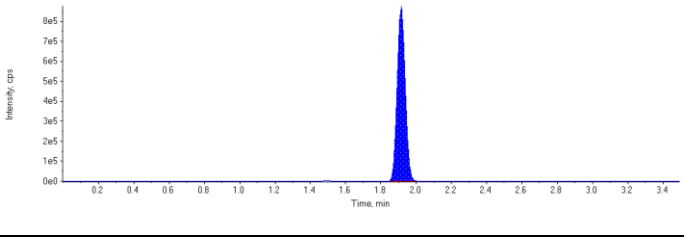
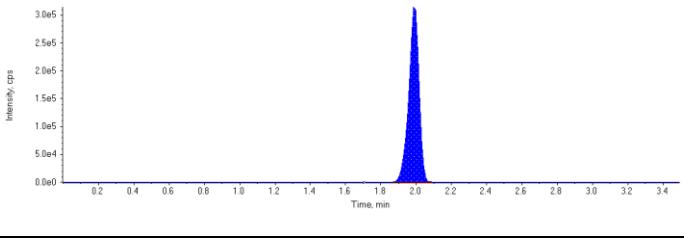
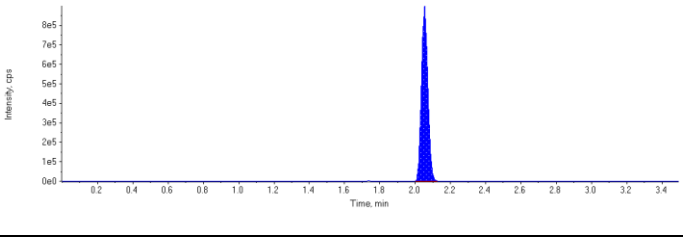


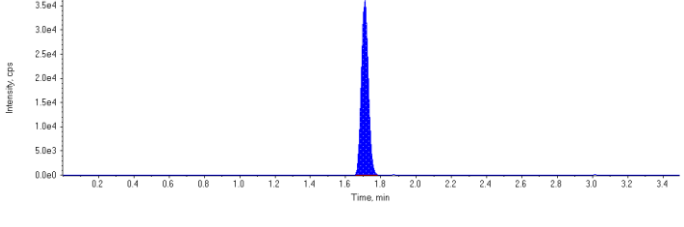
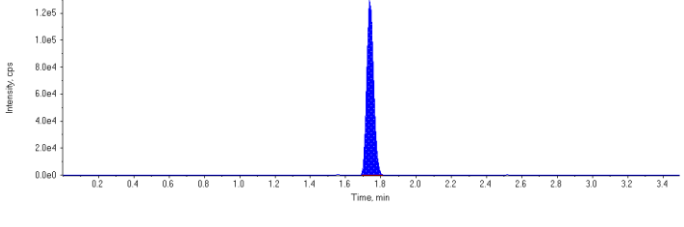
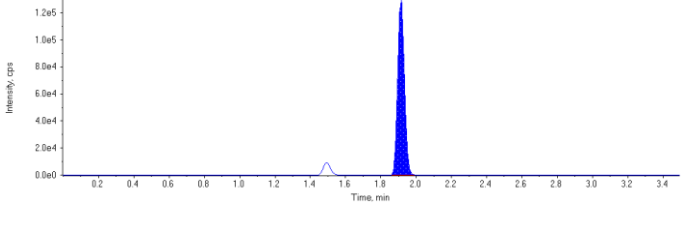
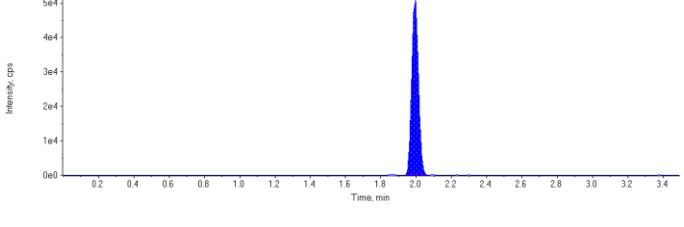
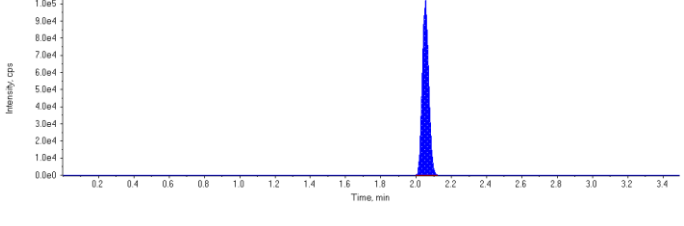
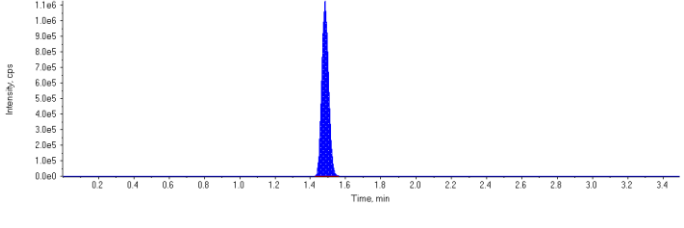
<b>Sample Name</b>	<b>4385888~MTRX SPK:D1</b>	<b>Injection Vial</b>	3
<b>Sample ID</b>	4385888~MTRX SPK:D1 (BVX789)	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:11:19 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	99300.	1.71	1.00	-
MPFHpA	351000.	1.74	1.00	-
MPFOA	345000.	1.91	1.00	-
MPFOS	135000.	1.99	1.00	-
MPFNA	262000.	2.05	1.00	-
13C6-PFHxA IS	3040000.	1.48	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	1310000	1.18	50.0	42.7	85.3
PFHxS 1	1780000	1.71	50.0	54.5	109.0
PFHpA 1	2520000	1.74	50.0	53.3	107.0
PFOA 1	2770000	1.91	50.0	48.8	97.6
PFOS 1	1280000	1.99	50.0	52.3	105.0
PFNA 1	2290000	2.05	50.0	52.6	105.0
18O2-PFHxS	99300	1.71	100.	88.7	88.7
13C4-PFHpA	351000	1.74	100.	93.3	93.3
13C4-PFOA	345000	1.91	100.	105.	105.0
13C4-PFOS	135000	1.99	100.	102.	102.0
13C5-PFNA	262000	2.05	100.	117.	117.0
13C6-PFHxA	3040000	1.48	100.	76.2	76.2

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

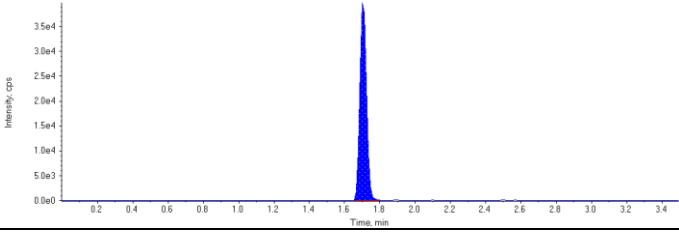
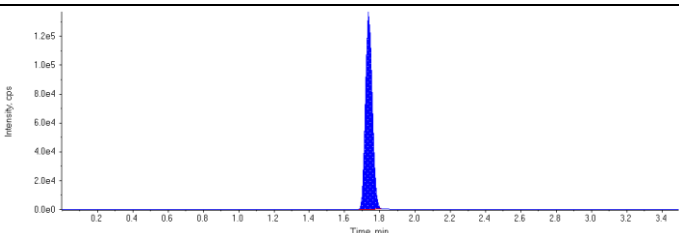
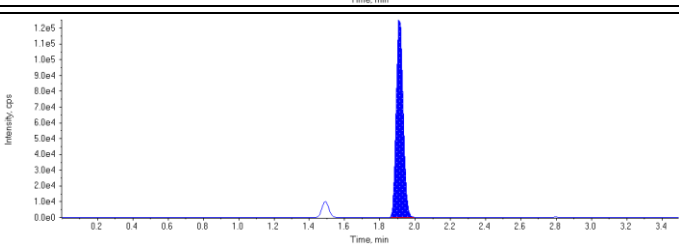
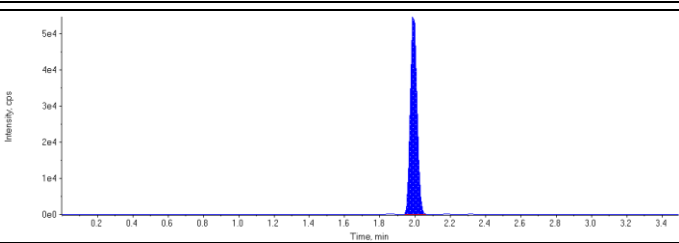
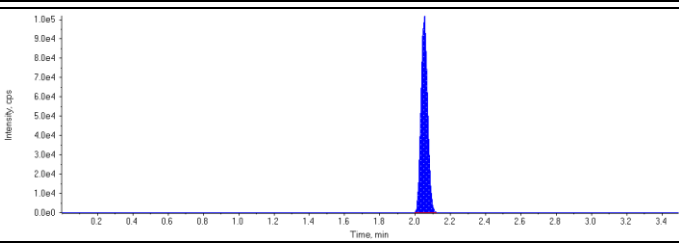
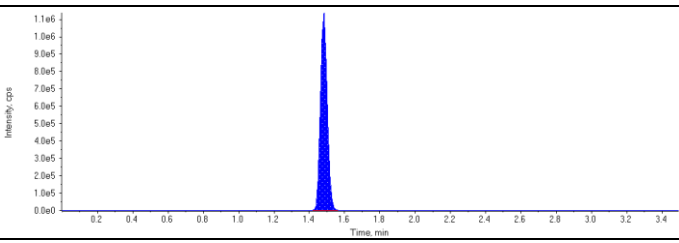
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.18 (1.15) min</p> <p>Calculated Conc: 42.7 µg/L</p> <p>Area Ratio: 13.2</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 54.5 µg/L</p> <p>Area Ratio: 17.9</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 53.3 µg/L</p> <p>Area Ratio: 7.17</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 48.8 µg/L</p> <p>Area Ratio: 8.02</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 52.3 µg/L</p> <p>Area Ratio: 9.49</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 52.6 µg/L</p> <p>Area Ratio: 8.73</p> <p>Sample Type: (Quality Control)</p>	

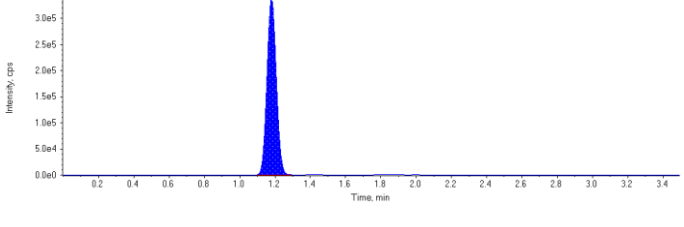
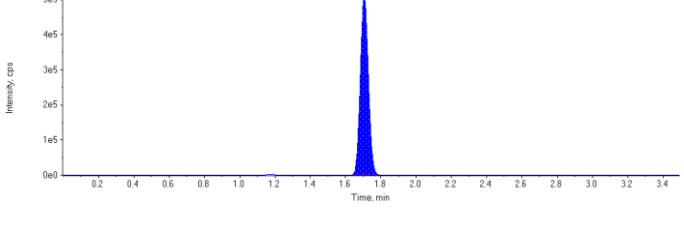
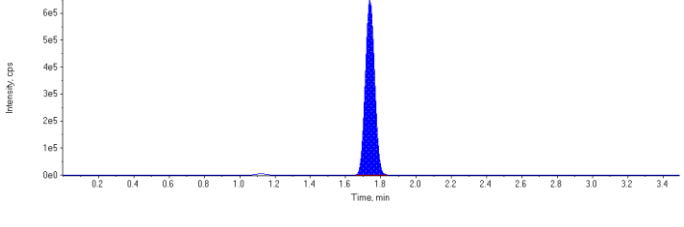
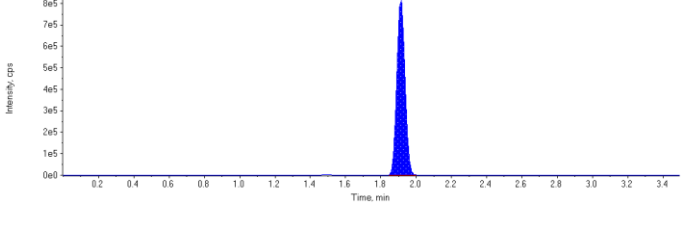
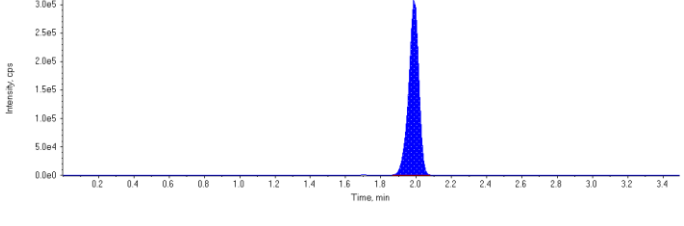
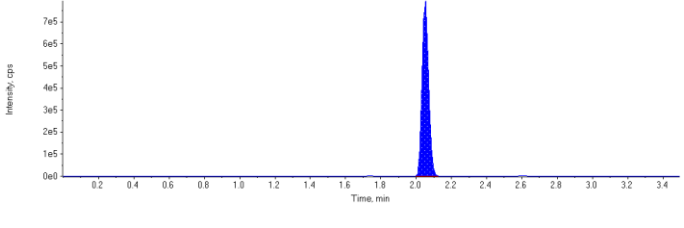
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 88.7 µg/L</p> <p>Area Ratio: 0.0326</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 93.3 µg/L</p> <p>Area Ratio: 0.115</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.113</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.0443</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 117. µg/L</p> <p>Area Ratio: 0.0861</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 76.2 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

<b>Sample Name</b>	<b>4385888~SPIKE</b>	<b>Injection Vial</b>	4
<b>Sample ID</b>	4385888~SPIKE	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 1:16:25 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	105000.	1.70	1.00	-
MPFHpA	364000.	1.74	1.00	-
MPFOA	345000.	1.91	1.00	-
MPFOS	145000.	1.99	1.00	-
MPFNA	268000.	2.05	1.00	-
13C6-PFHxA IS	3060000.	1.48	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	1240000	1.18	50.0	38.5	76.9
PFHxS 1	1610000	1.71	50.0	46.8	93.6
PFHpA 1	2370000	1.74	50.0	48.4	96.7
PFOA 1	2640000	1.91	50.0	46.4	92.9
PFOS 1	1230000	1.99	50.0	46.7	93.3
PFNA 1	2080000	2.05	50.0	46.8	93.5
18O2-PFHxS	105000	1.70	100.	93.2	93.2
13C4-PFHpA	364000	1.74	100.	96.4	96.4
13C4-PFOA	345000	1.91	100.	105.	105.0
13C4-PFOS	145000	1.99	100.	110.	110.0
13C5-PFNA	268000	2.05	100.	119.	119.0
13C6-PFHxA	3060000	1.48	100.	76.6	76.6

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.18 (1.15) min</p> <p>Calculated Conc: 38.5 µg/L</p> <p>Area Ratio: 11.9</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 46.8 µg/L</p> <p>Area Ratio: 15.4</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 48.4 µg/L</p> <p>Area Ratio: 6.51</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 46.4 µg/L</p> <p>Area Ratio: 7.64</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 46.7 µg/L</p> <p>Area Ratio: 8.47</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 46.8 µg/L</p> <p>Area Ratio: 7.76</p> <p>Sample Type: (Quality Control)</p>	

<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 93.2 µg/L</p> <p>Area Ratio: 0.0343</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 96.4 µg/L</p> <p>Area Ratio: 0.119</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.113</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 110. µg/L</p> <p>Area Ratio: 0.0475</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 119. µg/L</p> <p>Area Ratio: 0.0877</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 76.6 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	



**DoD Projects - Internal Data Validation Checklist**

Run date: 2/16/2/19

Worksheet # (s): 4385888

Analysis: PtOslow

Primary review by the analyst - 1st 100 % analysis review		1st 100% review			*2nd 100% review
		yes	no	n/a	
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, imprinter 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: an Date: 2016/2/22

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: sn Date: 2016/02/22

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 # 4385888 Testcode: PROSLON-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: [Signature] Date: 2016 10/2/18  
 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: \_\_\_\_\_ Date: See BRLF-100002 on 2016/10/2/18  
 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: \_\_\_\_\_ Date: \_\_\_\_\_  
 Comments:



**RUSH**

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Thursday, February 18, 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	D	Sample ID	F	Moisture	Wt or Vol	Final Vol	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date
	MTRX SPK	0	PFOSL BVX789-01		0	125	0.3	1X					2016/02/18
	MTRX SPK	1	PFOSL BVX789-01		0	125	0.3	1X					2016/02/18
	SPIKE		PFOSL		0	125	0.3	1X					2016/02/18
	BLANK				0	125	0.3	1X					2016/02/18
B630792*	*BVX782-01R		OF-RW66-0216	✓	0.1	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX783-01R		OF-FB66-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX784-01R		OF-RW49-0216	✓	0.1	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX785-01R		OF-FB49-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX786-01R		OF-RW36A-0216	✓	0.1	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX787-01R		OF-FB36A-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX788-01R		OF-RW51A-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX789-01R		OF-FB51A-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX790-01R		OF-RW27-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18
B630792*	*BVX791-01R		OF-FB27-0216	✓	0	125	0.3	1X	1	2016/02/18	2016/02/23 17:00		2016/02/18

*Melinda Molina*  
2016/02/18

Remarks:

Samples extracted by:

Melinda Molina

Instrumentation performed by:

*AM*

Date:

2016/02/19

Calculations performed by:

*AM*

Date:

2016/02/22

Validated by:

*SM*

Date:

2016/02/22

<b>Job No.</b>	<b>Rep</b>	<b>Client Name</b>	<b>Contact</b>	<b>Client Tier</b>	<b>National</b>
GB630792	MDG TestAmerica	PFC Reporting Group	Tier 1 (Air.)	Test America	
NREG PFOSLOW-W Level IV required Project #: 320-17183					

Surrogates/Spikes	Method Spike	Spikes	Samples

Sample	Preparation Remarks		Cone.	Sulin Inv#
	vol(ml)	amt - spiked(ml)		
J1	2875	25	100ng/ml	JK 4220
J2	2800	50		
J3	2700	100	1ug/ml	I4677
J4	2813	37.5		
J5	2775	75	1ug/ml	I4676
J6	2725	125		
ICV	2788	62.5		

Sample	Instrumentation Remarks

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

Parameter Name	Units	MTRX SPK	MTRX SPK Dup1	SPIKE	BLANK	DL	B630792 BVX782
Perfluorobutanoic acid	ng/L	N/A *****	N/A *****	N/A *****	N/A *****		N/A *****
Perfluorobutane Sulfonate (PFBS)	ng/L	74.80000	85.40000	77.00000	0	2	0
Perfluorodecane Sulfonate	ng/L	N/A *****	N/A *****	N/A *****	N/A *****		N/A *****
Perfluoroheptanoic Acid (PFHpA)	ng/L	94.60000	106.60000	96.80000	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	97.00000	109.00000	93.60000	0	2	0
Perfluorononanoic Acid (PFNA)	ng/L	93.00000	105.20000	93.60000	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	93.00000	97.60000	92.80000	0	2	0
Perfluorooctane Sulfonate (PFOS)	ng/L	95.90000	104.10000	93.40000	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	115.	117.	119.	103.		105.
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	103.	93.3	96.4	86.4		91.7
13C4-Perfluorooctanoic acid	ng/L	105.	105.	105.	95.9		92.3
13C4-Perfluorooctanesulfonate	ng/L	103.	102.	110.	97.2		88.3
13C5-Perfluoropentanoic acid	ng/L	N/A *****	N/A *****	N/A *****	N/A *****		N/A *****
18O2-Perfluorohexanesulfonate	ng/L	96.1	88.7	93.2	84.4		90.7

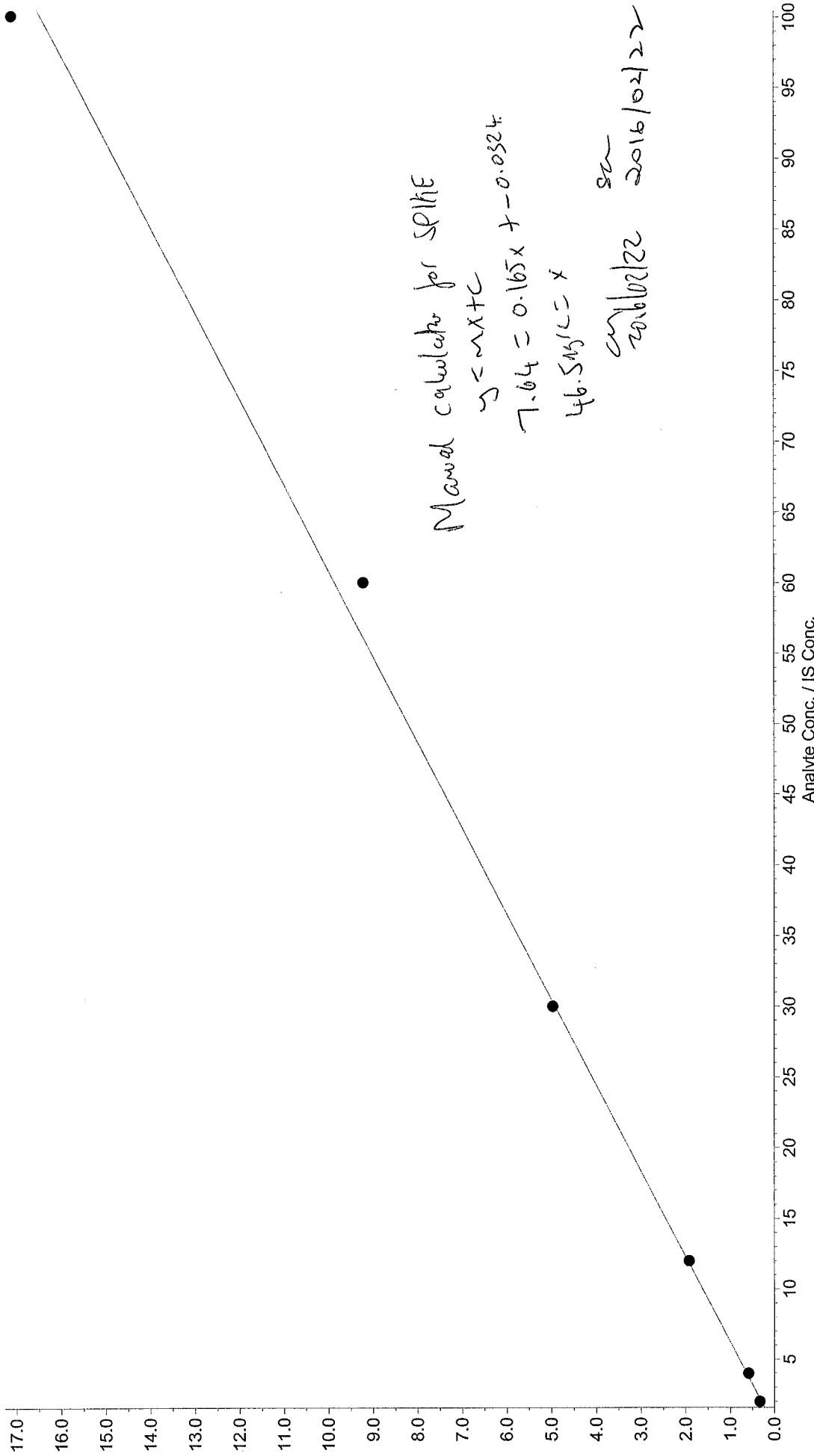
Parameter Name	B630792 BVX783	B630792 BVX784	B630792 BVX785	B630792 BVX786	B630792 BVX787	B630792 BVX788	B630792 BVX789
Perfluorobutanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorobutane Sulfonate (PFBS)	0	0	0	0.74000	0	0	0
Perfluorodecane Sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluoroheptanoic Acid (PFHpA)	0.151	0.131	0	0.173	0	0.314	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	0.87500	0.67700	0.69000	0	0.67900	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	0.38800	0	0.35600	0	0	0
Perfluorooctane Sulfonate (PFOS)	0.27200	0.41400	0	0	0.42200	0	0.25000
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	116.	111.	110.	80.0	113.	75.0	107.
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	98.4	93.2	94.6	73.2	91.6	70.4	96.2
13C4-Perfluorooctanoic acid	109.	102.	100.	77.7	94.0	72.1	94.4
13C4-Perfluorooctanesulfonate	112.	105.	106.	72.6	97.3	68.3	101.
13C5-Perfluoropentanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
18O2-Perfluorohexanesulfonate	97.1	97.7	91.3	74.0	71.1	67.9	83.7

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

Parameter Name	B630792 BVX790	B630792 BVX791	DL	RDL	MDL	IDL
Perfluorobutanoic acid	N/A*****	N/A*****	2	2	0.41	0
Perfluorobutane Sulfonate (PFBS)	0.66800	0	2	2	0.27	0
Perfluorodecane Sulfonate	N/A*****	N/A*****	2	2	0.38	0
Perfluoroheptanoic Acid (PFHpA)	0.15	0	2	2	0.39	0
Perfluoroheptane sulfonate	N/A*****	N/A*****	2	2	0.4	0
Perfluorohexanoic Acid (PFHxA)	N/A*****	N/A*****	2	2	0.42	0
Perfluorohexane Sulfonate (PFHxS)	0.66000	0	2	2	0.4	0
Perfluorononanoic Acid (PFNA)	0	0	2	2	0.33	0
Perfluoropentanoic Acid (PFPeA)	N/A*****	N/A*****	2	2	0.46	0
Perfluorotetradecanoic Acid	N/A*****	N/A*****	2	2	0.61	0
Perfluorotridecanoic Acid	N/A*****	N/A*****	2	2	0.6	0
Perfluoroundecanoic Acid (PFUnA)	N/A*****	N/A*****	2	2	0.5	0
Perfluorodecanoic Acid (PFDA)	N/A*****	N/A*****	2	2	0.24	0
Perfluorododecanoic Acid (PFDoA)	N/A*****	N/A*****	2	2	0.63	0
Perfluoro-n-Octanoic Acid (PFOA)	0	0	2	2	0.39	0
Perfluorooctane Sulfonate (PFOS)	0	0	2	2	0.3	0
13C2-perfluorotetradecanoic acid	N/A*****	N/A*****				
13C4-Perfluorobutanoic acid	N/A*****	N/A*****				
13C5-Perfluorononanoic acid	87.8	121.				
13C2-Perfluorodecanoic acid	N/A*****	N/A*****				
13C2-Perfluorododecanoic acid	N/A*****	N/A*****				
13C2-Perfluorohexanoic acid	N/A*****	N/A*****				
13C2-Perfluoroundecanoic acid	N/A*****	N/A*****				
13C4-Perfluoroheptanoic acid	77.1	101.				
13C4-Perfluorooctanoic acid	82.5	102.				
13C4-Perfluorooctanesulfonate	80.3	108.				
13C5-Perfluoropentanoic acid	N/A*****	N/A*****				
18O2-Perfluorohexanesulfonate	80.2	84.1				

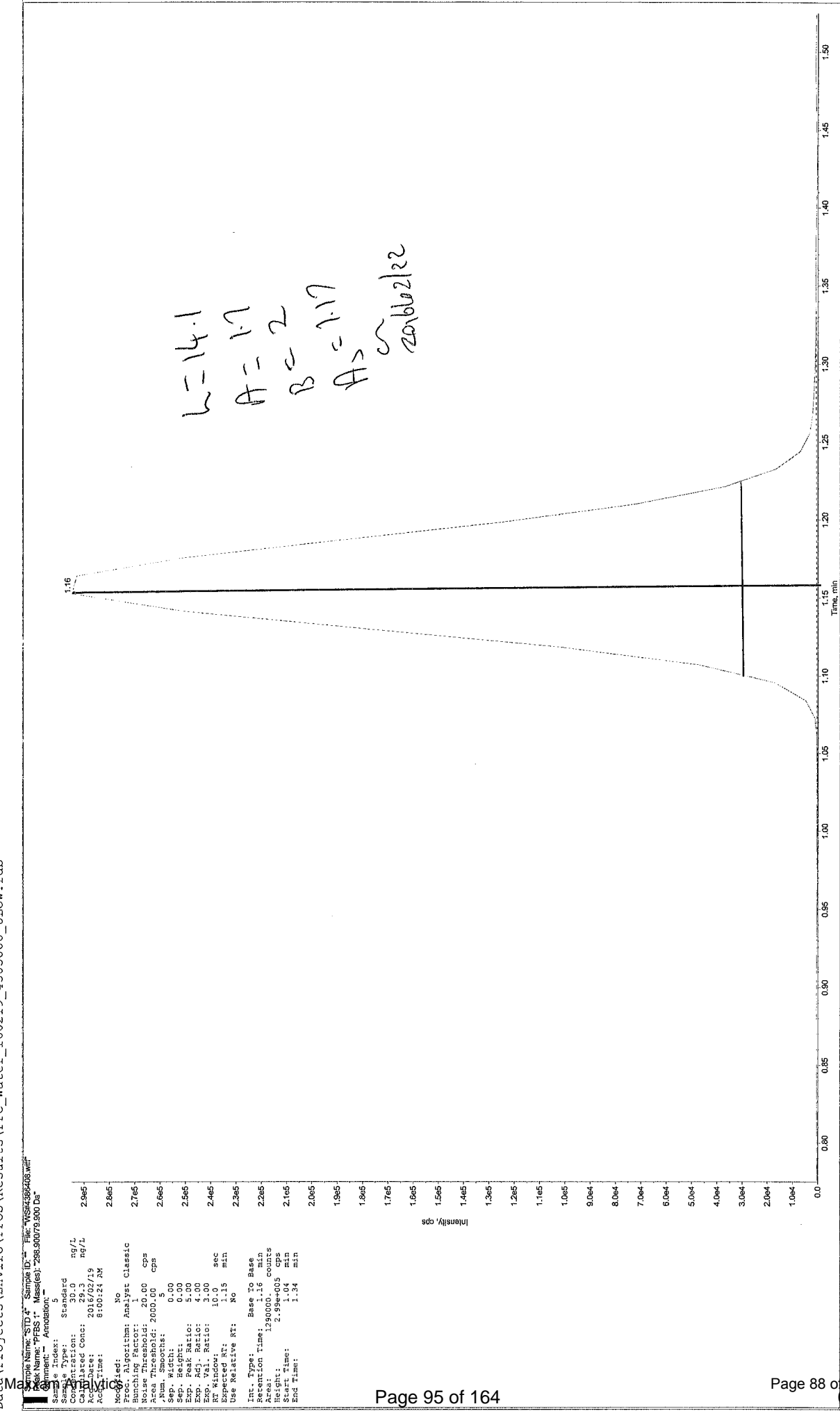
Results Path: \\miss-netapp2\lcms\lcms3\Analyst  
Data\Projects\Enviro\PFOS\Results\PFC\_Water\_160219\_4385888\_ULow.rdb

PFC\_Water\_160219\_4385888\_ULow.rdb (PFOA 1): "Linear" Regression ("1 / x" weighting): y = 0.165 x + -0.0324 (r = 0.9987)



Results Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\FOS\Results\PFC\_Water\_160219\_4385888\_ULow.rdb

Printing Date: Monday, February 22, 2016



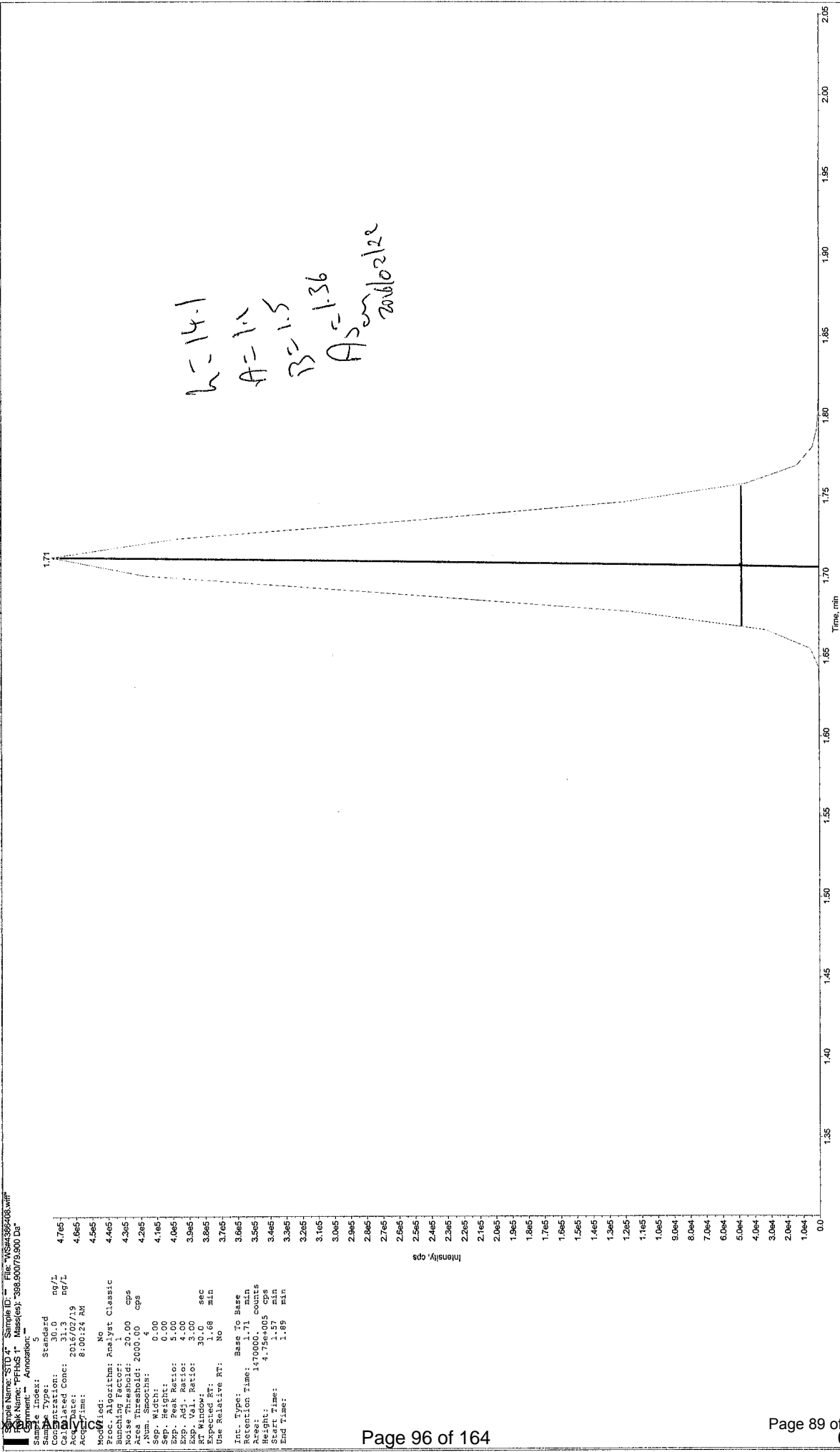
Sample Name: PFC\_Water\_160219\_4385888\_ULow.rdb  
 Sample Index: 5  
 Standard: Standard  
 Concentration: 30.0 ng/L  
 Acquisition Date: 2016/02/19  
 Acquisition Time: 8:00:24 AM  
 Acquisition Method: PFS1  
 Method File: C:\MSDCHEM\MSDCHEM\METHODS\208.90070.000.D  
 Comment: Association: -

Method: No. 1  
 No. of Peaks: 1  
 Noise Threshold: 20.00 cps  
 Area Threshold: 2000.00 cps  
 Run Smoothing: 5  
 Sep. Height: 0.00  
 Exp. Peak Ratio: 5.00  
 Exp. Adj. Ratio: 4.00  
 Exp. Val. Ratio: 3.00  
 Expected RT: 1.15 min  
 Use Relative RT: No  
 Int. Type: Base To Base  
 Integration Time: 1.04 min  
 Area: 129000.16 counts  
 Height: 2.99e+005 cps  
 Start Time: 1.04 min  
 End Time: 1.34 min



Results Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\PFOS\Results\PFC\_Water\_160219\_4385888\_ULow.rdb

Printing Date: Monday, February 22, 2016



Sample Name: STD 4 Sample ID: File: W5247388408.wiff  
 Report Name: PFCs 1 Mass(es) 388.50078.900 Da  
 Sample Name: Ammonium

Standard  
 Sample Type: Standard  
 Concentration: 30.0 ng/L  
 Calculated Conc: 31.3 ng/L  
 Recovery: 206792719  
 Acquisition Time: 8:00:24 AM  
 4.585

Method:  
 No  
 Proc. Algorithm: Analyst Classic  
 Bunching Factor: 1  
 Area Threshold: 2000.00 cps  
 Num. Smoother: 4  
 Sep. Width: 4.165  
 Sep. Height: 5.00  
 EXP. RES. Ratio: 4.00  
 EXP. Val. Ratio: 3.00  
 RT Window: 30.0 sec  
 Expected RT: 1.66 min  
 Use Relative RT: No  
 3.769

Int. Type: Base To Base  
 Retention Time: 1.71 min  
 Resp: 170064005 counts  
 Height: 4.765 cps  
 Start Time: 1.57 min  
 End Time: 1.85 min  
 3.265  
 3.165  
 3.065  
 2.965  
 2.865  
 2.765  
 2.665  
 2.565  
 2.465  
 2.365  
 2.265  
 2.165  
 2.065  
 1.965  
 1.865  
 1.765  
 1.665  
 1.565  
 1.465  
 1.365  
 1.265  
 1.165  
 1.065  
 9.064  
 8.064  
 7.064  
 6.064  
 5.064  
 4.064  
 3.064  
 2.064  
 1.064

Report Name: Worksheet - Parameter Lists

Report Date: 2016/02/18

Test Code: **PFOSLOW-W**

Worksheet Number: **4385888**

<b>Sample Number</b>	<b>Parameter</b>
BVX782-01	Perfluorobutane Sulfonate (PFBS)
BVX783-01	Perfluoroheptanoic Acid (PFHpA)
BVX784-01	Perfluorohexane Sulfonate (PFHxS)
BVX785-01	Perfluorononanoic Acid (PFNA)
BVX786-01	Perfluoro-n-Octanoic Acid (PFOA)
BVX787-01	Perfluorooctane Sulfonate (PFOS)
BVX788-01	
BVX789-01	
BVX790-01	
BVX791-01	

WorkSheet 4385888 Instrument Sequences

1.	 4385888:MTRX SPK	MTRX SPK
2.	 4385888:MTRX SPK:D1	MTRX SPK :D1
3.	 4385888:SPIKE	SPIKE
4.	 4385888:BLANK	BLANK
5.	 4385888:BVX782-01	OF-RW66-0216
6.	 4385888:BVX783-01	OF-FB66-0216
7.	 4385888:BVX784-01	OF-RW49-0216
8.	 4385888:BVX785-01	OF-FB49-0216
9.	 4385888:BVX786-01	OF-RW36A-0216
10.	 4385888:BVX787-01	OF-FB36A-0216
11.	 4385888:BVX788-01	OF-RW51A-0216
12.	 4385888:BVX789-01	OF-FB51A-0216
13.	 4385888:BVX790-01	OF-RW27-0216
14.	 4385888:BVX791-01	OF-FB27-0216

Worksheet Reagent Tracking Record

Worksheet # 4385888

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
Comp. PFC Spiking Solution C	✓	J2 6229	100 ng/mL	125	NA	125	NA	NA	NA
Internal Standard Solution A	✓	J2 6010 (9/14)	50 ng/mL	50	100	50	100	50	100
Internal Standard Solution B			250ng/mL	50	NA	50	NA	50	NA
ICV/DCV	✓	I 4676	1ug/mL		62.5				
Solvent/Reagent	✓	Lot No.	Date Opened	Solvent/Reagent	✓	Lot No.	Date Opened/Prepared	*Spiked by:	
DCM				50% NaOH				mm	
Hexane				20mM TBAS				Spike Date	
Acetone				o-Phosphoric Acid				201602/18	
Ottawa Sand				Borax				Spike Syringe ID#	
Methanol				Calcium Chloride				M23487B	
2-Propanol (IPA)				EDTA				Int. Std Syringe ID#	
Acetonitrile				Phosphate Buffer				M23487B	
MTBE				Sodium Thiosulphate				*Spiking Witnessed by:	
Sodium Sulfate				DNPH				GSZ	
Recon Solution				5M Acetate Buffer				Final pH	
DCM:Ethyl Ether (75:25)				FMOC				X	
Hexane:IPA (98:2)				0.25M Na <sub>2</sub> CO <sub>3</sub>					
2% Formic Acid			✓ P111E87-131	0.5M TBAS					
0.2% Formic Acid			✓ P111E87-114	1% NH <sub>4</sub> OH 0.2% H <sub>2</sub> O <sub>2</sub> P111E87-198					
0.05M KOH				Leachate Fluid					
0.05M HCl				Reagent Water	✓	S11365172V 201602/18			
Equipment	ID#	✓	Equipment	ID#	✓	Equipment	Lot #		
Pipettor	I16295B (1ml)	✓	SPE Cartridge	002635225A	✓	10 mL Serological Pipet		Bottle#	14991
	(200ml) K19609B	✓	Filter			QC Balance ID		Cap#	14443
Dispenser			Centrifuge			Thermometer ID & Temp		Systems plus Lot#	
Syringe			Sonicator					16-01-06	

Comments: 60:40 (H<sub>2</sub>O: MeOH) P111E87-190  
Inj. I-S (20ul) S1-6017

Project: D:\Analyst Data\Projects\Enviro\PFOS\Batch:PFC\_160219 Tab:Sample Set:SET1 AcqMethod:PFC\_Water\_Low.dam  
Sample

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*	1	1	PFC_160219WS#4386408	3.000
2	4386408-BLANK	2 Well Plates	1	*54VialPlate*	1	2	PFC_160219WS#4386408	3.000
3	STD 1	2 Well Plates	1	*54VialPlate*	1	3	PFC_160219WS#4386408	3.000
4	STD 2	2 Well Plates	1	*54VialPlate*	1	4	PFC_160219WS#4386408	3.000
5	STD 3	2 Well Plates	1	*54VialPlate*	1	5	PFC_160219WS#4386408	3.000
6	STD 4	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4386408	3.000
7	STD 5	2 Well Plates	1	*54VialPlate*	1	7	PFC_160219WS#4386408	3.000
8	STD 6	2 Well Plates	1	*54VialPlate*	1	8	PFC_160219WS#4386408	3.000
9	ICV	2 Well Plates	1	*54VialPlate*	1	9	PFC_160219WS#4386408	3.000
10	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4386408	3.000
11	4386408-MTRX SPK	2 Well Plates	1	*54VialPlate*	1	10	PFC_160219WS#4386408	3.000
12	4386408-MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	1	11	PFC_160219WS#4386408	3.000
13	4386408-SPKE	2 Well Plates	1	*54VialPlate*	1	12	PFC_160219WS#4386408	3.000
14	4386408-BVX814-01 (10x)	2 Well Plates	1	*54VialPlate*	1	13	PFC_160219WS#4386408	3.000
15	4386408-BVX817-01 (10x)	2 Well Plates	1	*54VialPlate*	1	14	PFC_160219WS#4386408	3.000
16	4386408-BVX818-01 (20x)	2 Well Plates	1	*54VialPlate*	1	15	PFC_160219WS#4386408	3.000
17	4386408-BVX819-01 (10x)	2 Well Plates	1	*54VialPlate*	1	16	PFC_160219WS#4386408	3.000
18	4386408-BVX769-01	2 Well Plates	1	*54VialPlate*	1	17	PFC_160219WS#4386408	3.000
19	4386408-BVX770-01	2 Well Plates	1	*54VialPlate*	1	18	PFC_160219WS#4386408	3.000
20	4386408-BVX771-01	2 Well Plates	1	*54VialPlate*	1	19	PFC_160219WS#4386408	3.000
21	4386408-BVX772-01	2 Well Plates	1	*54VialPlate*	1	20	PFC_160219WS#4386408	3.000
22	4386408-BVX773-01	2 Well Plates	1	*54VialPlate*	1	21	PFC_160219WS#4386408	3.000
23	4386408-BVX774-01	2 Well Plates	1	*54VialPlate*	1	22	PFC_160219WS#4386408	3.000
24	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4386408	3.000
25	4386408-BVX775-01	2 Well Plates	1	*54VialPlate*	1	23	PFC_160219WS#4386408	3.000
26	4386408-BVX776-01	2 Well Plates	1	*54VialPlate*	1	24	PFC_160219WS#4386408	3.000
27	4386408-BVX779-01	2 Well Plates	1	*54VialPlate*	1	25	PFC_160219WS#4386408	3.000
28	4386408-BVX780-01	2 Well Plates	1	*54VialPlate*	1	26	PFC_160219WS#4386408	3.000
29	4386408-BVX781-01	2 Well Plates	1	*54VialPlate*	1	27	PFC_160219WS#4386408	3.000
30	4386408-BVX826-01	2 Well Plates	1	*54VialPlate*	1	28	PFC_160219WS#4386408	3.000
31	4386408-BVX827-01	2 Well Plates	1	*54VialPlate*	1	29	PFC_160219WS#4386408	3.000
32	4386408-BVX828-01	2 Well Plates	1	*54VialPlate*	1	30	PFC_160219WS#4386408	3.000
33	4386408-BVX829-01	2 Well Plates	1	*54VialPlate*	1	31	PFC_160219WS#4386408	3.000
34	4386408-BVX830-01	2 Well Plates	1	*54VialPlate*	1	32	PFC_160219WS#4386408	3.000
35	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4386408	3.000
36	4385924-BLANK	2 Well Plates	1	*54VialPlate*	1	33	PFC_160219WS#4385924	3.000
37	4385924-MTRX SPK	2 Well Plates	1	*54VialPlate*	1	34	PFC_160219WS#4385924	3.000
38	4385924-MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	1	35	PFC_160219WS#4385924	3.000
39	4385924-SPKE	2 Well Plates	1	*54VialPlate*	1	36	PFC_160219WS#4385924	3.000
40	4385924-BVX947-01 (10x)	2 Well Plates	1	*54VialPlate*	1	37	PFC_160219WS#4385924	3.000
41	4385924-BVX792-01	2 Well Plates	1	*54VialPlate*	1	38	PFC_160219WS#4385924	3.000
42	4385924-BVX793-01	2 Well Plates	1	*54VialPlate*	1	39	PFC_160219WS#4385924	3.000
43	4385924-BVX784-01	2 Well Plates	1	*54VialPlate*	1	40	PFC_160219WS#4385924	3.000
44	4385924-BVX785-01	2 Well Plates	1	*54VialPlate*	1	41	PFC_160219WS#4385924	3.000
45	4385924-BVX786-01	2 Well Plates	1	*54VialPlate*	1	42	PFC_160219WS#4385924	3.000
46	4385924-BVX797-01	2 Well Plates	1	*54VialPlate*	1	43	PFC_160219WS#4385924	3.000
47	4385924-BVX788-01	2 Well Plates	1	*54VialPlate*	1	44	PFC_160219WS#4385924	3.000
48	4385924-BVX799-01	2 Well Plates	1	*54VialPlate*	1	45	PFC_160219WS#4385924	3.000
49	4385924-BVX800-01	2 Well Plates	1	*54VialPlate*	1	46	PFC_160219WS#4385924	3.000
50	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4385924	3.000
51	4385924-BVX801-01	2 Well Plates	1	*54VialPlate*	1	47	PFC_160219WS#4385924	3.000
52	4385924-BVX802-01	2 Well Plates	1	*54VialPlate*	1	48	PFC_160219WS#4385924	3.000
53	4385924-BVX803-01	2 Well Plates	1	*54VialPlate*	1	49	PFC_160219WS#4385924	3.000
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55	4385924-BVX805-01	2 Well Plates	1	*54VialPlate*	1	51	PFC_160219WS#4385924	3.000
56	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4385924	3.000
57	4385888-BLANK	2 Well Plates	1	*54VialPlate*	2	1	PFC_160219WS#4385888	3.000
58	4385888-MTRX SPK	2 Well Plates	1	*54VialPlate*	2	2	PFC_160219WS#4385888	3.000
59	4385888-MTRX SPK:D1	2 Well Plates	1	*54VialPlate*	2	3	PFC_160219WS#4385888	3.000
60	4385888-SPKE	2 Well Plates	1	*54VialPlate*	2	4	PFC_160219WS#4385888	3.000
61	4385888-BVX782-01	2 Well Plates	1	*54VialPlate*	2	5	PFC_160219WS#4385888	3.000
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64	4385888-BVX785-01	2 Well Plates	1	*54VialPlate*	2	8	PFC_160219WS#4385888	3.000
65	4385888-BVX786-01	2 Well Plates	1	*54VialPlate*	2	9	PFC_160219WS#4385888	3.000
66	4385888-BVX787-01	2 Well Plates	1	*54VialPlate*	2	10	PFC_160219WS#4385888	3.000
67	4385888-BVX788-01	2 Well Plates	1	*54VialPlate*	2	11	PFC_160219WS#4385888	3.000
68	4385888-BVX789-01	2 Well Plates	1	*54VialPlate*	2	12	PFC_160219WS#4385888	3.000
69	4385888-BVX790-01	2 Well Plates	1	*54VialPlate*	2	13	PFC_160219WS#4385888	3.000
70	4385888-BVX791-01	2 Well Plates	1	*54VialPlate*	2	14	PFC_160219WS#4385888	3.000
71	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160219WS#4385888	3.000

Column #123  
 MPA = Soln # 506, FIRE 17  
 MFB = MeOH, Full-Load #1526B  
 on 2016/2/19

Results Name: PFC\_Water\_160219\_4385888\_ULow.rdb

Results Path: \\miss-netapp2\lcms\lcms3\Analyst  
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Maxxam Analytics

Sample ID	Acquisition Date	Acquisition Method	File Name	Rack Type	Rack Position	Vial Position	Plate Type	Plate Position
1	STD 1	2016/02/19 7:45:04 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	3	*54VialPlate*	1
2	STD 2	2016/02/19 7:50:14 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	4	*54VialPlate*	1
3	STD 3	2016/02/19 7:55:19 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	5	*54VialPlate*	1
4	STD 4	2016/02/19 8:00:24 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	6	*54VialPlate*	1
5	STD 5	2016/02/19 8:05:30 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	7	*54VialPlate*	1
6	STD 6	2016/02/19 8:10:36 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	8	*54VialPlate*	1
7	ICV	2016/02/19 8:15:41 AM	PFC_160219\WS#4386408.wiff	2 Well Plates	1	9	*54VialPlate*	1
8	CCV	2016/02/19 12:56:01 PM	PFC_160219\WS#4385924.wiff	2 Well Plates	1	6	*54VialPlate*	1
9	4385888-BLANK	2016/02/19 1:01:06 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	1	*54VialPlate*	2
10	4385888-MITRX SPK (BVX789)	2016/02/19 1:06:13 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	2	*54VialPlate*	2
11	4385888-MITRX SPK:D1 (BVX789)	2016/02/19 1:11:19 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	3	*54VialPlate*	2
12	4385888-SPIKE	2016/02/19 1:16:25 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	4	*54VialPlate*	2
13	4385888-BVX782-01	2016/02/19 1:21:31 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	5	*54VialPlate*	2
14	4385888-BVX783-01	2016/02/19 1:26:37 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	6	*54VialPlate*	2
15	4385888-BVX784-01	2016/02/19 1:31:43 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	7	*54VialPlate*	2
16	4385888-BVX785-01	2016/02/19 1:36:49 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	8	*54VialPlate*	2
17	4385888-BVX786-01	2016/02/19 1:41:55 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	9	*54VialPlate*	2
18	4385888-BVX787-01	2016/02/19 1:47:01 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	10	*54VialPlate*	2
19	4385888-BVX788-01	2016/02/19 1:52:07 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	11	*54VialPlate*	2
20	4385888-BVX789-01	2016/02/19 1:57:13 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	12	*54VialPlate*	2
21	4385888-BVX790-01	2016/02/19 2:02:18 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	13	*54VialPlate*	2
22	4385888-BVX791-01	2016/02/19 2:07:25 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	14	*54VialPlate*	2
23	CCV	2016/02/19 2:12:30 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	6	*54VialPlate*	1
24	CCV	2016/02/19 2:18:31 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	6	*54VialPlate*	1
25	CCV	2016/02/19 2:23:36 PM	PFC_160219\WS#4385888.wiff	2 Well Plates	1	6	*54VialPlate*	1



## 5. Initial Calibration

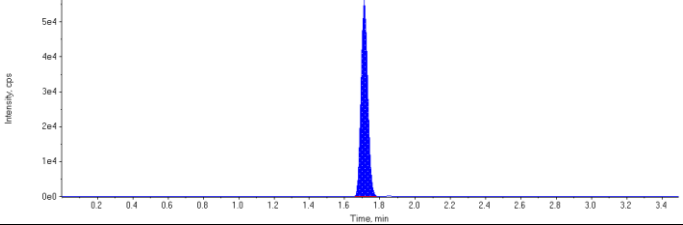
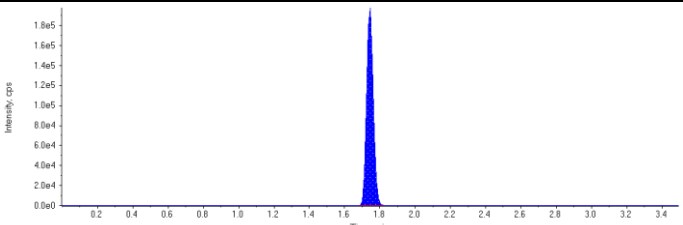
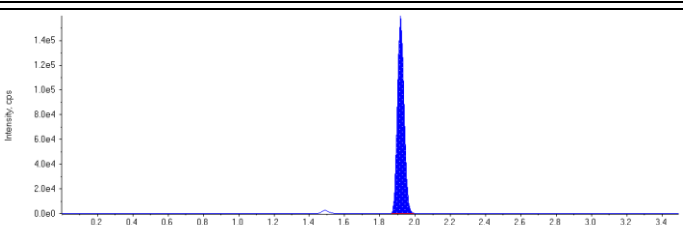
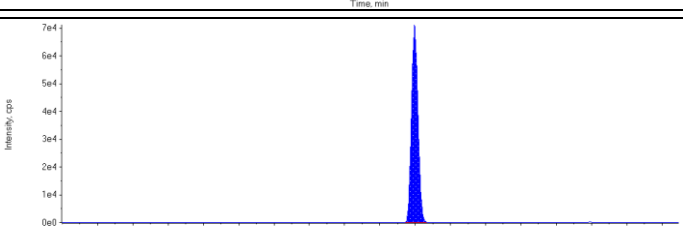
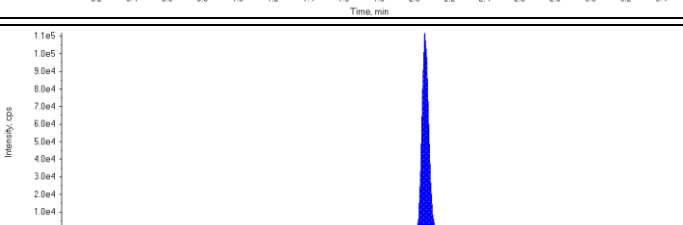
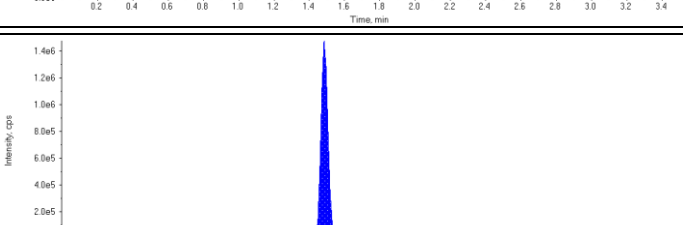
Maxxam Analytics International  
6740 Campobello Rd  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)

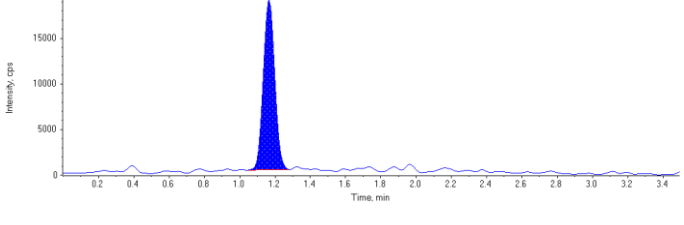
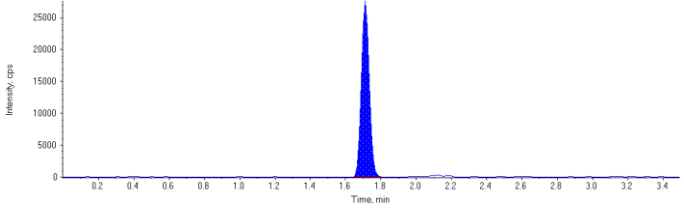
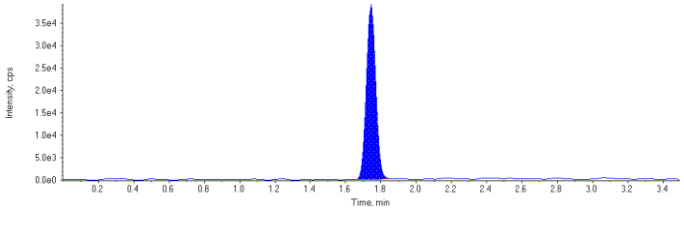
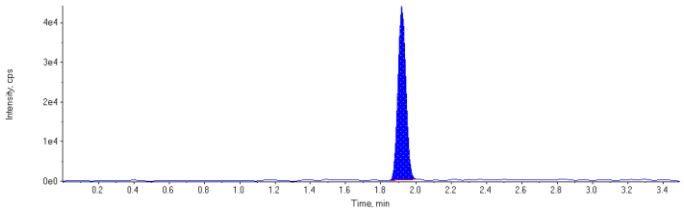
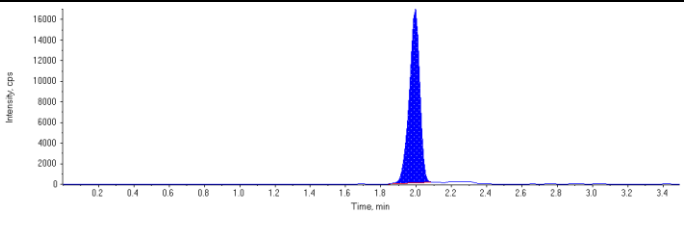
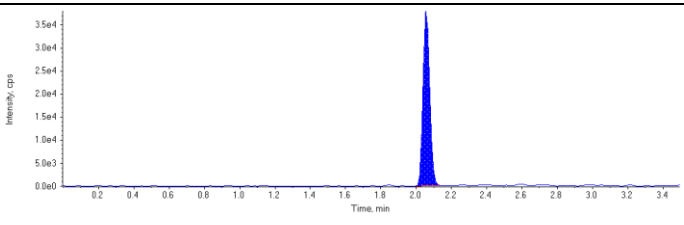
<b>Sample Name</b>	STD 1	<b>Injection Vial</b>	3
<b>Sample ID</b>	STD 1	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Standard	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4386408.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

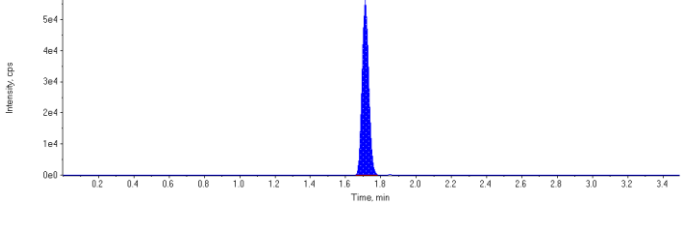
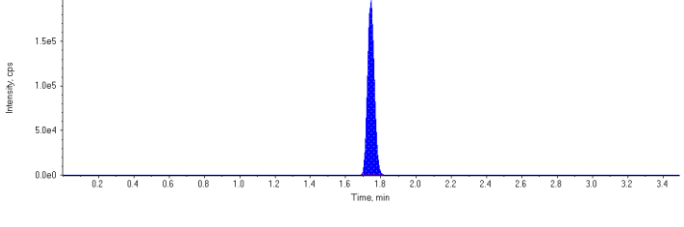
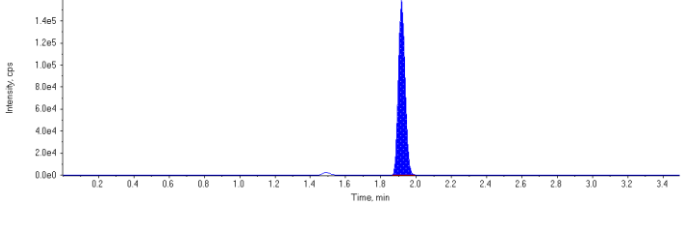
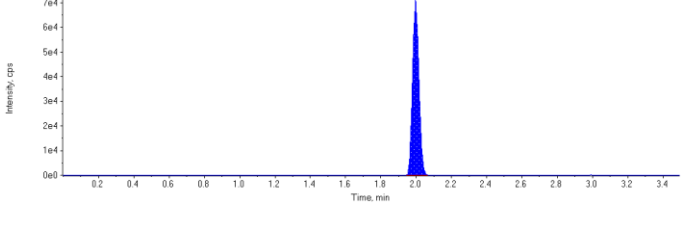
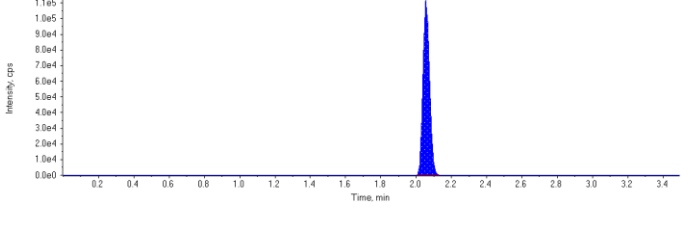
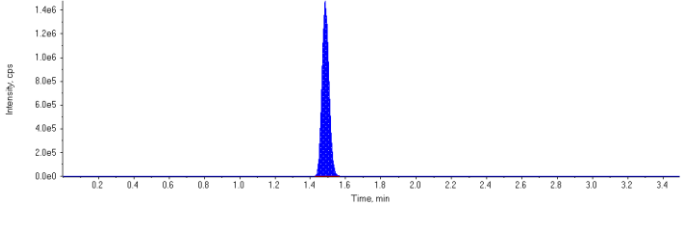
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	146000.	1.71	1.00	-
MPFHpA	517000.	1.74	1.00	-
MPFOA	413000.	1.92	1.00	-
MPFOS	179000.	2.00	1.00	-
MPFNA	291000.	2.06	1.00	-
13C6-PFHxA IS	4050000.	1.49	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	83700	1.17	2.00	2.40	120.0
PFHxS 1	85000	1.71	2.00	2.35	117.0
PFHpA 1	142000	1.74	2.00	2.11	106.0
PFOA 1	136000	1.92	2.00	2.20	110.0
PFOS 1	69300	1.99	2.00	2.31	116.0
PFNA 1	101000	2.06	2.00	2.24	112.0
18O2-PFHxS	146000	1.71	100.	97.9	97.9
13C4-PFHpA	517000	1.74	100.	103.	103.0
13C4-PFOA	413000	1.92	100.	94.5	94.5
13C4-PFOS	179000	2.00	100.	102.	102.0
13C5-PFNA	291000	2.06	100.	97.6	97.6
13C6-PFHxA	4050000	1.49	100.	101.	101.0



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.49(1.42) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)</p>	<p style="text-align: center;">This image is not available</p>

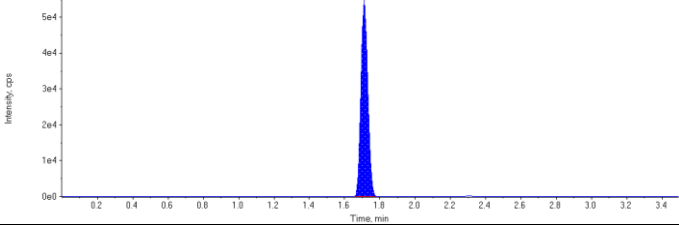
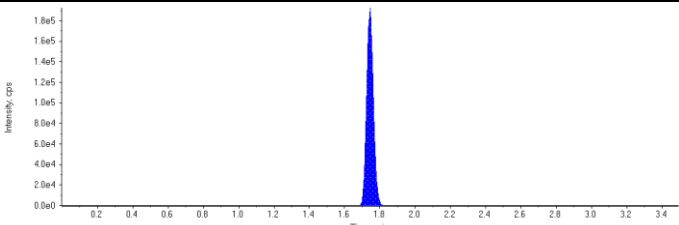
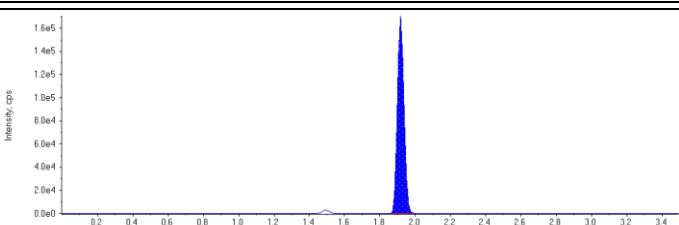
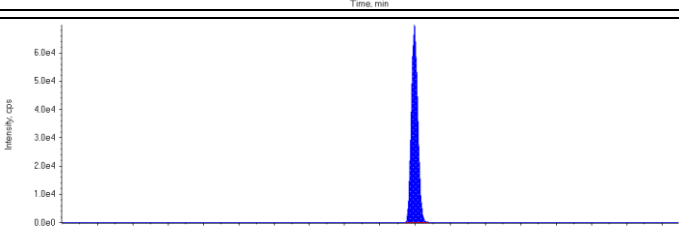
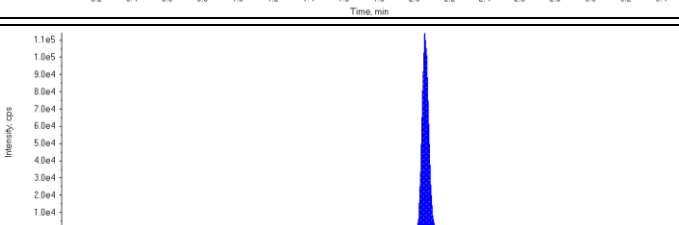
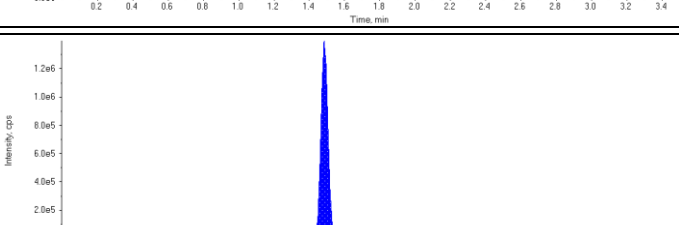
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.17 (1.15) min</p> <p>Calculated Conc: 2.40 µg/L</p> <p>Area Ratio: 0.573</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 2.35 µg/L</p> <p>Area Ratio: 0.582</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 2.11 µg/L</p> <p>Area Ratio: 0.275</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 2.20 µg/L</p> <p>Area Ratio: 0.331</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 2.31 µg/L</p> <p>Area Ratio: 0.387</p> <p>Sample Type: (Standard)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 2.24 µg/L</p> <p>Area Ratio: 0.346</p> <p>Sample Type: (Standard)</p>	

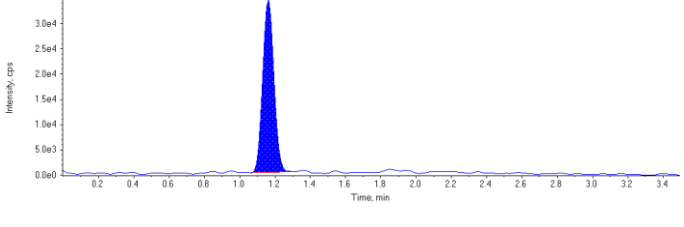
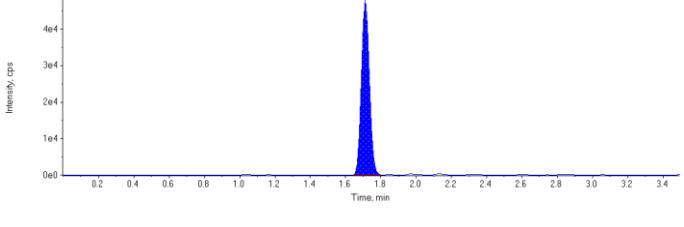
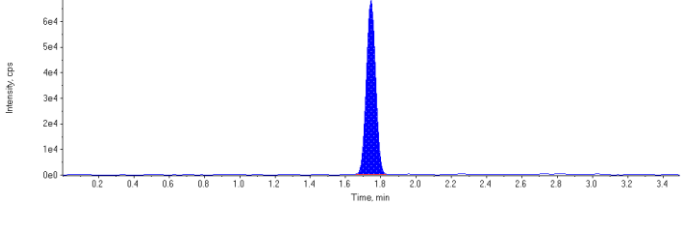
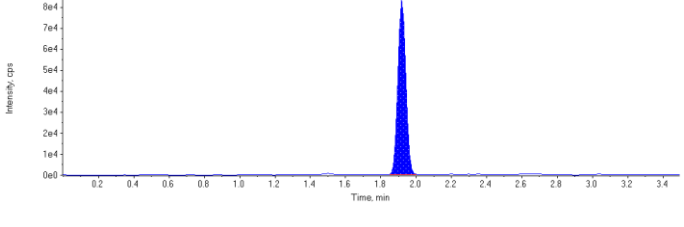
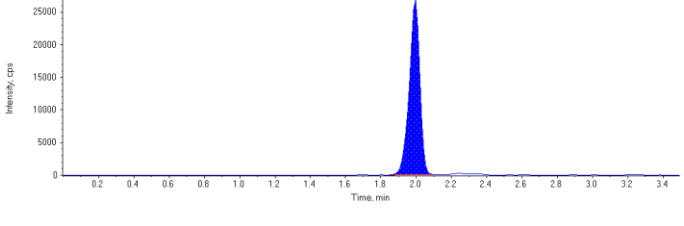
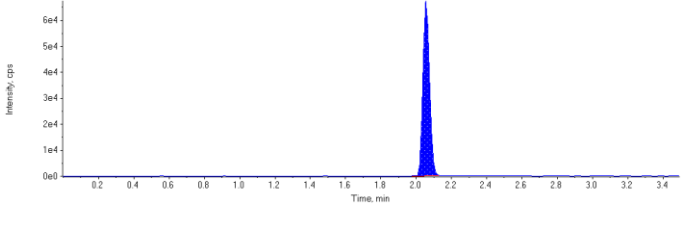
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 97.9 µg/L</p> <p>Area Ratio: 0.0361</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.128</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 94.5 µg/L</p> <p>Area Ratio: 0.102</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.0443</p> <p>Sample Type: (Standard)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 97.6 µg/L</p> <p>Area Ratio: 0.0719</p> <p>Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.49 (1.42) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Standard)</p>	

<b>Sample Name</b>	<b>STD 2</b>	<b>Injection Vial</b>	4
<b>Sample ID</b>	STD 2	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Standard	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 7:50:14 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4386408.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	147000.	1.71	1.00	-
MPFHpA	503000.	1.74	1.00	-
MPFOA	442000.	1.92	1.00	-
MPFOS	177000.	2.00	1.00	-
MPFNA	296000.	2.06	1.00	-
13C6-PFHxA IS	3880000.	1.49	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	151000	1.16	4.00	3.86	96.4
PFHxS 1	150000	1.71	4.00	3.68	92.0
PFHpA 1	247000	1.74	4.00	3.72	92.9
PFOA 1	258000	1.92	4.00	3.73	93.3
PFOS 1	111000	1.99	4.00	3.63	90.7
PFNA 1	177000	2.06	4.00	3.74	93.6
18O2-PFHxS	147000	1.71	100.	103.	103.0
13C4-PFHpA	503000	1.74	100.	105.	105.0
13C4-PFOA	442000	1.92	100.	105.	105.0
13C4-PFOS	177000	2.00	100.	105.	105.0
13C5-PFNA	296000	2.06	100.	104.	104.0
13C6-PFHxA	3880000	1.49	100.	97.3	97.3

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.49(1.42) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 3.86 µg/L</p> <p>Area Ratio: 1.03</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 3.68 µg/L</p> <p>Area Ratio: 1.03</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 3.72 µg/L</p> <p>Area Ratio: 0.491</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 3.73 µg/L</p> <p>Area Ratio: 0.584</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 3.63 µg/L</p> <p>Area Ratio: 0.627</p> <p>Sample Type: (Standard)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 3.74 µg/L</p> <p>Area Ratio: 0.597</p> <p>Sample Type: (Standard)</p>	

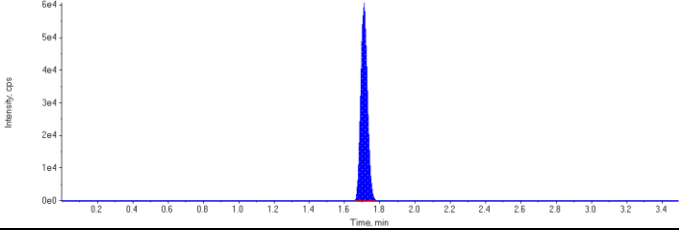
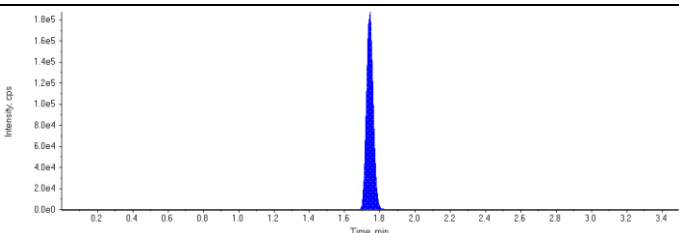
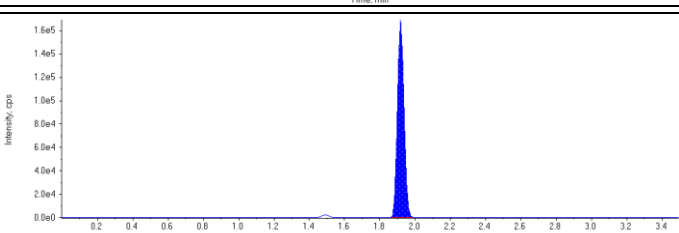
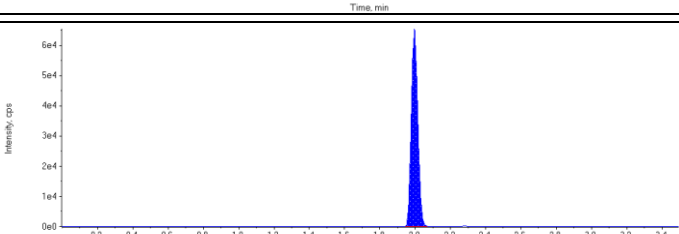
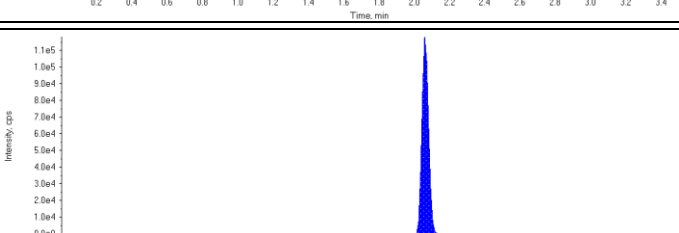
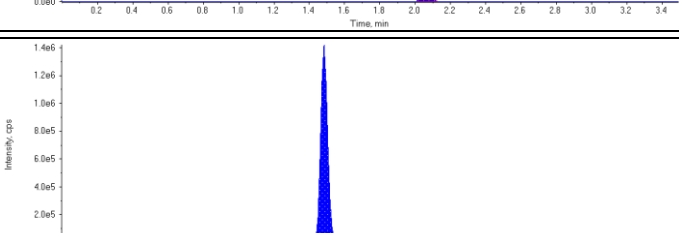
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.0378</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.129</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.114</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.0456</p> <p>Sample Type: (Standard)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 104. µg/L</p> <p>Area Ratio: 0.0763</p> <p>Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.49 (1.42) min</p> <p>Calculated Conc: 97.3 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Standard)</p>	

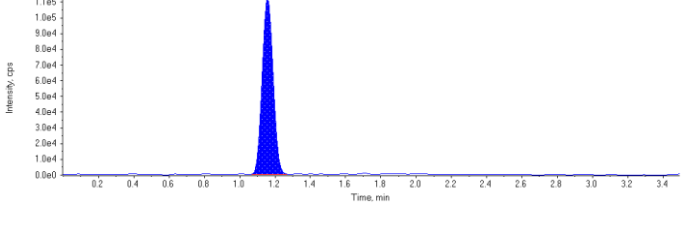
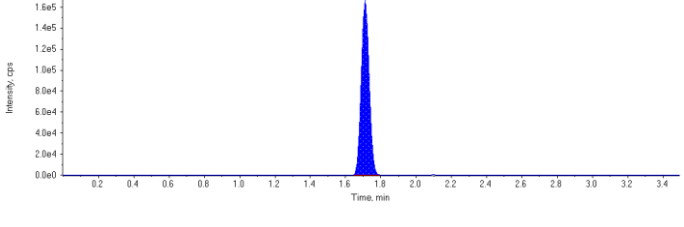
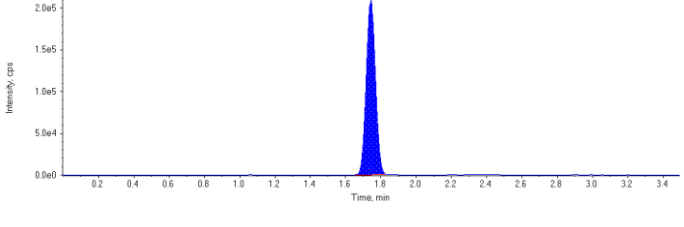
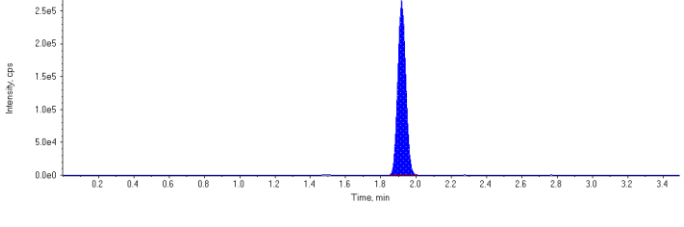
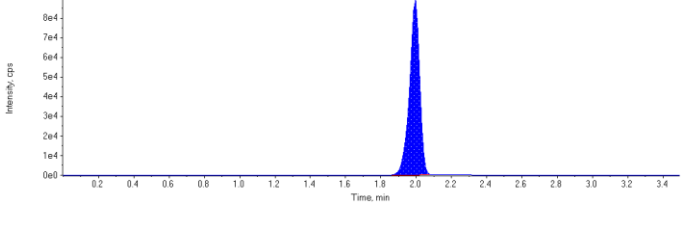
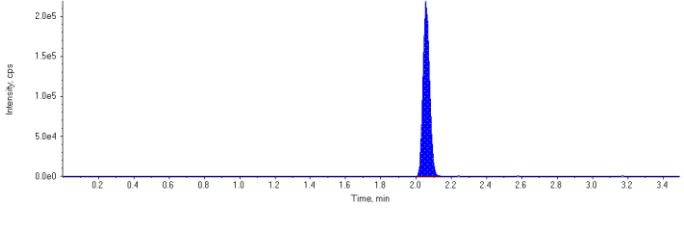
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<b>Sample ID</b>	STD 3	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Standard	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 7:55:19 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4386408.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

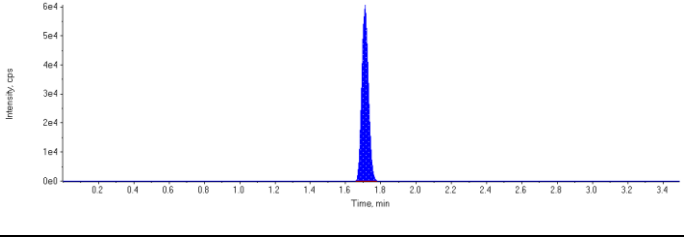
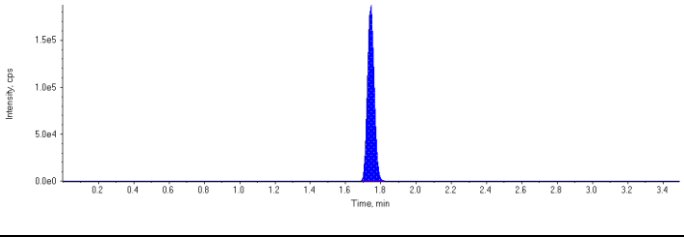
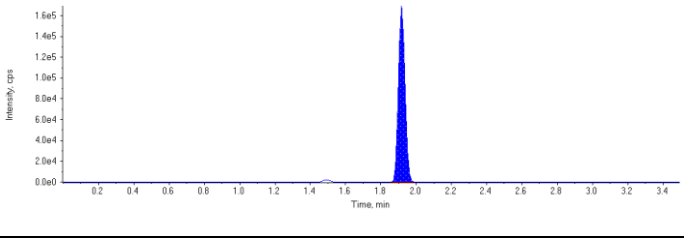
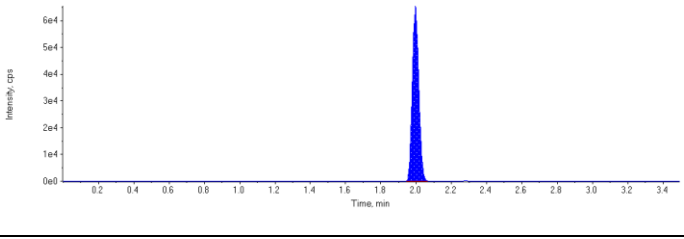
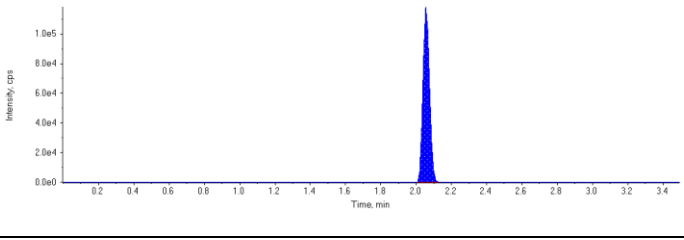
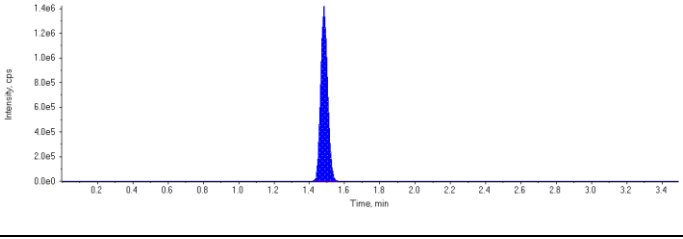
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	156000.	1.71	1.00	-
MPFHpA	498000.	1.74	1.00	-
MPFOA	435000.	1.92	1.00	-
MPFOS	167000.	2.00	1.00	-
MPFNA	307000.	2.06	1.00	-
13C6-PFHxA IS	3890000.	1.48	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	482000	1.16	12.0	10.4	87.0
PFHxS 1	518000	1.71	12.0	10.6	88.1
PFHpA 1	764000	1.74	12.0	11.5	95.5
PFOA 1	835000	1.92	12.0	11.8	98.4
PFOS 1	356000	1.99	12.0	11.9	99.2
PFNA 1	570000	2.06	12.0	11.3	94.2
18O2-PFHxS	156000	1.71	100.	109.	109.0
13C4-PFHpA	498000	1.74	100.	104.	104.0
13C4-PFOA	435000	1.92	100.	104.	104.0
13C4-PFOS	167000	2.00	100.	99.4	99.4
13C5-PFNA	307000	2.06	100.	107.	107.0
13C6-PFHxA	3890000	1.48	100.	97.4	97.4



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)</p>	<p style="text-align: center;">This image is not available</p>

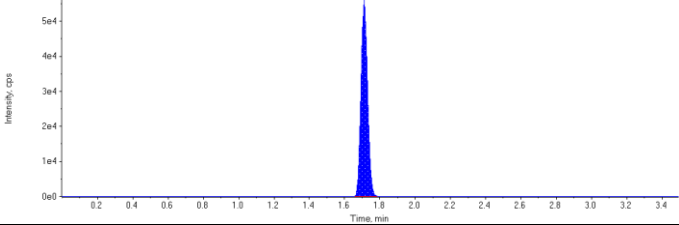
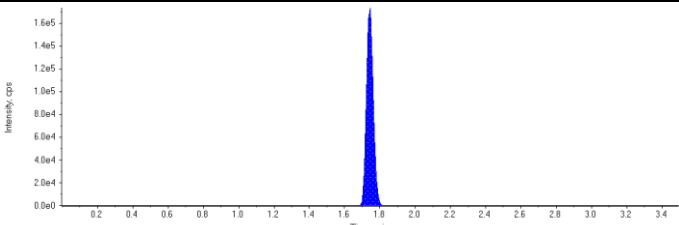
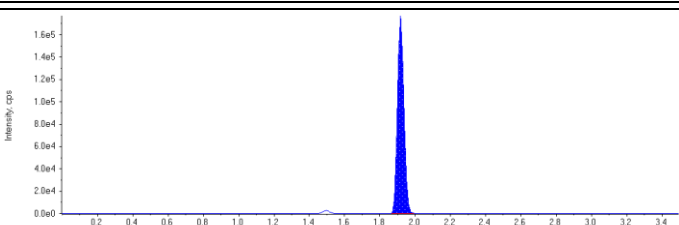
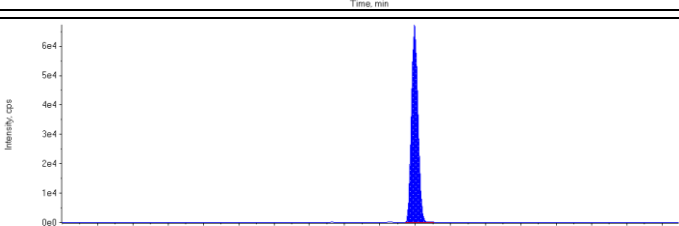
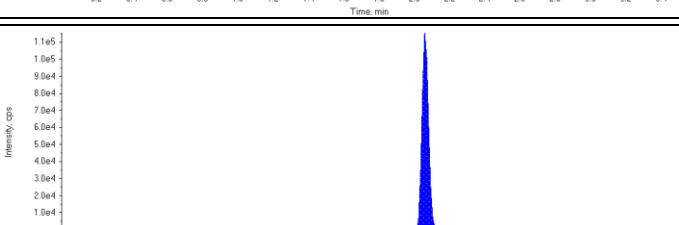
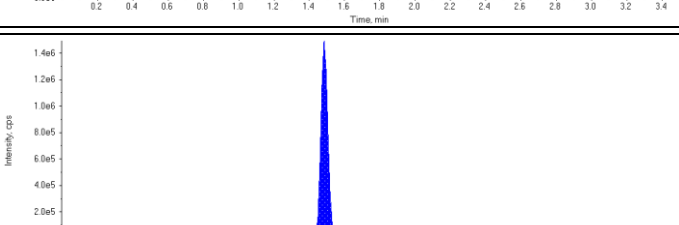
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 10.4 µg/L</p> <p>Area Ratio: 3.09</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 10.6 µg/L</p> <p>Area Ratio: 3.32</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 11.5 µg/L</p> <p>Area Ratio: 1.53</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 11.8 µg/L</p> <p>Area Ratio: 1.92</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 11.9 µg/L</p> <p>Area Ratio: 2.13</p> <p>Sample Type: (Standard)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 11.3 µg/L</p> <p>Area Ratio: 1.86</p> <p>Sample Type: (Standard)</p>	

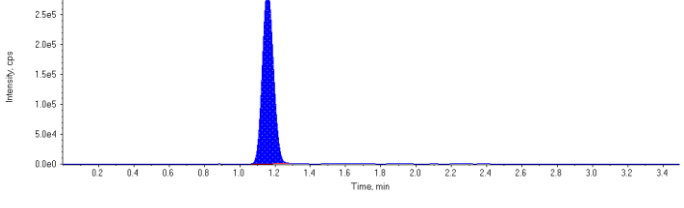
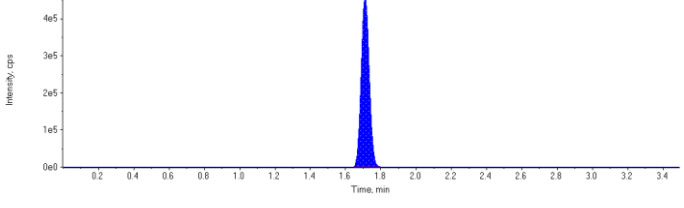
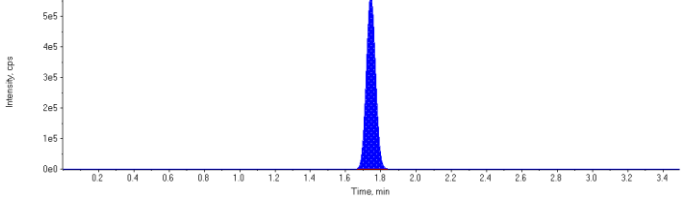
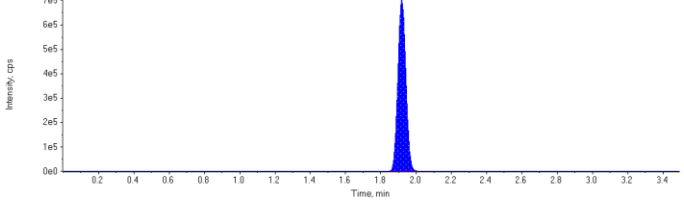
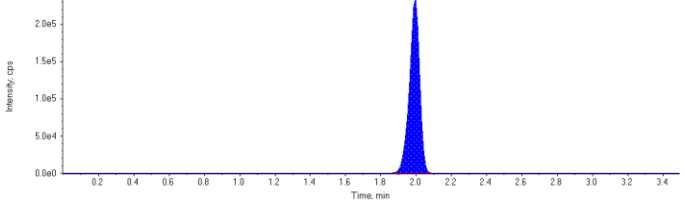
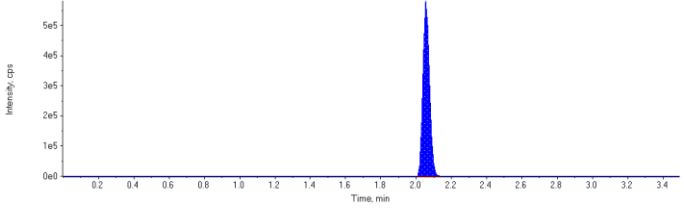
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 109. µg/L</p> <p>Area Ratio: 0.0401</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 104. µg/L</p> <p>Area Ratio: 0.128</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 104. µg/L</p> <p>Area Ratio: 0.112</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 99.4 µg/L</p> <p>Area Ratio: 0.0429</p> <p>Sample Type: (Standard)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 107. µg/L</p> <p>Area Ratio: 0.0791</p> <p>Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 97.4 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Standard)</p>	

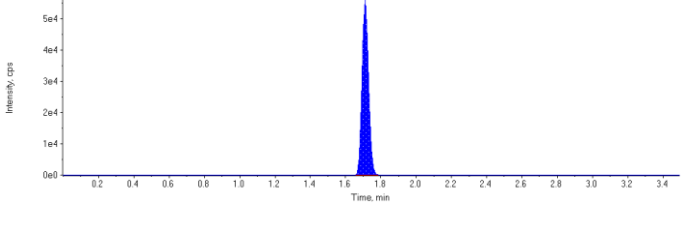
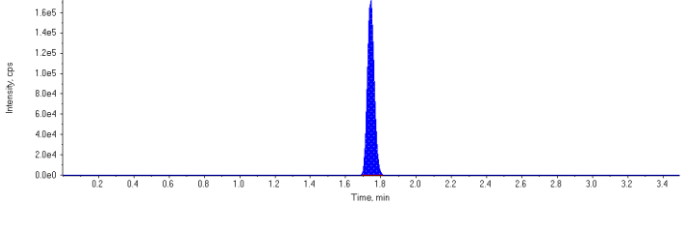
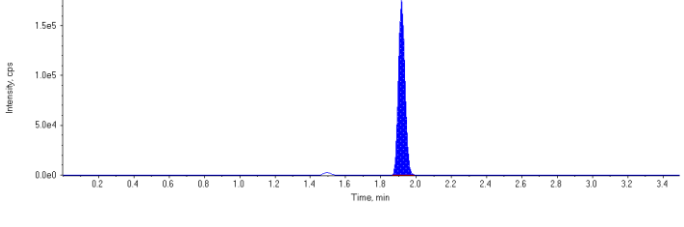
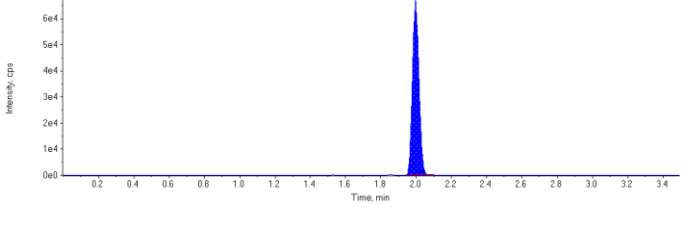
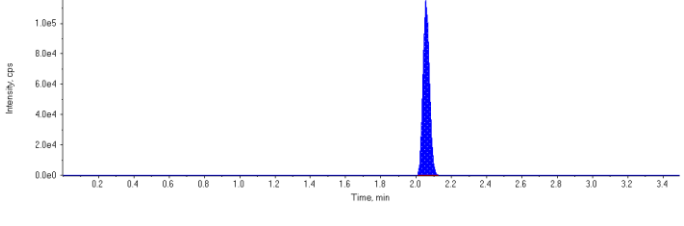
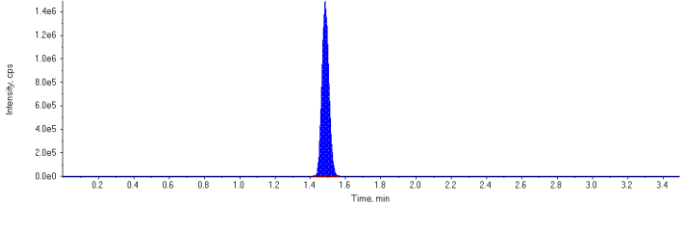
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<b>Sample ID</b>	STD 4	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Standard	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 8:00:24 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4386408.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	144000.	1.71	1.00	-
MPFHpA	467000.	1.74	1.00	-
MPFOA	447000.	1.92	1.00	-
MPFOS	172000.	2.00	1.00	-
MPFNA	296000.	2.06	1.00	-
13C6-PFHxA IS	4090000.	1.48	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	1290000	1.16	30.0	29.3	97.5
PFHxS 1	1470000	1.71	30.0	31.3	104.0
PFHpA 1	2080000	1.74	30.0	33.2	111.0
PFOA 1	2220000	1.92	30.0	30.3	101.0
PFOS 1	944000	1.99	30.0	30.3	101.0
PFNA 1	1500000	2.06	30.0	30.6	102.0
18O2-PFHxS	144000	1.71	100.	95.4	95.4
13C4-PFHpA	467000	1.74	100.	92.3	92.3
13C4-PFOA	447000	1.92	100.	101.	101.0
13C4-PFOS	172000	2.00	100.	97.3	97.3
13C5-PFNA	296000	2.06	100.	98.3	98.3
13C6-PFHxA	4090000	1.48	100.	102.	102.0

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 29.3 µg/L</p> <p>Area Ratio: 8.98</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 31.3 µg/L</p> <p>Area Ratio: 10.2</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 33.2 µg/L</p> <p>Area Ratio: 4.46</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 30.3 µg/L</p> <p>Area Ratio: 4.97</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 30.3 µg/L</p> <p>Area Ratio: 5.49</p> <p>Sample Type: (Standard)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 30.6 µg/L</p> <p>Area Ratio: 5.07</p> <p>Sample Type: (Standard)</p>	

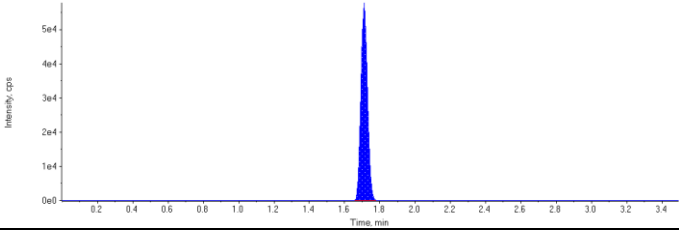
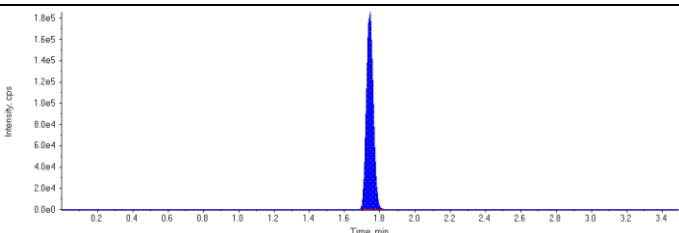
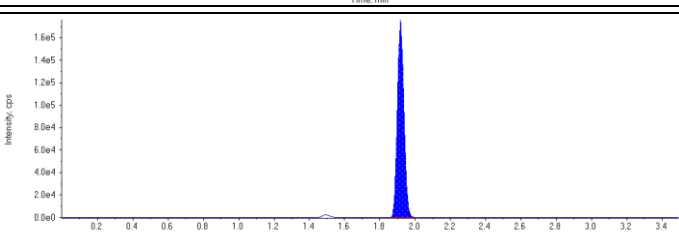
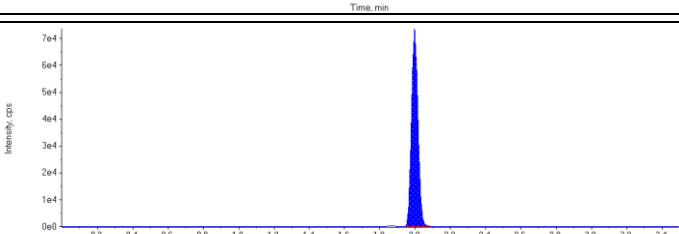
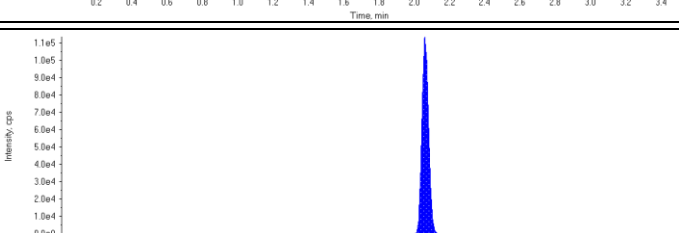
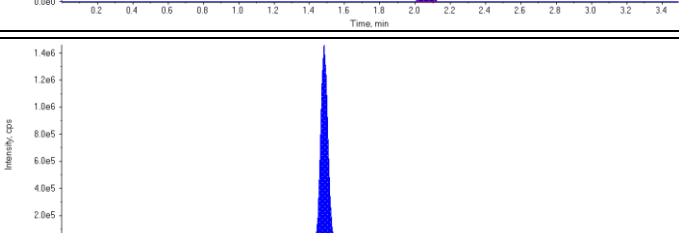
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 95.4 µg/L</p> <p>Area Ratio: 0.0351</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 92.3 µg/L</p> <p>Area Ratio: 0.114</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.109</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 97.3 µg/L</p> <p>Area Ratio: 0.0420</p> <p>Sample Type: (Standard)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 98.3 µg/L</p> <p>Area Ratio: 0.0723</p> <p>Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Standard)</p>	

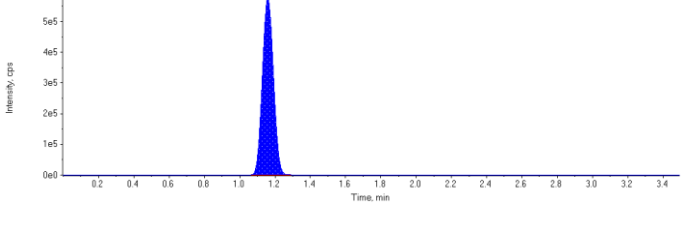
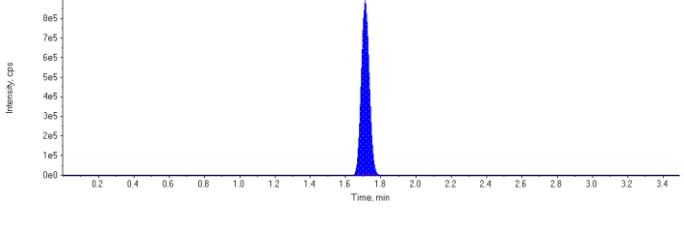
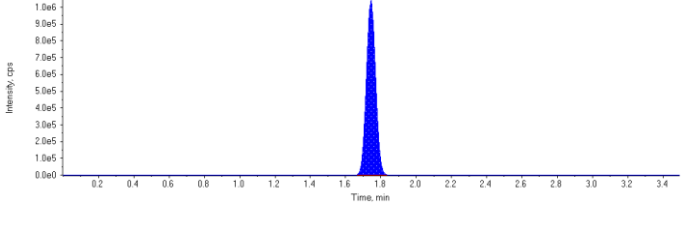
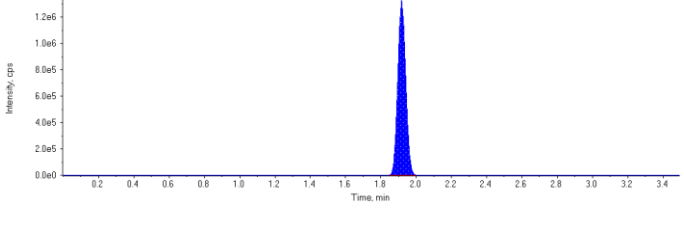
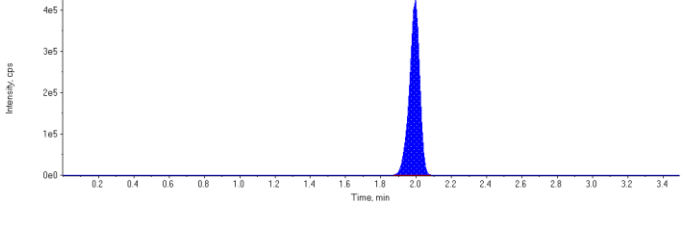
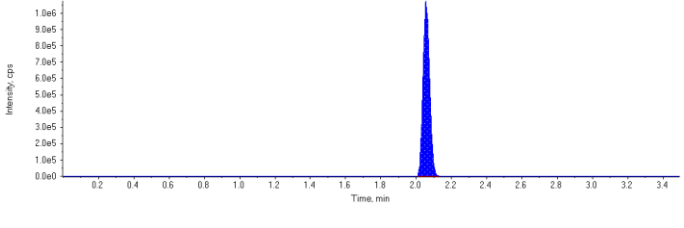
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<b>Sample ID</b>	STD 5	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Standard	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 8:05:30 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
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<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

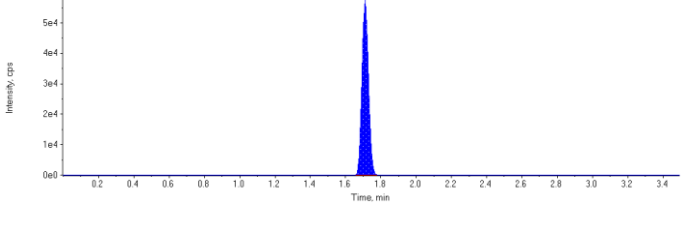
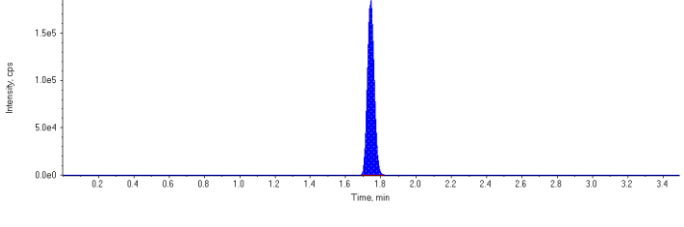
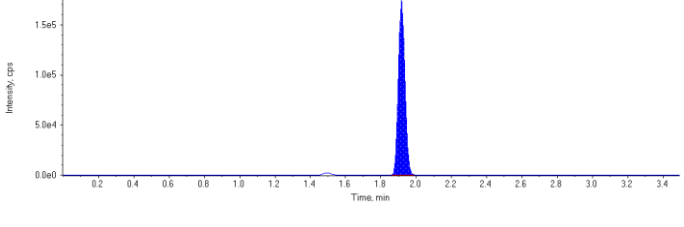
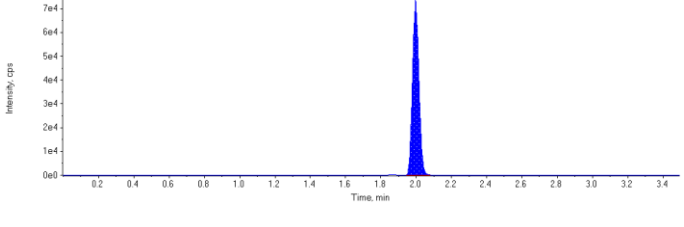
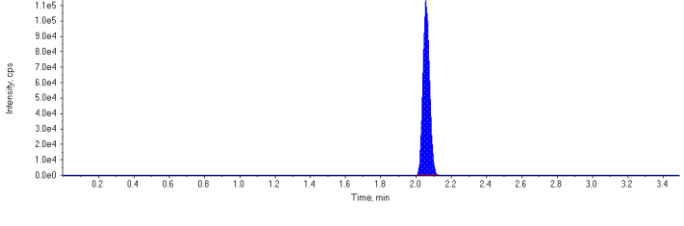
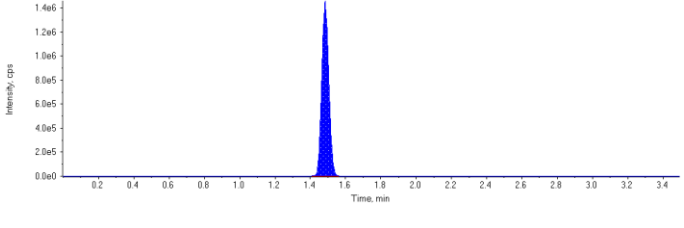
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	147000.	1.71	1.00	-
MPFHpA	499000.	1.74	1.00	-
MPFOA	448000.	1.92	1.00	-
MPFOS	186000.	2.00	1.00	-
MPFNA	296000.	2.06	1.00	-
13C6-PFHxA IS	4060000.	1.48	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	2520000	1.16	60.0	55.2	92.0
PFHxS 1	2760000	1.71	60.0	57.0	95.1
PFHpA 1	3790000	1.74	60.0	56.5	94.2
PFOA 1	4130000	1.92	60.0	56.1	93.5
PFOS 1	1700000	1.99	60.0	50.5	84.1
PFNA 1	2810000	2.06	60.0	57.2	95.3
18O2-PFHxS	147000	1.71	100.	98.3	98.3
13C4-PFHpA	499000	1.74	100.	99.2	99.2
13C4-PFOA	448000	1.92	100.	102.	102.0
13C4-PFOS	186000	2.00	100.	106.	106.0
13C5-PFNA	296000	2.06	100.	99.1	99.1
13C6-PFHxA	4060000	1.48	100.	102.	102.0



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)</p>	<p style="text-align: center;">This image is not available</p>

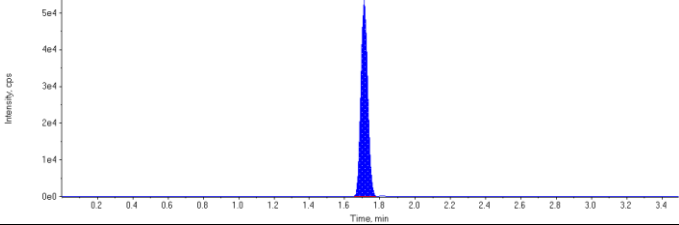
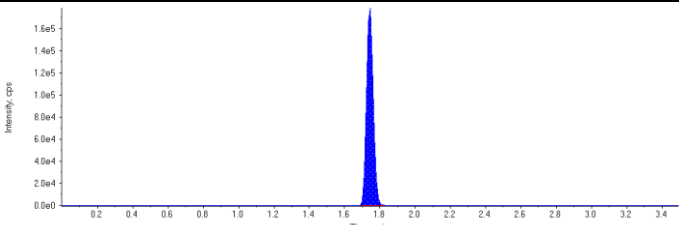
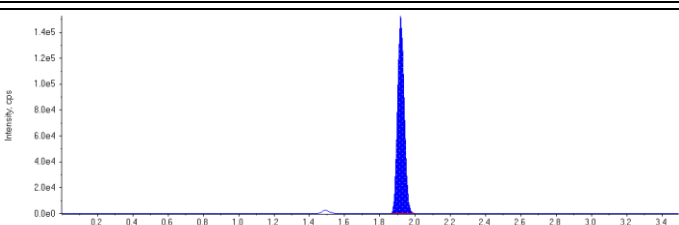
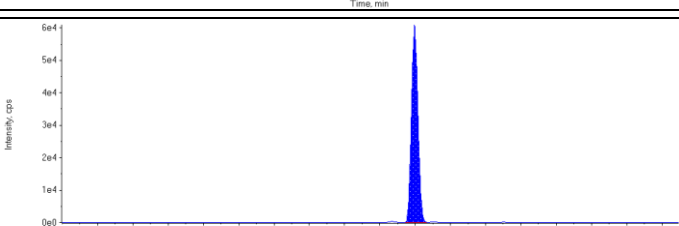
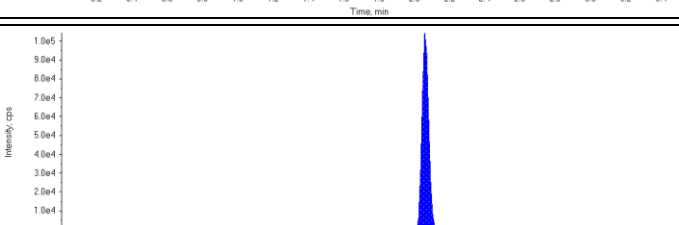
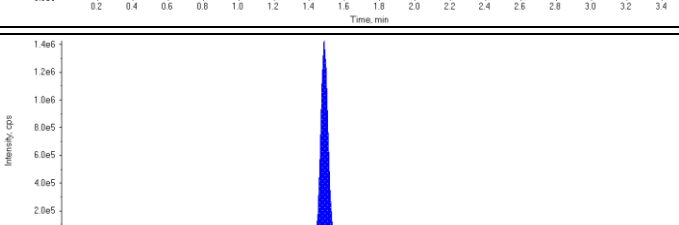
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 55.2 µg/L</p> <p>Area Ratio: 17.1</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 57.0 µg/L</p> <p>Area Ratio: 18.8</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 56.5 µg/L</p> <p>Area Ratio: 7.60</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 56.1 µg/L</p> <p>Area Ratio: 9.23</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 50.5 µg/L</p> <p>Area Ratio: 9.16</p> <p>Sample Type: (Standard)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 57.2 µg/L</p> <p>Area Ratio: 9.50</p> <p>Sample Type: (Standard)</p>	

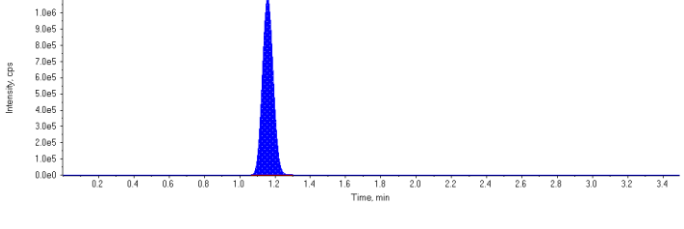
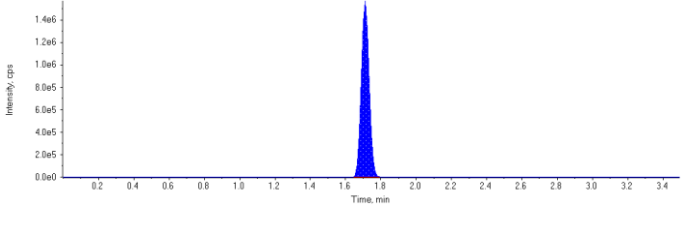
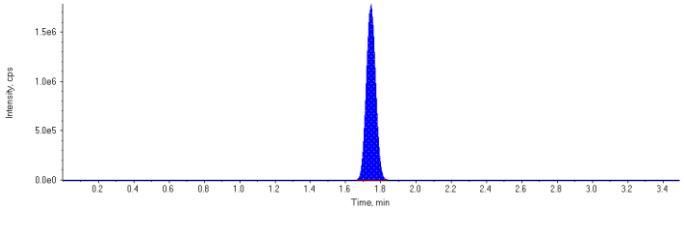
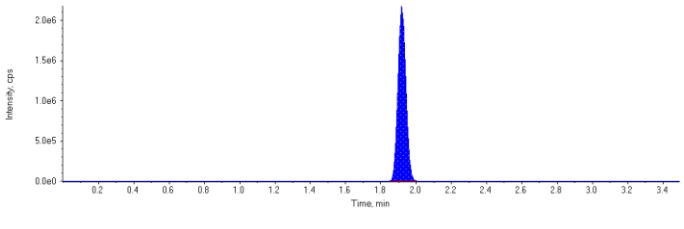
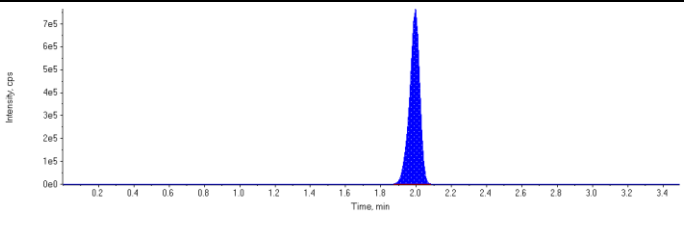
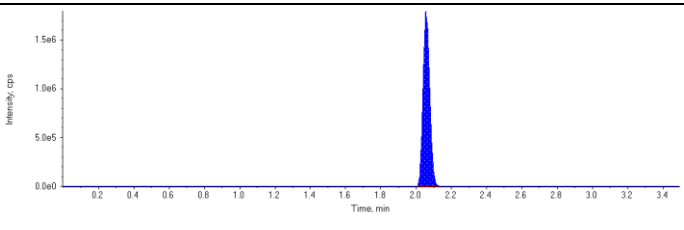
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 98.3 µg/L</p> <p>Area Ratio: 0.0362</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 99.2 µg/L</p> <p>Area Ratio: 0.123</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.110</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 106. µg/L</p> <p>Area Ratio: 0.0458</p> <p>Sample Type: (Standard)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 99.1 µg/L</p> <p>Area Ratio: 0.0729</p> <p>Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Standard)</p>	

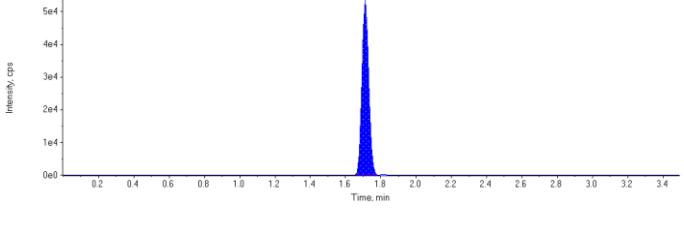
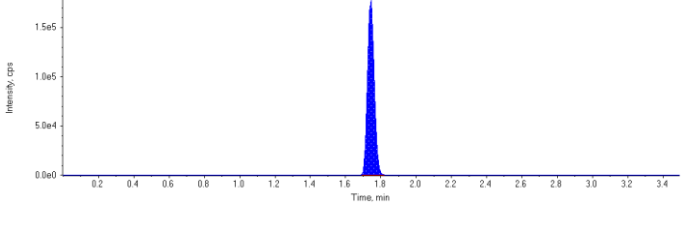
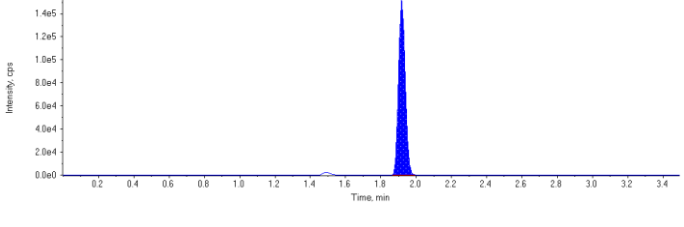
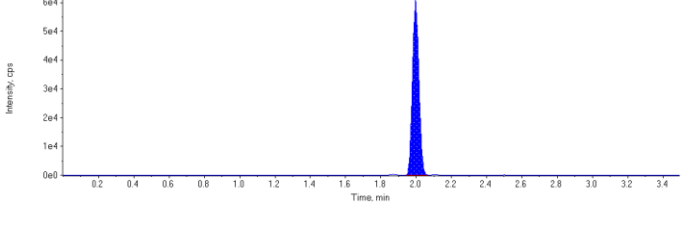
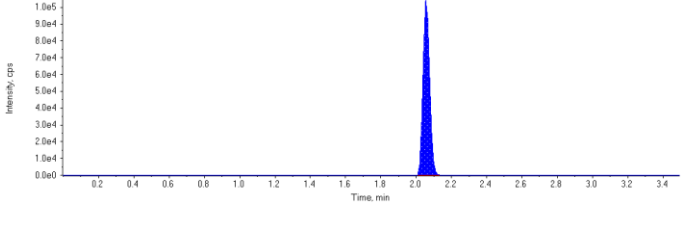
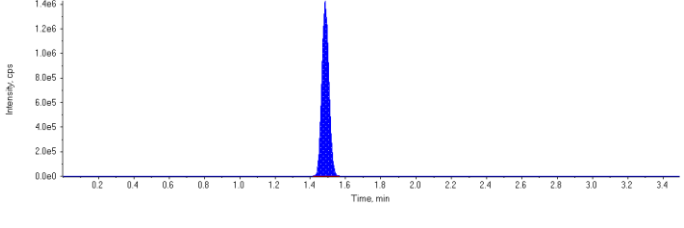
<b>Sample Name</b>	<b>STD 6</b>	<b>Injection Vial</b>	8
<b>Sample ID</b>	STD 6	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Standard	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 8:10:36 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4386408.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	142000.	1.71	1.00	-
MPFHpA	477000.	1.74	1.00	-
MPFOA	398000.	1.92	1.00	-
MPFOS	154000.	2.00	1.00	-
MPFNA	275000.	2.06	1.00	-
13C6-PFHxA IS	3980000.	1.48	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	4720000	1.16	100.	107.	107.0
PFHxS 1	4830000	1.71	100.	103.	103.0
PFHpA 1	6480000	1.74	100.	101.	101.0
PFOA 1	6810000	1.92	100.	104.	104.0
PFOS 1	3060000	2.00	100.	109.	109.0
PFNA 1	4710000	2.06	100.	103.	103.0
18O2-PFHxS	142000	1.71	100.	96.8	96.8
13C4-PFHpA	477000	1.74	100.	96.9	96.9
13C4-PFOA	398000	1.92	100.	92.7	92.7
13C4-PFOS	154000	2.00	100.	89.4	89.4
13C5-PFNA	275000	2.06	100.	94.0	94.0
13C6-PFHxA	3980000	1.48	100.	99.7	99.7

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Standard)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 107. µg/L</p> <p>Area Ratio: 33.3</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 34.1</p> <p>Sample Type: (Standard)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 13.6</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 104. µg/L</p> <p>Area Ratio: 17.1</p> <p>Sample Type: (Standard)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 109. µg/L</p> <p>Area Ratio: 19.9</p> <p>Sample Type: (Standard)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 17.1</p> <p>Sample Type: (Standard)</p>	

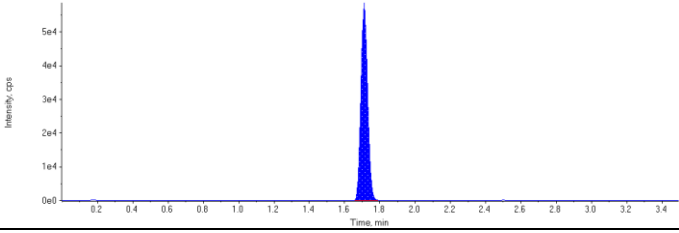
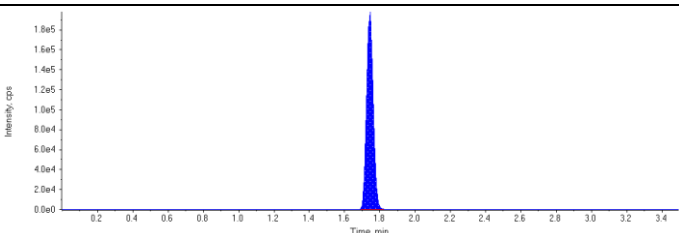
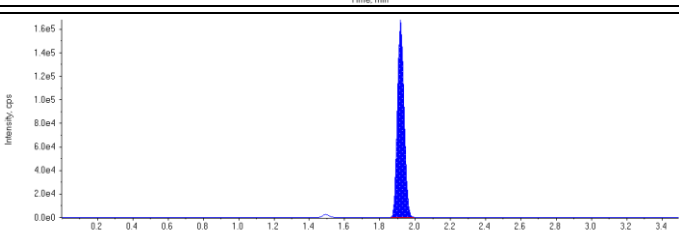
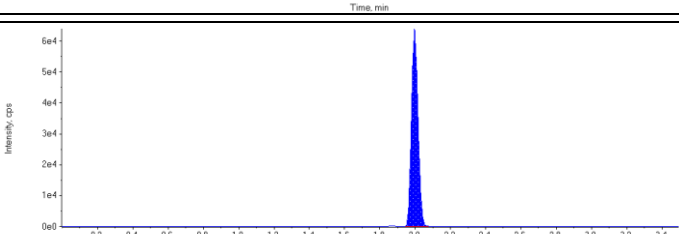
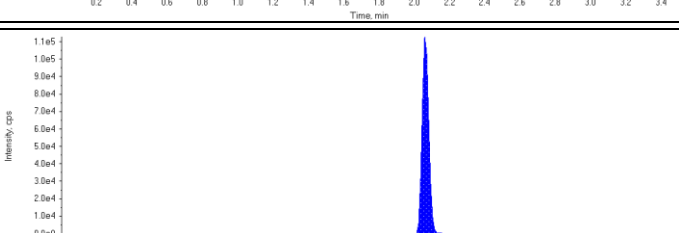
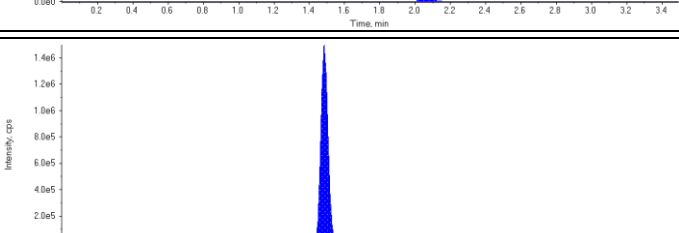
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 96.8 µg/L</p> <p>Area Ratio: 0.0356</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 96.9 µg/L</p> <p>Area Ratio: 0.120</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 92.7 µg/L</p> <p>Area Ratio: 0.100</p> <p>Sample Type: (Standard)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 89.4 µg/L</p> <p>Area Ratio: 0.0386</p> <p>Sample Type: (Standard)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 94.0 µg/L</p> <p>Area Ratio: 0.0692</p> <p>Sample Type: (Standard)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 99.7 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Standard)</p>	

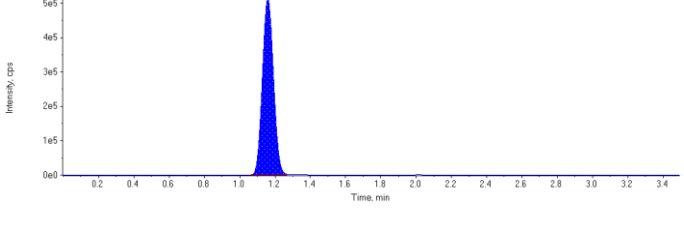
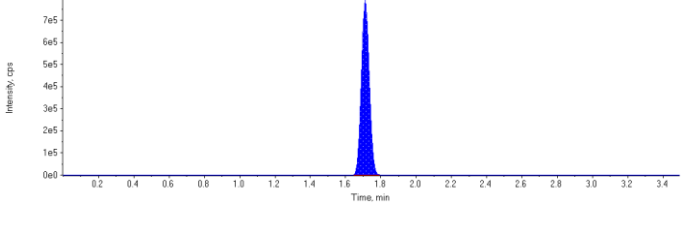
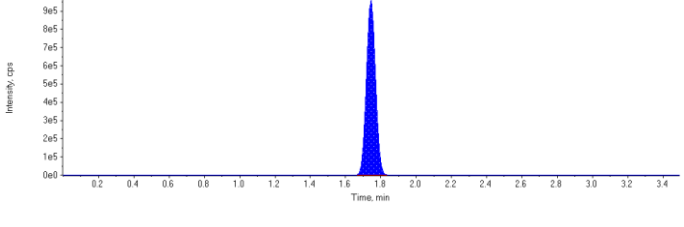
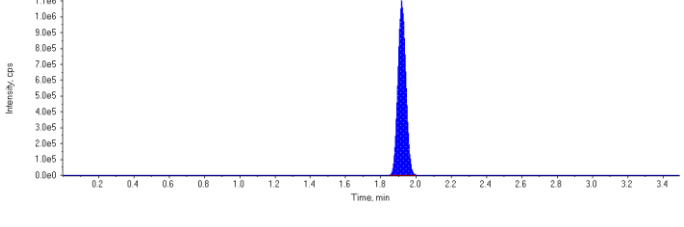
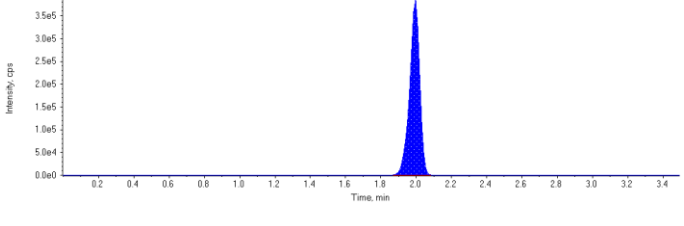
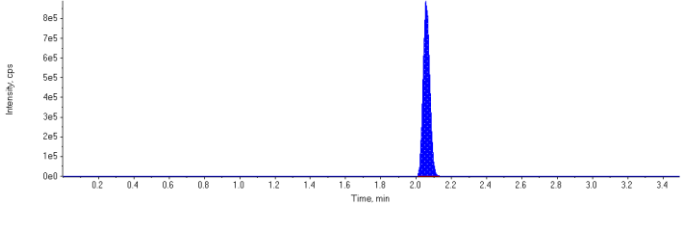
<b>Sample Name</b>	<b>ICV</b>	<b>Injection Vial</b>	9
<b>Sample ID</b>	ICV	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 8:15:41 AM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4386408.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	152000.	1.71	1.00	-
MPFHpA	517000.	1.74	1.00	-
MPFOA	437000.	1.92	1.00	-
MPFOS	163000.	2.00	1.00	-
MPFNA	297000.	2.06	1.00	-
13C6-PFHxA IS	4130000.	1.48	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	1.16	50.0	47.6	95.3
PFHxS 1	2450000	1.71	50.0	49.2	98.4
PFHpA 1	3460000	1.74	50.0	49.7	99.5
PFOA 1	3460000	1.92	50.0	48.2	96.3
PFOS 1	1530000	2.00	50.0	51.5	103.0
PFNA 1	2340000	2.06	50.0	47.6	95.1
18O2-PFHxS	152000	1.71	100.	99.7	99.7
13C4-PFHpA	517000	1.74	100.	101.	101.0
13C4-PFOA	437000	1.92	100.	98.0	98.0
13C4-PFOS	163000	2.00	100.	91.5	91.5
13C5-PFNA	297000	2.06	100.	97.6	97.6
13C6-PFHxA	4130000	1.48	100.	104.	104.0



<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.92(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.06(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.16 (1.15) min</p> <p>Calculated Conc: 47.6 µg/L</p> <p>Area Ratio: 14.7</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 49.2 µg/L</p> <p>Area Ratio: 16.2</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 49.7 µg/L</p> <p>Area Ratio: 6.69</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.92) min</p> <p>Calculated Conc: 48.2 µg/L</p> <p>Area Ratio: 7.92</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 51.5 µg/L</p> <p>Area Ratio: 9.34</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 47.6 µg/L</p> <p>Area Ratio: 7.89</p> <p>Sample Type: (Quality Control)</p>	

<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 99.7 µg/L</p> <p>Area Ratio: 0.0367</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.125</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.92 (1.88) min</p> <p>Calculated Conc: 98.0 µg/L</p> <p>Area Ratio: 0.106</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 2.00 (1.97) min</p> <p>Calculated Conc: 91.5 µg/L</p> <p>Area Ratio: 0.0395</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.06 (2.02) min</p> <p>Calculated Conc: 97.6 µg/L</p> <p>Area Ratio: 0.0719</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 104. µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

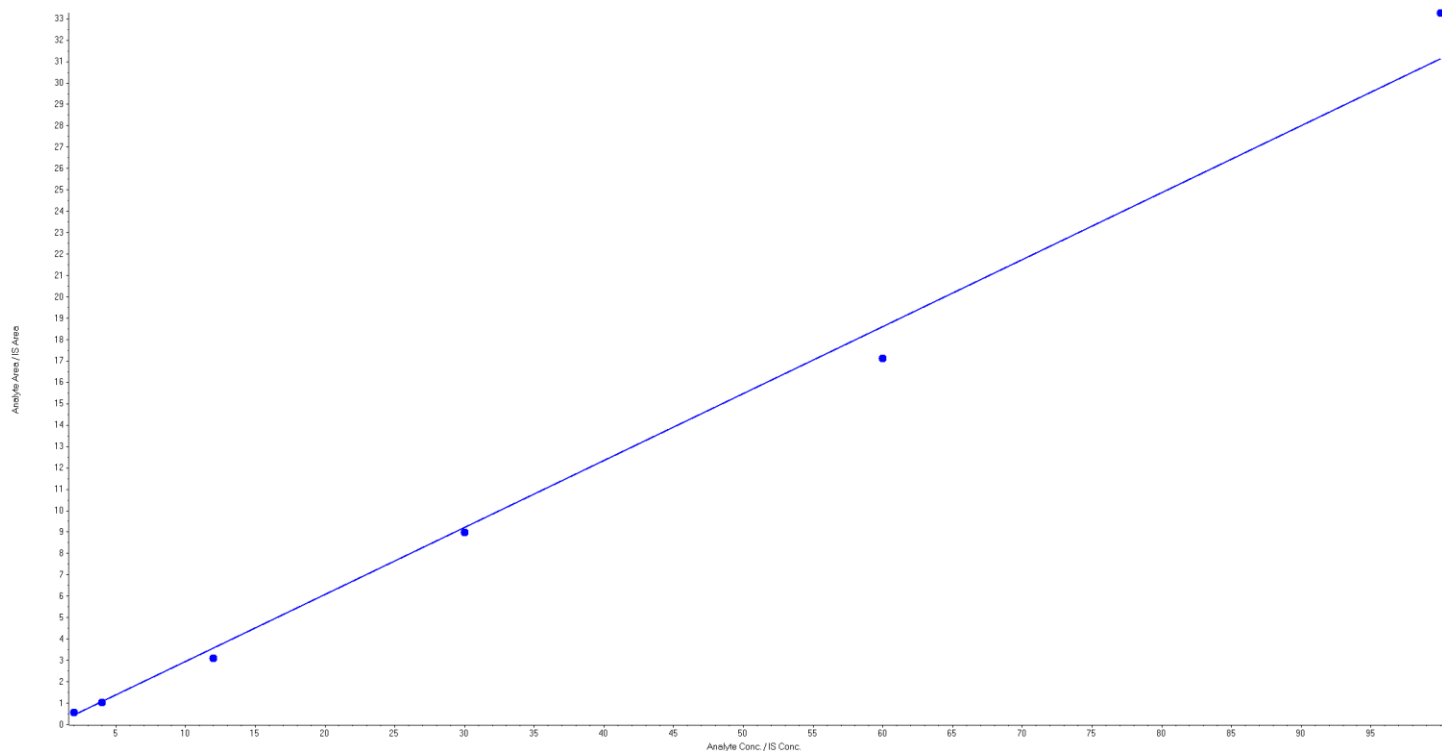
Sample Name	Analyte	PFBS		PFHxS		PFHpA		PFOA		PFOS		PFNA	
	Mass labeled IS	MPFHxS		MPFHxS		MPFHpA		MPFOA		MPFOS		MPFNA	
	Average IS Area in ICAL	147000		147000		493500		430500		172500		293500	
		IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)
STD 1		146000	99	146000	99	517000	105	413000	96	179000	104	291000	99
STD 2		147000	100	147000	100	503000	102	442000	103	177000	103	296000	101
STD 3		156000	106	156000	106	498000	101	435000	101	167000	97	307000	105
STD 4		144000	98	144000	98	467000	95	447000	104	172000	100	296000	101
STD 5		147000	100	147000	100	499000	101	448000	104	186000	108	296000	101
STD 6		142000	97	142000	97	477000	97	398000	92	154000	89	275000	94
ICV		152000	103	152000	103	517000	105	437000	102	163000	94	297000	101
CCV		115000	78	115000	78	409000	83	374000	87	145000	84	280000	95
4385888~BLANK		105000	71	105000	71	359000	73	348000	81	141000	82	254000	87
4385888~MTRX SPK		114000	78	114000	78	409000	83	363000	84	143000	83	272000	93
4385888~MTRX SPK:D1		99300	68	99300	68	351000	71	345000	80	135000	78	262000	89
4385888~SPIKE		105000	71	105000	71	364000	74	345000	80	145000	84	268000	91
4385888~BVX782-01		123000	84	123000	84	418000	85	366000	85	141000	82	284000	97
4385888~BVX783-01		116000	79	116000	79	397000	80	382000	89	157000	91	279000	95
4385888~BVX784-01		119000	81	119000	81	382000	77	366000	85	151000	88	270000	92
4385888~BVX785-01		103000	70	103000	70	358000	73	331000	77	140000	81	247000	84
4385888~BVX786-01		112000	76	112000	76	372000	75	345000	80	129000	75	242000	82
4385888~BVX787-01		83300	57	83300	57	361000	73	323000	75	134000	78	265000	90
4385888~BVX788-01		112000	76	112000	76	392000	79	350000	81	133000	77	248000	84
4385888~BVX789-01		99800	68	99800	68	385000	78	330000	77	142000	82	254000	87
4385888~BVX790-01		119000	81	119000	81	385000	78	359000	83	140000	81	261000	89
4385888~BVX791-01		93900	64	93900	64	377000	76	334000	78	142000	82	269000	92
CCV		112000	76	112000	76	406000	82	372000	86	146000	85	289000	98
CCV		123000	84	123000	84	429000	87	400000	93	147000	85	299000	102
CCV		121000	82	121000	82	451000	91	379000	88	150000	87	286000	97

**Analyte Name:** PFBS 1  
**Internal Standard:** MPFHxS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.313 x + -0.179$  ( $r = 0.9966$ )

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
2	1	2.40	120.2
4	1	3.86	96.4
12	1	10.44	87.0
30	1	29.26	97.5
60	1	55.22	92.0
100	1	106.82	106.8

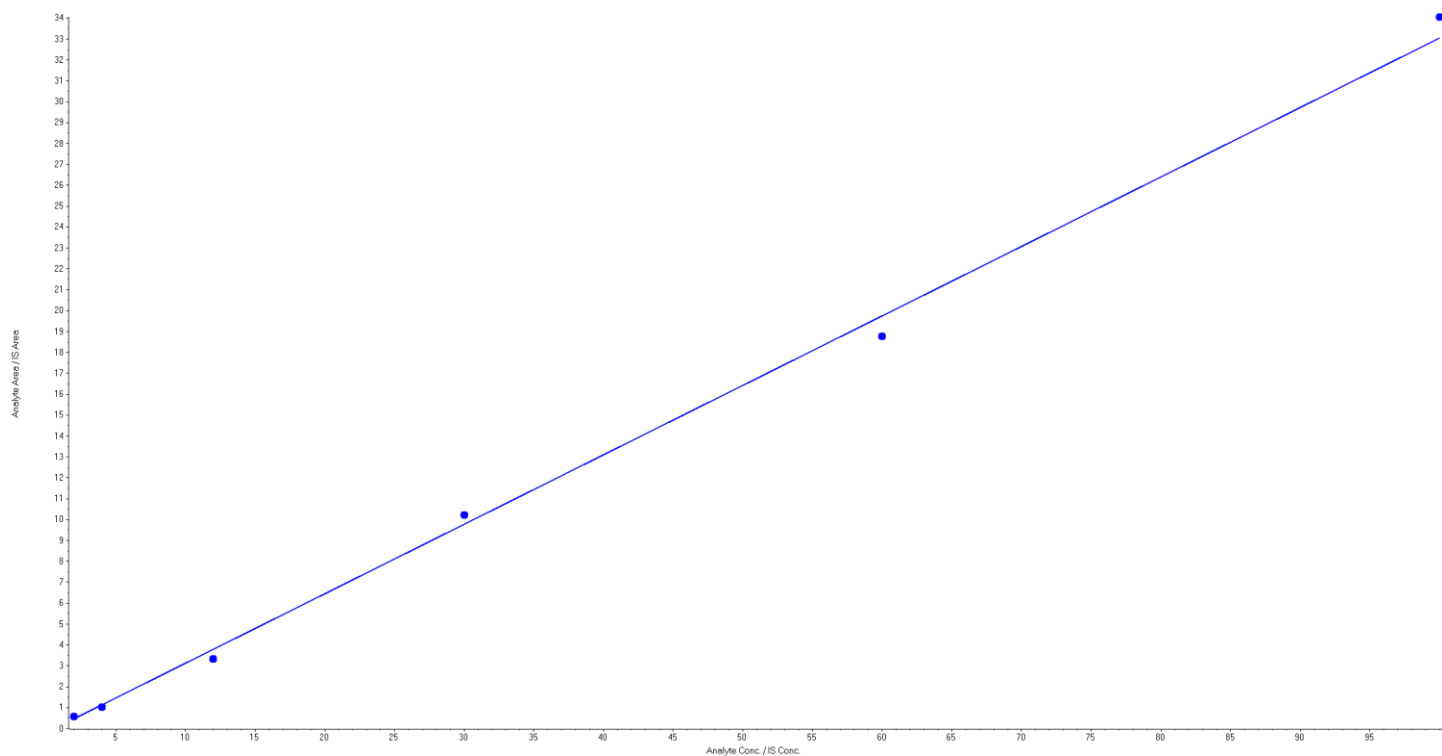


**Analyte Name:** PFHxS 1  
**Internal Standard:** MPFHxS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.332 x + -0.198$  (r = 0.9984)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
2	1	2.35	117.3
4	1	3.68	92.0
12	1	10.58	88.1
30	1	31.34	104.5
60	1	57.04	95.1
100	1	103.02	103.0

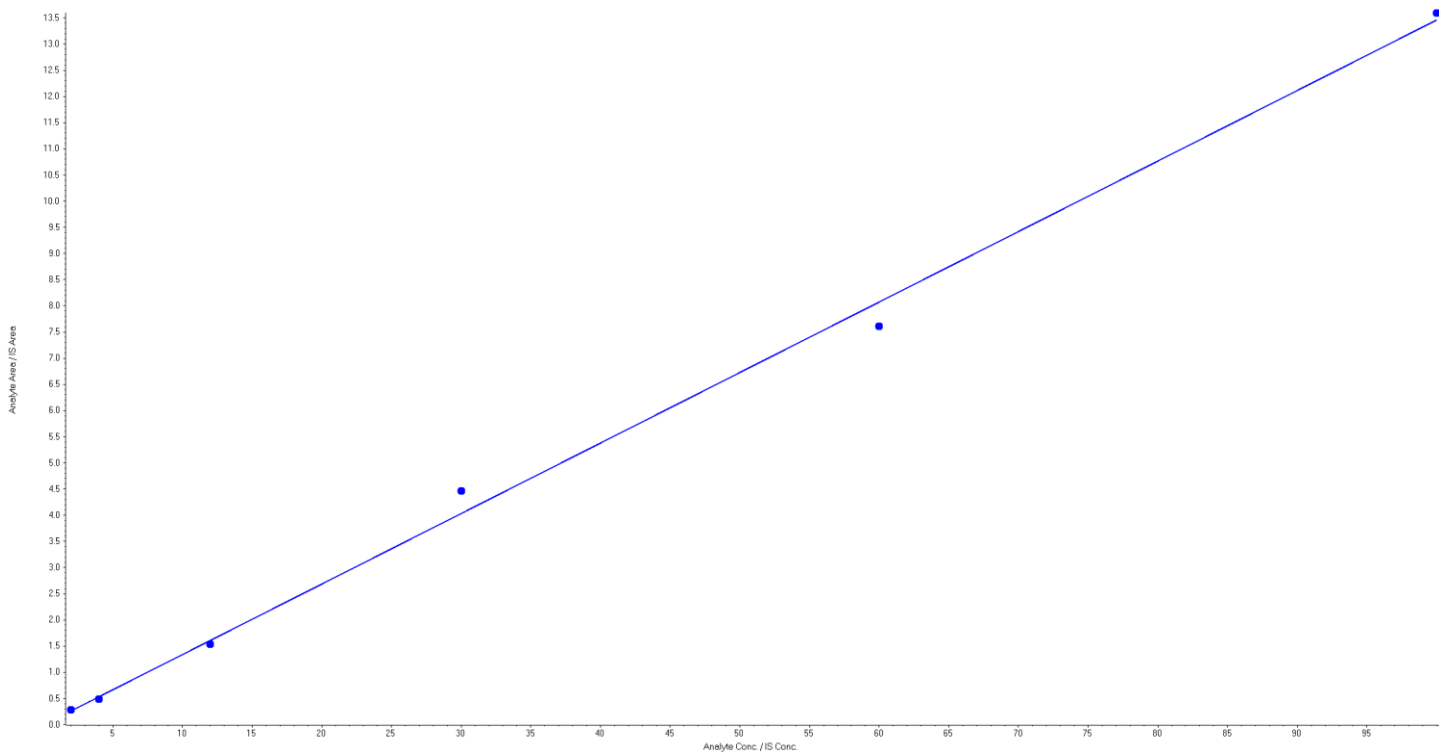


**Analyte Name:** PFHpA 1  
**Internal Standard:** MPFHpA

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.135 x + -0.0098$  (r = 0.9982)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
2	1	2.11	105.7
4	1	3.72	92.9
12	1	11.45	95.5
30	1	33.21	110.7
60	1	56.52	94.2
100	1	100.98	101.0

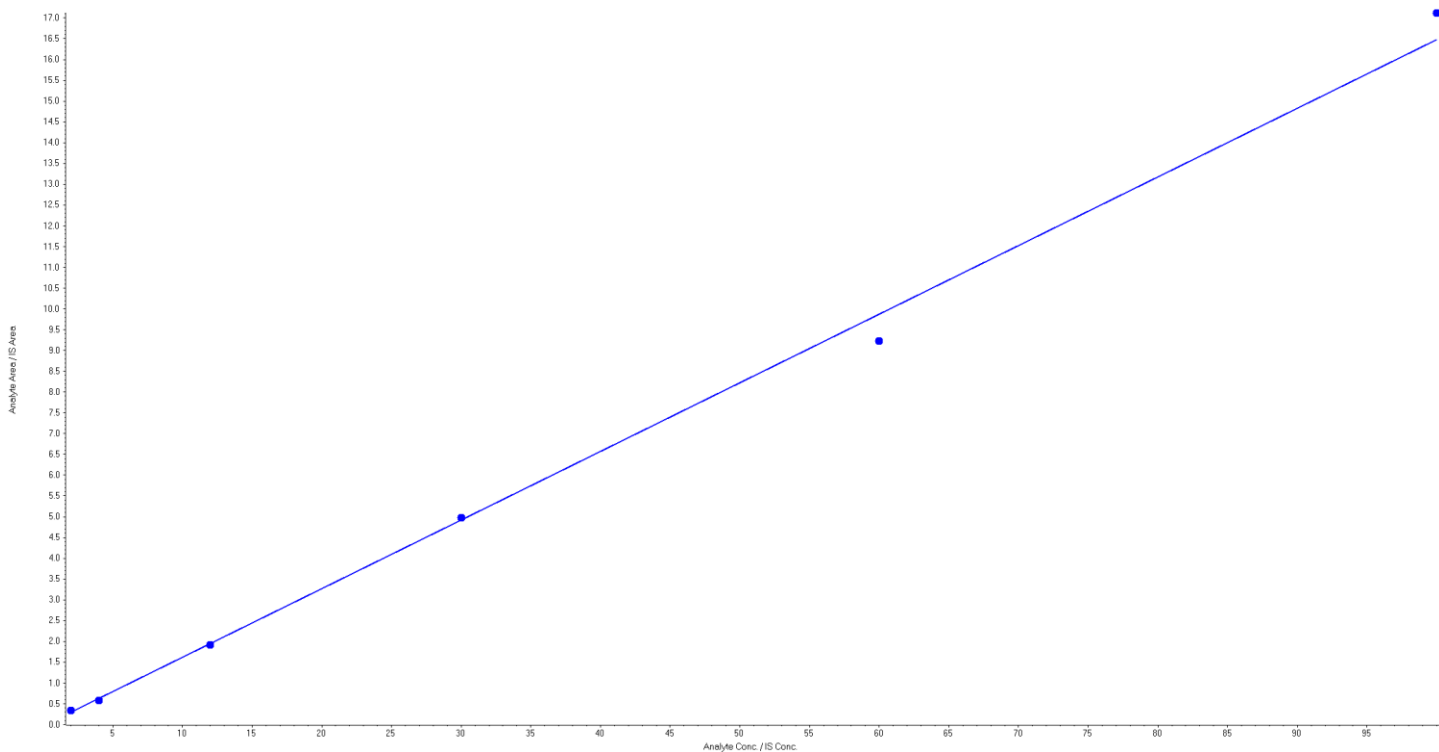


**Analyte Name:** PFOA 1  
**Internal Standard:** MPFOA

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.165 x + -0.0324$  ( $r = 0.9987$ )

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
2	1	2.20	109.9
4	1	3.73	93.3
12	1	11.81	98.4
30	1	30.30	101.0
60	1	56.08	93.5
100	1	103.88	103.9



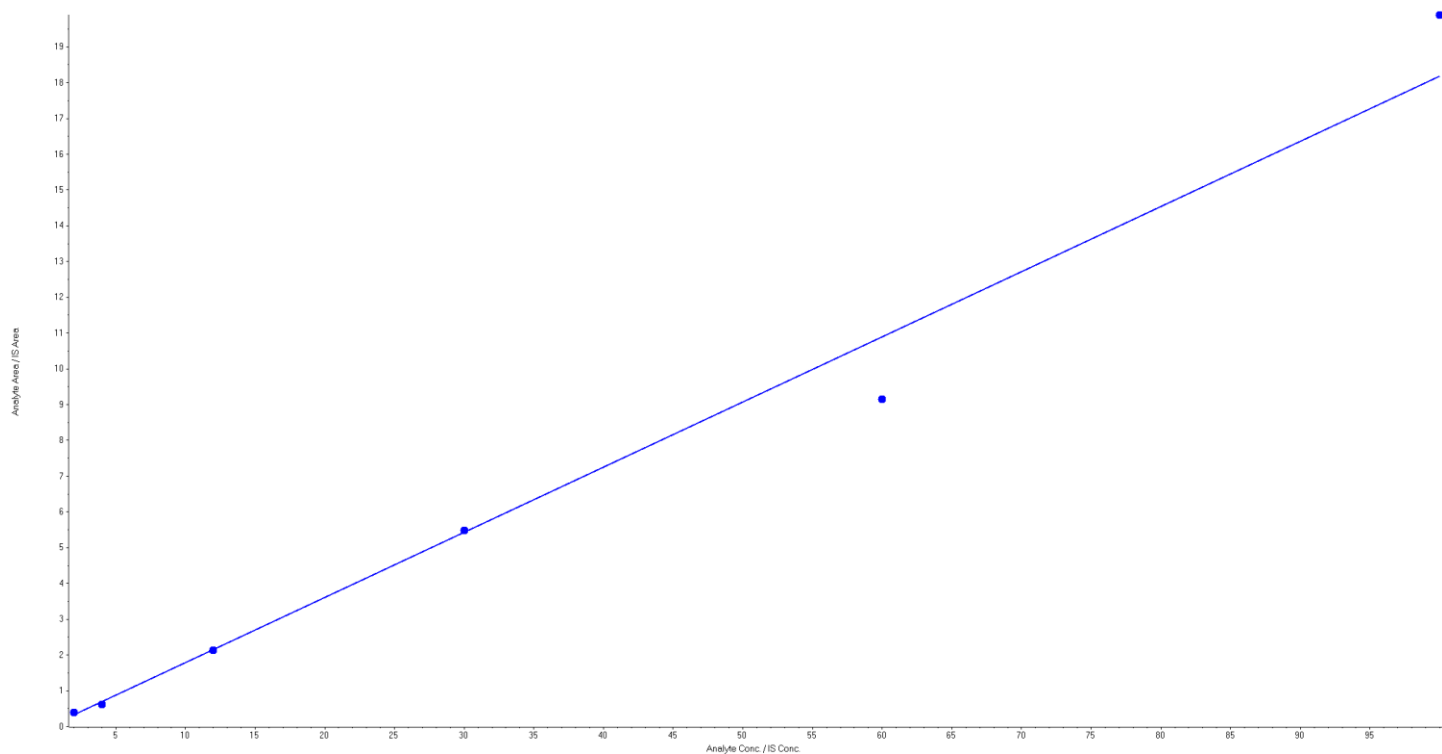


**Analyte Name:** PFOS 1  
**Internal Standard:** MPFOS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.182 x + -0.034$  (r = 0.9927)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
2	1	2.31	115.6
4	1	3.63	90.7
12	1	11.90	99.2
30	1	30.32	101.1
60	1	50.45	84.1
100	1	109.38	109.4

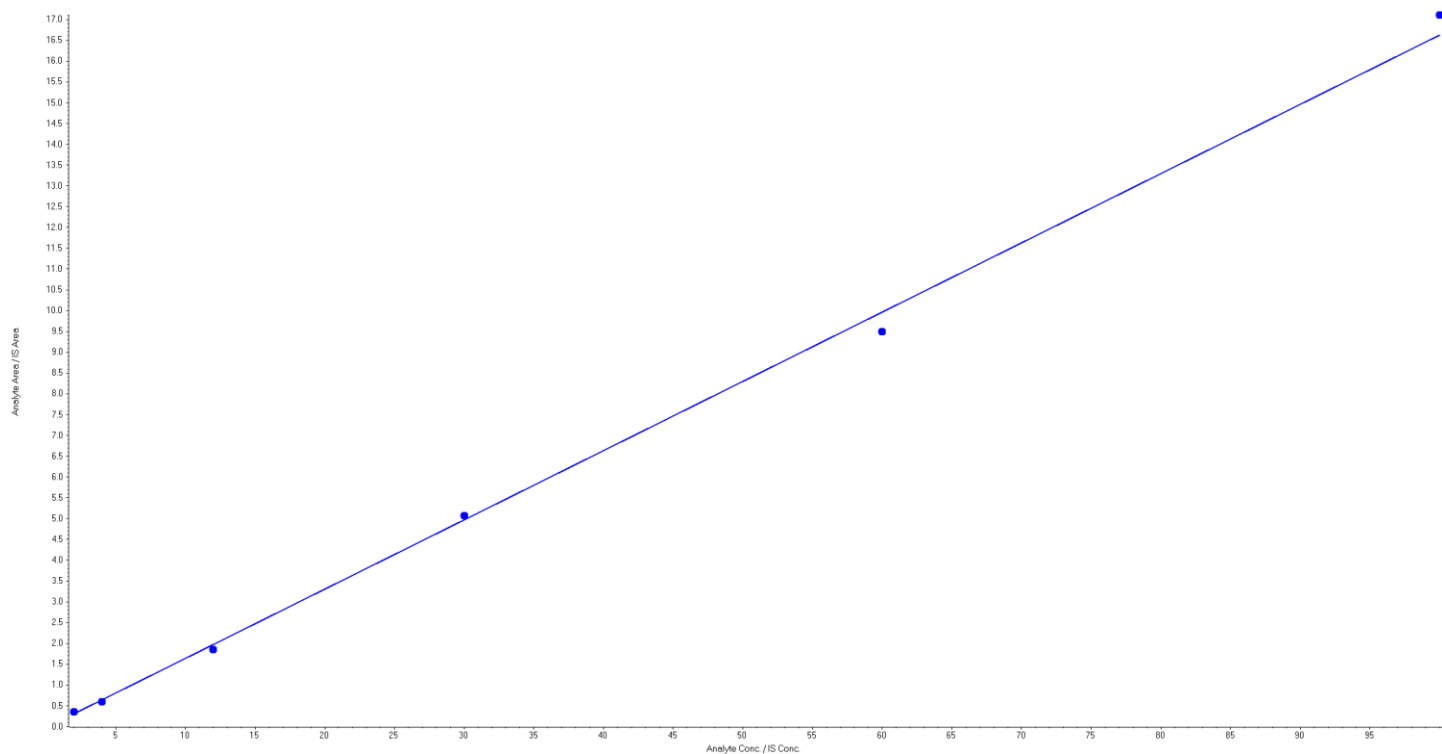


**Analyte Name:** PFNA 1  
**Internal Standard:** MPFNA

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.167x + -0.0262$  ( $r = 0.9991$ )

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
2	1	2.24	111.9
4	1	3.74	93.6
12	1	11.30	94.2
30	1	30.63	102.1
60	1	57.19	95.3
100	1	102.89	102.9

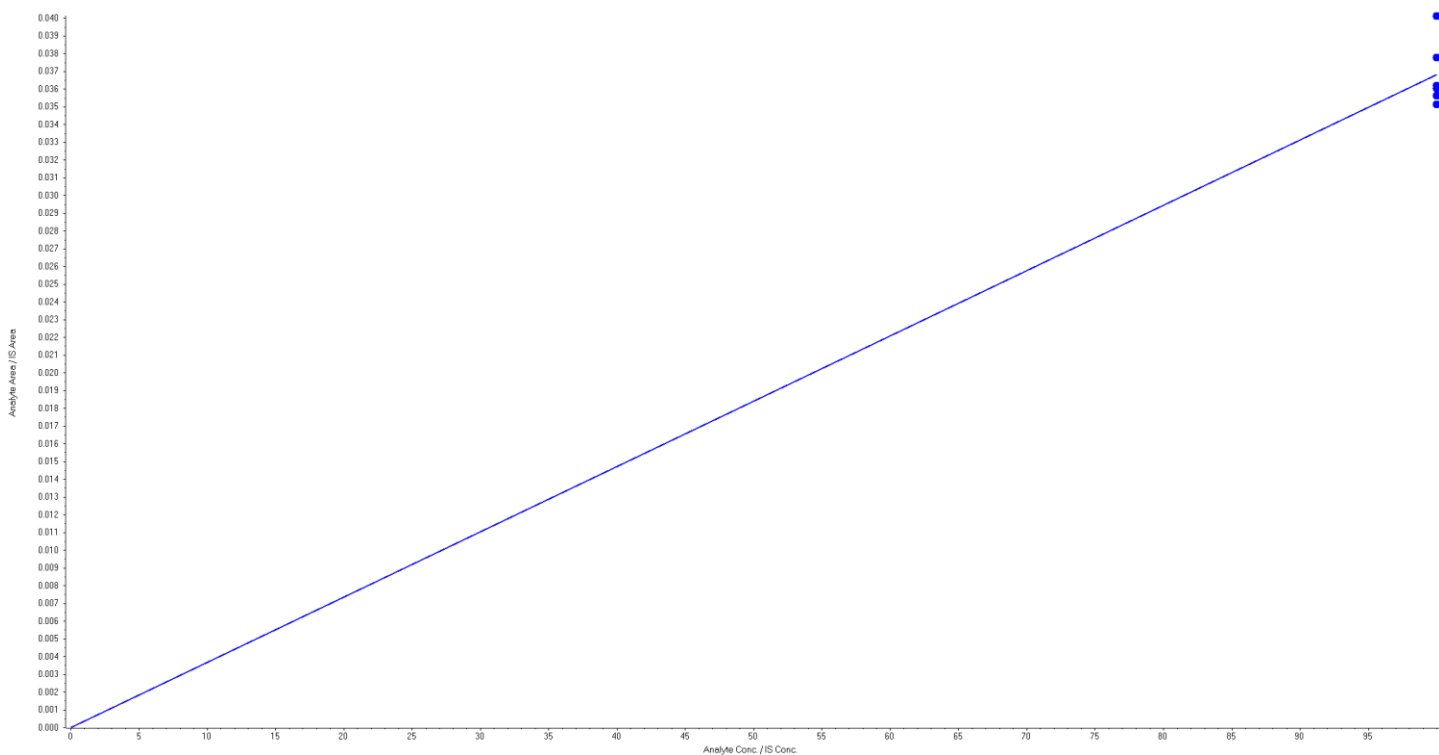


**Analyte Name:** 18O2-PFHxS  
**Internal Standard:** 13C6-PFHxA IS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.000368 x (r = 0.9990)$

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
100	6	100.00	100.0

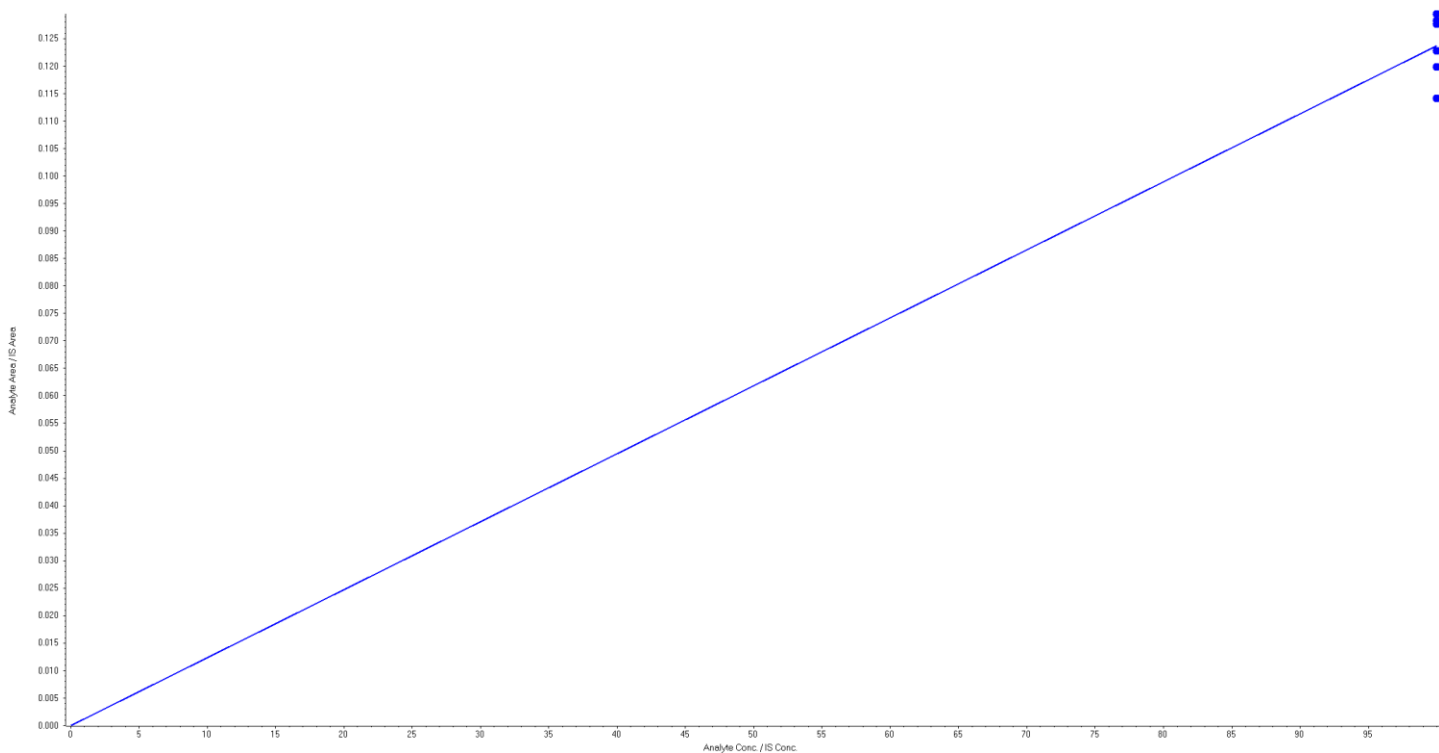


**Analyte Name:** 13C4-PFHpA  
**Internal Standard:** 13C6-PFHxA IS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.00124 x (r = 0.9990)$

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
100	6	100.00	100.0

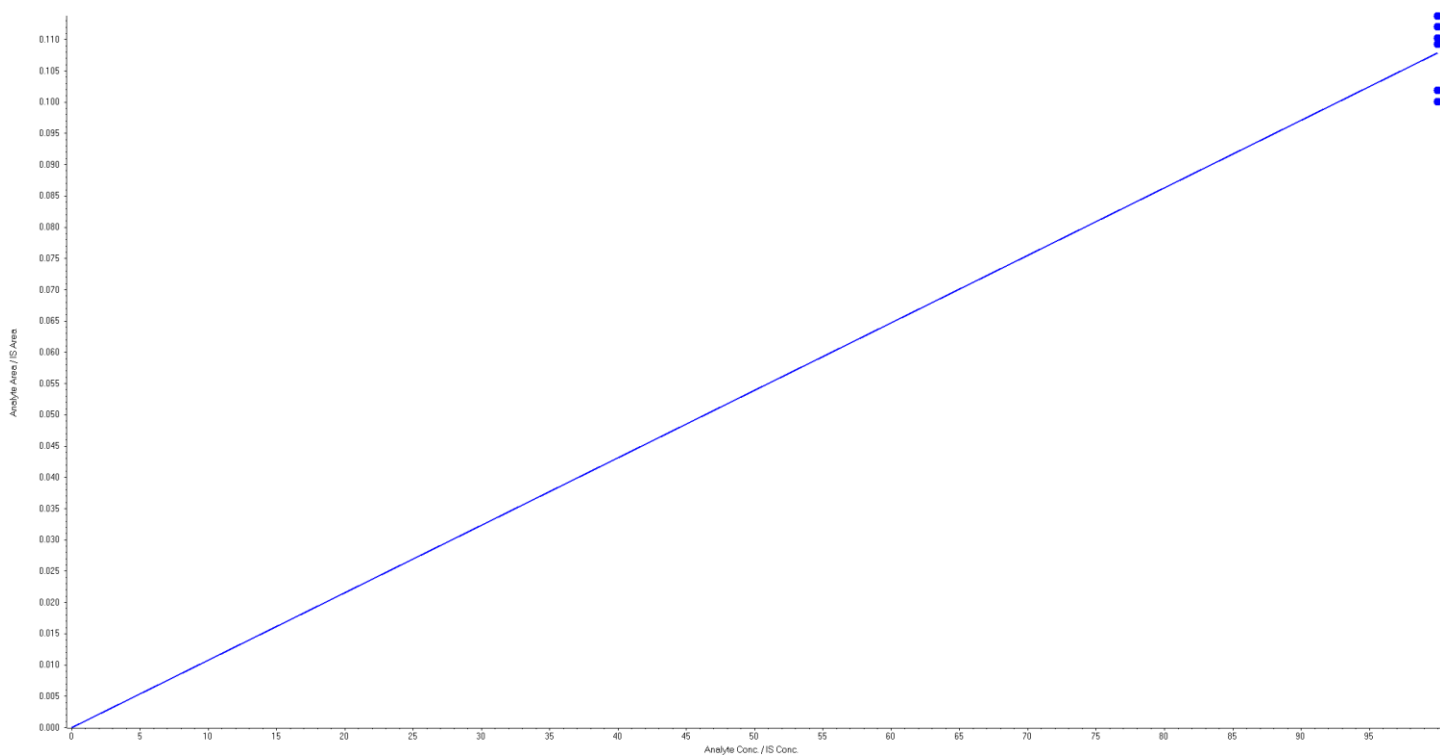


**Analyte Name:** 13C4-PFOA  
**Internal Standard:** 13C6-PFHxA IS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.00108 x (r = 0.9989)$

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
100	6	100.00	100.0

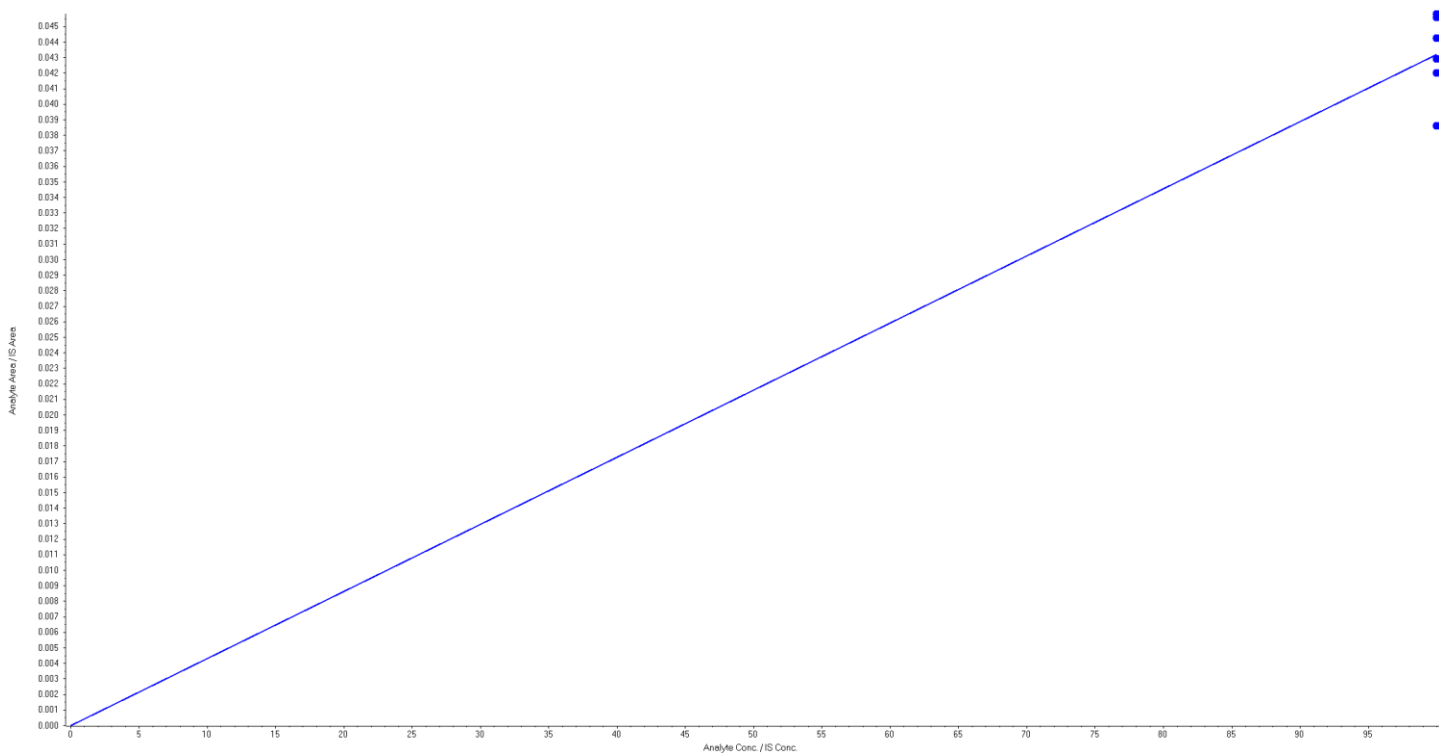


**Analyte Name:** 13C4-PFOS  
**Internal Standard:** 13C6-PFHxA IS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.000432 x (r = 0.9984)$

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
100	6	100.00	100.0

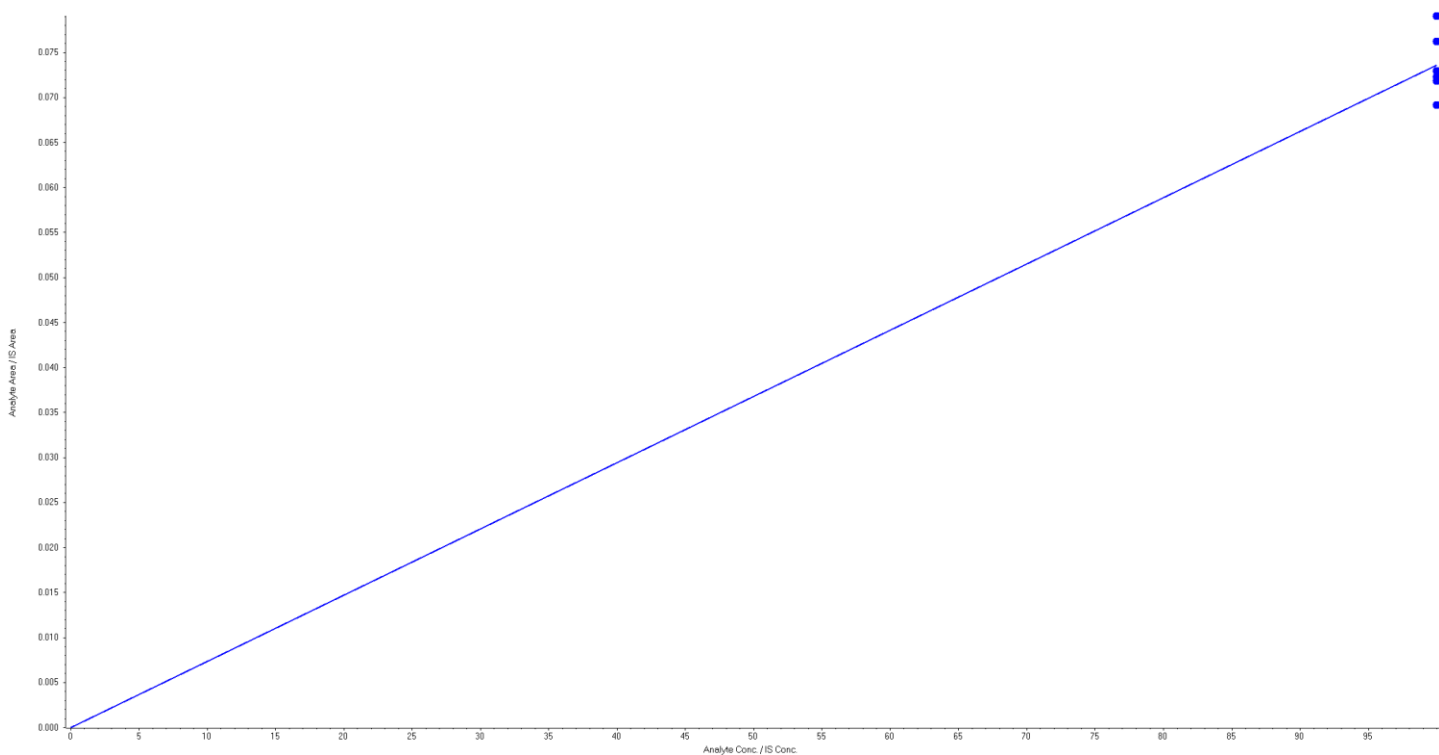


**Analyte Name:** 13C5-PFNA  
**Internal Standard:** 13C6-PFHxA IS

<b>Data File</b>	PFC_160219\WS#4386408.wiff	<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb
<b>Acquisition Date</b>	2016/02/19 7:45:04 AM	<b>Project</b>	Enviro\PFOS
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Instrument Name</b>	LCMS03

**Regression Equation:**  $y = 0.000736 x (r = 0.9991)$

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
100	6	100.00	100.0





## 6. Continuing Calibration

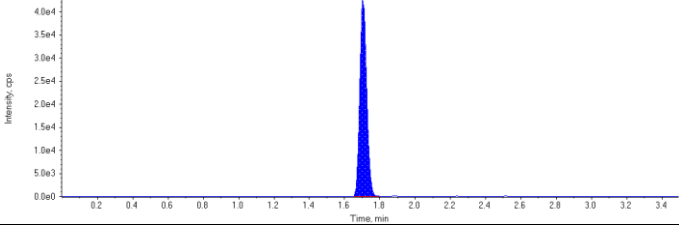
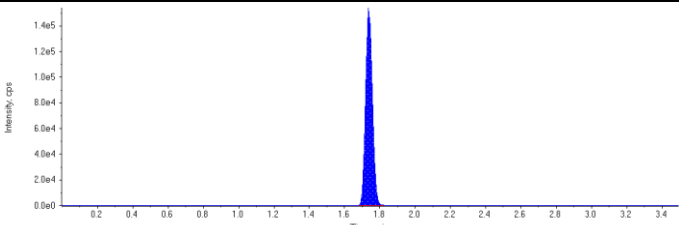
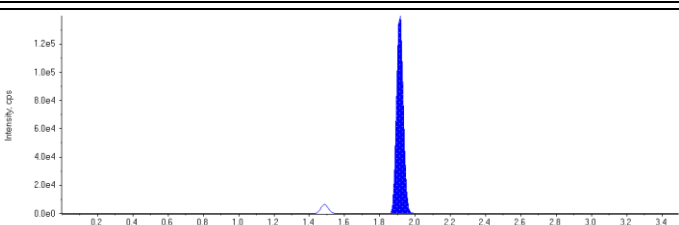
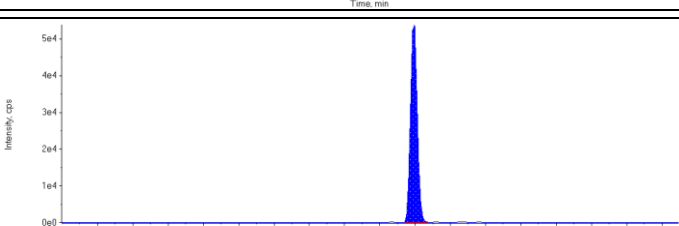
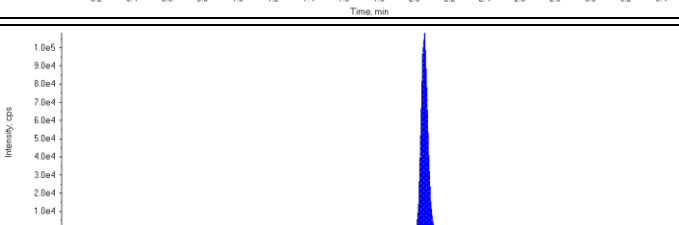
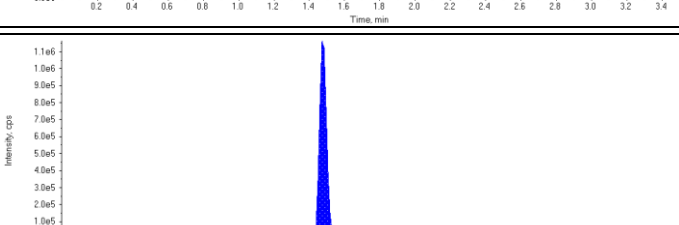
Maxxam Analytics International  
6740 Campobello Rd  
Mississauga, Ontario, Canada  
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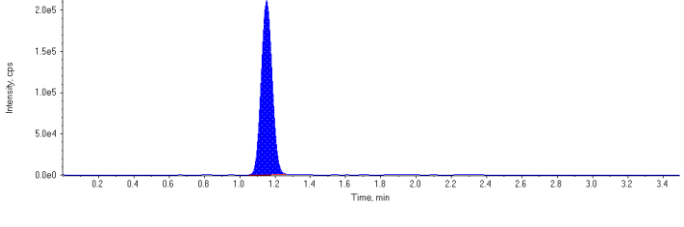
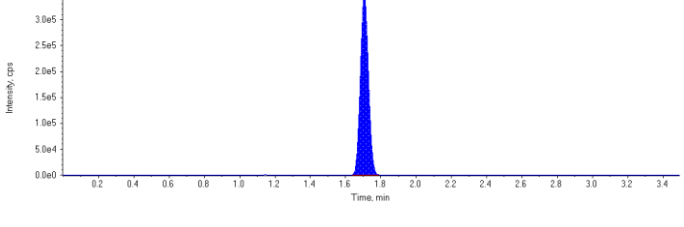
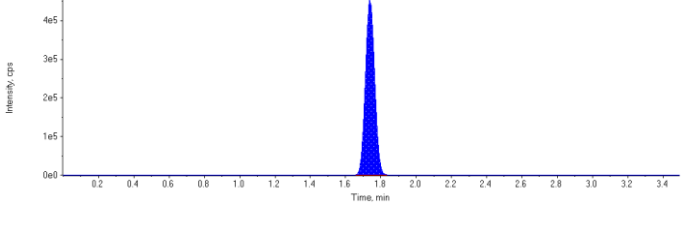
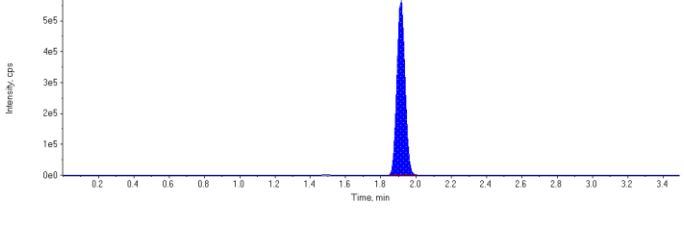
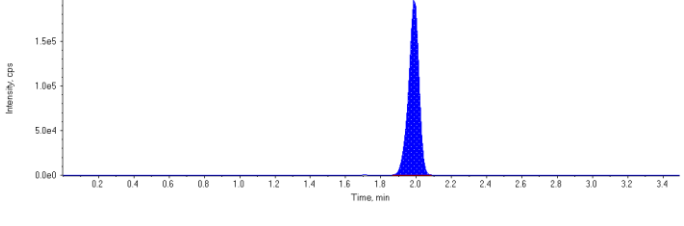
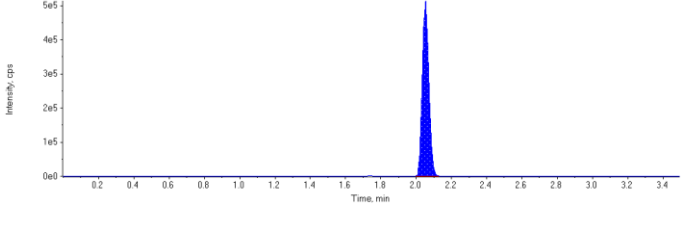


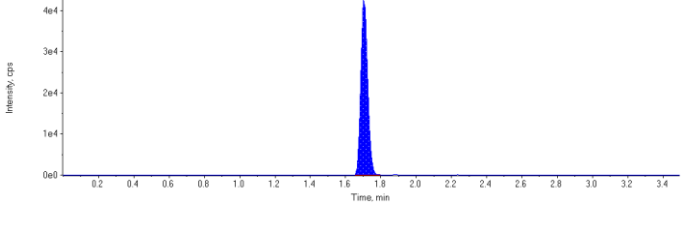
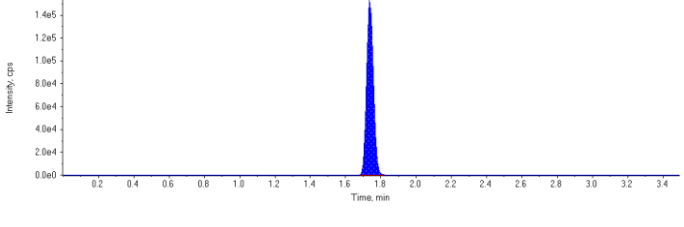
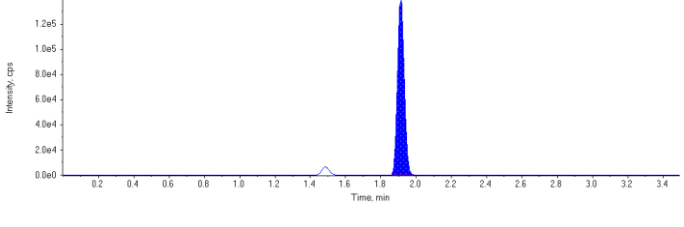
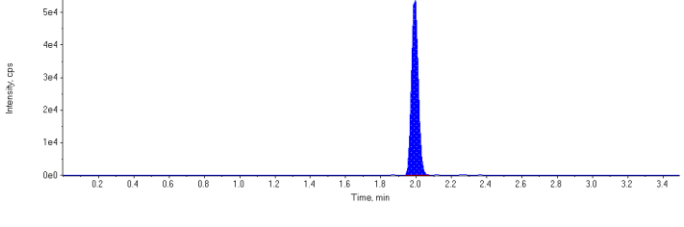
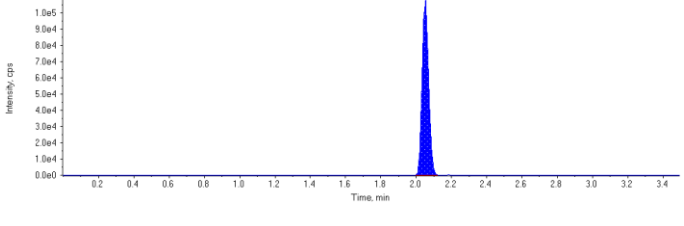
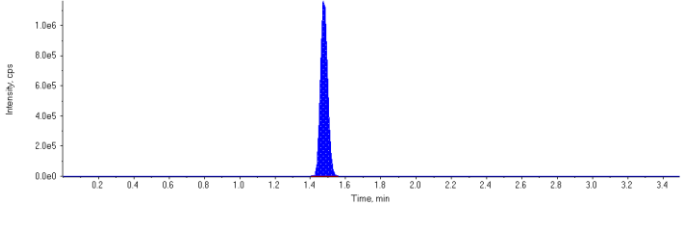
<b>Sample Name</b>	CCV	<b>Injection Vial</b>	6
<b>Sample ID</b>	CCV	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 12:56:01 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385924.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	115000.	1.70	1.00	-
MPFHpA	409000.	1.74	1.00	-
MPFOA	374000.	1.91	1.00	-
MPFOS	145000.	1.99	1.00	-
MPFNA	280000.	2.05	1.00	-
13C6-PFHxA IS	3320000.	1.48	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	910000	1.15	30.0	25.8	85.9
PFHxS 1	1100000	1.71	30.0	29.4	97.9
PFHpA 1	1660000	1.74	30.0	30.2	101.0
PFOA 1	1800000	1.91	30.0	29.3	97.8
PFOS 1	801000	1.99	30.0	30.5	102.0
PFNA 1	1340000	2.05	30.0	28.9	96.4
18O2-PFHxS	115000	1.70	100.	94.3	94.3
13C4-PFHpA	409000	1.74	100.	99.4	99.4
13C4-PFOA	374000	1.91	100.	104.	104.0
13C4-PFOS	145000	1.99	100.	101.	101.0
13C5-PFNA	280000	2.05	100.	115.	115.0
13C6-PFHxA	3320000	1.48	100.	83.2	83.2

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.74(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.48(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

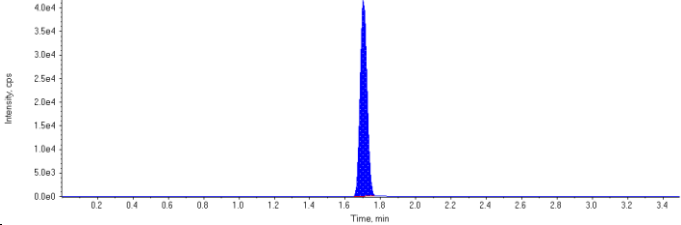
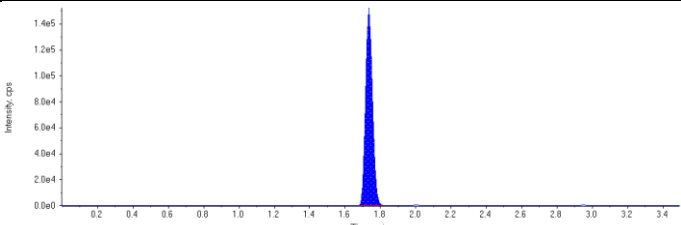
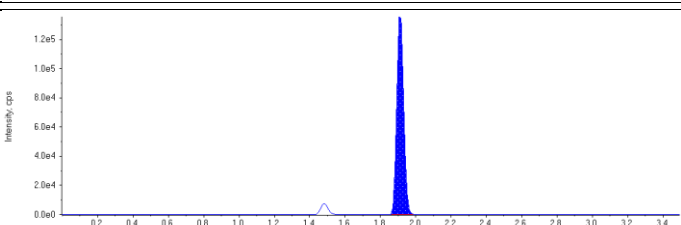
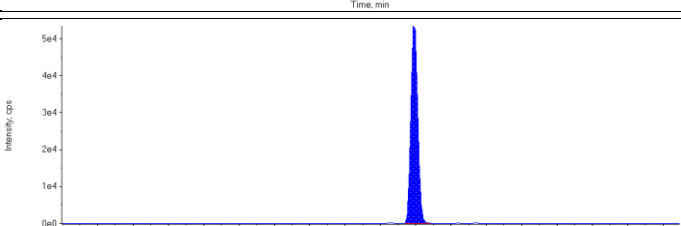
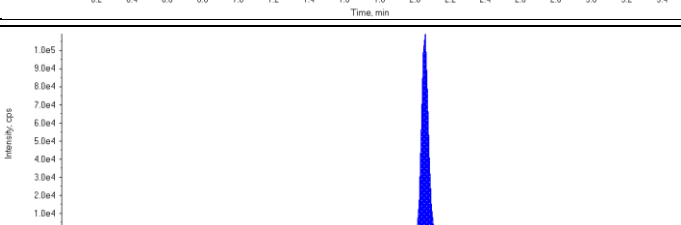
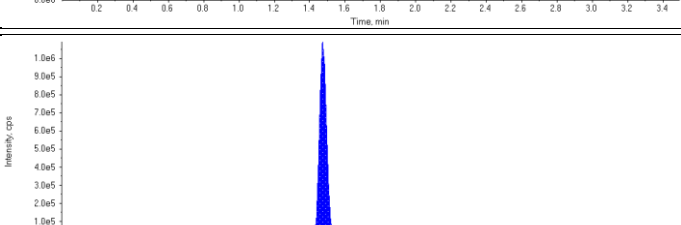
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.15 (1.15) min</p> <p>Calculated Conc: 25.8 µg/L</p> <p>Area Ratio: 7.89</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.71 (1.68) min</p> <p>Calculated Conc: 29.4 µg/L</p> <p>Area Ratio: 9.56</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 30.2 µg/L</p> <p>Area Ratio: 4.06</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 29.3 µg/L</p> <p>Area Ratio: 4.81</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 30.5 µg/L</p> <p>Area Ratio: 5.52</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 28.9 µg/L</p> <p>Area Ratio: 4.79</p> <p>Sample Type: (Quality Control)</p>	

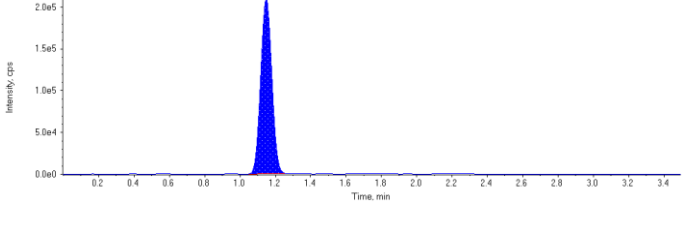
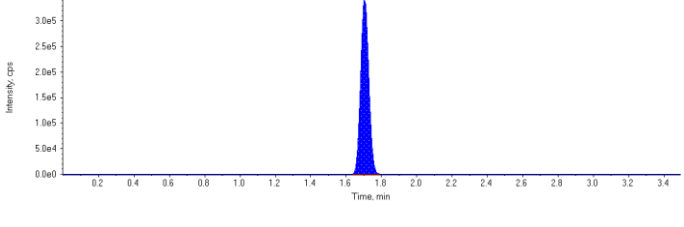
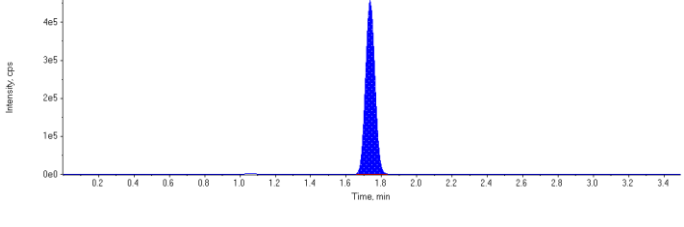
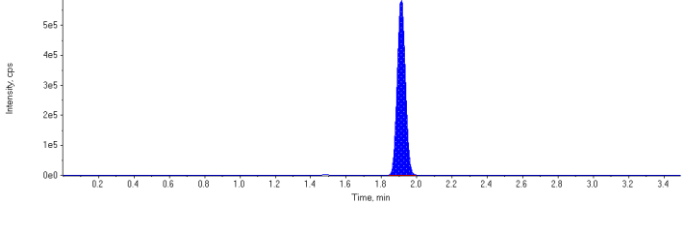
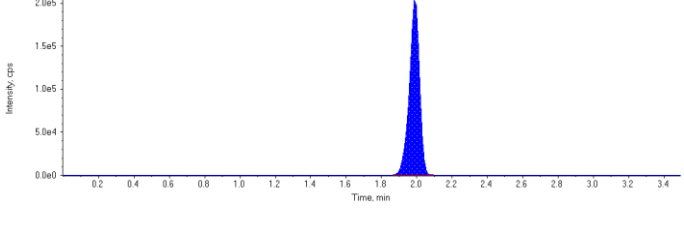
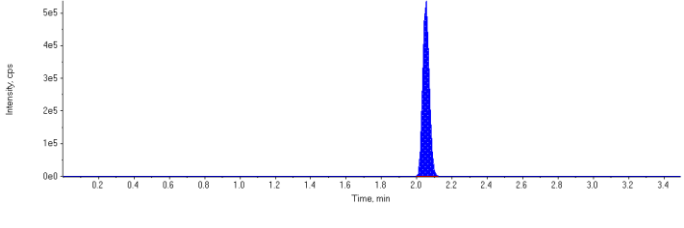
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 94.3 µg/L</p> <p>Area Ratio: 0.0347</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 99.4 µg/L</p> <p>Area Ratio: 0.123</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 104. µg/L</p> <p>Area Ratio: 0.113</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.0436</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 115. µg/L</p> <p>Area Ratio: 0.0844</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.48 (1.42) min</p> <p>Calculated Conc: 83.2 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

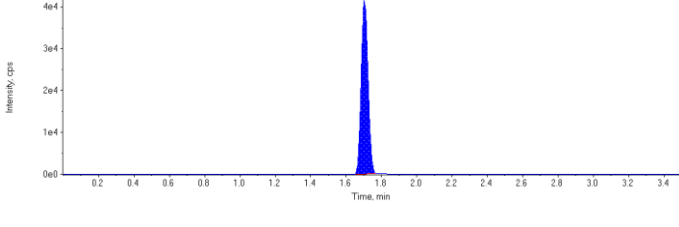
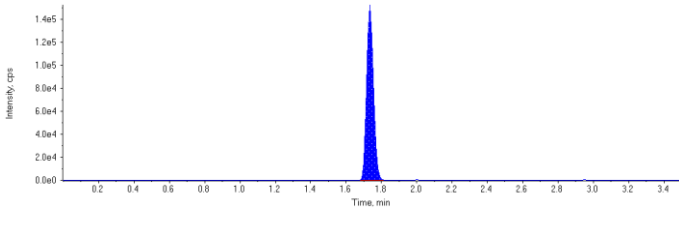
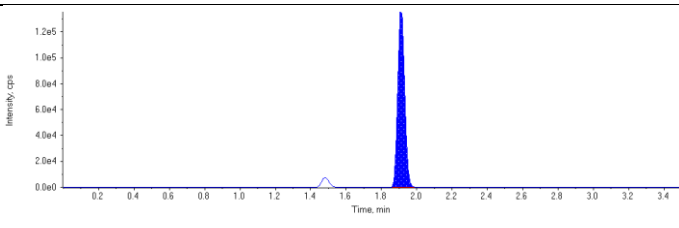
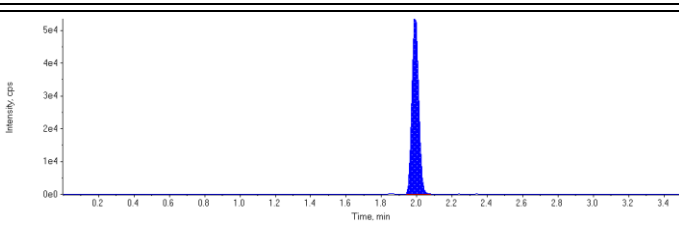
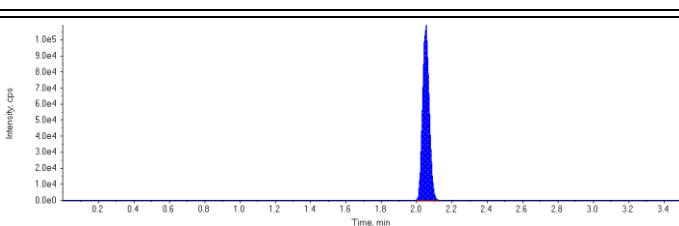
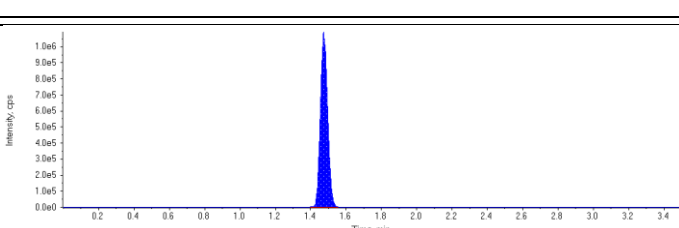
<b>Sample Name</b>	<b>CCV</b>	<b>Injection Vial</b>	6
<b>Sample ID</b>	CCV	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 2:12:30 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	112000.	1.70	1.00	-
MPFHpA	406000.	1.73	1.00	-
MPFOA	372000.	1.91	1.00	-
MPFOS	146000.	1.99	1.00	-
MPFNA	289000.	2.05	1.00	-
13C6-PFHxA IS	3090000.	1.47	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	917000	1.15	30.0	26.8	89.3
PFHxS 1	1100000	1.70	30.0	30.3	101.0
PFHpA 1	1680000	1.74	30.0	30.8	103.0
PFOA 1	1880000	1.91	30.0	30.8	103.0
PFOS 1	819000	1.99	30.0	31.0	103.0
PFNA 1	1400000	2.05	30.0	29.2	97.2
18O2-PFHxS	112000	1.70	100.	98.1	98.1
13C4-PFHpA	406000	1.73	100.	106.	106.0
13C4-PFOA	372000	1.91	100.	111.	111.0
13C4-PFOS	146000	1.99	100.	109.	109.0
13C5-PFNA	289000	2.05	100.	127.	127.0
13C6-PFHxA	3090000	1.47	100.	77.5	77.5

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.73(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.47(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.15 (1.15) min</p> <p>Calculated Conc: 26.8 µg/L</p> <p>Area Ratio: 8.21</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 30.3 µg/L</p> <p>Area Ratio: 9.86</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 30.8 µg/L</p> <p>Area Ratio: 4.14</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 30.8 µg/L</p> <p>Area Ratio: 5.05</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 31.0 µg/L</p> <p>Area Ratio: 5.61</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 29.2 µg/L</p> <p>Area Ratio: 4.83</p> <p>Sample Type: (Quality Control)</p>	

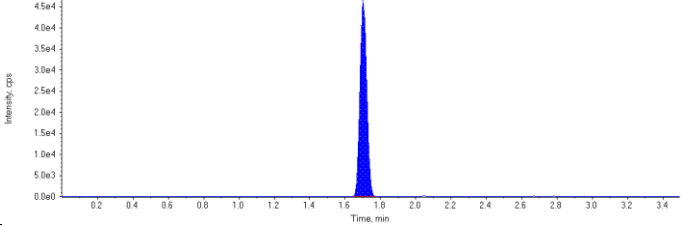
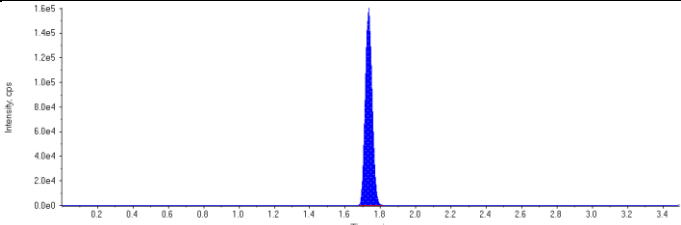
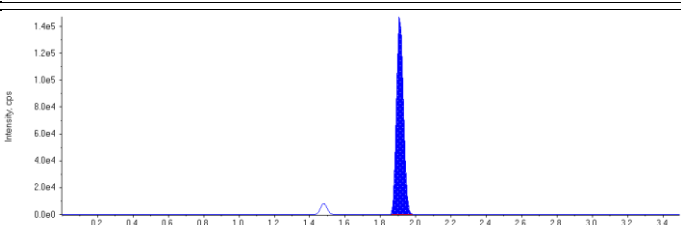
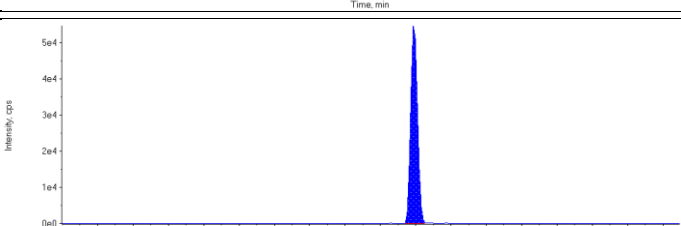
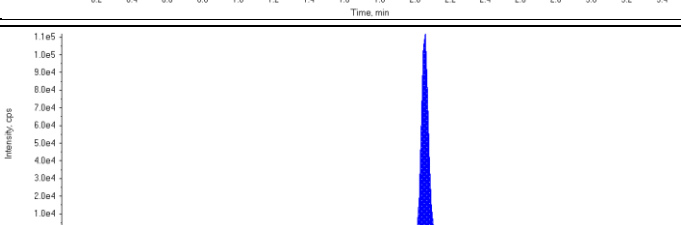
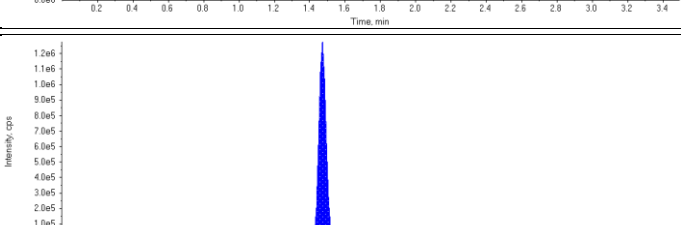
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 98.1 µg/L</p> <p>Area Ratio: 0.0361</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.73 (1.75) min</p> <p>Calculated Conc: 106. µg/L</p> <p>Area Ratio: 0.131</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 111. µg/L</p> <p>Area Ratio: 0.120</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 109. µg/L</p> <p>Area Ratio: 0.0471</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 127. µg/L</p> <p>Area Ratio: 0.0935</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.47 (1.42) min</p> <p>Calculated Conc: 77.5 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

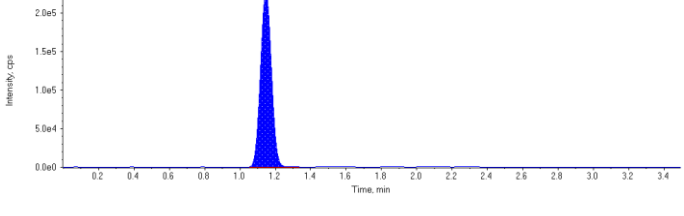
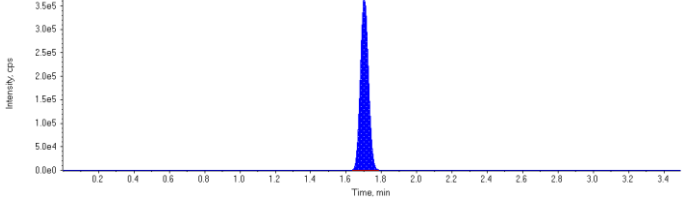
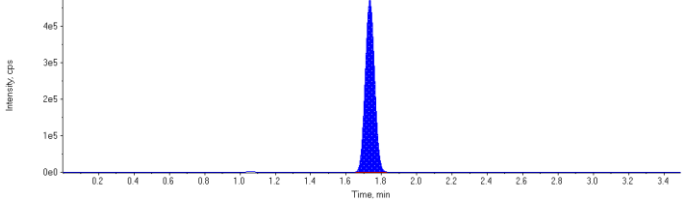
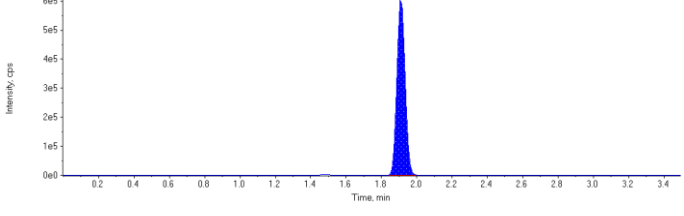
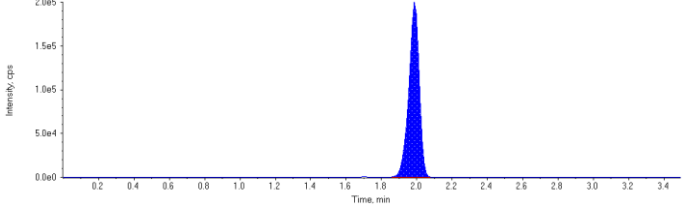
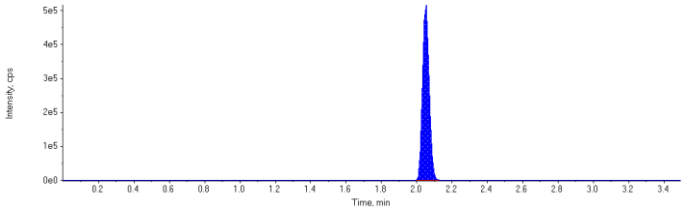


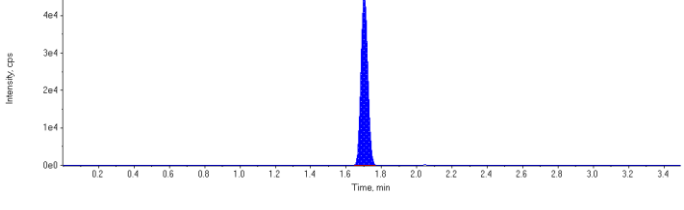
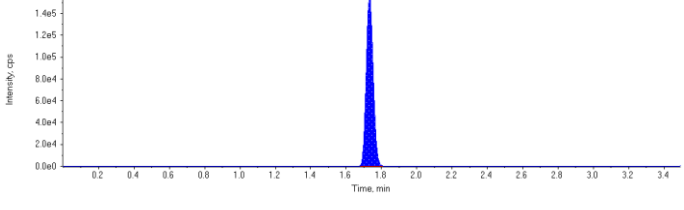
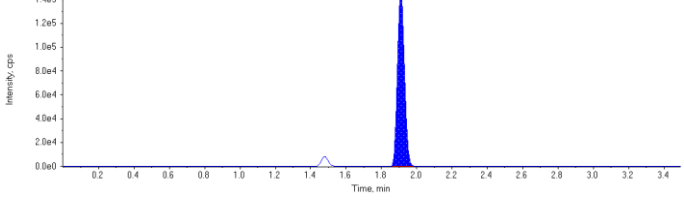
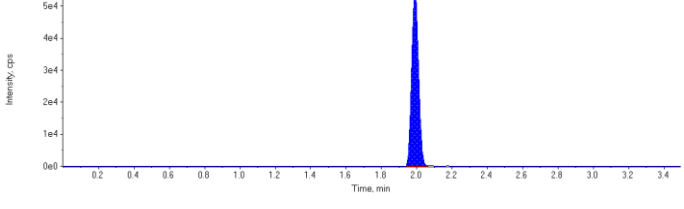
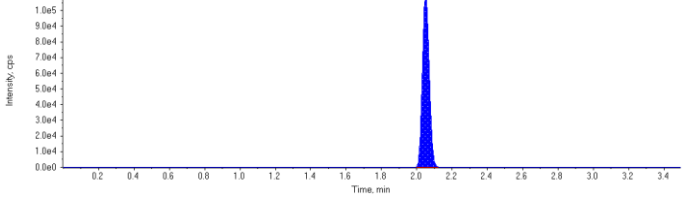
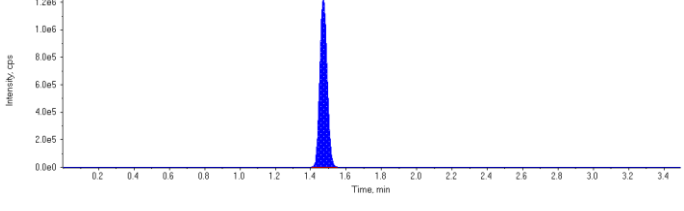
<b>Sample Name</b>	CCV	<b>Injection Vial</b>	6
<b>Sample ID</b>	CCV	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 2:18:31 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	123000.	1.70	1.00	-
MPFHpA	429000.	1.73	1.00	-
MPFOA	400000.	1.91	1.00	-
MPFOS	147000.	1.99	1.00	-
MPFNA	299000.	2.05	1.00	-
13C6-PFHxA IS	3590000.	1.47	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	976000	1.15	30.0	25.9	86.4
PFHxS 1	1170000	1.70	30.0	29.3	97.8
PFHpA 1	1740000	1.73	30.0	30.3	101.0
PFOA 1	1950000	1.91	30.0	29.7	99.1
PFOS 1	817000	1.99	30.0	30.6	102.0
PFNA 1	1370000	2.05	30.0	27.7	92.2
18O2-PFHxS	123000	1.70	100.	93.0	93.0
13C4-PFHpA	429000	1.73	100.	96.6	96.6
13C4-PFOA	400000	1.91	100.	103.	103.0
13C4-PFOS	147000	1.99	100.	95.1	95.1
13C5-PFNA	299000	2.05	100.	113.	113.0
13C6-PFHxA	3590000	1.47	100.	89.9	89.9

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.73(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.47(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

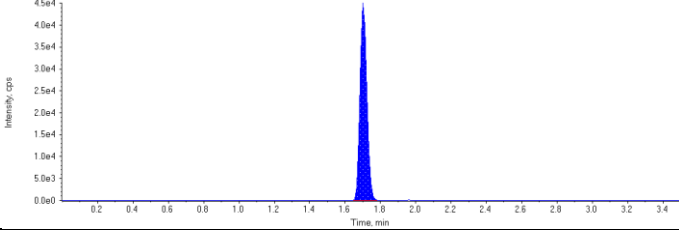
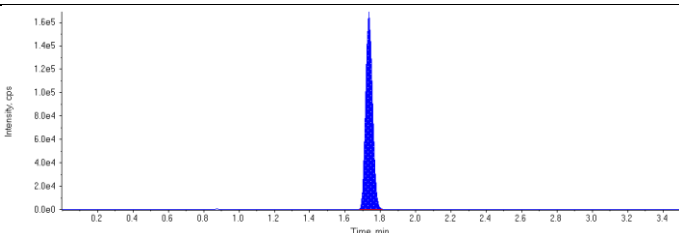
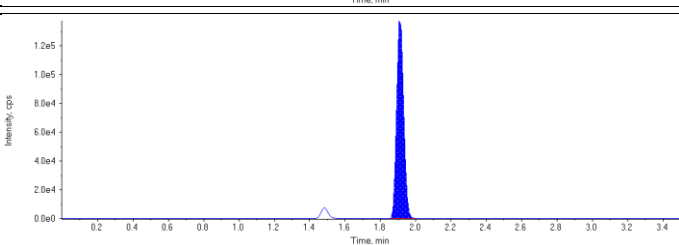
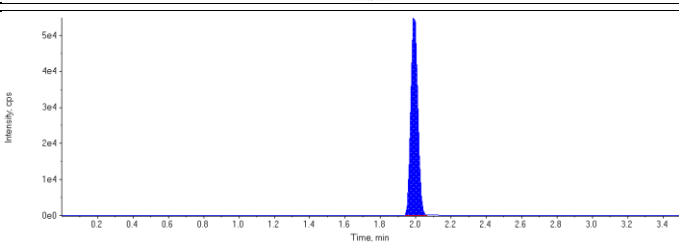
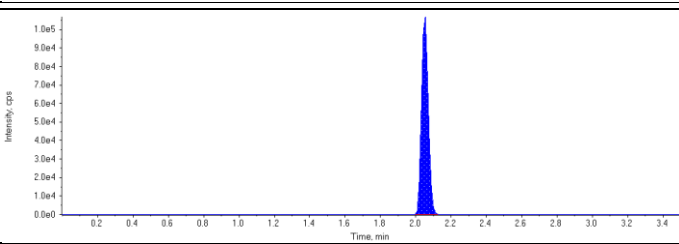
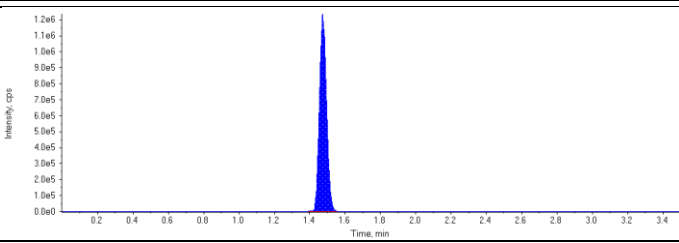
<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.15 (1.15) min</p> <p>Calculated Conc: 25.9 µg/L</p> <p>Area Ratio: 7.94</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 29.3 µg/L</p> <p>Area Ratio: 9.55</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.73 (1.75) min</p> <p>Calculated Conc: 30.3 µg/L</p> <p>Area Ratio: 4.07</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 29.7 µg/L</p> <p>Area Ratio: 4.88</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 30.6 µg/L</p> <p>Area Ratio: 5.54</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 27.7 µg/L</p> <p>Area Ratio: 4.58</p> <p>Sample Type: (Quality Control)</p>	

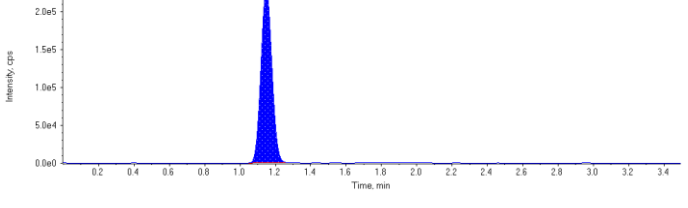
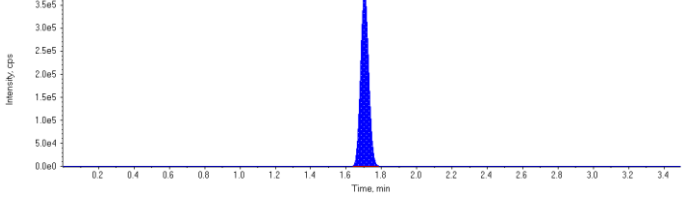
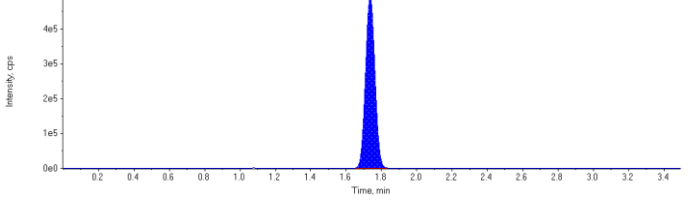
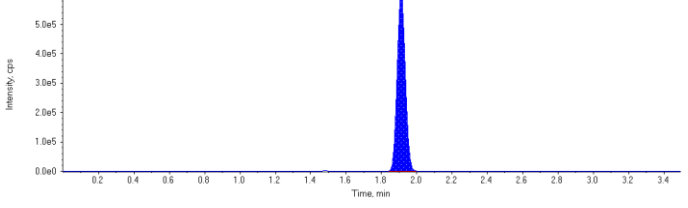
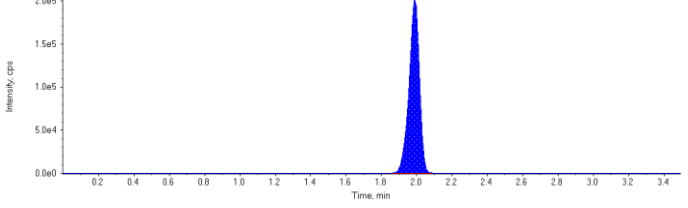
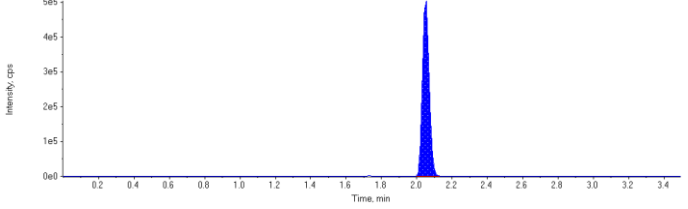
<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 93.0 µg/L</p> <p>Area Ratio: 0.0343</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.73 (1.75) min</p> <p>Calculated Conc: 96.6 µg/L</p> <p>Area Ratio: 0.119</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 103. µg/L</p> <p>Area Ratio: 0.112</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 95.1 µg/L</p> <p>Area Ratio: 0.0411</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 113. µg/L</p> <p>Area Ratio: 0.0834</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.47 (1.42) min</p> <p>Calculated Conc: 89.9 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	

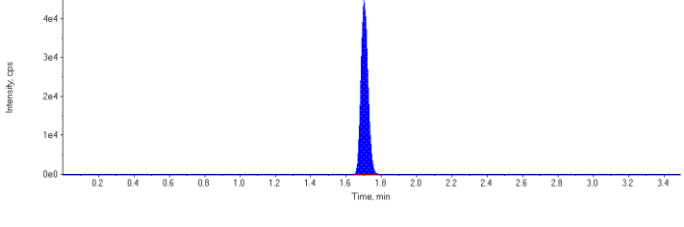
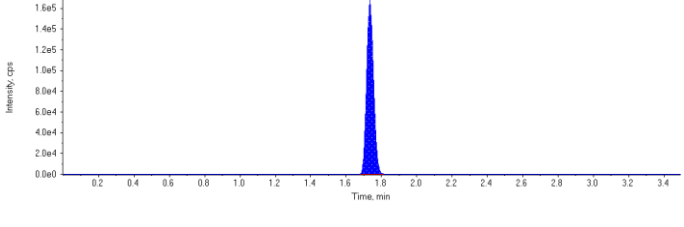
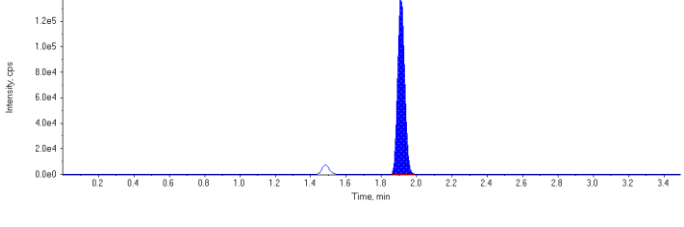
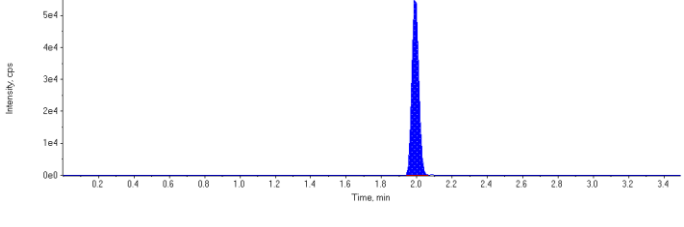
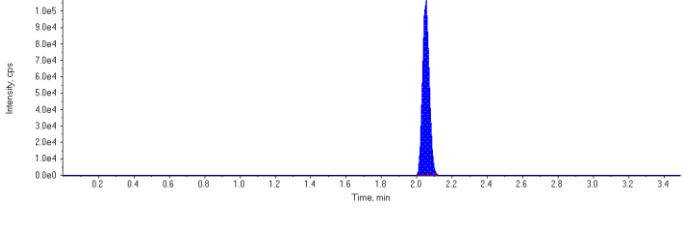
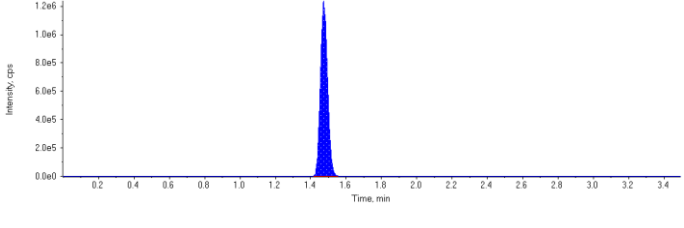
<b>Sample Name</b>	CCV	<b>Injection Vial</b>	6
<b>Sample ID</b>	CCV	<b>Injection Volume (µL)</b>	3
<b>Sample Type</b>	Quality Control	<b>Algorithm Used</b>	Analyst Classic
<b>Acquisition Date</b>	2016/02/19 2:23:36 PM	<b>Dilution Factor</b>	1.00
<b>Acquisition Method</b>	PFC_Water_Low.dam	<b>Sample Annotation</b>	-
<b>Project</b>	Enviro\PFOS	<b>Instrument Name</b>	LCMS03
<b>Data File</b>	PFC_160219\WS#4385888.wiff		
<b>Result Table</b>	PFC_Water_160219_4385888_ULow.rdb		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFHxS	121000.	1.70	1.00	-
MPFHpA	451000.	1.73	1.00	-
MPFOA	379000.	1.91	1.00	-
MPFOS	150000.	1.99	1.00	-
MPFNA	286000.	2.05	1.00	-
13C6-PFHxA IS	3450000.	1.47	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	990000	1.15	30.0	26.7	88.9
PFHxS 1	1210000	1.70	30.0	30.7	102.0
PFHpA 1	1830000	1.74	30.0	30.1	100.0
PFOA 1	1940000	1.91	30.0	31.2	104.0
PFOS 1	829000	1.99	30.0	30.5	102.0
PFNA 1	1350000	2.05	30.0	28.5	95.1
18O2-PFHxS	121000	1.70	100.	95.3	95.3
13C4-PFHpA	451000	1.73	100.	105.	105.0
13C4-PFOA	379000	1.91	100.	102.	102.0
13C4-PFOS	150000	1.99	100.	101.	101.0
13C5-PFNA	286000	2.05	100.	113.	113.0
13C6-PFHxA	3450000	1.47	100.	86.5	86.5

<p><b>MPFHxS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFHpA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.73(1.75) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOA</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.91(1.88) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFOS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>MPFNA</b> (Internal Standard)</p> <p>RT (Exp. RT): 2.05(2.02) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA IS</b> (Internal Standard)</p> <p>RT (Exp. RT): 1.47(1.42) min Concentration: 1.00 ng/L Sample Type: (Quality Control)</p>	
<p><b>N/A</b> (Internal Standard)</p> <p>RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)</p>	<p style="text-align: center;">This image is not available</p>

<p><b>PFBS 1</b> (298.900/79.900 Da)</p> <p>RT (Exp. RT): 1.15 (1.15) min</p> <p>Calculated Conc: 26.7 µg/L</p> <p>Area Ratio: 8.17</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHxS 1</b> (398.900/79.900 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 30.7 µg/L</p> <p>Area Ratio: 10.0</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFHpA 1</b> (363.000/319.000 Da)</p> <p>RT (Exp. RT): 1.74 (1.75) min</p> <p>Calculated Conc: 30.1 µg/L</p> <p>Area Ratio: 4.05</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOA 1</b> (413.100/369.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.92) min</p> <p>Calculated Conc: 31.2 µg/L</p> <p>Area Ratio: 5.12</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFOS 1</b> (498.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 30.5 µg/L</p> <p>Area Ratio: 5.52</p> <p>Sample Type: (Quality Control)</p>	
<p><b>PFNA 1</b> (462.900/419.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 28.5 µg/L</p> <p>Area Ratio: 4.72</p> <p>Sample Type: (Quality Control)</p>	

<p><b>18O2-PFHxS</b> (402.900/84.000 Da)</p> <p>RT (Exp. RT): 1.70 (1.68) min</p> <p>Calculated Conc: 95.3 µg/L</p> <p>Area Ratio: 0.0351</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFHpA</b> (366.900/322.000 Da)</p> <p>RT (Exp. RT): 1.73 (1.75) min</p> <p>Calculated Conc: 105. µg/L</p> <p>Area Ratio: 0.130</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOA</b> (416.900/372.000 Da)</p> <p>RT (Exp. RT): 1.91 (1.88) min</p> <p>Calculated Conc: 102. µg/L</p> <p>Area Ratio: 0.110</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C4-PFOS</b> (502.900/79.900 Da)</p> <p>RT (Exp. RT): 1.99 (1.97) min</p> <p>Calculated Conc: 101. µg/L</p> <p>Area Ratio: 0.0435</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C5-PFNA</b> (467.900/423.000 Da)</p> <p>RT (Exp. RT): 2.05 (2.02) min</p> <p>Calculated Conc: 113. µg/L</p> <p>Area Ratio: 0.0829</p> <p>Sample Type: (Quality Control)</p>	
<p><b>13C6-PFHxA</b> (318.900/274.000 Da)</p> <p>RT (Exp. RT): 1.47 (1.42) min</p> <p>Calculated Conc: 86.5 µg/L</p> <p>Area Ratio: 0.00</p> <p>Sample Type: (Quality Control)</p>	





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Maxxam Analytics International  
6740 Campobello Rd.  
Mississauga, Ontario, Canada  
L5N 2L8  
1-800-668-0639  
[www.maxxamanalytics.com](http://www.maxxamanalytics.com)

# Shipping and Receiving Documents

**Chain of Custody Record**

Due 2/22

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes  No



320-17183 Chain of Custody

CTU WE 76  
G

Project Manager: [Redacted] Date: 02/04/16 Chain of Custody Number: 283625  
 Telephone Number (Area Code)/Fax Number: [Redacted] Lab Number: [Redacted]  
 Site Contact: [Redacted] Lab Contact: [Redacted] Page 1 of 1

Carrier/Waybill Number: FedEx  
 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)

Sample I.D. No. and Description	Date	Time	Matrix			Containers & Preservatives							Select P/CS					
			Air	Aqueous	Soil	Urnines	H2SO4	HNO3	HCl	NaOH	NaCl	NaOH						
DF-FB69-0216	02/04/16			X			X											
DF-RW66-0216	02/04/16	1735		X			X											
DF-FB66-0216		1737																
DF-RW49-0216		1526																
DF-FB49-0216		1528																
DF-RW36A-0216		1357																
DF-FB36A-0216		1350																
DF-RW51A-0216		1130																
DF-FB51A-0216		1125																
DF-RW27-0216		1450																
DF-RW27 FB27-0216		1440																

13-Feb-16 13:40  
 Hongmei Zhao (Grace)  
 B630792  
 RGN ENV-951

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)

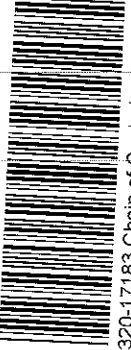
1. Relinquished By: [Signature] Date: 02/04/16 Time: 1730  
 1. Received By: [Signature] Date: 2/5/16 Time: 1000  
 2. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 2. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Received By: [Signature] Date: 2/6/2016 Time: 13:40

Comments: \_\_\_\_\_

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

# Chain of Custody Record

Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No



CTU WE 76

TAL-4124 (1007)

320-17183 Chain of Custody

Client: **CH2M HILL** Project Manager: **Bill Friedmann** Chain of Custody Number: **283625**  
 Address: **5701 Cleveland St, Suite 200** Telephone Number (Area Code)/Fax Number: **757-691-6223** Date: **02/04/16**  
 City: **Virginia Beach** State: **VA** Zip Code: **23462** Lab Number: **1** of **1**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Soil	Sed	Unpres.	H2SO4	HNO3	HCl			NaOH
DF-FB69-0216-BA	02/04/16		X										
DF-RW66-0216	02/04/16	1735	X										
DF-FB66-0216		1737											
DF-RW49-0216		1526											
DF-FB49-0216		1528											
DF-RW36A-0216		1357											
DF-FB36A-0216		1350											
DF-RW51A-0216		1130											
DF-FB51A-0216		1125											
DF-RW27-0216		1450											
DF-RW214 FB27-0216		1440											

Possible Hazard Identification:  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  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. Received By: *[Signature]* Date: **2/5/16** Time: **1000**  
 2. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Sample Disposal:  
 Relinquished By: *[Signature]* Date: **02/04/16** Time: **1930**  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: **03/08/2016**

# Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 320-17183-1  
SDG Number: CTO WE7G PFC Sampling

**Login Number: 17183**  
**List Number: 1**  
**Creator: Alltucker, David R**

**List Source: TestAmerica Sacramento**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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?	True	
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.	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## 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

<b>SDG</b>	<b>Sample Name</b>	<b>Matrix</b>
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



<b>SDG</b>	<b>Sample Name</b>	<b>Matrix</b>
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

<b>SDG</b>	<b>Sample Name</b>	<b>Matrix</b>
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**.

<b>Sample Name</b>	<b>SDG</b>
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**.

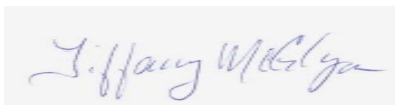
Sample Name	SDG
OF-RW37-0216	320-17154
OF-FB56-0216	320-17185

### **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

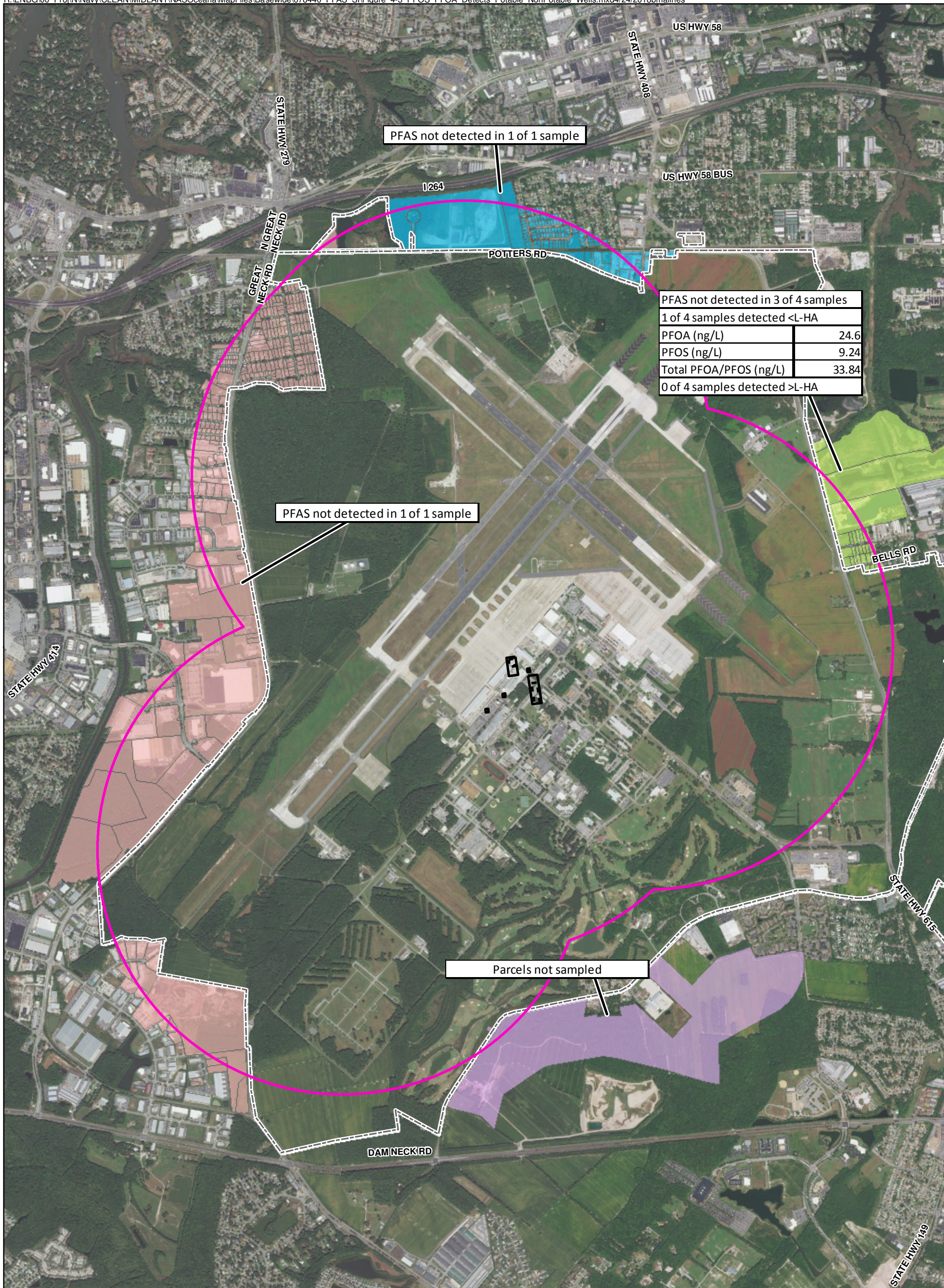
Exclude	More appropriate data exist for this analyte.
R	Data were rejected for use.
UL	Analyte not detected, quantitation limit is potentially biased low.
UJ	Analyte not detected, estimated quantitation limit.
U	Analyte not detected.
B	Not detected substantially above the level reported in laboratory 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

<b>Value</b>	<b>Description</b>
%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

<b>Value</b>	<b>Description</b>
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





- Legend**
- Non-Core Target Treatment Area (2004)
  - - Core Target Treatment Area (2004) (Core)
  - ▭ Sampling Area
  - ▭ Installation Boundary
  - Off-Base Parcels**
  - ▭ East
  - ▭ North
  - ▭ South
  - ▭ West

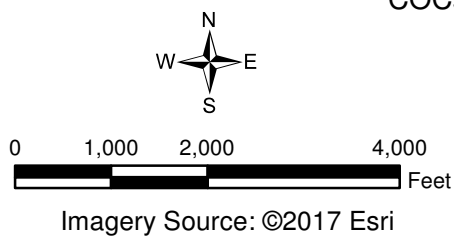


Figure 4-3  
COCs Detections in Potable Wells Sampled from Parcels Located Off-Base  
Basewide Per- and Polyfluoroalkyl Substances Site Inspection Report  
NAS Oceana, Virginia Beach, Virginia