



**Groundwater Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Report,
Electronic Data Deliverable, and Data Validation Report,
SDG B6A3190**

*Marine Corps Ballistics Base Barstow
Barstow, California*

November 2019

Your Project #: PFC Barstow
Your C.O.C. #: 557269-01-01

Attention:Orval Osborne

Oneida Total Integrated Enterprises
317 E. Main Street
Ventura, CA
USA 93001

Report Date: 2016/07/21

Report #: R4074830

Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B6A3190

Received: 2016/05/20, 11:35

Sample Matrix: Water
Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water	7	2016/05/30	2016/05/31	CAM SOP-00894	EPA 537 m
PFOS and PFOA in water	18	2016/05/31	2016/06/01	CAM SOP-00894	EPA 537 m

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

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

U = Undetected at the limit of quantitation.

J = Estimated concentration between the EDL & RDL.

B = Blank Contamination.

Q = One or more quality control criteria failed.

E = Analyte concentration exceeds the maximum concentration level.

K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Melissa DiGrazia, Project Manager - ATUT

Email: MDiGrazia@maxxam.ca

Phone# (905) 817-5700

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

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ596	CJZ597	CJZ598	CJZ599	CJZ600			
Sampling Date		2016/05/16 12:30	2016/05/16 13:48	2016/05/16 18:13	2016/05/16 17:02	2016/05/17 08:18			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-619	2014188-620	2014188-621	2014188-643	2014188-623	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0019 U	0.0045 J	0.014 J	0.0019 U	0.0019 U	0.020	0.0019	4517563
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0071 J	0.012 J	0.032	0.0063 J	0.0053 U	0.020	0.0053	4517563
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	0.0033 U	0.051	0.0033 U	0.0033 U	0.020	0.0033	4517563
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	92	80	94	85	87	N/A	N/A	4517563
13C4-Perfluorooctanoic acid	%	91	82	94	86	93	N/A	N/A	4517563
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

Maxxam ID		CJZ601		CJZ602	CJZ603	CJZ604			
Sampling Date		2016/05/16 15:58		2016/05/17 09:35	2016/05/17 11:05	2016/05/17 12:55			
COC Number		557269-01-01		557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-624	QC Batch	2014188-625	2014188-626	2014188-627	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0019 U	4517563	0.0019 U	0.0019 U	0.0048 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0053 U	4517563	0.0053 U	0.0053 U	0.0053 U	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	4517563	0.0033 U	0.0063 J	0.0092 J	0.020	0.0033	4518651
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	96	4517563	96	96	92	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	91	4517563	101	101	89	N/A	N/A	4518651
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ605	CJZ606	CJZ607	CJZ608	CJZ609			
Sampling Date		2016/05/17 17:35	2016/05/10 07:30	2016/05/10 10:30	2016/05/10 10:35	2016/05/10 08:30			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-628	2014188-613	2014188-616	2014188-617	2014188-614	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0051 J	0.016 J	0.017 J	0.016 J	0.015 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0053 U	0.0053 U	0.036	0.036	0.031	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	0.021	0.085	0.087	0.064	0.020	0.0033	4518651
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	93	90	87	84	84	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	99	95	93	84	93	N/A	N/A	4518651
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

Maxxam ID		CJZ610	CJZ611	CJZ612	CJZ613	CJZ614			
Sampling Date		2016/05/10 08:35	2016/05/09 16:30	2016/05/09 14:55	2016/05/09 13:50	2016/05/09 17:00			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-615	2014188-611	2014188-610	2014188-609	2014188-612	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.015 J	0.029	0.020	0.027	0.0019 U	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.031	0.042	0.025	0.035	0.0053 U	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.060	0.094	0.058	0.064	0.0033 U	0.020	0.0033	4518651
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	86	88	96	98	99	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	95	87	98	91	93	N/A	N/A	4518651
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ615	CJZ616	CJZ617			
Sampling Date		2016/05/10 17:00	2016/05/17 16:34	2016/05/17 14:11			
COC Number		557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-618	2014188-629	2014188-630	RDL	MDL	QC Batch
Miscellaneous Parameters							
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0019 U	0.0045 J	0.0062 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0053 U	0.0053 U	0.0090 J	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	0.0033 U	0.015 J	0.020	0.0033	4518651
Surrogate Recovery (%)							
13C4-Perfluorooctanesulfonate	%	97	86	90	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	101	85	86	N/A	N/A	4518651
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

Maxxam ID		CJZ618				CJZ619	CJZ620			
Sampling Date		2016/05/16 18:30				2016/05/17 18:30	2016/05/17 18:00			
COC Number		557269-01-01				557269-01-01	557269-01-01			
	UNITS	2014188-631	RDL	MDL	QC Batch	2014188-632	2014188-723	RDL	MDL	QC Batch
Miscellaneous Parameters										
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0030 U (1)	0.032	0.0030	4517563	0.0019 U	0.0019 U	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0085 U (1)	0.032	0.0085	4517563	0.0053 U	0.0053 U	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0053 U (1)	0.032	0.0053	4517563	0.0033 U	0.0033 U	0.020	0.0033	4518651
Surrogate Recovery (%)										
13C4-Perfluorooctanesulfonate	%	93	N/A	N/A	4517563	88	90	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	91	N/A	N/A	4517563	96	90	N/A	N/A	4518651
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Due to limited amount of same available for analysis, a smaller than usual portion of sample was used. Detection limit was adjusted accordingly.										

TEST SUMMARY

Maxxam ID: CJZ596
Sample ID: 2014188-619
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ597
Sample ID: 2014188-620
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ598
Sample ID: 2014188-621
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ599
Sample ID: 2014188-643
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ600
Sample ID: 2014188-623
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ601
Sample ID: 2014188-624
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ602
Sample ID: 2014188-625
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

TEST SUMMARY

Maxxam ID: CJZ603
Sample ID: 2014188-626
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ604
Sample ID: 2014188-627
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ605
Sample ID: 2014188-628
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ606
Sample ID: 2014188-613
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ607
Sample ID: 2014188-616
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ608
Sample ID: 2014188-617
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ609
Sample ID: 2014188-614
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

TEST SUMMARY

Maxxam ID: CJZ610
Sample ID: 2014188-615
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ611
Sample ID: 2014188-611
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ612
Sample ID: 2014188-610
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ613
Sample ID: 2014188-609
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ614
Sample ID: 2014188-612
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ615
Sample ID: 2014188-618
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ616
Sample ID: 2014188-629
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

TEST SUMMARY

Maxxam ID: CJZ617
Sample ID: 2014188-630
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ618
Sample ID: 2014188-631
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ619
Sample ID: 2014188-632
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ620
Sample ID: 2014188-723
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
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Confirmation received to proceed with the analysis of samples CJZ611-614 that were past hold time upon job approval date and sample 2014188-723 received with limited sample volume.

Report revised to include U,J flag reporting. Please refer to Level IV narrative for further clarification on sample hold times.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4517563	CM5	Spiked Blank	13C4-Perfluorooctanesulfonate	2016/05/31		94	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/05/31		98	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/05/31		97	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/05/31		101	%	70 - 130
4517563	CM5	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2016/05/31		96	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/05/31		93	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/05/31		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/05/31		104	%	70 - 130
4517563	CM5	RPD	Perfluorobutane Sulfonate (PFBS)	2016/05/31	7.9		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31	5.3		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/05/31	2.5		%	30
4517563	CM5	Method Blank	13C4-Perfluorooctanesulfonate	2016/05/31		81	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/05/31		82	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/05/31	0.0019 U, MDL=0.0019		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31	0.0053 U, MDL=0.0053		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2016/05/31	0.0033 U, MDL=0.0033		ug/L	
4518651	SCH	Spiked Blank	13C4-Perfluorooctanesulfonate	2016/06/01		100	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/06/01		93	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/06/01		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/06/01		100	%	70 - 130
4518651	SCH	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2016/06/01		101	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/06/01		94	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/06/01		94	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01		119	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/06/01		98	%	70 - 130
4518651	SCH	RPD	Perfluorobutane Sulfonate (PFBS)	2016/06/01	4.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01	9.2		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/06/01	2.0		%	30
4518651	SCH	Method Blank	13C4-Perfluorooctanesulfonate	2016/06/01		120	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/06/01		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/06/01	0.0019 U, MDL=0.0019		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01	0.0053 U, MDL=0.0053		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2016/06/01	0.0033 U, MDL=0.0033		ug/L	

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

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).



Sin Chii Chia, Scientific Services

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



Prepared for: Oneida Total Integrated Enterprises

Project: PFC Barstow

Analytical Data Package (Level IV)

Analysis: PFOS and PFOA in water (Method 537)

Maxxam Job #: B6A3190

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



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

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

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

Review Performed By:

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

Glossary of Terms

- **Detection Limit (DL)** this can also be called **Method Detection Limit (MDL)**: The lowest concentration or amount of the target analyte that can be identified, measured, and reported with confidence that the analyte concentration is not a false positive value. (Clarification): The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence. At the DL, the false positive rate (Type I error) is 1%.
- **Limit of Detection (LOD)**: An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. (Clarification): The smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.
- **Limits of Quantitation (LOQ)** this can also be called **Reporting Detection Limit (RDL)**: The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. (Clarification): The lowest concentration that produces a quantitative result within specified limits of precision and bias. For DoD projects, the LOQ shall be set at or above the concentration of the lowest initial calibration standard.
- **Acceptance Criteria** are values used by the laboratory to determine that a process is in control.
- **Accuracy** is the degree of agreement of a measured value with the true or expected value.
- **Calibration Standards** are a set of solutions containing the analytes of interest at a specified concentration.
- **Calibration Verification Standard** consists of a calibration standard solution of intermediate concentration (mid-point initial calibration level) used to access whether the initial calibration is still valid
- **Certified Reference Material** is a stable homogenous material that is certified by repetitive analysis from a supplier who is certified to generate said materials.

- **Internal Standard** a deuterated or ^{13}C -labelled analyte that is added to a sample extract prior to instrumental analysis to compensate for injection variability.
- **Isomer** is a member of a group of compounds that differ from each other only in the locations of a specific number of common substituent atoms or groups of atoms on the parent compound.
- **Method Blank** is a laboratory control sample using reagents that are known to be free of contamination.
- **Precision** is the degree of agreement between the data generated from repetitive measurements under specific conditions.
- **Quality Assurance** is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality.
- **Quality Control** is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of the end user.
- **RSD** is the relative standard deviation.
- **Blank Spike** is a laboratory control sample that has been fortified with native analytes of interest.
- **Window Defining Mixture** is a solution containing only the earliest and latest eluting congeners within each homologous group of target analytes on a specified GC column.
- **RPD** or Relative Percent Difference. A measure used to compare duplicate sample analysis.
- **EMPC/NDR** – Peak detected does not meet ratio criteria and has resulted in a higher detection limit.



1.0 Project Narrative

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

Maxxam Job: B6A3190

Sample Analysis

Samples were analyzed on QC batch 4517563 (2016/05/31) and QC batch 4518651 (2016/06/01).

Due to the limited amount of sample available for analysis, a smaller than usual portion of the following sample was extracted and analyzed on QC batch 4517563 (2016/05/31):

CJZ618 2014188-631

Detection limits were adjusted accordingly.

Sample extraction and analysis was performed after hold time had passed for the following samples on QC batch 4518651 (2016/06/01):

CJZ606 2014188-613

CJZ607 2014188-616

CJZ608 2014188-617

CJZ609 2014188-614

CJZ610 2014188-615

CJZ611 2014188-611

CJZ612 2014188-610

CJZ613 2014188-609

CJZ614 2014188-612

CJX615 2014188-618

Due to the chemical stability of perfluorinated compounds, the hold time exceedance is not expected to have a significant impact on data quality.

Sin Chii Chia, B.Sc.

schia@maxxam.ca

Office 905 817 5700

PROJECT NARRATIVE

Maxxam Analytics
Client Project #: PFC Barstow



Client: Oneida Total Integrated Enterprises
Client Project: PFC Barstow

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in water						
CJZ596	2014188-619	2016/05/16	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ597	2014188-620	2016/05/16	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ598	2014188-621	2016/05/16	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ599	2014188-643	2016/05/16	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ600	2014188-623	2016/05/17	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ601	2014188-624	2016/05/16	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ602	2014188-625	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ603	2014188-626	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ604	2014188-627	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ605	2014188-628	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ606	2014188-613	2016/05/10	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ607	2014188-616	2016/05/10	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ608	2014188-617	2016/05/10	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ609	2014188-614	2016/05/10	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ610	2014188-615	2016/05/10	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ611	2014188-611	2016/05/09	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ612	2014188-610	2016/05/09	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ613	2014188-609	2016/05/09	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ614	2014188-612	2016/05/09	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ615	2014188-618	2016/05/10	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ616	2014188-629	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ617	2014188-630	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ618	2014188-631	2016/05/16	2016/05/20	2016/05/30	2016/05/31	2016/05/31
CJZ619	2014188-632	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01
CJZ620	2014188-723	2016/05/17	2016/05/20	2016/05/31	2016/06/01	2016/06/01

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

b) Shipping Problems: none encountered

c) Documentation Problems: none encountered

II. SAMPLE PREP:

Please see email regarding limited volume received for sample CJZ618

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: Please see case narrative regarding hold times.

Confirmation received to proceed with the analysis of sample CJZ611-CJZ614 that expired upon job approval. Although samples were received May 20th, due to late login and subsequent Canadian holiday, the submission was not approved for extraction until May 24th at which point CJZ611-614 had expired.

Additionally, the following samples were extracted past holding time (all other samples were extracted within hold time): samples CJZ606-610 and CJZ615. As the site history was not known for this particular project, these samples were extracted by High Level Analysis on 2016/05/24 – this is a screening method used to identify samples containing high concentrations of the analytes of interest, so that samples may be appropriately diluted for quantitative analysis (if required). The screening analysis and subsequent evaluation of results delayed the quantitative analysis and resulted in holding times being exceeded for some samples as re-extraction by low level analysis was required on the 30th.

b) Instrument Calibration: all within control limits

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

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

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

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

M Di Grazia

2016/07/21

Date

From: Orval Osborne <OOsborne@otie.com>
To: Melissa DiGrazia
Cc: Paul Henige
Subject: RE: PFCs Barstow (OTIE) - please confirm sample receipt- Limited sample volume received.

Melissa,

- Proceed with the sample analysis for samples collected May 9 and received May 20. (We thought that the lab would be able to meet the holding time with this timing.)
- Proceed with analysis for limited sample volume. (Sample container lids fit poorly. We did our best to secure them.)
- Please provide Level III or IV for all samples.
- I will need to consult with our database expert on the SAAR.

Orval Osborne

Oneida Total Integrated Enterprises (OTIE)

805.585.4313 office

805.585.2111 fax

www.otie.com

From: Melissa DiGrazia [<mailto:MDiGrazia@maxxam.ca>]

Sent: Tuesday, May 24, 2016 9:55 AM

To: Orval Osborne

Cc: Paul Henige

Subject: RE: PFCs Barstow (OTIE) - please confirm sample receipt- Limited sample volume received.

Hello Orval,

To summarize if you can confirm:

- To proceed with the 4 samples collected on 05/09 past holding time
- To proceed with the 50 mL provided for sample 2014188-723 (this will result in an elevated DL).
- The Level IV package and Level III we provide are identical including raw data files, QC files, report, narrative, lab benchsheets, initial and continuing calibration files. I have here 3 samples that would require the Level IV and the remaining are on Level II or Level III as the Level IV?
- If you can complete the SAAR to gain authorization for the ERPIMS EDD.

Thank you so much and apologies for all of the inquiries.

Kind regards,

Melissa Di Grazia, B.Sc.

Project Manager - Ultra Trace Analysis

Office 905 817 5784 / Mobile 416 717 8264

Toll free 800 563 6266/ Fax 905 817 5775

6740 Campobello Rd., Mississauga, ON L5N 2L8

Maxxam Analytics - A Bureau Veritas Group Company

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2. Sample Management Records

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



2.1 Sample Custody

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
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Page 1 of 3



6740 Campbell Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAMS FCD-01191/2

CHAIN OF CUSTODY RECORD

Page 2 of 3

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required	
Company Name: OTIE		Company Name: OTIE		Quotation #		☒ Regular TAT (5-7 days) Most analyses	
Contact Name: ONAL OSBORNE		Contact Name: ONAL OSBORNE		P.O. # / A/E/R:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Address: 317 E. Main St		Address: 317 E. Main St		Project #:		Rush TAT (Surcharges will be applied)	
City: LENTURE CA 93001		City: LENTURE CA		Site Location:		☐ 1 Day ☐ 2 Days ☐ 3-4 Days	
Phone: 805-585-4313		Phone: 805-585-4313		Site #:		Date Required:	
Fax: 805-585-4313		Fax: 805-585-4313		Sampled By:		Rush Confirmation #:	
Email: OSBORNE@OTIE.COM		Email: OSBORNE@OTIE.COM				LABORATORY USE ONLY	
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY				Analysis Requested			
Regulation 153				CUSTODY SEAL			
☐ Rec/Park ☐ Mid/Fine				☐ Present ☐ Intact			
☐ Table 1 ☐ Ind/Comm ☐ Coarse				COOLER TEMPERATURES			
☐ Table 2 ☐ Agri/ Other							
☐ Table 3							
FOR RSC (PLEASE CIRCLE) Y / N				COOLING MEDIA PRESENT: D / N			
Include Criteria on Certificate of Analysis:				COMMENTS			
SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM							
DATE SAMPLED (YYYY/MM/DD)		TIME SAMPLED (HH:MM)		DATE (YYYY/MM/DD)		TIME (HH:MM)	
1 2014/58-613		730		2016/05/20		11:35	
2 2014/58-616		1030					
3 2014/58-617		1035					
4 2014/58-614		830					
5 2014/58-615		835					
6 2014/58-611		1630					
7 2014/58-610		1455					
8 2014/58-609		1350					
9 2014/58-612		1700					
10 2014/58-618		1700					
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)		RECEIVED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	
[Signature]		5/19/16		[Signature]		2016/05/20	
TIME (HH:MM)		1700		TIME (HH:MM)		11:35	



3. Analytical Results

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



3.1 Summary Report

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

Your Project #: PFC Barstow
Your C.O.C. #: 557269-01-01

Attention:Orval Osborne

Oneida Total Integrated Enterprises
317 E. Main Street
Ventura, CA
USA 93001

Report Date: 2016/07/21

Report #: R4074830

Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B6A3190

Received: 2016/05/20, 11:35

Sample Matrix: Water
Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water	7	2016/05/30	2016/05/31	CAM SOP-00894	EPA 537 m
PFOS and PFOA in water	18	2016/05/31	2016/06/01	CAM SOP-00894	EPA 537 m

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

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

U = Undetected at the limit of quantitation.

J = Estimated concentration between the EDL & RDL.

B = Blank Contamination.

Q = One or more quality control criteria failed.

E = Analyte concentration exceeds the maximum concentration level.

K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Melissa DiGrazia, Project Manager - ATUT

Email: MDiGrazia@maxxam.ca

Phone# (905) 817-5700

=====

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.

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ596	CJZ597	CJZ598	CJZ599	CJZ600			
Sampling Date		2016/05/16 12:30	2016/05/16 13:48	2016/05/16 18:13	2016/05/16 17:02	2016/05/17 08:18			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-619	2014188-620	2014188-621	2014188-643	2014188-623	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0019 U	0.0045 J	0.014 J	0.0019 U	0.0019 U	0.020	0.0019	4517563
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0071 J	0.012 J	0.032	0.0063 J	0.0053 U	0.020	0.0053	4517563
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	0.0033 U	0.051	0.0033 U	0.0033 U	0.020	0.0033	4517563
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	92	80	94	85	87	N/A	N/A	4517563
13C4-Perfluorooctanoic acid	%	91	82	94	86	93	N/A	N/A	4517563
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

Maxxam ID		CJZ601		CJZ602	CJZ603	CJZ604			
Sampling Date		2016/05/16 15:58		2016/05/17 09:35	2016/05/17 11:05	2016/05/17 12:55			
COC Number		557269-01-01		557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-624	QC Batch	2014188-625	2014188-626	2014188-627	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0019 U	4517563	0.0019 U	0.0019 U	0.0048 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0053 U	4517563	0.0053 U	0.0053 U	0.0053 U	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	4517563	0.0033 U	0.0063 J	0.0092 J	0.020	0.0033	4518651
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	96	4517563	96	96	92	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	91	4517563	101	101	89	N/A	N/A	4518651
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ605	CJZ606	CJZ607	CJZ608	CJZ609			
Sampling Date		2016/05/17 17:35	2016/05/10 07:30	2016/05/10 10:30	2016/05/10 10:35	2016/05/10 08:30			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-628	2014188-613	2014188-616	2014188-617	2014188-614	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0051 J	0.016 J	0.017 J	0.016 J	0.015 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0053 U	0.0053 U	0.036	0.036	0.031	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	0.021	0.085	0.087	0.064	0.020	0.0033	4518651
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	93	90	87	84	84	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	99	95	93	84	93	N/A	N/A	4518651
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

Maxxam ID		CJZ610	CJZ611	CJZ612	CJZ613	CJZ614			
Sampling Date		2016/05/10 08:35	2016/05/09 16:30	2016/05/09 14:55	2016/05/09 13:50	2016/05/09 17:00			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-615	2014188-611	2014188-610	2014188-609	2014188-612	RDL	MDL	QC Batch

Miscellaneous Parameters									
Perfluorobutane Sulfonate (PFBS)	ug/L	0.015 J	0.029	0.020	0.027	0.0019 U	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.031	0.042	0.025	0.035	0.0053 U	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.060	0.094	0.058	0.064	0.0033 U	0.020	0.0033	4518651
Surrogate Recovery (%)									
13C4-Perfluorooctanesulfonate	%	86	88	96	98	99	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	95	87	98	91	93	N/A	N/A	4518651
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
N/A = Not Applicable									

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ615	CJZ616	CJZ617			
Sampling Date		2016/05/10 17:00	2016/05/17 16:34	2016/05/17 14:11			
COC Number		557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-618	2014188-629	2014188-630	RDL	MDL	QC Batch
Miscellaneous Parameters							
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0019 U	0.0045 J	0.0062 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0053 U	0.0053 U	0.0090 J	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0033 U	0.0033 U	0.015 J	0.020	0.0033	4518651
Surrogate Recovery (%)							
13C4-Perfluorooctanesulfonate	%	97	86	90	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	101	85	86	N/A	N/A	4518651
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

Maxxam ID		CJZ618				CJZ619	CJZ620			
Sampling Date		2016/05/16 18:30				2016/05/17 18:30	2016/05/17 18:00			
COC Number		557269-01-01				557269-01-01	557269-01-01			
	UNITS	2014188-631	RDL	MDL	QC Batch	2014188-632	2014188-723	RDL	MDL	QC Batch
Miscellaneous Parameters										
Perfluorobutane Sulfonate (PFBS)	ug/L	0.0030 U (1)	0.032	0.0030	4517563	0.0019 U	0.0019 U	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0085 U (1)	0.032	0.0085	4517563	0.0053 U	0.0053 U	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.0053 U (1)	0.032	0.0053	4517563	0.0033 U	0.0033 U	0.020	0.0033	4518651
Surrogate Recovery (%)										
13C4-Perfluorooctanesulfonate	%	93	N/A	N/A	4517563	88	90	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	91	N/A	N/A	4517563	96	90	N/A	N/A	4518651
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Due to limited amount of same available for analysis, a smaller than usual portion of sample was used. Detection limit was adjusted accordingly.										

TEST SUMMARY

Maxxam ID: CJZ596
Sample ID: 2014188-619
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ597
Sample ID: 2014188-620
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ598
Sample ID: 2014188-621
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ599
Sample ID: 2014188-643
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ600
Sample ID: 2014188-623
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ601
Sample ID: 2014188-624
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ602
Sample ID: 2014188-625
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

TEST SUMMARY

Maxxam ID: CJZ603
Sample ID: 2014188-626
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ604
Sample ID: 2014188-627
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ605
Sample ID: 2014188-628
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ606
Sample ID: 2014188-613
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ607
Sample ID: 2014188-616
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ608
Sample ID: 2014188-617
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ609
Sample ID: 2014188-614
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

TEST SUMMARY

Maxxam ID: CJZ610
Sample ID: 2014188-615
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ611
Sample ID: 2014188-611
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ612
Sample ID: 2014188-610
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ613
Sample ID: 2014188-609
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ614
Sample ID: 2014188-612
Matrix: Water

Collected: 2016/05/09
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ615
Sample ID: 2014188-618
Matrix: Water

Collected: 2016/05/10
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ616
Sample ID: 2014188-629
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

TEST SUMMARY

Maxxam ID: CJZ617
Sample ID: 2014188-630
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ618
Sample ID: 2014188-631
Matrix: Water

Collected: 2016/05/16
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4517563	2016/05/30	2016/05/31	Colm McNamara

Maxxam ID: CJZ619
Sample ID: 2014188-632
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

Maxxam ID: CJZ620
Sample ID: 2014188-723
Matrix: Water

Collected: 2016/05/17
Shipped:
Received: 2016/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water	LCMS	4518651	2016/05/31	2016/06/01	Sin Chii Chia

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
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Confirmation received to proceed with the analysis of samples CJZ611-614 that were past hold time upon job approval date and sample 2014188-723 received with limited sample volume.

Report revised to include U,J flag reporting. Please refer to Level IV narrative for further clarification on sample hold times.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4517563	CM5	Spiked Blank	13C4-Perfluorooctanesulfonate	2016/05/31		94	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/05/31		98	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/05/31		97	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31		106	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/05/31		101	%	70 - 130
4517563	CM5	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2016/05/31		96	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/05/31		93	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/05/31		105	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31		112	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/05/31		104	%	70 - 130
4517563	CM5	RPD	Perfluorobutane Sulfonate (PFBS)	2016/05/31	7.9		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31	5.3		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/05/31	2.5		%	30
4517563	CM5	Method Blank	13C4-Perfluorooctanesulfonate	2016/05/31		81	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/05/31		82	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/05/31	0.0019 U, MDL=0.0019		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/05/31	0.0053 U, MDL=0.0053		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2016/05/31	0.0033 U, MDL=0.0033		ug/L	
4518651	SCH	Spiked Blank	13C4-Perfluorooctanesulfonate	2016/06/01		100	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/06/01		93	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/06/01		91	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01		108	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/06/01		100	%	70 - 130
4518651	SCH	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2016/06/01		101	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/06/01		94	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/06/01		94	%	70 - 130
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01		119	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2016/06/01		98	%	70 - 130
4518651	SCH	RPD	Perfluorobutane Sulfonate (PFBS)	2016/06/01	4.1		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01	9.2		%	30
			Perfluorooctane Sulfonate (PFOS)	2016/06/01	2.0		%	30
4518651	SCH	Method Blank	13C4-Perfluorooctanesulfonate	2016/06/01		120	%	70 - 130
			13C4-Perfluorooctanoic acid	2016/06/01		118	%	70 - 130
			Perfluorobutane Sulfonate (PFBS)	2016/06/01	0.0019 U, MDL=0.0019		ug/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2016/06/01	0.0053 U, MDL=0.0053		ug/L	
			Perfluorooctane Sulfonate (PFOS)	2016/06/01	0.0033 U, MDL=0.0033		ug/L	

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

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).



Sin Chii Chia, Scientific Services

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



METHOD 537

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

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



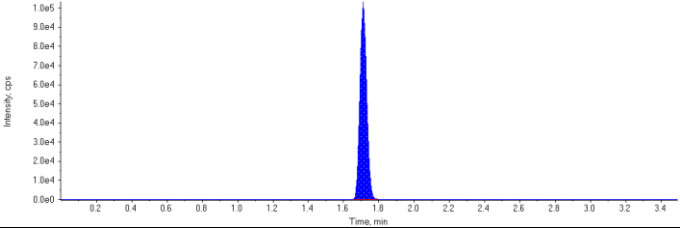
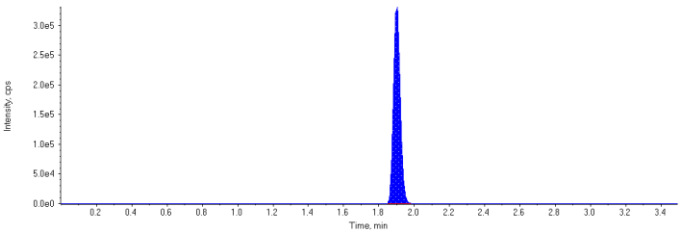
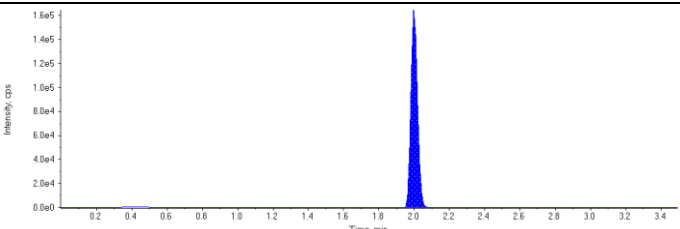
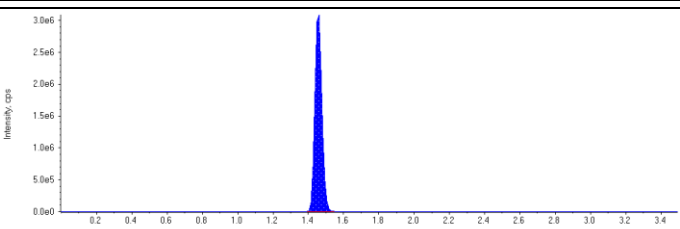
3.2 Sample Chromatograms

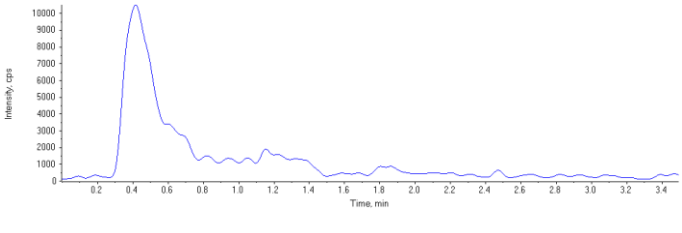
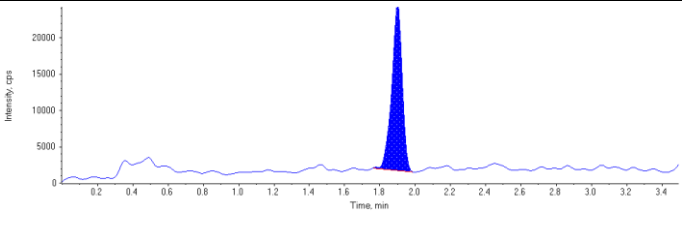
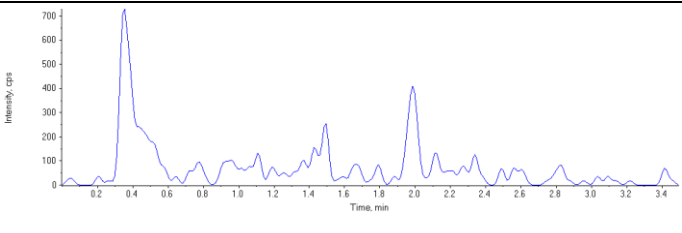
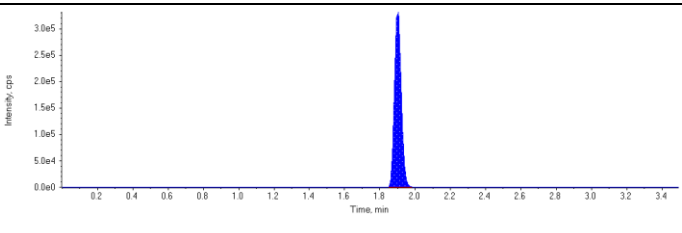
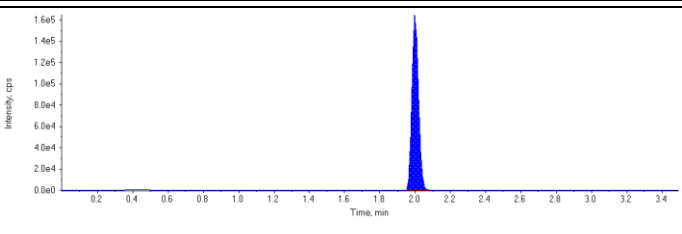
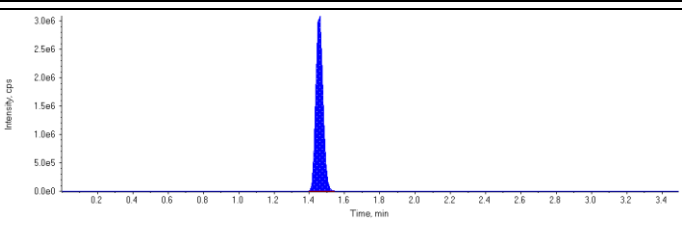
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Sample ID	4517563~CJZ596-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	44
Acquisition Date	2016/05/31 6:08:32 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	271000.	1.71	1.00	-
MPFOA	896000.	1.90	1.00	-
MPFOS	426000.	2.00	1.00	-
13C6-PFHxA IS	8780000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFOA 1	94200	1.90	N/A	0.00709	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
13C4-PFOA	896000	1.90	N/A	90.5	N/A
13C4-PFOS	426000	2.00	N/A	92.4	N/A
13C6-PFHxA	8780000	1.46	N/A	115.	N/A

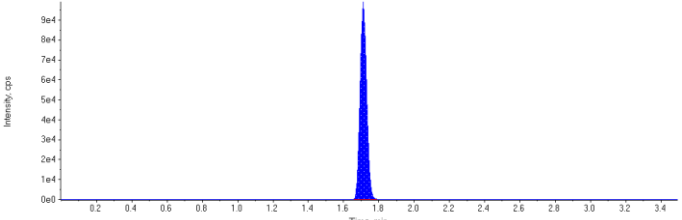
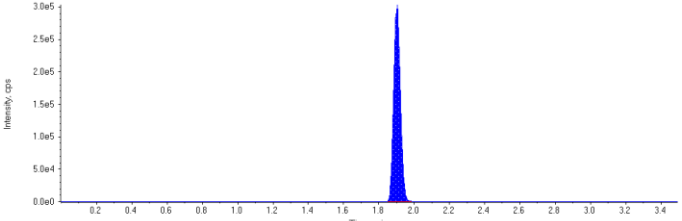
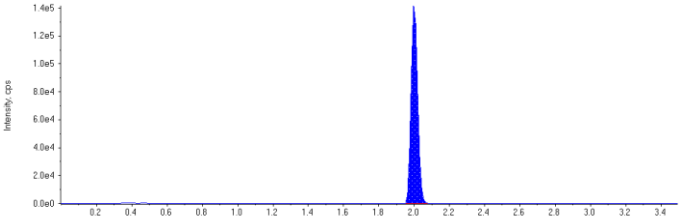
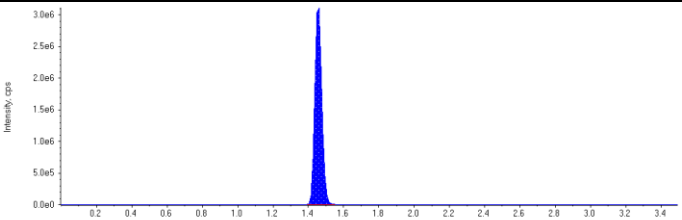
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MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

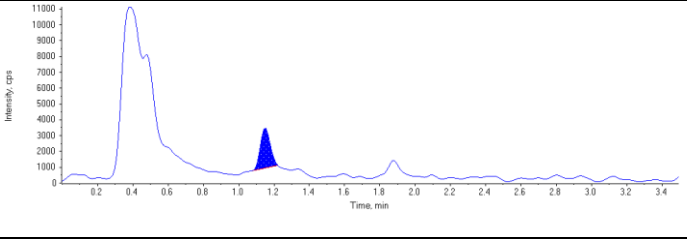
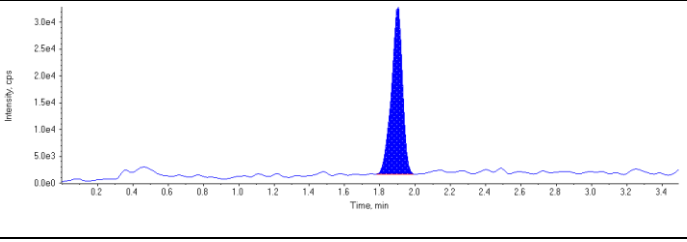
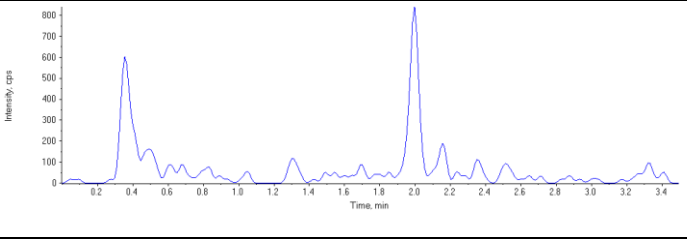
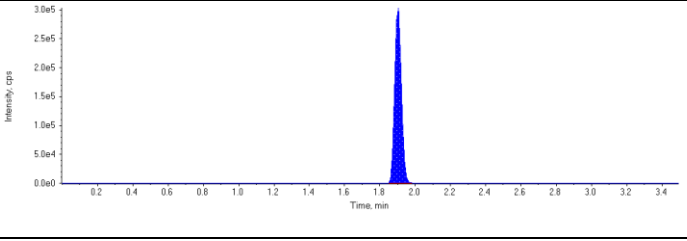
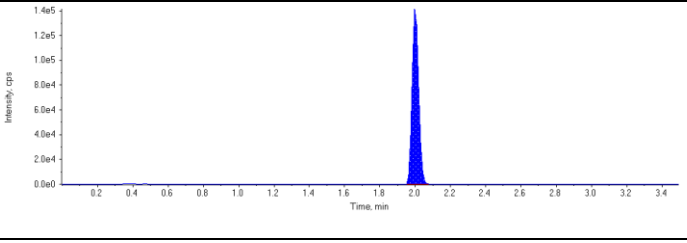
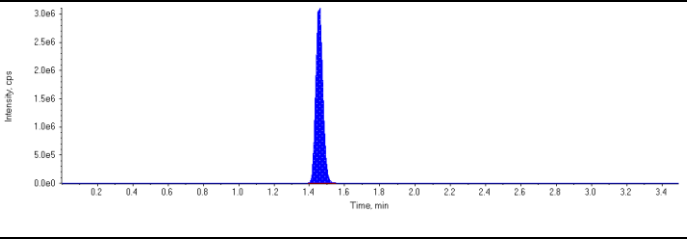
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	 Intensity, cps Time, min
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00709 µg/L Area Ratio: 0.105 Sample Type: (Unknown)	 Intensity, cps Time, min
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	 Intensity, cps Time, min
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 90.5 µg/L Area Ratio: 0.102 Sample Type: (Unknown)	 Intensity, cps Time, min
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 92.4 µg/L Area Ratio: 0.0485 Sample Type: (Unknown)	 Intensity, cps Time, min
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 115. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	 Intensity, cps Time, min

Sample ID	4517563~CJZ597-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	45
Acquisition Date	2016/05/31 6:13:38 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	252000.	1.71	1.00	-
MPFOA	808000.	1.90	1.00	-
MPFOS	369000.	2.00	1.00	-
13C6-PFHxA IS	8800000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	9810	1.15	N/A	0.00446	N/A
PFOA 1	136000	1.90	N/A	0.0119	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
13C4-PFOA	808000	1.90	N/A	81.5	N/A
13C4-PFOS	369000	2.00	N/A	79.9	N/A
13C6-PFHxA	8800000	1.46	N/A	115.	N/A

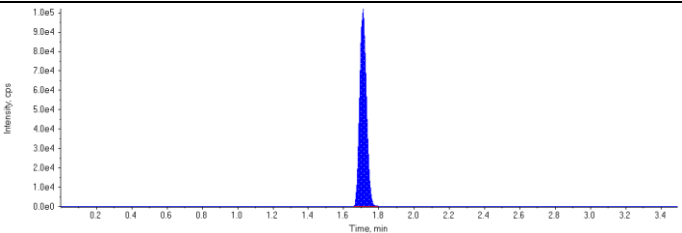
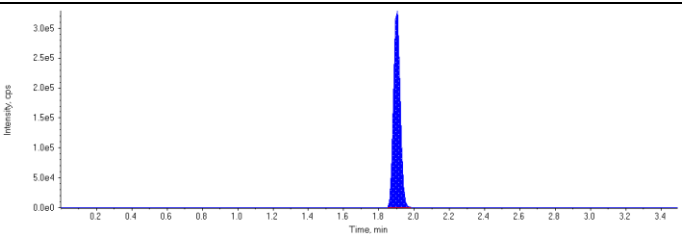
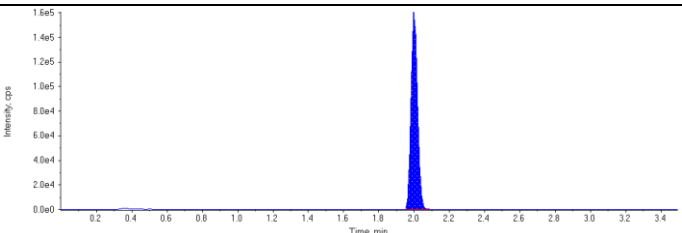
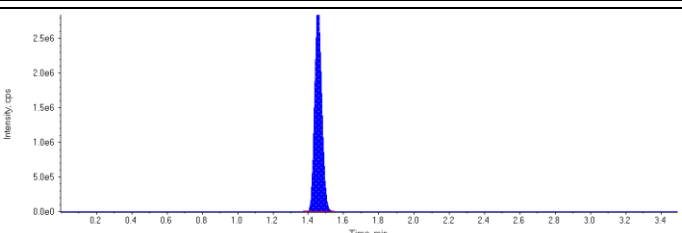
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MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

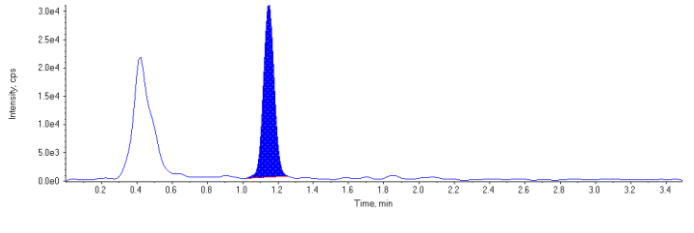
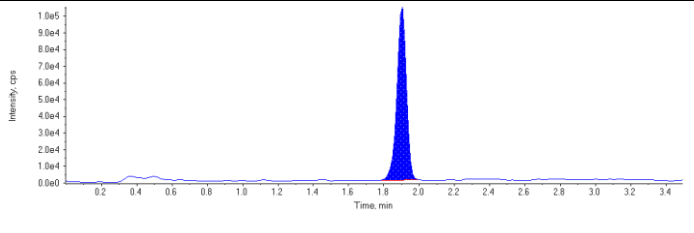
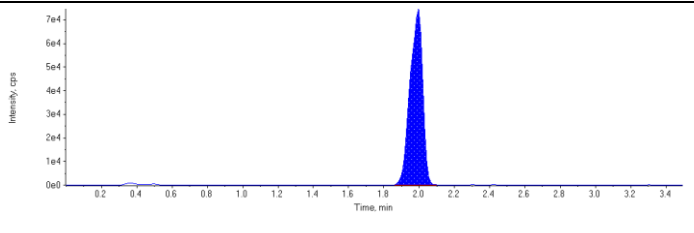
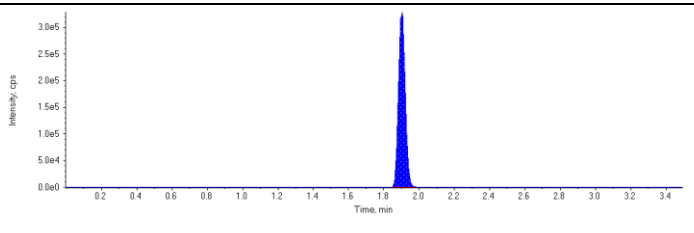
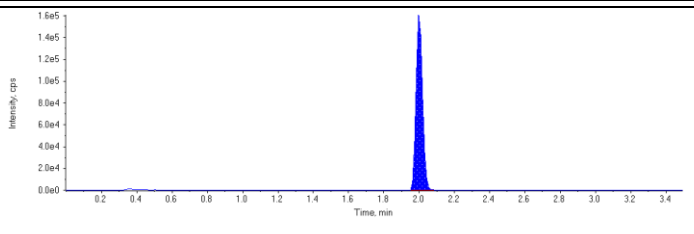
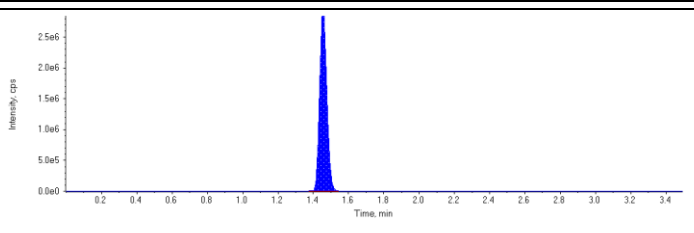
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.00446 µg/L Area Ratio: 0.0389 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0119 µg/L Area Ratio: 0.168 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 81.5 µg/L Area Ratio: 0.0918 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 79.9 µg/L Area Ratio: 0.0420 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 115. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4517563~CJZ598-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	46
Acquisition Date	2016/05/31 6:18:43 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	267000.	1.71	1.00	-
MPFOA	880000.	1.90	1.00	-
MPFOS	411000.	2.00	1.00	-
13C6-PFHxA IS	8350000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	129000	1.15	N/A	0.0140	N/A
PFOA 1	386000	1.90	N/A	0.0323	N/A
PFOS 1	371000	1.99	N/A	0.0505	N/A
13C4-PFOA	880000	1.90	N/A	93.5	N/A
13C4-PFOS	411000	2.00	N/A	93.7	N/A
13C6-PFHxA	8350000	1.46	N/A	109.	N/A

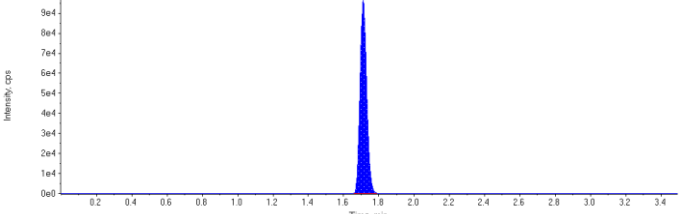
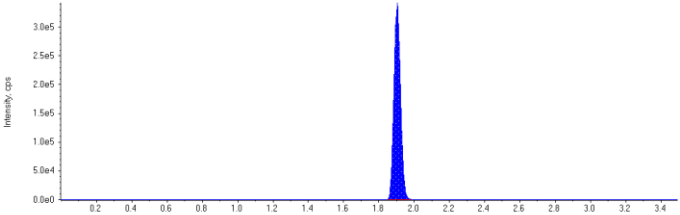
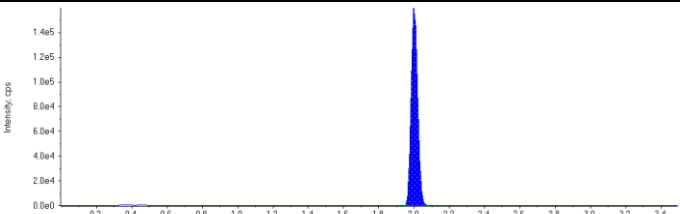
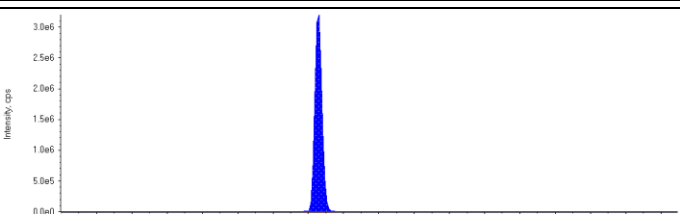
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

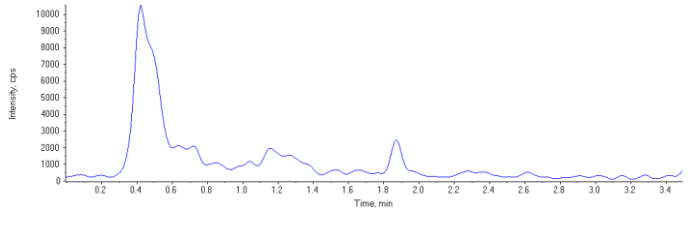
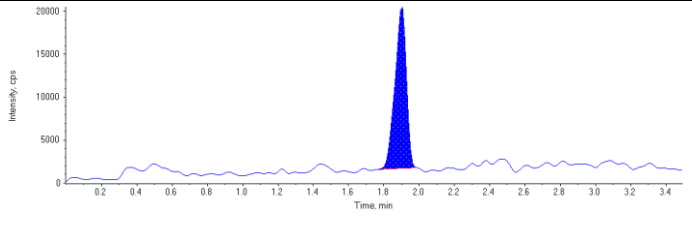
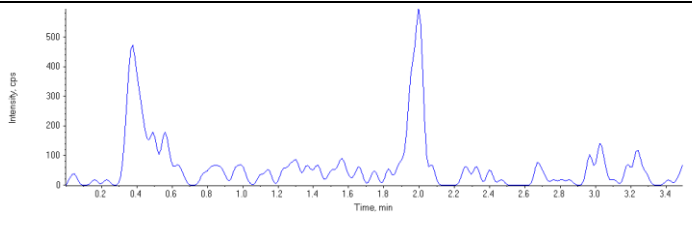
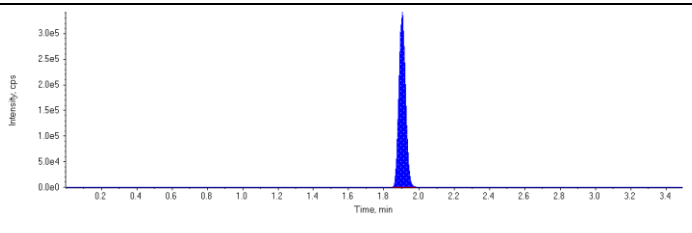
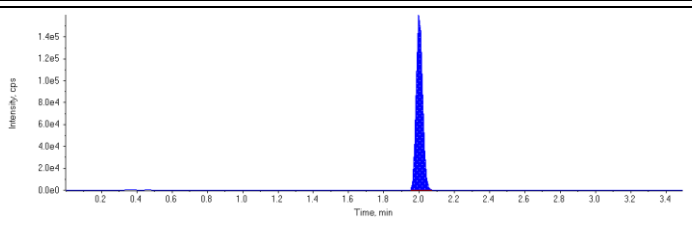
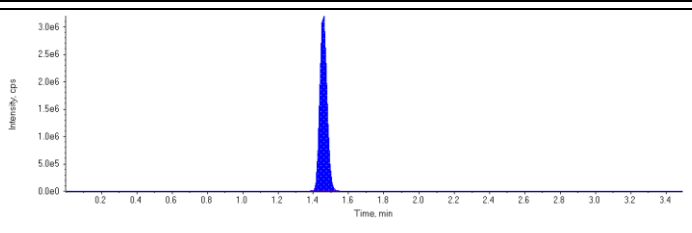
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0140 µg/L Area Ratio: 0.482 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0323 µg/L Area Ratio: 0.438 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0505 µg/L Area Ratio: 0.903 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 93.5 µg/L Area Ratio: 0.105 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 93.7 µg/L Area Ratio: 0.0492 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 109. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4517563~CJZ599-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	47
Acquisition Date	2016/05/31 6:23:48 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	253000.	1.71	1.00	-
MPFOA	887000.	1.90	1.00	-
MPFOS	410000.	2.00	1.00	-
13C6-PFHxA IS	9160000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFOA 1	84300	1.90	N/A	0.00633	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
13C4-PFOA	887000	1.90	N/A	85.9	N/A
13C4-PFOS	410000	2.00	N/A	85.2	N/A
13C6-PFHxA	9160000	1.46	N/A	120.	N/A

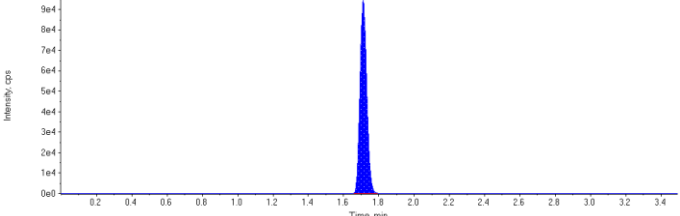
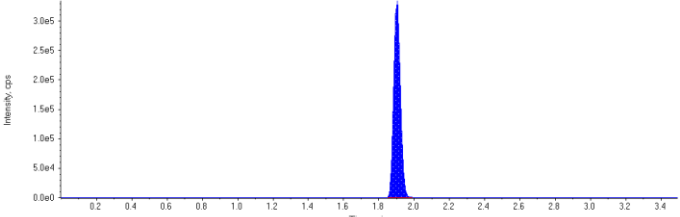
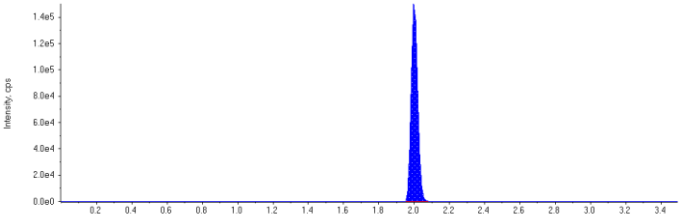
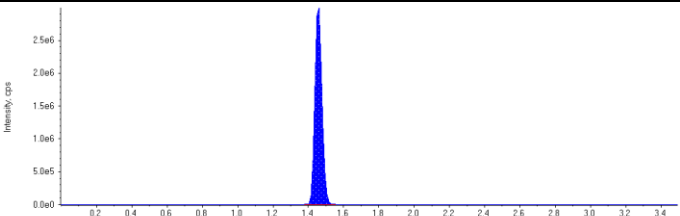
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

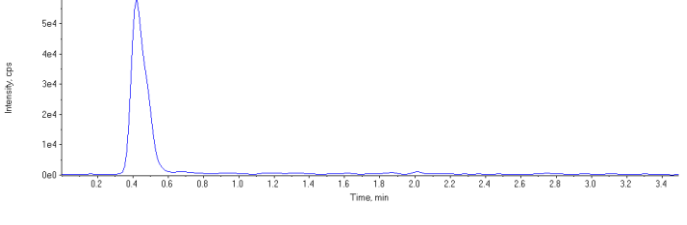
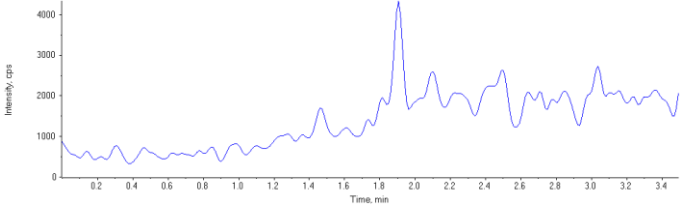
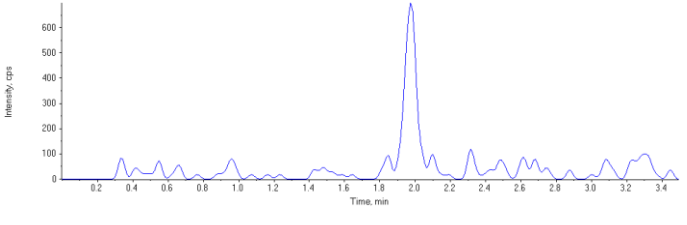
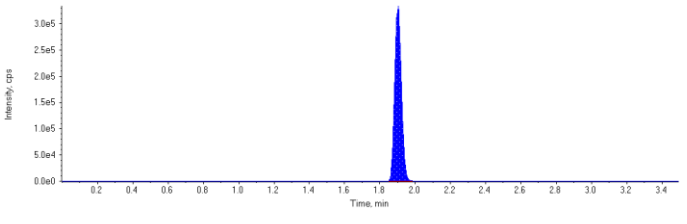
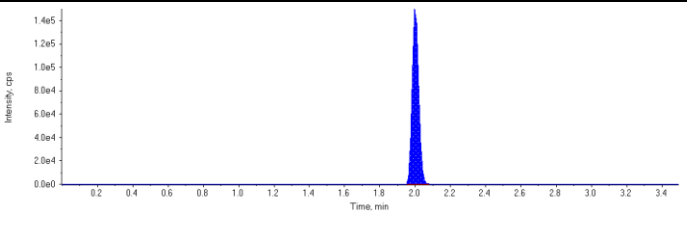
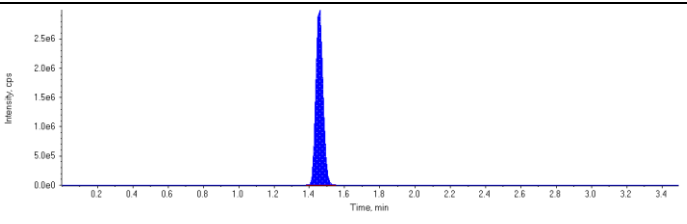
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00633 µg/L Area Ratio: 0.0950 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 85.9 µg/L Area Ratio: 0.0969 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 85.2 µg/L Area Ratio: 0.0448 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 120. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4517563~CJZ600-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	48
Acquisition Date	2016/05/31 6:28:52 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	252000.	1.71	1.00	-
MPFOA	892000.	1.90	1.00	-
MPFOS	391000.	2.00	1.00	-
13C6-PFHxA IS	8540000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	892000	1.90	N/A	92.6	N/A
13C4-PFOS	391000	2.00	N/A	87.0	N/A
13C6-PFHxA	8540000	1.46	N/A	111.	N/A

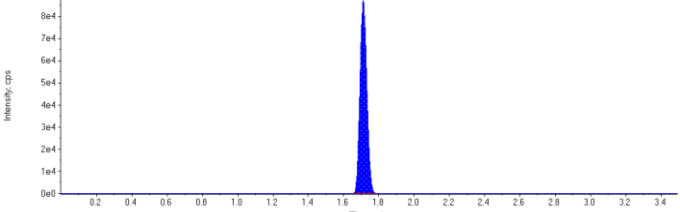
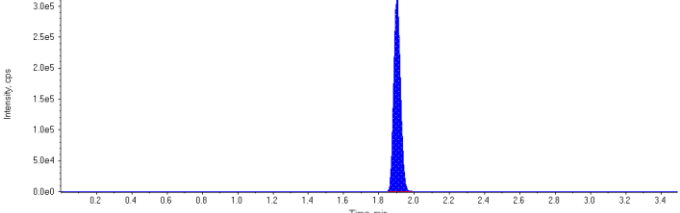
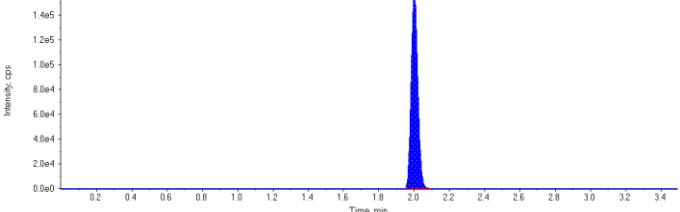
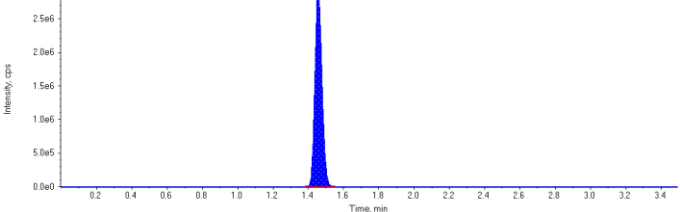
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

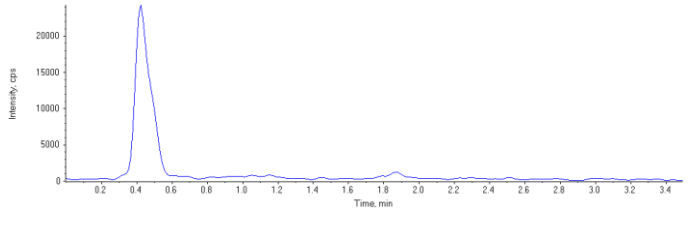
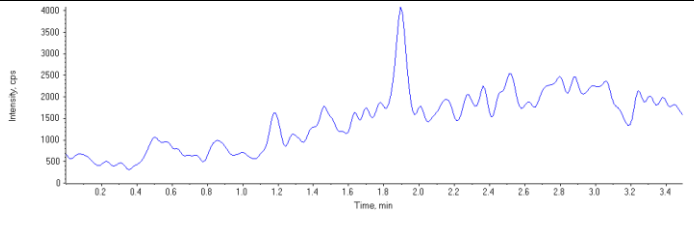
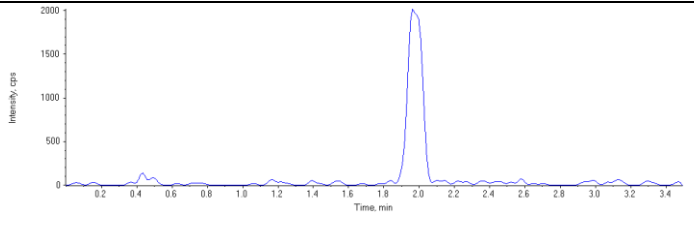
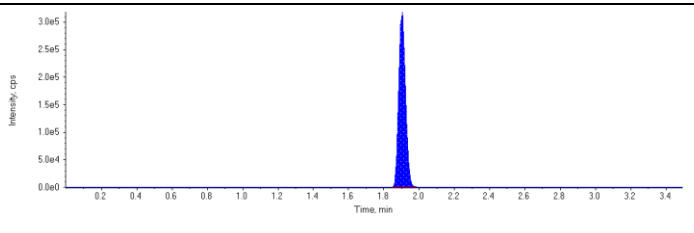
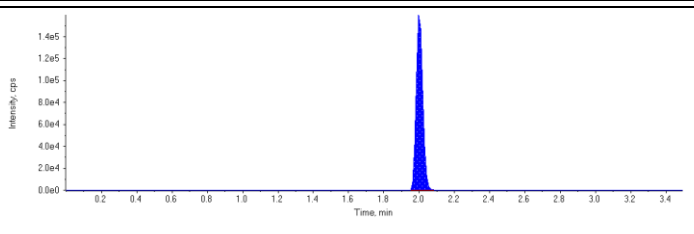
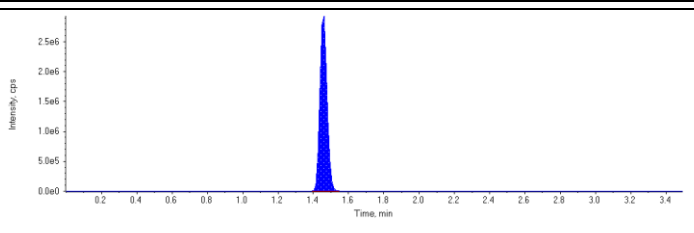
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 92.6 µg/L Area Ratio: 0.104 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 87.0 µg/L Area Ratio: 0.0457 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 111. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4517563~CJZ601-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	49
Acquisition Date	2016/05/31 6:33:56 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	237000.	1.71	1.00	-
MPFOA	851000.	1.90	1.00	-
MPFOS	418000.	2.00	1.00	-
13C6-PFHxA IS	8330000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	851000	1.90	N/A	90.6	N/A
13C4-PFOS	418000	2.00	N/A	95.5	N/A
13C6-PFHxA	8330000	1.46	N/A	109.	N/A

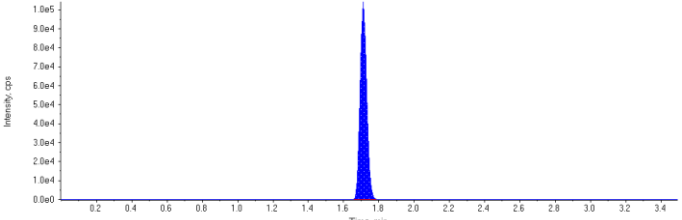
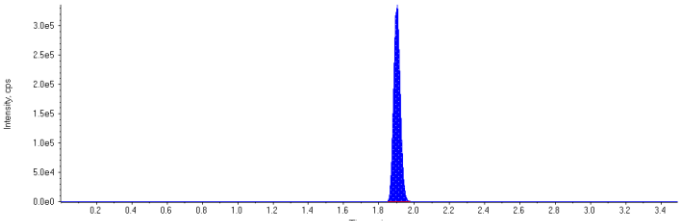
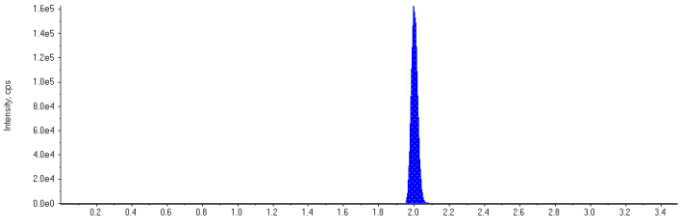
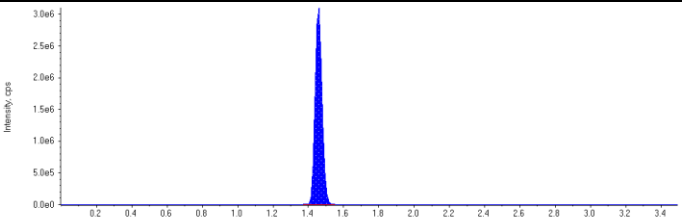
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

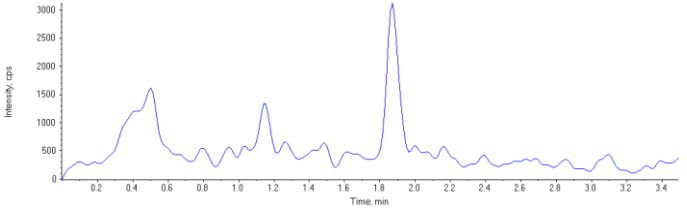
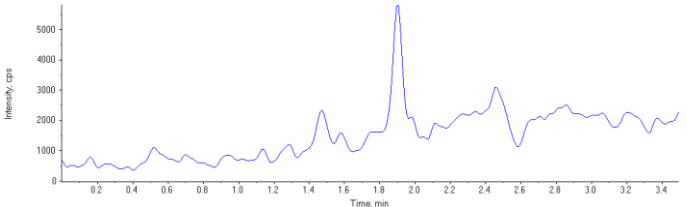
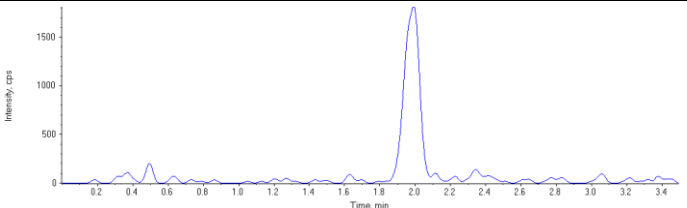
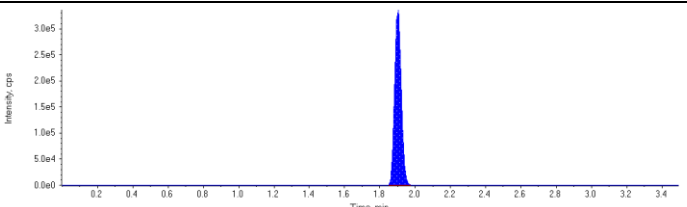
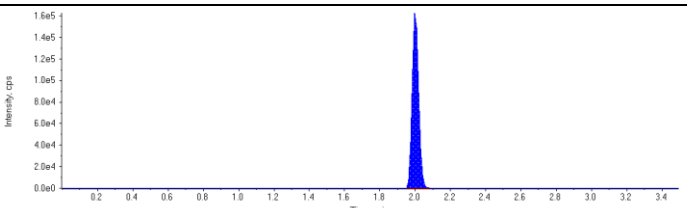
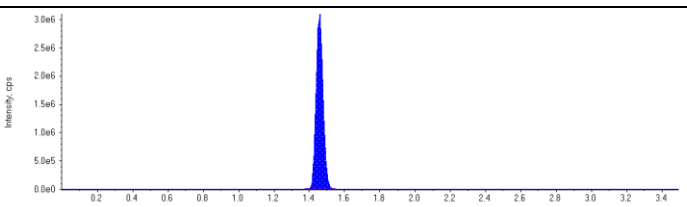
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 90.6 µg/L Area Ratio: 0.102 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 95.5 µg/L Area Ratio: 0.0502 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 109. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4517563~CJZ618-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	50
Acquisition Date	2016/05/31 6:39:00 PM	Dilution Factor	1.6
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	267000.	1.71	1.00	-
MPFOA	886000.	1.90	1.00	-
MPFOS	420000.	2.00	1.00	-
13C6-PFHxA IS	8600000.	1.46	0.625	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	886000	1.90	N/A	91.4	N/A
13C4-PFOS	420000	2.00	N/A	92.9	N/A
13C6-PFHxA	8600000	1.46	N/A	180.	N/A

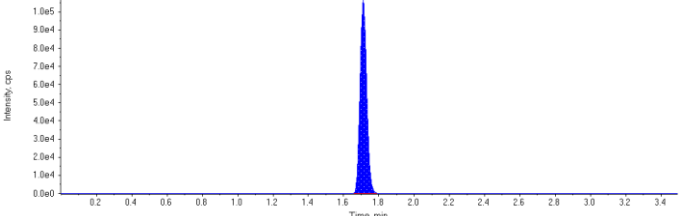
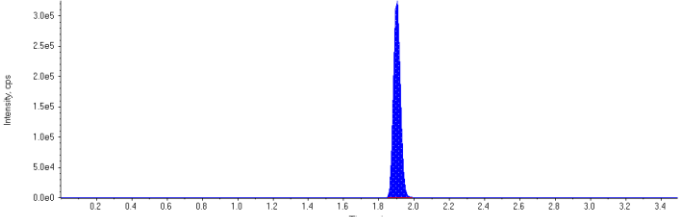
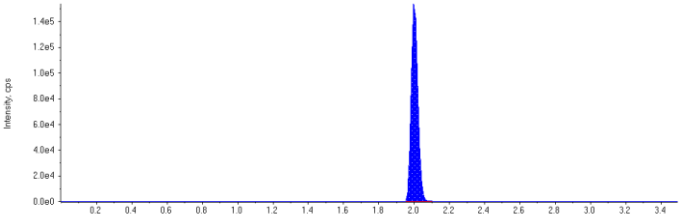
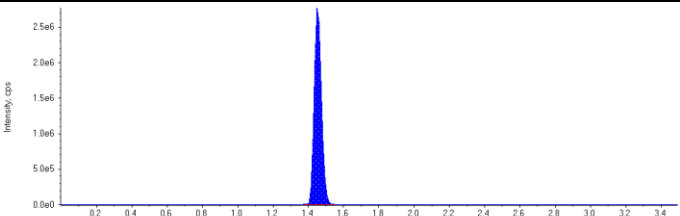
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 0.625 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

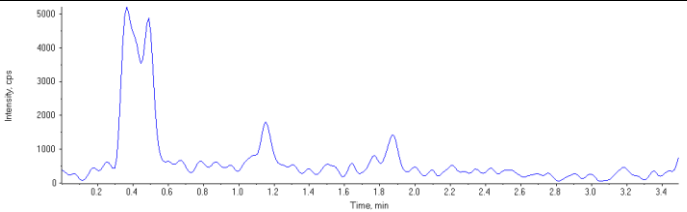
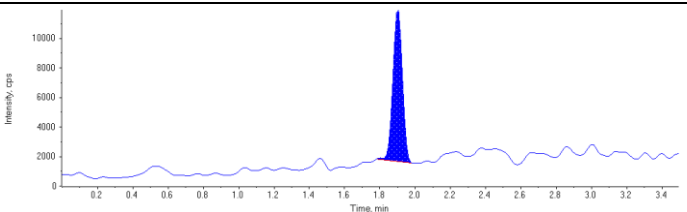
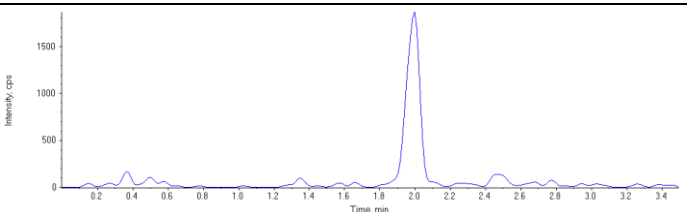
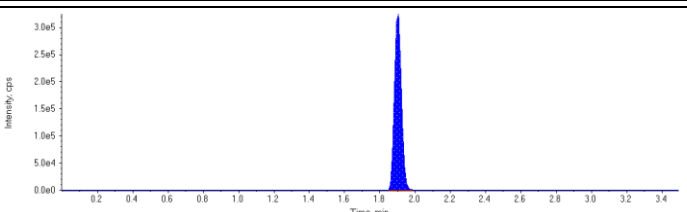
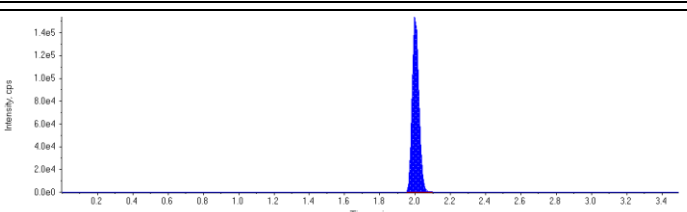
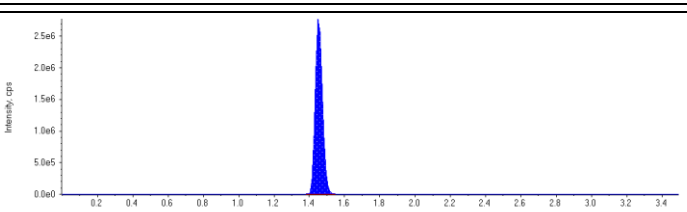
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 91.4 µg/L Area Ratio: 0.103 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 92.9 µg/L Area Ratio: 0.0488 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 180. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ602-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	29
Acquisition Date	2016/06/01 4:30:08 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	279000.	1.71	1.00	-
MPFOA	904000.	1.90	1.00	-
MPFOS	409000.	2.00	1.00	-
13C6-PFHxA IS	8020000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFOA 1	38500	1.90	N/A	0.00189	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
13C4-PFOA	904000	1.90	N/A	101.	N/A
13C4-PFOS	409000	2.00	N/A	95.7	N/A
13C6-PFHxA	8020000	1.45	N/A	92.7	N/A

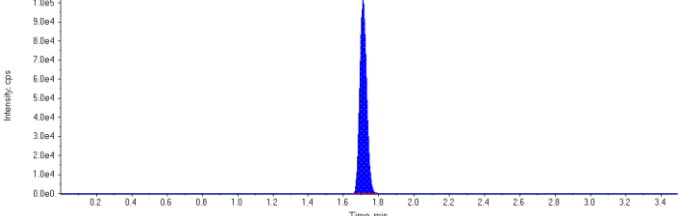
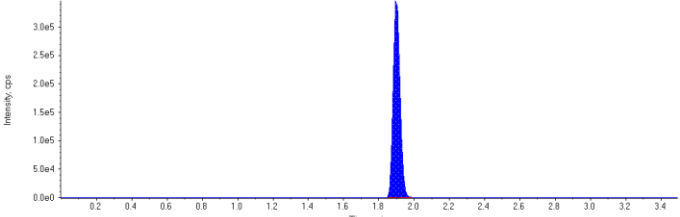
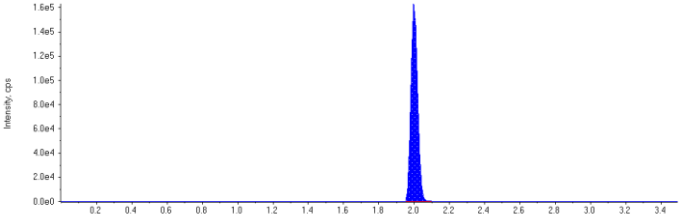
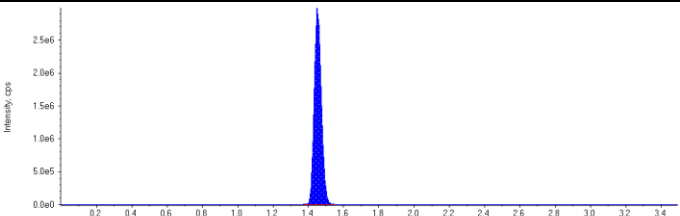
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

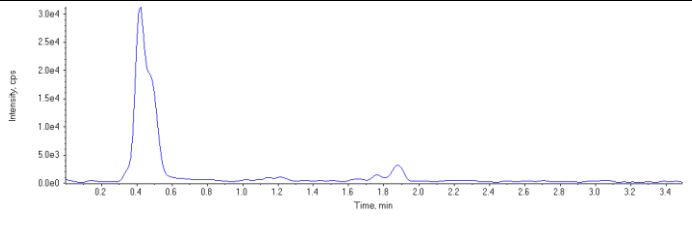
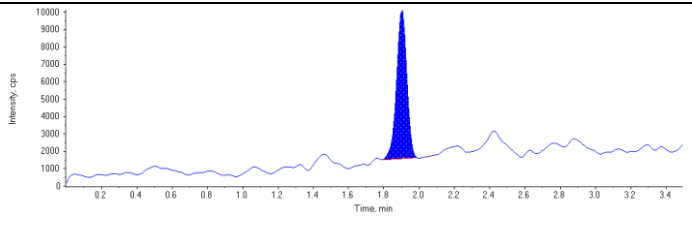
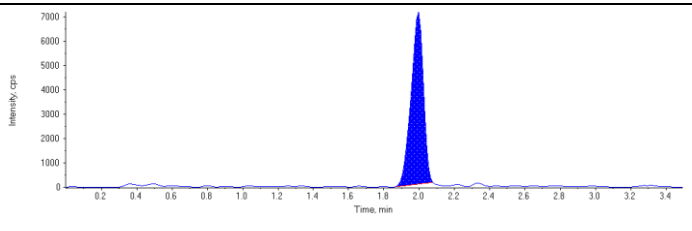
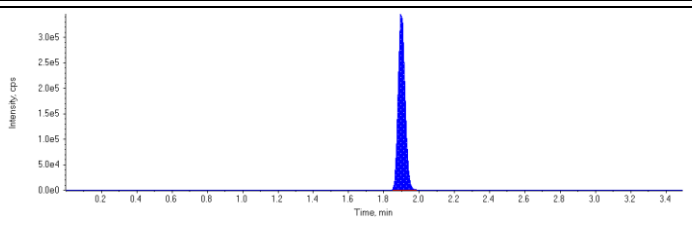
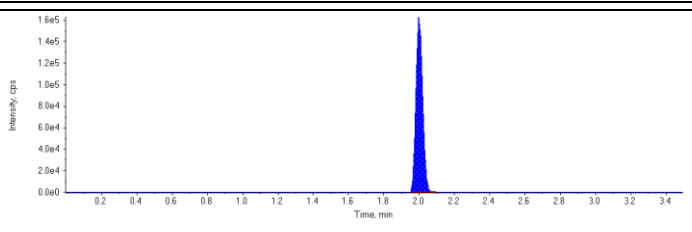
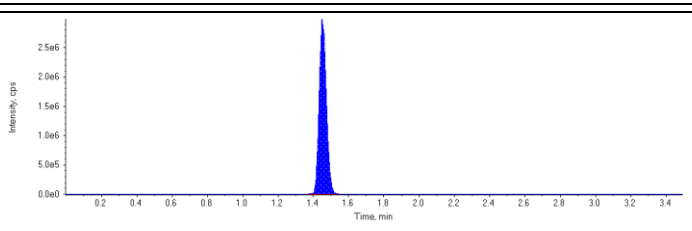
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00189 µg/L Area Ratio: 0.0425 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 101. µg/L Area Ratio: 0.113 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 95.7 µg/L Area Ratio: 0.0510 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 92.7 µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ603-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	30
Acquisition Date	2016/06/01 4:35:14 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	275000.	1.71	1.00	-
MPFOA	946000.	1.90	1.00	-
MPFOS	432000.	2.00	1.00	-
13C6-PFHxA IS	8440000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	0	0.00	N/A	N/A	N/A
PFOA 1	34400	1.90	N/A	0.00142	N/A
PFOS 1	34200	1.99	N/A	0.00625	N/A
13C4-PFOA	946000	1.90	N/A	101.	N/A
13C4-PFOS	432000	2.00	N/A	96.2	N/A
13C6-PFHxA	8440000	1.45	N/A	97.5	N/A

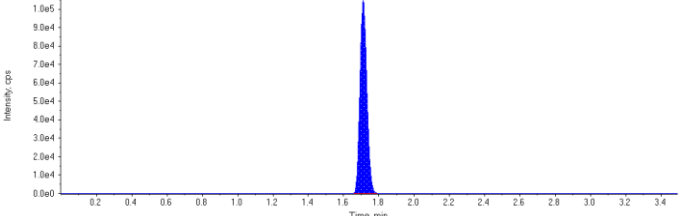
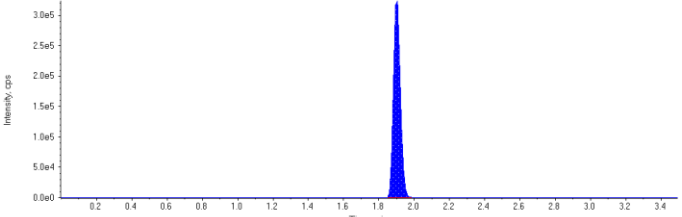
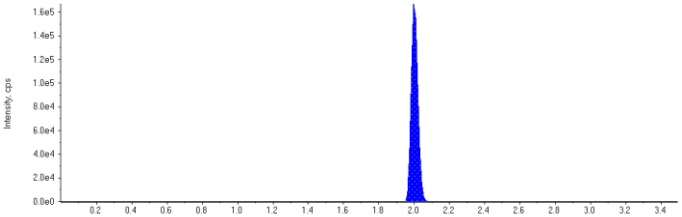
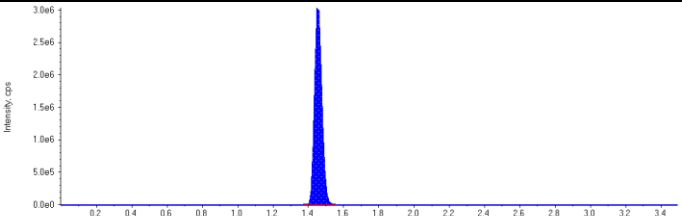
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

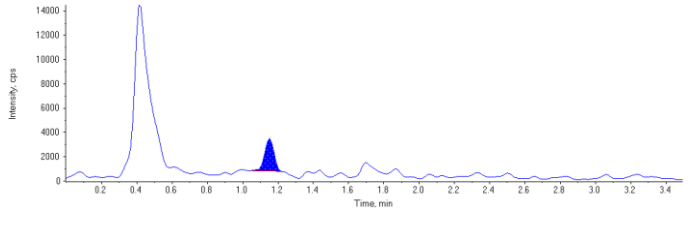
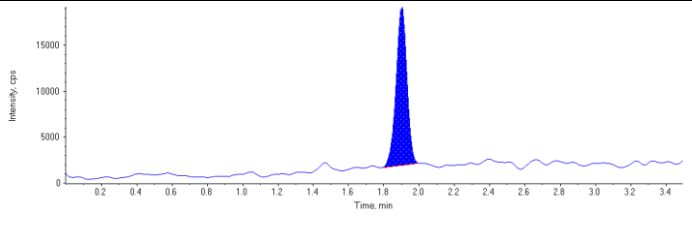
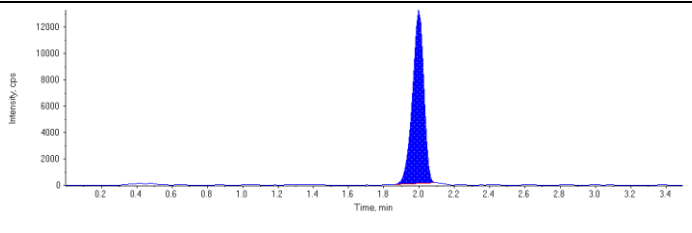
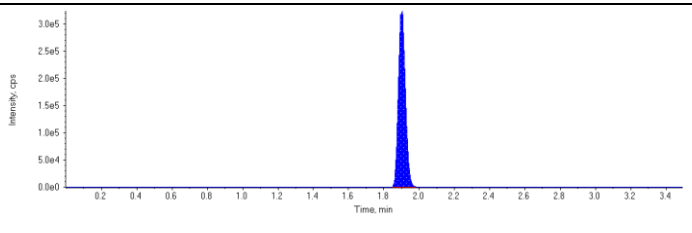
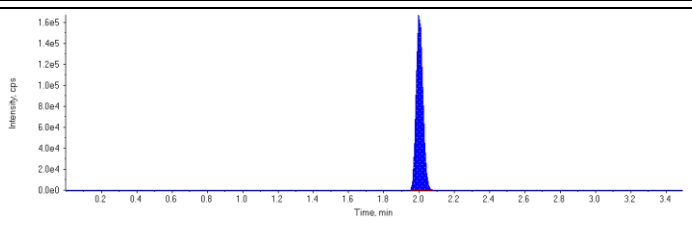
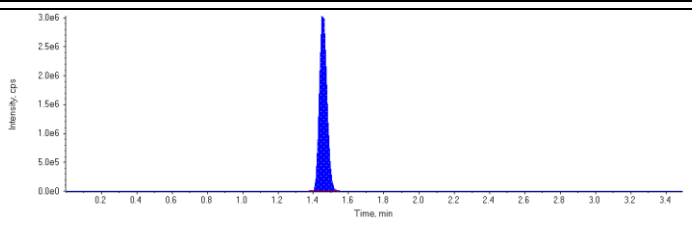
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00142 µg/L Area Ratio: 0.0364 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.00625 µg/L Area Ratio: 0.0790 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 101. µg/L Area Ratio: 0.112 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 96.2 µg/L Area Ratio: 0.0512 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 97.5 µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ604-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	31
Acquisition Date	2016/06/01 4:40:19 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	285000.	1.71	1.00	-
MPFOA	898000.	1.90	1.00	-
MPFOS	447000.	2.00	1.00	-
13C6-PFHxA IS	9110000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	9690	1.15	N/A	0.00481	N/A
PFOA 1	73200	1.90	N/A	0.00489	N/A
PFOS 1	58200	2.00	N/A	0.00917	N/A
13C4-PFOA	898000	1.90	N/A	88.6	N/A
13C4-PFOS	447000	2.00	N/A	92.2	N/A
13C6-PFHxA	9110000	1.45	N/A	105.	N/A

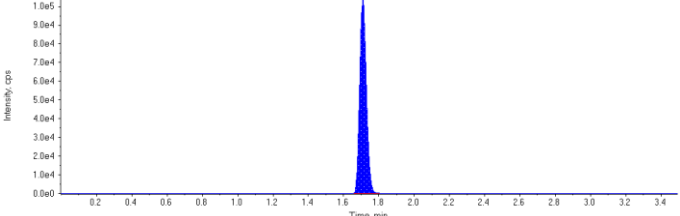
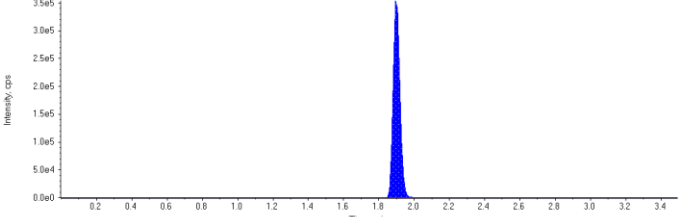
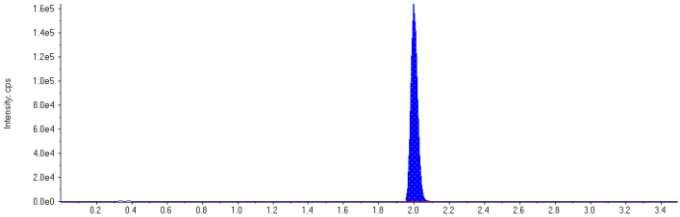
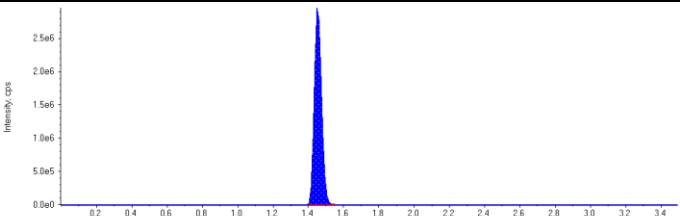
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

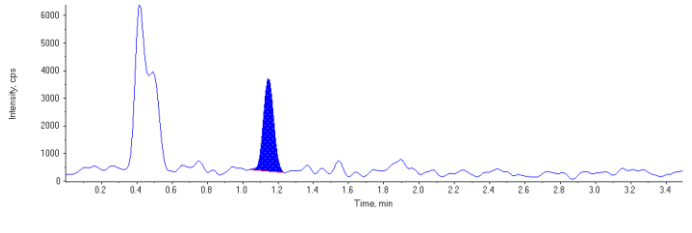
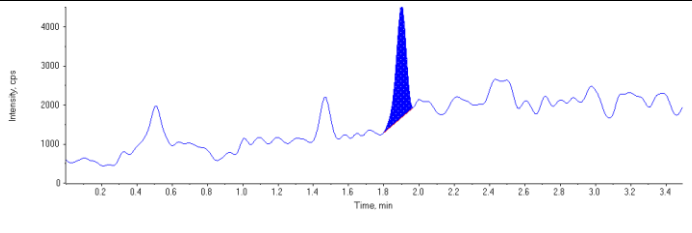
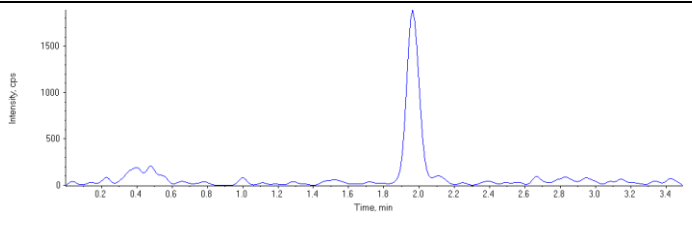
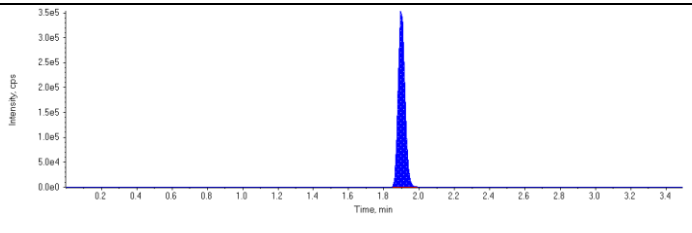
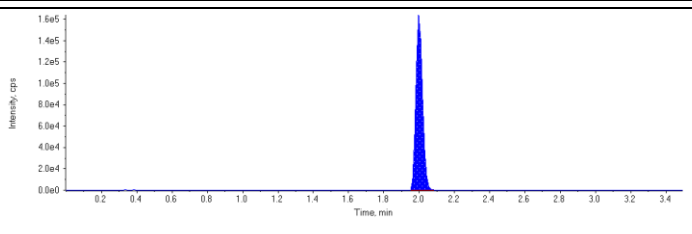
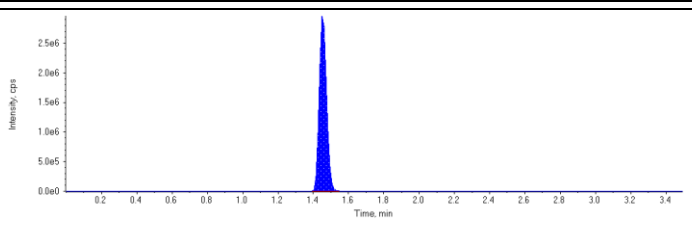
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.00481 µg/L Area Ratio: 0.0340 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00489 µg/L Area Ratio: 0.0816 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.00917 µg/L Area Ratio: 0.130 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 88.6 µg/L Area Ratio: 0.0985 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 92.2 µg/L Area Ratio: 0.0491 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 105. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ605-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	32
Acquisition Date	2016/06/01 4:45:25 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	277000.	1.71	1.00	-
MPFOA	954000.	1.90	1.00	-
MPFOS	431000.	2.00	1.00	-
13C6-PFHxA IS	8660000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	13600	1.15	N/A	0.00514	N/A
PFOA 1	11300	1.90	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
13C4-PFOA	954000	1.90	N/A	99.0	N/A
13C4-PFOS	431000	2.00	N/A	93.3	N/A
13C6-PFHxA	8660000	1.45	N/A	100.	N/A

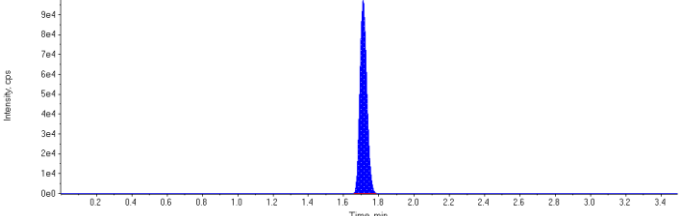
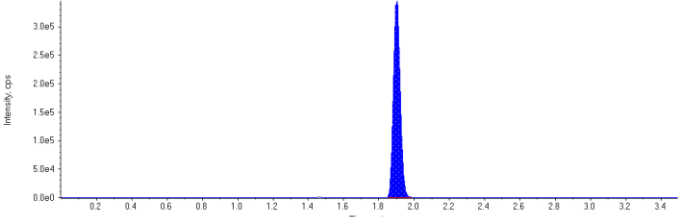
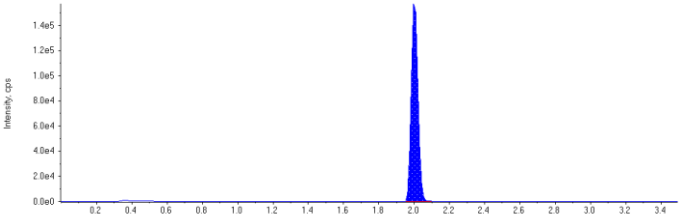
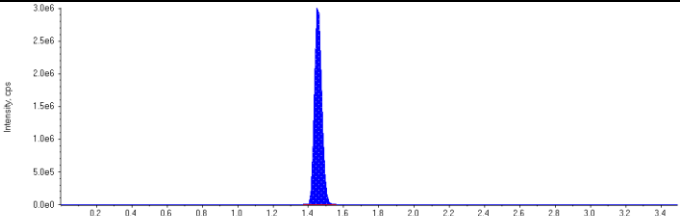
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

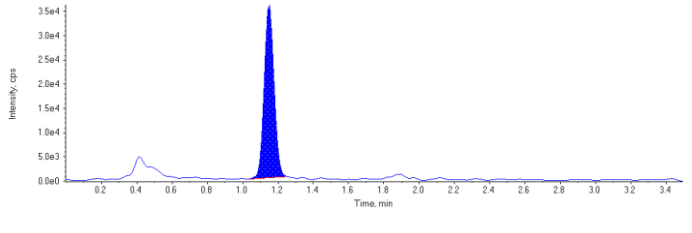
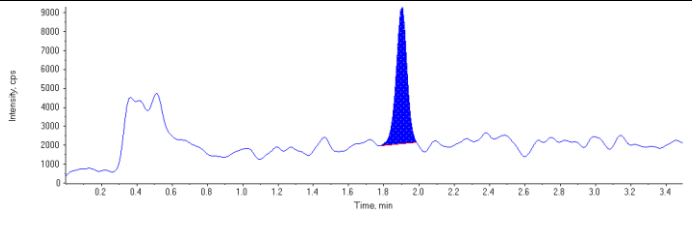
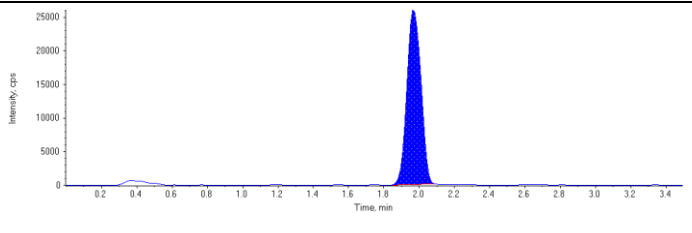
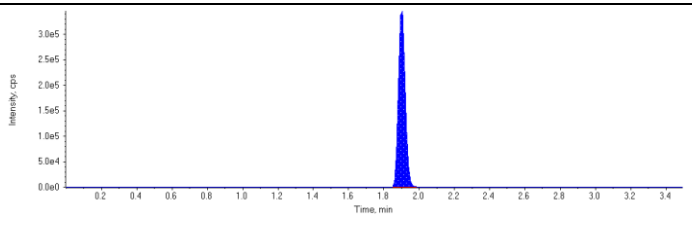
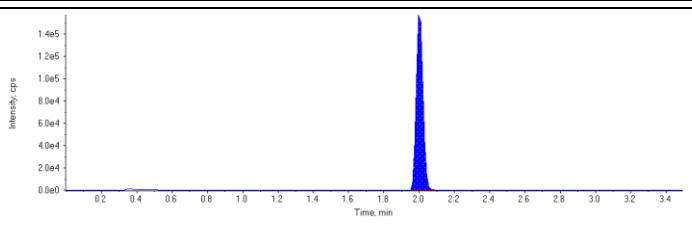
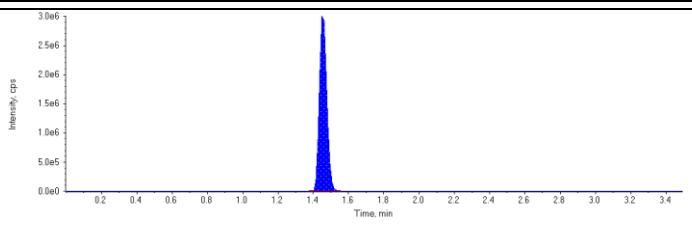
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.00514 µg/L Area Ratio: 0.0492 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.0118 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 99.0 µg/L Area Ratio: 0.110 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 93.3 µg/L Area Ratio: 0.0497 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 100. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ606-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	33
Acquisition Date	2016/06/01 4:50:30 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	266000.	1.71	1.00	-
MPFOA	937000.	1.90	1.00	-
MPFOS	423000.	2.00	1.00	-
13C6-PFHxA IS	8850000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	138000	1.15	N/A	0.0155	N/A
PFOA 1	30500	1.90	N/A	0.00112	N/A
PFOS 1	144000	1.97	N/A	0.0211	N/A
13C4-PFOA	937000	1.90	N/A	95.1	N/A
13C4-PFOS	423000	2.00	N/A	89.7	N/A
13C6-PFHxA	8850000	1.45	N/A	102.	N/A

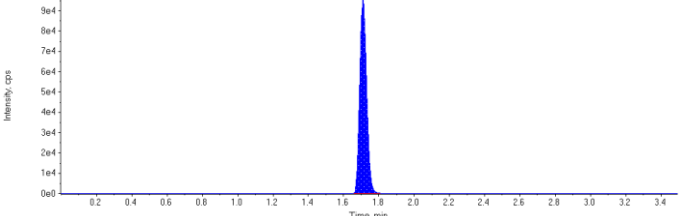
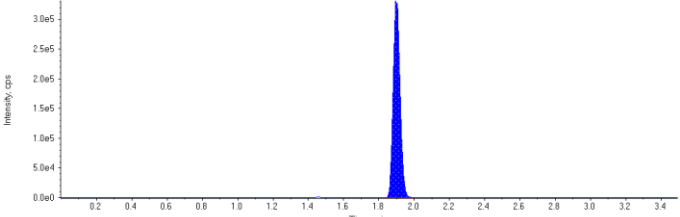
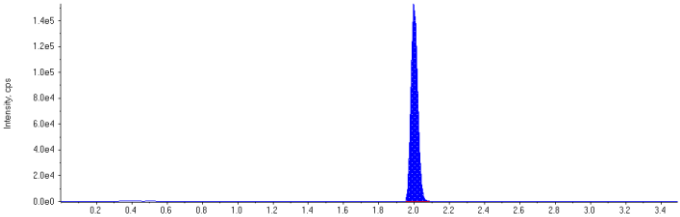
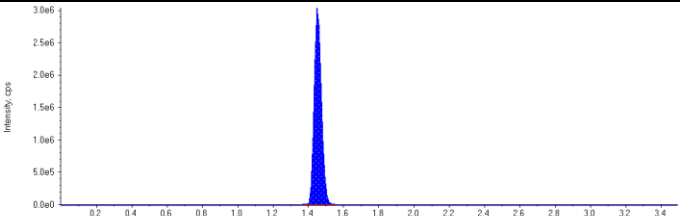
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

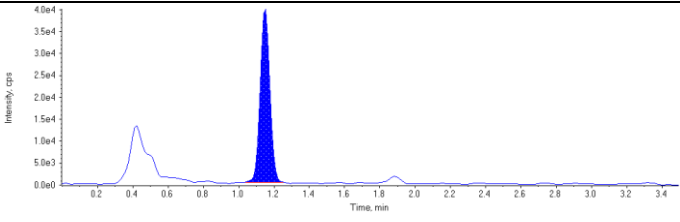
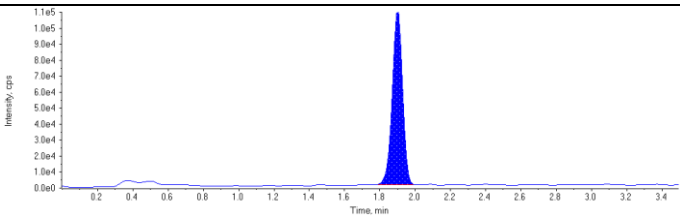
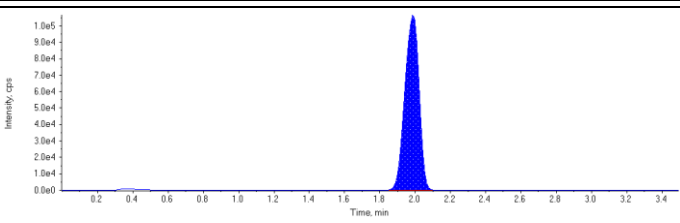
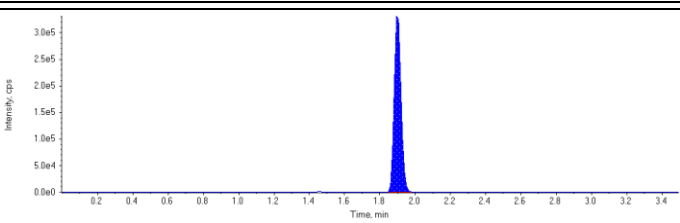
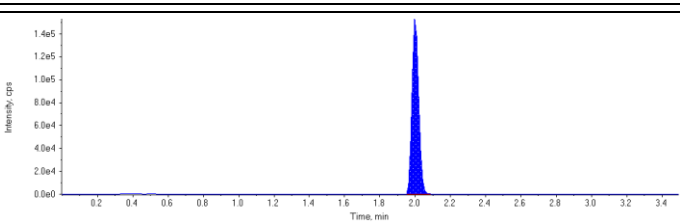
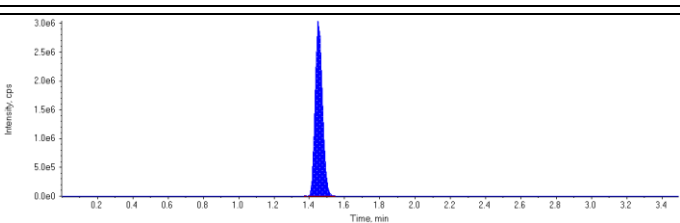
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0155 µg/L Area Ratio: 0.518 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00112 µg/L Area Ratio: 0.0325 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.97 (1.97) min Calculated Conc: 0.0211 µg/L Area Ratio: 0.340 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 95.1 µg/L Area Ratio: 0.106 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 89.7 µg/L Area Ratio: 0.0478 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 102. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ607-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	34
Acquisition Date	2016/06/01 4:55:35 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	264000.	1.71	1.00	-
MPFOA	908000.	1.90	1.00	-
MPFOS	407000.	2.00	1.00	-
13C6-PFHxA IS	8780000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	150000	1.15	N/A	0.0166	N/A
PFOA 1	443000	1.90	N/A	0.0361	N/A
PFOS 1	598000	1.99	N/A	0.0853	N/A
13C4-PFOA	908000	1.90	N/A	93.0	N/A
13C4-PFOS	407000	2.00	N/A	87.2	N/A
13C6-PFHxA	8780000	1.45	N/A	101.	N/A

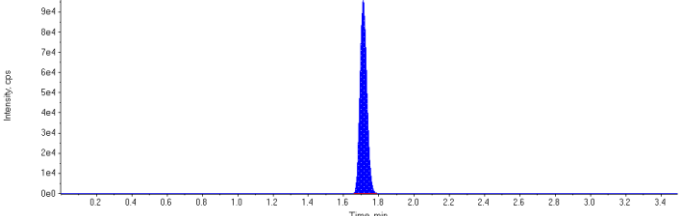
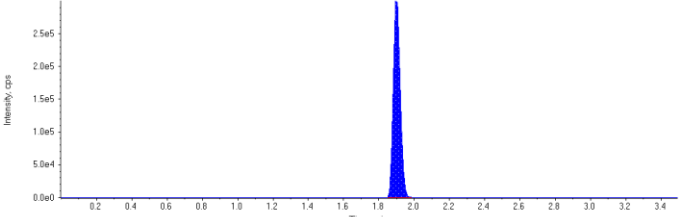
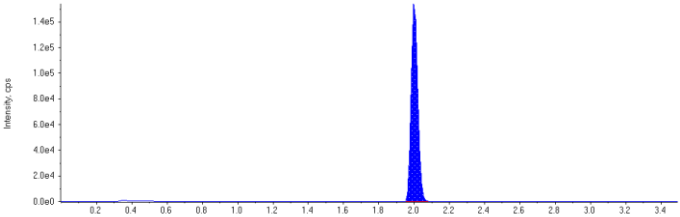
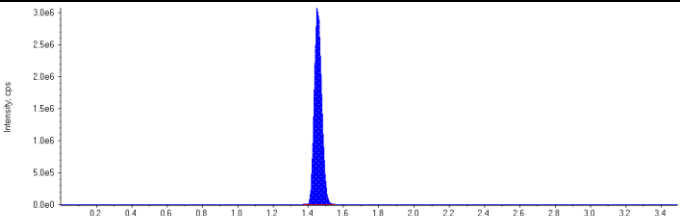
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

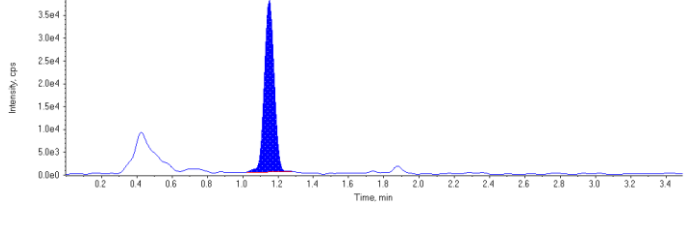
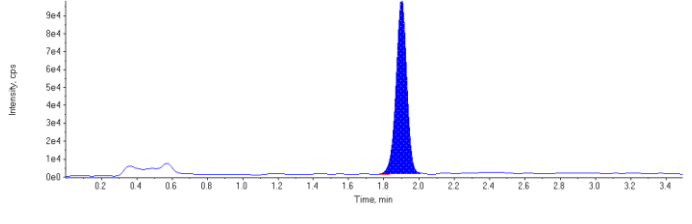
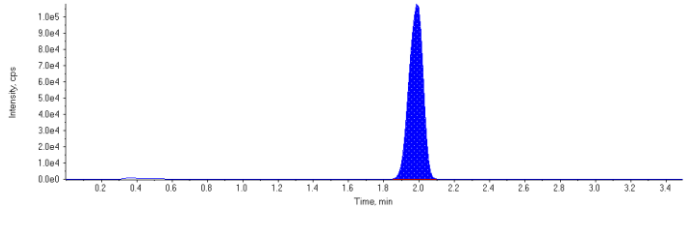
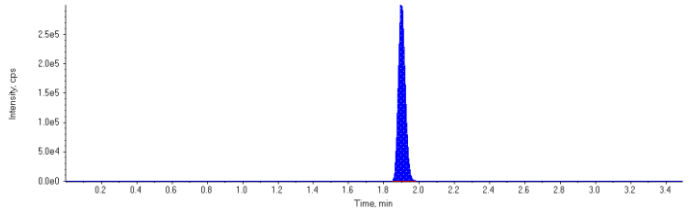
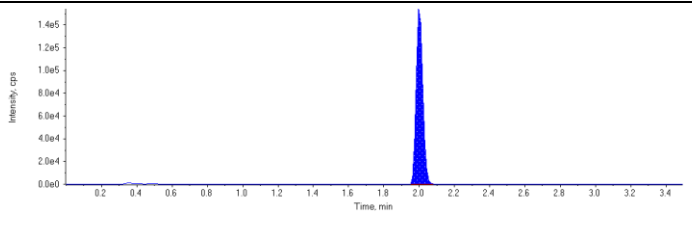
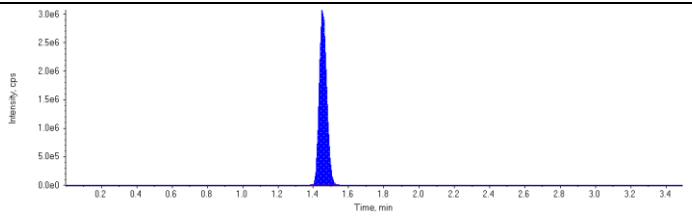
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0166 µg/L Area Ratio: 0.569 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0361 µg/L Area Ratio: 0.488 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0853 µg/L Area Ratio: 1.47 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 93.0 µg/L Area Ratio: 0.103 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 87.2 µg/L Area Ratio: 0.0464 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 101. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ608-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	35
Acquisition Date	2016/06/01 5:00:40 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	259000.	1.71	1.00	-
MPFOA	839000.	1.90	1.00	-
MPFOS	404000.	2.00	1.00	-
13C6-PFHxA IS	9030000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	145000	1.15	N/A	0.0164	N/A
PFOA 1	406000	1.90	N/A	0.0357	N/A
PFOS 1	603000	1.99	N/A	0.0867	N/A
13C4-PFOA	839000	1.90	N/A	83.5	N/A
13C4-PFOS	404000	2.00	N/A	84.0	N/A
13C6-PFHxA	9030000	1.45	N/A	104.	N/A

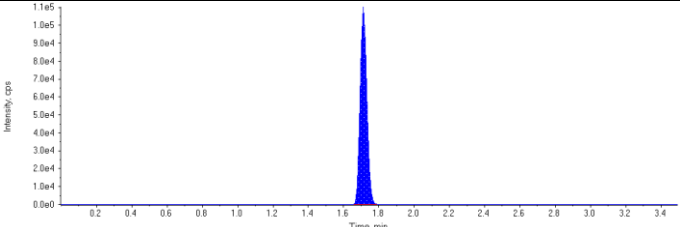
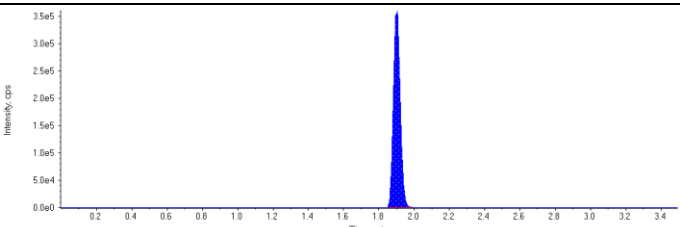
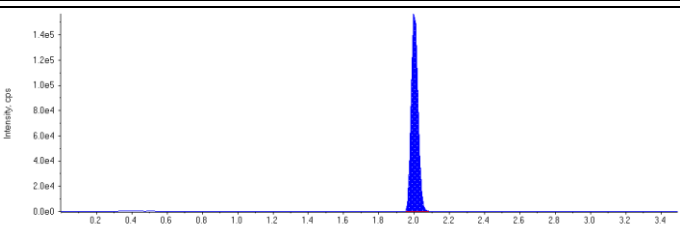
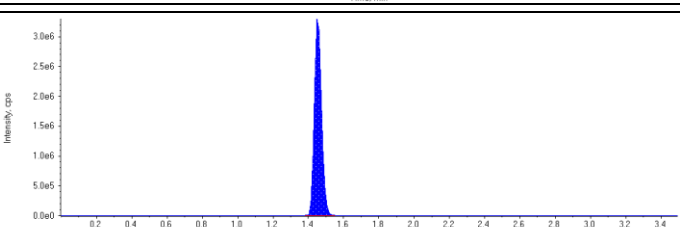
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

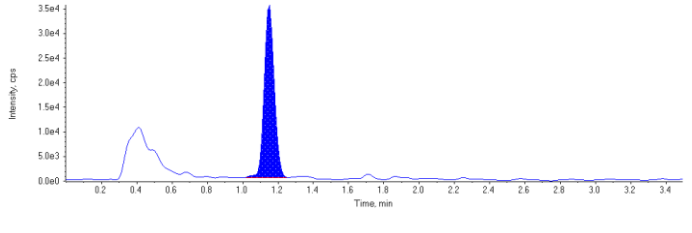
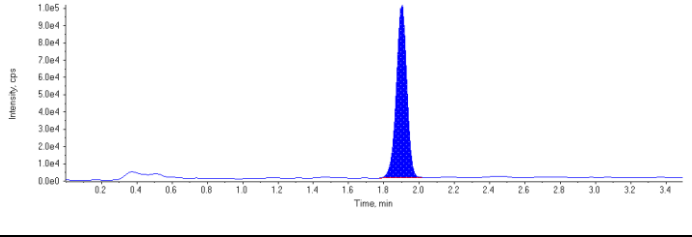
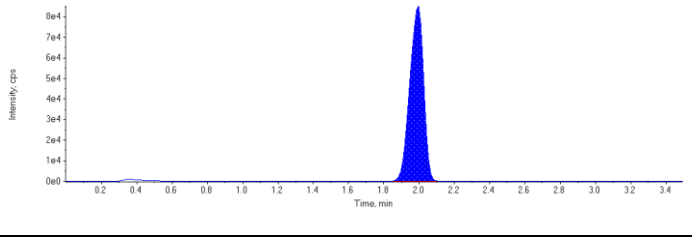
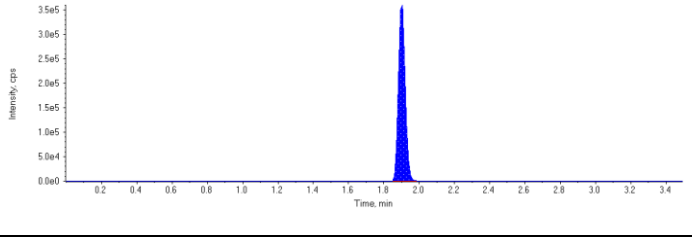
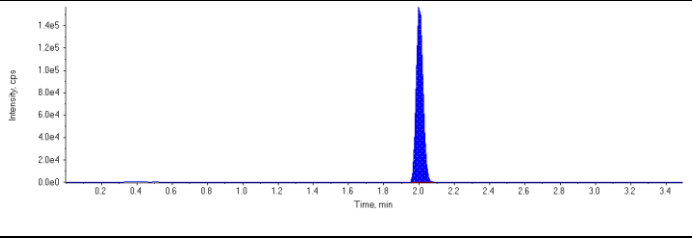
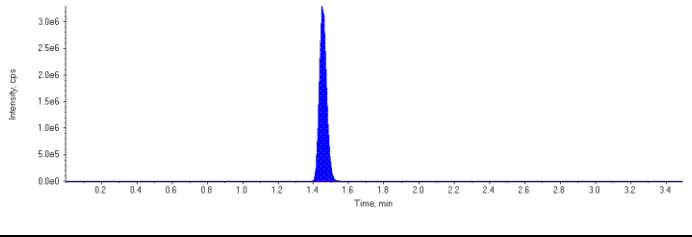
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0164 µg/L Area Ratio: 0.558 Sample Type: (Unknown)	 Intensity, cps Time, min
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0357 µg/L Area Ratio: 0.483 Sample Type: (Unknown)	 Intensity, cps Time, min
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0867 µg/L Area Ratio: 1.49 Sample Type: (Unknown)	 Intensity, cps Time, min
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 83.5 µg/L Area Ratio: 0.0929 Sample Type: (Unknown)	 Intensity, cps Time, min
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 84.0 µg/L Area Ratio: 0.0447 Sample Type: (Unknown)	 Intensity, cps Time, min
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 104. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	 Intensity, cps Time, min

Sample ID	4518651~CJZ609-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	36
Acquisition Date	2016/06/01 5:05:45 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	289000.	1.71	1.00	-
MPFOA	978000.	1.90	1.00	-
MPFOS	424000.	2.00	1.00	-
13C6-PFHxA IS	9480000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	137000	1.15	N/A	0.0145	N/A
PFOA 1	409000	1.90	N/A	0.0307	N/A
PFOS 1	463000	1.99	N/A	0.0639	N/A
13C4-PFOA	978000	1.90	N/A	92.7	N/A
13C4-PFOS	424000	2.00	N/A	84.0	N/A
13C6-PFHxA	9480000	1.45	N/A	110.	N/A

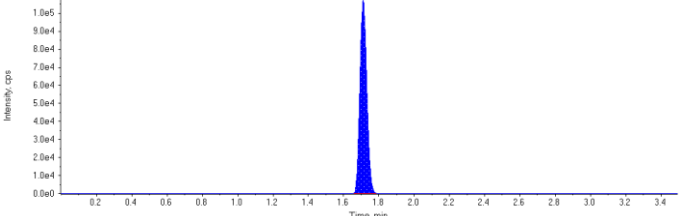
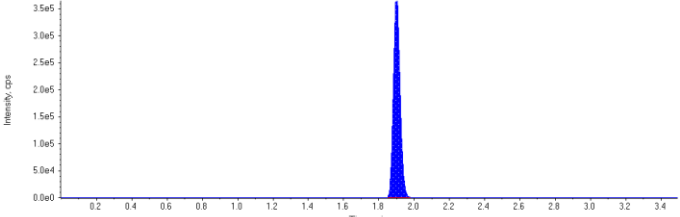
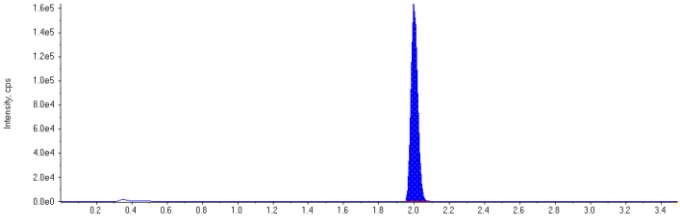
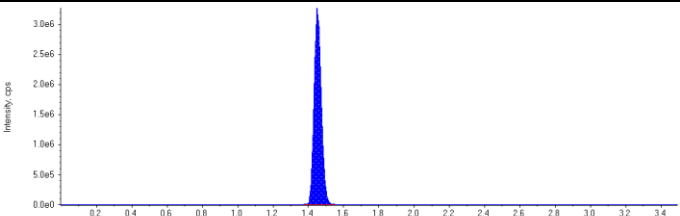
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

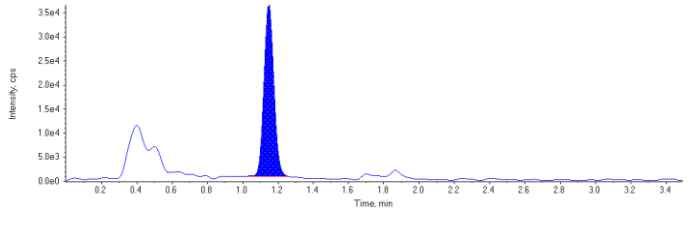
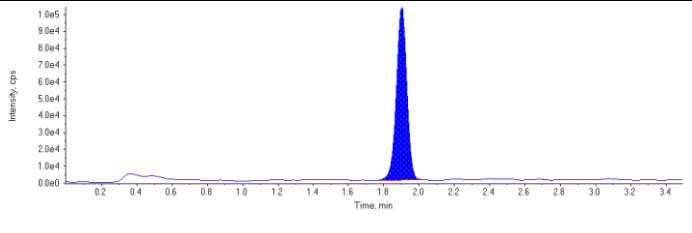
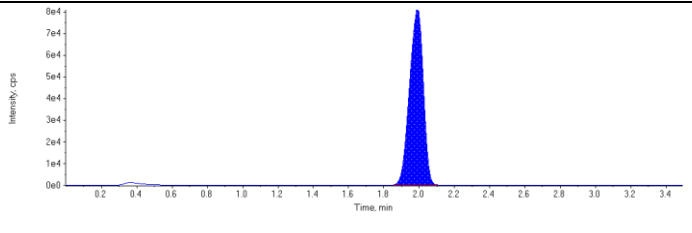
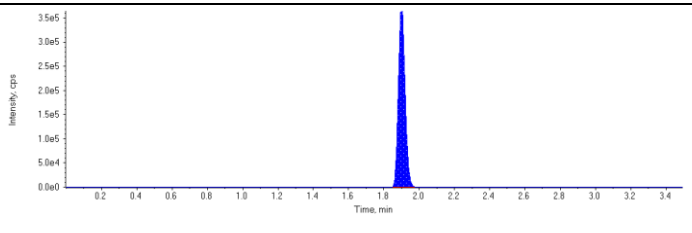
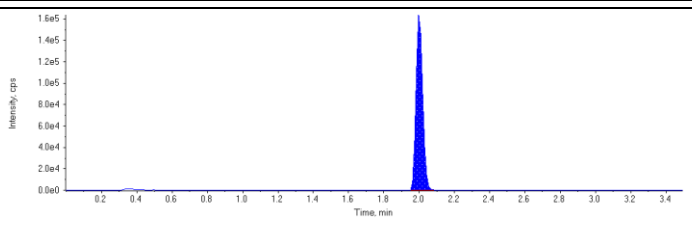
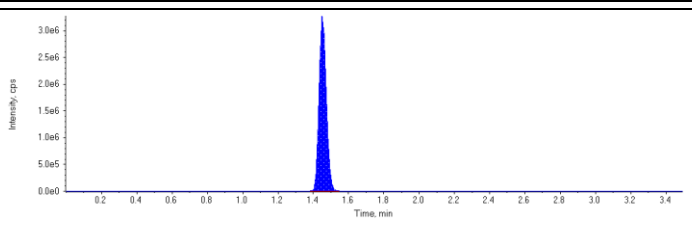
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0145 µg/L Area Ratio: 0.475 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0307 µg/L Area Ratio: 0.418 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0639 µg/L Area Ratio: 1.09 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 92.7 µg/L Area Ratio: 0.103 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 84.0 µg/L Area Ratio: 0.0447 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 110. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ610-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	37
Acquisition Date	2016/06/01 5:10:51 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	293000.	1.71	1.00	-
MPFOA	986000.	1.90	1.00	-
MPFOS	430000.	2.00	1.00	-
13C6-PFHxA IS	9360000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	139000	1.15	N/A	0.0145	N/A
PFOA 1	419000	1.90	N/A	0.0312	N/A
PFOS 1	440000	1.99	N/A	0.0599	N/A
13C4-PFOA	986000	1.90	N/A	94.7	N/A
13C4-PFOS	430000	2.00	N/A	86.3	N/A
13C6-PFHxA	9360000	1.45	N/A	108.	N/A

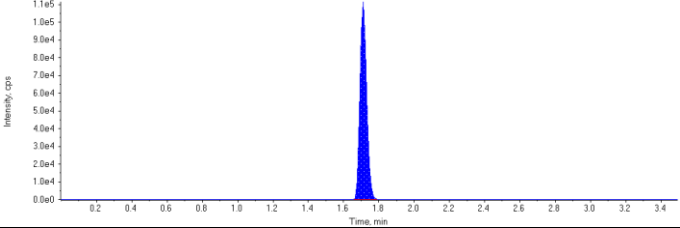
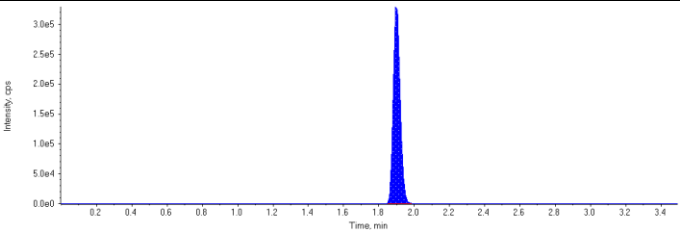
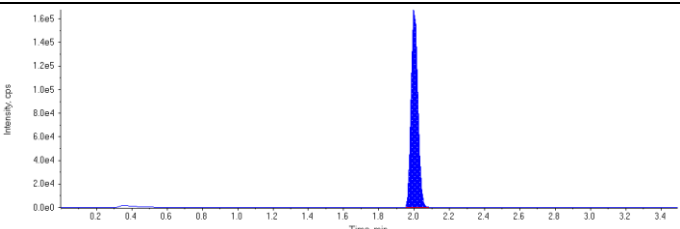
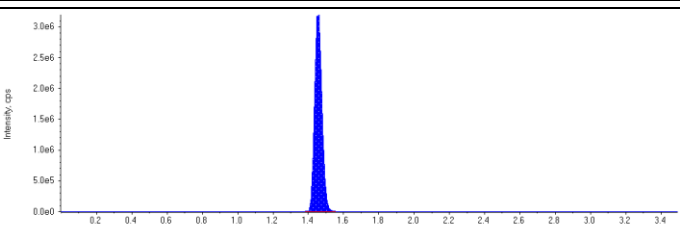
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

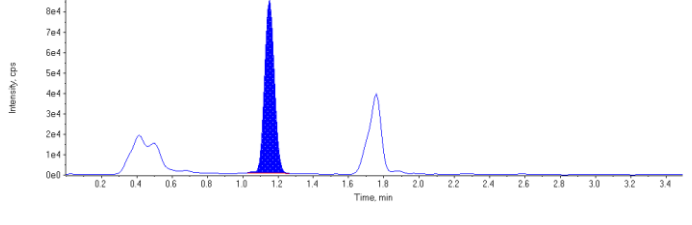
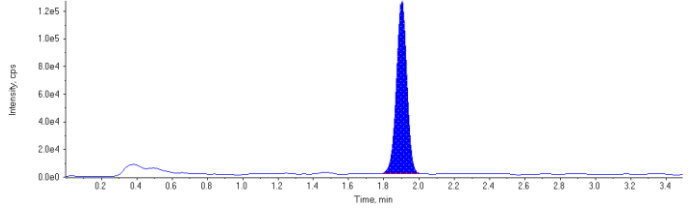
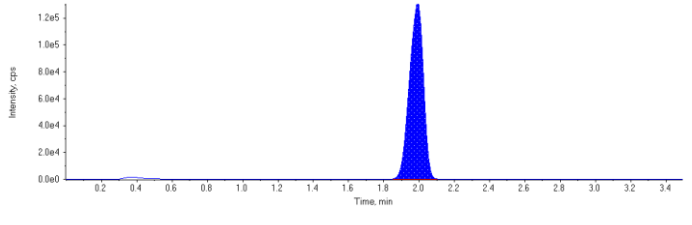
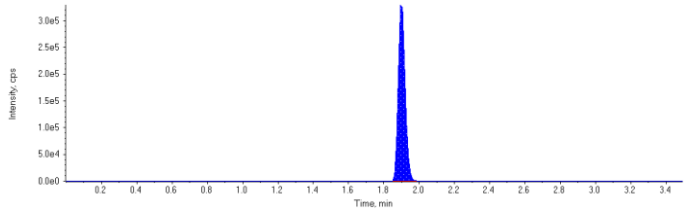
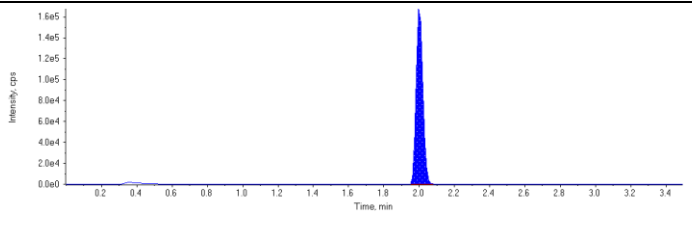
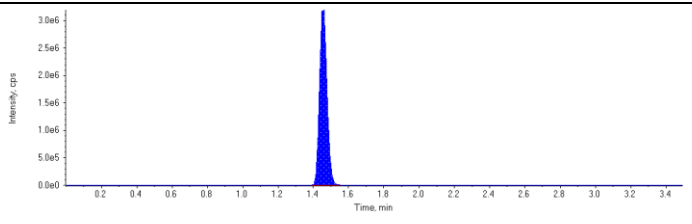
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0145 µg/L Area Ratio: 0.472 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0312 µg/L Area Ratio: 0.425 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0599 µg/L Area Ratio: 1.02 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 94.7 µg/L Area Ratio: 0.105 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 86.3 µg/L Area Ratio: 0.0459 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 108. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ611-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	38
Acquisition Date	2016/06/01 5:15:55 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	290000.	1.71	1.00	-
MPFOA	913000.	1.90	1.00	-
MPFOS	445000.	2.00	1.00	-
13C6-PFHxA IS	9490000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	327000	1.15	N/A	0.0289	N/A
PFOA 1	513000	1.90	N/A	0.0417	N/A
PFOS 1	725000	1.99	N/A	0.0943	N/A
13C4-PFOA	913000	1.90	N/A	86.5	N/A
13C4-PFOS	445000	2.00	N/A	88.2	N/A
13C6-PFHxA	9490000	1.46	N/A	110.	N/A

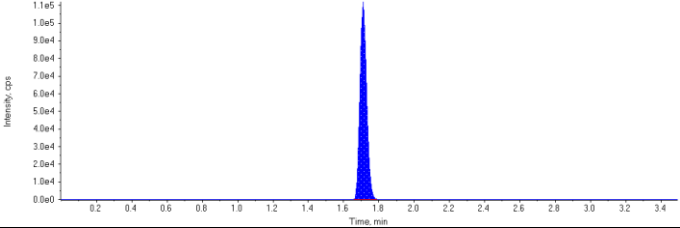
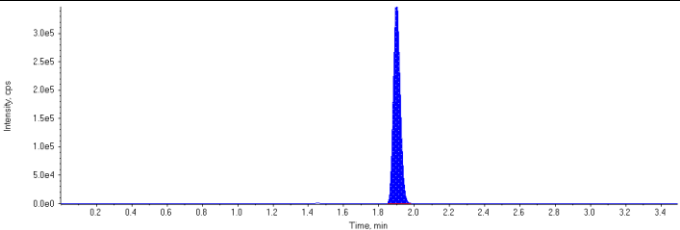
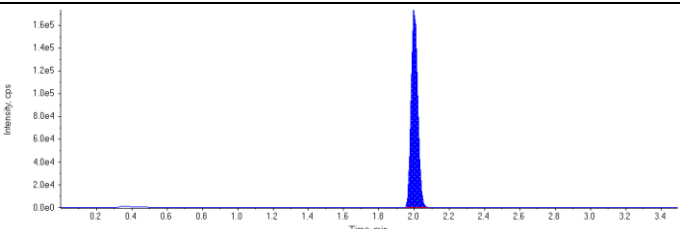
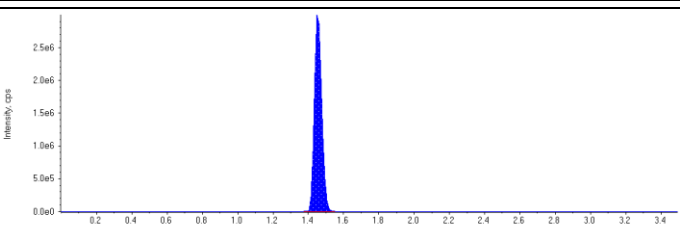
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

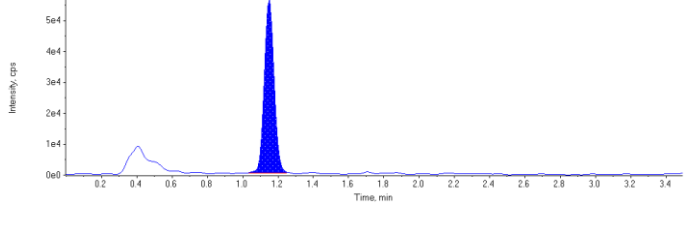
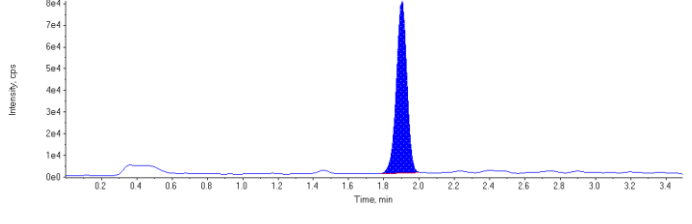
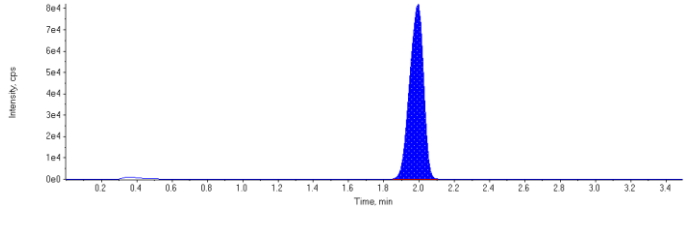
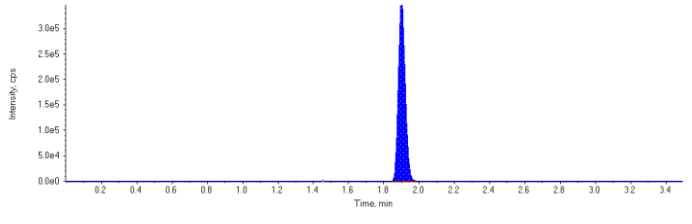
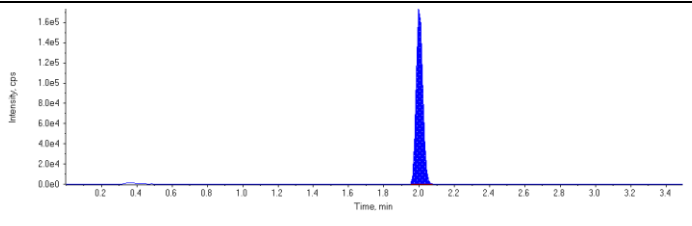
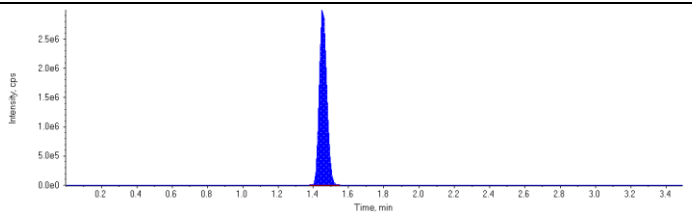
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0289 µg/L Area Ratio: 1.13 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0417 µg/L Area Ratio: 0.562 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0943 µg/L Area Ratio: 1.63 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 86.5 µg/L Area Ratio: 0.0963 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 88.2 µg/L Area Ratio: 0.0469 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 110. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ612-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	39
Acquisition Date	2016/06/01 5:26:05 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	291000.	1.71	1.00	-
MPFOA	967000.	1.90	1.00	-
MPFOS	452000.	2.00	1.00	-
13C6-PFHxA IS	8870000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	216000	1.15	N/A	0.0204	N/A
PFOA 1	327000	1.90	N/A	0.0245	N/A
PFOS 1	447000	1.99	N/A	0.0580	N/A
13C4-PFOA	967000	1.90	N/A	98.0	N/A
13C4-PFOS	452000	2.00	N/A	95.8	N/A
13C6-PFHxA	8870000	1.45	N/A	102.	N/A

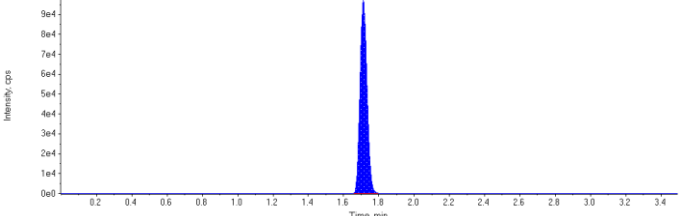
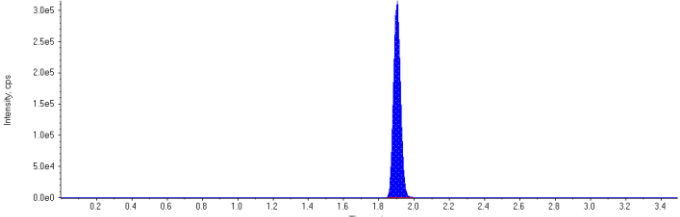
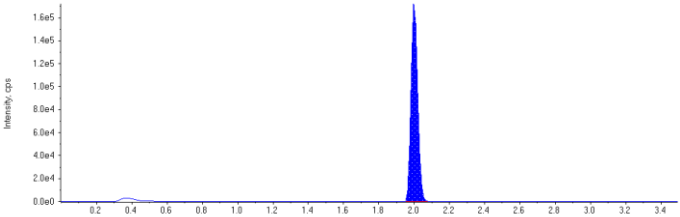
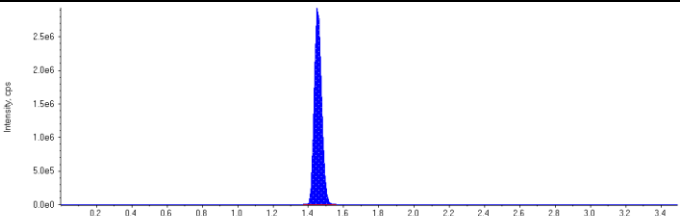
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

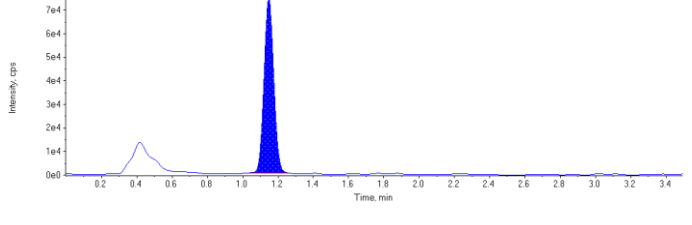
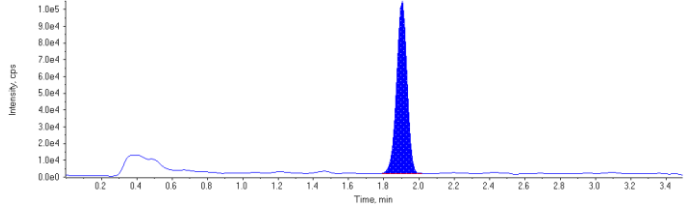
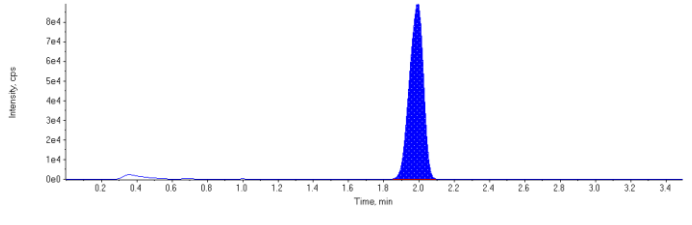
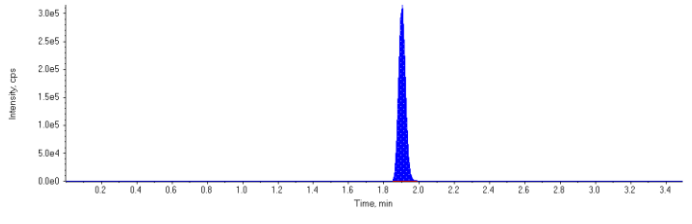
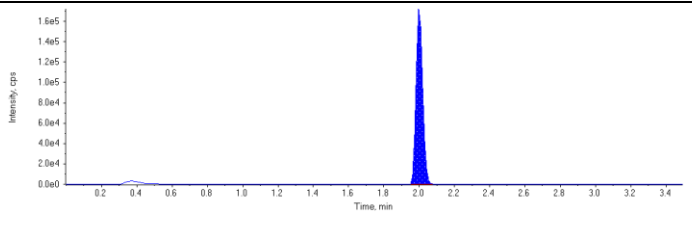
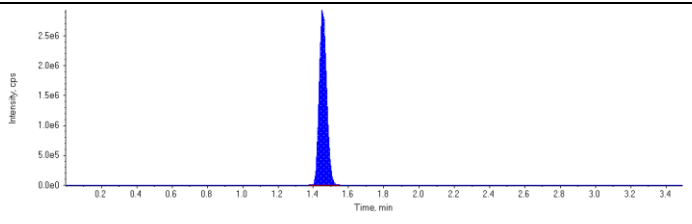
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0204 µg/L Area Ratio: 0.742 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0245 µg/L Area Ratio: 0.338 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0580 µg/L Area Ratio: 0.989 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 98.0 µg/L Area Ratio: 0.109 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 95.8 µg/L Area Ratio: 0.0510 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 102. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ613-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	40
Acquisition Date	2016/06/01 5:31:10 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	269000.	1.71	1.00	-
MPFOA	872000.	1.90	1.00	-
MPFOS	451000.	2.00	1.00	-
13C6-PFHxA IS	8610000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	283000	1.15	N/A	0.0272	N/A
PFOA 1	418000	1.90	N/A	0.0354	N/A
PFOS 1	494000	1.99	N/A	0.0641	N/A
13C4-PFOA	872000	1.90	N/A	91.0	N/A
13C4-PFOS	451000	2.00	N/A	98.2	N/A
13C6-PFHxA	8610000	1.45	N/A	99.5	N/A

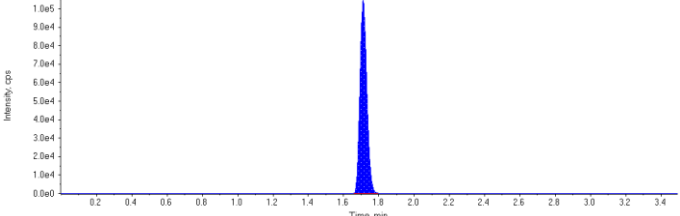
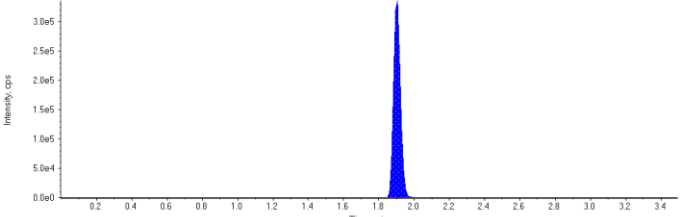
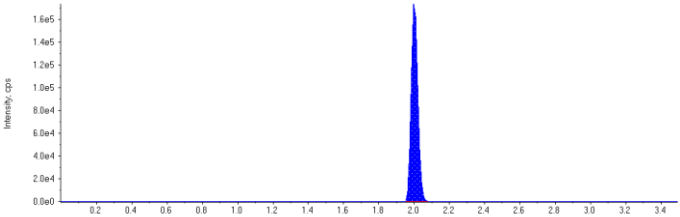
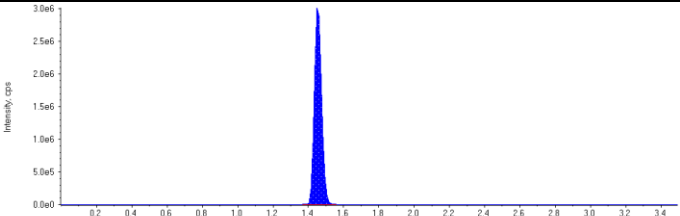
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

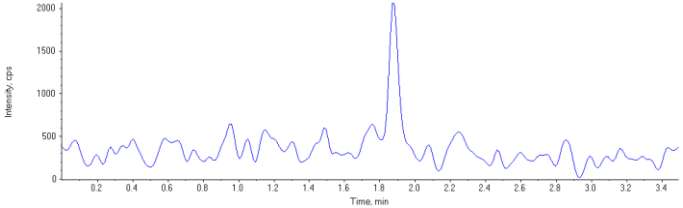
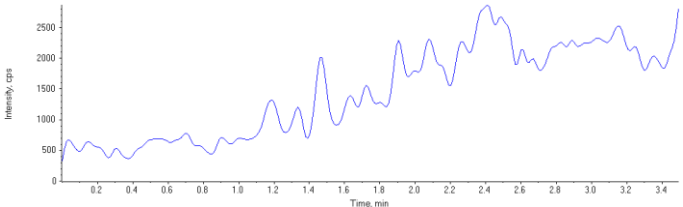
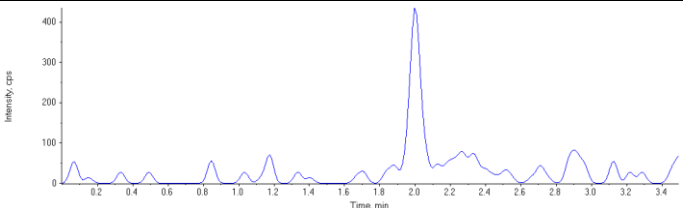
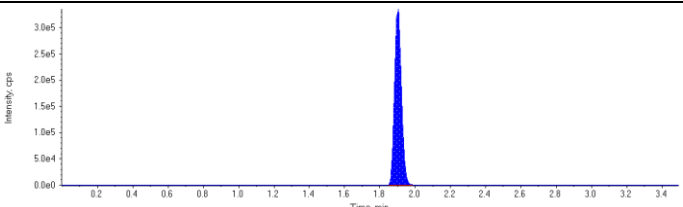
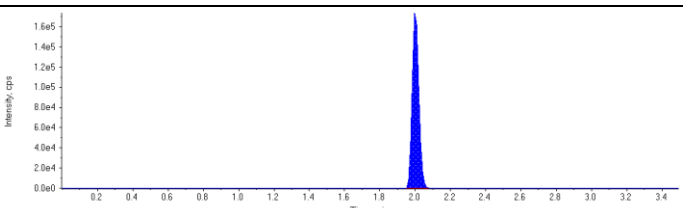
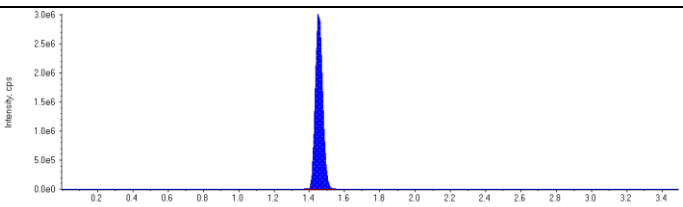
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0272 µg/L Area Ratio: 1.05 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0354 µg/L Area Ratio: 0.480 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.0641 µg/L Area Ratio: 1.10 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 91.0 µg/L Area Ratio: 0.101 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 98.2 µg/L Area Ratio: 0.0523 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 99.5 µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ614-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	41
Acquisition Date	2016/06/01 5:36:15 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	284000.	1.71	1.00	-
MPFOA	914000.	1.90	1.00	-
MPFOS	462000.	2.00	1.00	-
13C6-PFHxA IS	8810000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	914000	1.90	N/A	93.2	N/A
13C4-PFOS	462000	2.00	N/A	98.5	N/A
13C6-PFHxA	8810000	1.45	N/A	102.	N/A

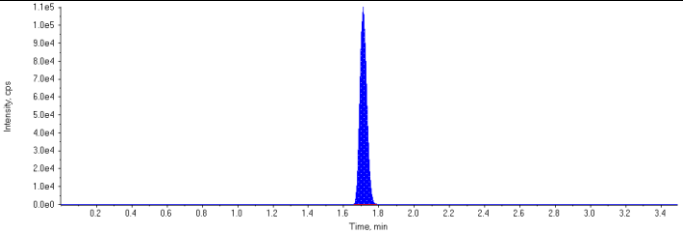
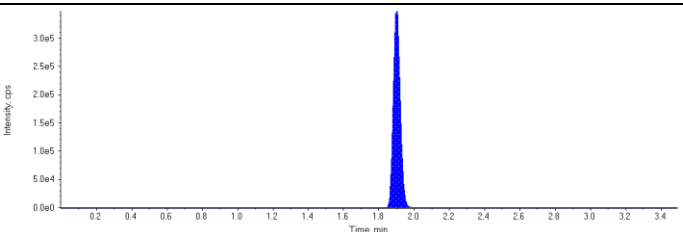
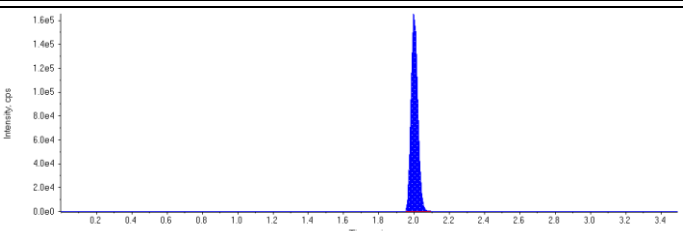
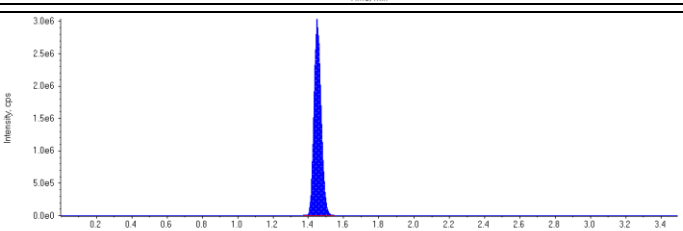
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

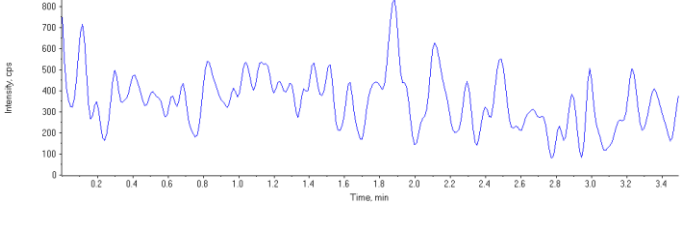
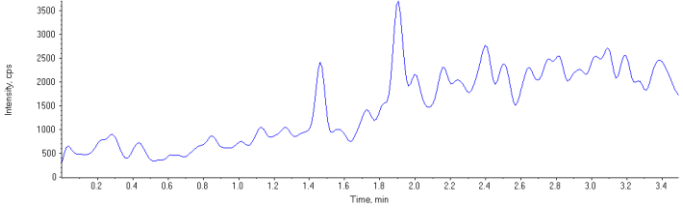
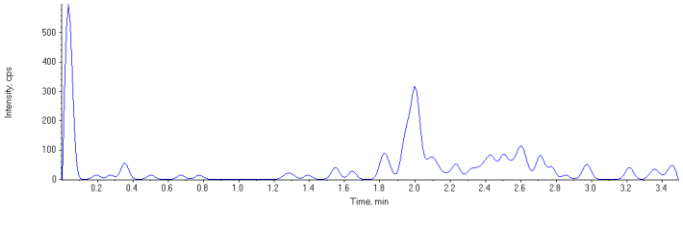
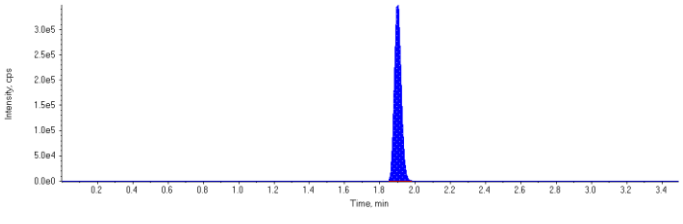
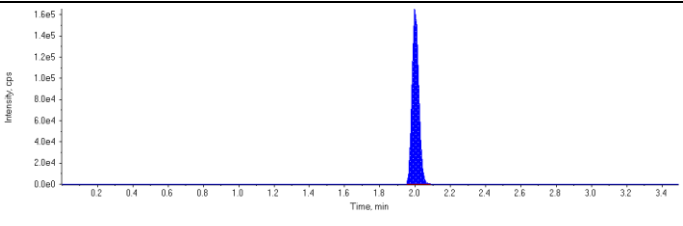
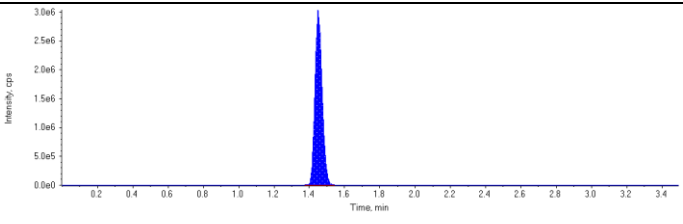
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 93.2 µg/L Area Ratio: 0.104 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 98.5 µg/L Area Ratio: 0.0524 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 102. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ615-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	42
Acquisition Date	2016/06/01 5:41:20 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	294000.	1.71	1.00	-
MPFOA	966000.	1.90	1.00	-
MPFOS	441000.	2.00	1.00	-
13C6-PFHxA IS	8560000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	966000	1.90	N/A	101.	N/A
13C4-PFOS	441000	2.00	N/A	96.8	N/A
13C6-PFHxA	8560000	1.45	N/A	98.9	N/A

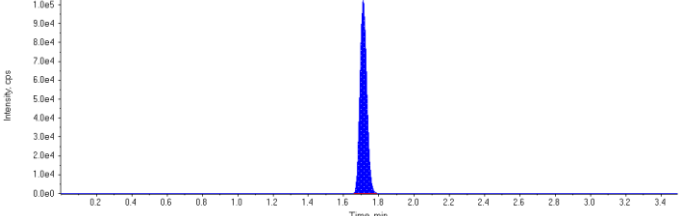
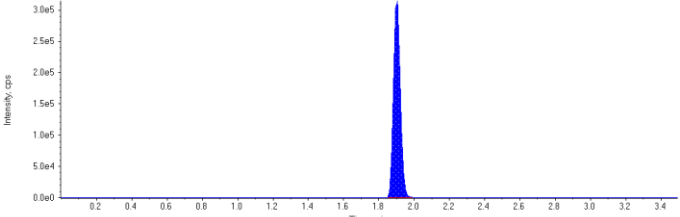
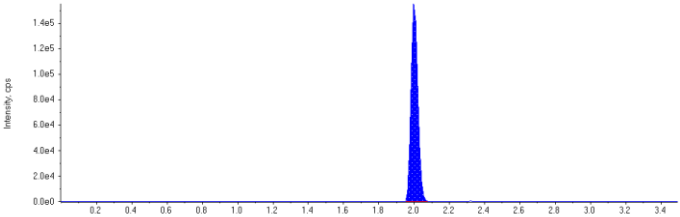
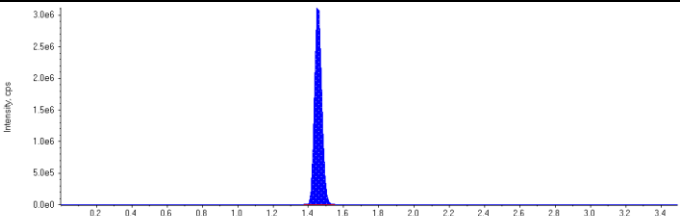
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

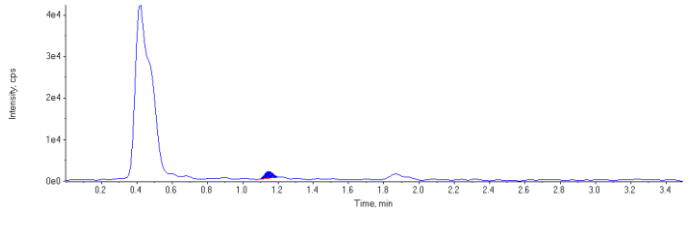
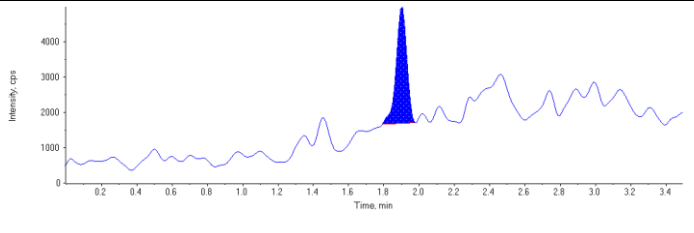
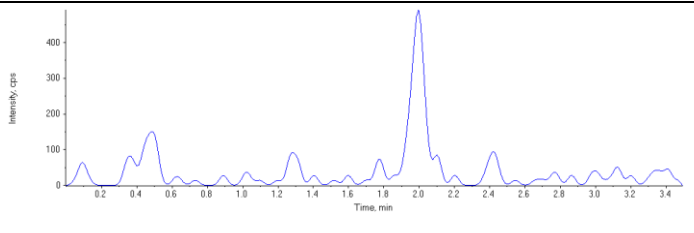
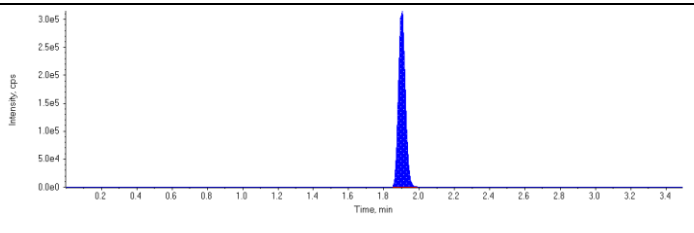
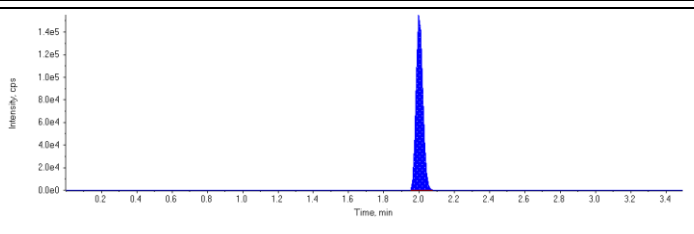
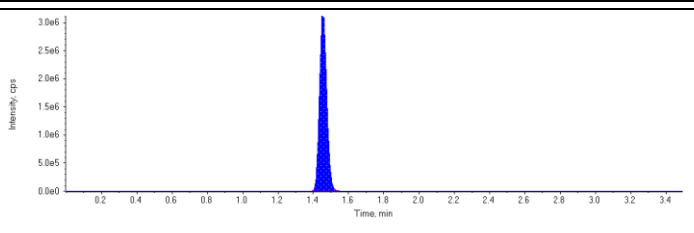
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 101. µg/L Area Ratio: 0.113 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 96.8 µg/L Area Ratio: 0.0515 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 98.9 µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ616-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	43
Acquisition Date	2016/06/01 5:46:26 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	276000.	1.71	1.00	-
MPFOA	858000.	1.90	1.00	-
MPFOS	418000.	2.00	1.00	-
13C6-PFHxA IS	9110000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	5630	1.15	N/A	0.00451	N/A
PFOA 1	13800	1.90	N/A	N/A	N/A
PFOS 1	0	0.00	N/A	N/A	N/A
13C4-PFOA	858000	1.90	N/A	84.7	N/A
13C4-PFOS	418000	2.00	N/A	86.2	N/A
13C6-PFHxA	9110000	1.45	N/A	105.	N/A

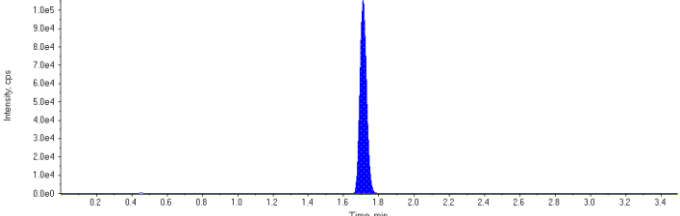
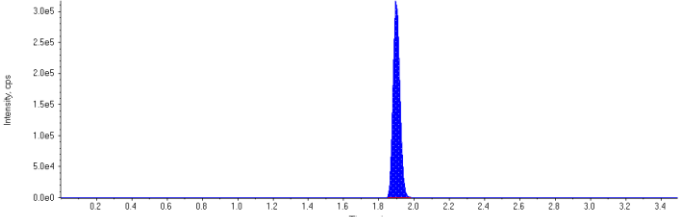
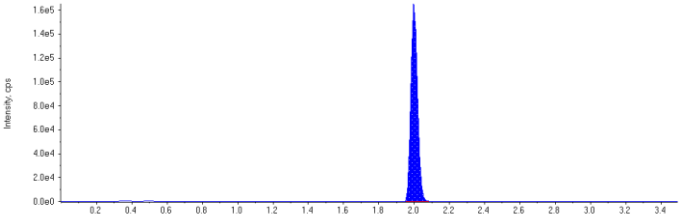
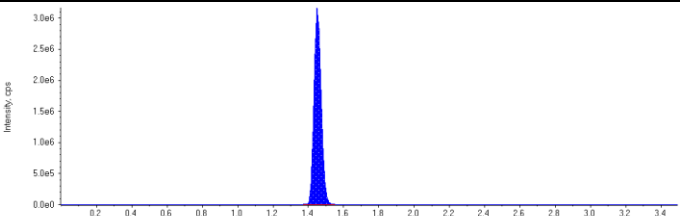
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

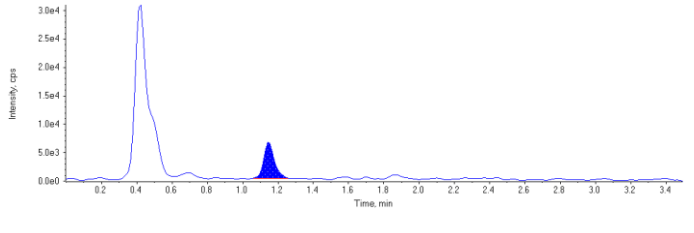
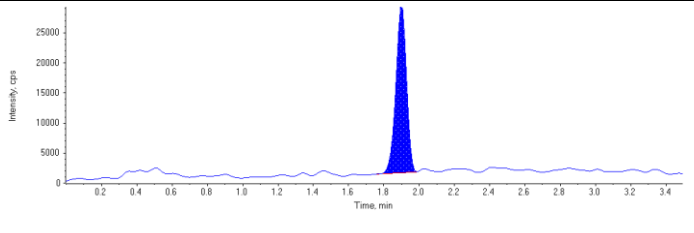
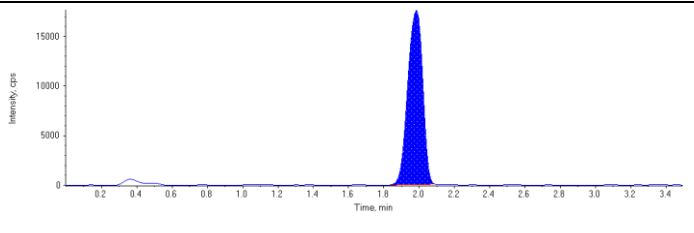
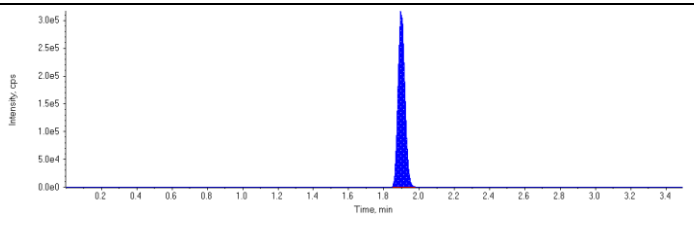
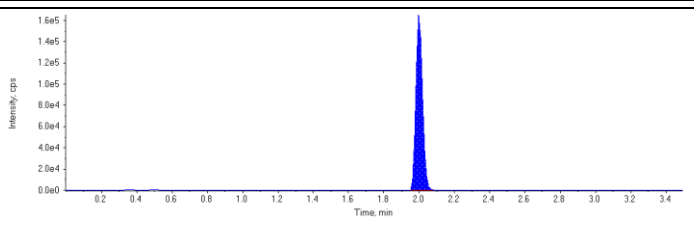
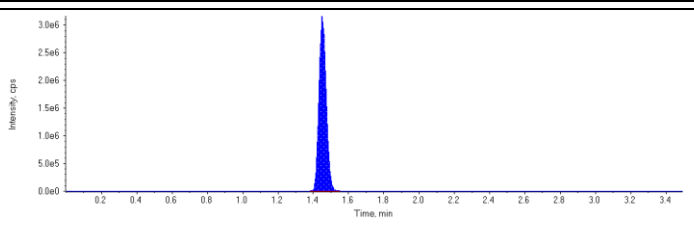
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.00451 µg/L Area Ratio: 0.0204 Sample Type: (Unknown)	 Intensity, cps Time, min
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.0161 Sample Type: (Unknown)	 Intensity, cps Time, min
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	 Intensity, cps Time, min
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 84.7 µg/L Area Ratio: 0.0942 Sample Type: (Unknown)	 Intensity, cps Time, min
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 86.2 µg/L Area Ratio: 0.0459 Sample Type: (Unknown)	 Intensity, cps Time, min
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 105. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	 Intensity, cps Time, min

Sample ID	4518651~CJZ617-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	44
Acquisition Date	2016/06/01 5:51:30 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	276000.	1.71	1.00	-
MPFOA	866000.	1.90	1.00	-
MPFOS	432000.	2.00	1.00	-
13C6-PFHxA IS	9030000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	26700	1.15	N/A	0.00619	N/A
PFOA 1	117000	1.90	N/A	0.00895	N/A
PFOS 1	103000	1.98	N/A	0.0153	N/A
13C4-PFOA	866000	1.90	N/A	86.2	N/A
13C4-PFOS	432000	2.00	N/A	89.8	N/A
13C6-PFHxA	9030000	1.45	N/A	104.	N/A

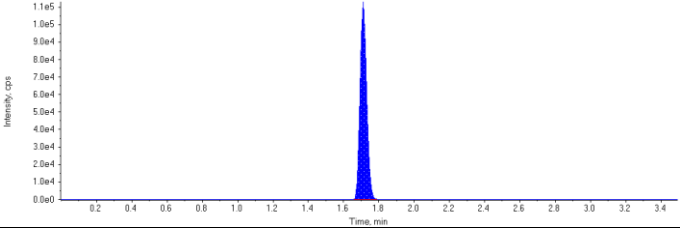
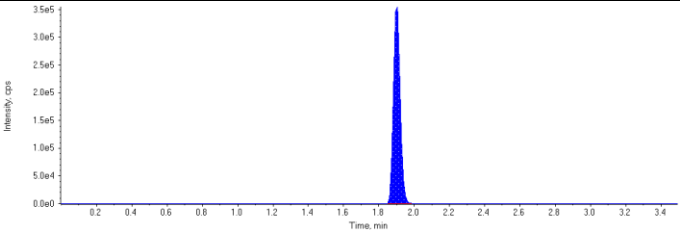
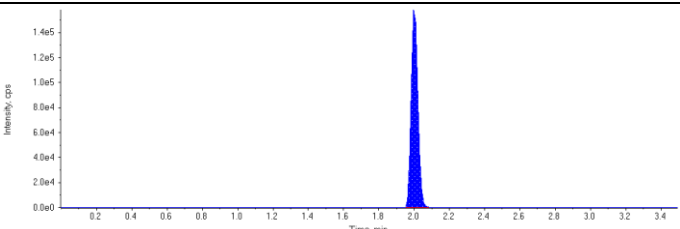
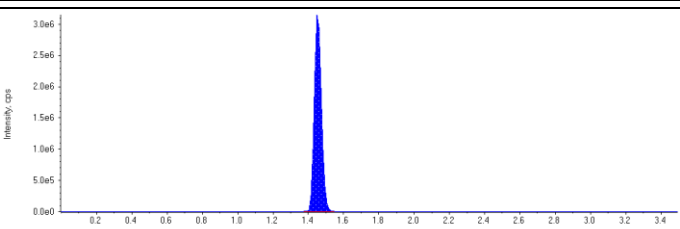
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

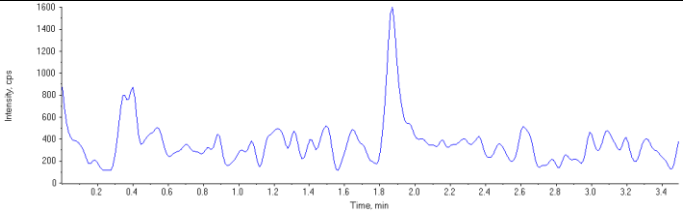
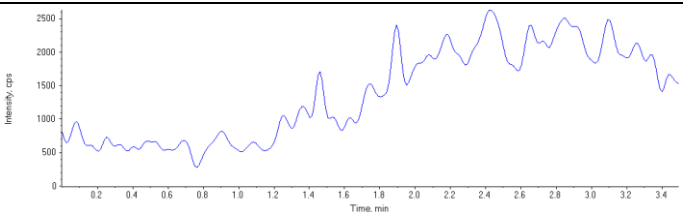
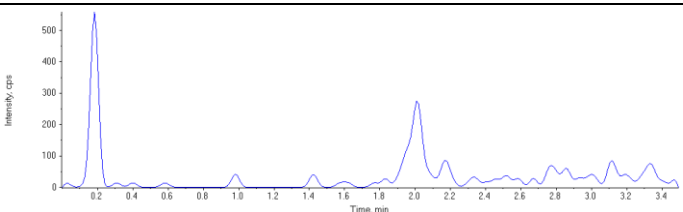
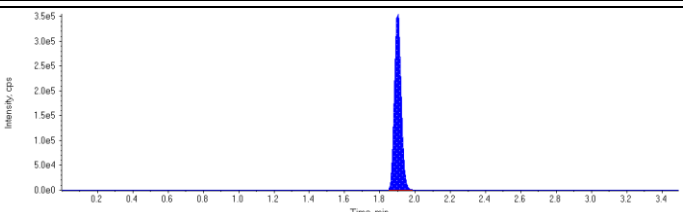
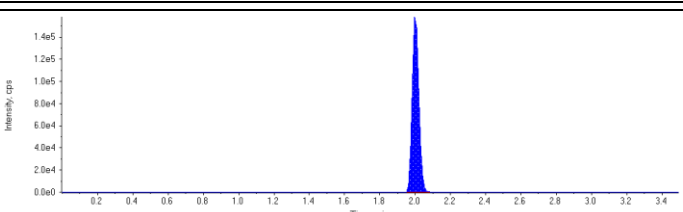
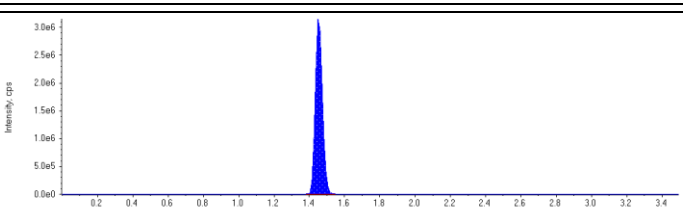
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.00619 µg/L Area Ratio: 0.0967 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.00895 µg/L Area Ratio: 0.135 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.98 (1.97) min Calculated Conc: 0.0153 µg/L Area Ratio: 0.238 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 86.2 µg/L Area Ratio: 0.0959 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 89.8 µg/L Area Ratio: 0.0478 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 104. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ619-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	45
Acquisition Date	2016/06/01 5:56:36 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	291000.	1.71	1.00	-
MPFOA	961000.	1.90	1.00	-
MPFOS	421000.	2.00	1.00	-
13C6-PFHxA IS	9010000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	961000	1.90	N/A	96.0	N/A
13C4-PFOS	421000	2.00	N/A	87.8	N/A
13C6-PFHxA	9010000	1.45	N/A	104.	N/A

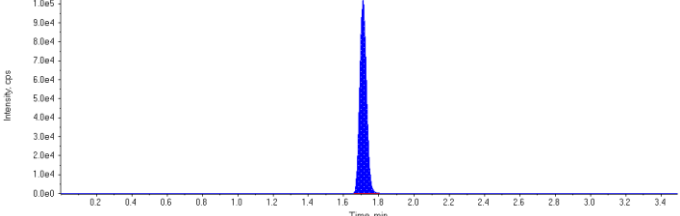
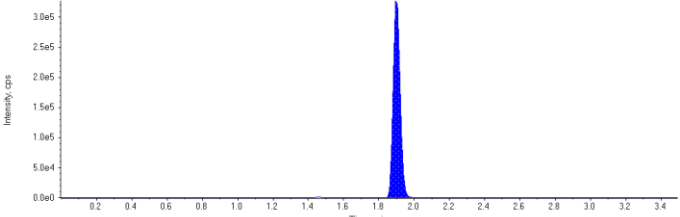
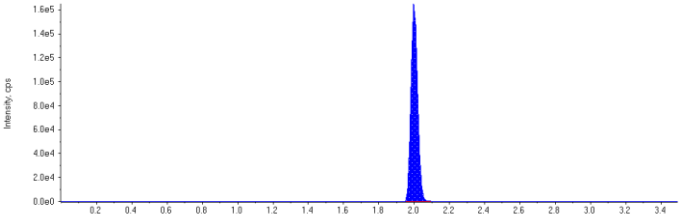
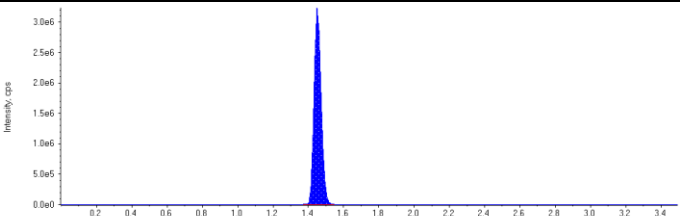
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

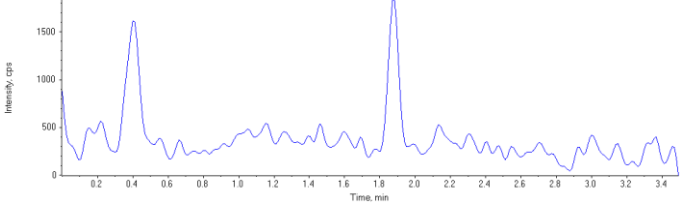
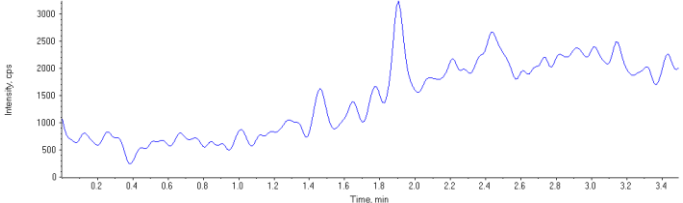
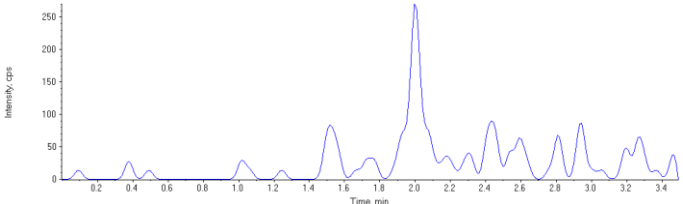
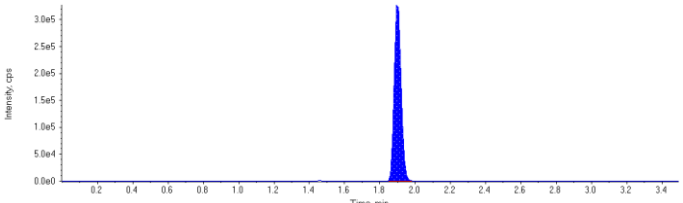
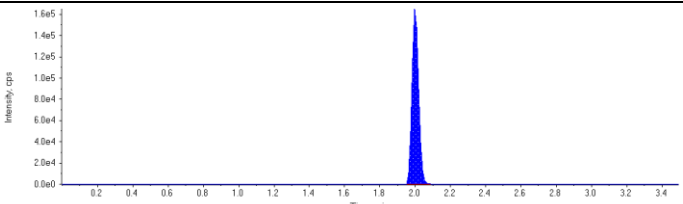
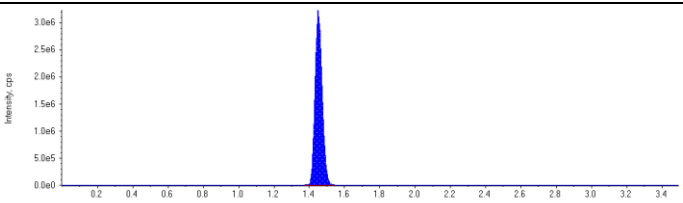
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 96.0 µg/L Area Ratio: 0.107 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 87.8 µg/L Area Ratio: 0.0468 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 104. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	

Sample ID	4518651~CJZ620-01	Injection Volume (µL)	2
Sample Type	Unknown	Injection Vial	46
Acquisition Date	2016/06/01 6:01:41 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	274000.	1.71	1.00	-
MPFOA	909000.	1.90	1.00	-
MPFOS	435000.	2.00	1.00	-
13C6-PFHxA IS	9100000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	909000	1.90	N/A	89.8	N/A
13C4-PFOS	435000	2.00	N/A	89.7	N/A
13C6-PFHxA	9100000	1.45	N/A	105.	N/A

MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Unknown)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Unknown)	This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Unknown)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 89.8 µg/L Area Ratio: 0.0999 Sample Type: (Unknown)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 89.7 µg/L Area Ratio: 0.0478 Sample Type: (Unknown)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 105. µg/L Area Ratio: 0.00 Sample Type: (Unknown)	



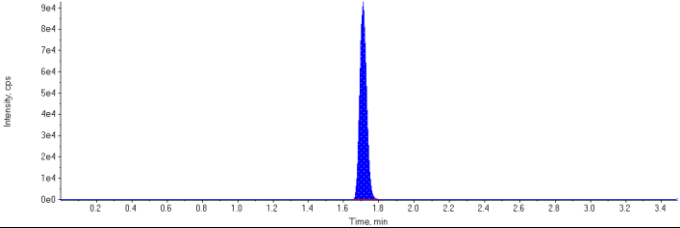
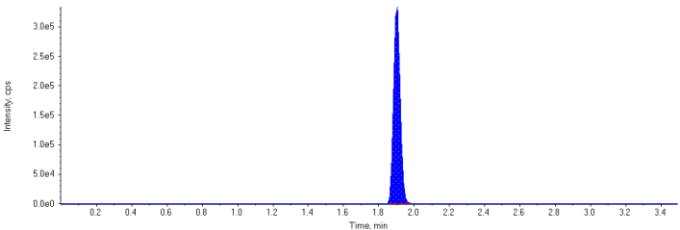
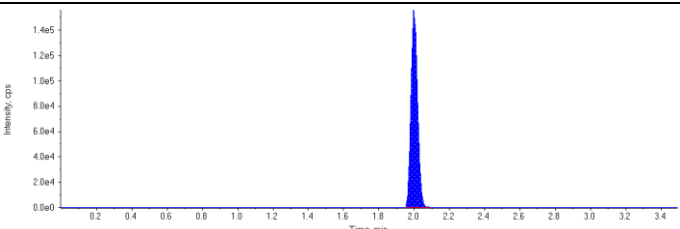
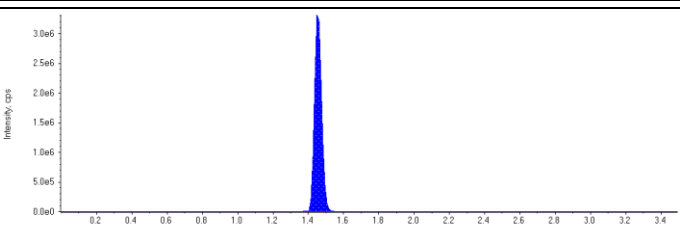
4. QA/QC Data

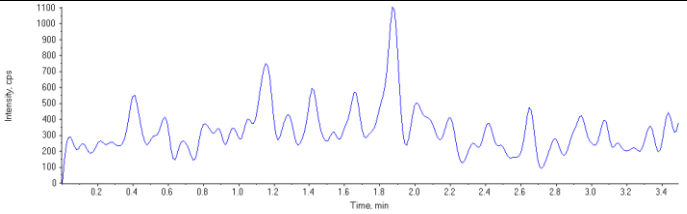
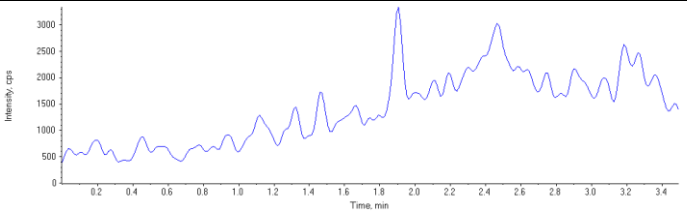
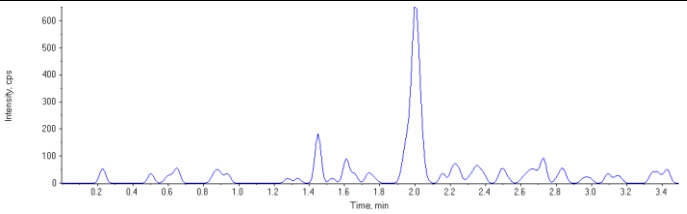
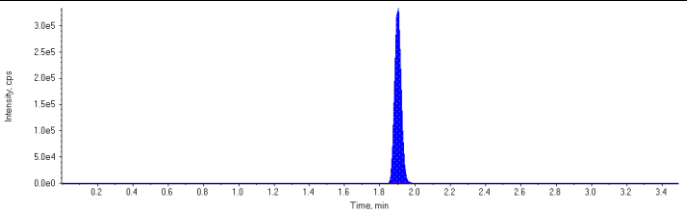
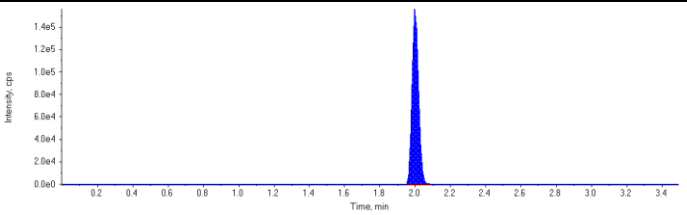
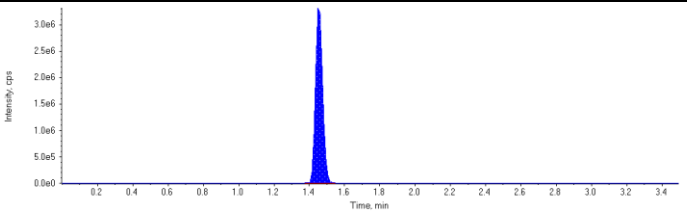
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Sample ID	4517563~BLANK	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	30
Acquisition Date	2016/05/31 4:52:10 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	243000.	1.71	1.00	-
MPFOA	880000.	1.90	1.00	-
MPFOS	404000.	2.00	1.00	-
13C6-PFHxA IS	9500000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	880000	1.90	0.00	82.1	0.0
13C4-PFOS	404000	2.00	0.00	80.9	0.0
13C6-PFHxA	9500000	1.45	0.00	124.	0.0

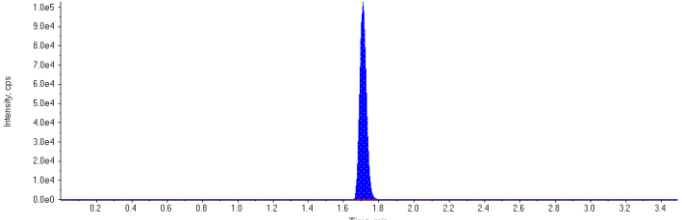
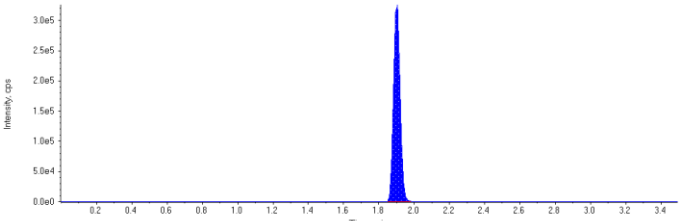
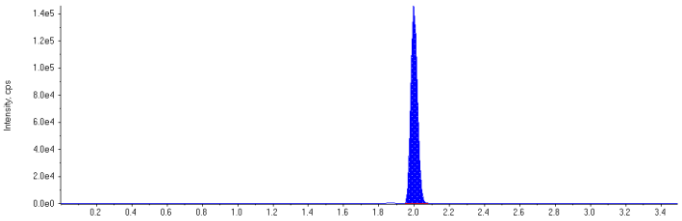
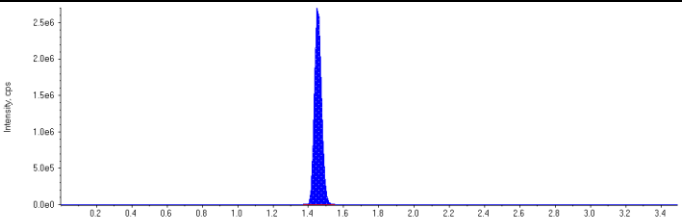
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

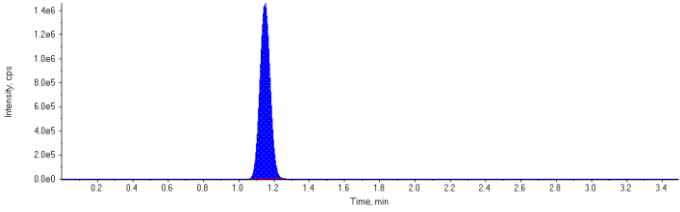
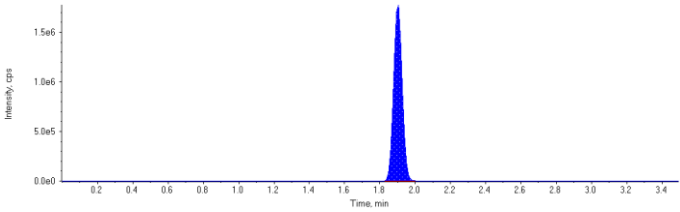
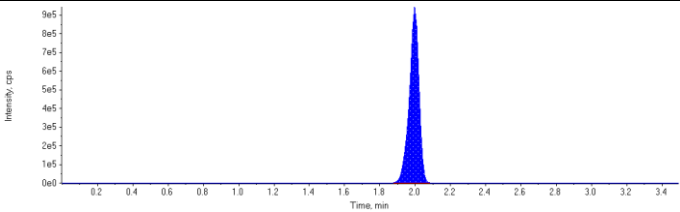
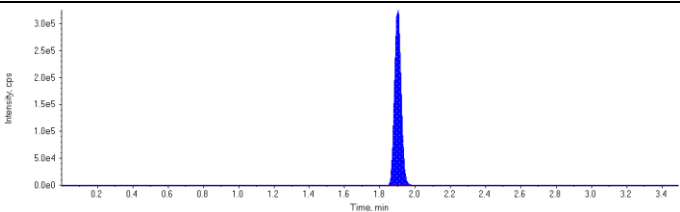
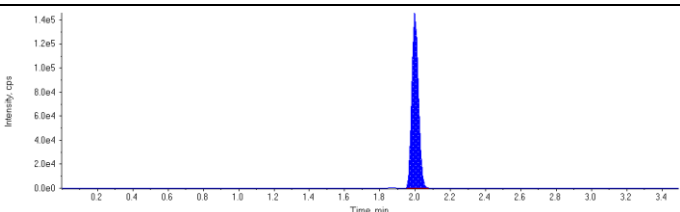
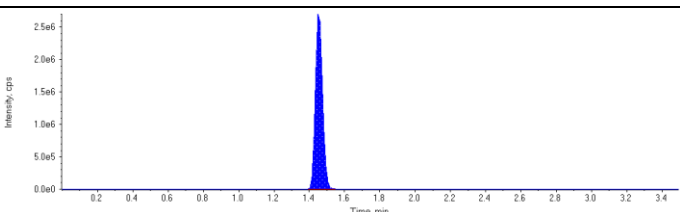
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 82.1 µg/L Area Ratio: 0.0926 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 80.9 µg/L Area Ratio: 0.0425 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 124. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	4517563~SPIKE	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	31
Acquisition Date	2016/05/31 4:57:15 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	264000.	1.71	1.00	-
MPFOA	856000.	1.90	1.00	-
MPFOS	380000.	2.00	1.00	-
13C6-PFHxA IS	7730000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	5920000	1.15	0.500	0.485	96.9
PFOA 1	6020000	1.90	0.500	0.532	106.0
PFOS 1	3580000	2.00	0.500	0.506	101.0
13C4-PFOA	856000	1.90	100.	98.2	98.2
13C4-PFOS	380000	2.00	100.	93.6	93.6
13C6-PFHxA	7730000	1.45	100.	101.	101.0

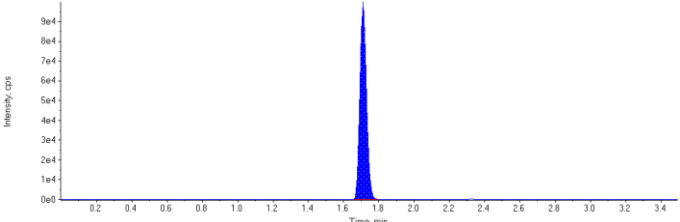
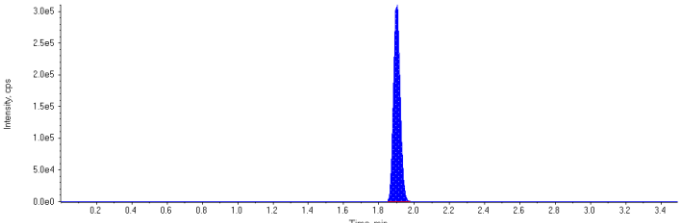
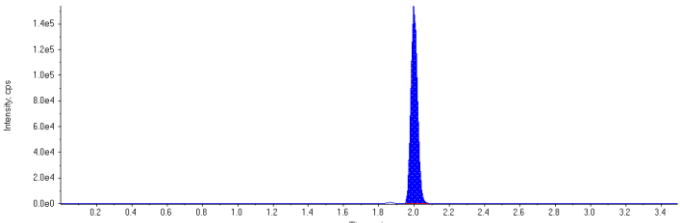
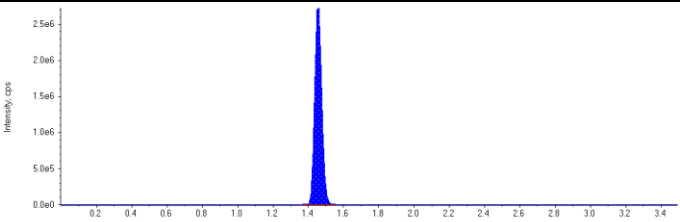
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

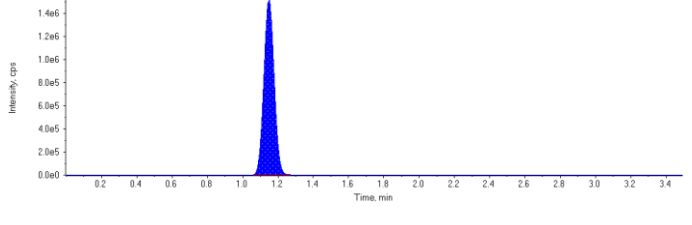
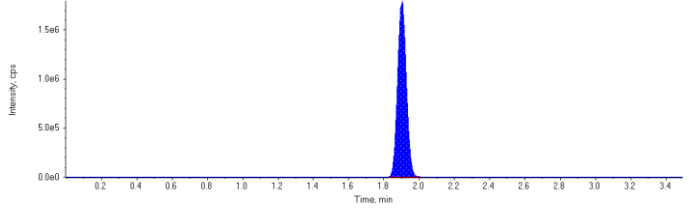
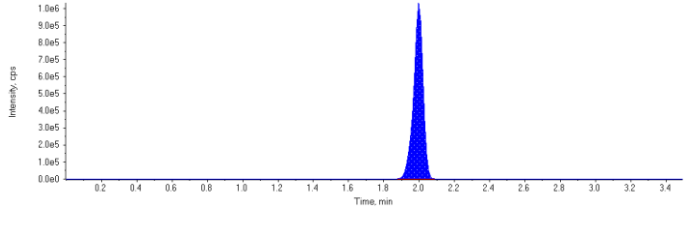
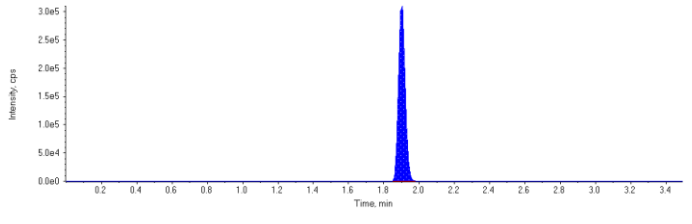
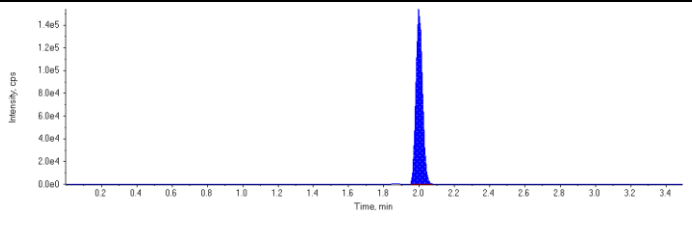
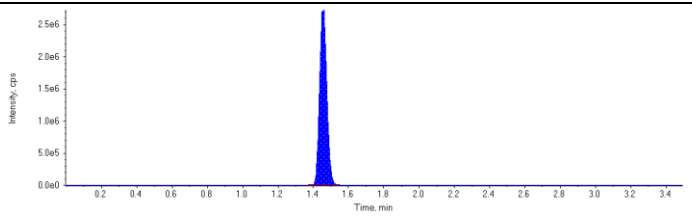
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.485 µg/L Area Ratio: 22.4 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.532 µg/L Area Ratio: 7.04 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.506 µg/L Area Ratio: 9.42 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 98.2 µg/L Area Ratio: 0.111 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 93.6 µg/L Area Ratio: 0.0492 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 101. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	4517563~SPIKE:D1	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	32
Acquisition Date	2016/05/31 5:02:20 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	255000.	1.71	1.00	-
MPFOA	828000.	1.90	1.00	-
MPFOS	398000.	2.00	1.00	-
13C6-PFHxA IS	7890000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	6190000	1.15	0.500	0.525	105.0
PFOA 1	6150000	1.90	0.500	0.561	112.0
PFOS 1	3840000	2.00	0.500	0.519	104.0
13C4-PFOA	828000	1.90	100.	93.1	93.1
13C4-PFOS	398000	2.00	100.	96.2	96.2
13C6-PFHxA	7890000	1.46	100.	103.	103.0

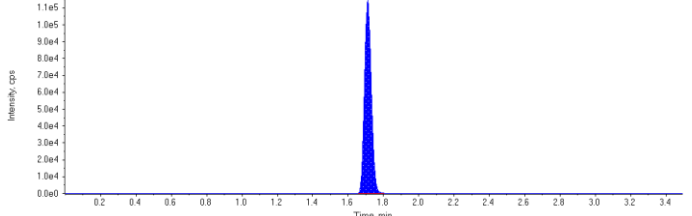
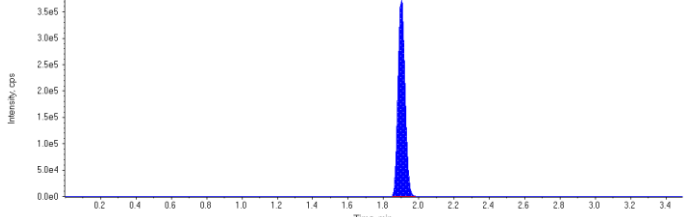
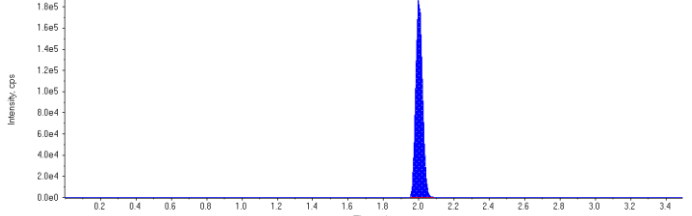
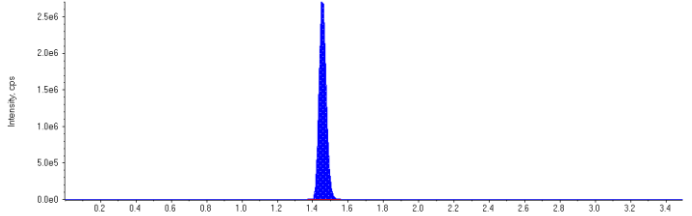
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

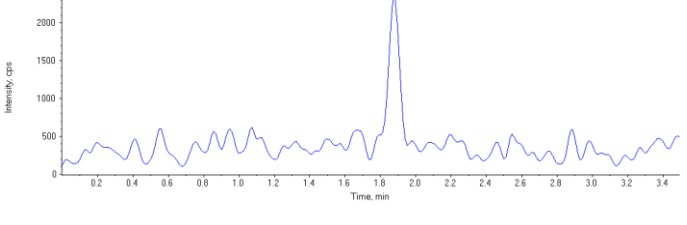
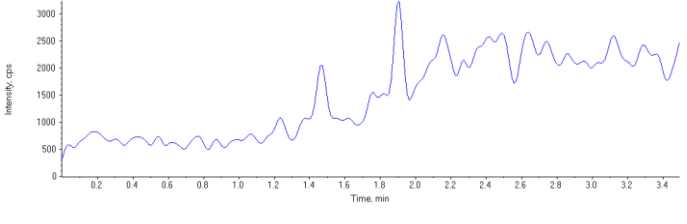
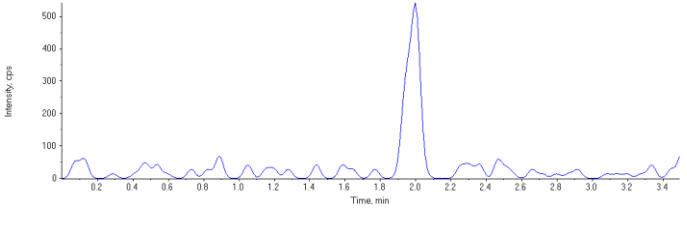
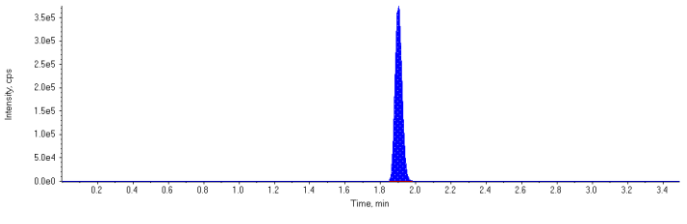
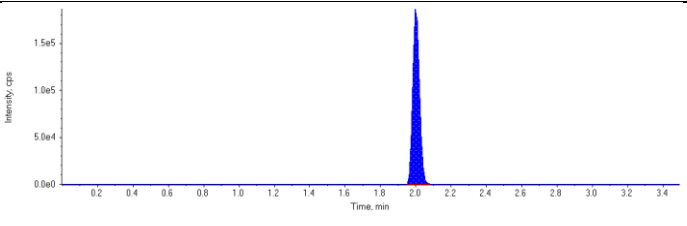
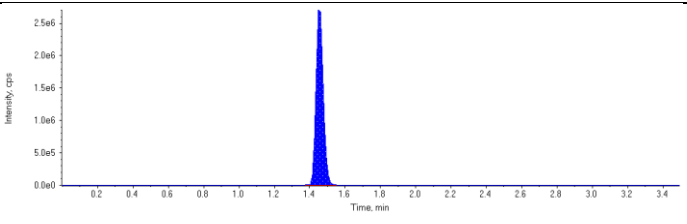
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.525 µg/L Area Ratio: 24.3 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.561 µg/L Area Ratio: 7.42 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.519 µg/L Area Ratio: 9.65 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 93.1 µg/L Area Ratio: 0.105 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 96.2 µg/L Area Ratio: 0.0505 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 103. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	4518651~BLANK	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	19
Acquisition Date	2016/06/01 3:34:13 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	309000.	1.71	1.00	-
MPFOA	1040000.	1.90	1.00	-
MPFOS	504000.	2.00	1.00	-
13C6-PFHxA IS	7880000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 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
13C4-PFOA	1040000	1.90	100.	118.	118.0
13C4-PFOS	504000	2.00	100.	120.	120.0
13C6-PFHxA	7880000	1.45	100.	91.0	91.0

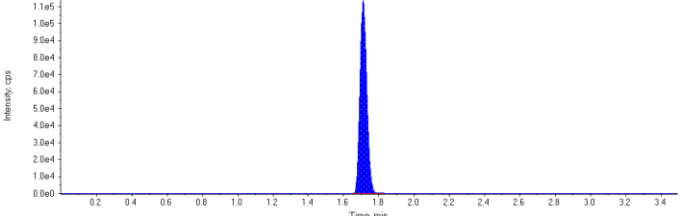
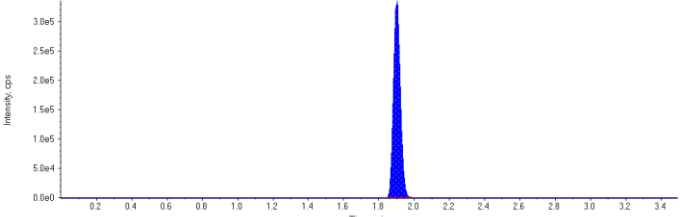
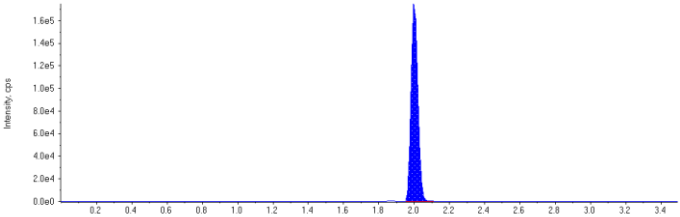
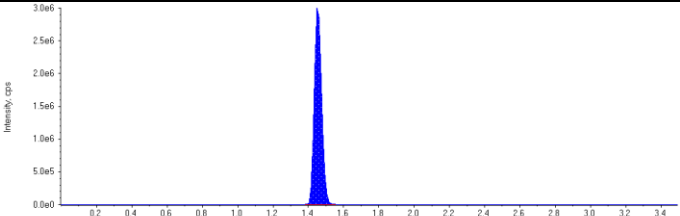
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

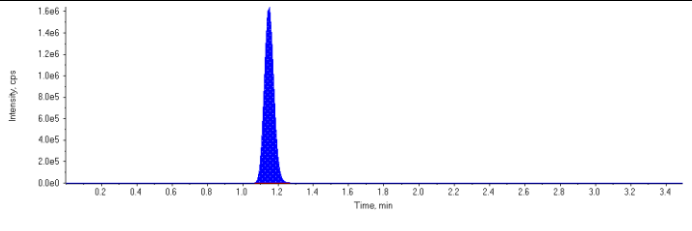
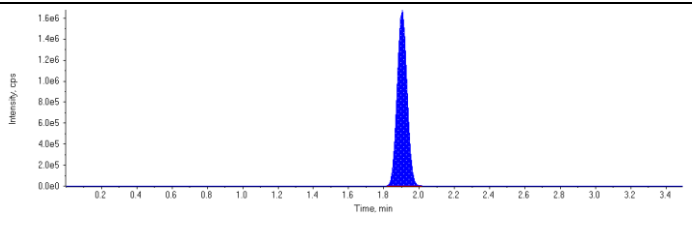
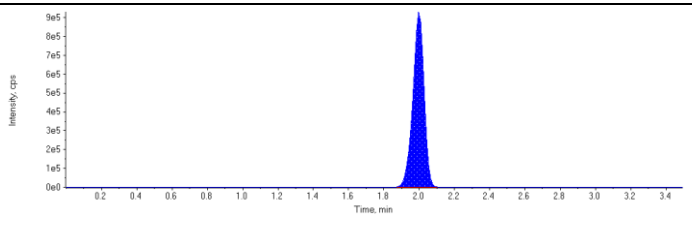
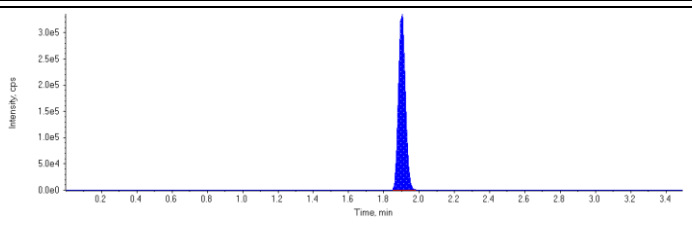
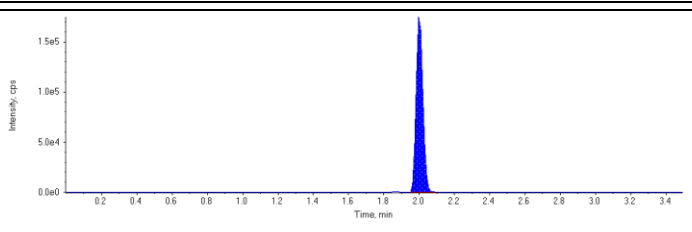
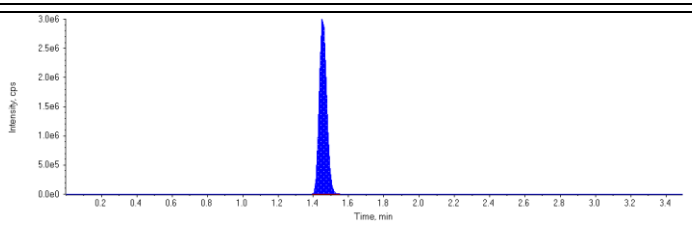
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 0.00 (1.09) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 0.00 (1.88) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 0.00 (1.97) min Calculated Conc: N/A µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 118. µg/L Area Ratio: 0.131 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 120. µg/L Area Ratio: 0.0639 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 91.0 µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	4518651~SPIKE	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	27
Acquisition Date	2016/06/01 4:19:58 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	307000.	1.71	1.00	-
MPFOA	921000.	1.90	1.00	-
MPFOS	471000.	2.00	1.00	-
13C6-PFHxA IS	8880000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	6240000	1.15	0.500	0.453	90.5
PFOA 1	6520000	1.90	0.500	0.542	108.0
PFOS 1	4110000	2.00	0.500	0.499	99.7
13C4-PFOA	921000	1.90	100.	93.3	93.3
13C4-PFOS	471000	2.00	100.	99.5	99.5
13C6-PFHxA	8880000	1.45	100.	103.	103.0

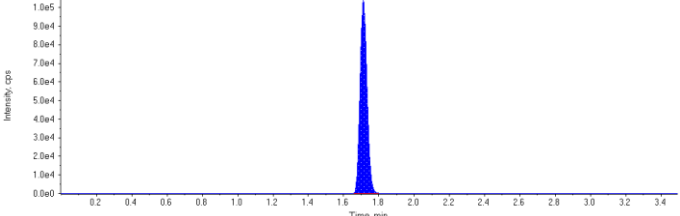
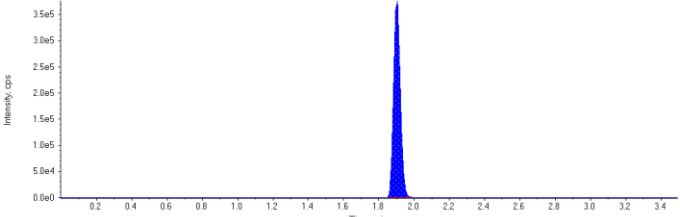
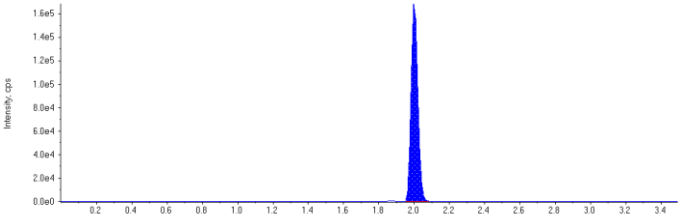
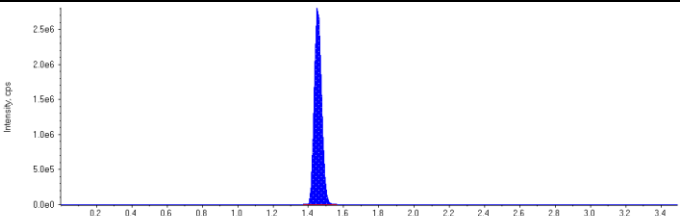
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

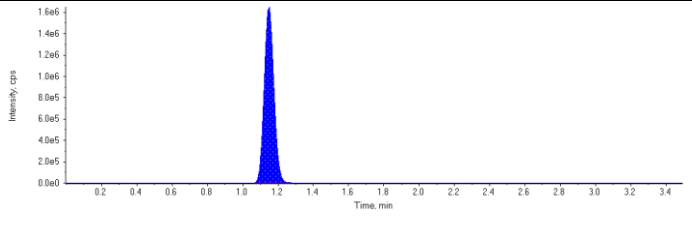
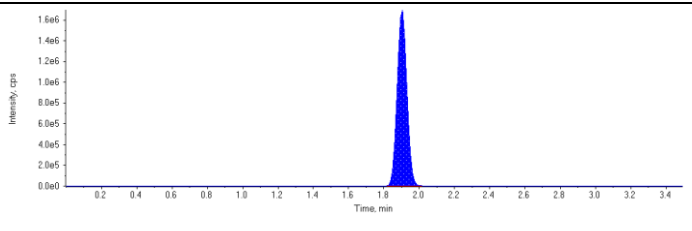
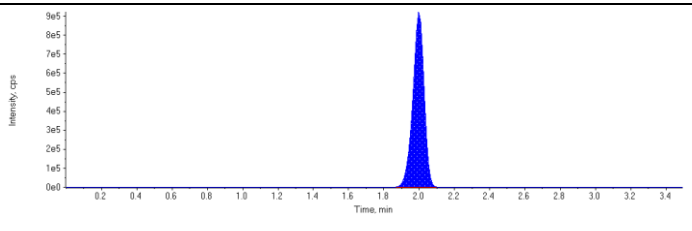
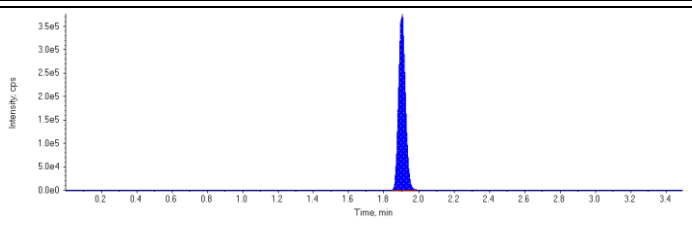
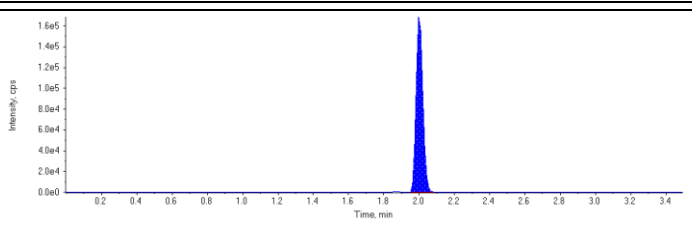
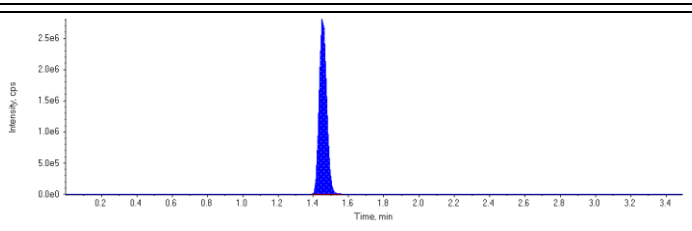
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.453 µg/L Area Ratio: 20.3 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.542 µg/L Area Ratio: 7.08 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.499 µg/L Area Ratio: 8.74 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 93.3 µg/L Area Ratio: 0.104 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 99.5 µg/L Area Ratio: 0.0530 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 103. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	4518651~SPIKE:D1	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	28
Acquisition Date	2016/06/01 4:25:03 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	Re-injected to confirm analyte recovery		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	287000.	1.71	1.00	-
MPFOA	1010000.	1.90	1.00	-
MPFOS	451000.	2.00	1.00	-
13C6-PFHxA IS	8290000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	6320000	1.15	0.500	0.491	98.2
PFOA 1	6510000	1.90	0.500	0.494	98.7
PFOS 1	4090000	2.00	0.500	0.518	104.0
13C4-PFOA	1010000	1.90	100.	110.	110.0
13C4-PFOS	451000	2.00	100.	102.	102.0
13C6-PFHxA	8290000	1.45	100.	95.7	95.7

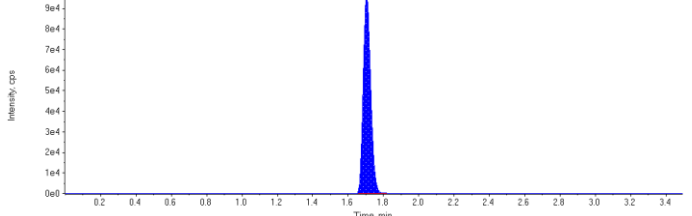
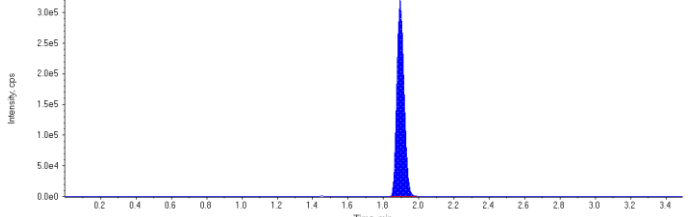
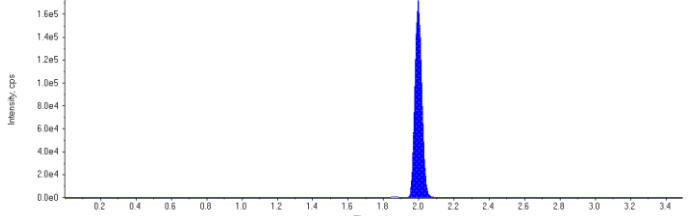
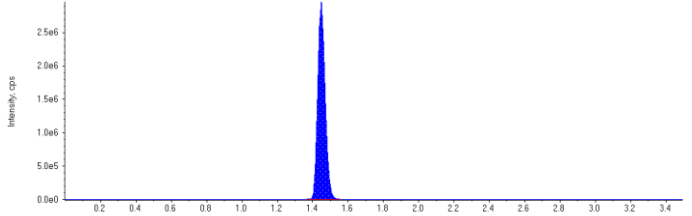
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

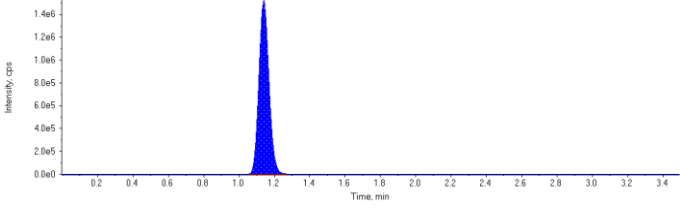
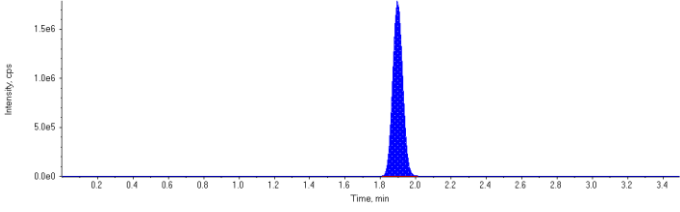
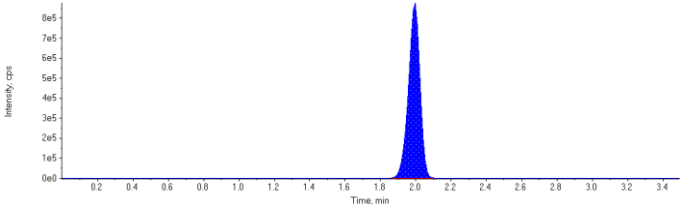
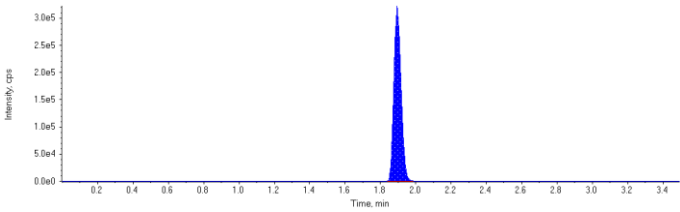
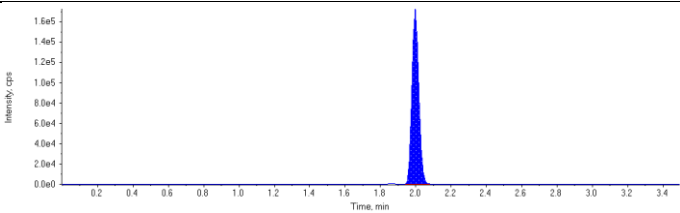
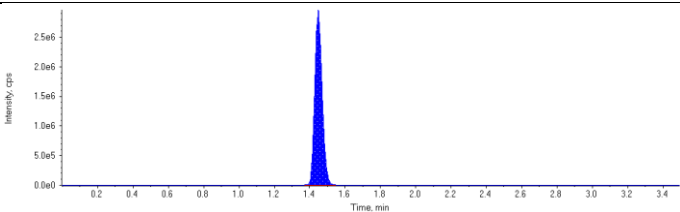
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.491 µg/L Area Ratio: 22.0 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.494 µg/L Area Ratio: 6.45 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.518 µg/L Area Ratio: 9.08 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 110. µg/L Area Ratio: 0.122 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 102. µg/L Area Ratio: 0.0544 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 95.7 µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	4518651~SPIKE:D1	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	28
Acquisition Date	2016/06/01 8:31:17 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	Re-injection, reported		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	283000.	1.70	1.00	-
MPFOA	906000.	1.90	1.00	-
MPFOS	465000.	2.00	1.00	-
13C6-PFHxA IS	8630000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	6000000	1.14	0.500	0.472	94.4
PFOA 1	7030000	1.90	0.500	0.594	119.0
PFOS 1	3980000	1.99	0.500	0.489	97.9
13C4-PFOA	906000	1.90	100.	94.4	94.4
13C4-PFOS	465000	2.00	100.	101.	101.0
13C6-PFHxA	8630000	1.45	100.	99.7	99.7

MPFHxS (Internal Standard) RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.14 (1.09) min Calculated Conc: 0.472 µg/L Area Ratio: 21.2 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.594 µg/L Area Ratio: 7.76 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.489 µg/L Area Ratio: 8.57 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 94.4 µg/L Area Ratio: 0.105 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 101. µg/L Area Ratio: 0.0538 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 99.7 µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

DoD Projects - Internal Data Validation Checklist				
Run date: 2016/05/31				
Worksheet # (s): 4517563				
Analysis: PF05ALCM-W				
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: 2016/06/02		
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: 2016/06/03		
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 # 4517563		Testcode: PFOSALCM-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: EH		Date: 2016/05/30		
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 BRL FCD 0002 am 20/06/02		
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:				



Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Monday, May 30, 2016

Assigned to : Emily Henderson

Test Code : PFOSALCM-W

Instrument Id:

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

Sediment (mL) (mL)

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
	SPIKE	0	PFOS		Ø	125	3	1x					2016/05/30
	SPIKE	1	PFOS		Ø	125	3	1x					2016/05/30
	BLANK				Ø	125	3	1x					2016/05/30
B6A2293	*CJU460-01R				Ø	125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU461-01R				Ø	125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU466-01R				<i>turbid</i>	125	3	1x	1	2016/05/31	2016/06/03 18:00		2016/05/30
B6A2293	*CJU467-01R				0.3	125	3	1x	1	2016/05/31	2016/06/03 18:00		2016/05/30
B6A2293	*CJU470-01R				Ø	125	3	1x	1	2016/05/31	2016/06/03 18:00		2016/05/30
B6A2293	*CJU496-01R				40.1	125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU498-01R				40.1	125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU500-01R				40.1	125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU502-01R				40.1	125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU504-01R				40.1	125 125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A2293	*CJU506-01R				40.1	125 125	3	1x	1	2016/05/30	2016/06/03 18:00		2016/05/30
B6A3190	*CJZ596-01R		2014188-619		Ø	125	3	1x	1	2016/05/30	2016/06/06 18:00		2016/05/30
B6A3190	*CJZ597-01R		2014188-620		Ø	125	3	1x	1	2016/05/30	2016/06/06 18:00		2016/05/30
B6A3190	*CJZ598-01R		2014188-621		Ø	125	3	1x	1	2016/05/30	2016/06/06 18:00		2016/05/30
B6A3190	*CJZ599-01R		2014188-643		Ø	125	3	1x	1	2016/05/30	2016/06/06 18:00		2016/05/30
B6A3190	*CJZ600-01R		2014188-623		Ø	125	3	1x	1	2016/05/31	2016/06/06 18:00		2016/05/30
B6A3190	*CJZ601-01R		2014188-624		Ø	125	3	1x	1	2016/05/30	2016/06/06 18:00		2016/05/30
B6A3190	*CJZ618-01R		2014188-631		Ø	78	3	1x	1	2016/05/30	2016/06/06 18:00		2016/05/30

EMH 2016/05/30

Remarks: Low-Level Analysis. Spike/Spike Duplicate was extracted in lieu of Matrix Spike/Matrix Spike Duplicate due to insufficient amount of sample available. CJZ618-01R extracted all sample available.

Samples extracted by: Emily Henderson EMH

Instrumentation performed by: CM

Calculations performed by: CM

Validated by: EMH

Date: 2016/05/30

Date: 2016/06/02

Date: 2016/06/03

-652, 2016/05/30

Job No.	Rep	Client Name	Contact	Client Tier	National
	Remarks				

TB6A0047

TB6A0189

TB6A5912

TB6A5920

TB6A5926

Surrogates/Spikes		PFC Spk C	PFC Spk A	PFC Spk A	IS	Method Spike	Spikes	Samples
Calib	MeOH	SK-6331	I-4729	I-4730	SI-G100			
STD	uL	uL	uL	uL	uL			
1	- 2825	+	25		+	150		
2	- 2800	+	50		+	150		
3	- 2760	+	150		+	150		
4	- 2813	+	37.5		+	150		
5	- 2775	+	75		+	150		
6	- 2725	+	125		+	150		
FCV	- 2788	+		62.5	+	150		

[illegible][illegible]

PFOS and PFOA in water - Water
ug/L

Parameter Name	Units	SPIKE	SPIKE Dup1	BLANK	DL	B6A2293 CJU460	B6A2293 CJU461
6:2 Fluorotelomer sulfonate	ug/L	94.80000	110.40000	0	0.02	0	0
8:2 Fluorotelomer sulfonate	ug/L	102.20000	99.80000	0	0.02	0	0
N-ethylperfluorooctane sulfonamide	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
EtFOSAA	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
N-ethylperfluorooctane sulfonamido	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
N-methylperfluorooctane sulfonamide	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
MeFOSAA	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
N-methylperfluorooctanesulfonamidol	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
Perfluorobutanoic acid	ug/L	115.00000	106.20000	0.00198	0.02	0	0
Perfluorobutane Sulfonate (PFBS)	ug/L	97.0	105.00000	0	0.02	0	0.00451
Perfluorodecane Sulfonate	ug/L	111.80000	108.40000	0	0.02	0	0
Perfluoroheptanoic Acid (PFHpA)	ug/L	105.00000	122.20000	0	0.02	0	0
Perfluoroheptane sulfonate	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
Perfluorohexanoic Acid (PFHxA)	ug/L	110.20000	119.80000	0	0.02	0	0.00335
Perfluorohexane Sulfonate (PFHxS)	ug/L	105.80000	109.60000	0	0.02	0	0.00549
Perfluorononanoic Acid (PFNA)	ug/L	101.00000	101.80000	0	0.02	0	0
Perfluorooctane Sulfonamide (PFOSA)	ug/L	108.80000	111.00000	0	0.02	0	0.00142
Perfluoropentanoic Acid (PFPeA)	ug/L	108.00000	109.20000	0	0.02	0	0.00716
Perfluorotetradecanoic Acid	ug/L	102.00000	101.20000	0	0.02	0	0
Perfluorotridecanoic Acid	ug/L	114.20000	91.20000	0	0.02	0	0
Perfluoroundecanoic Acid (PFUnA)	ug/L	105.80000	112.40000	0	0.02	0	0
Perfluorodecanoic Acid (PFDA)	ug/L	120.80000	112.40000	0	0.02	0	0
Perfluorododecanoic Acid (PFDoA)	ug/L	103.40000	120.00000	0	0.02	0	0
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	106.40000	112.20000	0	0.02	0	0.00166
Perfluorooctane Sulfonate (PFOS)	ug/L	101.20000	103.80000	0	0.02	0	0
13C2-6:2 Fluorotelomer sulfonate	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C2-8:2 Fluorotelomer sulfonate	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C2-perfluorotetradecanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C4-Perfluorobutanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C6-Perfluorohexanoic Acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C9-Perfluorodecanoic Acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C2-Perfluorodecanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C2-Perfluorododecanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C2-Perfluorohexanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C2-Perfluoroundecanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C4-Perfluoroheptanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C5-Perfluorononanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C4-Perfluorooctanoic acid	ug/L	98.2	93.1	82.1		71.8	89.4
13C4-Perfluorooctanesulfonate	ug/L	93.6	96.2	80.9		77.3	83.6
13C5-Perfluoropentanoic acid	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****
13C8-Perfluorooctanesulfonamide	ug/L	92.8	94.8	82.1		67.0	75.2
18O2-Perfluorohexanesulfonate	ug/L	N/A*****	N/A*****	N/A*****		N/A*****	N/A*****

PFOS and PFOA in water - Water
ug/L

Parameter Name	B6A2293 CJU466	B6A2293 CJU467	B6A2293 CJU470	B6A2293 CJU496	B6A2293 CJU498	B6A2293 CJU500	B6A2293 CJU502
6:2 Fluorotelomer sulfonate	0	0	0.00265	0.03780	0.03870	0.04410	0.03930
8:2 Fluorotelomer sulfonate	0	0	0	0.00252	0.00145	0.00207	0.00236
N-ethylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
EtFOSAA	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
MeFOSAA	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methylperfluorooctanesulfonamidol	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorobutanoic acid	0.01740	0.07990	0	0.12100	0.10900	0.06020	0.04560
Perfluorobutane Sulfonate (PFBS)	0.00419	0.01510	0	0.02110	0.02020	0.0164	0.0182
Perfluorodecane Sulfonate	0	0	0	0	0	0	0.00313
Perfluoroheptanoic Acid (PFHpA)	0.02590	0.05980	0	0.03450	0.03010	0.02900	0.03110
Perfluoroheptane sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorohexanoic Acid (PFHxA)	0.05330	0.18100	0.00182	0.13800	0.11400	0.10100	0.10600
Perfluorohexane Sulfonate (PFHxS)	0.01410	0.32400	0	0.42200	0.31500	0.27100	0.29400
Perfluorononanoic Acid (PFNA)	0.02650	0	0	0.01170	0.00933	0.01030	0.00963
Perfluorooctane Sulfonamide (PFOSA)	0	0	0	0	0	0	0.000804
Perfluoropentanoic Acid (PFPeA)	0.03650	0.17400	0.00467	0.08530	0.07440	0.08770	0.07970
Perfluorotetradecanoic Acid	0	0	0	0	0	0	0.00175
Perfluorotridecanoic Acid	0	0	0	0	0	0	0.00471
Perfluoroundecanoic Acid (PFUnA)	0	0	0	0.000778	0.000532	0.000838	0.00187
Perfluorodecanoic Acid (PFDA)	0.00961	0	0	0.02650	0.01910	0.02450	0.02250
Perfluorododecanoic Acid (PFDoA)	0	0	0	0.00350	0.00220	0.00325	0.00775
Perfluoro-n-Octanoic Acid (PFOA)	0.10200	0.04730	0	0.09860	0.07420	0.07200	0.07050
Perfluorooctane Sulfonate (PFOS)	0.09340	0	0	0.30600	0.27000	0.28000	0.30000
13C2-6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C2-8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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 *****
13C6-Perfluorohexanoic Acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C9-Perfluorodecanoic Acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methyl-d3-perfluorooctane sulfona	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethyl-d5-perfluorooctane sulfonam	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C5-Perfluorononanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C4-Perfluorooctanoic acid	89.6	93.2	91.6	93.3	79.0	85.9	86.6
13C4-Perfluorooctanesulfonate	84.9	82.3	90.7	85.7	77.6	81.5	84.3
13C5-Perfluoropentanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C8-Perfluorooctanesulfonamide	83.8	80.8	83.4	87.4	86.4	81.1	88.9
18O2-Perfluorohexanesulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****

PFOS and PFOA in water - Water
ug/L

Parameter Name	DL	B6A2293 CJU504	B6A2293 CJU506	DL	B6A3190 CJZ596	B6A3190 CJZ597	B6A3190 CJZ598
6:2 Fluorotelomer sulfonate	0.02	0.02610	0.02340	0.02	N/A *****	N/A *****	N/A *****
8:2 Fluorotelomer sulfonate	0.02	0.000855	0	0.02	N/A *****	N/A *****	N/A *****
N-ethylperfluorooctane sulfonamide	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
EtFOSAA	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
N-ethylperfluorooctane sulfonamido	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
N-methylperfluorooctane sulfonamide	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
MeFOSAA	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
N-methylperfluorooctanesulfonamidol	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
Perfluorobutanoic acid	0.02	0.09540	0.05530	0.02	N/A *****	N/A *****	N/A *****
Perfluorobutane Sulfonate (PFBS)	0.02	0.0604	0.0568	0.02	0	0.00446	0.0140
Perfluorodecane Sulfonate	0.02	0.00163	0.00484	0.02	N/A *****	N/A *****	N/A *****
Perfluoroheptanoic Acid (PFHpA)	0.02	0.08140	0.07720	0.02	N/A *****	N/A *****	N/A *****
Perfluoroheptane sulfonate	0.02	N/A *****	N/A *****	0.02	N/A *****	N/A *****	N/A *****
Perfluorohexanoic Acid (PFHxA)	0.02	0.21800	0.21400	0.02	N/A *****	N/A *****	N/A *****
Perfluorohexane Sulfonate (PFHxS)	0.02	1.30000	1.04000	0.2	N/A *****	N/A *****	N/A *****
Perfluorononanoic Acid (PFNA)	0.02	0.02460	0.01990	0.02	N/A *****	N/A *****	N/A *****
Perfluorooctane Sulfonamide (PFOSA)	0.02	0.01120	0.00147	0.02	N/A *****	N/A *****	N/A *****
Perfluoropentanoic Acid (PFPeA)	0.02	0.17500	0.19900	0.02	N/A *****	N/A *****	N/A *****
Perfluorotetradecanoic Acid	0.02	0	0	0.02	N/A *****	N/A *****	N/A *****
Perfluorotridecanoic Acid	0.02	0	0	0.02	N/A *****	N/A *****	N/A *****
Perfluoroundecanoic Acid (PFUnA)	0.02	0.00102	0.00182	0.02	N/A *****	N/A *****	N/A *****
Perfluorodecanoic Acid (PFDA)	0.02	0.02610	0.02020	0.02	N/A *****	N/A *****	N/A *****
Perfluorododecanoic Acid (PFDoA)	0.02	0.000301	0.00191	0.02	N/A *****	N/A *****	N/A *****
Perfluoro-n-Octanoic Acid (PFOA)	0.02	0.13700	0.11400	0.02	0.00709	0.01190	0.03230
Perfluorooctane Sulfonate (PFOS)	0.02	1.44000	1.05000	0.2	0	0	0.05050
13C2-6:2 Fluorotelomer sulfonate		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C2-8:2 Fluorotelomer sulfonate		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C2-perfluorotetradecanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C4-Perfluorobutanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C6-Perfluorohexanoic Acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C9-Perfluorodecanoic Acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
N-methyl-d3-perfluorooctane sulfona		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
N-ethyl-d5-perfluorooctane sulfonam		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C2-Perfluorodecanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C2-Perfluorododecanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C2-Perfluorohexanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C2-Perfluoroundecanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C4-Perfluoroheptanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C5-Perfluorononanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C4-Perfluorooctanoic acid		82.8	71.6		90.5	81.5	93.5
13C4-Perfluorooctanesulfonate		86.1	87.6		92.4	79.9	93.7
13C5-Perfluoropentanoic acid		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****
13C8-Perfluorooctanesulfonamide		85.6	74.6		N/A *****	N/A *****	N/A *****
18O2-Perfluorohexanesulfonate		N/A *****	N/A *****		N/A *****	N/A *****	N/A *****

PFOS and PFOA in water - Water
ug/L

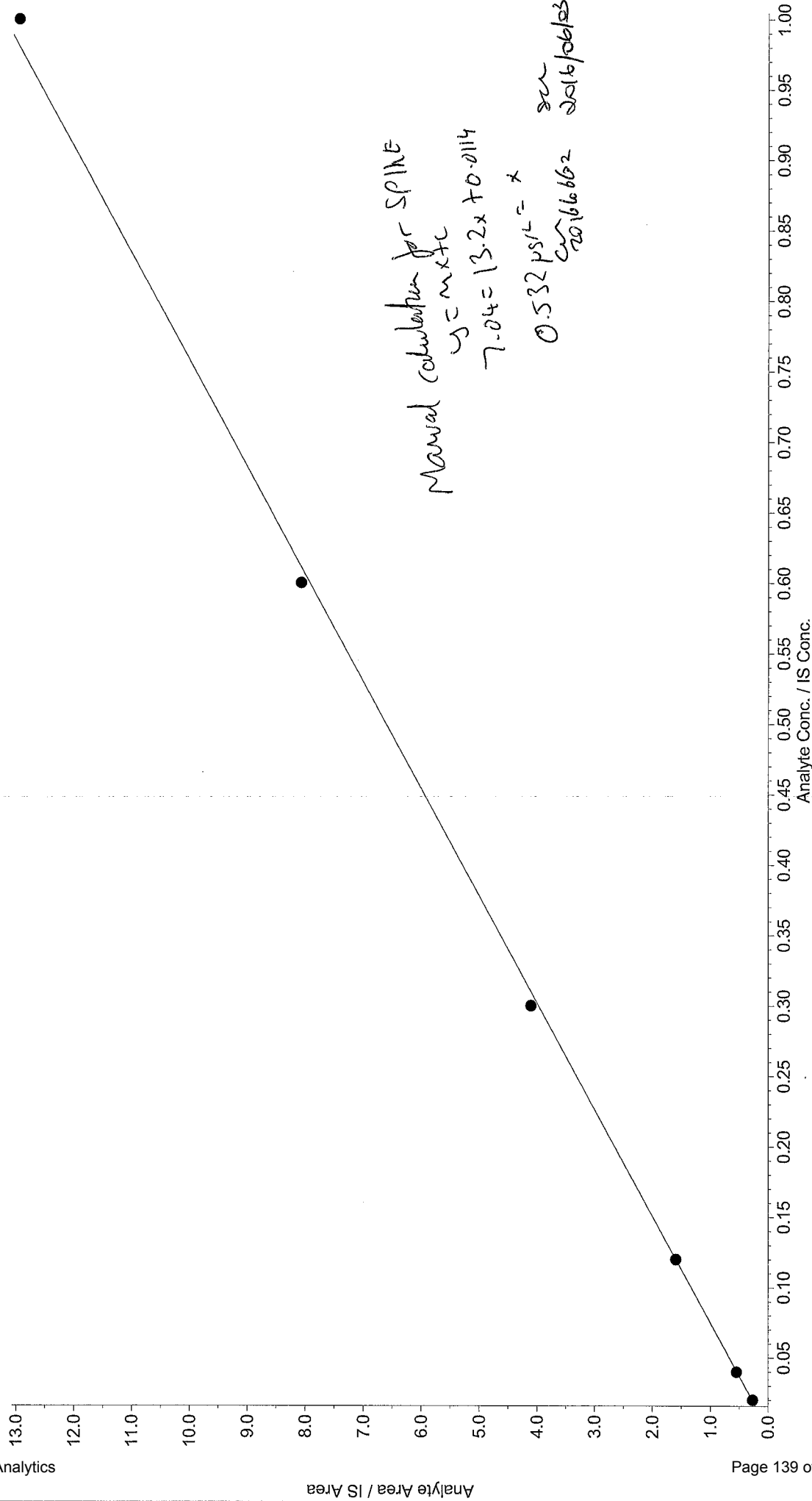
Parameter Name	B6A3190 CJZ599	B6A3190 CJZ600	B6A3190 CJZ601	DL	B6A3190 CJZ618	DL	RDL
6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
N-ethylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
EtFOSAA	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
N-ethylperfluorooctane sulfonamido	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
N-methylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
MeFOSAA	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
N-methylperfluorooctanesulfonamidol	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorobutanoic acid	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorobutane Sulfonate (PFBS)	0	0	0	0.02	0	0.032	0.02
Perfluorodecane Sulfonate	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluoroheptanoic Acid (PFHpA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluoroheptane sulfonate	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorohexanoic Acid (PFHxA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorohexane Sulfonate (PFHxS)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorononanoic Acid (PFNA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorooctane Sulfonamide (PFOSA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluoropentanoic Acid (PFPeA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorotetradecanoic Acid	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorotridecanoic Acid	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluoroundecanoic Acid (PFUnA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorodecanoic Acid (PFDA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluorododecanoic Acid (PFDoA)	N/A *****	N/A *****	N/A *****	0.02	N/A *****	0.032	0.02
Perfluoro-n-Octanoic Acid (PFOA)	0.00633	0	0	0.02	0	0.032	0.02
Perfluorooctane Sulfonate (PFOS)	0	0	0	0.02	0	0.032	0.02
13C2-6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****		N/A *****		
13C2-8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****		N/A *****		
13C2-perfluorotetradecanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C4-Perfluorobutanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C6-Perfluorohexanoic Acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C9-Perfluorodecanoic Acid	N/A *****	N/A *****	N/A *****		N/A *****		
N-methyl-d3-perfluorooctane sulfona	N/A *****	N/A *****	N/A *****		N/A *****		
N-ethyl-d5-perfluorooctane sulfonam	N/A *****	N/A *****	N/A *****		N/A *****		
13C2-Perfluorodecanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C2-Perfluorododecanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C2-Perfluorohexanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C2-Perfluoroundecanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C4-Perfluoroheptanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C5-Perfluorononanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C4-Perfluorooctanoic acid	85.9	92.6	90.6		91.4		
13C4-Perfluorooctanesulfonate	85.2	87.0	95.5		92.9		
13C5-Perfluoropentanoic acid	N/A *****	N/A *****	N/A *****		N/A *****		
13C8-Perfluorooctanesulfonamide	N/A *****	N/A *****	N/A *****		N/A *****		
18O2-Perfluorohexanesulfonate	N/A *****	N/A *****	N/A *****		N/A *****		

PFOS and PFOA in water - Water
ug/L

Parameter Name	MDL	IDL					
6:2 Fluorotelomer sulfonate	0.0065	0					
8:2 Fluorotelomer sulfonate	0.0055	0					
N-ethylperfluorooctane sulfonamide	0.0053	0					
EtFOSAA	0.004	0					
N-ethylperfluorooctane sulfonamido	0.0049	0					
N-methylperfluorooctane sulfonamide	0.004	0					
MeFOSAA	0.0043	0					
N-methylperfluorooctanesulfonamidol	0.0061	0					
Perfluorobutanoic acid	0.0066	0					
Perfluorobutane Sulfonate (PFBS)	0.0019	0					
Perfluorodecane Sulfonate	0.0043	0					
Perfluoroheptanoic Acid (PFHpA)	0.0047	0					
Perfluoroheptane sulfonate	0.0036	0					
Perfluorohexanoic Acid (PFHxA)	0.0046	0					
Perfluorohexane Sulfonate (PFHxS)	0.004	0					
Perfluorononanoic Acid (PFNA)	0.0046	0					
Perfluorooctane Sulfonamide (PFOSA)	0.0058	0					
Perfluoropentanoic Acid (PFPeA)	0.0036	0					
Perfluorotetradecanoic Acid	0.0052	0					
Perfluorotridecanoic Acid	0.0032	0					
Perfluoroundecanoic Acid (PFUnA)	0.0037	0					
Perfluorodecanoic Acid (PFDA)	0.0066	0					
Perfluorododecanoic Acid (PFDoA)	0.0057	0					
Perfluoro-n-Octanoic Acid (PFOA)	0.0053	0					
Perfluorooctane Sulfonate (PFOS)	0.0033	0					
13C2-6:2 Fluorotelomer sulfonate							
13C2-8:2 Fluorotelomer sulfonate							
13C2-perfluorotetradecanoic acid							
13C4-Perfluorobutanoic acid							
13C6-Perfluorohexanoic Acid							
13C9-Perfluorodecanoic Acid							
N-methyl-d3-perfluorooctane sulfona							
N-ethyl-d5-perfluorooctane sulfonam							
13C2-Perfluorodecanoic acid							
13C2-Perfluorododecanoic acid							
13C2-Perfluorohexanoic acid							
13C2-Perfluoroundecanoic acid							
13C4-Perfluoroheptanoic acid							
13C5-Perfluorononanoic acid							
13C4-Perfluorooctanoic acid							
13C4-Perfluorooctanesulfonate							
13C5-Perfluoropentanoic acid							
13C8-Perfluorooctanesulfonamide							
18O2-Perfluorohexanesulfonate							

Maxxam Analytics

PFC_Water_160531_4517563_Low.rdb (PFOA 1): "Linear" Regression ("1 / x" weighting): $y = 13.2x + 0.0114$ ($r = 0.9997$)



Page 139 of 254

Results Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\PFOS\Results\PFC_Water_160531_4517563_Low.rdb

Printing Date: Thursday, June 02, 2016

Mass Scan Analysis

Sample Name: STD 6 Sample ID: PFC_Water_160531_4517563_Low.rdb

Peak Name: PFBA Mass(es): 212.00016800 Da

Concentration: 0.300 ug/L

Sample Index: 6

Sample Type: Standard

Concentration: 0.300 ug/L

Acquired On: 2016/05/31

Acquired Time: 2:24:55 PM

Acq. Time: 2:24:55 PM

Method: No

Modif. No

Modif. No

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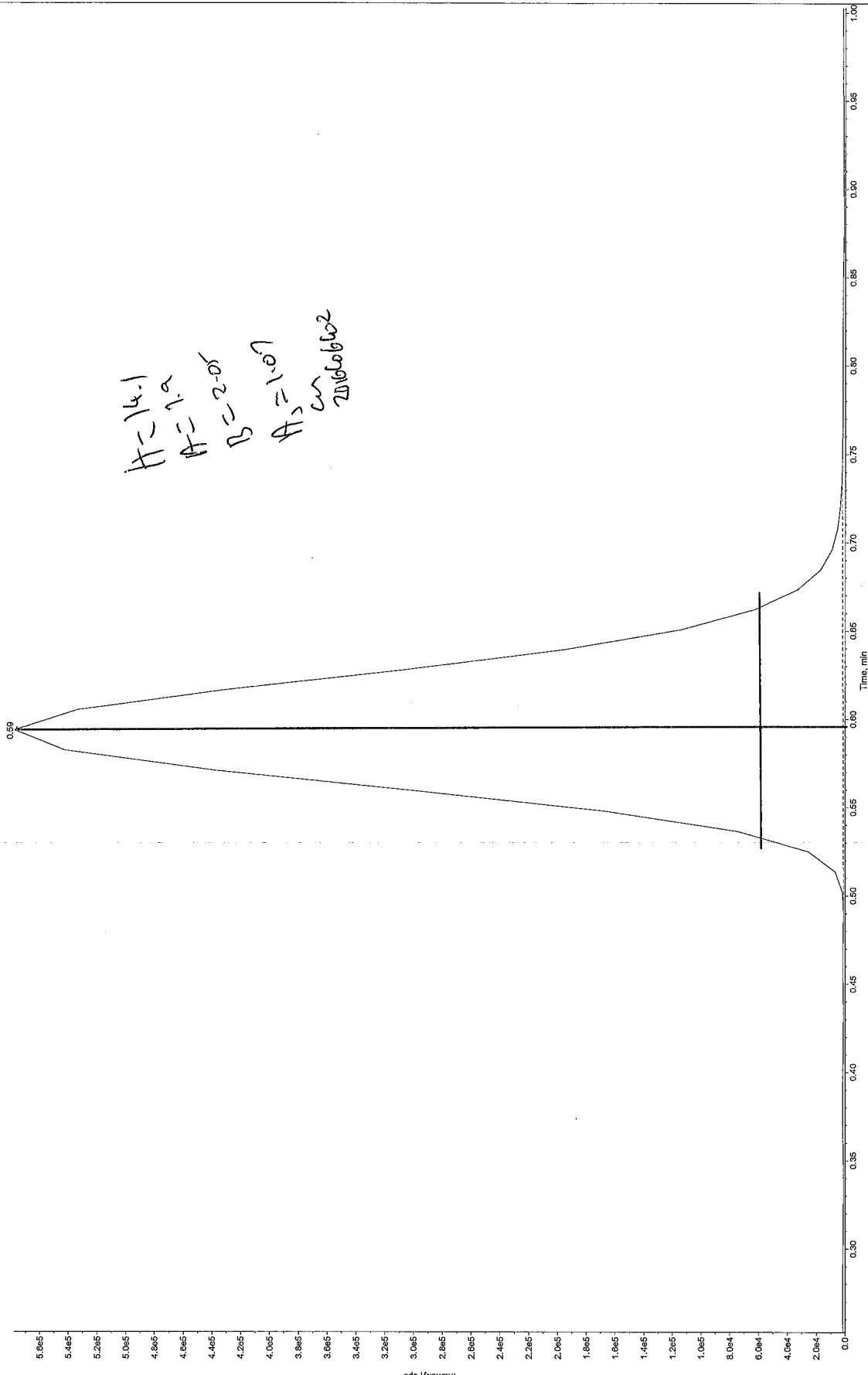
Modif. No

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Modif. No

Modif. No

Modif. No



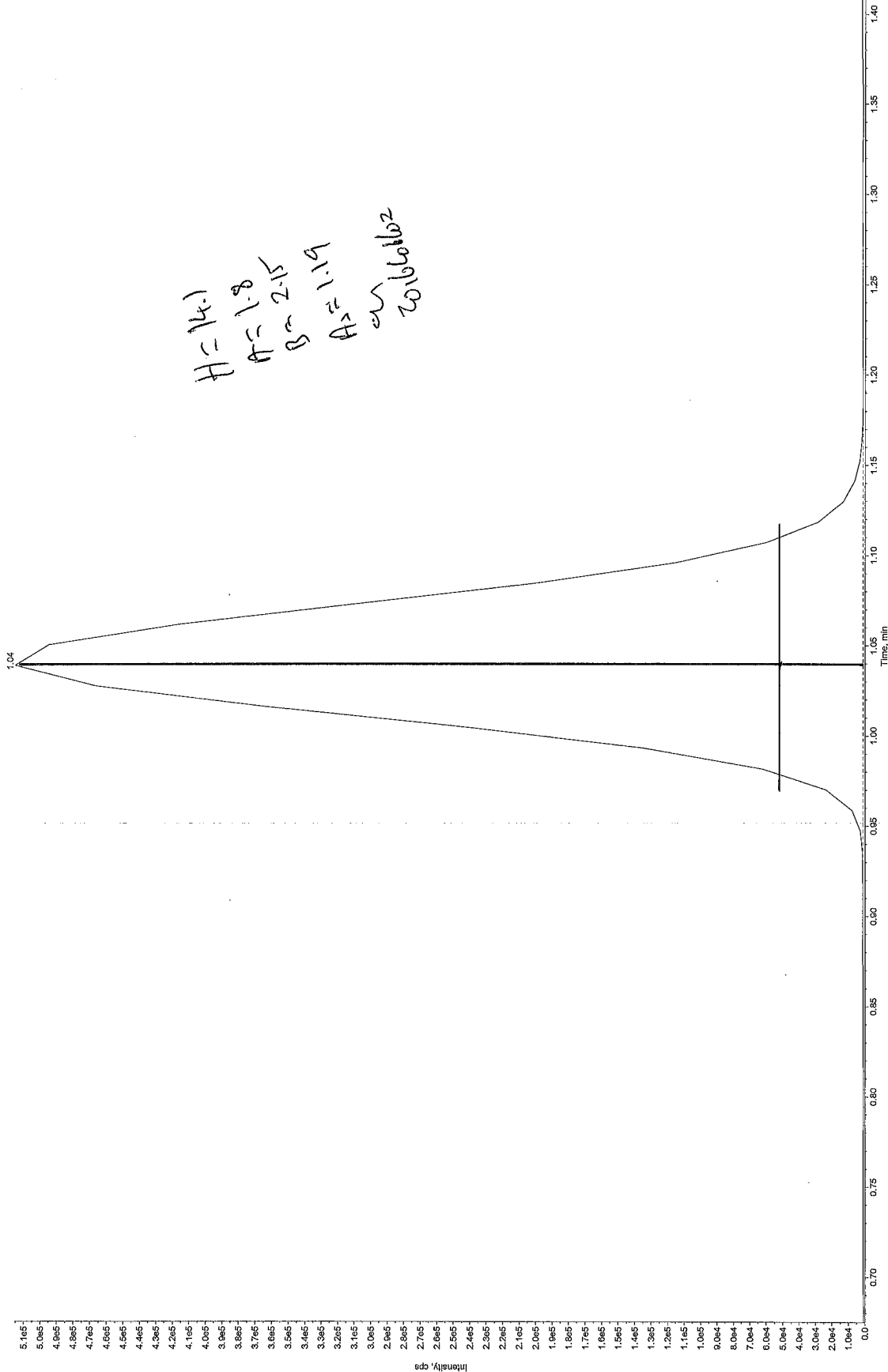
Results Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\PFOS\Results\PFOS_Water_160531_4517563_Low.rdb

Printing Date: Thursday, June 02, 2016

MaxAm Analytics

Sample Name: STD 4 Sample ID: File: VMS4517563.off
Peak Name: PFCd 1* Method: 202.00248.000.Da
Component: Annotation: *

Sample Index: 6
Sample Type: Standard
Concentration: 0.300 ug/L
Date Acquired: 2016/05/31
Acq. Time: 2:24:55 PM
Modi: No
Acquisition: Analyst Classic
Bunching Factor: 4.765
Noise Threshold: 500.00 cps
Area Threshold: 3000.00 cps
Num. Smooths: 7
Exp. Ratio: 0.00
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
Exp. Window: 30.0 sec
Exp. Window ST: 1.05 min
Use Relative RT: No
Int. Type: Base To Base
Retention Time: 1.04 min
Peak Height: 1.04 cps
Start Time: 0.879 min
End Time: 1.19 min



<u>Sample Number</u>	<u>Parameter</u>	
CJU460-01	6:2 Fluorotelomer sulfonate	*
CJU461-01	8:2 Fluorotelomer sulfonate	*
CJU466-01	Perfluorobutanoic acid	
CJU467-01	Perfluorobutane Sulfonate (PFBS)	
CJU470-01	Perfluorodecanoic Acid (PFDA)	
CJU496-01	Perfluorododecanoic Acid (PFDoA)	
CJU498-01	Perfluorodecane Sulfonate	
CJU500-01	Perfluoroheptanoic Acid (PFHpA)	
CJU502-01	Perfluorohexanoic Acid (PFHxA)	
CJU504-01	Perfluorohexane Sulfonate (PFHxS)	
CJU506-01	Perfluorononanoic Acid (PFNA)	
	Perfluoro-n-Octanoic Acid (PFOA)	
	Perfluorooctane Sulfonate (PFOS)	
	Perfluorooctane Sulfonamide (PFOSA)	
	Perfluoropentanoic Acid (PFPeA)	
	Perfluorotetradecanoic Acid	
	Perfluorotridecanoic Acid	
	Perfluoroundecanoic Acid (PFUnA)	
CJZ596-01	6:2 Fluorotelomer sulfonate	*
CJZ597-01	8:2 Fluorotelomer sulfonate	*
CJZ598-01	Perfluorobutane Sulfonate (PFBS)	
CJZ599-01	Perfluoro-n-Octanoic Acid (PFOA)	
CJZ600-01	Perfluorooctane Sulfonate (PFOS)	
CJZ601-01		
CJZ618-01		

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 4517563 Instrument Sequences

1.		SPIKE
	4517563:SPIKE	
2.		SPIKE :D1
	4517563:SPIKE:D1	
3.		BLANK
	4517563:BLANK	
4.		
	4517563:CJU460-01	
5.		
	4517563:CJU461-01	
6.		
	4517563:CJU466-01	
7.		
	4517563:CJU467-01	
8.		
	4517563:CJU470-01	
9.		
	4517563:CJU496-01	
10.		
	4517563:CJU498-01	
11.		
	4517563:CJU500-01	
12.		
	4517563:CJU502-01	
13.		
	4517563:CJU504-01	
14.		
	4517563:CJU506-01	
15.		2014188-619
	4517563:CJZ596-01	
16.		2014188-620
	4517563:CJZ597-01	
17.		2014188-621
	4517563:CJZ598-01	
18.		2014188-643
	4517563:CJZ599-01	
19.		2014188-623
	4517563:CJZ600-01	
20.		2014188-624
	4517563:CJZ601-01	
21.		2014188-631
	4517563:CJZ618-01	

Worksheet Reagent Tracking Record

Worksheet # 4517563

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 Second Source Working Std			2500 ug/L	NA	80	NA	80	NA	NA
Morpholine-D8 Internal Standard			10 ug/mL	NA	50	NA	50	NA	50
Steril Second Source Spiking Solution			NA	20	NA	20	NA	NA	NA
Sterilants Comp. IS Working Solution			3 ug/mL	50	NA	50	NA	50	NA
Comp. PFC Working Solution A	✓	I 4730	1ug/mL	75	21	62.5	75	21	62.5
PFC Internal Standard Solution	✓	SI 6100	50/125 ng/mL	200	100	150	200	100	150
PFC Injection IS	✓	SI 6079	400 ng/mL	20	20	20	20	20	20
ICV	✓	I 4730	1ug/mL			62.5			
Solvent/Reagent	✓	Lot No.	Date Opened	Solvent/Reagent	✓	Lot No.	Date Opened/ Prepared	*Spiked by: EHL Spike Date 2016/05/30	
DCM				50% NaOH					
Ottawa Sand				o-Phosphoric Acid				Spike Syringe/Pipette ID# M23487B	
Methanol	✓	SHBA 0531V	2016/05/27	Borax					
2-Propanol (IPA)				Calcium Chloride				Int. Std Syringe/Pipette ID# K19609D	
Acetonitrile				EDTA					
Sodium Sulfate				Phosphate Buffer				*Spiking Witnessed by: SSV	
70:30 Methanol: Water				Sodium Thiosulphate					
60:40 Water: Methanol	✓	PRLRE	87-360	DNPH				Final pH	
DCM:Ethyl Ether (75:25)				FMOC					
Hexane:IPA (98:2)				5M Acetate Buffer				X	
2% Formic Acid	✓	PRLRE	87-361	0.2% NH ₄ OH	✓	PRLRE	87-364		
0.2% Formic Acid	✓	PRLRE	87-284	Leachate Fluid					
0.05M KOH				Reagent Water	✓	SHBG 9364V	2016/05/27		
0.05M HCl									
Equipment & ID	✓	Equipment	ID#	✓	Equipment	Lot #	Bottle Tracking		
Pipettor		SPE Cartridge	002635315A	✓	QC Balance ID		Bottle# 14168		
		Filter			Thermometer ID & Temp		Cap# 15960		
Dispenser		Centrifuge					Systems plus Lot#		
		Sonicator					16-05-11		

Comments: 125 mL Ref. Bottle (HPLC)

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

Re: B6A3190

Melissa DiGrazia

Sent: Monday, May 30, 2016 2:23 PM

To: Adam Robinson

Cc: Emily Henderson

Hi Adam,

I believe I sent an email out but yes proceed with the volume available-client did the best they could but it seems some leaked.

Thanks!

Melissa Di Grazia, B.Sc.

Project Manager - Ultra Trace Analysis

Sent from my iPhone

Office 905 817 5700, ext. 5784 / Mobile 416 717 8264

Toll free 800 563 6266 / Fax 905 817 5775

6740 Campobello Rd., Mississauga, ON L5N 2L8

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On May 30, 2016, at 2:22 PM, Adam Robinson <ARobinson@maxxam.ca> wrote:

Hi Melissa,

OTIE sample CJZ618 is low volume (<125mL) and expires today. Can we proceed with analysis on whatever volume is available?

Thanks,

ADAM ROBINSON

Supervisor, Liquid Chromatography

Office 905 817 5700, ext. 4057 / Mobile 416 527 3713

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Batch Name: D:\Analyst Data\Projects\Enviro\PFOS\Batch\PFC_160531.dab

Printing Date: Tuesday, May 31, 2016

Project: D:\Analyst Data\Projects\Enviro\PFOS Batch:PFC_160531 Tab:Sample Set:SET1 AcqMethod:PFC_Water_Low.dam
Sample

	Sample Name	Rack Code	Rack Position	Plate Code	Plate Position	Vial Position	Data File	Inj. Volume (µl)
1	RINSE	2 Well Plates	1	*54VialPlate*	1	1	PFC_160531WS#4517469	2.000
2	4517469-BLANK	2 Well Plates	1	*54VialPlate*	1	2	PFC_160531WS#4517469	2.000
3	STD 1	2 Well Plates	1	*54VialPlate*	1	3	PFC_160531WS#4517469	2.000
4	STD 2	2 Well Plates	1	*54VialPlate*	1	4	PFC_160531WS#4517469	2.000
5	STD 3	2 Well Plates	1	*54VialPlate*	1	5	PFC_160531WS#4517469	2.000
6	STD 4	2 Well Plates	1	*54VialPlate*	1	6	PFC_160531WS#4517469	2.000
7	STD 5	2 Well Plates	1	*54VialPlate*	1	7	PFC_160531WS#4517469	2.000
8	STD 6	2 Well Plates	1	*54VialPlate*	1	8	PFC_160531WS#4517469	2.000
9	ICV	2 Well Plates	1	*54VialPlate*	1	9	PFC_160531WS#4517469	2.000
10	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160531WS#4517469	2.000
11	4517469-MTRX SPK	2 Well Plates	1	*54VialPlate*	1	10	PFC_160531WS#4517469	2.000
12	4517469-SPK1E	2 Well Plates	1	*54VialPlate*	1	11	PFC_160531WS#4517469	2.000
13	4517469-CJJ793-08 (5x)	2 Well Plates	1	*54VialPlate*	1	12	PFC_160531WS#4517469	2.000
14	4517469-CJJ794-08 (5x)	2 Well Plates	1	*54VialPlate*	1	13	PFC_160531WS#4517469	2.000
15	4517469-CJJ795-08 (5x)	2 Well Plates	1	*54VialPlate*	1	14	PFC_160531WS#4517469	2.000
16	4517469-CJK359-01	2 Well Plates	1	*54VialPlate*	1	15	PFC_160531WS#4517469	2.000
17	4517469-CJK359-01.D1	2 Well Plates	1	*54VialPlate*	1	16	PFC_160531WS#4517469	2.000
18	4517469-CJK360-01	2 Well Plates	1	*54VialPlate*	1	17	PFC_160531WS#4517469	2.000
19	4517469-CJK361-01	2 Well Plates	1	*54VialPlate*	1	18	PFC_160531WS#4517469	2.000
20	4517469-CKN898-01	2 Well Plates	1	*54VialPlate*	1	19	PFC_160531WS#4517469	2.000
21	4517469-CKN899-01	2 Well Plates	1	*54VialPlate*	1	20	PFC_160531WS#4517469	2.000
22	4517469-CKN900-01	2 Well Plates	1	*54VialPlate*	1	21	PFC_160531WS#4517469	2.000
23	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160531WS#4517469	2.000
24	4517469-CKN901-01	2 Well Plates	1	*54VialPlate*	1	22	PFC_160531WS#4517469	2.000
25	4517469-CKN975-01	2 Well Plates	1	*54VialPlate*	1	23	PFC_160531WS#4517469	2.000
26	4517469-CKN976-01	2 Well Plates	1	*54VialPlate*	1	24	PFC_160531WS#4517469	2.000
27	4517469-CKO003-01	2 Well Plates	1	*54VialPlate*	1	25	PFC_160531WS#4517469	2.000
28	4517469-CJF891-01 (5x)	2 Well Plates	1	*54VialPlate*	1	26	PFC_160531WS#4517469	2.000
29	4517469-CJF892-01 (5x)	2 Well Plates	1	*54VialPlate*	1	27	PFC_160531WS#4517469	2.000
30	4517469-CJF893-01 (5x)	2 Well Plates	1	*54VialPlate*	1	28	PFC_160531WS#4517469	2.000
31	4517469-CJF895-01 (5x)	2 Well Plates	1	*54VialPlate*	1	29	PFC_160531WS#4517469	2.000
32	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160531WS#4517469	2.000
33	4517563-BLANK	2 Well Plates	1	*54VialPlate*	1	30	PFC_160531WS#4517563	2.000
34	4517563-SPK1E	2 Well Plates	1	*54VialPlate*	1	31	PFC_160531WS#4517563	2.000
35	4517563-SPKED1	2 Well Plates	1	*54VialPlate*	1	32	PFC_160531WS#4517563	2.000
36	4517563-CJU460-01	2 Well Plates	1	*54VialPlate*	1	33	PFC_160531WS#4517563	2.000
37	4517563-CJU461-01	2 Well Plates	1	*54VialPlate*	1	34	PFC_160531WS#4517563	2.000
38	4517563-CJU466-01	2 Well Plates	1	*54VialPlate*	1	35	PFC_160531WS#4517563	2.000
39	4517563-CJU467-01	2 Well Plates	1	*54VialPlate*	1	36	PFC_160531WS#4517563	2.000
40	4517563-CJU470-01	2 Well Plates	1	*54VialPlate*	1	37	PFC_160531WS#4517563	2.000
41	4517563-CJU486-01	2 Well Plates	1	*54VialPlate*	1	38	PFC_160531WS#4517563	2.000
42	4517563-CJU498-01	2 Well Plates	1	*54VialPlate*	1	39	PFC_160531WS#4517563	2.000
43	4517563-CJU500-01	2 Well Plates	1	*54VialPlate*	1	40	PFC_160531WS#4517563	2.000
44	4517563-CJU502-01	2 Well Plates	1	*54VialPlate*	1	41	PFC_160531WS#4517563	2.000
45	4517563-CJU504-01 (10x)	2 Well Plates	1	*54VialPlate*	1	42	PFC_160531WS#4517563	2.000
46	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160531WS#4517563	2.000
47	4517563-CJU506-01 (10x)	2 Well Plates	1	*54VialPlate*	1	43	PFC_160531WS#4517563	2.000
48	4517563-CJZ596-01	2 Well Plates	1	*54VialPlate*	1	44	PFC_160531WS#4517563	2.000
49	4517563-CJZ597-01	2 Well Plates	1	*54VialPlate*	1	45	PFC_160531WS#4517563	2.000
50	4517563-CJZ598-01	2 Well Plates	1	*54VialPlate*	1	46	PFC_160531WS#4517563	2.000
51	4517563-CJZ599-01	2 Well Plates	1	*54VialPlate*	1	47	PFC_160531WS#4517563	2.000
52	4517563-CJZ600-01	2 Well Plates	1	*54VialPlate*	1	48	PFC_160531WS#4517563	2.000
53	4517563-CJZ601-01	2 Well Plates	1	*54VialPlate*	1	49	PFC_160531WS#4517563	2.000
54	4517563-CJZ618-01	2 Well Plates	1	*54VialPlate*	1	50	PFC_160531WS#4517563	2.000
55	4517563-CJU504-01	2 Well Plates	1	*54VialPlate*	1	51	PFC_160531WS#4517563	2.000
56	4517563-CJU506-01	2 Well Plates	1	*54VialPlate*	1	52	PFC_160531WS#4517563	2.000
57	CCV	2 Well Plates	1	*54VialPlate*	1	6	PFC_160531WS#4517563	2.000
58	4513203-BLANK	2 Well Plates	1	*54VialPlate*	2	2	PFC_160531WS#4513203	2.000
59	STD 1	2 Well Plates	1	*54VialPlate*	2	3	PFC_160531WS#4513203	2.000
60	STD 2	2 Well Plates	1	*54VialPlate*	2	4	PFC_160531WS#4513203	2.000
61	STD 3	2 Well Plates	1	*54VialPlate*	2	5	PFC_160531WS#4513203	2.000
62	STD 4	2 Well Plates	1	*54VialPlate*	2	6	PFC_160531WS#4513203	2.000
63	STD 5	2 Well Plates	1	*54VialPlate*	2	7	PFC_160531WS#4513203	2.000
64	STD 6	2 Well Plates	1	*54VialPlate*	2	8	PFC_160531WS#4513203	2.000
65	ICV	2 Well Plates	1	*54VialPlate*	2	9	PFC_160531WS#4513203	2.000
66	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160531WS#4513203	2.000
67	4513203-SPK1E	2 Well Plates	1	*54VialPlate*	2	10	PFC_160531WS#4513203	2.000
68	4513203-SPKED1	2 Well Plates	1	*54VialPlate*	2	11	PFC_160531WS#4513203	2.000
69	4513203-SPKED2	2 Well Plates	1	*54VialPlate*	2	12	PFC_160531WS#4513203	2.000
70	4513203-SPKED3	2 Well Plates	1	*54VialPlate*	2	13	PFC_160531WS#4513203	2.000
71	CCV	2 Well Plates	1	*54VialPlate*	2	6	PFC_160531WS#4513203	2.000

Column #128
 mPA = Soln # 590, FJREN
 mPB = MeOH, Sample # SHB68325V
 on 2016/5/31

Results Path: \\miss-netapp2\lcm\slcms3\Analyst

Printing Date: Thursday, June 09, 2016

Data\Projects\Enviro\PFOS\Results\PFC_Water_160531_4517563_Low_OTIE.rdb

Sample ID	Sample Annotation	Acquisition Date	Acquisition Method	File Name	Rack Type	Rack Position	Vial Position	Plate Type	Plate Position
1 STD 1	-	2016/05/31 2:09:42 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	3	*54VialPlate*	1
2 STD 2	-	2016/05/31 2:14:46 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	4	*54VialPlate*	1
3 STD 3	-	2016/05/31 2:19:51 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	5	*54VialPlate*	1
4 STD 4	-	2016/05/31 2:24:55 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	6	*54VialPlate*	1
5 STD 5	-	2016/05/31 2:29:59 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	7	*54VialPlate*	1
6 STD 6	-	2016/05/31 2:35:04 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	8	*54VialPlate*	1
7 ICV	-	2016/05/31 2:40:09 PM	PFC_Water_Low.dam	PFC_160531IWS#4517469.wiff	2 Well Plates	1	9	*54VialPlate*	1
8 COV	-	2016/05/31 4:36:57 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	6	*54VialPlate*	1
9 4517563-BLANK	-	2016/05/31 4:52:10 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	30	*54VialPlate*	1
10 4517563-SPIKE	-	2016/05/31 4:57:15 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	31	*54VialPlate*	1
11 4517563-SPIKE-D1	-	2016/05/31 5:02:20 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	32	*54VialPlate*	1
12 4517563-CJU460-01	-	2016/05/31 5:07:25 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	33	*54VialPlate*	1
13 4517563-CJU461-01	-	2016/05/31 5:12:30 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	34	*54VialPlate*	1
14 4517563-CJU466-01	-	2016/05/31 5:17:35 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	35	*54VialPlate*	1
15 4517563-CJU467-01	-	2016/05/31 5:22:39 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	36	*54VialPlate*	1
16 4517563-CJU498-01	-	2016/05/31 5:27:44 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	37	*54VialPlate*	1
17 4517563-CJU496-01	-	2016/05/31 5:32:49 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	38	*54VialPlate*	1
18 4517563-CJU498-01	-	2016/05/31 5:37:55 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	39	*54VialPlate*	1
19 4517563-CJU500-01	-	2016/05/31 5:43:00 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	40	*54VialPlate*	1
20 4517563-CJU502-01	-	2016/05/31 5:48:09 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	41	*54VialPlate*	1
21 4517563-CJU504-01 (10x)	Reported for PFHxS & PFOS only	2016/05/31 5:53:17 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	42	*54VialPlate*	1
22 COV	-	2016/05/31 5:58:22 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	6	*54VialPlate*	1
23 4517563-CJU506-01 (10x)	Reported for PFHxS & PFOS only	2016/05/31 6:03:26 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	43	*54VialPlate*	1
24 4517563-CJZ596-01	-	2016/05/31 6:08:32 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	44	*54VialPlate*	1
25 4517563-CJZ597-01	-	2016/05/31 6:13:38 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	45	*54VialPlate*	1
26 4517563-CJZ598-01	-	2016/05/31 6:18:43 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	46	*54VialPlate*	1
27 4517563-CJZ599-01	-	2016/05/31 6:23:48 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	47	*54VialPlate*	1
28 4517563-CJZ600-01	-	2016/05/31 6:28:52 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	48	*54VialPlate*	1
29 4517563-CJZ601-01	-	2016/05/31 6:33:56 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	49	*54VialPlate*	1
30 4517563-CJZ618-01	-	2016/05/31 6:39:00 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	50	*54VialPlate*	1
31 4517563-CJU504-01	Reported for all analytes except PFHxS & PFOS	2016/05/31 6:44:04 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	51	*54VialPlate*	1
32 4517563-CJU506-01	Reported for all analytes except PFHxS & PFOS	2016/05/31 6:49:10 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	52	*54VialPlate*	1
33 COV	-	2016/05/31 6:54:15 PM	PFC_Water_Low.dam	PFC_160531IWS#4517563.wiff	2 Well Plates	1	6	*54VialPlate*	1

DoD Projects - Internal Data Validation Checklist				
Run date: 2016/05/31				
Worksheet # (s): 4518651				
Analysis: P103ALUM-W			1st 100% review	
Primary review by the analyst - 1st 100 % analysis review			yes	no
			n/a	2nd 100% review
1	Sample analyses meet hold time criteria	completable	X	/
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	no blank	X	/
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: [Signature]		Date: 2016/06/06		
Comments:				
Secondary Supervisor/Qualified Data Review Staff - 2nd 100% verification review				
			yes	no
			n/a	
1	Repeats documented and referenced		/	
2	Method and sample deviations noted, anomalies described (if applicable)		/	
3	Data and QC validated in LIMS		/	
4	Random calculation checked		/	
5	Benchsheet (s) signed and dated		/	
6	Data Package (if required) checked for completeness		/	
Reviewed by: [Signature]		Date: 2016/06/06		
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 # <u>4518651</u>		Testcode: <u>PFQALCM-W</u>	
Sample Preparation		yes	no
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: <u>[Signature]</u>		Date: <u>2016/05/31</u>	
Comments: <u>* C2606 to C2615: Reviewed for SPE</u> <u>* Spike and spike dup was performed instead of MS/MSD. Insufficient amount of sample.</u>			
Worksheet Approval		yes	no
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: <u>[Signature]</u>		Date: <u>2016/06/06</u>	
Comments:			
Worksheet Validation		yes	no
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: <u>[Signature]</u>		Date: <u>2016/06/06</u>	
Comments:			

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Tuesday, May 31, 2016

Assigned to : Melinda Molina

Test Code : PFOSALCM-W

Instrument Id:

Test Description : 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
	SPIKE	0	PFOS		0	125	3	1X					2016/05/31
	SPIKE	1	PFOS		0	125	3	1X					2016/05/31
	BLANK				0	125	3	1X					2016/05/31
B6A3190	*CJZ602-01R		2014188-625	✓	0	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ603-01R		2014188-626	✓	0	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ604-01R		2014188-627	✓	0	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ605-01R	✓	2014188-628	✓	0.1	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ606-01R		2014188-613	✓	0	125	3	1X	1	2016/05/24	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ607-01R		2014188-616	✓	0	125	3	1X	1	2016/05/24	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ608-01R		2014188-617	✓	0	125	3	1X	1	2016/05/24	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ609-01R		2014188-614	✓	0	125	3	1X	1	2016/05/24	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ610-01R		2014188-615	✓	0	125	3	1X	1	2016/05/24	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ611-01R	✓	2014188-611	✓	0.1	125	3	1X	1	2016/05/23	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ612-01R		2014188-610	✓	0	125	3	1X	1	2016/05/23	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ613-01R	✓	2014188-609	✓	0.1	125	3	1X	1	2016/05/23	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ614-01R		2014188-612	✓	0	125	3	1X	1	2016/05/23	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ615-01R		2014188-618	✓	0	125	3	1X	1	2016/05/24	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ616-01R	✓	2014188-629	✓	0.1	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ617-01R		2014188-630	✓	0	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ619-01R		2014188-632	✓	0	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A3190	*CJZ620-01R		2014188-723	✓	0	125	3	1X	1	2016/05/31	2016/06/06 18:00		2016/05/24
B6A7950	*CKX683-01R			✓	0	125/12.5	3	1X	2		2016/06/10 18:00	DOD	2016/05/31
B6A8217	*CKZ498-01R			✓	0	125	3	1X	1	2016/06/07	2016/06/13 18:00		2016/05/31

Remarks: Low level analysis

CJZ 606-01R to CJZ 615-01R: Samples are already expired. Rechecked samples for SPE.

Samples extracted by:

Melinda Molina

Instrumentation performed by:

Calculations performed by:

Validated by:

Date:

Date:

Date:

PFOS and PFOA in water - Water
ug/L

Parameter Name	Units	SPIKE	SPIKE Dup1	BLANK	B6A3190 CJZ602	B6A3190 CJZ603	B6A3190 CJZ604
6:2 Fluorotelomer sulfonate	ug/L	91.60000	109.60000	0	N/A*****	N/A*****	N/A*****
8:2 Fluorotelomer sulfonate	ug/L	93.20000	95.40000	0	N/A*****	N/A*****	N/A*****
N-ethylperfluorooctane sulfonamide	ug/L	99.20000	100.60000	0	N/A*****	N/A*****	N/A*****
EtFOSAA	ug/L	100.00000	100.20000	0	N/A*****	N/A*****	N/A*****
N-ethylperfluorooctane sulfonamido	ug/L	107.00000	97.60000	0	N/A*****	N/A*****	N/A*****
N-methylperfluorooctane sulfonamide	ug/L	96.40000	100.20000	0	N/A*****	N/A*****	N/A*****
MeFOSAA	ug/L	107.20000	100.20000	0	N/A*****	N/A*****	N/A*****
N-methylperfluorooctanesulfonamidol	ug/L	103.00000	99.80000	0	N/A*****	N/A*****	N/A*****
Perfluorobutanoic acid	ug/L	118.20000	97.00000	0	N/A*****	N/A*****	N/A*****
Perfluorobutane Sulfonate (PFBS)	ug/L	90.60000	94.40000	0	0	0	0.00481
Perfluorodecane Sulfonate	ug/L	101.60000	106.60000	0	N/A*****	N/A*****	N/A*****
Perfluoroheptanoic Acid (PFHpA)	ug/L	99.00000	107.60000	0	N/A*****	N/A*****	N/A*****
Perfluoroheptane sulfonate	ug/L	101.20000	102.00000	0	N/A*****	N/A*****	N/A*****
Perfluorohexanoic Acid (PFHxA)	ug/L	113.00000	106.40000	0	N/A*****	N/A*****	N/A*****
Perfluorohexane Sulfonate (PFHxS)	ug/L	106.60000	105.60000	0	N/A*****	N/A*****	N/A*****
Perfluorononanoic Acid (PFNA)	ug/L	108.40000	109.40000	0	N/A*****	N/A*****	N/A*****
Perfluorooctane Sulfonamide (PFOSA)	ug/L	112.20000	108.40000	0	N/A*****	N/A*****	N/A*****
Perfluoropentanoic Acid (PFPeA)	ug/L	112.20000	109.60000	0	N/A*****	N/A*****	N/A*****
Perfluorotetradecanoic Acid	ug/L	102.40000	105.20000	0	N/A*****	N/A*****	N/A*****
Perfluorotridecanoic Acid	ug/L	119.80000	1132.600	0	N/A*****	N/A*****	N/A*****
Perfluoroundecanoic Acid (PFUnA)	ug/L	109.60000	104.40000	0	N/A*****	N/A*****	N/A*****
Perfluorodecanoic Acid (PFDA)	ug/L	117.40000	116.80000	0	N/A*****	N/A*****	N/A*****
Perfluorododecanoic Acid (PFDoA)	ug/L	107.40000	103.60000	0	N/A*****	N/A*****	N/A*****
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	108.40000	118.80000	0	0.00189	0.00142	0.00489
Perfluorooctane Sulfonate (PFOS)	ug/L	99.80000	97.80000	0	0	0.00625	0.00917
13C2-6:2 Fluorotelomer sulfonate	ug/L	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****
13C2-8:2 Fluorotelomer sulfonate	ug/L	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****
13C2-perfluorotetradecanoic acid	ug/L	91.3	87.8	100.	N/A*****	N/A*****	N/A*****
13C4-Perfluorobutanoic acid	ug/L	87.4	105.	116.	N/A*****	N/A*****	N/A*****
13C6-Perfluorohexanoic Acid	ug/L	103.	99.7	91.0	N/A*****	N/A*****	N/A*****
13C9-Perfluorodecanoic Acid	ug/L	101.	91.6	101.	N/A*****	N/A*****	N/A*****
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****
13C2-Perfluorodecanoic acid	ug/L	97.9	107.	93.7	N/A*****	N/A*****	N/A*****
13C2-Perfluorododecanoic acid	ug/L	93.7	118.	109.	N/A*****	N/A*****	N/A*****
13C2-Perfluorohexanoic acid	ug/L	97.8	103.	115.	N/A*****	N/A*****	N/A*****
13C2-Perfluoroundecanoic acid	ug/L	86.6	113.	109.	N/A*****	N/A*****	N/A*****
13C4-Perfluoroheptanoic acid	ug/L	97.9	99.6	121.	N/A*****	N/A*****	N/A*****
13C5-Perfluorononanoic acid	ug/L	92.9	95.3	109.	N/A*****	N/A*****	N/A*****
13C4-Perfluorooctanoic acid	ug/L	93.3	94.4	118.	101.	101.	88.6
13C4-Perfluorooctanesulfonate	ug/L	99.5	101.	120.	95.7	96.2	92.2
13C5-Perfluoropentanoic acid	ug/L	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****	N/A*****
13C8-Perfluorooctanesulfonamide	ug/L	88.6	94.9	90.3	N/A*****	N/A*****	N/A*****
18O2-Perfluorohexanesulfonate	ug/L	103.	97.7	116.	N/A*****	N/A*****	N/A*****

PFOS and PFOA in water - Water
ug/L

Parameter Name	B6A3190 CJZ605	B6A3190 CJZ606	B6A3190 CJZ607	B6A3190 CJZ608	B6A3190 CJZ609	B6A3190 CJZ610	B6A3190 CJZ611
6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
EtFOSAA	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethylperfluorooctane sulfonamido	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
MeFOSAA	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methylperfluorooctanesulfonamidol	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorobutanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorobutane Sulfonate (PFBS)	0.00514	0.01550	0.01660	0.01640	0.01450	0.01450	0.02890
Perfluorodecane Sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluoroheptanoic Acid (PFHpA)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorononanoic Acid (PFNA)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorooctane Sulfonamide (PFOSA)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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	0.00112	0.03610	0.03570	0.03070	0.03120	0.04170
Perfluorooctane Sulfonate (PFOS)	0	0.02110	0.08530	0.08670	0.06390	0.05990	0.09430
13C2-6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C2-8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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 *****
13C6-Perfluorohexanoic Acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C9-Perfluorodecanoic Acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methyl-d3-perfluorooctane sulfona	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethyl-d5-perfluorooctane sulfonam	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C5-Perfluorononanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C4-Perfluorooctanoic acid	99.0	95.1	93.0	83.5	92.7	94.7	86.5
13C4-Perfluorooctanesulfonate	93.3	89.7	87.2	84.0	84.0	86.3	88.2
13C5-Perfluoropentanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C8-Perfluorooctanesulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
18O2-Perfluorohexanesulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****

PFOS and PFOA in water - Water
ug/L

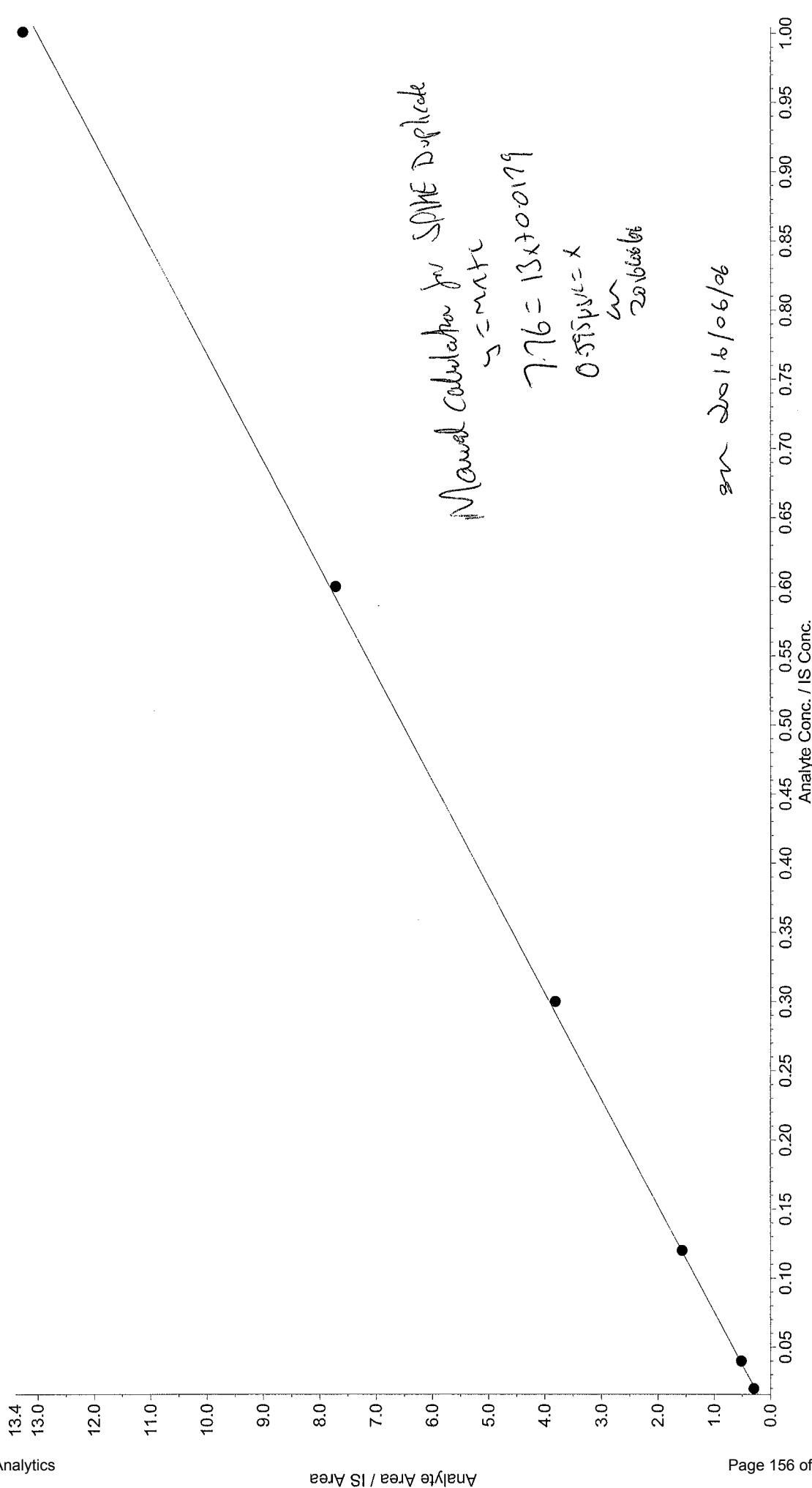
Parameter Name	B6A3190 CJZ612	B6A3190 CJZ613	B6A3190 CJZ614	B6A3190 CJZ615	B6A3190 CJZ616	B6A3190 CJZ617	B6A3190 CJZ619
6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	0	0
8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	0	0
N-ethylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	0	0
EtFOSAA	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methylperfluorooctane sulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
MeFOSAA	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methylperfluorooctanesulfonamidol	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorobutanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorobutane Sulfonate (PFBS)	0.02040	0.02720	0	0	0.00451	0.00619	0
Perfluorodecane Sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluoroheptanoic Acid (PFHpA)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorononanoic Acid (PFNA)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
Perfluorooctane Sulfonamide (PFOSA)	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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)	0.02450	0.03540	0	0	0	0.00895	0
Perfluorooctane Sulfonate (PFOS)	0.05800	0.06410	0	0	0	0.01530	0
13C2-6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C2-8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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 *****
13C6-Perfluorohexanoic Acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C9-Perfluorodecanoic Acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-methyl-d3-perfluorooctane sulfona	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
N-ethyl-d5-perfluorooctane sulfonam	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
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	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C5-Perfluorononanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C4-Perfluorooctanoic acid	98.0	91.0	93.2	101.	84.7	86.2	96.0
13C4-Perfluorooctanesulfonate	95.8	98.2	98.5	96.8	86.2	89.8	87.8
13C5-Perfluoropentanoic acid	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****
13C8-Perfluorooctanesulfonamide	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	76.3
18O2-Perfluorohexanesulfonate	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	N/A *****	96.0

PFOS and PFOA in water - Water
ug/L

Parameter Name	B6A3190 CJZ620	B6A7950 CKX683	B6A8217 CKZ498	DL	RDL	MDL	IDL
6:2 Fluorotelomer sulfonate	0	N/A *****	0	0.02	0.02	0.0065	0
8:2 Fluorotelomer sulfonate	0	N/A *****	0	0.02	0.02	0.0055	0
N-ethylperfluorooctane sulfonamide	0	N/A *****	0	0.02	0.02	0.0053	0
EtFOSAA	N/A *****	0	N/A *****	0.02	0.02	0.004	0
N-ethylperfluorooctane sulfonamido	N/A *****	N/A *****	0	0.02	0.02	0.0049	0
N-methylperfluorooctane sulfonamide	N/A *****	N/A *****	0	0.02	0.02	0.004	0
MeFOSAA	N/A *****	0	N/A *****	0.02	0.02	0.0043	0
N-methylperfluorooctanesulfonamidol	N/A *****	N/A *****	0	0.02	0.02	0.0061	0
Perfluorobutanoic acid	N/A *****	N/A *****	0	0.02	0.02	0.0066	0
Perfluorobutane Sulfonate (PFBS)	0	0.01110	0	0.02	0.02	0.0019	0
Perfluorodecane Sulfonate	N/A *****	N/A *****	0	0.02	0.02	0.0043	0
Perfluoroheptanoic Acid (PFHpA)	N/A *****	0.08740	0	0.02	0.02	0.0047	0
Perfluoroheptane sulfonate	N/A *****	N/A *****	0	0.02	0.02	0.0036	0
Perfluorohexanoic Acid (PFHxA)	N/A *****	0.19600	0	0.02	0.02	0.0046	0
Perfluorohexane Sulfonate (PFHxS)	N/A *****	0.33400	0	0.02	0.02	0.004	0
Perfluorononanoic Acid (PFNA)	N/A *****	0	0	0.02	0.02	0.0046	0
Perfluorooctane Sulfonamide (PFOSA)	N/A *****	0	0	0.02	0.02	0.0058	0
Perfluoropentanoic Acid (PFPeA)	N/A *****	N/A *****	0	0.02	0.02	0.0036	0
Perfluorotetradecanoic Acid	N/A *****	0	0	0.02	0.02	0.0052	0
Perfluorotridecanoic Acid	N/A *****	0	0	0.02	0.02	0.0032	0
Perfluoroundecanoic Acid (PFUnA)	N/A *****	0	0	0.02	0.02	0.0037	0
Perfluorodecanoic Acid (PFDA)	N/A *****	0	0	0.02	0.02	0.0066	0
Perfluorododecanoic Acid (PFDoA)	N/A *****	0	0	0.02	0.02	0.0057	0
Perfluoro-n-Octanoic Acid (PFOA)	0	0.07360	0	0.02	0.02	0.0053	0
Perfluorooctane Sulfonate (PFOS)	0	0.04680	0	0.02	0.02	0.0033	0
13C2-6:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****				
13C2-8:2 Fluorotelomer sulfonate	N/A *****	N/A *****	N/A *****				
13C2-perfluorotetradecanoic acid	N/A *****	85.7	N/A *****				
13C4-Perfluorobutanoic acid	N/A *****	N/A *****	N/A *****				
13C6-Perfluorohexanoic Acid	N/A *****	99.9	N/A *****				
13C9-Perfluorodecanoic Acid	N/A *****	N/A *****	N/A *****				
N-methyl-d3-perfluorooctane sulfona	N/A *****	N/A *****	N/A *****				
N-ethyl-d5-perfluorooctane sulfonam	N/A *****	N/A *****	N/A *****				
13C2-Perfluorodecanoic acid	N/A *****	93.7	N/A *****				
13C2-Perfluorododecanoic acid	N/A *****	99.7	N/A *****				
13C2-Perfluorohexanoic acid	N/A *****	93.2	N/A *****				
13C2-Perfluoroundecanoic acid	N/A *****	81.6	N/A *****				
13C4-Perfluoroheptanoic acid	N/A *****	99.4	N/A *****				
13C5-Perfluorononanoic acid	N/A *****	91.9	N/A *****				
13C4-Perfluorooctanoic acid	89.8	96.3	92.8				
13C4-Perfluorooctanesulfonate	89.7	94.2	84.7				
13C5-Perfluoropentanoic acid	N/A *****	N/A *****	N/A *****				
13C8-Perfluorooctanesulfonamide	80.7	79.7	76.1				
18O2-Perfluorohexanesulfonate	89.5	N/A *****	N/A *****				

Maxam Analytics

PFC_Water_160531_4518651_Low.rdb (PFOA 1): "Linear" Regression ("1 / x" weighting): $y = 13x + 0.0179$ ($r = 0.9997$)

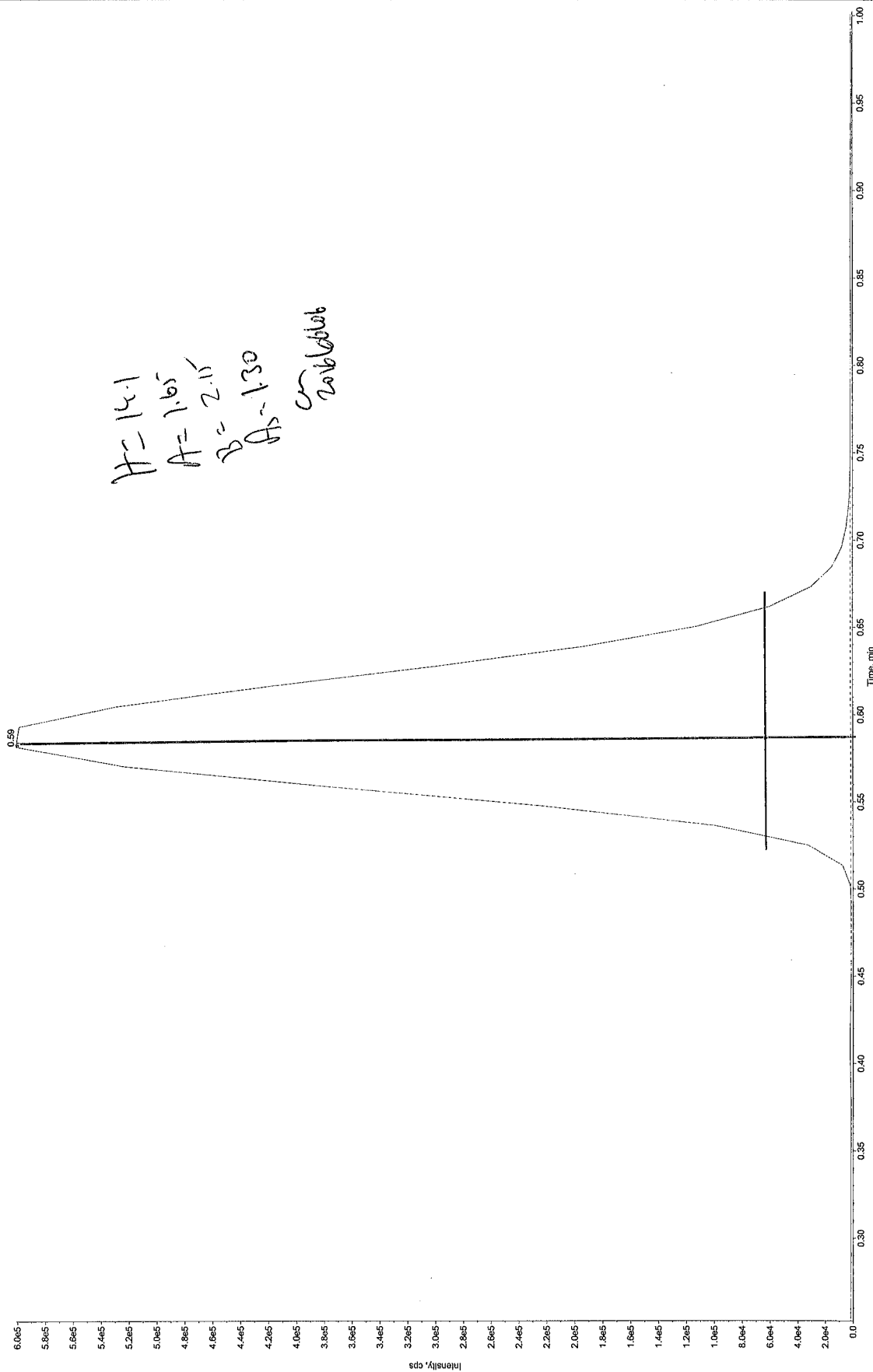


Page 156 of 254

Mass Analysis

Sample Name: STU 4 Sample ID: File: WS4518651.wmf
 Operator: JCA Method: 212300162.00 Da

Sample Index: 20
 Sample Type: Standard ug/L 6.0e5
 Concentration: 0.300 ug/L
 Allocated Conc: 2016/06/01
 Acquisition: 1:54:33 AM
 Acquisition: 3:54:33 AM
 Acquisition: 5.8e5
 Method: No
 Acquisition: Analyst Classic
 Acquisition: 5.8e5
 Acquisition: 5.8e5
 Noise Threshold: 1000.00 cps
 Area Threshold: 200.00 cps
 Num. Smooths: 4
 Exp. Width: 0.00
 Exp. Peak Ratio: 5.00
 Exp. Adj. Ratio: 4.00
 Exp. Val. Ratio: 3.00
 Exp. Window: 0.00
 Exp. Window: 0.00
 Use Relative RT: No
 Int. Type: Base To Base
 Retention Time: 0.458 min
 Retention Time: 0.458 min
 Height: 6.08e+005 cps
 Start Time: 0.458 min
 End Time: 0.742 min



Results Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\PFOS\Results\PFC_Water_160531_4518651_Low.rdb

Printing Date: Monday, June 06, 2016

Mass Analysis

Sample Name: STD 4 Sample ID: File: PFC_Water_160531_4518651.wmf
Sample Path: \\miss-netapp2\lcms\lcms3\Analyst Data\Projects\Enviro\PFOS\Results\PFC_Water_160531_4518651_Low.rdb

Sample Index: 20

Sample Type: Standard

Concentration: 0.300 ug/L

Acquisition Date: 2016/06/01

Acquisition Time: 3:54:33 AM

Mod: No

Method: Analyst Classic

Smoothing: 5

Noise Threshold: 400.00 cps

Area Threshold: 3000.00 cps

Num. Smooths: 5

Exp. Ratio: 0.00

Exp. Peak Ratio: 5.00

Exp. Adj. Ratio: 4.00

Exp. Val. Ratio: 3.00

Expected RT: 1.05 min

Use Relative RT: No

Int. Type: Base To Base

Retention Time: 1.05 min

Area: 248000.04

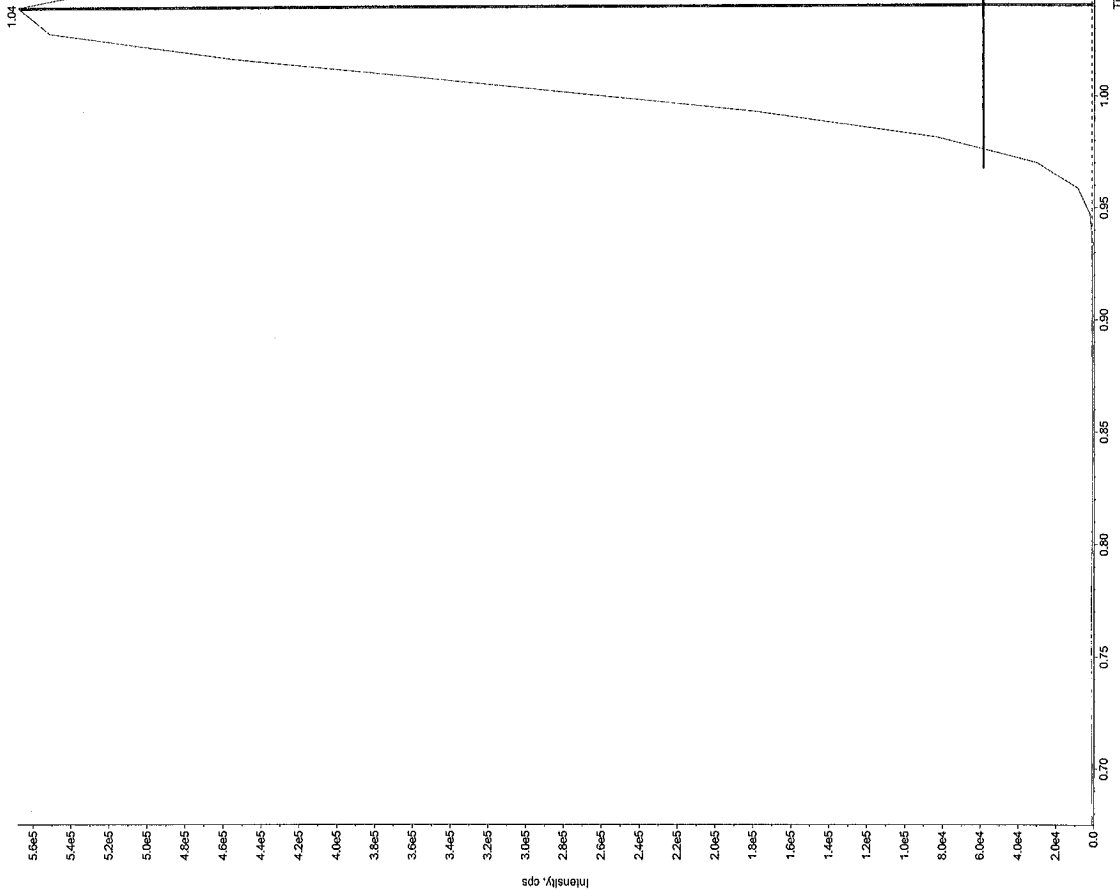
Height: 5.71e+005 cps

Start Time: 0.924 min

End Time: 1.21 min

1.04

Intensity, cps



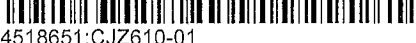
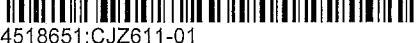
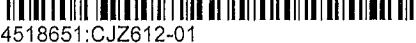
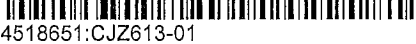
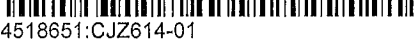
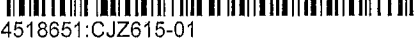
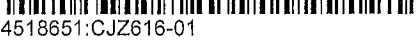
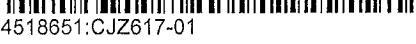
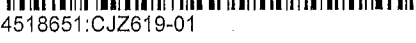
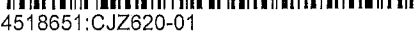
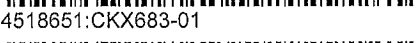
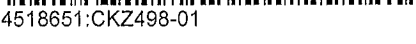
<u>Sample Number</u>	<u>Parameter</u>	
CJZ602-01	Perfluorobutane Sulfonate (PFBS)	
CJZ603-01	Perfluoro-n-Octanoic Acid (PFOA)	
CJZ604-01	Perfluorooctane Sulfonate (PFOS)	
CJZ605-01		
CJZ606-01		
CJZ607-01		
CJZ608-01		
CJZ609-01		
CJZ610-01		
CJZ611-01		
CJZ612-01		
CJZ613-01		
CJZ614-01		
CJZ615-01		
CJZ616-01		
CJZ617-01		
CJZ619-01		
CJZ620-01		
CKX683-01	EtFOSAA	*
	MeFOSAA	*
	Perfluorobutane Sulfonate (PFBS)	
	Perfluorodecanoic Acid (PFDA)	
	Perfluorododecanoic Acid (PFDoA)	
	Perfluoroheptanoic Acid (PFHpA)	
	Perfluorohexanoic Acid (PFHxA)	
	Perfluorohexane Sulfonate (PFHxS)	
	Perfluorononanoic Acid (PFNA)	
	Perfluoro-n-Octanoic Acid (PFOA)	
	Perfluorooctane Sulfonate (PFOS)	
	Perfluorooctane Sulfonamide (PFOSA)	
	Perfluorotetradecanoic Acid	
	Perfluorotridecanoic Acid	
	Perfluoroundecanoic Acid (PFUnA)	
CKZ498-01	6:2 Fluorotelomer sulfonate	*
	8:2 Fluorotelomer sulfonate	*
	N-ethylperfluorooctane sulfonamide	*
	N-ethylperfluorooctane sulfonamido	*
	N-methylperfluorooctane sulfonamide	*
	N-methylperfluorooctanesulfonamidol	*

* - This parameter is usually off, but will be reported for this group of samples!

<u>Sample Number</u>	<u>Parameter</u>
	Perfluorobutanoic acid
	Perfluorobutane Sulfonate (PFBS)
	Perfluorodecanoic Acid (PFDA)
	Perfluorododecanoic Acid (PFDoA)
	Perfluorodecane Sulfonate
	Perfluoroheptanoic Acid (PFHpA)
	Perfluoroheptane sulfonate
	Perfluorohexanoic Acid (PFHxA)
	Perfluorohexane Sulfonate (PFHxS)
	Perfluorononanoic Acid (PFNA)
	Perfluoro-n-Octanoic Acid (PFOA)
	Perfluorooctane Sulfonate (PFOS)
	Perfluorooctane Sulfonamide (PFOSA)
	Perfluoropentanoic Acid (PFPeA)
	Perfluorotetradecanoic Acid
	Perfluorotridecanoic Acid
	Perfluoroundecanoic Acid (PFUnA)

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 4518651 Instrument Sequences

1.	 4518651:SPIKE	SPIKE
2.	 4518651:SPIKE:D1	SPIKE :D1
3.	 4518651:BLANK	BLANK
4.	 4518651:CJZ602-01	2014188-625
5.	 4518651:CJZ603-01	2014188-626
6.	 4518651:CJZ604-01	2014188-627
7.	 4518651:CJZ605-01	2014188-628
8.	 4518651:CJZ606-01	2014188-613
9.	 4518651:CJZ607-01	2014188-616
10.	 4518651:CJZ608-01	2014188-617
11.	 4518651:CJZ609-01	2014188-614
12.	 4518651:CJZ610-01	2014188-615
13.	 4518651:CJZ611-01	2014188-611
14.	 4518651:CJZ612-01	2014188-610
15.	 4518651:CJZ613-01	2014188-609
16.	 4518651:CJZ614-01	2014188-612
17.	 4518651:CJZ615-01	2014188-618
18.	 4518651:CJZ616-01	2014188-629
19.	 4518651:CJZ617-01	2014188-630
20.	 4518651:CJZ619-01	2014188-632
21.	 4518651:CJZ620-01	2014188-723
22.	 4518651:CKX683-01	
23.	 4518651:CKZ498-01	

Worksheet Reagent Tracking Record

Worksheet #

1518651

Surrogate/Spike solutions	✓	Solution ID #	Conc.	Blk-Spk		Volume (µL)		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/µL	20	20	20	20	20	20
Morpholine Second Source Working Std			2500 ug/L	NA	80	NA	80	NA	NA
Morpholine-D8 Internal Standard			10 ug/mL	NA	50	NA	50	NA	50
Steril Second Source Spiking Solution			NA	20	NA	20	NA	NA	NA
Sterilants Comp. IS Working Solution			3 ug/mL	50	NA	50	NA	50	NA
Comp. PFC Working Solution A	✓	I 4780	1ug/mL	75	21	62.5	75	21	62.5
PFC Internal Standard Solution	✓	St 6100 (5/4)	50/125 ng/mL	200	100	150	200	100	150
PFC Injection IS	✓	St 6079	400 ng/mL	20	20	20	20	20	20
ICV	✓	I 4730	1ug/mL		62.5				
Solvent/Reagent	✓	Lot No.	Date Opened	Solvent/Reagent	✓	Lot No.	Date Opened/ Prepared	*Spiked by:	
DCM				50% NaOH				ma	
Ottawa Sand				o-Phosphoric Acid				Spike Date	
Methanol	✓	SHBH 0531V	2016/05/31	Borax				2016/05/31	
2-Propanol (IPA)				Calcium Chloride				Spike Syringe/Pipette ID#	
Acetonitrile				EDTA				M234473	
Sodium Sulfate				Phosphate Buffer				Int. Std Syringe/Pipette ID#	
70:30 Methanol: Water				Sodium Thiosulphate				K196090	
60:40 Water: Methanol	✓	PALMER - 360		DNPH				*Spiking Witnessed by:	
DCM:Ethyl Ether (75:25)				FMOC				JW	
Hexane:IPA (98:2)				5M Acetate Buffer				Final pH	
2% Formic Acid	✓	PALMER - 361		0.2% NH ₄ OH	✓	PALMER - 365		X	
0.2% Formic Acid	✓	PALMER - 284		Leachate Fluid					
0.05M KOH				Reagent Water	✓	SHBG9364V	2016/05/31		
0.05M HCl									
Equipment & ID	✓	Equipment	ID#	✓	Equipment	Lot #	Bottle Tracking		
Pipettor	✓	SPE Cartridge	002035315A	✓	QC Balance ID		Bottle# 14168		
	✓	Filter			Thermometer ID &Temp		Cap# 15960		
Dispenser		Centrifuge					Systems plus Lot#		
		Sonicator					16-5-11		

Comments:

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

Batch Name: D:\ANALYST DATA\PROJECTS\ENVIRO\PFOS\BATCH\PFC_160531A.dab

Printing Date: Tuesday, May 31, 2016

Project: D:\Analyst Data\Projects\Enviro\PFOS Batch:PFC_160531A Tab:Sample Set:SET1 AcqMethod:PFC_Water_Low.dam

Sample	Sample Name	Rack Code	Rack Position	Plate Code	Plate Position	Vial Position	Data File	Inj. Volume (µl)
1	RINSE	2 Well Plate	1	*54VialPlate	2	1	PFC_160531WS#4518651	2,000
2	4518651-BLANK	2 Well Plate	1	*54VialPlate	2	19	PFC_160531WS#4518651	2,000
3	STD 1	2 Well Plate	1	*54VialPlate	2	20	PFC_160531WS#4518651	2,000
4	STD 2	2 Well Plate	1	*54VialPlate	2	21	PFC_160531WS#4518651	2,000
5	STD 3	2 Well Plate	1	*54VialPlate	2	22	PFC_160531WS#4518651	2,000
6	STD 4	2 Well Plate	1	*54VialPlate	2	23	PFC_160531WS#4518651	2,000
7	STD 5	2 Well Plate	1	*54VialPlate	2	24	PFC_160531WS#4518651	2,000
8	STD 6	2 Well Plate	1	*54VialPlate	2	25	PFC_160531WS#4518651	2,000
9	ICV	2 Well Plate	1	*54VialPlate	2	26	PFC_160531WS#4518651	2,000
10	CCV	2 Well Plate	1	*54VialPlate	2	23	PFC_160531WS#4518651	2,000
11	4518651-SPIKE	2 Well Plate	1	*54VialPlate	2	27	PFC_160531WS#4518651	2,000
12	4518651-SPIKE-D1	2 Well Plate	1	*54VialPlate	2	28	PFC_160531WS#4518651	2,000
13	4518651-CJZ602-01	2 Well Plate	1	*54VialPlate	2	29	PFC_160531WS#4518651	2,000
14	4518651-CJZ603-01	2 Well Plate	1	*54VialPlate	2	30	PFC_160531WS#4518651	2,000
15	4518651-CJZ604-01	2 Well Plate	1	*54VialPlate	2	31	PFC_160531WS#4518651	2,000
16	4518651-CJZ605-01	2 Well Plate	1	*54VialPlate	2	32	PFC_160531WS#4518651	2,000
17	4518651-CJZ606-01	2 Well Plate	1	*54VialPlate	2	33	PFC_160531WS#4518651	2,000
18	4518651-CJZ607-01	2 Well Plate	1	*54VialPlate	2	34	PFC_160531WS#4518651	2,000
19	4518651-CJZ608-01	2 Well Plate	1	*54VialPlate	2	35	PFC_160531WS#4518651	2,000
20	4518651-CJZ609-01	2 Well Plate	1	*54VialPlate	2	36	PFC_160531WS#4518651	2,000
21	4518651-CJZ610-01	2 Well Plate	1	*54VialPlate	2	37	PFC_160531WS#4518651	2,000
22	4518651-CJZ611-01	2 Well Plate	1	*54VialPlate	2	38	PFC_160531WS#4518651	2,000
23	CCV	2 Well Plate	1	*54VialPlate	2	23	PFC_160531WS#4518651	2,000
24	4518651-CJZ612-01	2 Well Plate	1	*54VialPlate	2	39	PFC_160531WS#4518651	2,000
25	4518651-CJZ613-01	2 Well Plate	1	*54VialPlate	2	40	PFC_160531WS#4518651	2,000
26	4518651-CJZ614-01	2 Well Plate	1	*54VialPlate	2	41	PFC_160531WS#4518651	2,000
27	4518651-CJZ615-01	2 Well Plate	1	*54VialPlate	2	42	PFC_160531WS#4518651	2,000
28	4518651-CJZ616-01	2 Well Plate	1	*54VialPlate	2	43	PFC_160531WS#4518651	2,000
29	4518651-CJZ617-01	2 Well Plate	1	*54VialPlate	2	44	PFC_160531WS#4518651	2,000
30	4518651-CJZ619-01	2 Well Plate	1	*54VialPlate	2	45	PFC_160531WS#4518651	2,000
31	4518651-CJZ620-01	2 Well Plate	1	*54VialPlate	2	46	PFC_160531WS#4518651	2,000
32	4518651-CXX683-01 (10x)	2 Well Plate	1	*54VialPlate	2	47	PFC_160531WS#4518651	2,000
33	4518651-CXX683-01	2 Well Plate	1	*54VialPlate	2	48	PFC_160531WS#4518651	2,000
34	CCV	2 Well Plate	1	*54VialPlate	2	23	PFC_160531WS#4518651	2,000
35	4518651-CKZ498-01	2 Well Plate	1	*54VialPlate	2	49	PFC_160531WS#4518651	2,000
36	CCV	2 Well Plate	1	*54VialPlate	2	23	PFC_160531WS#4518651	2,000

Column #128

MPA = Soln# 590, F3RE17

MPB = Methanol

Sigma 10A#SHBG832SV

sm 2016/05/31

Results Path: \\miss-netapp2\lcms\lcms3\analyst

Printing Date: Friday, June 10, 2016

Data\Projects\Enviro\PFOS\Results\PFC_Water_160531_4518651_Low_OTIE.rdb

Sample ID	Sample Annotation	Acquisition Date	Acquisition Method	File Name	Rack Type	Rack Position	Vial Position	Plate Type	Plate Position
1	4518651-BLANK	2016/06/01 3:34:13 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	19	*54VialPlate*	2
2	STD 1	2016/06/01 3:39:18 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	20	*54VialPlate*	2
3	STD 2	2016/06/01 3:44:23 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	21	*54VialPlate*	2
4	STD 3	2016/06/01 3:49:28 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	22	*54VialPlate*	2
5	STD 4	2016/06/01 3:54:33 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
6	STD 5	2016/06/01 3:59:38 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	24	*54VialPlate*	2
7	STD 6	2016/06/01 4:04:43 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	25	*54VialPlate*	2
8	ICV	2016/06/01 4:09:48 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	26	*54VialPlate*	2
9	CCV	2016/06/01 4:14:53 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	27	*54VialPlate*	2
10	4518651-SPIKE	2016/06/01 4:19:58 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	28	*54VialPlate*	2
11	4518651-SPIKE:D1	2016/06/01 4:25:03 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	29	*54VialPlate*	2
12	Re-injected to confirm analyte recovery	2016/06/01 4:30:08 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	30	*54VialPlate*	2
13	4518651-CJZ602-01	2016/06/01 4:35:14 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	31	*54VialPlate*	2
14	4518651-CJZ604-01	2016/06/01 4:40:19 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	32	*54VialPlate*	2
15	4518651-CJZ605-01	2016/06/01 4:45:25 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	33	*54VialPlate*	2
16	4518651-CJZ606-01	2016/06/01 4:50:30 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	34	*54VialPlate*	2
17	4518651-CJZ607-01	2016/06/01 4:55:35 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	35	*54VialPlate*	2
18	4518651-CJZ608-01	2016/06/01 5:00:40 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	36	*54VialPlate*	2
19	4518651-CJZ609-01	2016/06/01 5:05:45 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	37	*54VialPlate*	2
20	4518651-CJZ610-01	2016/06/01 5:10:51 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	38	*54VialPlate*	2
21	4518651-CJZ611-01	2016/06/01 5:15:55 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	39	*54VialPlate*	2
22	CCV	2016/06/01 5:21:00 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	40	*54VialPlate*	2
23	4518651-CJZ612-01	2016/06/01 5:26:05 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	41	*54VialPlate*	2
24	4518651-CJZ613-01	2016/06/01 5:31:10 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	42	*54VialPlate*	2
25	4518651-CJZ614-01	2016/06/01 5:36:15 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	43	*54VialPlate*	2
26	4518651-CJZ615-01	2016/06/01 5:41:20 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	44	*54VialPlate*	2
27	4518651-CJZ616-01	2016/06/01 5:46:26 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	45	*54VialPlate*	2
28	4518651-CJZ617-01	2016/06/01 5:51:30 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	46	*54VialPlate*	2
29	4518651-CJZ619-01	2016/06/01 5:56:36 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	47	*54VialPlate*	2
30	4518651-CJZ620-01	2016/06/01 6:01:41 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	48	*54VialPlate*	2
31	4518651-CKX683-01 (10X)	2016/06/01 6:06:47 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	49	*54VialPlate*	2
32	Not used	2016/06/01 6:11:52 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
33	Reported	2016/06/01 6:16:58 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
34	CCV	2016/06/01 6:22:03 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
35	4518651-CKZ498-01	2016/06/01 6:27:07 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
36	CCV	2016/06/01 6:32:12 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
37	CCV	2016/06/01 6:37:17 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
38	Re-injection, reported	2016/06/01 6:42:26 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
39	CCV	2016/06/01 6:47:31 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
40	CCV	2016/06/01 6:52:37 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2
41	CCV	2016/06/01 6:57:42 AM	PFC_Water_Low.dam	PFC_160531\WS#4518651.wif	2 Well Plates	1	23	*54VialPlate*	2



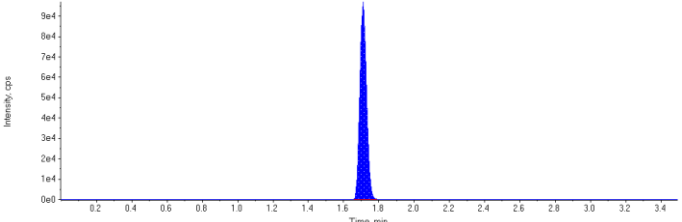
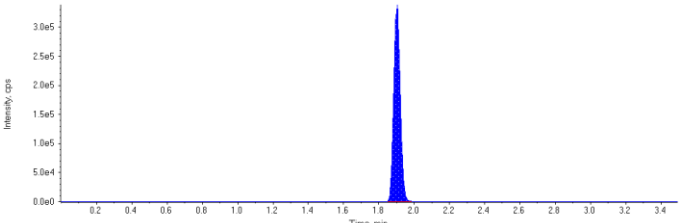
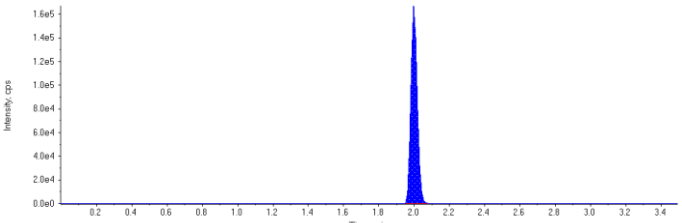
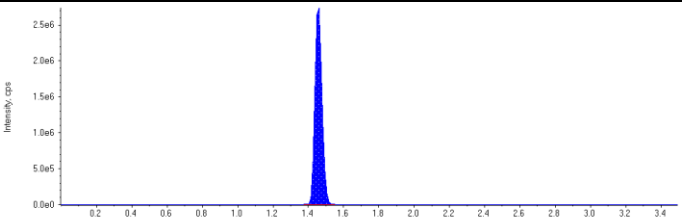
5. Initial Calibration

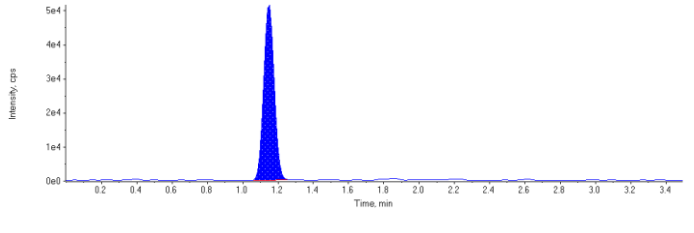
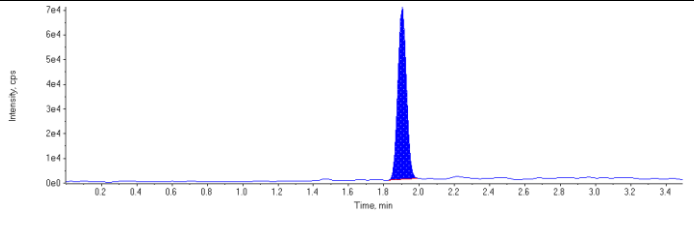
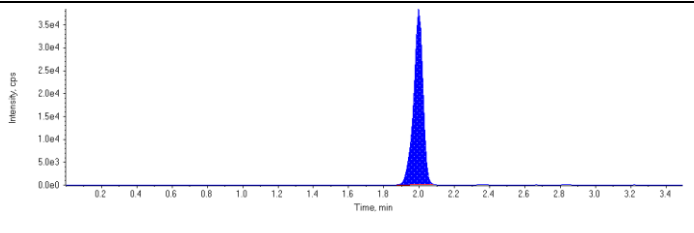
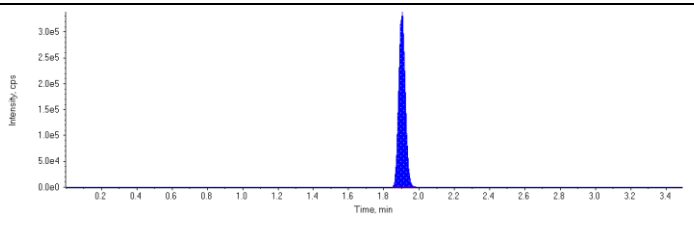
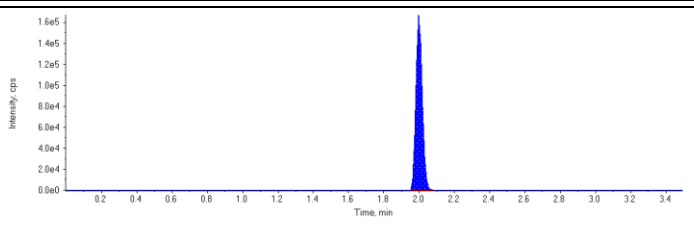
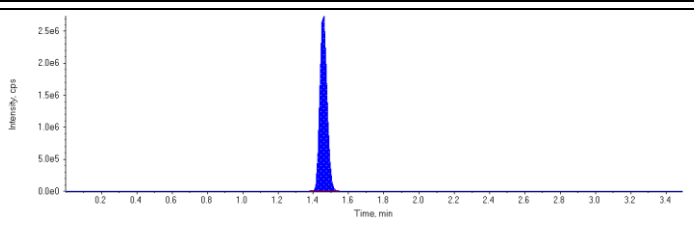
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Sample ID	STD 1	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	3
Acquisition Date	2016/05/31 2:09:42 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	253000.	1.71	1.00	-
MPFOA	876000.	1.90	1.00	-
MPFOS	422000.	2.00	1.00	-
13C6-PFHxA IS	7830000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	214000	1.15	0.0200	0.0218	109.0
PFOA 1	232000	1.90	0.0200	0.0192	96.1
PFOS 1	141000	2.00	0.0200	0.0201	100.0
13C4-PFOA	876000	1.90	100.	99.2	99.2
13C4-PFOS	422000	2.00	100.	103.	103.0
13C6-PFHxA	7830000	1.46	100.	102.	102.0

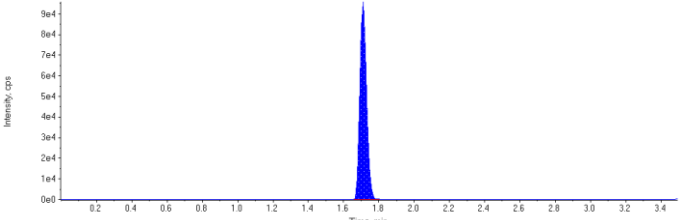
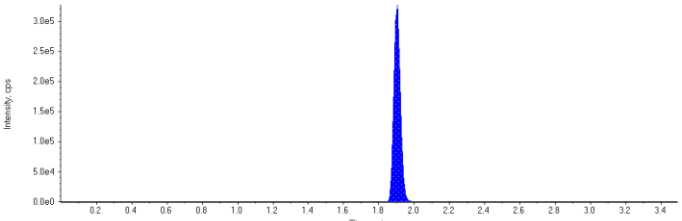
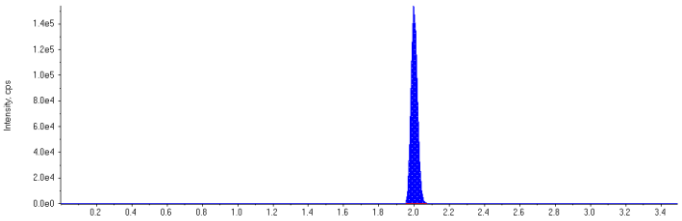
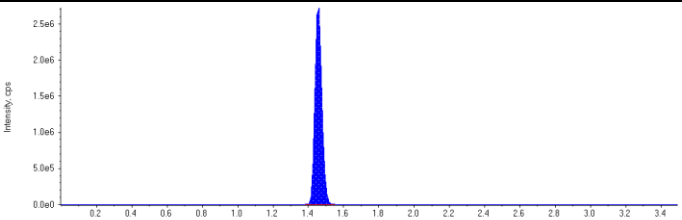
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

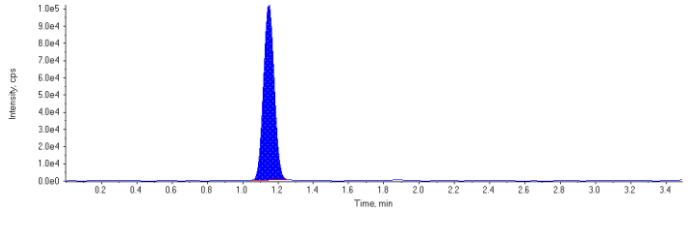
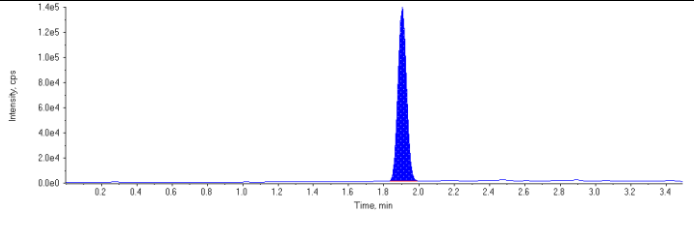
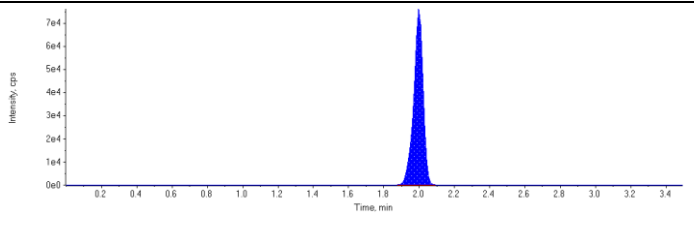
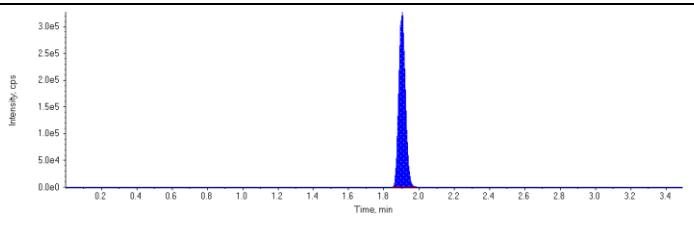
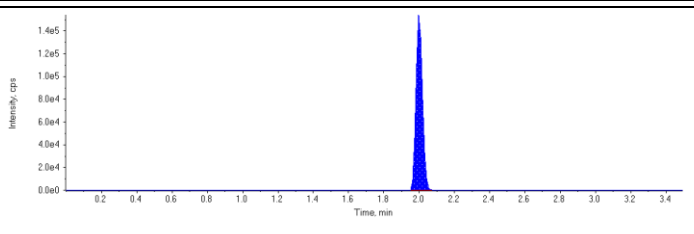
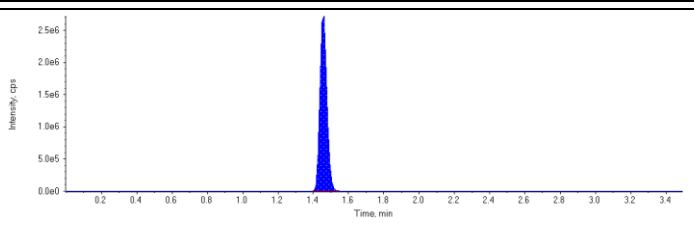
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0218 µg/L Area Ratio: 0.848 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0192 µg/L Area Ratio: 0.265 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.0201 µg/L Area Ratio: 0.333 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 99.2 µg/L Area Ratio: 0.112 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 103. µg/L Area Ratio: 0.0539 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 102. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 2	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	4
Acquisition Date	2016/05/31 2:14:46 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	252000.	1.71	1.00	-
MPFOA	848000.	1.90	1.00	-
MPFOS	395000.	2.00	1.00	-
13C6-PFHxA IS	7610000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	428000	1.15	0.0400	0.0400	100.0
PFOA 1	462000	1.90	0.0400	0.0404	101.0
PFOS 1	282000	2.00	0.0400	0.0404	101.0
13C4-PFOA	848000	1.90	100.	98.8	98.8
13C4-PFOS	395000	2.00	100.	98.7	98.7
13C6-PFHxA	7610000	1.46	100.	99.4	99.4

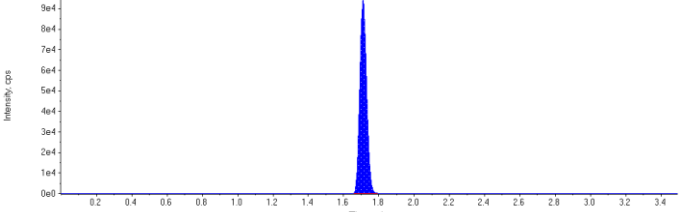
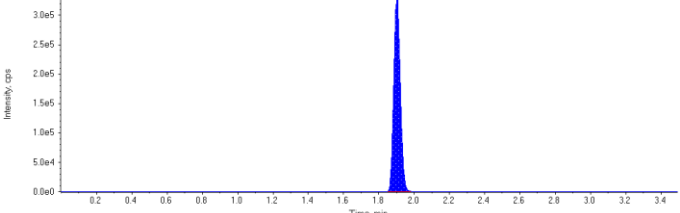
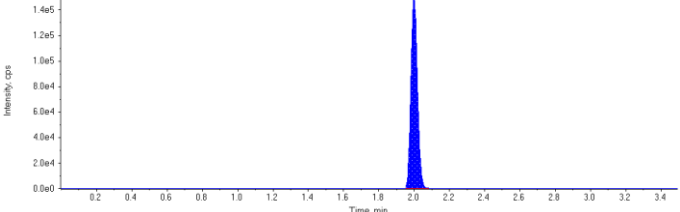
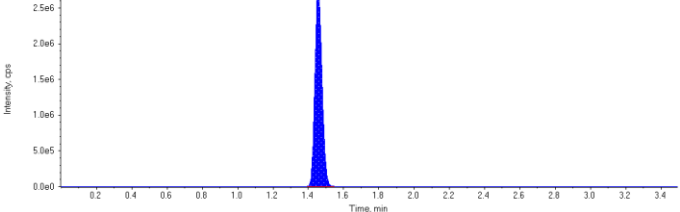
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

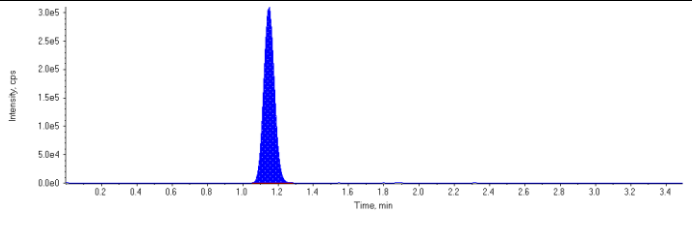
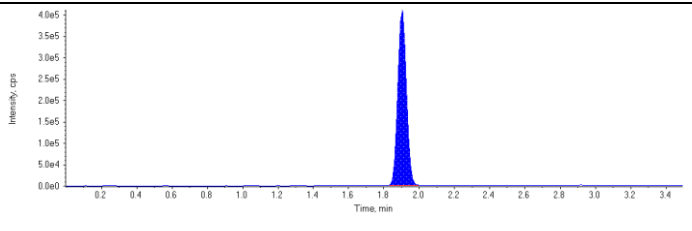
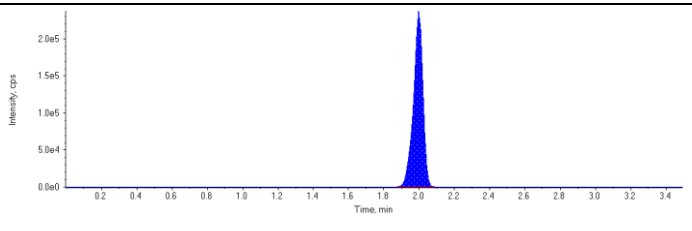
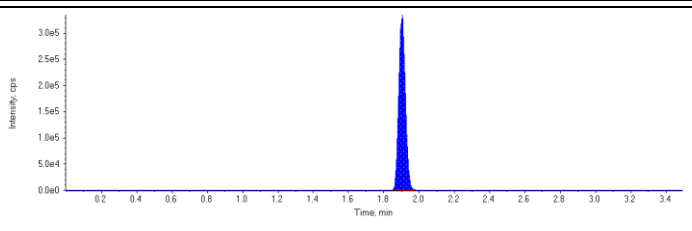
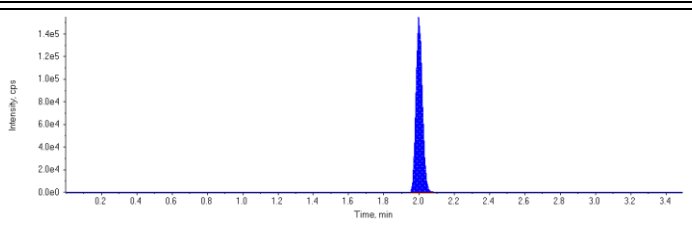
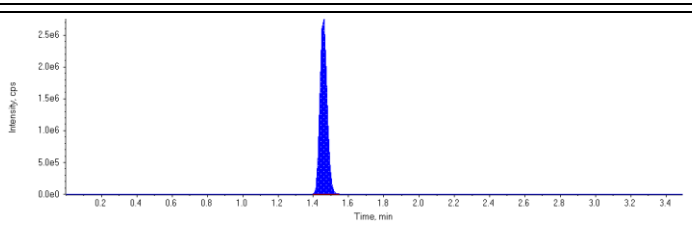
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0400 µg/L Area Ratio: 1.70 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0404 µg/L Area Ratio: 0.545 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.0404 µg/L Area Ratio: 0.714 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 98.8 µg/L Area Ratio: 0.111 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 98.7 µg/L Area Ratio: 0.0519 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 99.4 µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 3	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	5
Acquisition Date	2016/05/31 2:19:51 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	255000.	1.71	1.00	-
MPFOA	866000.	1.90	1.00	-
MPFOS	389000.	2.00	1.00	-
13C6-PFHxA IS	7750000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	1310000	1.15	0.120	0.114	94.8
PFOA 1	1380000	1.90	0.120	0.120	99.8
PFOS 1	882000	2.00	0.120	0.124	103.0
13C4-PFOA	866000	1.90	100.	99.2	99.2
13C4-PFOS	389000	2.00	100.	95.5	95.5
13C6-PFHxA	7750000	1.46	100.	101.	101.0

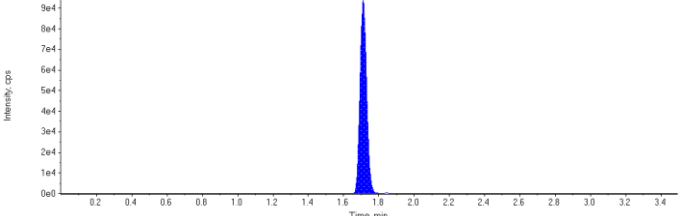
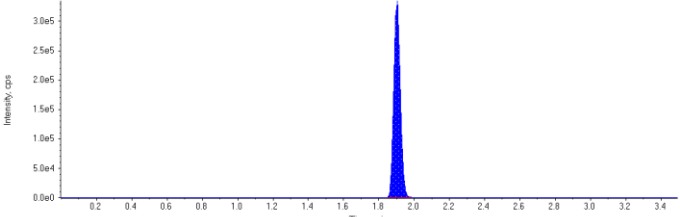
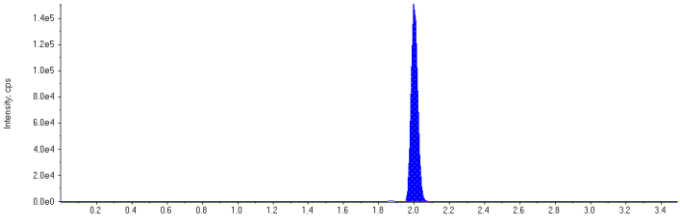
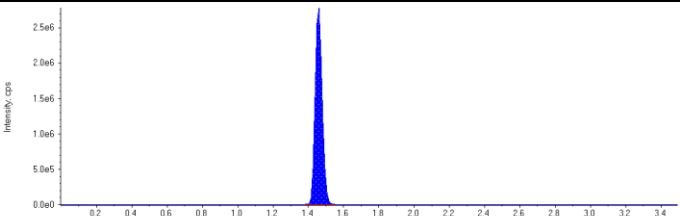
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

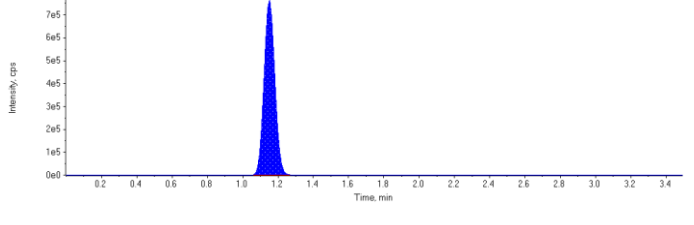
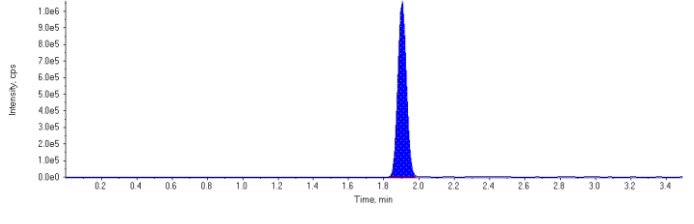
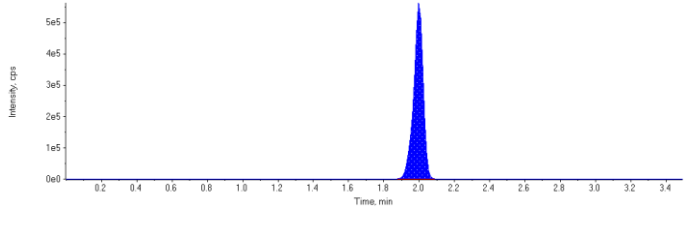
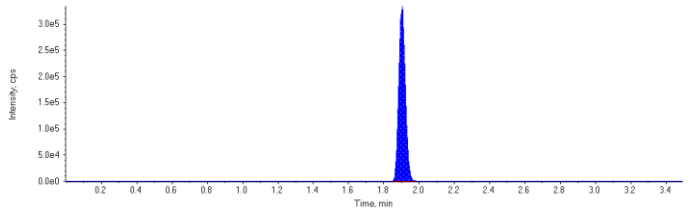
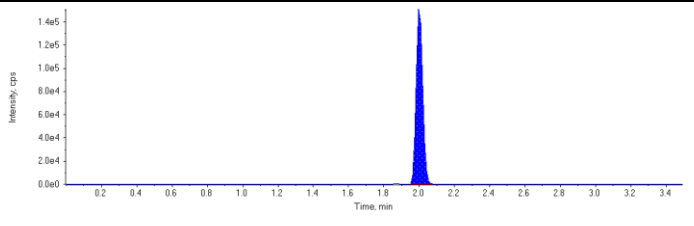
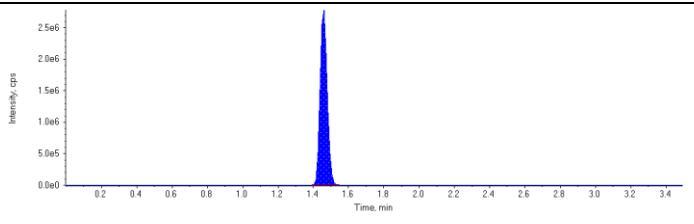
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.114 µg/L Area Ratio: 5.14 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.120 µg/L Area Ratio: 1.59 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.124 µg/L Area Ratio: 2.27 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 99.2 µg/L Area Ratio: 0.112 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 95.5 µg/L Area Ratio: 0.0502 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 101. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 4	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	6
Acquisition Date	2016/05/31 2:24:55 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	243000.	1.71	1.00	-
MPFOA	867000.	1.90	1.00	-
MPFOS	393000.	2.00	1.00	-
13C6-PFHxA IS	7810000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3260000	1.15	0.300	0.291	96.9
PFOA 1	3560000	1.90	0.300	0.310	103.0
PFOS 1	2110000	2.00	0.300	0.290	96.7
13C4-PFOA	867000	1.90	100.	98.6	98.6
13C4-PFOS	393000	2.00	100.	95.8	95.8
13C6-PFHxA	7810000	1.46	100.	102.	102.0

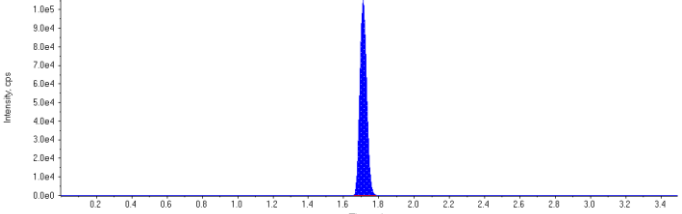
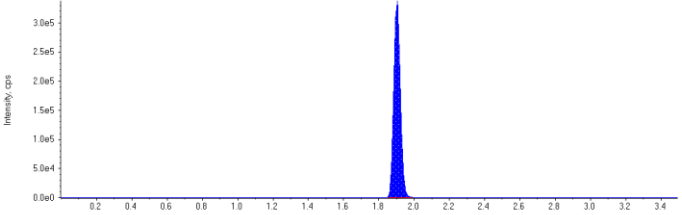
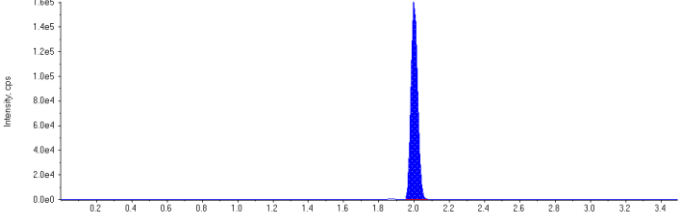
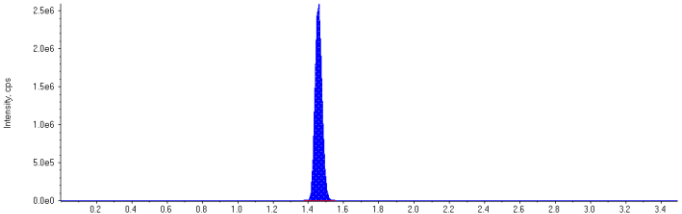
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

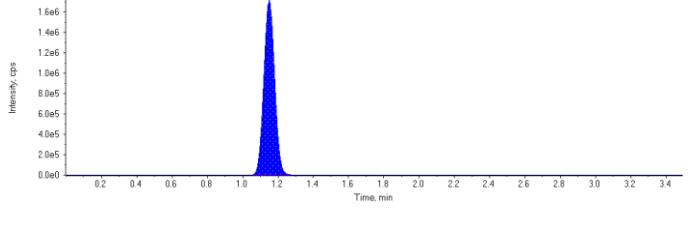
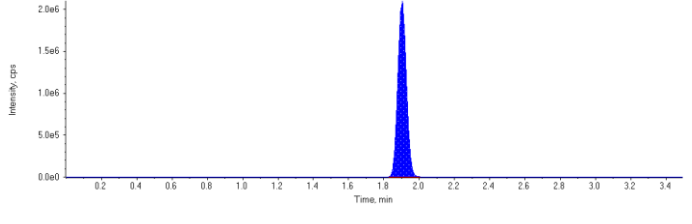
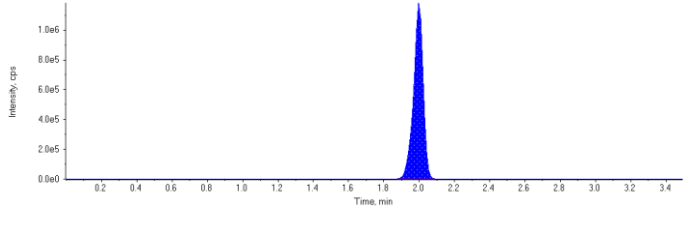
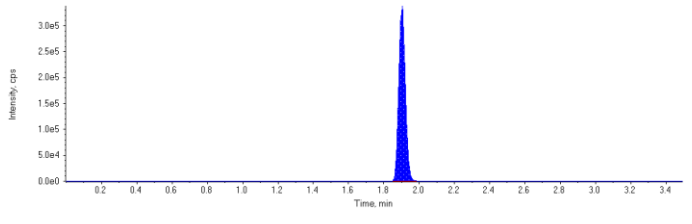
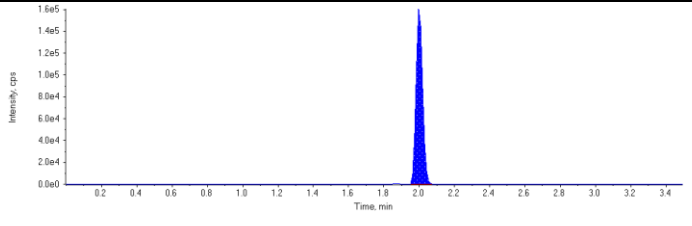
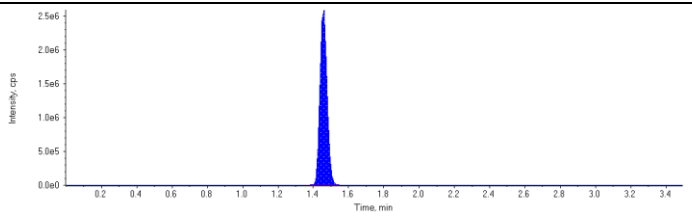
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.291 µg/L Area Ratio: 13.4 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.310 µg/L Area Ratio: 4.10 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.290 µg/L Area Ratio: 5.38 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 98.6 µg/L Area Ratio: 0.111 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 95.8 µg/L Area Ratio: 0.0503 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 102. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 5	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	7
Acquisition Date	2016/05/31 2:29:59 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	278000.	1.71	1.00	-
MPFOA	878000.	1.90	1.00	-
MPFOS	419000.	2.00	1.00	-
13C6-PFHxA IS	7290000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	7290000	1.15	0.600	0.566	94.3
PFOA 1	7090000	1.90	0.600	0.611	102.0
PFOS 1	4470000	2.00	0.600	0.574	95.7
13C4-PFOA	878000	1.90	100.	107.	107.0
13C4-PFOS	419000	2.00	100.	109.	109.0
13C6-PFHxA	7290000	1.46	100.	95.2	95.2

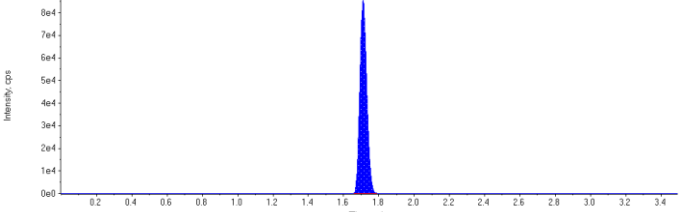
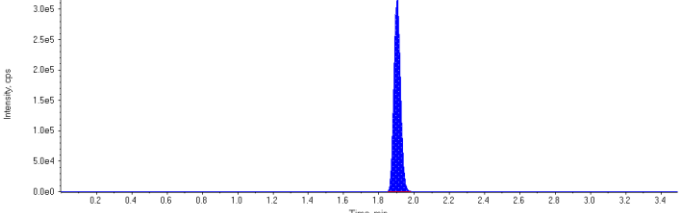
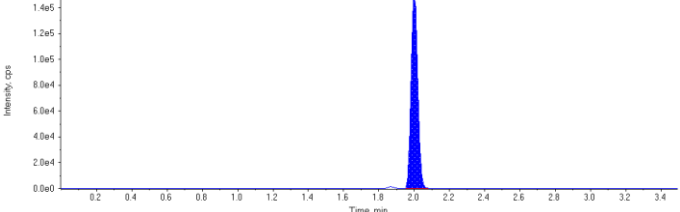
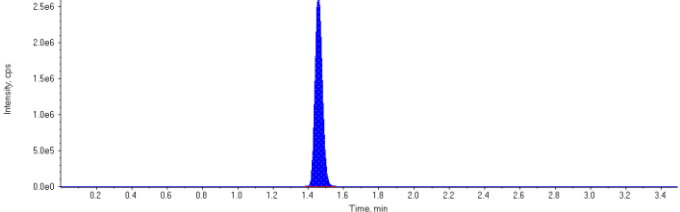
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

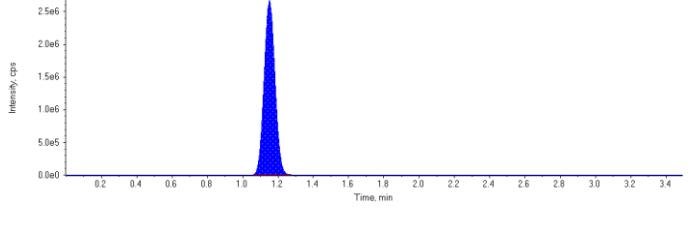
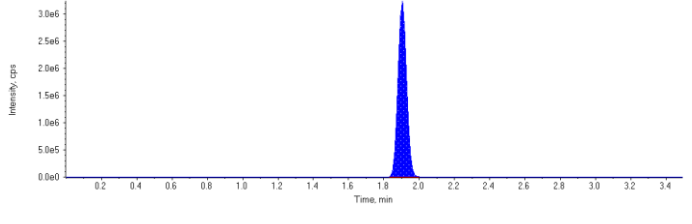
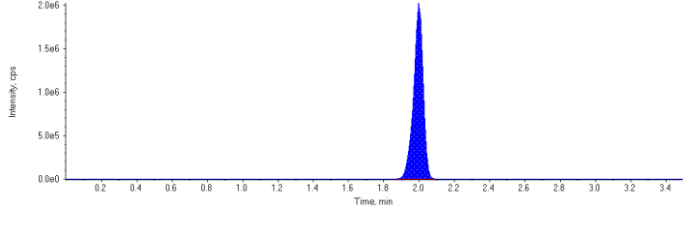
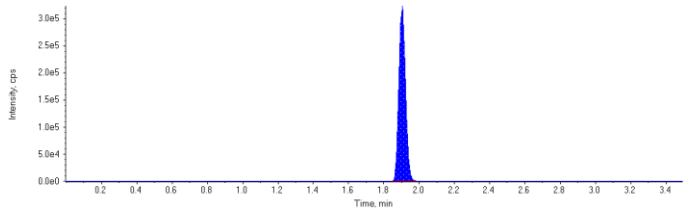
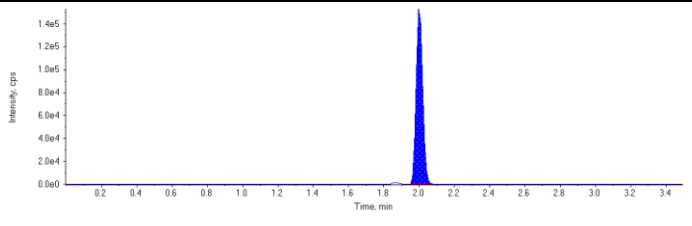
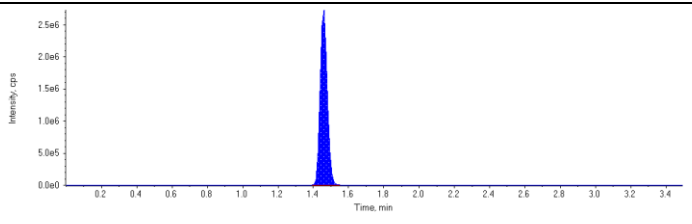
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.566 µg/L Area Ratio: 26.2 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.611 µg/L Area Ratio: 8.08 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.574 µg/L Area Ratio: 10.7 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 107. µg/L Area Ratio: 0.120 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 109. µg/L Area Ratio: 0.0574 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 95.2 µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 6	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	8
Acquisition Date	2016/05/31 2:35:04 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	234000.	1.71	1.00	-
MPFOA	846000.	1.90	1.00	-
MPFOS	396000.	2.00	1.00	-
13C6-PFHxA IS	7690000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	11400000	1.15	1.00	1.05	105.0
PFOA 1	11000000	1.90	1.00	0.980	98.0
PFOS 1	7620000	2.00	1.00	1.03	103.0
13C4-PFOA	846000	1.90	100.	97.5	97.5
13C4-PFOS	396000	2.00	100.	98.1	98.1
13C6-PFHxA	7690000	1.46	100.	100.	100.0

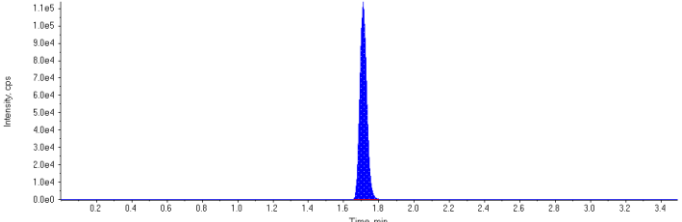
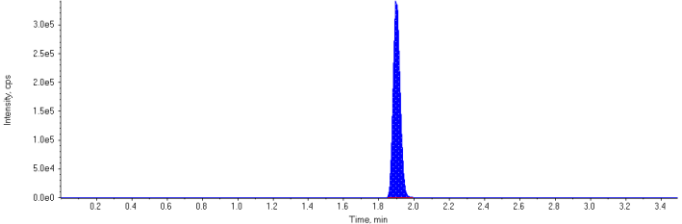
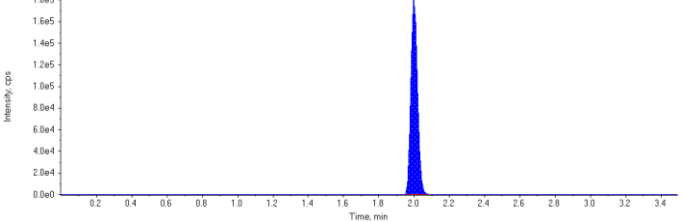
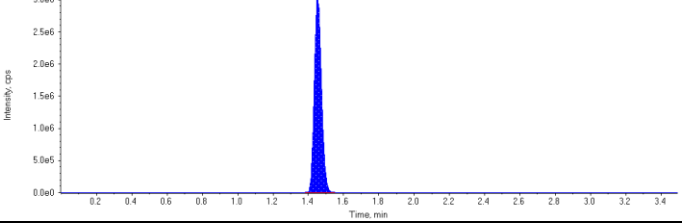
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

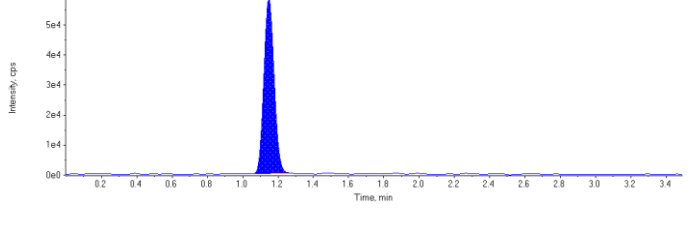
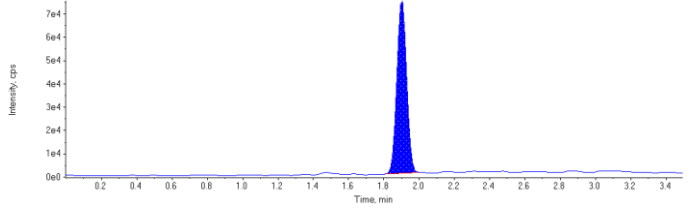
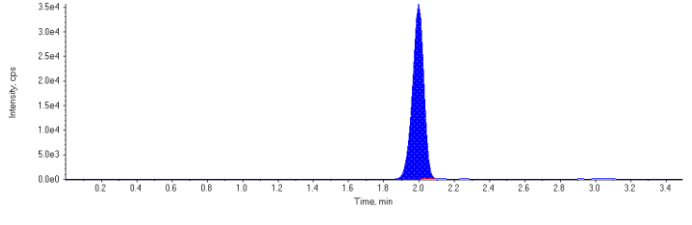
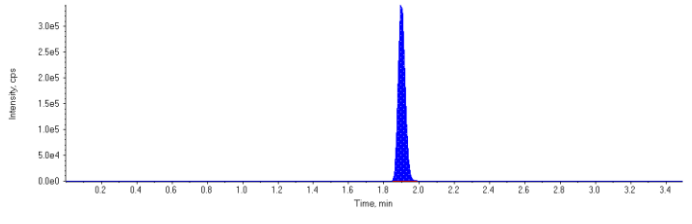
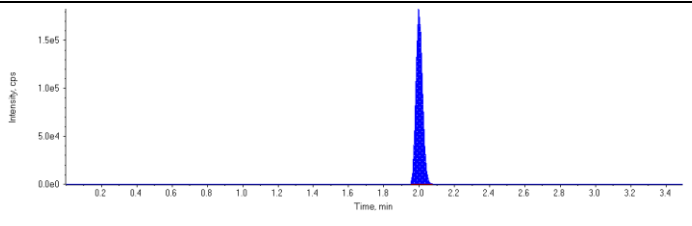
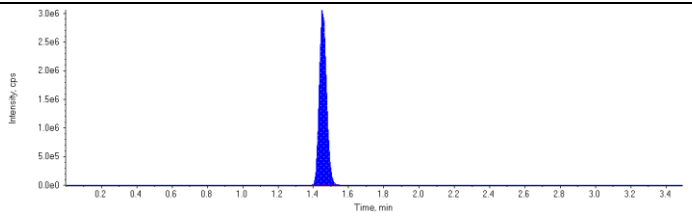
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 1.05 µg/L Area Ratio: 48.7 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.980 µg/L Area Ratio: 13.0 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 1.03 µg/L Area Ratio: 19.2 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 97.5 µg/L Area Ratio: 0.110 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 98.1 µg/L Area Ratio: 0.0516 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 100. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 1	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	20
Acquisition Date	2016/06/01 3:39:18 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	302000.	1.71	1.00	-
MPFOA	958000.	1.90	1.00	-
MPFOS	473000.	2.00	1.00	-
13C6-PFHxA IS	8720000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	234000	1.15	0.0200	0.0212	106.0
PFOA 1	285000	1.90	0.0200	0.0215	107.0
PFOS 1	158000	2.00	0.0200	0.0207	104.0
13C4-PFOA	958000	1.90	100.	98.8	98.8
13C4-PFOS	473000	2.00	100.	102.	102.0
13C6-PFHxA	8720000	1.45	100.	101.	101.0

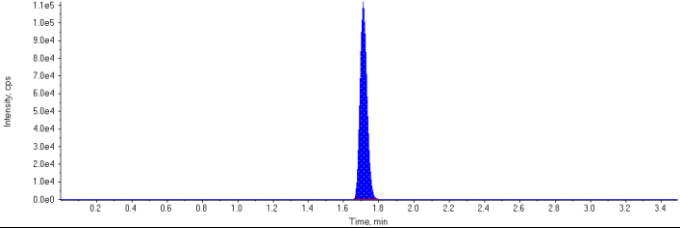
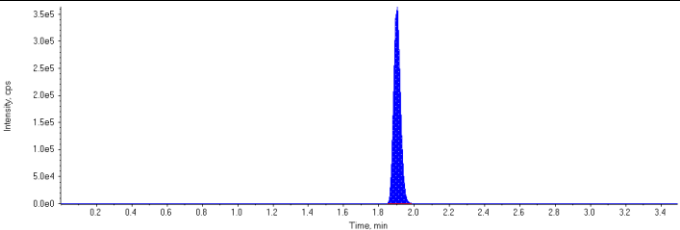
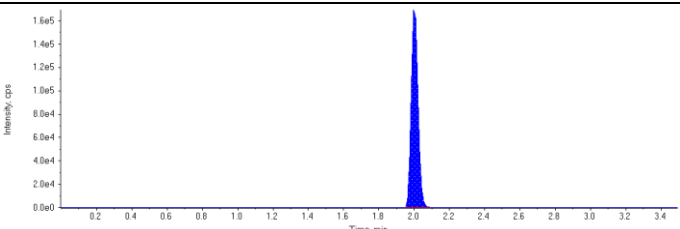
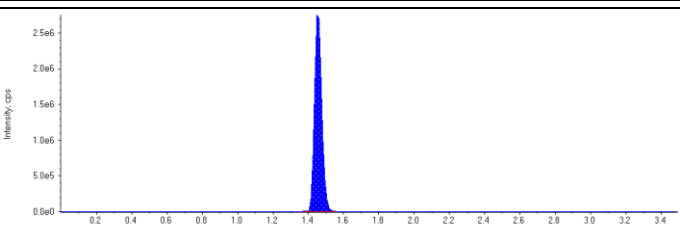
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

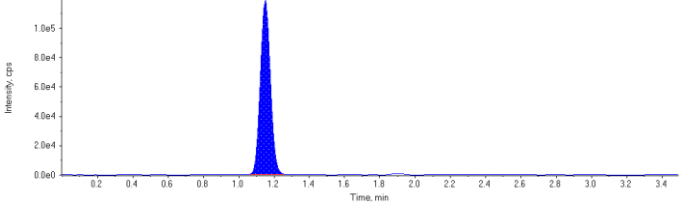
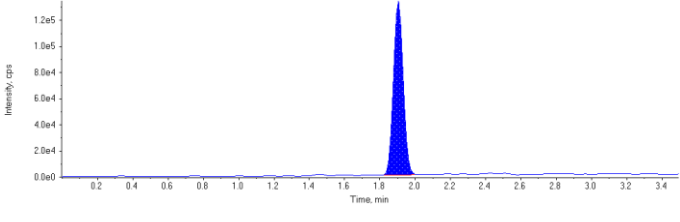
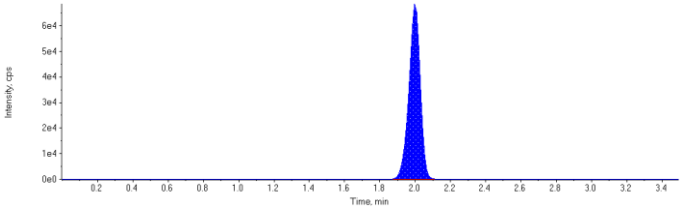
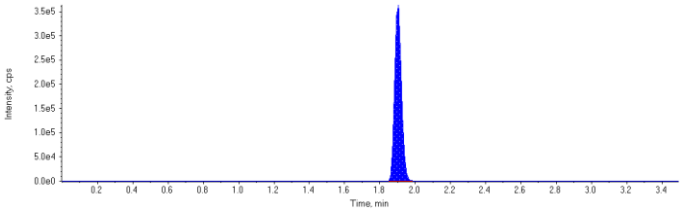
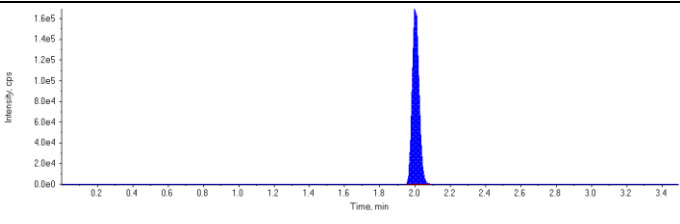
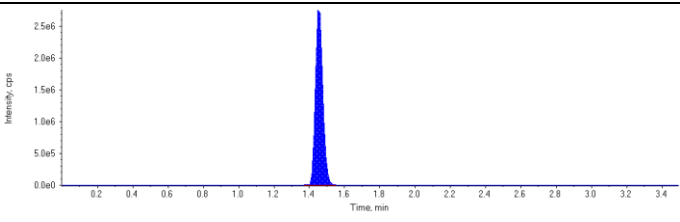
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0212 µg/L Area Ratio: 0.774 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0215 µg/L Area Ratio: 0.298 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.0207 µg/L Area Ratio: 0.334 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 98.8 µg/L Area Ratio: 0.110 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 102. µg/L Area Ratio: 0.0543 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 101. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 2	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	21
Acquisition Date	2016/06/01 3:44:23 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	299000.	1.71	1.00	-
MPFOA	982000.	1.90	1.00	-
MPFOS	458000.	2.00	1.00	-
13C6-PFHxA IS	8080000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	469000	1.15	0.0400	0.0387	96.7
PFOA 1	509000	1.90	0.0400	0.0384	95.9
PFOS 1	305000	2.00	0.0400	0.0396	99.0
13C4-PFOA	982000	1.90	100.	109.	109.0
13C4-PFOS	458000	2.00	100.	107.	107.0
13C6-PFHxA	8080000	1.45	100.	93.4	93.4

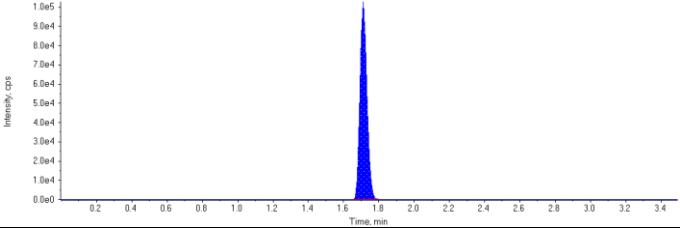
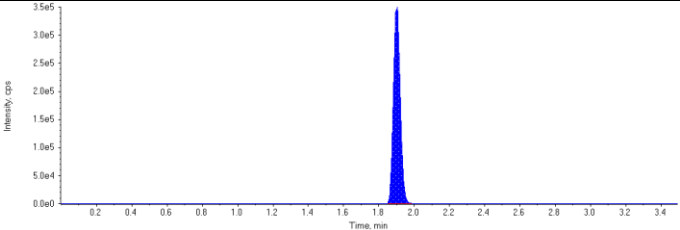
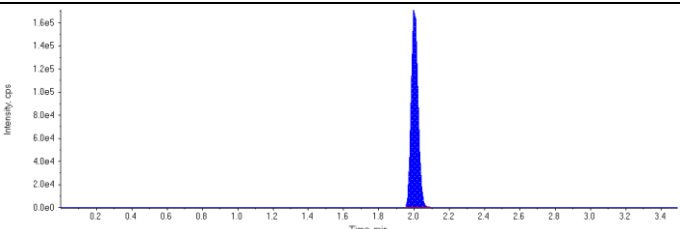
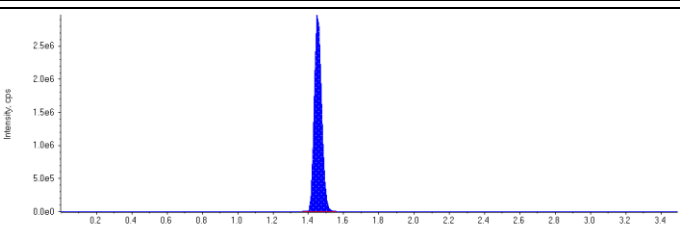
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

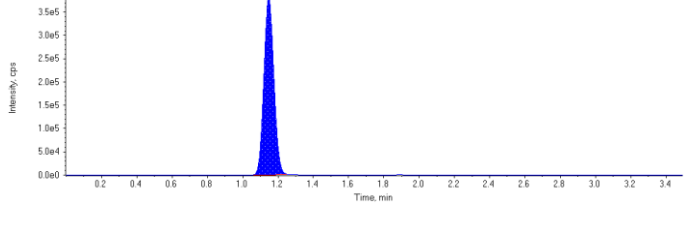
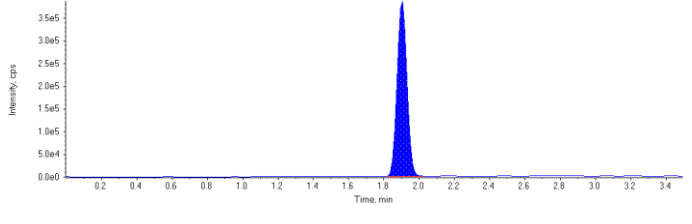
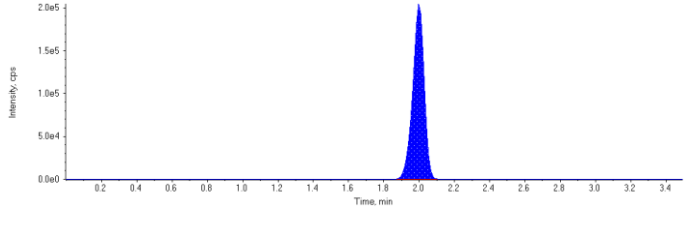
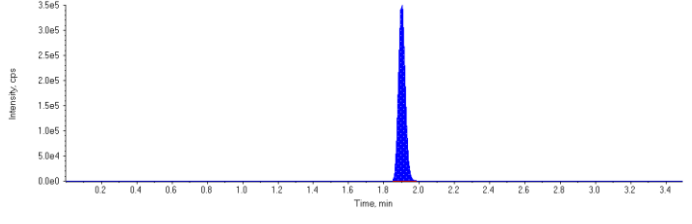
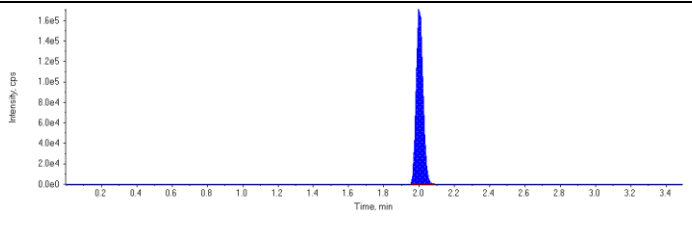
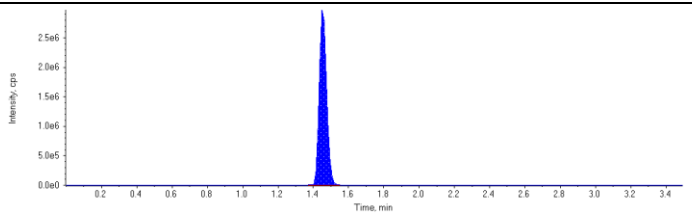
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.0387 µg/L Area Ratio: 1.57 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.0384 µg/L Area Ratio: 0.518 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.0396 µg/L Area Ratio: 0.666 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 109. µg/L Area Ratio: 0.122 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 107. µg/L Area Ratio: 0.0567 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 93.4 µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 3	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	22
Acquisition Date	2016/06/01 3:49:28 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	277000.	1.71	1.00	-
MPFOA	951000.	1.90	1.00	-
MPFOS	462000.	2.00	1.00	-
13C6-PFHxA IS	8710000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	1500000	1.15	0.120	0.123	103.0
PFOA 1	1490000	1.90	0.120	0.119	99.2
PFOS 1	922000	2.00	0.120	0.115	96.0
13C4-PFOA	951000	1.90	100.	98.2	98.2
13C4-PFOS	462000	2.00	100.	99.7	99.7
13C6-PFHxA	8710000	1.45	100.	101.	101.0

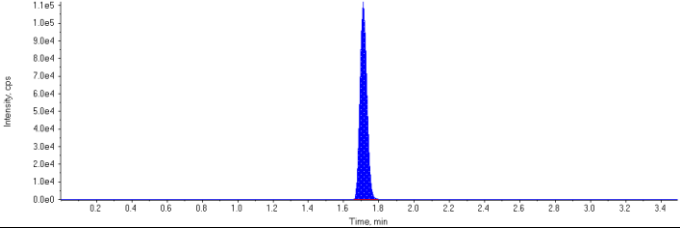
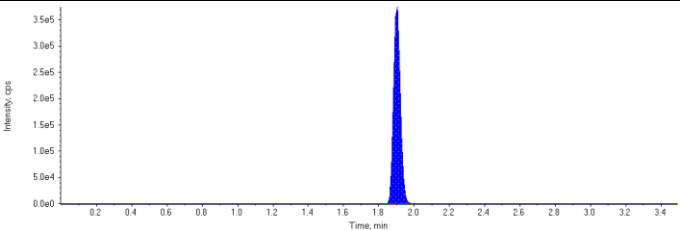
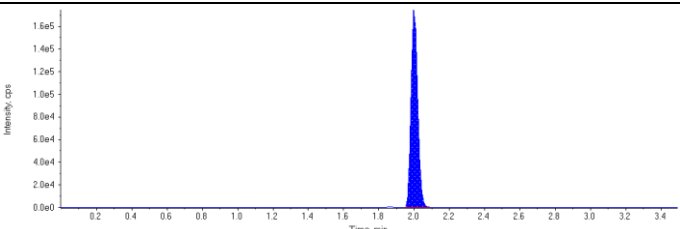
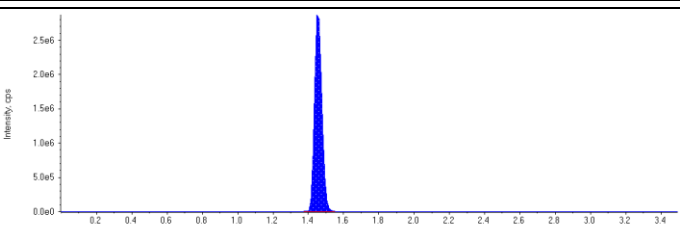
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

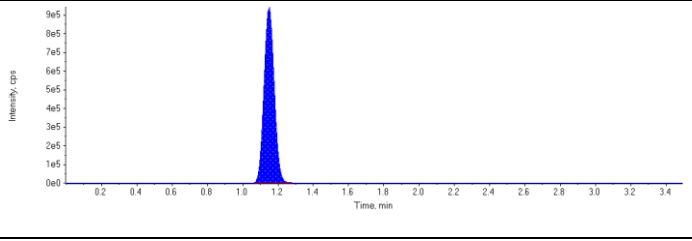
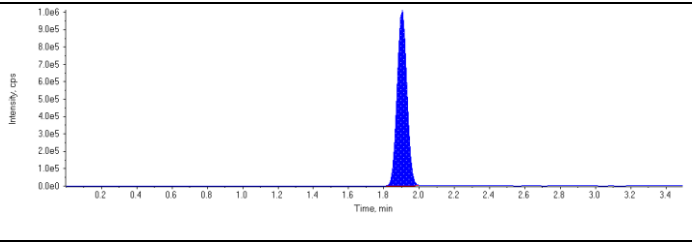
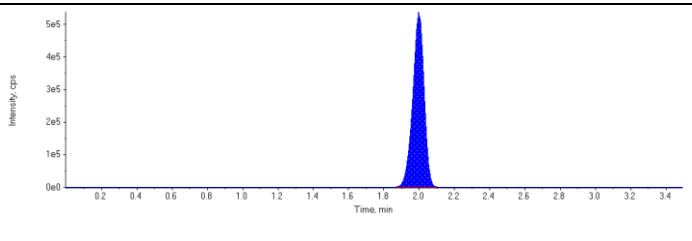
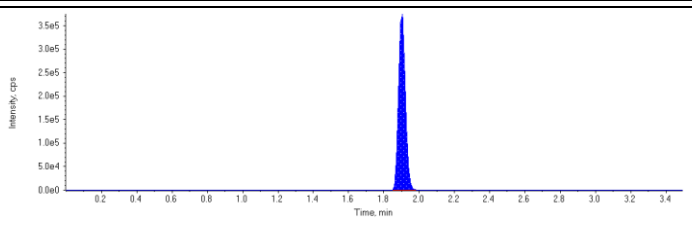
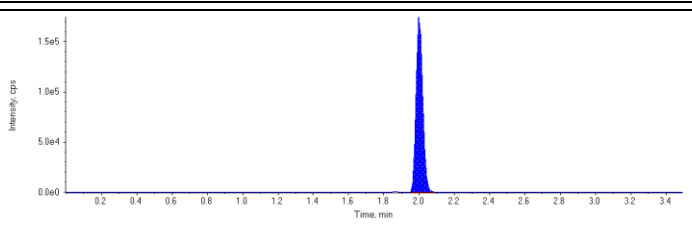
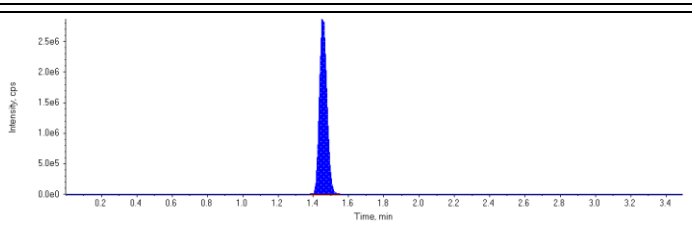
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.123 µg/L Area Ratio: 5.41 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.119 µg/L Area Ratio: 1.57 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.115 µg/L Area Ratio: 1.99 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 98.2 µg/L Area Ratio: 0.109 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 99.7 µg/L Area Ratio: 0.0531 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 101. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 4	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	23
Acquisition Date	2016/06/01 3:54:33 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	299000.	1.71	1.00	-
MPFOA	1010000.	1.90	1.00	-
MPFOS	457000.	2.00	1.00	-
13C6-PFHxA IS	8540000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3770000	1.15	0.300	0.283	94.2
PFOA 1	3870000	1.90	0.300	0.292	97.2
PFOS 1	2400000	2.00	0.300	0.301	100.0
13C4-PFOA	1010000	1.90	100.	107.	107.0
13C4-PFOS	457000	2.00	100.	100.	100.0
13C6-PFHxA	8540000	1.45	100.	98.7	98.7

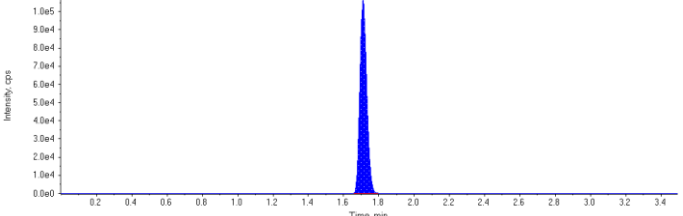
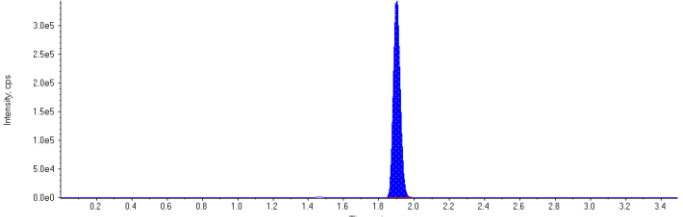
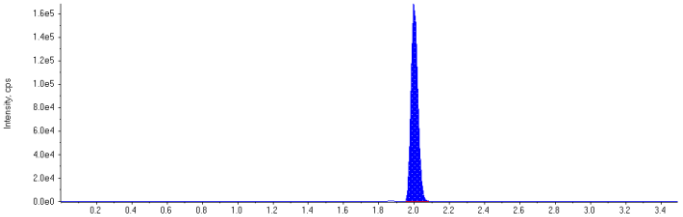
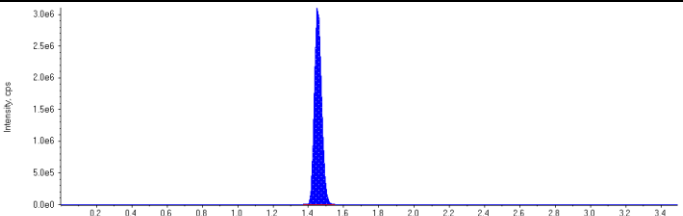
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

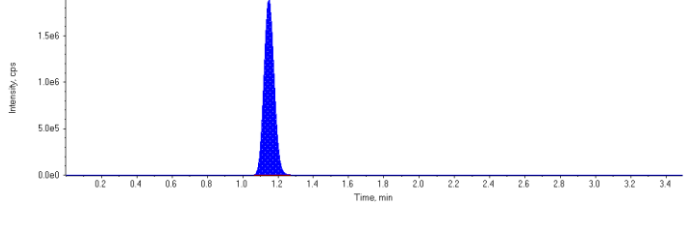
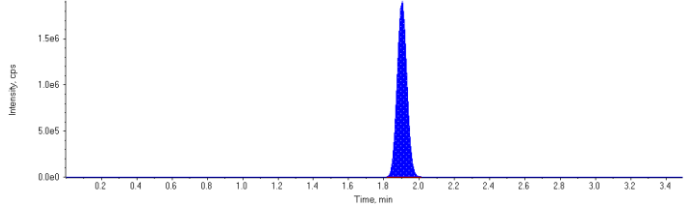
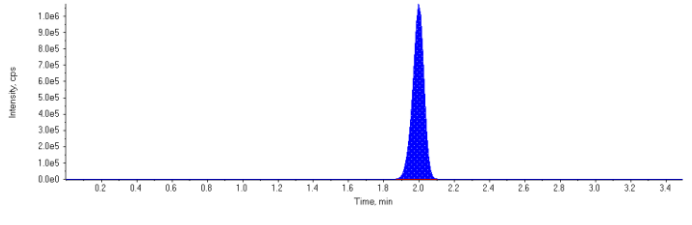
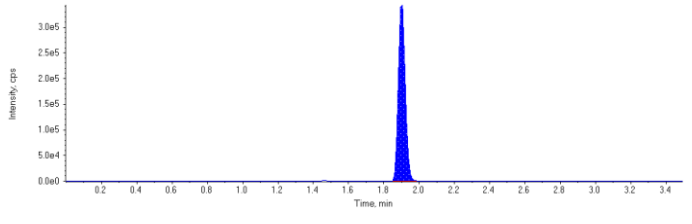
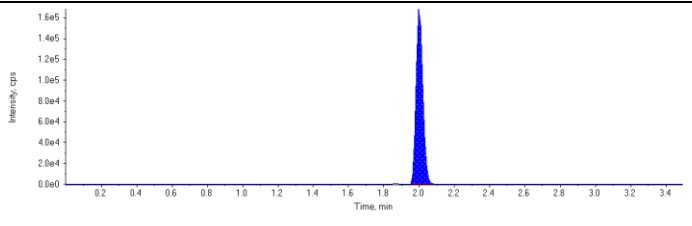
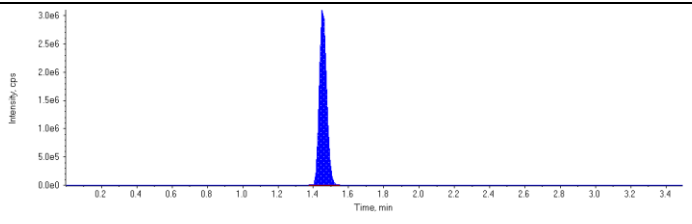
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.283 µg/L Area Ratio: 12.6 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.292 µg/L Area Ratio: 3.82 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.301 µg/L Area Ratio: 5.25 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 107. µg/L Area Ratio: 0.119 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 100. µg/L Area Ratio: 0.0535 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 98.7 µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 5	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	24
Acquisition Date	2016/06/01 3:59:38 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	290000.	1.71	1.00	-
MPFOA	956000.	1.90	1.00	-
MPFOS	449000.	2.00	1.00	-
13C6-PFHxA IS	8980000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	7640000	1.15	0.600	0.585	97.6
PFOA 1	7390000	1.90	0.600	0.592	98.6
PFOS 1	4810000	2.00	0.600	0.611	102.0
13C4-PFOA	956000	1.90	100.	95.7	95.7
13C4-PFOS	449000	2.00	100.	94.0	94.0
13C6-PFHxA	8980000	1.45	100.	104.	104.0

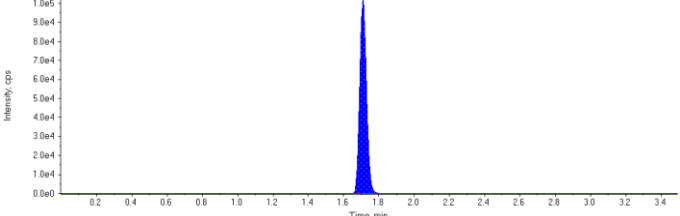
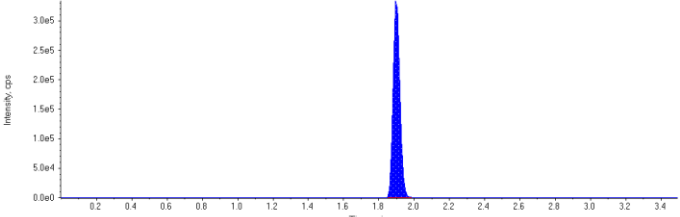
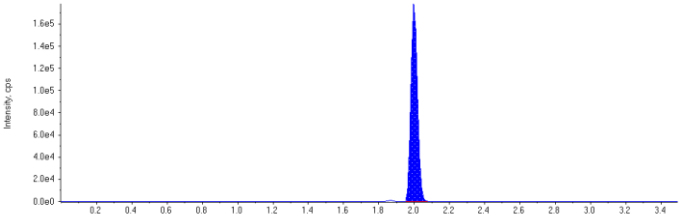
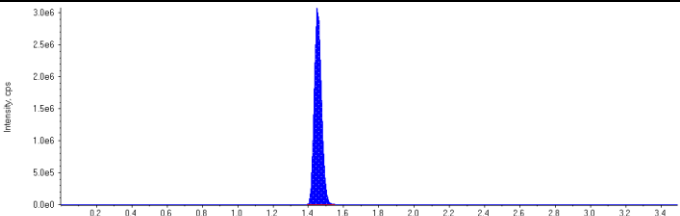
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

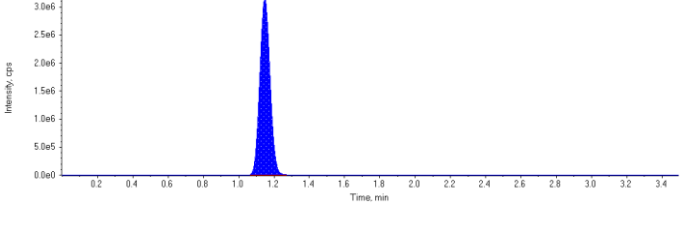
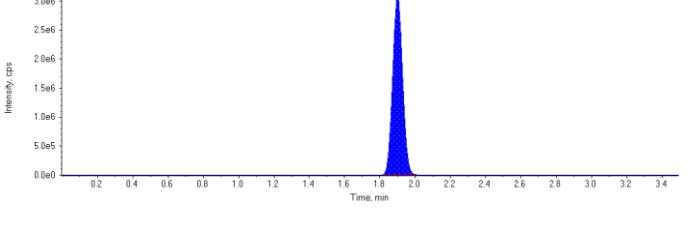
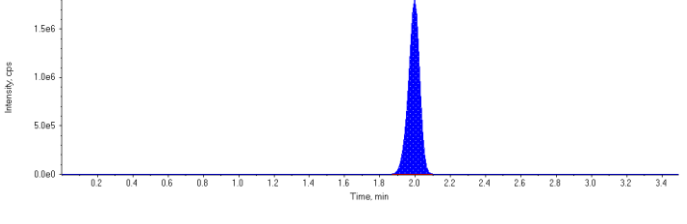
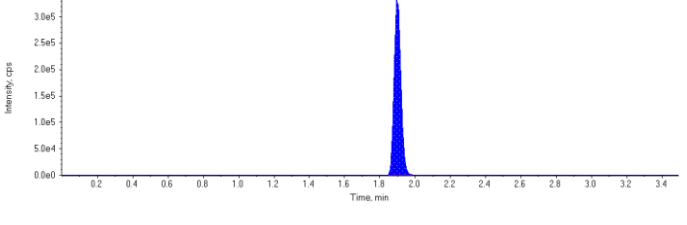
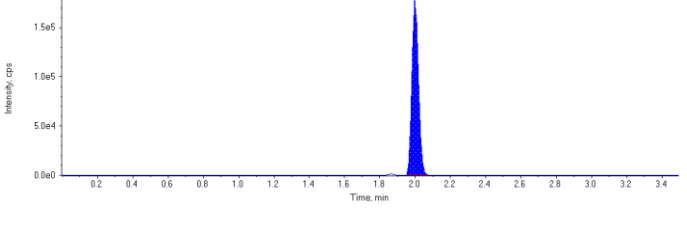
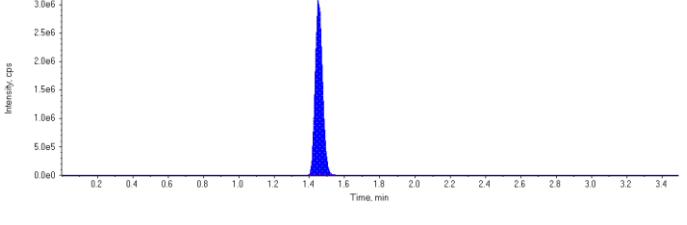
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.585 µg/L Area Ratio: 26.3 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.592 µg/L Area Ratio: 7.73 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.611 µg/L Area Ratio: 10.7 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 95.7 µg/L Area Ratio: 0.106 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 94.0 µg/L Area Ratio: 0.0501 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 104. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	STD 6	Injection Volume (µL)	2
Sample Type	Standard	Injection Vial	25
Acquisition Date	2016/06/01 4:04:43 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	274000.	1.71	1.00	-
MPFOA	905000.	1.90	1.00	-
MPFOS	461000.	2.00	1.00	-
13C6-PFHxA IS	8900000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	12700000	1.15	1.00	1.03	103.0
PFOA 1	12000000	1.90	1.00	1.02	102.0
PFOS 1	8040000	2.00	1.00	0.993	99.3
13C4-PFOA	905000	1.90	100.	91.4	91.4
13C4-PFOS	461000	2.00	100.	97.3	97.3
13C6-PFHxA	8900000	1.45	100.	103.	103.0

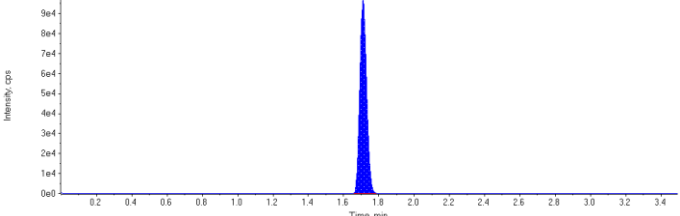
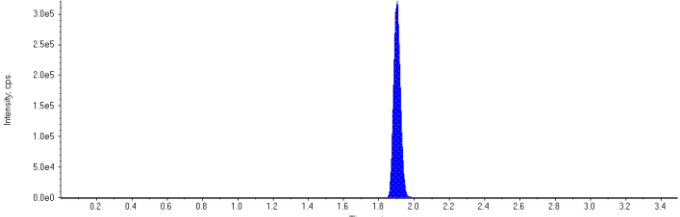
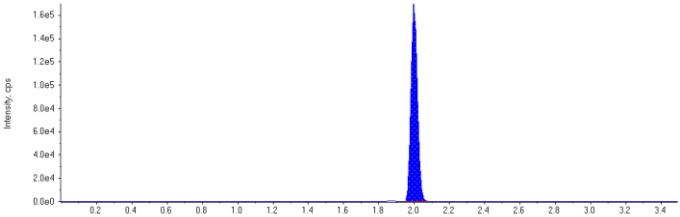
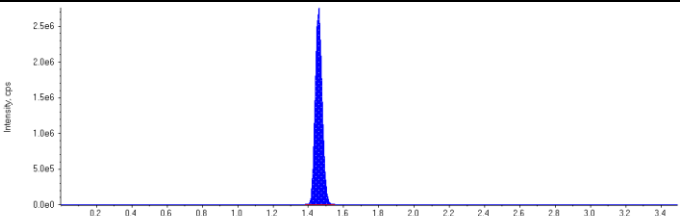
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Standard)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Standard)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Standard)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Standard)	This image is not available

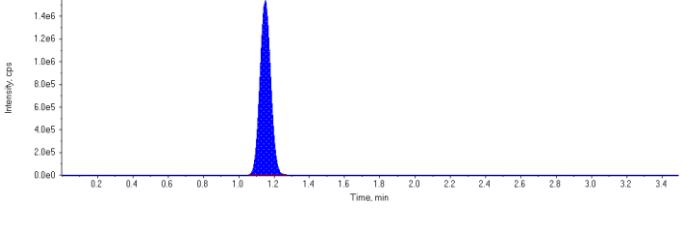
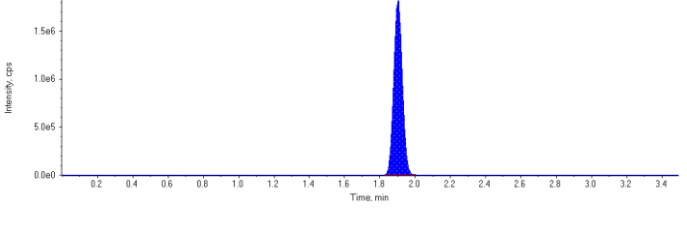
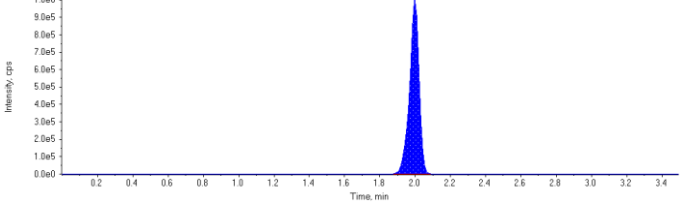
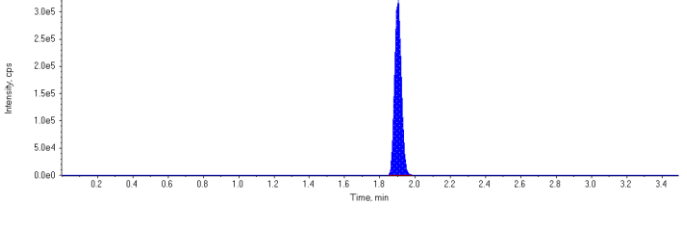
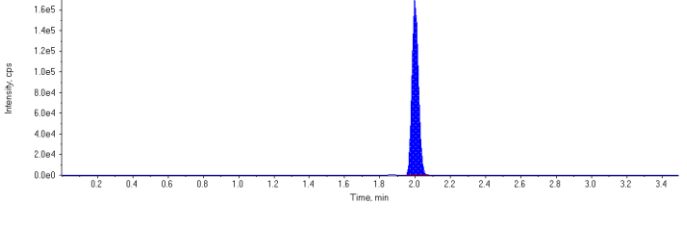
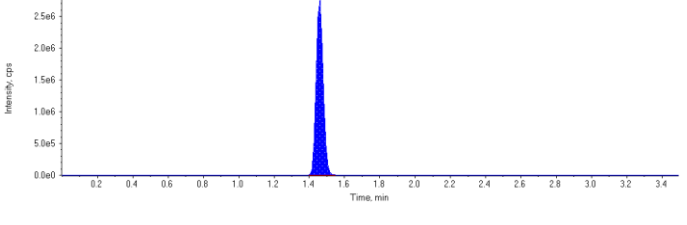
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 1.03 µg/L Area Ratio: 46.4 Sample Type: (Standard)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 1.02 µg/L Area Ratio: 13.3 Sample Type: (Standard)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.993 µg/L Area Ratio: 17.4 Sample Type: (Standard)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 91.4 µg/L Area Ratio: 0.102 Sample Type: (Standard)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 97.3 µg/L Area Ratio: 0.0518 Sample Type: (Standard)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 103. µg/L Area Ratio: 0.00 Sample Type: (Standard)	

Sample ID	ICV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	9
Acquisition Date	2016/05/31 2:40:09 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	261000.	1.71	1.00	-
MPFOA	858000.	1.90	1.00	-
MPFOS	429000.	2.00	1.00	-
13C6-PFHxA IS	7630000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	6530000	1.15	0.500	0.539	108.0
PFOA 1	6210000	1.90	0.500	0.547	109.0
PFOS 1	3790000	2.00	0.500	0.474	94.9
13C4-PFOA	858000	1.90	100.	99.7	99.7
13C4-PFOS	429000	2.00	100.	107.	107.0
13C6-PFHxA	7630000	1.46	100.	99.6	99.6

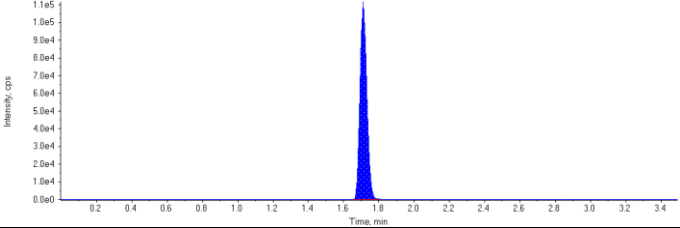
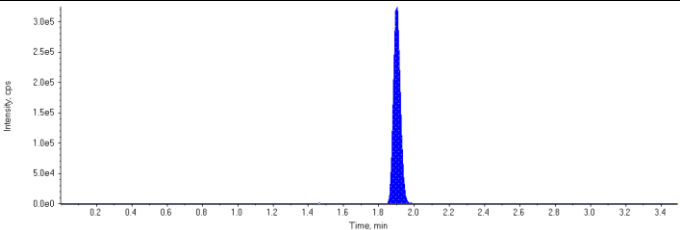
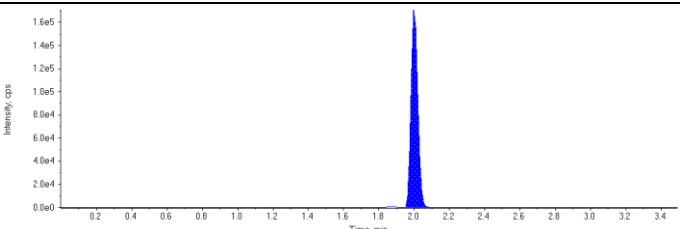
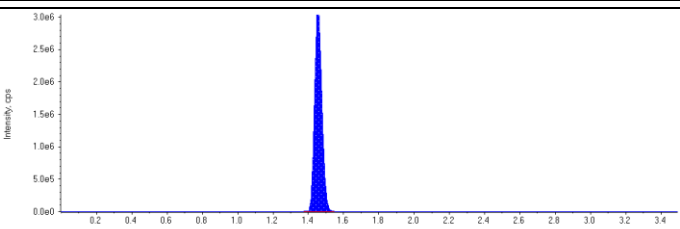
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

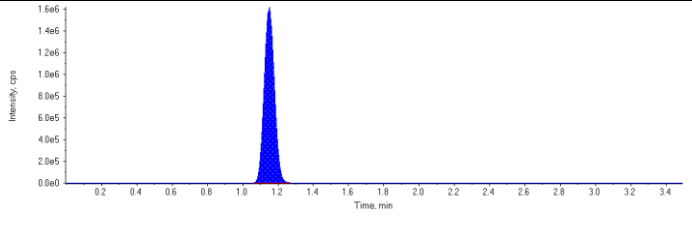
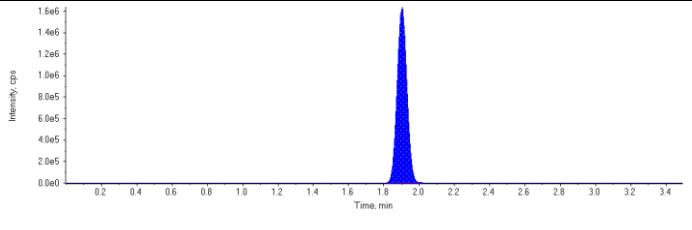
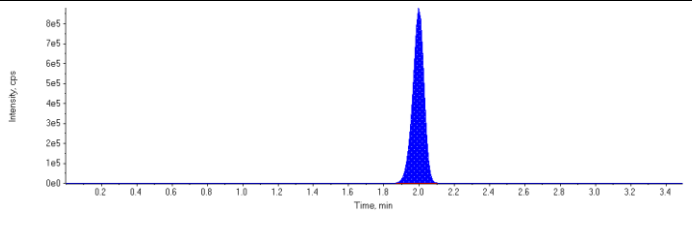
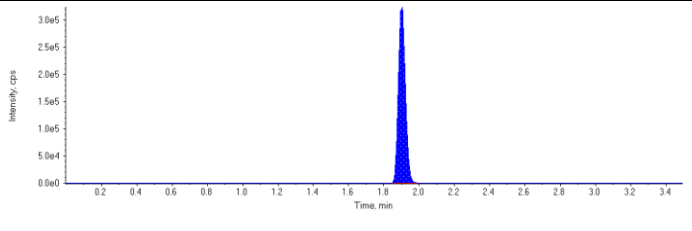
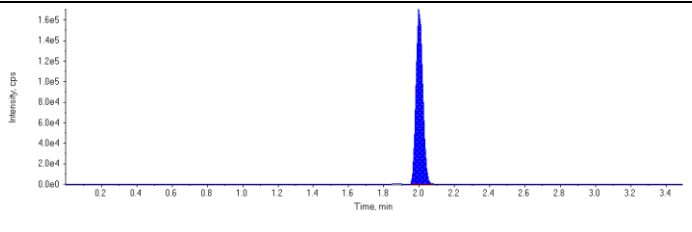
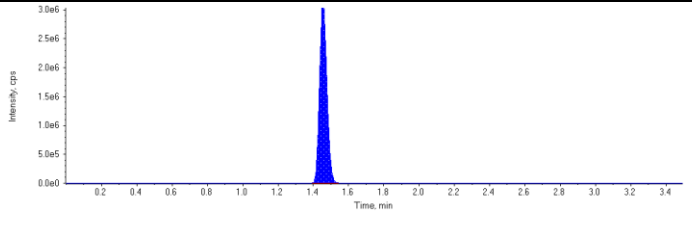
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.539 µg/L Area Ratio: 25.0 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.547 µg/L Area Ratio: 7.23 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.474 µg/L Area Ratio: 8.82 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 99.7 µg/L Area Ratio: 0.112 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 107. µg/L Area Ratio: 0.0562 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 99.6 µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	ICV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	26
Acquisition Date	2016/06/01 4:09:48 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	297000.	1.71	1.00	-
MPFOA	903000.	1.90	1.00	-
MPFOS	455000.	2.00	1.00	-
13C6-PFHxA IS	9070000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	6520000	1.15	0.500	0.489	97.8
PFOA 1	6300000	1.90	0.500	0.534	107.0
PFOS 1	3930000	2.00	0.500	0.493	98.6
13C4-PFOA	903000	1.90	100.	89.5	89.5
13C4-PFOS	455000	2.00	100.	94.1	94.1
13C6-PFHxA	9070000	1.46	100.	105.	105.0

MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.489 µg/L Area Ratio: 21.9 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.534 µg/L Area Ratio: 6.97 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.493 µg/L Area Ratio: 8.64 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 89.5 µg/L Area Ratio: 0.0996 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 94.1 µg/L Area Ratio: 0.0501 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 105. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample Name	Analyte	PFBS		PFOA		PFOS		13C6-PFHXA	
	Mass labeled IS	MPFHxS		MPFOA		MPFOS		N/A	
	Average IS Area in ICAL	252500		863500		402333		7663333	
		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		253000	100	876000	101	422000	105	7830000	102
STD 2		252000	100	848000	98	395000	98	7610000	99
STD 3		255000	101	866000	100	389000	97	7750000	101
STD 4		243000	96	867000	100	393000	98	7810000	102
STD 5		278000	110	878000	102	419000	104	7290000	95
STD 6		234000	93	846000	98	396000	98	7690000	100
ICV		261000	103	858000	99	429000	107	7630000	100
CCV		246000	97	863000	100	401000	100	8110000	106
4517563~BLANK		243000	96	880000	102	404000	100	9500000	124
4517563~SPIKE		264000	105	856000	99	380000	94	7730000	101
4517563~SPIKE:D1		255000	101	828000	96	398000	99	7890000	103
4517563~CJU460-01		250000	99	787000	91	394000	98	9720000	127
4517563~CJU461-01		220000	87	828000	96	361000	90	8220000	107
4517563~CJU466-01		243000	96	846000	98	374000	93	8380000	109
4517563~CJU467-01		247000	98	942000	109	388000	96	8970000	117
4517563~CJU470-01		255000	101	860000	100	396000	98	8320000	109
4517563~CJU496-01		251000	99	904000	105	387000	96	8600000	112
4517563~CJU498-01		235000	93	844000	98	387000	96	9480000	124
4517563~CJU500-01		270000	107	933000	108	413000	103	9630000	126
4517563~CJU502-01		231000	91	857000	99	389000	97	8780000	115
4517563~CJU504-01 (10x)		253000	100	751000	87	371000	92	8210000	107
CCV		253000	100	808000	94	389000	97	7700000	100
4517563~CJU506-01 (10x)		260000	103	935000	108	392000	97	8530000	111
4517563~CJZ596-01		271000	107	896000	104	426000	106	8780000	115
4517563~CJZ597-01		252000	100	808000	94	369000	92	8800000	115
4517563~CJZ598-01		267000	106	880000	102	411000	102	8350000	109
4517563~CJZ599-01		253000	100	887000	103	410000	102	9160000	120
4517563~CJZ600-01		252000	100	892000	103	391000	97	8540000	111
4517563~CJZ601-01		237000	94	851000	99	418000	104	8330000	109
4517563~CJZ618-01		267000	106	886000	103	420000	104	8600000	112
4517563~CJU504-01		233000	92	805000	93	386000	96	8630000	113
4517563~CJU506-01		223000	88	818000	95	356000	88	10100000	132
CCV		253000	100	843000	98	377000	94	8230000	107

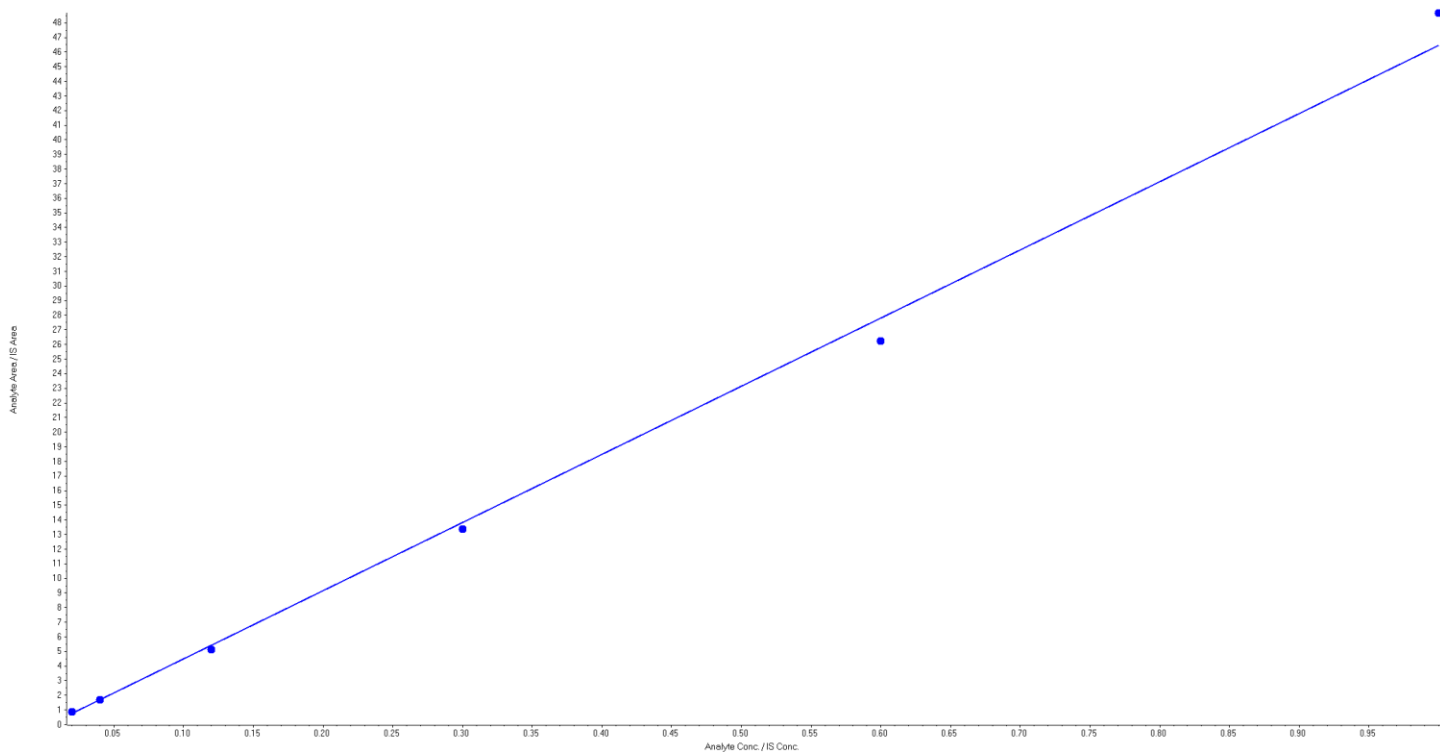
Sample Name	Analyte	PFBS		PFOA		PFOS		13C6-PFHXA	
	Mass labeled IS	MPFHxS		MPFOA		MPFOS		N/A	
	Average IS Area in ICAL	290167		960333		460000		8655000	
		IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)	IS Peak Area	IS %R (ICAL)
4518651~BLANK		309000	106	1040000	108	504000	110	7880000	91
STD 1		302000	104	958000	100	473000	103	8720000	101
STD 2		299000	103	982000	102	458000	100	8080000	93
STD 3		277000	95	951000	99	462000	100	8710000	101
STD 4		299000	103	1010000	105	457000	99	8540000	99
STD 5		290000	100	956000	100	449000	98	8980000	104
STD 6		274000	94	905000	94	461000	100	8900000	103
ICV		297000	102	903000	94	455000	99	9070000	105
CCV		307000	106	987000	103	477000	104	8310000	96
4518651~SPIKE		307000	106	921000	96	471000	102	8880000	103
4518651~SPIKE:D1		287000	99	1010000	105	451000	98	8290000	96
4518651~CJZ602-01		279000	96	904000	94	409000	89	8020000	93
4518651~CJZ603-01		275000	95	946000	99	432000	94	8440000	98
4518651~CJZ604-01		285000	98	898000	94	447000	97	9110000	105
4518651~CJZ605-01		277000	95	954000	99	431000	94	8660000	100
4518651~CJZ606-01		266000	92	937000	98	423000	92	8850000	102
4518651~CJZ607-01		264000	91	908000	95	407000	88	8780000	101
4518651~CJZ608-01		259000	89	839000	87	404000	88	9030000	104
4518651~CJZ609-01		289000	100	978000	102	424000	92	9480000	110
4518651~CJZ610-01		293000	101	986000	103	430000	93	9360000	108
4518651~CJZ611-01		290000	100	913000	95	445000	97	9490000	110
CCV		271000	93	934000	97	477000	104	9050000	105
4518651~CJZ612-01		291000	100	967000	101	452000	98	8870000	102
4518651~CJZ613-01		269000	93	872000	91	451000	98	8610000	99
4518651~CJZ614-01		284000	98	914000	95	462000	100	8810000	102
4518651~CJZ615-01		294000	101	966000	101	441000	96	8560000	99
4518651~CJZ616-01		276000	95	858000	89	418000	91	9110000	105
4518651~CJZ617-01		276000	95	866000	90	432000	94	9030000	104
4518651~CJZ619-01		291000	100	961000	100	421000	92	9010000	104
4518651~CJZ620-01		274000	94	909000	95	435000	95	9100000	105
4518651~CKX683-01 (10x)		278000	96	954000	99	440000	96	8870000	102
4518651~CKX683-01		277000	95	926000	96	434000	94	8640000	100
CCV		286000	99	941000	98	410000	89	8840000	102
4518651~CKZ498-01		292000	101	911000	95	398000	87	8820000	102
CCV		289000	100	980000	102	457000	99	9020000	104
CCV		272000	94	954000	99	456000	99	8990000	104
4518651~SPIKE:D1		283000	98	906000	94	465000	101	8630000	100
CCV		270000	93	970000	101	476000	103	9190000	106
CCV		278000	96	965000	100	456000	99	9080000	105
CCV		283000	98	940000	98	456000	99	9330000	108

Analyte Name: PFBS 1
Internal Standard: MPFHxS

Data File	PFC_160531\WS#4517469.wiff	Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb
Acquisition Date	2016/05/31 2:09:42 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 46.6 x + -0.169$ ($r = 0.9985$)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
0.02	1	0.02	109.1
0.04	1	0.04	100.0
0.12	1	0.11	94.8
0.3	1	0.29	96.9
0.6	1	0.57	94.3
1	1	1.05	104.7

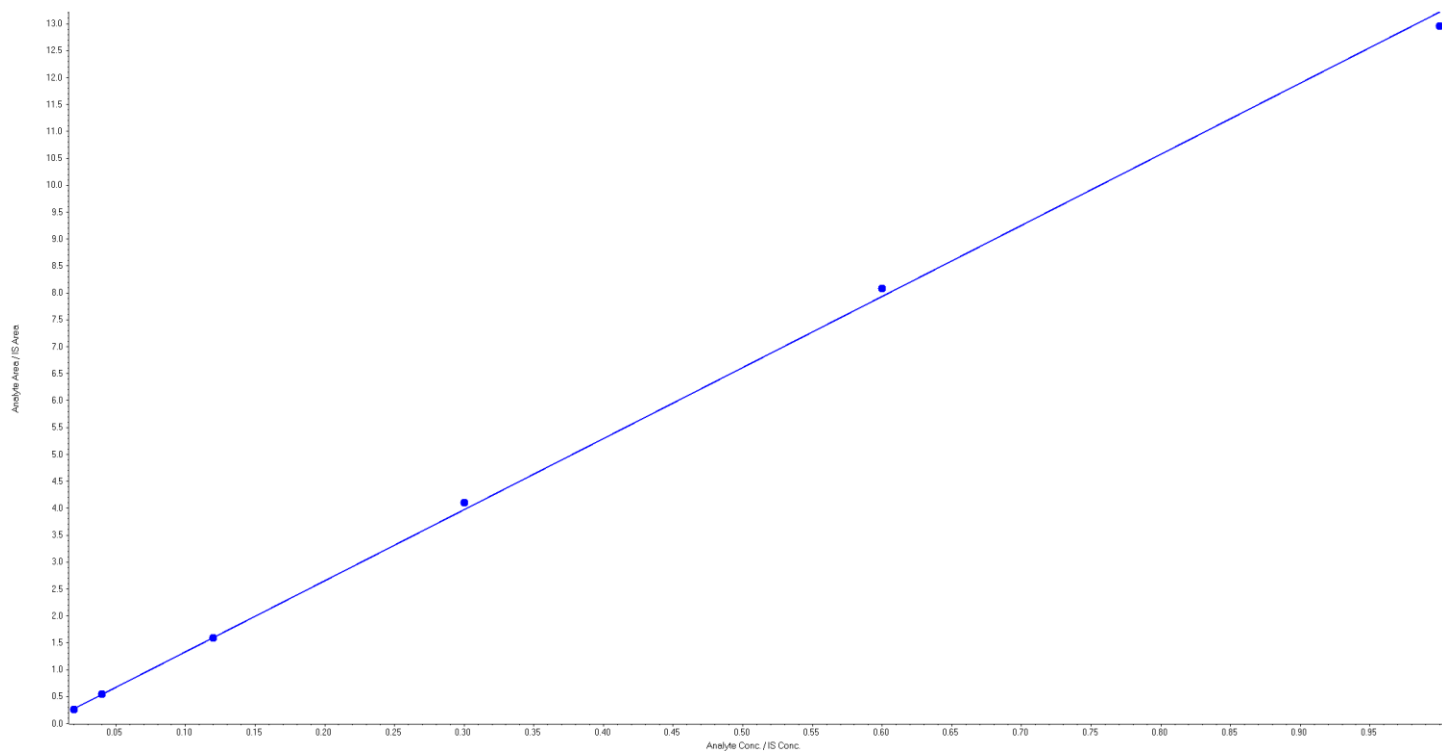


Analyte Name: PFOA 1
Internal Standard: MPFOA

Data File	PFC_160531\WS#4517469.wiff	Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb
Acquisition Date	2016/05/31 2:09:42 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 13.2 x + 0.0114$ ($r = 0.9997$)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
0.02	1	0.02	96.1
0.04	1	0.04	101.1
0.12	1	0.12	99.8
0.3	1	0.31	103.2
0.6	1	0.61	101.8
1	1	0.98	98.0

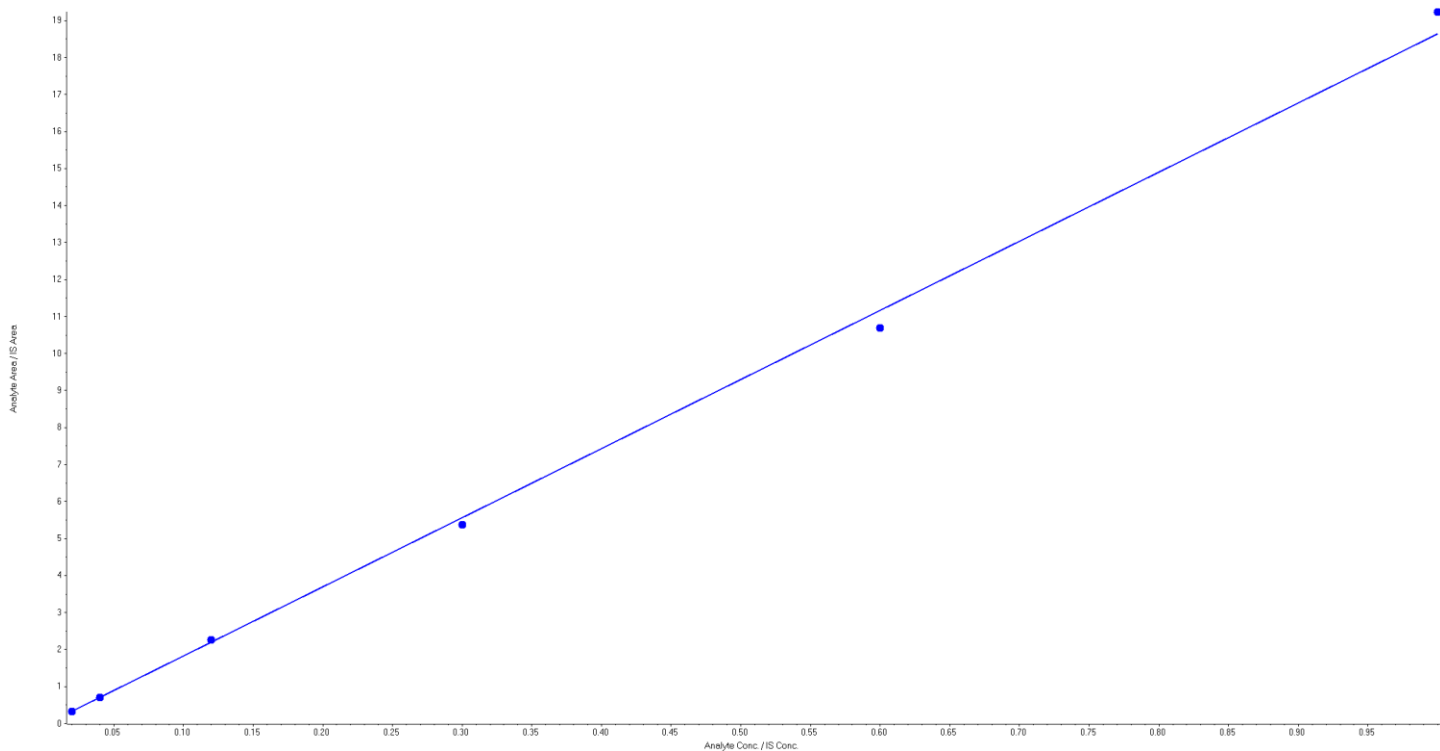


Analyte Name: PFOS 1
Internal Standard: MPFOS

Data File	PFC_160531\WS#4517469.wiff	Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb
Acquisition Date	2016/05/31 2:09:42 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 18.7 x + -0.0414$ ($r = 0.9992$)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
0.02	1	0.02	100.3
0.04	1	0.04	101.1
0.12	1	0.12	103.0
0.3	1	0.29	96.7
0.6	1	0.57	95.7
1	1	1.03	103.2

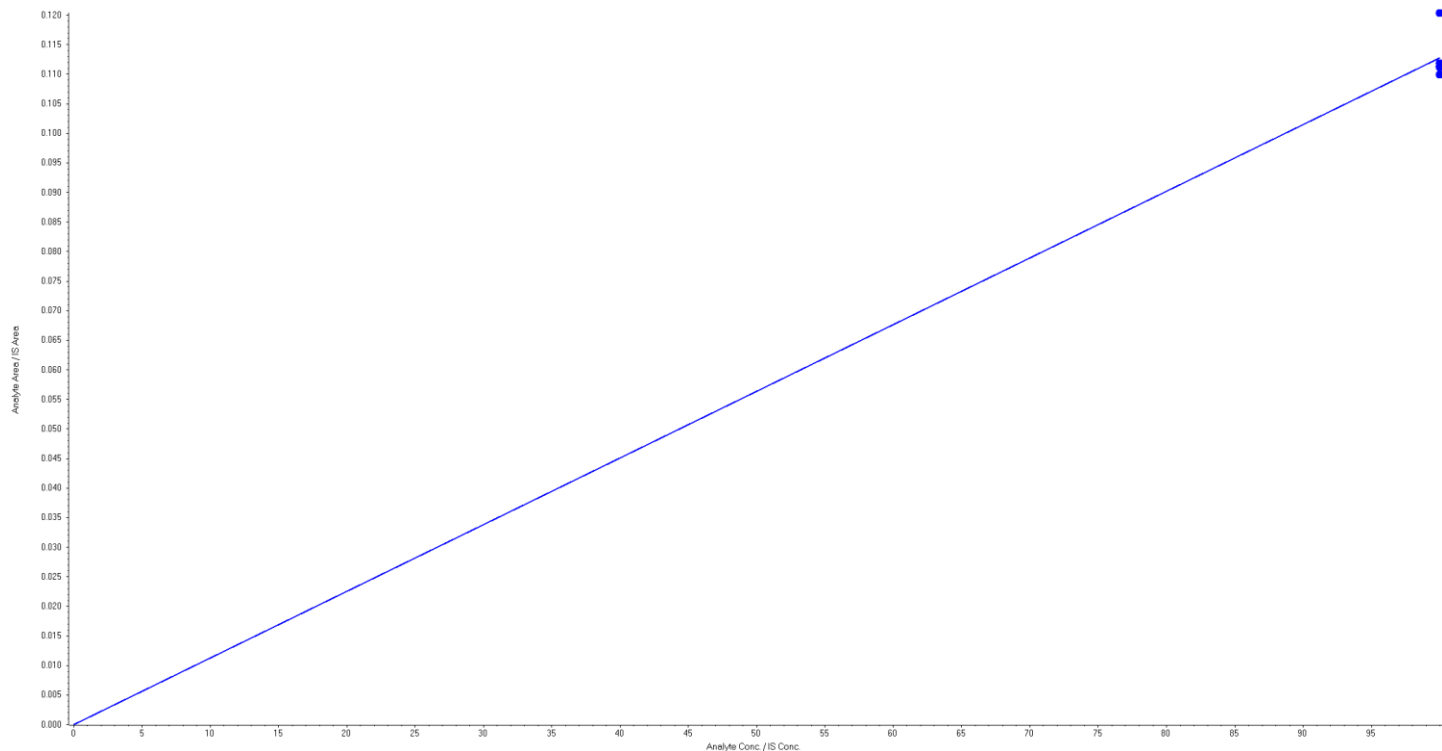


Analyte Name: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160531\WS#4517469.wiff	Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb
Acquisition Date	2016/05/31 2:09:42 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.00113 x$ ($r = 0.9995$)

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

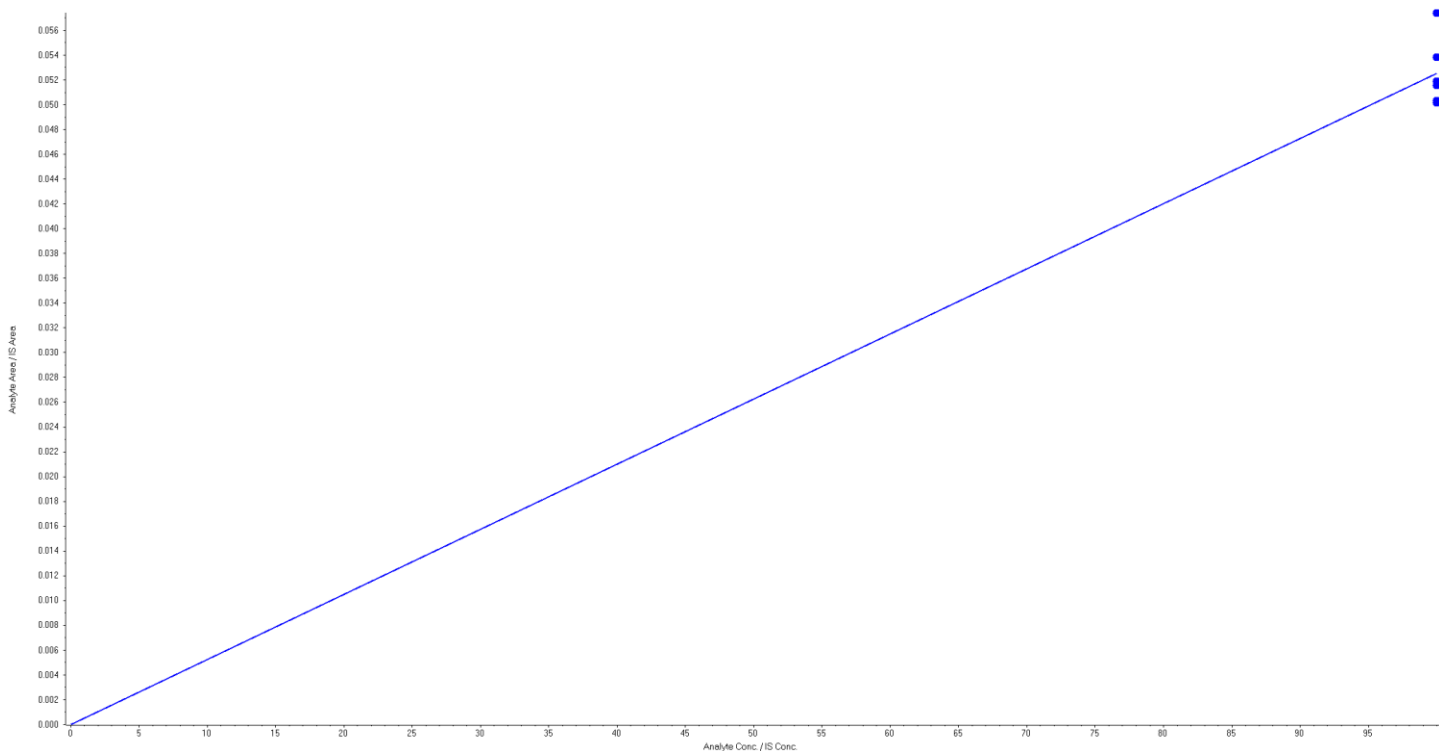


Analyte Name: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160531\WS#4517469.wiff	Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb
Acquisition Date	2016/05/31 2:09:42 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000525 x$ (r = 0.9989)

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

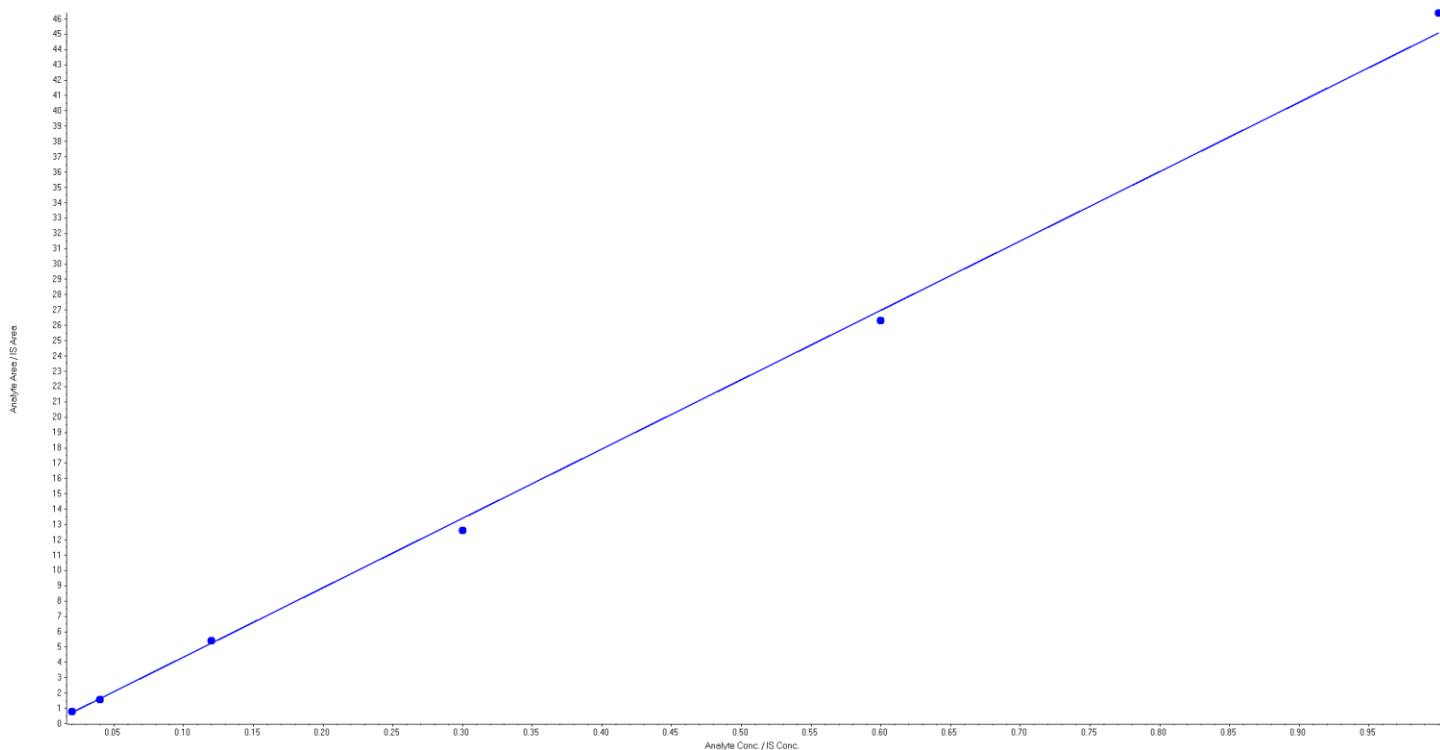


Analyte Name: PFBS 1
Internal Standard: MPFHxS

Data File	PFC_160531\WS#4518651.wiff	Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb
Acquisition Date	2016/06/01 3:34:13 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 45.3x + -0.184$ ($r = 0.9993$)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
0.02	1	0.02	105.8
0.04	1	0.04	96.7
0.12	1	0.12	102.9
0.3	1	0.28	94.2
0.6	1	0.59	97.6
1	1	1.03	102.9

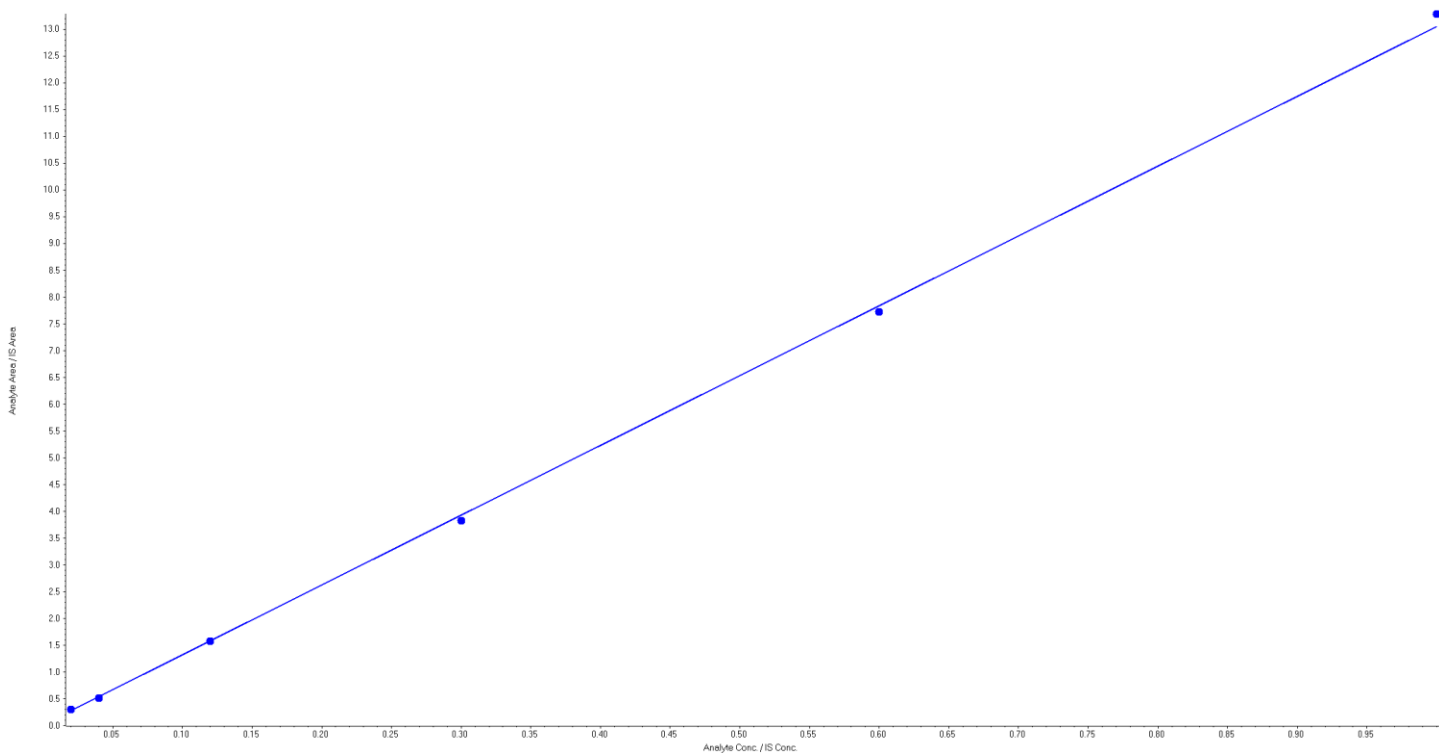


Analyte Name: PFOA 1
Internal Standard: MPFOA

Data File	PFC_160531\WS#4518651.wiff	Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb
Acquisition Date	2016/06/01 3:34:13 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 13x + 0.0179$ ($r = 0.9997$)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
0.02	1	0.02	107.3
0.04	1	0.04	95.9
0.12	1	0.12	99.2
0.3	1	0.29	97.2
0.6	1	0.59	98.6
1	1	1.02	101.8

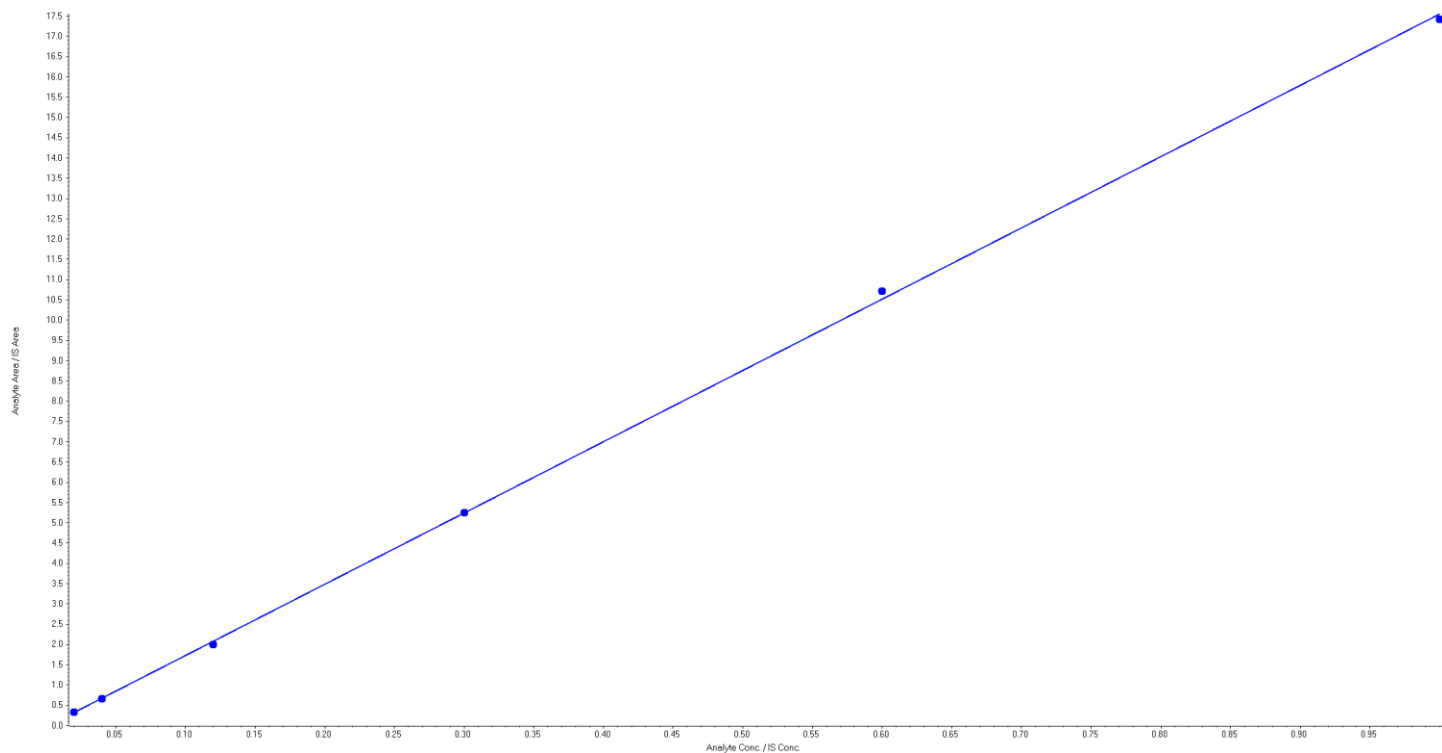


Analyte Name: PFOS 1
Internal Standard: MPFOS

Data File	PFC_160531\WS#4518651.wiff	Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb
Acquisition Date	2016/06/01 3:34:13 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 17.6 x + -0.0309$ ($r = 0.9999$)

Expected Concentration (µg/L)	Number of Values	Calculated Concentration (µg/L)	% Accuracy
0.02	1	0.02	103.7
0.04	1	0.04	99.0
0.12	1	0.12	96.0
0.3	1	0.30	100.2
0.6	1	0.61	101.8
1	1	0.99	99.3

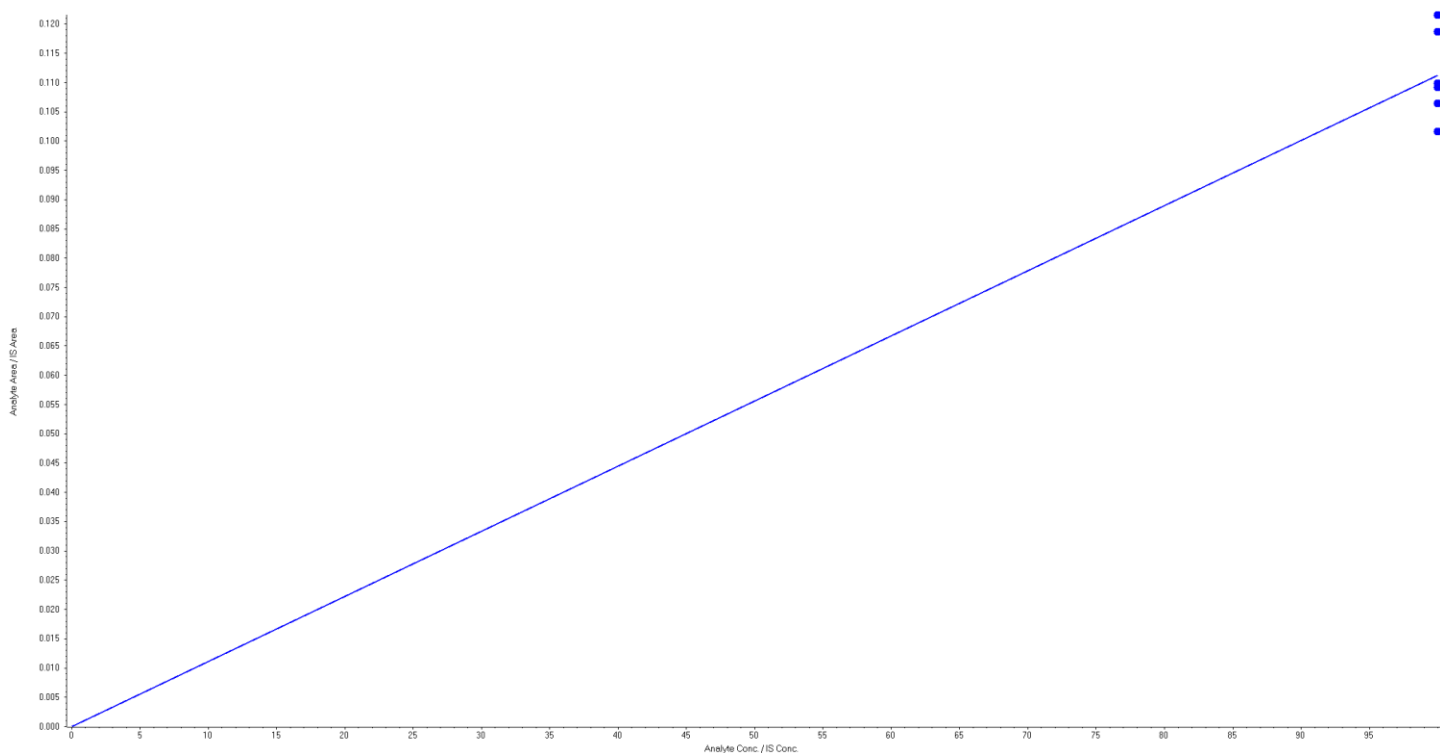


Analyte Name: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160531\WS#4518651.wiff	Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb
Acquisition Date	2016/06/01 3:34:13 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.00111 x$ ($r = 0.9981$)

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

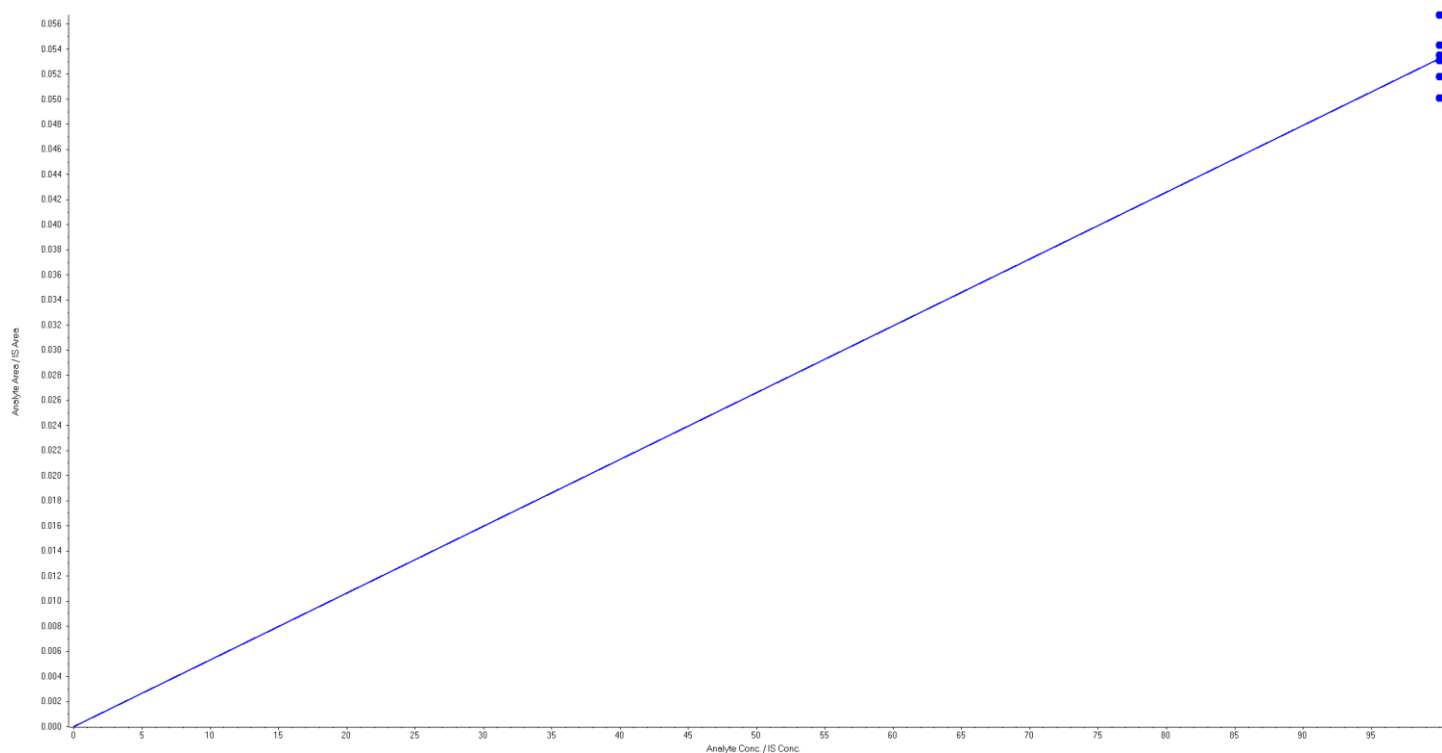


Analyte Name: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS

Data File	PFC_160531\WS#4518651.wiff	Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb
Acquisition Date	2016/06/01 3:34:13 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000533 x$ ($r = 0.9993$)

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





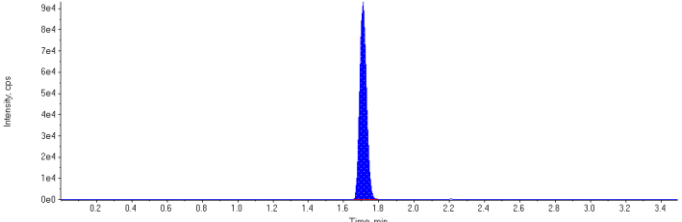
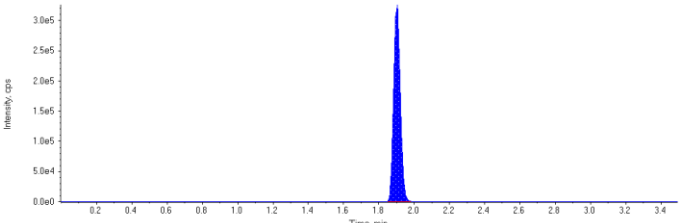
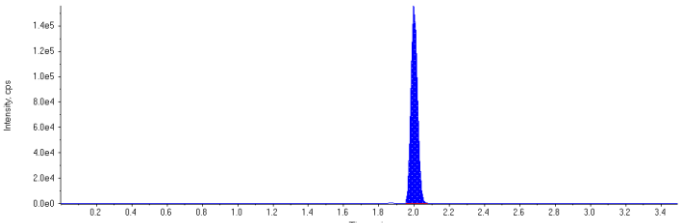
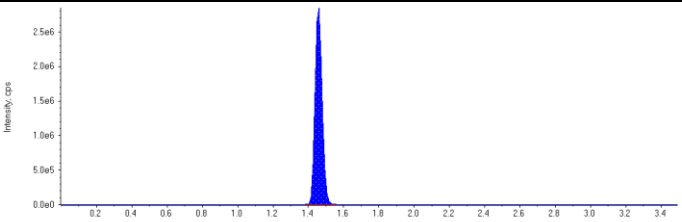
6. Continuing Calibration

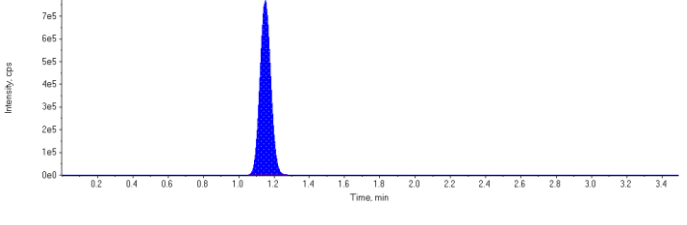
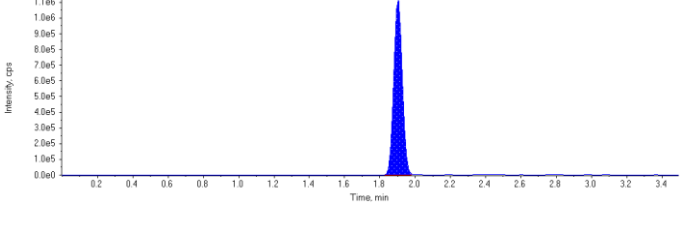
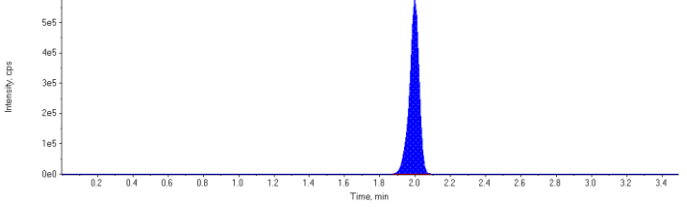
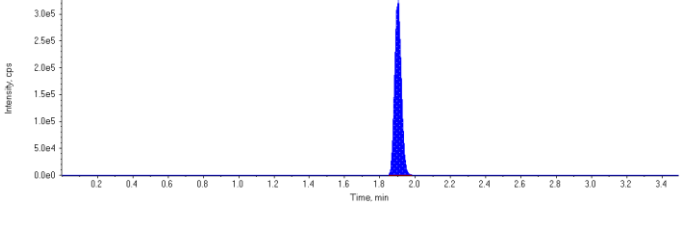
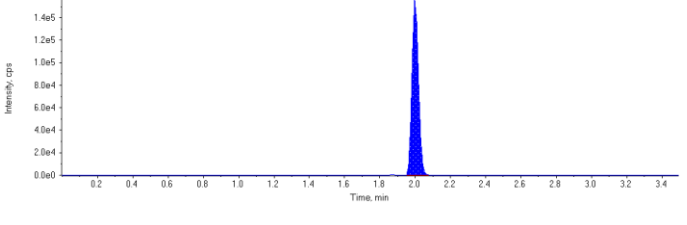
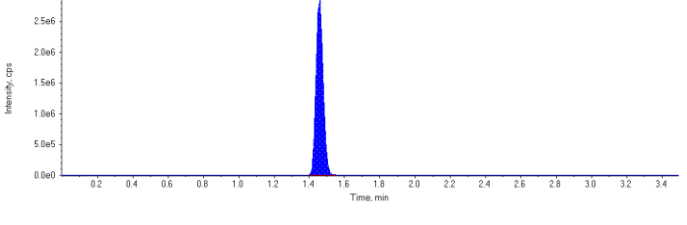
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	6
Acquisition Date	2016/05/31 4:36:57 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517469.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	246000.	1.71	1.00	-
MPFOA	863000.	1.90	1.00	-
MPFOS	401000.	2.00	1.00	-
13C6-PFHxA IS	8110000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3270000	1.15	0.300	0.289	96.2
PFOA 1	3760000	1.90	0.300	0.329	110.0
PFOS 1	2150000	2.00	0.300	0.289	96.3
13C4-PFOA	863000	1.90	100.	94.4	94.4
13C4-PFOS	401000	2.00	100.	94.2	94.2
13C6-PFHxA	8110000	1.46	100.	106.	106.0

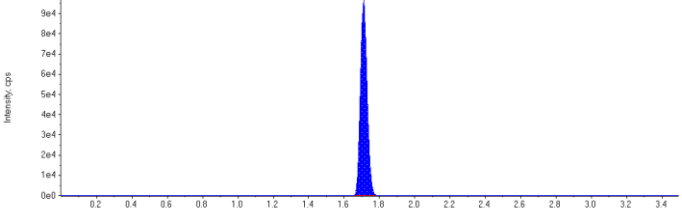
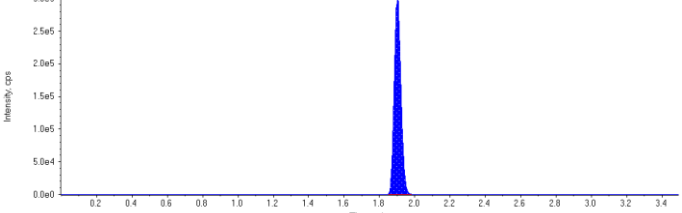
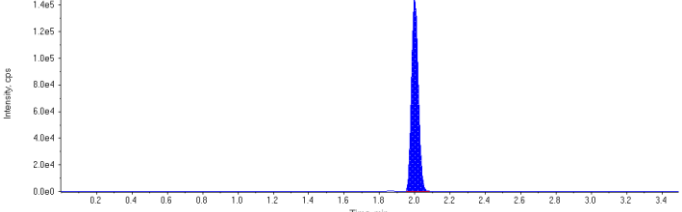
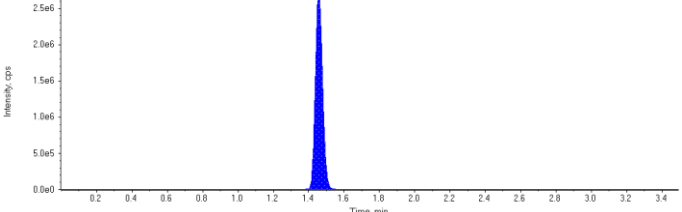
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

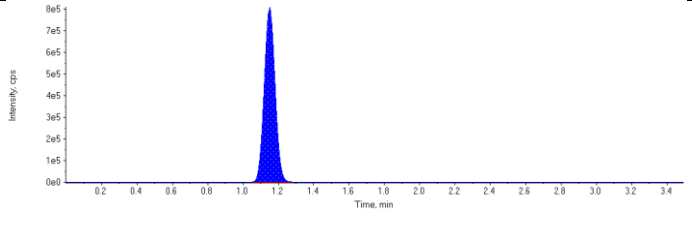
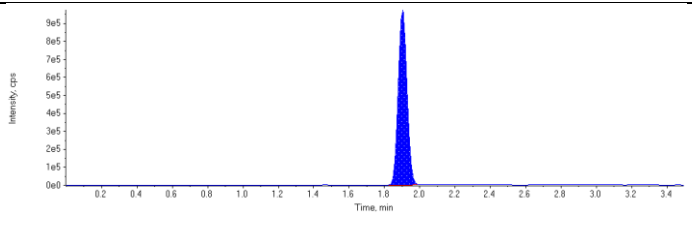
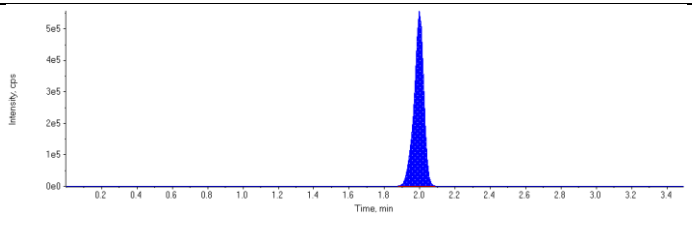
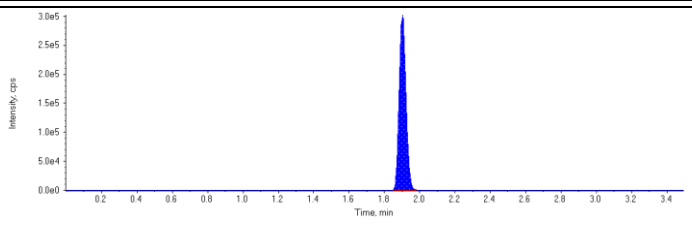
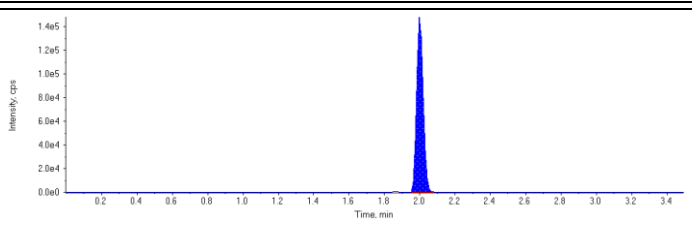
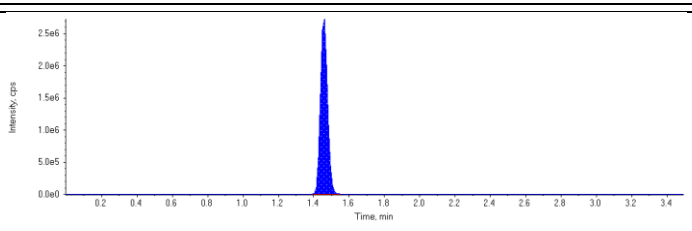
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.289 µg/L Area Ratio: 13.3 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.329 µg/L Area Ratio: 4.35 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.289 µg/L Area Ratio: 5.36 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 94.4 µg/L Area Ratio: 0.106 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 94.2 µg/L Area Ratio: 0.0495 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 106. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	6
Acquisition Date	2016/05/31 5:58:22 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	253000.	1.71	1.00	-
MPFOA	808000.	1.90	1.00	-
MPFOS	389000.	2.00	1.00	-
13C6-PFHxA IS	7700000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3440000	1.15	0.300	0.295	98.5
PFOA 1	3350000	1.90	0.300	0.312	104.0
PFOS 1	2120000	2.00	0.300	0.294	98.0
13C4-PFOA	808000	1.90	100.	93.1	93.1
13C4-PFOS	389000	2.00	100.	96.1	96.1
13C6-PFHxA	7700000	1.46	100.	100.	100.0

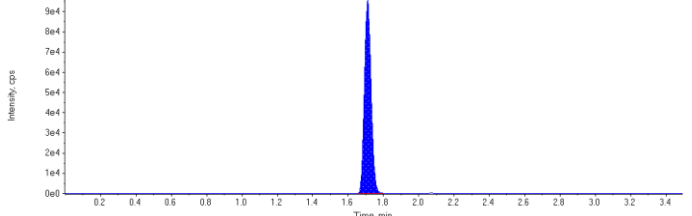
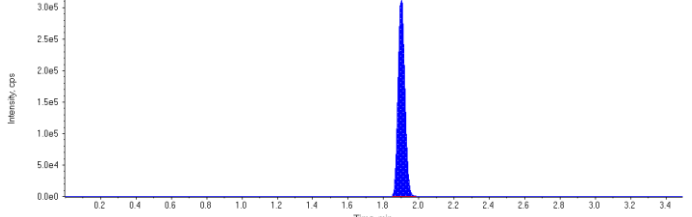
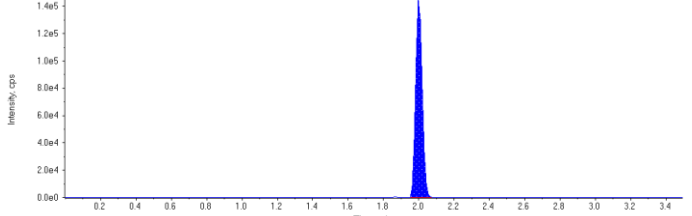
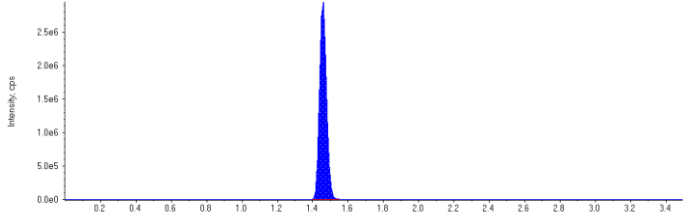
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

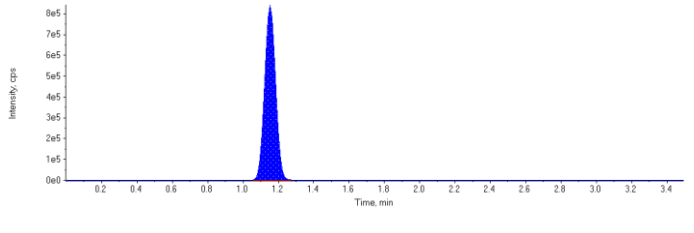
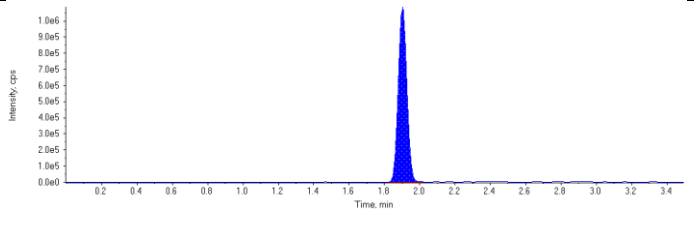
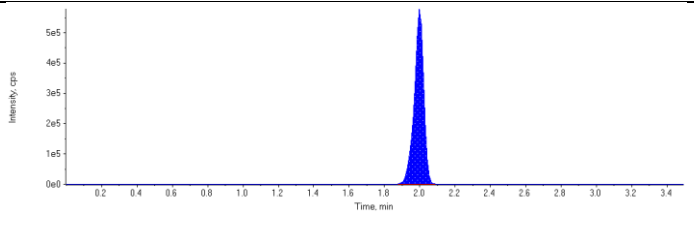
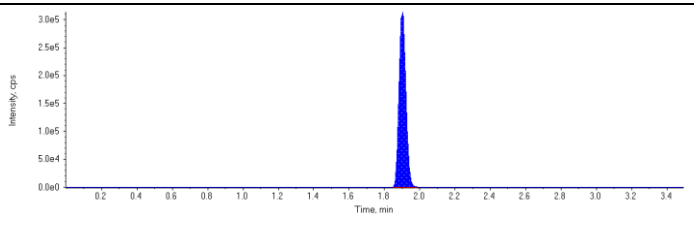
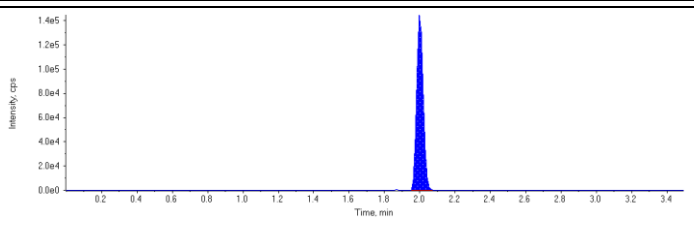
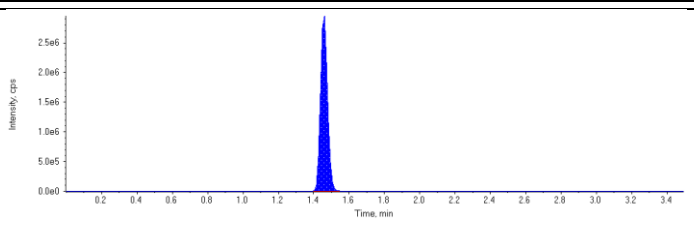
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.295 µg/L Area Ratio: 13.6 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.312 µg/L Area Ratio: 4.14 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.294 µg/L Area Ratio: 5.45 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 93.1 µg/L Area Ratio: 0.105 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 96.1 µg/L Area Ratio: 0.0505 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 100. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	6
Acquisition Date	2016/05/31 6:54:15 PM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4517563.wiff		
Result Table	PFC_Water_160531_4517563_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	253000.	1.71	1.00	-
MPFOA	843000.	1.90	1.00	-
MPFOS	377000.	2.00	1.00	-
13C6-PFHxA IS	8230000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3610000	1.15	0.0200	0.310	1550.0
PFOA 1	3650000	1.90	0.0200	0.328	1640.0
PFOS 1	2160000	2.00	0.0200	0.310	1550.0
13C4-PFOA	843000	1.90	100.	90.8	90.8
13C4-PFOS	377000	2.00	100.	87.1	87.1
13C6-PFHxA	8230000	1.46	100.	107.	107.0

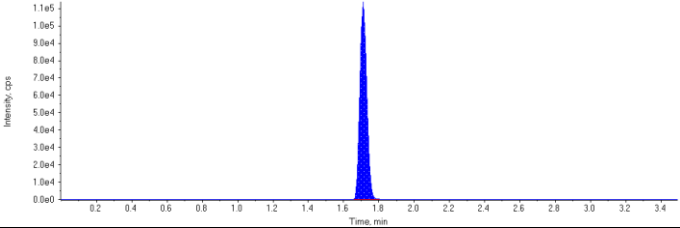
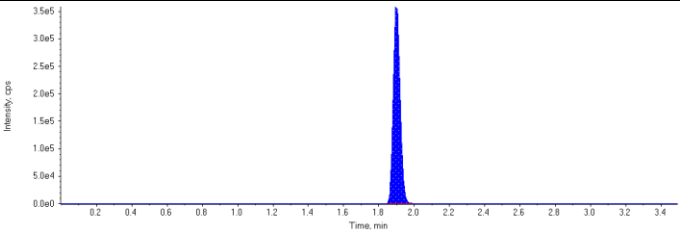
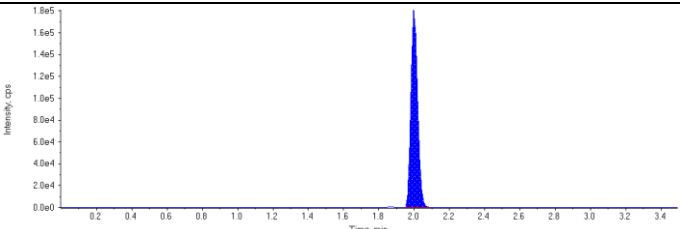
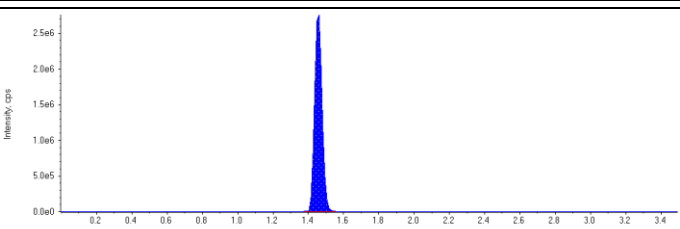
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

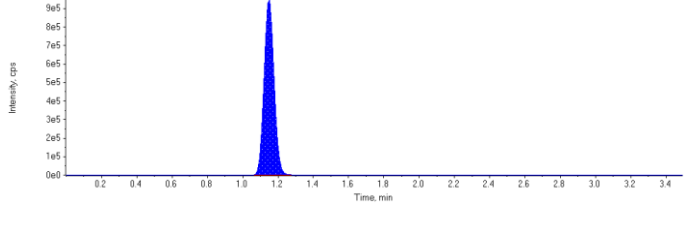
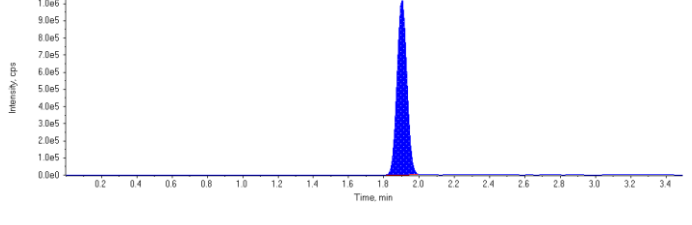
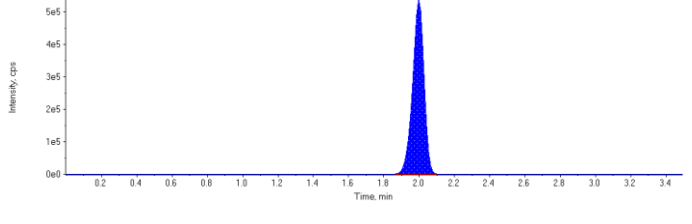
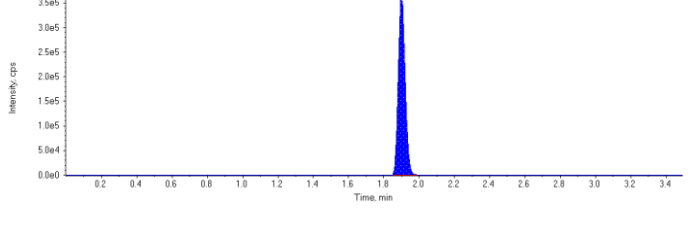
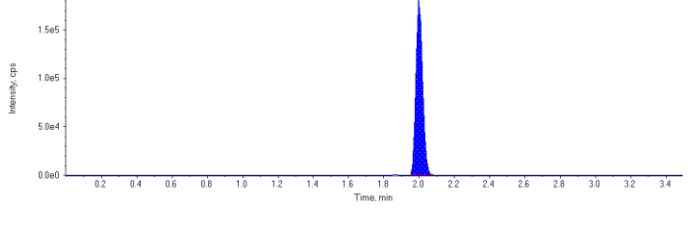
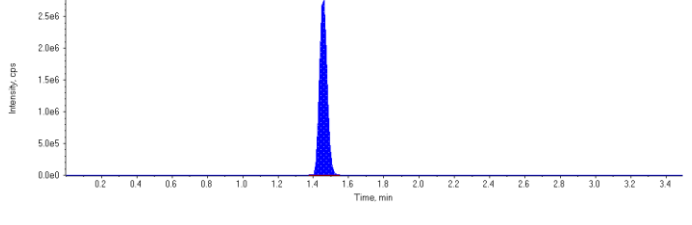
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.310 µg/L Area Ratio: 14.3 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.328 µg/L Area Ratio: 4.34 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.310 µg/L Area Ratio: 5.74 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 90.8 µg/L Area Ratio: 0.102 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 87.1 µg/L Area Ratio: 0.0458 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 107. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 4:14:53 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	307000.	1.71	1.00	-
MPFOA	987000.	1.90	1.00	-
MPFOS	477000.	2.00	1.00	-
13C6-PFHxA IS	8310000.	1.46	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3750000	1.15	0.300	0.274	91.3
PFOA 1	3960000	1.90	0.300	0.306	102.0
PFOS 1	2430000	2.00	0.300	0.291	96.9
13C4-PFOA	987000	1.90	100.	107.	107.0
13C4-PFOS	477000	2.00	100.	108.	108.0
13C6-PFHxA	8310000	1.46	100.	96.1	96.1

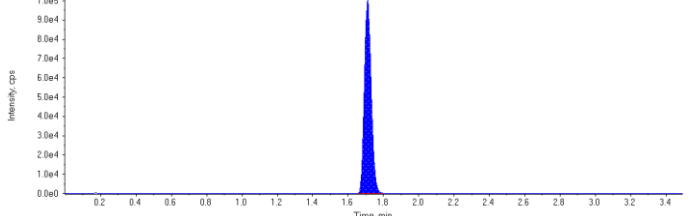
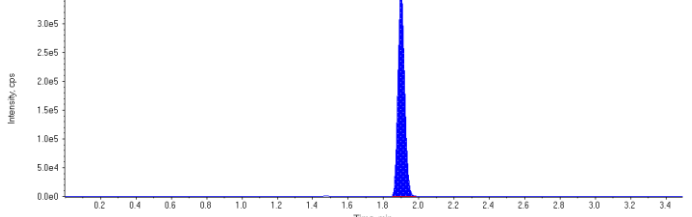
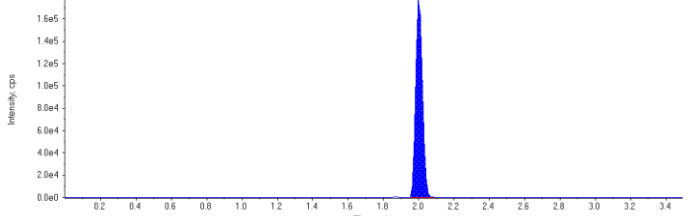
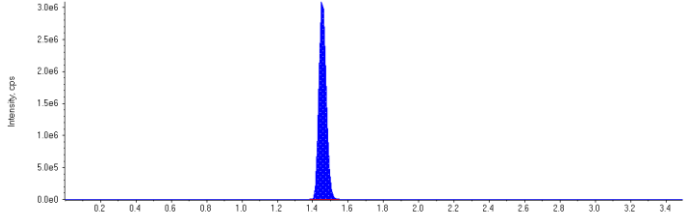
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.46(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

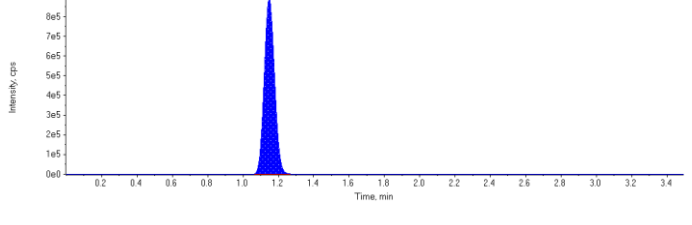
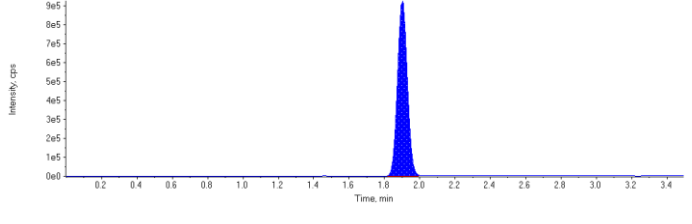
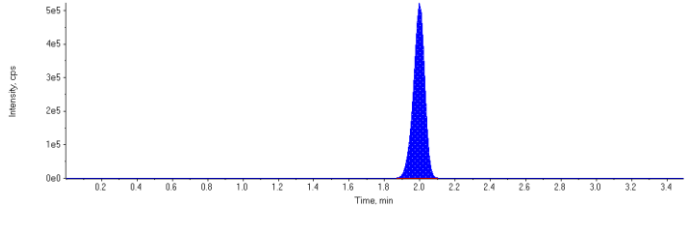
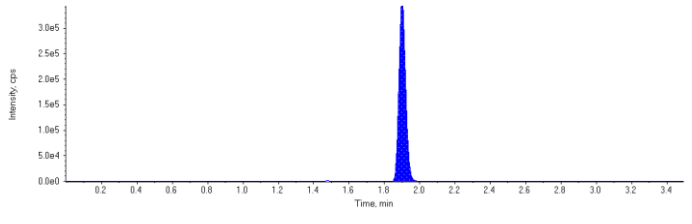
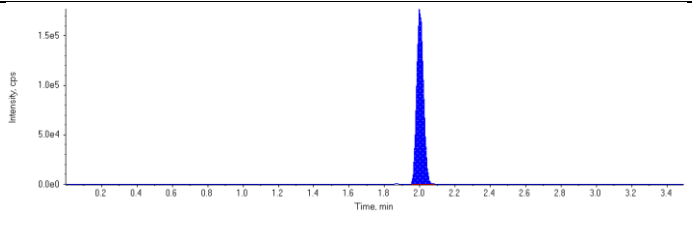
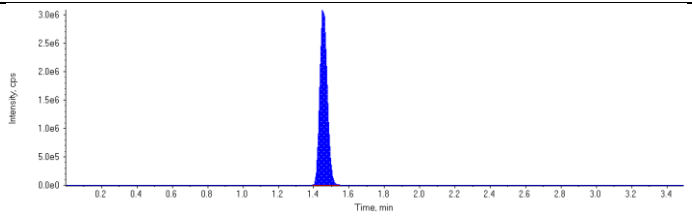
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.274 µg/L Area Ratio: 12.2 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.306 µg/L Area Ratio: 4.01 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.291 µg/L Area Ratio: 5.08 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 107. µg/L Area Ratio: 0.119 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 108. µg/L Area Ratio: 0.0574 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.46 (1.42) min Calculated Conc: 96.1 µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 5:21:00 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	271000.	1.71	1.00	-
MPFOA	934000.	1.90	1.00	-
MPFOS	477000.	2.00	1.00	-
13C6-PFHxA IS	9050000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3620000	1.15	0.300	0.299	99.8
PFOA 1	3570000	1.90	0.300	0.292	97.4
PFOS 1	2330000	2.00	0.300	0.279	93.1
13C4-PFOA	934000	1.90	100.	92.8	92.8
13C4-PFOS	477000	2.00	100.	99.0	99.0
13C6-PFHxA	9050000	1.45	100.	105.	105.0

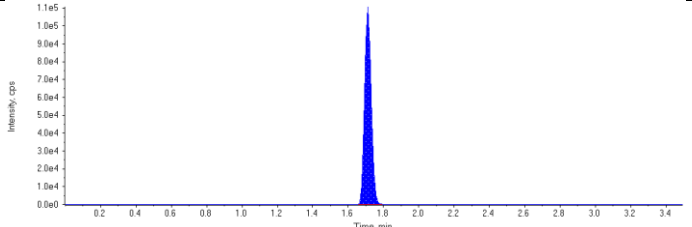
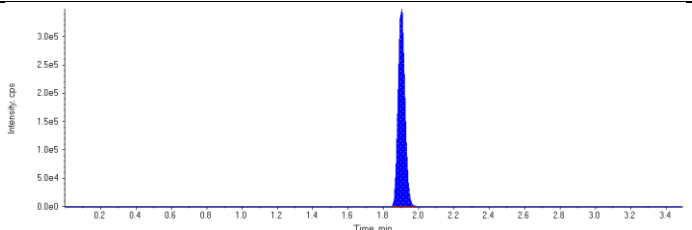
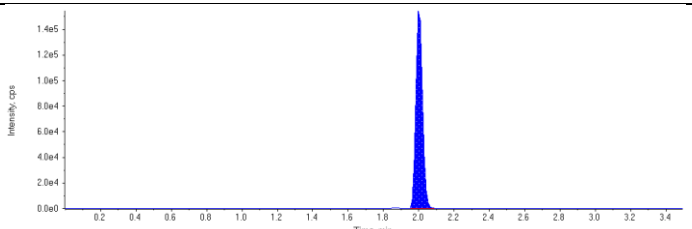
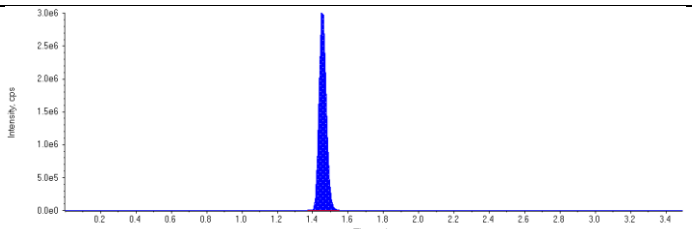
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

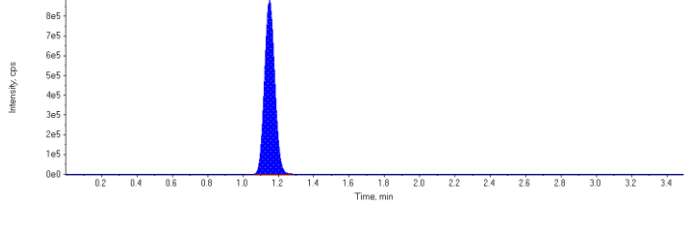
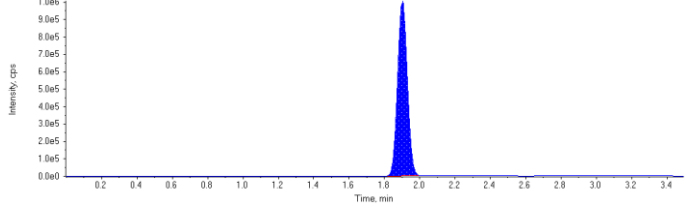
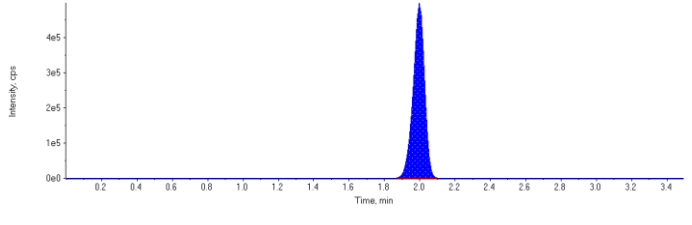
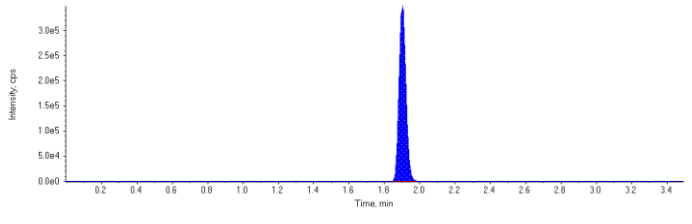
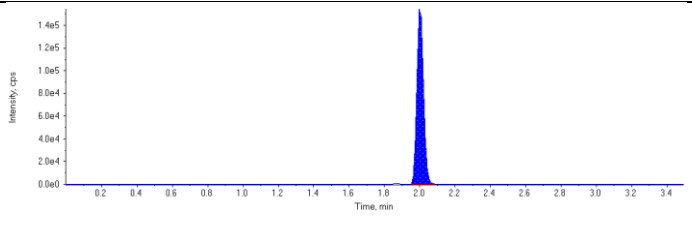
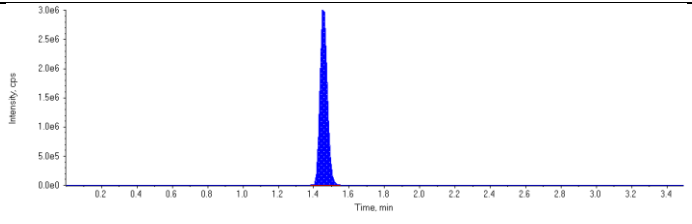
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.299 µg/L Area Ratio: 13.4 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.292 µg/L Area Ratio: 3.83 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.279 µg/L Area Ratio: 4.88 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 92.8 µg/L Area Ratio: 0.103 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 99.0 µg/L Area Ratio: 0.0527 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 105. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 6:16:58 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	286000.	1.71	1.00	-
MPFOA	941000.	1.90	1.00	-
MPFOS	410000.	2.00	1.00	-
13C6-PFHxA IS	8840000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3540000	1.15	0.300	0.277	92.3
PFOA 1	3850000	1.90	0.300	0.312	104.0
PFOS 1	2230000	2.00	0.300	0.312	104.0
13C4-PFOA	941000	1.90	100.	95.6	95.6
13C4-PFOS	410000	2.00	100.	87.0	87.0
13C6-PFHxA	8840000	1.45	100.	102.	102.0

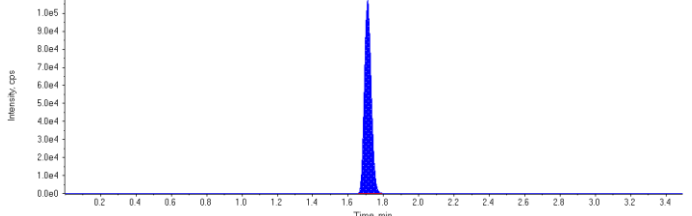
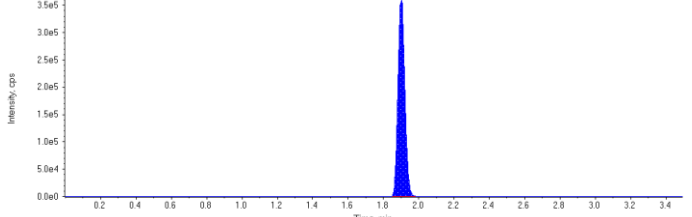
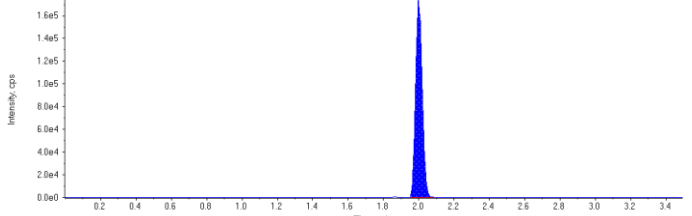
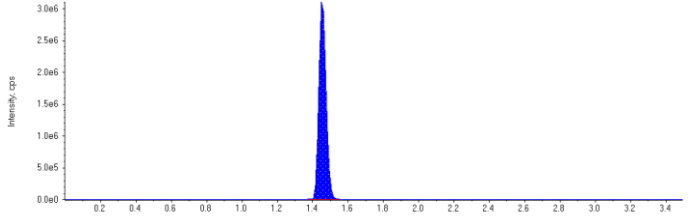
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

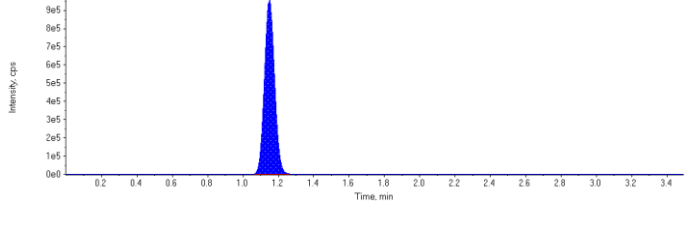
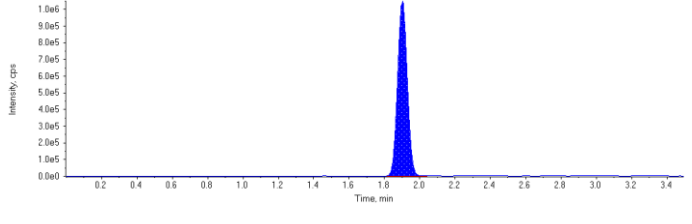
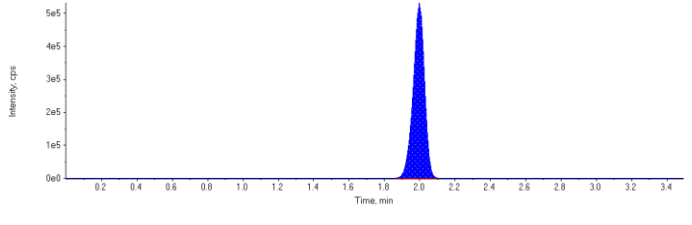
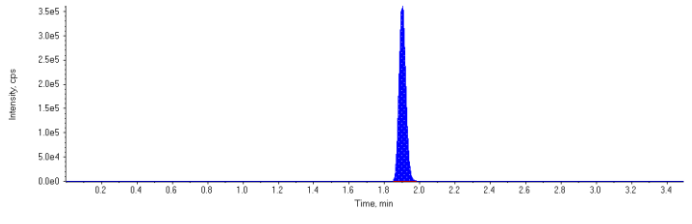
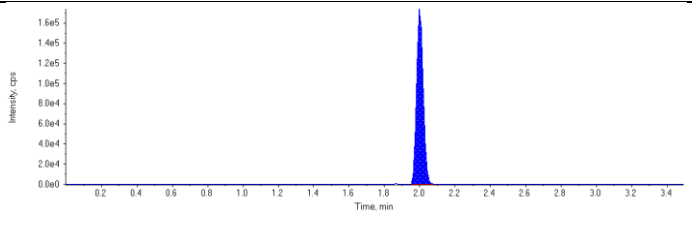
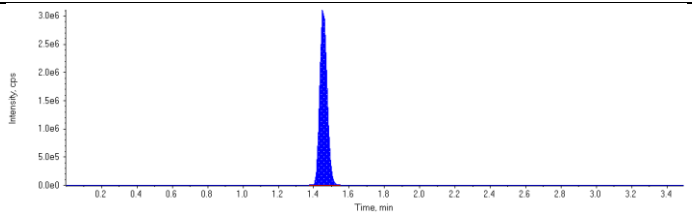
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.277 µg/L Area Ratio: 12.4 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.312 µg/L Area Ratio: 4.09 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.312 µg/L Area Ratio: 5.45 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 95.6 µg/L Area Ratio: 0.106 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 87.0 µg/L Area Ratio: 0.0463 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 102. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 6:27:07 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	289000.	1.71	1.00	-
MPFOA	980000.	1.90	1.00	-
MPFOS	457000.	2.00	1.00	-
13C6-PFHxA IS	9020000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3820000	1.15	0.300	0.296	98.5
PFOA 1	4000000	1.90	0.300	0.312	104.0
PFOS 1	2370000	2.00	0.300	0.297	98.9
13C4-PFOA	980000	1.90	100.	97.6	97.6
13C4-PFOS	457000	2.00	100.	95.1	95.1
13C6-PFHxA	9020000	1.45	100.	104.	104.0

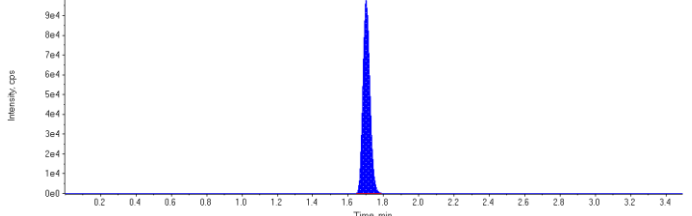
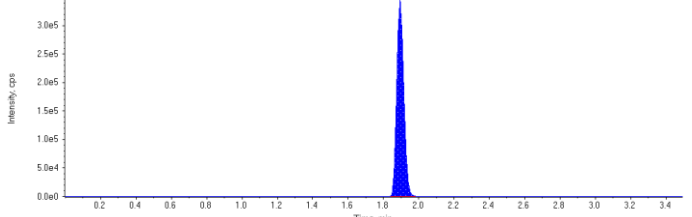
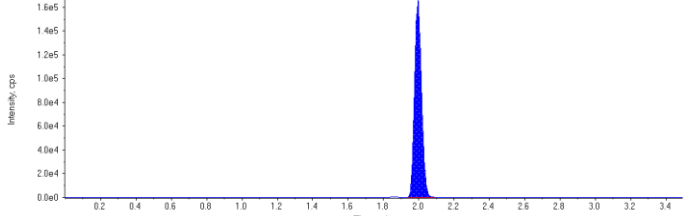
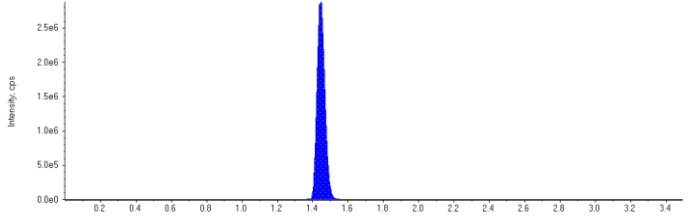
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

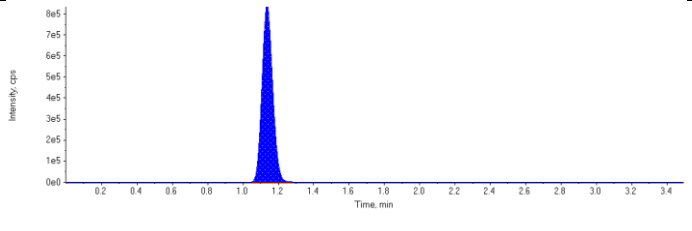
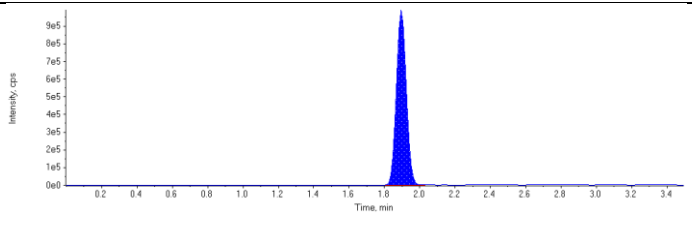
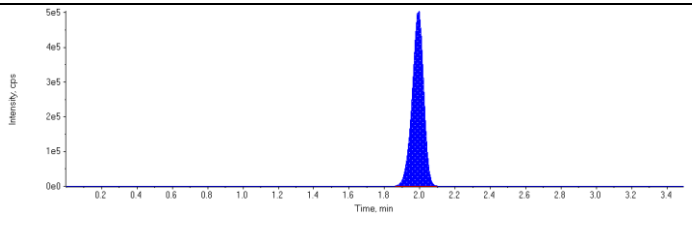
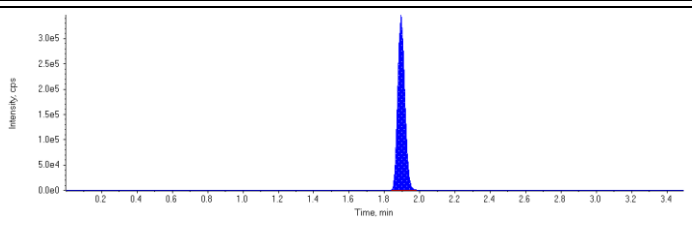
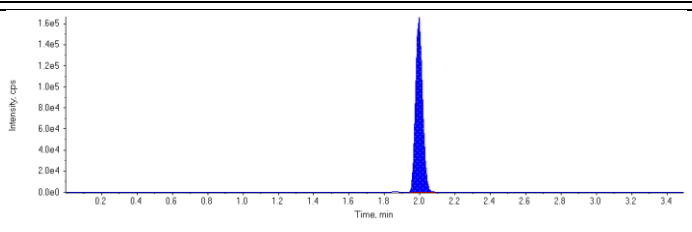
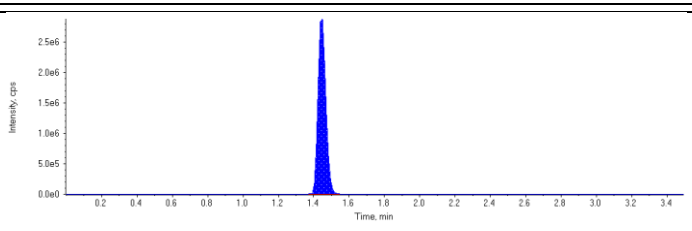
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.15 (1.09) min Calculated Conc: 0.296 µg/L Area Ratio: 13.2 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.312 µg/L Area Ratio: 4.08 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 0.297 µg/L Area Ratio: 5.19 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 97.6 µg/L Area Ratio: 0.109 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 95.1 µg/L Area Ratio: 0.0506 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 104. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 8:16:00 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	272000.	1.70	1.00	-
MPFOA	954000.	1.89	1.00	-
MPFOS	456000.	1.99	1.00	-
13C6-PFHxA IS	8990000.	1.44	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3530000	1.14	0.300	0.291	97.0
PFOA 1	3850000	1.90	0.300	0.308	103.0
PFOS 1	2300000	1.99	0.300	0.289	96.3
13C4-PFOA	954000	1.89	100.	95.5	95.5
13C4-PFOS	456000	1.99	100.	95.4	95.4
13C6-PFHxA	8990000	1.44	100.	104.	104.0

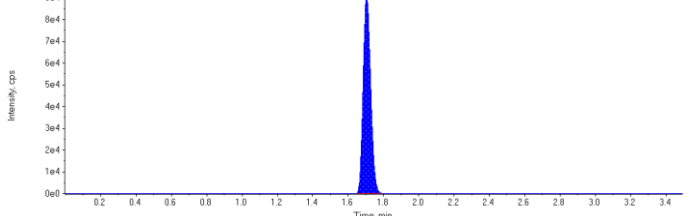
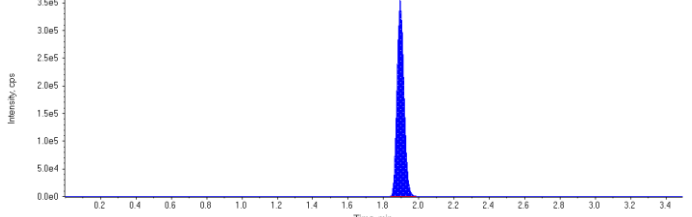
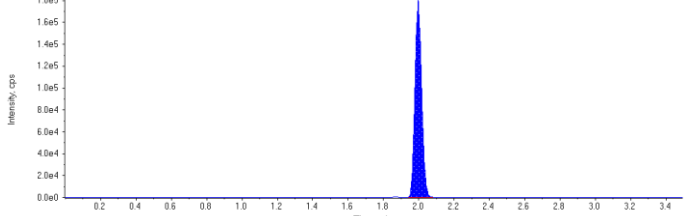
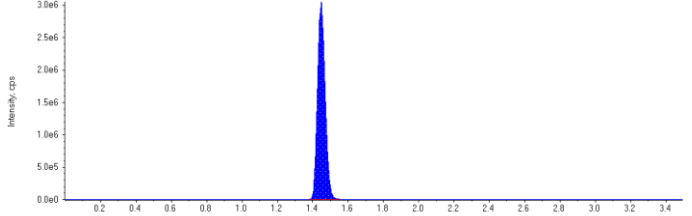
MPFHxS (Internal Standard) RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.89(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 1.99(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.44(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

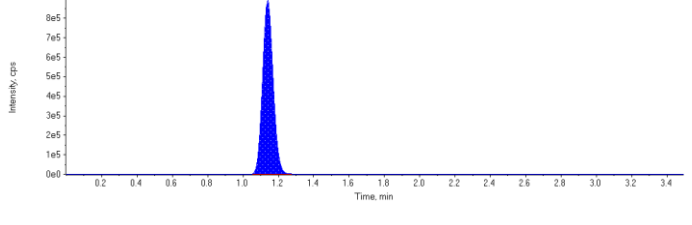
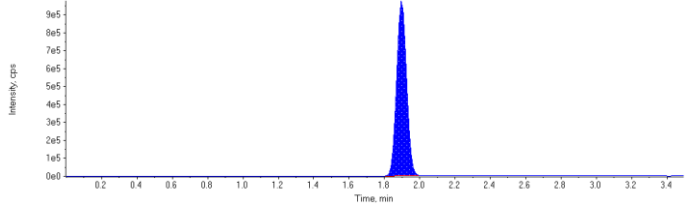
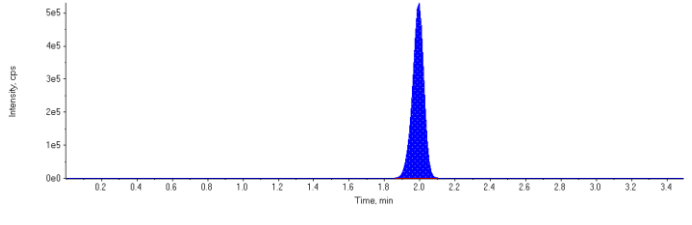
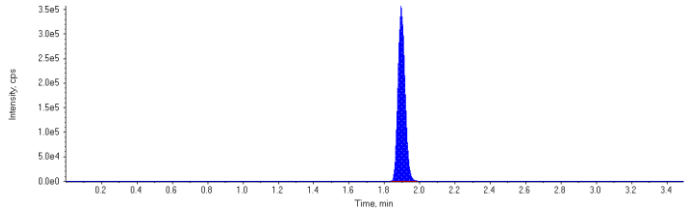
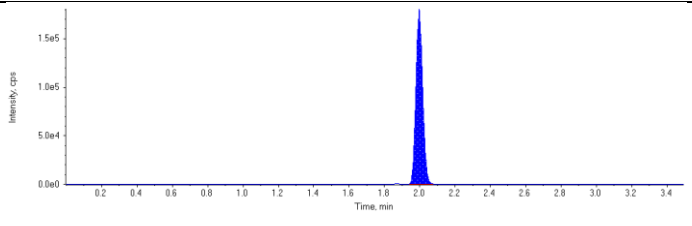
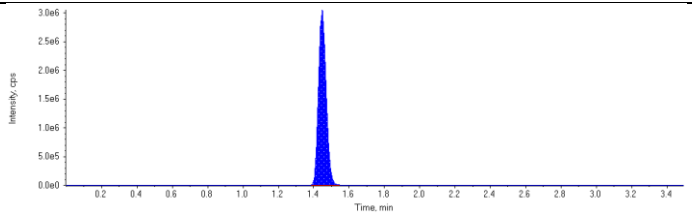
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.14 (1.09) min Calculated Conc: 0.291 µg/L Area Ratio: 13.0 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.308 µg/L Area Ratio: 4.03 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.289 µg/L Area Ratio: 5.05 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.89 (1.88) min Calculated Conc: 95.5 µg/L Area Ratio: 0.106 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 95.4 µg/L Area Ratio: 0.0508 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.44 (1.42) min Calculated Conc: 104. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 8:41:26 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	270000.	1.70	1.00	-
MPFOA	970000.	1.90	1.00	-
MPFOS	476000.	2.00	1.00	-
13C6-PFHxA IS	9190000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3700000	1.14	0.300	0.307	102.0
PFOA 1	3800000	1.90	0.300	0.299	99.8
PFOS 1	2380000	1.99	0.300	0.287	95.6
13C4-PFOA	970000	1.90	100.	94.9	94.9
13C4-PFOS	476000	2.00	100.	97.2	97.2
13C6-PFHxA	9190000	1.45	100.	106.	106.0

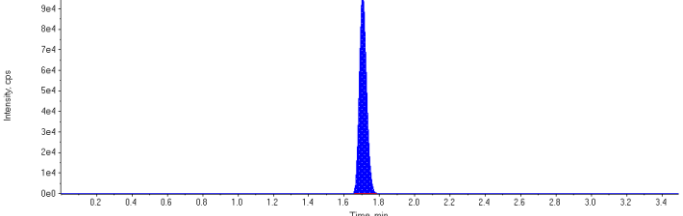
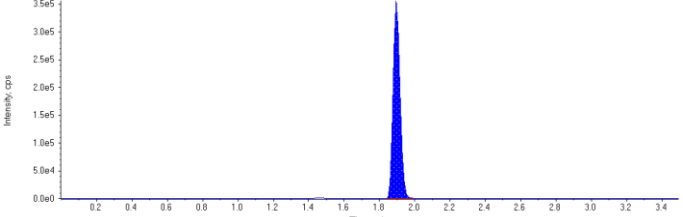
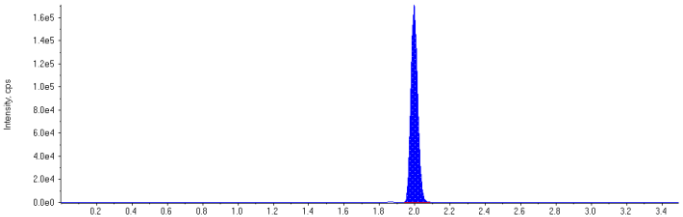
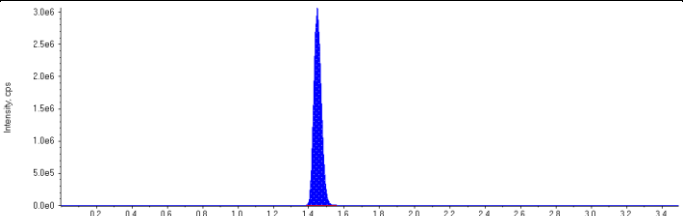
MPFHxS (Internal Standard) RT (Exp. RT): 1.70(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

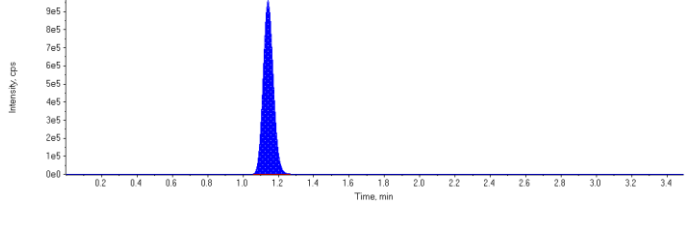
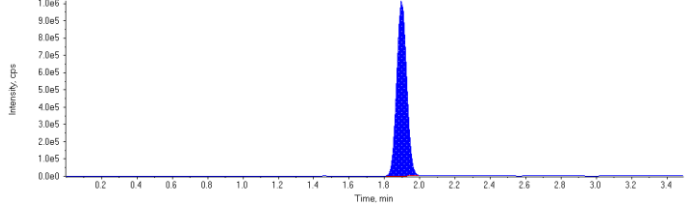
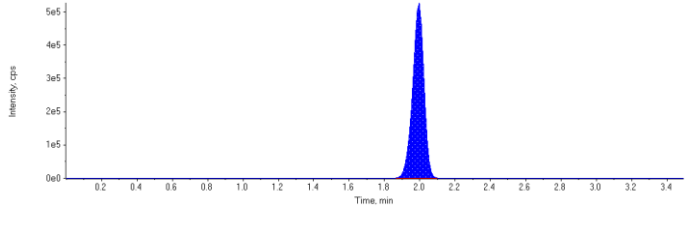
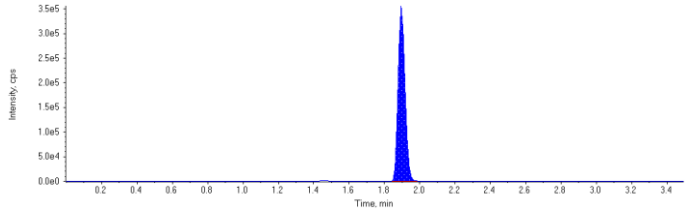
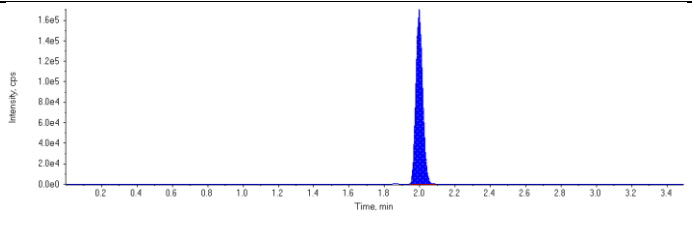
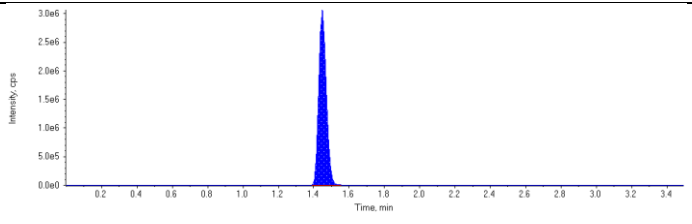
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.14 (1.09) min Calculated Conc: 0.307 µg/L Area Ratio: 13.7 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.299 µg/L Area Ratio: 3.92 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.287 µg/L Area Ratio: 5.01 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 94.9 µg/L Area Ratio: 0.106 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 97.2 µg/L Area Ratio: 0.0518 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 106. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 9:23:57 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	278000.	1.71	1.00	-
MPFOA	965000.	1.90	1.00	-
MPFOS	456000.	2.00	1.00	-
13C6-PFHxA IS	9080000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3860000	1.14	0.300	0.311	104.0
PFOA 1	3940000	1.90	0.300	0.312	104.0
PFOS 1	2350000	1.99	0.300	0.295	98.2
13C4-PFOA	965000	1.90	100.	95.5	95.5
13C4-PFOS	456000	2.00	100.	94.3	94.3
13C6-PFHxA	9080000	1.45	100.	105.	105.0

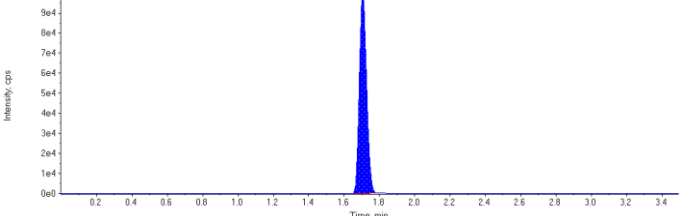
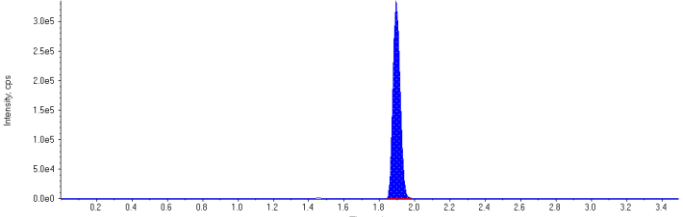
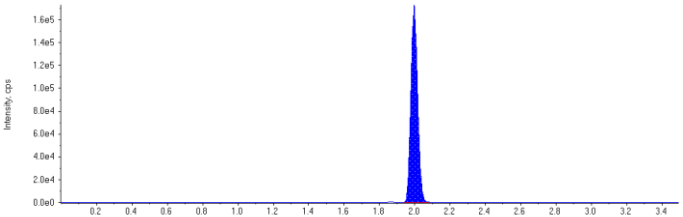
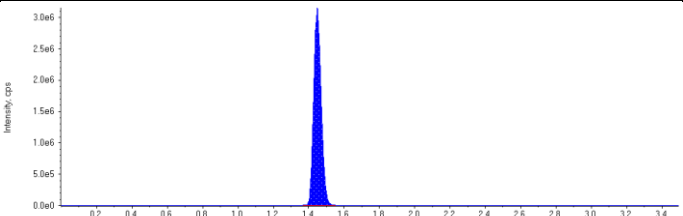
MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

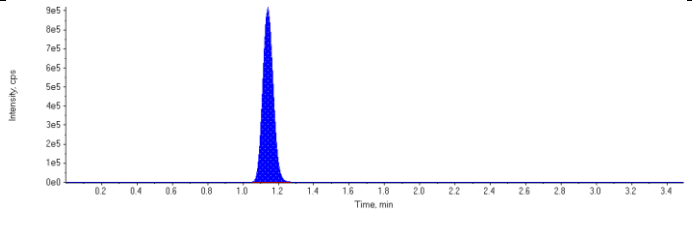
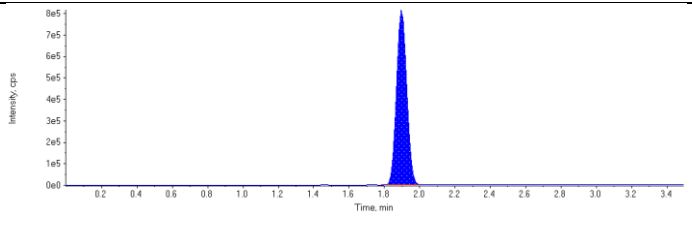
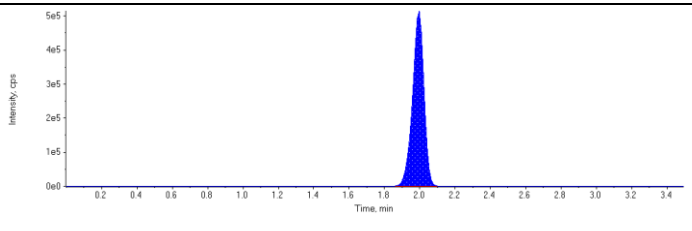
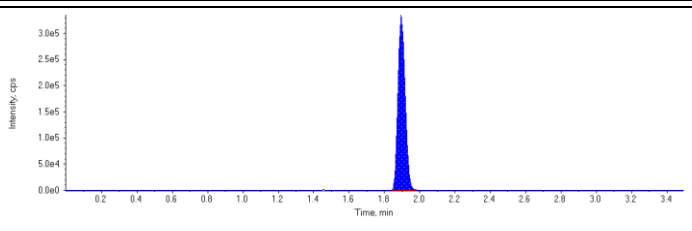
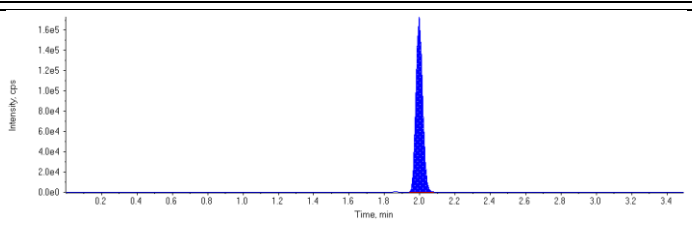
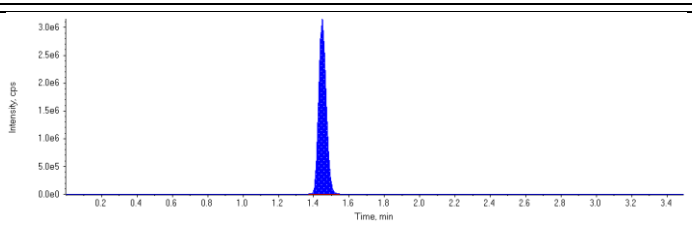
PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.14 (1.09) min Calculated Conc: 0.311 µg/L Area Ratio: 13.9 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.312 µg/L Area Ratio: 4.08 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.295 µg/L Area Ratio: 5.15 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 95.5 µg/L Area Ratio: 0.106 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 94.3 µg/L Area Ratio: 0.0502 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 105. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	

Sample ID	CCV	Injection Volume (µL)	2
Sample Type	Quality Control	Injection Vial	23
Acquisition Date	2016/06/01 9:29:02 AM	Dilution Factor	1.0
Acquisition Method	PFC_Water_Low.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_160531\WS#4518651.wiff		
Result Table	PFC_Water_160531_4518651_Low_OTIE.rdb		
Samples Annotation	-		

Internal Standard	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)
MPFHxS	283000.	1.71	1.00	-
MPFOA	940000.	1.90	1.00	-
MPFOS	456000.	2.00	1.00	-
13C6-PFHxA IS	9330000.	1.45	1.00	-
N/A	N/A	N/A	N/A	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ug/L)	Calc. Conc. (ug/L)	Accuracy (%)
PFBS 1	3740000	1.14	0.300	0.295	98.4
PFOA 1	3280000	1.90	0.300	0.266	88.7
PFOS 1	2310000	1.99	0.300	0.290	96.7
13C4-PFOA	940000	1.90	100.	90.6	90.6
13C4-PFOS	456000	2.00	100.	91.8	91.8
13C6-PFHxA	9330000	1.45	100.	108.	108.0

MPFHxS (Internal Standard) RT (Exp. RT): 1.71(1.68) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOA (Internal Standard) RT (Exp. RT): 1.90(1.93) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 2.00(1.97) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
13C6-PFHxA IS (Internal Standard) RT (Exp. RT): 1.45(1.42) min Concentration: 1.00 ug/L Sample Type: (Quality Control)	
N/A (Internal Standard) RT (Exp. RT): N/A(N/A) min Concentration: N/A N/A Sample Type: (Quality Control)	This image is not available

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 1.14 (1.09) min Calculated Conc: 0.295 µg/L Area Ratio: 13.2 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 0.266 µg/L Area Ratio: 3.48 Sample Type: (Quality Control)	
PFOS 1 (498.900/79.900 Da) RT (Exp. RT): 1.99 (1.97) min Calculated Conc: 0.290 µg/L Area Ratio: 5.07 Sample Type: (Quality Control)	
13C4-PFOA (416.900/372.000 Da) RT (Exp. RT): 1.90 (1.88) min Calculated Conc: 90.6 µg/L Area Ratio: 0.101 Sample Type: (Quality Control)	
13C4-PFOS (502.900/79.900 Da) RT (Exp. RT): 2.00 (1.97) min Calculated Conc: 91.8 µg/L Area Ratio: 0.0489 Sample Type: (Quality Control)	
13C6-PFHxA (318.900/274.000 Da) RT (Exp. RT): 1.45 (1.42) min Calculated Conc: 108. µg/L Area Ratio: 0.00 Sample Type: (Quality Control)	



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

Maxxam Job Number: B6A3190
Report Date: 2016/07/21

Oneida Total Integrated Enterprises
Client Project #: PFC Barstow

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ596	CJZ597	CJZ598	CJZ599	CJZ600	CJZ601		CJZ602	CJZ603	CJZ604	CJZ605	CJZ606	CJZ607
Sampling Date		2016/05/16 12:30	2016/05/16 13:48	2016/05/16 18:13	2016/05/16 17:02	2016/05/17 08:18	2016/05/16 15:58		2016/05/17 09:35	2016/05/17 11:05	2016/05/17 12:55	2016/05/17 17:35	2016/05/10 07:30	2016/05/10 10:30
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01
	UNITS	2014188-619	2014188-620	2014188-621	2014188-643	2014188-623	2014188-624	QC Batch	2014188-625	2014188-626	2014188-627	2014188-628	2014188-613	2014188-616
Miscellaneous Parameters														
Perfluorobutane S	ug/L	0.0019 U	0.0045 J	0.014 J	0.0019 U	0.0019 U	0.0019 U	4517563	0.0019 U	0.0019 U	0.0048 J	0.0051 J	0.016 J	0.017 J
Perfluoro-n-Octar	ug/L	0.0071 J	0.012 J	0.032	0.0063 J	0.0053 U	0.0053 U	4517563	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.036
Perfluorooctane S	ug/L	0.0033 U	0.0033 U	0.051	0.0033 U	0.0033 U	0.0033 U	4517563	0.0033 U	0.0063 J	0.0092 J	0.0033 U	0.021	0.085
Surrogate Recovery (%)														
13C4-Perfluorooct	%	92	80	94	85	87	96	4517563	96	96	92	93	90	87
13C4-Perfluorooct	%	91	82	94	86	93	91	4517563	101	101	89	99	95	93

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to limited amount of same available for analysis, a smaller than usual portion of sample was used. Detection limit was adjusted accordingly.

Results relate only to the items tested.

Maxxam Job Number: B6A3190
Report Date: 2016/07/21

Oneida Total Integrated Enterprises
Client Project #: PFC Barstow

TEST SUMMARY

Maxxam ID	CJZ596		Collected	5/16/2016
Sample ID	2014188-619		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara

Maxxam ID	CJZ597		Collected	5/16/2016
Sample ID	2014188-620		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara

Maxxam ID	CJZ598		Collected	5/16/2016
Sample ID	2014188-621		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
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PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara
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Maxxam ID	CJZ599		Collected	5/16/2016	
Sample ID	2014188-643		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara

Maxxam ID	CJZ600		Collected	5/17/2016	
Sample ID	2014188-623		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara

Maxxam ID	CJZ601		Collected	5/16/2016	
Sample ID	2014188-624		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara

Maxxam ID	CJZ602		Collected	5/17/2016	
Sample ID	2014188-625		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ603		Collected	5/17/2016	
Sample ID	2014188-626		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ604		Collected	5/17/2016	
Sample ID	2014188-627		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ605		Collected	5/17/2016	
Sample ID	2014188-628		Shipped		
Matrix	Water		Received	2016/05/20	

Test Description	Instrumental	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ606		Collected	5/10/2016	
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Sample ID	2014188-613	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ607	Collected	5/10/2016
Sample ID	2014188-616	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ608	Collected	5/10/2016
Sample ID	2014188-617	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ609	Collected	5/10/2016
Sample ID	2014188-614	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ610	Collected	5/10/2016
Sample ID	2014188-615	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ611	Collected	5/9/2016
Sample ID	2014188-611	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ612	Collected	5/9/2016
Sample ID	2014188-610	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ613	Collected	5/9/2016
Sample ID	2014188-609	Shipped	
Matrix	Water	Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ614		Collected	5/9/2016
Sample ID	2014188-612		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ615		Collected	5/10/2016
Sample ID	2014188-618		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ616		Collected	5/17/2016
Sample ID	2014188-629		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ617		Collected	5/17/2016
Sample ID	2014188-630		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ618		Collected	5/16/2016
Sample ID	2014188-631		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4517563	5/30/2016	5/31/2016	Colm McNamara

Maxxam ID	CJZ619		Collected	5/17/2016
Sample ID	2014188-632		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Maxxam ID	CJZ620		Collected	5/17/2016
Sample ID	2014188-723		Shipped	
Matrix	Water		Received	2016/05/20

Test Description	Instrumentat	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in	LCMS	4518651	5/31/2016	6/1/2016	Sin Chii Chia

Oneida Total Integrated Enterprises
 Attention: Orval Osborne
 Client Project #: PFC Barstow

Report Date: 2016/07/21

Quality Assurance Report
 Maxxam Job Number: B6A3190

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4517563	CM5	Spiked Blank	13C4-Perfluorooctai	5/31/2016		94	%	70 - 130
			13C4-Perfluorooctai	5/31/2016		98	%	70 - 130
			Perfluorobutane Sul	5/31/2016		97	%	70 - 130
			Perfluoro-n-Octanoi	5/31/2016		106	%	70 - 130
			Perfluorooctane Sul	5/31/2016		101	%	70 - 130
4517563	CM5	RPD	Perfluorobutane Sul	5/31/2016	7.9		%	30
			Perfluoro-n-Octanoi	5/31/2016	5.3		%	30
			Perfluorooctane Sul	5/31/2016	2.5		%	30
4517563	CM5	Method Blank	13C4-Perfluorooctai	5/31/2016		81	%	70 - 130
			13C4-Perfluorooctai	5/31/2016		82	%	70 - 130
			Perfluorobutane Sul	5/31/2016	0.0019 U, MDL=0.0019		ug/L	
			Perfluoro-n-Octanoi	5/31/2016	0.0053 U, MDL=0.0053		ug/L	
			Perfluorooctane Sul	5/31/2016	0.0033 U, MDL=0.0033		ug/L	
4518651	SCH	Spiked Blank	13C4-Perfluorooctai	6/1/2016		100	%	70 - 130
			13C4-Perfluorooctai	6/1/2016		93	%	70 - 130
			Perfluorobutane Sul	6/1/2016		91	%	70 - 130
			Perfluoro-n-Octanoi	6/1/2016		108	%	70 - 130
			Perfluorooctane Sul	6/1/2016		100	%	70 - 130
4518651	SCH	RPD	Perfluorobutane Sul	6/1/2016	4.1		%	30
			Perfluoro-n-Octanoi	6/1/2016	9.2		%	30
			Perfluorooctane Sul	6/1/2016	2.0		%	30
4518651	SCH	Method Blank	13C4-Perfluorooctai	6/1/2016		120	%	70 - 130
			13C4-Perfluorooctai	6/1/2016		118	%	70 - 130
			Perfluorobutane Sul	6/1/2016	0.0019 U, MDL=0.0019		ug/L	
			Perfluoro-n-Octanoi	6/1/2016	0.0053 U, MDL=0.0053		ug/L	
			Perfluorooctane Sul	6/1/2016	0.0033 U, MDL=0.0033		ug/L	

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

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.

CJZ608	CJZ609	CJZ610	CJZ611	CJZ612	CJZ613	CJZ614	CJZ615	CJZ616	CJZ617				CJZ618		
2016/05/10 10:35	2016/05/10 08:30	2016/05/10 08:35	2016/05/09 16:30	2016/05/09 14:55	2016/05/09 13:50	2016/05/09 17:00	2016/05/10 17:00	2016/05/17 16:34	2016/05/17 14:11				2016/05/16 18:30		
557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01				557269-01-01		
2014188-617	2014188-614	2014188-615	2014188-611	2014188-610	2014188-609	2014188-612	2014188-618	2014188-629	2014188-630	RDL	MDL	QC Batch	2014188-631	RDL	MDL
0.016 J	0.015 J	0.015 J	0.029	0.020	0.027	0.0019 U	0.0019 U	0.0045 J	0.0062 J	0.020	0.0019	4518651	0.0030 U (1)	0.032	0.0030
0.036	0.031	0.031	0.042	0.025	0.035	0.0053 U	0.0053 U	0.0053 U	0.0090 J	0.020	0.0053	4518651	0.0085 U (1)	0.032	0.0085
0.087	0.064	0.060	0.094	0.058	0.064	0.0033 U	0.0033 U	0.0033 U	0.015 J	0.020	0.0033	4518651	0.0053 U (1)	0.032	0.0053
84	84	86	88	96	98	99	97	86	90	N/A	N/A	4518651	93	N/A	N/A
84	93	95	87	98	91	93	101	85	86	N/A	N/A	4518651	91	N/A	N/A

	CJZ619	CJZ620			
	2016/05/17 18:30	2016/05/17 18:00			
	557269-01-01	557269-01-01			
QC Batch	2014188-632	2014188-723	RDL	MDL	QC Batch
4517563	0.0019 U	0.0019 U	0.020	0.0019	4518651
4517563	0.0053 U	0.0053 U	0.020	0.0053	4518651
4517563	0.0033 U	0.0033 U	0.020	0.0033	4518651
4517563	88	90	N/A	N/A	4518651
4517563	96	90	N/A	N/A	4518651



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Oneida Total Integrated Enterprises, LLC
317 E Main Street
Ventura, CA 93001
ATTN: Mr. Emmanuel Vasquez

July 5, 2016

SUBJECT: MCLB Barstow, Data Validation

Dear Mr. Vasquez,

Enclosed is the final validation report for the fraction listed below. This SDG was received on June 15, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #36525:

<u>SDG #</u>	<u>Fraction</u>
B6A3190	Perfluorinated Alkyl Acids

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

The attached zipped file contains two files:

<u>File</u>	<u>Format</u>	<u>Description</u>				
1) Readme_Barstow_070516.doc	MS Word 2003	A "Readme" file (this document).				
2) results B6A3190V1-R2016-06-06_13-20-27_N001.xls	MS Excel 2003	<table><thead><tr><th><u>SDG</u></th><th><u>LDC#</u></th></tr></thead><tbody><tr><td>B6A3190</td><td>36525A</td></tr></tbody></table>	<u>SDG</u>	<u>LDC#</u>	B6A3190	36525A
<u>SDG</u>	<u>LDC#</u>					
B6A3190	36525A					

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: MCLB Barstow

LDC Report Date: June 28, 2016

Parameters: Perfluorinated Alkyl Acids

Validation Level: Level III & IV

Laboratory: Maxxam

Sample Delivery Group (SDG): B6A3190

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
22014188-619**	CJZ596**	Water	05/16/16
22014188-620	CJZ597	Water	05/16/16
22014188-621	CJZ598	Water	05/16/16
22014188-643	CJZ599	Water	05/16/16
22014188-623**	CJZ600**	Water	05/17/16
22014188-624	CJZ601	Water	05/16/16
22014188-625	CJZ602	Water	05/17/16
22014188-626	CJZ603	Water	05/17/16
22014188-627	CJZ604	Water	05/17/16
22014188-628**	CJZ605**	Water	05/17/16
22014188-613	CJZ606	Water	05/10/16
22014188-616	CJZ607	Water	05/10/16
22014188-617	CJZ608	Water	05/10/16
22014188-614	CJZ609	Water	05/10/16
22014188-615	CJZ610	Water	05/10/16
22014188-611	CJZ611	Water	05/09/16
22014188-610	CJZ612	Water	05/09/16
22014188-609	CJZ613	Water	05/09/16
22014188-612	CJZ614	Water	05/09/16
22014188-618	CJZ615	Water	05/10/16
22014188-629	CJZ616	Water	05/17/16
22014188-630	CJZ617	Water	05/17/16
22014188-631	CJZ618	Water	05/16/16
22014188-632	CJZ619	Water	05/17/16
22014188-723	CJZ620	Water	05/17/16

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Superfund Organic Methods Data Review (June 2008). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluorinated Alkyl Acids by Environmental Protection Agency (EPA) Method 537

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UU (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
22014188-613 22014188-616 22014188-617 22014188-614 22014188-615 22014188-618	All compounds	21	7	J (all detects) UJ (all non-detects)	P
22014188-611 22014188-610 22014188-609 22014188-612	All compounds	22	7	J (all detects) UJ (all non-detects)	P

II. LC/MS Instrument Performance Check

Instrument performance was checked as applicable.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples 22014188-612, 22014188-618, 22014188-631, and 22014188-723 were identified as equipment blanks. No contaminants were found.

Sample 22014188-632 was identified as a source blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples 22014188-616 and 22014188-617 and samples 22014188-614 and 22014188-615 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	22014188-616	22014188-617			
Perfluorobutane Sulfonate (PFBS)	0.017	0.016	6 (≤40)	-	-
Perfluoro-n-Octanoic Acid (PFOA)	0.036	0.036	0 (≤40)	-	-
Perfluorooctane Sulfonate (PFOS)	0.085	0.087	2 (≤40)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	22014188-614	22014188-615			
Perfluorobutane Sulfonate (PFBS)	0.015	0.015	0 (≤40)	-	-
Perfluoro-n-Octanoic Acid (PFOA)	0.031	0.031	0 (≤40)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	22014188-614	22014188-615			
Perfluorooctane Sulfonate (PFOS)	0.064	0.060	6 (≤40)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level III validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to holding time, data were qualified as estimated in ten samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

MCLB Barstow**Perfluorinated Alkyl Acids - Data Qualification Summary - SDG B6A3190**

Sample	Compound	Flag	A or P	Reason
22014188-613 22014188-616 22014188-617 22014188-614 22014188-615 22014188-618 22014188-611 22014188-610 22014188-609 22014188-612	All compounds	J (all detects) UJ (all non-detects)	P	Technical holding times

MCLB Barstow**Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG B6A3190**

No Sample Data Qualified in this SDG

MCLB Barstow**Perfluorinated Alkyl Acids - Field Blank Data Qualification Summary - SDG B6A3190**

No Sample Data Qualified in this SDG

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ596	CJZ597	CJZ598	CJZ599	CJZ600			
Sampling Date		2016/05/16 12:30	2016/05/16 13:48	2016/05/16 18:13	2016/05/16 17:02	2016/05/17 08:18			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-619	2014188-620	2014188-621	2014188-643	2014188-623	RDL	MDL	QC Batch

Miscellaneous Parameters

Perfluorobutane Sulfonate (PFBS)	ug/L	<0.0019	0.0045	0.014	<0.0019	<0.0019	0.020	0.0019	4517563
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0071	0.012	0.032	0.0063	<0.0053	0.020	0.0053	4517563
Perfluorooctane Sulfonate (PFOS)	ug/L	<0.0033	<0.0033	0.051	<0.0033	<0.0033	0.020	0.0033	4517563

Surrogate Recovery (%)

13C4-Perfluorooctanesulfonate	%	92	80	94	85	87	N/A	N/A	4517563
13C4-Perfluorooctanoic acid	%	91	82	94	86	93	N/A	N/A	4517563

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

Maxxam ID		CJZ601		CJZ602	CJZ603	CJZ604			
Sampling Date		2016/05/16 15:58		2016/05/17 09:35	2016/05/17 11:05	2016/05/17 12:55			
COC Number		557269-01-01		557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-624	QC Batch	2014188-625	2014188-626	2014188-627	RDL	MDL	QC Batch

Miscellaneous Parameters

Perfluorobutane Sulfonate (PFBS)	ug/L	<0.0019	4517563	<0.0019	<0.0019	0.0048	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	<0.0053	4517563	<0.0053	<0.0053	<0.0053	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	<0.0033	4517563	<0.0033	0.0063	0.0092	0.020	0.0033	4518651

Surrogate Recovery (%)

13C4-Perfluorooctanesulfonate	%	96	4517563	96	96	92	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	91	4517563	101	101	89	N/A	N/A	4518651

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

6/29/16 Q

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ605	CJZ606	CJZ607	CJZ608	CJZ609			
Sampling Date		2016/05/17 17:35	2016/05/10 07:30	2016/05/10 10:30	2016/05/10 10:35	2016/05/10 08:30			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-628	2014188-613	2014188-616	2014188-617	2014188-614	RDL	MDL	QC Batch

Miscellaneous Parameters

Perfluorobutane Sulfonate (PFBS)	ug/L	0.0051	0.016 J	0.017 J	0.016 J	0.015 J	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	<0.0053	<0.0053 W	0.036 J	0.036 J	0.031 J	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	<0.0033	0.021 J	0.085 J	0.087 J	0.064 J	0.020	0.0033	4518651

Surrogate Recovery (%)

13C4-Perfluorooctanesulfonate	%	93	90	87	84	84	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	99	95	93	84	93	N/A	N/A	4518651

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

Maxxam ID		CJZ610	CJZ611	CJZ612	CJZ613	CJZ614			
Sampling Date		2016/05/10 08:35	2016/05/09 16:30	2016/05/09 14:55	2016/05/09 13:50	2016/05/09 17:00			
COC Number		557269-01-01	557269-01-01	557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-615	2014188-611	2014188-610	2014188-609	2014188-612	RDL	MDL	QC Batch

Miscellaneous Parameters

Perfluorobutane Sulfonate (PFBS)	ug/L	0.015 J	0.029 J	0.020 J	0.027 J	<0.0019 W	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.031 J	0.042 J	0.025 J	0.035 J	<0.0053 J	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	0.060 J	0.094 J	0.058 J	0.064 J	<0.0033 J	0.020	0.0033	4518651

Surrogate Recovery (%)

13C4-Perfluorooctanesulfonate	%	86	88	96	98	99	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	95	87	98	91	93	N/A	N/A	4518651

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

RESULTS OF ANALYSES OF WATER

Maxxam ID		CJZ615	CJZ616	CJZ617			
Sampling Date		2016/05/10 17:00	2016/05/17 16:34	2016/05/17 14:11			
COC Number		557269-01-01	557269-01-01	557269-01-01			
	UNITS	2014188-618	2014188-629	2014188-630	RDL	MDL	QC Batch
Miscellaneous Parameters							
Perfluorobutane Sulfonate (PFBS)	ug/L	<0.0019	0.0045	0.0062	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	<0.0053	<0.0053	0.0090	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	<0.0033	<0.0033	0.015	0.020	0.0033	4518651
Surrogate Recovery (%)							
13C4-Perfluorooctanesulfonate	%	97	86	90	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	101	85	86	N/A	N/A	4518651
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							

Maxxam ID		CJZ618				CJZ619	CJZ620			
Sampling Date		2016/05/16 18:30				2016/05/17 18:30	2016/05/17 18:00			
COC Number		557269-01-01				557269-01-01	557269-01-01			
	UNITS	2014188-631	RDL	MDL	QC Batch	2014188-632	2014188-723	RDL	MDL	QC Batch
Miscellaneous Parameters										
Perfluorobutane Sulfonate (PFBS)	ug/L	<0.0030 (1)	0.032	0.0030	4517563	<0.0019	<0.0019	0.020	0.0019	4518651
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	<0.0085 (1)	0.032	0.0085	4517563	<0.0053	<0.0053	0.020	0.0053	4518651
Perfluorooctane Sulfonate (PFOS)	ug/L	<0.0053 (1)	0.032	0.0053	4517563	<0.0033	<0.0033	0.020	0.0033	4518651
Surrogate Recovery (%)										
13C4-Perfluorooctanesulfonate	%	93	N/A	N/A	4517563	88	90	N/A	N/A	4518651
13C4-Perfluorooctanoic acid	%	91	N/A	N/A	4517563	96	90	N/A	N/A	4518651
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Due to limited amount of same available for analysis, a smaller than usual portion of sample was used. Detection limit was adjusted accordingly.										

6/29/16 2

LDC #: 36525A96
SDG #: B6A3190
Laboratory: Maxxam

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 6/17/16
Page: 1 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / TW	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r^2 , $1\sigma \leq 30\%$
IV.	Continuing calibration	A	$CCV \leq 30\%$
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 19.20.23.25. SB = 24
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	D	LCs / D
X.	Field duplicates	TW	D = 12 + 13. H + 15
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level III validation.
XIII.	Target compound identification	A	Not reviewed for Level III validation.
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB = Source blank
OTHER:

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	22014188-619**	CJZ596**	Water	05/16/16
2	22014188-620	CJZ597	Water	05/16/16
3	22014188-621	CJZ598	Water	05/16/16
4	22014188-643	CJZ599	Water	05/16/16
5	22014188-623**	CJZ600**	Water	05/17/16
6	22014188-624	CJZ601	Water	05/16/16
7	22014188-625	CJZ602	Water	05/17/16
8	22014188-626	CJZ603	Water	05/17/16
9	22014188-627	CJZ604	Water	05/17/16
10	22014188-628**	CJZ605**	Water	05/17/16
11	22014188-613	CJZ606	Water	05/10/16
12	22014188-616	CJZ607	Water	05/10/16
13	22014188-617	CJZ608	Water	05/10/16

LDC #: 36525A96
 SDG #: B6A3190
 Laboratory: Maxxam

VALIDATION COMPLETENESS WORKSHEET Level III/IV

Date: 6/27/16
 Page: 2 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

	Client ID	Lab ID	Matrix	Date
14	22014188-614	CJZ609	Water	05/10/16
15	22014188-615	CJZ610	Water	05/10/16
16	22014188-611	CJZ611	Water	05/09/16
17	22014188-610	CJZ612	Water	05/09/16
18	22014188-609	CJZ613	Water	05/09/16
19	22014188-612	CJZ614	Water	05/09/16
20	22014188-618	CJZ615	Water	05/10/16
21	22014188-629	CJZ616	Water	05/17/16
22	22014188-630	CJZ617	Water	05/17/16
23	22014188-631	CJZ618	Water	05/16/16
24	22014188-632	CJZ619	Water	05/17/16
25	22014188-723	CJZ620	Water	05/17/16
27				
28				
29				
30				

Notes:

1	4517563 MB					
2	4518651 MB					

Method: LCMS

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓	/		
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the specified criteria? <i>As < 1070</i>	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) < 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of > 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) < 15%? <i>30</i>	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration < 15%? <i>30</i>	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VIII. Matrix spike/Matrix spike duplicates <i>/ SURV</i>				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓	✓		<i>SURV for in</i>
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 365-25A96

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: 9
2nd Reviewer: n

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	/			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	/			
Were target compounds detected in the field duplicates?	/			
XI. Internal standards				
Were internal standard area counts within $\pm 50\%$ of the associated calibration standard?	/			
Were retention times within ± 30 seconds from the associated calibration standard?	/			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	/			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	/			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	/			
Were chromatogram peaks verified and accounted for?	/			
XIV. System performance				
System performance was found to be acceptable.	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			

VALIDATION FINDINGS WORKSHEET

Technical Holding Times

All circled dates have exceeded the technical holding times.

Y/N N/A Were all cooler temperatures within validation criteria?

[illegible]

TECHNICAL HOLDING TIME CRITERIA

VOLATILES: Water unpreserved: Aromatic within 7 days, non-aromatic within 14 days of sample collection.
Water preserved: Both within 14 days of sample collection.
Soils: Both within 14 days of sample collection.

EXTRACTABLES:

Water:	Extracted within 7 days, analyzed within 40 days.
Soil:	Extracted within 14 days, analyzed within 40 days.

VALIDATION FINDINGS WORKSHEET
Field DuplicatesPage: 1 of 1
Reviewer: JVG Q
2nd Reviewer: A

METHOD: LC MS

Y N NA

Were field duplicate pairs identified in this SDG?

Y N NA

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤40%)	Qualifications (Parent Only)
	12	13		
Perfluorobutane Sulfonate (PFBS)	0.017	0.016	6	
Perfluoro-n-Octanoic Acid (PFOA)	0.036	0.036	0	
Perfluorooctane Sulfonate (PFOS)	0.085	0.087	2	

Compound	Concentration (ug/L)		RPD (≤40%)	Qualifications (Parent Only)
	14	15		
Perfluorobutane Sulfonate (PFBS)	0.015	0.015	0	
Perfluoro-n-Octanoic Acid (PFOA)	0.031	0.031	0	
Perfluorooctane Sulfonate (PFOS)	0.064	0.060	6	

LDC#: 36525A96VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation VerificationPage: 1 of 1
Reviewer: 9
2nd Reviewer: XL

Method: LC/MS/MS PFCs

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
5/31/2016	LCMS03	PFOA	0	0.2648401	0.02
			s1	0.5448113	0.04
			s2	1.5935334	0.12
			s3	4.106113	0.30
			s4	8.0751708	0.60
			s7	13.002364	1.00

Regression Output

Reported

Constant	0.070281	0.011400
Std Err of Y Est		
R Squared	0.999470	0.999700
Degrees of Freedom		
X Coefficient(s)	13.060168	13.200000
Std Err of Coef.		
Correlation Coefficient	0.999735	
Coefficient of Determination (r^2)	0.999470	0.999700

LDC#: 36525A96**VALIDATION FINDINGS WORKSHEET**
Initial Calibration Calculation VerificationPage: 1 of 1
Reviewer: 9
2nd Reviewer: M

Method: LC/MS/MS PFCs

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
6/1/2016	LCMS03	PFOS	0	0.334038	0.02
			s1	0.6659388	0.04
			s2	1.9956709	0.12
			s3	5.2516411	0.30
			s4	10.712694	0.60
			s7	17.440347	1.00

Regression Output**Reported**

Constant	-0.025127	-0.030900
Std Err of Y Est		
R Squared	0.999752	0.999900
Degrees of Freedom		
X Coefficient(s)	17.572639	17.600000
Std Err of Coef.		
Correlation Coefficient	0.999876	
Coefficient of Determination (r^2)	0.999752	0.999900

LDC #: 36525A96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: N

METHOD: GC ✓ HPLC/MS

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. CF} - \text{CF}) / \text{ave. CF}$
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported	Recalculated	Reported	Recalculated
					CF/Conc. CCV	CF/Conc. CCV	%D	%D
1	CCV	5/3/16 17:58	PFOA	0.300	0.312	0.312	4.0	4.0
2	CCV	6/1/16 4:14	PFOA	0.300	0.291	0.291	3.1	2.9
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 36525A96**VALIDATION FINDINGS WORKSHEET**
Surrogate Results VerificationPage: 1 of 1Reviewer: Q2nd reviewer: AMETHOD: GC ☒ HPLC/MS

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS \times 100$ Where: SF = Surrogate Found
SS = Surrogate SpikedSample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
13C-PFOS		100	92.4	92	92	0
13C-PFOA		V	90.5	91	91	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 3655A96

VALIDATION FINDINGS WORKSHEET **Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification**

Page: 1 of 1
 Reviewer: 9
 2nd Reviewer: 11

METHOD: GC ☒ HPLC MS

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SSC - SC) / SA$

Where: SSC = Spiked sample concentration

SC = Concentration

SA = Spike added

RPD = $|SSCLCS - SSCLCSD| * 2 / (SSCLCS + SSCLCSD)$

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: 4517563

Compound	Spike Added (<u>100</u>)		Spiked Sample Concentration (<u>100</u>)		LCS		LCSD		LCS/LCSD	
					Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
<u>PFBA</u>	<u>0.500</u>	<u>0.500</u>	<u>0.532</u>	<u>0.561</u>	<u>108</u>	<u>106</u>	<u>112</u>	<u>112</u>	<u>5.3</u>	<u>5.3</u>

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 365-196

VALIDATION FINDINGS WORKSHEET

Sample Calculation VerificationPage: 1 of 1Reviewer: 92nd Reviewer: 9METHOD: GC ☒ HPLC MSY N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= $\frac{(A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$

Example:

Sample ID: 1 Compound Name PFOA

A= Area or height of the compound to be measured

Fv= Final Volume of extract

Df= Dilution Factor

RF= Average response factor of the compound
In the initial calibration

Vs= Initial volume of the sample

Ws= Initial weight of the sample

%S= Percent Solid

Concentration = $\frac{(94200 - 0.011400)}{(89600)}$
(13.2)= 0.0071 ug/L

#	Sample ID	Compound	Reported Concentrations ()	Recalculated Results Concentrations ()	Qualifications

Comments: _____