

Ms. Ruth Curley  
Professional Engineer 1 (Environmental)  
Division of Environmental Remediation  
New York State Department of Environmental Conservation  
625 Broadway, 12<sup>th</sup> Floor  
Albany, NY 12233-7016

# Emerging Contaminants Summary Report

Site #241127 - Bridge Cleaners  
39-26 30<sup>th</sup> Street  
Long Island City, NY

May 8, 2018

Version 1.1





## **Emerging Contaminants Summary Report**

Site #241127 - Bridge Cleaners  
39-26 30<sup>th</sup> Street, Long Island City, NY

Prepared for:  
Ms. Ruth Curley  
Professional Engineer 1 (Environmental)  
Division of Environmental Remediation  
New York State Department of Environmental  
Conservation  
625 Broadway, 12<sup>th</sup> Floor  
Albany, NY 12233-7016

Prepared by:  
Groundwater & Environmental Services, Inc.  
89 Cabot Court, Suite A  
Hauppauge, New York 11788  
Tel: 800-360-9405  
[www.gesonline.com](http://www.gesonline.com)

GES Project:  
1102617

Date:  
May 8, 2018

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Jessica Thomas  
Associate Remediation Specialist

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Christina Andreotto, P.G.  
Project Manager



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## Acronyms

GES	Groundwater & Environmental Services, Inc.
PFAS	Per-and Polyfluoroalkyl Substances
NYSDEC	New York State Department of Environmental Conservation
TCA	1,1,1-Trichloroethane
HDPE	High density polyethylene
PPE	Personal protective equipment
DUSR	Data Usability Summary Report
ng/L	nanograms per liter
PFBA	Perfluorobutanoic acid
PFPeA	Perfluoropentanoic acid
PFHxA	Perfluorohexanoic acid
PFHpA	Perfluoroheptanoic acid
PFOA	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFUnA	Perfluoroundecanoic acid
PFDoA	Perfluorododecanoic acid
PFTriA	Perfluorotridecanoic acid
PFTeA	Perfluorotetradecanoic acid
PFBS	Perfluorobutanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PFHpS	Perfluoroheptanesulfonic acid
PFOS	Perfluorooctanesulfonic acid
PFDS	Perfluorodecanesulfonic acid
FOSA	Perfluorooctane Sulfonamide
NMeFOSAA	N-methyl perfluorooctane sulfonamidoacetic acid
NEtFOSAA	N-ethyl perfluorooctane sulfonamidoacetic acid
SIM	Selective ion monitoring
µg/L	micrograms per liter
MS	Matrix spike
MSD	Matrix spike duplicate
DI	deionized water



## 1 Introduction

Groundwater and Environmental Services, Inc. (GES) has prepared this report to summarize the groundwater sampling activities conducted at Site #241127 - Bridge Cleaners (the Site) on April 10, 2018. Sampling activities were completed to analyze groundwater for the presence of emerging contaminants, including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane.

## 2 Site Background

The Site is a part of the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program and referred to as Site #241127. The Site is located at 39-26 30<sup>th</sup> Street in Long Island City, New York as shown in the Site Location Map (**Figure 1**) and Site Map (**Figure 2**). The Site is located in a mixed residential and commercial area.

Historically, the Site was used as a distribution point for electrical components, bottled water, and a courier service. Then, from 1997 to 2011, the Site was occupied by a commercial laundry and dry cleaner. Currently, the Site is occupied by a wholesale fabric company.

## 3 Emerging Contaminants

Chemicals used in consumer products are introduced to the environment through various sources such as municipal wastewater treatment plants, runoff from agricultural and urban land surfaces, and septic systems. This type of contamination is referred to as an emerging contaminant since the contamination is not introduced during the production of the product but through consumer use.

The NYSDEC has identified PFAS and 1,4-dioxane as an emerging contaminant. PFAS are a group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease and water. Fluoropolymer coatings are blends of resins and lubricants used in products such as water-repellent clothing, furniture, adhesives, paint and varnish, food packaging, heat-resistant non-stick cooking surfaces and insulation of electric wires. 1,4-Dioxane is a synthetic industrial chemical that was most commonly used as a stabilizer for chlorinated solvents, particularly 1,1,1-trichloroethane (TCA). Additionally, 1,4-dioxane has been identified as a by-product found in consumer products such as deodorants, shampoos, and cosmetics.

## 4 Groundwater Sampling Activities

### 4.1 Groundwater Elevation

On April 10, 2018, prior to sampling, groundwater elevation data was collected from monitoring wells MW-101, and MW-2 through MW-6. Adjusted groundwater elevation was determined utilizing the depth to water measurement collected on April 10, 2018 and the top of riser elevation measured during the 2016 survey event. The adjusted groundwater elevation for the Site on April

10, 2018 ranged from 9.78 feet (MW-6) to 10.80 feet (MW-5). A summary of the groundwater elevation data is included on the Groundwater Monitoring Map included as **Figure 3**.

## 4.2 Sampling Collection

Due to potential sources of cross-contamination by equipment, materials, and consumer products during sampling, a specific sampling method must be followed when sampling for PFAS and 1,4-dioxane.

During the April 10, 2018 groundwater sampling event, low flow sampling was completed at monitoring wells MW-101, and MW-2 through MW-6. For each sample set, PFAS samples were collected first to minimize contact with other sample containers and packing materials.

Each low flow sampling set-up included a YSI 6920 MP Sonde with Flow Cell attachment to monitor groundwater quality stability prior to sampling. To conduct low-flow sampling, a Geotech Geopump Peristaltic Pump was set up at each monitoring well. High density polyethylene (HDPE) tubing was inserted into the well to recover groundwater and silicon tubing was utilized at the pump and YSI interface.

The sampling team wore personal protective equipment (PPE), field clothing and personal hygiene products that would not contaminate the samples. The sampling team wore field clothing that were well-laundered and made of cotton. No cosmetics, moisturizers, hand cream, or related products were applied to the sampling team the morning of the sampling. Additionally, no sun screen or insect repellent was applied the day of the sampling event.

Nitrile gloves were worn at all times during the sampling event and changed frequently. Alconox was used to decontaminate equipment before and after sampling at each monitoring well.

Recovered groundwater was sampled using laboratory supplied bottleware with a dedicated cooler for both PFAS and 1,4-dioxane samples. Upon completion of sampling activities, the coolers were delivered via courier to the TestAmerica Laboratories Long Island City facility and then shipped to the South Burlington, Vermont laboratory for PFAS analysis and the Edison, New Jersey laboratory for 1,4-Dioxane analysis.

## 4.3 Sample Analysis

TestAmerica Laboratories in both South Burlington, Vermont and Edison, New Jersey analyzed the groundwater samples collected at the Site. TestAmerica Laboratories provided a full category B deliverable with laboratory analytical data for the analysis of PFAS and 1,4-dioxane which is included as **Appendix B**. The analytical data included in the full category B deliverable is summarized in **Table 1**. Additionally, a Quality Assessment Data Usability Summary Report (DUSR) was performed by RemVer of Colchester, Connecticut and is included as **Appendix C**. RemVer found all results for PFAS and 1,4-Dioxane included in the laboratory reports to be acceptable for use.

PFA samples submitted to the South Burlington, Vermont laboratory were analyzed using the modified EPA method 537. A reporting limit of below 2 nanograms per liter (ng/L) for all analytes was achieved by the lab for all samples. The PFAS analytes reported include:

- Perfluorobutanoic acid (PFBA)
- Perfluoropentanoic acid (PFPeA)
- Perfluorohexanoic acid (PFHxA)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorooctanoic acid (PFOA)
- Perfluorononanoic acid (PFNA)
- Perfluorodecanoic acid (PFDA)
- Perfluoroundecanoic acid (PFUnA)
- Perfluorododecanoic acid (PFDoA)
- Perfluorotridecanoic acid (PFTriA)
- Perfluorotetradecanoic acid (PFTeA)
- Perfluorobutanesulfonic acid (PFBS)
- Perfluorohexanesulfonic acid (PFHxS)
- Perfluoroheptanesulfonic acid (PFHpS)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorodecanesulfonic acid (PFDS)
- Perfluorooctane Sulfonamide (FOSA)
- N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)
- N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)
- 6:2FTS
- 8:2FTS

The following PFAS analytes had concentrations greater than the laboratory reporting limit at one or more sample location:

- PFBA
- PFPeA
- PFHxA
- PFHpA
- PFOA
- PFBS
- PFHxS
- PFOS
- 6:2FTS

The maximum PFAS concentration detected was 53.8 ng/L of PFOA at MW-4.

The following PFAS analytes had concentrations below laboratory detection limits at all sample locations (MW-101, and MW-2 through MW-6):

- PFDA

- PFUnA
- PFDaA
- PFTriA
- PFTeA
- PFDS
- FOSA
- NMeFOSAA
- NEtFOSAA
- 8:2FTS

Samples were analyzed for 1,4-Dioxane via method 8270D in selective ion monitoring (SIM) mode. A method detection limit of below 28 micrograms per liter ( $\mu\text{g/L}$ ) for all analytes was achieved by the lab for all samples. 1,4-Dioxane was not detected at all sample locations except for monitoring well MW-5 (0.20 J  $\mu\text{g/L}$ ).

#### 4.4 Quality Assurance/Quality Control

Care was taken during all aspects of the sample collection to ensure that high quality data was obtained. Equipment blanks, duplicate samples, and matrix spike and matrix spike duplicate (MS/MSD) samples were submitted for analysis for quality assurance of both the sample collection procedure and the laboratory method. All samples were submitted via courier to the necessary laboratories for analysis under proper chain of custody.

Prior to sampling groundwater from on-Site monitoring wells, equipment blank samples were collected from each sampling set-up utilizing deionized (DI) water to obtain a representative Equipment Blank sample. A total of two Equipment Blank samples were submitted to the laboratory for analysis of PFAS and 1,4-Dioxane. Equipment Blank 1 had detections of PFBA (0.62 J ng/L), PFNA (0.32 J ng/L), and PFHxS (0.30 J ng/L) which were below the laboratory reporting limit but greater than the method detection limit. Equipment Blank 2 had detections of PFNA (0.30 J ng/L) and PFOS (0.41 J ng/L) which were below the laboratory reporting limit but greater than the method detection limit.

A duplicate sample was collected at monitoring well MW-5. Comparing analytical results from monitoring well MW-5 and MW-5 Duplicate indicate the following:

- Concentrations changed by less than 11% at all detected analytes (PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, and PFHxS).
- Analytes PFNA and PFOS were below the method detection limits in the monitoring well MW-5 sample (0.23 U ng/L and 0.26 U ng/L, respectively) but were above method detection limits in the duplicate sample (0.34 J ng/L and 0.40 J ng/L, respectively).
- Analyte 6:2FTS had a concentration of 1.61 J ng/L, which was below the reporting limit in the monitoring well MW-5 sample, but was detected at 1.86 ng/L in the duplicate sample.
- 1,4-Dioxane was above the method detection limit at monitoring well MW-5 (0.20 J  $\mu\text{g/L}$ ) and below the method detection limit at the duplicate sample (0.17 U  $\mu\text{g/L}$ ).





The MS/MSD run for the monitoring well MW-2 sample met the quality criteria and had no exceptions.



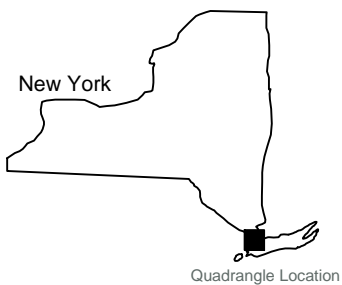
## Figures

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Source:  
 USGS 7.5 Minute Series  
 Topographic Quadrangle, 1979  
 Central Park, New York  
 Contour Interval = 10'



Site Location Map

NYSDEC  
 39-26 30th Street  
 Long Island City, New York

Drawn  
 W.G.S.  
 Designed  
 Approved



Date  
 1-8-18  
 Figure  
 1

Scale In Feet



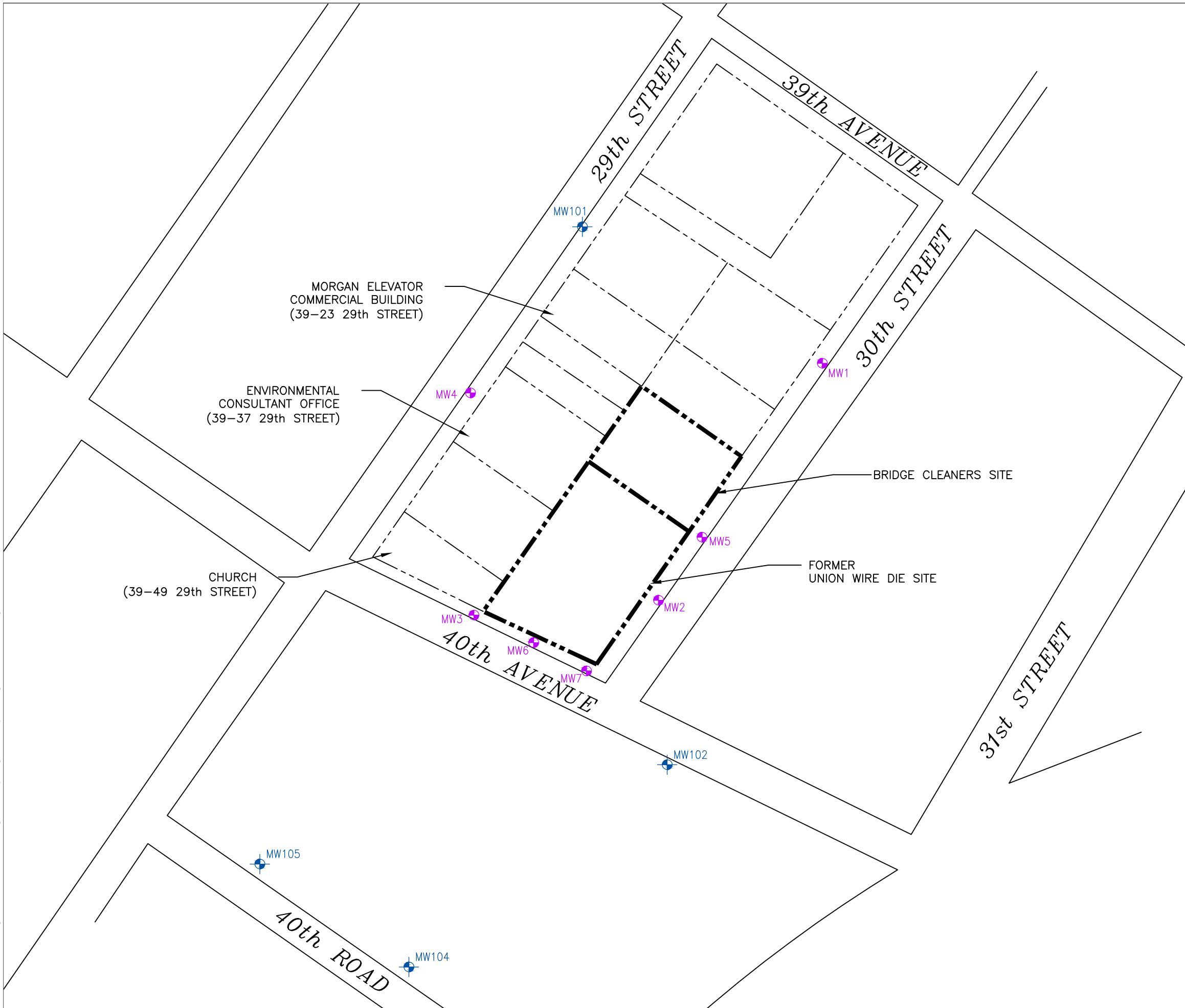
Groundwater & Environmental Services, Inc.



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**LEGEND**

- PROPERTY BOUNDARY (APPROXIMATE)
- MONITORING WELL
- ⊕ SHALLOW MONITORING WELL



**Site Map**

NYSDEC  
39-20 30th Street  
Long Island City, New York

Drawn  
W.G.S.  
Designed  
Approved

Date  
5/2/18  
Figure  
2



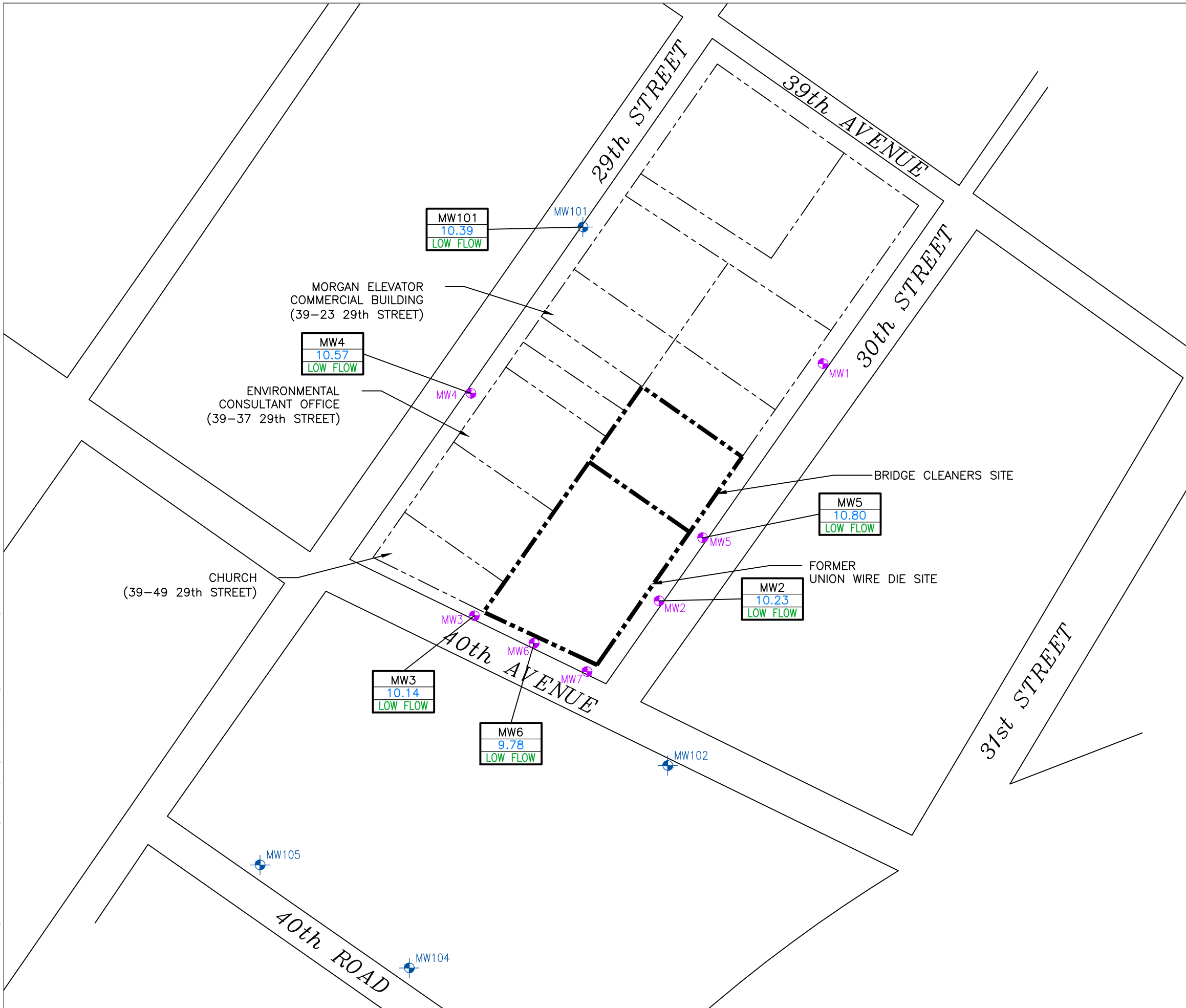
Scale In Feet



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### LEGEND

- PROPERTY BOUNDARY (APPROXIMATE)
  - MONITORING WELL
  - SHALLOW MONITORING WELL
  - |          |
|----------|
| MW101    |
| 10.39    |
| LOW FLOW |
- WELL IDENTIFICATION  
GROUNDWATER ELEVATION (feet)  
TYPE OF SAMPLING



Groundwater Monitoring Map April 10, 2018	
NYSDEC 39-20 30th Street Long Island City, New York	
Drawn W.G.S. Designed  Approved	Date 5/2/18 Figure 3
 <b>GESM</b> Groundwater & Environmental Services, Inc.	



## Table

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Table 1

Groundwater Data Summary

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Adjusted GW Elevation (ft)	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA
					(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	
MW-101	04/10/2018	39.64	29.25	10.39	9.86	22.1	29.9	9.83	32.4	1.27 J	0.39 U	0.39 U
MW-2	04/10/2018	25.98	15.75	10.23	8.07	10.8	8.05	6.44	23.9	0.22 U	0.38 U	0.38 U
MW-3	04/10/2018	29.49	19.35	10.14	7.36	8.41	7.77	9.35	14.8	0.22 U	0.38 U	0.38 U
MW-4	04/10/2018	38.15	27.58	10.57	11.7	23.1	22.0	9.26	53.8	0.38 J	0.38 U	0.38 U
MW-5	04/10/2018	28.30	17.50	10.80	15.7	24.0	22.7	16.2	4.84	0.23 U	0.39 U	0.39 U
MW-6	04/10/2018	26.99	17.21	9.78	37.7	26.0	14.9	12.0	35.2	0.68 J	0.39 U	0.39 U

Notes:

1 - Total PFAS is the sum of all detected analytes with the exception of 1,4-Dioxane.

GW = Groundwater

ft = Feet

µg/L = Micrograms/Liter

ng/L = Nanograms/Liter

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value

U = Indicated the analyte was analyzed for but not detected

PFAS = Per- and Polyfluoroalkyl Substances

PFBA = Perfluorobutanoic Acid

PFPeA = Perfluoropentanoic Acid

PFHxA = Perfluorohexanoic Acid

PFHpA = Perfluoroheptanoic Acid

PFOA = Perfluorooctanoic Acid

PFNA = Perfluorononanoic Acid

PFDA = Perfluorodecanoic Acid

PFUnA = Perfluoroundecanoic Acid

PFDoA = Perfluorododecanoic Acid

PFTriA = Perfluorotridecanoic Acid

PFTeA = Perfluorotetradecanoic Acid

PFBS = Perfluorobutanesulfonic Acid

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PFHpS = Perfluoroheptanesulfonic Acid

PFOS = Perfluorooctanesulfonic Acid

PFDS = Perfluorodecanesulfonic Acid

FOSA = Perfluorooctane Sulfonamide

NMeFOSAA = N-methyl Perfluorooctane Sulfonamidoacetic Acid

NEtFOSAA = N-ethyl Perfluorooctane Sulfonamidoacetic Acid



Table 1

Groundwater Data Summary

Monitoring Well	Date	PFDaA	PFTriA	PFTeA	PFBS	PFHxS	PFHpS	PFOS	PFDS	FOSA	NMeFOSAA	NEtFOSAA
		(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)	(ng/L)
MW-101	04/10/2018	0.39 U	0.39 U	0.39 U	19.0	6.44	0.63 J	7.41	0.39 U	0.39 U	0.53 U	0.53 U
MW-2	04/10/2018	0.38 U	0.38 U	0.38 U	5.34	2.74	0.38 U	2.05	0.38 U	0.38 U	0.51 U	0.51 U
MW-3	04/10/2018	0.38 U	0.38 U	0.38 U	1.56 J	1.14 J	0.38 J	0.26 U	0.38 U	0.38 U	0.51 U	0.51 U
MW-4	04/10/2018	0.38 U	0.38 U	0.38 U	6.71	6.36	0.45 J	1.18 J	0.38 U	0.38 U	0.51 U	0.51 U
MW-5	04/10/2018	0.39 U	0.39 U	0.39 U	7.47	7.13	0.39 U	0.26 U	0.39 U	0.39 U	0.52 U	0.52 U
MW-6	04/10/2018	0.39 U	0.39 U	0.39 U	6.46	4.55	0.57 J	3.01	0.39 U	0.39 U	0.53 U	0.53 U

Notes:

1 - Total PFAS is the sum of all detected analytes with the exception of 1,4-Dioxane.

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NMeFOSAA = N-methyl Perfluorooctane Sulfonamidoacetic Acid

NEtFOSAA = N-ethyl Perfluorooctane Sulfonamidoacetic Acid





Table 1

Groundwater Data Summary

Monitoring Well	Date	6:2FTS	8:2FTS	1,4-Dioxane	Total PFAs <sup>1</sup>
		(ng/L)	(ng/L)	(µg/L)	(ng/L)
MW-101	04/10/2018	3.30	0.53 U	0.17 U	142.14
MW-2	04/10/2018	0.69 J	0.51 U	0.17 U	68.08
MW-3	04/10/2018	0.54 J	0.51 U	0.17 U	51.31
MW-4	04/10/2018	5.00	0.51 U	0.17 U	139.94
MW-5	04/10/2018	1.61 J	0.52 U	0.20 J	99.65
MW-6	04/10/2018	0.53 U	0.53 U	0.17 U	141.07

Notes:

1 - Total PFAS is the sum of all detected analytes with the exception of 1,4-Dioxane.

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J = Result is less than the RL but greater than or equal to the MDL and the

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NMeFOSAA = N-methyl Perfluorooctane Sulfonamidoacetic Acid

NEtFOSAA = N-ethyl Perfluorooctane Sulfonamidoacetic Acid



## Appendix A – Laboratory Analytical Reports

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## ANALYTICAL REPORT

Job Number: 200-43041-1

Job Description: DEC - Bridge Cleaners; Site: 241127

For:

New York State D.E.C.

625 Broadway

12th Floor

Albany, NY 12233-7017

Attention: Ms. Ruth Curley



Approved for release.  
Thomas A Chupela  
Project Management Assistant I  
4/24/2018 10:07 AM

---

Designee for  
Melissa Haas, Project Manager I  
777 New Durham Road, Edison, NJ, 08817  
(203)944-1310  
melissa.haas@testamericainc.com  
04/24/2018

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LAO00132

**TestAmerica Laboratories, Inc.**

TestAmerica Burlington 30 Community Drive, Suite 11, South Burlington, VT 05403

Tel (802) 660-1990 Fax (802) 660-1919 [www.testamericainc.com](http://www.testamericainc.com)

Job Number: 200-43041-1

Job Description: DEC - Bridge Cleaners; Site: 241127

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Approved for release.  
Thomas A. Chupela  
Project Management Assistant I  
4/24/2018 10:07 AM

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Designee for  
Melissa Haas

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## CASE NARRATIVE

**Client: New York State D.E.C.**

**Project: DEC - Bridge Cleaners; Site: 241127**

**Report Number: 200-43041-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

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

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

### **RECEIPT**

The samples were received on 4/11/2018 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

### **PERFLUORINATED HYDROCARBONS (PFC)**

Samples MW-101 (200-43041-1), MW-2 (200-43041-2), MW-3 (200-43041-3), MW-4 (200-43041-4), MW-5 (200-43041-5), MW-6 (200-43041-6), EQUIPMENT BLANK 1 (200-43041-7), EQUIPMENT BLANK 2 (200-43041-8) and MW-5 DUP (200-43041-9) were analyzed for Perfluorinated Hydrocarbons (PFC) in accordance with PFC. The samples were prepared on 04/18/2018 and analyzed on 04/21/2018.

Isotope Dilution Analyte (IDA) recovery for M2-8:2FTS is above the method recommended limit for the following sample: MW-3 (200-43041-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Isotope Dilution Analyte (IDA) recovery for M2-6:2FTS is above the method recommended limit for the following samples: MW-101 (200-43041-1), MW-2 (200-43041-2), MW-2 (200-43041-2[MS]), MW-2 (200-43041-2[MSD]), MW-3 (200-43041-3), MW-4 (200-43041-4), MW-5 (200-43041-5), MW-6 (200-43041-6) and MW-5 DUP (200-43041-9). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Perfluorotetradecanoic acid (PFTeA) was detected in method blank MB 200-128603/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Refer to the QC report for details.

No other difficulties were encountered during the Perfluorinated Hydrocarbons (PFC) analysis.

All other quality control parameters were within the acceptance limits.

# Sample Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-43041-1	MW-101	Water	04/10/18 08:45	04/11/18 10:25
200-43041-2	MW-2	Water	04/10/18 12:40	04/11/18 10:25
200-43041-3	MW-3	Water	04/10/18 14:35	04/11/18 10:25
200-43041-4	MW-4	Water	04/10/18 10:58	04/11/18 10:25
200-43041-5	MW-5	Water	04/10/18 12:45	04/11/18 10:25
200-43041-6	MW-6	Water	04/10/18 14:45	04/11/18 10:25
200-43041-7	EQUIPMENT BLANK 1	Water	04/10/18 07:00	04/11/18 10:25
200-43041-8	EQUIPMENT BLANK 2	Water	04/10/18 09:25	04/11/18 10:25
200-43041-9	MW-5 DUP	Water	04/10/18 12:45	04/11/18 10:25



# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Client Sample ID: MW-101

## Lab Sample ID: 200-43041-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.86		1.75	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	22.1		1.75	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	29.9		1.75	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	9.83		1.75	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	32.4		1.75	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.27	J	1.75	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	19.0		1.75	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.44		1.75	0.25	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.63	J	1.75	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.41		1.75	0.26	ng/L	1		537 (modified)	Total/NA
6:2FTS	3.30		1.75	0.53	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-2

## Lab Sample ID: 200-43041-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.07		1.70	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	10.8		1.70	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	8.05		1.70	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.44		1.70	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	23.9		1.70	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.34		1.70	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.74		1.70	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.05		1.70	0.25	ng/L	1		537 (modified)	Total/NA
6:2FTS	0.69	J	1.70	0.51	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-3

## Lab Sample ID: 200-43041-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.36		1.71	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	8.41		1.71	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	7.77		1.71	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	9.35		1.71	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14.8		1.71	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.56	J	1.71	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.14	J	1.71	0.24	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.38	J	1.71	0.38	ng/L	1		537 (modified)	Total/NA
6:2FTS	0.54	J	1.71	0.51	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-4

## Lab Sample ID: 200-43041-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	11.7		1.69	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	23.1		1.69	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	22.0		1.69	0.38	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	9.26		1.69	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	53.8		1.69	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.38	J	1.69	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.71		1.69	0.74	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.36		1.69	0.24	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Client Sample ID: MW-4 (Continued)

Lab Sample ID: 200-43041-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic Acid (PFHpS)	0.45	J	1.69	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.18	J	1.69	0.25	ng/L	1		537 (modified)	Total/NA
6:2FTS	5.00		1.69	0.51	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-5

Lab Sample ID: 200-43041-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	15.7		1.74	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	24.0		1.74	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	22.7		1.74	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	16.2		1.74	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.84		1.74	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.47		1.74	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.13		1.74	0.24	ng/L	1		537 (modified)	Total/NA
6:2FTS	1.61	J	1.74	0.52	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-6

Lab Sample ID: 200-43041-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	37.7		1.77	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	26.0		1.77	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14.9		1.77	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	12.0		1.77	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	35.2		1.77	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.68	J	1.77	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.46		1.77	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.55		1.77	0.25	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.57	J	1.77	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.01		1.77	0.27	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: EQUIPMENT BLANK 1

Lab Sample ID: 200-43041-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.62	J	1.83	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.32	J	1.83	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.30	J	1.83	0.26	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: EQUIPMENT BLANK 2

Lab Sample ID: 200-43041-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.30	J	1.84	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.41	J	1.84	0.28	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-5 DUP

Lab Sample ID: 200-43041-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	15.6		1.67	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	25.5		1.67	0.37	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	22.3		1.67	0.37	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-5 DUP (Continued)**

**Lab Sample ID: 200-43041-9**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	15.8		1.67	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.31		1.67	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.34	J	1.67	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.15		1.67	0.74	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.95		1.67	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.40	J	1.67	0.25	ng/L	1		537 (modified)	Total/NA
6:2FTS	1.86		1.67	0.50	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

# Method Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-101**

**Date Collected: 04/10/18 08:45**

**Date Received: 04/11/18 10:25**

**Lab Sample ID: 200-43041-1**

**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.86		1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluoropentanoic acid (PFPeA)	22.1		1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorohexanoic acid (PFHxA)	29.9		1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluoroheptanoic acid (PFHpA)	9.83		1.75	0.25	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorooctanoic acid (PFOA)	32.4		1.75	0.41	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorononanoic acid (PFNA)	1.27	J	1.75	0.23	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorodecanoic acid (PFDA)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluoroundecanoic acid (PFUnA)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorododecanoic acid (PFDoA)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorotridecanoic Acid (PFTriA)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorotetradecanoic acid (PFTeA)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorobutanesulfonic acid (PFBS)	19.0		1.75	0.77	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorohexanesulfonic acid (PFHxS)	6.44		1.75	0.25	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.63	J	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorooctanesulfonic acid (PFOS)	7.41		1.75	0.26	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorodecanesulfonic acid (PFDS)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
Perfluorooctane Sulfonamide (FOSA)	0.39	U	1.75	0.39	ng/L		04/18/18 12:25	04/21/18 16:47	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.53	U	1.75	0.53	ng/L		04/18/18 12:25	04/21/18 16:47	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.53	U	1.75	0.53	ng/L		04/18/18 12:25	04/21/18 16:47	1
6:2FTS	3.30		1.75	0.53	ng/L		04/18/18 12:25	04/21/18 16:47	1
8:2FTS	0.53	U	1.75	0.53	ng/L		04/18/18 12:25	04/21/18 16:47	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	46		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C5 PFPeA	77		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C2 PFHxA	67		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C4-PFHpA	84		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C4 PFOA	92		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C5 PFNA	97		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C2 PFDA	88		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C2 PFUnA	87		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C2 PFDoA	72		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C2-PFTeDA	70		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C3-PFBS	83		25 - 150				04/18/18 12:25	04/21/18 16:47	1
18O2 PFHxS	97		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C4 PFOS	85		25 - 150				04/18/18 12:25	04/21/18 16:47	1
13C8 FOSA	68		25 - 150				04/18/18 12:25	04/21/18 16:47	1
d3-NMeFOSAA	67		25 - 150				04/18/18 12:25	04/21/18 16:47	1
d5-NEtFOSAA	76		25 - 150				04/18/18 12:25	04/21/18 16:47	1
M2-6:2FTS	185	*	25 - 150				04/18/18 12:25	04/21/18 16:47	1
M2-8:2FTS	132		25 - 150				04/18/18 12:25	04/21/18 16:47	1

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-2**  
**Date Collected: 04/10/18 12:40**  
**Date Received: 04/11/18 10:25**

**Lab Sample ID: 200-43041-2**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	8.07		1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluoropentanoic acid (PFPeA)	10.8		1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorohexanoic acid (PFHxA)	8.05		1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluoroheptanoic acid (PFHpA)	6.44		1.70	0.25	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorooctanoic acid (PFOA)	23.9		1.70	0.40	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorononanoic acid (PFNA)	0.22	U	1.70	0.22	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorodecanoic acid (PFDA)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluoroundecanoic acid (PFUnA)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorododecanoic acid (PFDoA)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorotridecanoic Acid (PFTriA)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorotetradecanoic acid (PFTeA)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorobutanesulfonic acid (PFBS)	5.34		1.70	0.75	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorohexanesulfonic acid (PFHxS)	2.74		1.70	0.24	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorooctanesulfonic acid (PFOS)	2.05		1.70	0.25	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorodecanesulfonic acid (PFDS)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
Perfluorooctane Sulfonamide (FOSA)	0.38	U	1.70	0.38	ng/L		04/18/18 12:25	04/21/18 17:02	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	1.70	0.51	ng/L		04/18/18 12:25	04/21/18 17:02	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	1.70	0.51	ng/L		04/18/18 12:25	04/21/18 17:02	1
6:2FTS	0.69	J	1.70	0.51	ng/L		04/18/18 12:25	04/21/18 17:02	1
8:2FTS	0.51	U	1.70	0.51	ng/L		04/18/18 12:25	04/21/18 17:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	27		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C5 PFPeA	46		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C2 PFHxA	57		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C4-PFHpA	71		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C4 PFOA	87		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C5 PFNA	102		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C2 PFDA	91		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C2 PFUnA	89		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C2 PFDoA	79		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C2-PFTeDA	80		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C3-PFBS	78		25 - 150	04/18/18 12:25	04/21/18 17:02	1
18O2 PFHxS	105		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C4 PFOS	106		25 - 150	04/18/18 12:25	04/21/18 17:02	1
13C8 FOSA	57		25 - 150	04/18/18 12:25	04/21/18 17:02	1
d3-NMeFOSAA	71		25 - 150	04/18/18 12:25	04/21/18 17:02	1
d5-NEtFOSAA	82		25 - 150	04/18/18 12:25	04/21/18 17:02	1
M2-6:2FTS	219	*	25 - 150	04/18/18 12:25	04/21/18 17:02	1
M2-8:2FTS	134		25 - 150	04/18/18 12:25	04/21/18 17:02	1

# Client Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-3**  
**Date Collected: 04/10/18 14:35**  
**Date Received: 04/11/18 10:25**

**Lab Sample ID: 200-43041-3**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	7.36		1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluoropentanoic acid (PFPeA)	8.41		1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorohexanoic acid (PFHxA)	7.77		1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluoroheptanoic acid (PFHpA)	9.35		1.71	0.25	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorooctanoic acid (PFOA)	14.8		1.71	0.40	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorononanoic acid (PFNA)	0.22	U	1.71	0.22	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorodecanoic acid (PFDA)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluoroundecanoic acid (PFUnA)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorododecanoic acid (PFDoA)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorotridecanoic Acid (PFTriA)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorotetradecanoic acid (PFTeA)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorobutanesulfonic acid (PFBS)	1.56	J	1.71	0.75	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorohexanesulfonic acid (PFHxS)	1.14	J	1.71	0.24	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.38	J	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorooctanesulfonic acid (PFOS)	0.26	U	1.71	0.26	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorodecanesulfonic acid (PFDS)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
Perfluorooctane Sulfonamide (FOSA)	0.38	U	1.71	0.38	ng/L		04/18/18 12:25	04/21/18 17:47	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	1.71	0.51	ng/L		04/18/18 12:25	04/21/18 17:47	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	1.71	0.51	ng/L		04/18/18 12:25	04/21/18 17:47	1
6:2FTS	0.54	J	1.71	0.51	ng/L		04/18/18 12:25	04/21/18 17:47	1
8:2FTS	0.51	U	1.71	0.51	ng/L		04/18/18 12:25	04/21/18 17:47	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	34		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C5 PFPeA	53		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C2 PFHxA	63		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C4-PFHpA	77		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C4 PFOA	93		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C5 PFNA	109		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C2 PFDA	101		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C2 PFUnA	96		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C2 PFDoA	81		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C2-PFTeDA	83		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C3-PFBS	78		25 - 150				04/18/18 12:25	04/21/18 17:47	1
18O2 PFHxS	100		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C4 PFOS	104		25 - 150				04/18/18 12:25	04/21/18 17:47	1
13C8 FOSA	55		25 - 150				04/18/18 12:25	04/21/18 17:47	1
d3-NMeFOSAA	81		25 - 150				04/18/18 12:25	04/21/18 17:47	1
d5-NEtFOSAA	92		25 - 150				04/18/18 12:25	04/21/18 17:47	1
M2-6:2FTS	216	*	25 - 150				04/18/18 12:25	04/21/18 17:47	1
M2-8:2FTS	203	*	25 - 150				04/18/18 12:25	04/21/18 17:47	1

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-4**  
**Date Collected: 04/10/18 10:58**  
**Date Received: 04/11/18 10:25**

**Lab Sample ID: 200-43041-4**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	11.7		1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluoropentanoic acid (PFPeA)	23.1		1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorohexanoic acid (PFHxA)	22.0		1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluoroheptanoic acid (PFHpA)	9.26		1.69	0.25	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorooctanoic acid (PFOA)	53.8		1.69	0.40	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorononanoic acid (PFNA)	0.38	J	1.69	0.22	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorodecanoic acid (PFDA)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluoroundecanoic acid (PFUnA)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorododecanoic acid (PFDoA)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorotridecanoic Acid (PFTriA)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorotetradecanoic acid (PFTeA)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorobutanesulfonic acid (PFBS)	6.71		1.69	0.74	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorohexanesulfonic acid (PFHxS)	6.36		1.69	0.24	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.45	J	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorooctanesulfonic acid (PFOS)	1.18	J	1.69	0.25	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorodecanesulfonic acid (PFDS)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
Perfluorooctane Sulfonamide (FOSA)	0.38	U	1.69	0.38	ng/L		04/18/18 12:25	04/21/18 18:02	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	1.69	0.51	ng/L		04/18/18 12:25	04/21/18 18:02	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	1.69	0.51	ng/L		04/18/18 12:25	04/21/18 18:02	1
6:2FTS	5.00		1.69	0.51	ng/L		04/18/18 12:25	04/21/18 18:02	1
8:2FTS	0.51	U	1.69	0.51	ng/L		04/18/18 12:25	04/21/18 18:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	42		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C5 PFPeA	61		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C2 PFHxA	73		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C4-PFHpA	80		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C4 PFOA	89		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C5 PFNA	97		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C2 PFDA	90		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C2 PFUnA	85		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C2 PFDoA	74		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C2-PFTeDA	70		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C3-PFBS	77		25 - 150	04/18/18 12:25	04/21/18 18:02	1
18O2 PFHxS	92		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C4 PFOS	90		25 - 150	04/18/18 12:25	04/21/18 18:02	1
13C8 FOSA	54		25 - 150	04/18/18 12:25	04/21/18 18:02	1
d3-NMeFOSAA	67		25 - 150	04/18/18 12:25	04/21/18 18:02	1
d5-NEtFOSAA	74		25 - 150	04/18/18 12:25	04/21/18 18:02	1
M2-6:2FTS	158	*	25 - 150	04/18/18 12:25	04/21/18 18:02	1
M2-8:2FTS	104		25 - 150	04/18/18 12:25	04/21/18 18:02	1



# Client Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-5**  
**Date Collected: 04/10/18 12:45**  
**Date Received: 04/11/18 10:25**

**Lab Sample ID: 200-43041-5**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	15.7		1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluoropentanoic acid (PFPeA)	24.0		1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorohexanoic acid (PFHxA)	22.7		1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluoroheptanoic acid (PFHpA)	16.2		1.74	0.25	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorooctanoic acid (PFOA)	4.84		1.74	0.41	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorononanoic acid (PFNA)	0.23	U	1.74	0.23	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorodecanoic acid (PFDA)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluoroundecanoic acid (PFUnA)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorododecanoic acid (PFDoA)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorotridecanoic Acid (PFTriA)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorotetradecanoic acid (PFTeA)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorobutanesulfonic acid (PFBS)	7.47		1.74	0.76	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorohexanesulfonic acid (PFHxS)	7.13		1.74	0.24	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorooctanesulfonic acid (PFOS)	0.26	U	1.74	0.26	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorodecanesulfonic acid (PFDS)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
Perfluorooctane Sulfonamide (FOSA)	0.39	U	1.74	0.39	ng/L		04/18/18 12:25	04/21/18 18:33	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.52	U	1.74	0.52	ng/L		04/18/18 12:25	04/21/18 18:33	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.52	U	1.74	0.52	ng/L		04/18/18 12:25	04/21/18 18:33	1
6:2FTS	1.61	J	1.74	0.52	ng/L		04/18/18 12:25	04/21/18 18:33	1
8:2FTS	0.52	U	1.74	0.52	ng/L		04/18/18 12:25	04/21/18 18:33	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	25		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C5 PFPeA	48		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C2 PFHxA	57		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C4-PFHpA	77		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C4 PFOA	88		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C5 PFNA	97		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C2 PFDA	83		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C2 PFUnA	83		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C2 PFDoA	74		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C2-PFTeDA	81		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C3-PFBS	74		25 - 150				04/18/18 12:25	04/21/18 18:33	1
18O2 PFHxS	92		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C4 PFOS	96		25 - 150				04/18/18 12:25	04/21/18 18:33	1
13C8 FOSA	59		25 - 150				04/18/18 12:25	04/21/18 18:33	1
d3-NMeFOSAA	65		25 - 150				04/18/18 12:25	04/21/18 18:33	1
d5-NEtFOSAA	72		25 - 150				04/18/18 12:25	04/21/18 18:33	1
M2-6:2FTS	190	*	25 - 150				04/18/18 12:25	04/21/18 18:33	1
M2-8:2FTS	112		25 - 150				04/18/18 12:25	04/21/18 18:33	1

# Client Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-6**  
**Date Collected: 04/10/18 14:45**  
**Date Received: 04/11/18 10:25**

**Lab Sample ID: 200-43041-6**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	37.7		1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluoropentanoic acid (PFPeA)	26.0		1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorohexanoic acid (PFHxA)	14.9		1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluoroheptanoic acid (PFHpA)	12.0		1.77	0.26	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorooctanoic acid (PFOA)	35.2		1.77	0.42	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorononanoic acid (PFNA)	0.68	J	1.77	0.23	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorodecanoic acid (PFDA)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluoroundecanoic acid (PFUnA)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorododecanoic acid (PFDoA)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorotridecanoic Acid (PFTriA)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorotetradecanoic acid (PFTeA)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorobutanesulfonic acid (PFBS)	6.46		1.77	0.78	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorohexanesulfonic acid (PFHxS)	4.55		1.77	0.25	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.57	J	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorooctanesulfonic acid (PFOS)	3.01		1.77	0.27	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorodecanesulfonic acid (PFDS)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
Perfluorooctane Sulfonamide (FOSA)	0.39	U	1.77	0.39	ng/L		04/18/18 12:25	04/21/18 18:48	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.53	U	1.77	0.53	ng/L		04/18/18 12:25	04/21/18 18:48	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.53	U	1.77	0.53	ng/L		04/18/18 12:25	04/21/18 18:48	1
6:2FTS	0.53	U	1.77	0.53	ng/L		04/18/18 12:25	04/21/18 18:48	1
8:2FTS	0.53	U	1.77	0.53	ng/L		04/18/18 12:25	04/21/18 18:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	29		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C5 PFPeA	46		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C2 PFHxA	55		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C4-PFHpA	73		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C4 PFOA	87		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C5 PFNA	97		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C2 PFDA	84		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C2 PFUnA	74		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C2 PFDoA	67		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C2-PFTeDA	71		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C3-PFBS	68		25 - 150	04/18/18 12:25	04/21/18 18:48	1
18O2 PFHxS	95		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C4 PFOS	92		25 - 150	04/18/18 12:25	04/21/18 18:48	1
13C8 FOSA	71		25 - 150	04/18/18 12:25	04/21/18 18:48	1
d3-NMeFOSAA	79		25 - 150	04/18/18 12:25	04/21/18 18:48	1
d5-NEtFOSAA	91		25 - 150	04/18/18 12:25	04/21/18 18:48	1
M2-6:2FTS	187	*	25 - 150	04/18/18 12:25	04/21/18 18:48	1
M2-8:2FTS	118		25 - 150	04/18/18 12:25	04/21/18 18:48	1

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: EQUIPMENT BLANK 1**

**Lab Sample ID: 200-43041-7**

**Date Collected: 04/10/18 07:00**

**Matrix: Water**

**Date Received: 04/11/18 10:25**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>0.62</b>	<b>J</b>	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluoropentanoic acid (PFPeA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorohexanoic acid (PFHxA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluoroheptanoic acid (PFHpA)	0.27	U	1.83	0.27	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorooctanoic acid (PFOA)	0.43	U	1.83	0.43	ng/L		04/18/18 12:25	04/21/18 19:03	1
<b>Perfluorononanoic acid (PFNA)</b>	<b>0.32</b>	<b>J</b>	1.83	0.24	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorodecanoic acid (PFDA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluoroundecanoic acid (PFUnA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorododecanoic acid (PFDoA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorotridecanoic Acid (PFTriA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorotetradecanoic acid (PFTeA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorobutanesulfonic acid (PFBS)	0.81	U	1.83	0.81	ng/L		04/18/18 12:25	04/21/18 19:03	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>0.30</b>	<b>J</b>	1.83	0.26	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorooctanesulfonic acid (PFOS)	0.27	U	1.83	0.27	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorodecanesulfonic acid (PFDS)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
Perfluorooctane Sulfonamide (FOSA)	0.41	U	1.83	0.41	ng/L		04/18/18 12:25	04/21/18 19:03	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.55	U	1.83	0.55	ng/L		04/18/18 12:25	04/21/18 19:03	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.55	U	1.83	0.55	ng/L		04/18/18 12:25	04/21/18 19:03	1
6:2FTS	0.55	U	1.83	0.55	ng/L		04/18/18 12:25	04/21/18 19:03	1
8:2FTS	0.55	U	1.83	0.55	ng/L		04/18/18 12:25	04/21/18 19:03	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	42		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C5 PFPeA	104		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C2 PFHxA	94		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C4-PFHpA	87		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C4 PFOA	89		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C5 PFNA	90		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C2 PFDA	83		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C2 PFUnA	83		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C2 PFDoA	65		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C2-PFTeDA	63		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C3-PFBS	81		25 - 150	04/18/18 12:25	04/21/18 19:03	1
18O2 PFHxS	85		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C4 PFOS	80		25 - 150	04/18/18 12:25	04/21/18 19:03	1
13C8 FOSA	47		25 - 150	04/18/18 12:25	04/21/18 19:03	1
d3-NMeFOSAA	57		25 - 150	04/18/18 12:25	04/21/18 19:03	1
d5-NEtFOSAA	62		25 - 150	04/18/18 12:25	04/21/18 19:03	1
M2-6:2FTS	109		25 - 150	04/18/18 12:25	04/21/18 19:03	1
M2-8:2FTS	91		25 - 150	04/18/18 12:25	04/21/18 19:03	1

# Client Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: EQUIPMENT BLANK 2**

**Lab Sample ID: 200-43041-8**

**Date Collected: 04/10/18 09:25**

**Matrix: Water**

**Date Received: 04/11/18 10:25**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluoropentanoic acid (PFPeA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorohexanoic acid (PFHxA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluoroheptanoic acid (PFHpA)	0.27	U	1.84	0.27	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorooctanoic acid (PFOA)	0.43	U	1.84	0.43	ng/L		04/18/18 12:25	04/21/18 19:18	1
<b>Perfluorononanoic acid (PFNA)</b>	<b>0.30</b>	<b>J</b>	1.84	0.24	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorodecanoic acid (PFDA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluoroundecanoic acid (PFUnA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorododecanoic acid (PFDoA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorotridecanoic Acid (PFTriA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorotetradecanoic acid (PFTeA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorobutanesulfonic acid (PFBS)	0.81	U	1.84	0.81	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorohexanesulfonic acid (PFHxS)	0.26	U	1.84	0.26	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>0.41</b>	<b>J</b>	1.84	0.28	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorodecanesulfonic acid (PFDS)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
Perfluorooctane Sulfonamide (FOSA)	0.41	U	1.84	0.41	ng/L		04/18/18 12:25	04/21/18 19:18	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.55	U	1.84	0.55	ng/L		04/18/18 12:25	04/21/18 19:18	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.55	U	1.84	0.55	ng/L		04/18/18 12:25	04/21/18 19:18	1
6:2FTS	0.55	U	1.84	0.55	ng/L		04/18/18 12:25	04/21/18 19:18	1
8:2FTS	0.55	U	1.84	0.55	ng/L		04/18/18 12:25	04/21/18 19:18	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	47		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C5 PFPeA	106		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C2 PFHxA	96		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C4-PFHpA	96		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C4 PFOA	94		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C5 PFNA	93		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C2 PFDA	85		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C2 PFUnA	85		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C2 PFDoA	74		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C2-PFTeDA	62		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C3-PFBS	89		25 - 150	04/18/18 12:25	04/21/18 19:18	1
18O2 PFHxS	84		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C4 PFOS	82		25 - 150	04/18/18 12:25	04/21/18 19:18	1
13C8 FOSA	51		25 - 150	04/18/18 12:25	04/21/18 19:18	1
d3-NMeFOSAA	69		25 - 150	04/18/18 12:25	04/21/18 19:18	1
d5-NEtFOSAA	72		25 - 150	04/18/18 12:25	04/21/18 19:18	1
M2-6:2FTS	105		25 - 150	04/18/18 12:25	04/21/18 19:18	1
M2-8:2FTS	84		25 - 150	04/18/18 12:25	04/21/18 19:18	1

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

**Client Sample ID: MW-5 DUP**

**Lab Sample ID: 200-43041-9**

**Date Collected: 04/10/18 12:45**

**Matrix: Water**

**Date Received: 04/11/18 10:25**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	15.6		1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluoropentanoic acid (PFPeA)	25.5		1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorohexanoic acid (PFHxA)	22.3		1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluoroheptanoic acid (PFHpA)	15.8		1.67	0.24	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorooctanoic acid (PFOA)	4.31		1.67	0.39	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorononanoic acid (PFNA)	0.34	J	1.67	0.22	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorodecanoic acid (PFDA)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluoroundecanoic acid (PFUnA)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorododecanoic acid (PFDoA)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorotridecanoic Acid (PFTriA)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorotetradecanoic acid (PFTeA)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorobutanesulfonic acid (PFBS)	7.15		1.67	0.74	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorohexanesulfonic acid (PFHxS)	6.95		1.67	0.23	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorooctanesulfonic acid (PFOS)	0.40	J	1.67	0.25	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorodecanesulfonic acid (PFDS)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
Perfluorooctane Sulfonamide (FOSA)	0.37	U	1.67	0.37	ng/L		04/18/18 12:25	04/21/18 19:33	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.50	U	1.67	0.50	ng/L		04/18/18 12:25	04/21/18 19:33	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.50	U	1.67	0.50	ng/L		04/18/18 12:25	04/21/18 19:33	1
6:2FTS	1.86		1.67	0.50	ng/L		04/18/18 12:25	04/21/18 19:33	1
8:2FTS	0.50	U	1.67	0.50	ng/L		04/18/18 12:25	04/21/18 19:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	26		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C5 PFPeA	44		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C2 PFHxA	58		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C4-PFHpA	78		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C4 PFOA	91		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C5 PFNA	104		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C2 PFDA	96		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C2 PFUnA	98		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C2 PFDoA	84		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C2-PFTeDA	86		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C3-PFBS	70		25 - 150	04/18/18 12:25	04/21/18 19:33	1
18O2 PFHxS	98		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C4 PFOS	98		25 - 150	04/18/18 12:25	04/21/18 19:33	1
13C8 FOSA	60		25 - 150	04/18/18 12:25	04/21/18 19:33	1
d3-NMeFOSAA	72		25 - 150	04/18/18 12:25	04/21/18 19:33	1
d5-NEtFOSAA	91		25 - 150	04/18/18 12:25	04/21/18 19:33	1
M2-6:2FTS	213	*	25 - 150	04/18/18 12:25	04/21/18 19:33	1
M2-8:2FTS	135		25 - 150	04/18/18 12:25	04/21/18 19:33	1

# Isotope Dilution Summary

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
200-43041-1	MW-101	46	77	67	84	92	97	88	87
200-43041-2	MW-2	27	46	57	71	87	102	91	89
200-43041-2 MS	MW-2	28	45	56	74	89	95	94	90
200-43041-2 MSD	MW-2	29	47	58	73	89	92	83	75
200-43041-3	MW-3	34	53	63	77	93	109	101	96
200-43041-4	MW-4	42	61	73	80	89	97	90	85
200-43041-5	MW-5	25	48	57	77	88	97	83	83
200-43041-6	MW-6	29	46	55	73	87	97	84	74
200-43041-7	EQUIPMENT BLANK 1	42	104	94	87	89	90	83	83
200-43041-8	EQUIPMENT BLANK 2	47	106	96	96	94	93	85	85
200-43041-9	MW-5 DUP	26	44	58	78	91	104	96	98
LCS 200-128603/2-A	Lab Control Sample	83	99	93	90	94	91	85	88
MB 200-128603/1-A	Method Blank	84	109	93	94	101	97	91	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFB' (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOS (25-150)	-NEtFOS/ (25-150)
200-43041-1	MW-101	72	70	83	97	85	68	67	76
200-43041-2	MW-2	79	80	78	105	106	57	71	82
200-43041-2 MS	MW-2	81	81	71	96	103	46	72	80
200-43041-2 MSD	MW-2	75	75	76	96	95	68	61	68
200-43041-3	MW-3	81	83	78	100	104	55	81	92
200-43041-4	MW-4	74	70	77	92	90	54	67	74
200-43041-5	MW-5	74	81	74	92	96	59	65	72
200-43041-6	MW-6	67	71	68	95	92	71	79	91
200-43041-7	EQUIPMENT BLANK 1	65	63	81	85	80	47	57	62
200-43041-8	EQUIPMENT BLANK 2	74	62	89	84	82	51	69	72
200-43041-9	MW-5 DUP	84	86	70	98	98	60	72	91
LCS 200-128603/2-A	Lab Control Sample	68	55	83	83	74	47	70	68
MB 200-128603/1-A	Method Blank	73	52	81	87	80	52	71	80

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
200-43041-1	MW-101	185 *	132
200-43041-2	MW-2	219 *	134
200-43041-2 MS	MW-2	202 *	139
200-43041-2 MSD	MW-2	210 *	112
200-43041-3	MW-3	216 *	203 *
200-43041-4	MW-4	158 *	104
200-43041-5	MW-5	190 *	112
200-43041-6	MW-6	187 *	118
200-43041-7	EQUIPMENT BLANK 1	109	91
200-43041-8	EQUIPMENT BLANK 2	105	84
200-43041-9	MW-5 DUP	213 *	135
LCS 200-128603/2-A	Lab Control Sample	117	92
MB 200-128603/1-A	Method Blank	120	92

**Surrogate Legend**

PFBA = 13C4 PFBA  
 PFPeA = 13C5 PFPeA

# Isotope Dilution Summary

Client: New York State D.E.C.

TestAmerica Job ID: 200-43041-1

Project/Site: DEC - Bridge Cleaners; Site: 241127

PFHxA = 13C2 PFHxA  
PFHpA = 13C4-PFHpA  
PFOA = 13C4 PFOA  
PFNA = 13C5 PFNA  
PFDA = 13C2 PFDA  
PFUnA = 13C2 PFUnA  
PFDoA = 13C2 PFDoA  
PFTDA = 13C2-PFTeDA  
13C3-PFBS = 13C3-PFBS  
PFHxS = 18O2 PFHxS  
PFOS = 13C4 PFOS  
PFOSA = 13C8 FOSA  
d3-NMeFOSAA = d3-NMeFOSAA  
d5-NEtFOSAA = d5-NEtFOSAA  
M262FTS = M2-6:2FTS  
M282FTS = M2-8:2FTS



# QC Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 200-128603/1-A**  
**Matrix: Water**  
**Analysis Batch: 128716**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 128603**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluoropentanoic acid (PFPeA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorohexanoic acid (PFHxA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluoroheptanoic acid (PFHpA)	0.29	U	2.00	0.29	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorooctanoic acid (PFOA)	0.47	U	2.00	0.47	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorononanoic acid (PFNA)	0.26	U	2.00	0.26	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorodecanoic acid (PFDA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluoroundecanoic acid (PFUnA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorododecanoic acid (PFDoA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorotridecanoic Acid (PFTriA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorotetradecanoic acid (PFTeA)	0.471	J	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorobutanesulfonic acid (PFBS)	0.88	U	2.00	0.88	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.28	U	2.00	0.28	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorooctanesulfonic acid (PFOS)	0.30	U	2.00	0.30	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorodecanesulfonic acid (PFDS)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
Perfluorooctane Sulfonamide (FOSA)	0.44	U	2.00	0.44	ng/L		04/18/18 12:25	04/21/18 14:46	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.60	U	2.00	0.60	ng/L		04/18/18 12:25	04/21/18 14:46	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.60	U	2.00	0.60	ng/L		04/18/18 12:25	04/21/18 14:46	1
6:2FTS	0.60	U	2.00	0.60	ng/L		04/18/18 12:25	04/21/18 14:46	1
8:2FTS	0.60	U	2.00	0.60	ng/L		04/18/18 12:25	04/21/18 14:46	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	84		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C5 PFPeA	109		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C2 PFHxA	93		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C4-PFHpA	94		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C4 PFOA	101		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C5 PFNA	97		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C2 PFDA	91		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C2 PFUnA	91		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C2 PFDoA	73		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C2-PFTeDA	52		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C3-PFBS	81		25 - 150	04/18/18 12:25	04/21/18 14:46	1
18O2 PFHxS	87		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C4 PFOS	80		25 - 150	04/18/18 12:25	04/21/18 14:46	1
13C8 FOSA	52		25 - 150	04/18/18 12:25	04/21/18 14:46	1
d3-NMeFOSAA	71		25 - 150	04/18/18 12:25	04/21/18 14:46	1
d5-NEtFOSAA	80		25 - 150	04/18/18 12:25	04/21/18 14:46	1
M2-6:2FTS	120		25 - 150	04/18/18 12:25	04/21/18 14:46	1
M2-8:2FTS	92		25 - 150	04/18/18 12:25	04/21/18 14:46	1



# QC Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 200-128603/2-A**  
**Matrix: Water**  
**Analysis Batch: 128716**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 128603**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	38.26		ng/L		96	60 - 140
Perfluoropentanoic acid (PFPeA)	40.0	39.03		ng/L		98	60 - 140
Perfluorohexanoic acid (PFHxA)	40.0	40.35		ng/L		101	60 - 140
Perfluoroheptanoic acid (PFHpA)	40.0	38.69		ng/L		97	60 - 140
Perfluorooctanoic acid (PFOA)	40.0	37.26		ng/L		93	60 - 140
Perfluorononanoic acid (PFNA)	40.0	37.63		ng/L		94	60 - 140
Perfluorodecanoic acid (PFDA)	40.0	39.83		ng/L		100	60 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	39.24		ng/L		98	60 - 140
Perfluorododecanoic acid (PFDoA)	40.0	37.53		ng/L		94	60 - 140
Perfluorotridecanoic Acid (PFTriA)	40.0	30.10		ng/L		75	60 - 140
Perfluorotetradecanoic acid (PFTeA)	40.0	36.34		ng/L		91	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.4	35.14		ng/L		99	60 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.97		ng/L		96	60 - 140
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.49		ng/L		104	60 - 140
Perfluorooctanesulfonic acid (PFOS)	37.1	38.97		ng/L		105	60 - 140
Perfluorodecanesulfonic acid (PFDS)	38.6	32.61		ng/L		85	60 - 140
Perfluorooctane Sulfonamide (FOSA)	40.0	38.02		ng/L		95	60 - 140
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	39.11		ng/L		98	60 - 140
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	38.93		ng/L		97	60 - 140
6:2FTS	37.9	40.35		ng/L		106	60 - 140
8:2FTS	38.3	46.15		ng/L		120	60 - 140

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	83		25 - 150
13C5 PFPeA	99		25 - 150
13C2 PFHxA	93		25 - 150
13C4-PFHpA	90		25 - 150
13C4 PFOA	94		25 - 150
13C5 PFNA	91		25 - 150
13C2 PFDA	85		25 - 150
13C2 PFUnA	88		25 - 150
13C2 PFDoA	68		25 - 150
13C2-PFTeDA	55		25 - 150
13C3-PFBS	83		25 - 150
18O2 PFHxS	83		25 - 150
13C4 PFOS	74		25 - 150
13C8 FOSA	47		25 - 150

# QC Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 200-128603/2-A**  
**Matrix: Water**  
**Analysis Batch: 128716**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 128603**

<i>Isotope Dilution</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
d3-NMeFOSAA	70		25 - 150
d5-NEtFOSAA	68		25 - 150
M2-6:2FTS	117		25 - 150
M2-8:2FTS	92		25 - 150

**Lab Sample ID: 200-43041-2 MS**  
**Matrix: Water**  
**Analysis Batch: 128716**

**Client Sample ID: MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 128603**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Perfluorobutanoic acid (PFBA)	8.07		33.9	43.54		ng/L		104	40 - 160
Perfluoropentanoic acid (PFPeA)	10.8		33.9	42.04		ng/L		92	40 - 160
Perfluorohexanoic acid (PFHxA)	8.05		33.9	44.28		ng/L		107	40 - 160
Perfluoroheptanoic acid (PFHpA)	6.44		33.9	41.25		ng/L		103	40 - 160
Perfluorooctanoic acid (PFOA)	23.9		33.9	54.57		ng/L		90	40 - 160
Perfluorononanoic acid (PFNA)	0.22	U	33.9	35.49		ng/L		105	40 - 160
Perfluorodecanoic acid (PFDA)	0.38	U	33.9	36.04		ng/L		106	40 - 160
Perfluoroundecanoic acid (PFUnA)	0.38	U	33.9	32.42		ng/L		96	40 - 160
Perfluorododecanoic acid (PFDoA)	0.38	U	33.9	36.08		ng/L		106	40 - 160
Perfluorotridecanoic Acid (PFTriA)	0.38	U	33.9	36.81		ng/L		108	40 - 160
Perfluorotetradecanoic acid (PFTeA)	0.38	U	33.9	37.31		ng/L		110	40 - 160
Perfluorobutanesulfonic acid (PFBS)	5.34		30.0	34.60		ng/L		98	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.74		30.9	32.04		ng/L		95	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	0.38	U	32.3	32.61		ng/L		101	40 - 160
Perfluorooctanesulfonic acid (PFOS)	2.05		31.5	33.35		ng/L		99	40 - 160
Perfluorodecanesulfonic acid (PFDS)	0.38	U	32.7	26.31		ng/L		80	40 - 160
Perfluorooctane Sulfonamide (FOSA)	0.38	U	33.9	36.11		ng/L		106	40 - 160
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	33.9	34.19		ng/L		101	40 - 160
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	33.9	33.66		ng/L		99	40 - 160
6:2FTS	0.69	J	32.2	35.58		ng/L		108	40 - 160
8:2FTS	0.51	U	32.5	39.21		ng/L		121	40 - 160

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C4 PFBA	28		25 - 150
13C5 PFPeA	45		25 - 150
13C2 PFHxA	56		25 - 150
13C4-PFHpA	74		25 - 150
13C4 PFOA	89		25 - 150

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: 200-43041-2 MS**

**Matrix: Water**

**Analysis Batch: 128716**

**Client Sample ID: MW-2**

**Prep Type: Total/NA**

**Prep Batch: 128603**

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C5 PFNA	95		25 - 150
13C2 PFDA	94		25 - 150
13C2 PFUnA	90		25 - 150
13C2 PFDoA	81		25 - 150
13C2-PFTeDA	81		25 - 150
13C3-PFBS	71		25 - 150
18O2 PFHxS	96		25 - 150
13C4 PFOS	103		25 - 150
13C8 FOSA	46		25 - 150
d3-NMeFOSAA	72		25 - 150
d5-NEtFOSAA	80		25 - 150
M2-6:2FTS	202	*	25 - 150
M2-8:2FTS	139		25 - 150

**Lab Sample ID: 200-43041-2 MSD**

**Matrix: Water**

**Analysis Batch: 128716**

**Client Sample ID: MW-2**

**Prep Type: Total/NA**

**Prep Batch: 128603**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Perfluorobutanoic acid (PFBA)	8.07		35.7	44.52		ng/L		102	40 - 160	2	30
Perfluoropentanoic acid (PFPeA)	10.8		35.7	44.16		ng/L		93	40 - 160	5	30
Perfluorohexanoic acid (PFHxA)	8.05		35.7	43.67		ng/L		100	40 - 160	1	30
Perfluoroheptanoic acid (PFHpA)	6.44		35.7	41.59		ng/L		98	40 - 160	1	30
Perfluorooctanoic acid (PFOA)	23.9		35.7	57.41		ng/L		94	40 - 160	5	30
Perfluorononanoic acid (PFNA)	0.22	U	35.7	35.63		ng/L		100	40 - 160	0	30
Perfluorodecanoic acid (PFDA)	0.38	U	35.7	36.62		ng/L		103	40 - 160	2	30
Perfluoroundecanoic acid (PFUnA)	0.38	U	35.7	37.59		ng/L		105	40 - 160	15	30
Perfluorododecanoic acid (PFDoA)	0.38	U	35.7	35.25		ng/L		99	40 - 160	2	30
Perfluorotridecanoic Acid (PFTriA)	0.38	U	35.7	36.46		ng/L		102	40 - 160	1	30
Perfluorotetradecanoic acid (PFTeA)	0.38	U	35.7	38.39		ng/L		107	40 - 160	3	30
Perfluorobutanesulfonic acid (PFBS)	5.34		31.6	35.12		ng/L		94	40 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.74		32.5	34.72		ng/L		98	40 - 160	8	30
Perfluoroheptanesulfonic Acid (PFHpS)	0.38	U	34.0	37.61		ng/L		111	40 - 160	14	30
Perfluorooctanesulfonic acid (PFOS)	2.05		33.2	35.51		ng/L		101	40 - 160	6	30
Perfluorodecanesulfonic acid (PFDS)	0.38	U	34.4	26.29		ng/L		76	40 - 160	0	30
Perfluorooctane Sulfonamide (FOSA)	0.38	U	35.7	35.46		ng/L		99	40 - 160	2	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	35.7	41.29		ng/L		116	40 - 160	19	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	35.7	38.39		ng/L		107	40 - 160	13	30

TestAmerica Burlington

# QC Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: 200-43041-2 MSD**

**Matrix: Water**

**Analysis Batch: 128716**

**Client Sample ID: MW-2**

**Prep Type: Total/NA**

**Prep Batch: 128603**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
6:2FTS	0.69	J	33.9	34.57		ng/L		100	40 - 160	3	30
8:2FTS	0.51	U	34.2	35.81		ng/L		105	40 - 160	9	30
		<b>MSD</b>	<b>MSD</b>								
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
13C4 PFBA	29		25 - 150								
13C5 PFPeA	47		25 - 150								
13C2 PFHxA	58		25 - 150								
13C4-PFHpA	73		25 - 150								
13C4 PFOA	89		25 - 150								
13C5 PFNA	92		25 - 150								
13C2 PFDA	83		25 - 150								
13C2 PFUnA	75		25 - 150								
13C2 PFDoA	75		25 - 150								
13C2-PFTeDA	75		25 - 150								
13C3-PFBS	76		25 - 150								
18O2 PFHxS	96		25 - 150								
13C4 PFOS	95		25 - 150								
13C8 FOSA	68		25 - 150								
d3-NMeFOSAA	61		25 - 150								
d5-NEtFOSAA	68		25 - 150								
M2-6:2FTS	210	*	25 - 150								
M2-8:2FTS	112		25 - 150								

# Definitions/Glossary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

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## Qualifiers

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### LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	Isotope Dilution analyte is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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## Glossary

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

# QC Association Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## LCMS

### Prep Batch: 128603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-43041-1	MW-101	Total/NA	Water	3535	
200-43041-2	MW-2	Total/NA	Water	3535	
200-43041-3	MW-3	Total/NA	Water	3535	
200-43041-4	MW-4	Total/NA	Water	3535	
200-43041-5	MW-5	Total/NA	Water	3535	
200-43041-6	MW-6	Total/NA	Water	3535	
200-43041-7	EQUIPMENT BLANK 1	Total/NA	Water	3535	
200-43041-8	EQUIPMENT BLANK 2	Total/NA	Water	3535	
200-43041-9	MW-5 DUP	Total/NA	Water	3535	
MB 200-128603/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-128603/2-A	Lab Control Sample	Total/NA	Water	3535	
200-43041-2 MS	MW-2	Total/NA	Water	3535	
200-43041-2 MSD	MW-2	Total/NA	Water	3535	

### Analysis Batch: 128716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-43041-1	MW-101	Total/NA	Water	537 (modified)	128603
200-43041-2	MW-2	Total/NA	Water	537 (modified)	128603
200-43041-3	MW-3	Total/NA	Water	537 (modified)	128603
200-43041-4	MW-4	Total/NA	Water	537 (modified)	128603
200-43041-5	MW-5	Total/NA	Water	537 (modified)	128603
200-43041-6	MW-6	Total/NA	Water	537 (modified)	128603
200-43041-7	EQUIPMENT BLANK 1	Total/NA	Water	537 (modified)	128603
200-43041-8	EQUIPMENT BLANK 2	Total/NA	Water	537 (modified)	128603
200-43041-9	MW-5 DUP	Total/NA	Water	537 (modified)	128603
MB 200-128603/1-A	Method Blank	Total/NA	Water	537 (modified)	128603
LCS 200-128603/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	128603
200-43041-2 MS	MW-2	Total/NA	Water	537 (modified)	128603
200-43041-2 MSD	MW-2	Total/NA	Water	537 (modified)	128603

# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Client Sample ID: MW-101

Date Collected: 04/10/18 08:45

Date Received: 04/11/18 10:25

## Lab Sample ID: 200-43041-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 16:47	BWC	TAL BUR

## Client Sample ID: MW-2

Date Collected: 04/10/18 12:40

Date Received: 04/11/18 10:25

## Lab Sample ID: 200-43041-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 17:02	BWC	TAL BUR

## Client Sample ID: MW-3

Date Collected: 04/10/18 14:35

Date Received: 04/11/18 10:25

## Lab Sample ID: 200-43041-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 17:47	BWC	TAL BUR

## Client Sample ID: MW-4

Date Collected: 04/10/18 10:58

Date Received: 04/11/18 10:25

## Lab Sample ID: 200-43041-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 18:02	BWC	TAL BUR

## Client Sample ID: MW-5

Date Collected: 04/10/18 12:45

Date Received: 04/11/18 10:25

## Lab Sample ID: 200-43041-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 18:33	BWC	TAL BUR

## Client Sample ID: MW-6

Date Collected: 04/10/18 14:45

Date Received: 04/11/18 10:25

## Lab Sample ID: 200-43041-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 18:48	BWC	TAL BUR

TestAmerica Burlington

# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Client Sample ID: EQUIPMENT BLANK 1

Date Collected: 04/10/18 07:00

Date Received: 04/11/18 10:25

Lab Sample ID: 200-43041-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 19:03	BWC	TAL BUR

## Client Sample ID: EQUIPMENT BLANK 2

Date Collected: 04/10/18 09:25

Date Received: 04/11/18 10:25

Lab Sample ID: 200-43041-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 19:18	BWC	TAL BUR

## Client Sample ID: MW-5 DUP

Date Collected: 04/10/18 12:45

Date Received: 04/11/18 10:25

Lab Sample ID: 200-43041-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			128603	04/18/18 12:25	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	128716	04/21/18 19:33	BWC	TAL BUR

### Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990



# Accreditation/Certification Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 200-43041-1

## Laboratory: TestAmerica Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
ANAB	DoD ELAP		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-19
Florida	NELAP	4	E87467	06-30-18
Maine	State Program	1	VT00008	04-17-19
Minnesota	NELAP	5	050-999-436	12-31-18
New Jersey	NELAP	2	VT972	06-30-18
New York	NELAP	2	10391	04-01-19
Pennsylvania	NELAP	3	68-00489	04-30-18 *
Rhode Island	State Program	1	LAO00298	12-30-18
US Fish & Wildlife	Federal		LE-058448-0	07-31-18
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-18
Virginia	NELAP	3	460209	12-14-18

## Laboratory: TestAmerica Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0200	09-30-18
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-18
New Jersey	NELAP	2	12028	06-30-18
New York	NELAP	2	11452	04-01-19
Pennsylvania	NELAP	3	68-00522	02-28-19
Rhode Island	State Program	1	LAO00132	12-30-18
USDA	Federal		NJCA-003-08	06-13-20

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Burlington

# Method PFC IDA

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Fluorinated Hydrocarbons by Method  
PFAS IDA

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Burlington

Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #
MW-101	200-43041-1	46	77	83	67	84	97	185 *	92
MW-2	200-43041-2	27	46	78	57	71	105	219 *	87
MW-3	200-43041-3	34	53	78	63	77	100	216 *	93
MW-4	200-43041-4	42	61	77	73	80	92	158 *	89
MW-5	200-43041-5	25	48	74	57	77	92	190 *	88
MW-6	200-43041-6	29	46	68	55	73	95	187 *	87
EQUIPMENT BLANK 1	200-43041-7	42	104	81	94	87	85	109	89
EQUIPMENT BLANK 2	200-43041-8	47	106	89	96	96	84	105	94
MW-5 DUP	200-43041-9	26	44	70	58	78	98	213 *	91
	MB 200-128603/1-A	84	109	81	93	94	87	120	101
	LCS 200-128603/2-A	83	99	83	93	90	83	117	94
MW-2 MS	200-43041-2 MS	28	45	71	56	74	96	202 *	89
MW-2 MSD	200-43041-2 MSD	29	47	76	58	73	96	210 *	89

QC LIMITS

PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3-PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4-PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2FTS	25-150
PFOA = 13C4 PFOA	25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Burlington

Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFNA #	PFOS #	M282FTS #	PFDA #	d3NMFOS #	d5NEFOS #	PFUnA #	PFOSA #
MW-101	200-43041-1	97	85	132	88	67	76	87	68
MW-2	200-43041-2	102	106	134	91	71	82	89	57
MW-3	200-43041-3	109	104	203 *	101	81	92	96	55
MW-4	200-43041-4	97	90	104	90	67	74	85	54
MW-5	200-43041-5	97	96	112	83	65	72	83	59
MW-6	200-43041-6	97	92	118	84	79	91	74	71
EQUIPMENT BLANK 1	200-43041-7	90	80	91	83	57	62	83	47
EQUIPMENT BLANK 2	200-43041-8	93	82	84	85	69	72	85	51
MW-5 DUP	200-43041-9	104	98	135	96	72	91	98	60
	MB 200-128603/1-A	97	80	92	91	71	80	91	52
	LCS 200-128603/2-A	91	74	92	85	70	68	88	47
MW-2 MS	200-43041-2 MS	95	103	139	94	72	80	90	46
MW-2 MSD	200-43041-2 MSD	92	95	112	83	61	68	75	68

QC LIMITS

PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150
M282FTS = M2-8:2FTS	25-150
PFDA = 13C2 PFDA	25-150
d3NMFOS = d3-NMeFOSAA	25-150
d5NEFOS = d5-NEtFOSAA	25-150
PFUnA = 13C2 PFUnA	25-150
PFOSA = 13C8 FOSA	25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFD <sub>o</sub> A #	PFTDA #
MW-101	200-43041-1	72	70
MW-2	200-43041-2	79	80
MW-3	200-43041-3	81	83
MW-4	200-43041-4	74	70
MW-5	200-43041-5	74	81
MW-6	200-43041-6	67	71
EQUIPMENT BLANK 1	200-43041-7	65	63
EQUIPMENT BLANK 2	200-43041-8	74	62
MW-5 DUP	200-43041-9	84	86
	MB 200-128603/1-A	73	52
	LCS 200-128603/2-A	68	55
MW-2 MS	200-43041-2 MS	81	81
MW-2 MSD	200-43041-2 MSD	75	75

PFD<sub>o</sub>A = 13C2 PFD<sub>o</sub>A  
PFTDA = 13C2-PFTeDA

QC LIMITS  
25-150  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM III  
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington

Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: PF042118A16.d

Lab ID: LCS 200-128603/2-A

Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	38.26	96	60-140	
Perfluoropentanoic acid (PFPeA)	40.0	39.03	98	60-140	
Perfluorohexanoic acid (PFHxA)	40.0	40.35	101	60-140	
Perfluoroheptanoic acid (PFHpA)	40.0	38.69	97	60-140	
Perfluorooctanoic acid (PFOA)	40.0	37.26	93	60-140	
Perfluorononanoic acid (PFNA)	40.0	37.63	94	60-140	
Perfluorodecanoic acid (PFDA)	40.0	39.83	100	60-140	
Perfluoroundecanoic acid (PFUnA)	40.0	39.24	98	60-140	
Perfluorododecanoic acid (PFDoA)	40.0	37.53	94	60-140	
Perfluorotridecanoic Acid (PFTriA)	40.0	30.10	75	60-140	
Perfluorotetradecanoic acid (PFTeA)	40.0	36.34	91	60-140	
Perfluorobutanesulfonic acid (PFBS)	35.4	35.14	99	60-140	
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.97	96	60-140	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.49	104	60-140	
Perfluorooctanesulfonic acid (PFOS)	37.1	38.97	105	60-140	
Perfluorodecanesulfonic acid (PFDS)	38.6	32.61	85	60-140	
Perfluorooctane Sulfonamide (FOSA)	40.0	38.02	95	60-140	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	39.11	98	60-140	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	38.93	97	60-140	
6:2FTS	37.9	40.35	106	60-140	
8:2FTS	38.3	46.15	120	60-140	
13C4 PFBA	100	82.89	83	25-150	
13C5 PFPeA	100	98.81	99	25-150	
13C2 PFHxA	100	93.13	93	25-150	
13C4-PFHpA	100	89.53	90	25-150	
13C4 PFOA	100	93.60	94	25-150	
13C5 PFNA	100	91.39	91	25-150	
13C2 PFDA	100	84.94	85	25-150	
13C2 PFUnA	100	88.15	88	25-150	
13C2 PFDoA	100	67.89	68	25-150	

# Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III  
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: PF042118A16.d  
 Lab ID: LCS 200-128603/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C2-PFTeDA	100	54.53	55	25-150	
13C3-PFBS	93.0	77.53	83	25-150	
18O2 PFHxS	94.6	78.76	83	25-150	
13C4 PFOS	95.6	70.62	74	25-150	
13C8 FOSA	100	46.66	47	25-150	
d3-NMeFOSAA	100	70.14	70	25-150	
d5-NEtFOSAA	100	67.82	68	25-150	
M2-6:2FTS	95.0	111.2	117	25-150	
M2-8:2FTS	95.8	87.93	92	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Burlington

Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: PF042118A25.d

Lab ID: 200-43041-2 MS

Client ID: MW-2 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	33.9	8.07	43.54	104	40-160	
Perfluoropentanoic acid (PFPeA)	33.9	10.8	42.04	92	40-160	
Perfluorohexanoic acid (PFHxA)	33.9	8.05	44.28	107	40-160	
Perfluoroheptanoic acid (PFHpA)	33.9	6.44	41.25	103	40-160	
Perfluorooctanoic acid (PFOA)	33.9	23.9	54.57	90	40-160	
Perfluorononanoic acid (PFNA)	33.9	0.22 U	35.49	105	40-160	
Perfluorodecanoic acid (PFDA)	33.9	0.38 U	36.04	106	40-160	
Perfluoroundecanoic acid (PFUnA)	33.9	0.38 U	32.42	96	40-160	
Perfluorododecanoic acid (PFDoA)	33.9	0.38 U	36.08	106	40-160	
Perfluorotridecanoic Acid (PFTriA)	33.9	0.38 U	36.81	108	40-160	
Perfluorotetradecanoic acid (PFTeA)	33.9	0.38 U	37.31	110	40-160	
Perfluorobutanesulfonic acid (PFBS)	30.0	5.34	34.60	98	40-160	
Perfluorohexanesulfonic acid (PFHxS)	30.9	2.74	32.04	95	40-160	
Perfluoroheptanesulfonic Acid (PFHpS)	32.3	0.38 U	32.61	101	40-160	
Perfluorooctanesulfonic acid (PFOS)	31.5	2.05	33.35	99	40-160	
Perfluorodecanesulfonic acid (PFDS)	32.7	0.38 U	26.31	80	40-160	
Perfluorooctane Sulfonamide (FOSA)	33.9	0.38 U	36.11	106	40-160	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	33.9	0.51 U	34.19	101	40-160	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	33.9	0.51 U	33.66	99	40-160	
6:2FTS	32.2	0.69 J	35.58	108	40-160	
8:2FTS	32.5	0.51 U	39.21	121	40-160	
13C4 PFBA	84.9	23.3	23.59	28	25-150	
13C5 PFPeA	84.9	38.9	37.81	45	25-150	
13C2 PFHxA	84.9	48.1	47.56	56	25-150	
13C4-PFHpA	84.9	60.3	62.66	74	25-150	
13C4 PFOA	84.9	74.3	75.31	89	25-150	
13C5 PFNA	84.9	86.4	80.97	95	25-150	
13C2 PFDA	84.9	77.5	80.05	94	25-150	
13C2 PFUnA	84.9	75.5	76.29	90	25-150	
13C2 PFDoA	84.9	66.9	68.74	81	25-150	

# Column to be used to flag recovery and RPD values

FORM III 537 (modified)



FORM III  
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: PF042118A25.d  
 Lab ID: 200-43041-2 MS Client ID: MW-2 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
13C2-PFTeDA	84.9	67.9	69.03	81	25-150	
13C3-PFBS	78.9	61.5	56.31	71	25-150	
18O2 PFHxS	80.3	84.3	76.95	96	25-150	
13C4 PFOS	81.1	86.4	83.51	103	25-150	
13C8 FOSA	84.9	48.5	39.32	46	25-150	
d3-NMeFOSAA	84.9	60.3	61.11	72	25-150	
d5-NEtFOSAA	84.9	69.6	68.20	80	25-150	
M2-6:2FTS	80.6	177	162.8	202	25-150	*
M2-8:2FTS	81.3	109	113.2	139	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Burlington

Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low

Lab File ID: PF042118A26.d

Lab ID: 200-43041-2 MSD

Client ID: MW-2 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Perfluorobutanoic acid (PFBA)	35.7	44.52	102	2	30	40-160	
Perfluoropentanoic acid (PFPeA)	35.7	44.16	93	5	30	40-160	
Perfluorohexanoic acid (PFHxA)	35.7	43.67	100	1	30	40-160	
Perfluoroheptanoic acid (PFHpA)	35.7	41.59	98	1	30	40-160	
Perfluorooctanoic acid (PFOA)	35.7	57.41	94	5	30	40-160	
Perfluorononanoic acid (PFNA)	35.7	35.63	100	0	30	40-160	
Perfluorodecanoic acid (PFDA)	35.7	36.62	103	2	30	40-160	
Perfluoroundecanoic acid (PFUnA)	35.7	37.59	105	15	30	40-160	
Perfluorododecanoic acid (PFDoA)	35.7	35.25	99	2	30	40-160	
Perfluorotridecanoic Acid (PFTriA)	35.7	36.46	102	1	30	40-160	
Perfluorotetradecanoic acid (PFTeA)	35.7	38.39	107	3	30	40-160	
Perfluorobutanesulfonic acid (PFBS)	31.6	35.12	94	1	30	40-160	
Perfluorohexanesulfonic acid (PFHxS)	32.5	34.72	98	8	30	40-160	
Perfluoroheptanesulfonic Acid (PFHpS)	34.0	37.61	111	14	30	40-160	
Perfluorooctanesulfonic acid (PFOS)	33.2	35.51	101	6	30	40-160	
Perfluorodecanesulfonic acid (PFDS)	34.4	26.29	76	0	30	40-160	
Perfluorooctane Sulfonamide (FOSA)	35.7	35.46	99	2	30	40-160	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	35.7	41.29	116	19	30	40-160	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	35.7	38.39	107	13	30	40-160	
6:2FTS	33.9	34.57	100	3	30	40-160	
8:2FTS	34.2	35.81	105	9	30	40-160	
13C4 PFBA	89.3	26.20	29			25-150	
13C5 PFPeA	89.3	41.99	47			25-150	
13C2 PFHxA	89.3	51.55	58			25-150	
13C4-PFHpA	89.3	65.03	73			25-150	
13C4 PFOA	89.3	79.77	89			25-150	
13C5 PFNA	89.3	82.52	92			25-150	
13C2 PFDA	89.3	74.04	83			25-150	
13C2 PFUnA	89.3	66.69	75			25-150	
13C2 PFDoA	89.3	67.18	75			25-150	

# Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III  
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: PF042118A26.d  
 Lab ID: 200-43041-2 MSD Client ID: MW-2 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
13C2-PFTeDA	89.3	66.72	75			25-150	
13C3-PFBS	83.1	62.96	76			25-150	
18O2 PFHxS	84.5	81.33	96			25-150	
13C4 PFOS	85.4	81.24	95			25-150	
13C8 FOSA	89.3	60.90	68			25-150	
d3-NMeFOSAA	89.3	54.61	61			25-150	
d5-NEtFOSAA	89.3	60.31	68			25-150	
M2-6:2FTS	84.9	178.1	210			25-150	*
M2-8:2FTS	85.6	95.73	112			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM IV  
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: PF042118A15.d Lab Sample ID: MB 200-128603/1-A  
 Matrix: Water Date Extracted: 04/18/2018 12:25  
 Instrument ID: LC410 Date Analyzed: 04/21/2018 14:46  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-128603/2-A	PF042118A16 .d	04/21/2018 15:01
MW-101	200-43041-1	PF042118A23 .d	04/21/2018 16:47
MW-2	200-43041-2	PF042118A24 .d	04/21/2018 17:02
MW-2 MS	200-43041-2 MS	PF042118A25 .d	04/21/2018 17:17
MW-2 MSD	200-43041-2 MSD	PF042118A26 .d	04/21/2018 17:32
MW-3	200-43041-3	PF042118A27 .d	04/21/2018 17:47
MW-4	200-43041-4	PF042118A28 .d	04/21/2018 18:02
MW-5	200-43041-5	PF042118A30 .d	04/21/2018 18:33
MW-6	200-43041-6	PF042118A31 .d	04/21/2018 18:48
EQUIPMENT BLANK 1	200-43041-7	PF042118A32 .d	04/21/2018 19:03
EQUIPMENT BLANK 2	200-43041-8	PF042118A33 .d	04/21/2018 19:18
MW-5 DUP	200-43041-9	PF042118A34 .d	04/21/2018 19:33

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-101 Lab Sample ID: 200-43041-1  
 Matrix: Water Lab File ID: PF042118A23.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 08:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 285.7(mL) Date Analyzed: 04/21/2018 16:47  
 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1  
 Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	9.86		1.75	0.39
2706-90-3	Perfluoropentanoic acid (PFPeA)	22.1		1.75	0.39
307-24-4	Perfluorohexanoic acid (PFHxA)	29.9		1.75	0.39
375-85-9	Perfluoroheptanoic acid (PFHpA)	9.83		1.75	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	32.4		1.75	0.41
375-95-1	Perfluorononanoic acid (PFNA)	1.27	J	1.75	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	0.39	U	1.75	0.39
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.39	U	1.75	0.39
307-55-1	Perfluorododecanoic acid (PFDoA)	0.39	U	1.75	0.39
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.39	U	1.75	0.39
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.39	U	1.75	0.39
375-73-5	Perfluorobutanesulfonic acid (PFBS)	19.0		1.75	0.77
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.44		1.75	0.25
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.63	J	1.75	0.39
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	7.41		1.75	0.26
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.39	U	1.75	0.39
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.39	U	1.75	0.39
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.53	U	1.75	0.53
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.53	U	1.75	0.53
27619-97-2	6:2FTS	3.30		1.75	0.53
39108-34-4	8:2FTS	0.53	U	1.75	0.53

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-101 Lab Sample ID: 200-43041-1  
 Matrix: Water Lab File ID: PF042118A23.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 08:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 285.7 (mL) Date Analyzed: 04/21/2018 16:47  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	46		25-150
STL01893	13C5 PFPeA	77		25-150
STL00993	13C2 PFHxA	67		25-150
STL01892	13C4-PFHpA	84		25-150
STL00990	13C4 PFOA	92		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	88		25-150
STL00997	13C2 PFUnA	87		25-150
STL00998	13C2 PFDoA	72		25-150
STL02116	13C2-PFTeDA	70		25-150
STL02337	13C3-PFBS	83		25-150
STL00994	18O2 PFHxS	97		25-150
STL00991	13C4 PFOS	85		25-150
STL01056	13C8 FOSA	68		25-150
STL02118	d3-NMeFOSAA	67		25-150
STL02117	d5-NEtFOSAA	76		25-150
STL02279	M2-6:2FTS	185	*	25-150
STL02280	M2-8:2FTS	132		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
 Lims ID: 200-43041-A-1-A  
 Client ID: MW-101  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 16:47:14 ALS Bottle#: 0 Worklist Smp#: 23  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-023 41-1  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:21:03

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										M
216.9 > 171.5	2.298	2.319	-0.021	1.000	202739	22.9		45.8	245	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.306	2.320	-0.014	1.004	21246	5.63			26.4	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.719	2.736	-0.017	1.000	82490	38.4		76.9	126	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.719	2.738	-0.019	1.000	118217	12.6			78.9	
D 5 13C3-PFBS										
302.0 > 79.8	2.781	2.800	-0.019	1.000	173889	38.8		83.4	640	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.781	2.804	-0.023	1.000	83381	10.8			82.2	
D 7 13C2 PFHxA										
314.8 > 269.6	3.127	3.158	-0.031	1.000	243274	33.4		66.7	1746	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.127	3.162	-0.035	1.000	81263	17.1			357	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.648	3.689	-0.041	1.000	744757	41.8		83.5	1721	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.648	3.689	-0.041	1.000	86631	5.62			122	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.692	3.733	-0.041	1.000	32378	3.68			136	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.692	3.737	-0.045	1.000	230721	46.0		97.3	1195	
D 14 M2-6:2FTS										
428.6 > 408.6	4.278	4.319	-0.041	1.000	84177	88.0		185	695	
15 Sodium 1H,1H,2H,2H-perfluorooctane										M
426.6 > 406.6	4.291	4.319	-0.028	1.003	3439	1.89			57.6	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.330	4.365	-0.035	1.000	753356	45.9		91.8	2567	
* 49 13C2-PFOA										
414.9 > 369.8	4.330	4.371	-0.041		968030	50.0			1434	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.330	4.374	-0.044	1.000	300702	18.5			546	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.330	4.408	-0.078	0.845	810	0.3575			6.8	M
19 Perfluorononanoic acid										
462.8 > 418.8	5.099	5.143	-0.044	1.000	11504	0.7231			31.6	
D 21 13C5 PFNA										
467.8 > 422.8	5.099	5.145	-0.046	1.000	970105	48.6		97.1	1318	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	4.853	5.168	-0.315	0.947	16331	4.24			131	M
D 22 13C4 PFOS										
502.8 > 79.8	5.127	5.168	-0.041	1.000	168514	40.8		85.4	592	
D 23 M2-8:2FTS										
528.8 > 508.8	5.862	5.910	-0.048	1.000	377926	63.0		132	2689	
D 25 13C2 PFDA										
514.9 > 469.5	5.882	5.934	-0.052	1.000	1172846	44.1		88.3	4110	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.241	6.298	-0.057	1.000	198851	33.3		66.5	1021	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.616	6.667	-0.051	1.000	197555	37.9		75.9	1559	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.598	6.688	-0.090	0.997	207	-0.0338			3.4	M
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.616	6.711	-0.095	0.997	3077	0.1752			16.6	
D 33 13C2 PFUnA										
564.8 > 519.8	6.634	6.713	-0.079	1.000	1265210	43.5		87.0	2387	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	239562	34.2		68.4	2230	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.903	6.940	-0.037	0.996	96	0.0870			2.0	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.339	7.392	-0.053	1.000	1064141	35.9		71.8	2381	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.317	7.399	-0.082	0.997	568	0.004478			5.3	M
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.962	8.022	-0.060	1.085	444	-0.0720			4.7	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.514	8.572	-0.058	1.000	983494	35.1		70.3	642	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.545	8.572	-0.027	1.004	492	-0.1344			2.7	M
712.8 > 168.8	8.453	8.572	-0.119	0.993	34		14.47(0.00-0.00)		0.4	M
712.8 > 218.8	8.468	8.572	-0.104	0.995	64		7.69(0.00-0.00)		1.0	M



## QC Flag Legend

### Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d

Injection Date: 21-Apr-2018 16:47:14

Instrument ID: LC410

Lims ID: 200-43041-A-1-A

Lab Sample ID: 200-43041-1

Client ID: MW-101

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 23

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

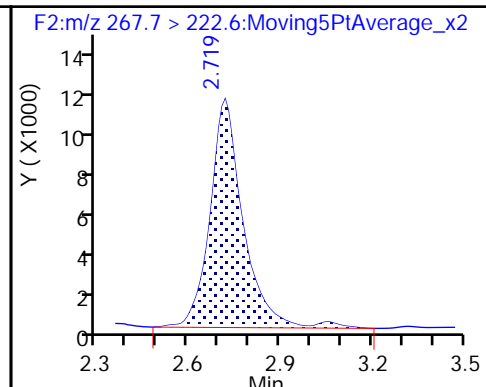
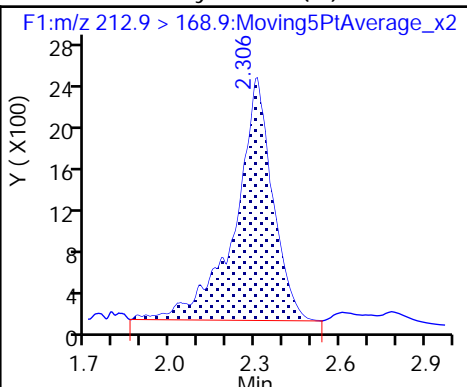
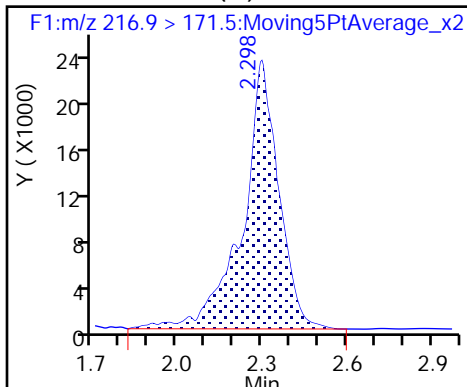
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

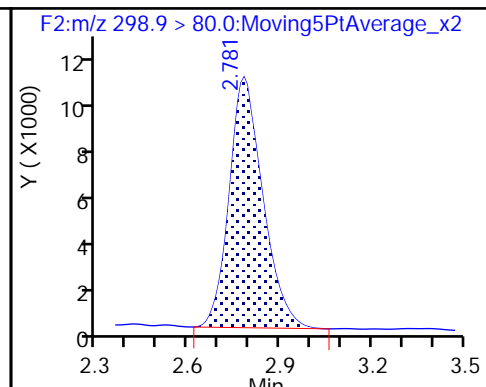
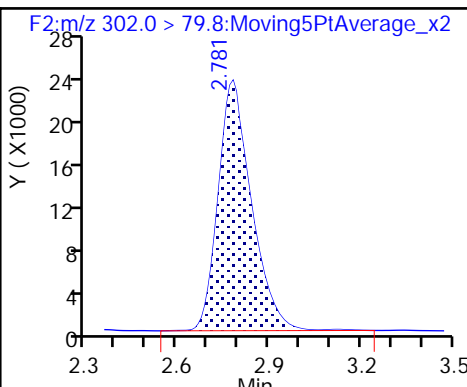
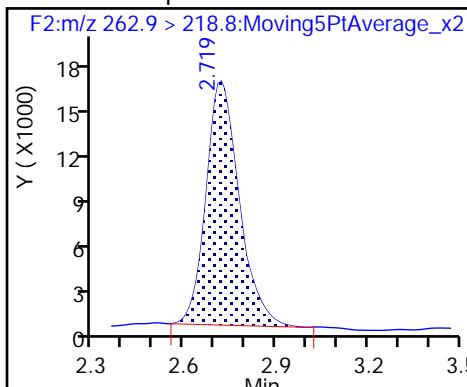
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

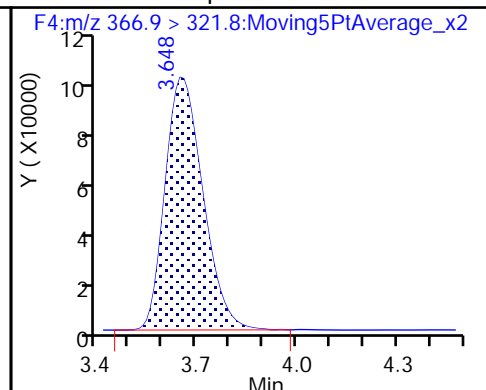
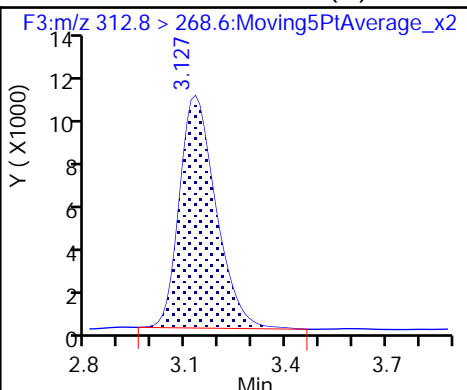
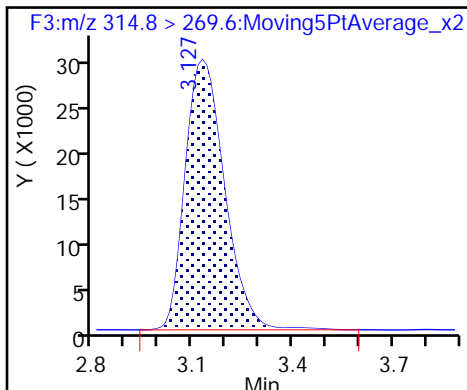
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

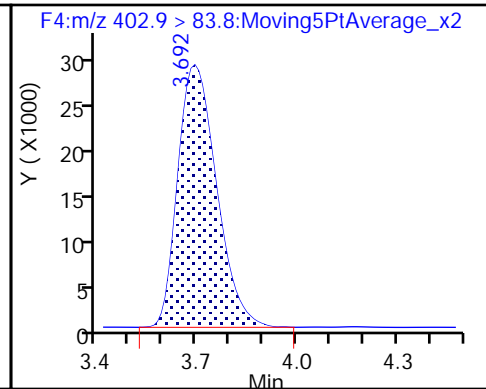
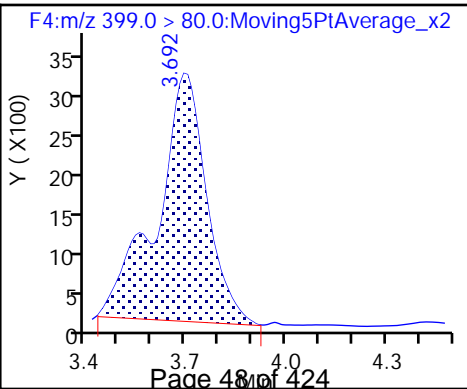
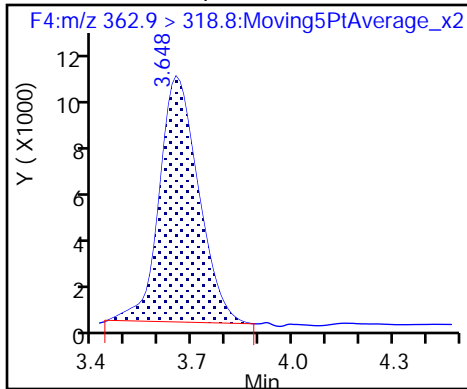
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

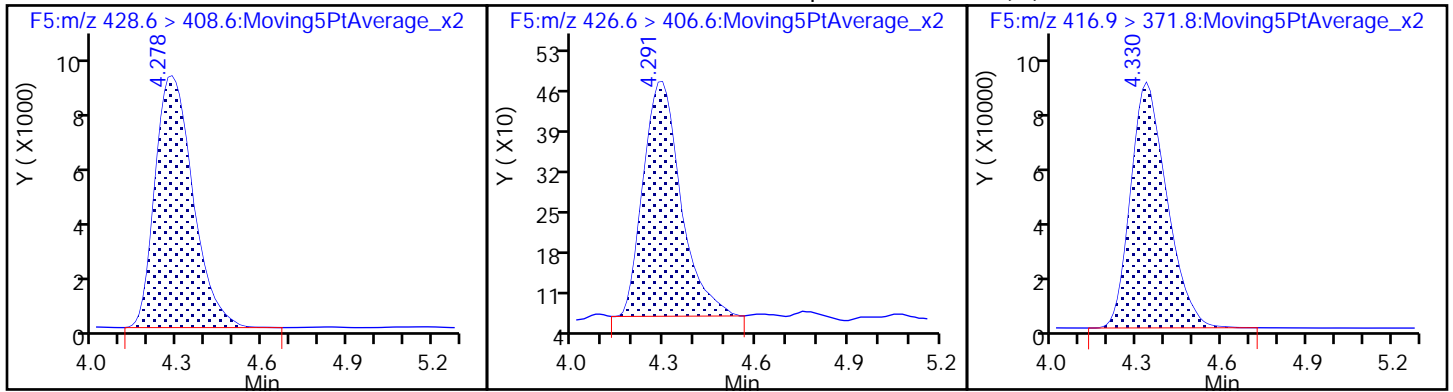
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

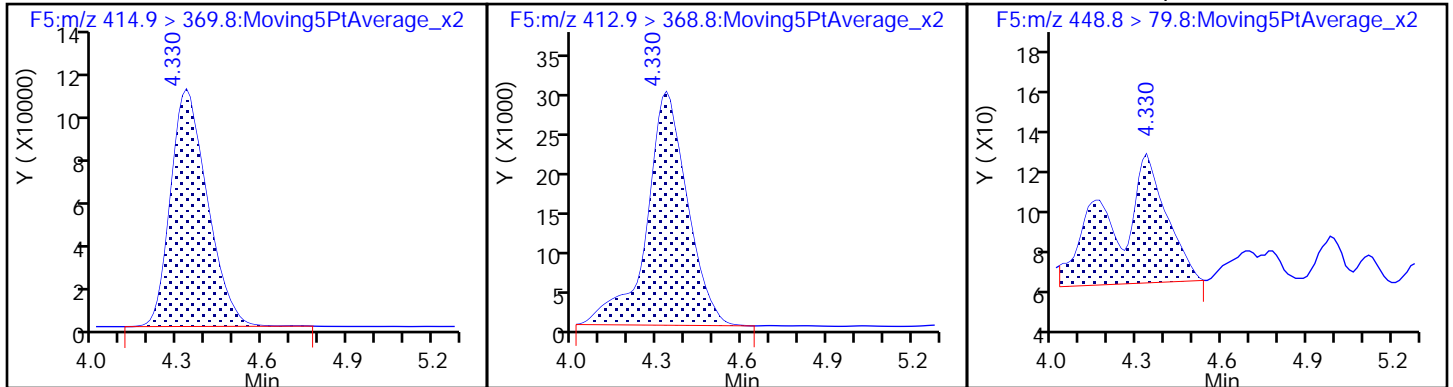
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

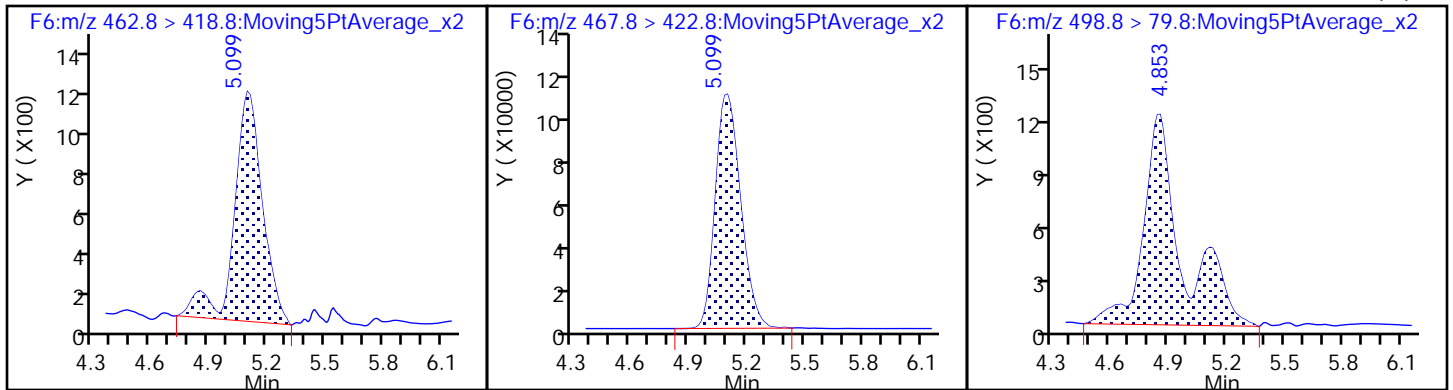
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid

D 21 13C5 PFNA

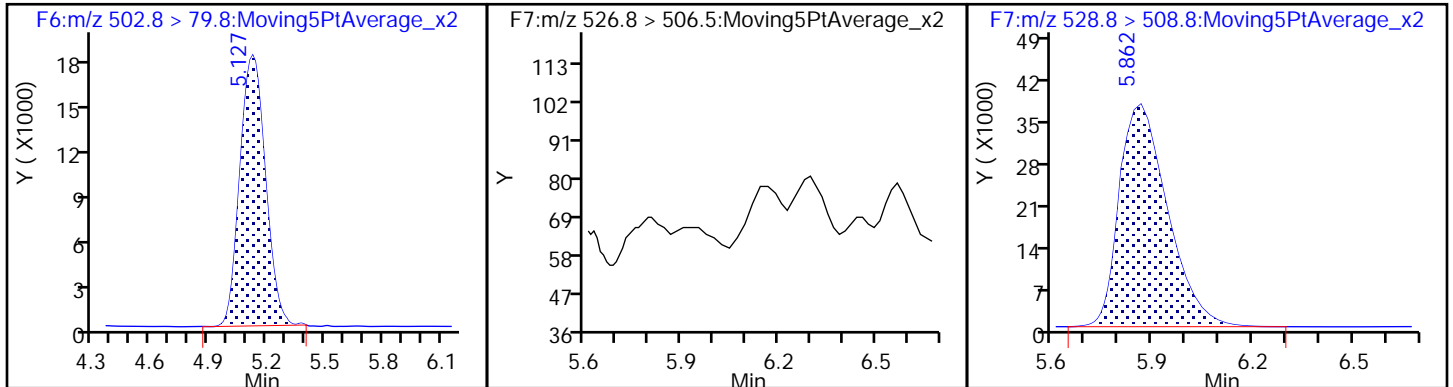
20 Perfluorooctane sulfonic acid (M)



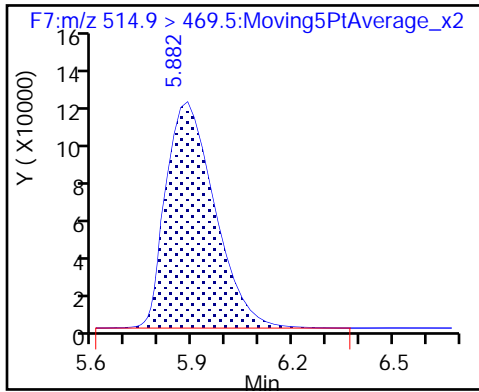
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 13C4 PFOA

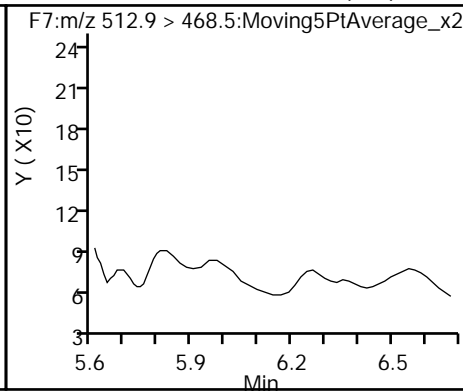
D 23 M2-8:2FTS



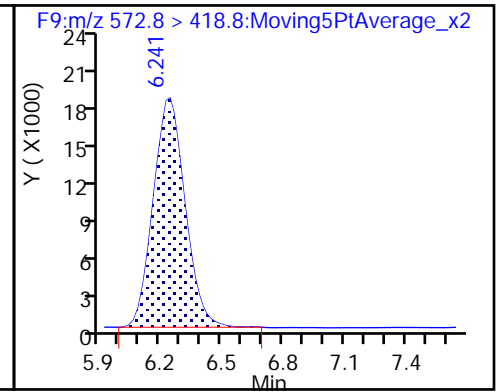
D 25 13C2 PFDA



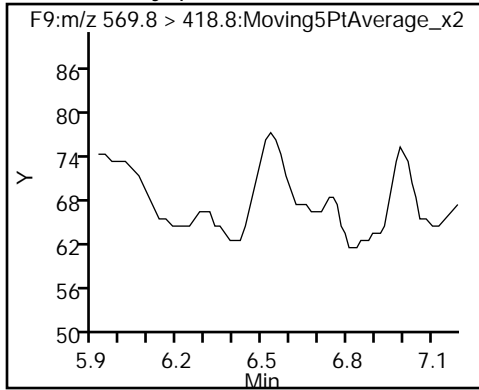
26 Perfluorodecanoic acid (ND)



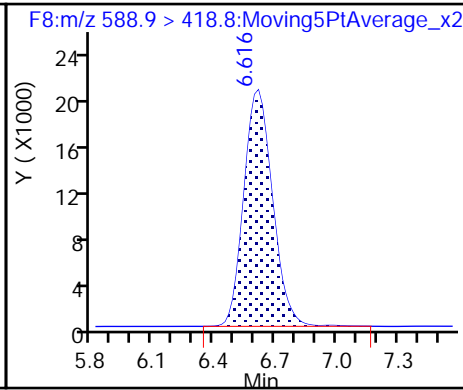
D 27 d3-NMeFOSAA



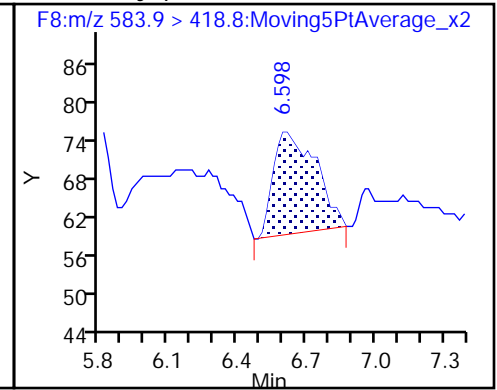
28 N-methyl perfluorooctane sulfonamide (ND) d5-NEtFOSAA



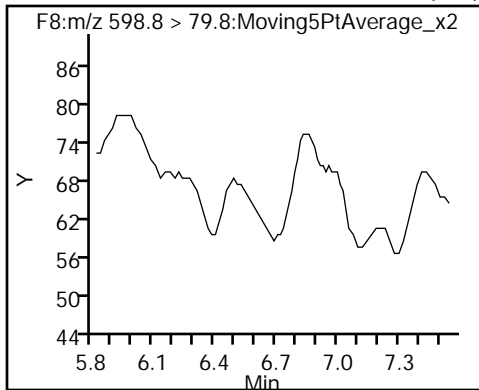
29 d5-NEtFOSAA



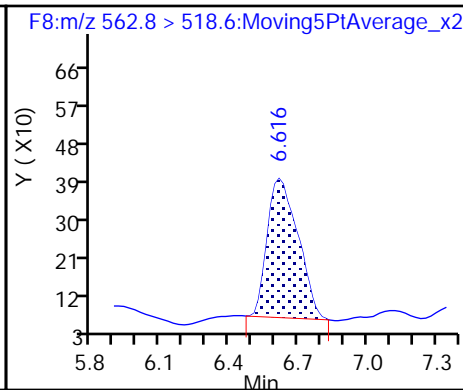
30 N-ethyl perfluorooctane sulfonamid (M)



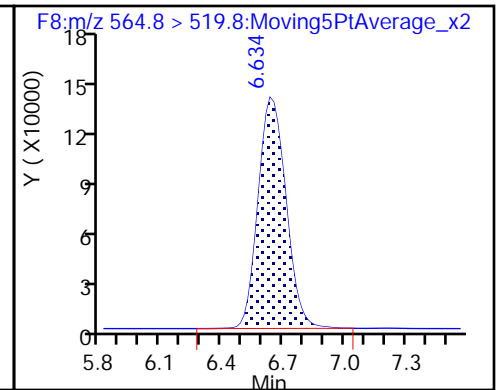
31 Perfluorodecane Sulfonic acid (ND)



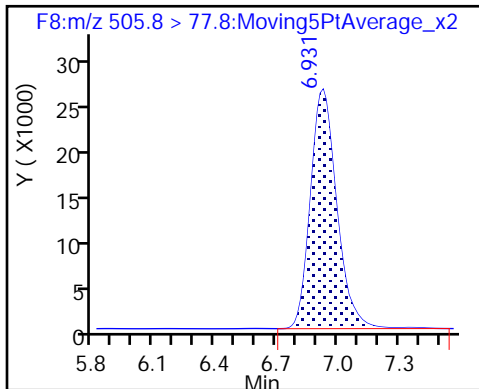
32 Perfluoroundecanoic acid



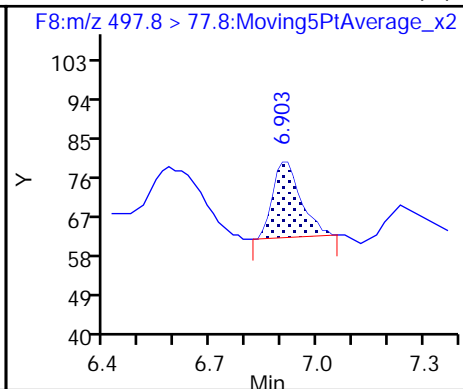
D 33 13C2 PFUnA



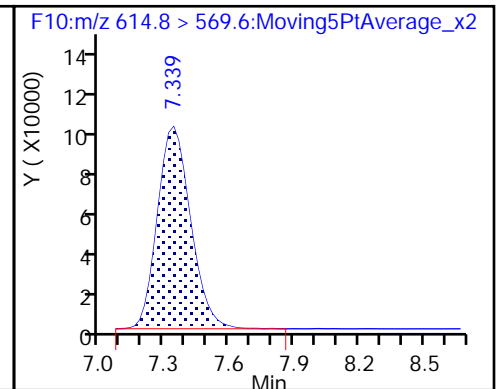
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (M)



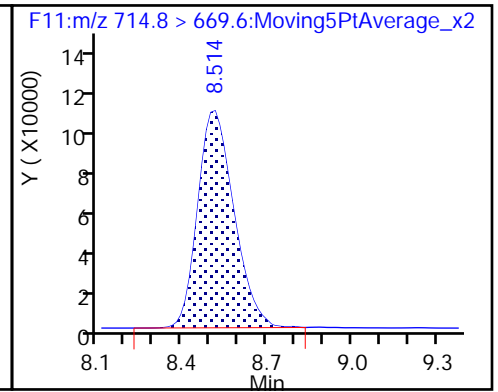
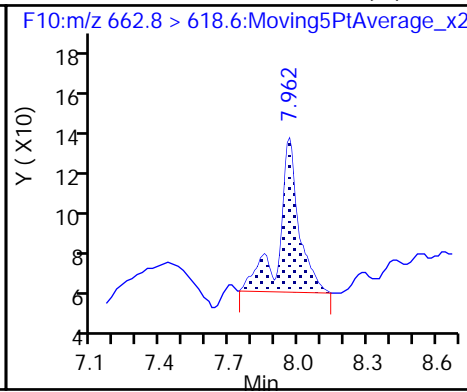
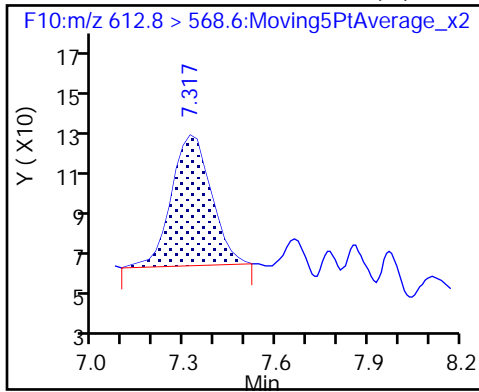
D 36 13C2 PFDoA



37 Perfluorododecanoic acid (M)

40 Perfluorotridecanoic acid (M)

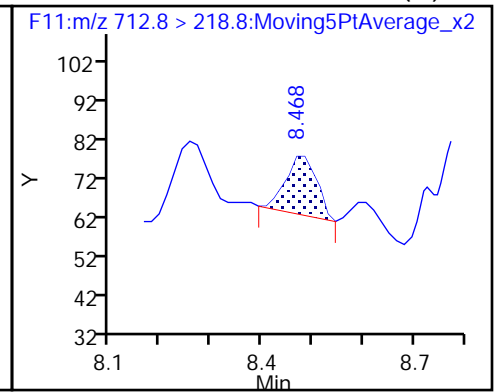
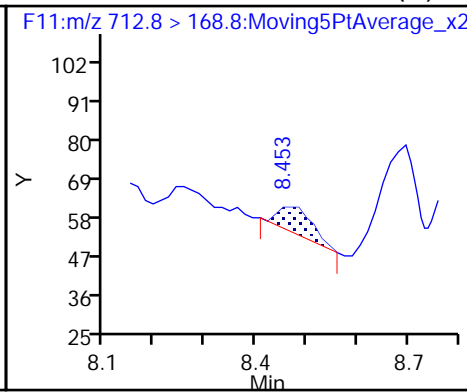
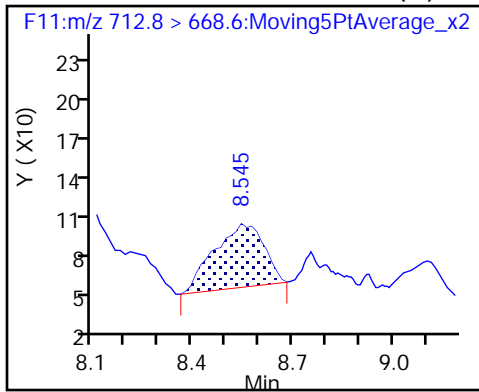
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)



TestAmerica Burlington

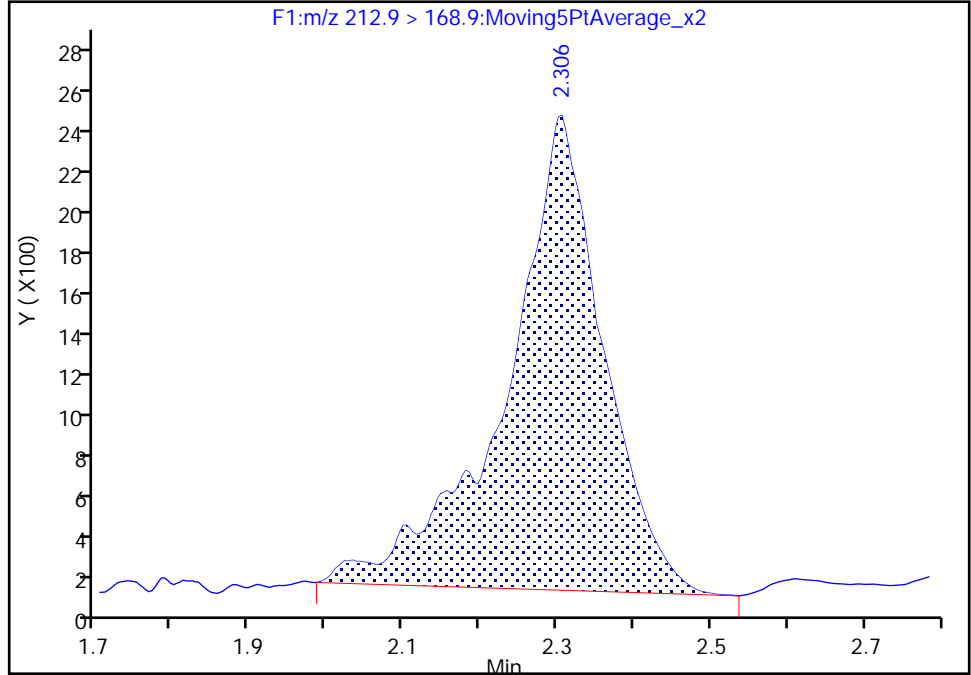
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Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

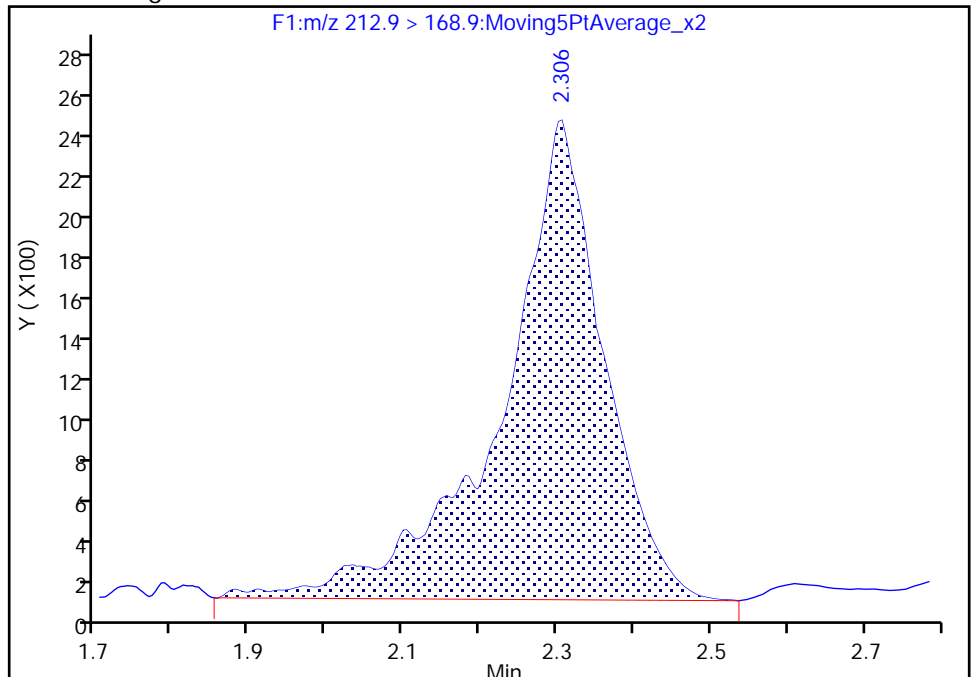
RT: 2.31  
Area: 20090  
Amount: 5.318375  
Amount Units: ng/ml

Processing Integration Results



RT: 2.31  
Area: 21246  
Amount: 5.633259  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:18:22  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

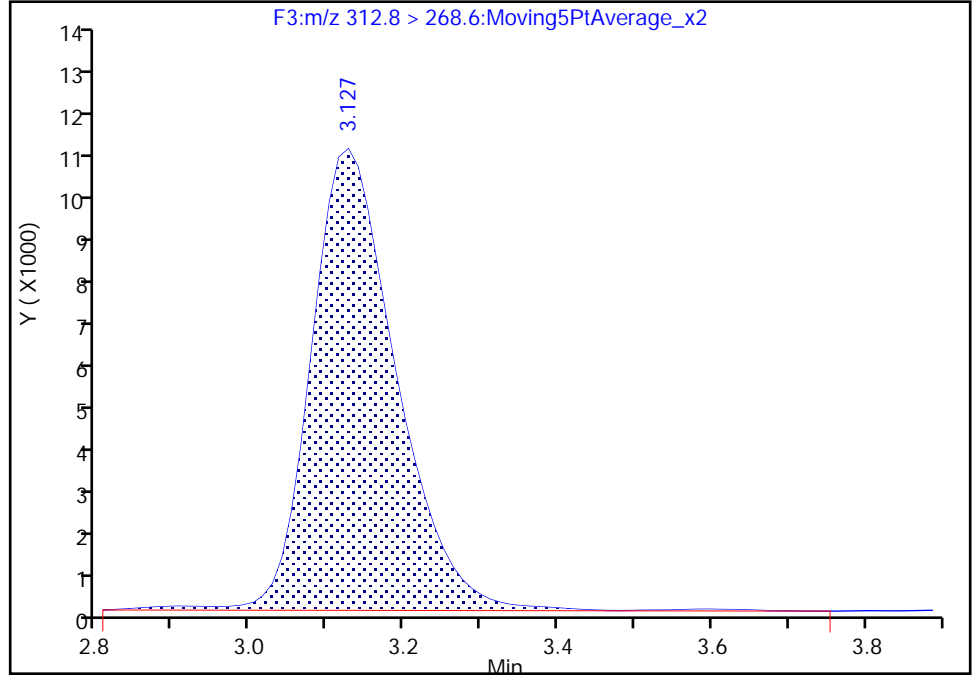
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

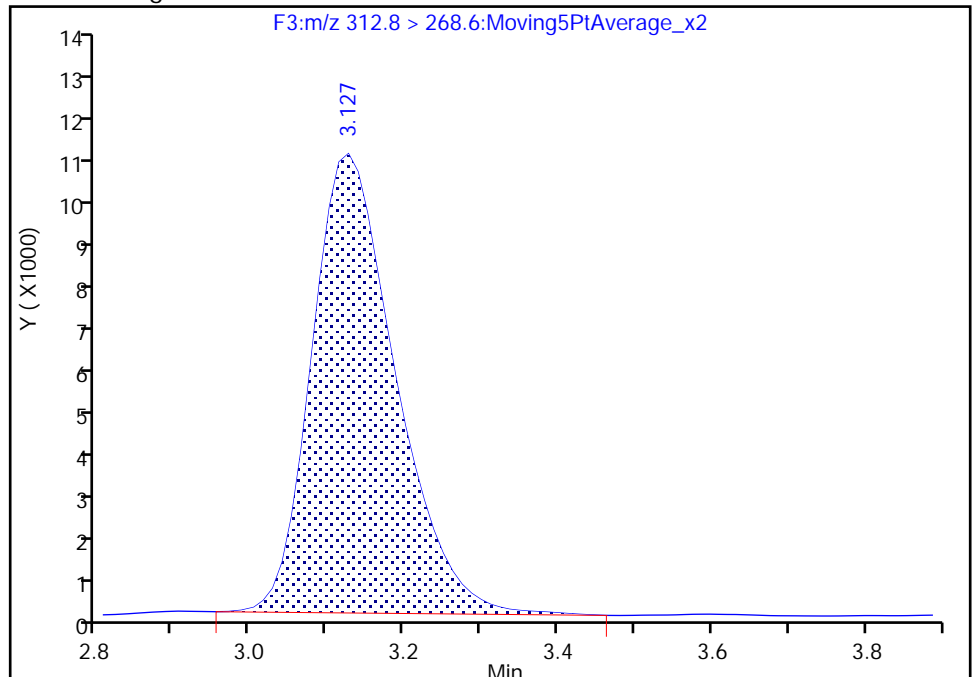
RT: 3.13  
Area: 83320  
Amount: 17.534894  
Amount Units: ng/ml

Processing Integration Results



RT: 3.13  
Area: 81263  
Amount: 17.103192  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:18:34  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

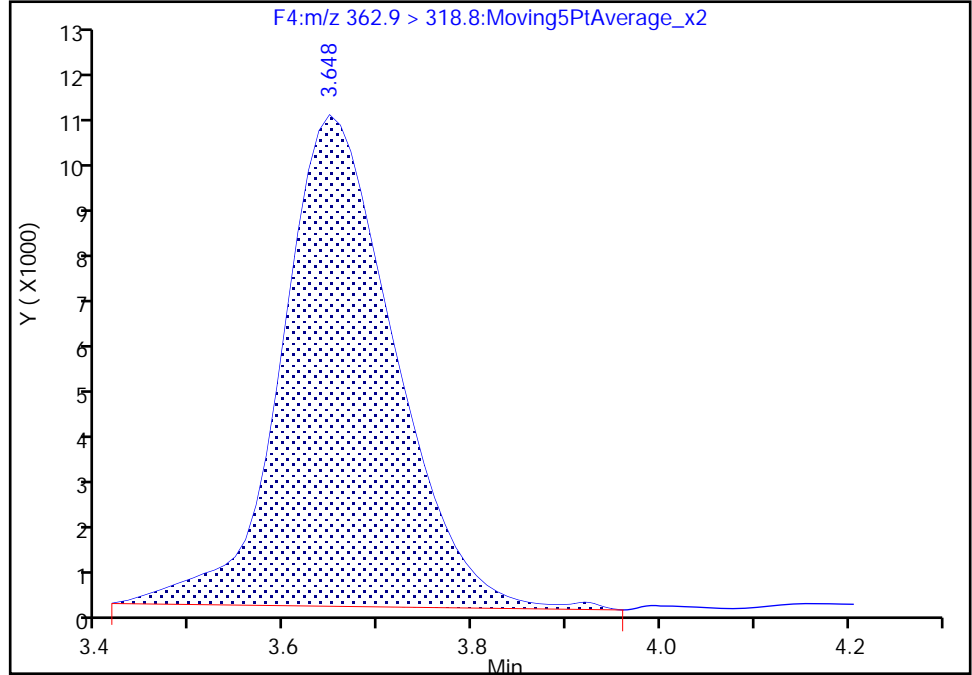
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

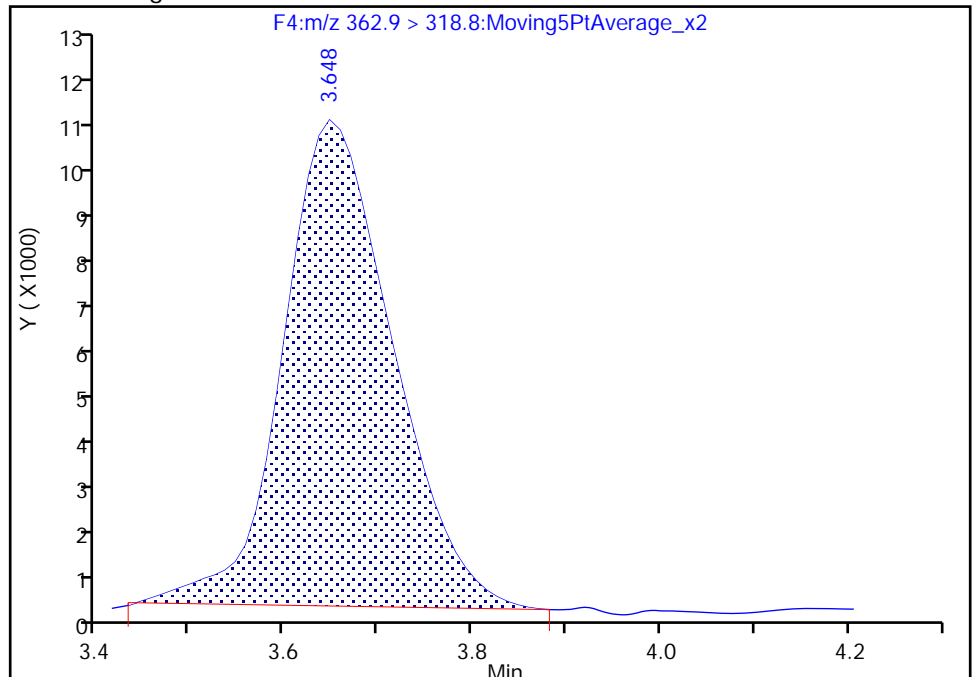
RT: 3.65  
Area: 90016  
Amount: 5.832714  
Amount Units: ng/ml

Processing Integration Results



RT: 3.65  
Area: 86631  
Amount: 5.615181  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:18:40  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

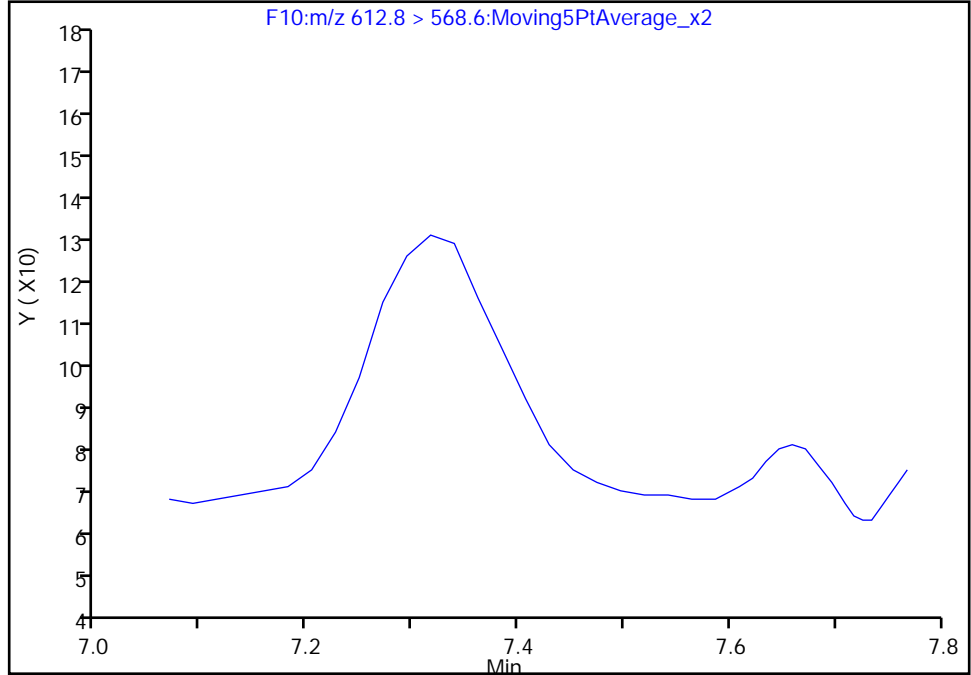
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:MRRM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

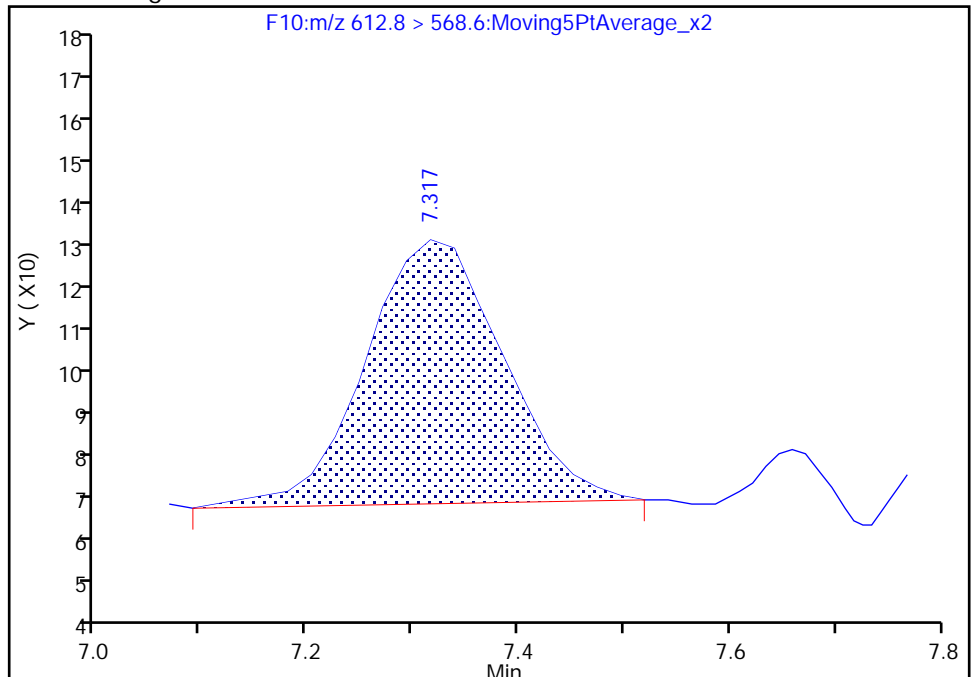
Not Detected  
Expected RT: 7.40

Processing Integration Results



Manual Integration Results

RT: 7.32  
Area: 568  
Amount: 0.004478  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:20:10  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

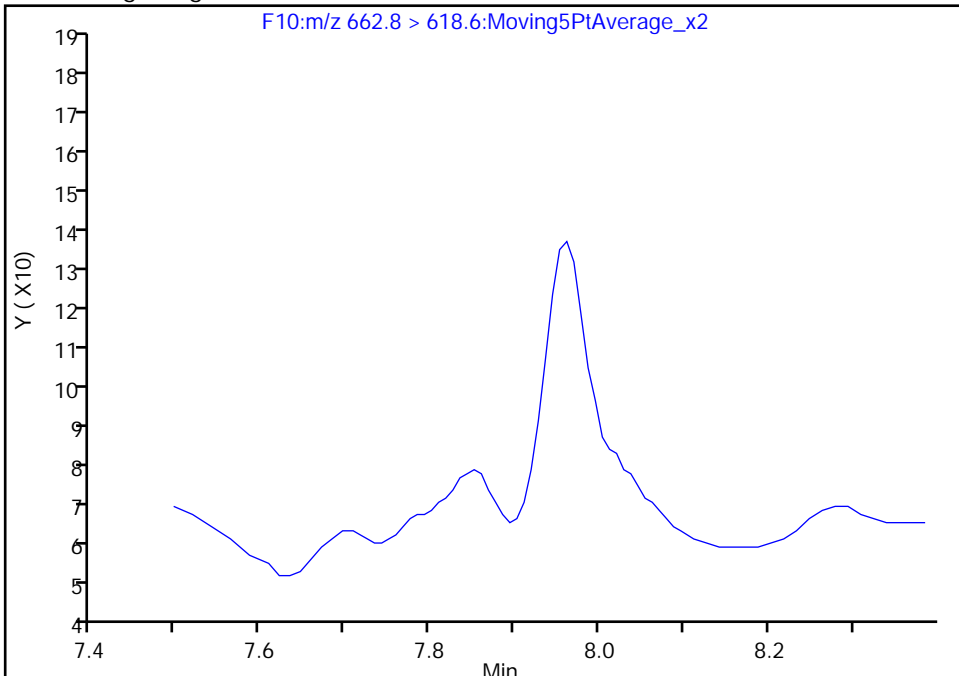
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:MRM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

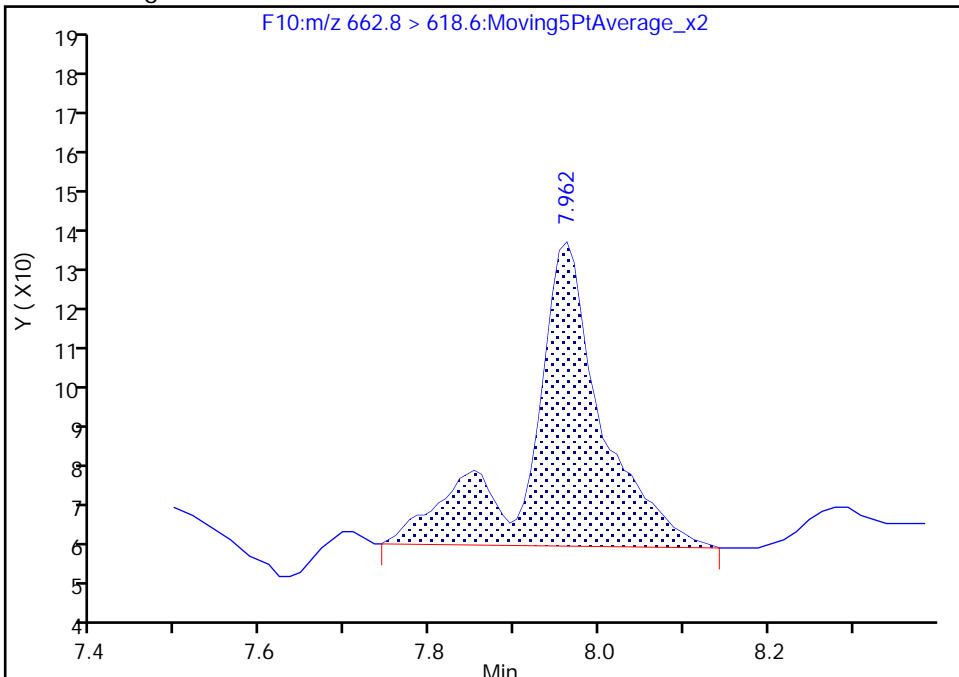
Not Detected  
Expected RT: 8.02

Processing Integration Results



Manual Integration Results

RT: 7.96  
Area: 444  
Amount: -0.071984  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:20:15  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

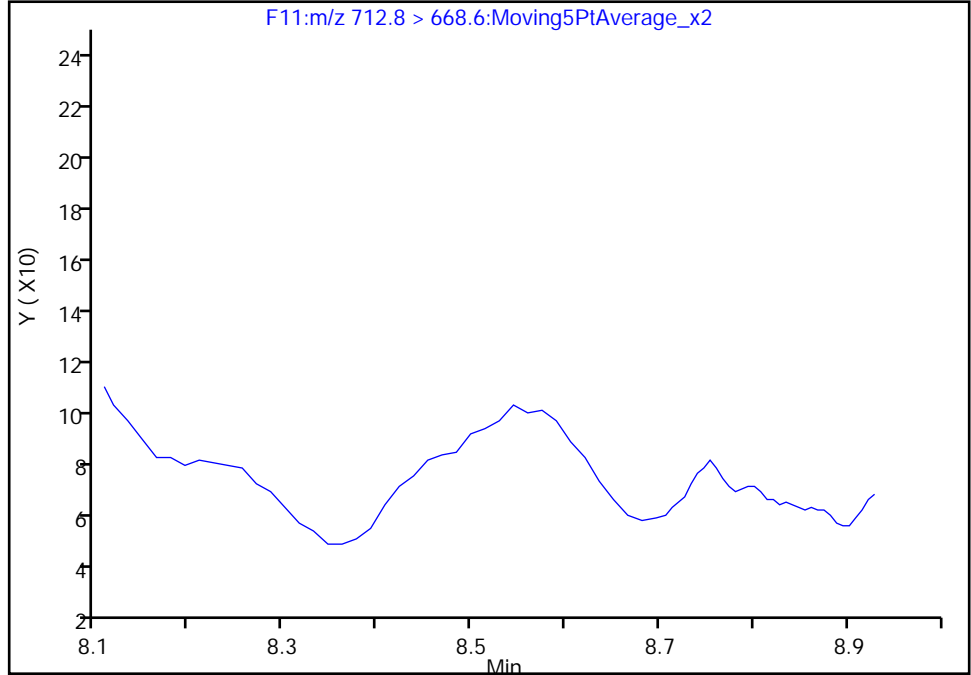
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

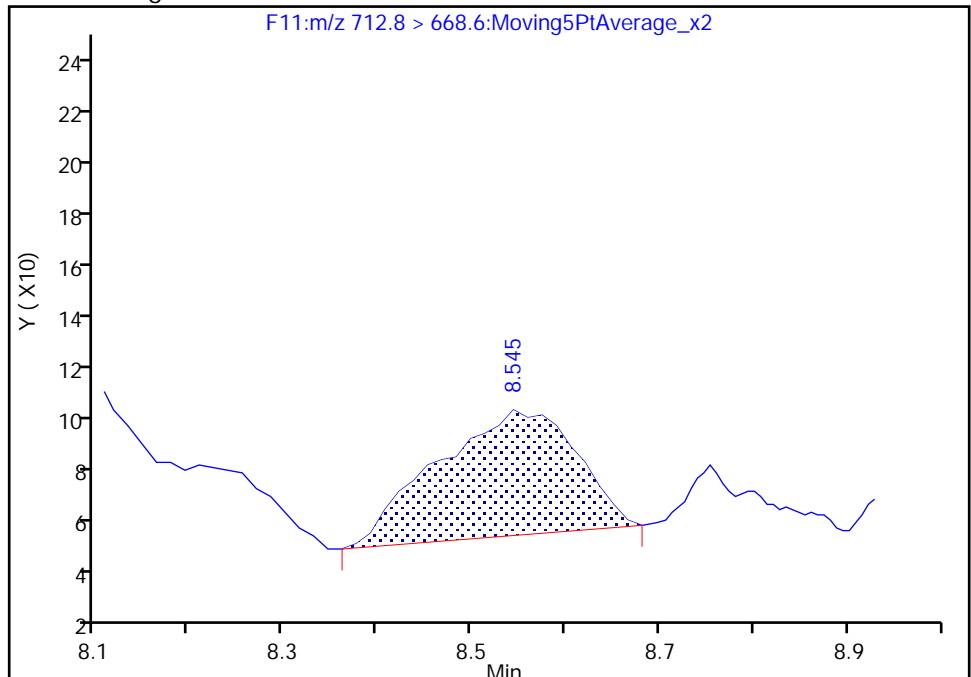
Not Detected  
Expected RT: 8.57

Processing Integration Results



RT: 8.54  
Area: 492  
Amount: -0.134369  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:20:21  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

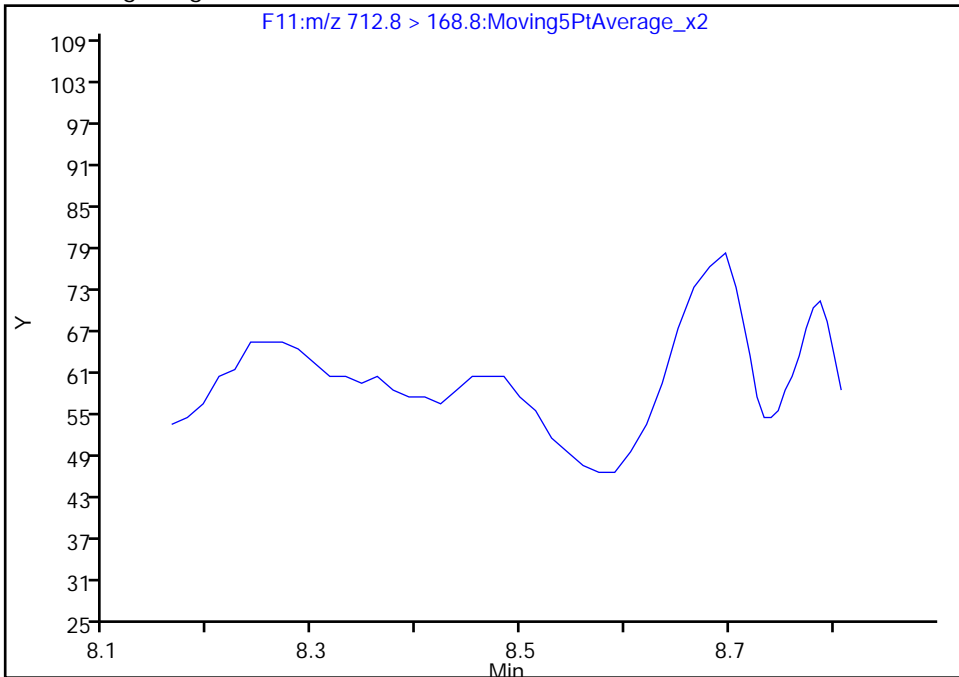
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

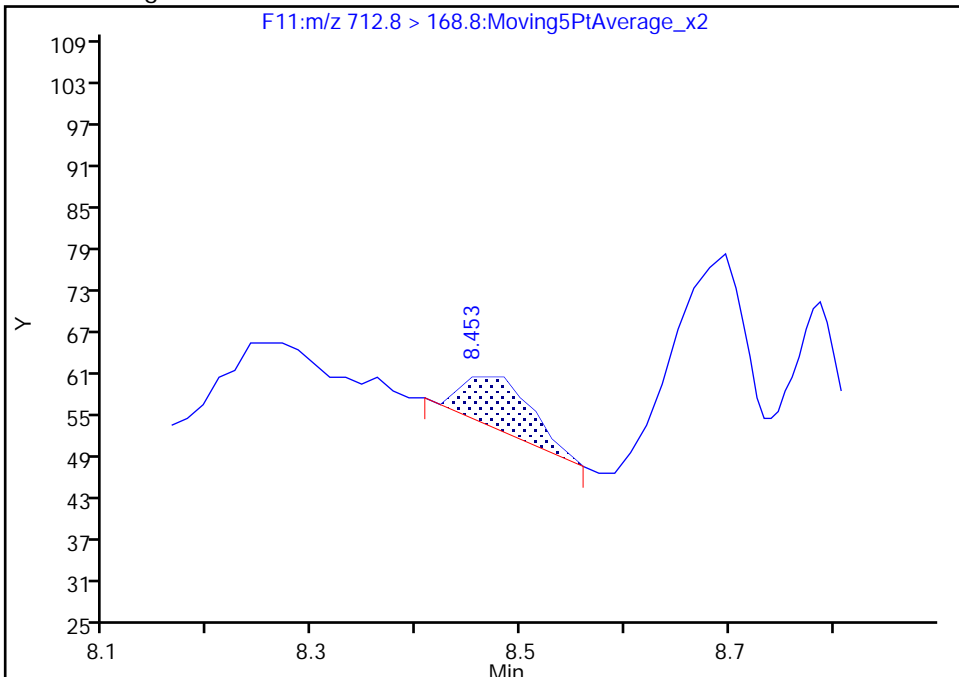
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.45  
Area: 34  
Amount: -0.134369  
Amount Units: ng/ml



TestAmerica Burlington

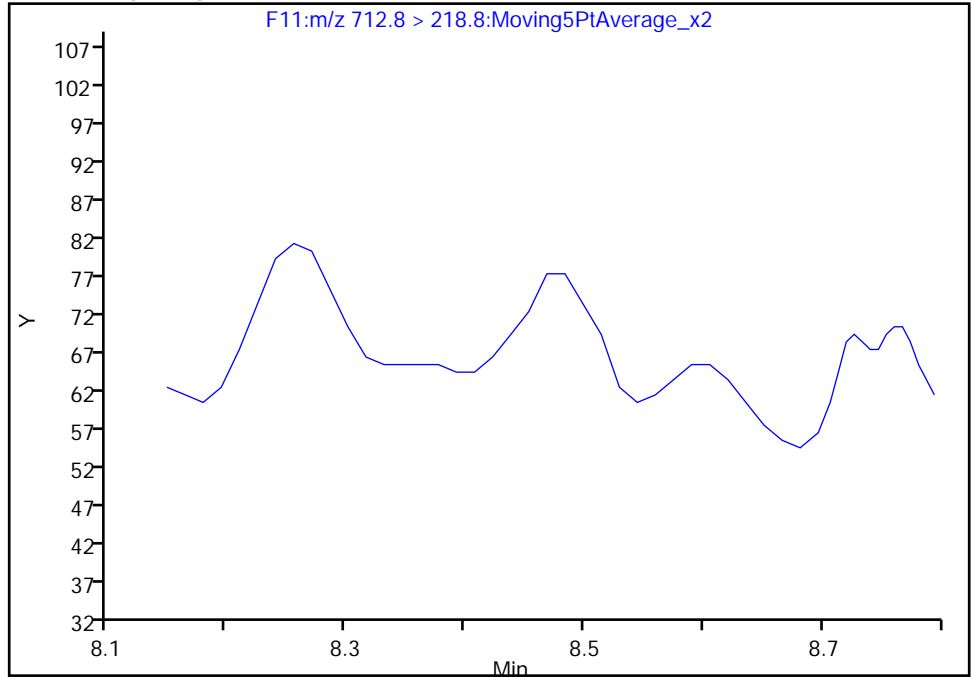
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

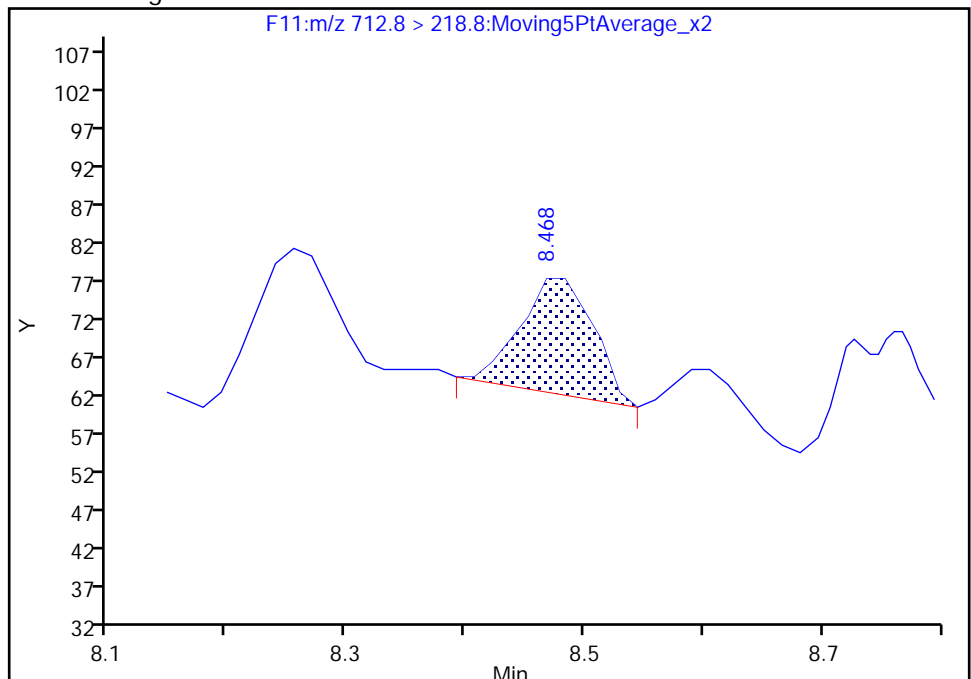
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.47  
Area: 64  
Amount: -0.134369  
Amount Units: ng/ml



TestAmerica Burlington

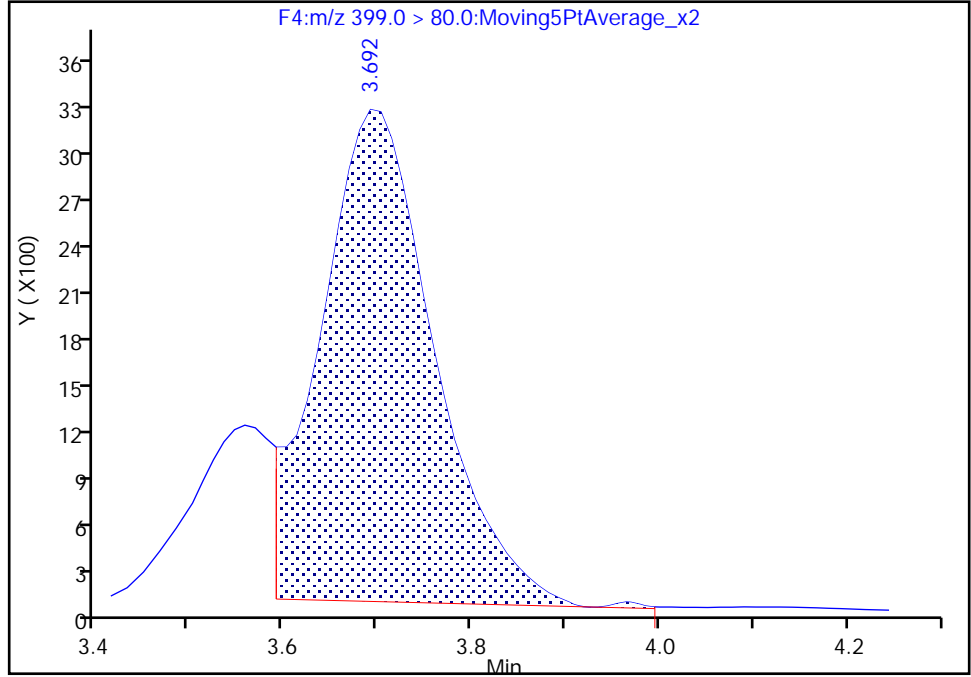
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

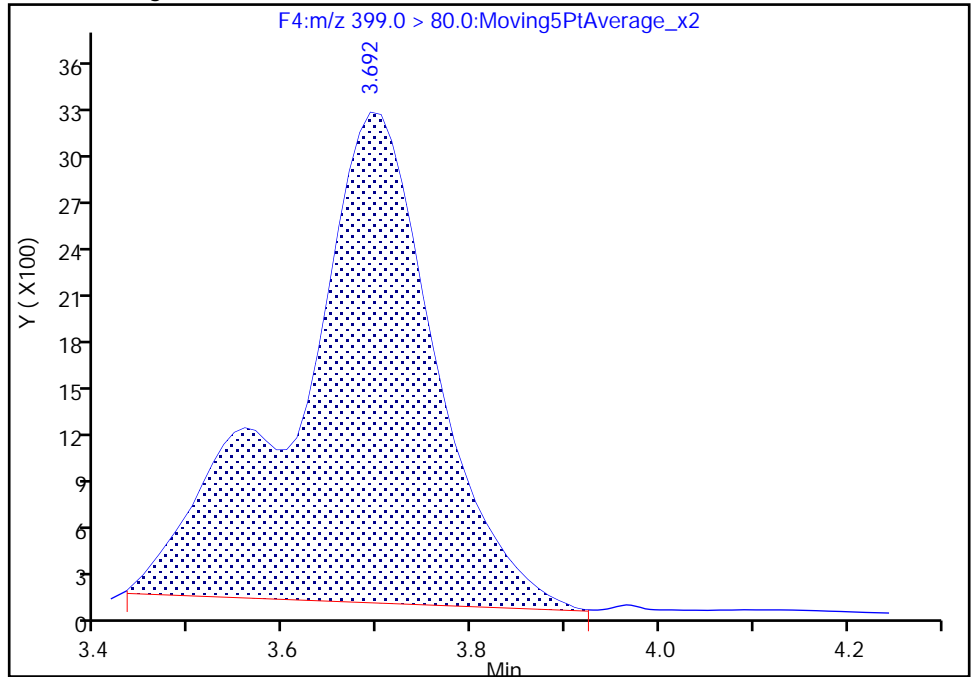
RT: 3.69  
Area: 26355  
Amount: 2.990394  
Amount Units: ng/ml

Processing Integration Results



RT: 3.69  
Area: 32378  
Amount: 3.680221  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:18:55  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

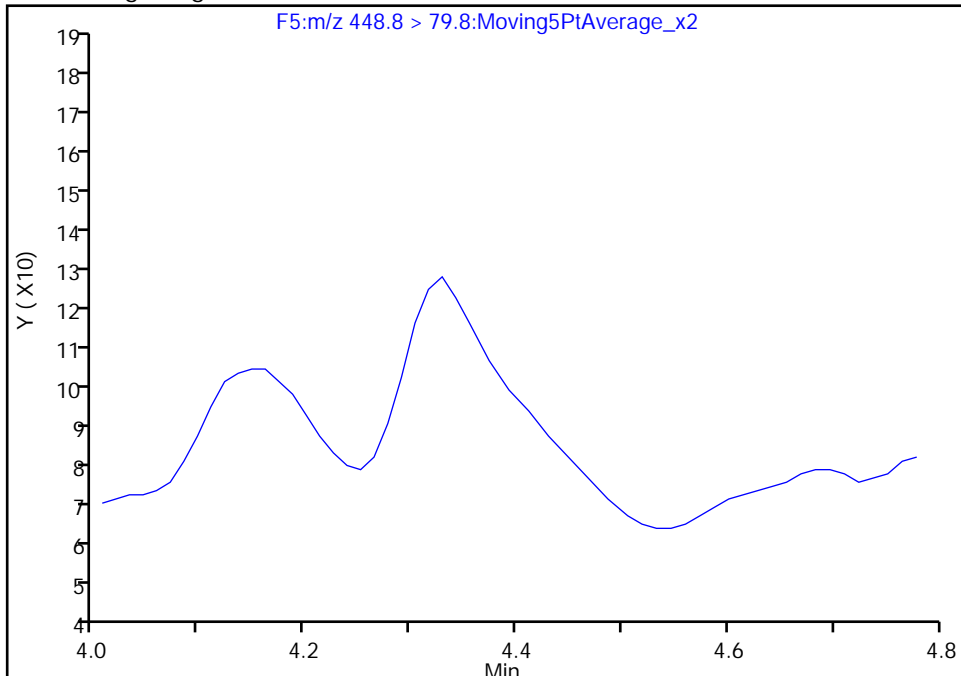
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

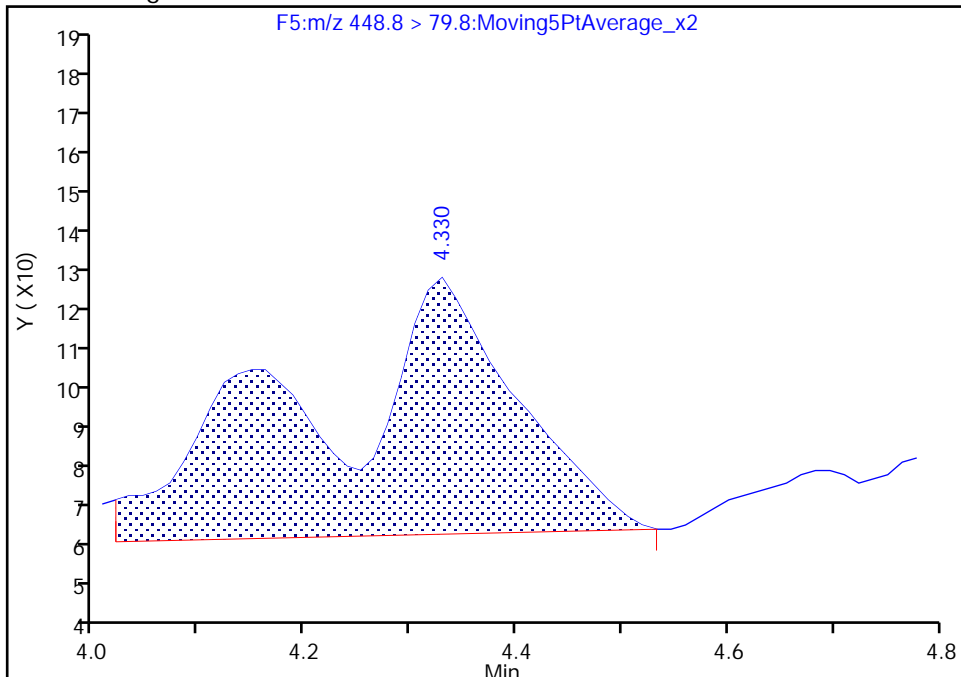
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.33  
Area: 810  
Amount: 0.357525  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:19:14  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

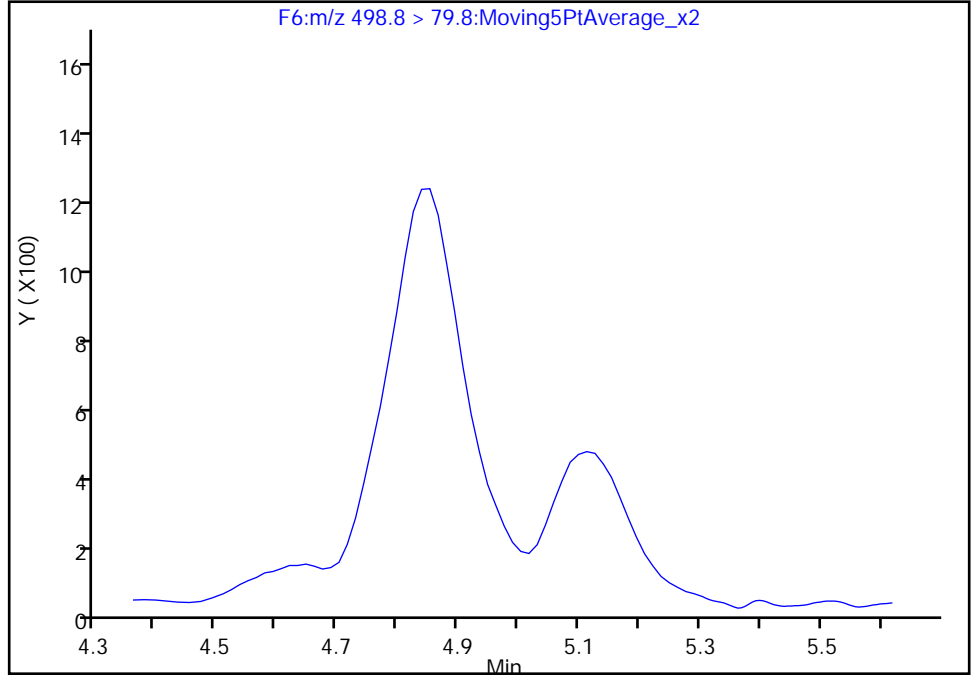
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

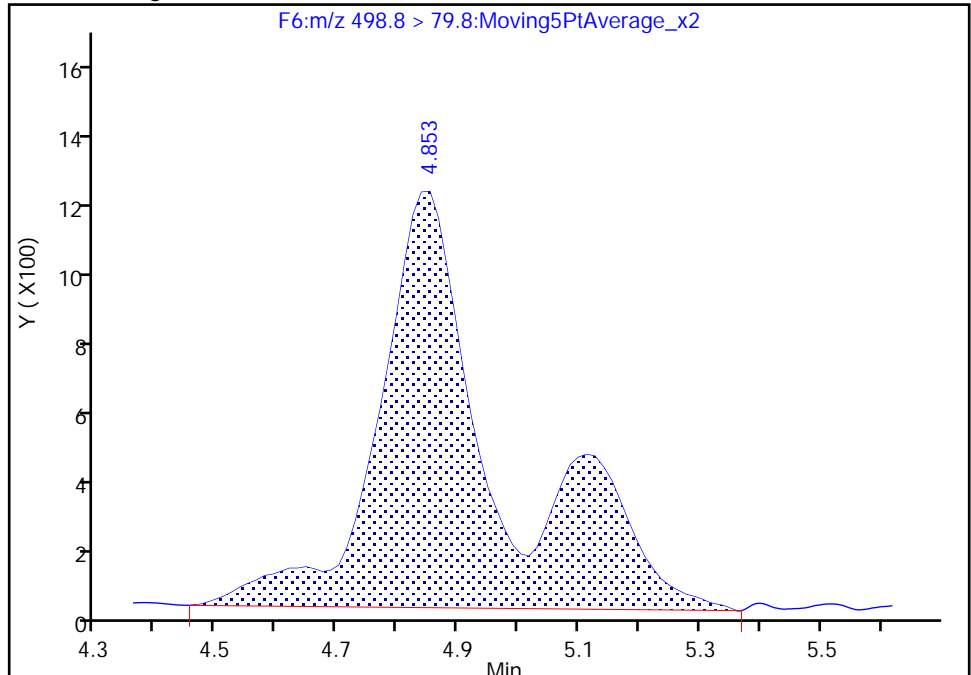
Not Detected  
Expected RT: 5.17

Processing Integration Results



RT: 4.85  
Area: 16331  
Amount: 4.236305  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:19:29  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

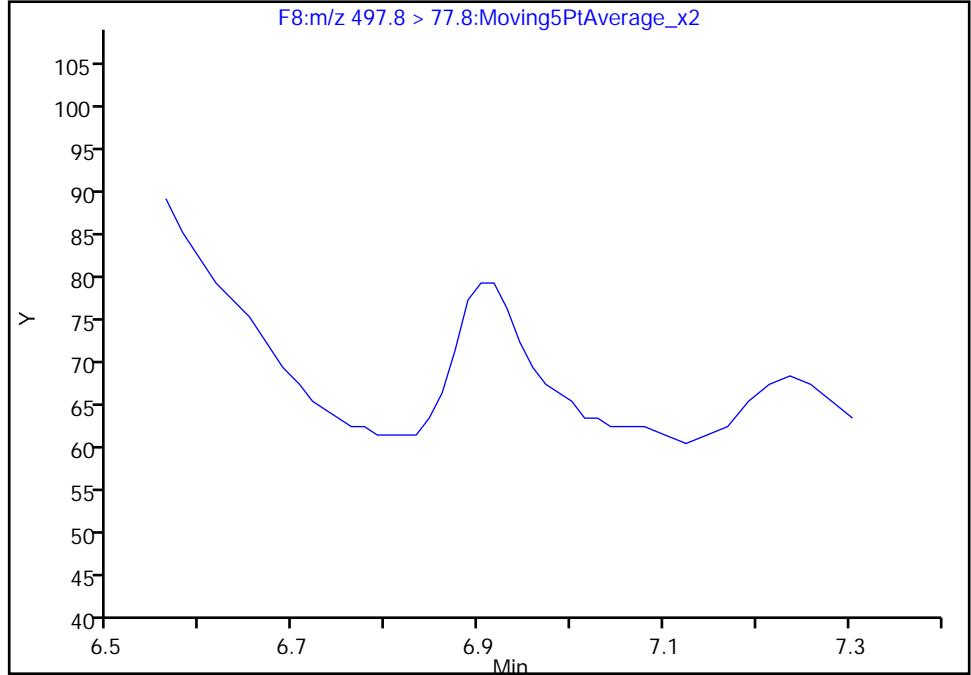
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

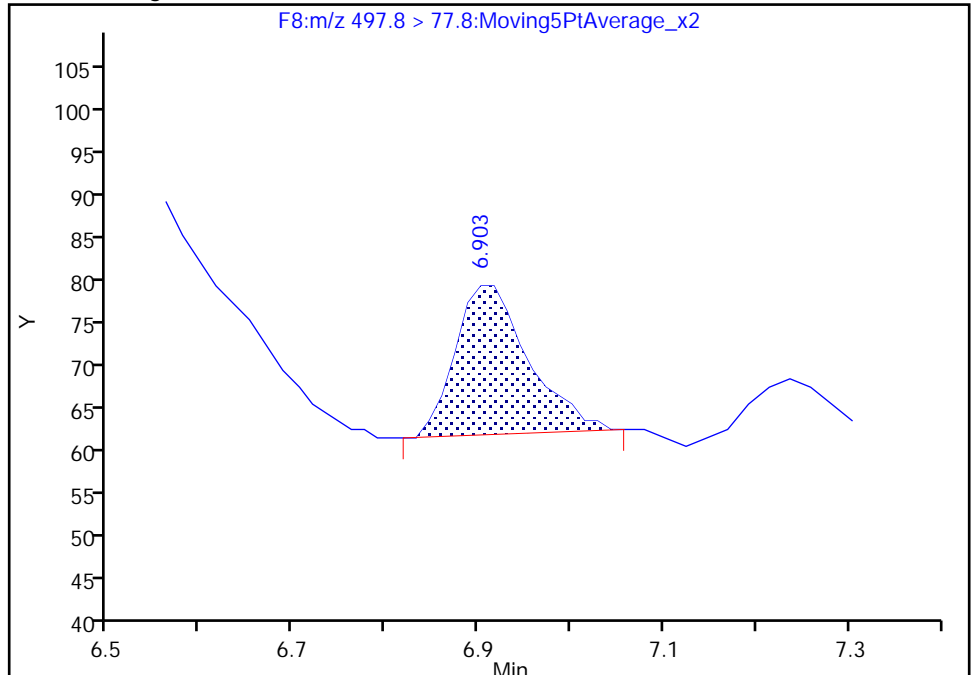
Not Detected  
Expected RT: 6.94

Processing Integration Results



RT: 6.90  
Area: 96  
Amount: 0.087002  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:20:03  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

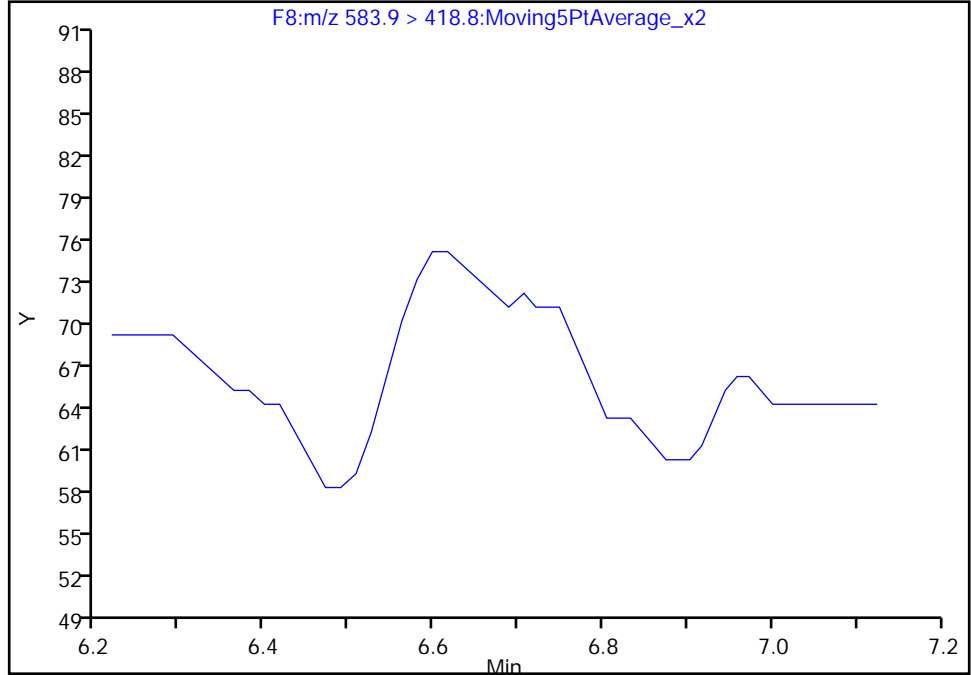
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

30 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

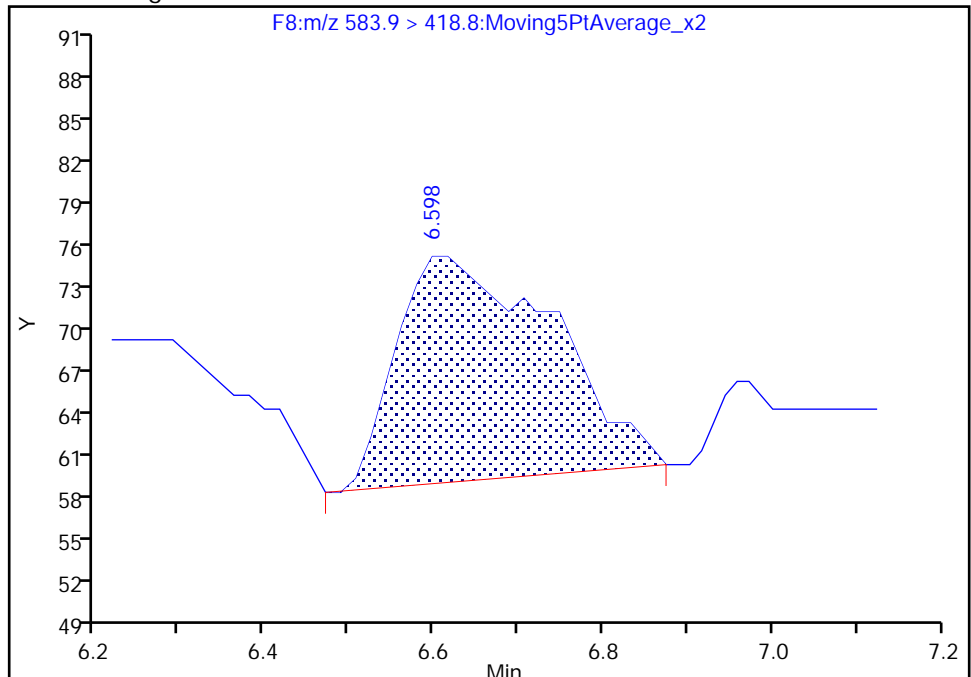
Not Detected  
Expected RT: 6.69

Processing Integration Results



Manual Integration Results

RT: 6.60  
Area: 207  
Amount: -0.033838  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:19:47  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

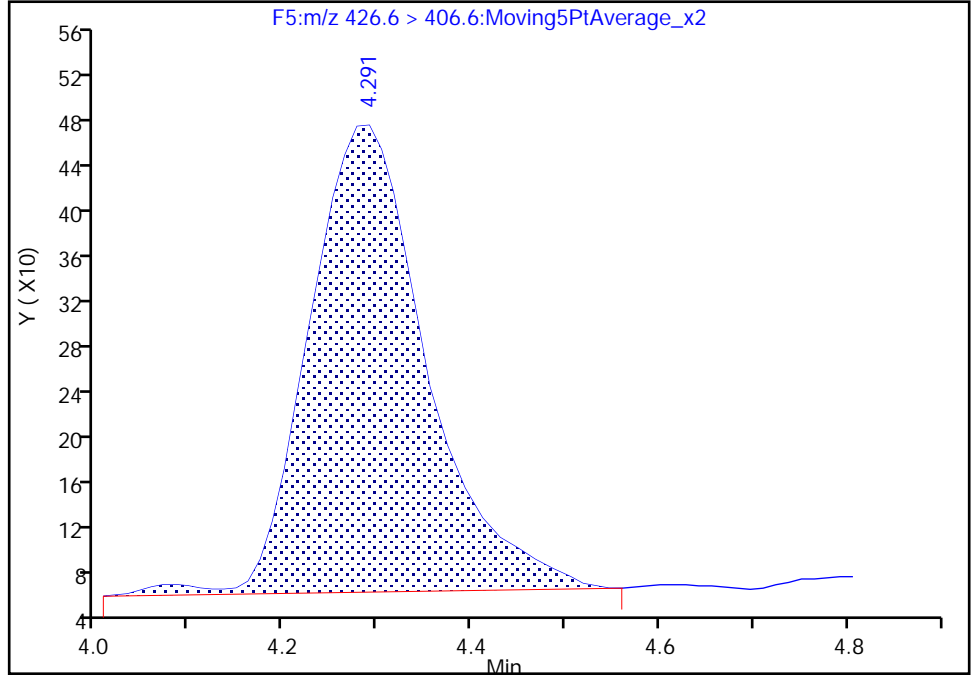
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

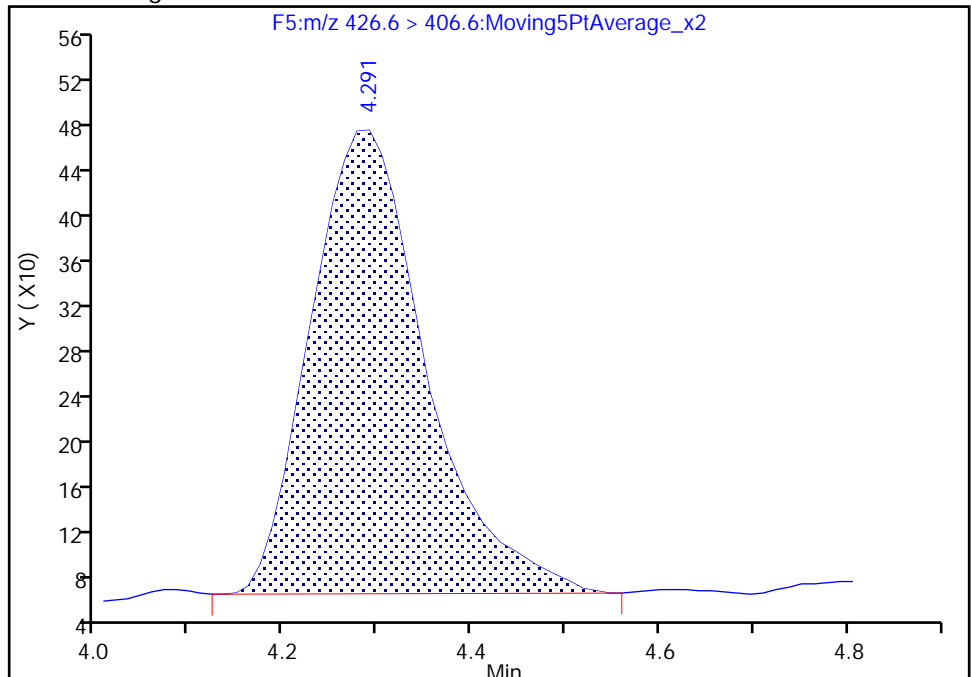
RT: 4.29  
Area: 3536  
Amount: 1.940836  
Amount Units: ng/ml

Processing Integration Results



RT: 4.29  
Area: 3439  
Amount: 1.887595  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:19:03  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

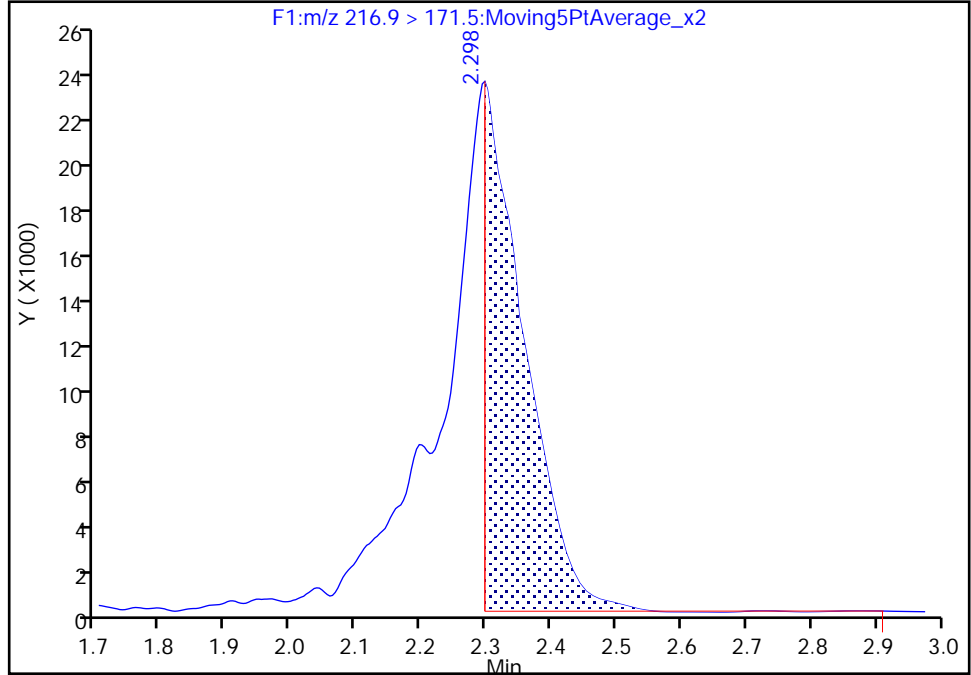
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A23.d  
Injection Date: 21-Apr-2018 16:47:14 Instrument ID: LC410  
Lims ID: 200-43041-A-1-A Lab Sample ID: 200-43041-1  
Client ID: MW-101  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 23  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992  
Signal: 1

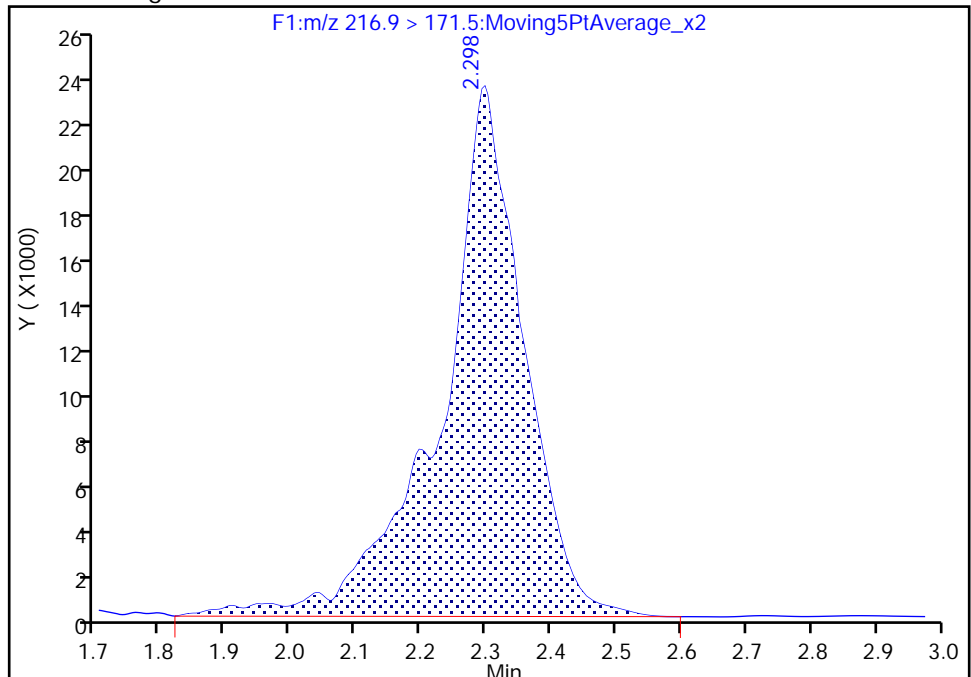
RT: 2.30  
Area: 93995  
Amount: 10.611514  
Amount Units: ng/ml

Processing Integration Results



RT: 2.30  
Area: 202739  
Amount: 22.888109  
Amount Units: ng/ml

Manual Integration Results



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 Lab Sample ID: 200-43041-2  
 Matrix: Water Lab File ID: PF042118A24.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:40  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 294.4 (mL) Date Analyzed: 04/21/2018 17:02  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	8.07		1.70	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	10.8		1.70	0.38
307-24-4	Perfluorohexanoic acid (PFHxA)	8.05		1.70	0.38
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.44		1.70	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	23.9		1.70	0.40
375-95-1	Perfluorononanoic acid (PFNA)	0.22	U	1.70	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	0.38	U	1.70	0.38
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.38	U	1.70	0.38
307-55-1	Perfluorododecanoic acid (PFDoA)	0.38	U	1.70	0.38
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.38	U	1.70	0.38
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.38	U	1.70	0.38
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.34		1.70	0.75
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.74		1.70	0.24
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.38	U	1.70	0.38
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.05		1.70	0.25
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.38	U	1.70	0.38
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.38	U	1.70	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	1.70	0.51
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	1.70	0.51
27619-97-2	6:2FTS	0.69	J	1.70	0.51
39108-34-4	8:2FTS	0.51	U	1.70	0.51

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-43041-1</u>
SDG No.: _____	
Client Sample ID: <u>MW-2</u>	Lab Sample ID: <u>200-43041-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF042118A24.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>04/10/2018 12:40</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>04/18/2018 12:25</u>
Sample wt/vol: <u>294.4 (mL)</u>	Date Analyzed: <u>04/21/2018 17:02</u>
Con. Extract Vol.: <u>0.5 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>128716</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	27		25-150
STL01893	13C5 PFPeA	46		25-150
STL00993	13C2 PFHxA	57		25-150
STL01892	13C4-PFHpA	71		25-150
STL00990	13C4 PFOA	87		25-150
STL00995	13C5 PFNA	102		25-150
STL00996	13C2 PFDA	91		25-150
STL00997	13C2 PFUnA	89		25-150
STL00998	13C2 PFDoA	79		25-150
STL02116	13C2-PFTeDA	80		25-150
STL02337	13C3-PFBS	78		25-150
STL00994	18O2 PFHxS	105		25-150
STL00991	13C4 PFOS	106		25-150
STL01056	13C8 FOSA	57		25-150
STL02118	d3-NMeFOSAA	71		25-150
STL02117	d5-NEtFOSAA	82		25-150
STL02279	M2-6:2FTS	219	*	25-150
STL02280	M2-8:2FTS	134		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
 Lims ID: 200-43041-B-2-A  
 Client ID: MW-2  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 17:02:23 ALS Bottle#: 0 Worklist Smp#: 24  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-024 2  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:24:38

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.286	2.319	-0.033	1.000	123363	13.7	27.4	141	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.306	2.320	-0.014	1.009	10959	4.75		29.4		M
D 3 13C5-PFPeA	267.7 > 222.6	2.708	2.736	-0.028	1.000	49989	22.9	45.9	108	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.708	2.738	-0.030	1.000	37229	6.35		20.3		M
D 5 13C3-PFBS	302.0 > 79.8	2.770	2.800	-0.030	1.000	164881	36.2	77.9	219	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.770	2.804	-0.034	1.000	21994	3.14		11.4		M
D 7 13C2 PFHxA	314.8 > 269.6	3.115	3.158	-0.043	1.000	209976	28.3	56.7	2654	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.115	3.162	-0.047	1.000	19284	4.74		22.5		
D 10 13C4-PFHpA	366.9 > 321.8	3.637	3.689	-0.052	1.000	643292	35.5	71.0	1647	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.637	3.689	-0.052	1.000	50286	3.79		47.3		M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.692	3.733	-0.041	1.003	15705	1.61		19.3		M
D 13 18O2 PFHxS	402.9 > 83.8	3.681	3.737	-0.056	1.000	252655	49.6	105	1320	
D 14 M2-6:2FTS	428.6 > 408.6	4.265	4.319	-0.054	1.000	101094	104.1	219	690	
15 Sodium 1H,1H,2H,2H-perfluorooctane										
426.6 > 406.6	4.291	4.319	-0.028	1.006	888	0.4058		14.7		

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.317	4.365	-0.048	1.000	729055	43.7		87.5	1021	
* 49 13C2-PFOA										
414.9 > 369.8	4.317	4.371	-0.054		983363	50.0			3858	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.317	4.374	-0.057	1.000	221551	14.1			368	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.330	4.408	-0.078	0.845	418	0.2174			4.1	M
D 21 13C5 PFNA										
467.8 > 422.8	5.085	5.145	-0.060	1.000	1031566	50.8		102	977	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	4.812	5.168	-0.356	0.939	5352	1.21			15.6	M
D 22 13C4 PFOS										
502.8 > 79.8	5.127	5.168	-0.041	1.000	213180	50.9		106	1249	
D 23 M2-8:2FTS										
528.8 > 508.8	5.843	5.910	-0.067	1.000	392456	64.4		134	1836	
D 25 13C2 PFDA										
514.9 > 469.5	5.862	5.934	-0.072	1.000	1231818	45.6		91.3	3323	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.803	5.938	-0.135	0.990	528	-0.0768			4.3	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.223	6.298	-0.075	1.000	215771	35.5		71.0	1210	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.277	6.310	-0.033	1.009	93	0.0586			0.4	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.598	6.667	-0.069	1.000	216704	41.0		81.9	1508	
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.598	6.711	-0.113	0.995	2946	0.1653			18.6	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.634	6.713	-0.079	1.000	1312980	44.4		88.9	3636	
D 35 13C8 FOSA										
505.8 > 77.8	6.944	6.938	0.006	1.000	203160	28.6		57.1	808	
D 36 13C2 PFDaA										
614.8 > 569.6	7.317	7.392	-0.075	1.000	1184614	39.4		78.7	5554	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.362	7.399	-0.037	1.006	665	0.006012			5.2	M
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.953	8.022	-0.069	1.087	320	-0.0800			4.7	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.514	8.572	-0.058	1.000	1136371	40.0		80.0	997	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.484	8.572	-0.088	0.996	465	-0.1397			3.2	M
712.8 > 168.8	8.545	8.572	-0.027	1.004	227		2.05(0.00-0.00)		2.1	M
712.8 > 218.8	8.530	8.572	-0.042	1.002	22		21.14(0.00-0.00)		0.3	M
D 45 13C2-PFHxDA										
814.8 > 769.6	9.454	9.621	-0.167	1.000	831	NC		0.0	11.1	



**QC Flag Legend**

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

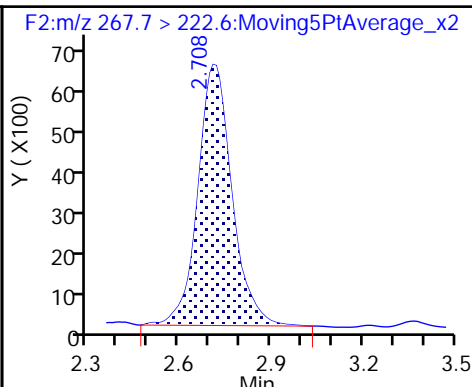
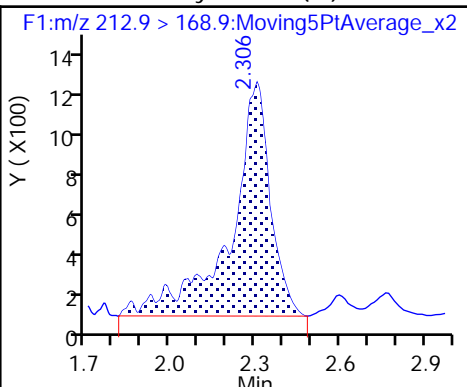
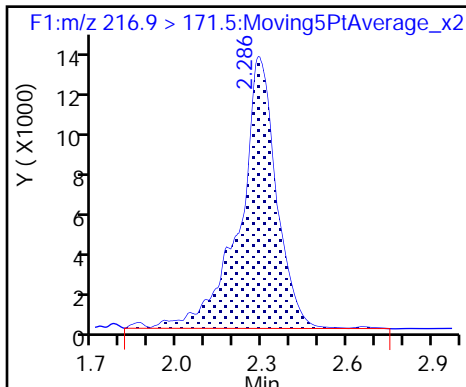
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

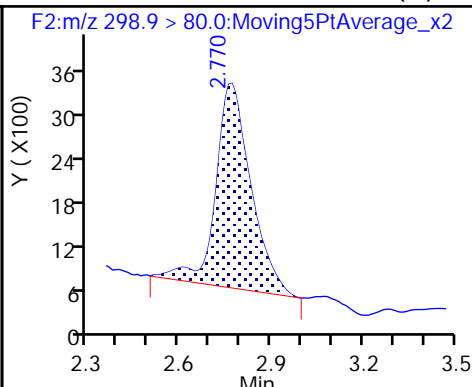
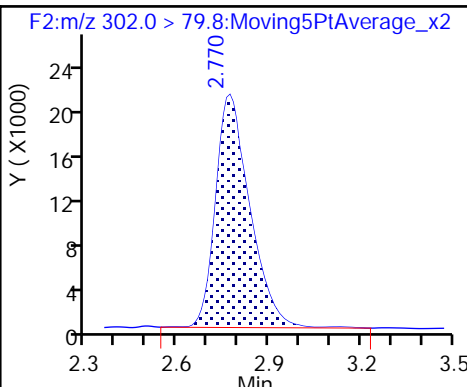
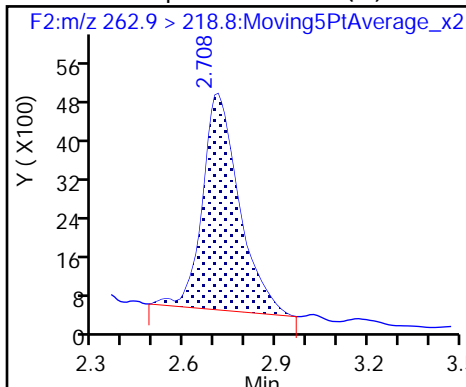
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

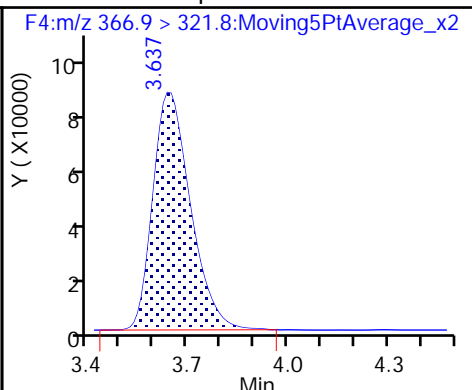
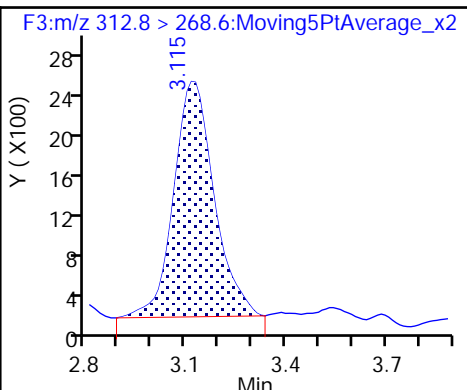
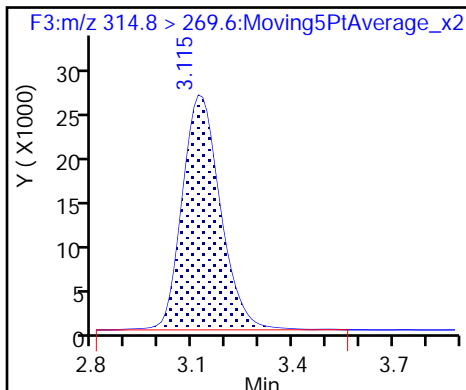
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

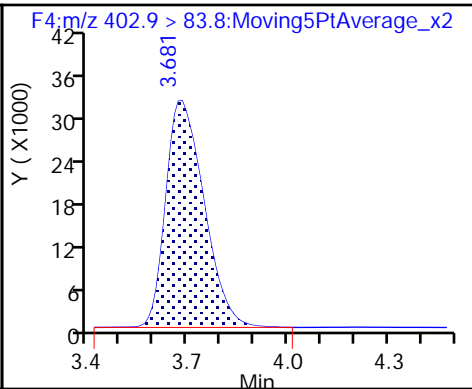
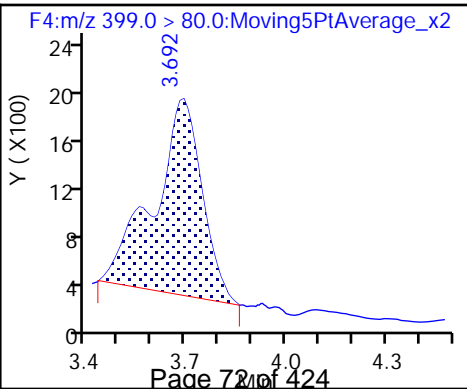
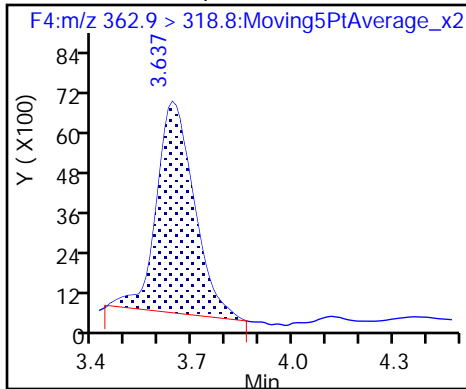
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

12 Perfluorohexanesulfonic acid (M)

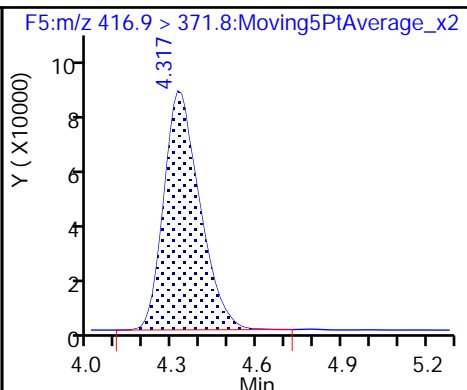
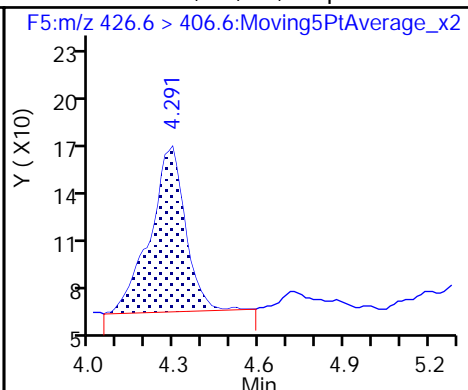
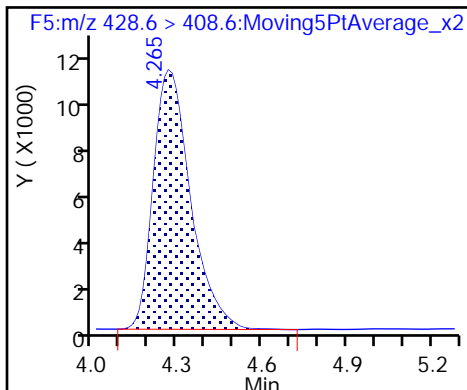
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

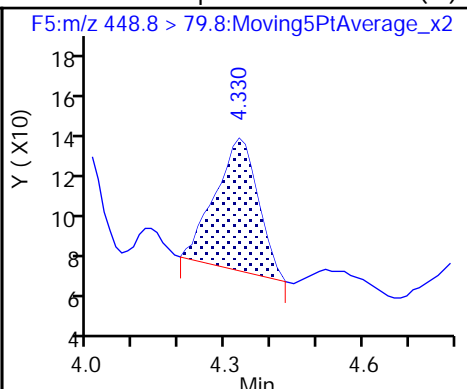
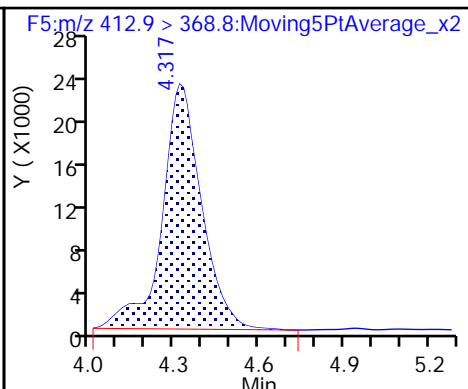
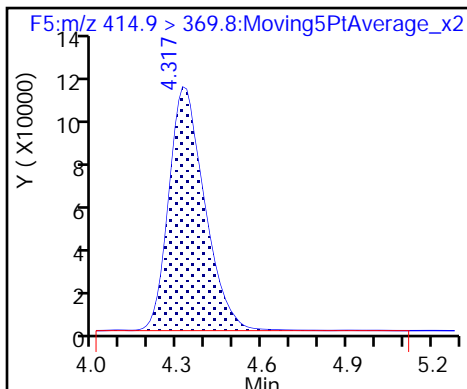
D 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

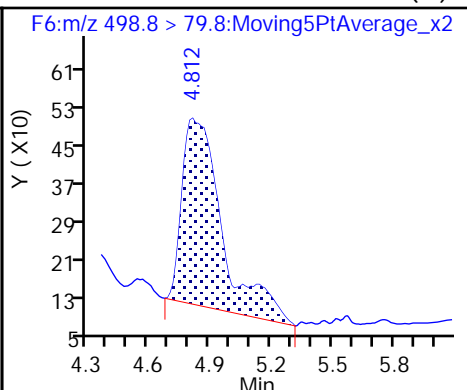
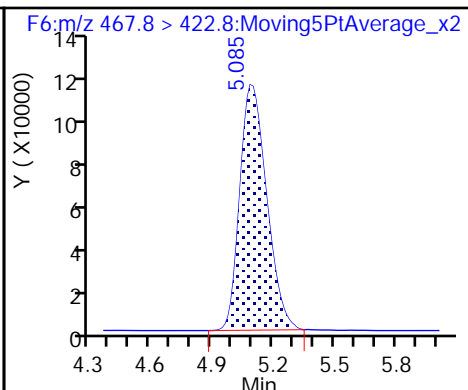
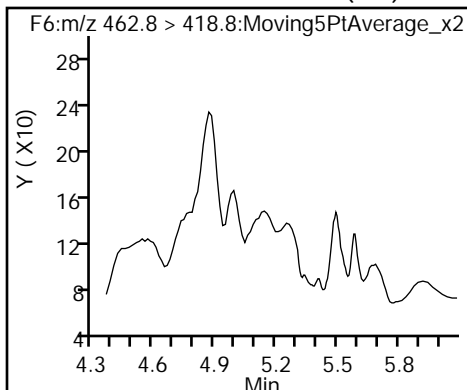
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (ND)

D 21 13C5 PFNA

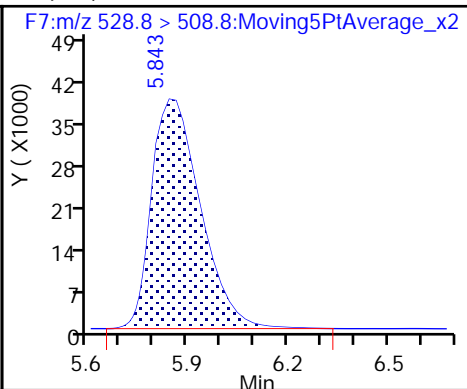
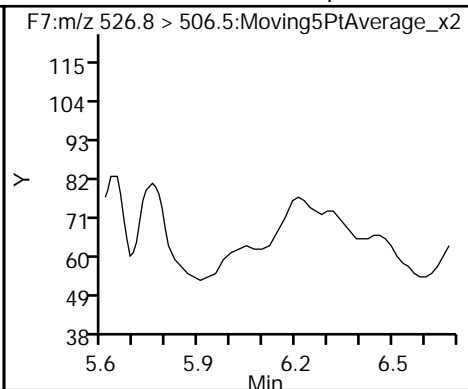
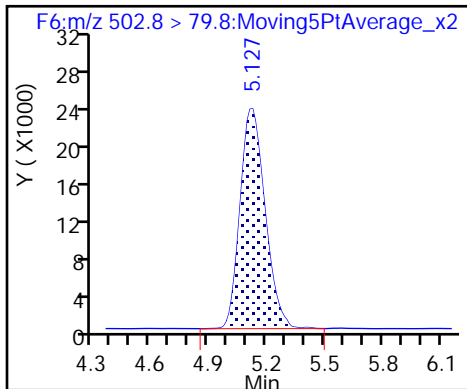
20 Perfluorooctane sulfonic acid (M)



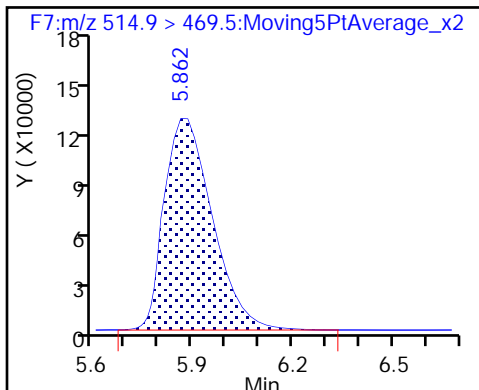
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate

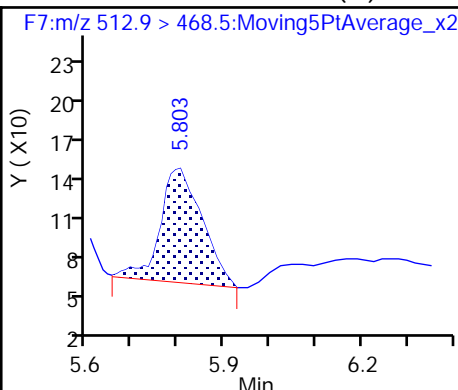
D 23 M2-8:2FTS



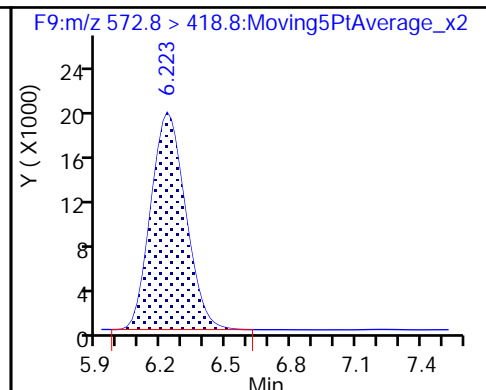
D 25 13C2 PFDA



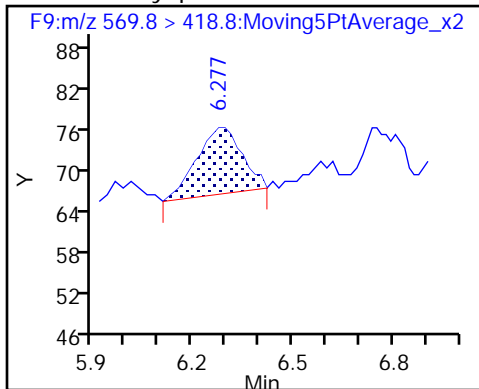
26 Perfluorodecanoic acid (M)



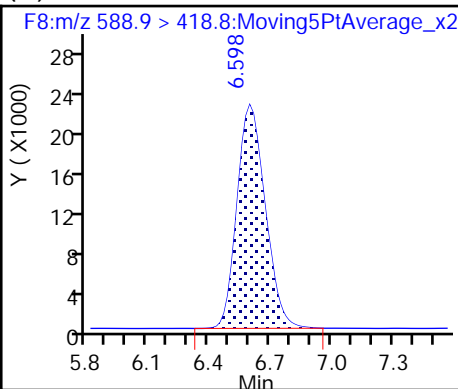
D 27 d3-NMeFOSAA



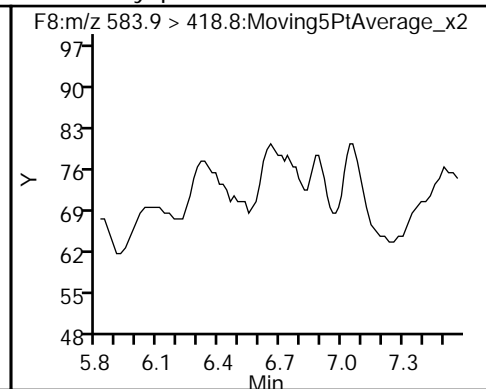
28 N-methyl perfluorooctane sulfonamide (M)



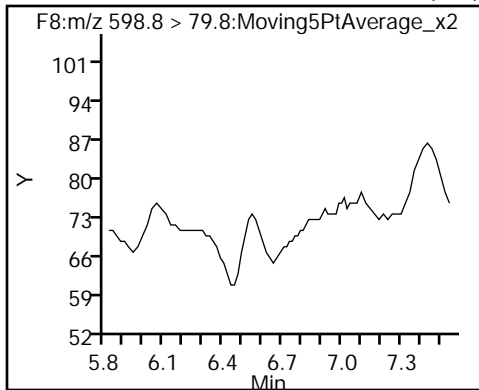
D 29 d5-NEtFOSAA



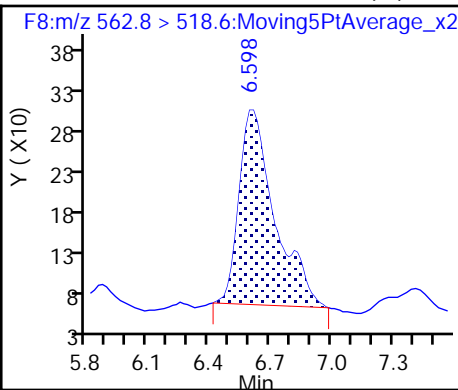
30 N-ethyl perfluorooctane sulfonamide (ND)



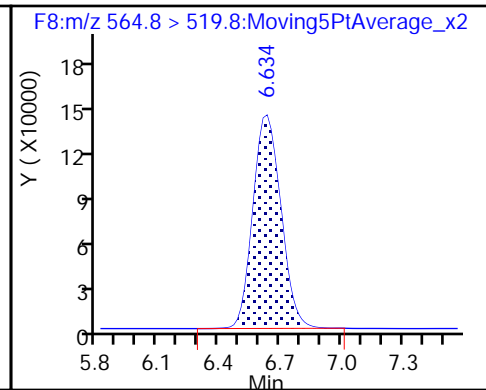
31 Perfluorodecane Sulfonic acid (ND)



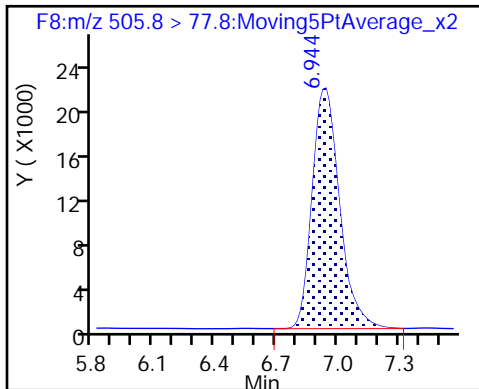
32 Perfluoroundecanoic acid (M)



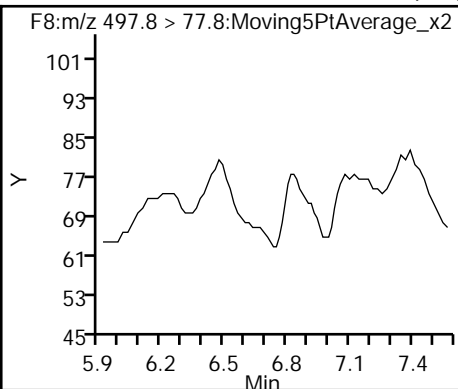
D 33 13C2 PFUnA



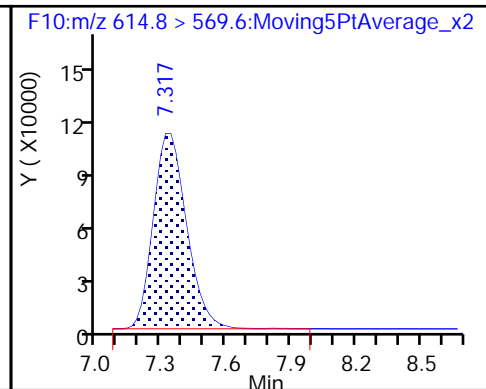
D 35 13C8 FOSA



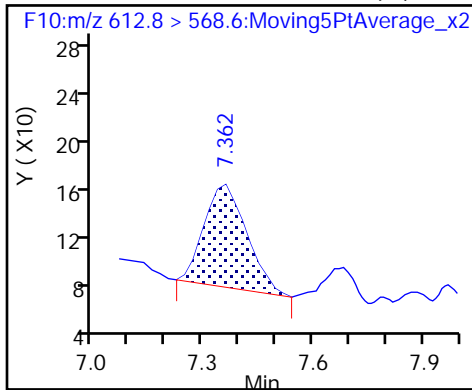
34 Perfluorooctane Sulfonamide (ND)



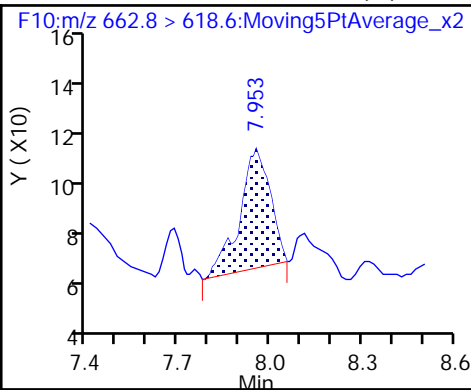
D 36 13C2 PFDaA



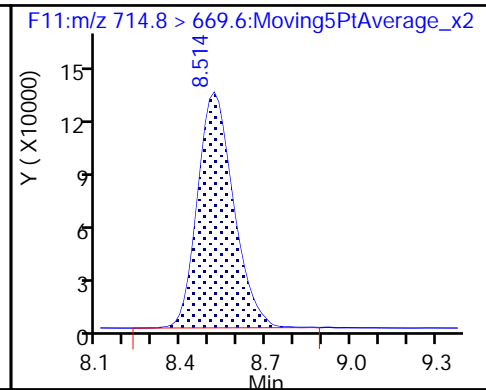
37 Perfluorododecanoic acid (M)



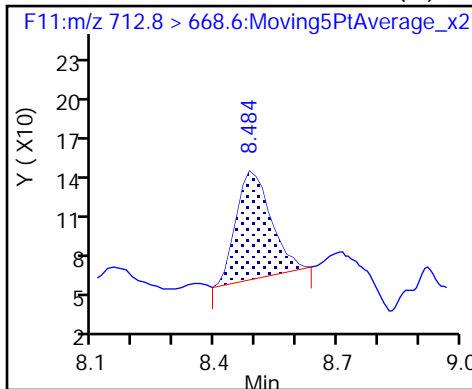
40 Perfluorotridecanoic acid (M)



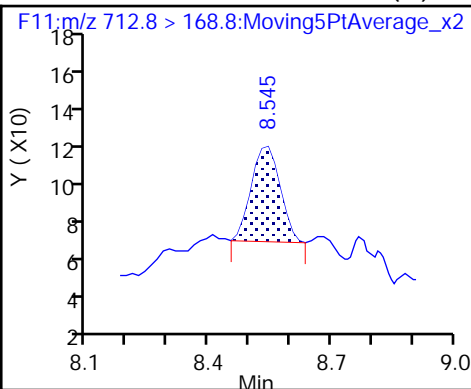
D 43 13C2-PFTeDA



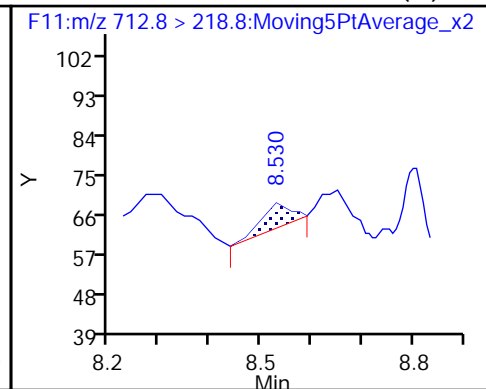
44 Perfluorotetradecanoic acid (M)



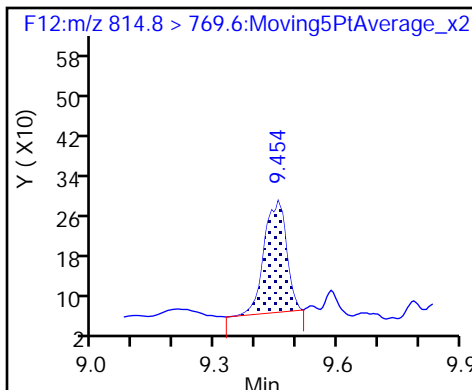
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid (M)



D 45 13C2-PFHxDA



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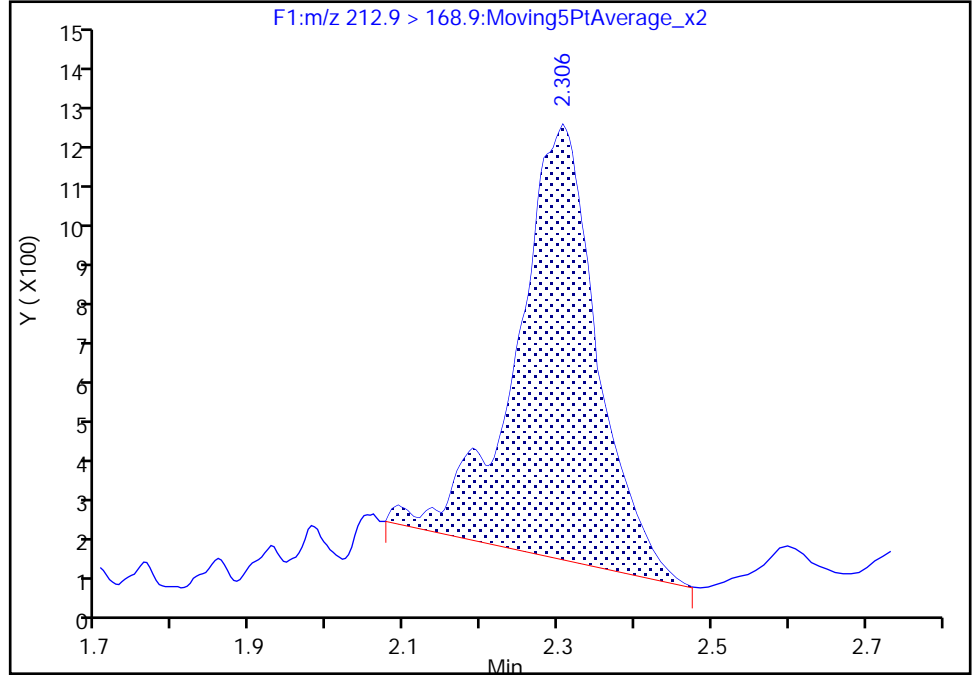
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Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

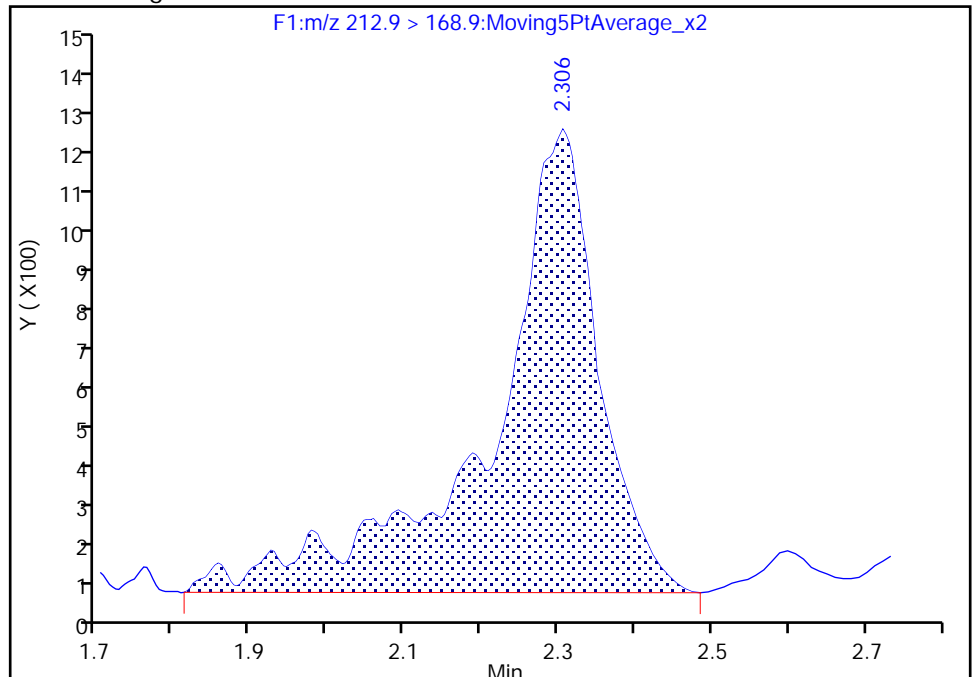
RT: 2.31  
Area: 7732  
Amount: 3.307319  
Amount Units: ng/ml

Processing Integration Results



RT: 2.31  
Area: 10959  
Amount: 4.751909  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:21:17  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

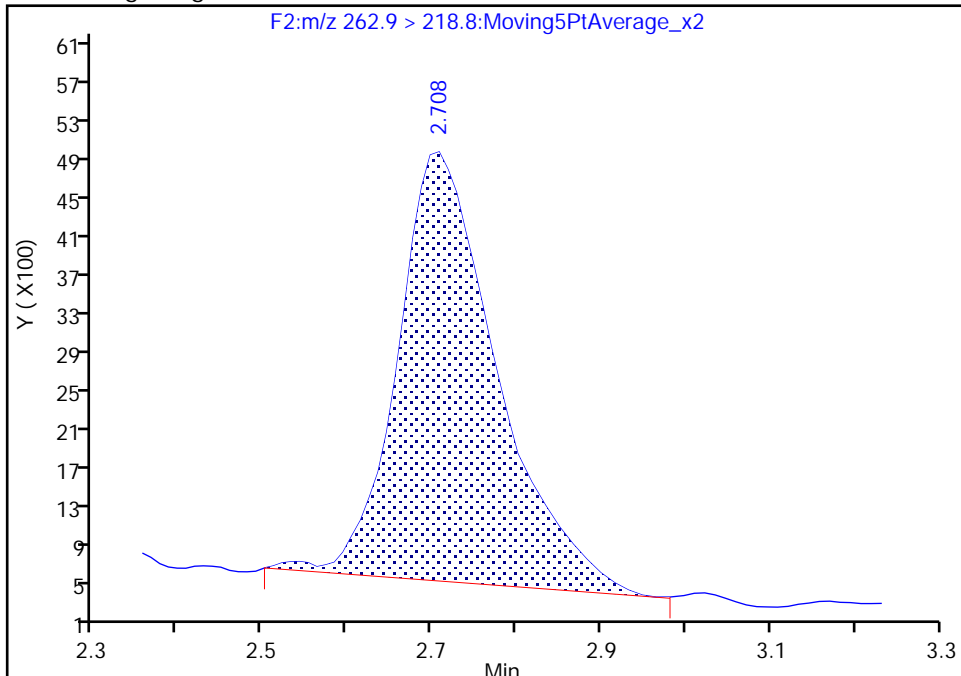
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Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

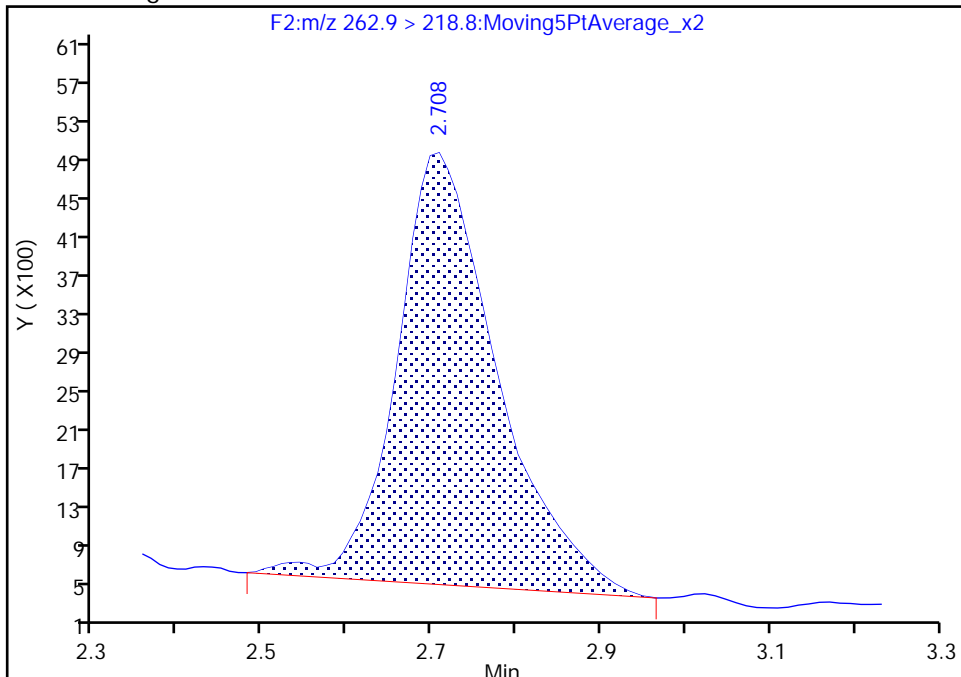
RT: 2.71  
Area: 36518  
Amount: 6.221609  
Amount Units: ng/ml

Processing Integration Results



RT: 2.71  
Area: 37229  
Amount: 6.351525  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

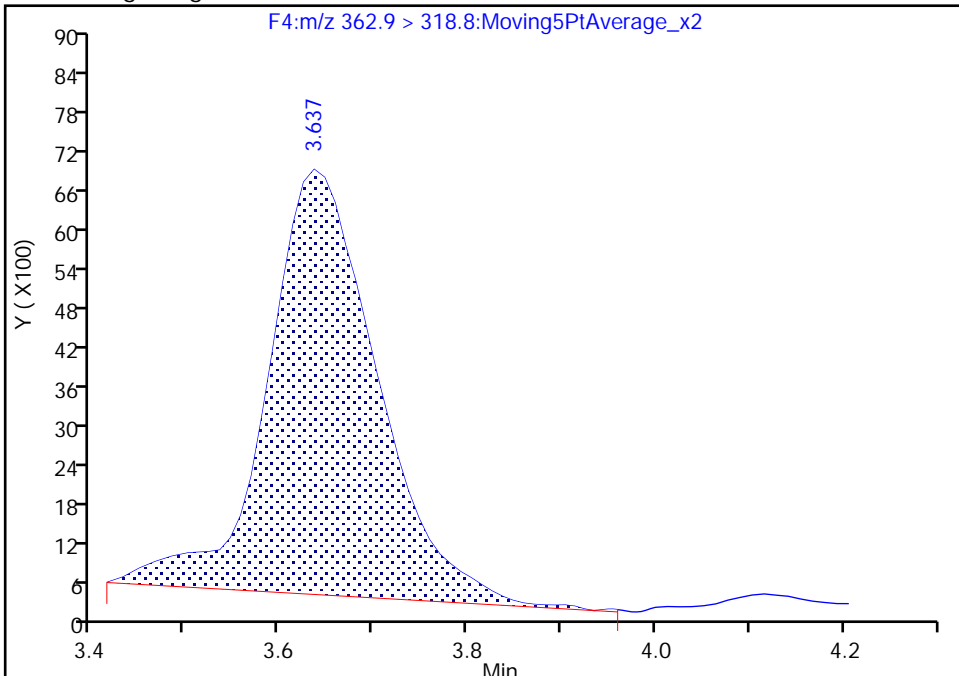
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Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

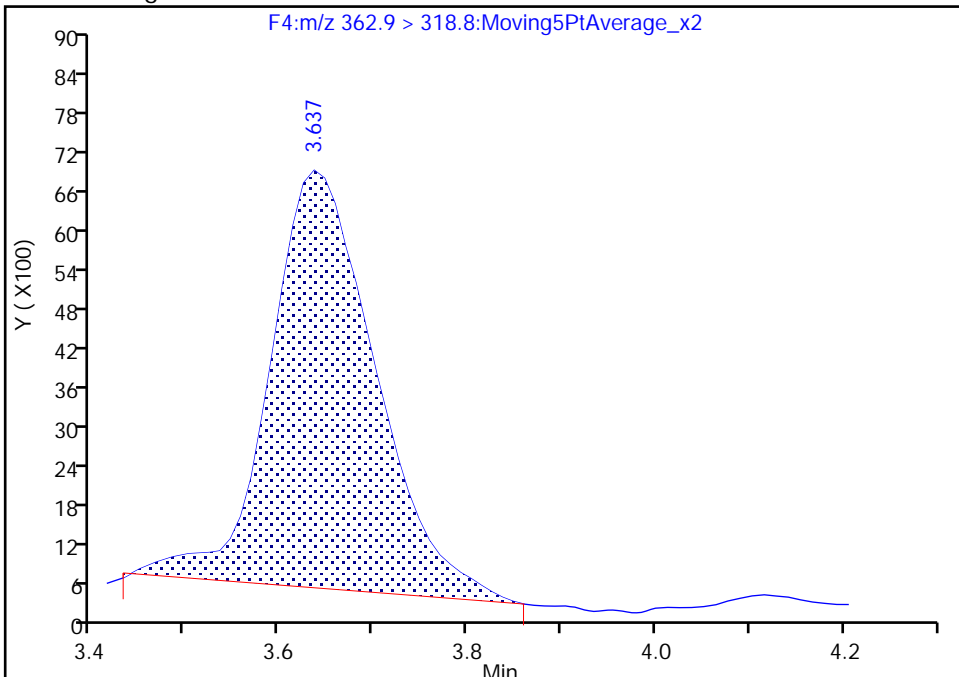
RT: 3.64  
Area: 53350  
Amount: 4.017181  
Amount Units: ng/ml

Processing Integration Results



RT: 3.64  
Area: 50286  
Amount: 3.789219  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:21:37  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

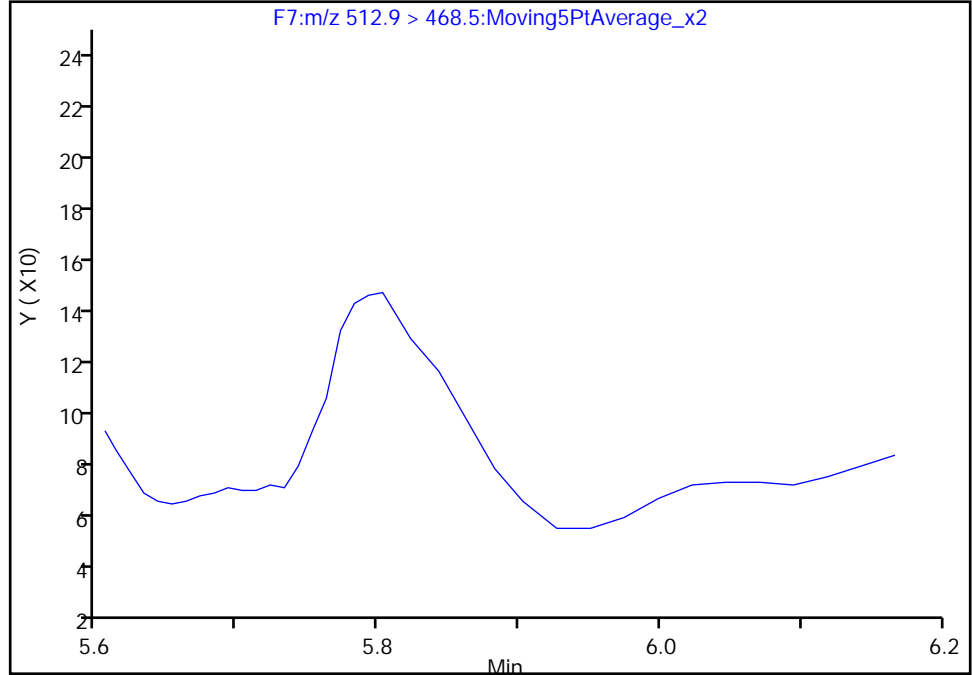
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

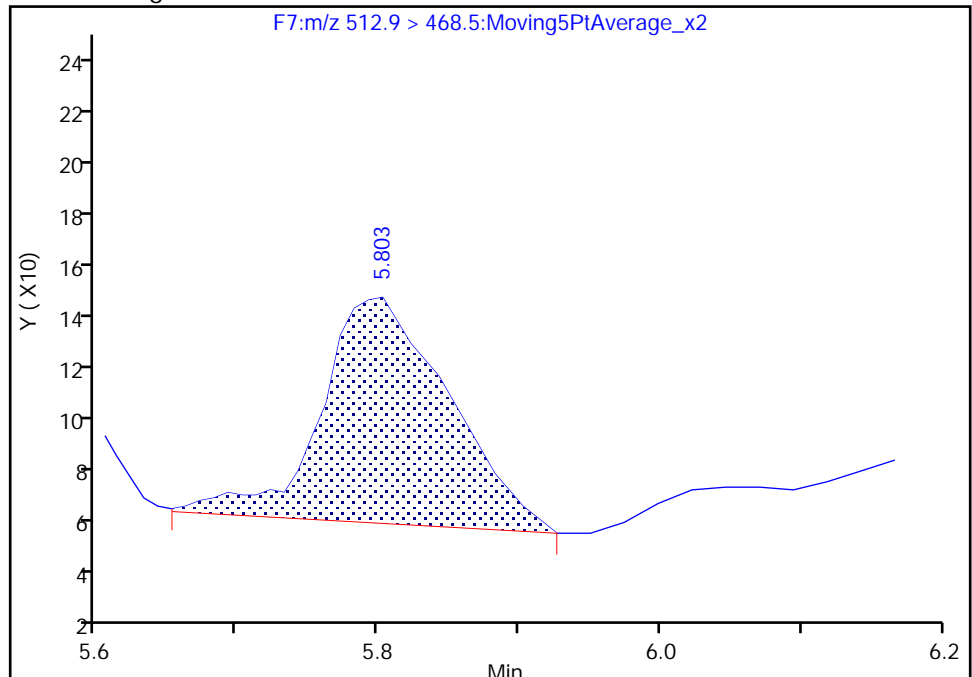
Not Detected  
Expected RT: 5.94

Processing Integration Results



Manual Integration Results

RT: 5.80  
Area: 528  
Amount: -0.076811  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:22:23  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

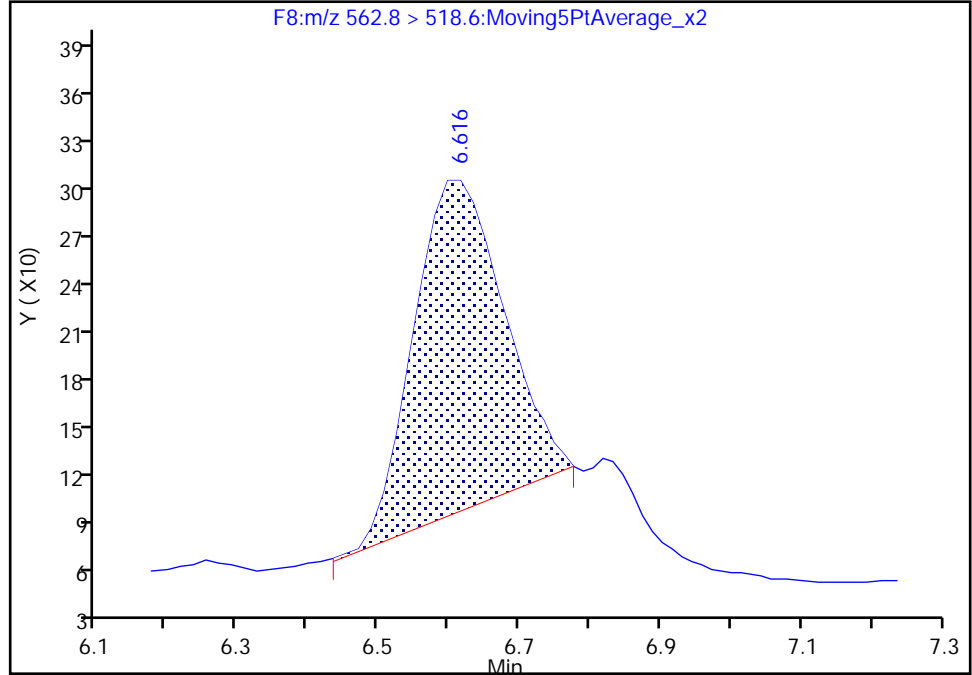
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

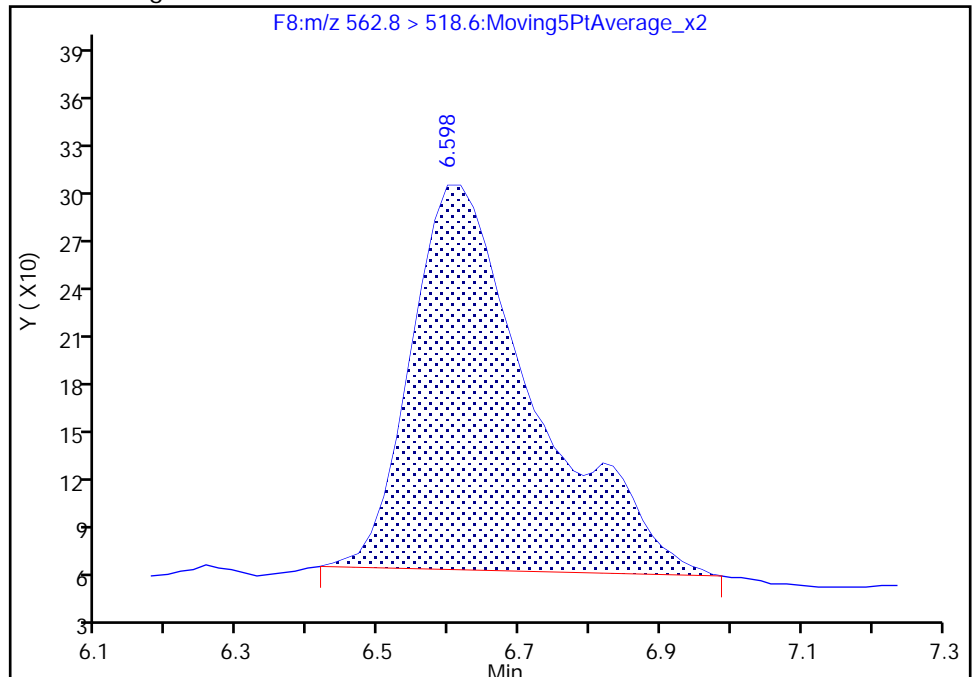
RT: 6.62  
Area: 1865  
Amount: 0.122128  
Amount Units: ng/ml

Processing Integration Results



RT: 6.60  
Area: 2946  
Amount: 0.165346  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:22:59  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

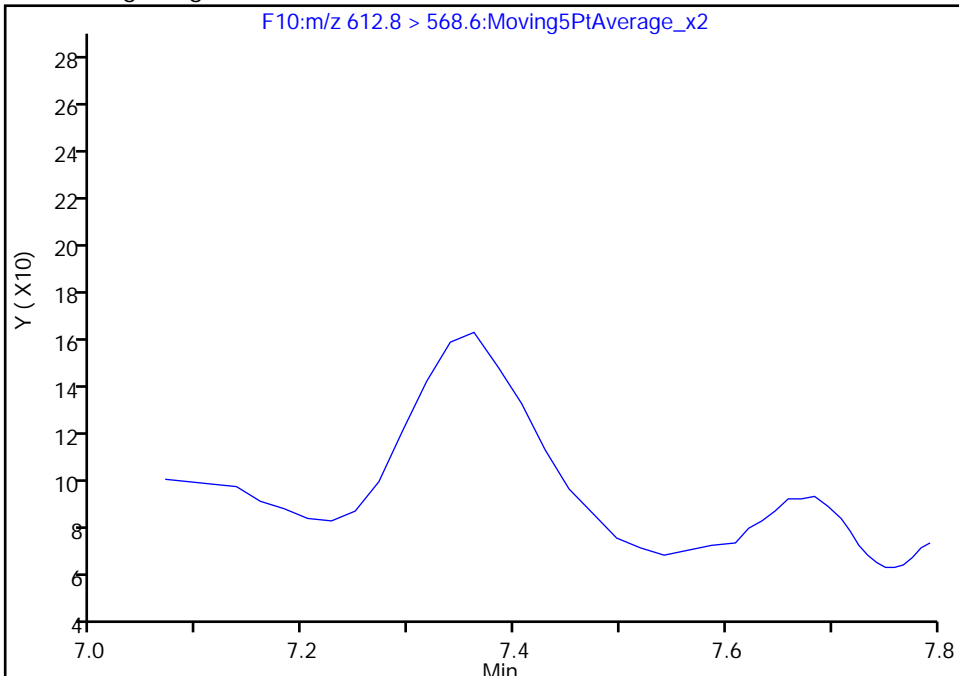
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:MRM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

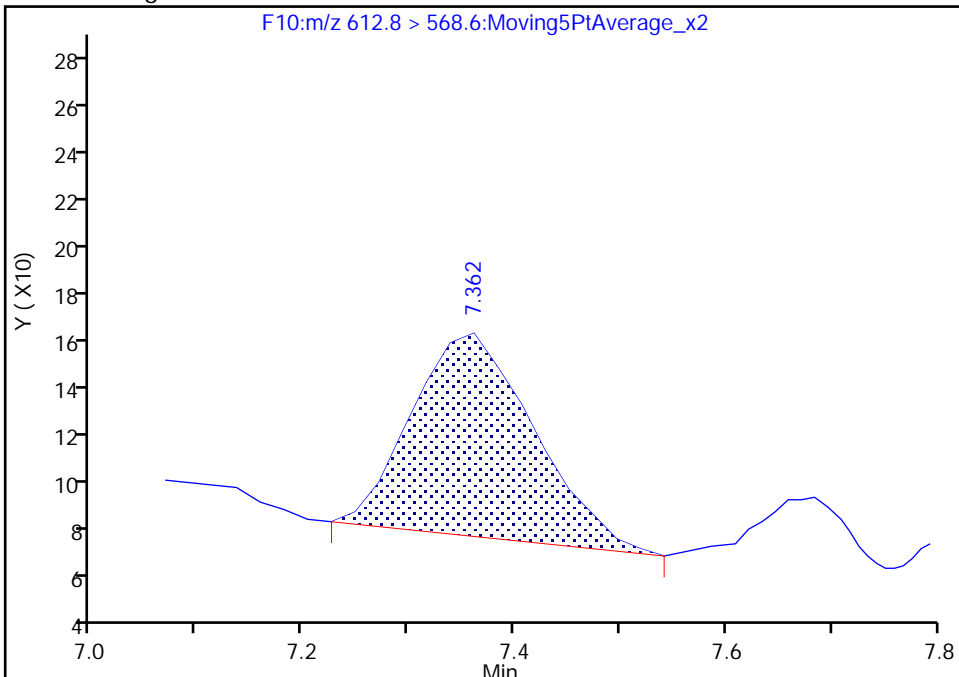
Not Detected  
Expected RT: 7.40

Processing Integration Results



Manual Integration Results

RT: 7.36  
Area: 665  
Amount: 0.006012  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:23:14  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

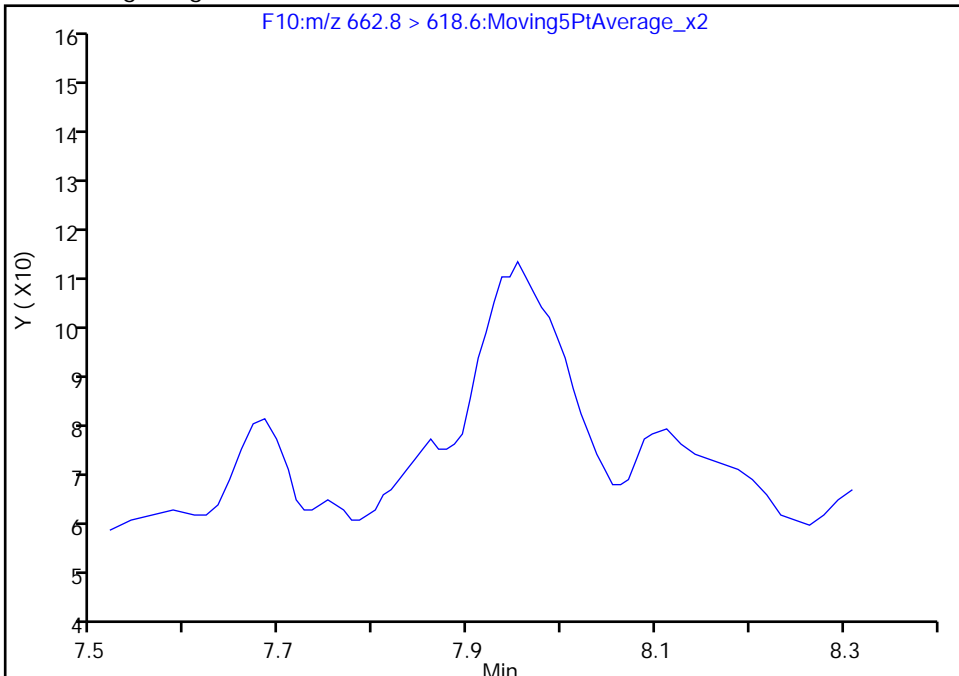
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:MRM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

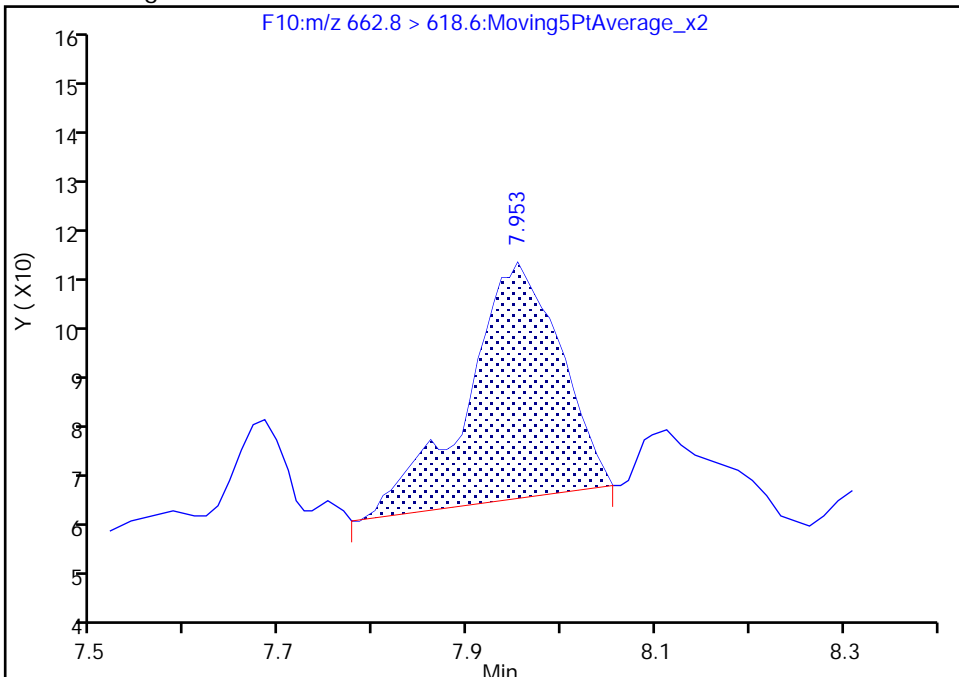
Not Detected  
Expected RT: 8.02

Processing Integration Results



Manual Integration Results

RT: 7.95  
Area: 320  
Amount: -0.079994  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:23:20  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

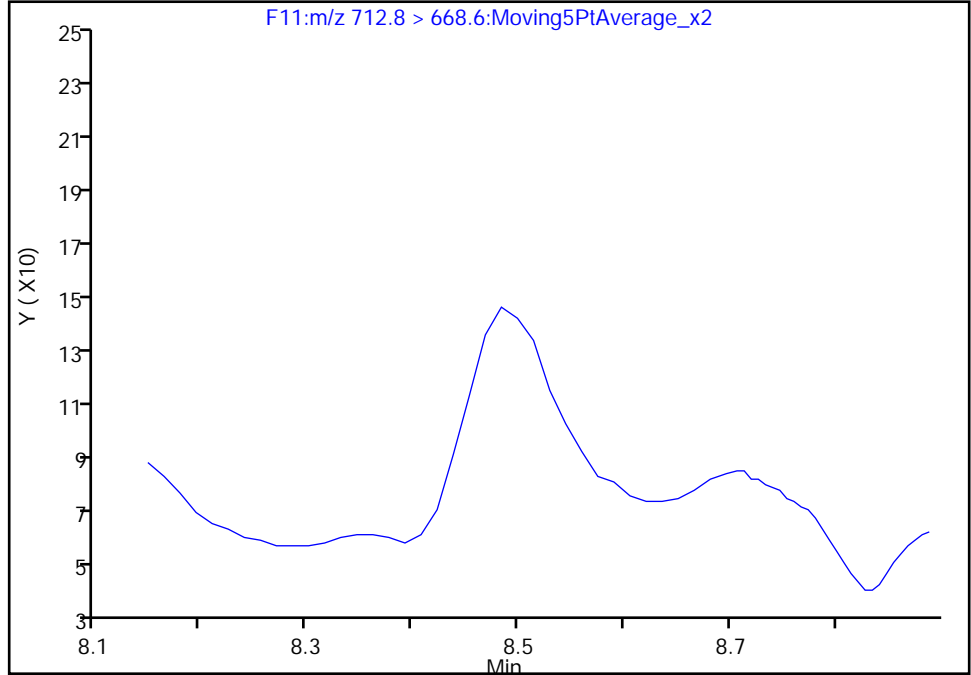
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

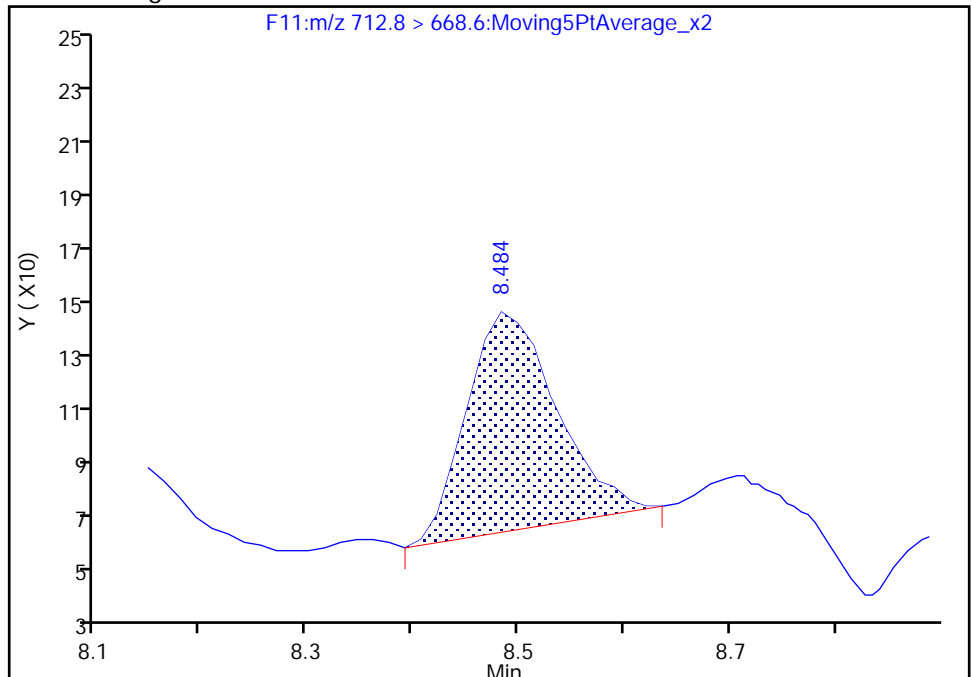
Not Detected  
Expected RT: 8.57

Processing Integration Results



RT: 8.48  
Area: 465  
Amount: -0.139655  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:23:38  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

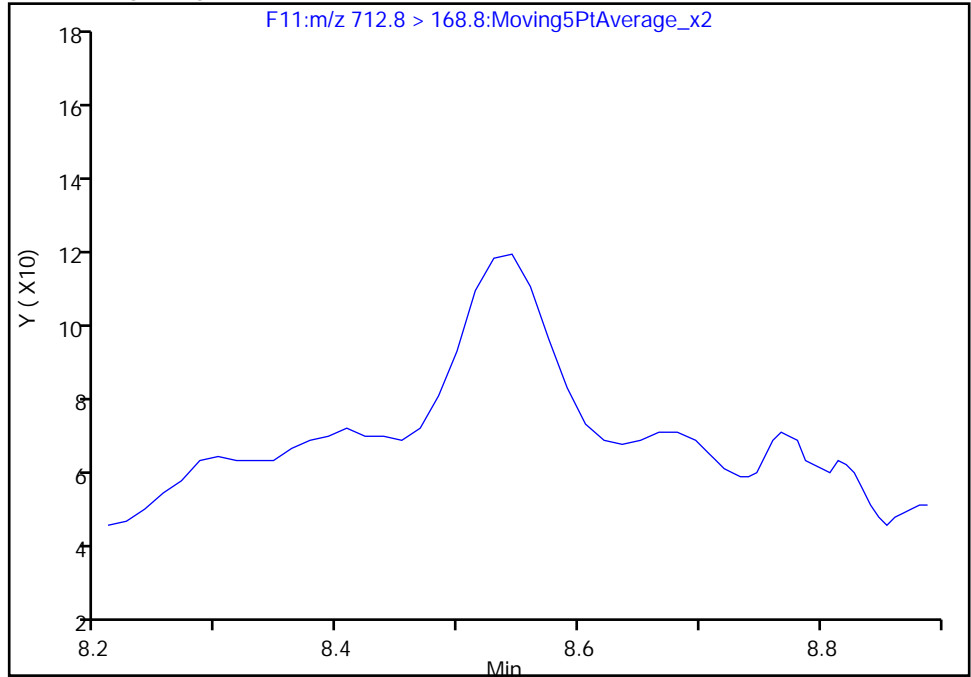
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

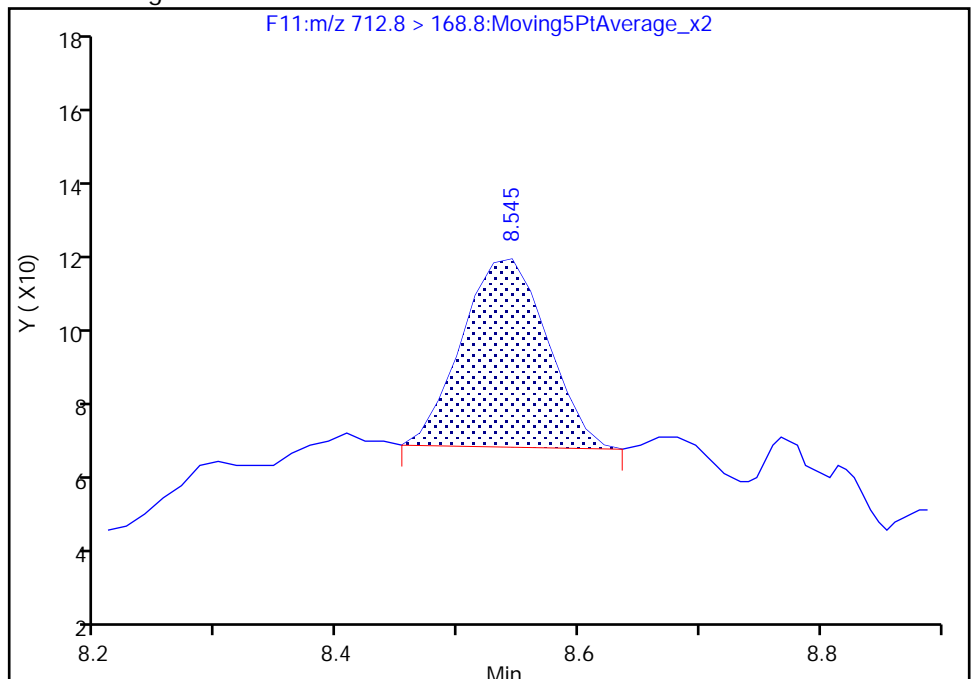
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.54  
Area: 227  
Amount: -0.139655  
Amount Units: ng/ml



TestAmerica Burlington

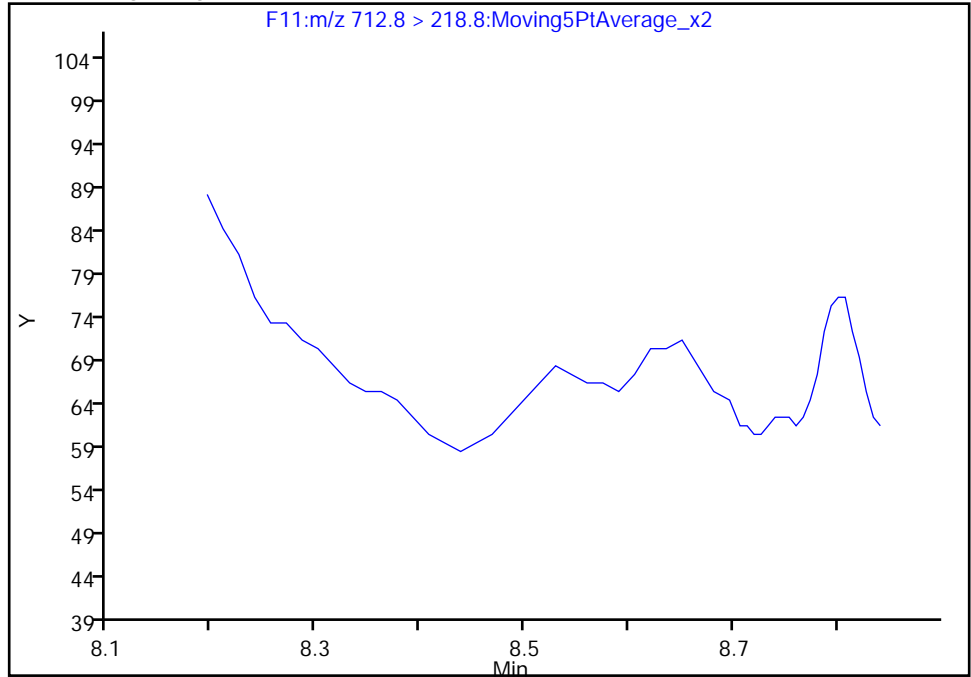
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

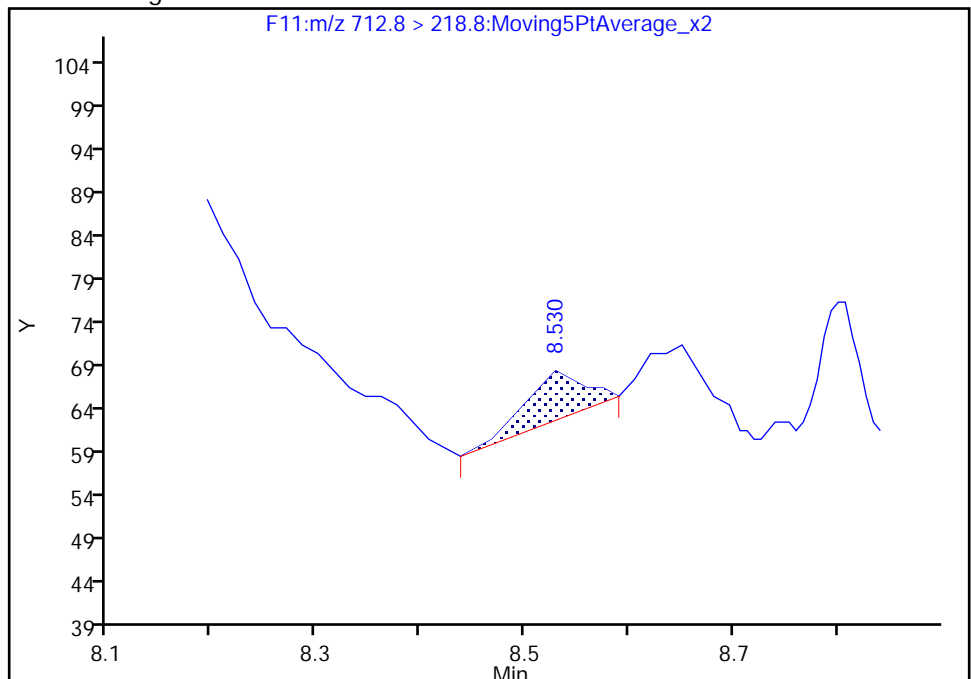
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.53  
Area: 22  
Amount: -0.139655  
Amount Units: ng/ml



TestAmerica Burlington

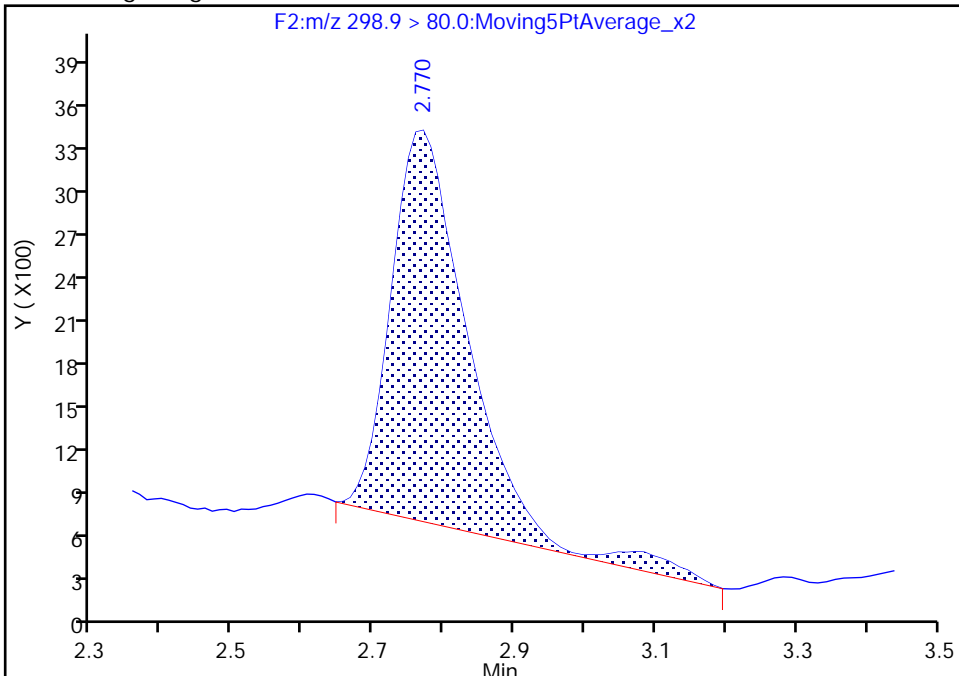
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

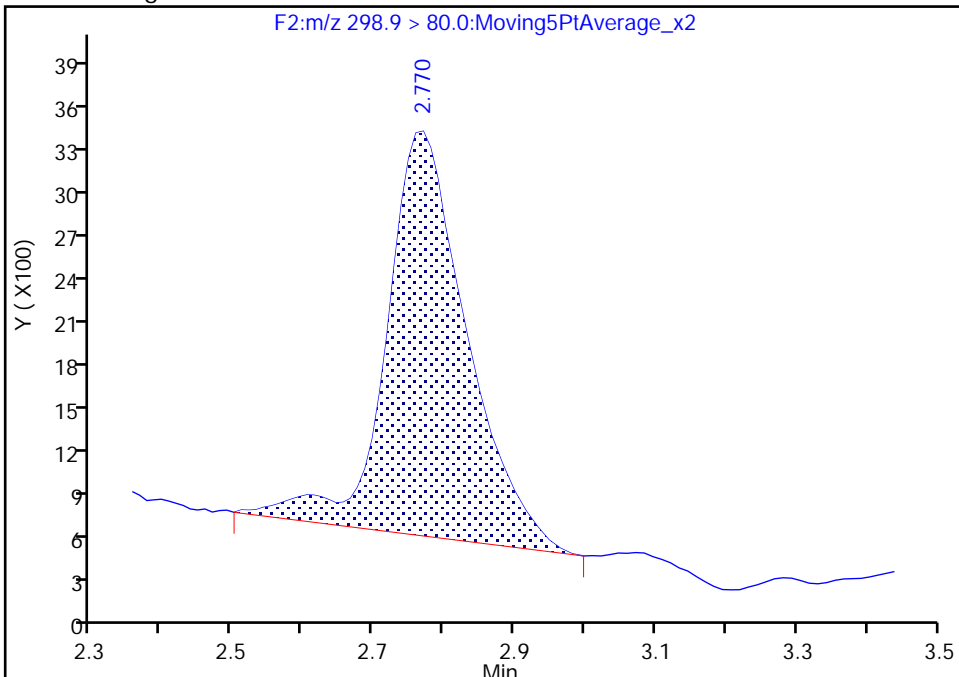
RT: 2.77  
Area: 20506  
Amount: 2.941954  
Amount Units: ng/ml

Processing Integration Results



RT: 2.77  
Area: 21994  
Amount: 3.142789  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:21:30  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

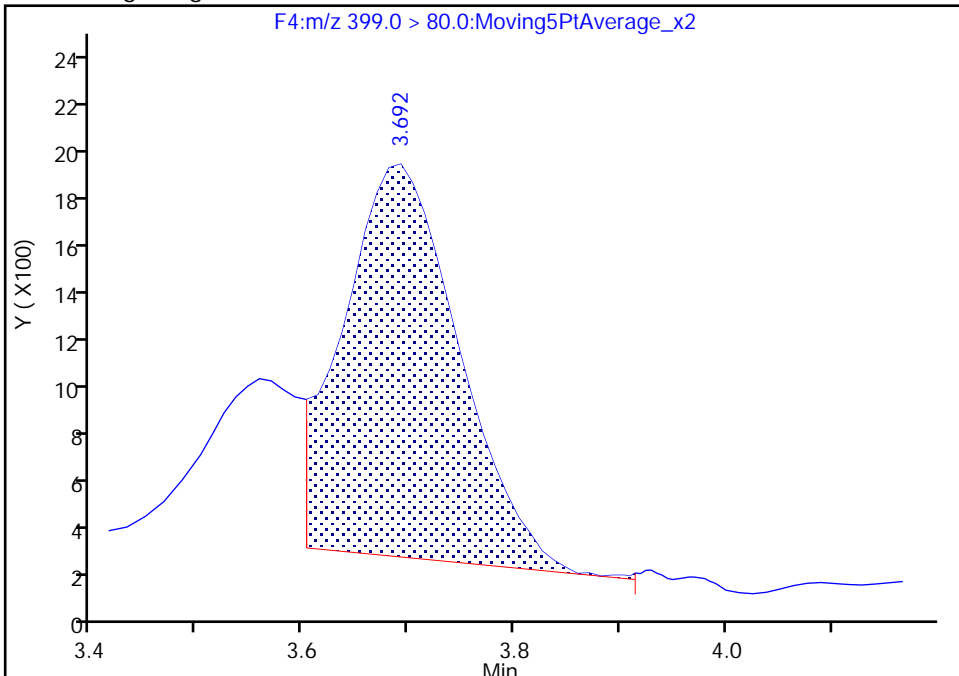
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

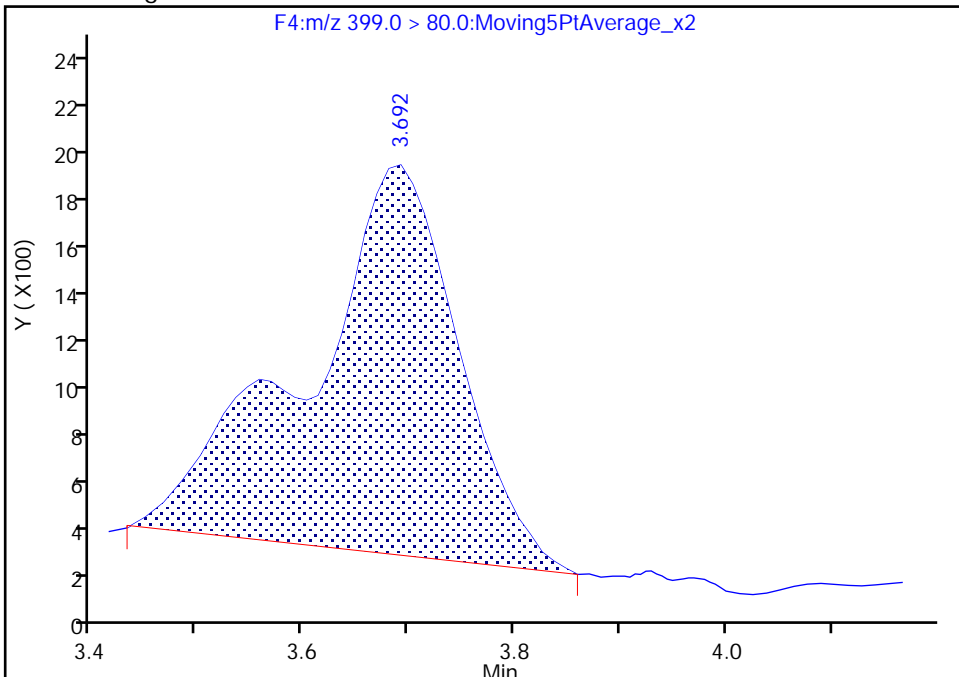
RT: 3.69  
Area: 11982  
Amount: 1.225088  
Amount Units: ng/ml

Processing Integration Results



RT: 3.69  
Area: 15705  
Amount: 1.614473  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:21:43  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

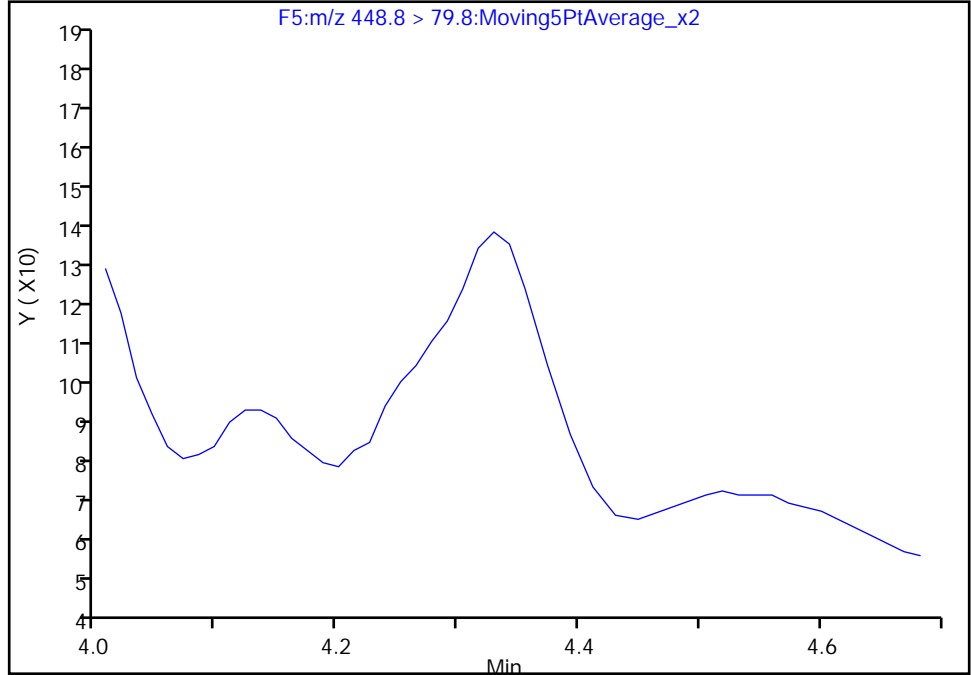
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

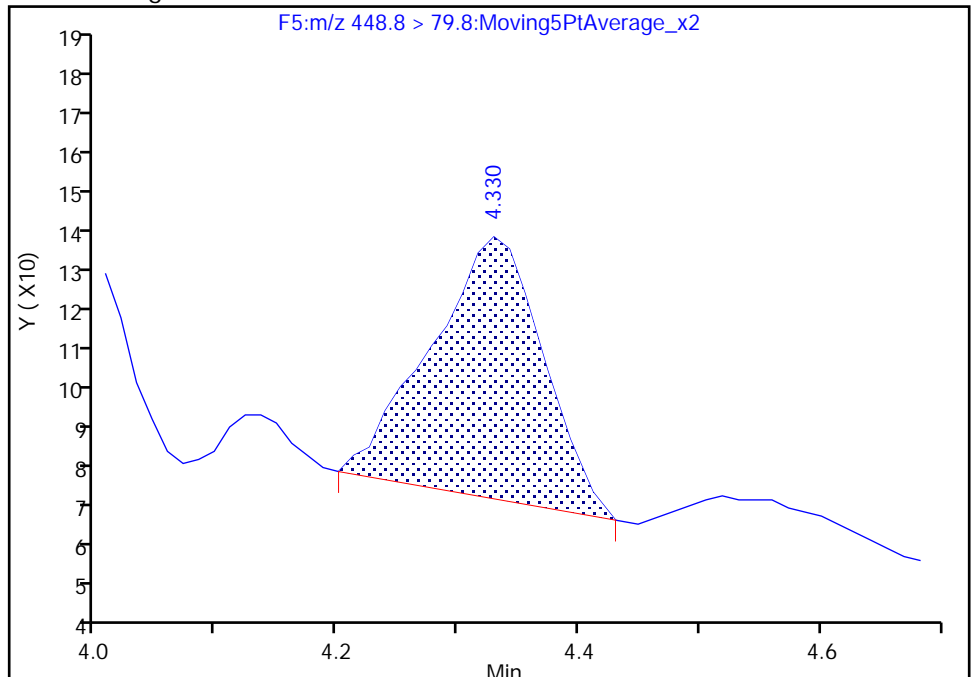
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.33  
Area: 418  
Amount: 0.217386  
Amount Units: ng/ml



TestAmerica Burlington

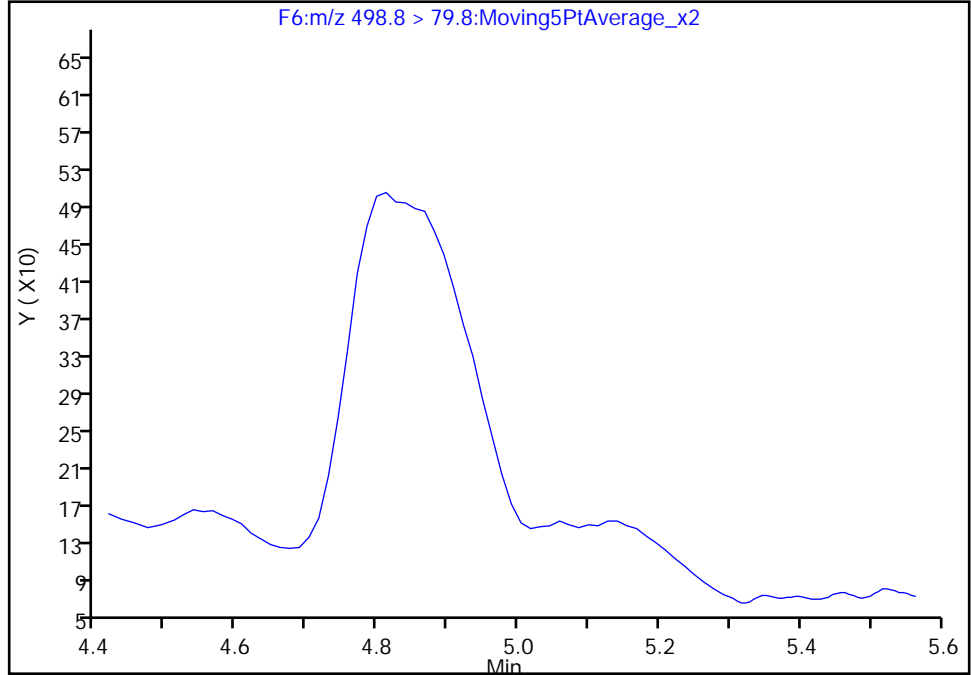
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

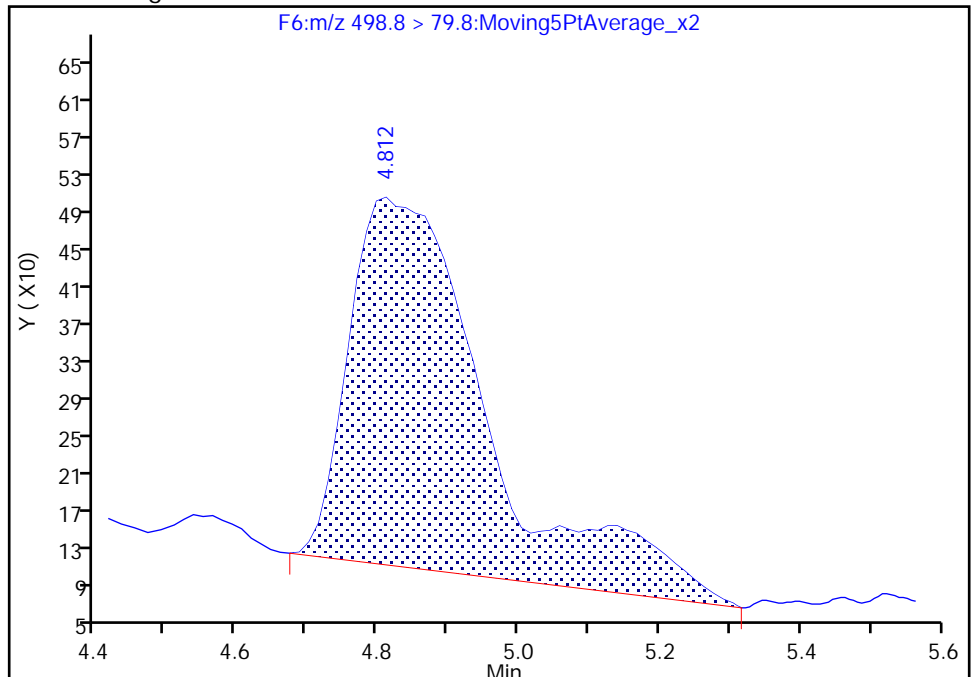
Not Detected  
Expected RT: 5.17

Processing Integration Results



RT: 4.81  
Area: 5352  
Amount: 1.206646  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:24:18  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

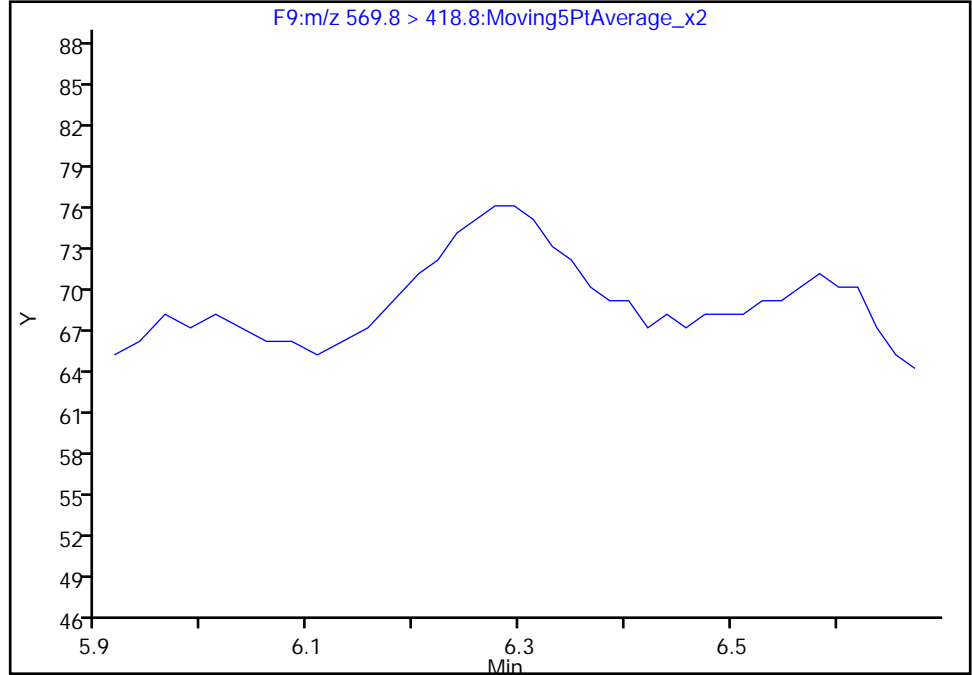
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A24.d  
Injection Date: 21-Apr-2018 17:02:23 Instrument ID: LC410  
Lims ID: 200-43041-B-2-A Lab Sample ID: 200-43041-2  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 24  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F9:MRM

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

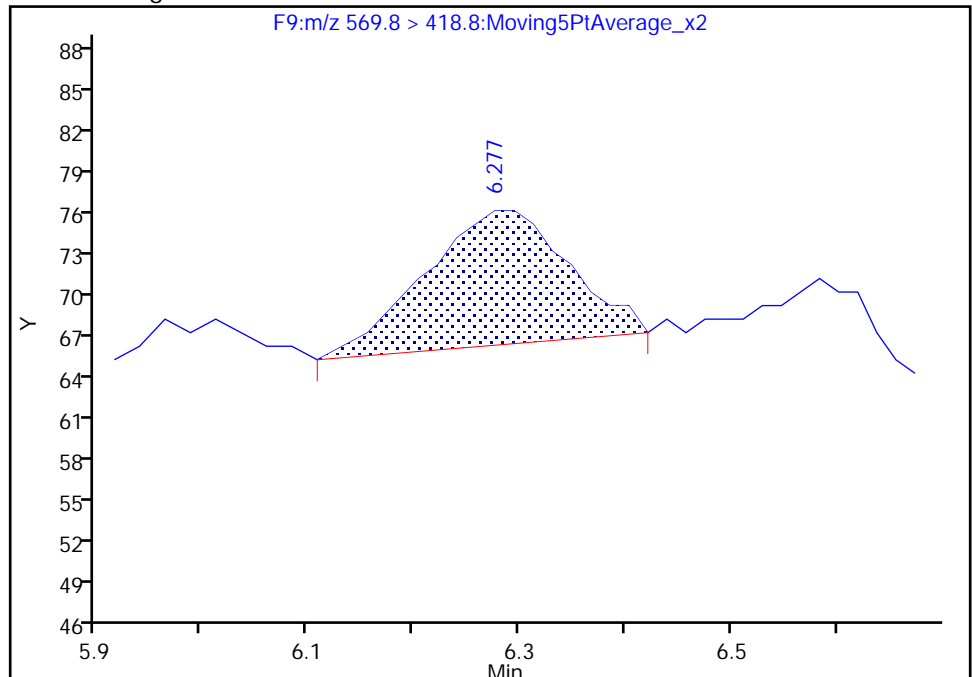
Not Detected  
Expected RT: 6.31

Processing Integration Results



RT: 6.28  
Area: 93  
Amount: 0.058635  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:22:39  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-3 Lab Sample ID: 200-43041-3  
 Matrix: Water Lab File ID: PF042118A27.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 14:35  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 292.3 (mL) Date Analyzed: 04/21/2018 17:47  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	7.36		1.71	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	8.41		1.71	0.38
307-24-4	Perfluorohexanoic acid (PFHxA)	7.77		1.71	0.38
375-85-9	Perfluoroheptanoic acid (PFHpA)	9.35		1.71	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	14.8		1.71	0.40
375-95-1	Perfluorononanoic acid (PFNA)	0.22	U	1.71	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	0.38	U	1.71	0.38
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.38	U	1.71	0.38
307-55-1	Perfluorododecanoic acid (PFDoA)	0.38	U	1.71	0.38
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.38	U	1.71	0.38
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.38	U	1.71	0.38
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.56	J	1.71	0.75
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.14	J	1.71	0.24
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.38	J	1.71	0.38
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.26	U	1.71	0.26
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.38	U	1.71	0.38
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.38	U	1.71	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	1.71	0.51
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	1.71	0.51
27619-97-2	6:2FTS	0.54	J	1.71	0.51
39108-34-4	8:2FTS	0.51	U	1.71	0.51

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-3 Lab Sample ID: 200-43041-3  
 Matrix: Water Lab File ID: PF042118A27.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 14:35  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 292.3 (mL) Date Analyzed: 04/21/2018 17:47  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	34		25-150
STL01893	13C5 PFPeA	53		25-150
STL00993	13C2 PFHxA	63		25-150
STL01892	13C4-PFHpA	77		25-150
STL00990	13C4 PFOA	93		25-150
STL00995	13C5 PFNA	109		25-150
STL00996	13C2 PFDA	101		25-150
STL00997	13C2 PFUnA	96		25-150
STL00998	13C2 PFDoA	81		25-150
STL02116	13C2-PFTeDA	83		25-150
STL02337	13C3-PFBS	78		25-150
STL00994	18O2 PFHxS	100		25-150
STL00991	13C4 PFOS	104		25-150
STL01056	13C8 FOSA	55		25-150
STL02118	d3-NMeFOSAA	81		25-150
STL02117	d5-NEtFOSAA	92		25-150
STL02279	M2-6:2FTS	216	*	25-150
STL02280	M2-8:2FTS	203	*	25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
 Lims ID: 200-43041-B-3-A  
 Client ID: MW-3  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 17:47:42 ALS Bottle#: 0 Worklist Smp#: 27  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-027 3  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:30:47

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.298	2.319	-0.021	1.000	169302	16.8	33.5	73.9	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.306	2.320	-0.014	1.004	13658	4.30		25.3		M
D 3 13C5-PFPeA	267.7 > 222.6	2.708	2.736	-0.028	1.000	65393	26.7	53.4	50.3	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.708	2.738	-0.030	1.000	38428	4.92		24.7		M
D 5 13C3-PFBS	302.0 > 79.8	2.770	2.800	-0.030	1.000	184649	36.1	77.7	442	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.760	2.804	-0.044	0.996	6123	0.9122		9.0		
D 7 13C2 PFHxA	314.8 > 269.6	3.103	3.158	-0.055	1.000	261860	31.5	62.9	1140	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.115	3.162	-0.047	1.004	23060	4.54		72.7		M
D 10 13C4-PFHpA	366.9 > 321.8	3.625	3.689	-0.064	1.000	788260	38.7	77.5	2155	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.625	3.689	-0.064	1.000	89222	5.47		97.9		M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.659	3.733	-0.074	0.997	7074	0.6641		27.2		M
D 13 18O2 PFHxS	402.9 > 83.8	3.670	3.737	-0.067	1.000	270058	47.2	99.8	1509	
D 14 M2-6:2FTS	428.6 > 408.6	4.252	4.319	-0.067	1.000	112190	102.8	216	1028	
15 Sodium 1H,1H,2H,2H-perfluorooctane										M
426.6 > 406.6	4.239	4.319	-0.080	0.997	762	0.3138		10.1		M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.291	4.365	-0.074	1.000	868254	46.4		92.8	1474	
* 49 13C2-PFOA										
414.9 > 369.8	4.304	4.371	-0.067		1104423	50.0			2708	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.291	4.374	-0.083	1.000	162555	8.67			321	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.317	4.408	-0.091	0.849	483	0.2228			5.7	M
D 21 13C5 PFNA										
467.8 > 422.8	5.072	5.145	-0.073	1.000	1246072	54.7		109	2165	
D 22 13C4 PFOS										
502.8 > 79.8	5.085	5.168	-0.083	1.000	233272	49.5		104	1094	
D 23 M2-8:2FTS										
528.8 > 508.8	5.803	5.910	-0.107	1.000	665880	97.3		203	1901	
D 25 13C2 PFDA										
514.9 > 469.5	5.843	5.934	-0.091	1.000	1530187	50.5		101	3229	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.862	5.938	-0.076	1.003	1210	-0.0574			4.2	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.180	6.298	-0.118	1.000	277021	40.6		81.2	1168	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.562	6.667	-0.105	1.000	272337	45.8		91.7	1208	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.598	6.688	-0.090	1.006	353	-0.0217			3.8	M
31 Perfluorodecane Sulfonic acid										M
598.8 > 79.8	6.544	6.699	-0.155	1.287	142	0.0661			4.0	M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.562	6.711	-0.149	0.997	3888	0.1755			19.6	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.580	6.713	-0.133	1.000	1594959	48.1		96.1	3931	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	220306	27.6		55.1	1797	
D 36 13C2 PFDaA										
614.8 > 569.6	7.294	7.392	-0.098	1.000	1360834	40.3		80.5	7768	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.294	7.399	-0.105	1.000	1422	0.0329			15.4	M
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.936	8.022	-0.086	1.088	1756	-0.0244			14.2	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.499	8.572	-0.073	1.000	1321680	41.4		82.8	2067	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.530	8.572	-0.042	1.004	1638	-0.0915			12.4	M
712.8 > 168.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			



## QC Flag Legend

### Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d

Injection Date: 21-Apr-2018 17:47:42

Instrument ID: LC410

Lims ID: 200-43041-B-3-A

Lab Sample ID: 200-43041-3

Client ID: MW-3

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 27

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

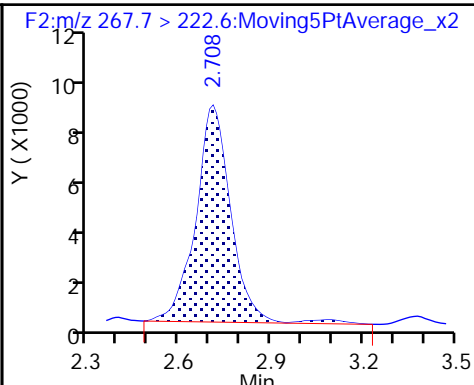
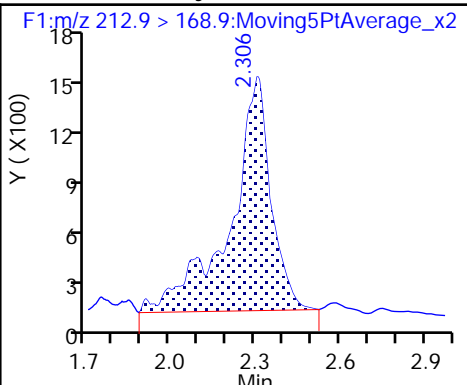
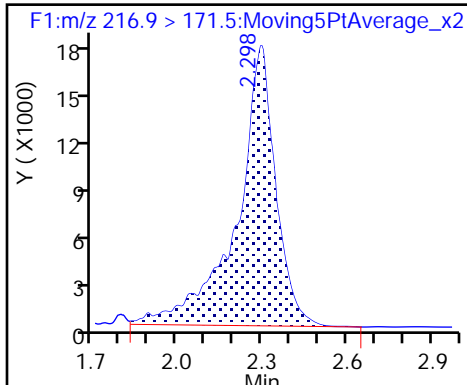
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

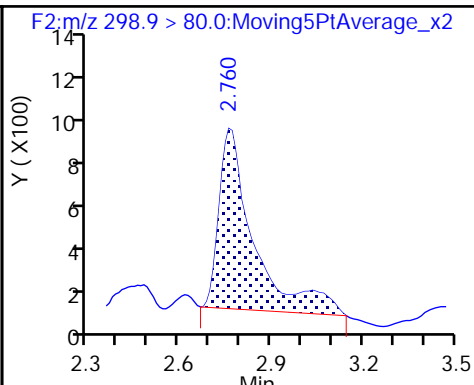
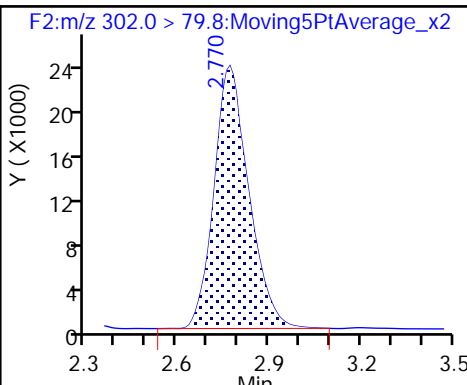
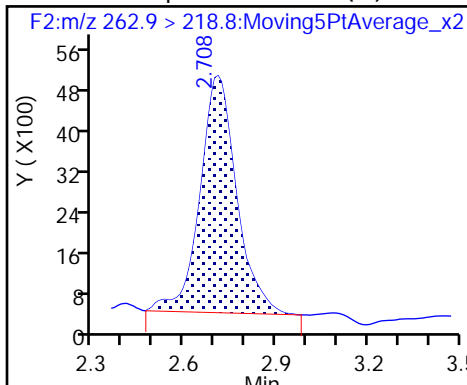
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

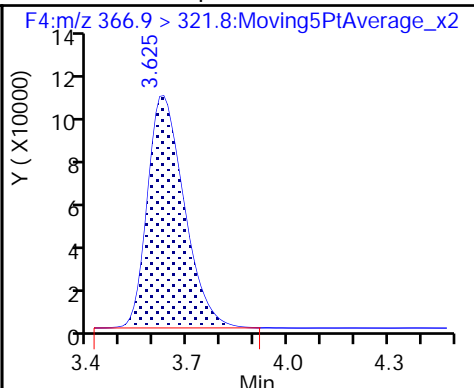
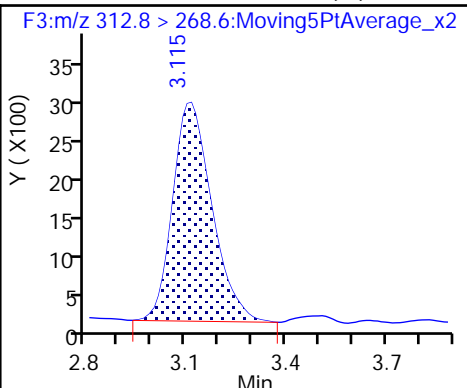
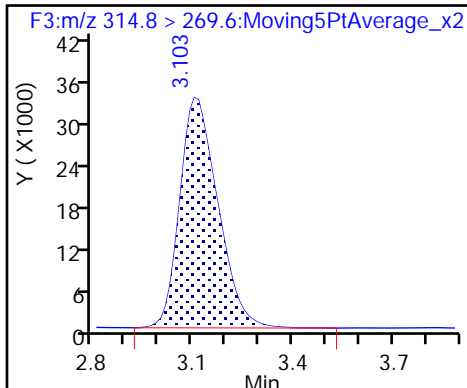
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

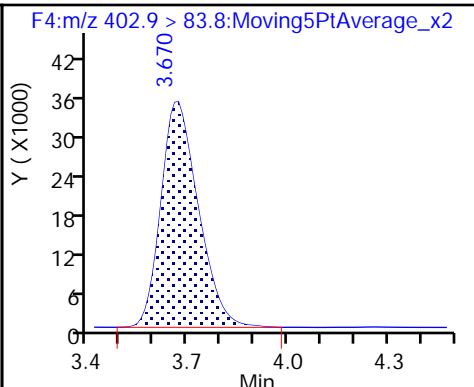
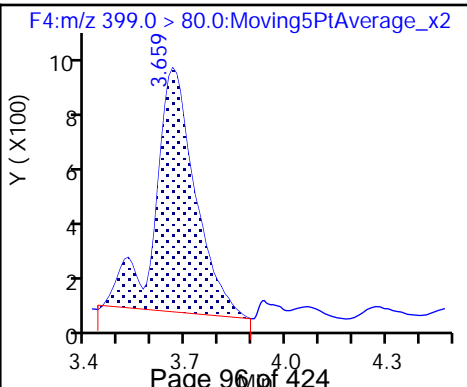
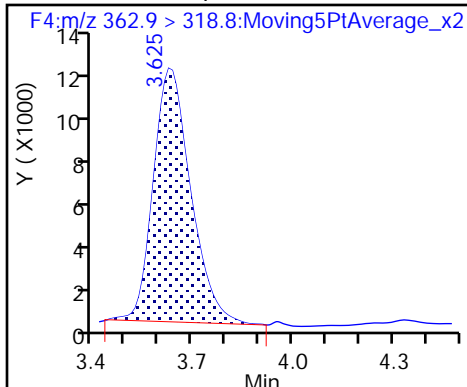
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

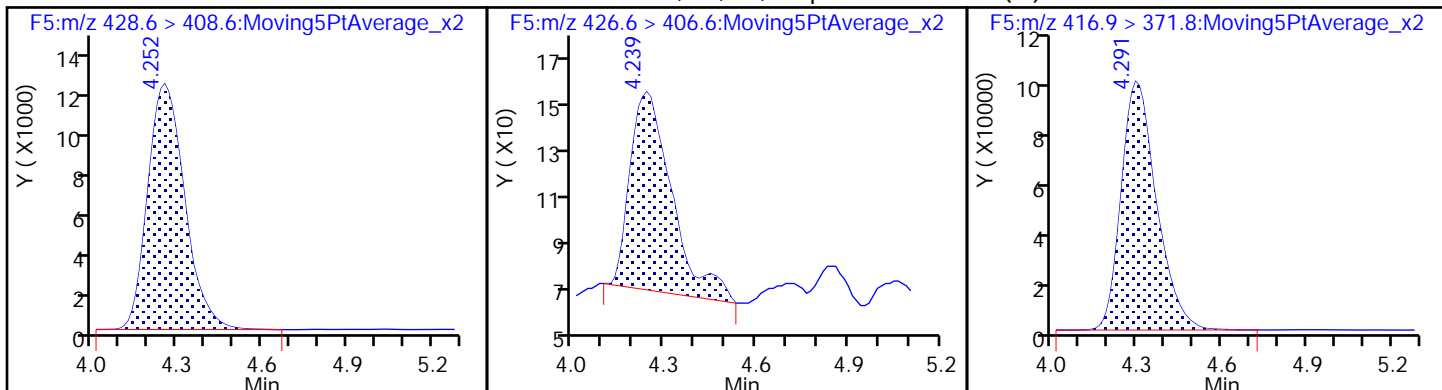
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

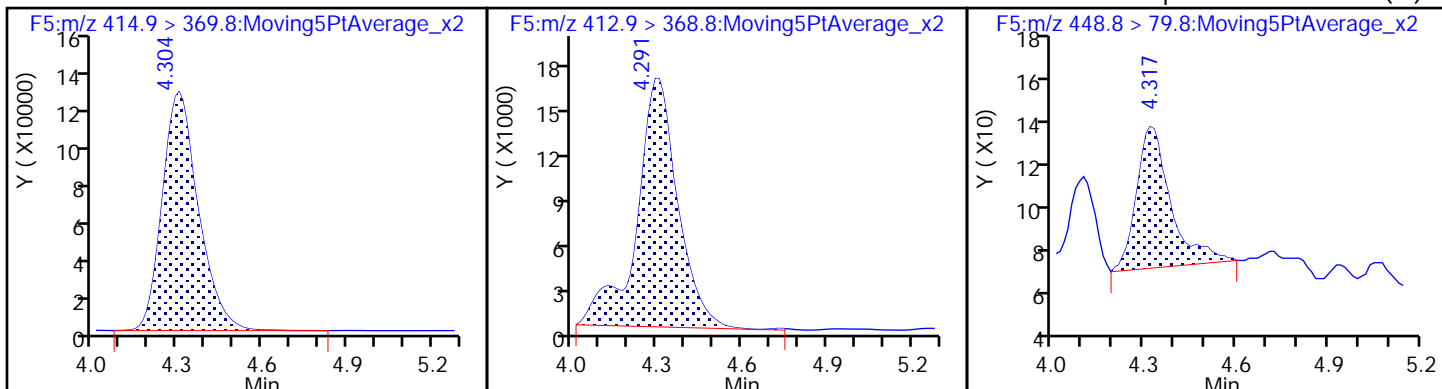
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

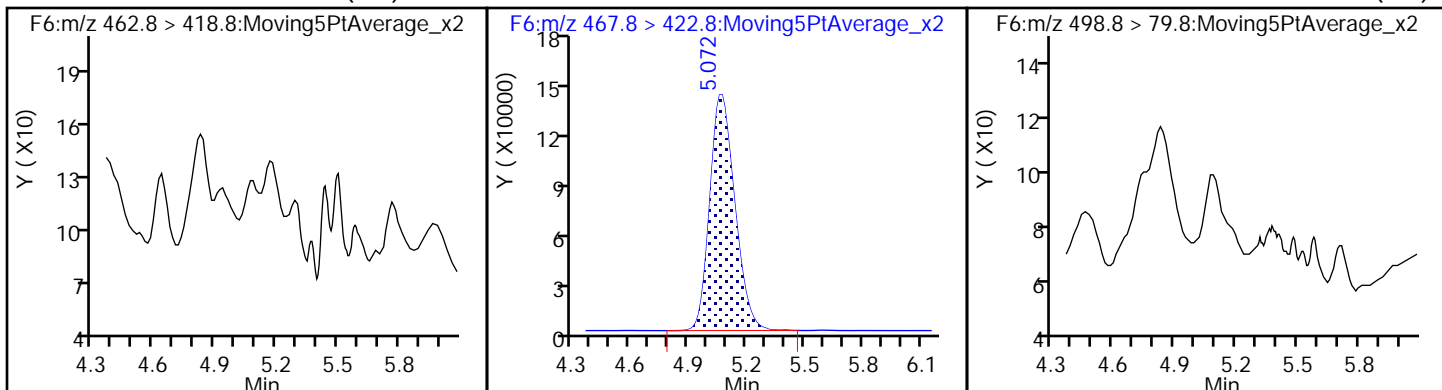
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (ND)

D 21 13C5 PFNA

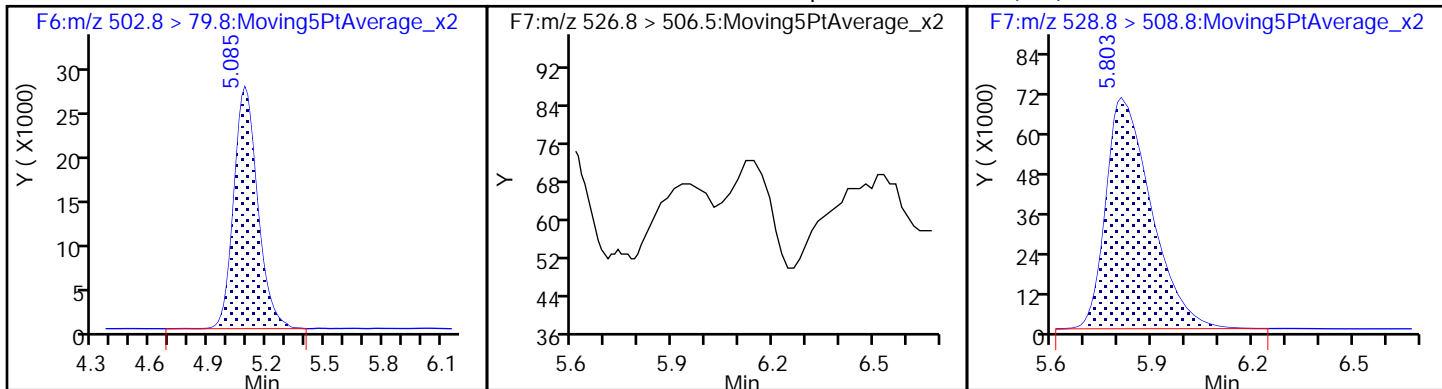
20 Perfluorooctane sulfonic acid (ND)



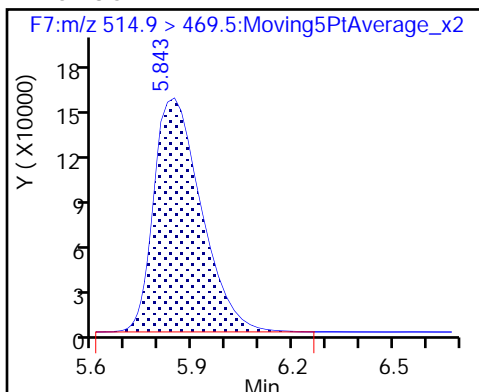
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 13C4 PFOA

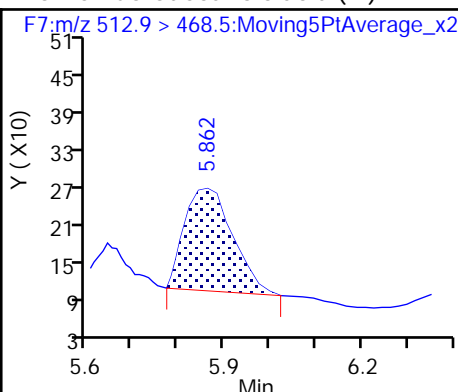
D 23 M2-8:2FTS



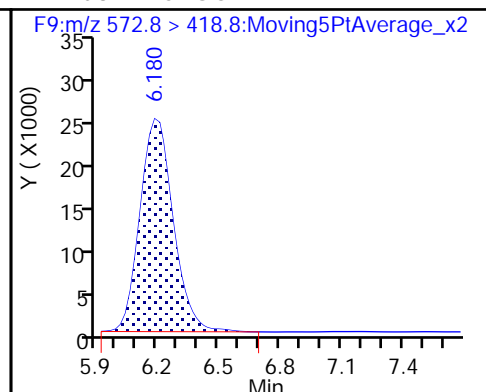
D 25 13C2 PFDA



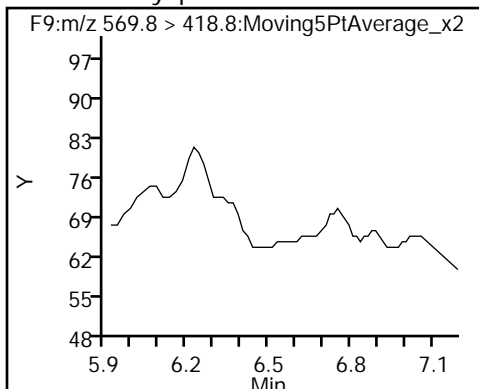
26 Perfluorodecanoic acid (M)



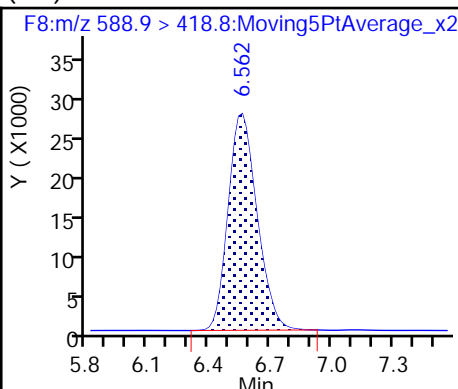
D 27 d3-NMeFOSAA



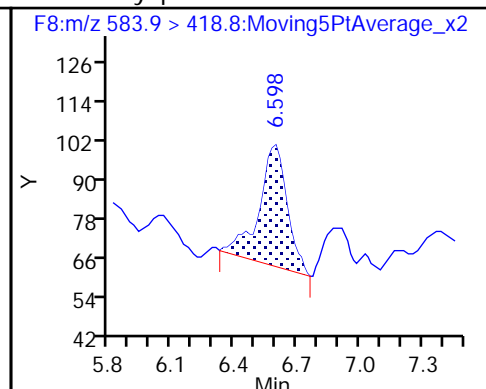
28 N-methyl perfluorooctane sulfonamide (ND) d5-NEtFOSAA



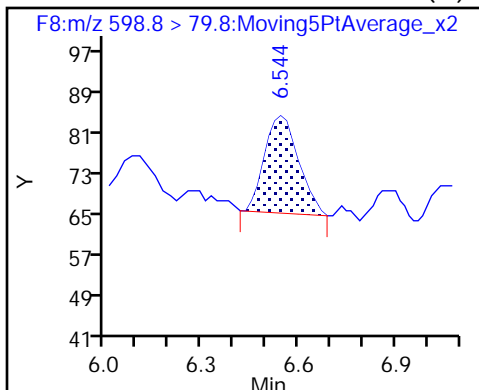
29 d5-NEtFOSAA



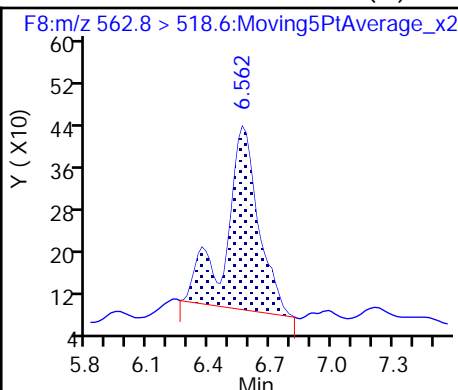
30 N-ethyl perfluorooctane sulfonamide (M)



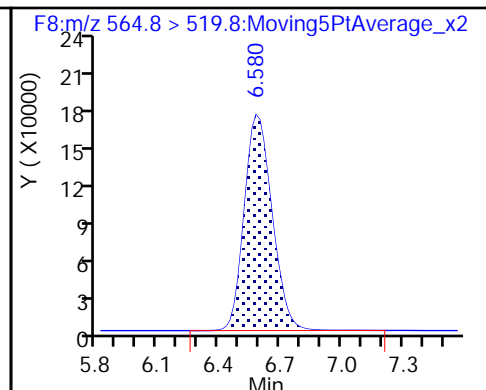
31 Perfluorodecane Sulfonic acid (M)



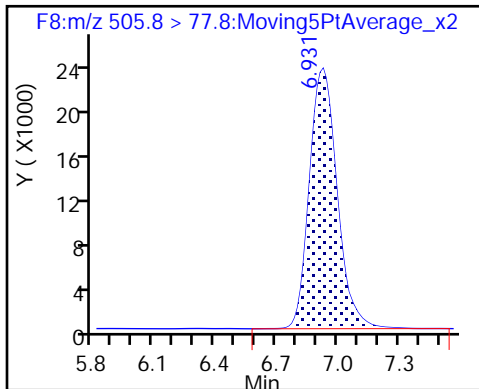
32 Perfluoroundecanoic acid (M)



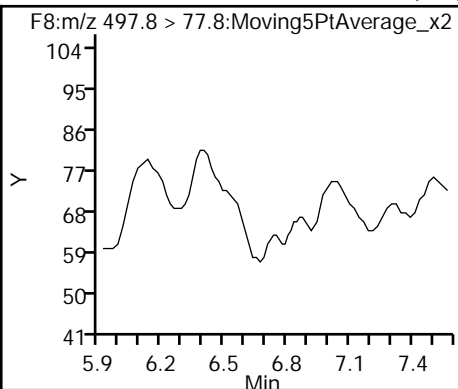
D 33 13C2 PFUnA



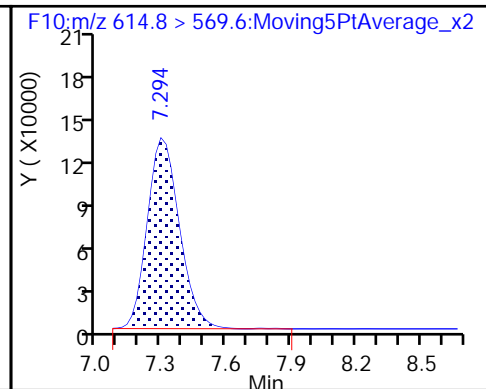
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (ND)



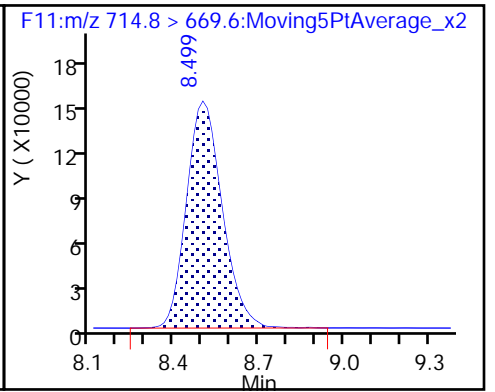
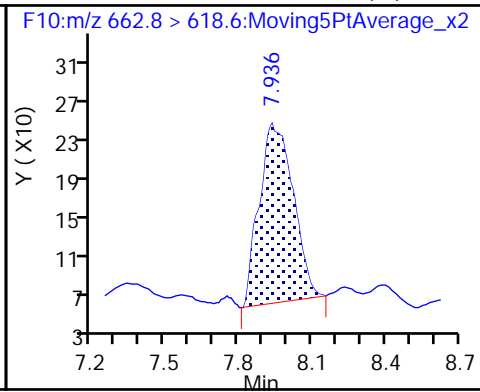
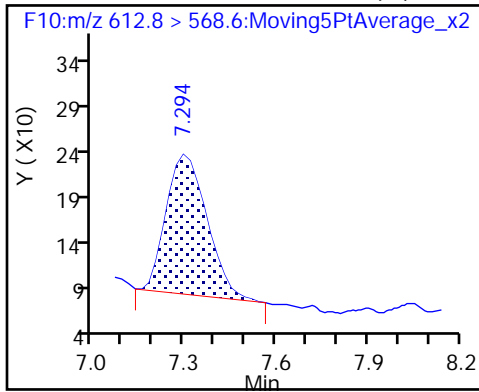
D 36 13C2 PFDoA



37 Perfluorododecanoic acid (M)

40 Perfluorotridecanoic acid (M)

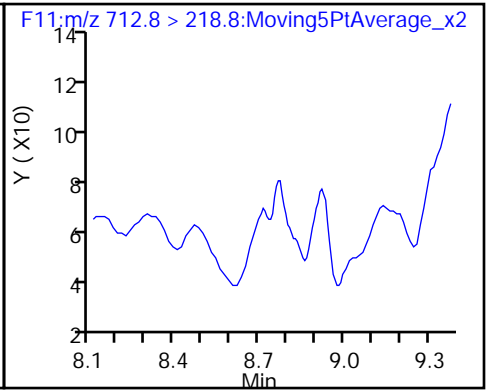
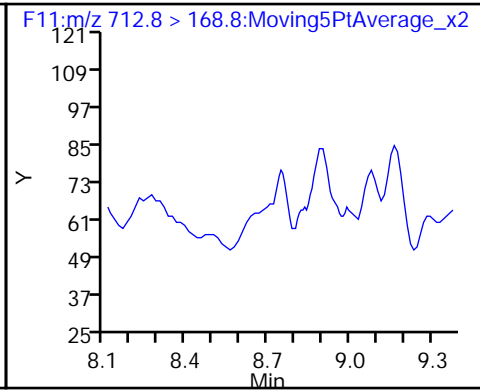
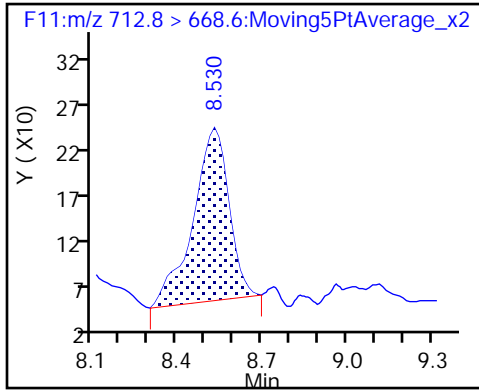
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

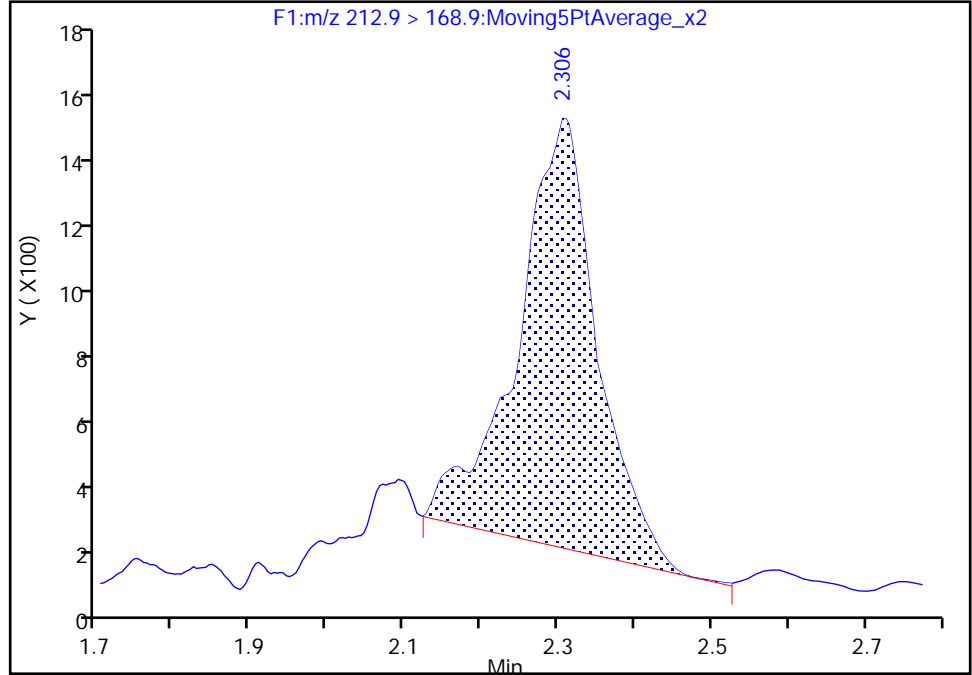
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Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

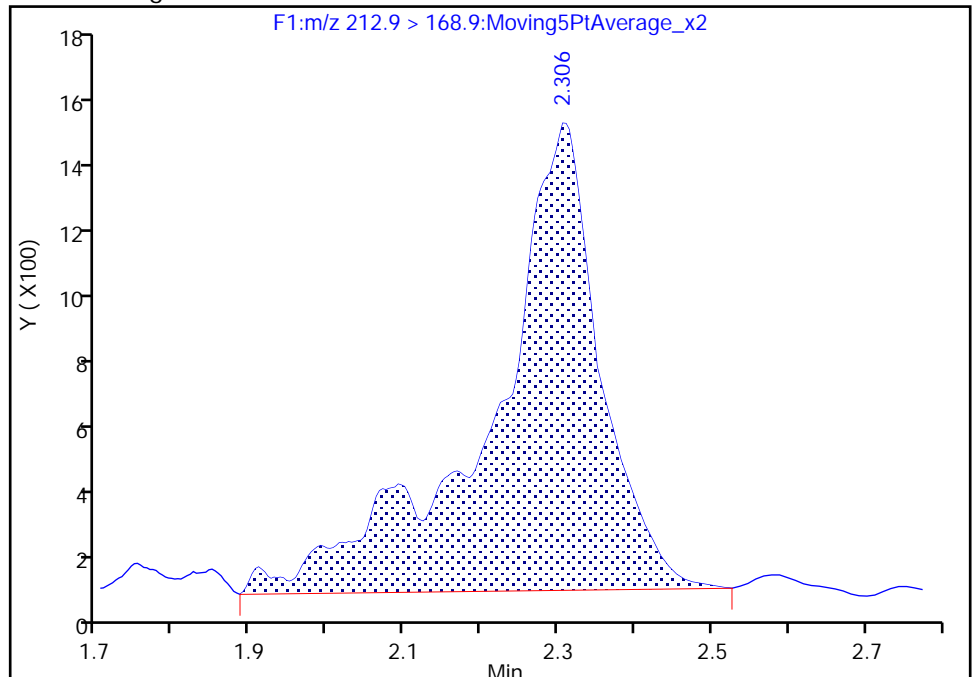
RT: 2.31  
Area: 9119  
Amount: 2.820544  
Amount Units: ng/ml

Processing Integration Results



RT: 2.31  
Area: 13658  
Amount: 4.301114  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:28:51  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

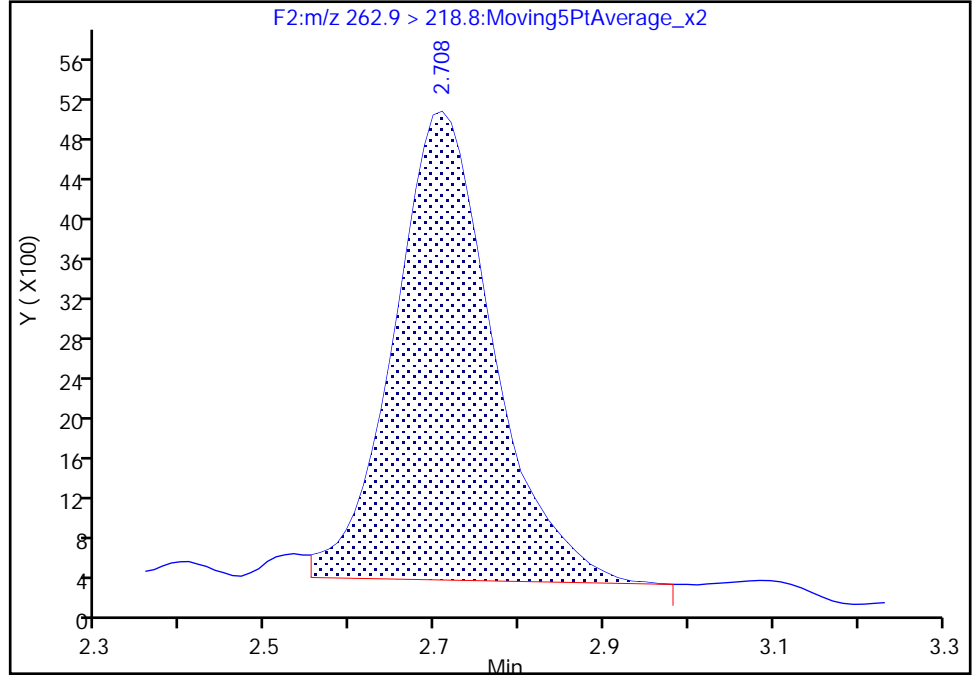
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Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

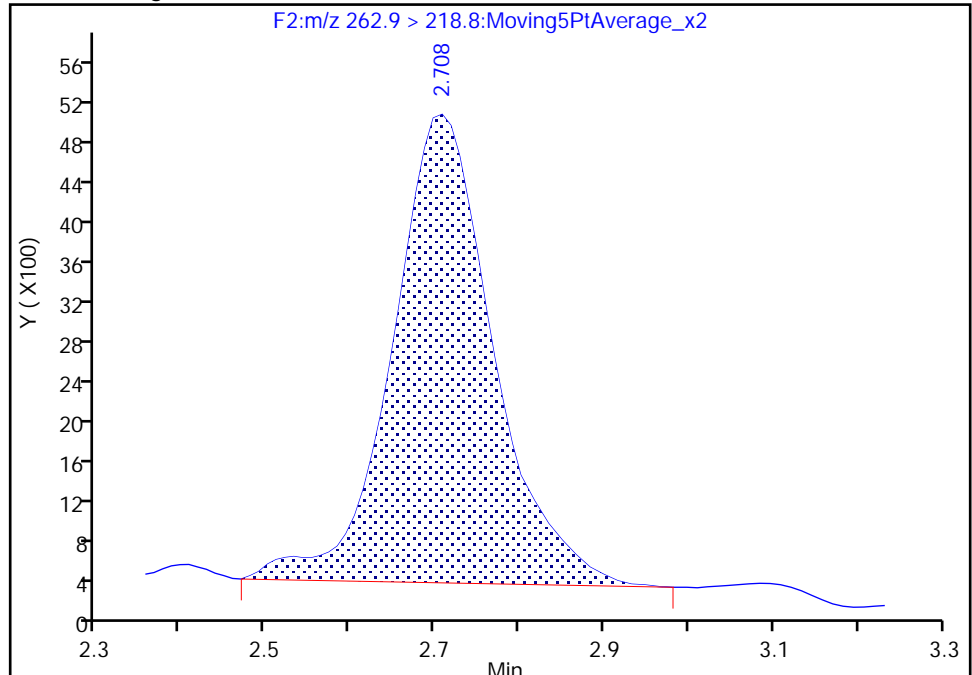
RT: 2.71  
Area: 37657  
Amount: 4.808887  
Amount Units: ng/ml

Processing Integration Results



RT: 2.71  
Area: 38428  
Amount: 4.916581  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

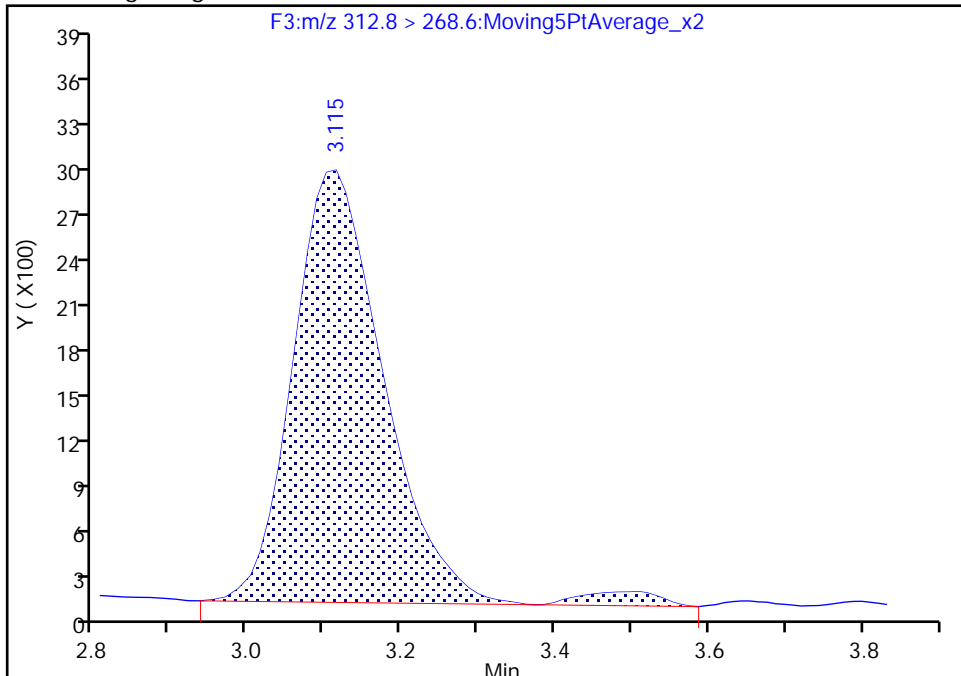
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Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

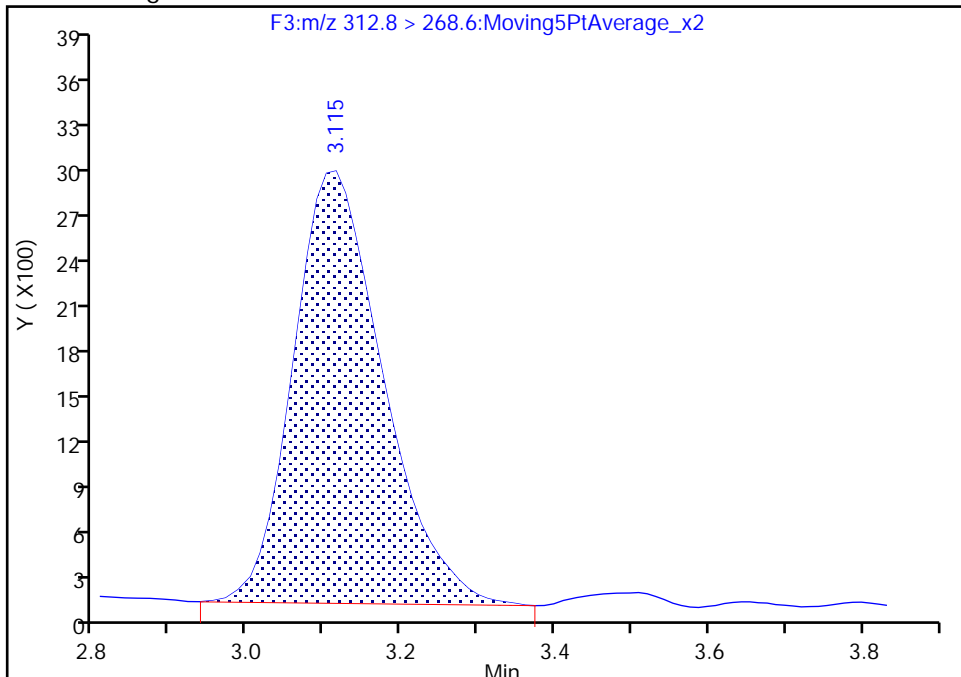
RT: 3.11  
Area: 23695  
Amount: 4.668473  
Amount Units: ng/ml

Processing Integration Results



RT: 3.11  
Area: 23060  
Amount: 4.544665  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:29:10  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

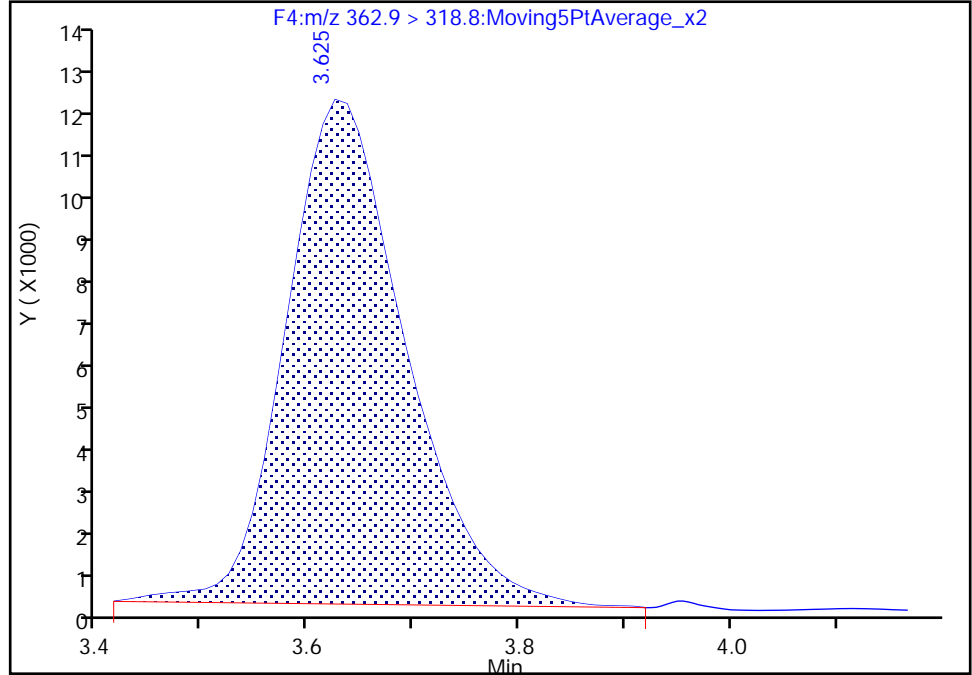
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Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

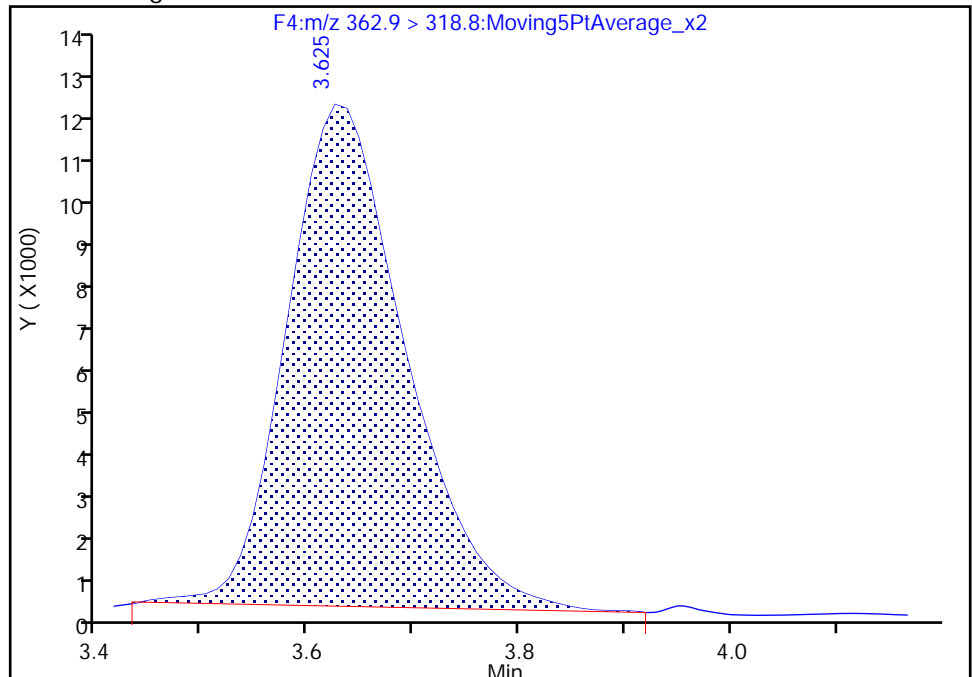
RT: 3.63  
Area: 90740  
Amount: 5.557420  
Amount Units: ng/ml

Processing Integration Results



RT: 3.63  
Area: 89222  
Amount: 5.465251  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:29:17  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

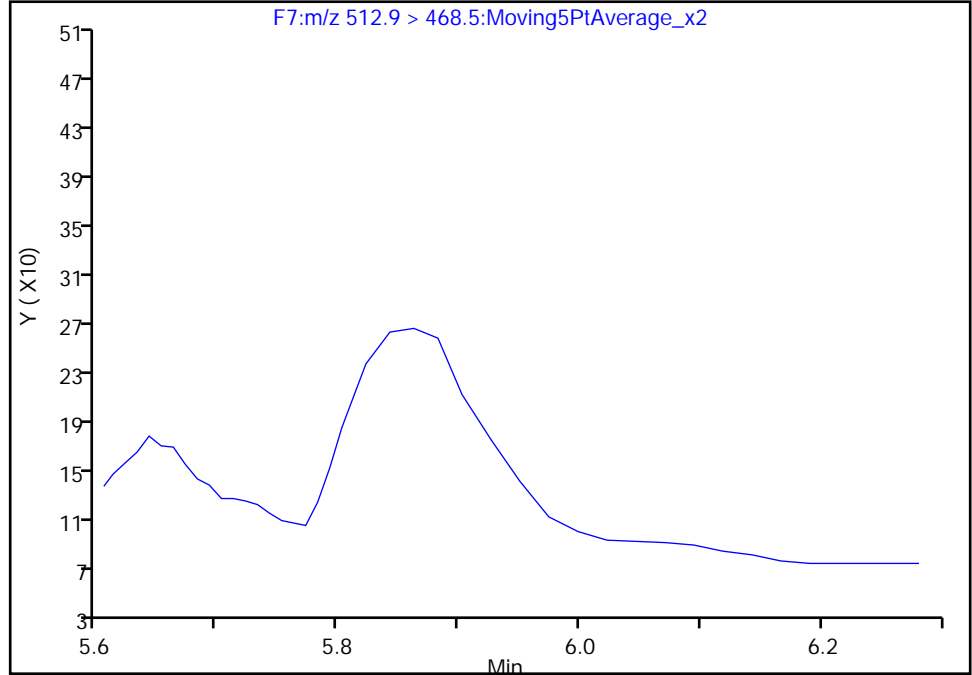
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Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

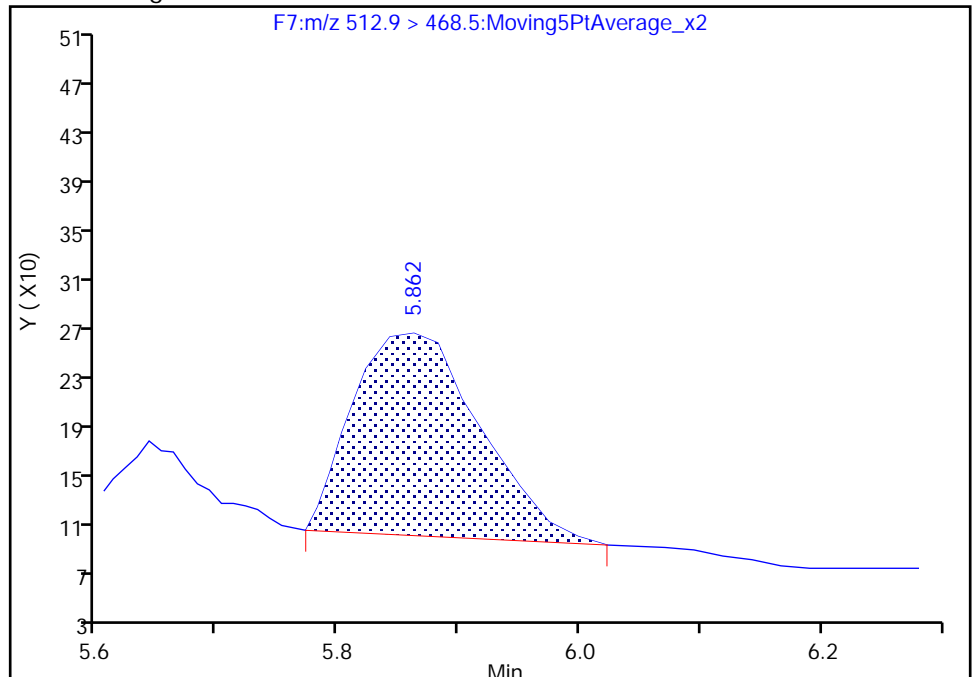
Not Detected  
Expected RT: 5.94

Processing Integration Results



RT: 5.86  
Area: 1210  
Amount: -0.057437  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:29:57  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

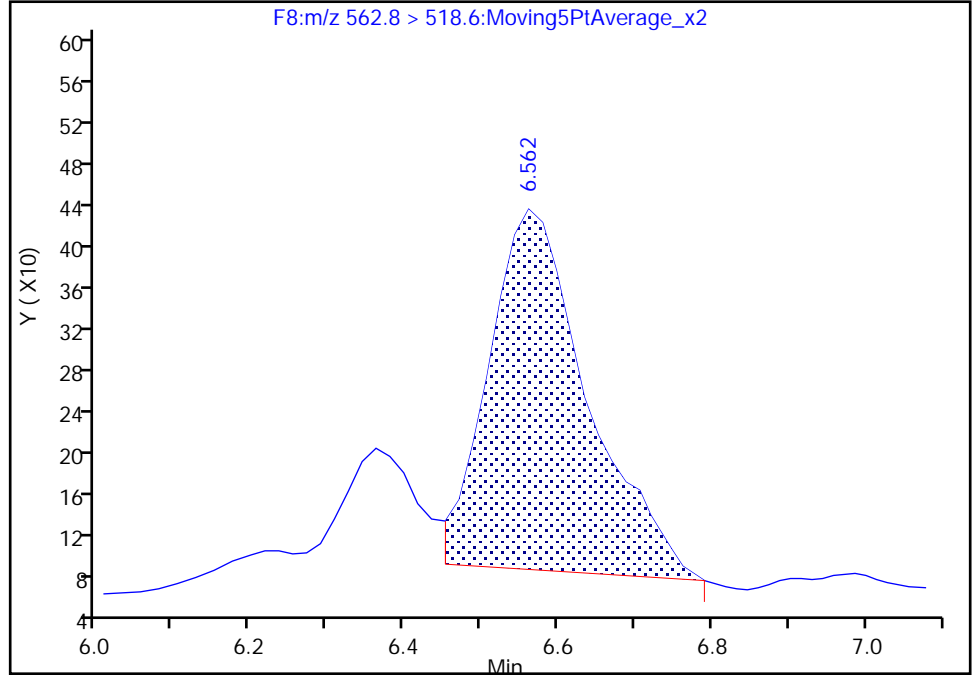
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Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

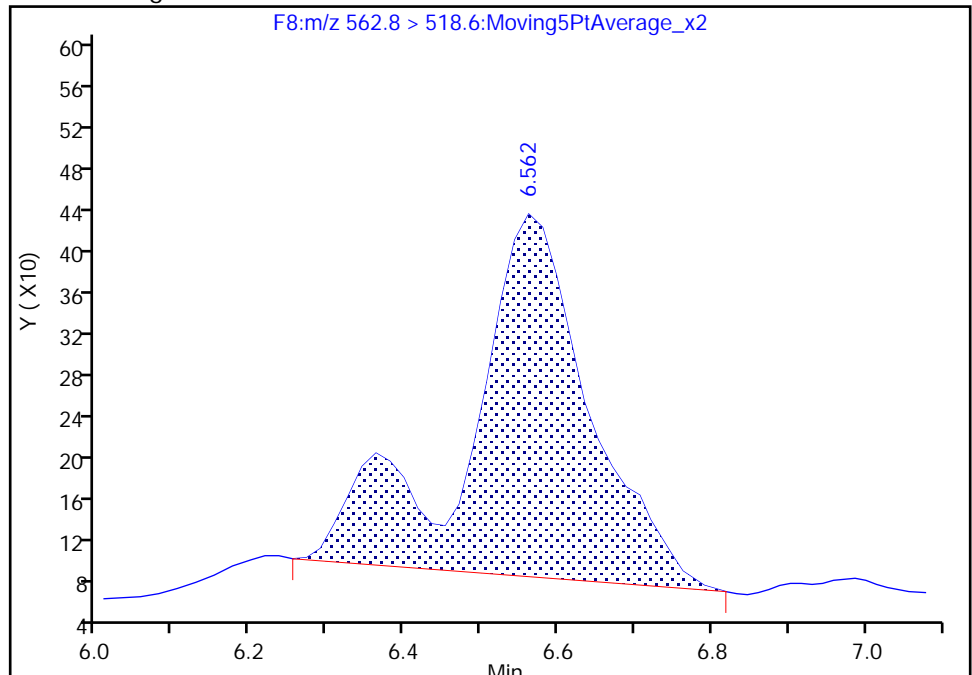
RT: 6.56  
Area: 3139  
Amount: 0.150875  
Amount Units: ng/ml

Processing Integration Results



RT: 6.56  
Area: 3888  
Amount: 0.175526  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:30:21  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

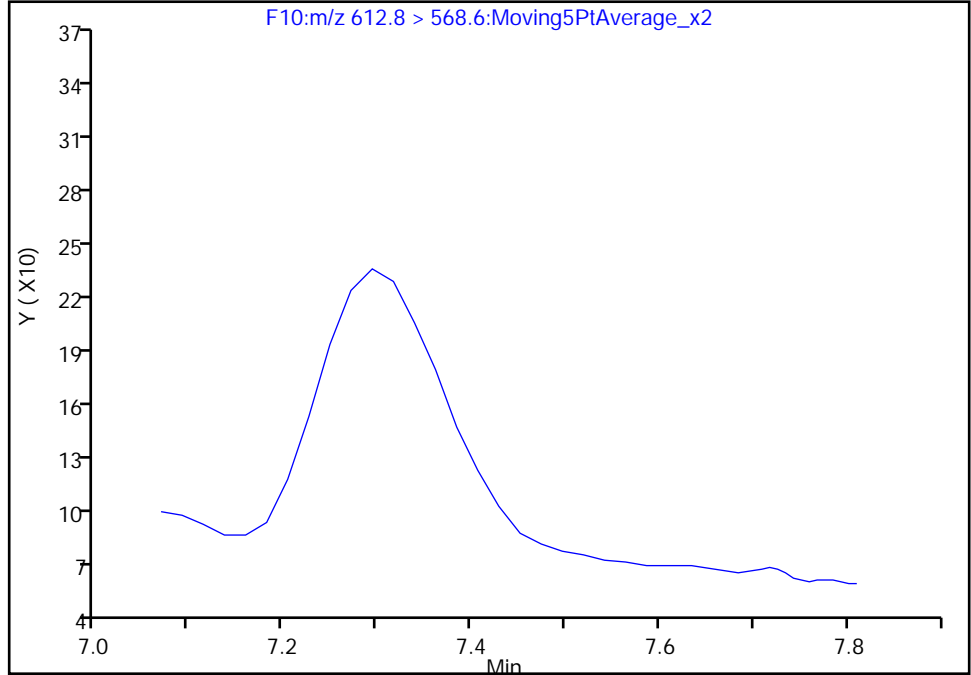
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Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

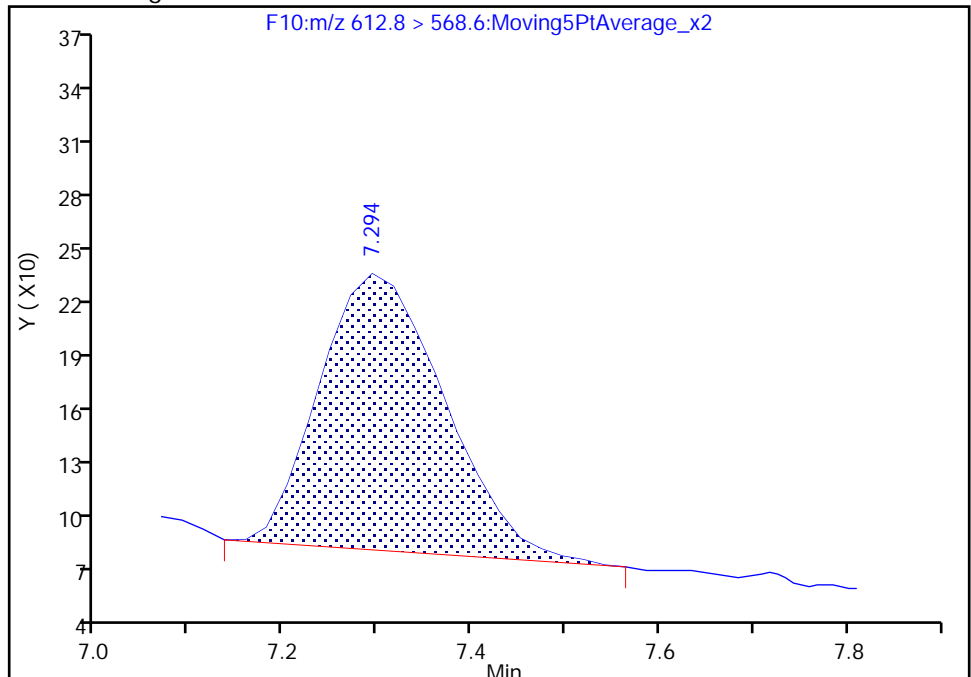
Not Detected  
Expected RT: 7.40

Processing Integration Results



Manual Integration Results

RT: 7.29  
Area: 1422  
Amount: 0.032874  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:30:33  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

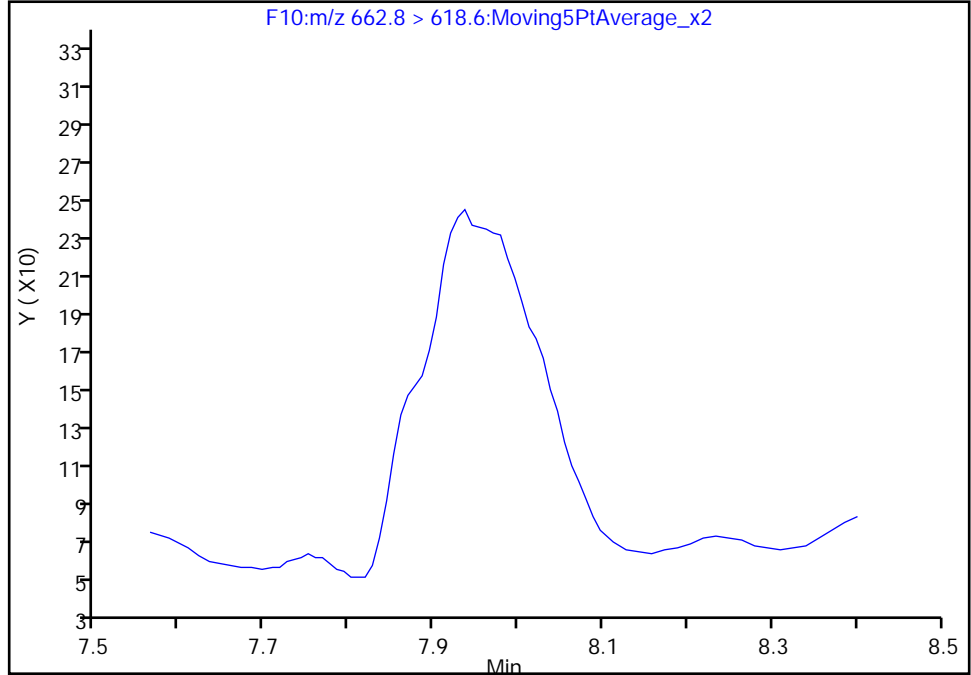
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:MRM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

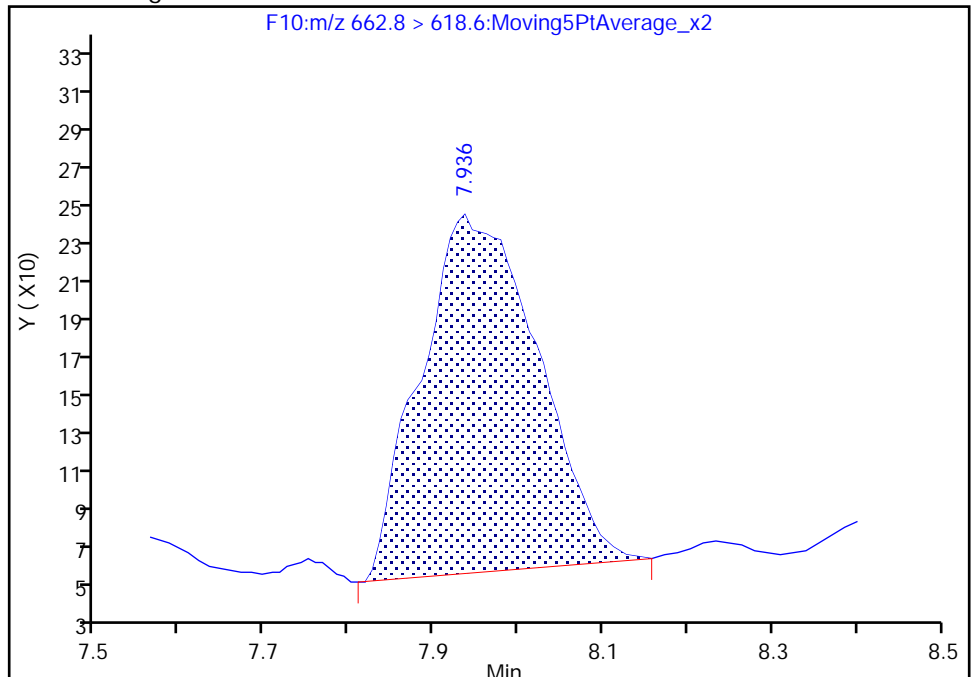
Not Detected  
Expected RT: 8.02

Processing Integration Results



Manual Integration Results

RT: 7.94  
Area: 1756  
Amount: -0.024445  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:30:37  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

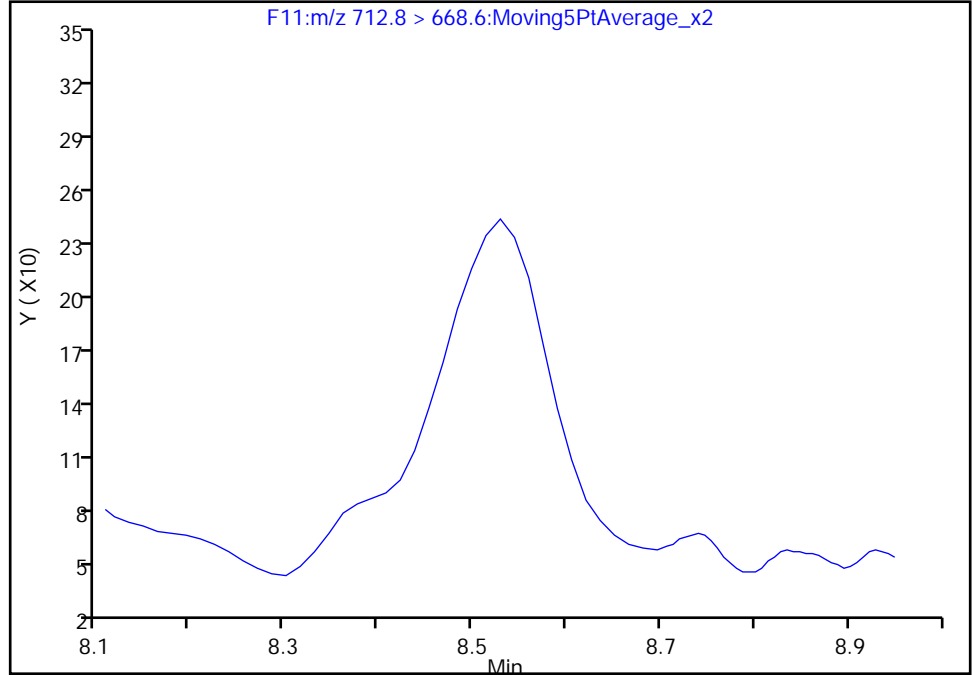
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

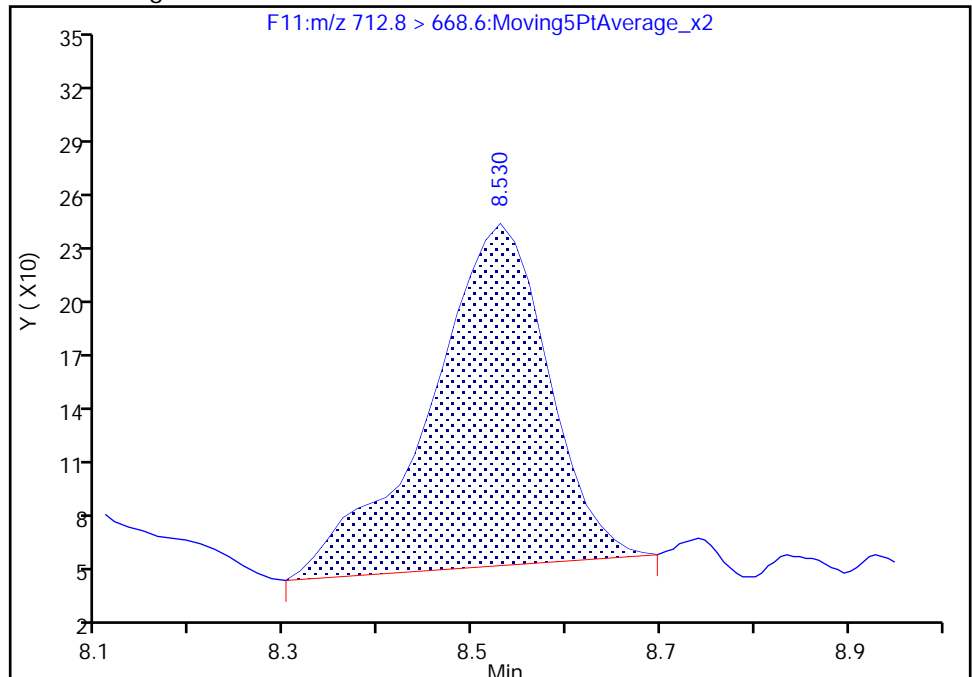
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.53  
Area: 1638  
Amount: -0.091461  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:30:44  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

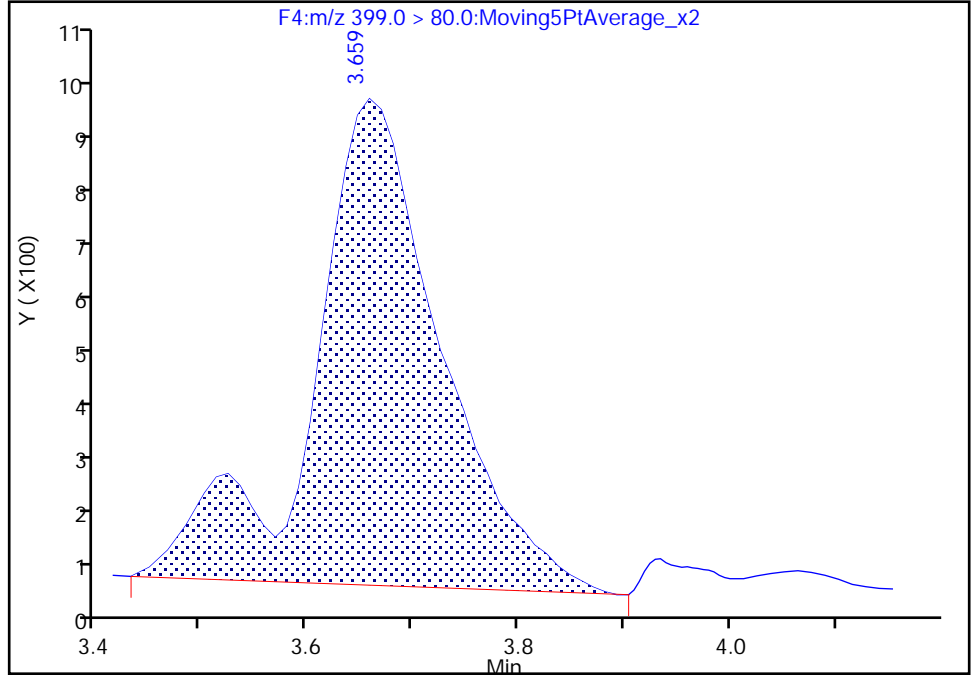
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

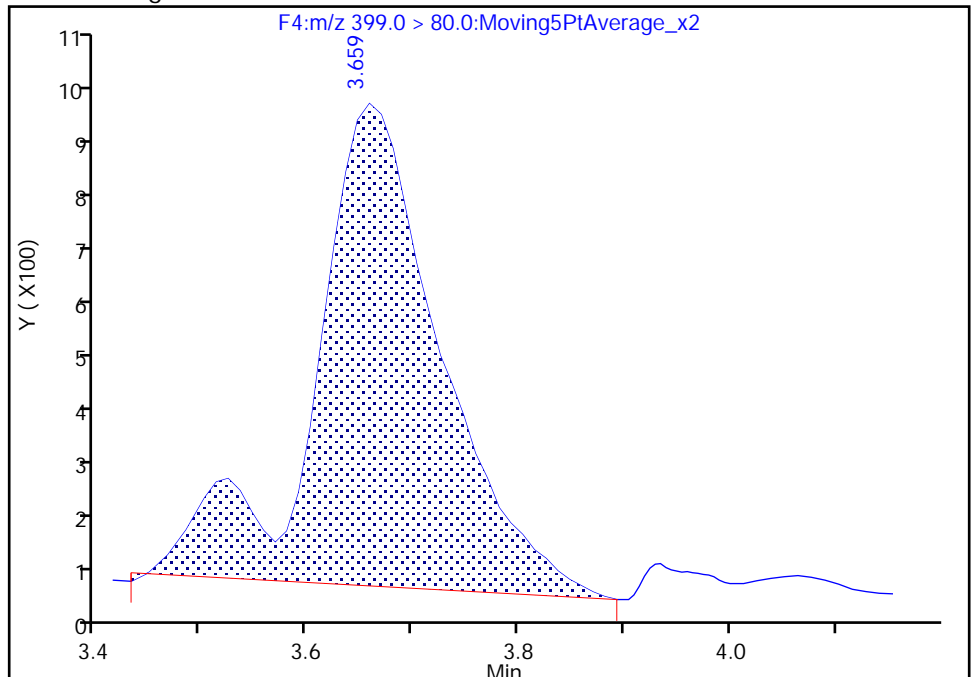
RT: 3.66  
Area: 7236  
Amount: 0.679938  
Amount Units: ng/ml

Processing Integration Results



RT: 3.66  
Area: 7074  
Amount: 0.664086  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:29:22  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

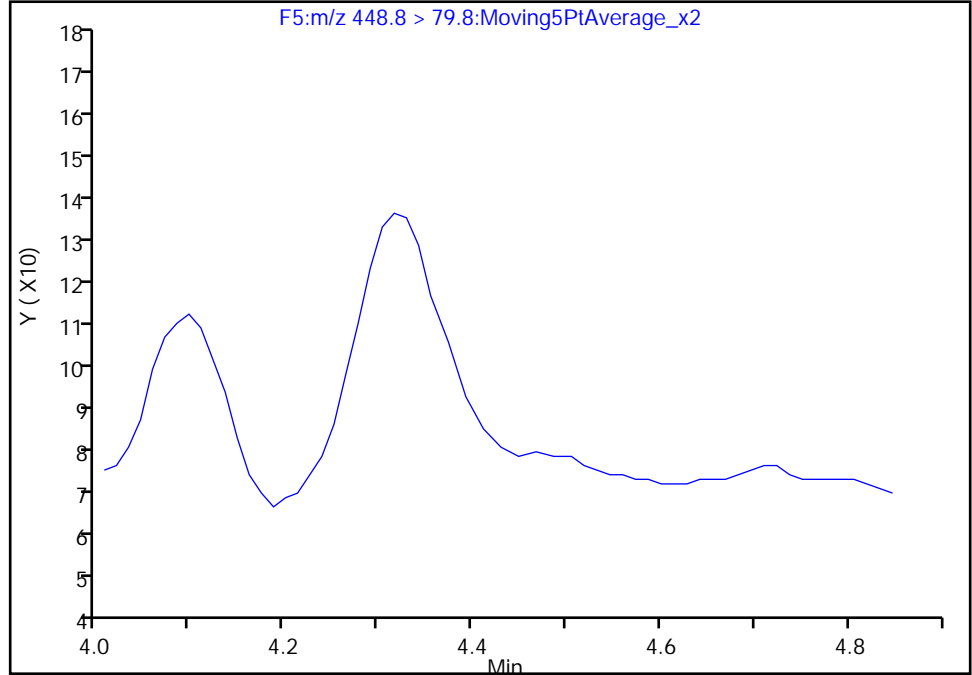
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

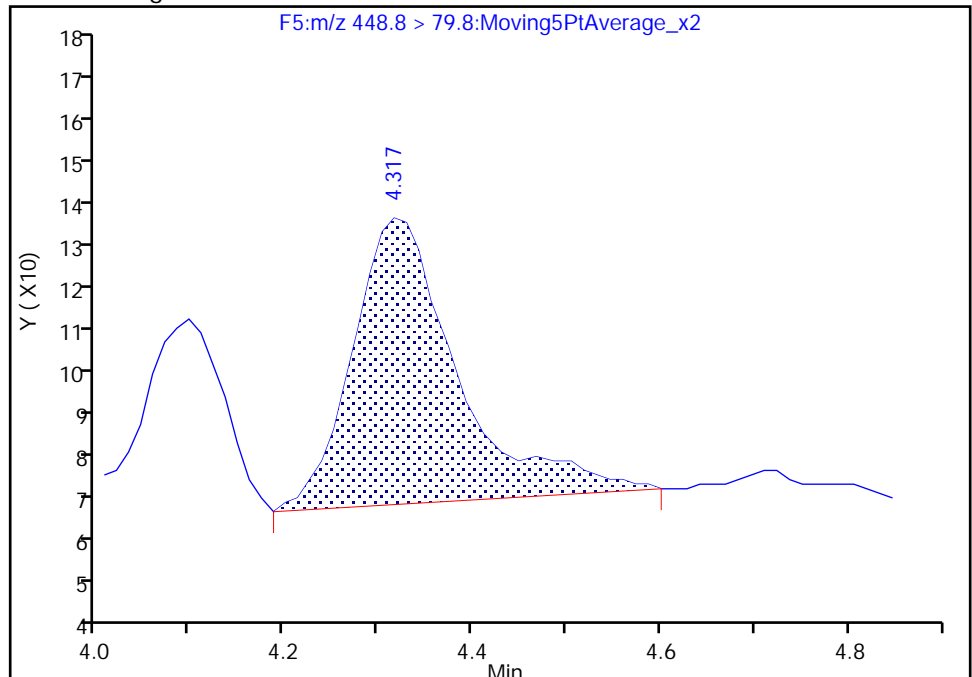
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.32  
Area: 483  
Amount: 0.222791  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:29:43

Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

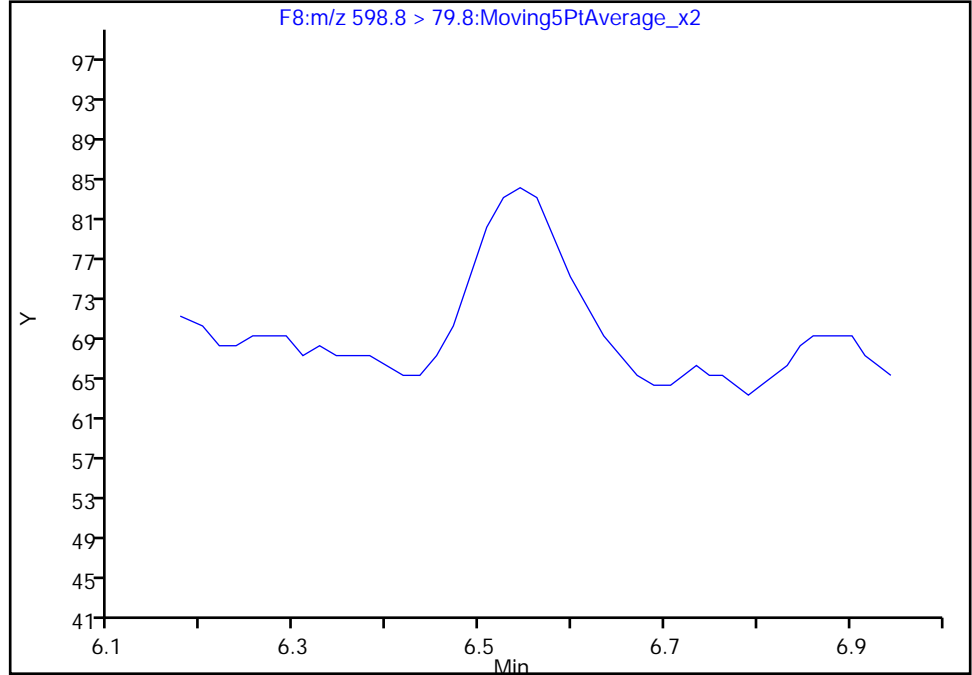
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

31 Perfluorodecane Sulfonic acid, CAS: 335-77-3

Signal: 1

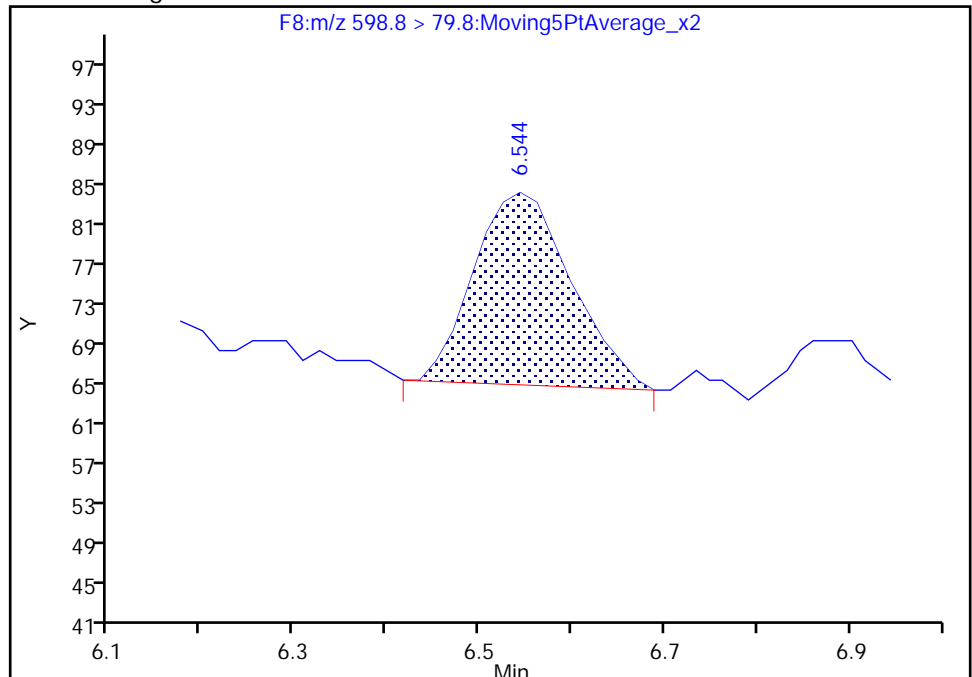
Not Detected  
Expected RT: 6.70

Processing Integration Results



RT: 6.54  
Area: 142  
Amount: 0.066149  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

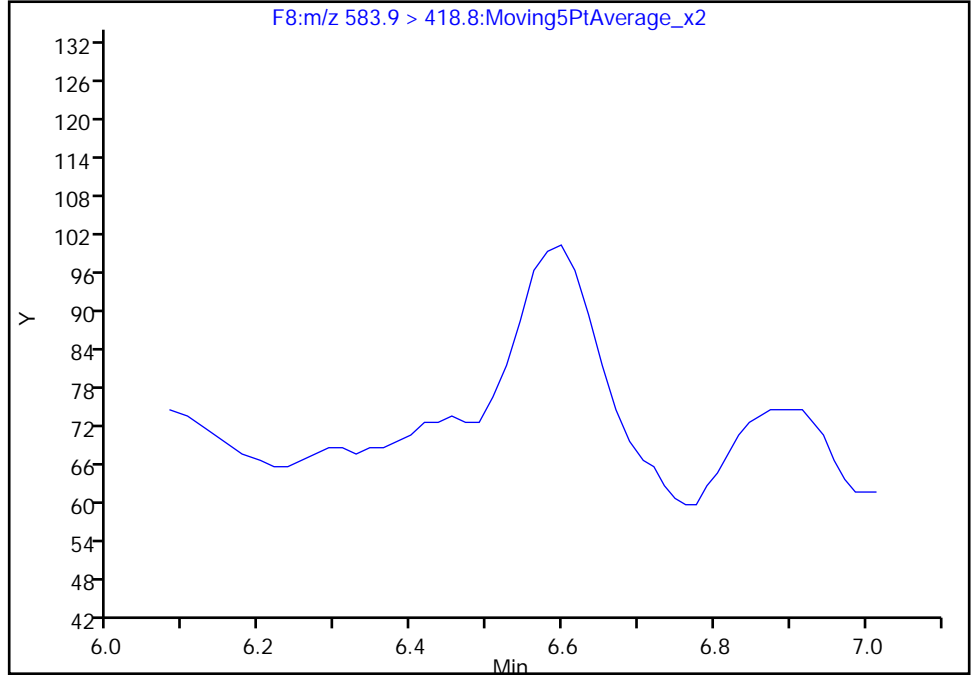
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

30 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

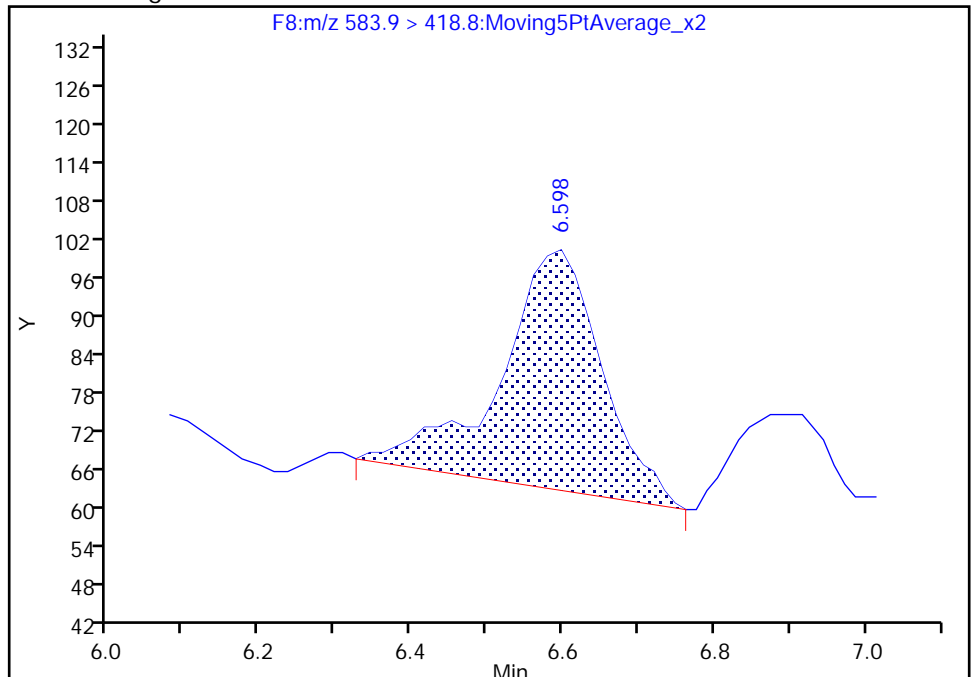
Not Detected  
Expected RT: 6.69

Processing Integration Results



Manual Integration Results

RT: 6.60  
Area: 353  
Amount: -0.021746  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:30:12  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

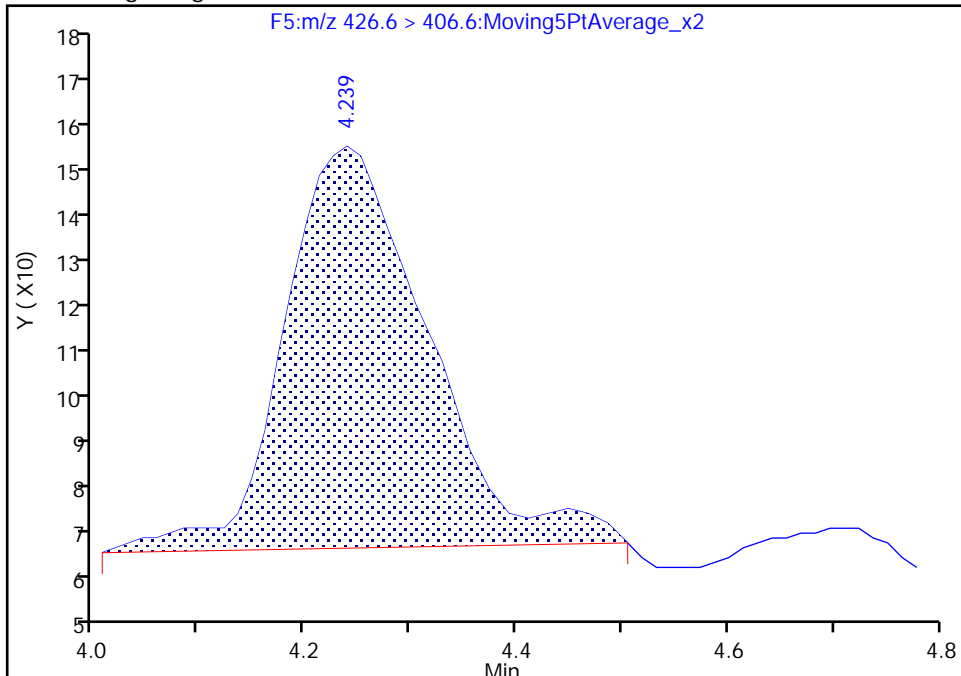
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A27.d  
Injection Date: 21-Apr-2018 17:47:42 Instrument ID: LC410  
Lims ID: 200-43041-B-3-A Lab Sample ID: 200-43041-3  
Client ID: MW-3  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 27  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

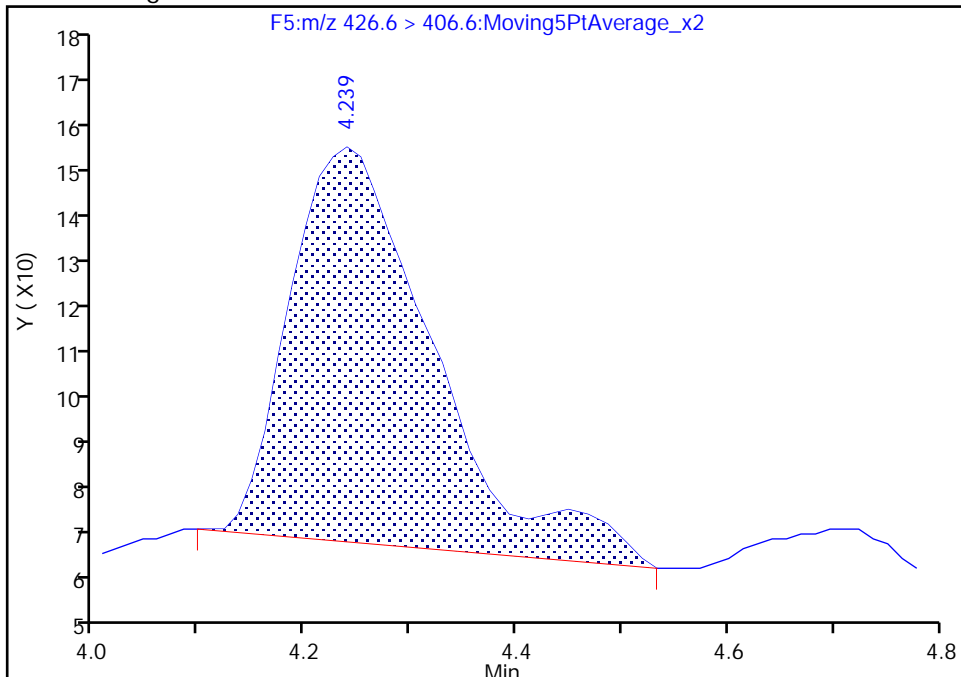
RT: 4.24  
Area: 775  
Amount: 0.319167  
Amount Units: ng/ml

Processing Integration Results



RT: 4.24  
Area: 762  
Amount: 0.313813  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:29:29  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-4 Lab Sample ID: 200-43041-4  
 Matrix: Water Lab File ID: PF042118A28.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 10:58  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 295.8 (mL) Date Analyzed: 04/21/2018 18:02  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	11.7		1.69	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	23.1		1.69	0.38
307-24-4	Perfluorohexanoic acid (PFHxA)	22.0		1.69	0.38
375-85-9	Perfluoroheptanoic acid (PFHpA)	9.26		1.69	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	53.8		1.69	0.40
375-95-1	Perfluorononanoic acid (PFNA)	0.38	J	1.69	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	0.38	U	1.69	0.38
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.38	U	1.69	0.38
307-55-1	Perfluorododecanoic acid (PFDoA)	0.38	U	1.69	0.38
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.38	U	1.69	0.38
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.38	U	1.69	0.38
375-73-5	Perfluorobutanesulfonic acid (PFBS)	6.71		1.69	0.74
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.36		1.69	0.24
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.45	J	1.69	0.38
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.18	J	1.69	0.25
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.38	U	1.69	0.38
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.38	U	1.69	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.51	U	1.69	0.51
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.51	U	1.69	0.51
27619-97-2	6:2FTS	5.00		1.69	0.51
39108-34-4	8:2FTS	0.51	U	1.69	0.51

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-43041-1</u>
SDG No.: _____	
Client Sample ID: <u>MW-4</u>	Lab Sample ID: <u>200-43041-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF042118A28.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>04/10/2018 10:58</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>04/18/2018 12:25</u>
Sample wt/vol: <u>295.8 (mL)</u>	Date Analyzed: <u>04/21/2018 18:02</u>
Con. Extract Vol.: <u>0.5 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20 (uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6 (mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>128716</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	42		25-150
STL01893	13C5 PFPeA	61		25-150
STL00993	13C2 PFHxA	73		25-150
STL01892	13C4-PFHpA	80		25-150
STL00990	13C4 PFOA	89		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	90		25-150
STL00997	13C2 PFUnA	85		25-150
STL00998	13C2 PFDoA	74		25-150
STL02116	13C2-PFTeDA	70		25-150
STL02337	13C3-PFBS	77		25-150
STL00994	18O2 PFHxS	92		25-150
STL00991	13C4 PFOS	90		25-150
STL01056	13C8 FOSA	54		25-150
STL02118	d3-NMeFOSAA	67		25-150
STL02117	d5-NEtFOSAA	74		25-150
STL02279	M2-6:2FTS	158	*	25-150
STL02280	M2-8:2FTS	104		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
 Lims ID: 200-43041-B-4-A  
 Client ID: MW-4  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 18:02:51 ALS Bottle#: 0 Worklist Smp#: 28  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-028 4  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:33:38

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										
216.9 > 171.5	2.306	2.319	-0.013	1.000	229825	21.2		42.4	1210	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.314	2.320	-0.006	1.003	29342	6.90			53.3	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.719	2.736	-0.017	1.000	80136	30.5		61.0	390	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.729	2.738	-0.009	1.004	123648	13.6			110	
D 5 13C3-PFBS										
302.0 > 79.8	2.781	2.800	-0.019	1.000	196549	35.8		77.0	600	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.781	2.804	-0.023	1.000	33517	3.97			26.1	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.140	3.158	-0.018	1.000	324535	36.3		72.7	1757	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.140	3.162	-0.022	1.000	82364	13.0			248	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.659	3.689	-0.030	1.000	873855	40.0		80.0	1572	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.659	3.689	-0.030	1.000	99125	5.48			210	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.703	3.733	-0.030	1.000	38279	3.77			69.9	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.703	3.737	-0.034	1.000	266662	43.4		91.8	1325	
D 14 M2-6:2FTS										
428.6 > 408.6	4.278	4.319	-0.041	1.000	87682	74.9		158	490	
15 Sodium 1H,1H,2H,2H-perfluorooctane										M
426.6 > 406.6	4.278	4.319	-0.041	1.000	5612	2.96			92.5	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.330	4.365	-0.035	1.000	890431	44.3		88.6	2460	
* 49 13C2-PFOA										
414.9 > 369.8	4.342	4.371	-0.029		1185636	50.0			4895	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.330	4.374	-0.044	1.000	612138	31.9			1703	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.355	4.408	-0.053	0.850	641	0.2659		2.6		M
19 Perfluorononanoic acid										M
462.8 > 418.8	5.072	5.143	-0.071	0.995	2308	0.2244		4.1		M
D 21 13C5 PFNA										
467.8 > 422.8	5.099	5.145	-0.046	1.000	1183632	48.4		96.8	1387	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	4.867	5.168	-0.301	0.949	2832	0.6967		20.4		M
D 22 13C4 PFOS										
502.8 > 79.8	5.127	5.168	-0.041	1.000	217524	43.0		90.0	1305	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.803	5.910	-0.107	0.993	230	0.0401		2.2		
D 23 M2-8:2FTS										
528.8 > 508.8	5.843	5.910	-0.067	1.000	364468	49.6		104	1357	
D 25 13C2 PFDA										
514.9 > 469.5	5.862	5.934	-0.072	1.000	1467024	45.1		90.2	3461	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.882	5.938	-0.056	1.003	383	-0.0858		1.1		M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.205	6.298	-0.093	1.000	244061	33.3		66.7	1023	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.580	6.667	-0.087	1.000	234396	36.8		73.5	1263	
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.634	6.711	-0.077	1.005	1945	0.1154		9.0		M
D 33 13C2 PFUnA										
564.8 > 519.8	6.598	6.713	-0.115	1.000	1506174	42.3		84.5	1665	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	231301	27.0		53.9	2283	
D 36 13C2 PFDaA										
614.8 > 569.6	7.317	7.392	-0.075	1.000	1343153	37.0		74.0	3902	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.294	7.399	-0.105	0.997	505	-0.004286		4.8		M
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.979	8.022	-0.043	1.090	650	-0.0684		8.9		M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.499	8.572	-0.073	1.000	1201547	35.1		70.1	1113	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.499	8.572	-0.073	1.000	1259	-0.1026		7.9		M
712.8 > 168.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			

## QC Flag Legend

Review Flags

M - Manually Integrated



TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d

Injection Date: 21-Apr-2018 18:02:51

Instrument ID: LC410

Lims ID: 200-43041-B-4-A

Lab Sample ID: 200-43041-4

Client ID: MW-4

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 28

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

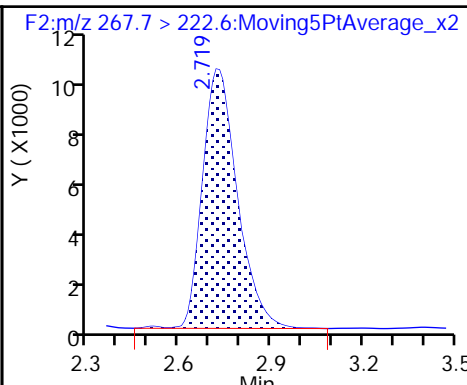
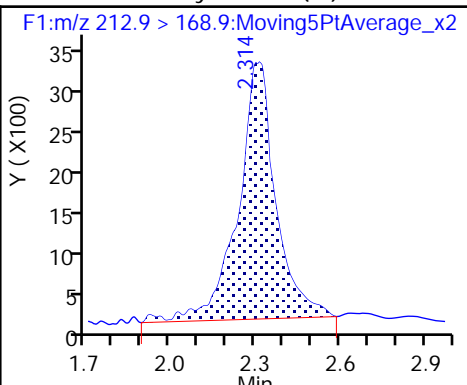
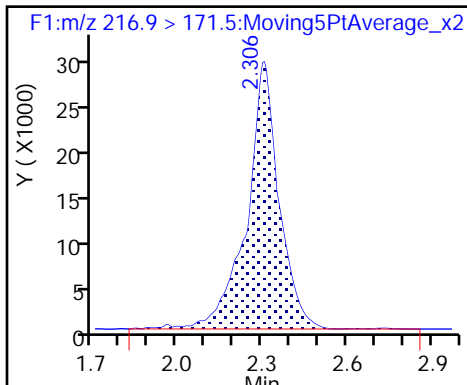
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

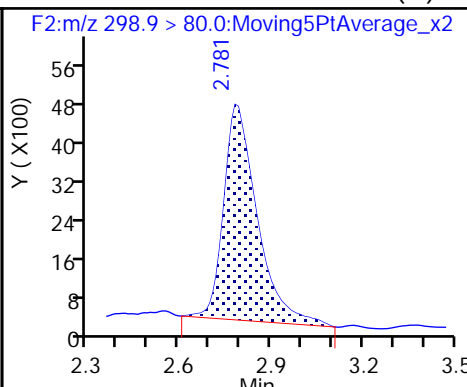
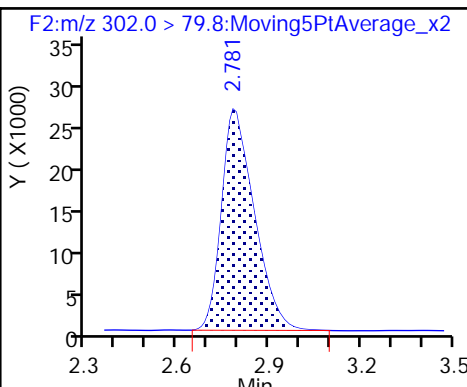
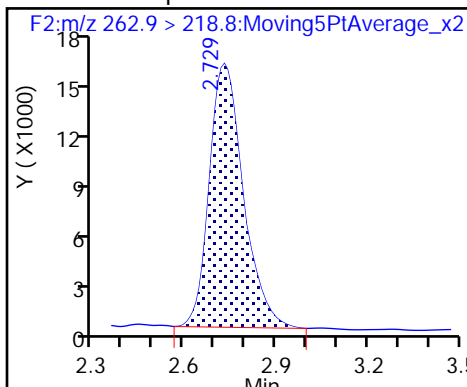
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

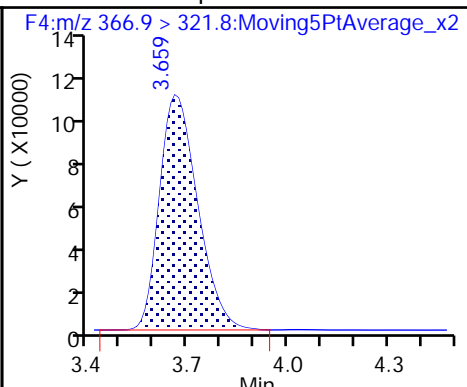
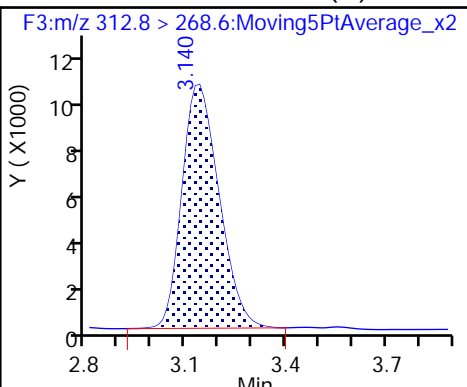
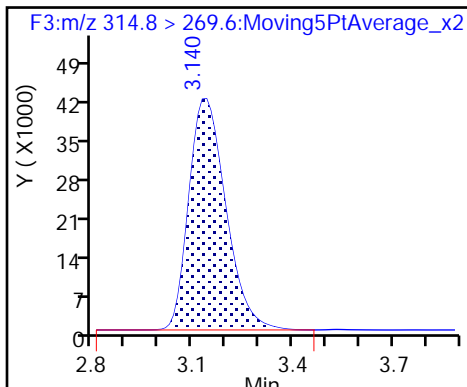
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

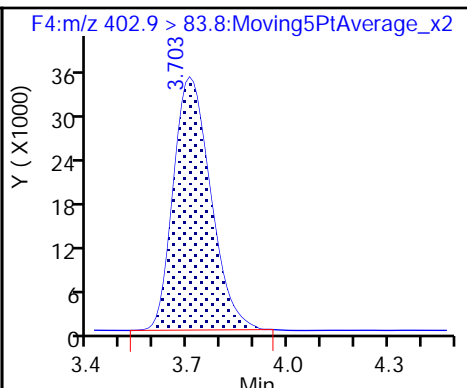
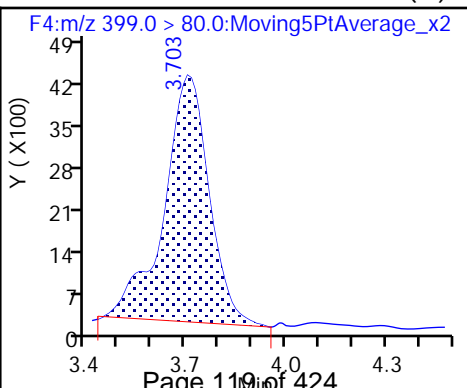
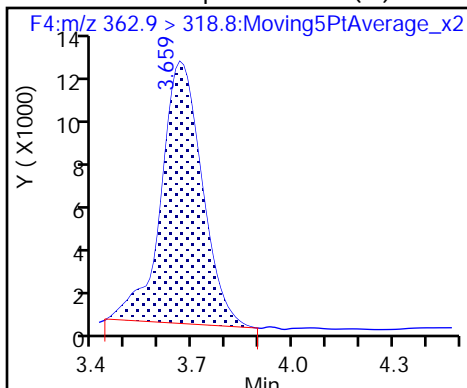
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

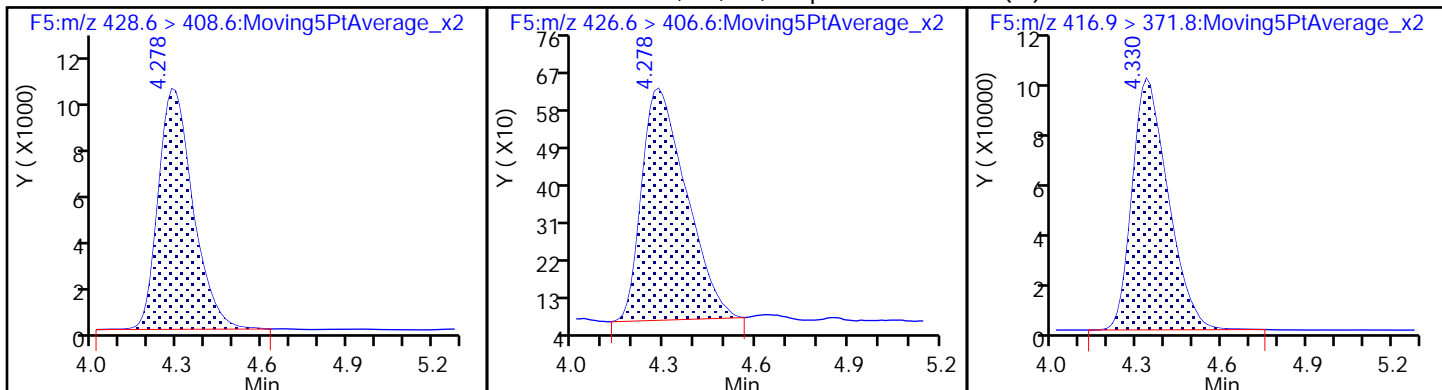
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

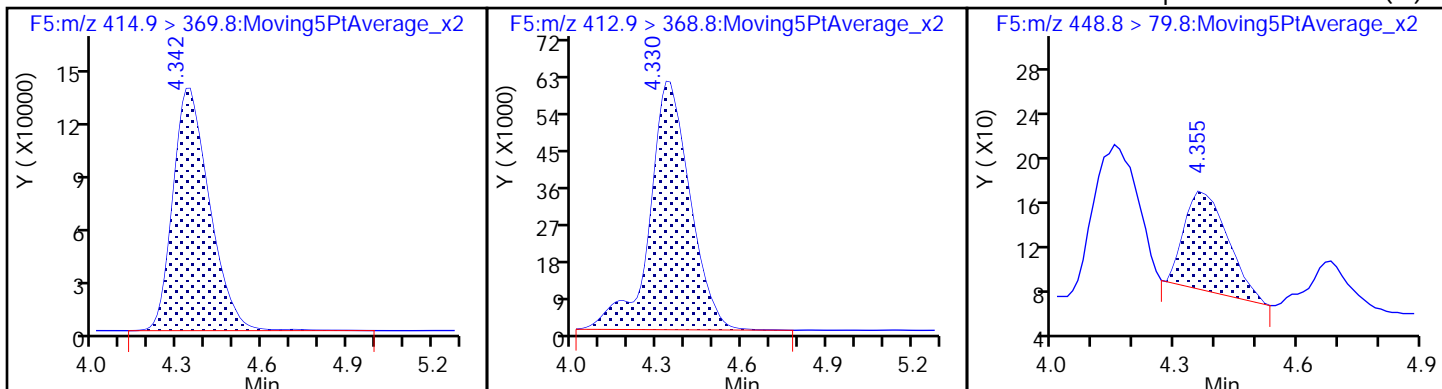
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

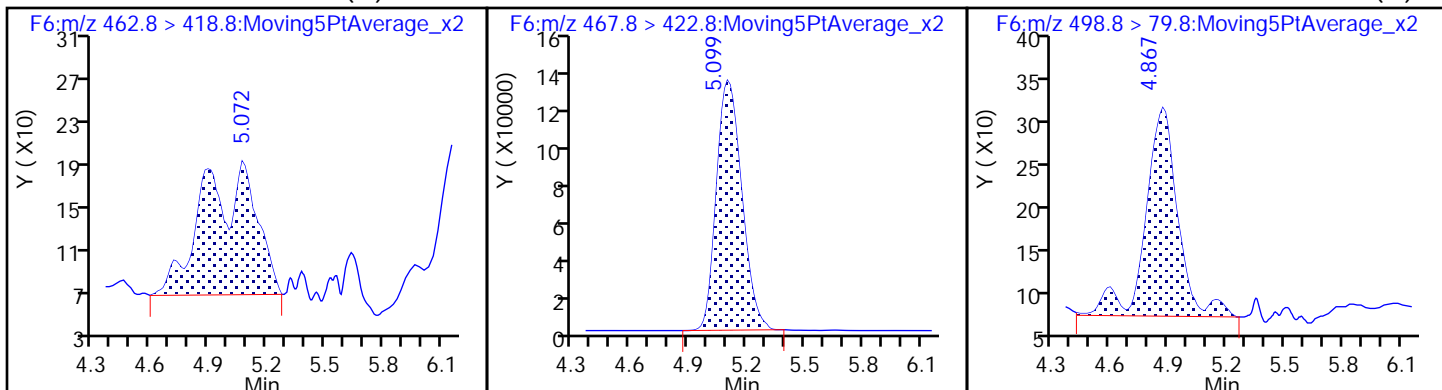
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (M)

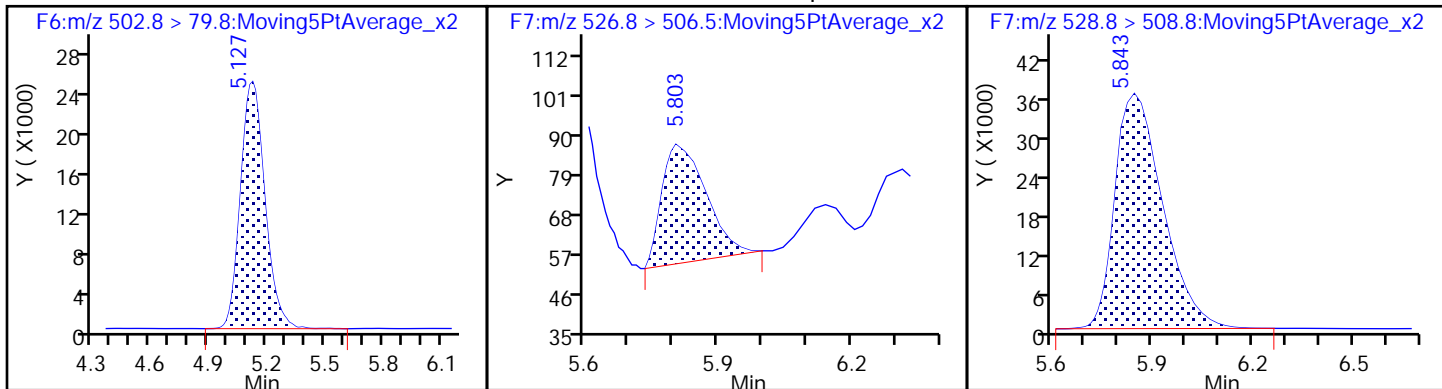
D 21 13C5 PFNA

20 Perfluorooctane sulfonic acid (M)

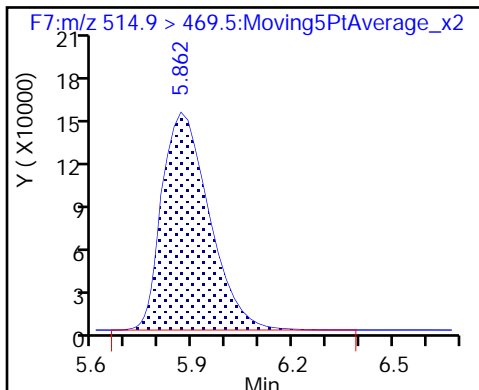


D 22 13C4 PFOS

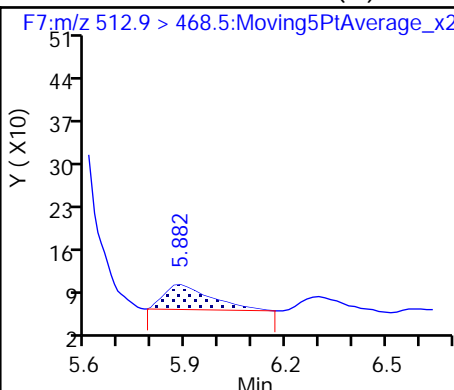
24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 23 M2-8:2FTS



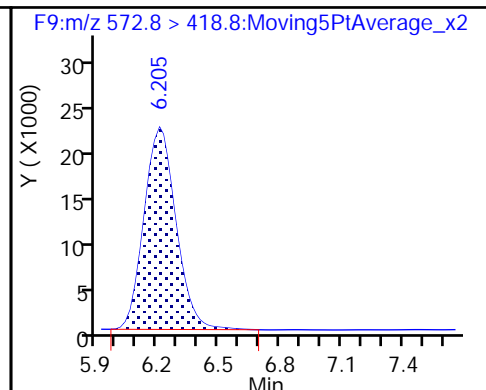
D 25 13C2 PFDA



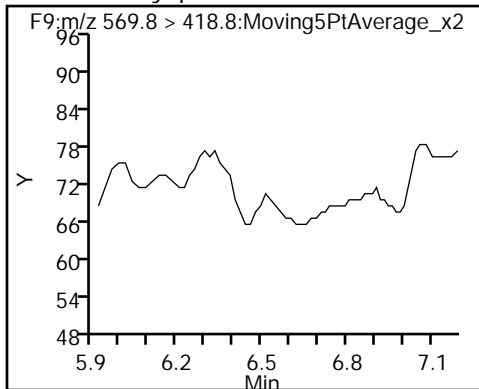
26 Perfluorodecanoic acid (M)



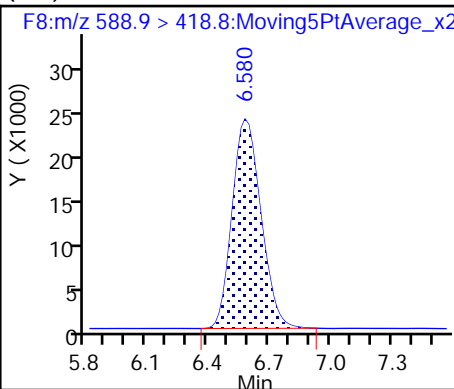
D 27 d3-NMeFOSAA



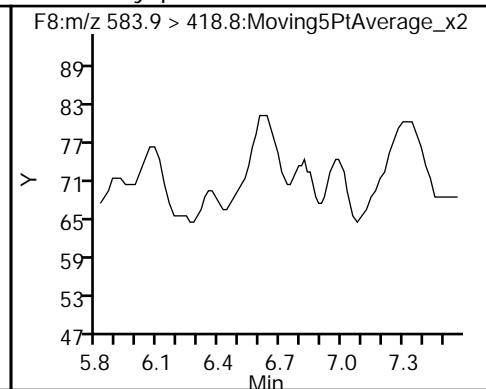
28 N-methyl perfluorooctane sulfonamide (ND)



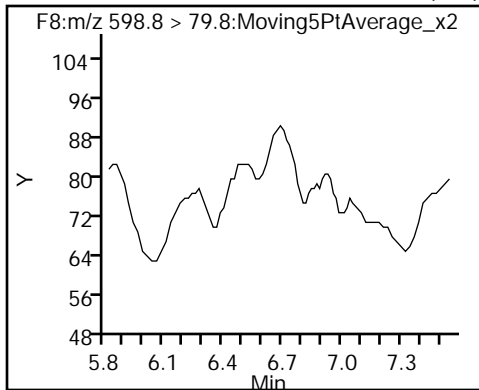
(ND) d5-NEtFOSAA



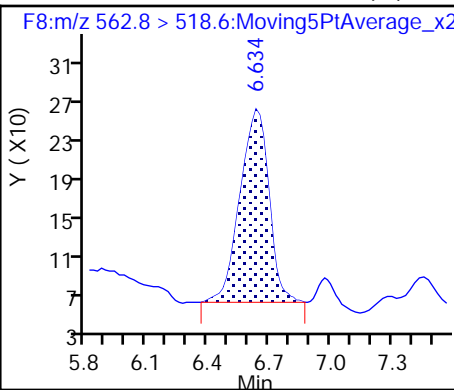
30 N-ethyl perfluorooctane sulfonamide (ND)



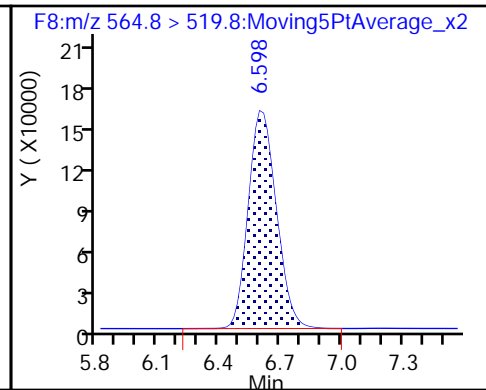
31 Perfluorodecane Sulfonic acid (ND)



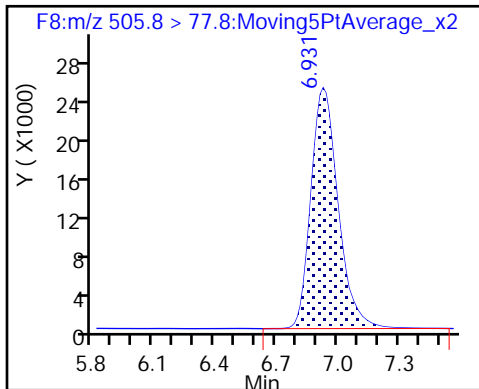
32 Perfluoroundecanoic acid (M)



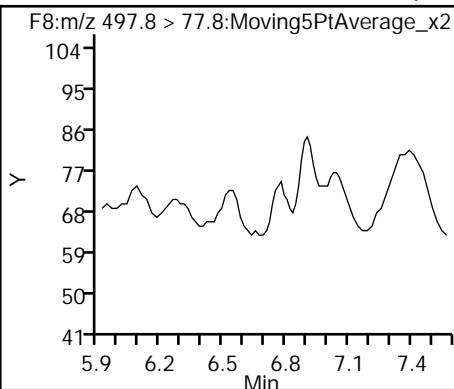
D 33 13C2 PFUnA



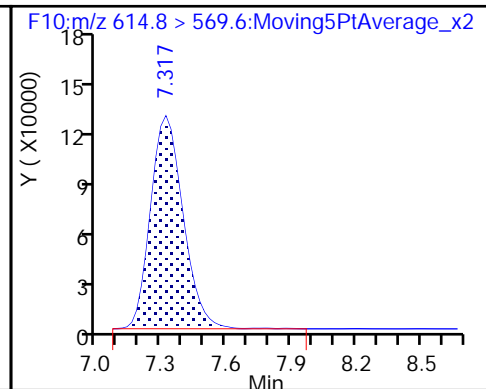
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (ND)



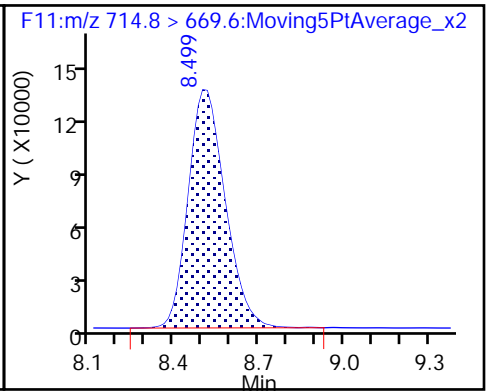
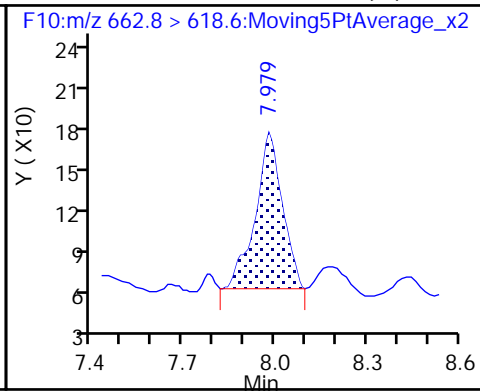
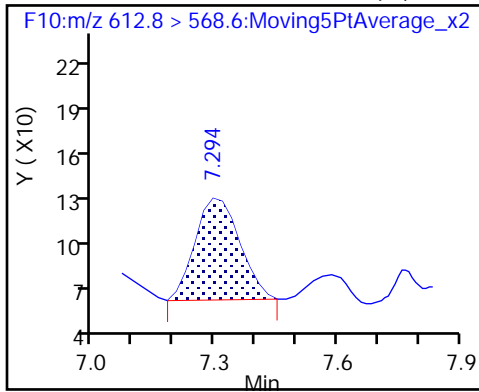
D 36 13C2 PFDoA



37 Perfluorododecanoic acid (M)

40 Perfluorotridecanoic acid (M)

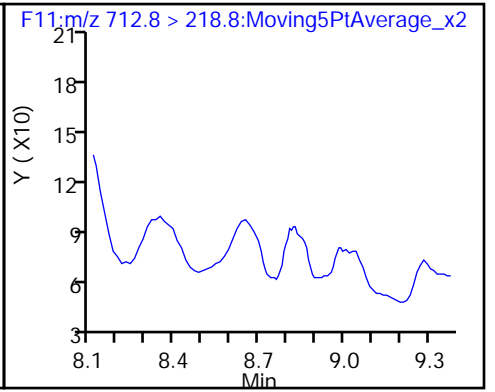
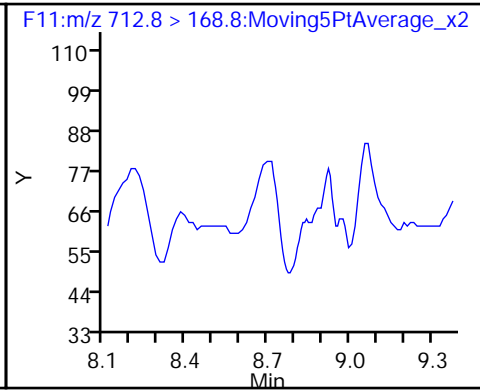
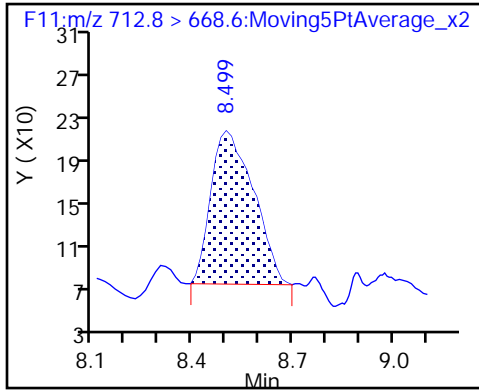
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



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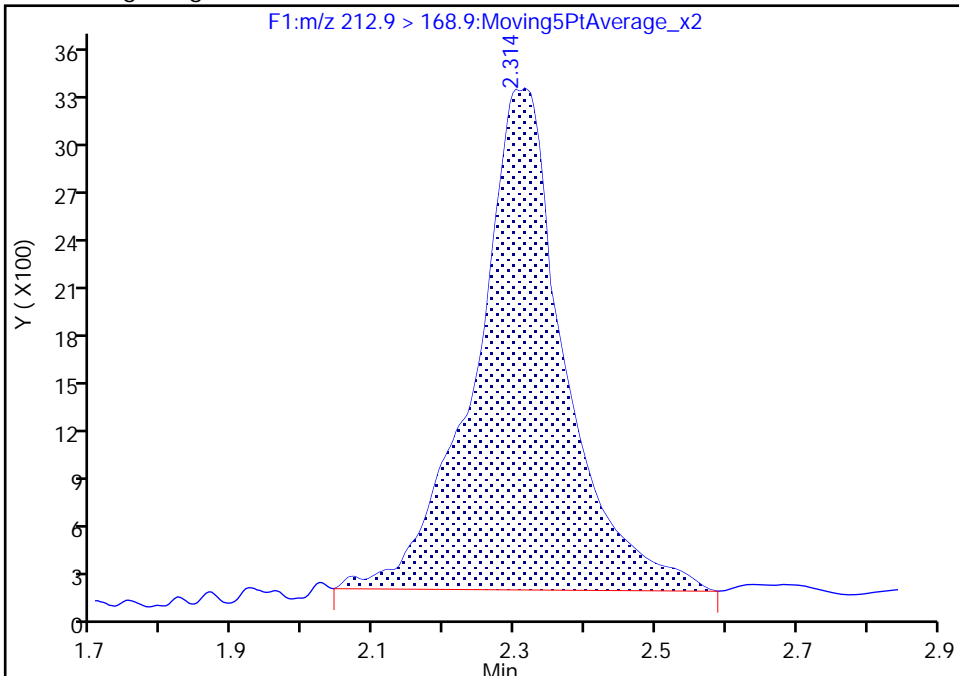
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

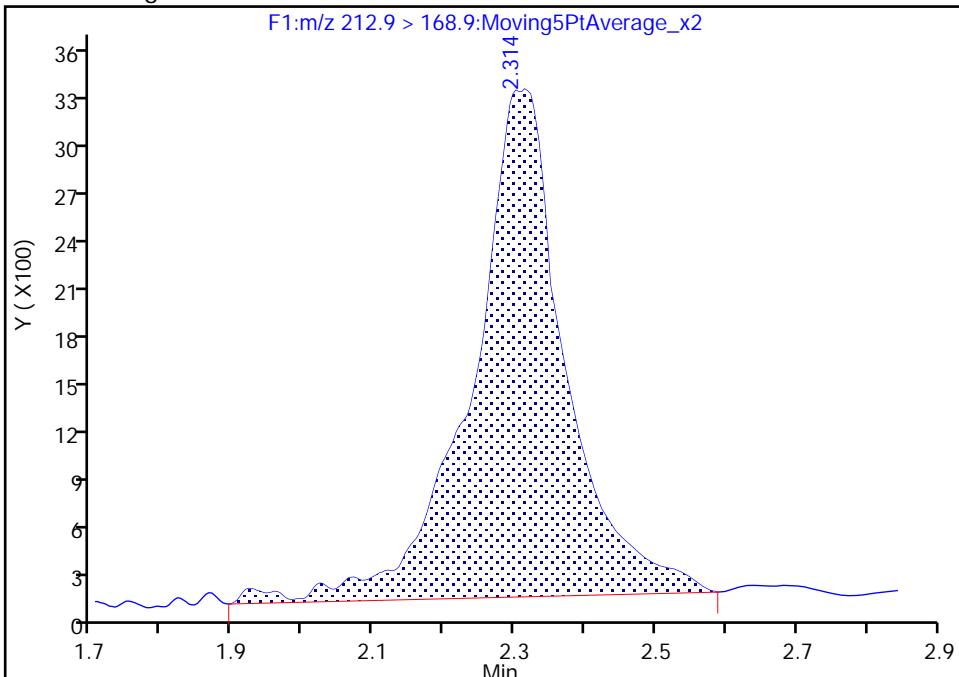
RT: 2.31  
Area: 27609  
Amount: 6.480164  
Amount Units: ng/ml

Processing Integration Results



RT: 2.31  
Area: 29342  
Amount: 6.896584  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:31:11  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

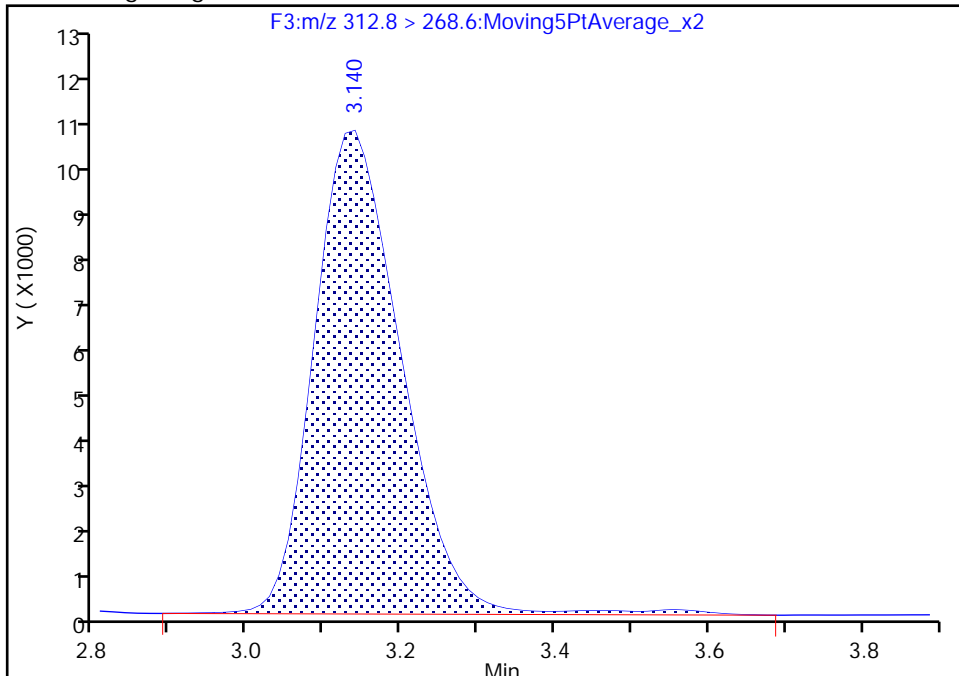
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

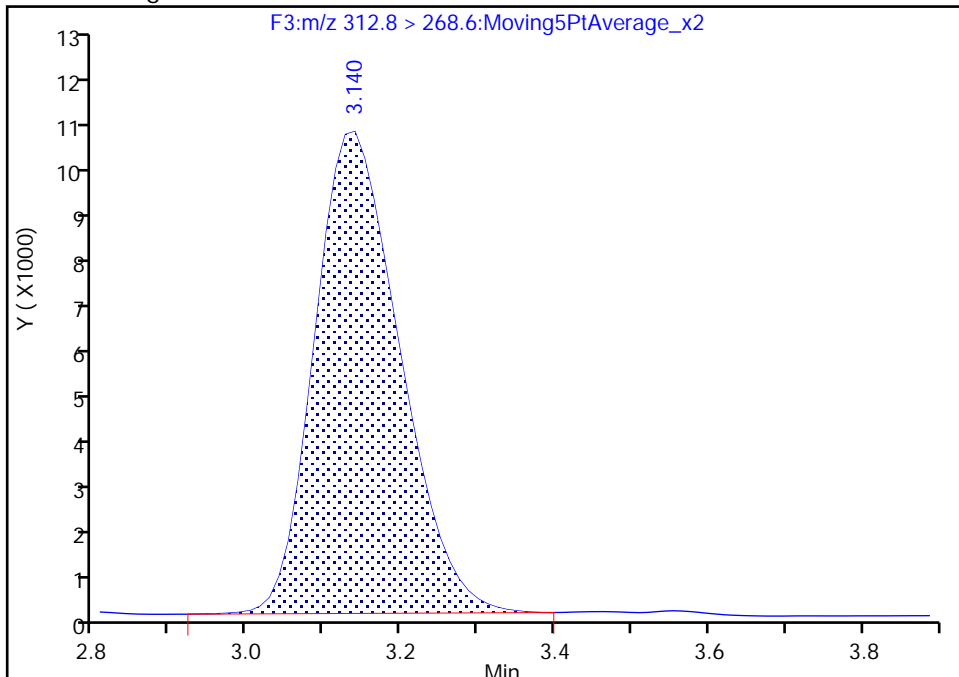
RT: 3.14  
Area: 84432  
Amount: 13.331397  
Amount Units: ng/ml

Processing Integration Results



RT: 3.14  
Area: 82364  
Amount: 13.006060  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:33:26  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

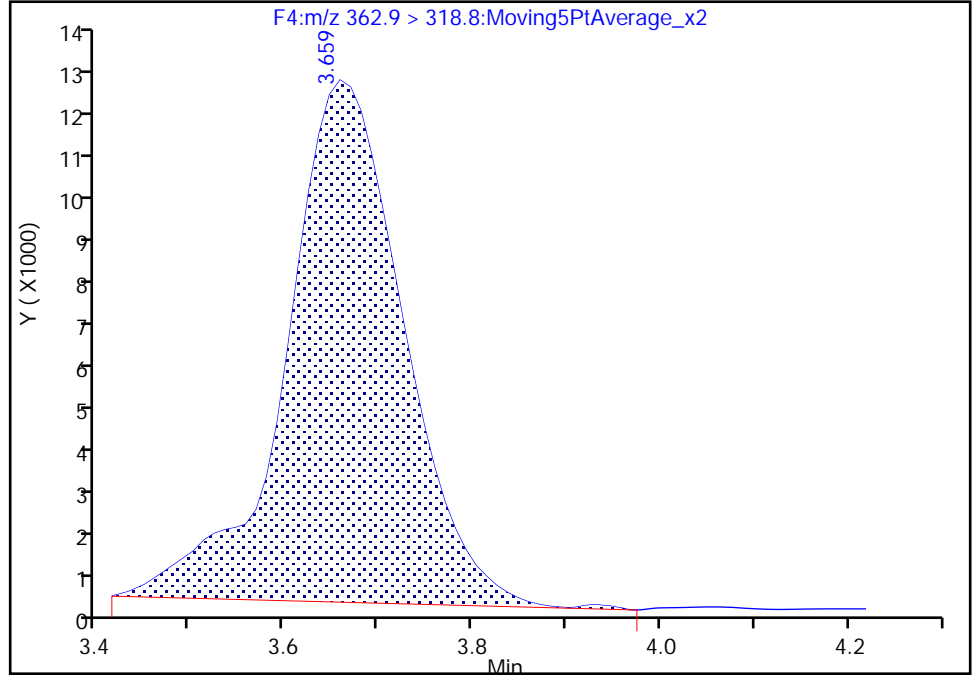
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

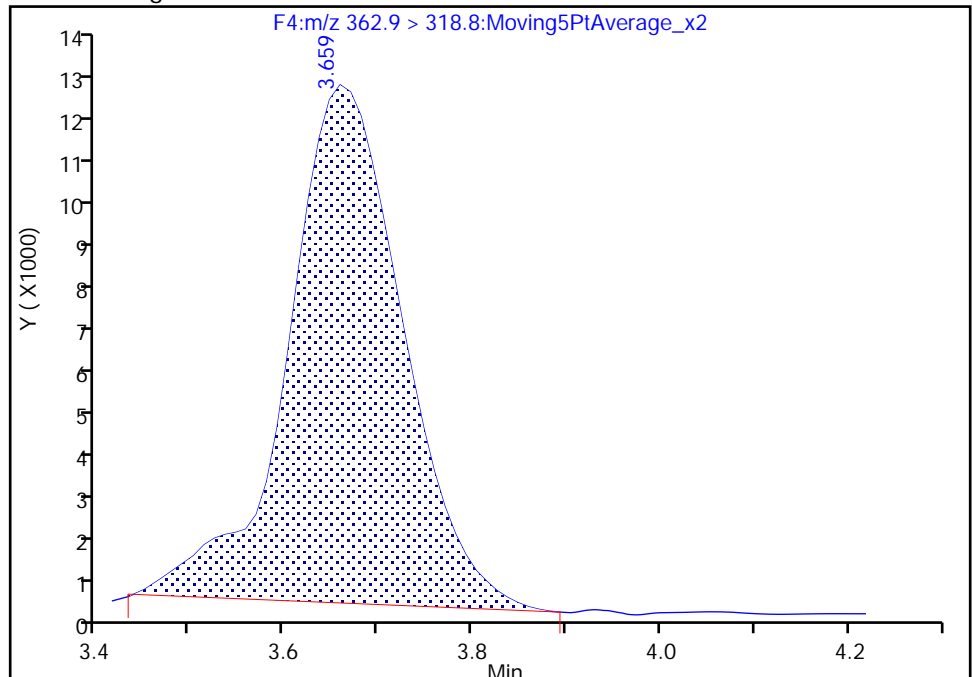
RT: 3.66  
Area: 101795  
Amount: 5.623242  
Amount Units: ng/ml

Processing Integration Results



RT: 3.66  
Area: 99125  
Amount: 5.477006  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:33:21  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

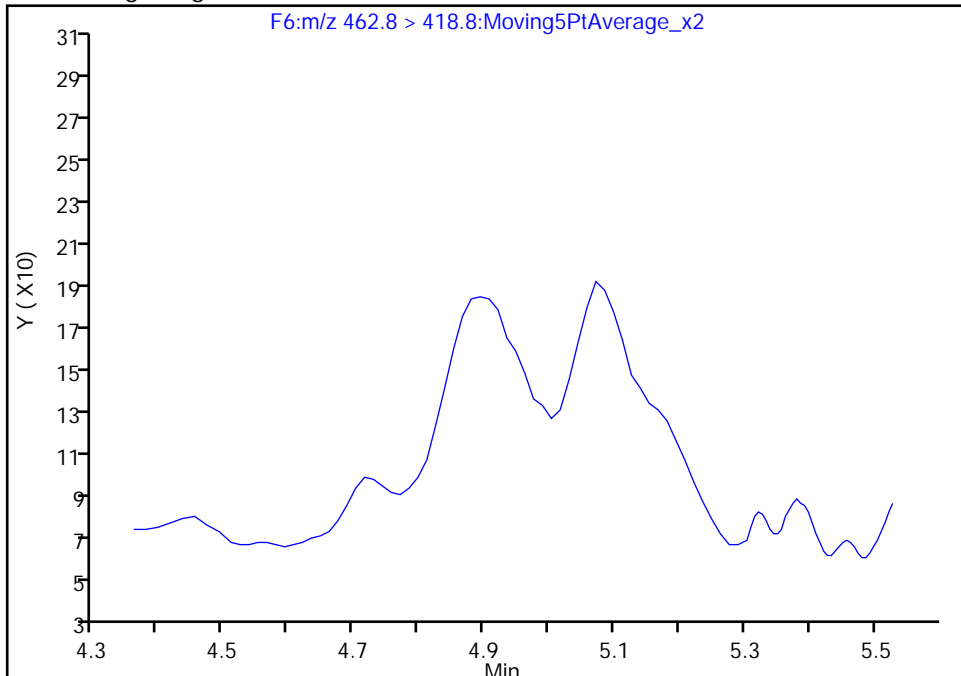
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

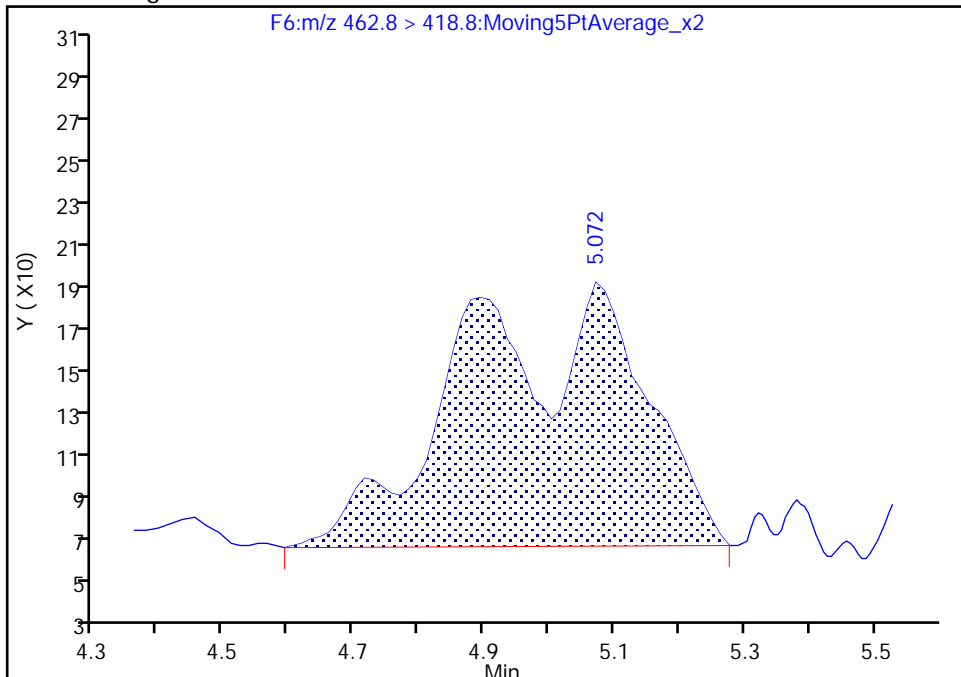
Not Detected  
Expected RT: 5.14

Processing Integration Results



Manual Integration Results

RT: 5.07  
Area: 2308  
Amount: 0.224418  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:31:40  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

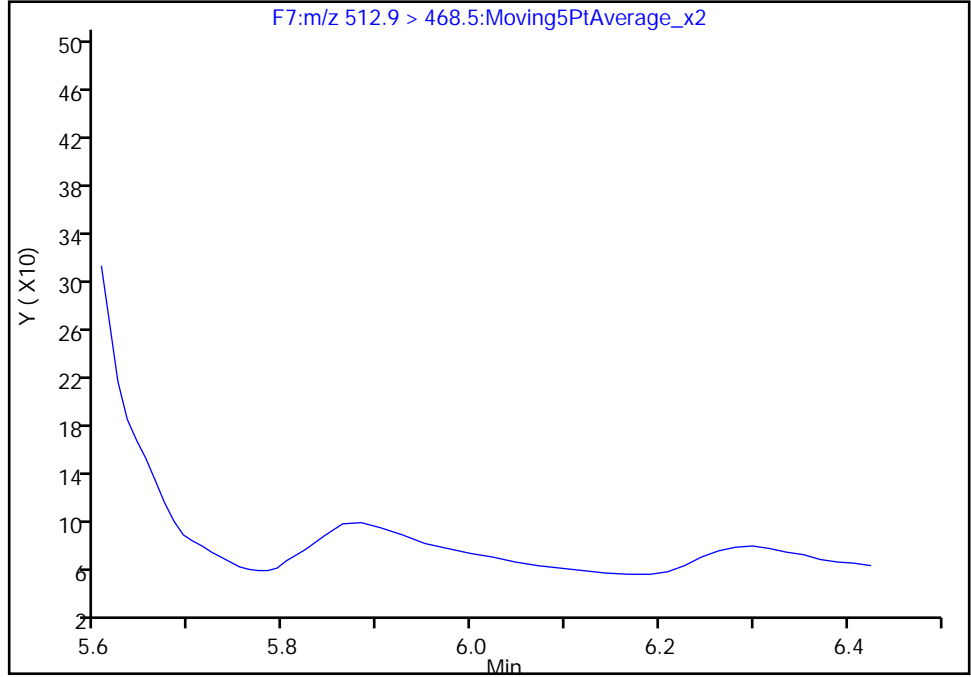
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

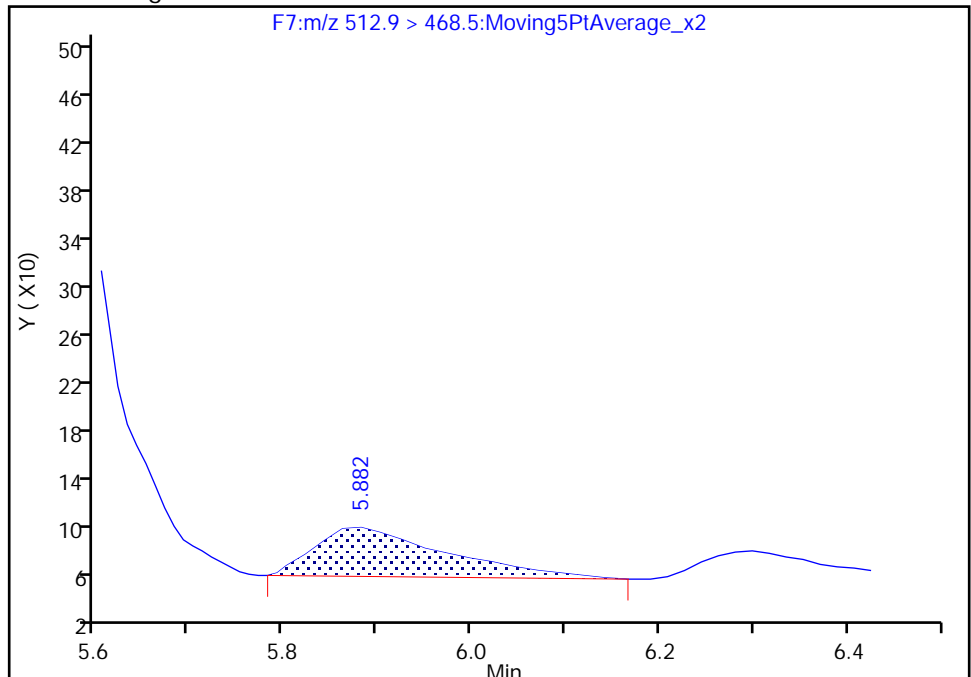
Not Detected  
Expected RT: 5.94

Processing Integration Results



Manual Integration Results

RT: 5.88  
Area: 383  
Amount: -0.085776  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:31:56  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

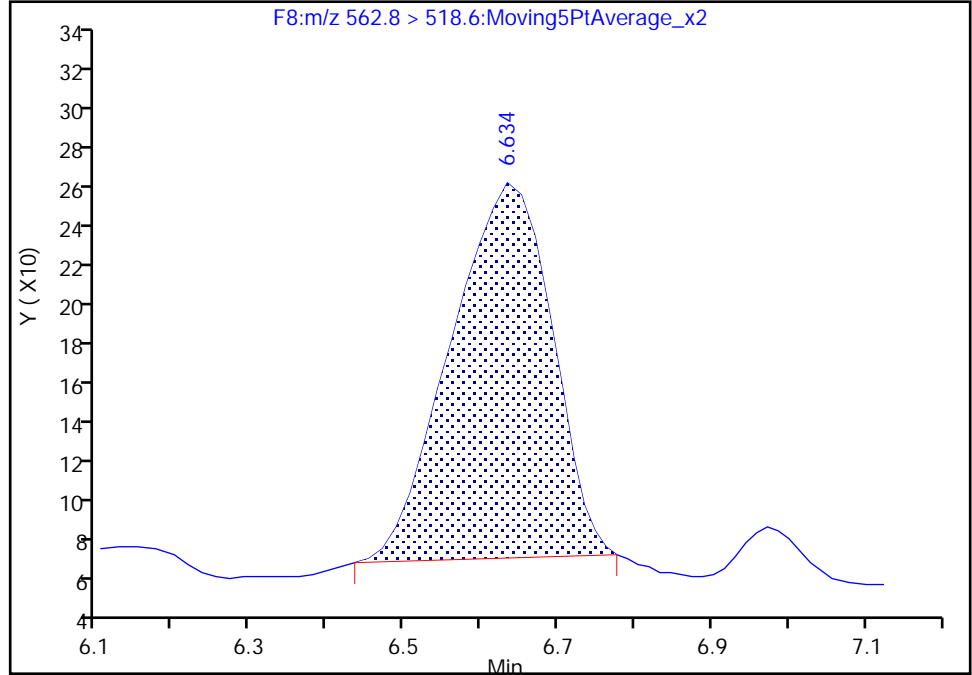
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

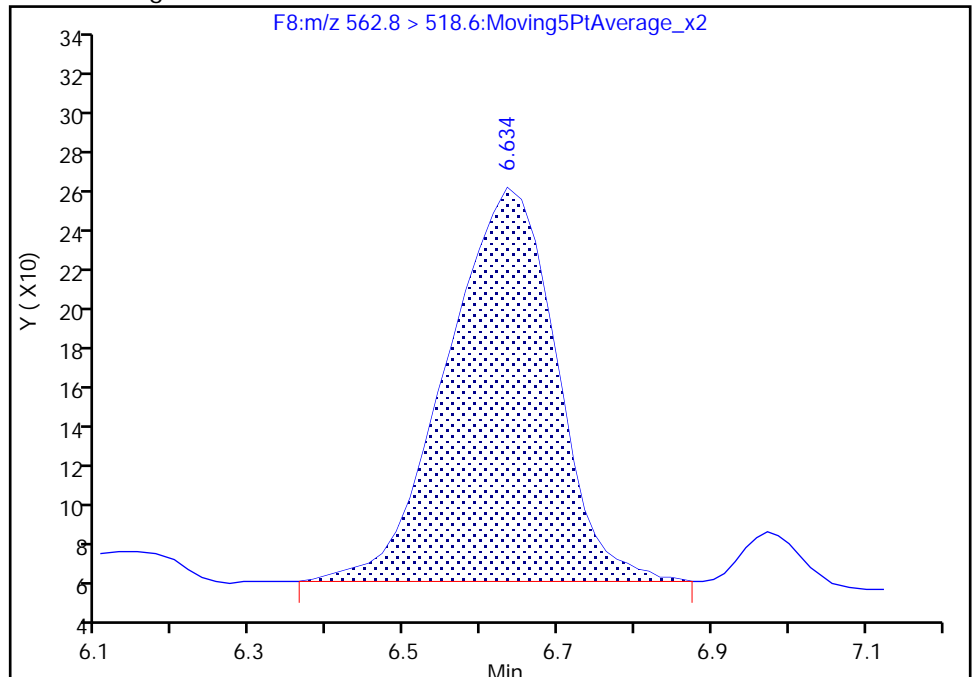
RT: 6.63  
Area: 1722  
Amount: 0.107581  
Amount Units: ng/ml

Processing Integration Results



RT: 6.63  
Area: 1945  
Amount: 0.115353  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

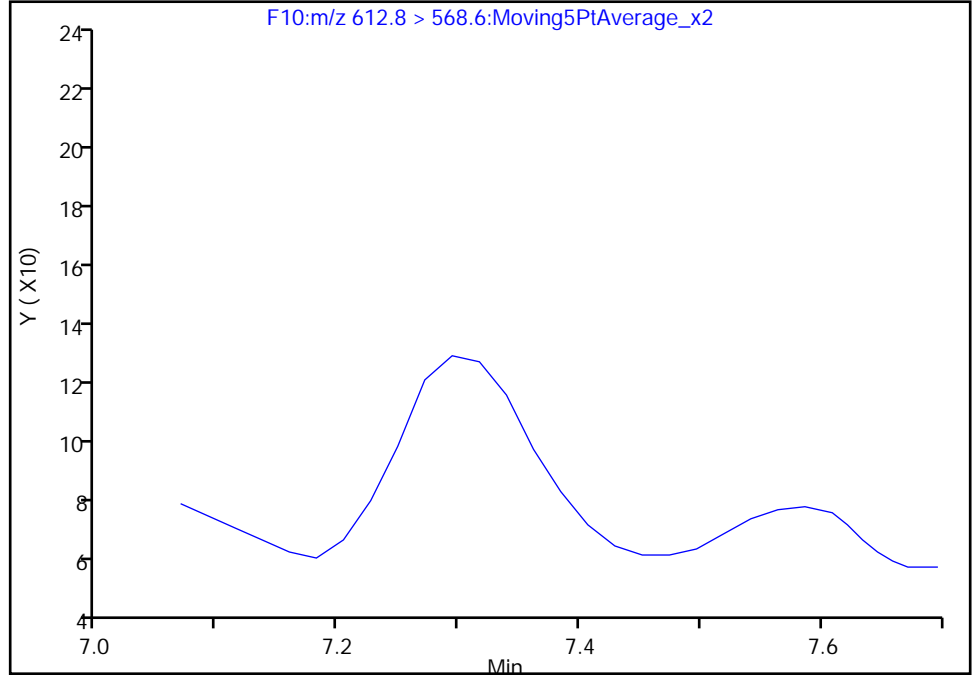
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

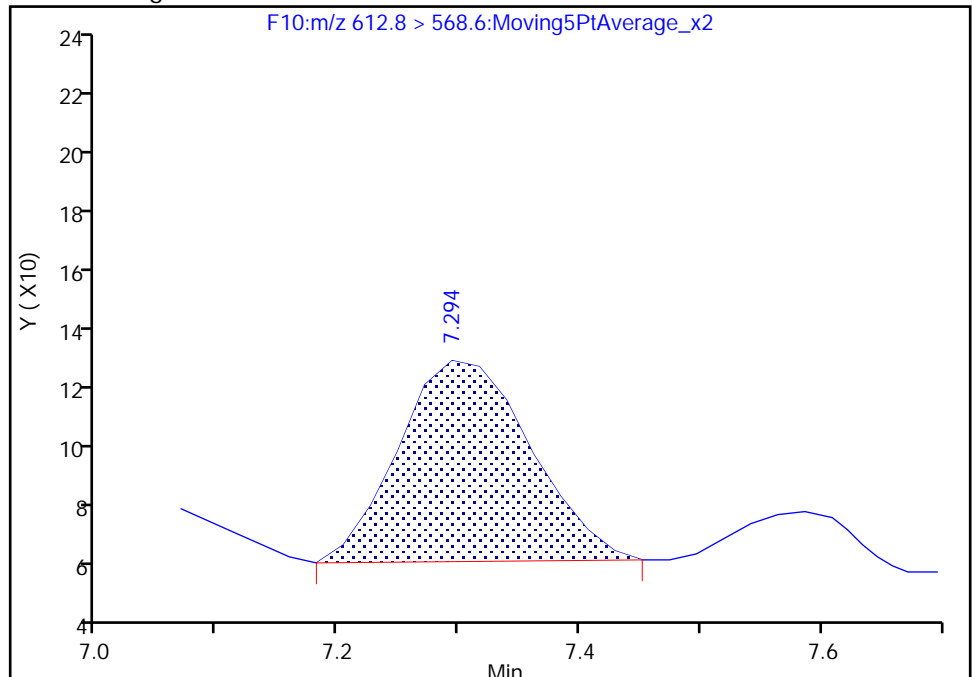
Not Detected  
Expected RT: 7.40

Processing Integration Results



Manual Integration Results

RT: 7.29  
Area: 505  
Amount: -0.004286  
Amount Units: ng/ml



TestAmerica Burlington

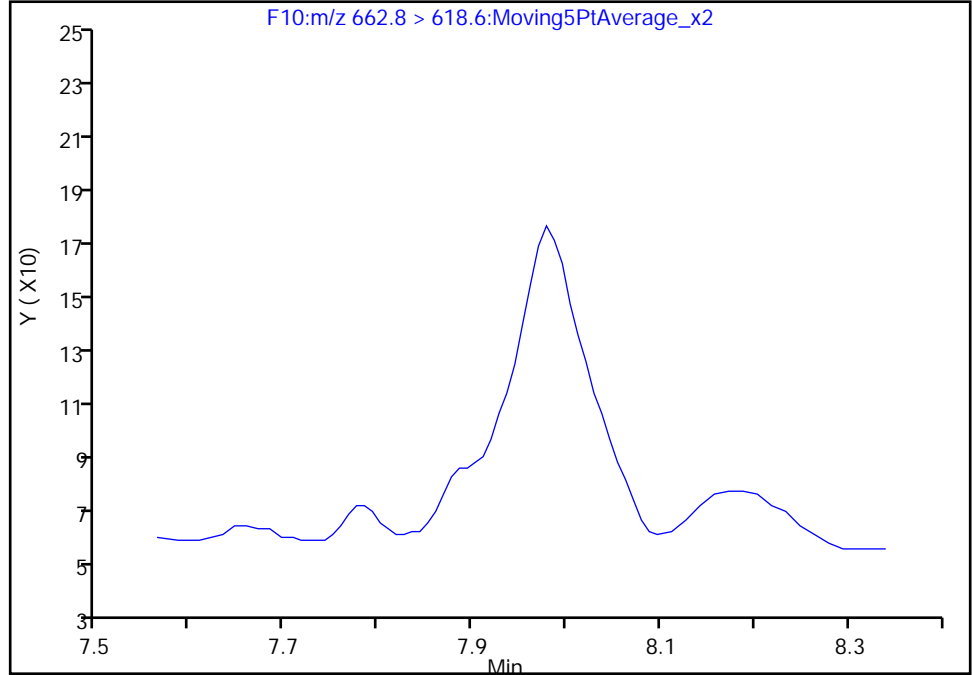
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

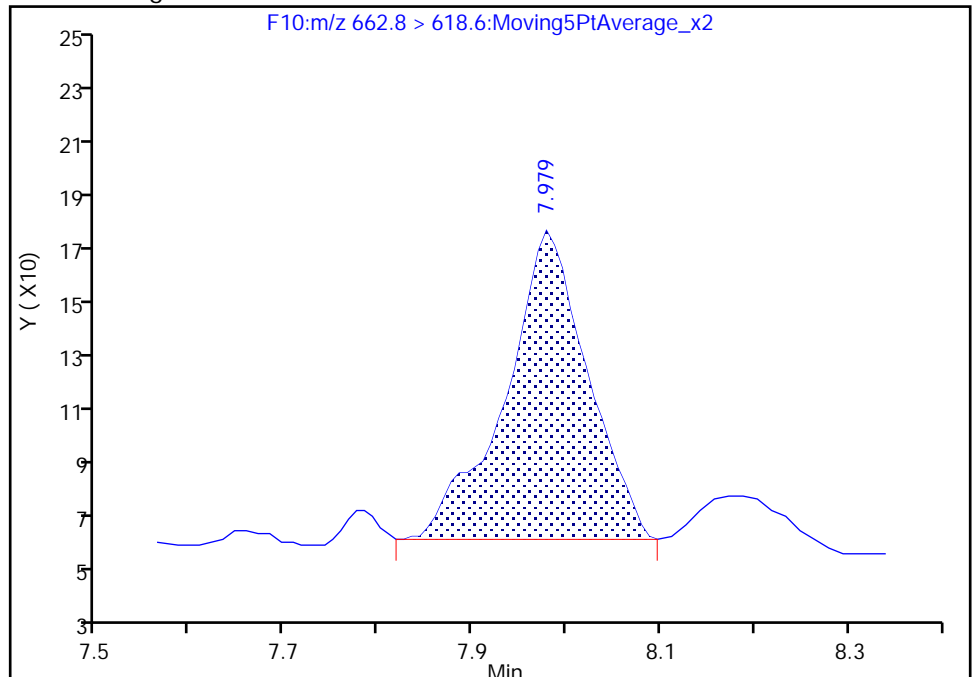
Not Detected  
Expected RT: 8.02

Processing Integration Results



Manual Integration Results

RT: 7.98  
Area: 650  
Amount: -0.068353  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:32:25  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

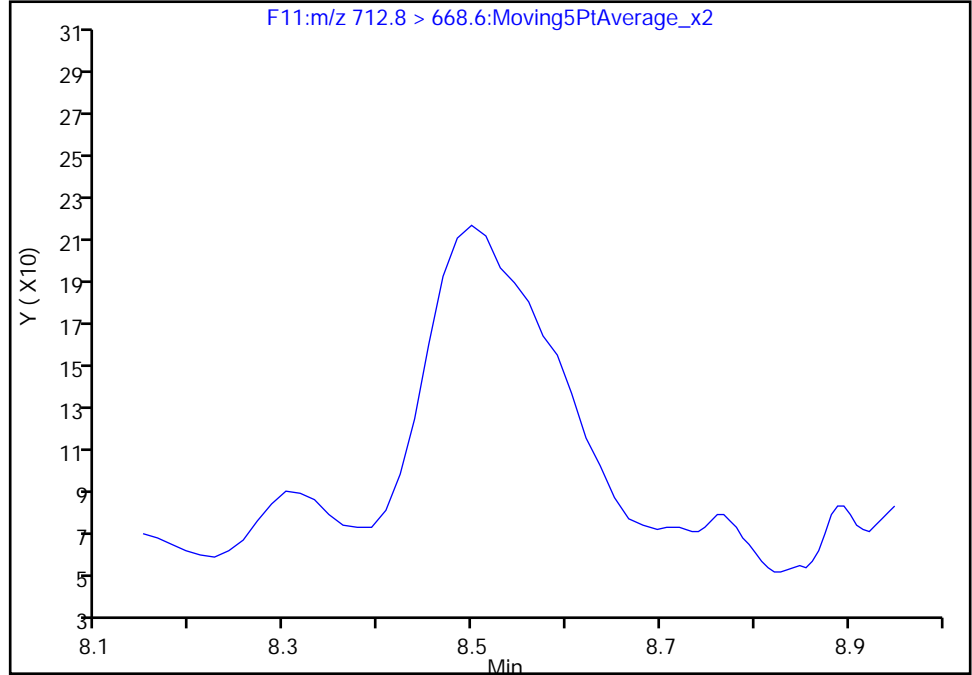
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:M/RM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

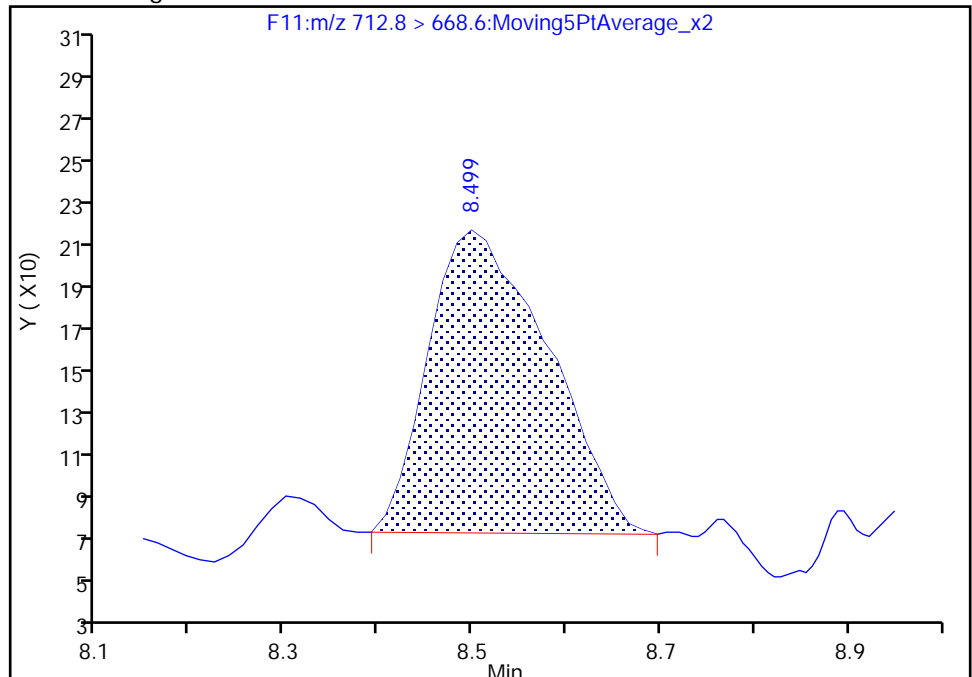
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.50  
Area: 1259  
Amount: -0.102580  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:32:30

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

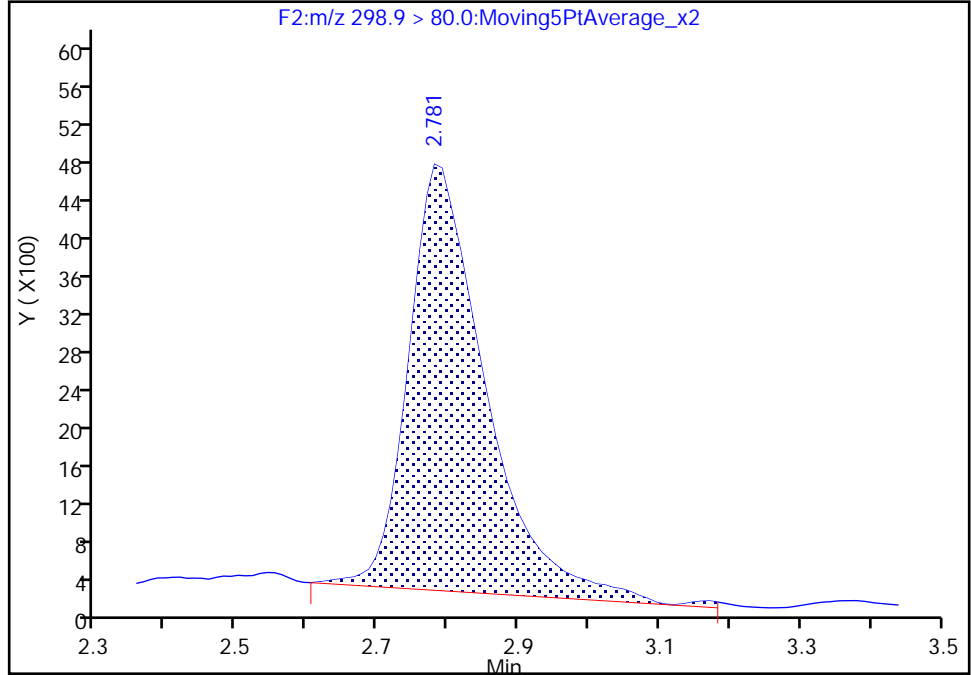
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

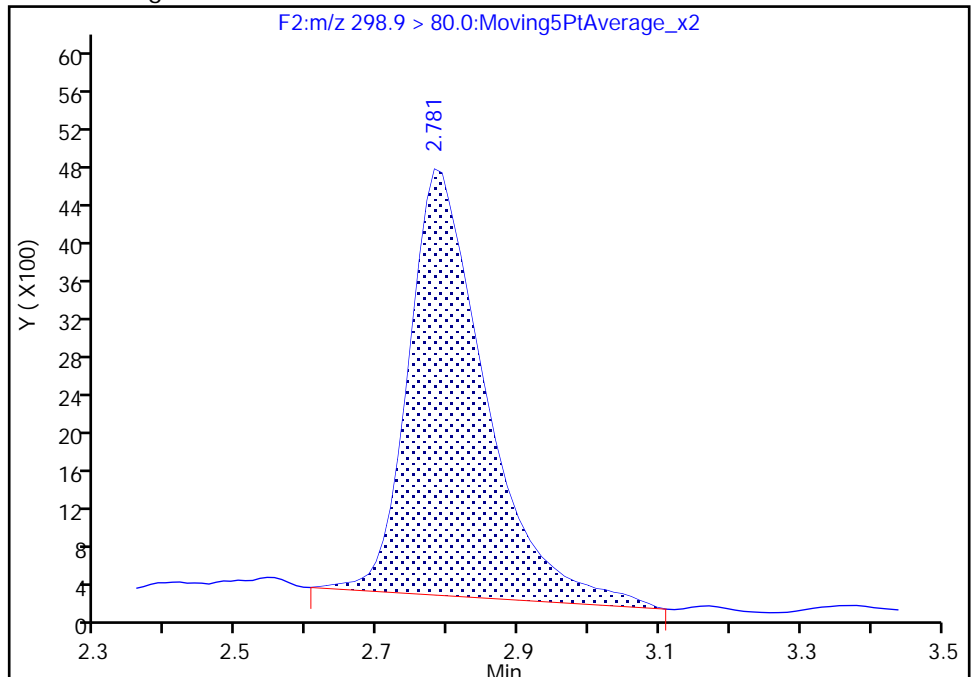
RT: 2.78  
Area: 33731  
Amount: 3.993404  
Amount Units: ng/ml

Processing Integration Results



RT: 2.78  
Area: 33517  
Amount: 3.969174  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:33:32  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

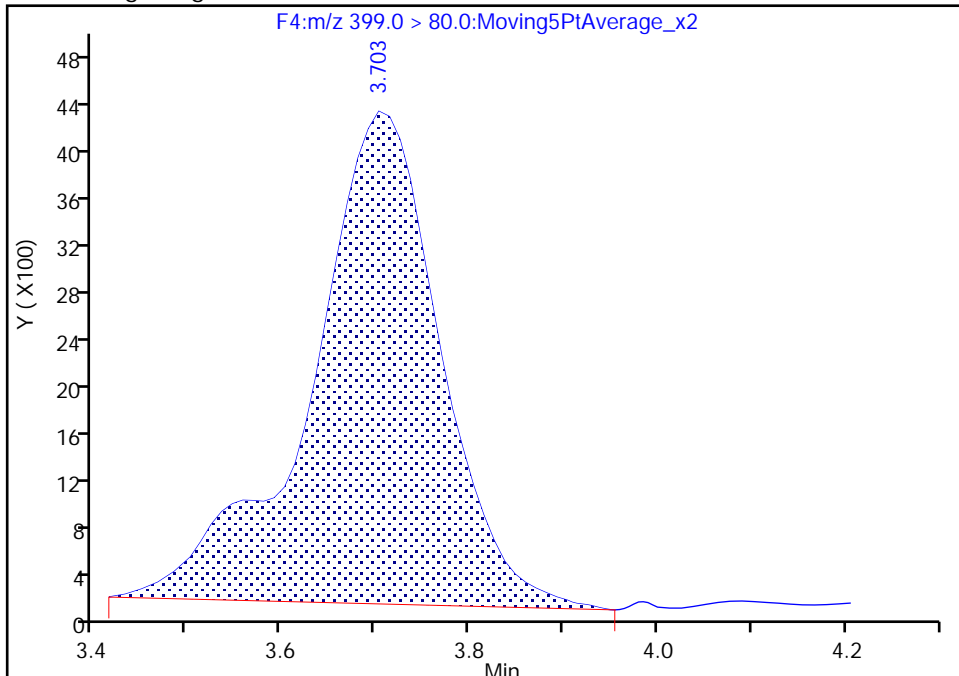
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

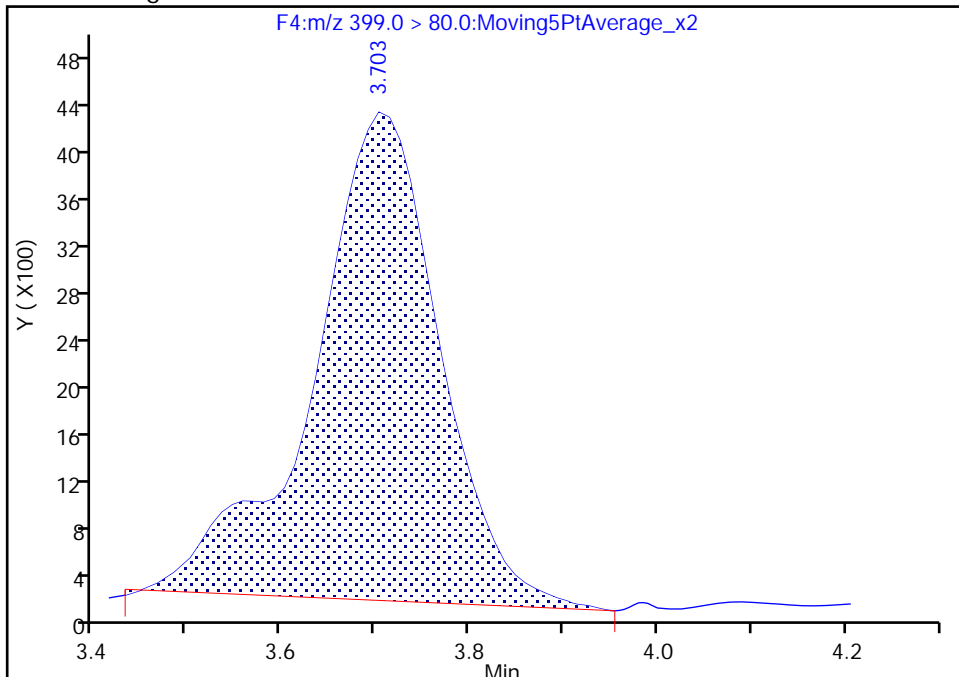
RT: 3.70  
Area: 39386  
Amount: 3.874869  
Amount Units: ng/ml

Processing Integration Results



RT: 3.70  
Area: 38279  
Amount: 3.765171  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:33:16  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

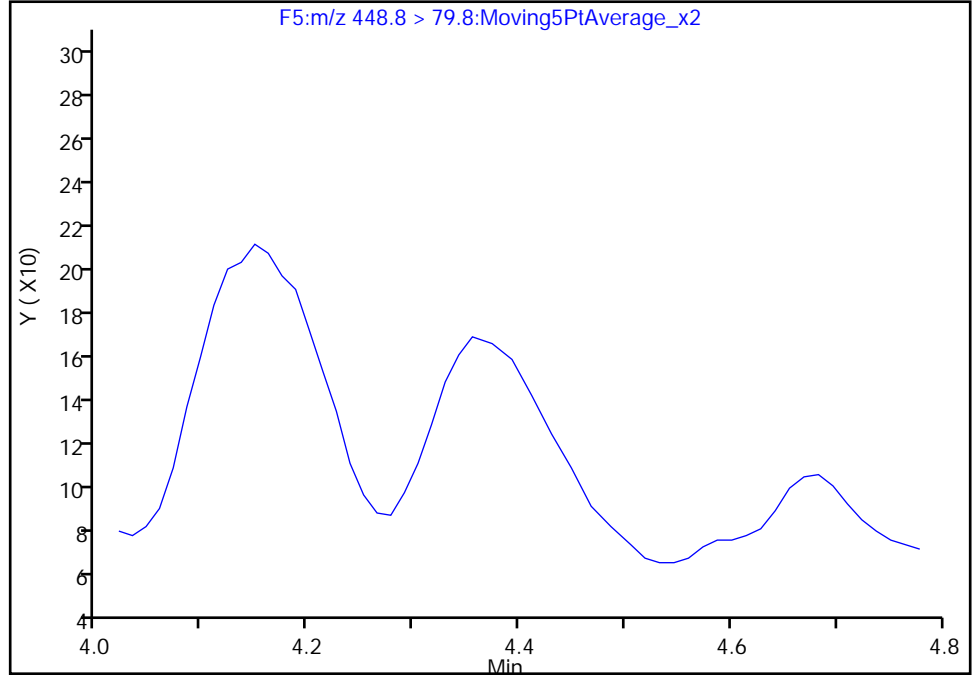
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

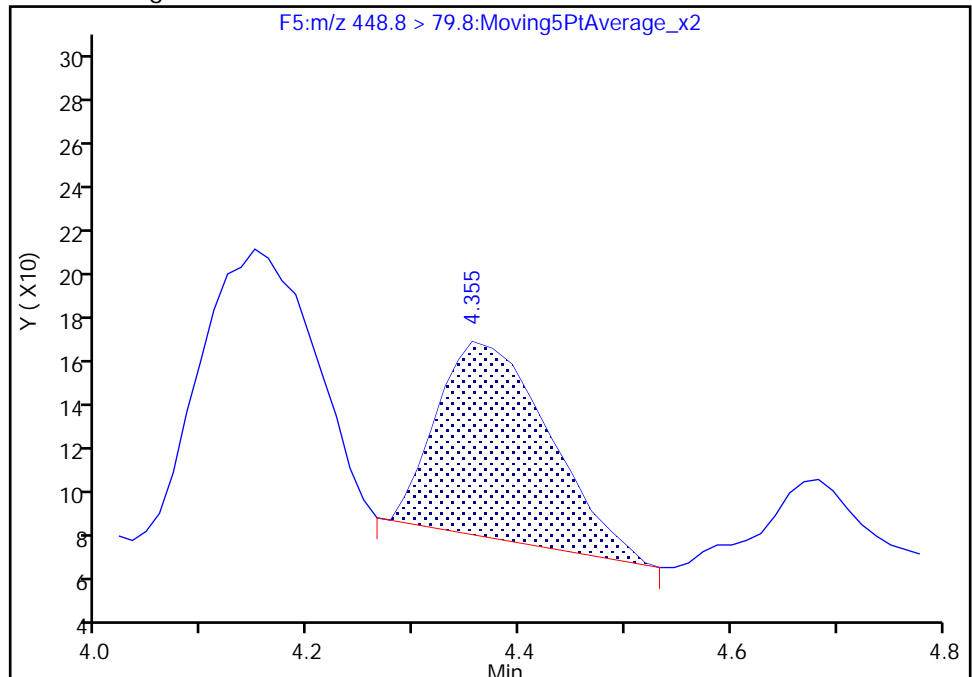
Not Detected  
Expected RT: 4.41

Processing Integration Results



RT: 4.36  
Area: 641  
Amount: 0.265939  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:31:30  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

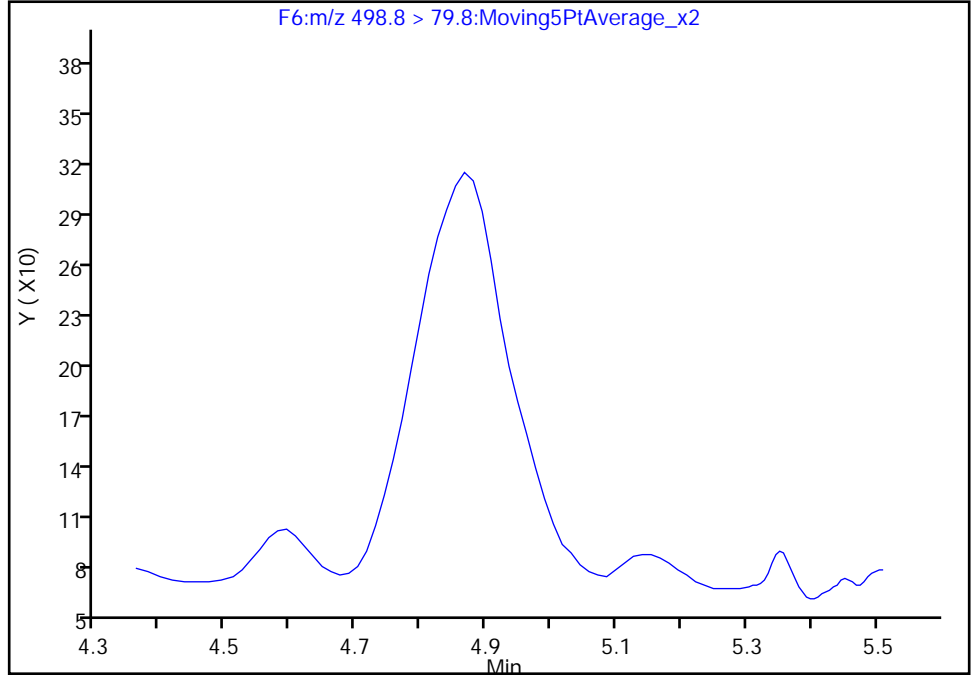
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

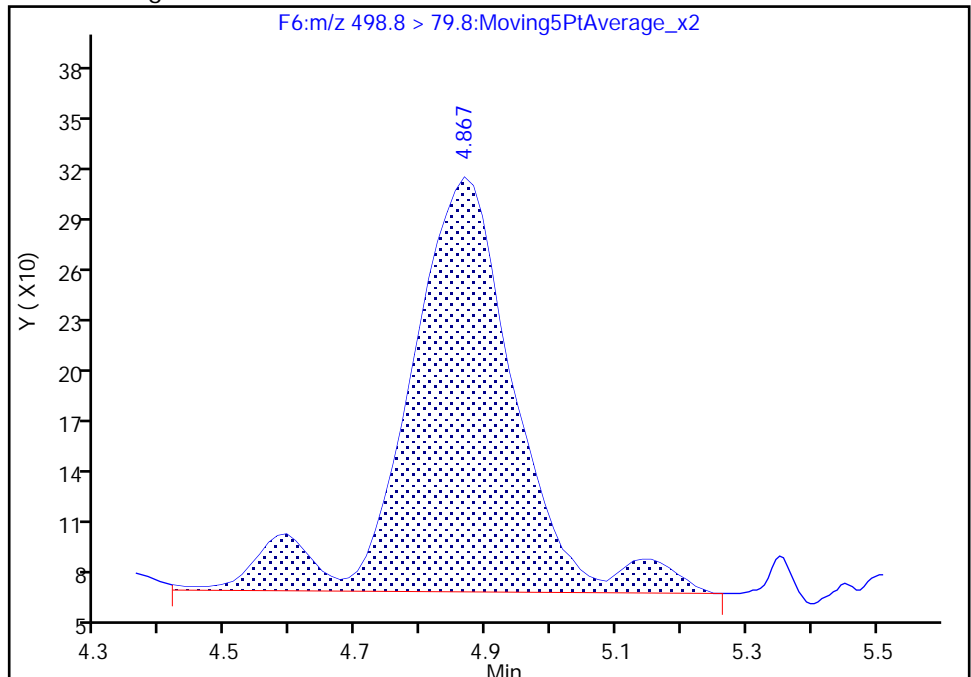
Not Detected  
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 4.87  
Area: 2832  
Amount: 0.696700  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:31:47  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

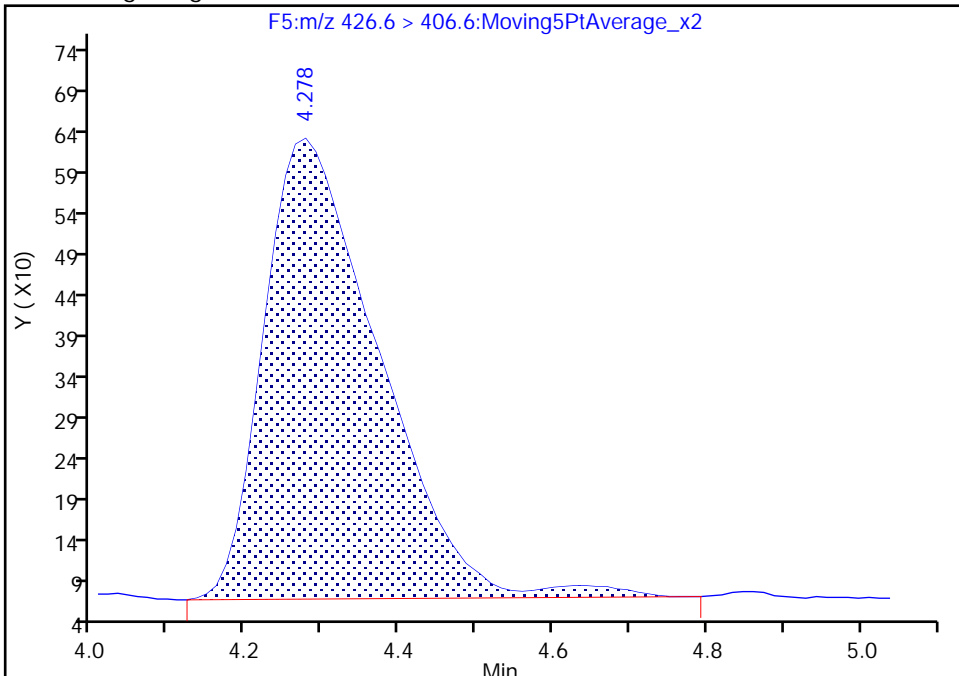
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A28.d  
Injection Date: 21-Apr-2018 18:02:51 Instrument ID: LC410  
Lims ID: 200-43041-B-4-A Lab Sample ID: 200-43041-4  
Client ID: MW-4  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 28  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

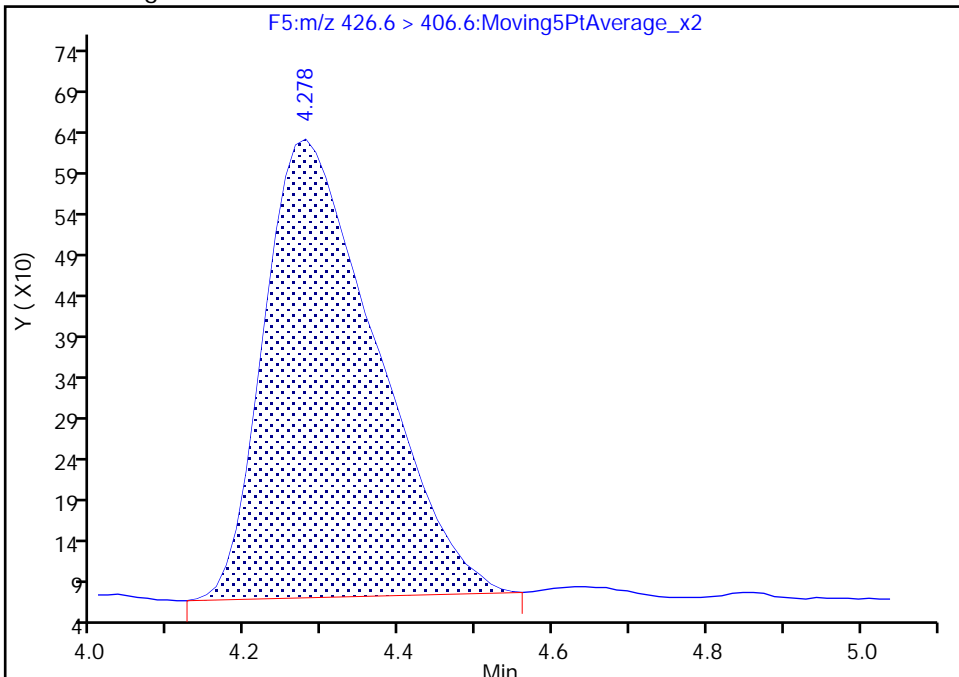
RT: 4.28  
Area: 5815  
Amount: 3.064145  
Amount Units: ng/ml

Processing Integration Results



RT: 4.28  
Area: 5612  
Amount: 2.957177  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:33:05  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-5 Lab Sample ID: 200-43041-5  
 Matrix: Water Lab File ID: PF042118A30.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 287.8 (mL) Date Analyzed: 04/21/2018 18:33  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	15.7		1.74	0.39
2706-90-3	Perfluoropentanoic acid (PFPeA)	24.0		1.74	0.39
307-24-4	Perfluorohexanoic acid (PFHxA)	22.7		1.74	0.39
375-85-9	Perfluoroheptanoic acid (PFHpA)	16.2		1.74	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	4.84		1.74	0.41
375-95-1	Perfluorononanoic acid (PFNA)	0.23	U	1.74	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	0.39	U	1.74	0.39
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.39	U	1.74	0.39
307-55-1	Perfluorododecanoic acid (PFDoA)	0.39	U	1.74	0.39
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.39	U	1.74	0.39
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.39	U	1.74	0.39
375-73-5	Perfluorobutanesulfonic acid (PFBS)	7.47		1.74	0.76
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	7.13		1.74	0.24
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.39	U	1.74	0.39
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.26	U	1.74	0.26
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.39	U	1.74	0.39
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.39	U	1.74	0.39
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.52	U	1.74	0.52
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.52	U	1.74	0.52
27619-97-2	6:2FTS	1.61	J	1.74	0.52
39108-34-4	8:2FTS	0.52	U	1.74	0.52

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-5 Lab Sample ID: 200-43041-5  
 Matrix: Water Lab File ID: PF042118A30.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 287.8 (mL) Date Analyzed: 04/21/2018 18:33  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	25		25-150
STL01893	13C5 PFPeA	48		25-150
STL00993	13C2 PFHxA	57		25-150
STL01892	13C4-PFHpA	77		25-150
STL00990	13C4 PFOA	88		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	83		25-150
STL00997	13C2 PFUnA	83		25-150
STL00998	13C2 PFDoA	74		25-150
STL02116	13C2-PFTeDA	81		25-150
STL02337	13C3-PFBS	74		25-150
STL00994	18O2 PFHxS	92		25-150
STL00991	13C4 PFOS	96		25-150
STL01056	13C8 FOSA	59		25-150
STL02118	d3-NMeFOSAA	65		25-150
STL02117	d5-NEtFOSAA	72		25-150
STL02279	M2-6:2FTS	190	*	25-150
STL02280	M2-8:2FTS	112		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
 Lims ID: 200-43041-B-5-A  
 Client ID: MW-5  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 18:33:09 ALS Bottle#: 0 Worklist Smp#: 30  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-030 5  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:20:49 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:36:45

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										M
216.9 > 171.5	2.282	2.319	-0.037	1.000	126809	12.6		25.2	651	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.294	2.320	-0.026	1.005	21047	9.01			25.1	M
D 3 13C5-PFPeA										M
267.7 > 222.6	2.698	2.736	-0.038	1.000	58119	23.8		47.7	53.8	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.698	2.738	-0.040	1.000	90606	13.8			37.2	M
D 5 13C3-PFBS										
302.0 > 79.8	2.770	2.800	-0.030	1.000	174264	34.2		73.6	250	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.770	2.804	-0.034	1.000	32283	4.30			17.8	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.115	3.158	-0.043	1.000	234698	28.3		56.6	2126	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.115	3.162	-0.047	1.000	59894	13.1			214	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.637	3.689	-0.052	1.000	778093	38.4		76.8	1661	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.648	3.689	-0.041	1.003	150915	9.33			337	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.681	3.733	-0.052	1.000	38662	4.10			76.8	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.681	3.737	-0.056	1.000	247286	43.4		91.7	618	
D 14 M2-6:2FTS										
428.6 > 408.6	4.265	4.319	-0.054	1.000	98367	90.5		190	678	
15 Sodium 1H,1H,2H,2H-perfluorooctane										M
426.6 > 406.6	4.278	4.319	-0.041	1.003	1970	0.9253			25.4	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.317	4.365	-0.048	1.000	821512	44.1		88.1	1400	
* 49 13C2-PFOA										
414.9 > 369.8	4.317	4.371	-0.054		1100359	50.0			4391	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.162	4.374	-0.212	0.964	49646	2.79			50.5	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.374	4.408	-0.034	0.858	223	0.1721			3.1	M
D 21 13C5 PFNA										
467.8 > 422.8	5.085	5.145	-0.060	1.000	1104802	48.7		97.3	1882	
D 22 13C4 PFOS										
502.8 > 79.8	5.099	5.168	-0.069	1.000	214179	45.7		95.5	634	
24 Sodium 1H,1H,2H,2H-perfluorodecane										M
526.8 > 506.5	5.843	5.910	-0.067	1.012	420	0.0729			4.6	M
D 23 M2-8:2FTS										
528.8 > 508.8	5.773	5.910	-0.137	1.000	366530	53.8		112	2326	
D 25 13C2 PFDA										
514.9 > 469.5	5.783	5.934	-0.151	1.000	1260373	41.7		83.5	1524	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.763	5.938	-0.175	0.997	1129	-0.0518			10.3	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.223	6.298	-0.075	1.000	222138	32.7		65.4	796	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.181	6.310	-0.129	0.993	162	0.0722			0.7	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.580	6.667	-0.087	1.000	213320	36.0		72.1	1200	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.580	6.688	-0.108	1.000	705	0.0760			6.0	M
31 Perfluorodecane Sulfonic acid										M
598.8 > 79.8	6.580	6.699	-0.119	1.290	407	0.1214			2.7	M
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.598	6.711	-0.113	0.997	3240	0.1715			19.7	
D 33 13C2 PFUnA										
564.8 > 519.8	6.616	6.713	-0.097	1.000	1372394	41.5		83.0	2913	
D 35 13C8 FOSA										
505.8 > 77.8	6.917	6.938	-0.021	1.000	234780	29.5		59.0	1699	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	6.931	6.940	-0.009	1.002	611	0.2106			4.3	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.272	7.392	-0.120	1.000	1243183	36.9		73.8	3042	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.294	7.399	-0.105	1.003	3259	0.1205			31.6	
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.970	8.022	-0.052	1.096	4626	0.1079			49.9	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.499	8.572	-0.073	1.000	1289699	40.5		81.1	596	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.499	8.572	-0.073	1.000	5080	0.0653			48.5	M
712.8 > 168.8	8.530	8.572	-0.042	1.004	1775		2.86(0.00-0.00)		9.4	M
712.8 > 218.8	8.469	8.572	-0.103	0.996	455		11.16(0.00-0.00)		2.5	M

**QC Flag Legend**

Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d

Injection Date: 21-Apr-2018 18:33:09

Instrument ID: LC410

Lims ID: 200-43041-B-5-A

Lab Sample ID: 200-43041-5

Client ID: MW-5

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 30

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

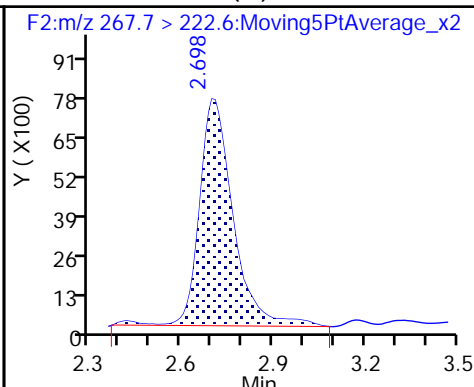
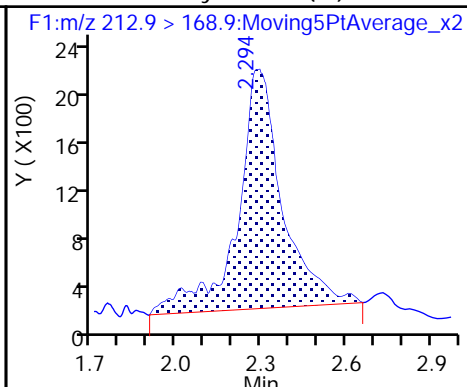
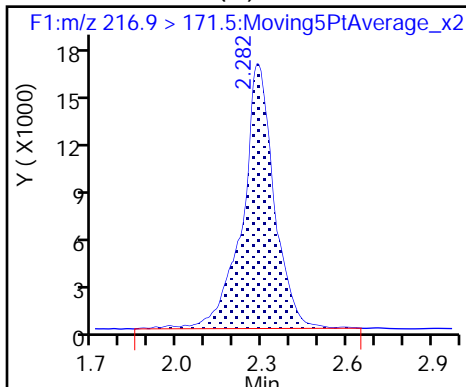
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

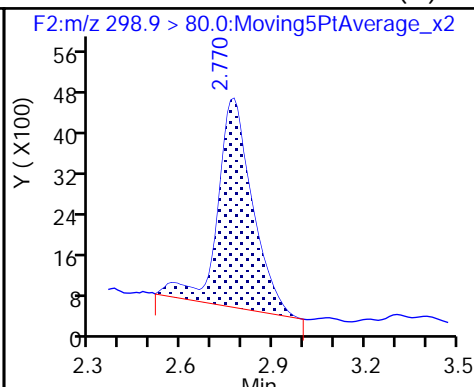
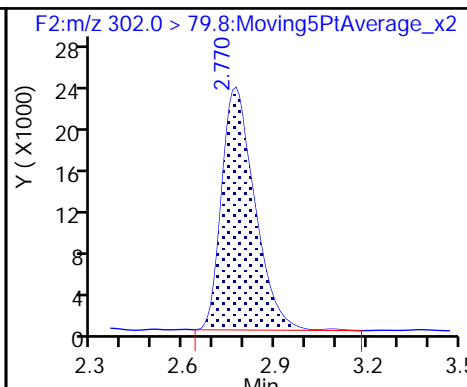
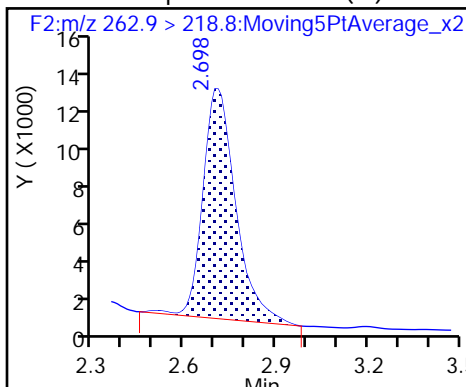
D 3 13C5-PFPeA (M)



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

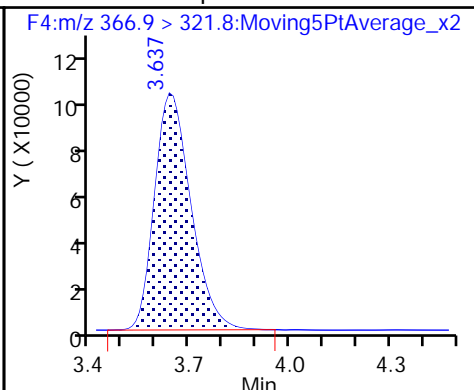
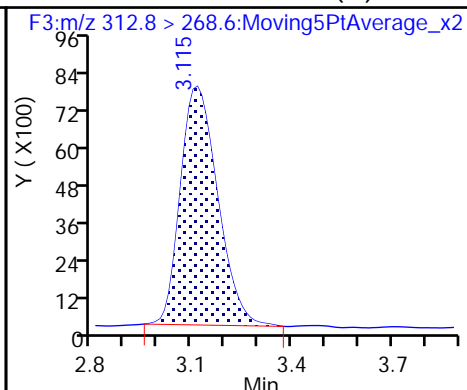
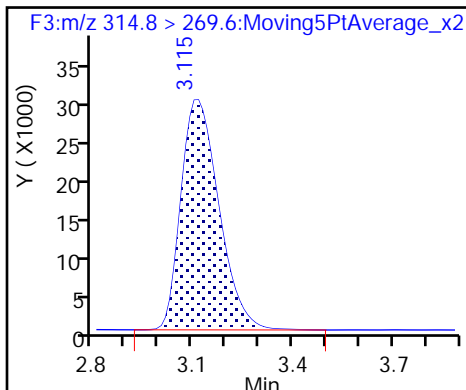
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

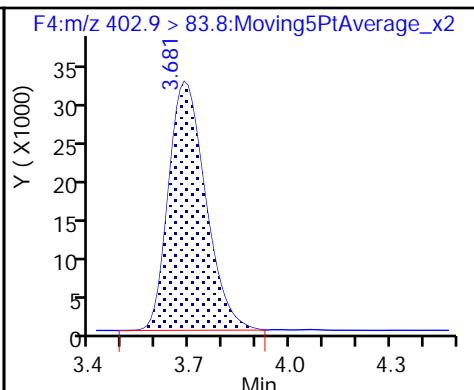
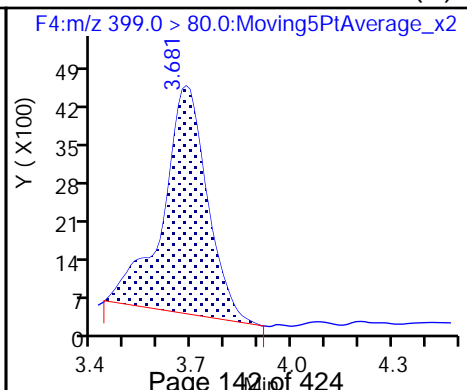
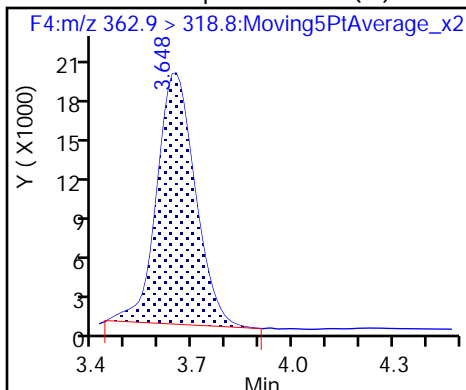
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

12 Perfluorohexanesulfonic acid (M)

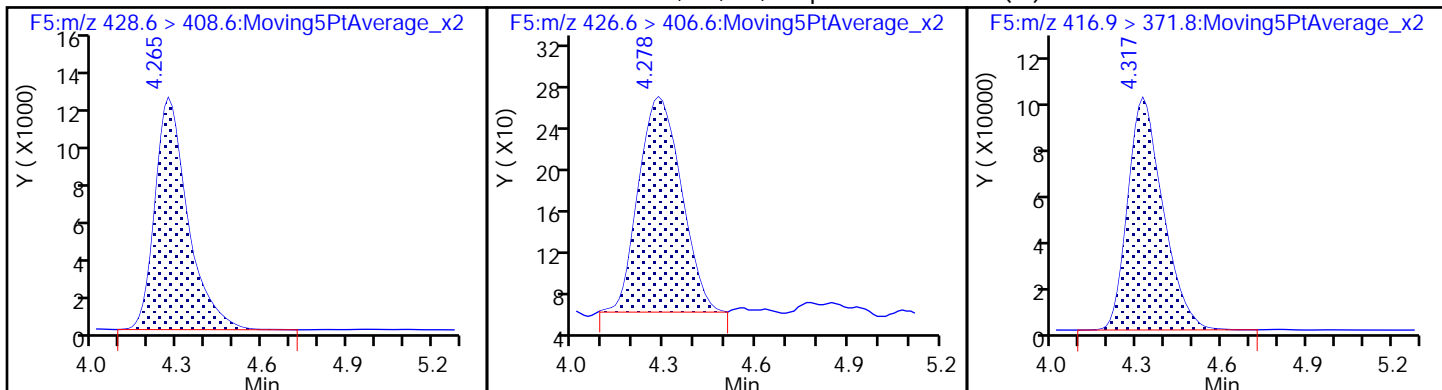
D 13 18O2 PFHxS





D 14 M2-6:2FTS

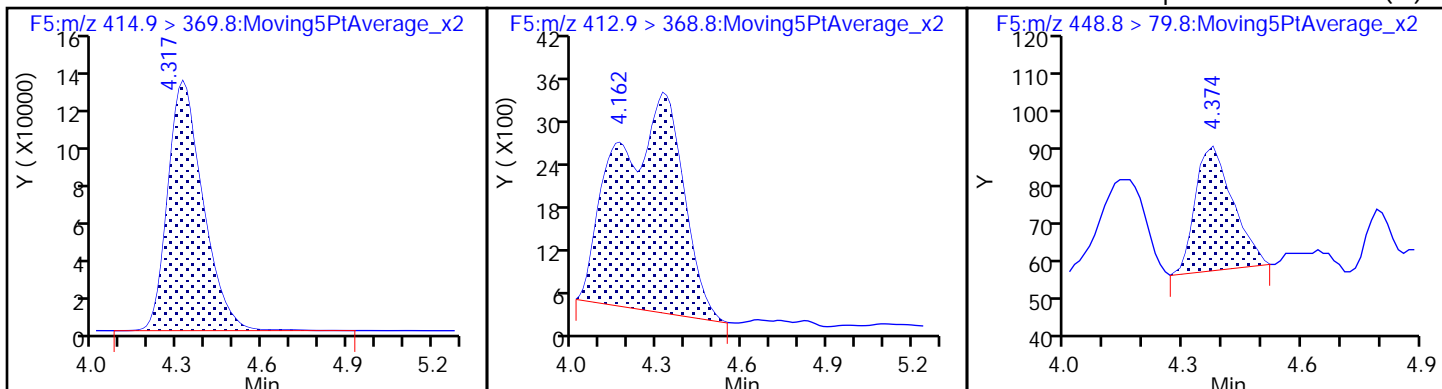
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

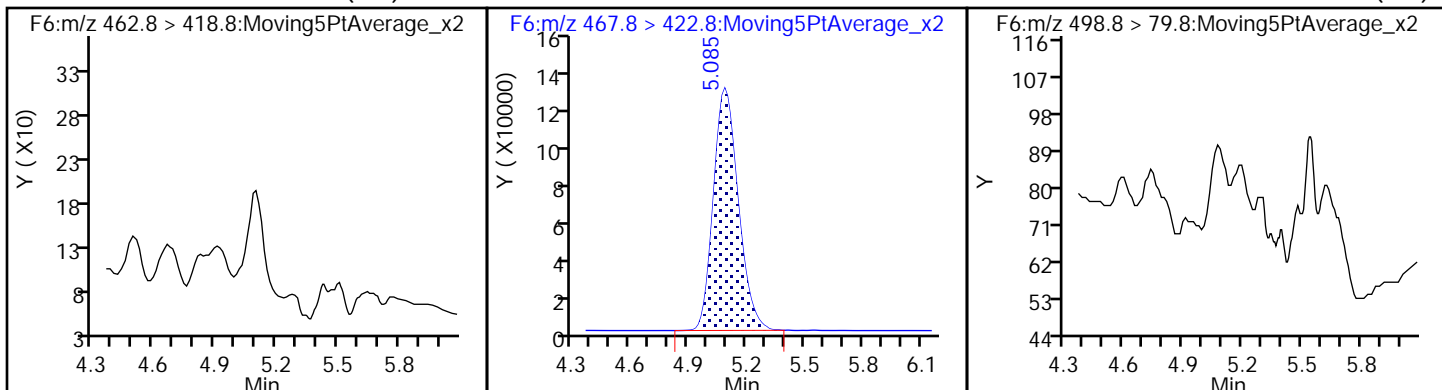
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (ND)

D 21 13C5 PFNA

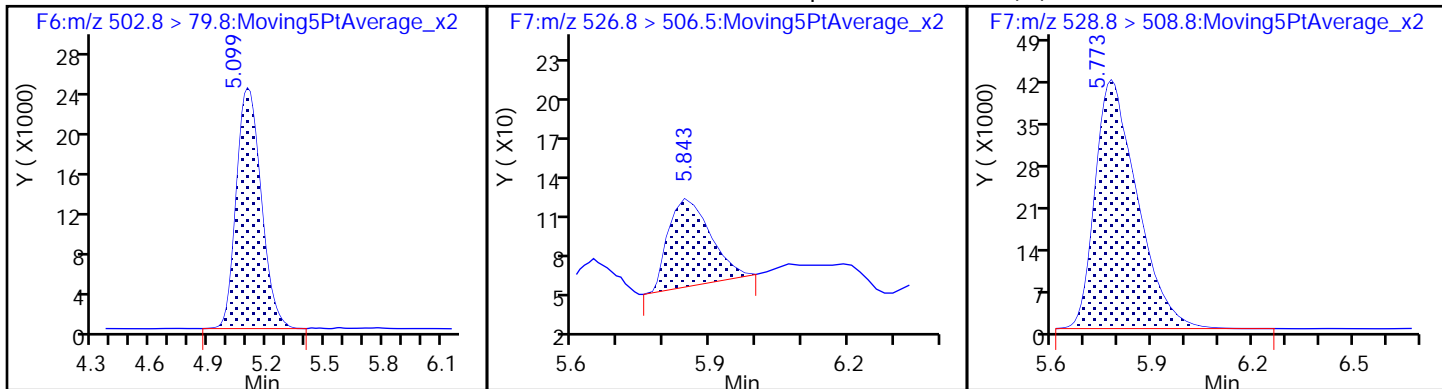
20 Perfluorooctane sulfonic acid (ND)



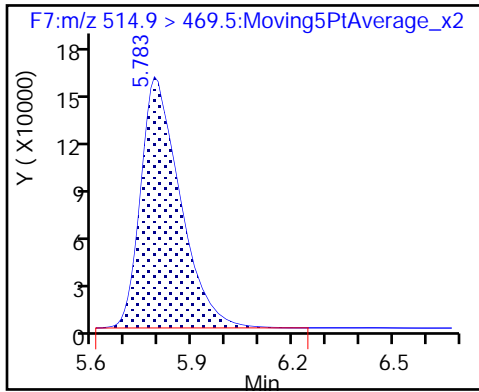
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 13C4 PFOA

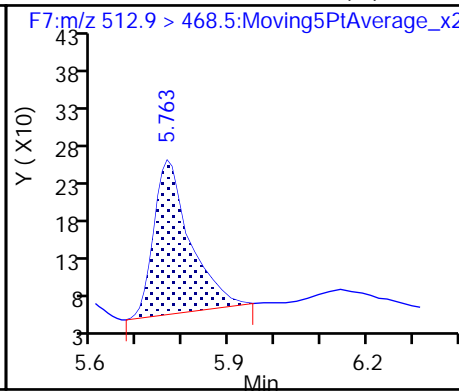
D 23 M2-8:2FTS



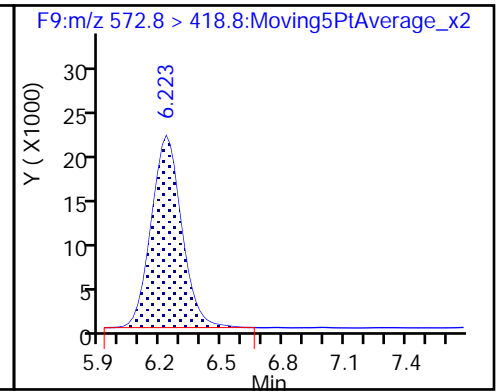
D 25 13C2 PFDA



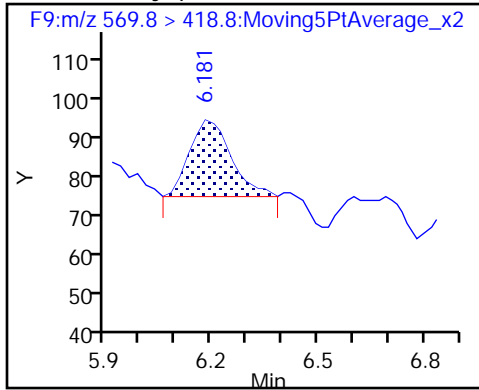
26 Perfluorodecanoic acid (M)



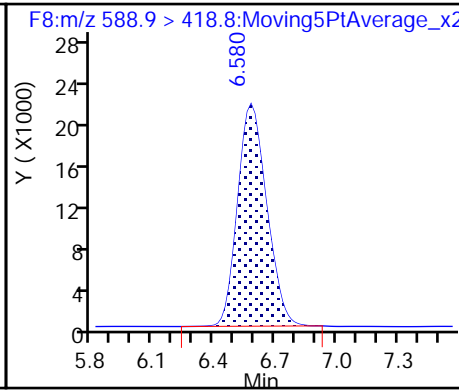
D 27 d3-NMeFOSAA



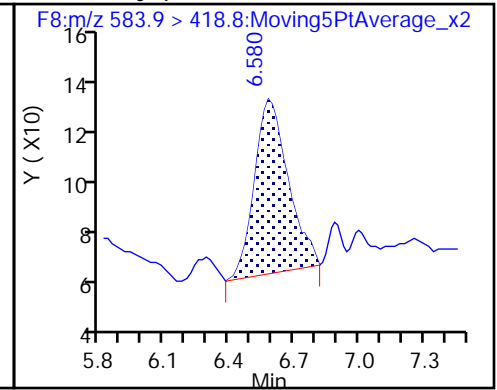
28 N-methyl perfluorooctane sulfonamide (M)



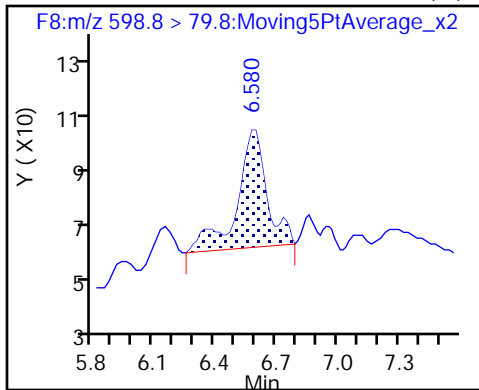
D 29 d5-NEtFOSAA



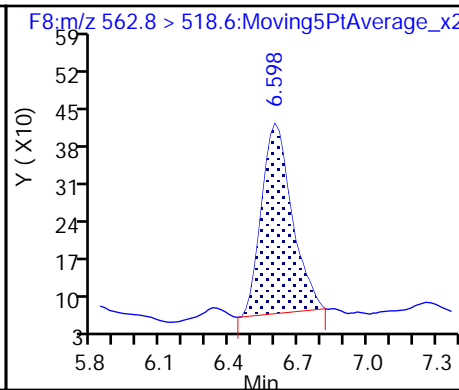
30 N-ethyl perfluorooctane sulfonamide (M)



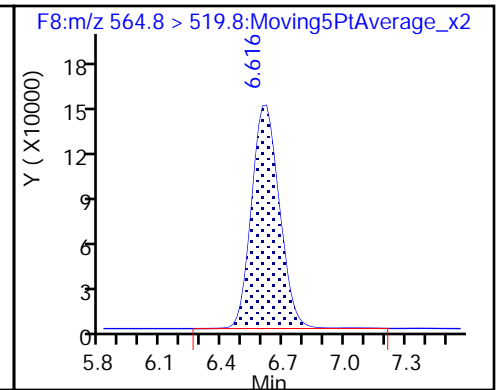
31 Perfluorodecane Sulfonic acid (M)



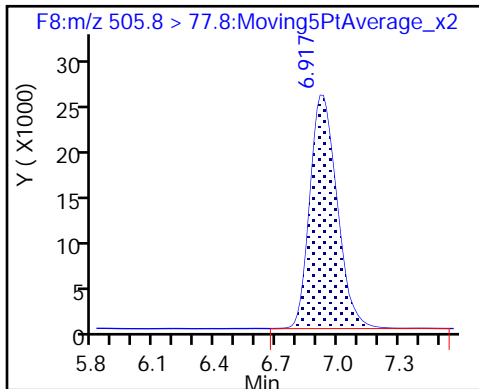
32 Perfluoroundecanoic acid



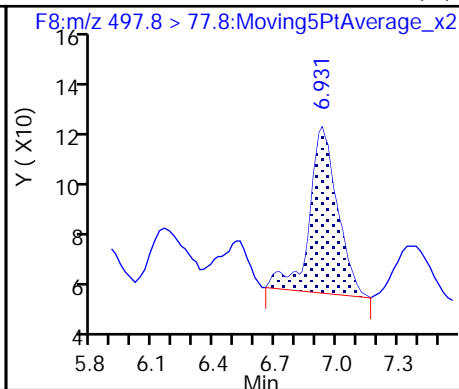
D 33 13C2 PFUnA



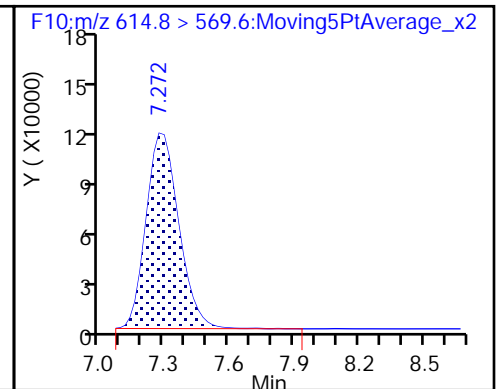
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (M)



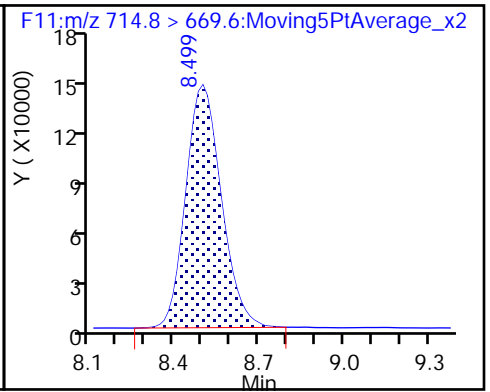
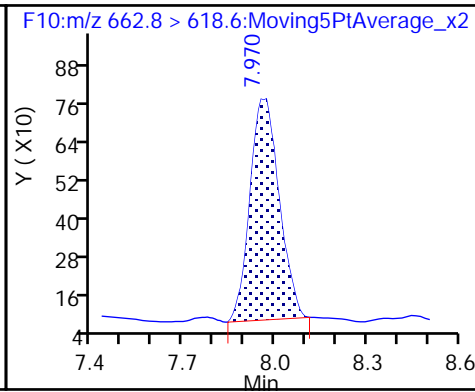
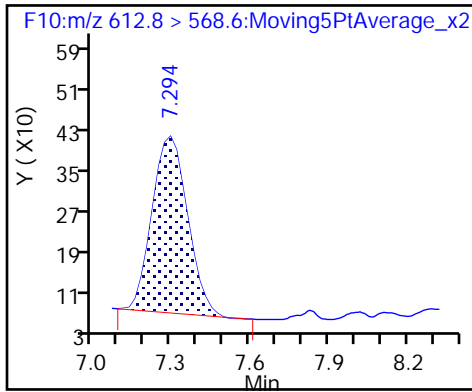
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

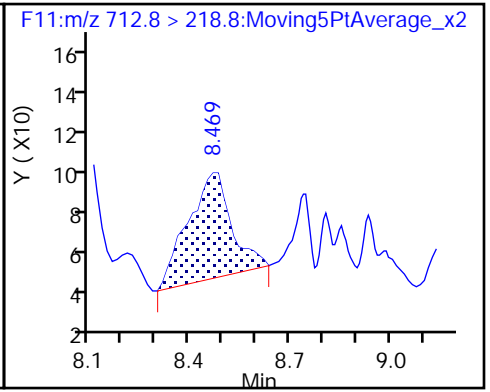
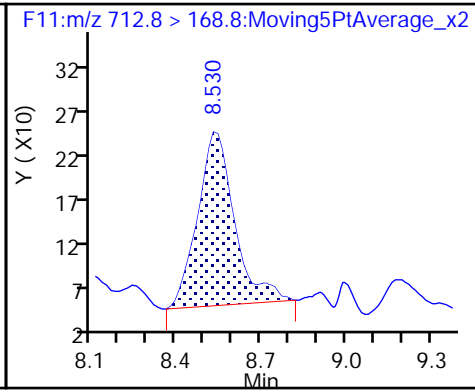
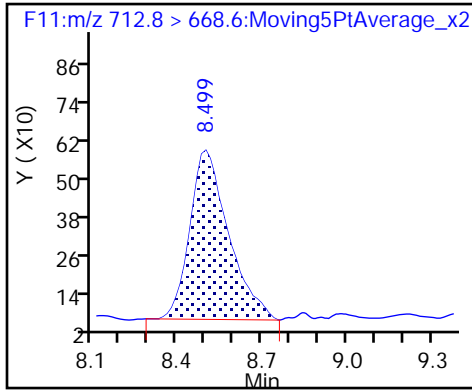
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)



TestAmerica Burlington

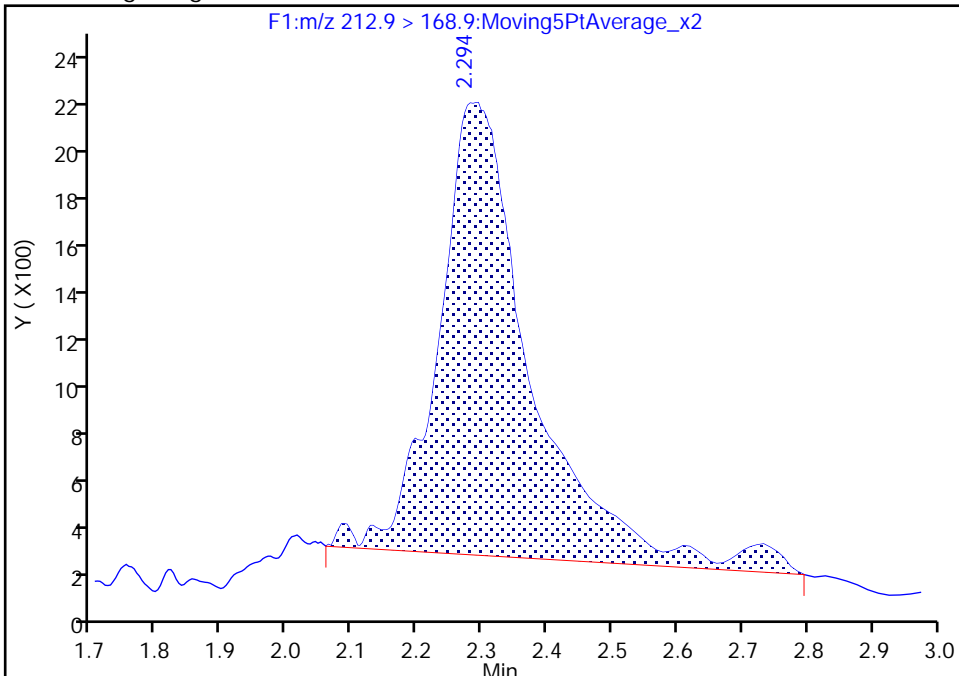
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

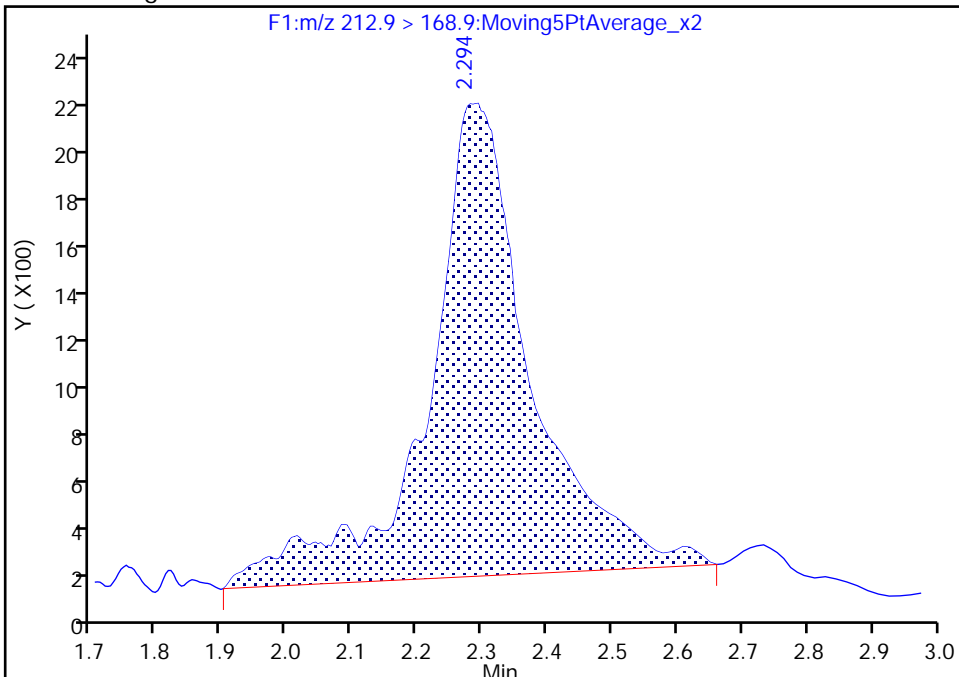
RT: 2.29  
Area: 18214  
Amount: 7.778091  
Amount Units: ng/ml

Processing Integration Results



RT: 2.29  
Area: 21047  
Amount: 9.011841  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:13  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

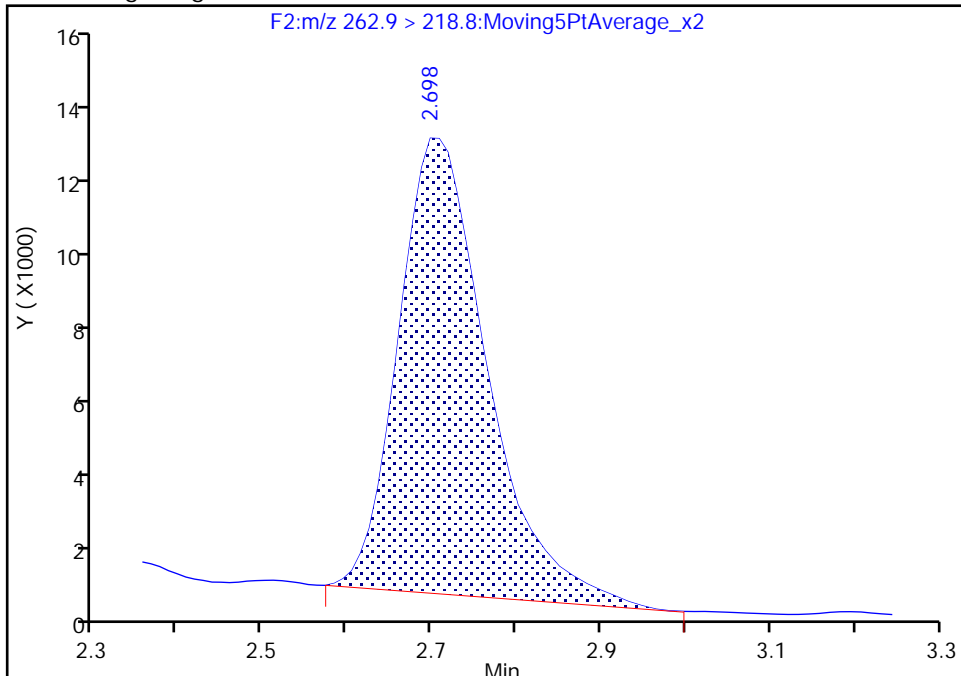
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

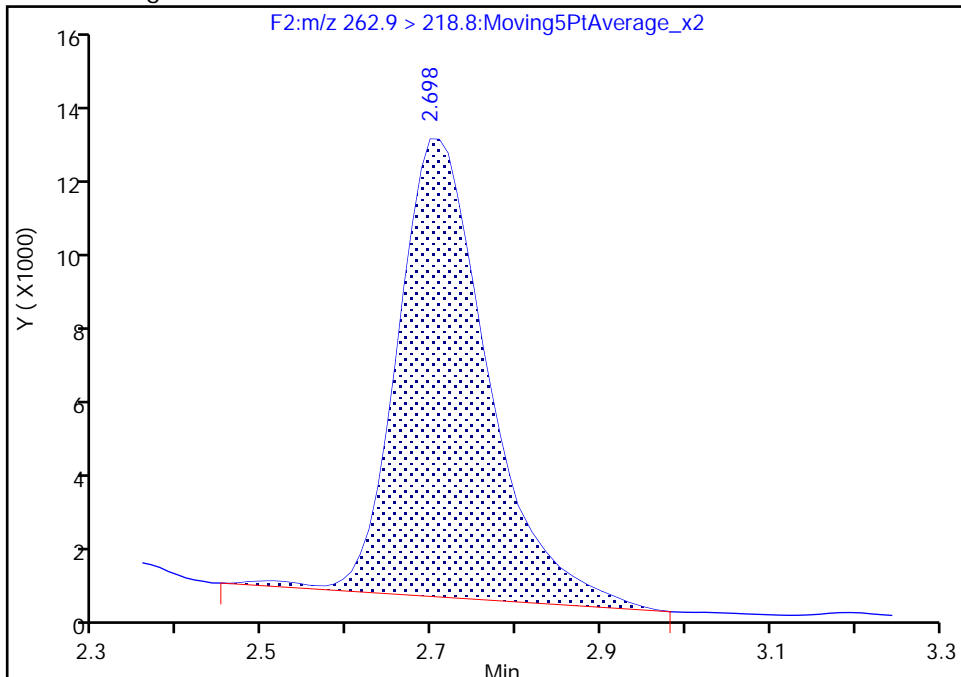
RT: 2.70  
Area: 88905  
Amount: 13.521481  
Amount Units: ng/ml

Processing Integration Results



RT: 2.70  
Area: 90606  
Amount: 13.788814  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:30  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

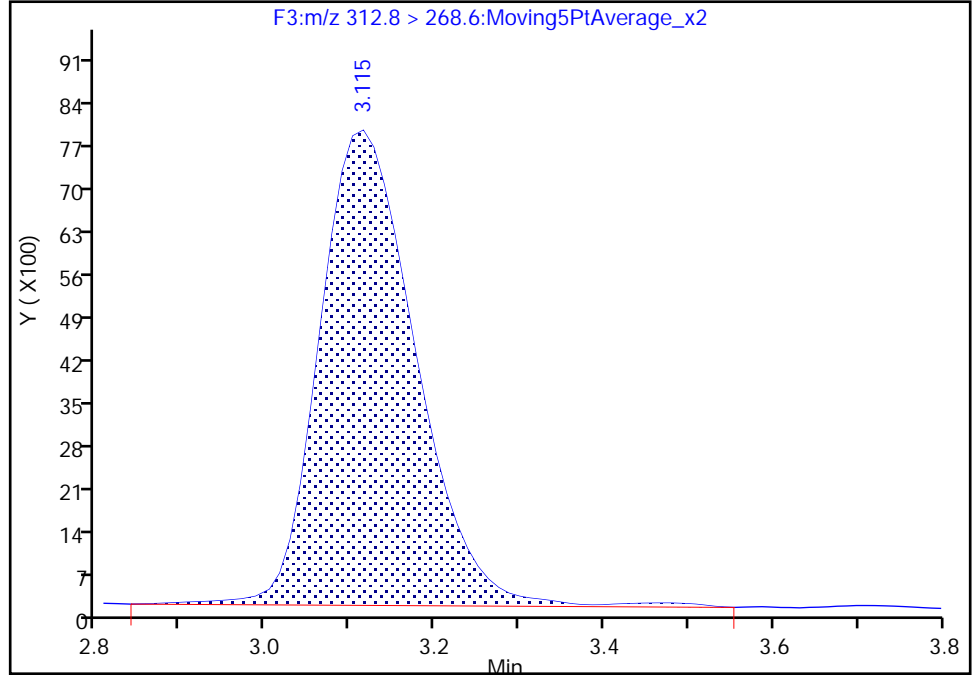
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

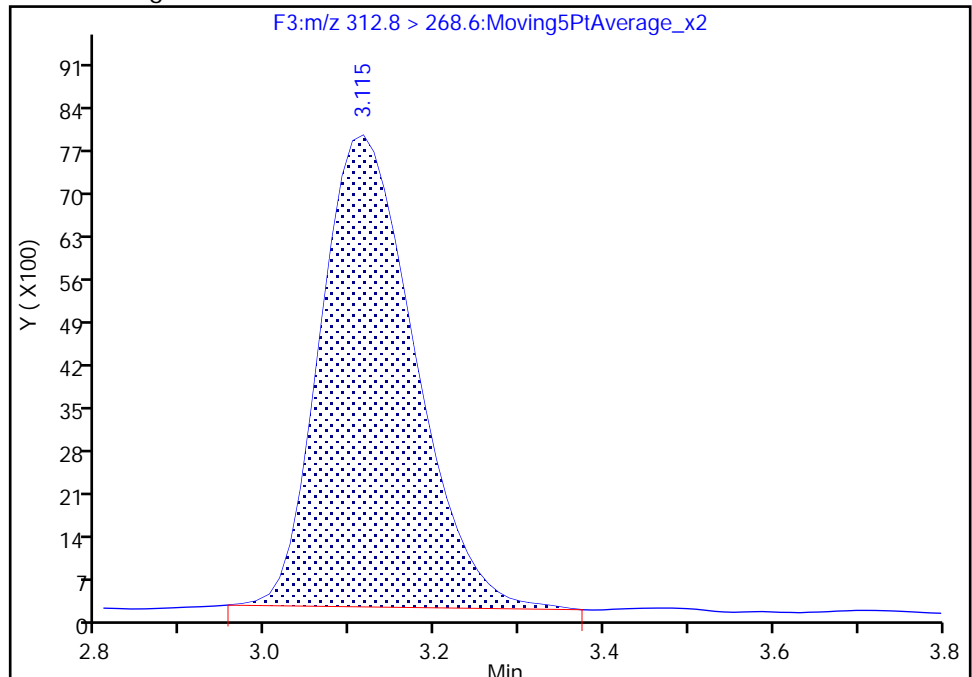
RT: 3.12  
Area: 61795  
Amount: 13.491345  
Amount Units: ng/ml

Processing Integration Results



RT: 3.12  
Area: 59894  
Amount: 13.077805  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:46  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

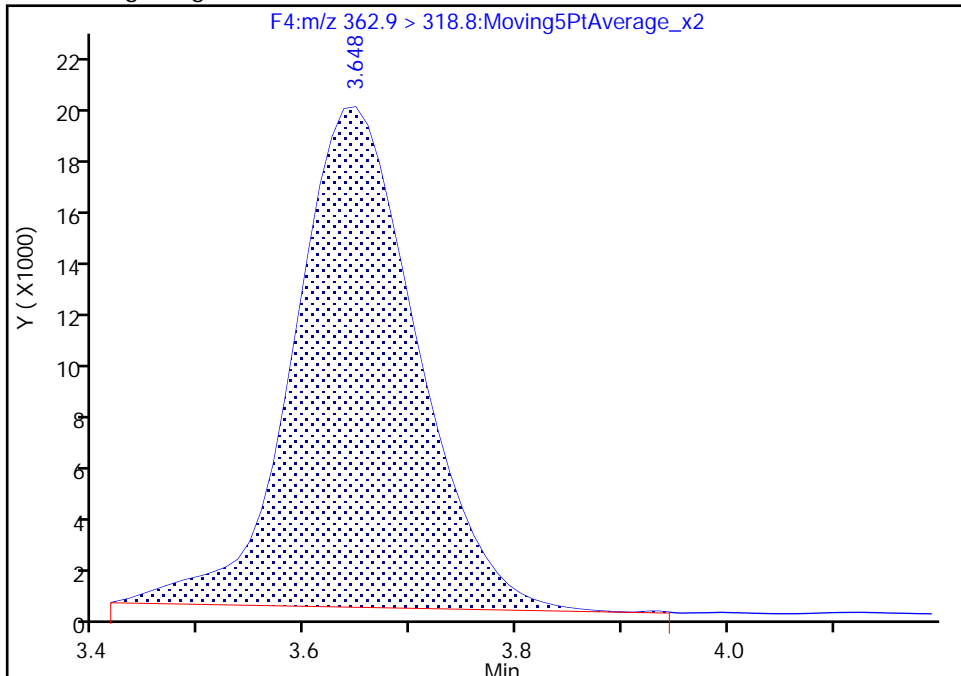
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

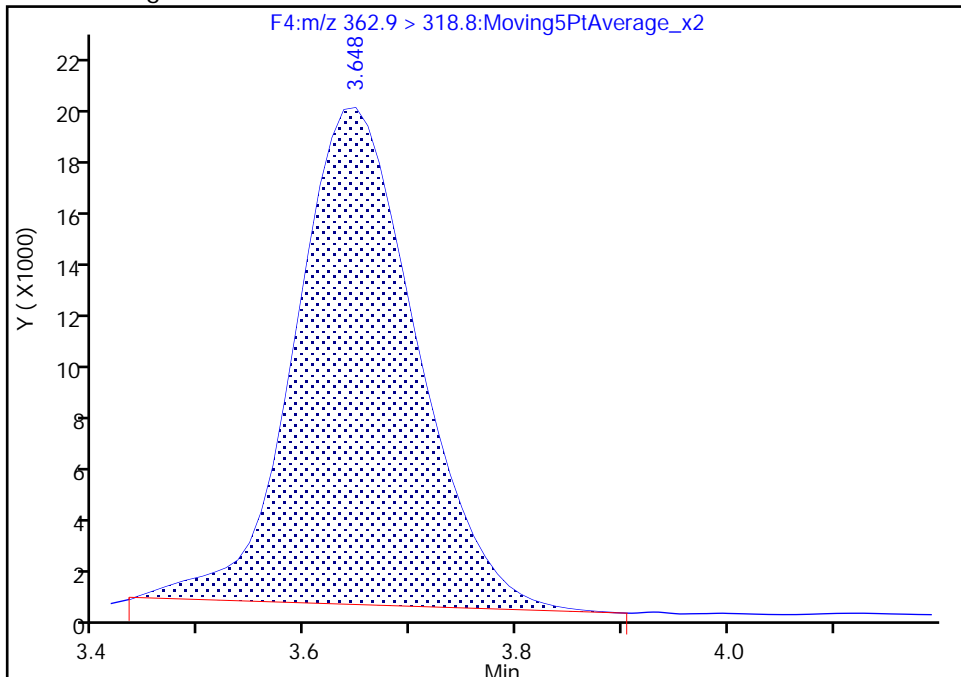
RT: 3.65  
Area: 154598  
Amount: 9.557355  
Amount Units: ng/ml

Processing Integration Results



RT: 3.65  
Area: 150915  
Amount: 9.330811  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:53  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

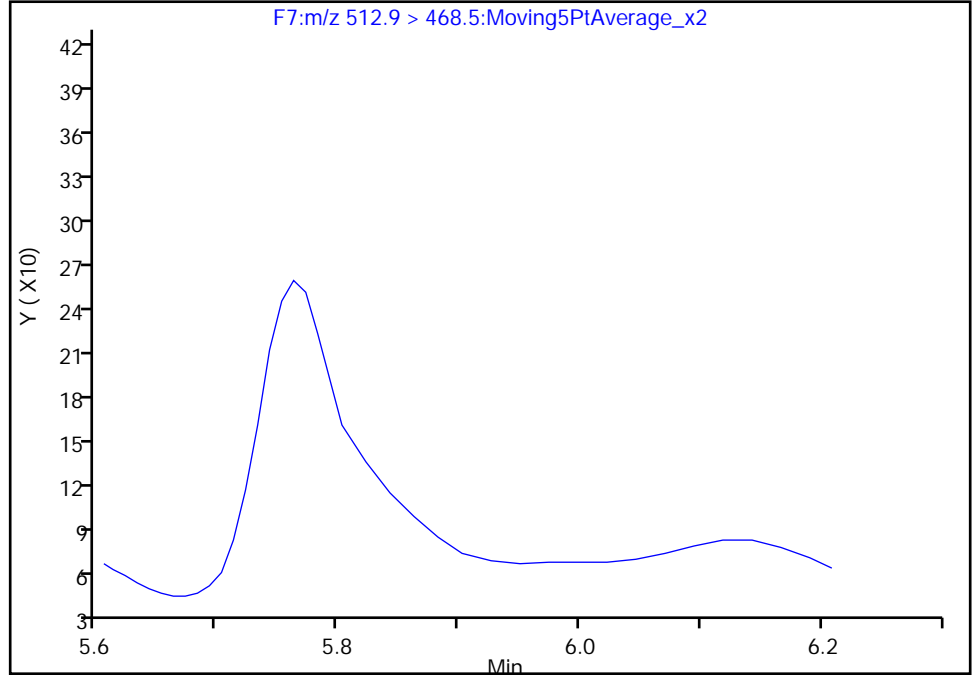
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

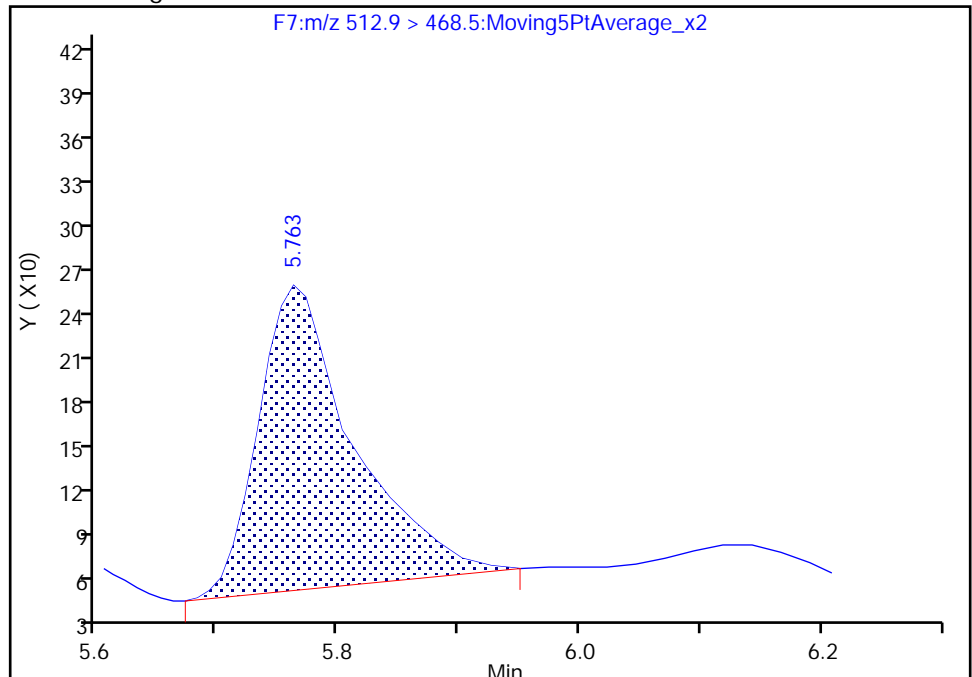
Not Detected  
Expected RT: 5.94

Processing Integration Results



RT: 5.76  
Area: 1129  
Amount: -0.051819  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:35:32  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

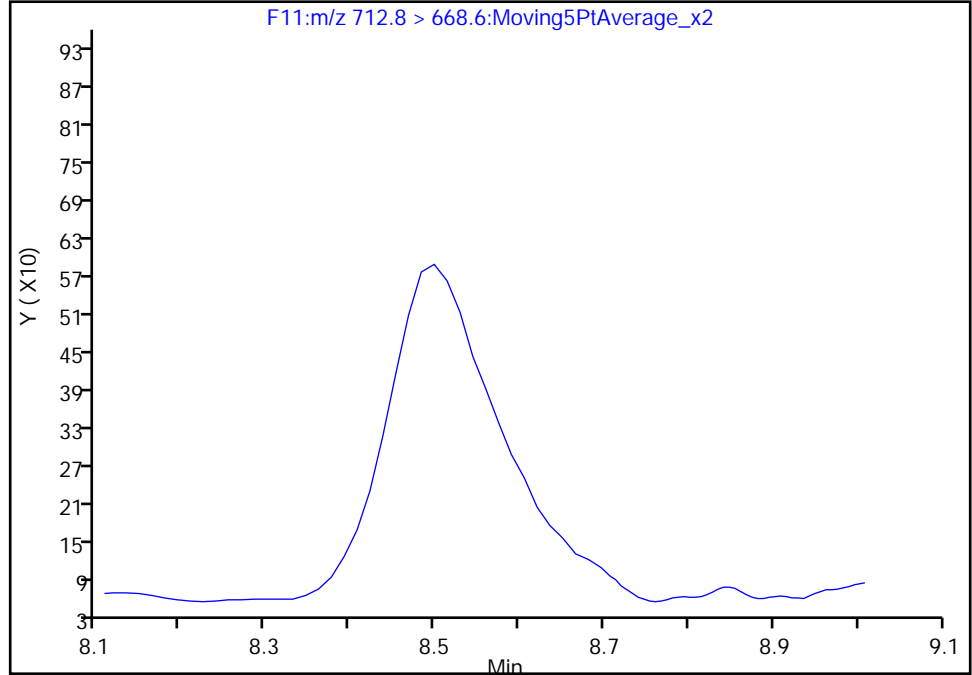
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

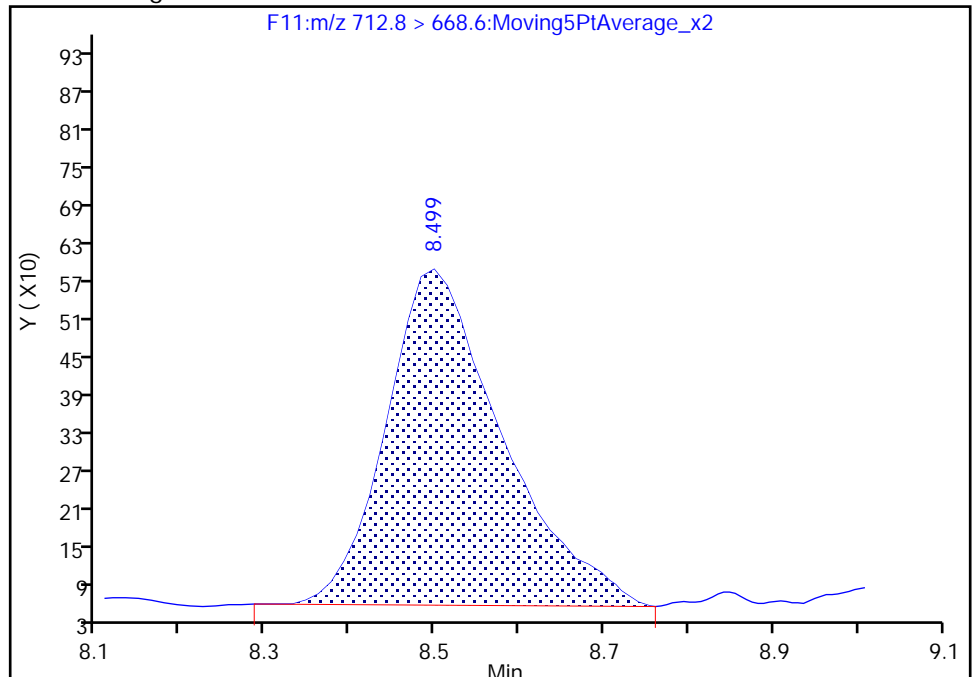
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.50  
Area: 5080  
Amount: 0.065263  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:35:54  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

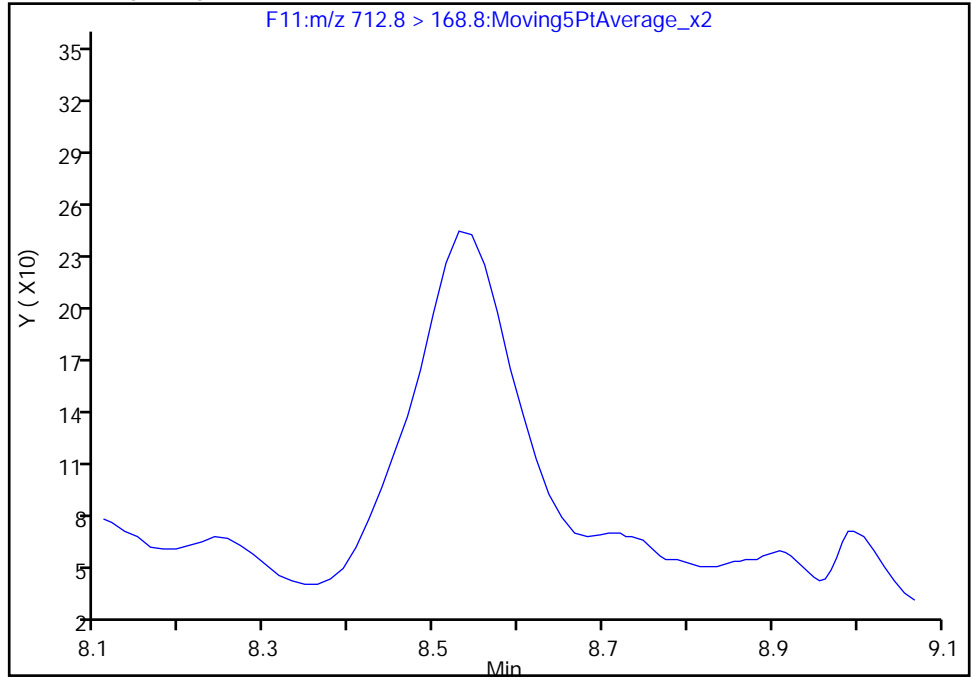
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

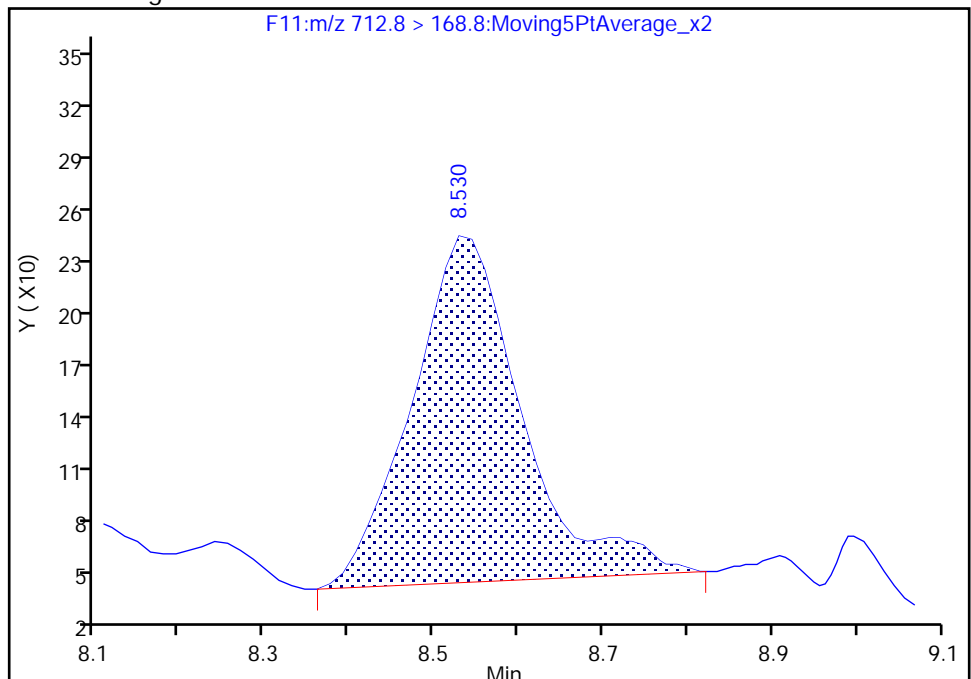
Not Detected  
Expected RT: 8.57

Processing Integration Results



RT: 8.53  
Area: 1775  
Amount: 0.065263  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:35:57

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

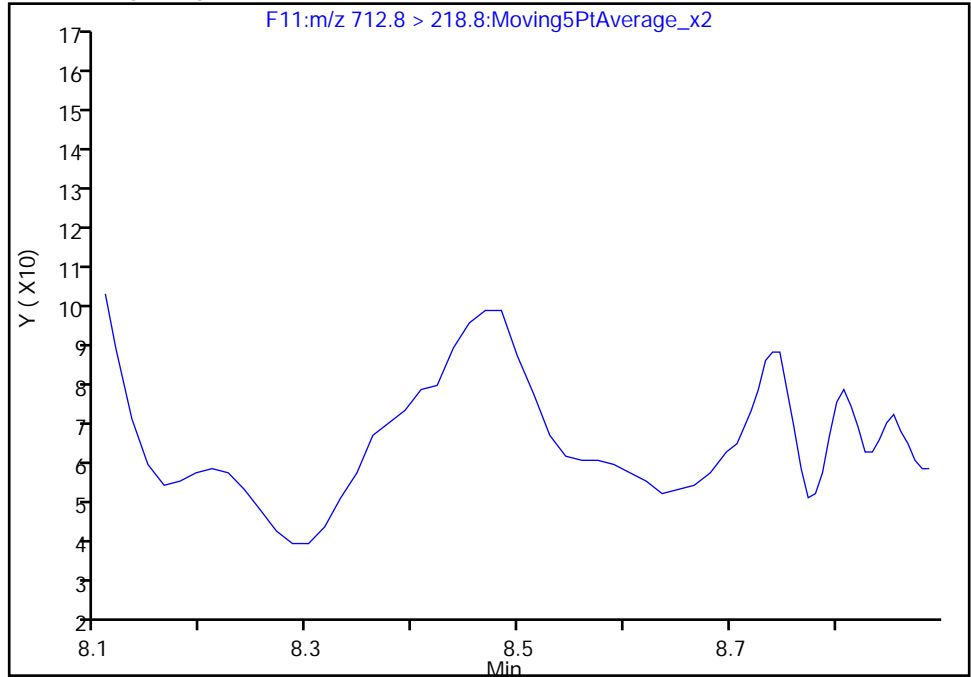
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

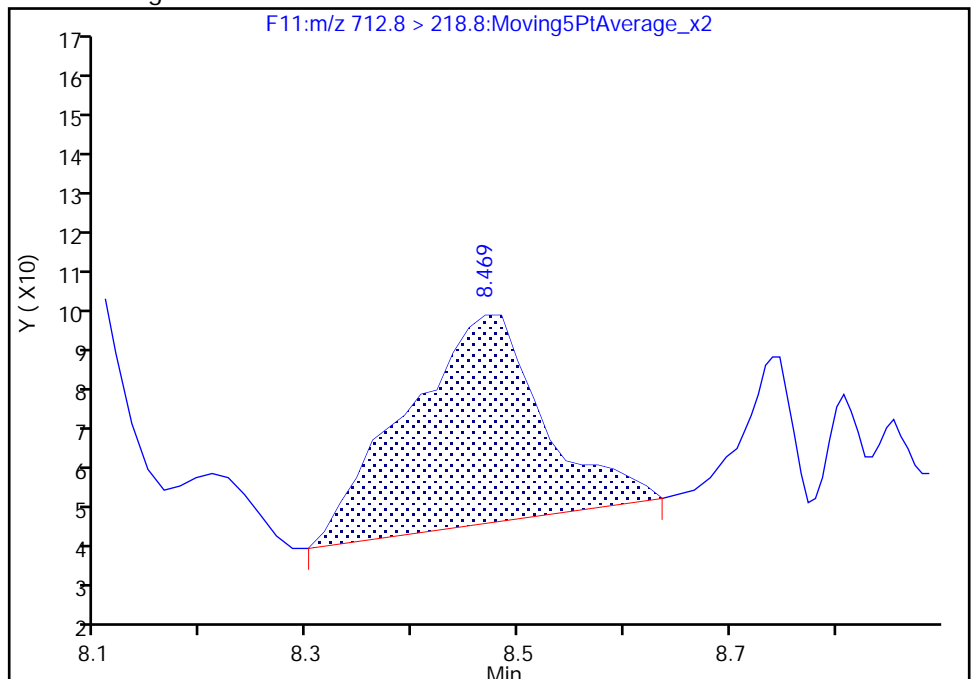
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.47  
Area: 455  
Amount: 0.065263  
Amount Units: ng/ml



TestAmerica Burlington

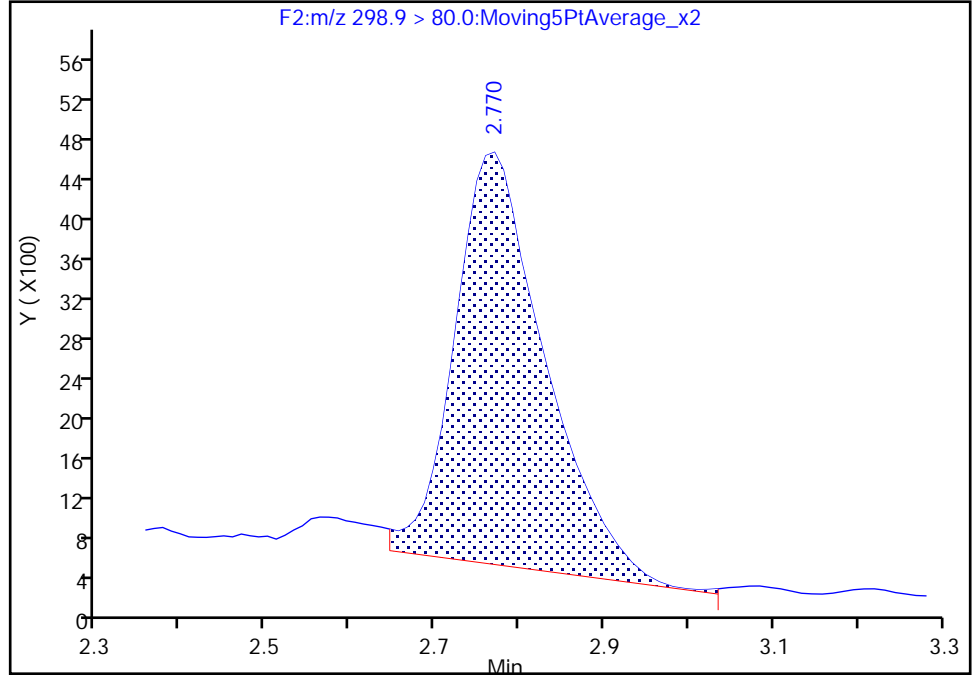
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

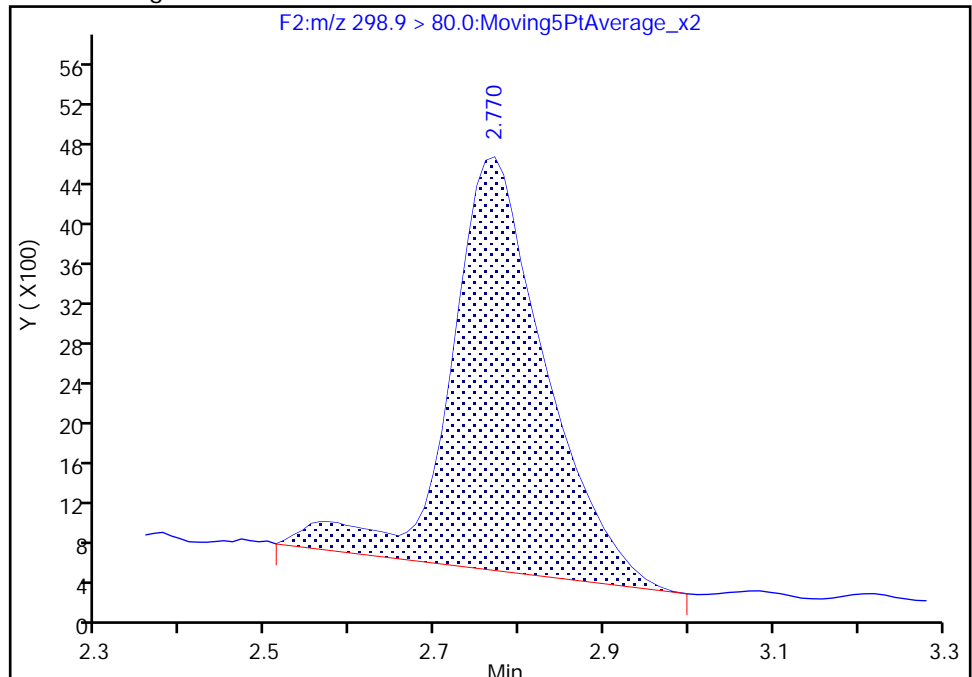
RT: 2.77  
Area: 30483  
Amount: 4.067020  
Amount Units: ng/ml

Processing Integration Results



RT: 2.77  
Area: 32283  
Amount: 4.296885  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:36  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

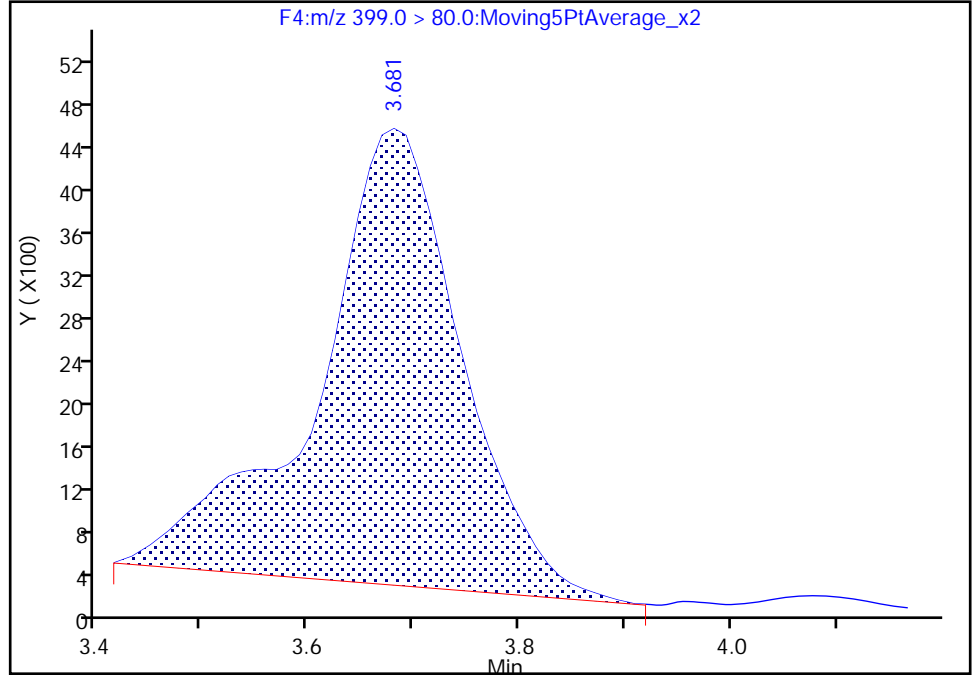
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

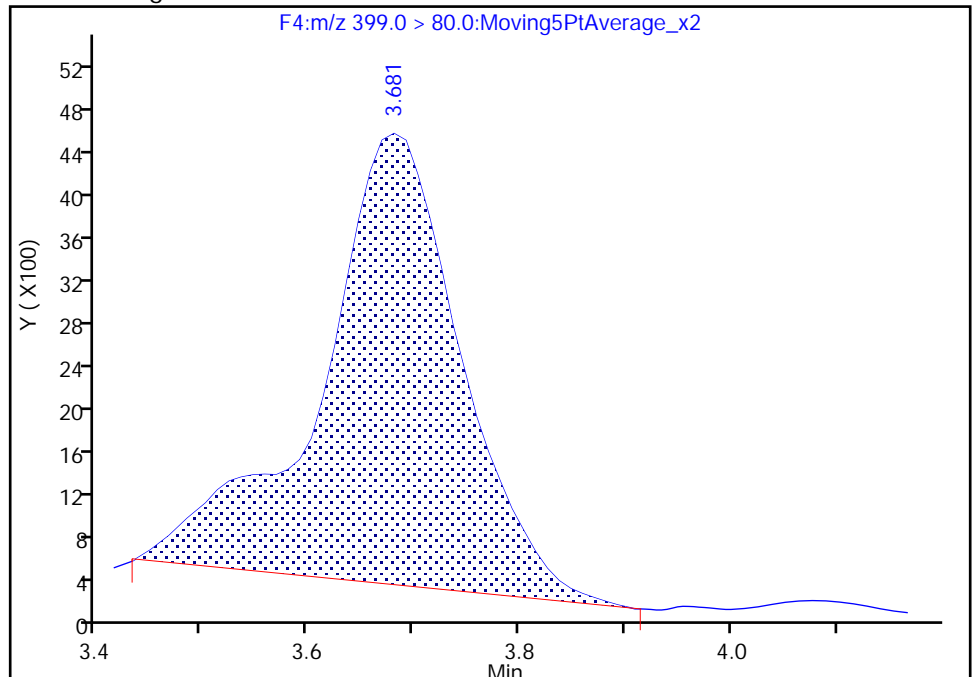
RT: 3.68  
Area: 40171  
Amount: 4.264570  
Amount Units: ng/ml

Processing Integration Results



RT: 3.68  
Area: 38662  
Amount: 4.103318  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:57  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

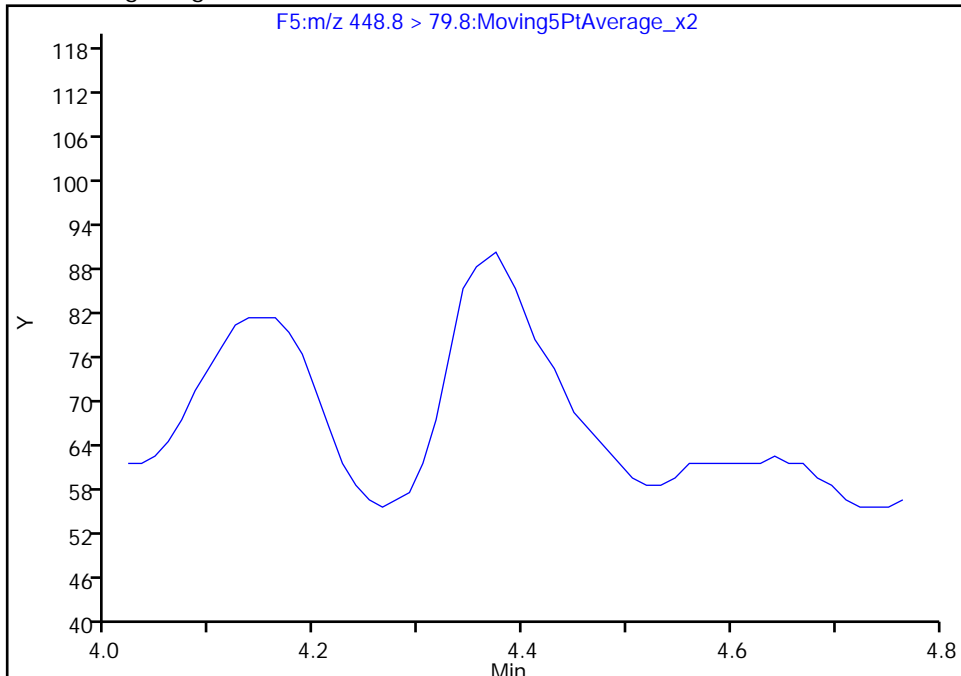
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

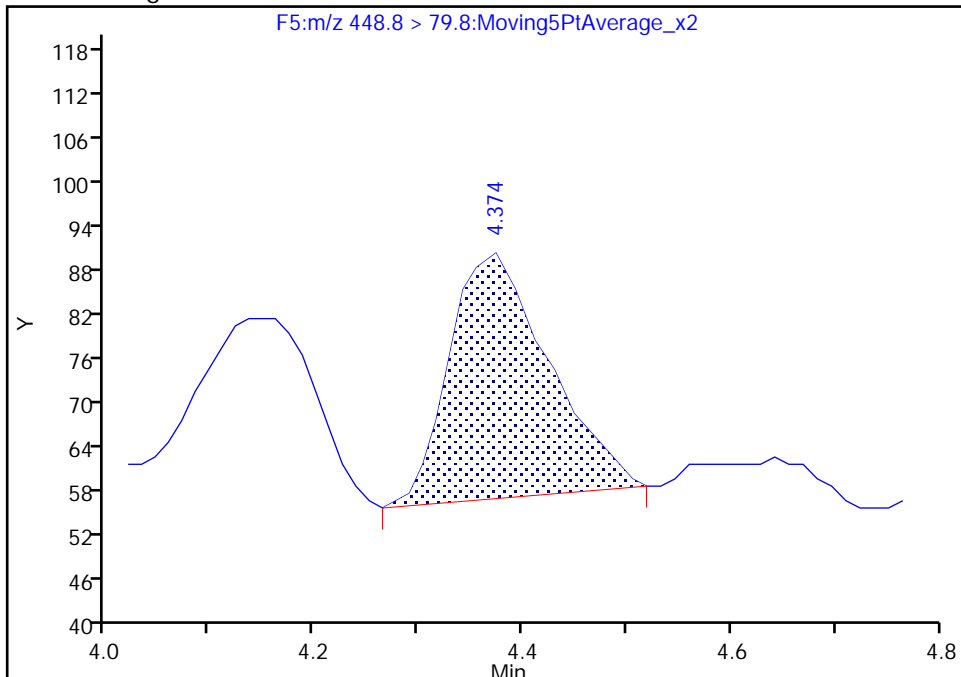
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.37  
Area: 223  
Amount: 0.172104  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:35:21  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

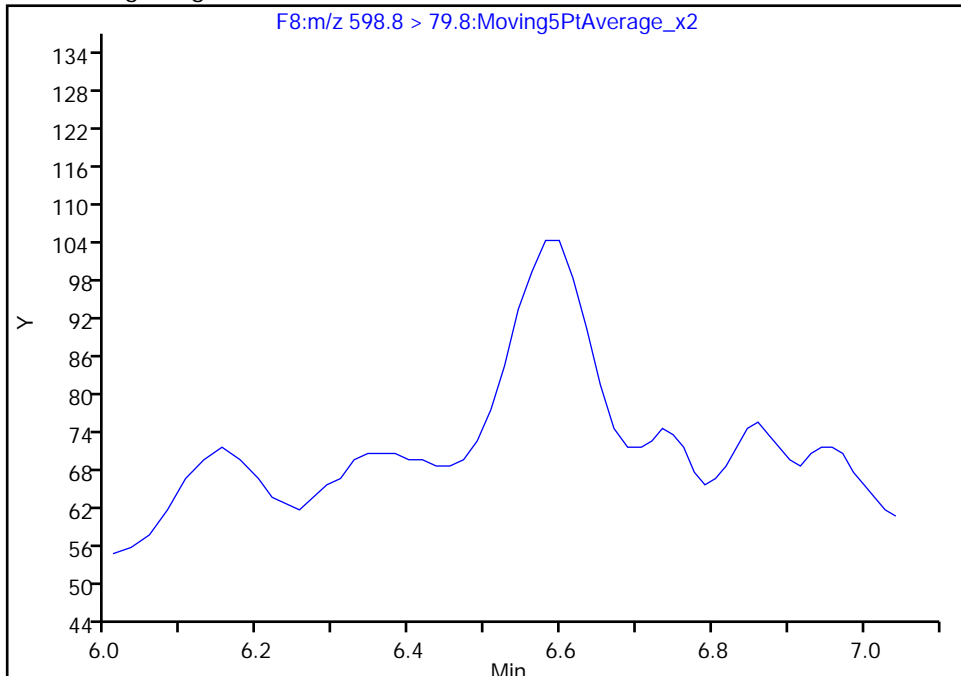
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

31 Perfluorodecane Sulfonic acid, CAS: 335-77-3

Signal: 1

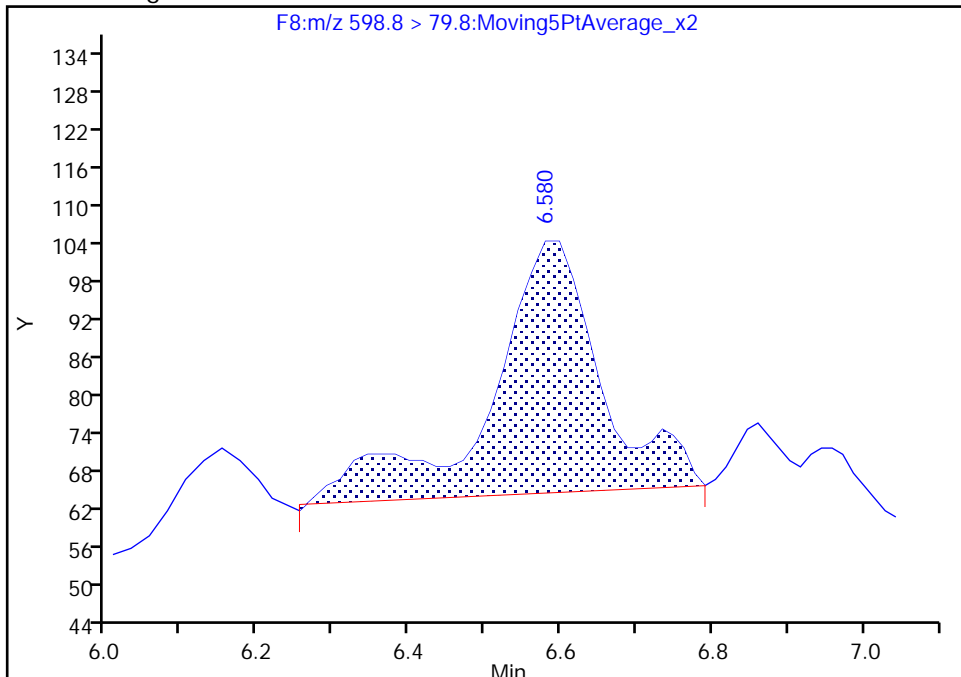
Not Detected  
Expected RT: 6.70

Processing Integration Results



Manual Integration Results

RT: 6.58  
Area: 407  
Amount: 0.121421  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:35:46  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

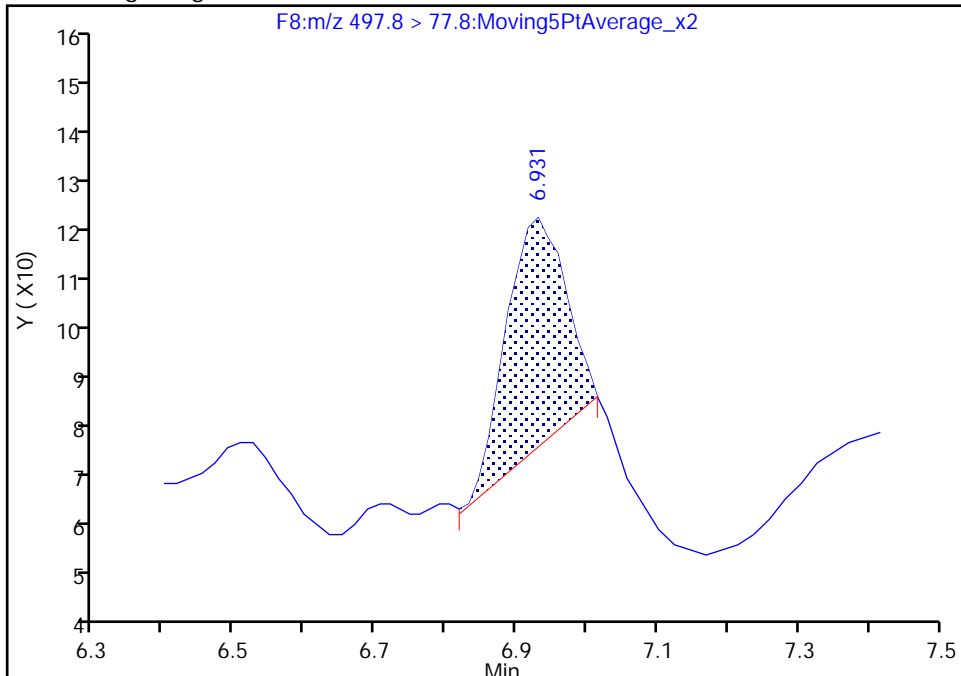
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

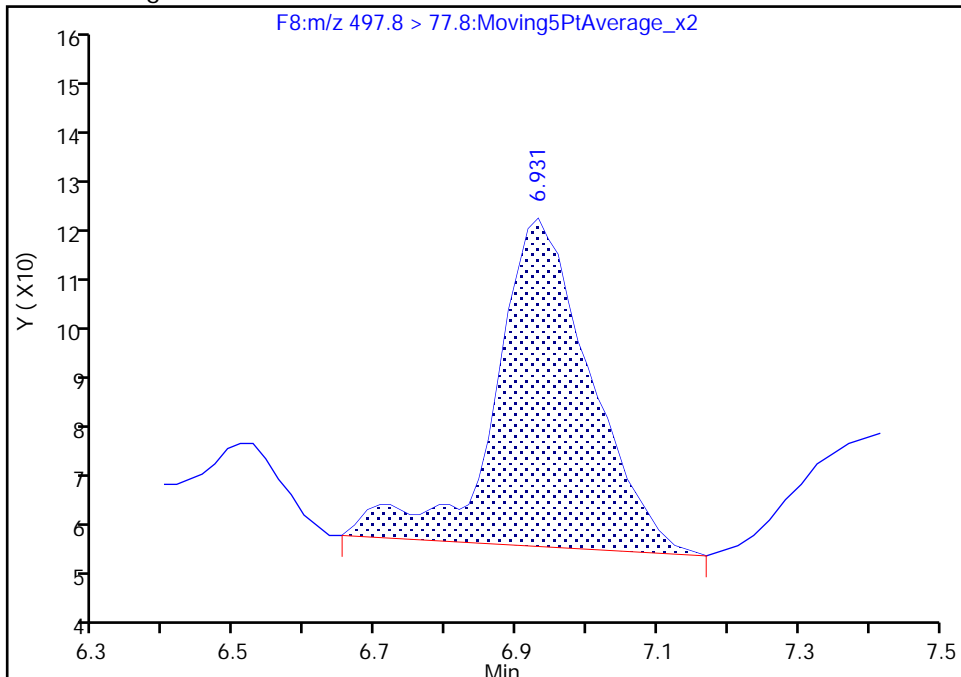
RT: 6.93  
Area: 263  
Amount: 0.127400  
Amount Units: ng/ml

Processing Integration Results



RT: 6.93  
Area: 611  
Amount: 0.210628  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:36:14  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

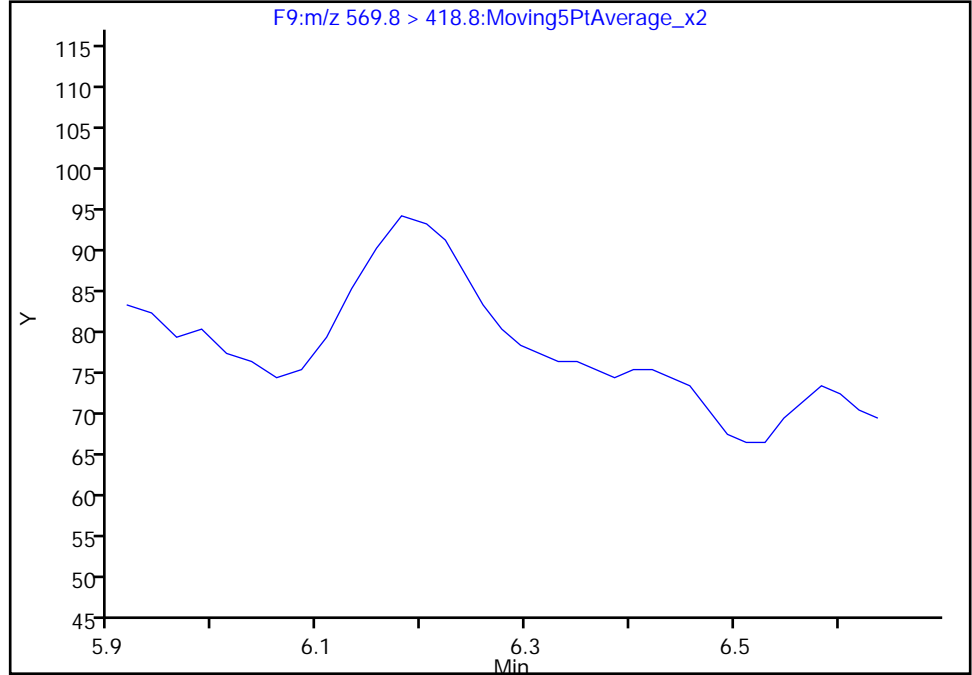
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F9:MRM

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

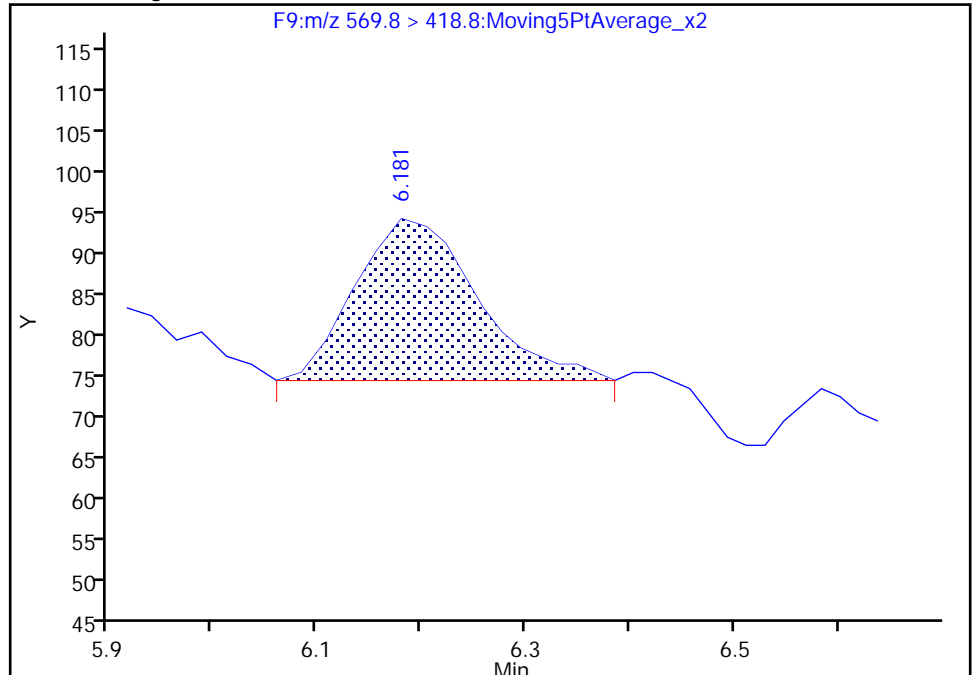
Not Detected  
Expected RT: 6.31

Processing Integration Results



RT: 6.18  
Area: 162  
Amount: 0.072151  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:35:36  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

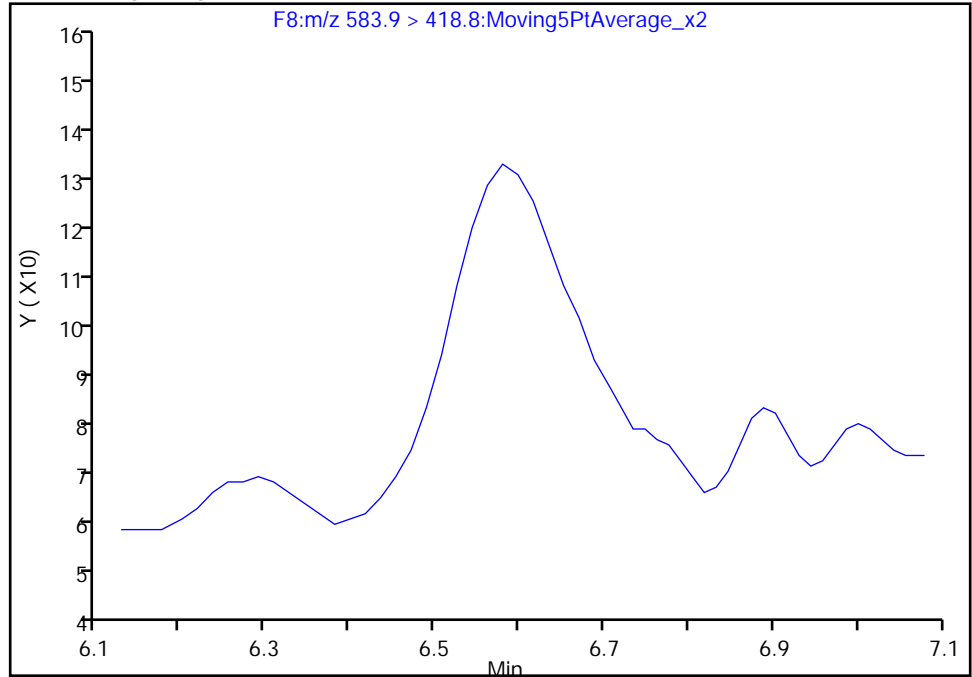
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

30 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

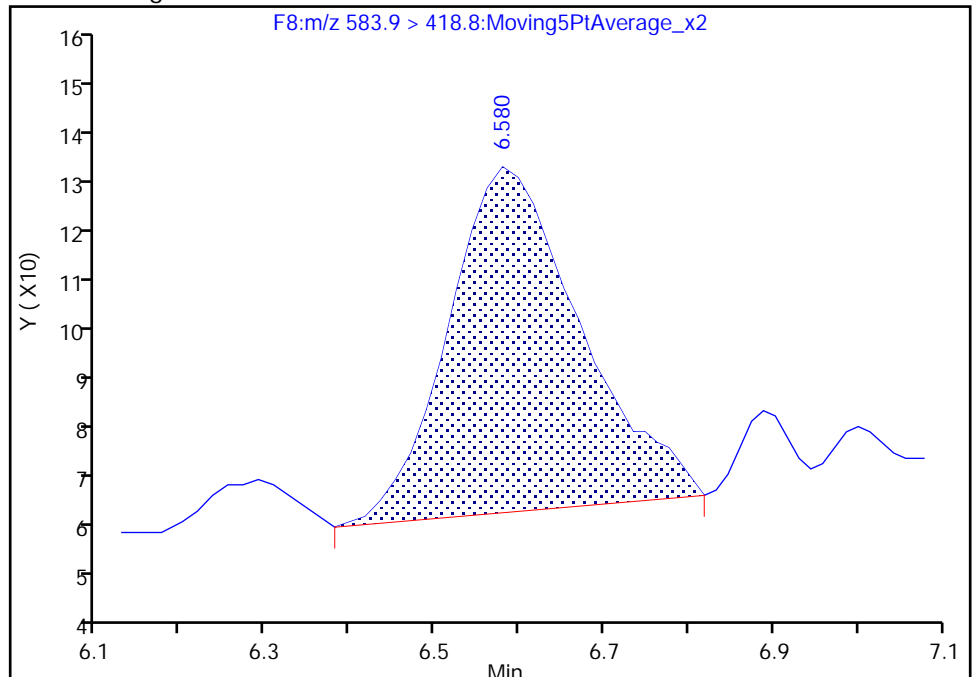
Processing Integration Results

Not Detected  
Expected RT: 6.69



Manual Integration Results

RT: 6.58  
Area: 705  
Amount: 0.076044  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:35:41

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

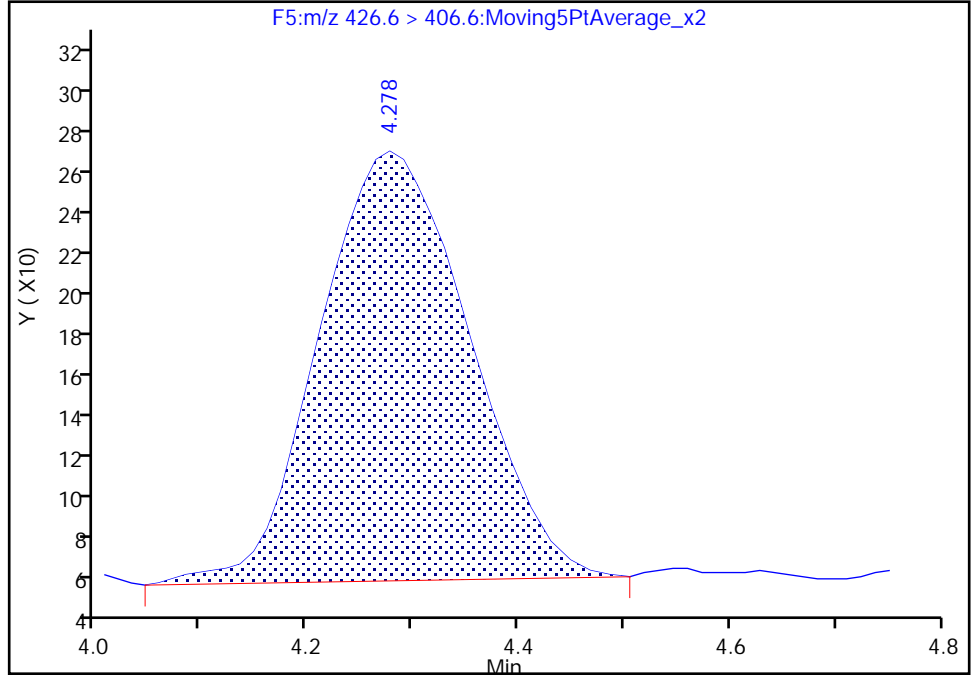
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

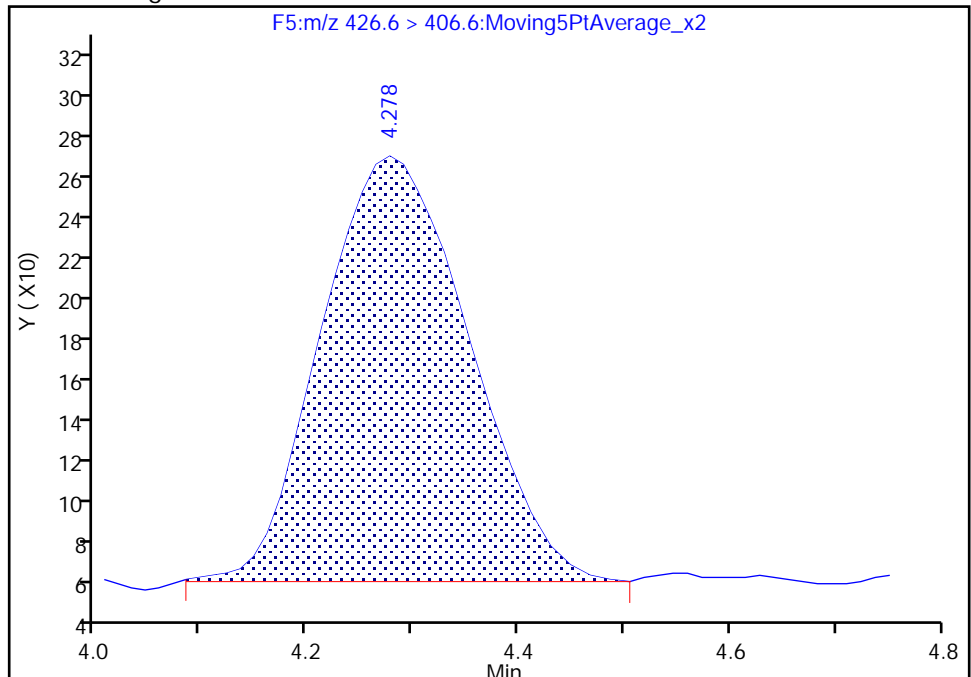
RT: 4.28  
Area: 2022  
Amount: 0.949734  
Amount Units: ng/ml

Processing Integration Results



RT: 4.28  
Area: 1970  
Amount: 0.925309  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:35:04  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

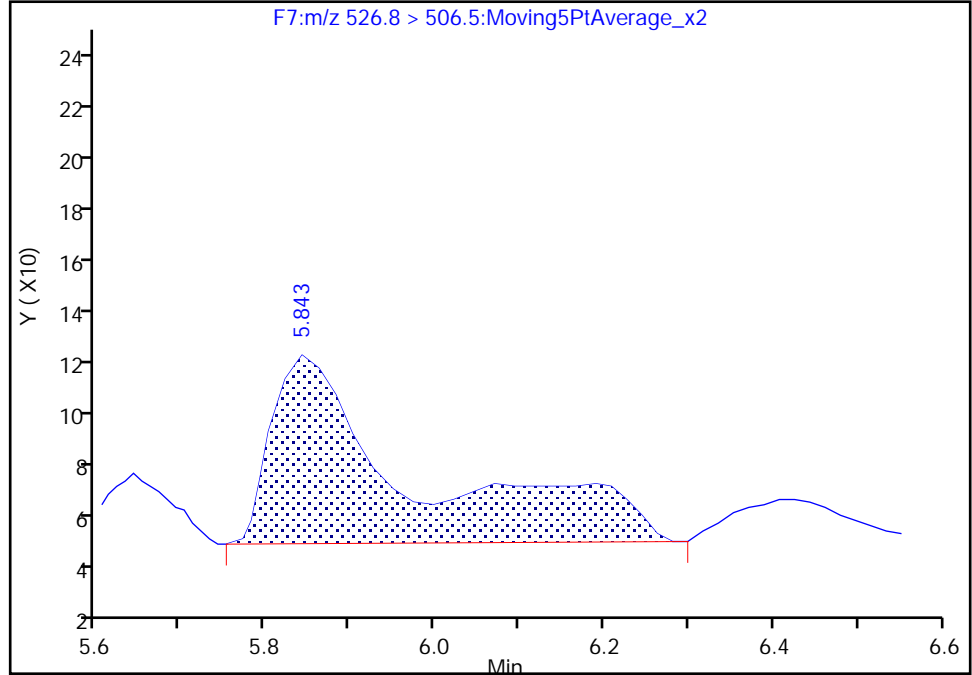
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

24 Sodium 1H,1H,2H,2H-perfluorodecane sulfonate, CAS: 39108-34-4

Signal: 1

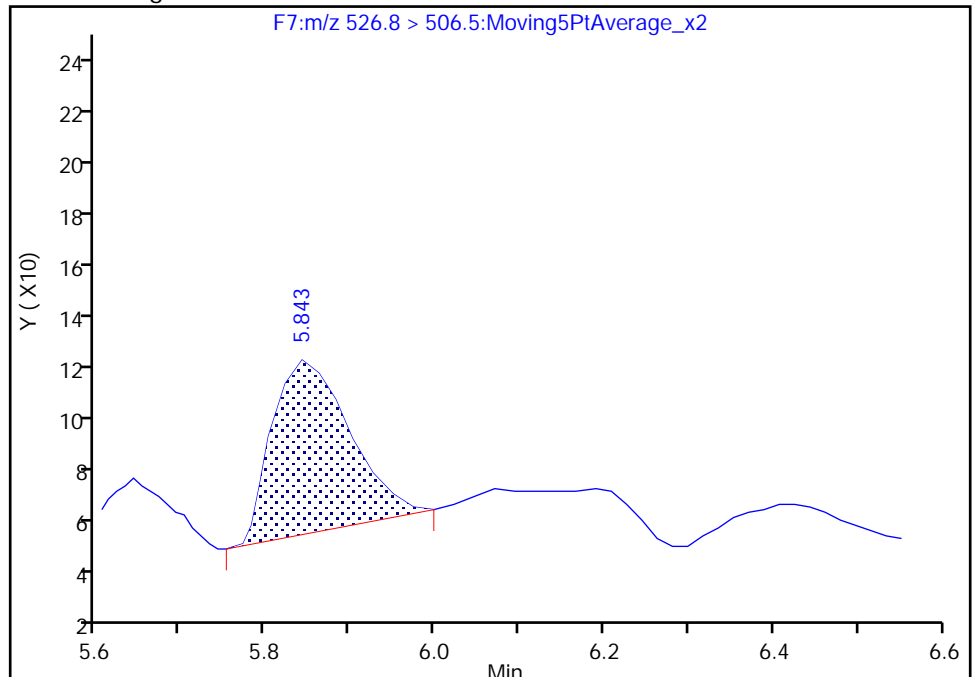
RT: 5.84  
Area: 828  
Amount: 0.143712  
Amount Units: ng/ml

Processing Integration Results



RT: 5.84  
Area: 420  
Amount: 0.072898  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:36:28  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

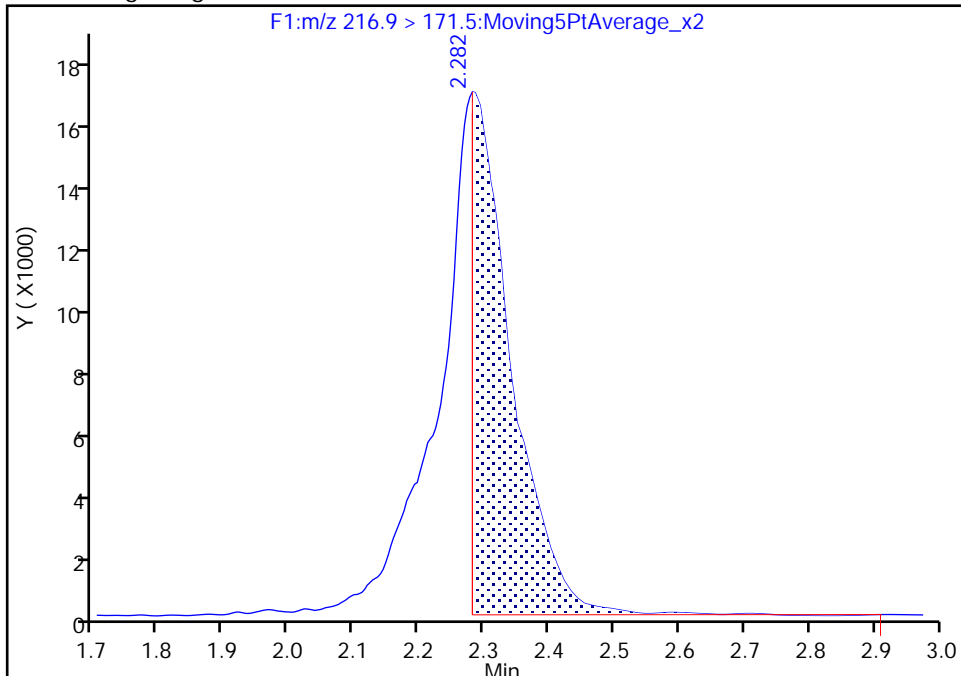
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

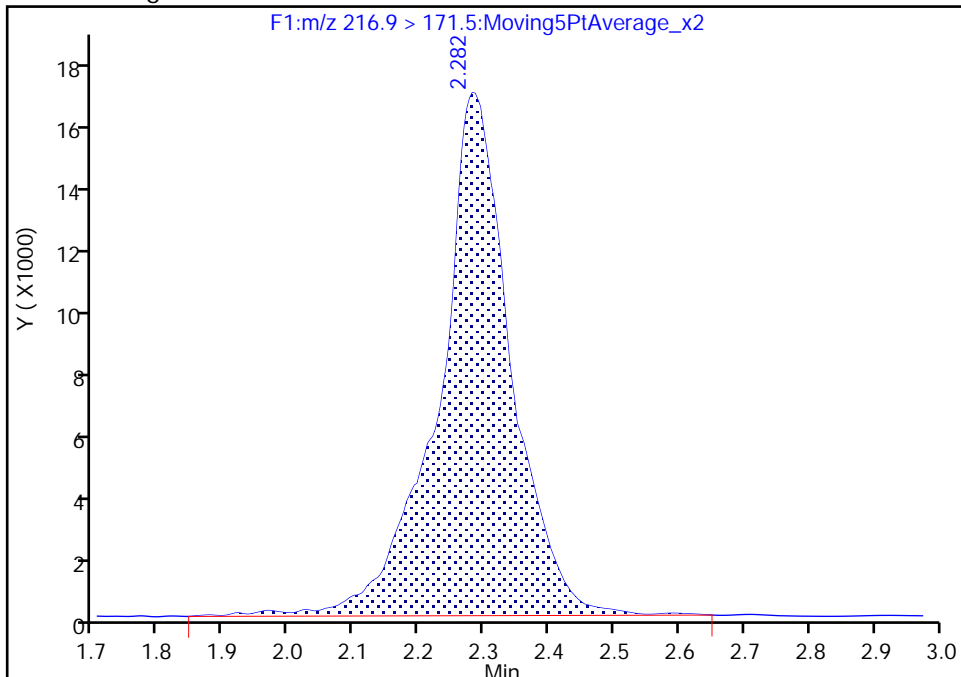
RT: 2.28  
Area: 66982  
Amount: 6.652504  
Amount Units: ng/ml

Processing Integration Results



RT: 2.28  
Area: 126809  
Amount: 12.594389  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:05

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

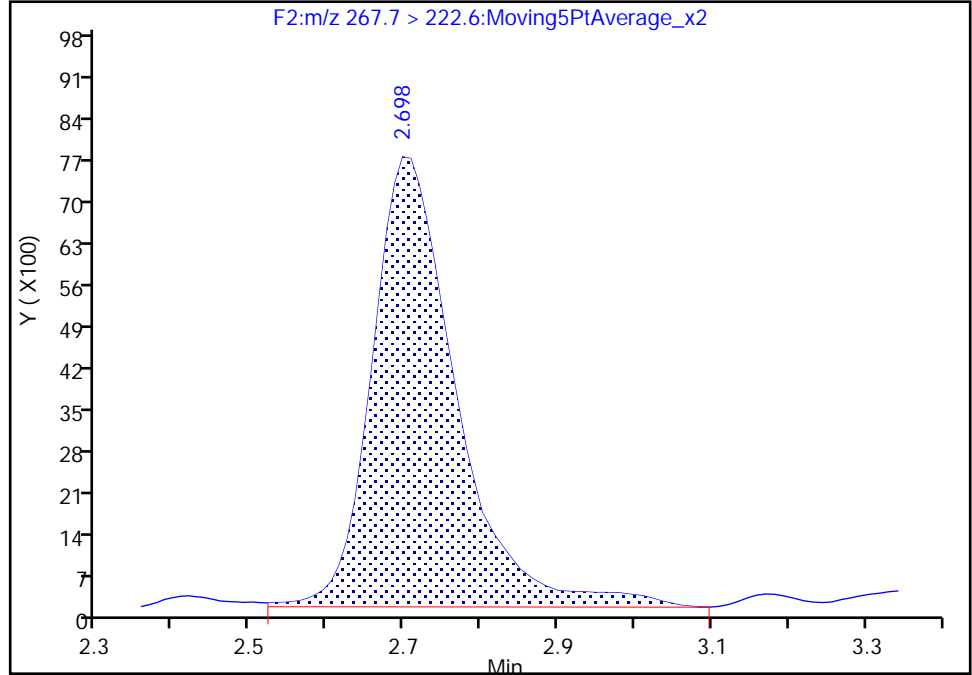
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A30.d  
Injection Date: 21-Apr-2018 18:33:09 Instrument ID: LC410  
Lims ID: 200-43041-B-5-A Lab Sample ID: 200-43041-5  
Client ID: MW-5  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 30  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

D 3 13C5-PFPeA, CAS: STL01893  
Signal: 1

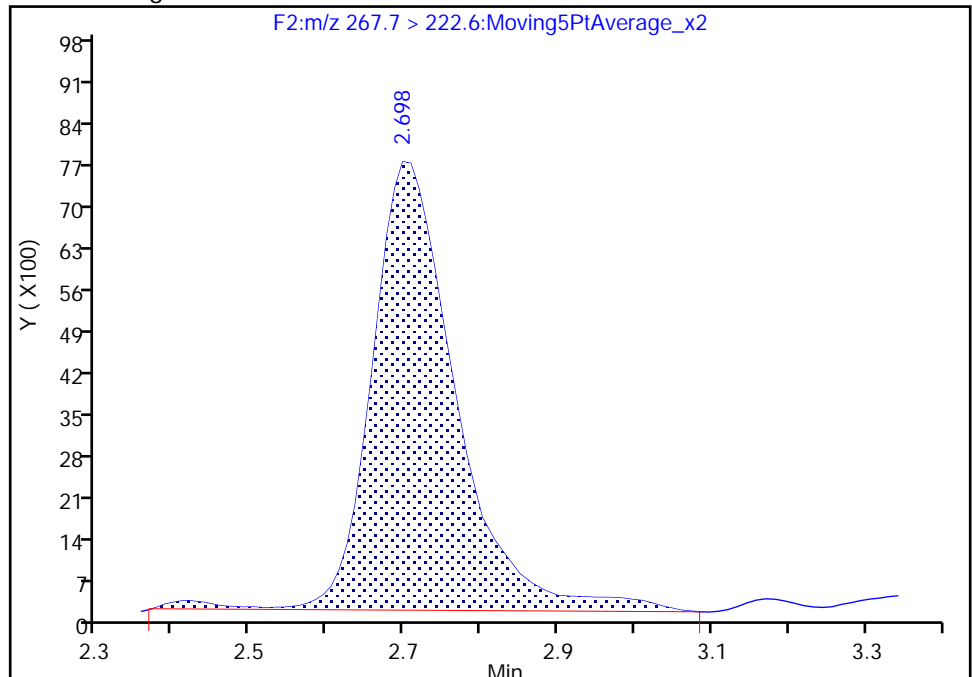
RT: 2.70  
Area: 58156  
Amount: 23.842848  
Amount Units: ng/ml

Processing Integration Results



RT: 2.70  
Area: 58119  
Amount: 23.827679  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:34:24  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-6 Lab Sample ID: 200-43041-6  
 Matrix: Water Lab File ID: PF042118A31.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 14:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 283 (mL) Date Analyzed: 04/21/2018 18:48  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	37.7		1.77	0.39
2706-90-3	Perfluoropentanoic acid (PFPeA)	26.0		1.77	0.39
307-24-4	Perfluorohexanoic acid (PFHxA)	14.9		1.77	0.39
375-85-9	Perfluoroheptanoic acid (PFHpA)	12.0		1.77	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	35.2		1.77	0.42
375-95-1	Perfluorononanoic acid (PFNA)	0.68	J	1.77	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	0.39	U	1.77	0.39
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.39	U	1.77	0.39
307-55-1	Perfluorododecanoic acid (PFDoA)	0.39	U	1.77	0.39
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.39	U	1.77	0.39
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.39	U	1.77	0.39
375-73-5	Perfluorobutanesulfonic acid (PFBS)	6.46		1.77	0.78
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	4.55		1.77	0.25
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.57	J	1.77	0.39
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.01		1.77	0.27
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.39	U	1.77	0.39
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.39	U	1.77	0.39
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.53	U	1.77	0.53
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.53	U	1.77	0.53
27619-97-2	6:2FTS	0.53	U	1.77	0.53
39108-34-4	8:2FTS	0.53	U	1.77	0.53

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-6 Lab Sample ID: 200-43041-6  
 Matrix: Water Lab File ID: PF042118A31.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 14:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 283 (mL) Date Analyzed: 04/21/2018 18:48  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	46		25-150
STL00993	13C2 PFHxA	55		25-150
STL01892	13C4-PFHpA	73		25-150
STL00990	13C4 PFOA	87		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	84		25-150
STL00997	13C2 PFUnA	74		25-150
STL00998	13C2 PFDoA	67		25-150
STL02116	13C2-PFTeDA	71		25-150
STL02337	13C3-PFBS	68		25-150
STL00994	18O2 PFHxS	95		25-150
STL00991	13C4 PFOS	92		25-150
STL01056	13C8 FOSA	71		25-150
STL02118	d3-NMeFOSAA	79		25-150
STL02117	d5-NEtFOSAA	91		25-150
STL02279	M2-6:2FTS	187	*	25-150
STL02280	M2-8:2FTS	118		25-150



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
 Lims ID: 200-43041-B-6-A  
 Client ID: MW-6  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 18:48:18 ALS Bottle#: 0 Worklist Smp#: 31  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-031 6  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:20:49 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:40:26

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										M
216.9 > 171.5	2.282	2.319	-0.037	1.000	136947	14.3		28.5	839	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.433	2.320	0.113	1.066	53231	21.3			2.6	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.688	2.736	-0.048	1.000	53204	22.9		45.7	13.8	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.688	2.738	-0.050	1.000	88199	14.7			6.5	M
D 5 13C3-PFBS										
302.0 > 79.8	2.750	2.800	-0.050	1.000	153651	31.6		68.0	216	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.760	2.804	-0.044	1.004	24057	3.66			12.4	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.078	3.158	-0.080	1.000	216353	27.4		54.7	1460	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.078	3.162	-0.084	1.000	35546	8.44			82.2	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.581	3.689	-0.108	1.000	708118	36.6		73.3	1292	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.581	3.689	-0.108	1.000	100155	6.82			127	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.625	3.733	-0.108	1.000	24093	2.58			61.2	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.625	3.737	-0.112	1.000	244434	45.0		95.1	1912	
D 14 M2-6:2FTS										
428.6 > 408.6	4.201	4.319	-0.118	1.000	92196	88.9		187	554	
D 17 13C4 PFOA										
416.9 > 371.8	4.252	4.365	-0.113	1.000	771912	43.4		86.8	1817	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 49 13C2-PFOA										
414.9 > 369.8	4.239	4.371	-0.132		1049497	50.0			2742	
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.252	4.374	-0.122	1.000	331595	19.9			202	M
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.304	4.408	-0.104	0.851	805	0.3229			7.4	M
19 Perfluorononanoic acid										M
462.8 > 418.8	4.798	5.143	-0.345	0.954	5446	0.3873			9.2	M
D 21 13C5 PFNA										
467.8 > 422.8	5.031	5.145	-0.114	1.000	1050266	48.5		97.0	950	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	4.785	5.168	-0.383	0.946	7237	1.70			50.7	M
D 22 13C4 PFOS										
502.8 > 79.8	5.058	5.168	-0.110	1.000	196127	43.8		91.7	1212	
D 23 M2-8:2FTS										
528.8 > 508.8	5.823	5.910	-0.087	1.000	367874	56.6		118	838	
D 25 13C2 PFDA										
514.9 > 469.5	5.843	5.934	-0.091	1.000	1205984	41.9		83.7	2271	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.793	5.938	-0.145	0.991	544	-0.0756			3.3	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.223	6.298	-0.075	1.000	257602	39.7		79.5	1626	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.241	6.310	-0.069	1.003	100	0.0567			0.5	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.616	6.667	-0.051	1.000	256446	45.4		90.9	1363	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.490	6.688	-0.198	0.981	277	-0.0323			1.9	M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.670	6.711	-0.041	1.003	2452	0.1571			13.5	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.652	6.713	-0.061	1.000	1174779	37.2		74.5	2773	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	269238	35.5		70.9	1878	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	6.917	6.940	-0.023	0.998	265	0.1198			4.1	M
D 36 13C2 PFDoA										
614.8 > 569.6	7.339	7.392	-0.053	1.000	1074149	33.4		66.9	1084	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.362	7.399	-0.037	1.003	1234	0.0386			10.1	
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.962	8.022	-0.060	1.085	801	-0.0541			9.7	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.499	8.572	-0.073	1.000	1081303	35.6		71.3	1148	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.484	8.572	-0.088	0.998	2054	-0.0531			13.6	M
712.8 > 168.8	8.484	8.572	-0.088	0.998	251		8.18(0.00-0.00)		3.0	M
712.8 > 218.8	8.514	8.572	-0.058	1.002	313		6.56(0.00-0.00)		2.1	M

**QC Flag Legend**

Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d

Injection Date: 21-Apr-2018 18:48:18

Instrument ID: LC410

Lims ID: 200-43041-B-6-A

Lab Sample ID: 200-43041-6

Client ID: MW-6

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 31

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

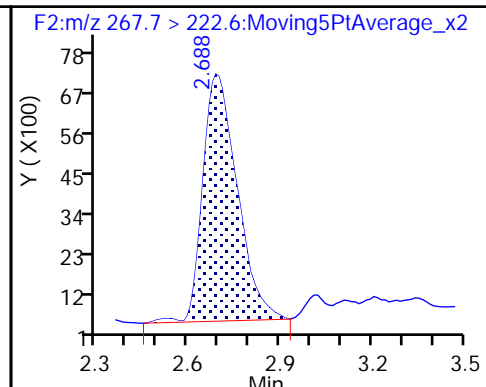
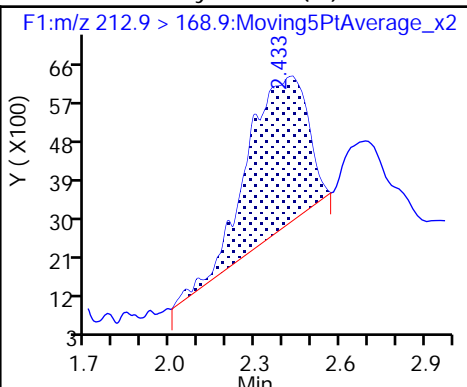
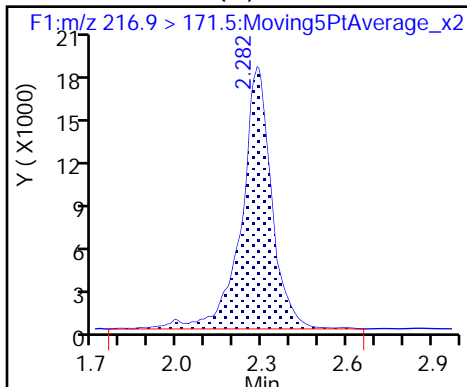
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

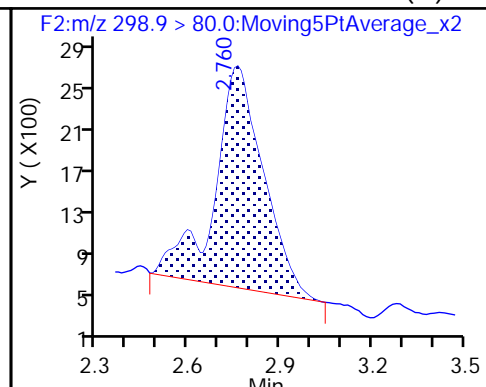
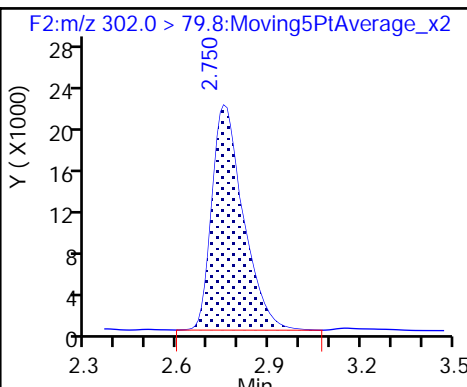
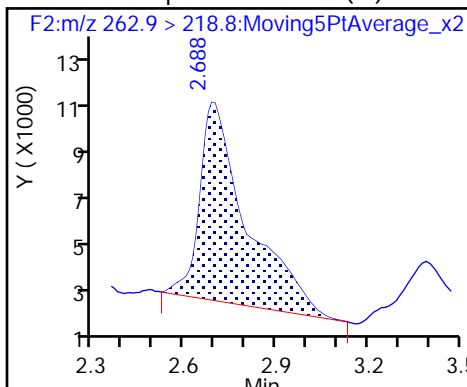
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

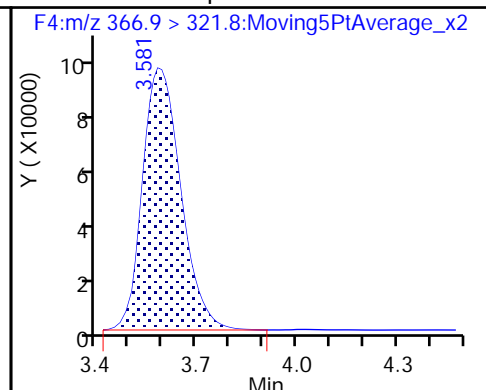
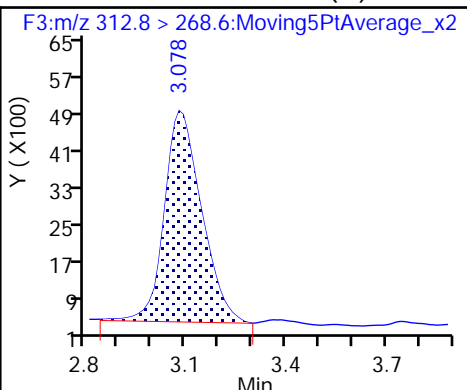
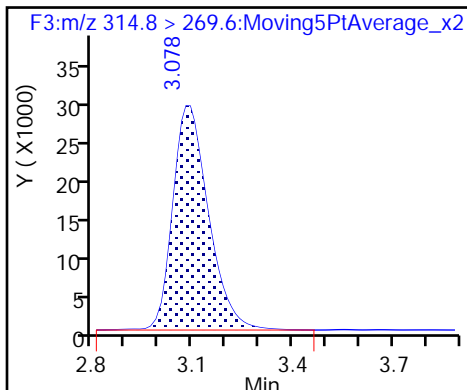
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

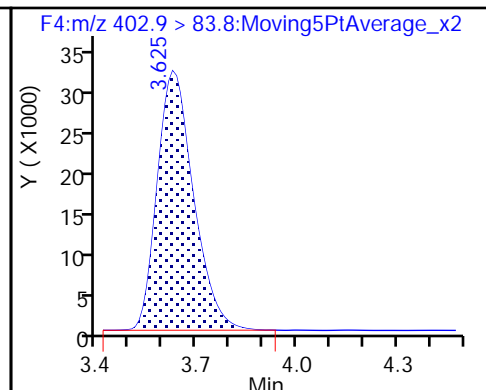
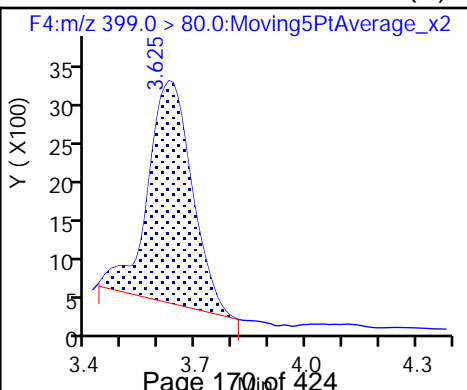
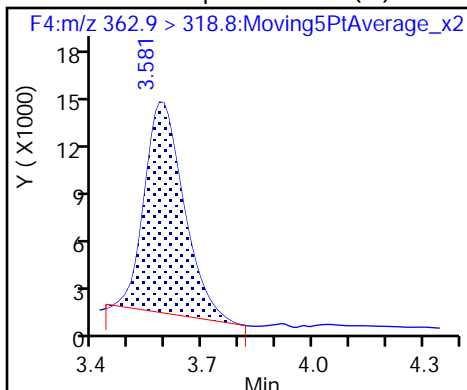
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

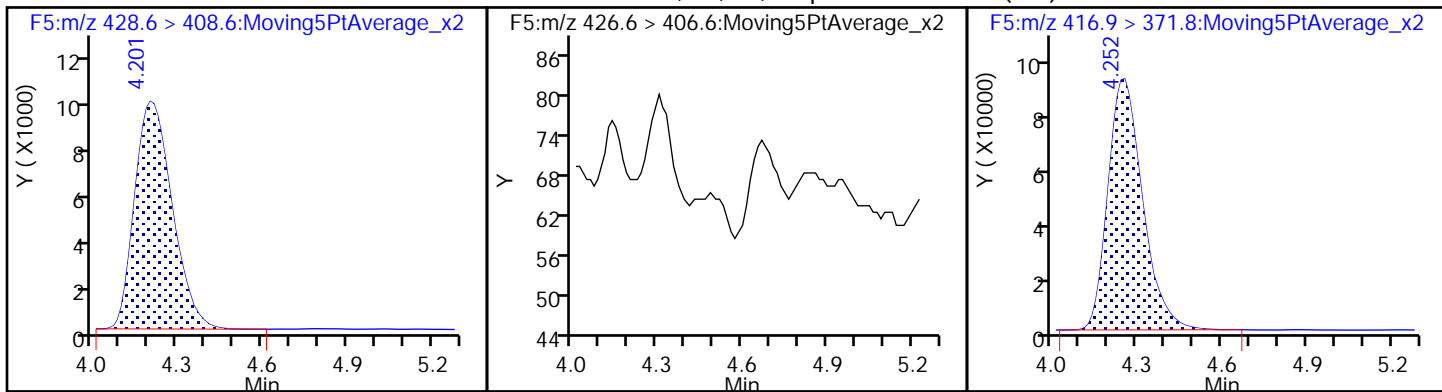
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

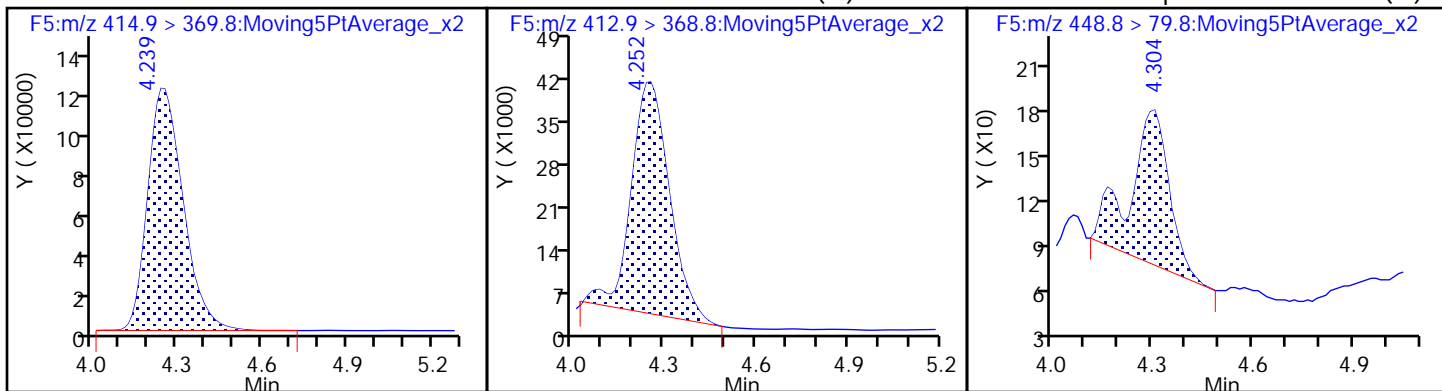
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid (M)

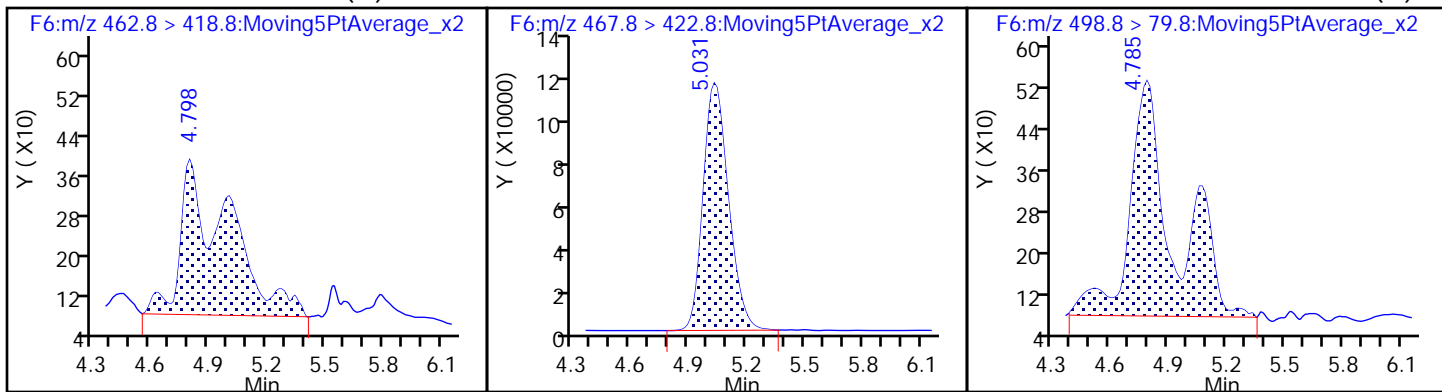
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (M)

D 21 13C5 PFNA

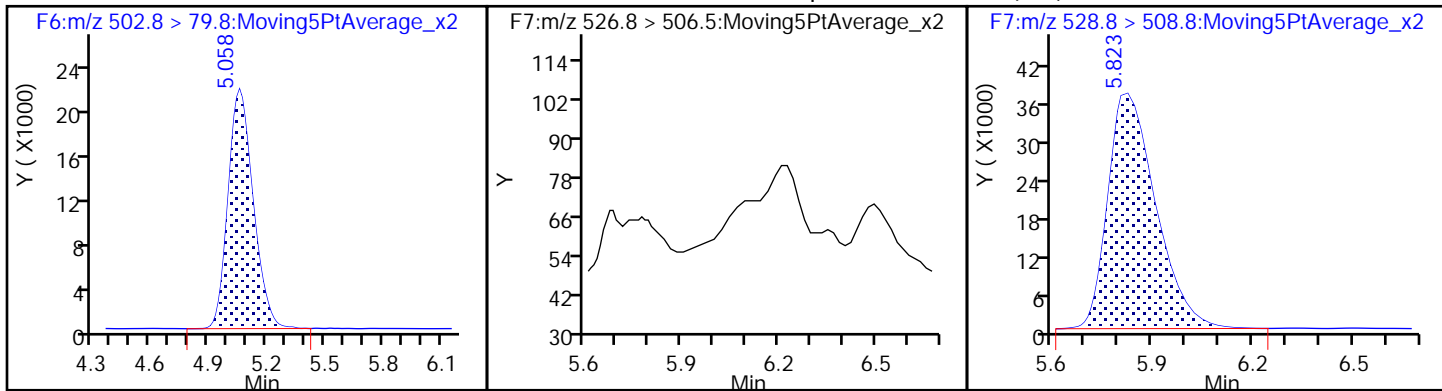
20 Perfluorooctane sulfonic acid (M)



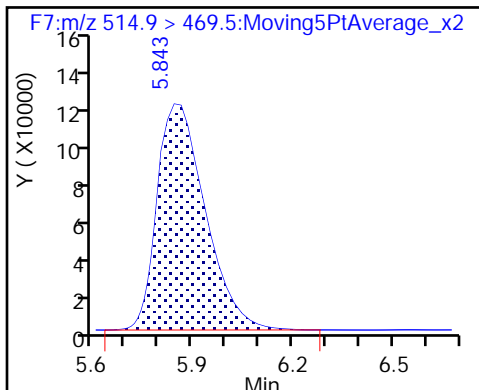
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 13C4 PFOA

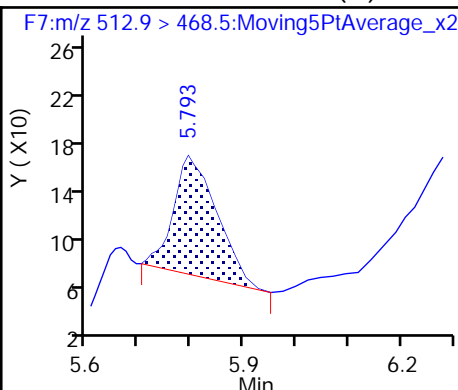
D 23 M2-8:2FTS



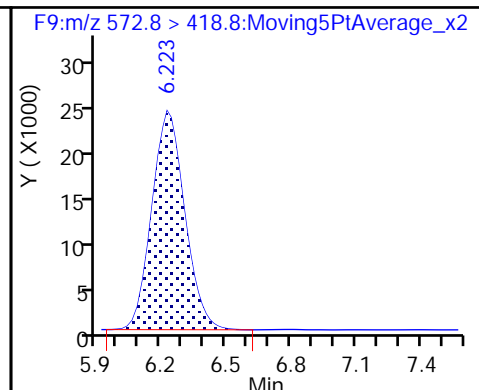
D 25 13C2 PFDA



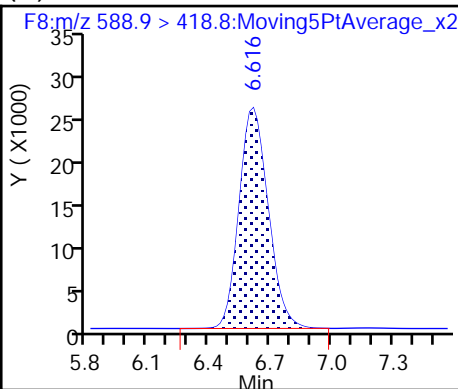
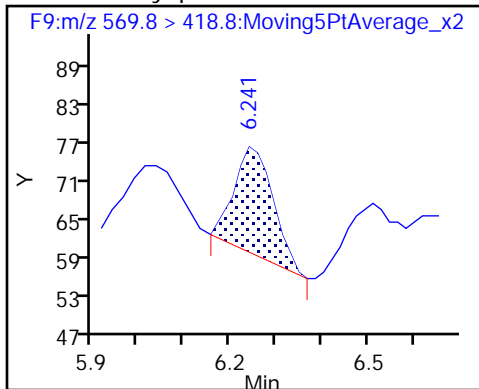
26 Perfluorodecanoic acid (M)



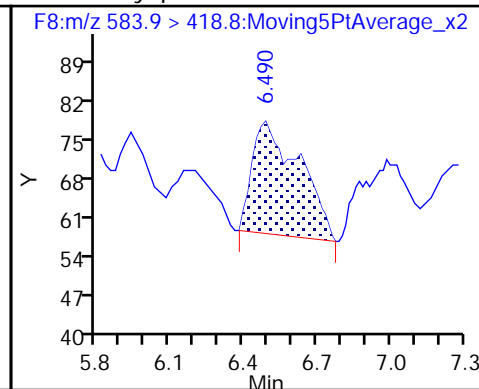
D 27 d3-NMeFOSAA



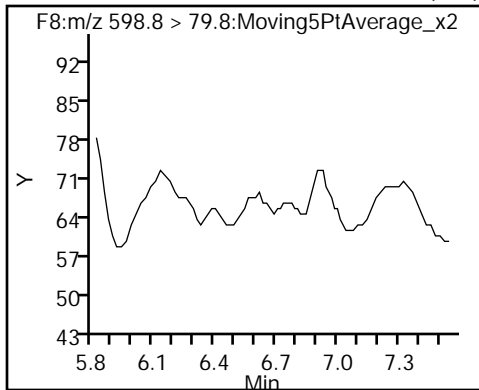
28 N-methyl perfluorooctane sulfonamide (M) 29 d5-NEtFOSAA



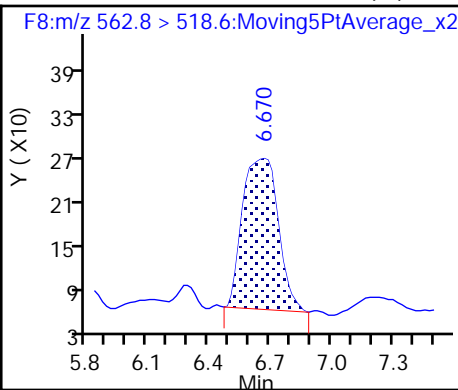
30 N-ethyl perfluorooctane sulfonamide (M)



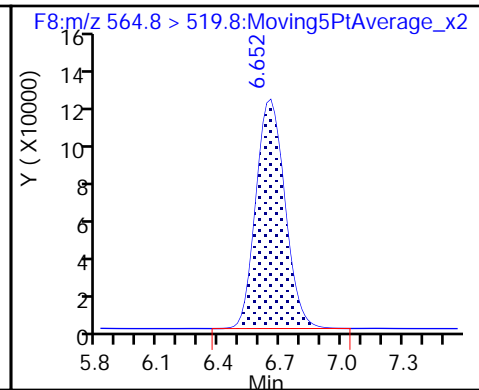
31 Perfluorodecane Sulfonic acid (ND)



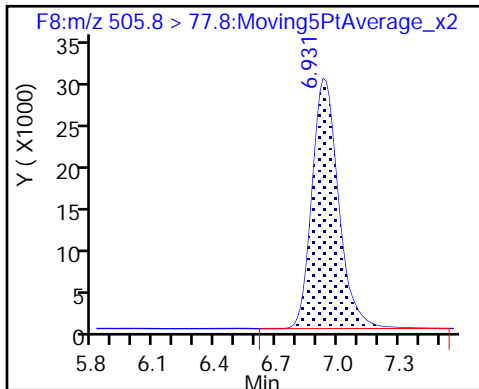
32 Perfluoroundecanoic acid (M)



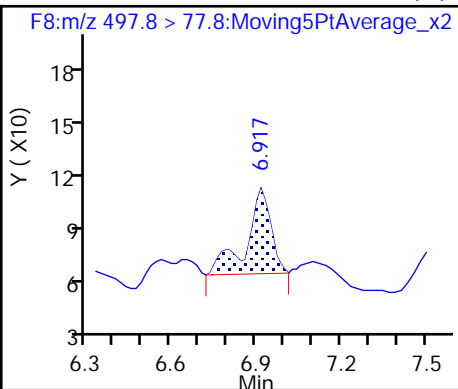
D 33 13C2 PFUnA



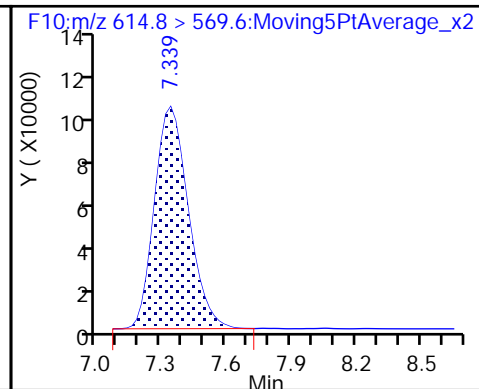
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (M)



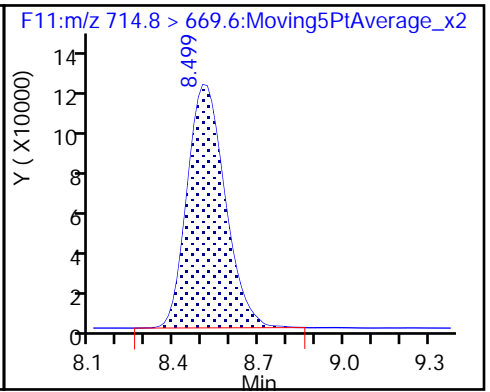
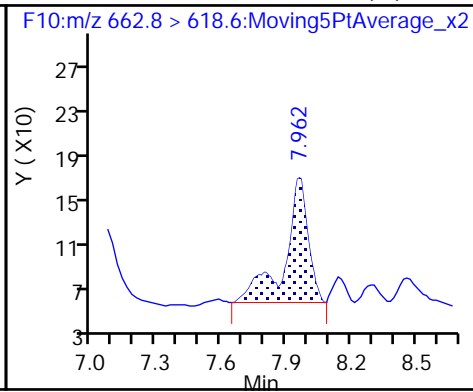
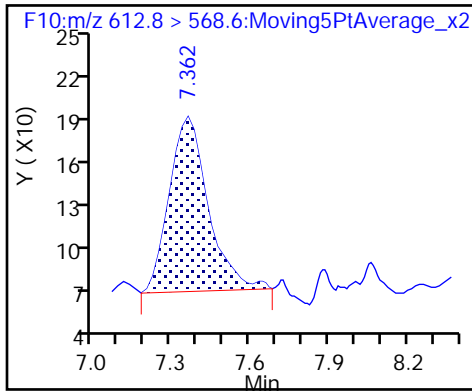
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid (M)

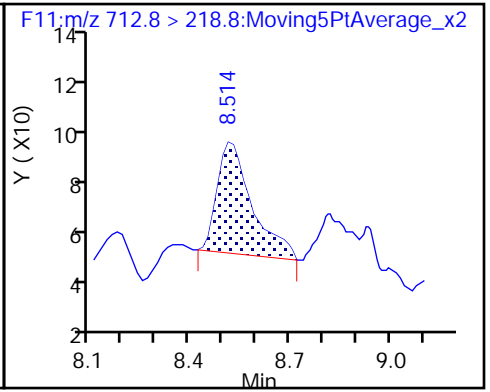
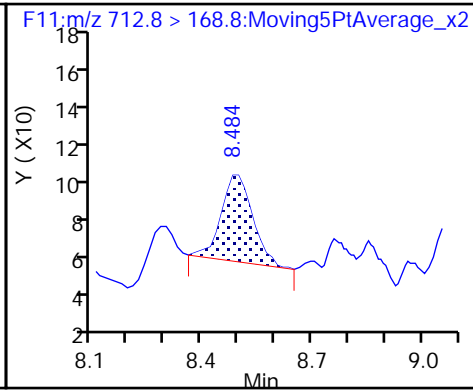
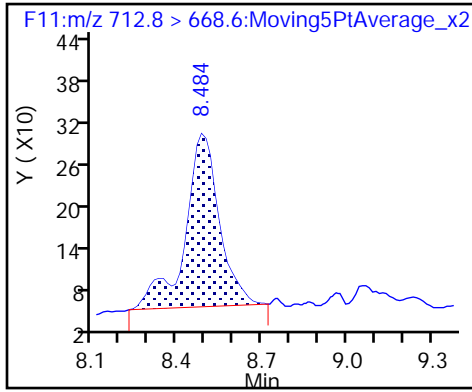
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)



TestAmerica Burlington

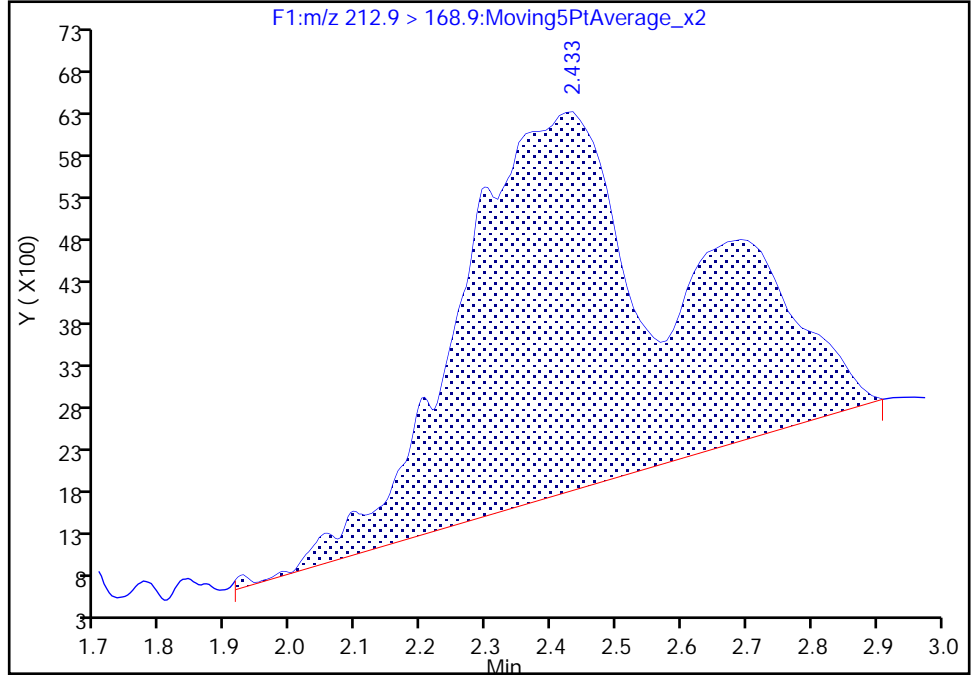
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

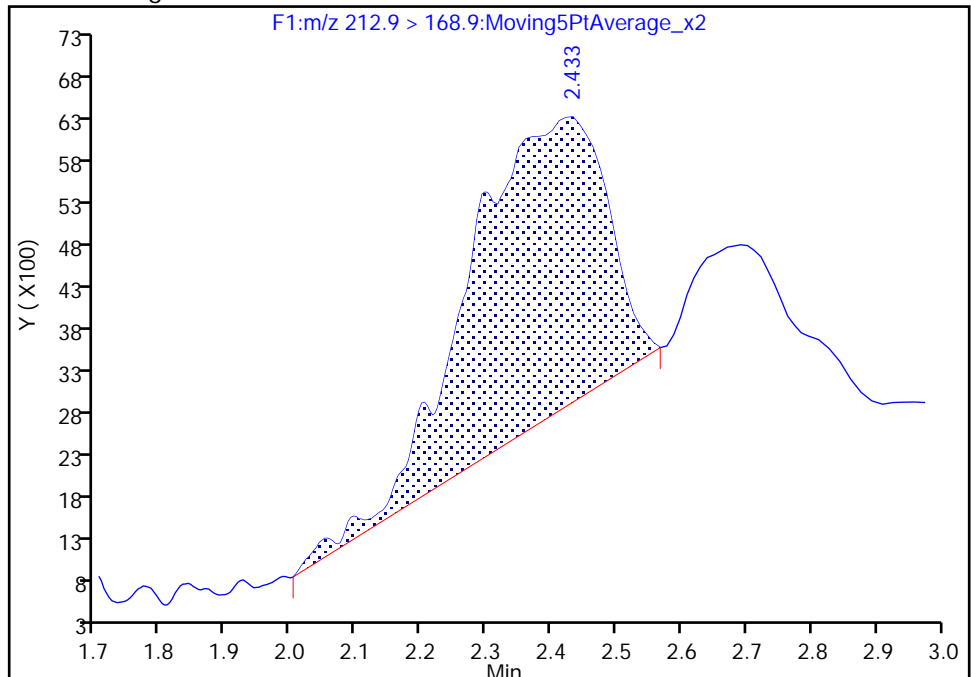
RT: 2.43  
Area: 108573  
Amount: 43.628478  
Amount Units: ng/ml

Processing Integration Results



RT: 2.43  
Area: 53231  
Amount: 21.311621  
Amount Units: ng/ml

Manual Integration Results





TestAmerica Burlington

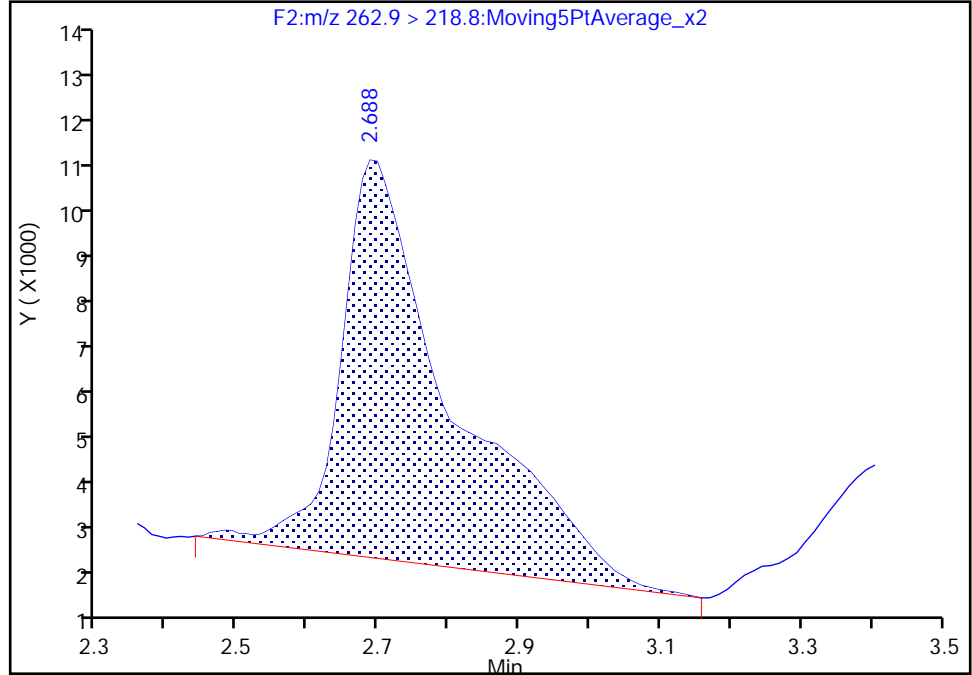
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

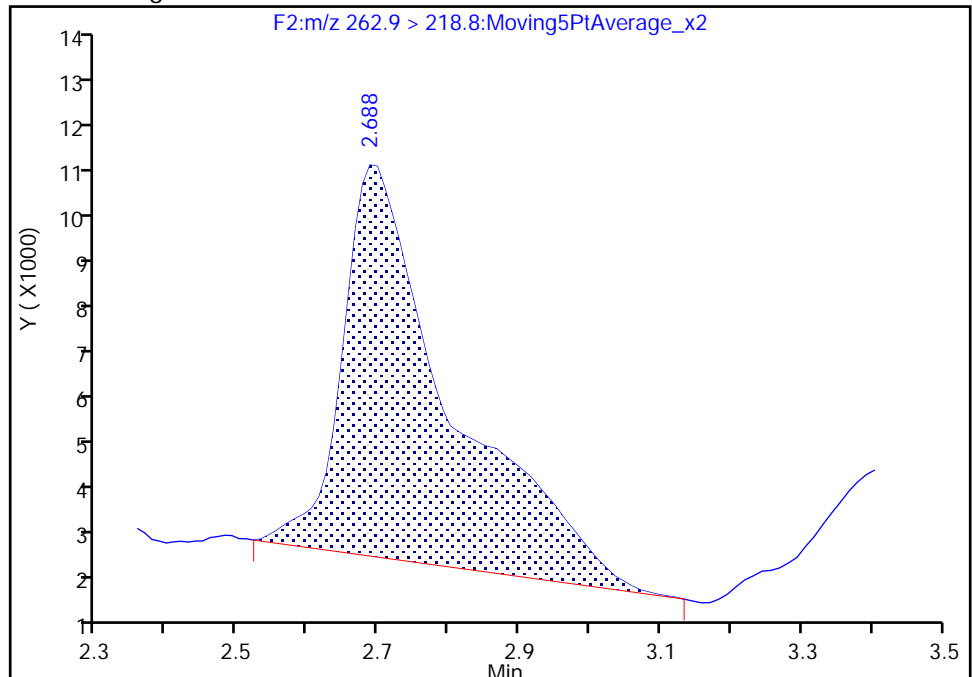
RT: 2.69  
Area: 92583  
Amount: 15.443713  
Amount Units: ng/ml

Processing Integration Results



RT: 2.69  
Area: 88199  
Amount: 14.691061  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

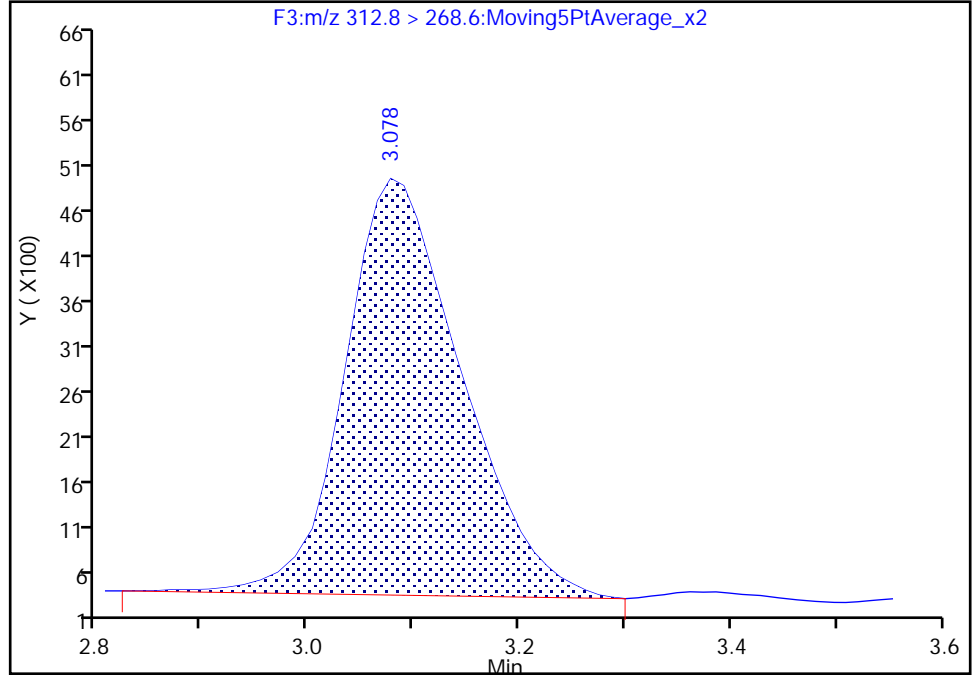
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

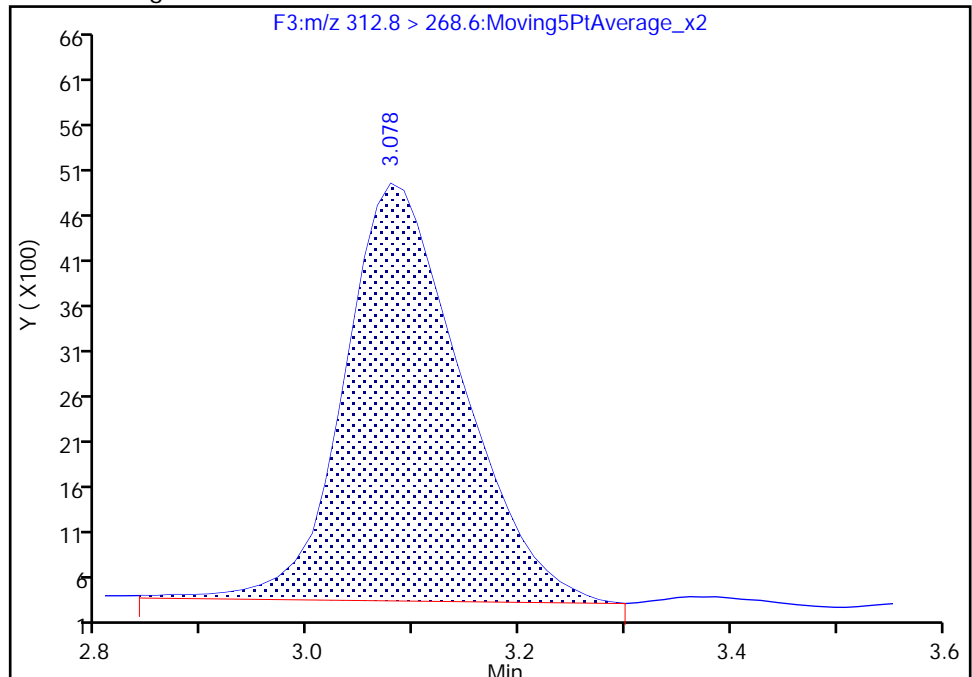
RT: 3.08  
Area: 35289  
Amount: 8.376202  
Amount Units: ng/ml

Processing Integration Results



RT: 3.08  
Area: 35546  
Amount: 8.436850  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:37:35  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

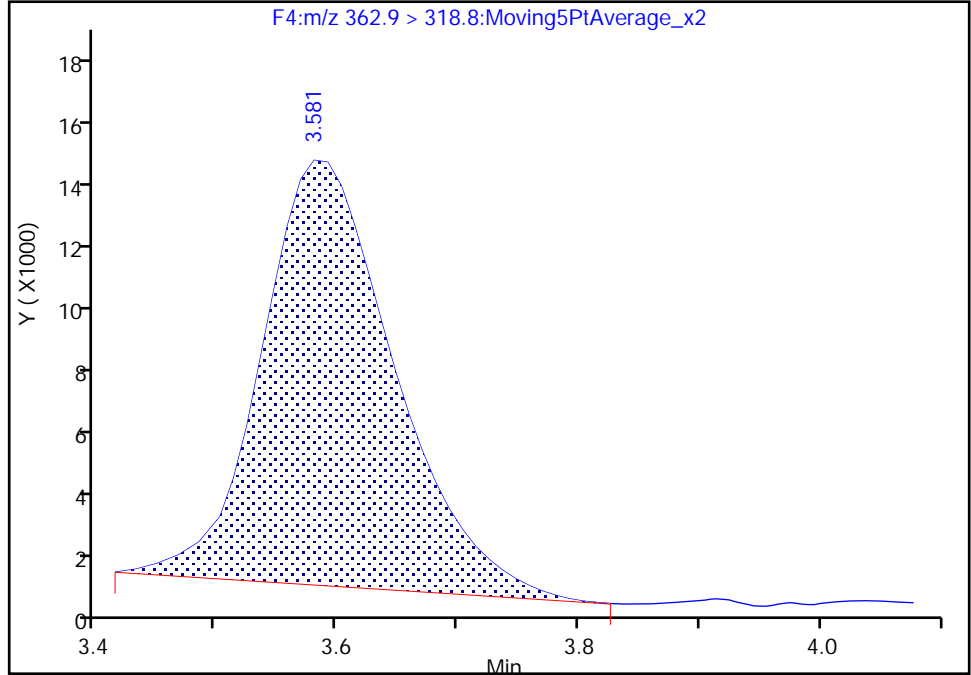
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

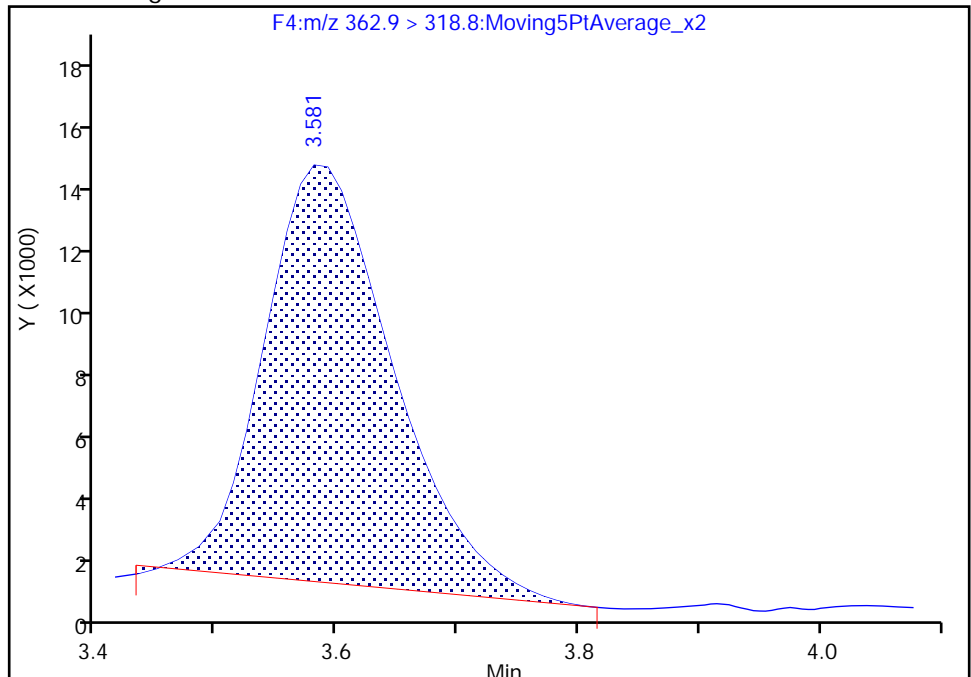
RT: 3.58  
Area: 104883  
Amount: 7.136872  
Amount Units: ng/ml

Processing Integration Results



RT: 3.58  
Area: 100155  
Amount: 6.817312  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:37:40  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

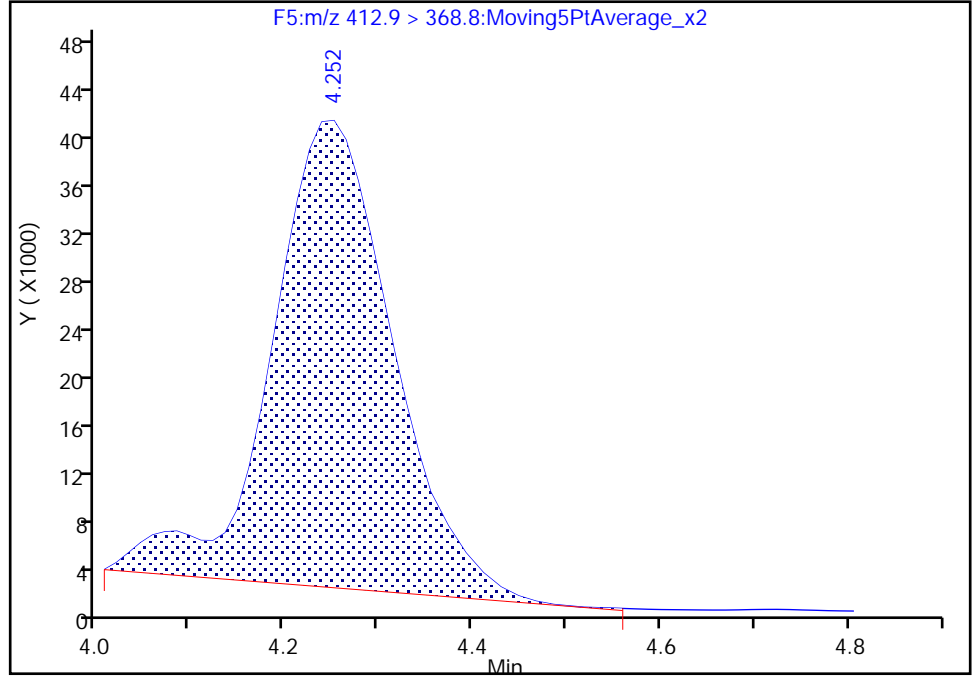
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

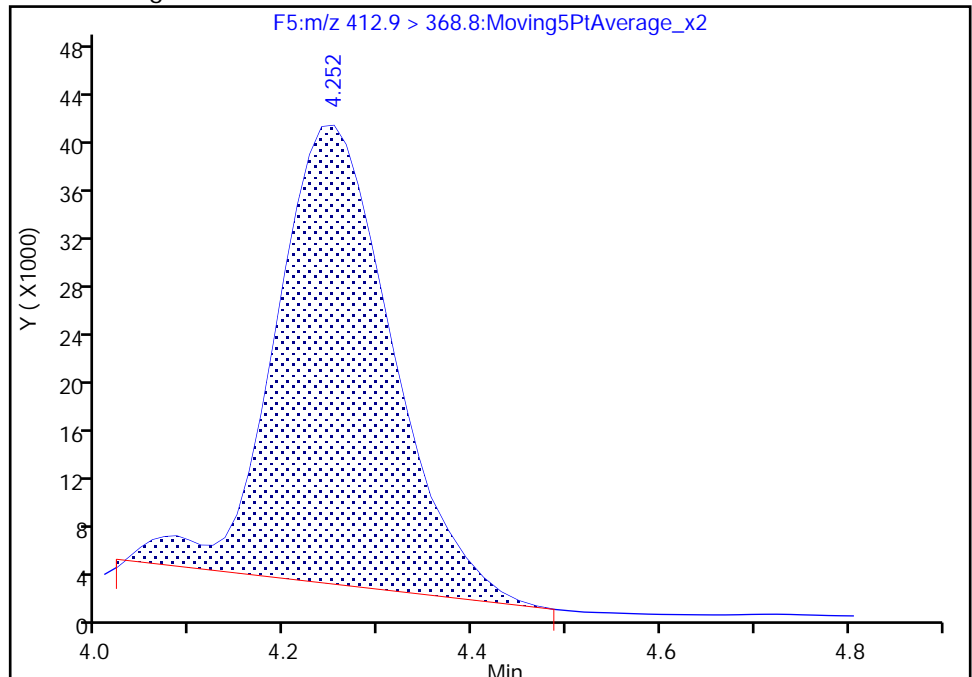
RT: 4.25  
Area: 350837  
Amount: 21.055803  
Amount Units: ng/ml

Processing Integration Results



RT: 4.25  
Area: 331595  
Amount: 19.900252  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:37:54  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

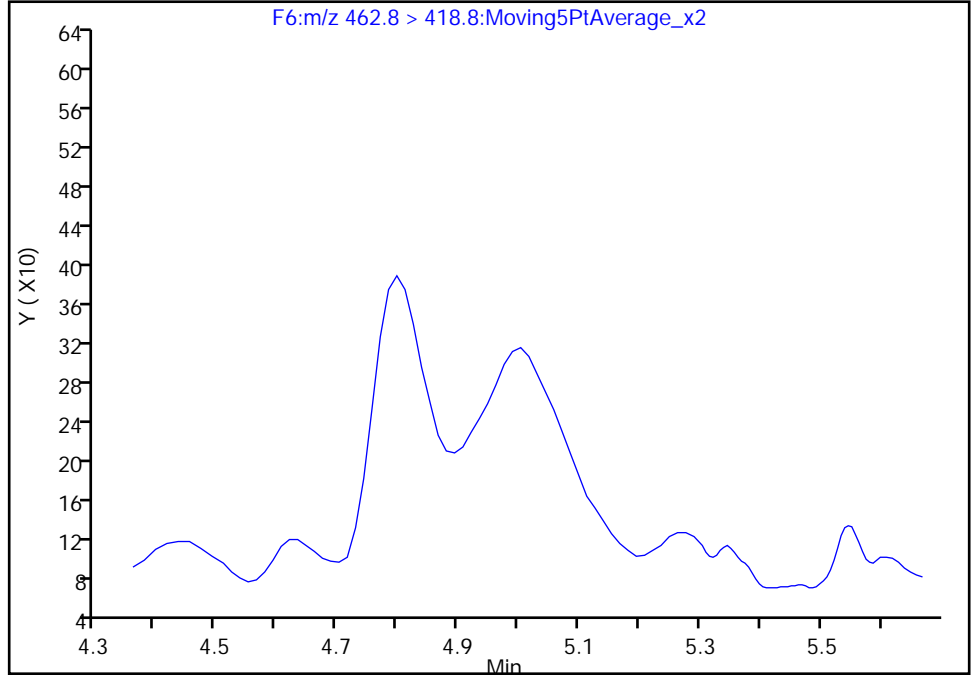
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

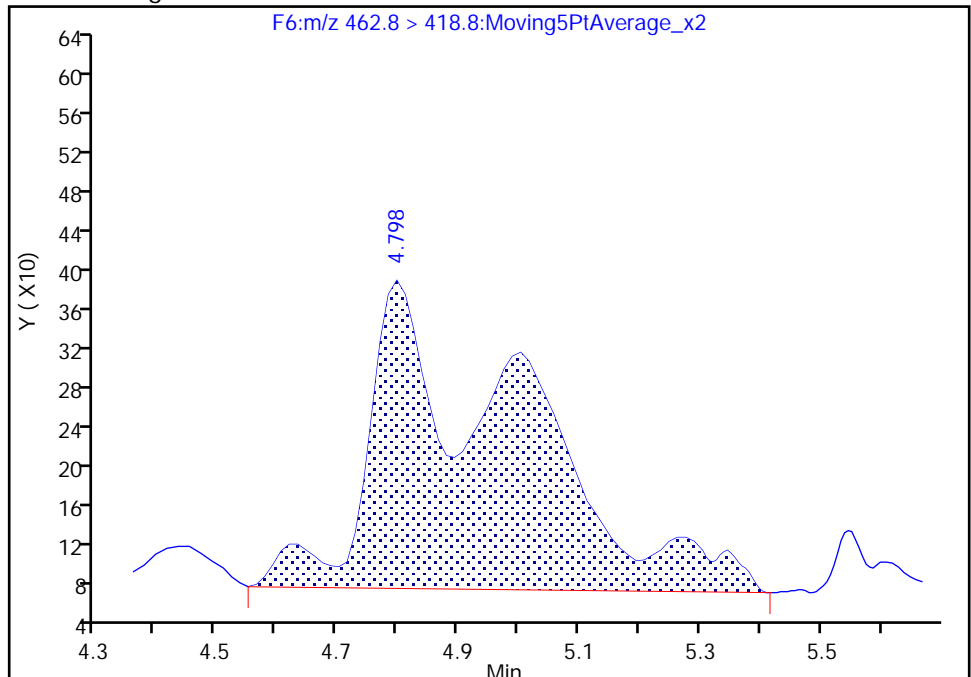
Not Detected  
Expected RT: 5.14

Processing Integration Results



Manual Integration Results

RT: 4.80  
Area: 5446  
Amount: 0.387254  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:39:52  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

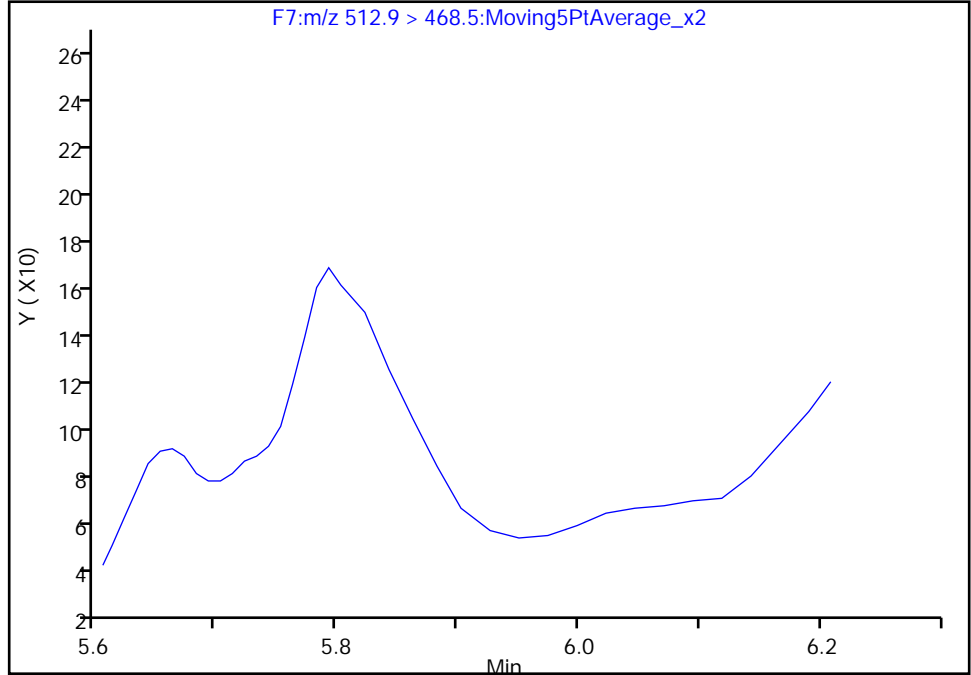
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

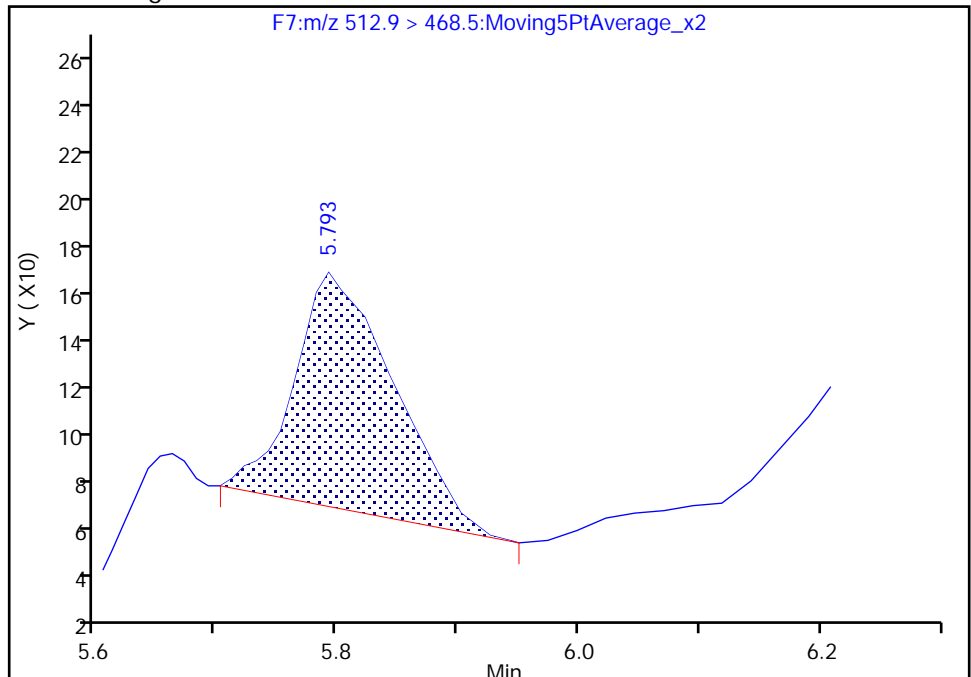
Not Detected  
Expected RT: 5.94

Processing Integration Results



RT: 5.79  
Area: 544  
Amount: -0.075610  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:39:36  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

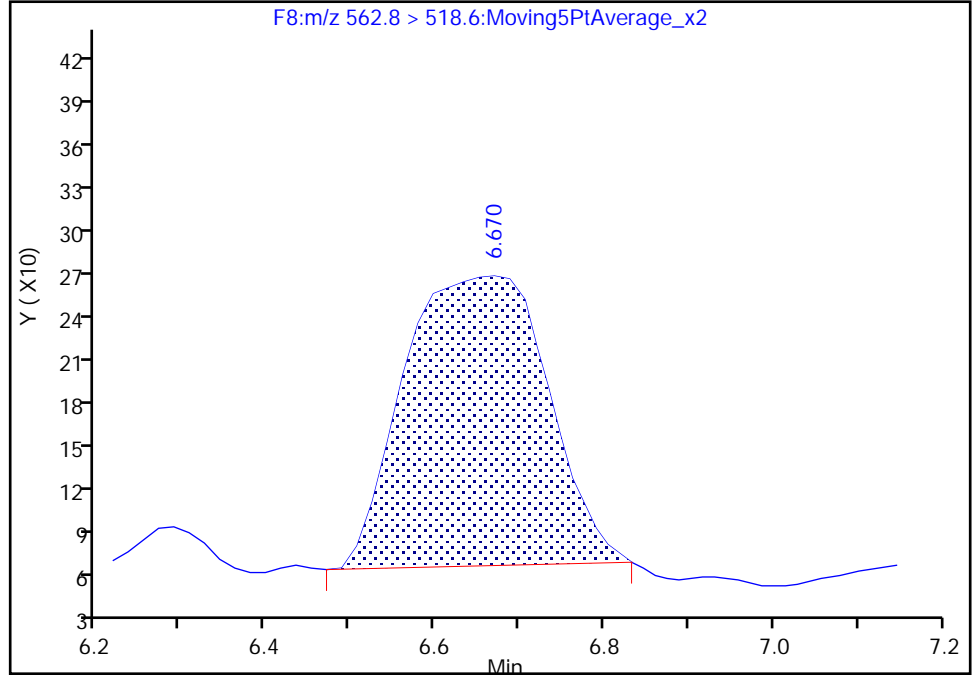
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

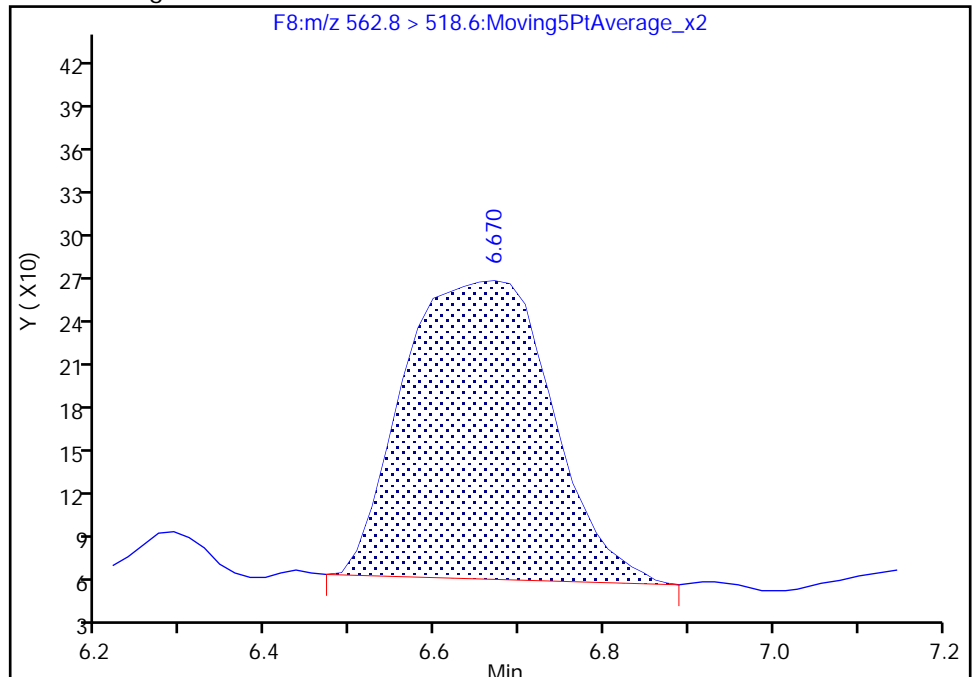
RT: 6.67  
Area: 2319  
Amount: 0.151186  
Amount Units: ng/ml

Processing Integration Results



RT: 6.67  
Area: 2452  
Amount: 0.157129  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:38:42  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

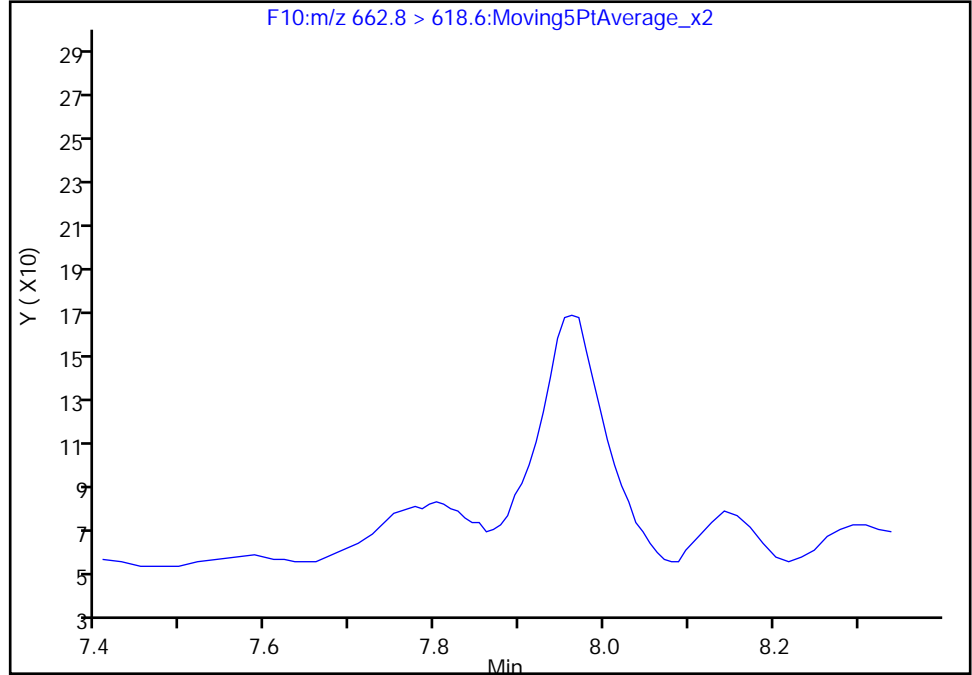
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

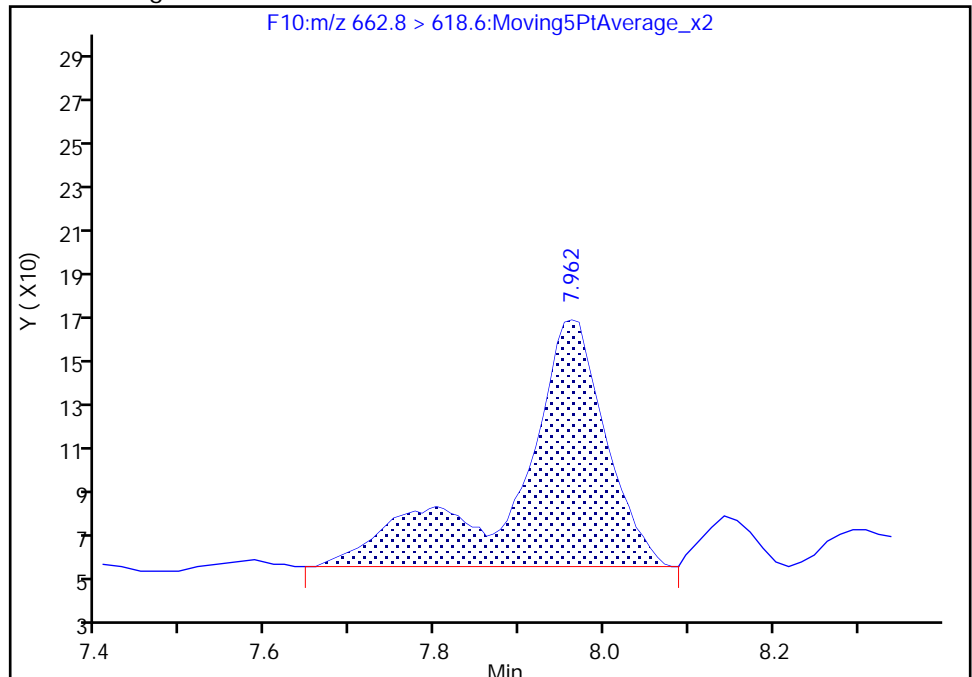
Not Detected  
Expected RT: 8.02

Processing Integration Results



RT: 7.96  
Area: 801  
Amount: -0.054100  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:38:55  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

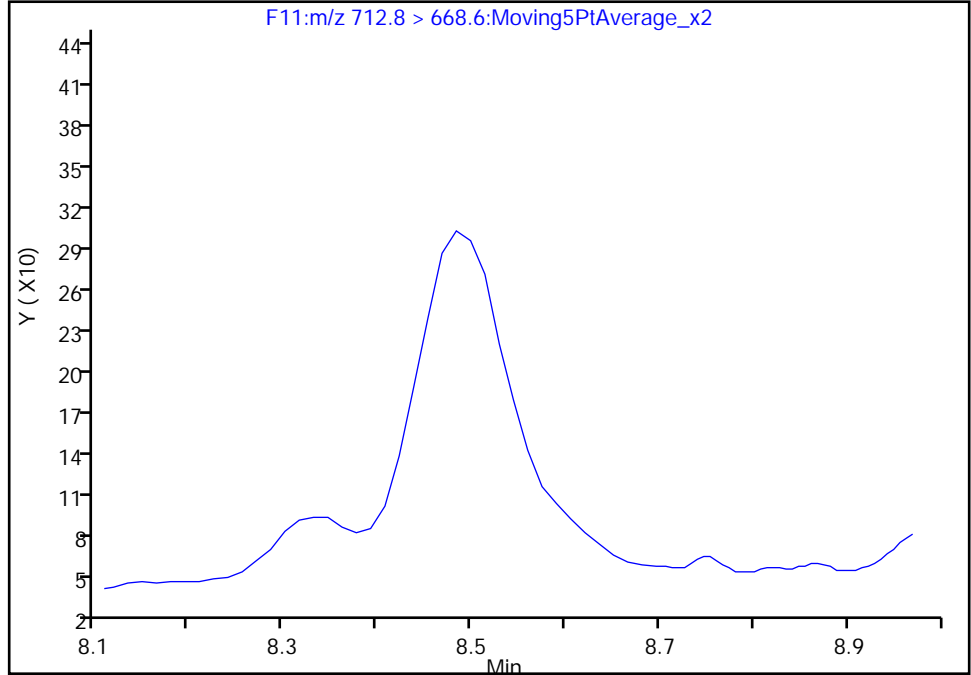
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

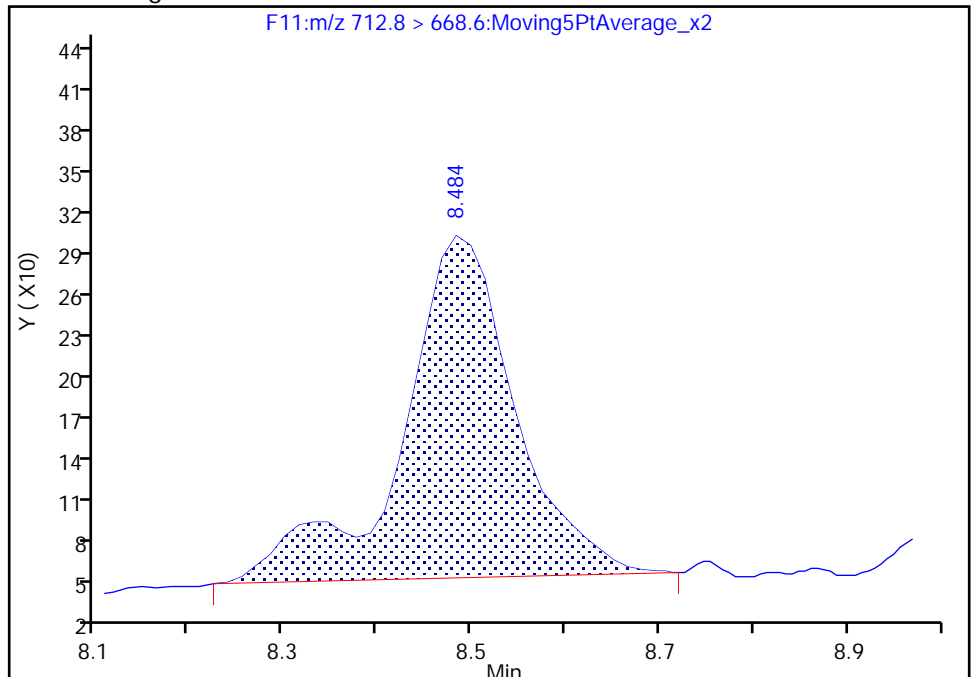
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.48  
Area: 2054  
Amount: -0.053132  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:39:02  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration  
Page 183 of 424

TestAmerica Burlington

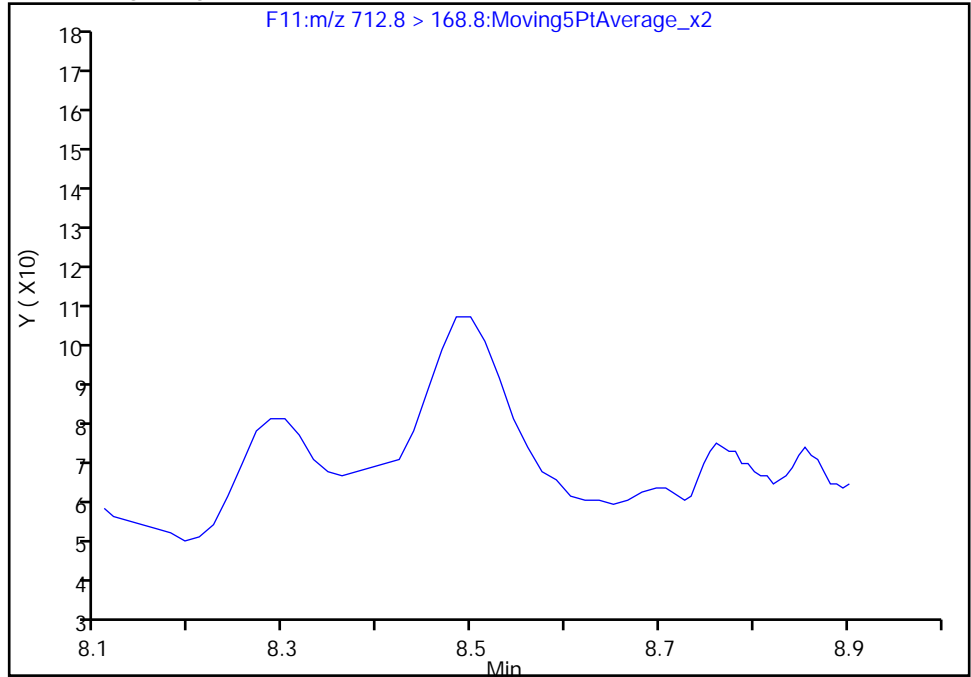
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

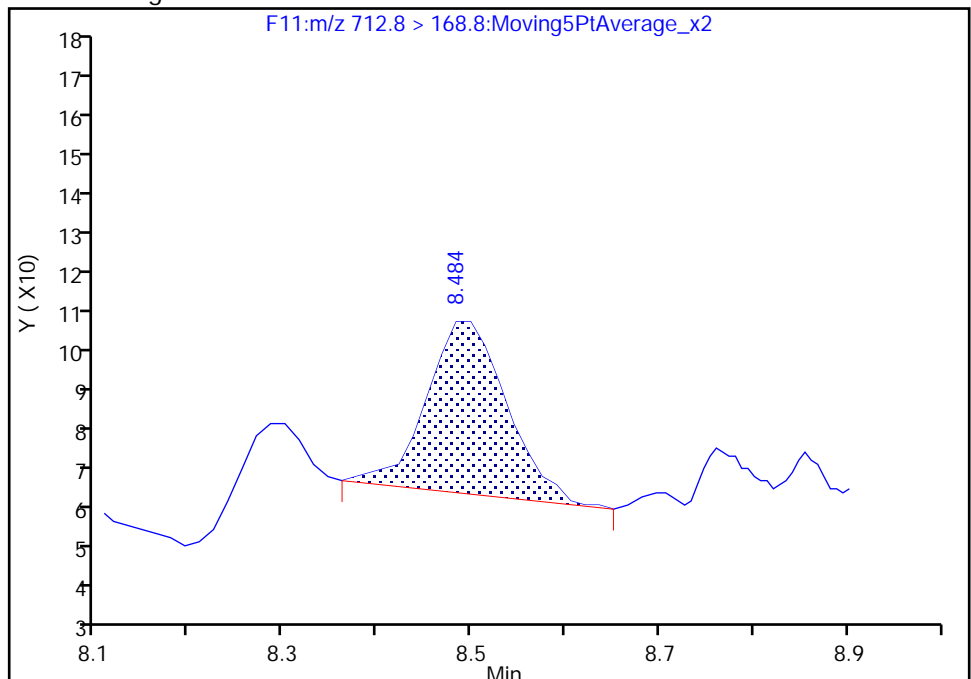
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.48  
Area: 251  
Amount: -0.053132  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:39:05

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

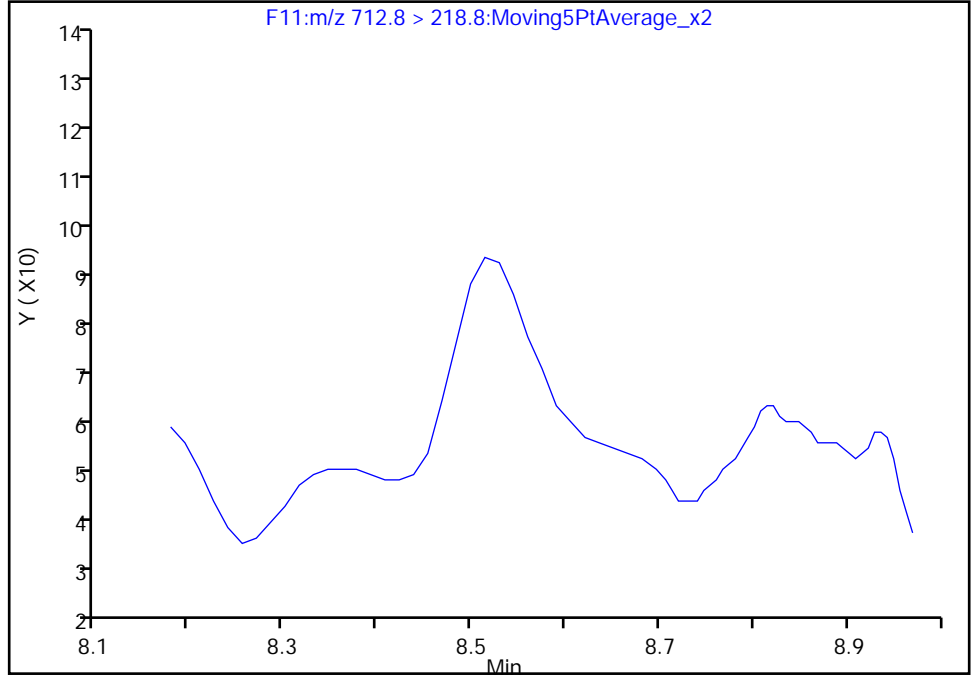
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

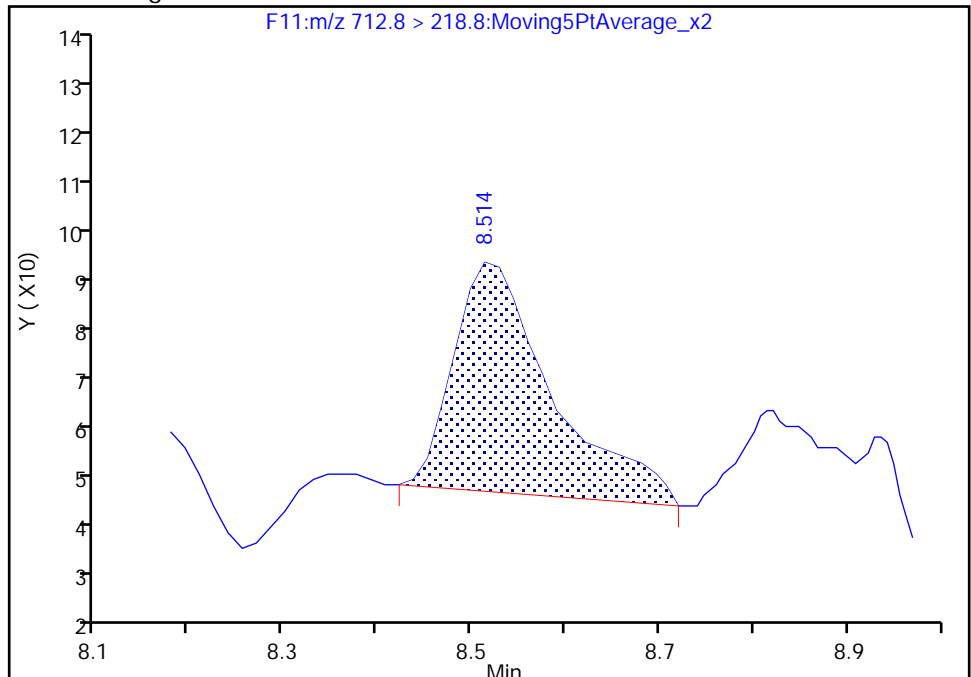
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.51  
Area: 313  
Amount: -0.053132  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:39:09

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

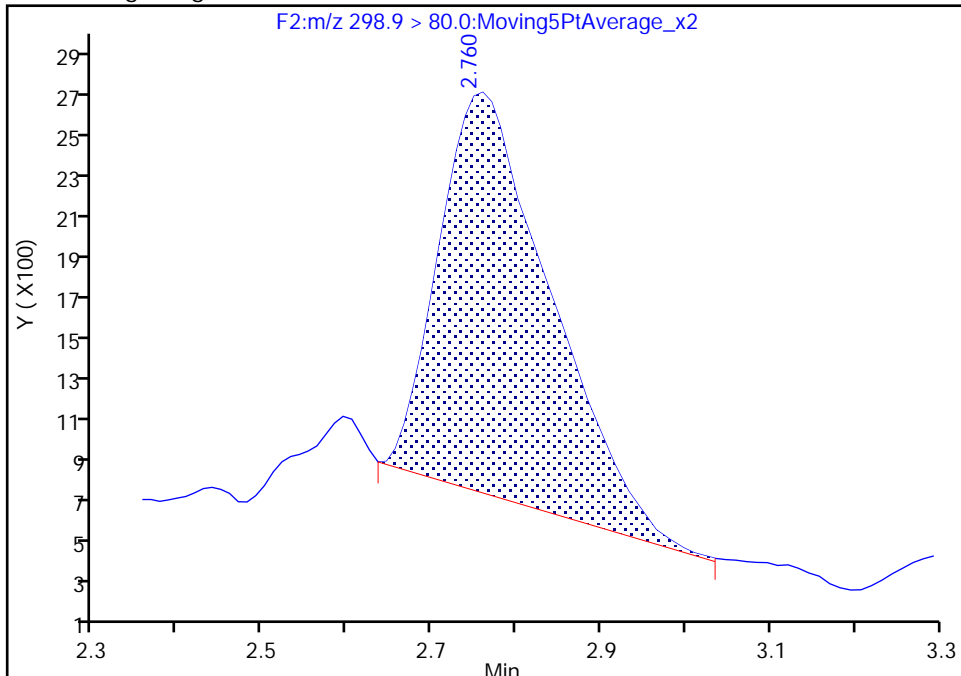
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

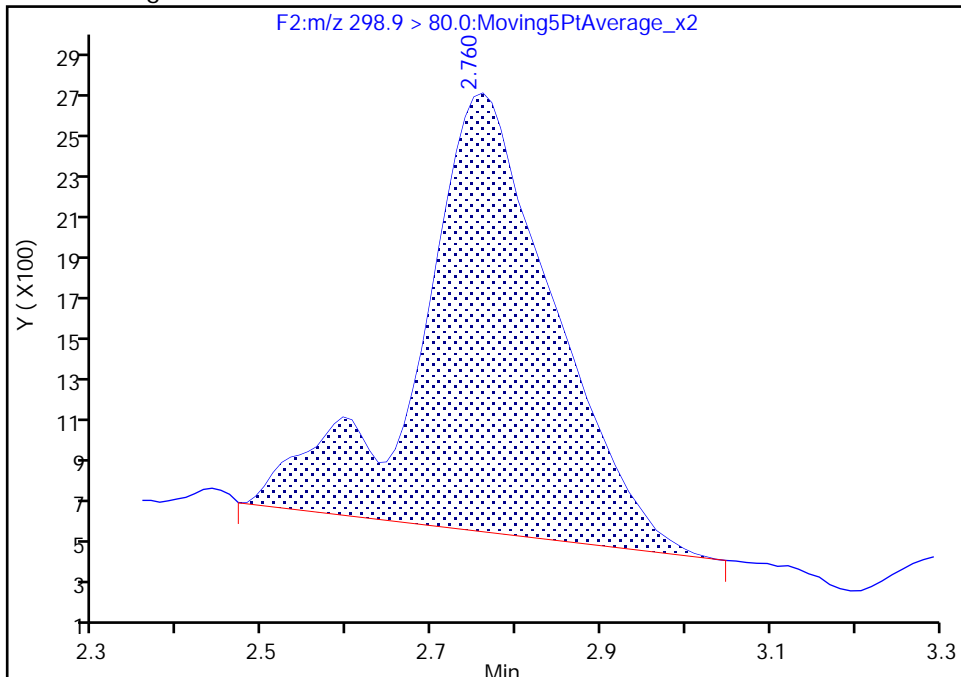
RT: 2.76  
Area: 18230  
Amount: 2.814595  
Amount Units: ng/ml

Processing Integration Results



RT: 2.76  
Area: 24057  
Amount: 3.658546  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:37:29  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

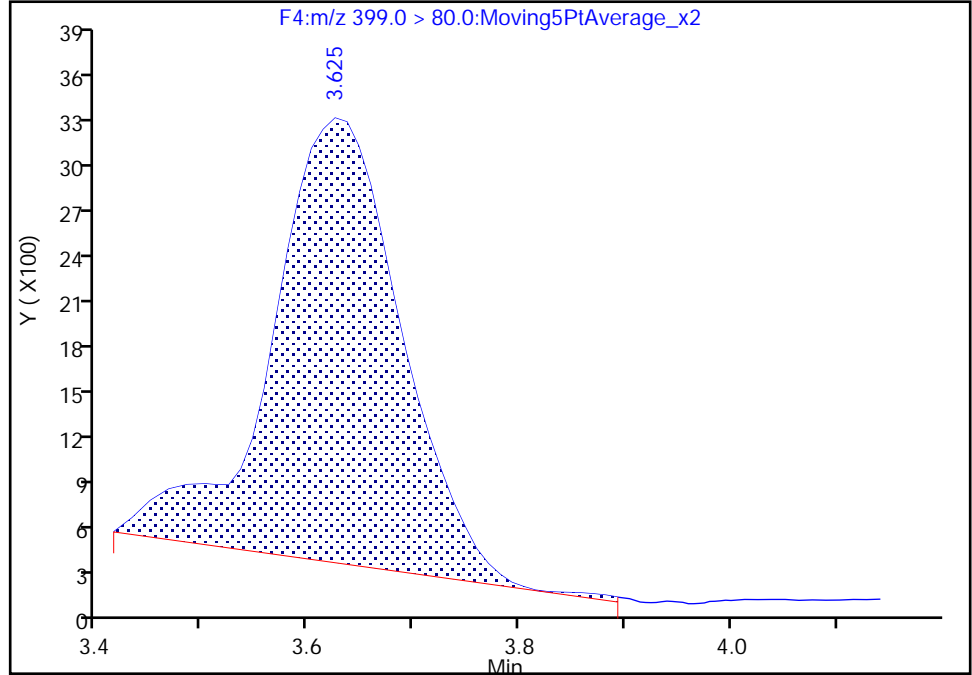
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

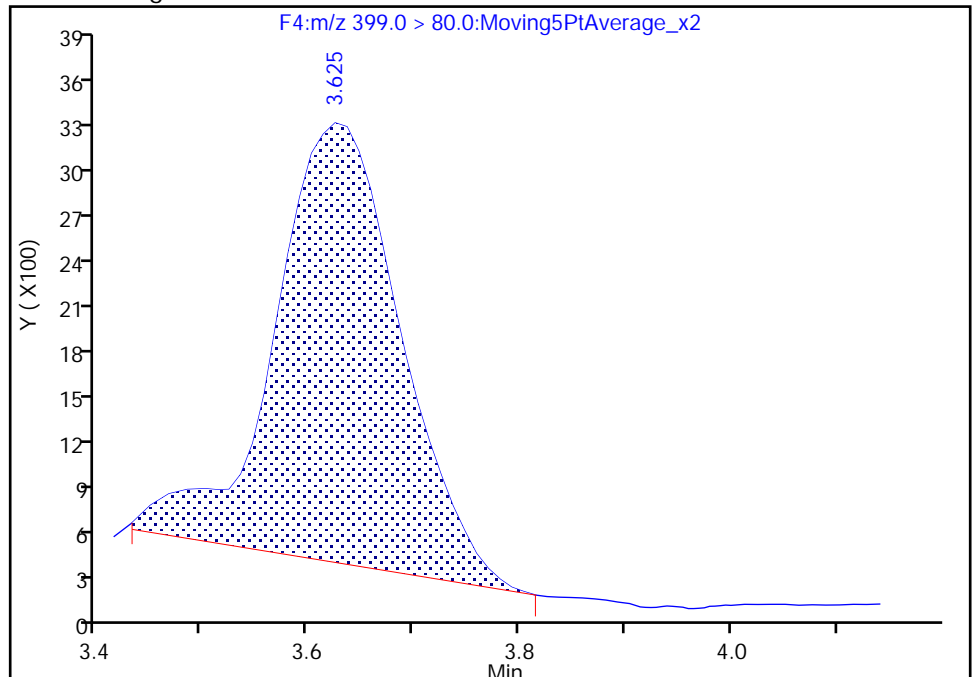
RT: 3.63  
Area: 25206  
Amount: 2.696839  
Amount Units: ng/ml

Processing Integration Results



RT: 3.63  
Area: 24093  
Amount: 2.576516  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:37:44  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

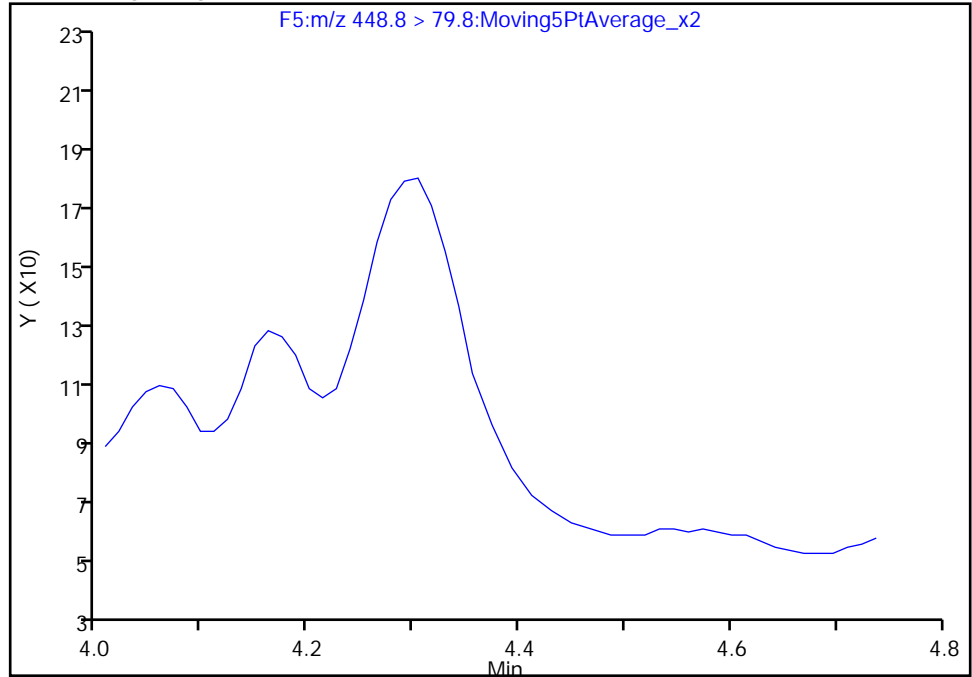
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

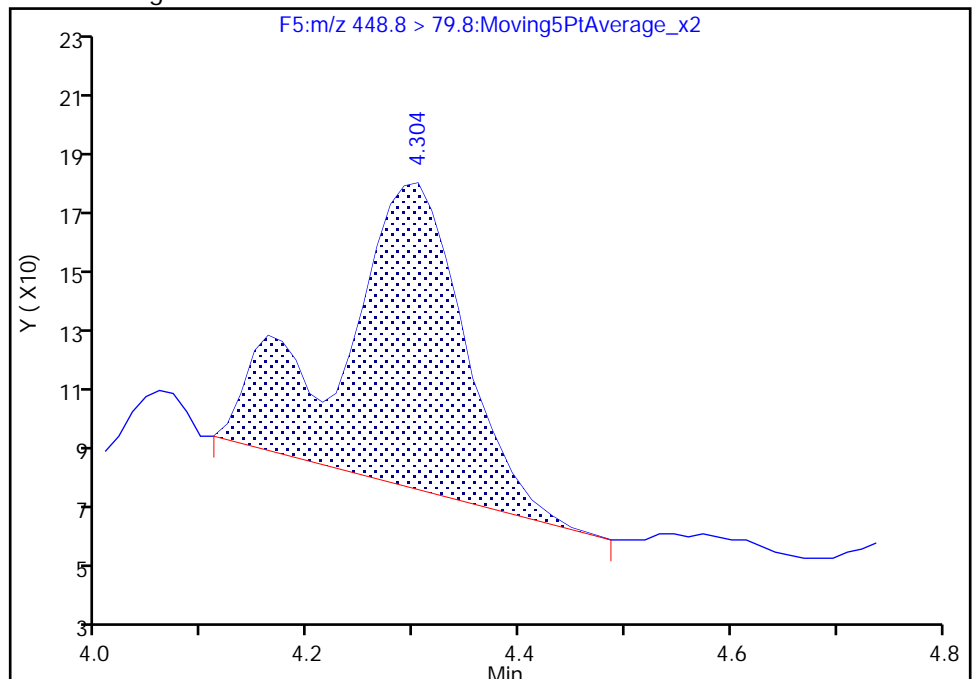
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.30  
Area: 805  
Amount: 0.322945  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:39:57  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

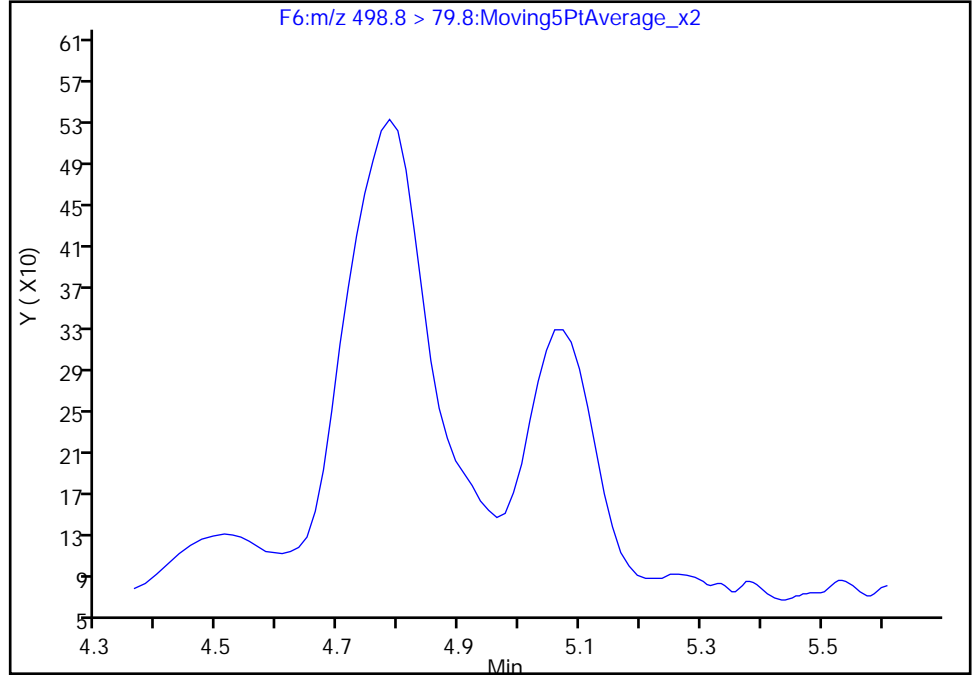
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

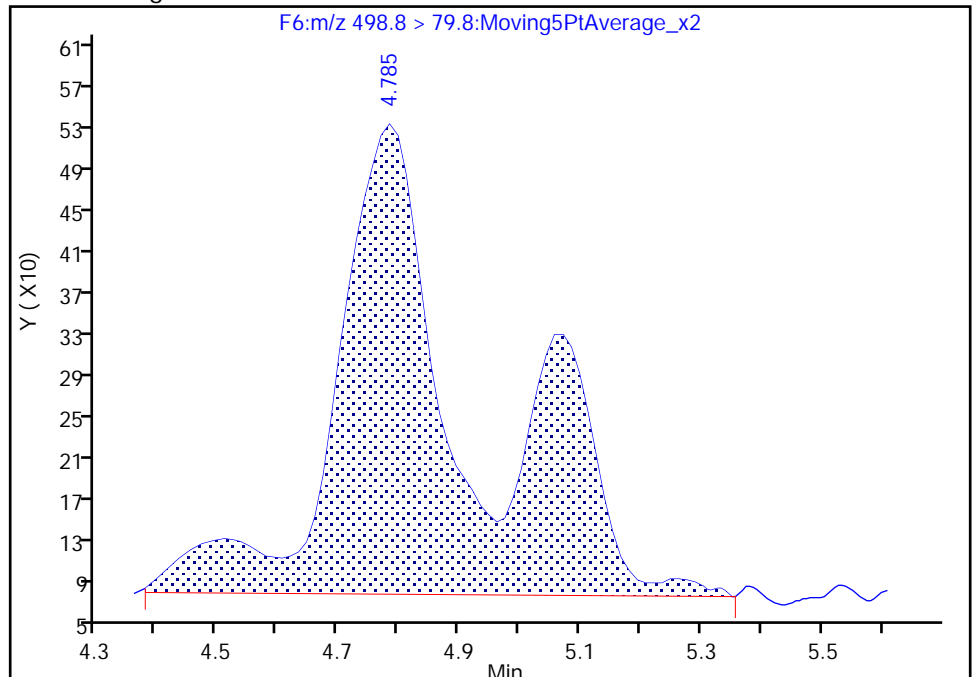
Not Detected  
Expected RT: 5.17

Processing Integration Results



RT: 4.78  
Area: 7237  
Amount: 1.704261  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:39:45  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

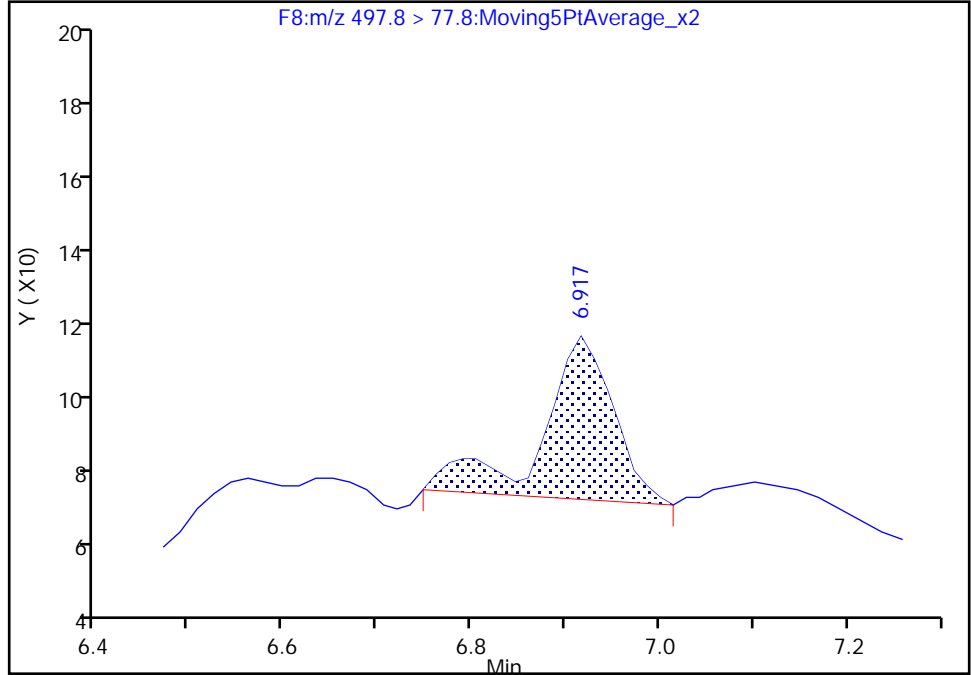
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

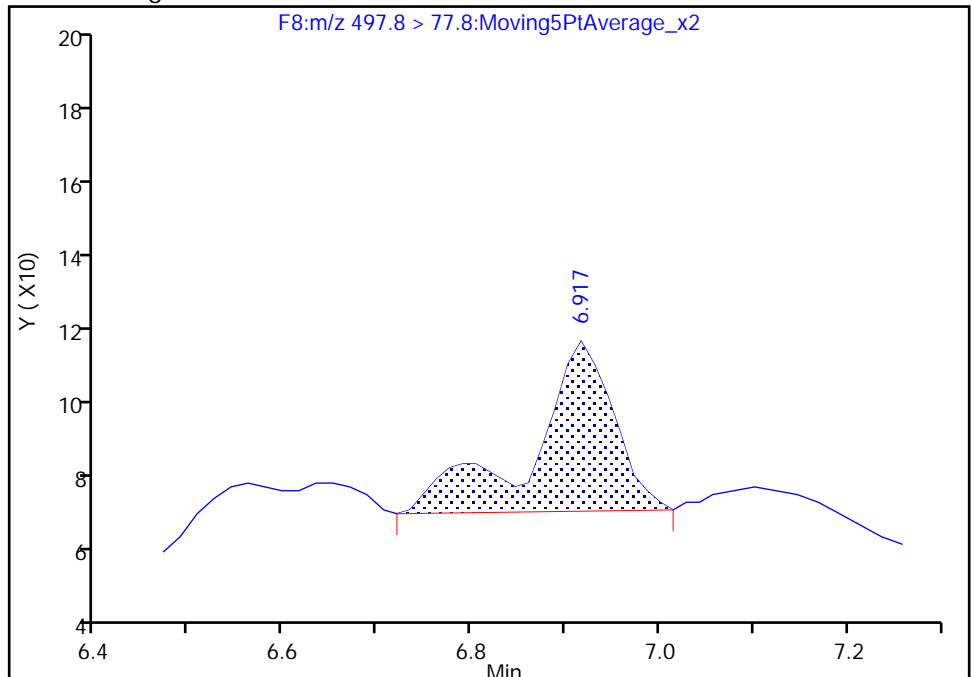
RT: 6.92  
Area: 223  
Amount: 0.111008  
Amount Units: ng/ml

Processing Integration Results



RT: 6.92  
Area: 265  
Amount: 0.119767  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:38:48  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

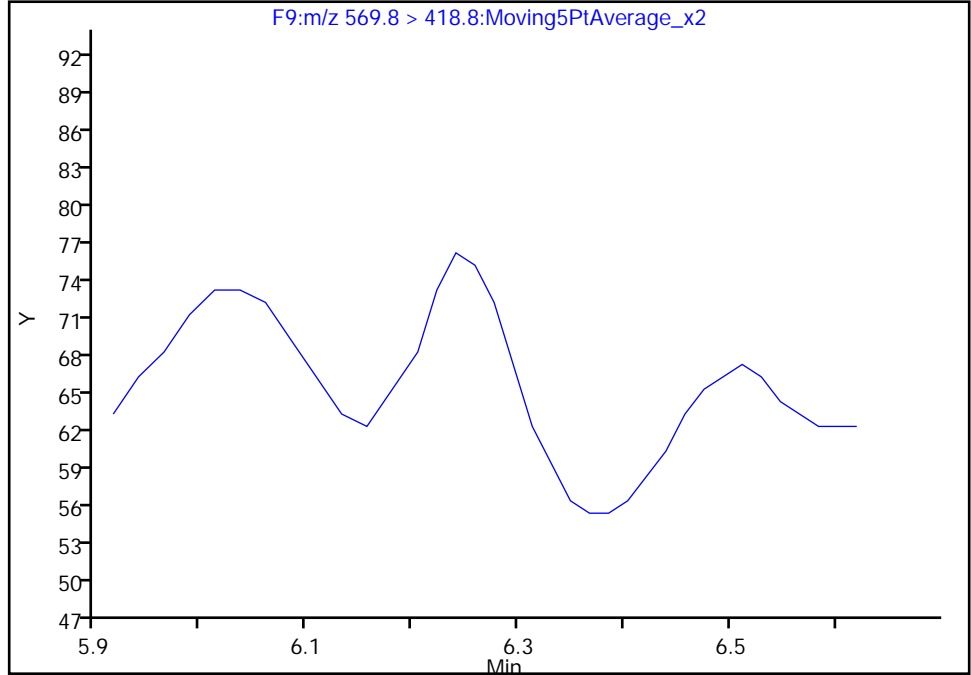
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F9:MRM

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

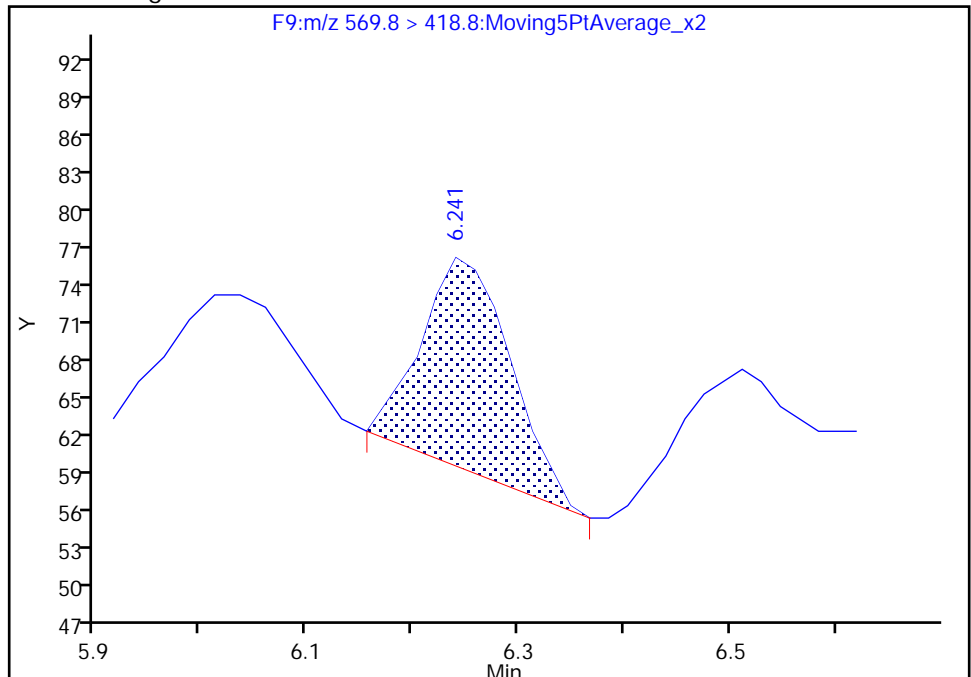
Not Detected  
Expected RT: 6.31

Processing Integration Results



Manual Integration Results

RT: 6.24  
Area: 100  
Amount: 0.056694  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:39:31  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

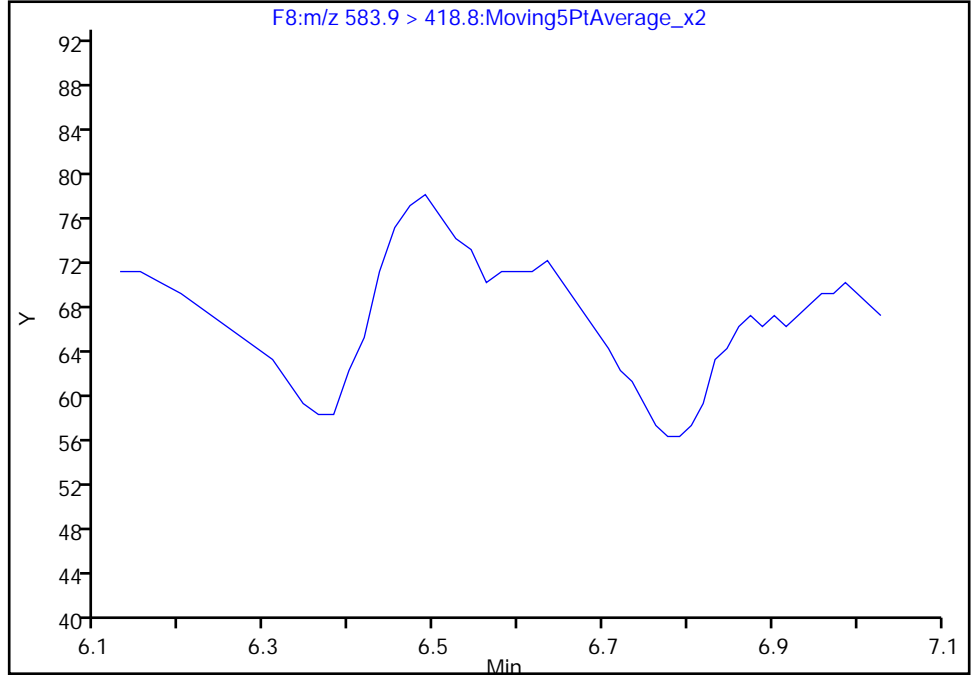
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

30 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

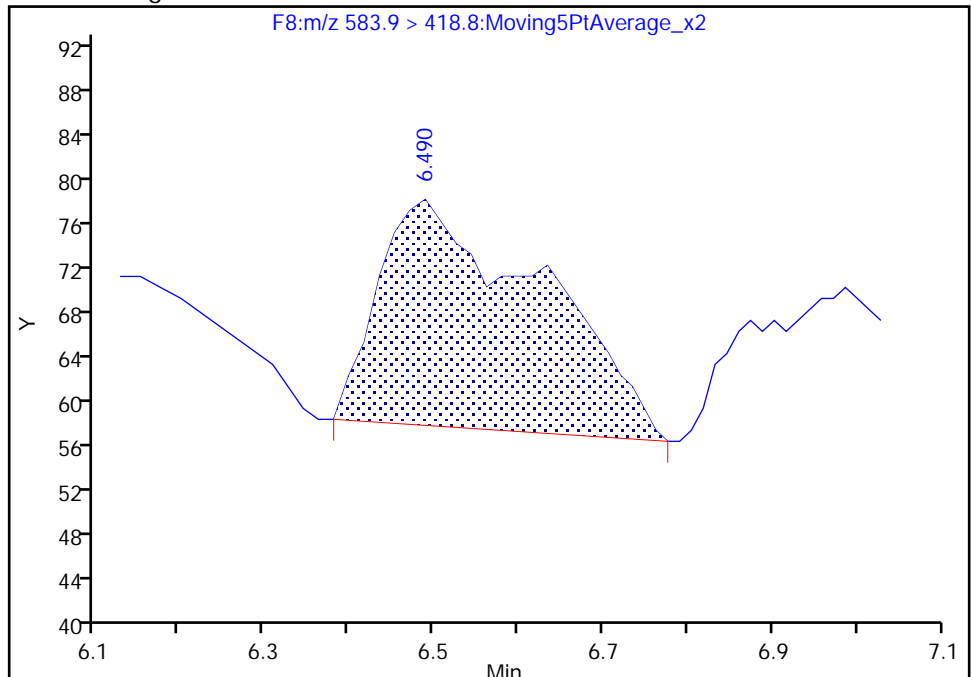
Not Detected  
Expected RT: 6.69

Processing Integration Results



Manual Integration Results

RT: 6.49  
Area: 277  
Amount: -0.032264  
Amount Units: ng/ml



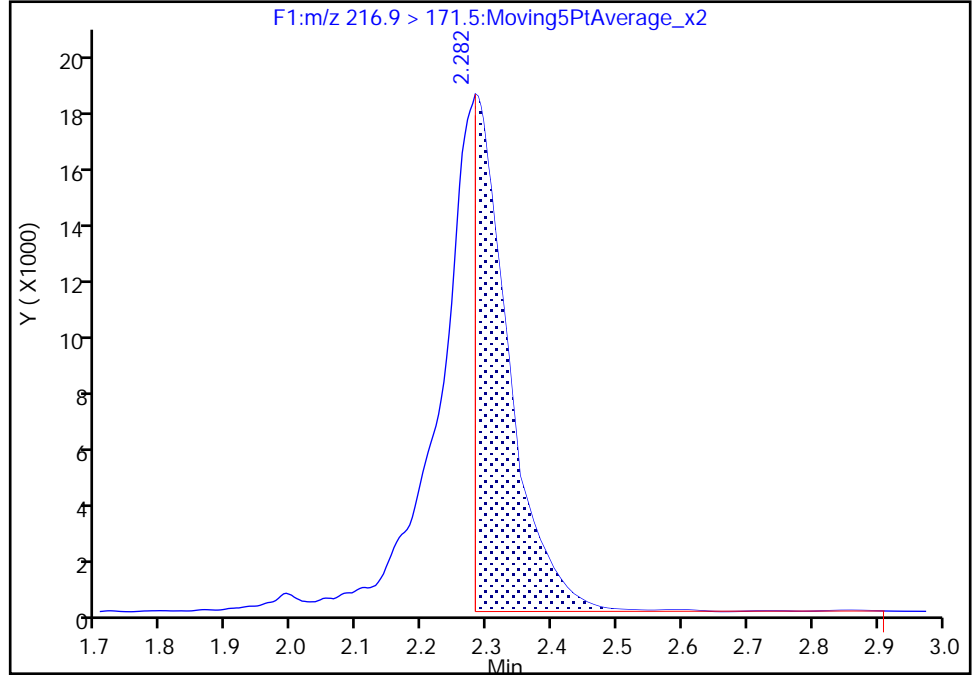
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A31.d  
Injection Date: 21-Apr-2018 18:48:18 Instrument ID: LC410  
Lims ID: 200-43041-B-6-A Lab Sample ID: 200-43041-6  
Client ID: MW-6  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 31  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992  
Signal: 1

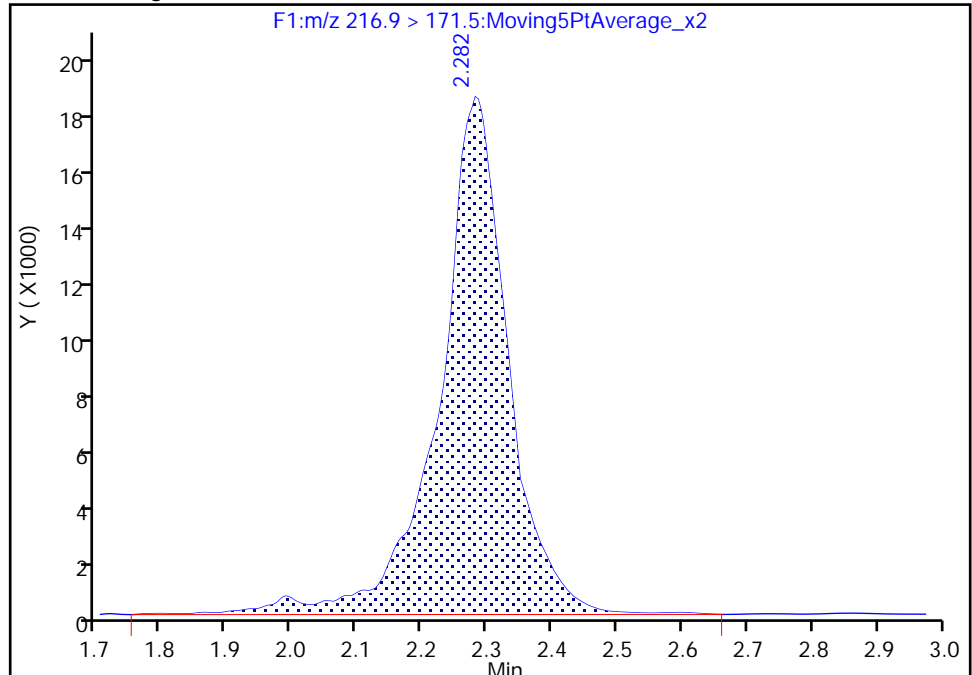
RT: 2.28  
Area: 64897  
Amount: 6.757792  
Amount Units: ng/ml

Processing Integration Results



RT: 2.28  
Area: 136947  
Amount: 14.260434  
Amount Units: ng/ml

Manual Integration Results



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: EQUIPMENT BLANK 1 Lab Sample ID: 200-43041-7  
 Matrix: Water Lab File ID: PF042118A32.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 07:00  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 273.2 (mL) Date Analyzed: 04/21/2018 19:03  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.62	J	1.83	0.41
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.41	U	1.83	0.41
307-24-4	Perfluorohexanoic acid (PFHxA)	0.41	U	1.83	0.41
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.27	U	1.83	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	0.43	U	1.83	0.43
375-95-1	Perfluorononanoic acid (PFNA)	0.32	J	1.83	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	0.41	U	1.83	0.41
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.41	U	1.83	0.41
307-55-1	Perfluorododecanoic acid (PFDoA)	0.41	U	1.83	0.41
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.41	U	1.83	0.41
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.41	U	1.83	0.41
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.81	U	1.83	0.81
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.30	J	1.83	0.26
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.41	U	1.83	0.41
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.27	U	1.83	0.27
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.41	U	1.83	0.41
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.41	U	1.83	0.41
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.55	U	1.83	0.55
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.55	U	1.83	0.55
27619-97-2	6:2FTS	0.55	U	1.83	0.55
39108-34-4	8:2FTS	0.55	U	1.83	0.55

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: EQUIPMENT BLANK 1 Lab Sample ID: 200-43041-7  
 Matrix: Water Lab File ID: PF042118A32.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 07:00  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 273.2 (mL) Date Analyzed: 04/21/2018 19:03  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	42		25-150
STL01893	13C5 PFPeA	104		25-150
STL00993	13C2 PFHxA	94		25-150
STL01892	13C4-PFHpA	87		25-150
STL00990	13C4 PFOA	89		25-150
STL00995	13C5 PFNA	90		25-150
STL00996	13C2 PFDA	83		25-150
STL00997	13C2 PFUnA	83		25-150
STL00998	13C2 PFDoA	65		25-150
STL02116	13C2-PFTeDA	63		25-150
STL02337	13C3-PFBS	81		25-150
STL00994	18O2 PFHxS	85		25-150
STL00991	13C4 PFOS	80		25-150
STL01056	13C8 FOSA	47		25-150
STL02118	d3-NMeFOSAA	57		25-150
STL02117	d5-NEtFOSAA	62		25-150
STL02279	M2-6:2FTS	109		25-150
STL02280	M2-8:2FTS	91		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
 Lims ID: 200-43041-B-7-A  
 Client ID: EQUIPMENT BLANK 1  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 19:03:27 ALS Bottle#: 0 Worklist Smp#: 32  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-032 7  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:20:49 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 16:02:05

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.278	2.319	-0.041	1.000	263282	21.0	41.9	132	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.578	2.320	0.258	1.132	2351	0.3392		1.7	M	
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	158842	52.2	104	2283	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.729	2.738	-0.009	1.000	6076	-0.1017		8.7	M	
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	238768	37.6	80.8	1262	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.850	2.804	0.046	1.021	693	0.2389		6.6	M	
D 7 13C2 PFHxA	314.8 > 269.6	3.140	3.158	-0.018	1.000	486472	47.0	94.1	4272	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.164	3.162	0.002	1.008	522	0.1034		4.3	M	
D 10 13C4-PFHpA	366.9 > 321.8	3.670	3.689	-0.019	1.000	1104609	43.7	87.3	1005	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.726	3.689	0.037	1.015	810	0.0830		3.7	M	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.692	3.733	-0.041	0.997	2099	0.1650		29.8	M	
D 13 18O2 PFHxS	402.9 > 83.8	3.703	3.737	-0.034	1.000	287295	40.4	85.4	823	
D 14 M2-6:2FTS	428.6 > 408.6	4.291	4.319	-0.028	1.000	70220	51.8	109	654	
15 Sodium 1H,1H,2H,2H-perfluorooctane										M
426.6 > 406.6	4.252	4.319	-0.067	0.991	79	0.0520		1.8	M	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.342	4.365	-0.023	1.000	1039256	44.7		89.3	4054	
* 49 13C2-PFOA										
414.9 > 369.8	4.342	4.371	-0.029		1373111	50.0			3876	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.330	4.374	-0.044	0.997	2562	0.1011			17.2	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.355	4.408	-0.053	0.850	114	0.1460			1.3	M
19 Perfluorononanoic acid										
462.8 > 418.8	5.031	5.143	-0.112	0.987	1269	0.1761			7.2	M
D 21 13C5 PFNA										
467.8 > 422.8	5.099	5.145	-0.046	1.000	1281093	45.2		90.4	3375	
D 22 13C4 PFOS										
502.8 > 79.8	5.127	5.168	-0.041	1.000	222698	38.0		79.6	1208	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.803	5.910	-0.107	0.990	159	0.0272			2.3	M
D 23 M2-8:2FTS										
528.8 > 508.8	5.862	5.910	-0.048	1.000	371725	43.7		91.2	1345	
D 25 13C2 PFDA										
514.9 > 469.5	5.882	5.934	-0.052	1.000	1557329	41.3		82.7	3956	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.882	5.938	-0.056	1.000	493	-0.0828			2.1	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.259	6.298	-0.039	1.000	240181	28.3		56.6	1290	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.205	6.310	-0.105	0.991	185	0.0740			0.4	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.616	6.667	-0.051	1.000	227284	30.8		61.6	956	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.652	6.711	-0.059	1.000	3732	0.1622			34.3	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.652	6.713	-0.061	1.000	1709461	41.4		82.8	14734	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	235907	23.7		47.5	2009	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.762	6.940	-0.178	0.976	249	0.1238			1.9	M
D 36 13C2 PFDoA										
614.8 > 569.6	7.339	7.392	-0.053	1.000	1371885	32.6		65.3	2386	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.339	7.399	-0.060	1.000	592	-0.001201			5.4	M
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.979	8.022	-0.043	1.087	1034	-0.0537			17.8	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.499	8.572	-0.073	1.000	1249490	31.5		63.0	1050	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.560	8.572	-0.012	1.007	2495	-0.0475			10.8	M
712.8 > 168.8	8.530	8.572	-0.042	1.004	45		55.44(0.00-0.00)		0.6	M
712.8 > 218.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			

**QC Flag Legend**

Review Flags

M - Manually Integrated



TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d

Injection Date: 21-Apr-2018 19:03:27

Instrument ID: LC410

Lims ID: 200-43041-B-7-A

Lab Sample ID: 200-43041-7

Client ID: EQUIPMENT BLANK 1

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 32

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

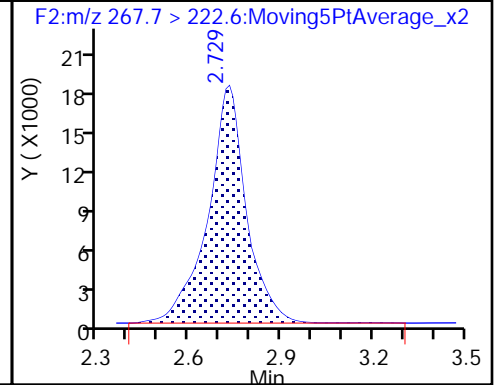
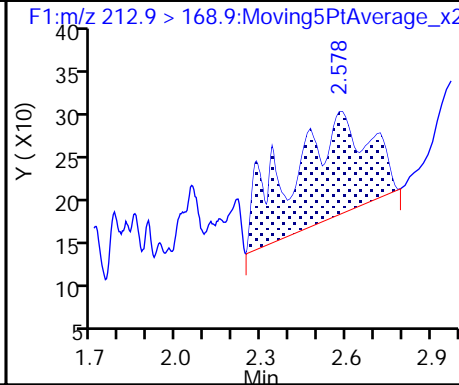
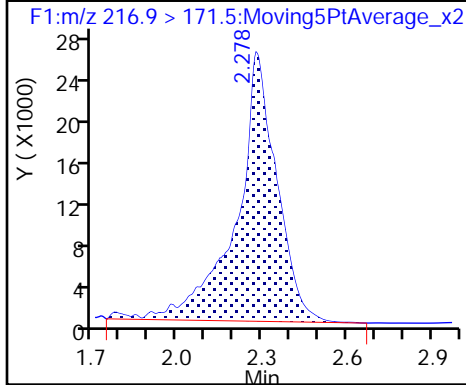
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

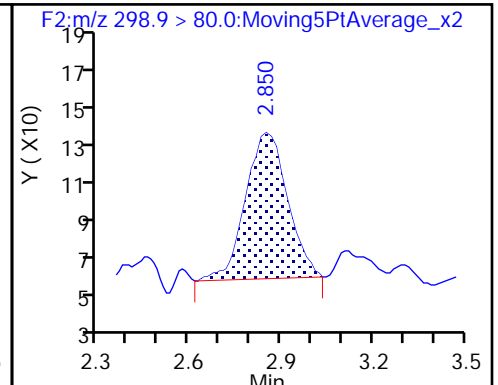
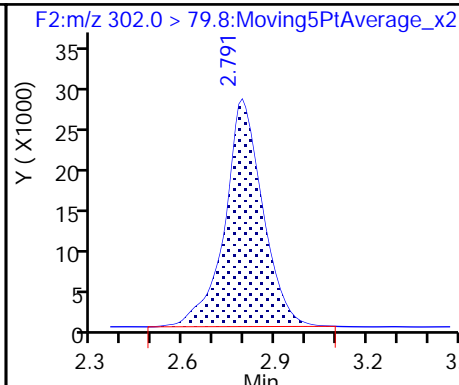
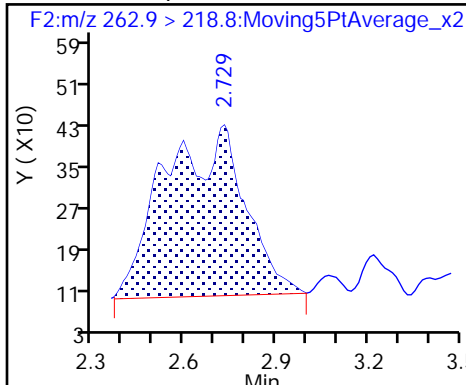
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

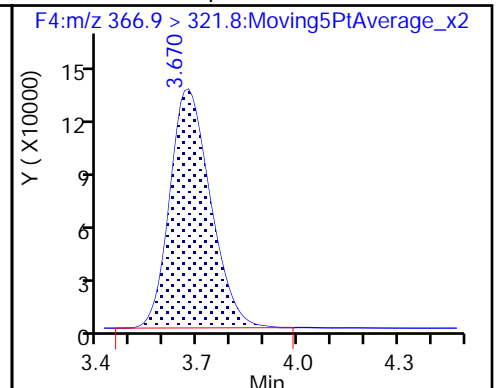
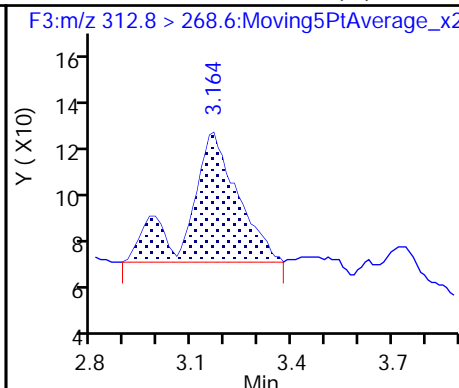
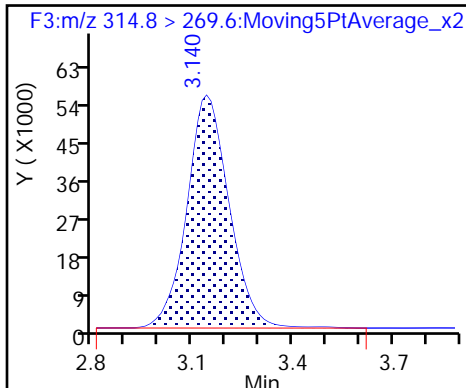
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

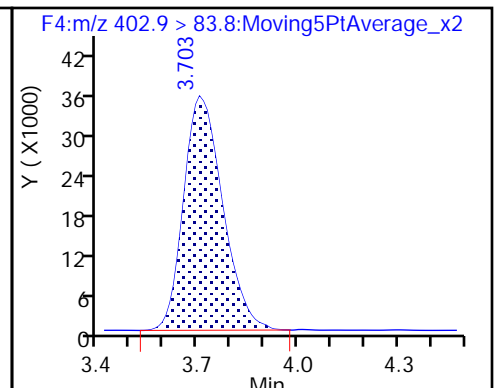
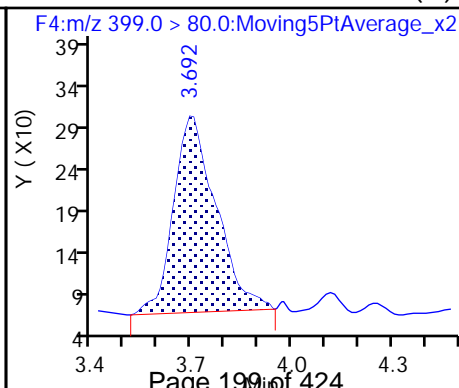
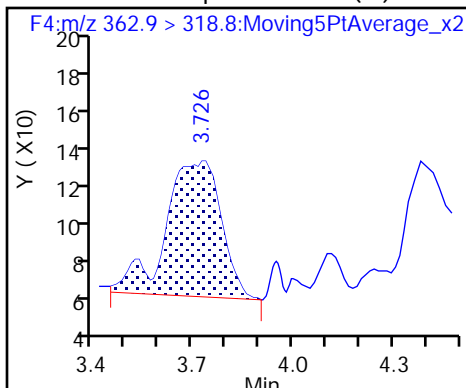
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

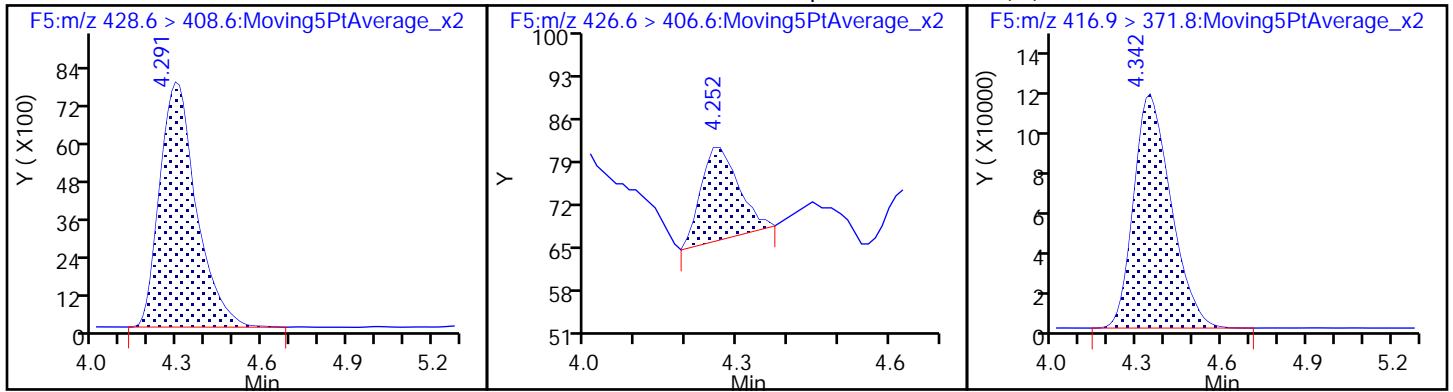
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

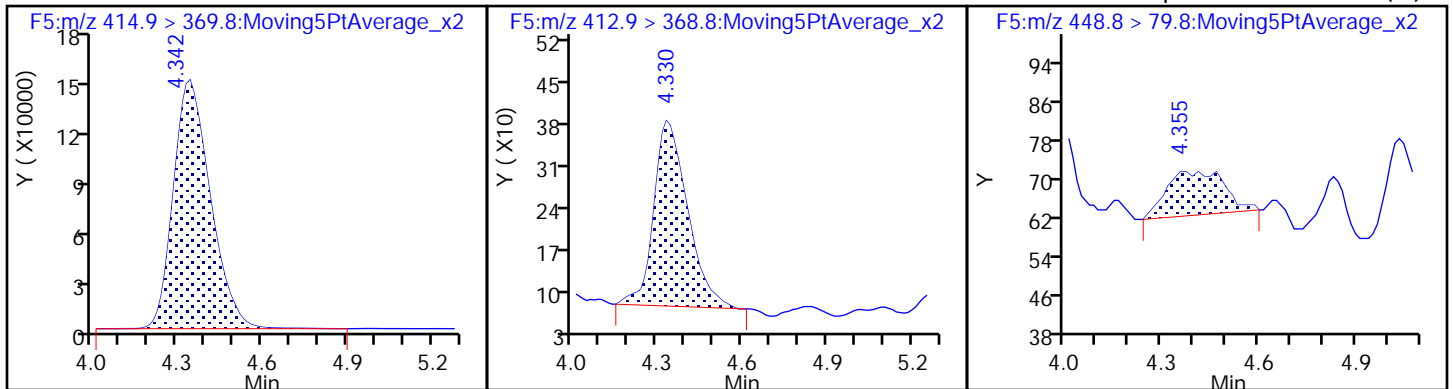
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

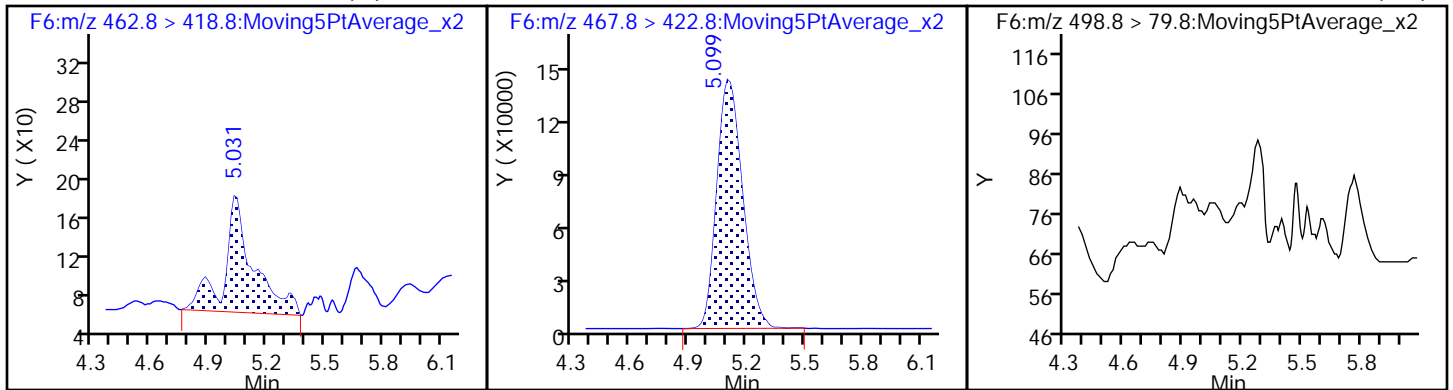
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (M)

D 21 13C5 PFNA

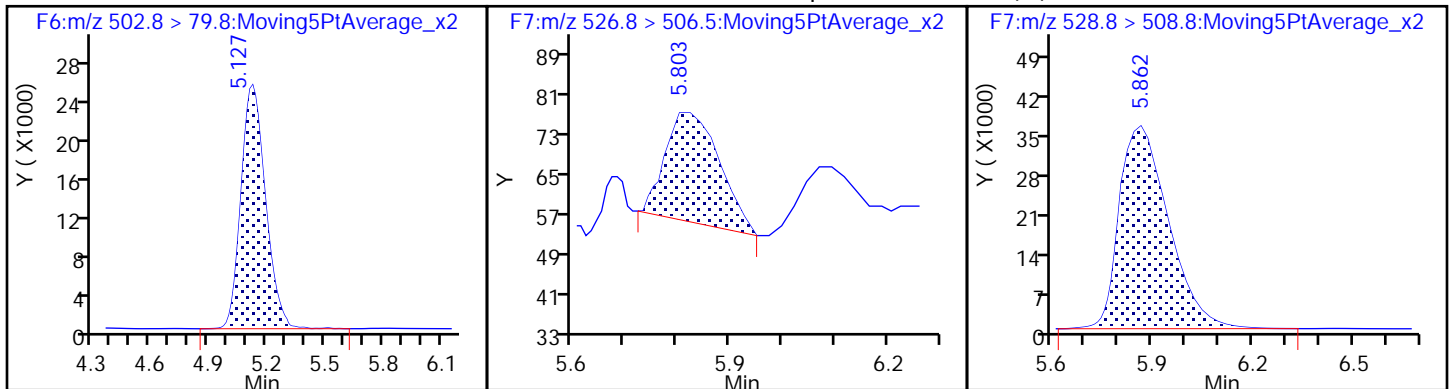
20 Perfluorooctane sulfonic acid (ND)



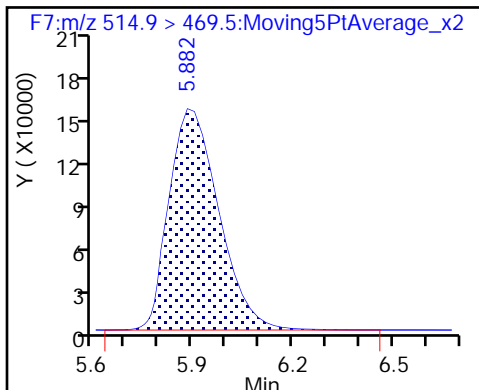
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 13C4 PFOA

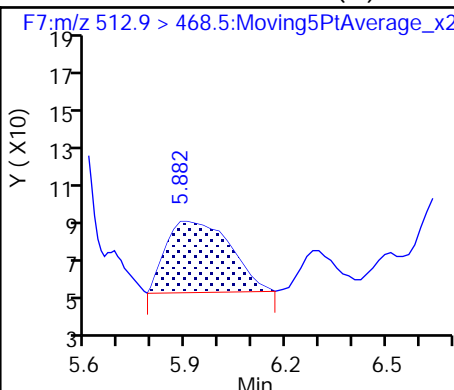
D 23 M2-8:2FTS



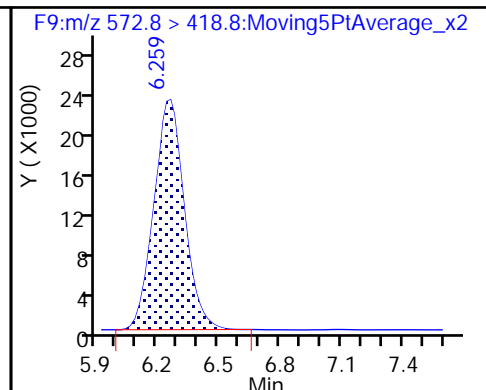
D 25 13C2 PFDA



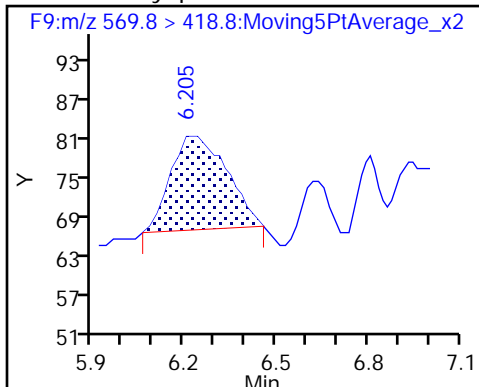
26 Perfluorodecanoic acid (M)



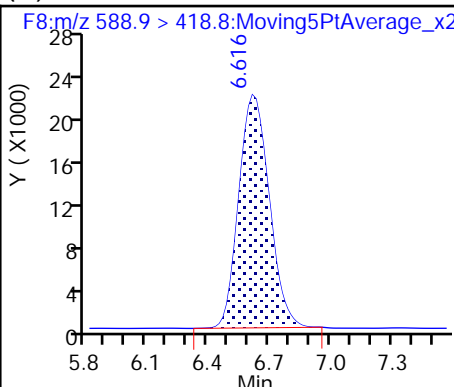
D 27 d3-NMeFOSAA



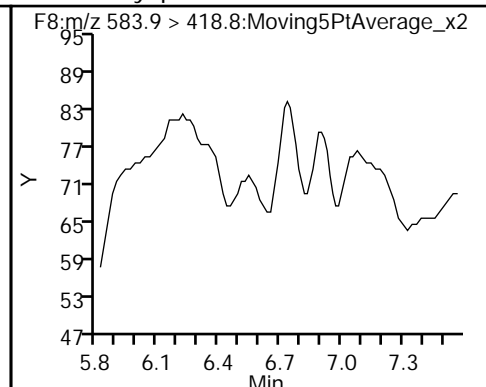
28 N-methyl perfluorooctane sulfonamide (M)



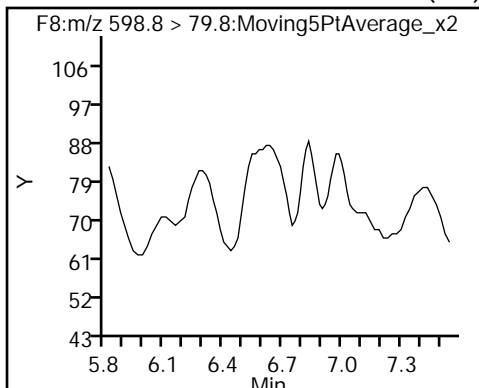
29 d5-NEtFOSAA



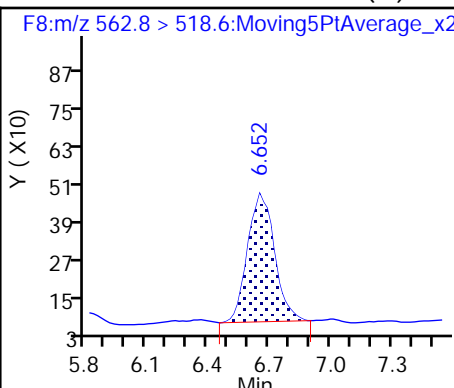
30 N-ethyl perfluorooctane sulfonamide (ND)



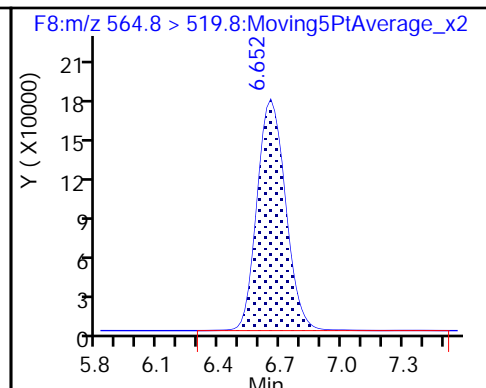
31 Perfluorodecane Sulfonic acid (ND)



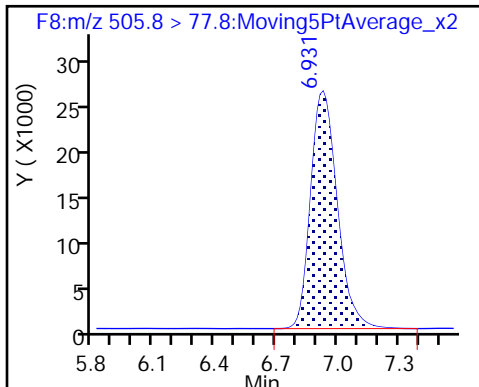
32 Perfluoroundecanoic acid (M)



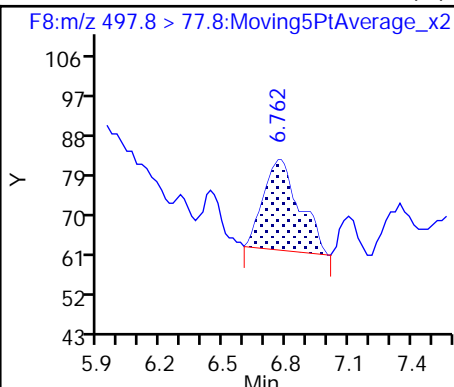
D 33 13C2 PFUnA



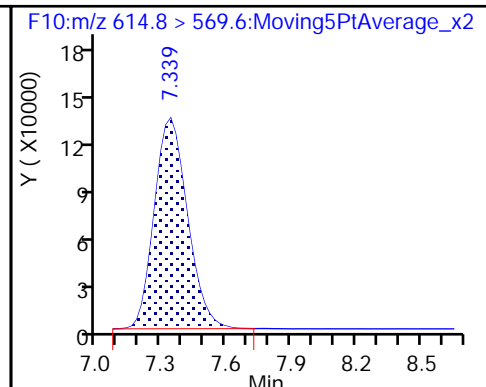
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (M)



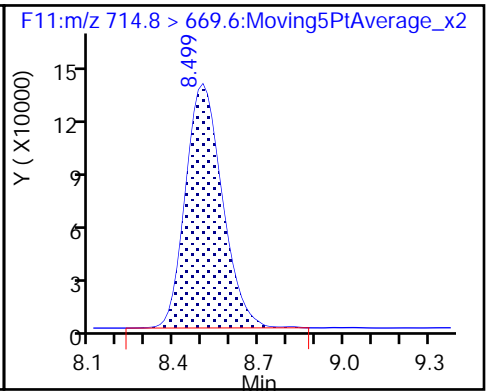
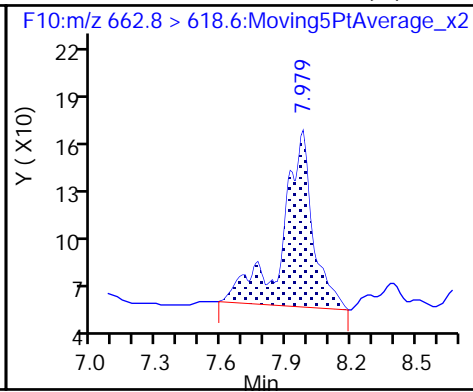
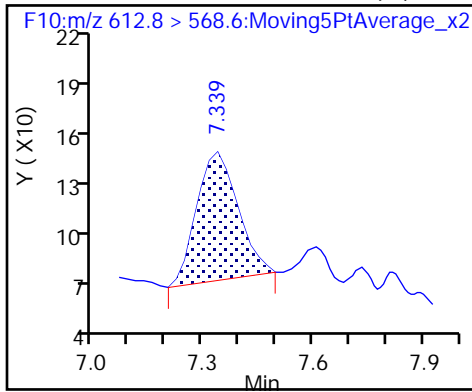
D 36 13C2 PFDoA



37 Perfluorododecanoic acid (M)

40 Perfluorotridecanoic acid (M)

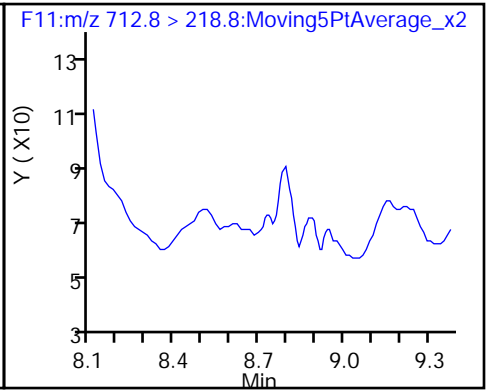
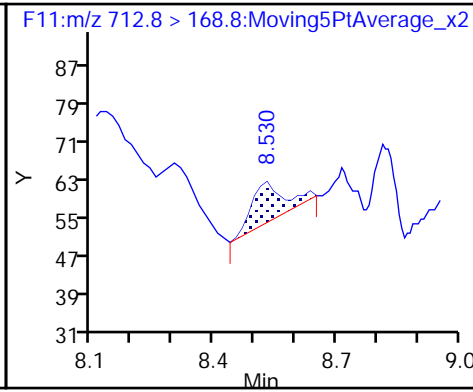
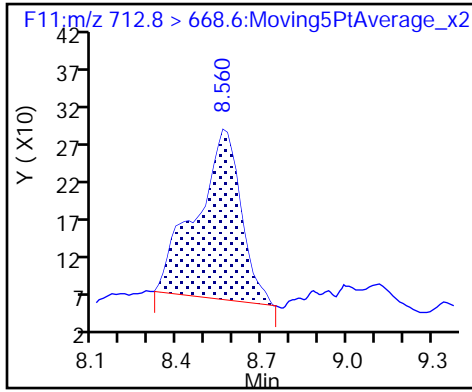
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid



TestAmerica Burlington

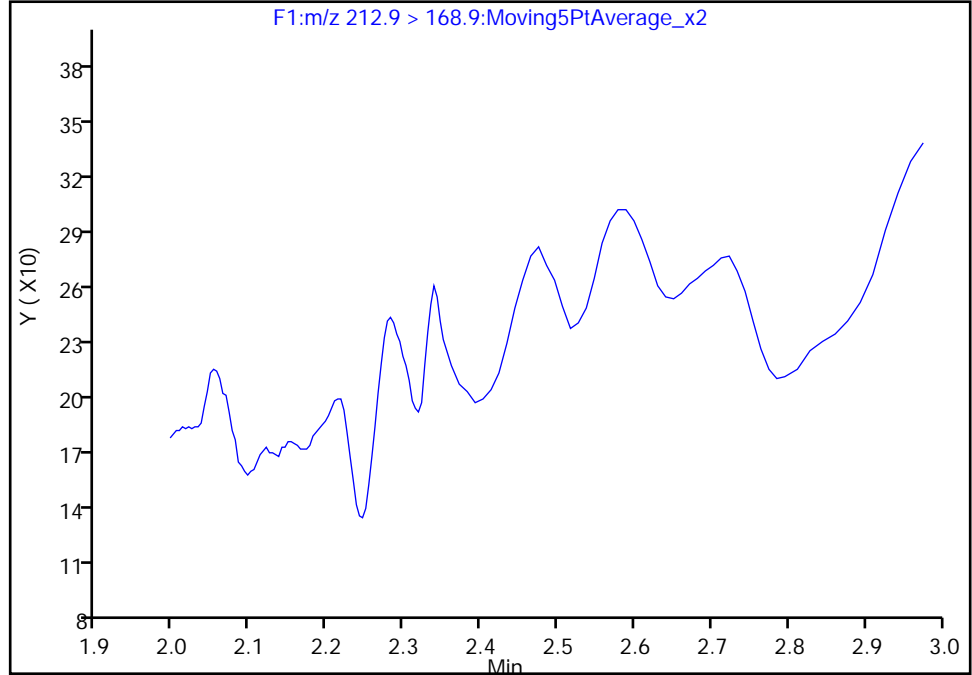
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

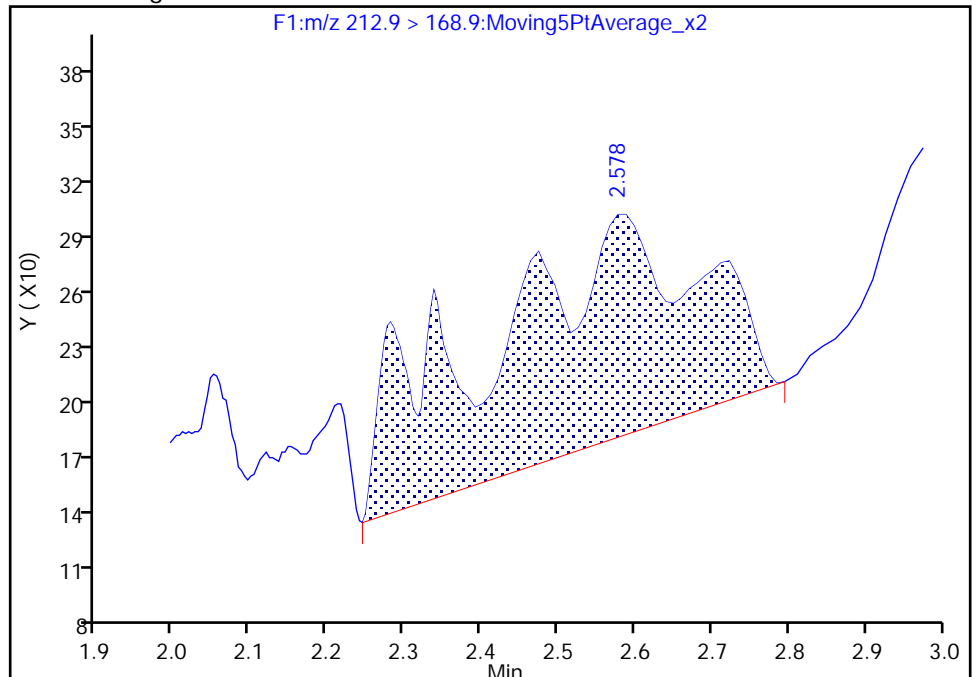
Not Detected  
Expected RT: 2.32

Processing Integration Results



Manual Integration Results

RT: 2.58  
Area: 2351  
Amount: 0.339162  
Amount Units: ng/ml



TestAmerica Burlington

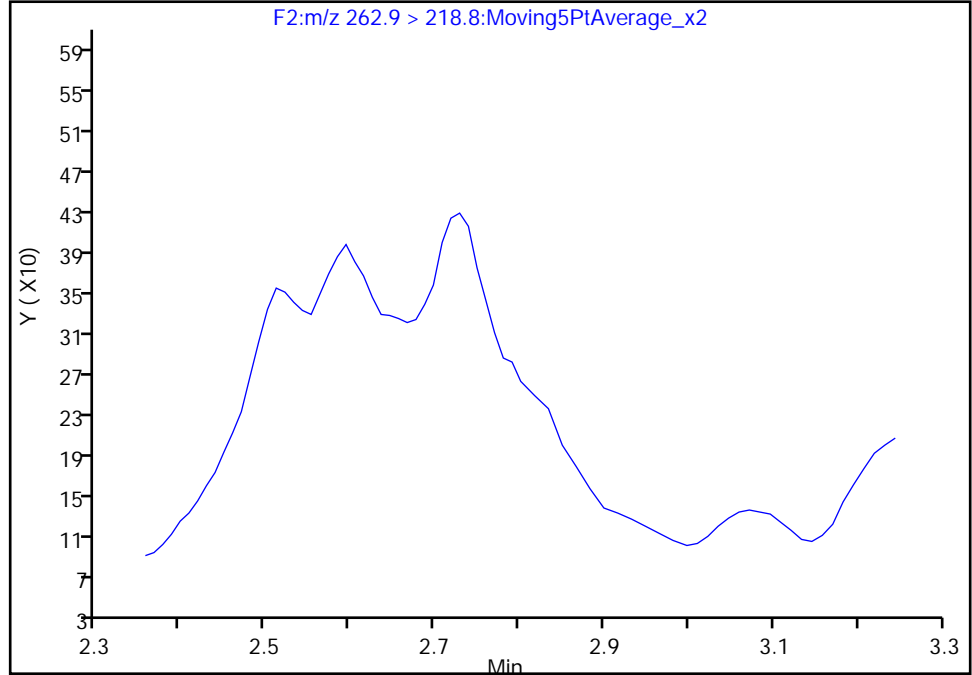
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

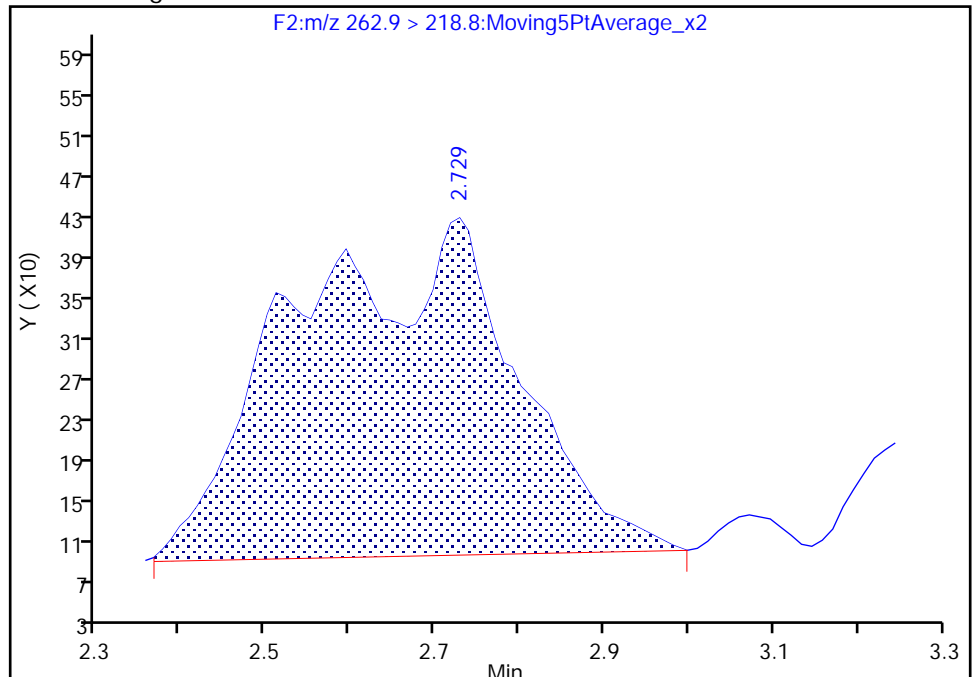
Not Detected  
Expected RT: 2.74

Processing Integration Results



Manual Integration Results

RT: 2.73  
Area: 6076  
Amount: -0.101670  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:00:13  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

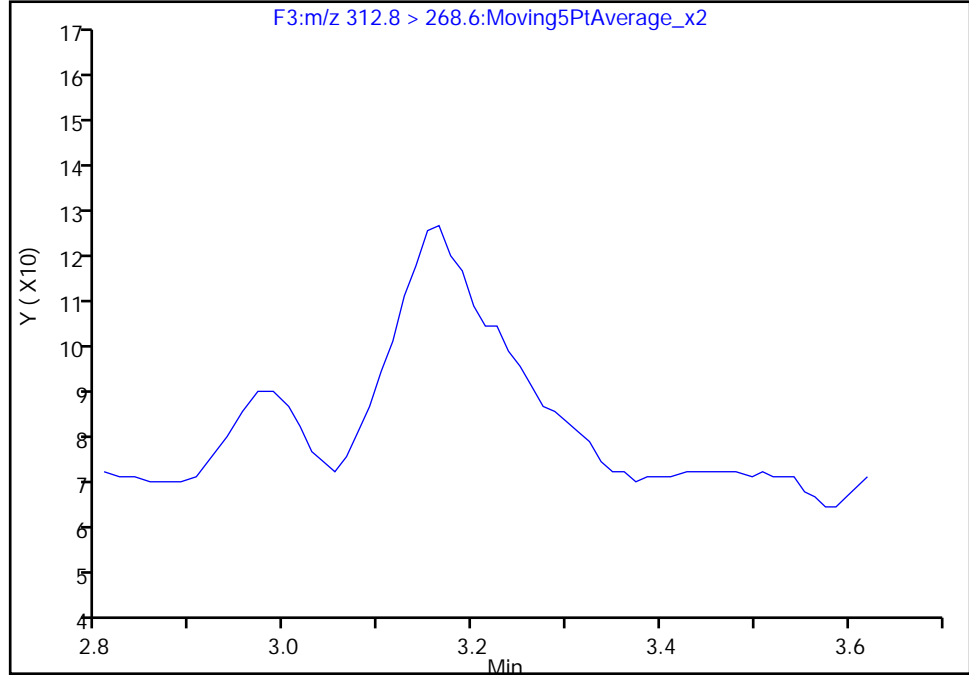
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

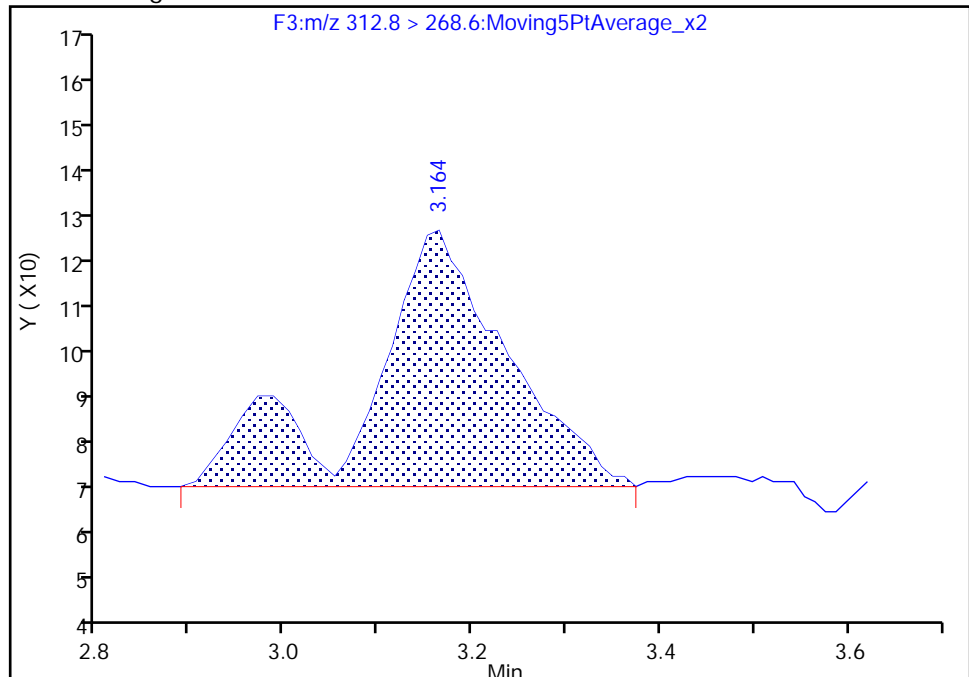
Not Detected  
Expected RT: 3.16

Processing Integration Results



RT: 3.16  
Area: 522  
Amount: 0.103360  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:00:23  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

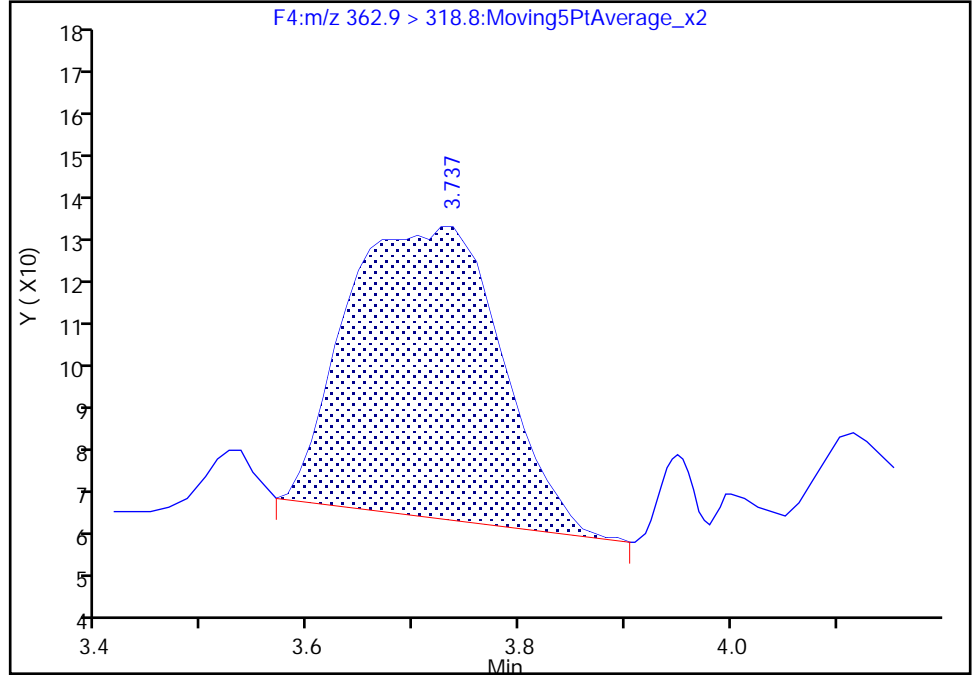
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

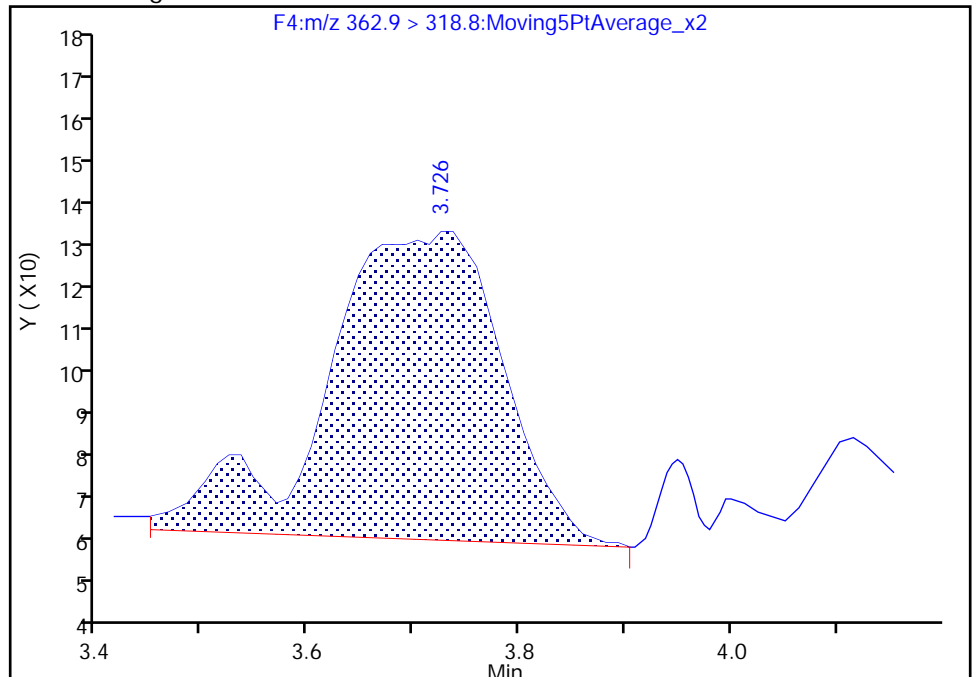
RT: 3.74  
Area: 670  
Amount: 0.076965  
Amount Units: ng/ml

Processing Integration Results



RT: 3.73  
Area: 810  
Amount: 0.083031  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:00:28  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

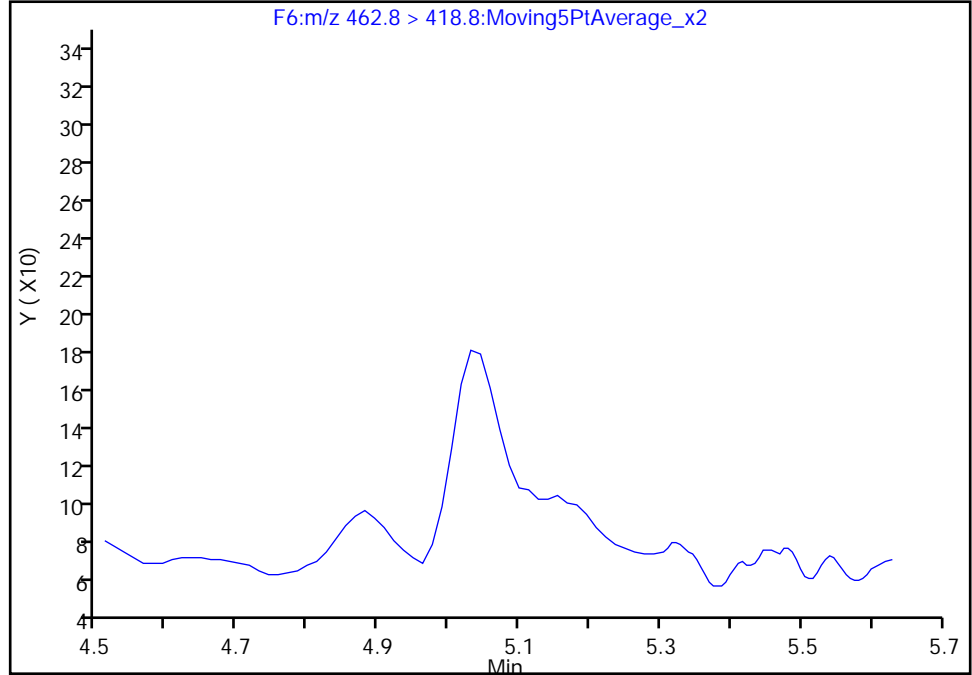
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

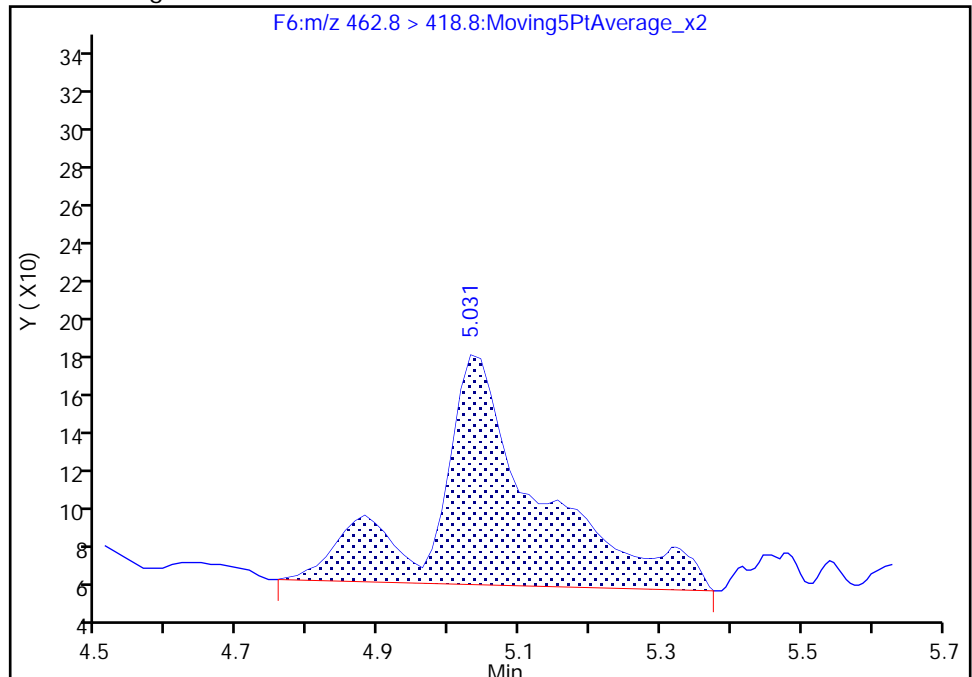
Not Detected  
Expected RT: 5.14

Processing Integration Results



RT: 5.03  
Area: 1269  
Amount: 0.176133  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:00:53  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

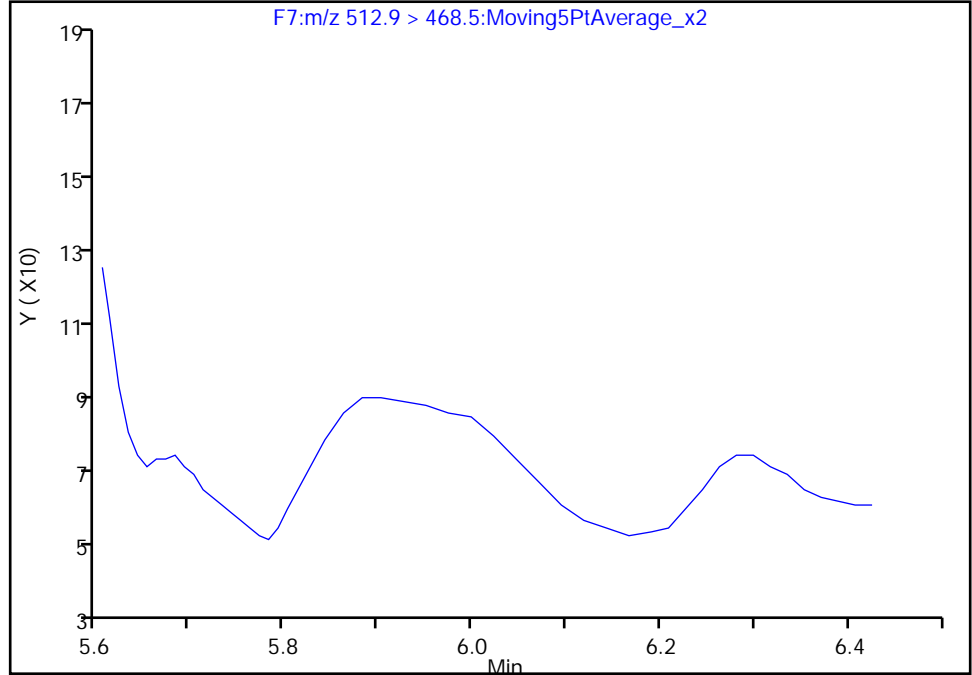
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

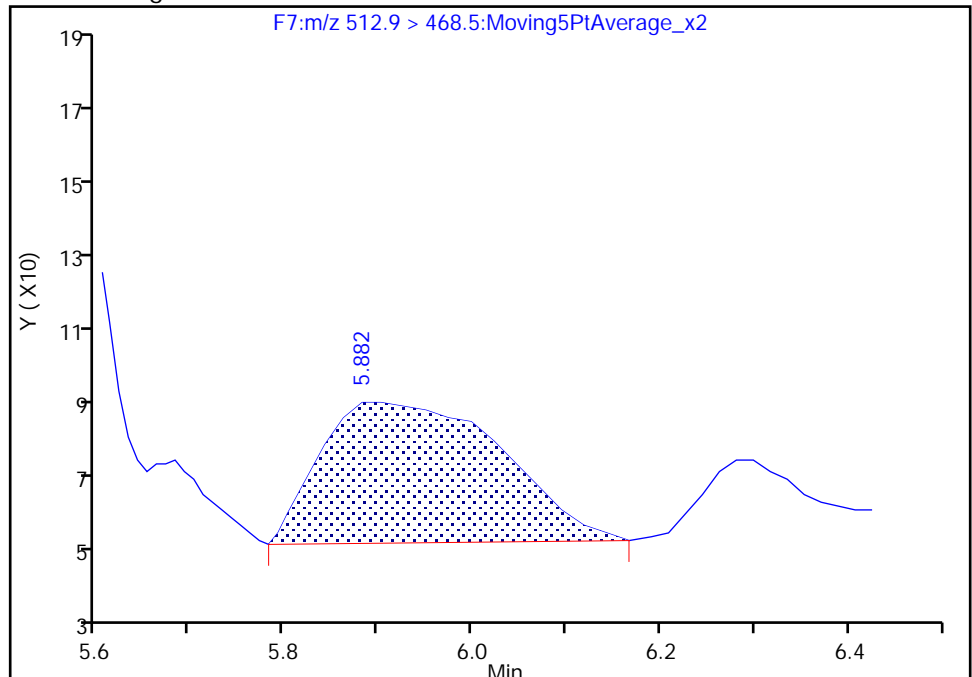
Not Detected  
Expected RT: 5.94

Processing Integration Results



Manual Integration Results

RT: 5.88  
Area: 493  
Amount: -0.082807  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:01:06  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

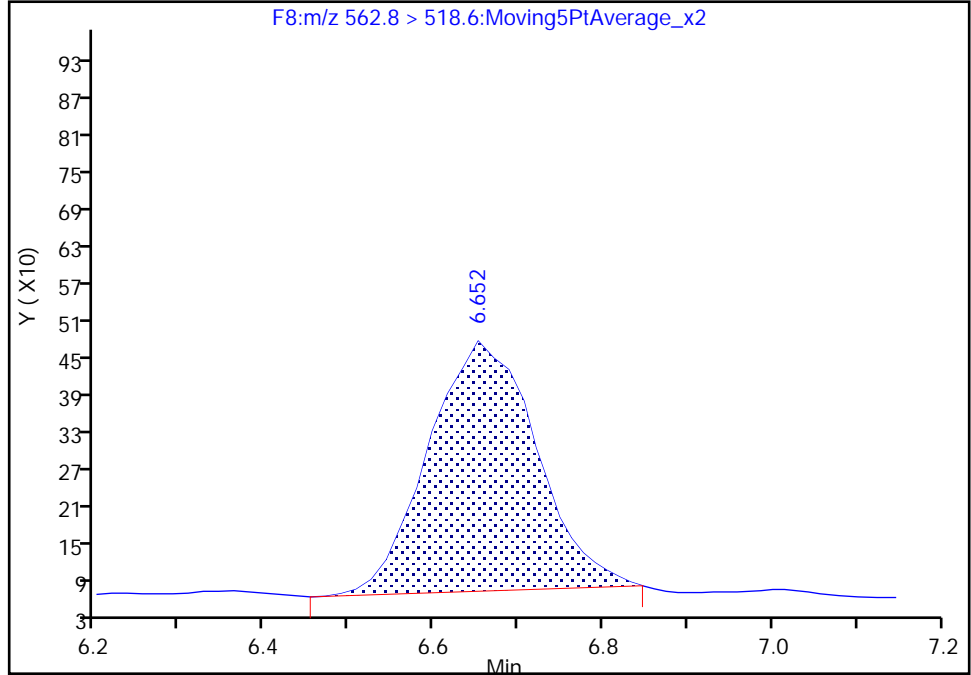
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

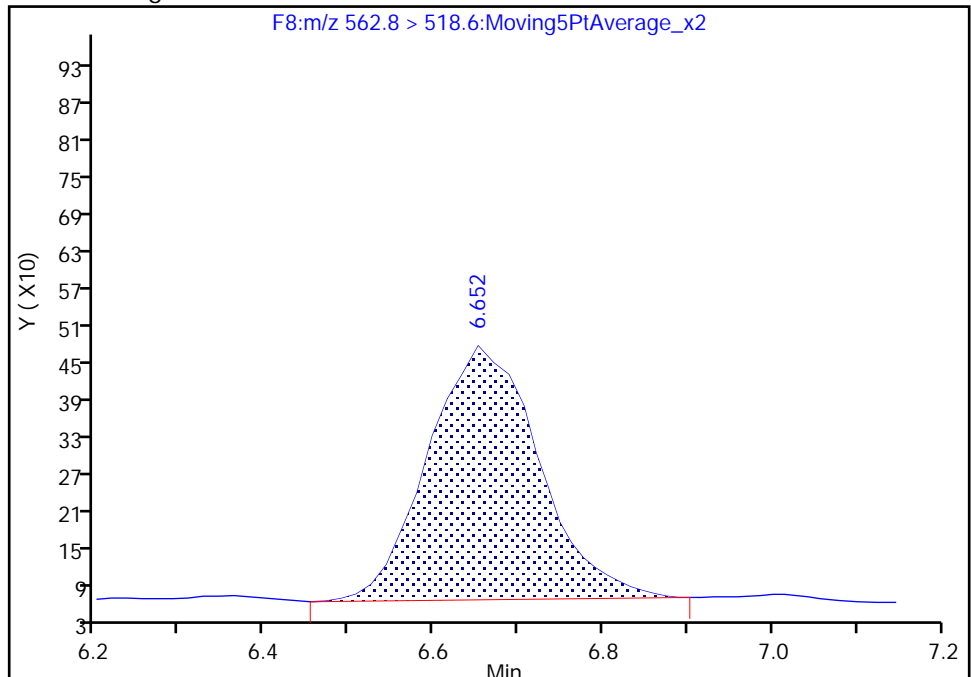
RT: 6.65  
Area: 3579  
Amount: 0.157467  
Amount Units: ng/ml

Processing Integration Results



RT: 6.65  
Area: 3732  
Amount: 0.162165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:01:26  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

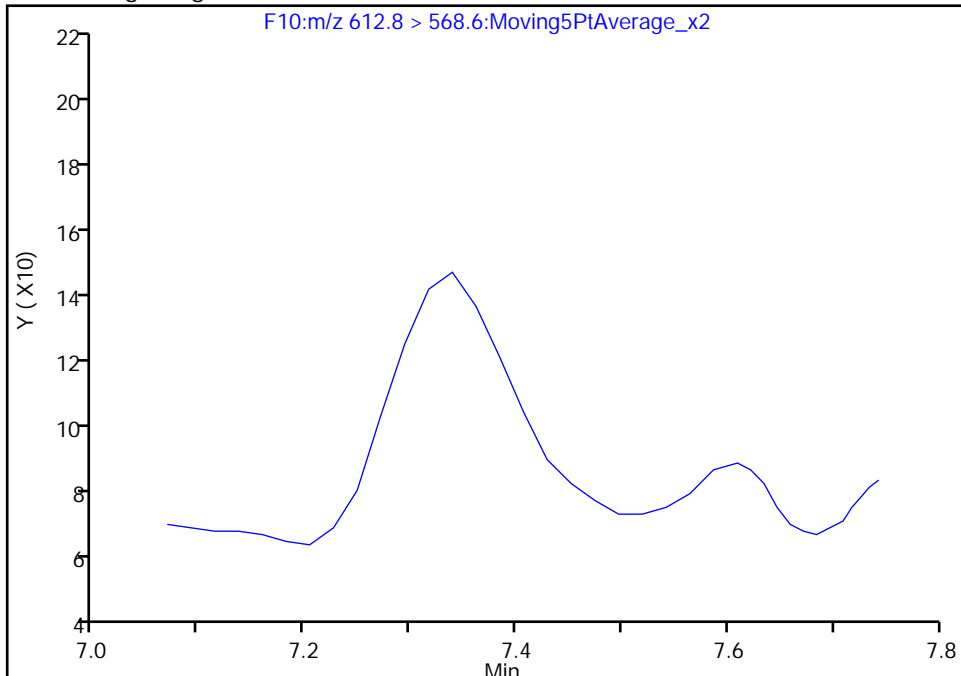
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

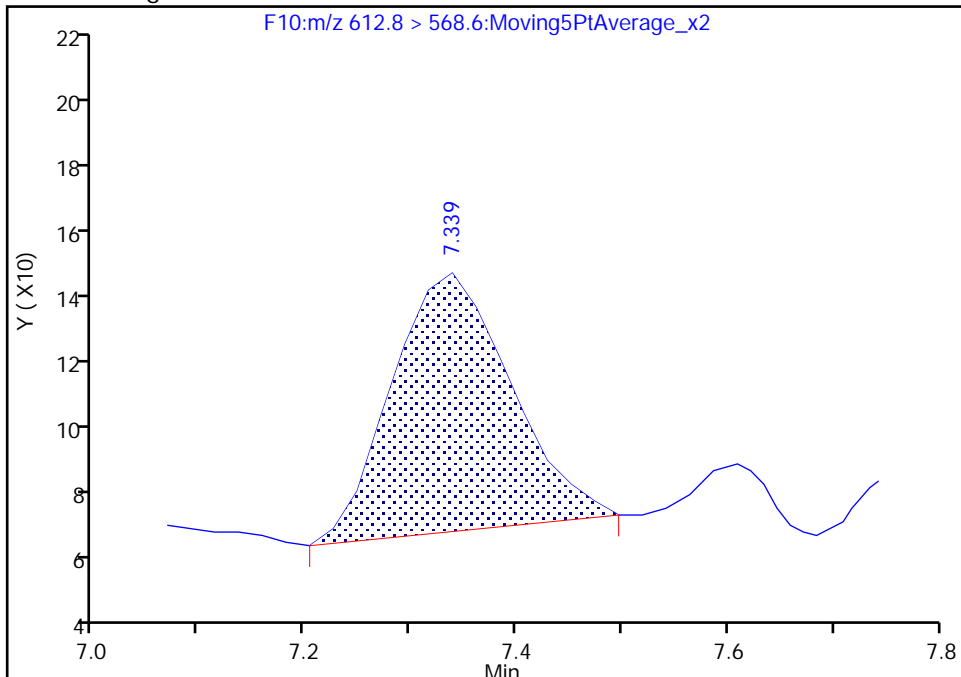
Not Detected  
Expected RT: 7.40

Processing Integration Results



Manual Integration Results

RT: 7.34  
Area: 592  
Amount: -0.001201  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:01:46  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

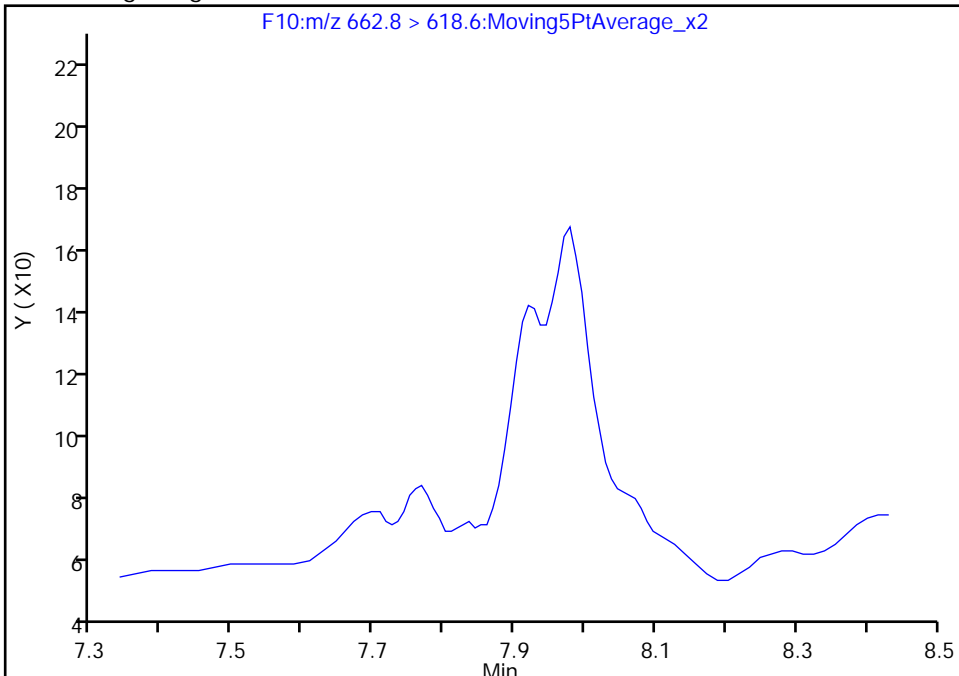
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

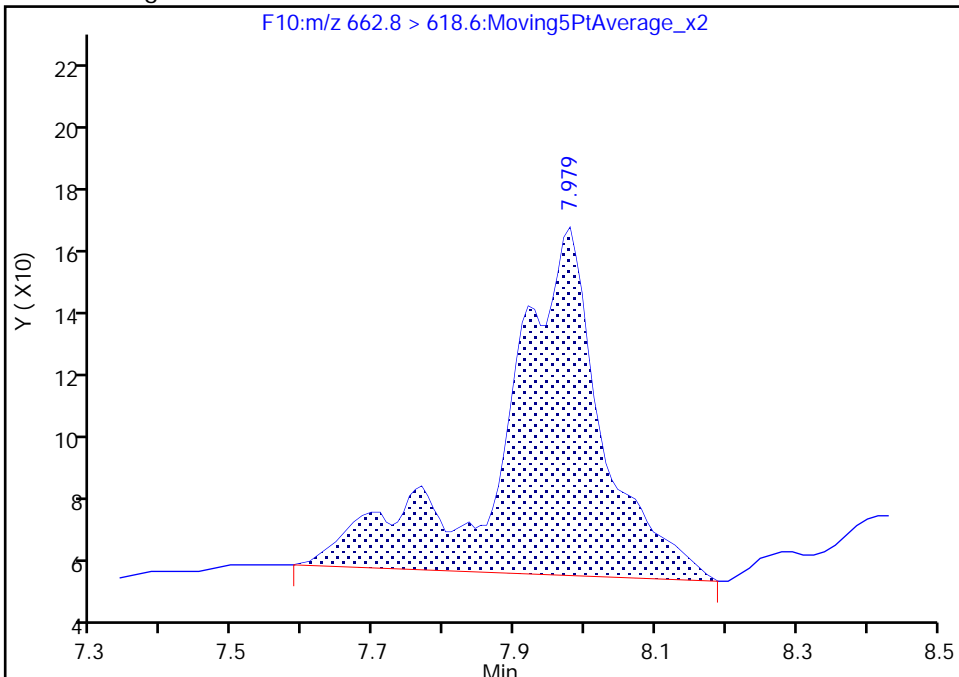
Not Detected  
Expected RT: 8.02

Processing Integration Results



Manual Integration Results

RT: 7.98  
Area: 1034  
Amount: -0.053665  
Amount Units: ng/ml



TestAmerica Burlington

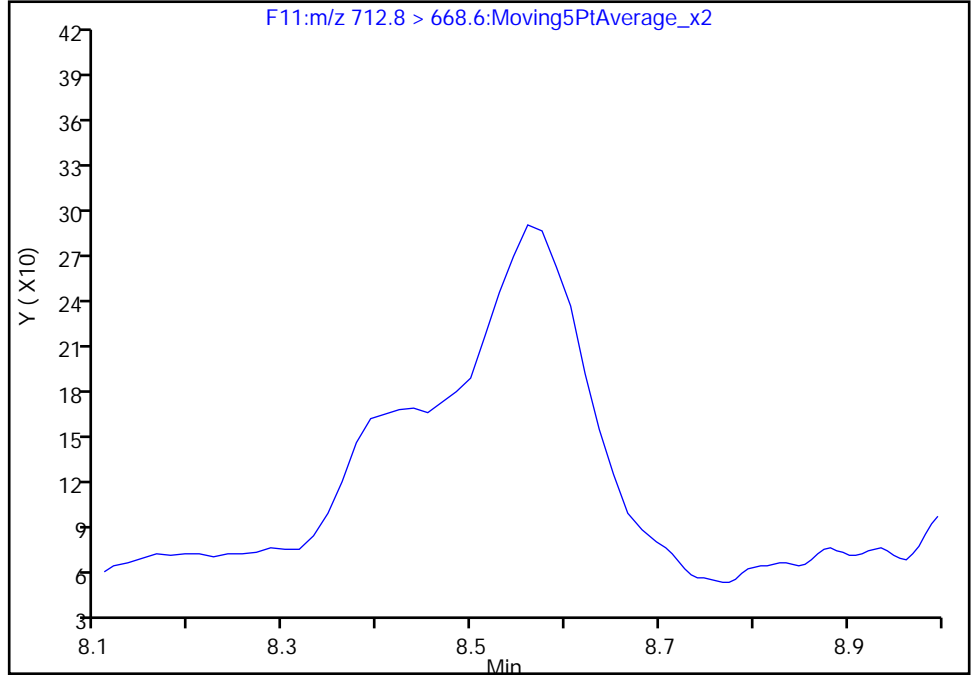
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

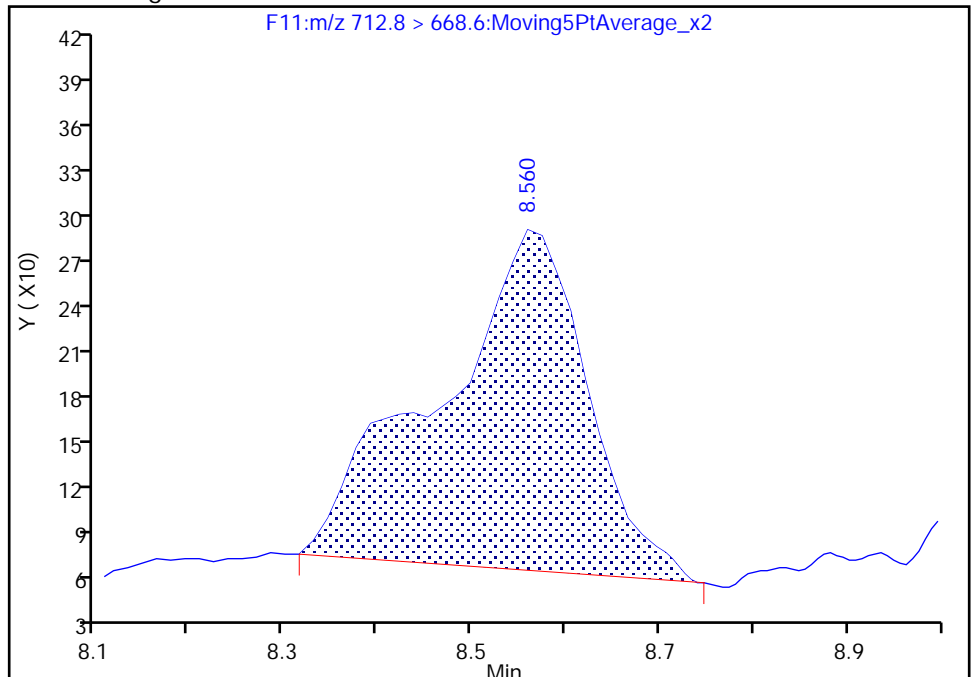
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.56  
Area: 2495  
Amount: -0.047485  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:01:57  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

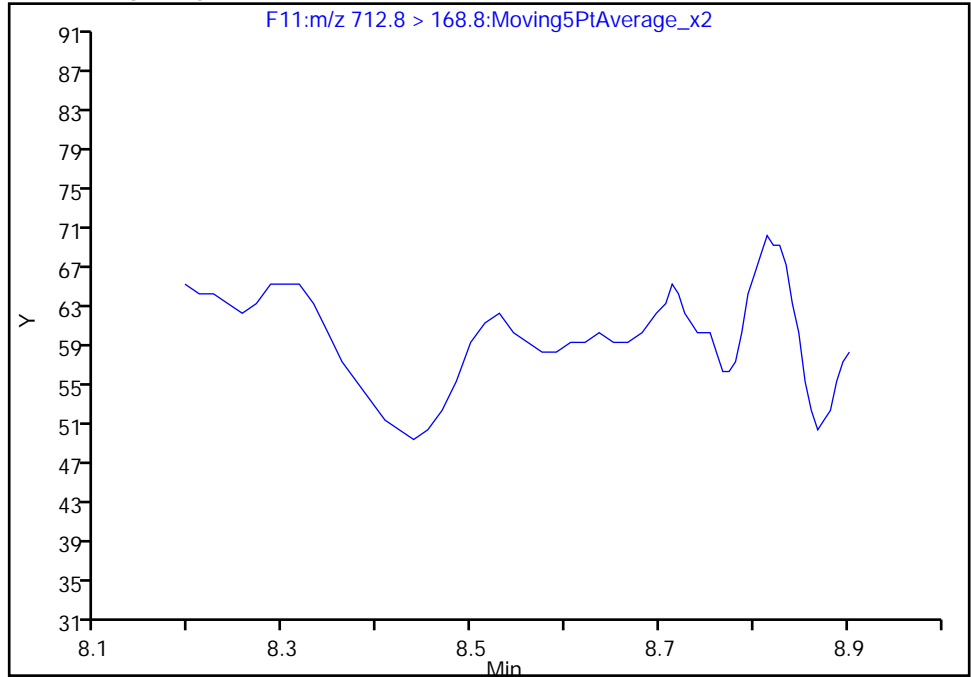
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

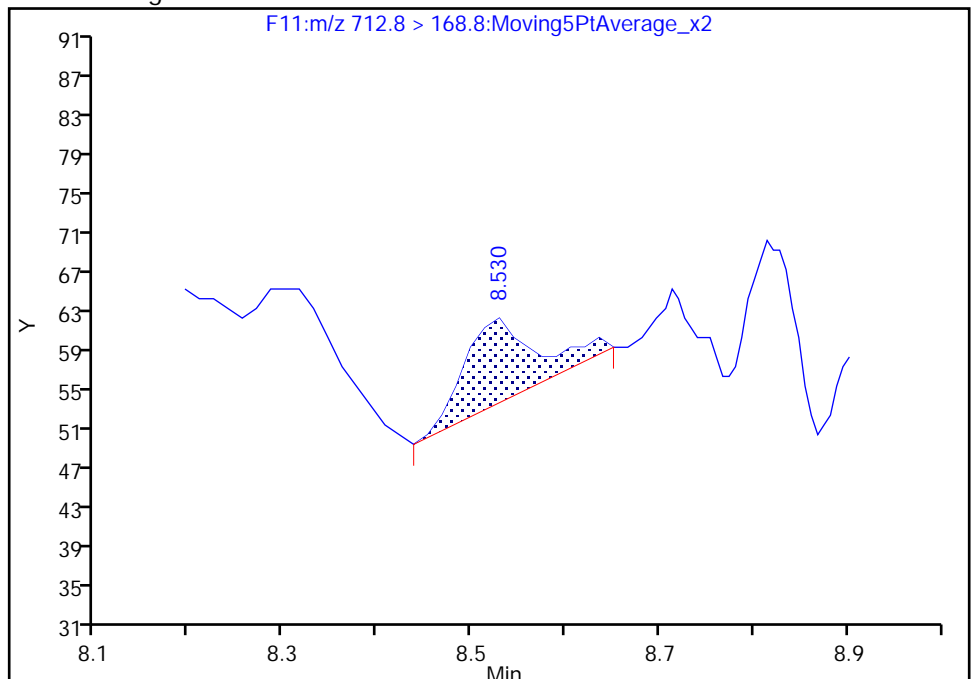
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.53  
Area: 45  
Amount: -0.047485  
Amount Units: ng/ml



TestAmerica Burlington

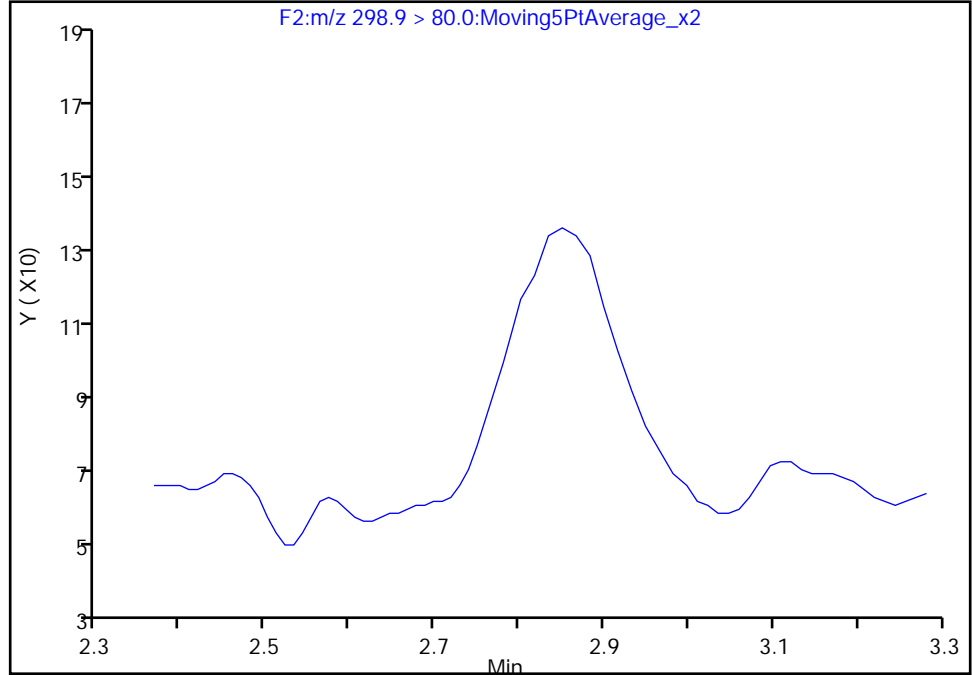
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

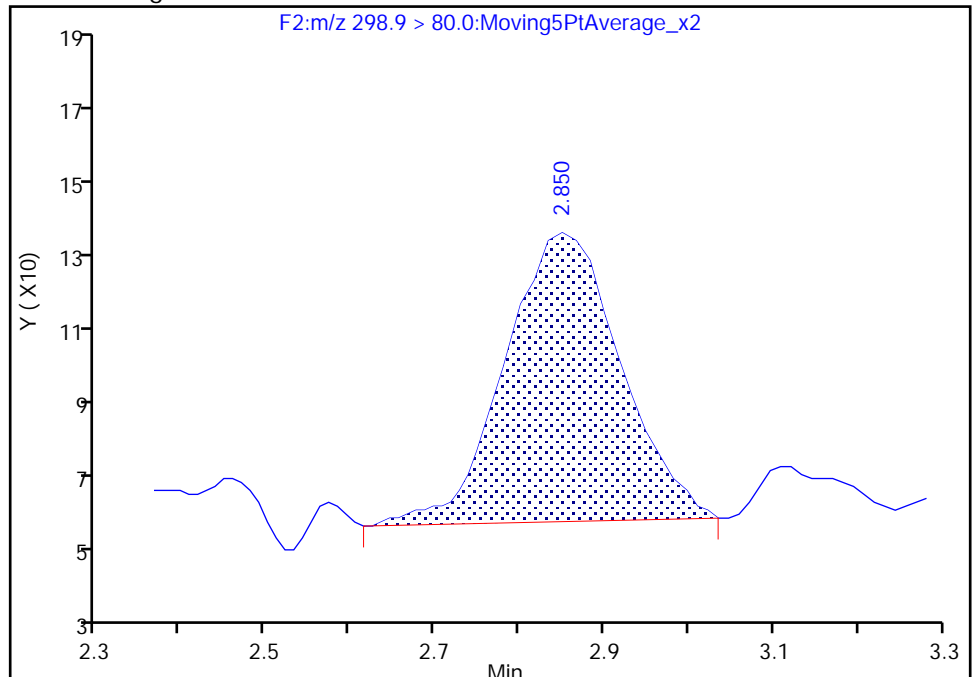
Not Detected  
Expected RT: 2.80

Processing Integration Results



Manual Integration Results

RT: 2.85  
Area: 693  
Amount: 0.238850  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:00:18  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

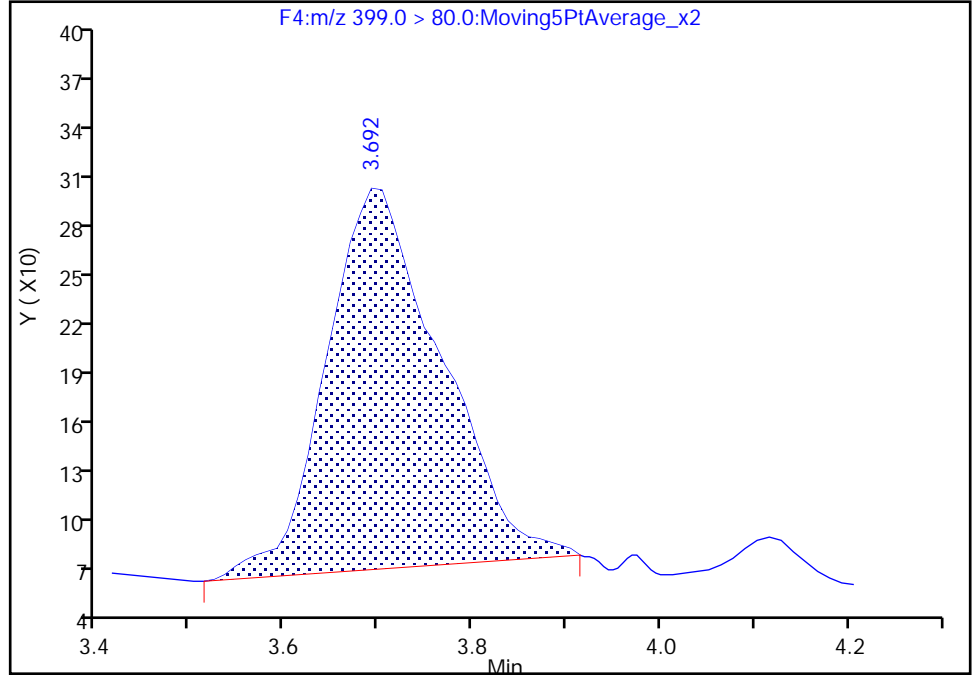
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

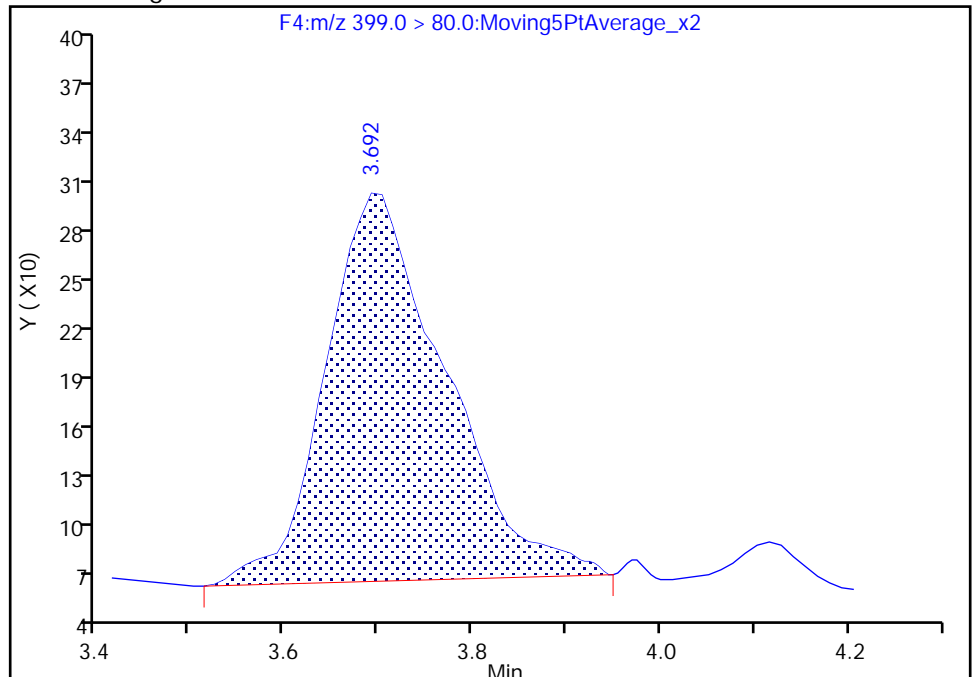
RT: 3.69  
Area: 1973  
Amount: 0.153375  
Amount Units: ng/ml

Processing Integration Results



RT: 3.69  
Area: 2099  
Amount: 0.164964  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:00:33  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

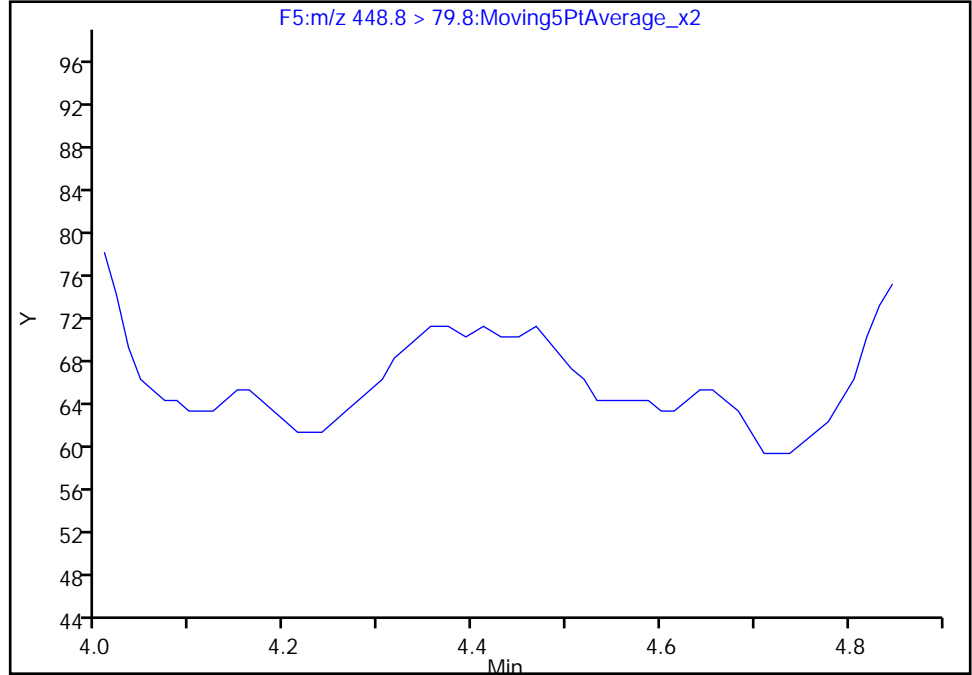
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

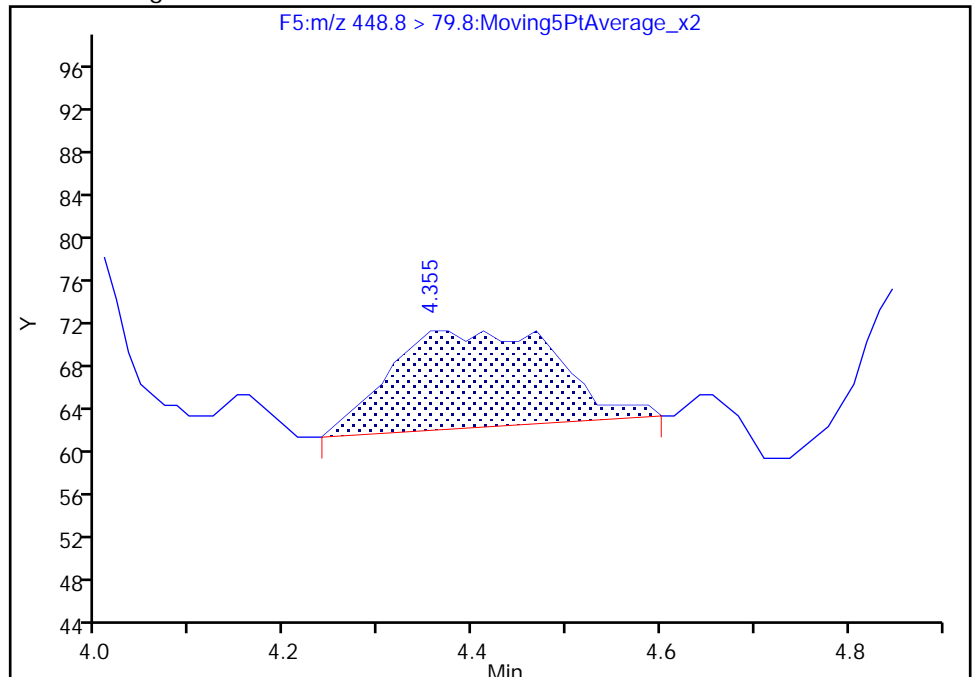
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.36  
Area: 114  
Amount: 0.146041  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:00:47  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

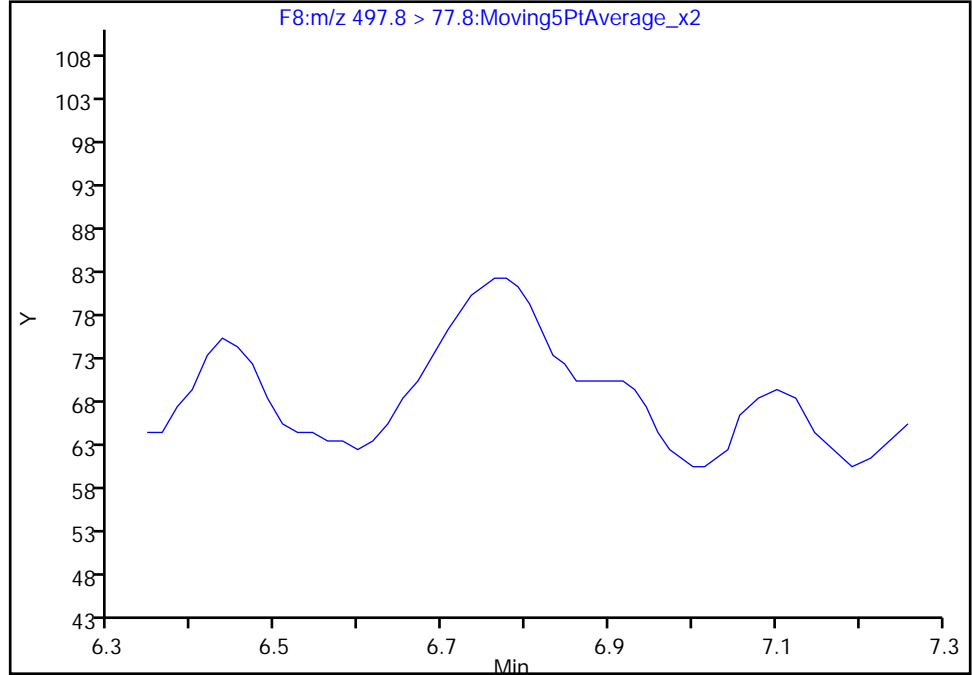
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

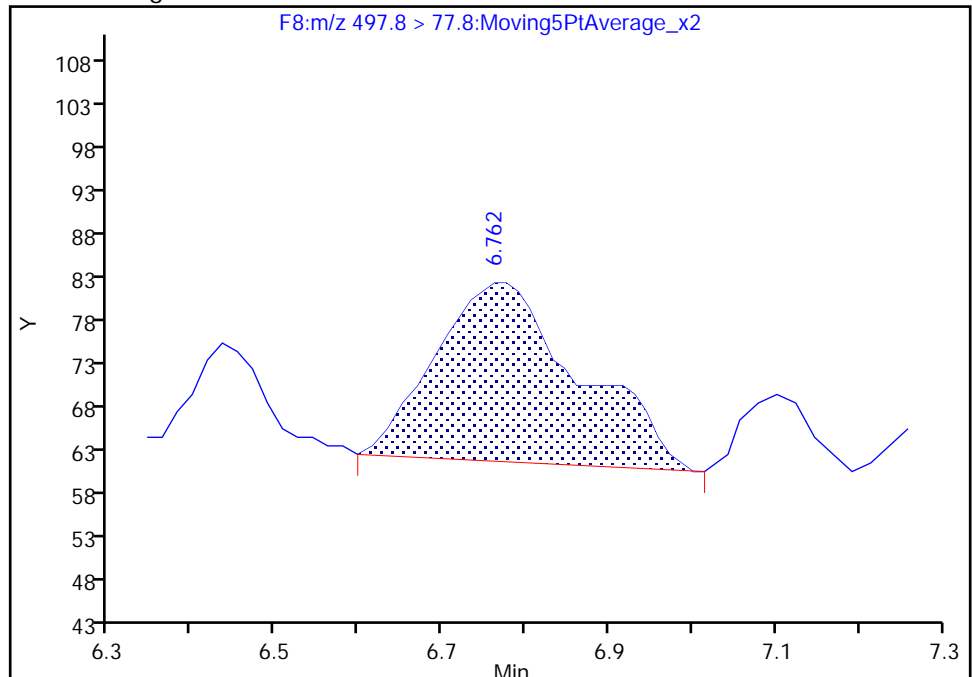
Not Detected  
Expected RT: 6.94

Processing Integration Results



RT: 6.76  
Area: 249  
Amount: 0.123767  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:01:40  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

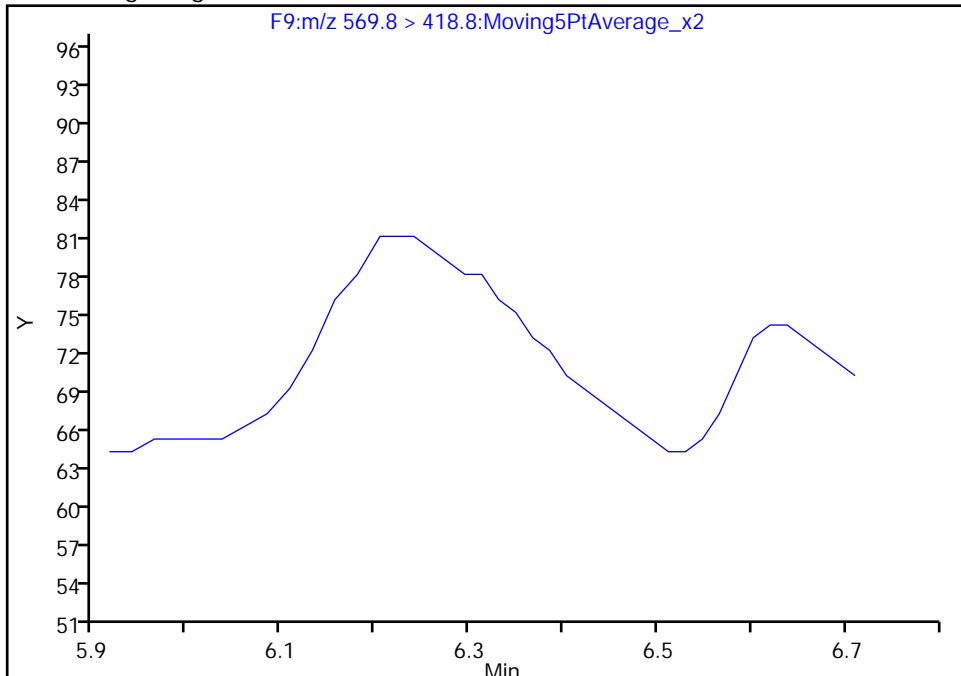
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F9:MRM

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

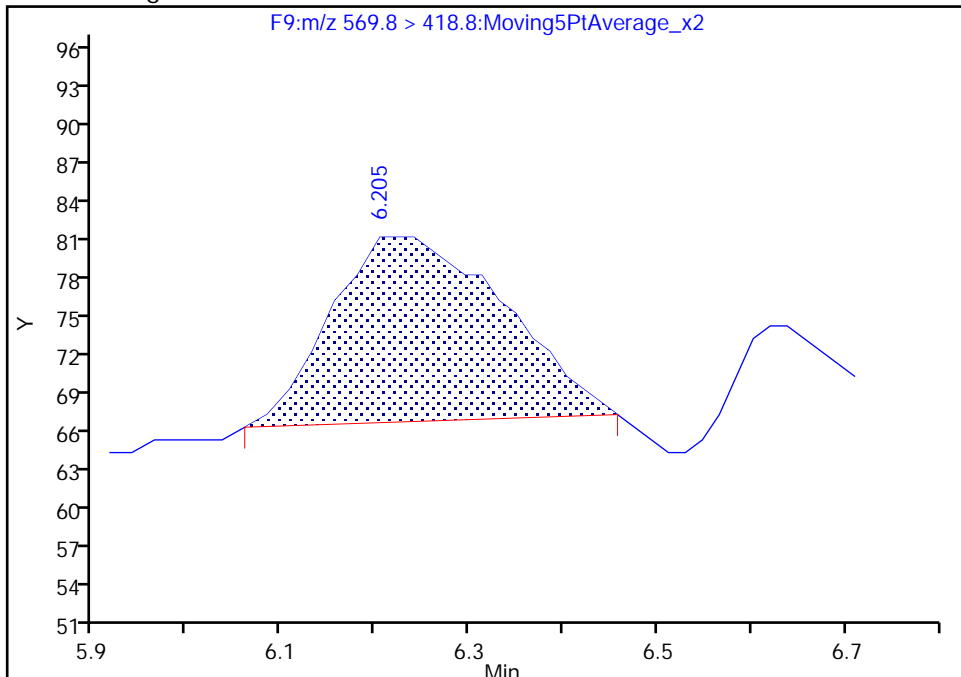
Not Detected  
Expected RT: 6.31

Processing Integration Results



Manual Integration Results

RT: 6.20  
Area: 185  
Amount: 0.074008  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:01:11  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

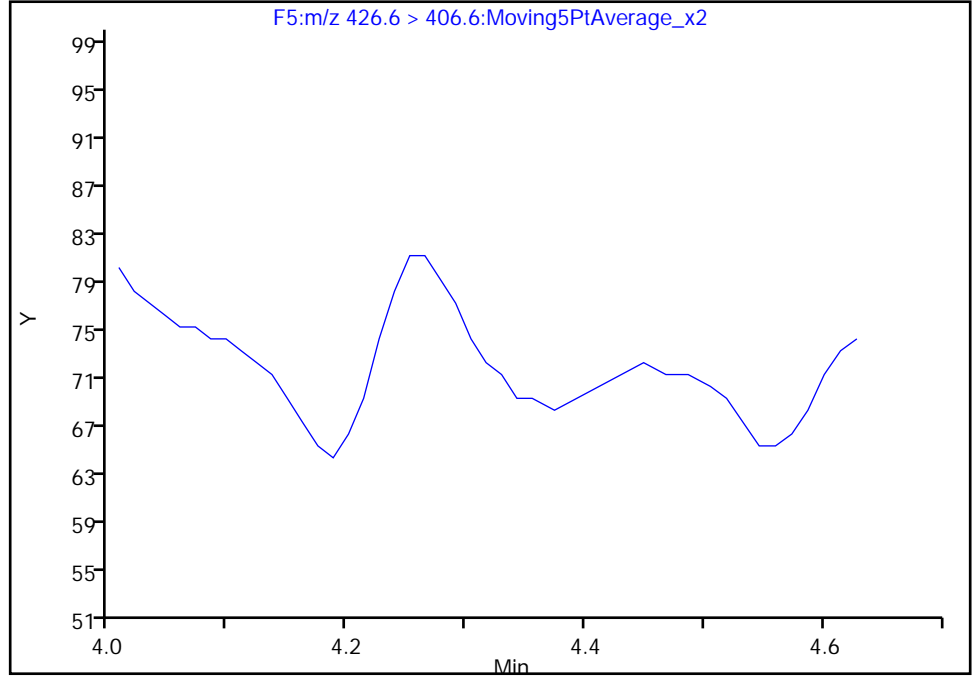
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

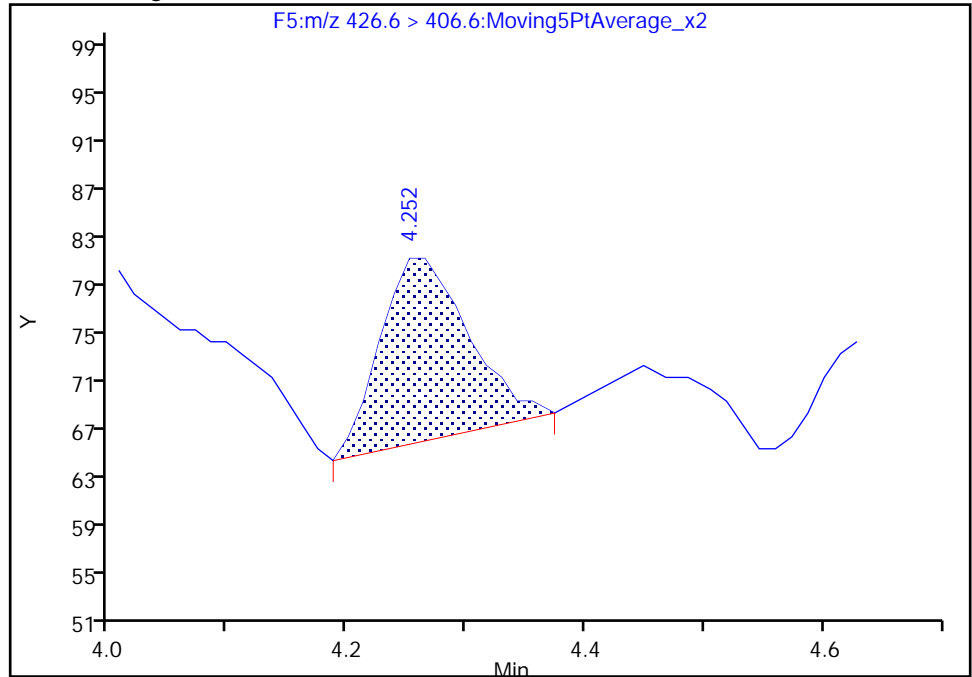
Not Detected  
Expected RT: 4.32

Processing Integration Results



RT: 4.25  
Area: 79  
Amount: 0.051980  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

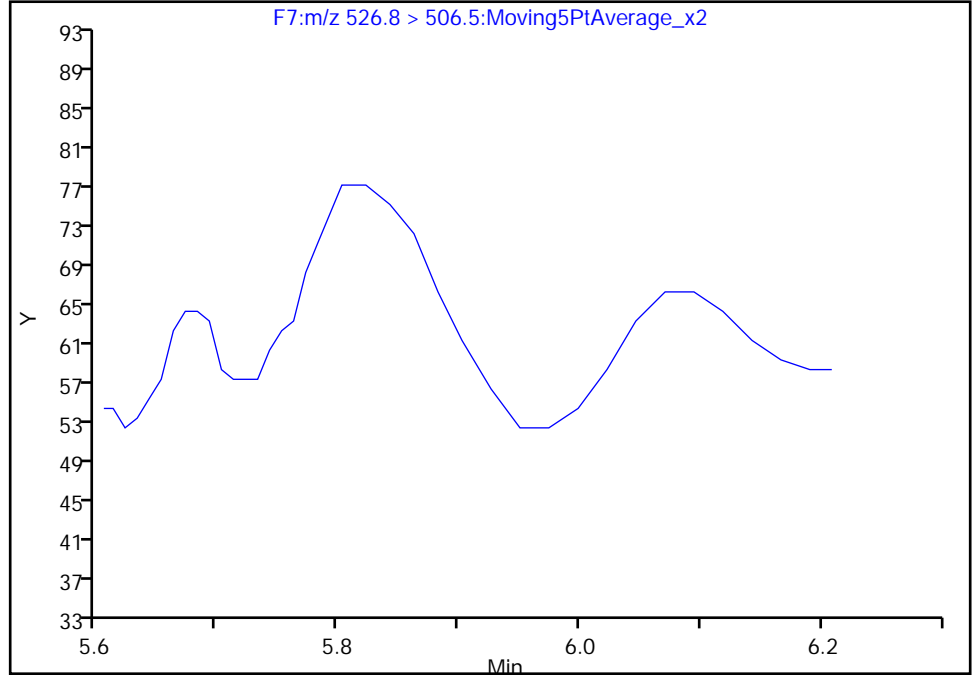
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A32.d  
Injection Date: 21-Apr-2018 19:03:27 Instrument ID: LC410  
Lims ID: 200-43041-B-7-A Lab Sample ID: 200-43041-7  
Client ID: EQUIPMENT BLANK 1  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 32  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

24 Sodium 1H,1H,2H,2H-perfluorodecane sulfonate, CAS: 39108-34-4

Signal: 1

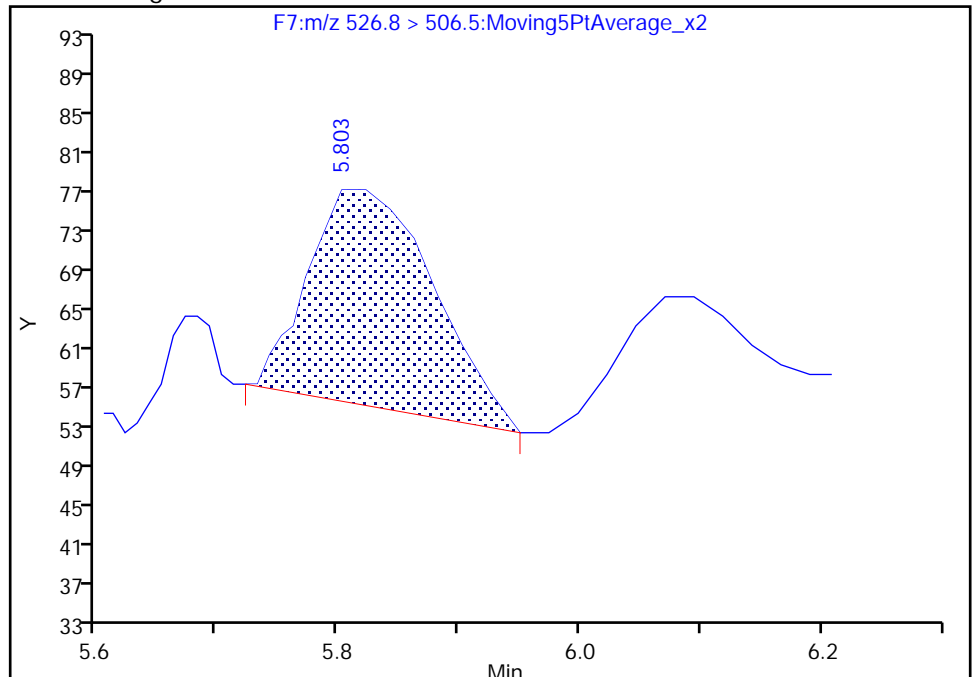
Not Detected  
Expected RT: 5.91

Processing Integration Results



RT: 5.80  
Area: 159  
Amount: 0.027211  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:01:01  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: EQUIPMENT BLANK 2 Lab Sample ID: 200-43041-8  
 Matrix: Water Lab File ID: PF042118A33.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 09:25  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 272.3 (mL) Date Analyzed: 04/21/2018 19:18  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.41	U	1.84	0.41
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.41	U	1.84	0.41
307-24-4	Perfluorohexanoic acid (PFHxA)	0.41	U	1.84	0.41
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.27	U	1.84	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	0.43	U	1.84	0.43
375-95-1	Perfluorononanoic acid (PFNA)	0.30	J	1.84	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	0.41	U	1.84	0.41
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.41	U	1.84	0.41
307-55-1	Perfluorododecanoic acid (PFDoA)	0.41	U	1.84	0.41
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.41	U	1.84	0.41
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.41	U	1.84	0.41
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.81	U	1.84	0.81
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.26	U	1.84	0.26
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.41	U	1.84	0.41
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.41	J	1.84	0.28
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.41	U	1.84	0.41
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.41	U	1.84	0.41
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.55	U	1.84	0.55
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.55	U	1.84	0.55
27619-97-2	6:2FTS	0.55	U	1.84	0.55
39108-34-4	8:2FTS	0.55	U	1.84	0.55

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: EQUIPMENT BLANK 2 Lab Sample ID: 200-43041-8  
 Matrix: Water Lab File ID: PF042118A33.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 09:25  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 272.3 (mL) Date Analyzed: 04/21/2018 19:18  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	47		25-150
STL01893	13C5 PFPeA	106		25-150
STL00993	13C2 PFHxA	96		25-150
STL01892	13C4-PFHpA	96		25-150
STL00990	13C4 PFOA	94		25-150
STL00995	13C5 PFNA	93		25-150
STL00996	13C2 PFDA	85		25-150
STL00997	13C2 PFUnA	85		25-150
STL00998	13C2 PFDoA	74		25-150
STL02116	13C2-PFTeDA	62		25-150
STL02337	13C3-PFBS	89		25-150
STL00994	18O2 PFHxS	84		25-150
STL00991	13C4 PFOS	82		25-150
STL01056	13C8 FOSA	51		25-150
STL02118	d3-NMeFOSAA	69		25-150
STL02117	d5-NEtFOSAA	72		25-150
STL02279	M2-6:2FTS	105		25-150
STL02280	M2-8:2FTS	84		25-150



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
 Lims ID: 200-43041-B-8-A  
 Client ID: EQUIPMENT BLANK 2  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 19:18:29 ALS Bottle#: 0 Worklist Smp#: 33  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-033 8  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:20:49 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICAL File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb

Date: 23-Apr-2018 16:04:37

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.286	2.319	-0.033	1.000	265766	23.5	47.1	147	M
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	145388	53.2	106	1411	
4 Perfluoropentanoic acid	262.9 > 218.8	2.688	2.738	-0.050	0.985	5003	-0.1367		9.1	M
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	237223	41.5	89.3	830	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.801	2.804	-0.003	1.004	593	0.2299		4.9	M
D 7 13C2 PFHxA	314.8 > 269.6	3.140	3.158	-0.018	1.000	445921	48.0	96.0	2711	
8 Perfluorohexanoic acid	312.8 > 268.6	3.115	3.162	-0.047	0.992	313	0.0844		2.1	M
D 10 13C4-PFHpA	366.9 > 321.8	3.659	3.689	-0.030	1.000	1091937	48.0	96.1	1273	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.648	3.689	-0.041	0.997	815	0.0837		9.1	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.703	3.733	-0.030	1.000	1462	0.1239		14.5	
D 13 18O2 PFHxS	402.9 > 83.8	3.703	3.737	-0.034	1.000	254175	39.8	84.1	584	
D 14 M2-6:2FTS	428.6 > 408.6	4.278	4.319	-0.041	1.000	60930	50.0	105	364	
D 17 13C4 PFOA	416.9 > 371.8	4.342	4.365	-0.023	1.000	984474	47.1	94.2	5793	
* 49 13C2-PFOA	414.9 > 369.8	4.330	4.371	-0.041		1233712	50.0		11440	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.355	4.374	-0.019	1.003	2669	0.1124			15.7	M
19 Perfluorononanoic acid										M
462.8 > 418.8	4.935	5.143	-0.208	0.968	853	0.1627			3.9	M
D 21 13C5 PFNA										
467.8 > 422.8	5.099	5.145	-0.046	1.000	1180256	46.4		92.7	2234	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.154	5.168	-0.014	1.005	379	0.2253			1.8	M
D 22 13C4 PFOS										
502.8 > 79.8	5.127	5.168	-0.041	1.000	205232	39.0		81.6	1054	
24 Sodium 1H,1H,2H,2H-perfluorodecane										M
526.8 > 506.5	5.843	5.910	-0.067	0.997	154	0.0320			1.2	M
D 23 M2-8:2FTS										
528.8 > 508.8	5.862	5.910	-0.048	1.000	305889	40.0		83.5	1088	
D 25 13C2 PFDA										
514.9 > 469.5	5.882	5.934	-0.052	1.000	1439621	42.5		85.0	5041	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.950	5.938	0.012	1.012	595	-0.0776			2.0	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.241	6.298	-0.057	1.000	263682	34.6		69.2	1459	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.241	6.310	-0.069	1.000	462	0.1185			0.7	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.616	6.667	-0.051	1.000	240159	36.2		72.4	1230	
31 Perfluorodecane Sulfonic acid										M
598.8 > 79.8	6.861	6.699	0.162	1.338	311	0.1049			2.8	M
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.616	6.711	-0.095	0.997	2592	0.1335			13.8	
D 33 13C2 PFUnA										
564.8 > 519.8	6.634	6.713	-0.079	1.000	1583475	42.7		85.4	4343	
D 35 13C8 FOSA										
505.8 > 77.8	6.917	6.938	-0.021	1.000	226221	25.3		50.7	1786	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	6.903	6.940	-0.037	0.998	142	0.0997			2.9	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.339	7.392	-0.053	1.000	1393656	36.9		73.8	1888	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.339	7.399	-0.060	1.000	740	0.004324			5.8	M
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.928	8.022	-0.094	1.080	374	-0.0801			5.0	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.499	8.572	-0.073	1.000	1108996	31.1		62.2	1455	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.514	8.572	-0.058	1.002	1971	-0.0602			10.8	M
712.8 > 168.8	8.499	8.572	-0.073	1.000	466		4.23(0.00-0.00)		6.9	M
712.8 > 218.8	8.499	8.572	-0.073	1.000	73		27.00(0.00-0.00)		1.1	M

## QC Flag Legend

### Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d

Injection Date: 21-Apr-2018 19:18:29

Instrument ID: LC410

Lims ID: 200-43041-B-8-A

Lab Sample ID: 200-43041-8

Client ID: EQUIPMENT BLANK 2

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 33

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

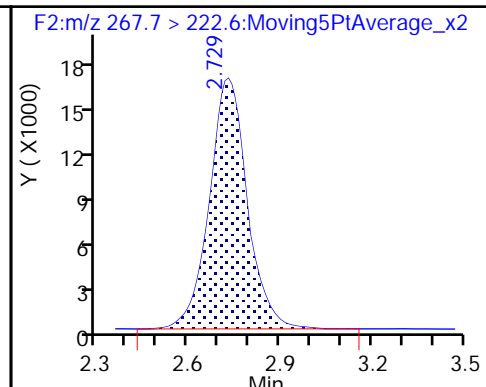
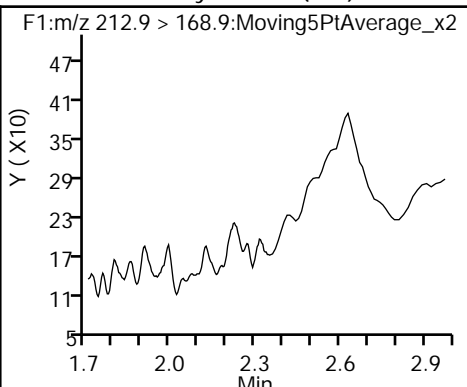
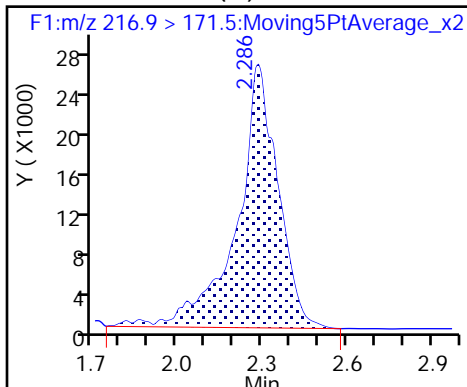
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (ND)

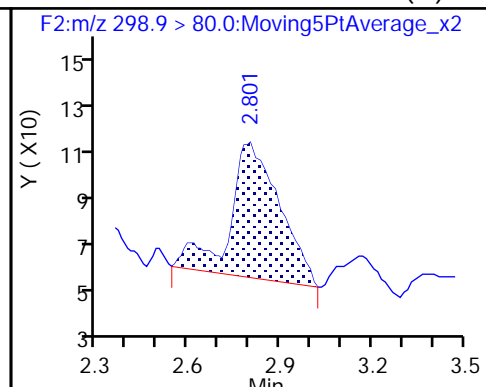
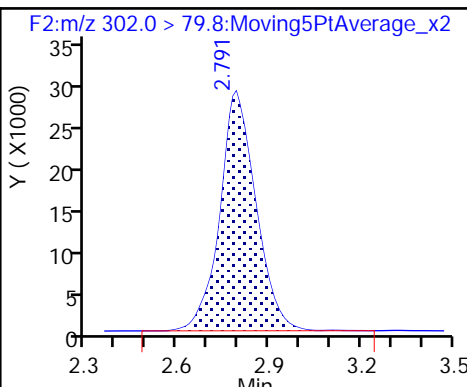
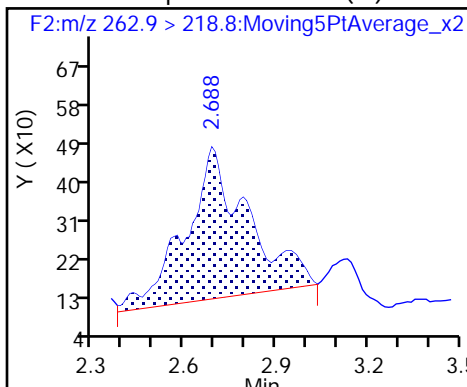
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

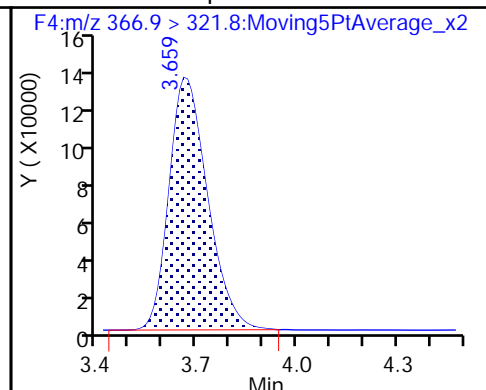
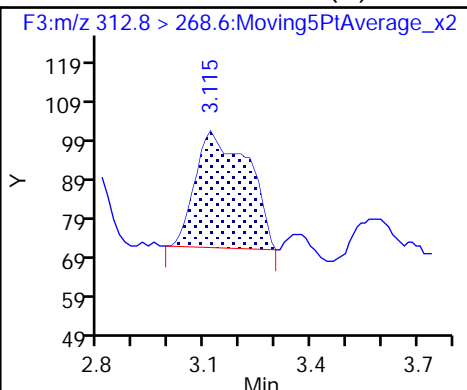
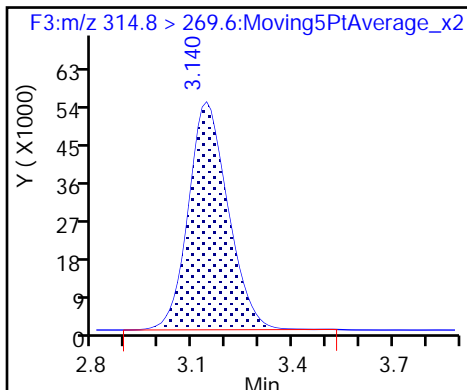
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

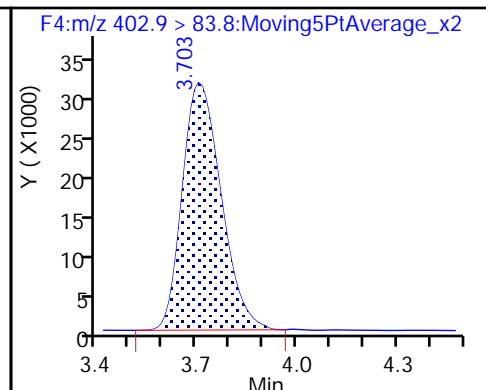
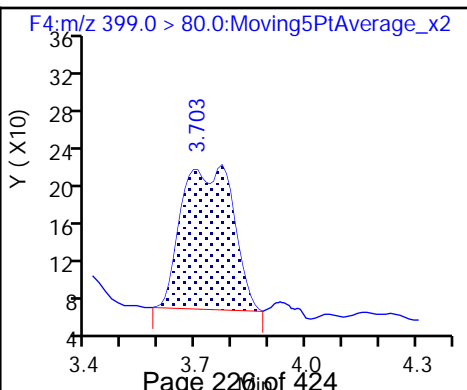
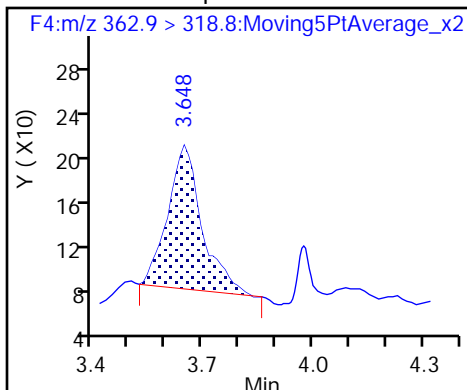
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

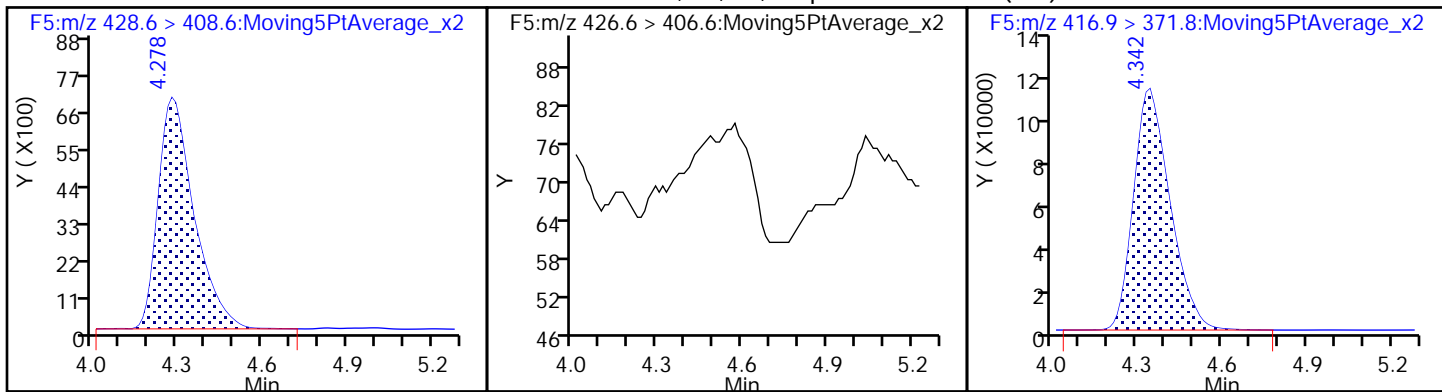
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



D 14 M2-6:2FTS

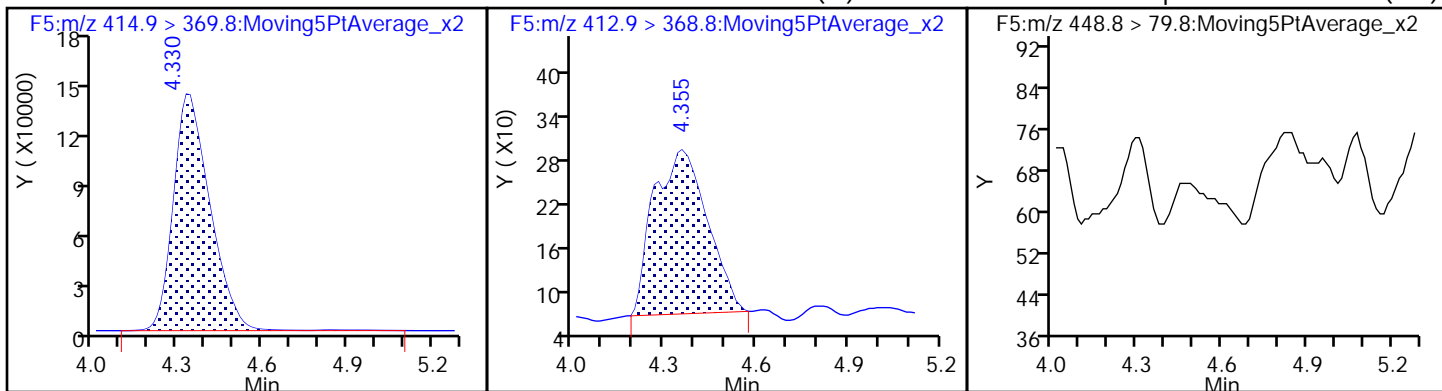
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (ND) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid (M)

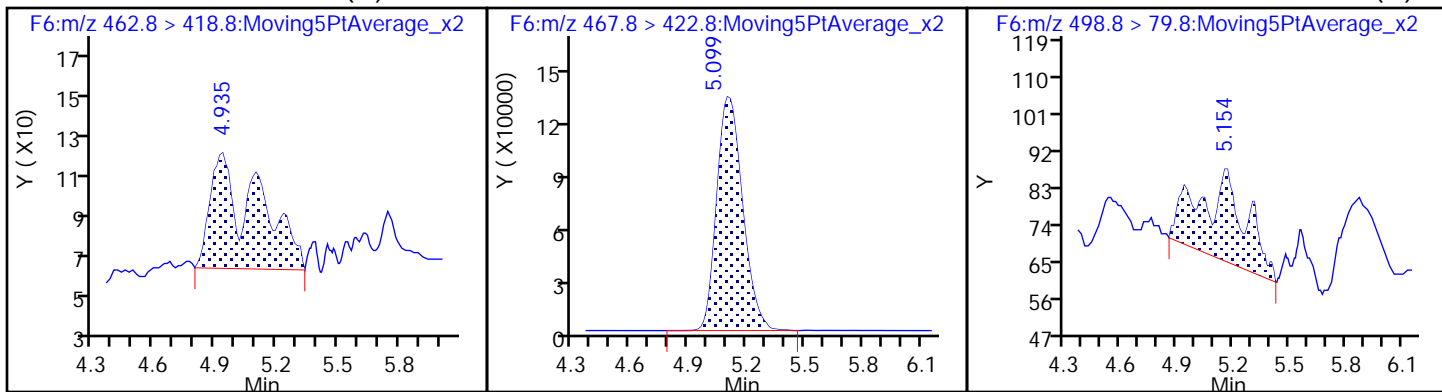
18 Perfluoroheptanesulfonic acid (ND)



19 Perfluorononanoic acid (M)

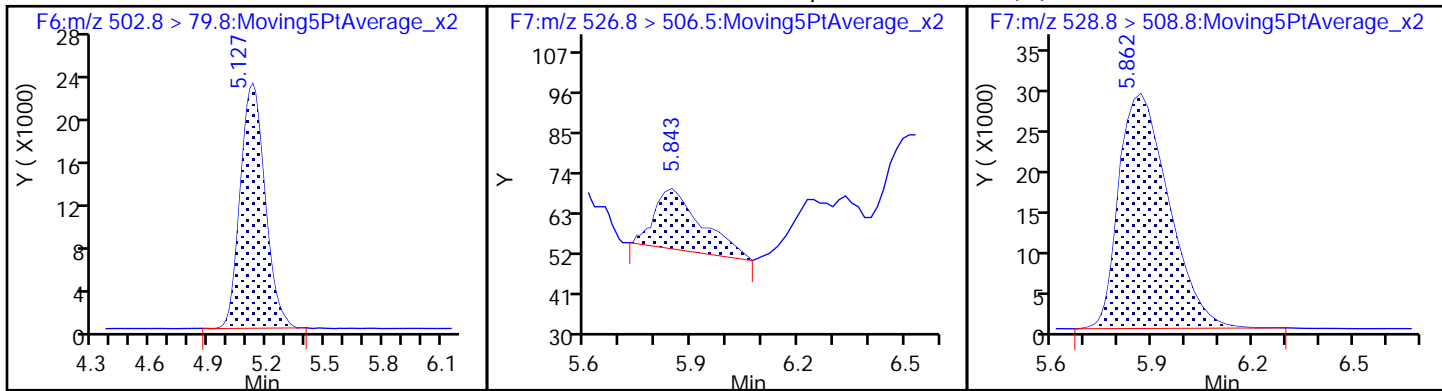
D 21 13C5 PFNA

20 Perfluorooctane sulfonic acid (M)

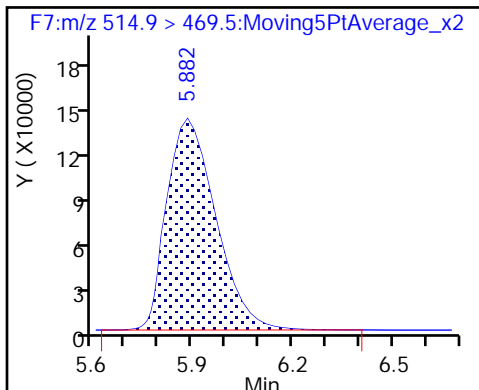


D 22 13C4 PFOS

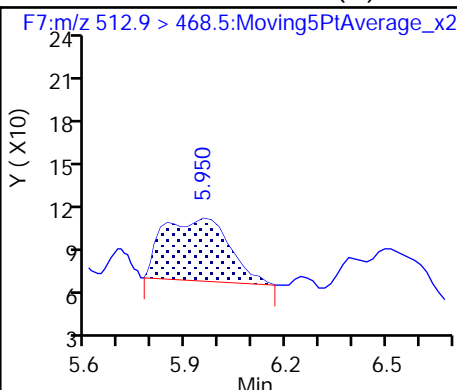
24 Sodium 1H,1H,2H,2H-perfluorodecanoate (ND) 13C4 PFOA



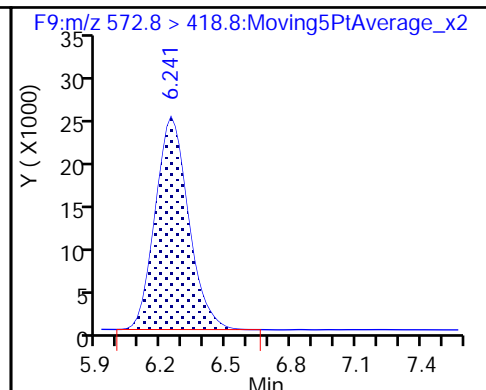
D 25 13C2 PFDA



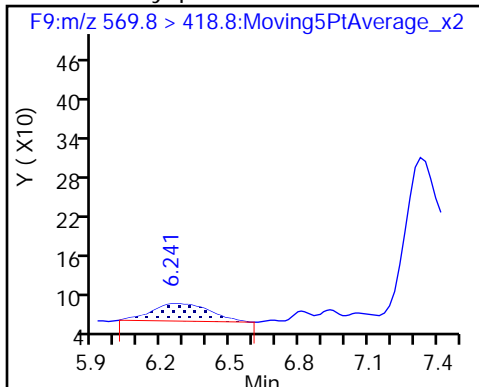
26 Perfluorodecanoic acid (M)



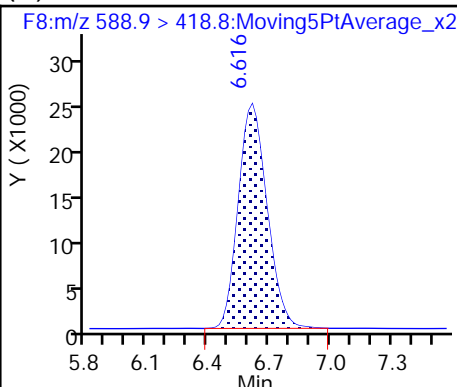
D 27 d3-NMeFOSAA



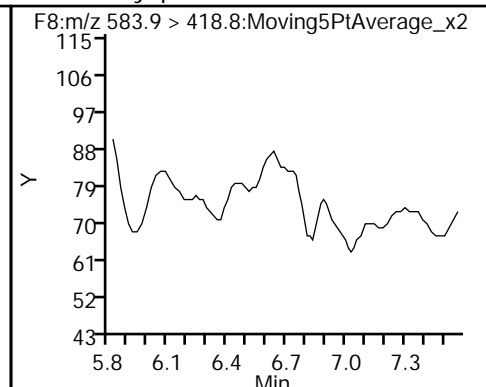
28 N-methyl perfluorooctane sulfonamide (M)



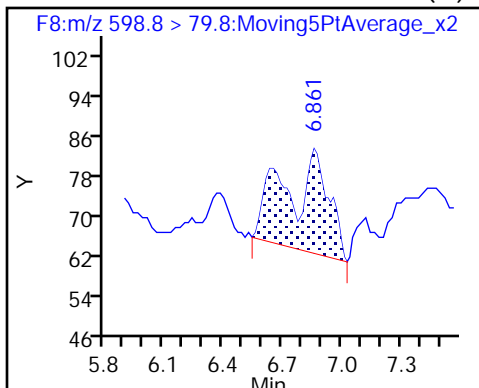
D 29 d5-NEtFOSAA



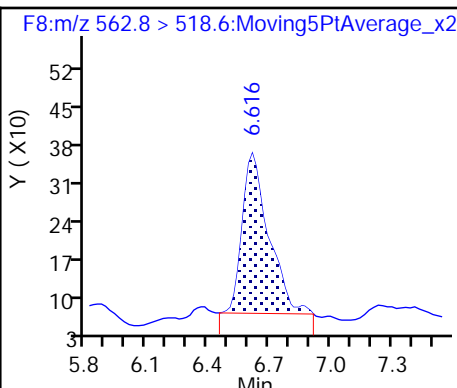
30 N-ethyl perfluorooctane sulfonamide (ND)



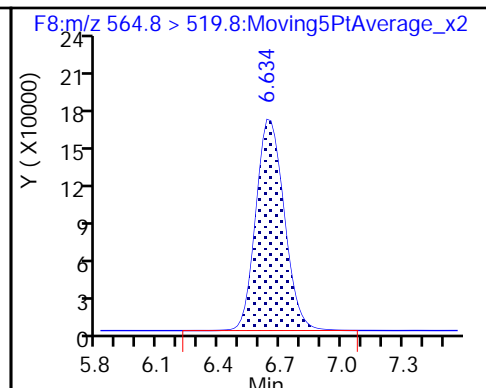
31 Perfluorodecane Sulfonic acid (M)



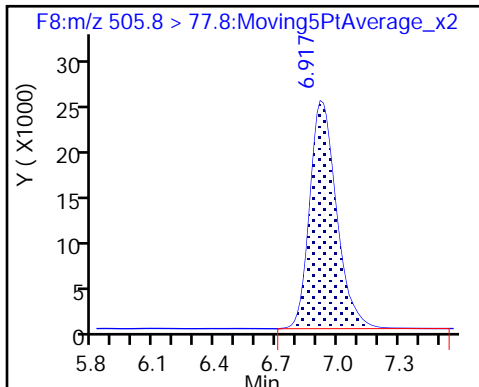
32 Perfluoroundecanoic acid



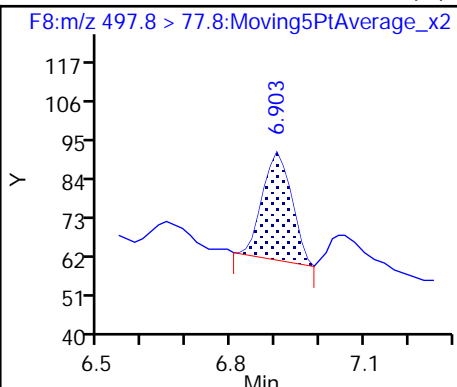
D 33 13C2 PFUnA



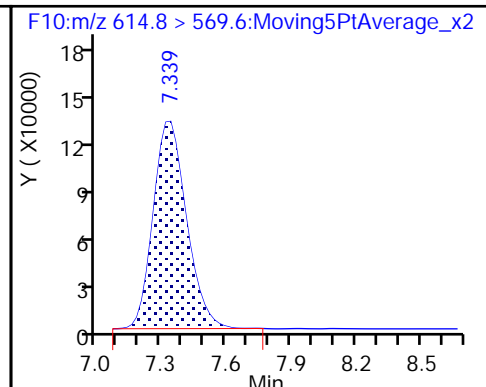
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (M)



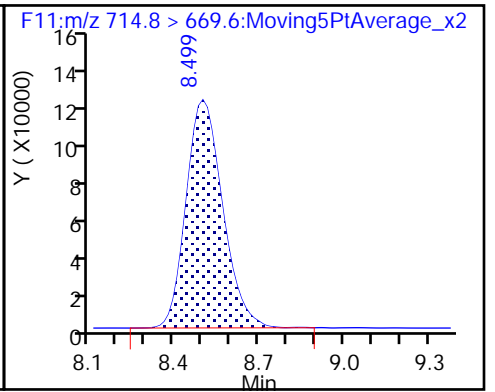
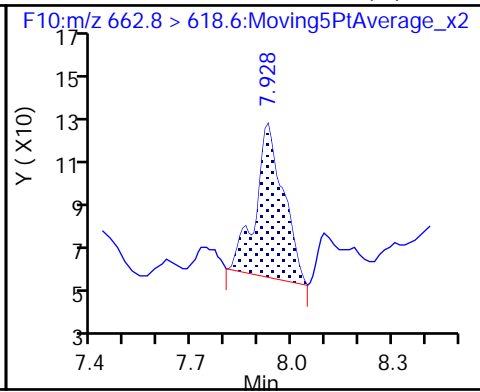
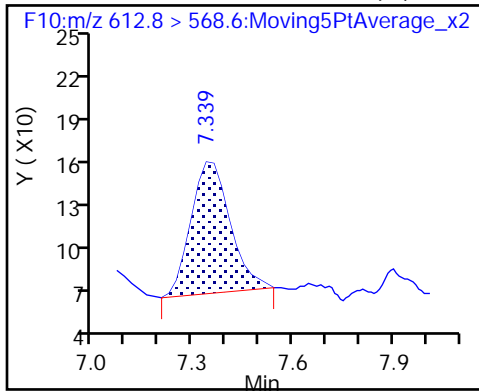
D 36 13C2 PFDoA



37 Perfluorododecanoic acid (M)

40 Perfluorotridecanoic acid (M)

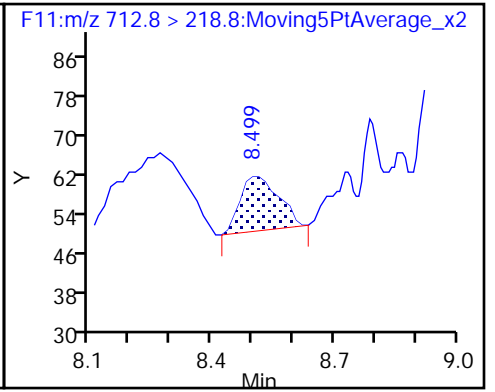
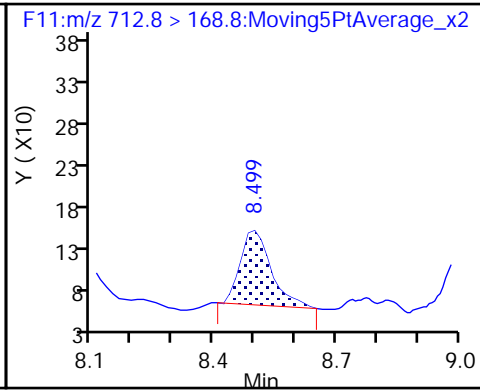
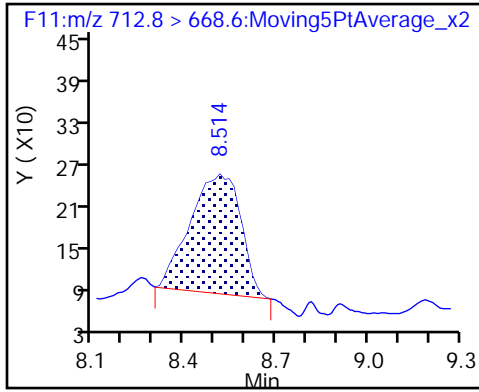
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)



TestAmerica Burlington

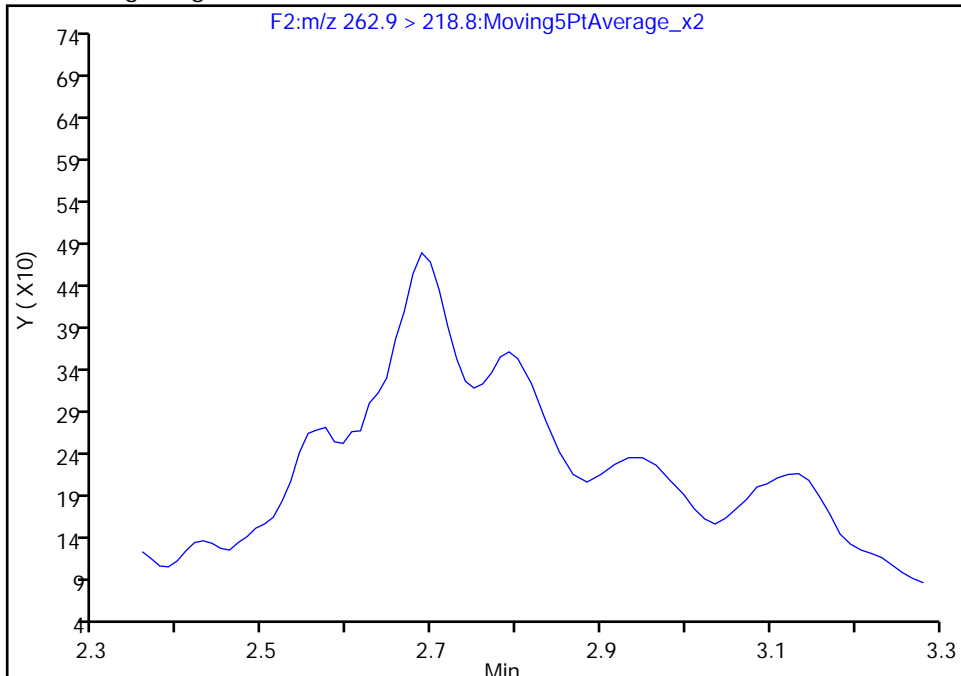
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

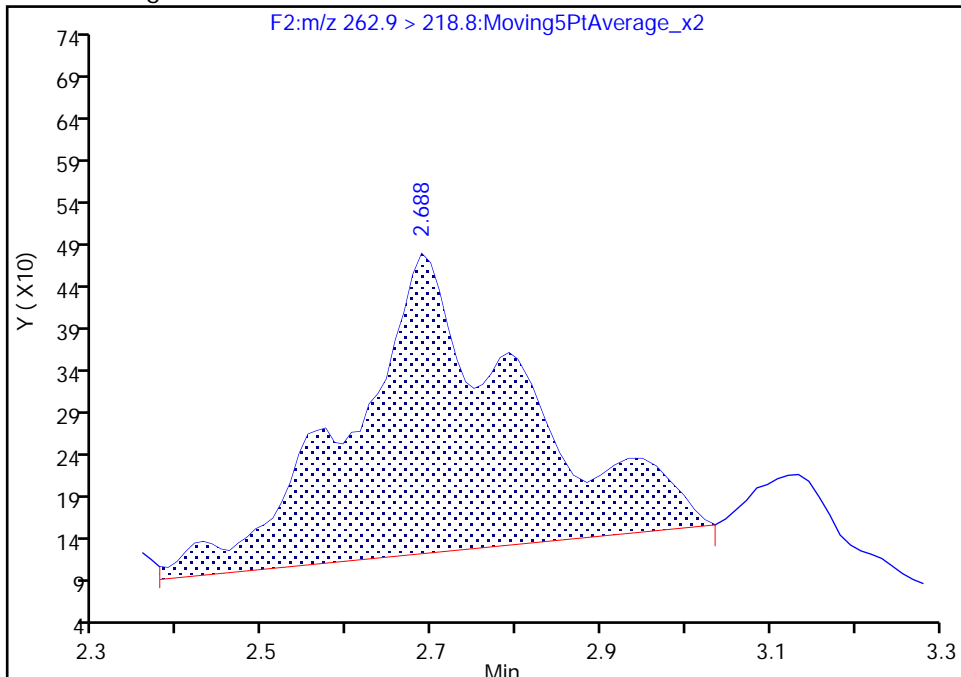
Not Detected  
Expected RT: 2.74

Processing Integration Results



Manual Integration Results

RT: 2.69  
Area: 5003  
Amount: -0.136749  
Amount Units: ng/ml





TestAmerica Burlington

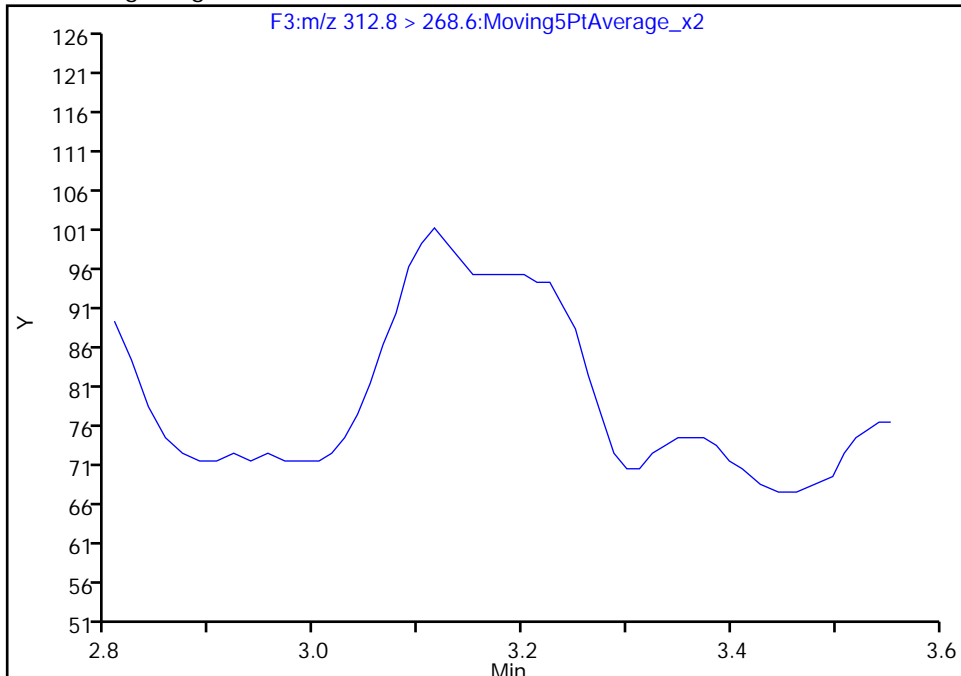
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

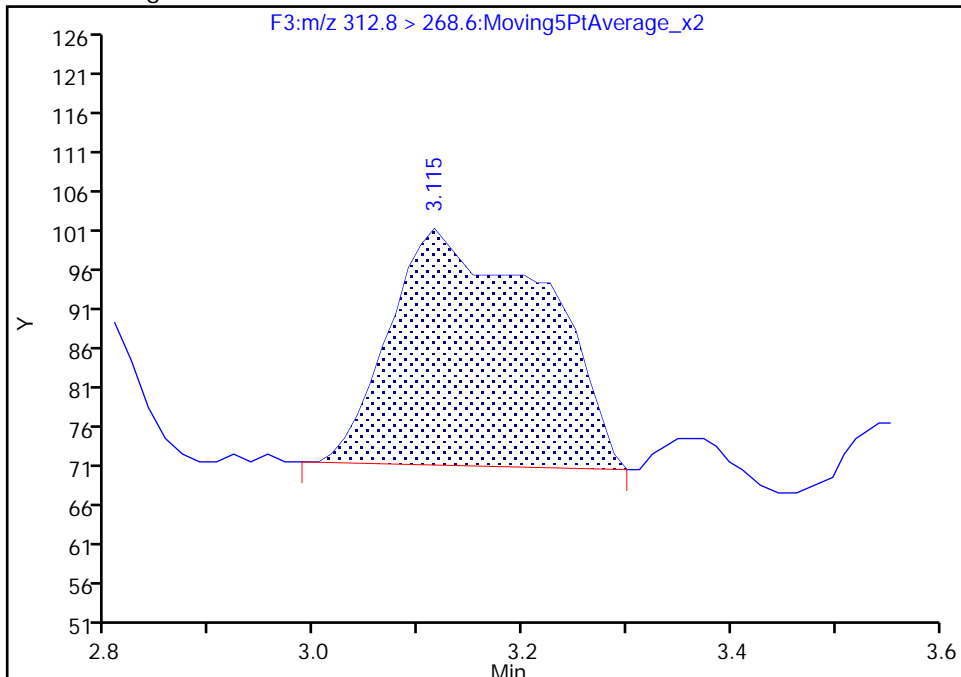
Not Detected  
Expected RT: 3.16

Processing Integration Results



Manual Integration Results

RT: 3.11  
Area: 313  
Amount: 0.084412  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:02:57  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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TestAmerica Burlington

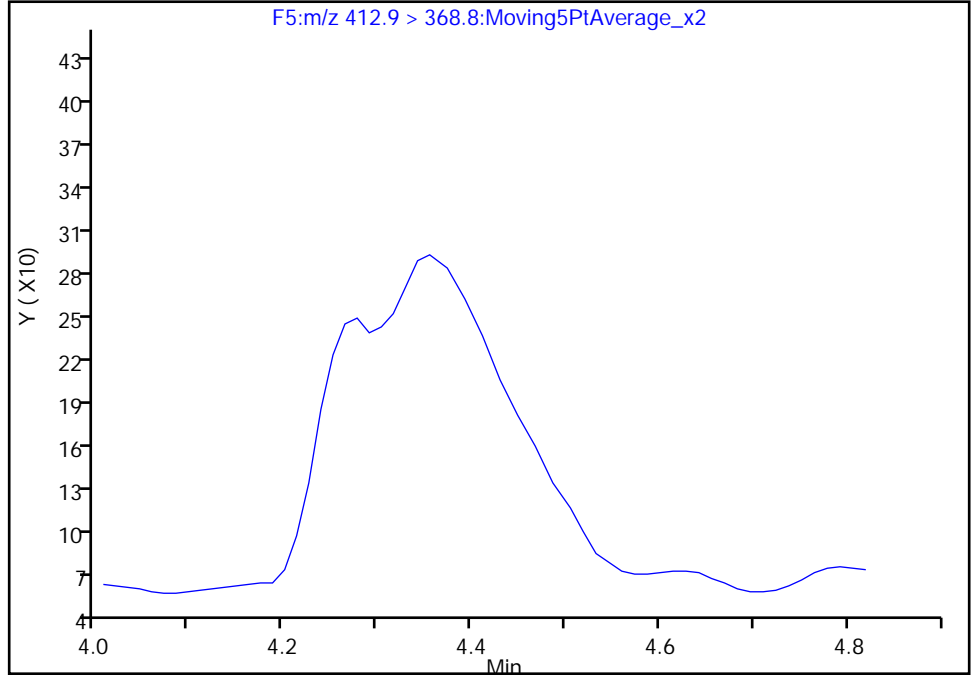
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

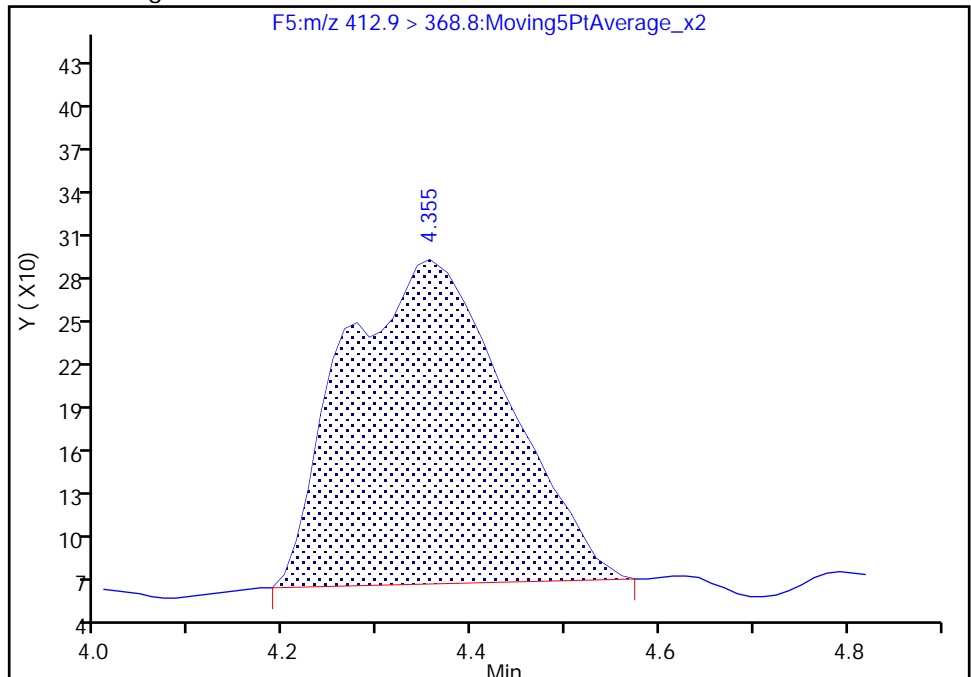
Not Detected  
Expected RT: 4.37

Processing Integration Results



RT: 4.36  
Area: 2669  
Amount: 0.112449  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:03:22  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

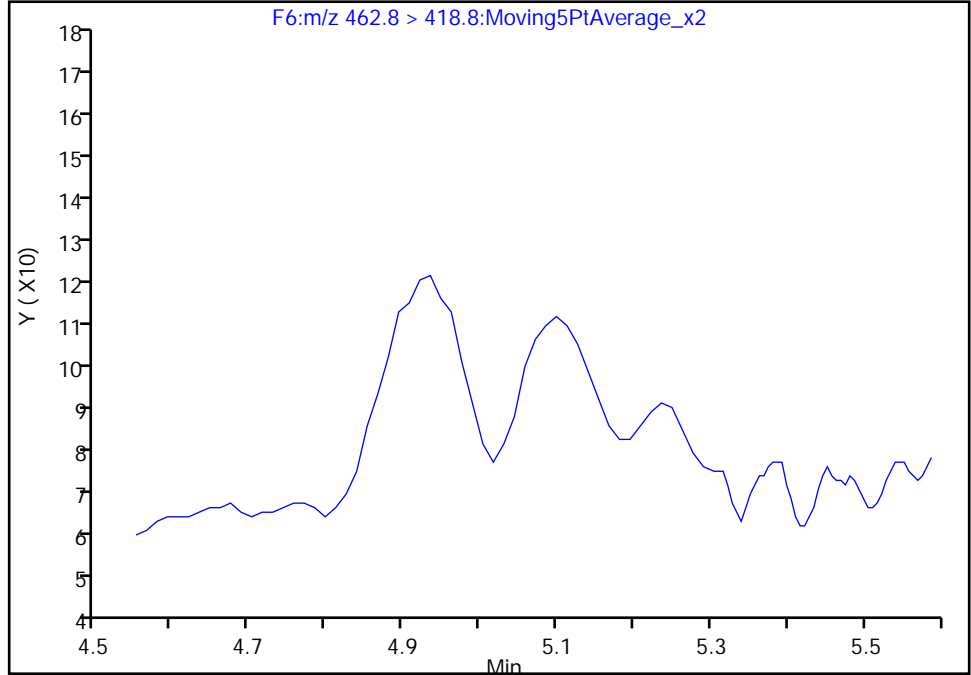
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

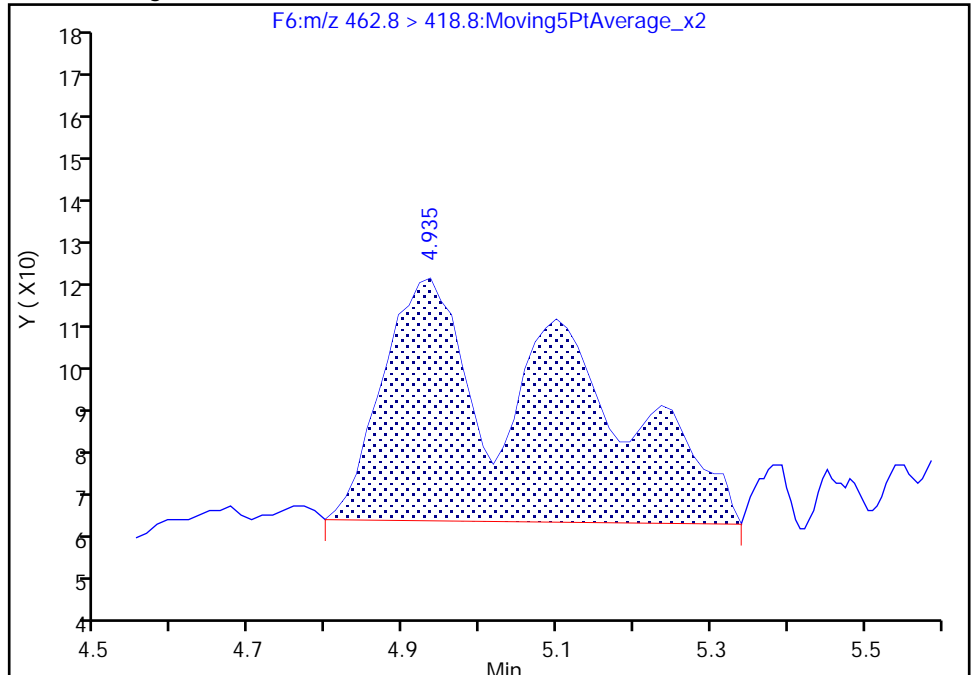
Not Detected  
Expected RT: 5.14

Processing Integration Results



RT: 4.94  
Area: 853  
Amount: 0.162653  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:03:32  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

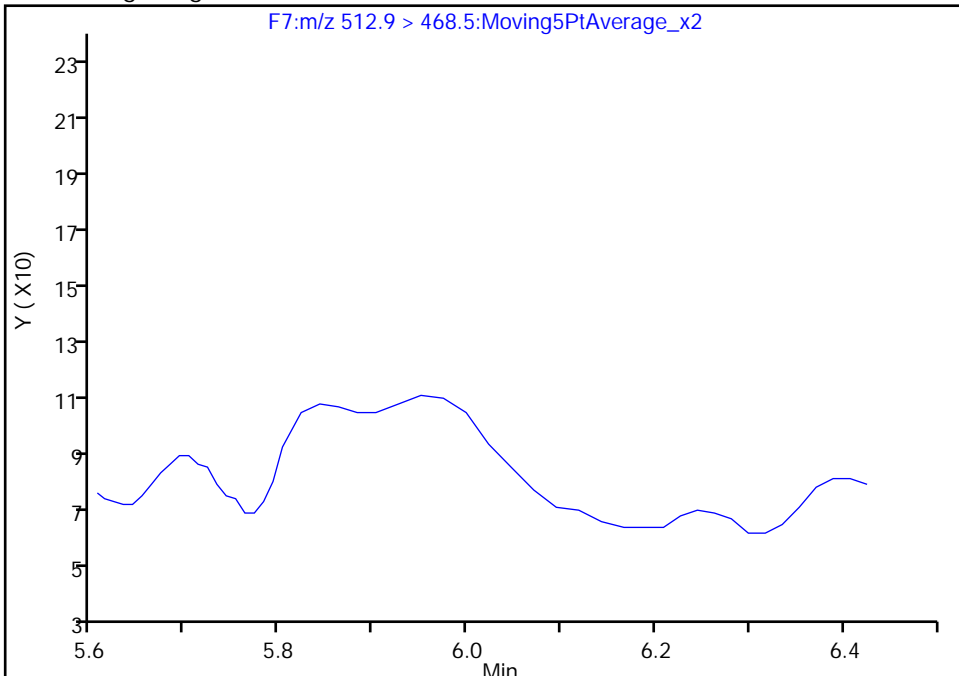
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

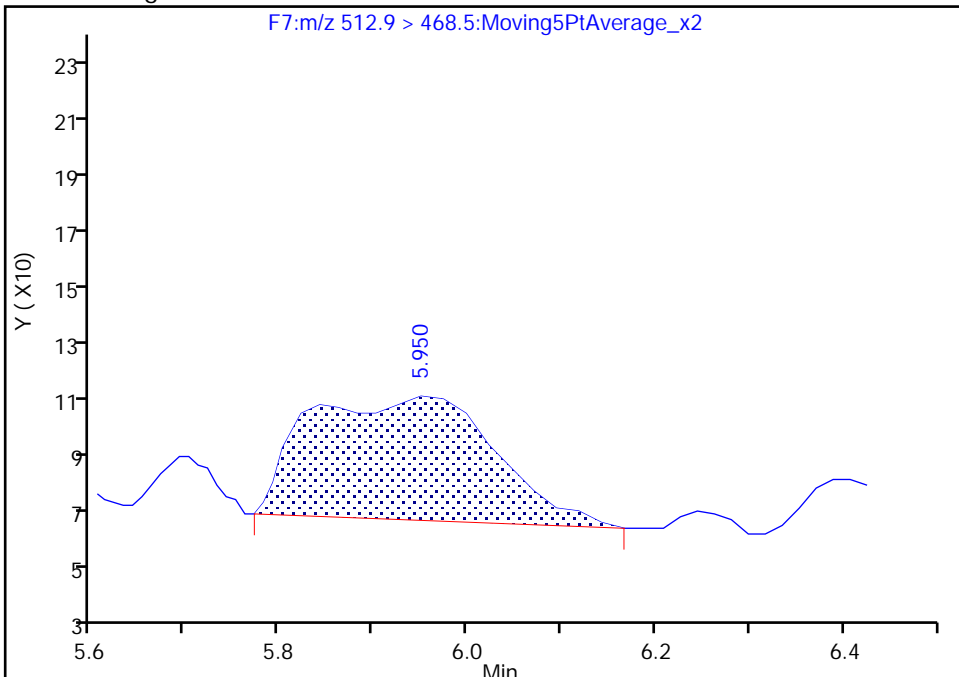
Not Detected  
Expected RT: 5.94

Processing Integration Results



Manual Integration Results

RT: 5.95  
Area: 595  
Amount: -0.077631  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:03:50  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

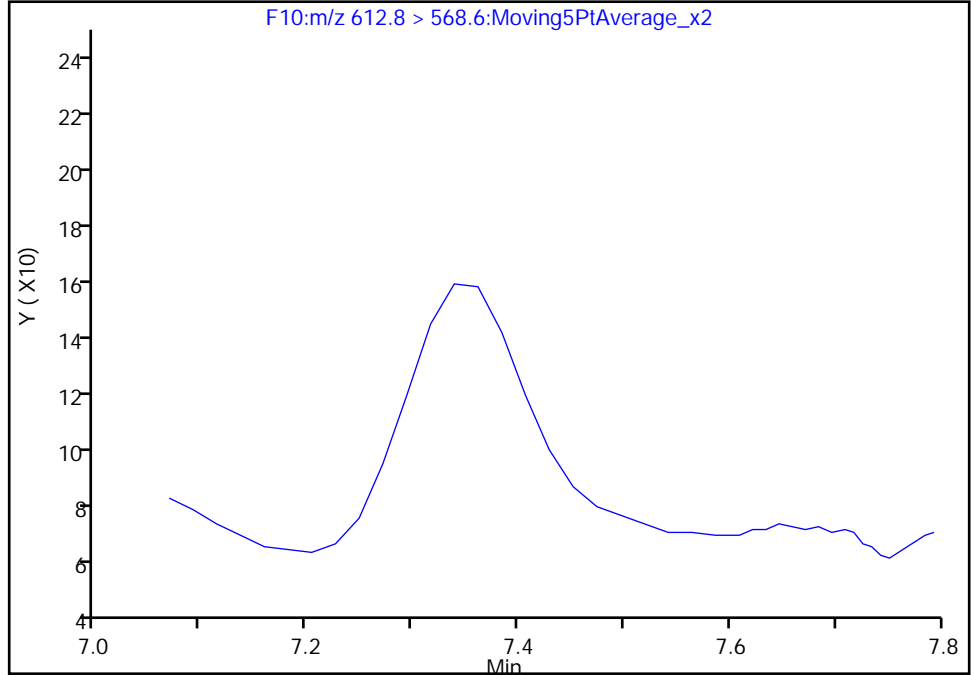
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

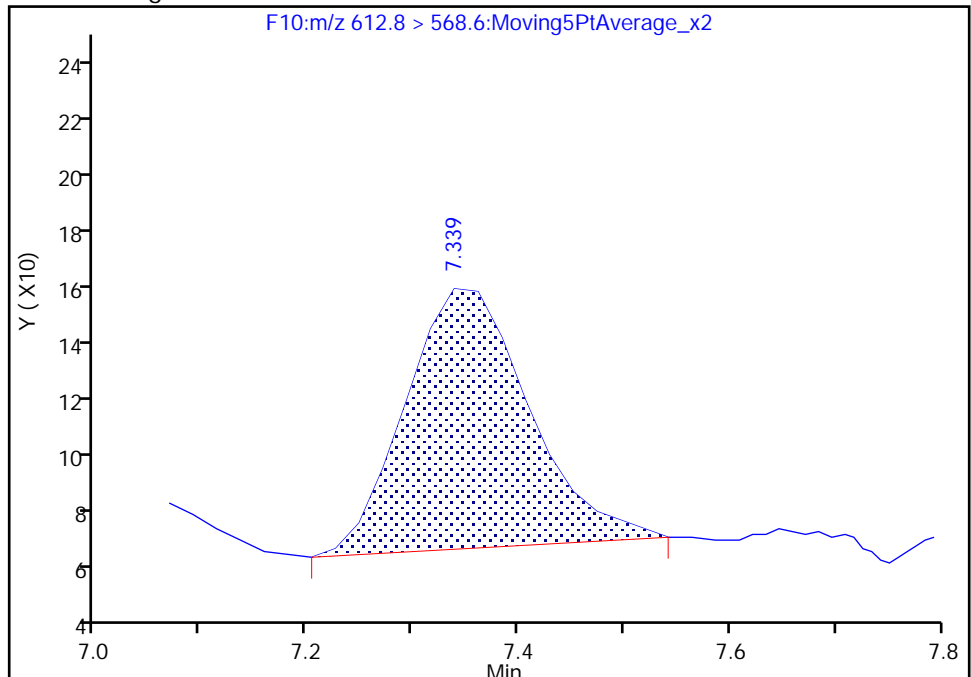
Not Detected  
Expected RT: 7.40

Processing Integration Results



Manual Integration Results

RT: 7.34  
Area: 740  
Amount: 0.004324  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:04:18  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

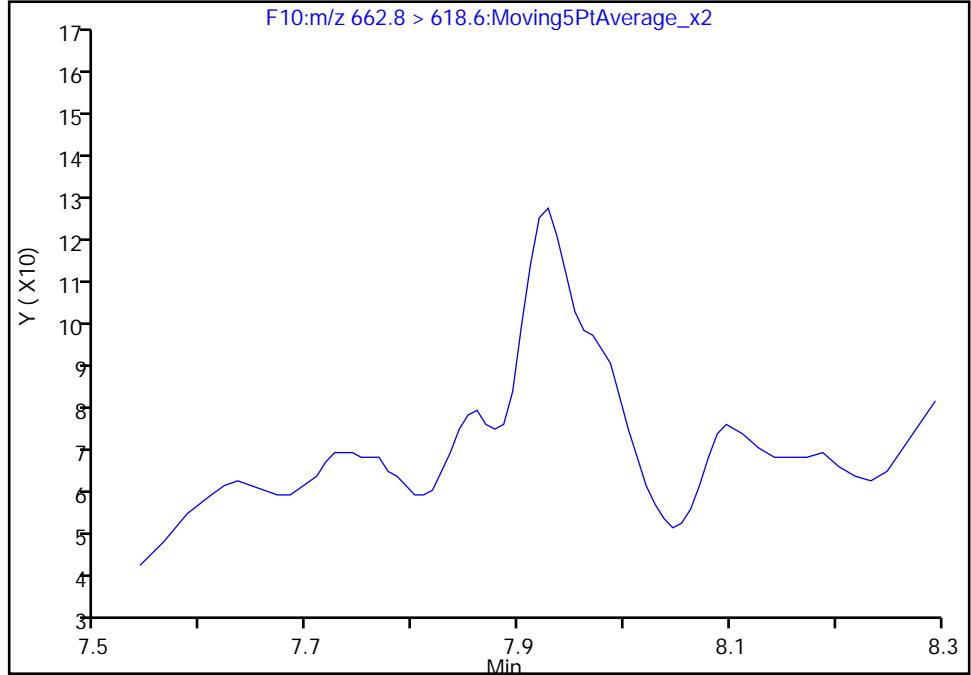
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

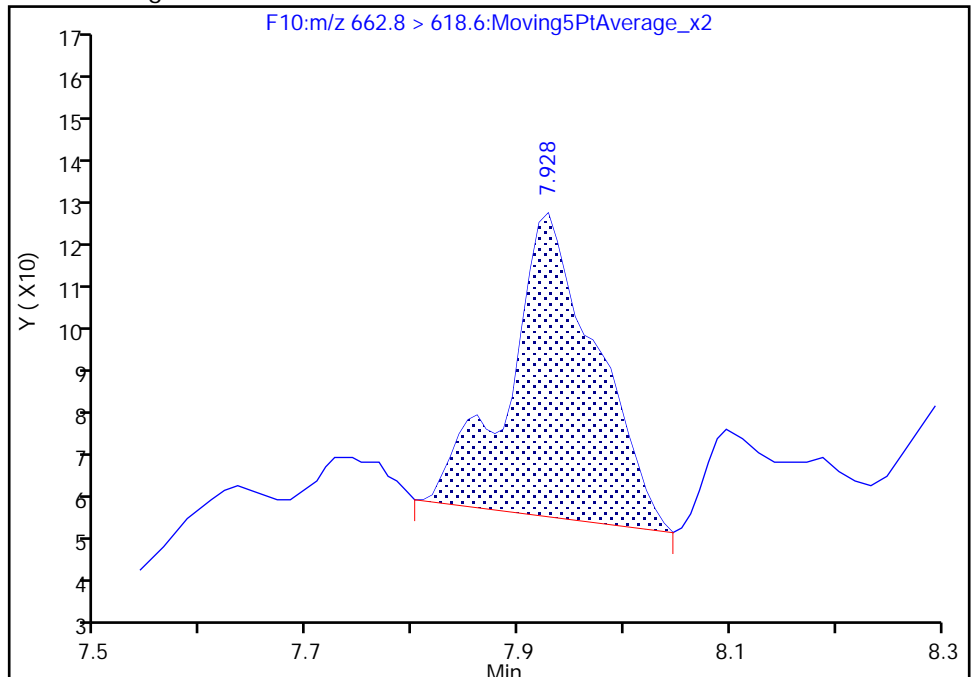
Not Detected  
Expected RT: 8.02

Processing Integration Results



Manual Integration Results

RT: 7.93  
Area: 374  
Amount: -0.080090  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:04:25  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

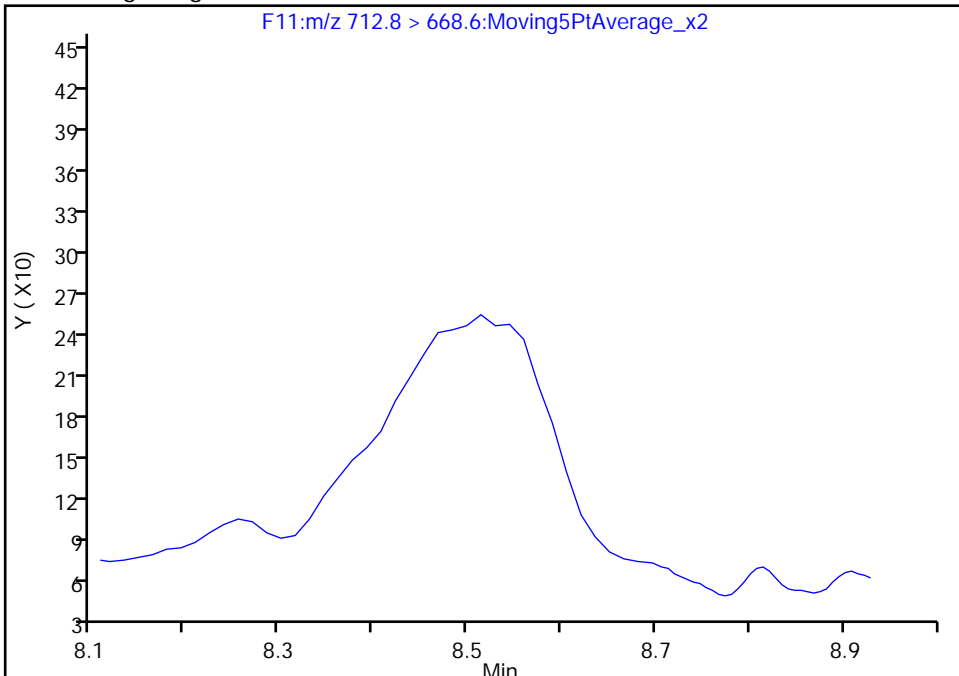
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

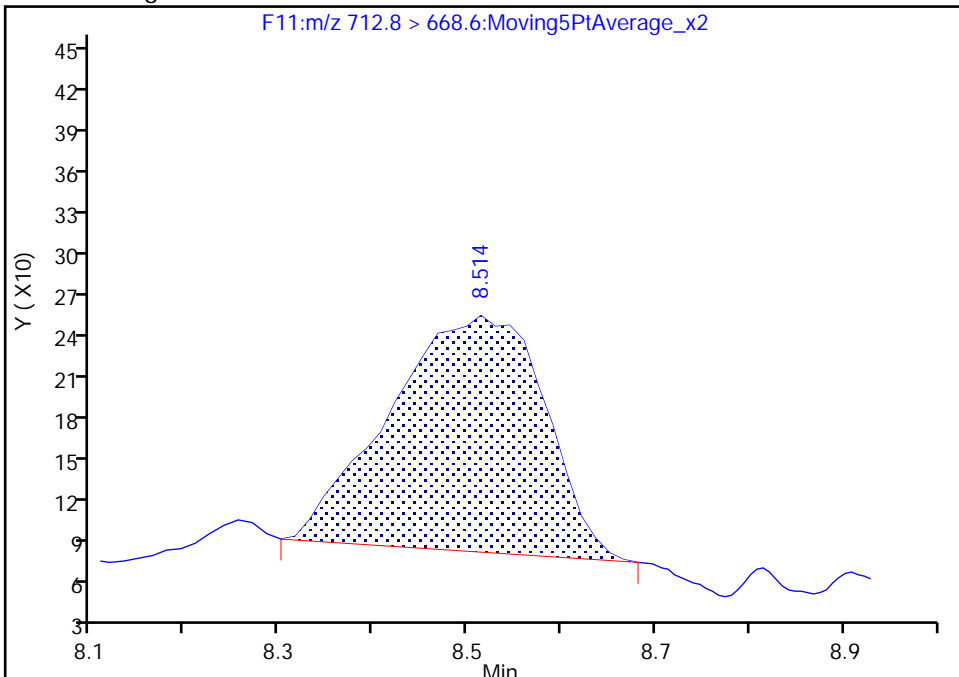
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.51  
Area: 1971  
Amount: -0.060230  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:04:29  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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TestAmerica Burlington

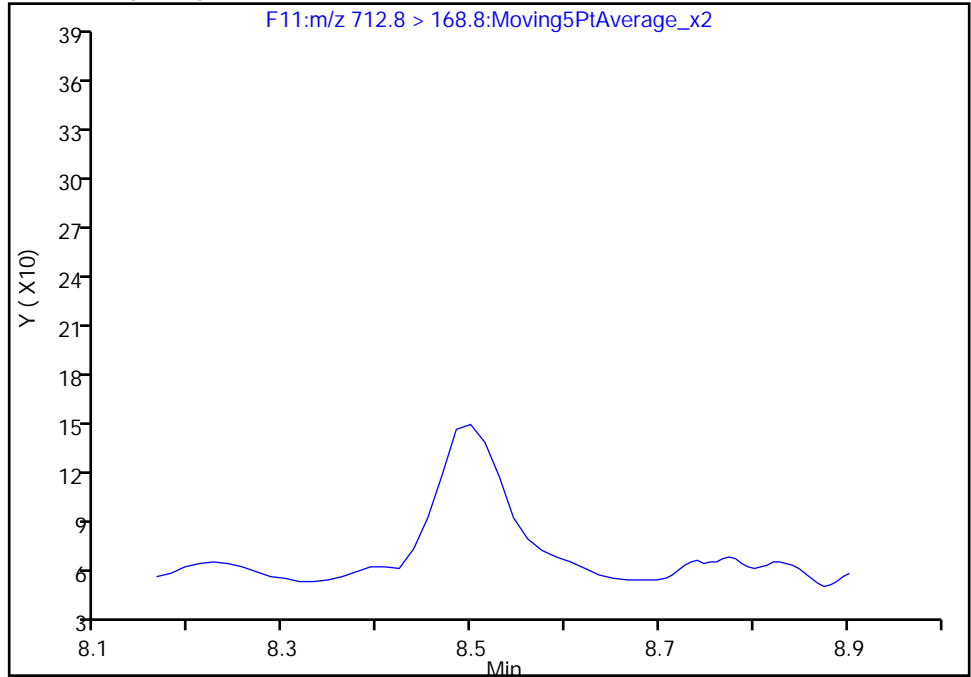
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Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

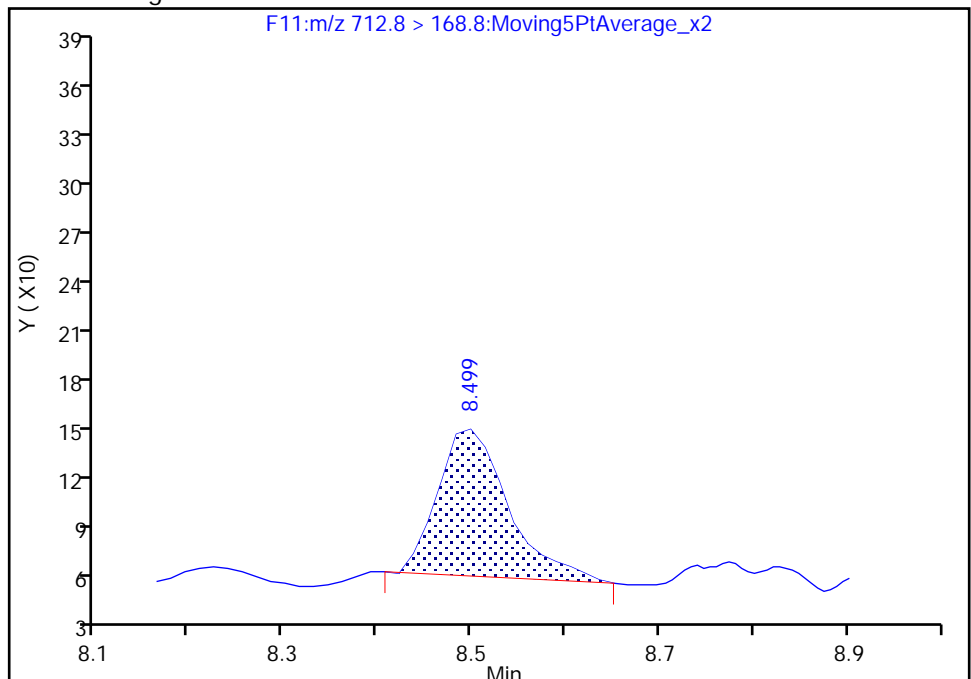
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.50  
Area: 466  
Amount: -0.060230  
Amount Units: ng/ml





TestAmerica Burlington

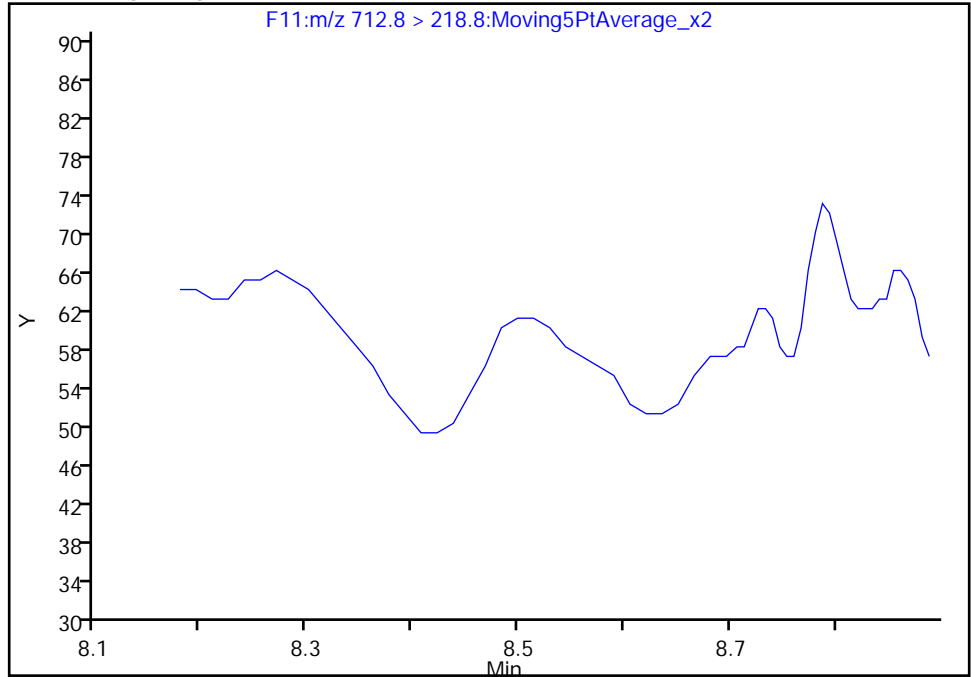
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

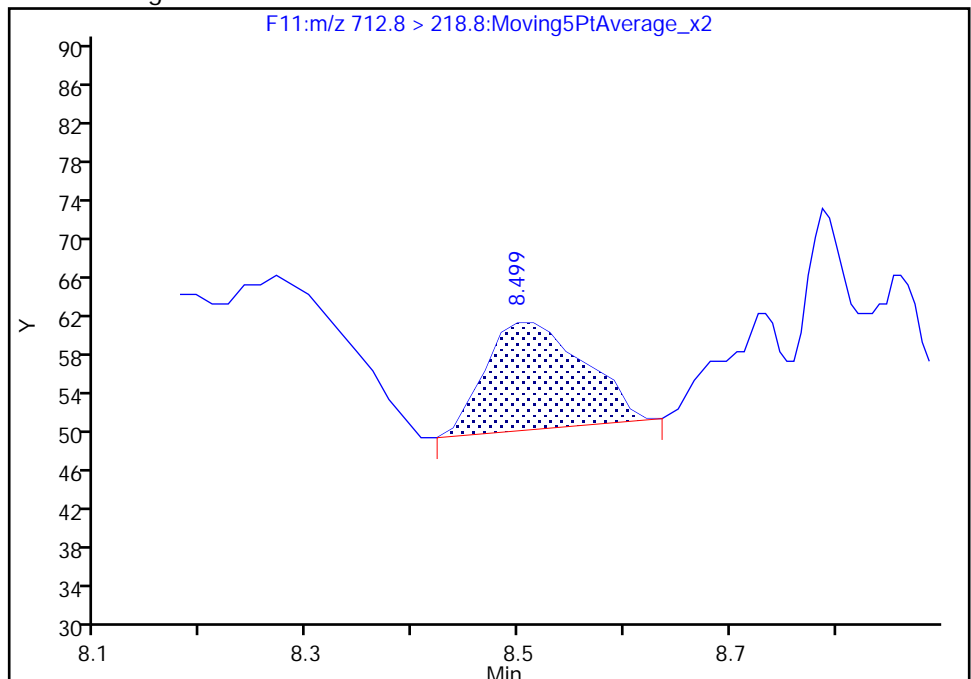
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.50  
Area: 73  
Amount: -0.060230  
Amount Units: ng/ml



TestAmerica Burlington

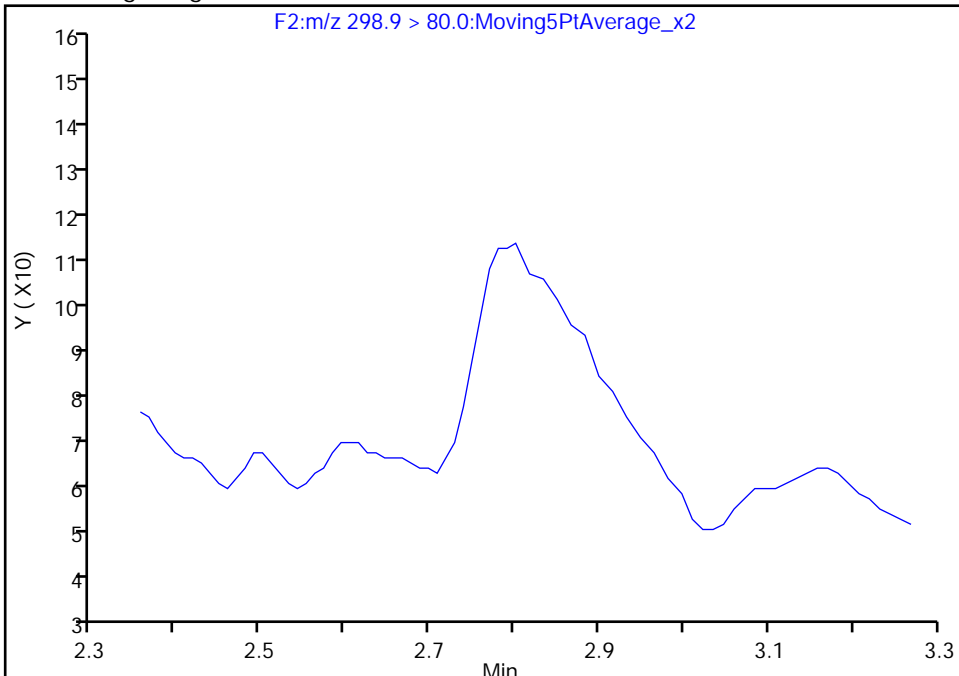
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

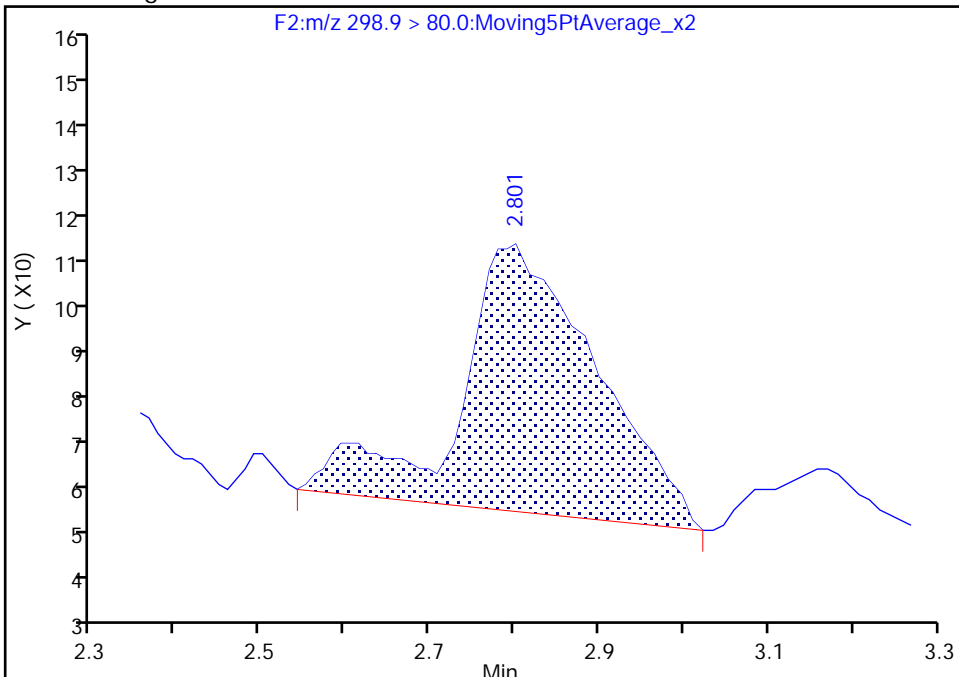
Not Detected  
Expected RT: 2.80

Processing Integration Results



RT: 2.80  
Area: 593  
Amount: 0.229890  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:02:51  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

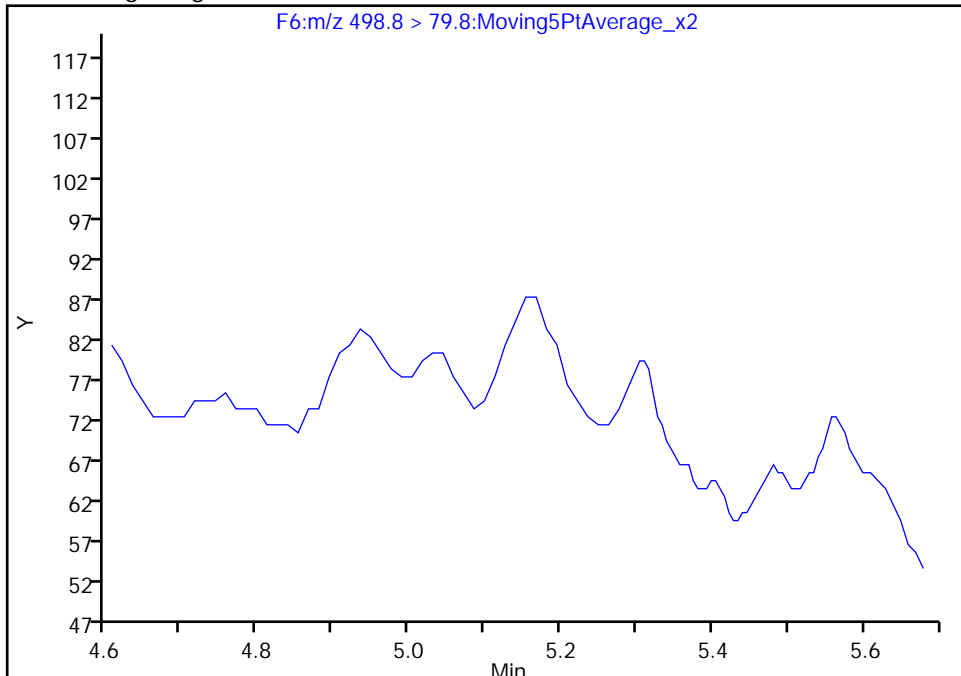
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

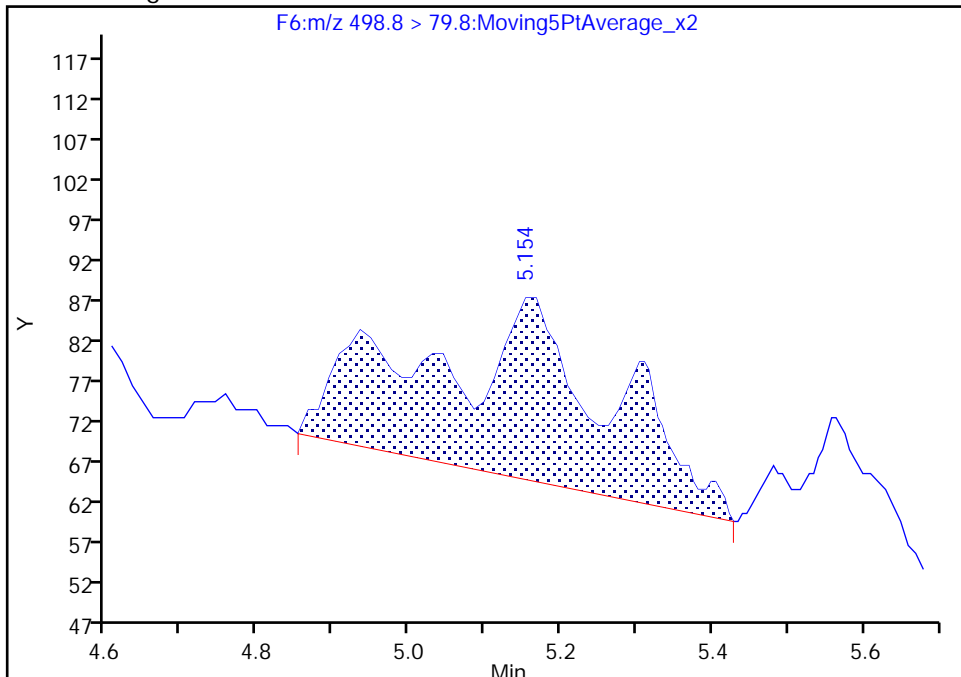
Not Detected  
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.15  
Area: 379  
Amount: 0.225306  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:03:38  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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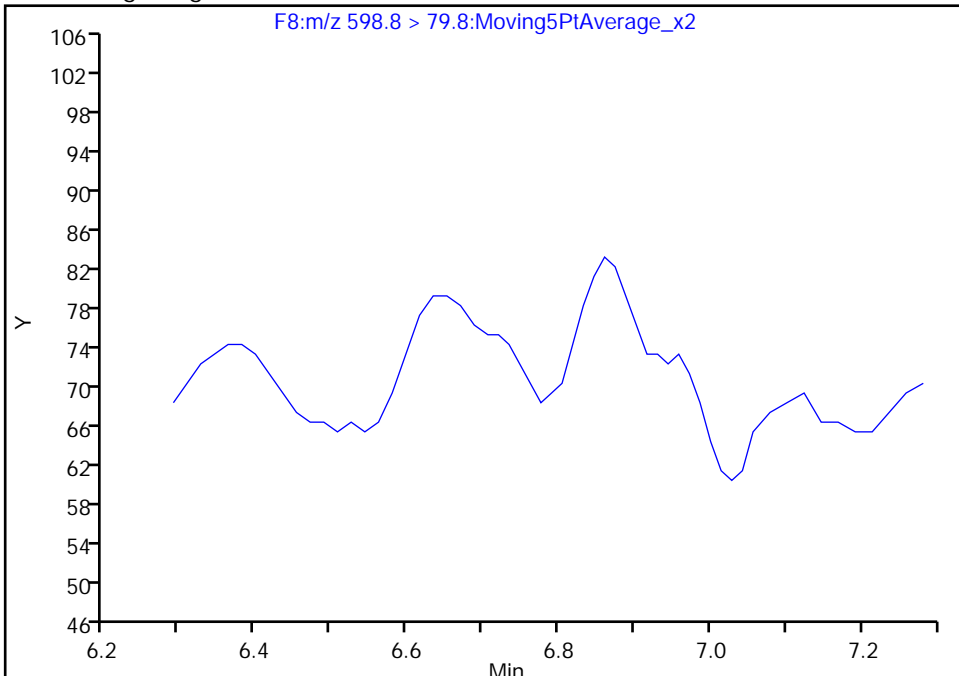
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Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

31 Perfluorodecane Sulfonic acid, CAS: 335-77-3

Signal: 1

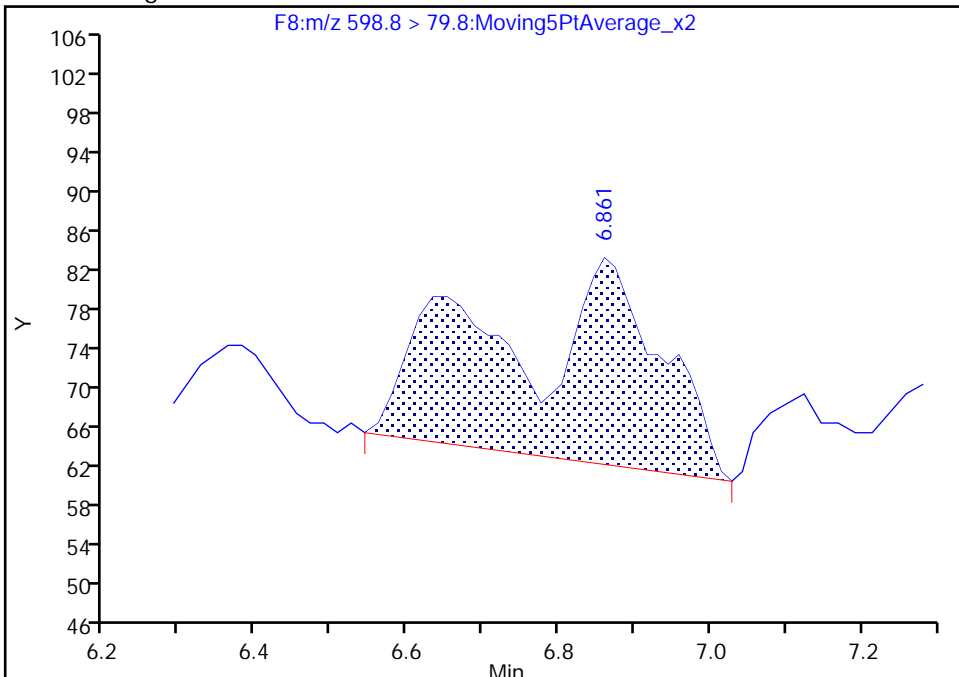
Not Detected  
Expected RT: 6.70

Processing Integration Results



Manual Integration Results

RT: 6.86  
Area: 311  
Amount: 0.104948  
Amount Units: ng/ml



TestAmerica Burlington

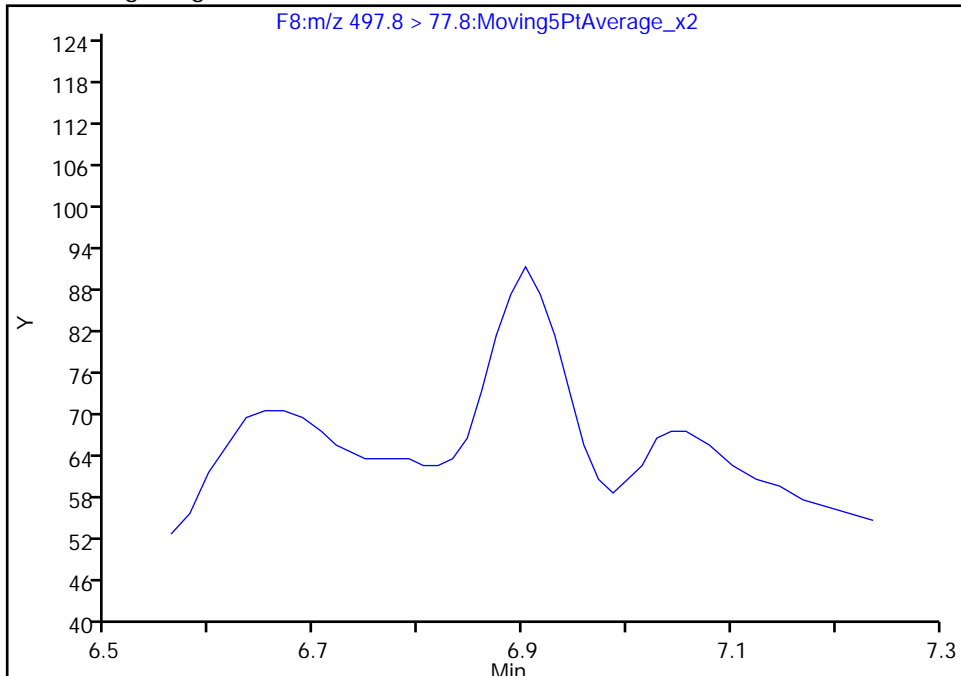
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

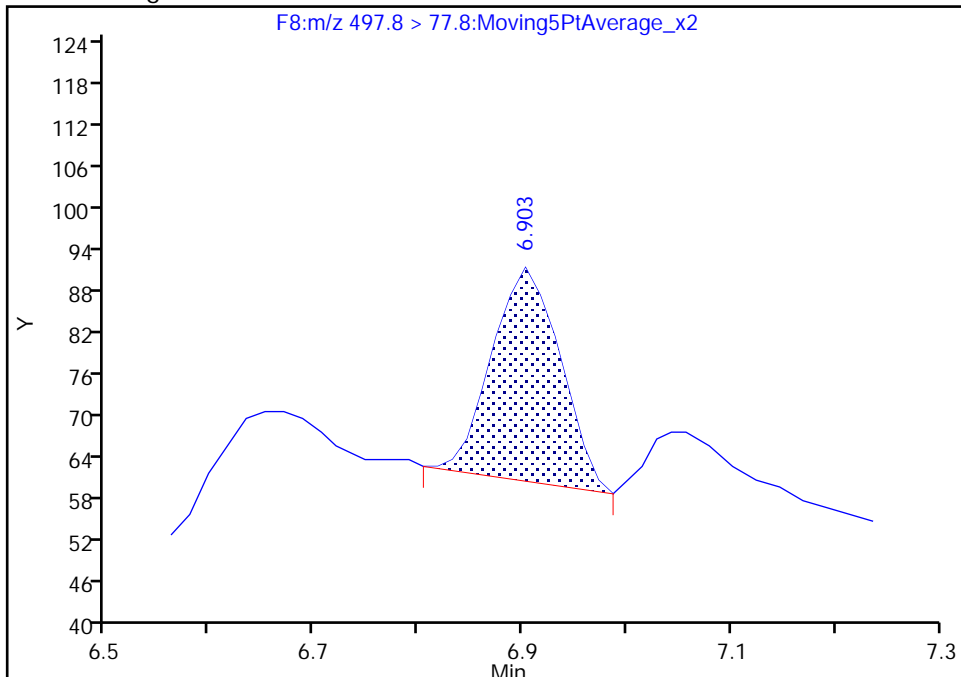
Not Detected  
Expected RT: 6.94

Processing Integration Results



Manual Integration Results

RT: 6.90  
Area: 142  
Amount: 0.099747  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:04:13  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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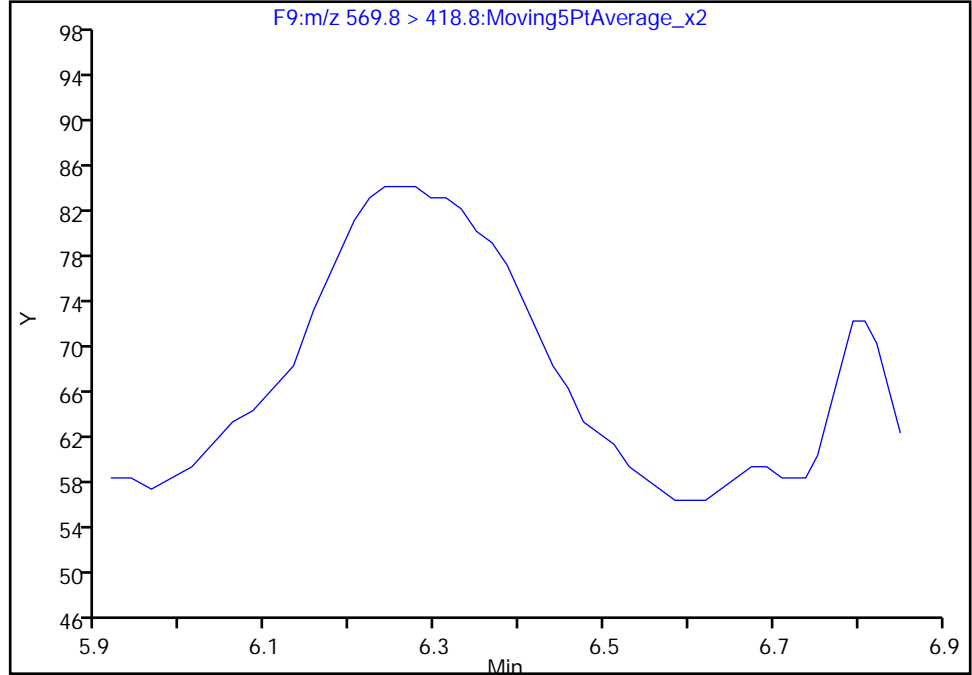
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Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F9:MRM

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

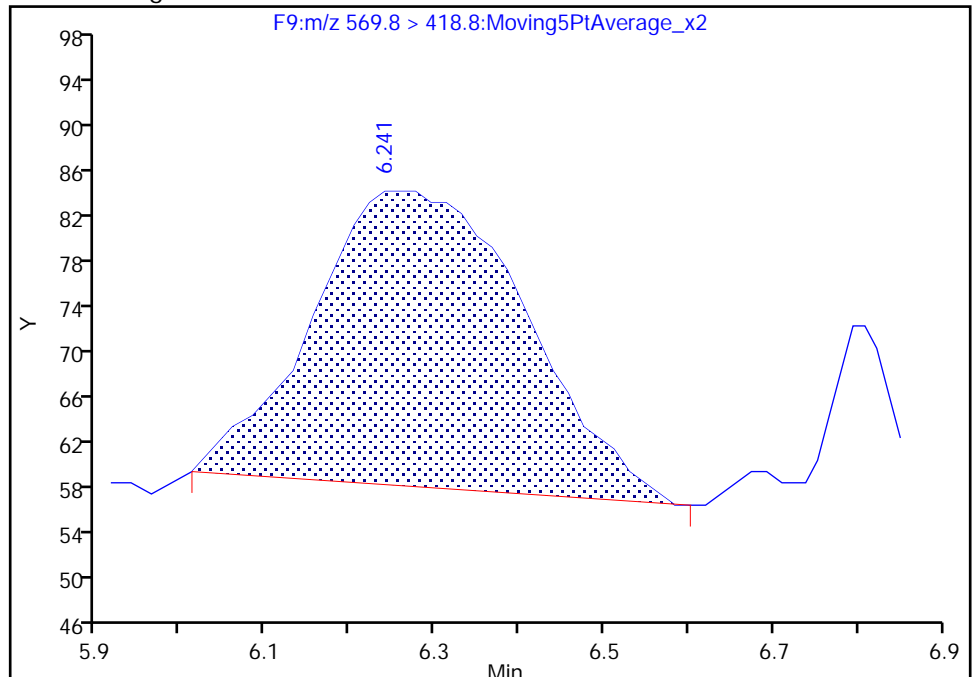
Not Detected  
Expected RT: 6.31

Processing Integration Results



RT: 6.24  
Area: 462  
Amount: 0.118501  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:03:54  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

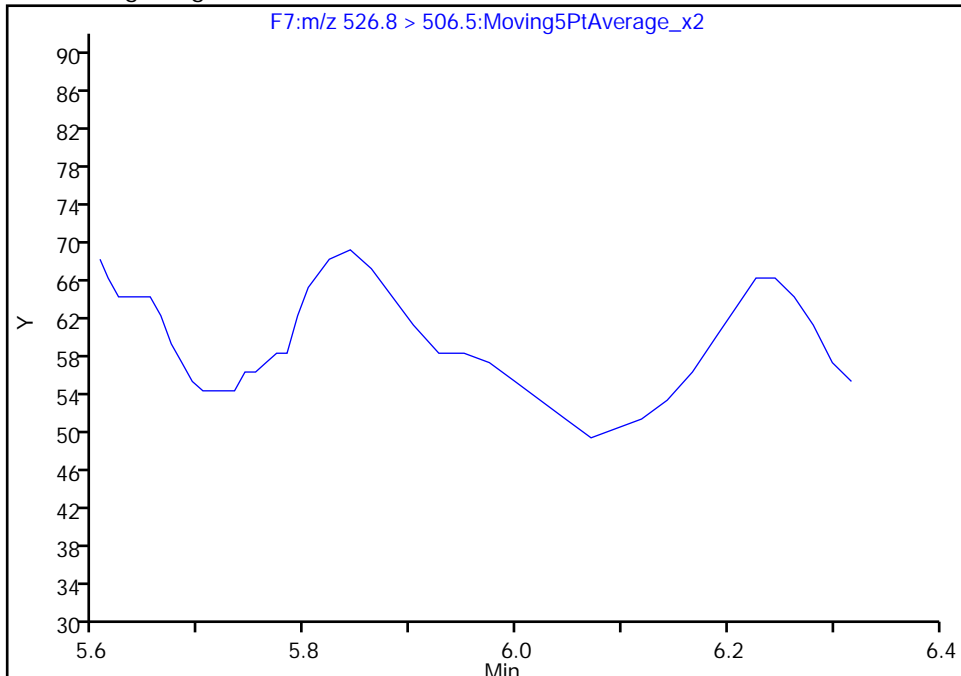
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

24 Sodium 1H,1H,2H,2H-perfluorodecane sulfonate, CAS: 39108-34-4

Signal: 1

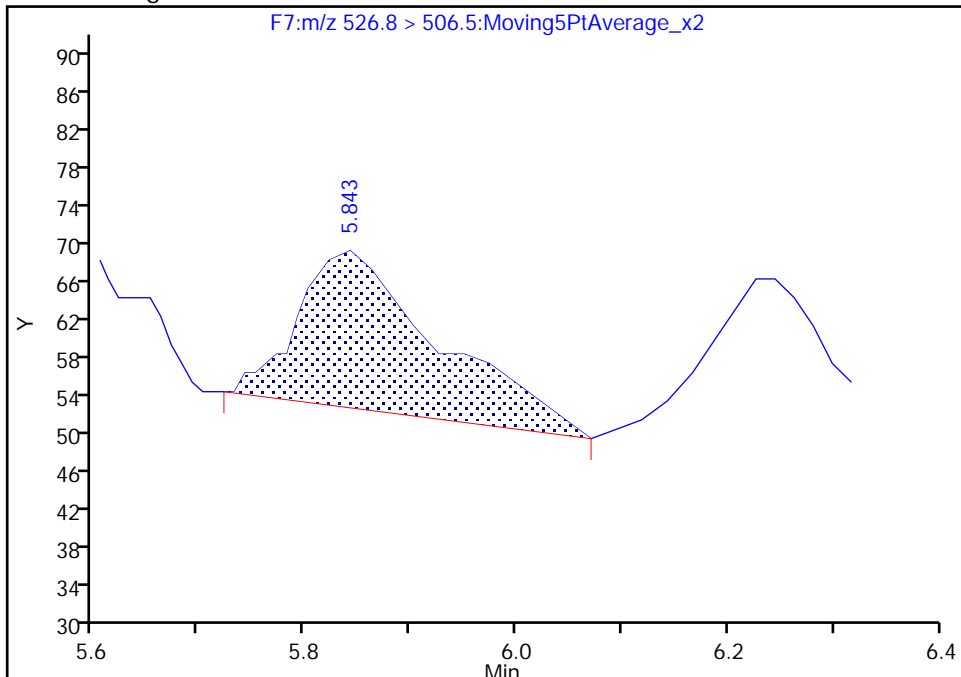
Not Detected  
Expected RT: 5.91

Processing Integration Results



Manual Integration Results

RT: 5.84  
Area: 154  
Amount: 0.032028  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:03:43  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

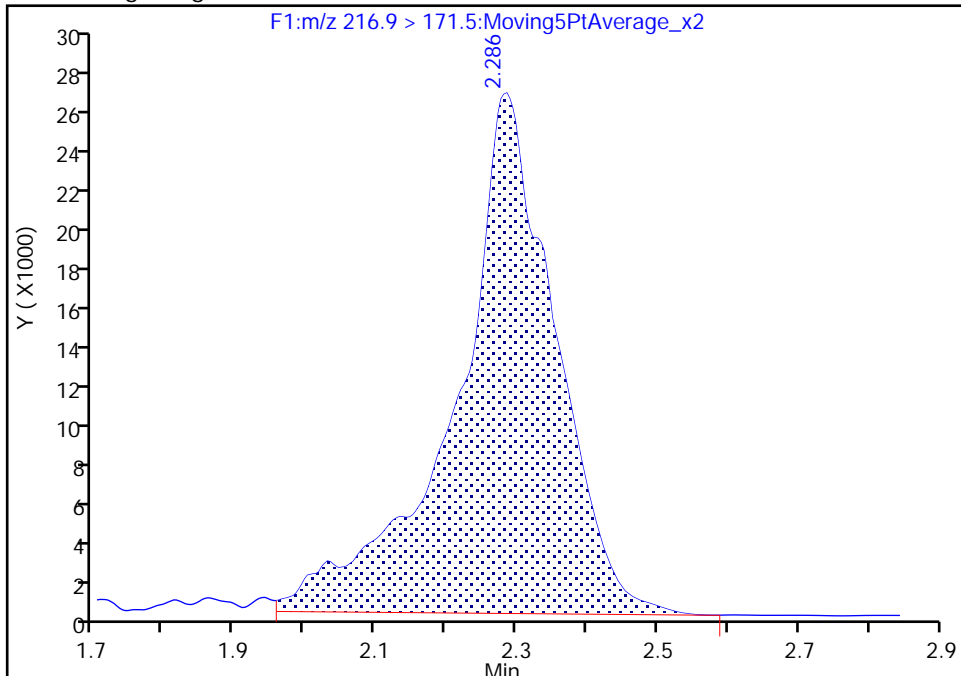
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A33.d  
Injection Date: 21-Apr-2018 19:18:29 Instrument ID: LC410  
Lims ID: 200-43041-B-8-A Lab Sample ID: 200-43041-8  
Client ID: EQUIPMENT BLANK 2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 33  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

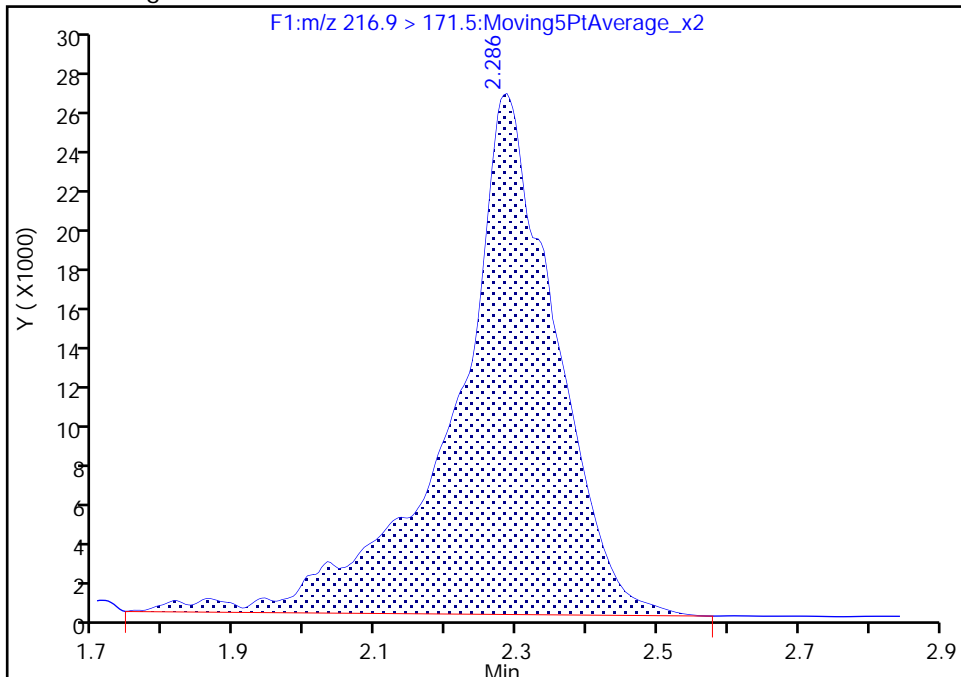
RT: 2.29  
Area: 260358  
Amount: 23.063147  
Amount Units: ng/ml

Processing Integration Results



RT: 2.29  
Area: 265766  
Amount: 23.542201  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:02:33  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-5 DUP Lab Sample ID: 200-43041-9  
 Matrix: Water Lab File ID: PF042118A34.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:45  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 298.9(mL) Date Analyzed: 04/21/2018 19:33  
 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1  
 Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	15.6		1.67	0.37
2706-90-3	Perfluoropentanoic acid (PFPeA)	25.5		1.67	0.37
307-24-4	Perfluorohexanoic acid (PFHxA)	22.3		1.67	0.37
375-85-9	Perfluoroheptanoic acid (PFHpA)	15.8		1.67	0.24
335-67-1	Perfluorooctanoic acid (PFOA)	4.31		1.67	0.39
375-95-1	Perfluorononanoic acid (PFNA)	0.34	J	1.67	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	0.37	U	1.67	0.37
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.37	U	1.67	0.37
307-55-1	Perfluorododecanoic acid (PFDoA)	0.37	U	1.67	0.37
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.37	U	1.67	0.37
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.37	U	1.67	0.37
375-73-5	Perfluorobutanesulfonic acid (PFBS)	7.15		1.67	0.74
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	6.95		1.67	0.23
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.37	U	1.67	0.37
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.40	J	1.67	0.25
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.37	U	1.67	0.37
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.37	U	1.67	0.37
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.50	U	1.67	0.50
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.50	U	1.67	0.50
27619-97-2	6:2FTS	1.86		1.67	0.50
39108-34-4	8:2FTS	0.50	U	1.67	0.50

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-43041-1</u>
SDG No.: _____	
Client Sample ID: <u>MW-5 DUP</u>	Lab Sample ID: <u>200-43041-9</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF042118A34.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>04/10/2018 12:45</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>04/18/2018 12:25</u>
Sample wt/vol: <u>298.9(mL)</u>	Date Analyzed: <u>04/21/2018 19:33</u>
Con. Extract Vol.: <u>0.5(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>20(uL)</u>	GC Column: <u>C-18</u> ID: <u>4.6(mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>128716</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	26		25-150
STL01893	13C5 PFPeA	44		25-150
STL00993	13C2 PFHxA	58		25-150
STL01892	13C4-PFHpA	78		25-150
STL00990	13C4 PFOA	91		25-150
STL00995	13C5 PFNA	104		25-150
STL00996	13C2 PFDA	96		25-150
STL00997	13C2 PFUnA	98		25-150
STL00998	13C2 PFDoA	84		25-150
STL02116	13C2-PFTeDA	86		25-150
STL02337	13C3-PFBS	70		25-150
STL00994	18O2 PFHxS	98		25-150
STL00991	13C4 PFOS	98		25-150
STL01056	13C8 FOSA	60		25-150
STL02118	d3-NMeFOSAA	72		25-150
STL02117	d5-NEtFOSAA	91		25-150
STL02279	M2-6:2FTS	213	*	25-150
STL02280	M2-8:2FTS	135		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
 Lims ID: 200-43041-B-9-A  
 Client ID: MW-5 DUP  
 Sample Type: Client  
 Inject. Date: 21-Apr-2018 19:33:38 ALS Bottle#: 0 Worklist Smp#: 34  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-034 9  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:20:49 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 16:07:36

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.278	2.319	-0.041	1.000	130283	12.9	25.7	223	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.306	2.320	-0.014	1.012	22384	9.33		27.7		M
D 3 13C5-PFPeA	267.7 > 222.6	2.708	2.736	-0.028	1.000	53876	21.9	43.9	58.8	
4 Perfluoropentanoic acid	262.9 > 218.8	2.698	2.738	-0.040	0.996	92445	15.2		32.1	
D 5 13C3-PFBS	302.0 > 79.8	2.760	2.800	-0.040	1.000	166448	32.4	69.8	306	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.760	2.804	-0.044	1.000	30660	4.27		13.7	
D 7 13C2 PFHxA	314.8 > 269.6	3.103	3.158	-0.055	1.000	240197	28.8	57.6	1168	
8 Perfluorohexanoic acid	312.8 > 268.6	3.115	3.162	-0.047	1.004	62463	13.3		130	M
D 10 13C4-PFHpA	366.9 > 321.8	3.637	3.689	-0.052	1.000	797724	39.1	78.2	1455	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.637	3.689	-0.052	1.000	156458	9.43		236	M
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.681	3.733	-0.052	1.000	42269	4.15		58.4	M
D 13 18O2 PFHxS	402.9 > 83.8	3.681	3.737	-0.056	1.000	267162	46.6	98.4	881	
D 14 M2-6:2FTS	428.6 > 408.6	4.265	4.319	-0.054	1.000	110997	101.4	213	509	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.252	4.319	-0.067	0.997	2667	1.11		31.0	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.317	4.365	-0.048	1.000	852733	45.4		90.8	2658	
* 49 13C2-PFOA										
414.9 > 369.8	4.317	4.371	-0.054		1107955	50.0			1659	
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.317	4.374	-0.057	1.000	47603	2.57			41.2	M
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.304	4.408	-0.104	0.844	351	0.1989			2.5	M
19 Perfluorononanoic acid										M
462.8 > 418.8	4.798	5.143	-0.345	0.944	1869	0.2056			3.9	M
D 21 13C5 PFNA										
467.8 > 422.8	5.085	5.145	-0.060	1.000	1185628	51.9		104	1824	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.113	5.168	-0.055	1.003	481	0.2390			3.7	M
D 22 13C4 PFOS										
502.8 > 79.8	5.099	5.168	-0.069	1.000	221505	46.9		98.1	1694	
24 Sodium 1H,1H,2H,2H-perfluorodecane										M
526.8 > 506.5	5.743	5.910	-0.167	0.995	201	0.0289			3.2	M
D 23 M2-8:2FTS										
528.8 > 508.8	5.773	5.910	-0.137	1.000	442642	64.5		135	2957	
D 25 13C2 PFDA										
514.9 > 469.5	5.793	5.934	-0.141	1.000	1465212	48.2		96.4	2680	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.862	5.938	-0.076	1.012	1151	-0.0577			6.7	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.223	6.298	-0.075	1.000	247960	36.2		72.5	1578	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.241	6.310	-0.069	1.003	135	0.0638			0.6	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.562	6.667	-0.105	1.000	270493	45.4		90.8	1961	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.526	6.688	-0.162	0.994	282	-0.0341			1.7	M
31 Perfluorodecane Sulfonic acid										M
598.8 > 79.8	6.544	6.699	-0.155	1.283	226	0.0838			2.6	M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.580	6.711	-0.131	0.997	3275	0.1530			11.9	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.598	6.713	-0.115	1.000	1629930	48.9		97.9	6404	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	238670	29.8		59.5	1710	
D 36 13C2 PFDoA										
614.8 > 569.6	7.271	7.392	-0.121	1.000	1425960	42.1		84.1	2244	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.294	7.399	-0.105	1.003	1151	0.0197			4.1	M
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.987	8.022	-0.035	1.098	300	-0.0832			5.3	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.484	8.572	-0.088	1.000	1384260	43.2		86.5	1241	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.484	8.572	-0.088	1.000	1323	-0.1079			10.1	M
712.8 > 168.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			

**QC Flag Legend**

Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d

Injection Date: 21-Apr-2018 19:33:38

Instrument ID: LC410

Lims ID: 200-43041-B-9-A

Lab Sample ID: 200-43041-9

Client ID: MW-5 DUP

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 34

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

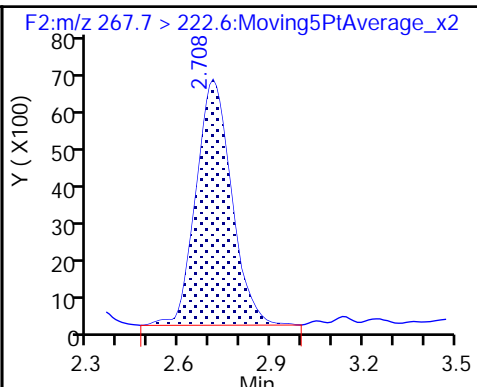
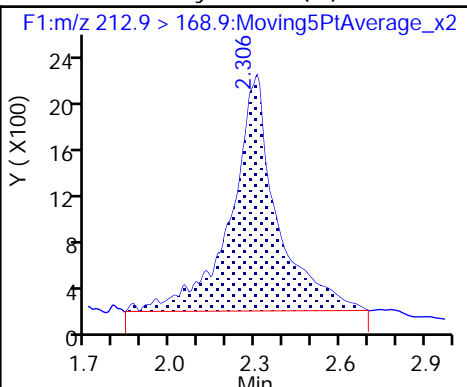
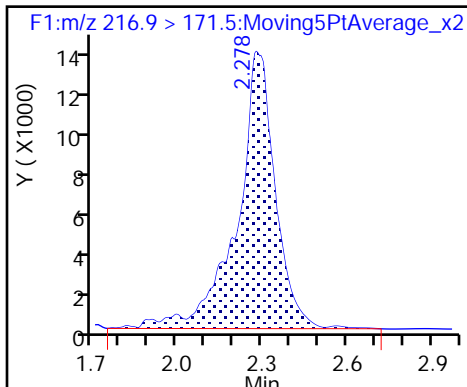
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

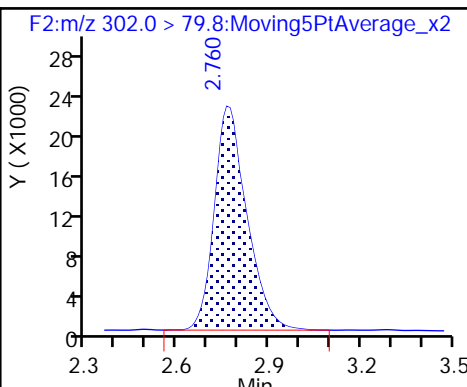
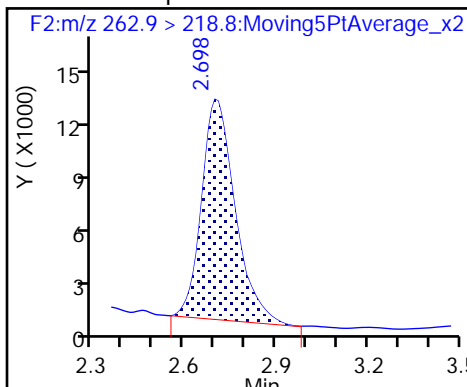
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

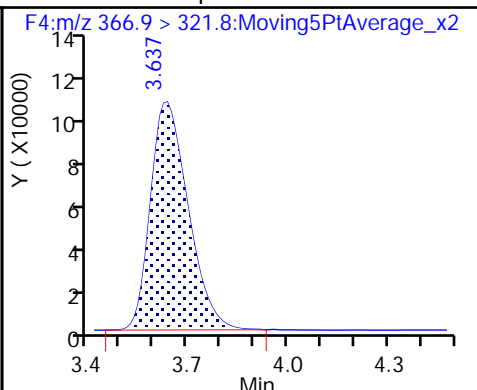
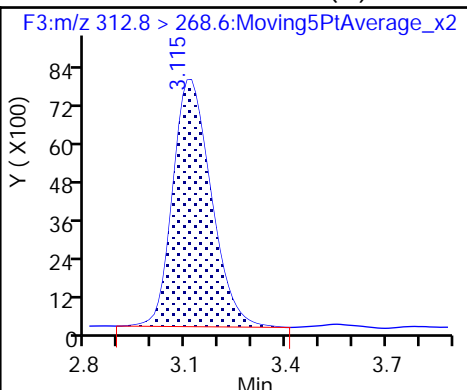
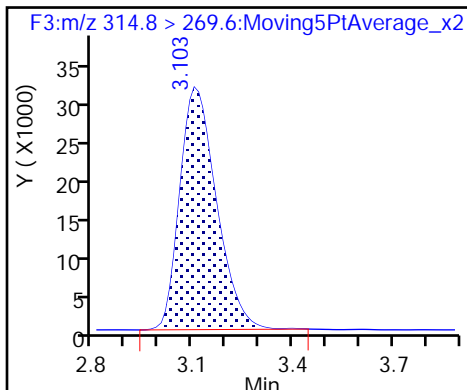
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

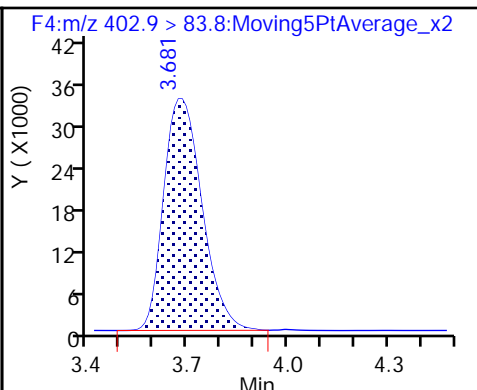
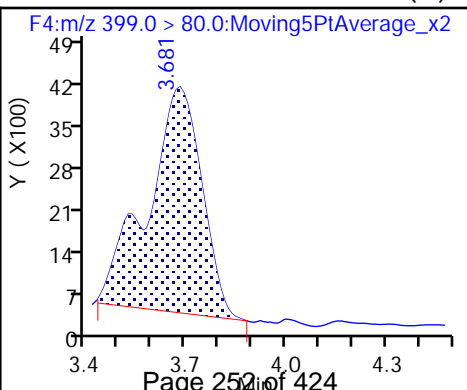
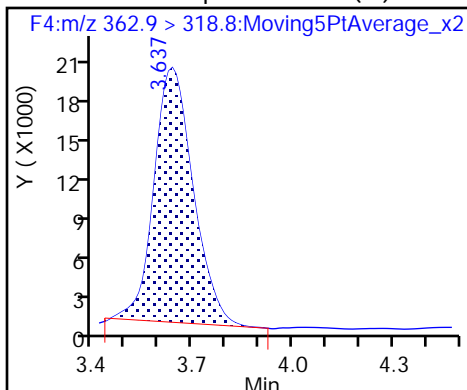
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

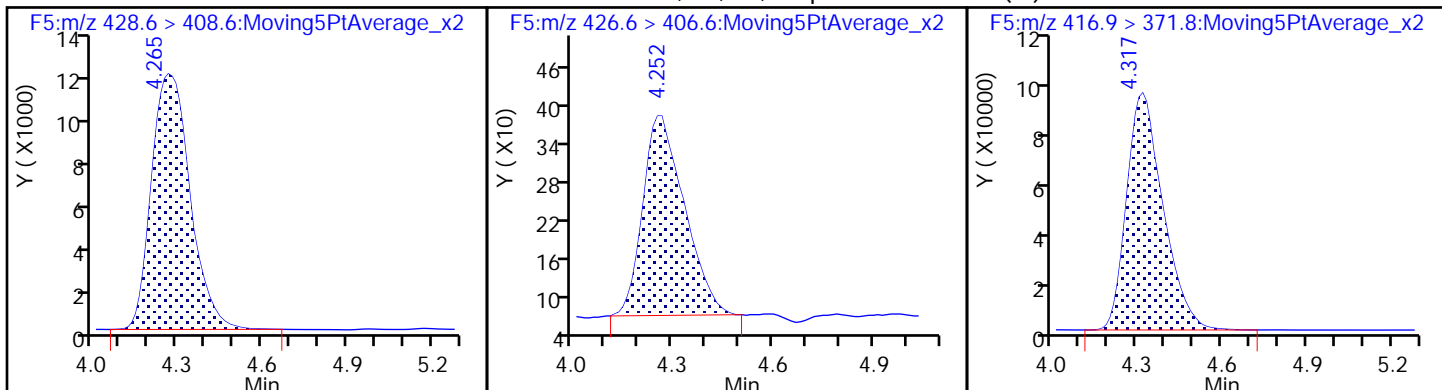
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

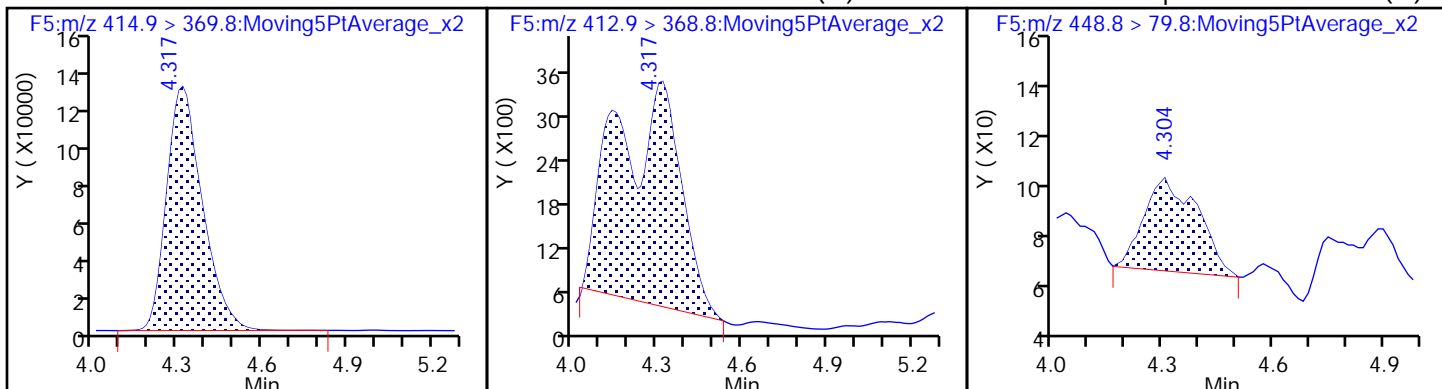
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid (M)

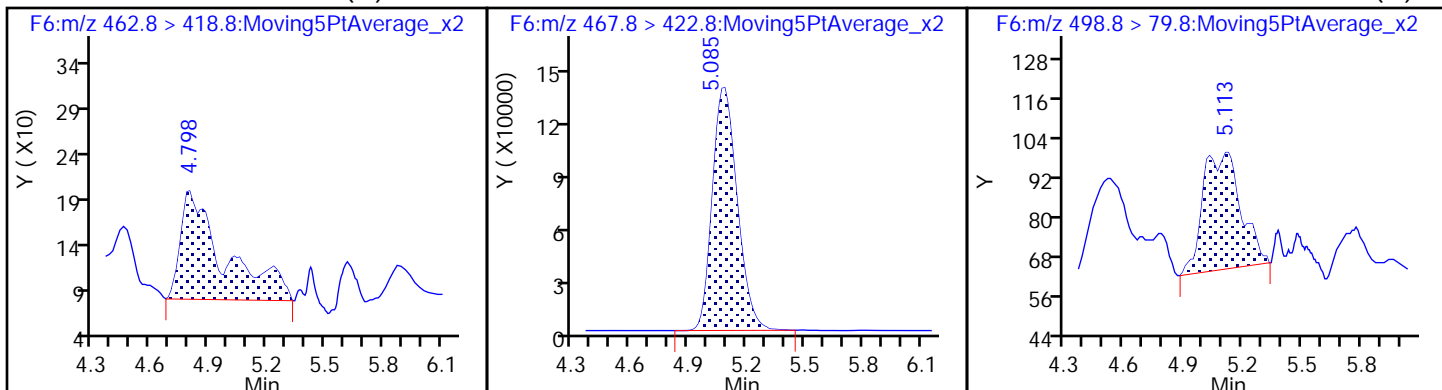
18 Perfluoroheptanesulfonic acid (M)



19 Perfluorononanoic acid (M)

D 21 13C5 PFNA

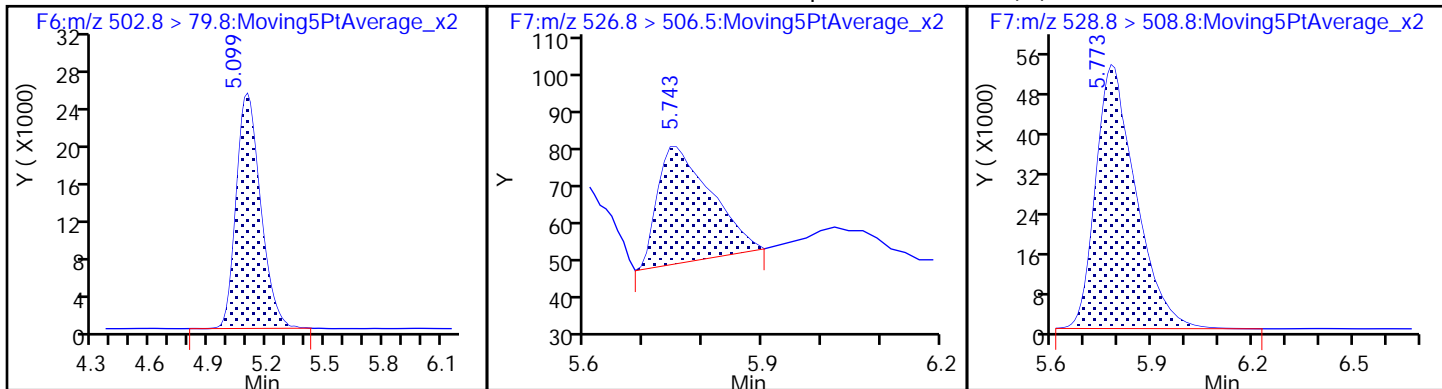
20 Perfluorooctane sulfonic acid (M)



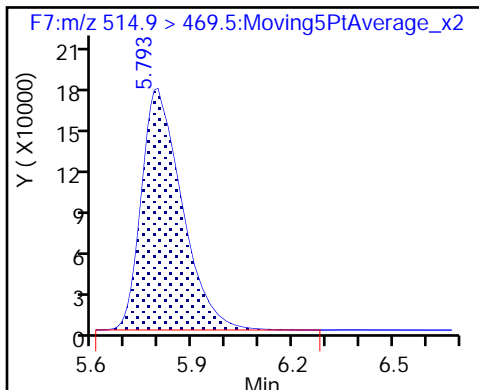
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (M) 13C4 PFOA

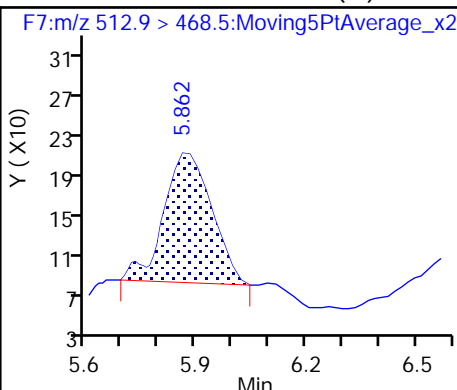
D 23 M2-8:2FTS



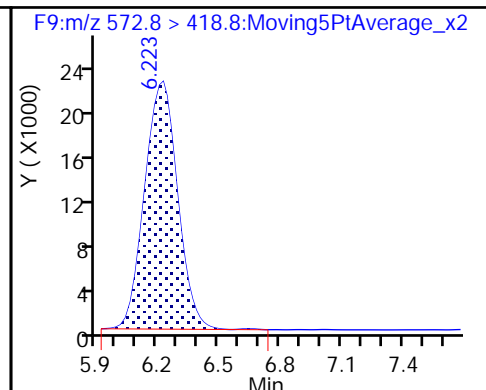
D 25 13C2 PFDA



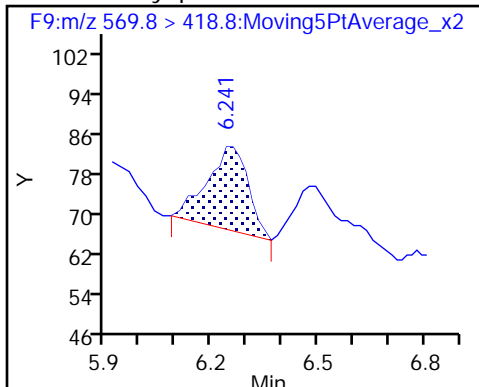
26 Perfluorodecanoic acid (M)



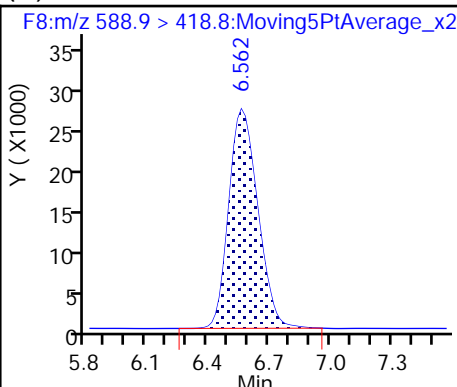
D 27 d3-NMeFOSAA



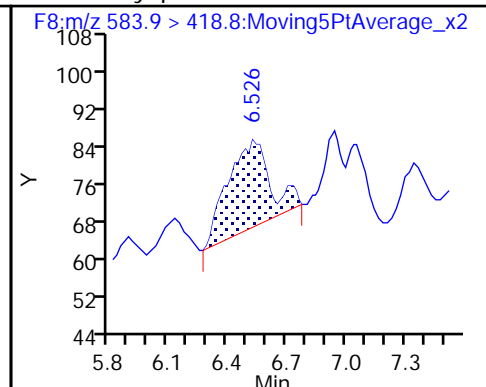
28 N-methyl perfluorooctane sulfonamide (M)



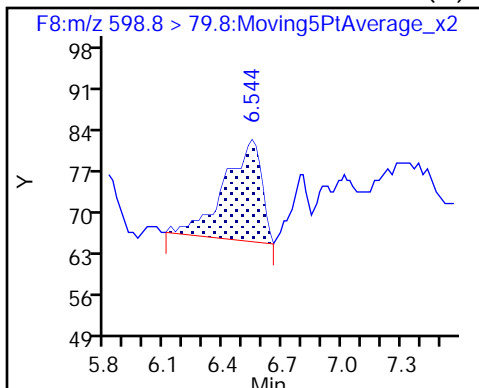
D 29 d5-NEtFOSAA



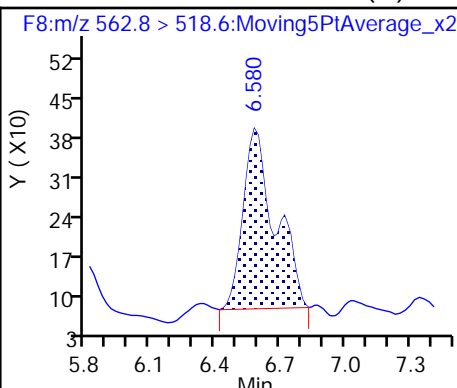
30 N-ethyl perfluorooctane sulfonamide (M)



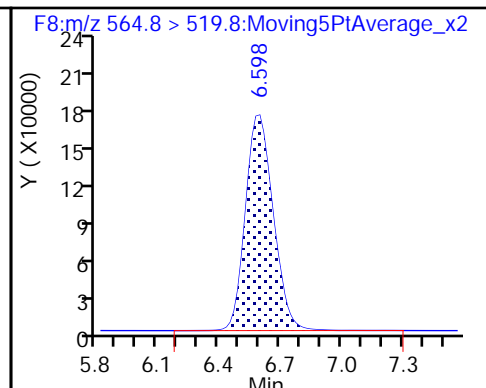
31 Perfluorodecane Sulfonic acid (M)



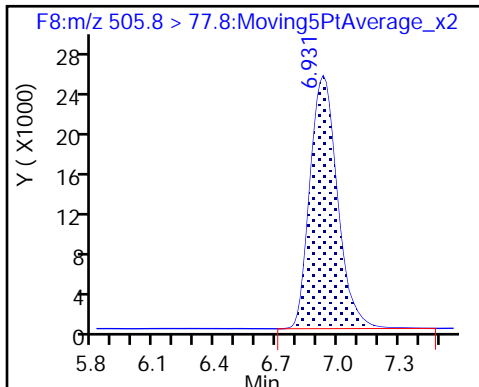
32 Perfluoroundecanoic acid (M)



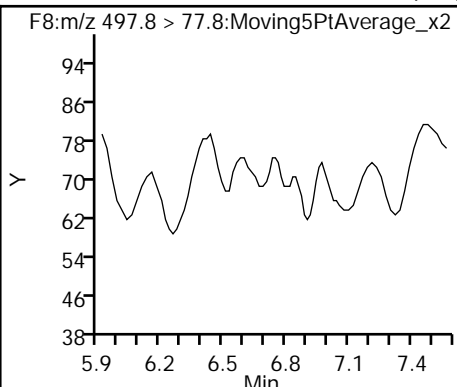
D 33 13C2 PFUnA



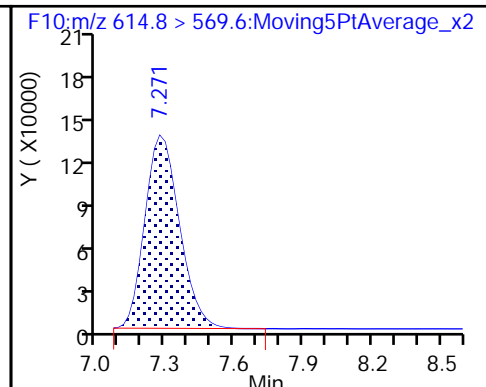
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (ND)



D 36 13C2 PFDoA

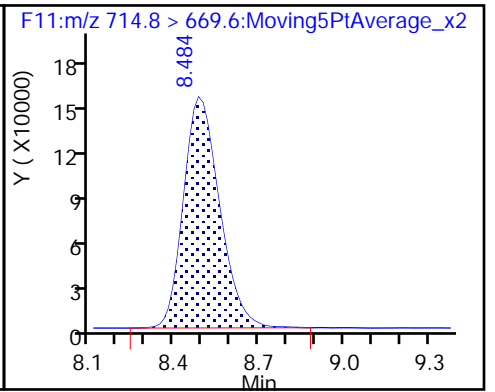
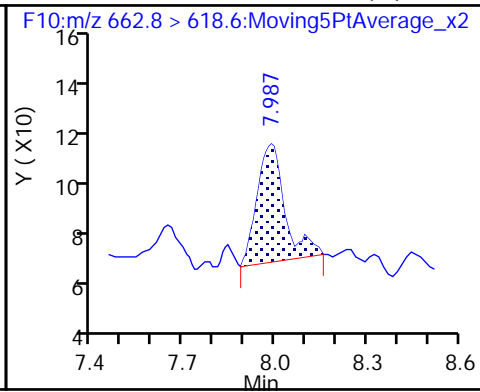
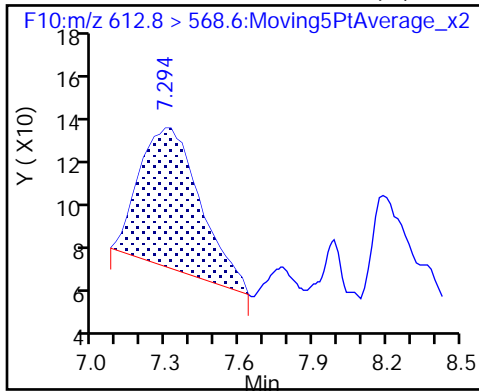




37 Perfluorododecanoic acid (M)

40 Perfluorotridecanoic acid (M)

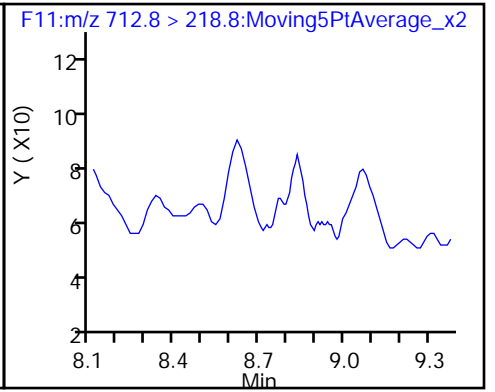
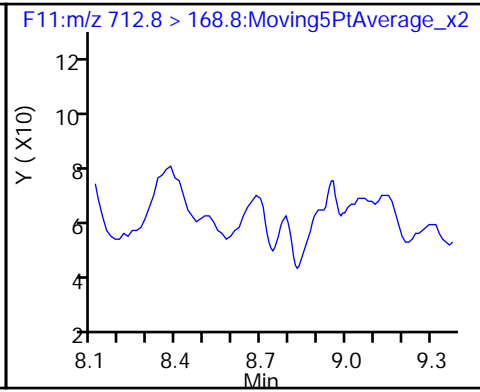
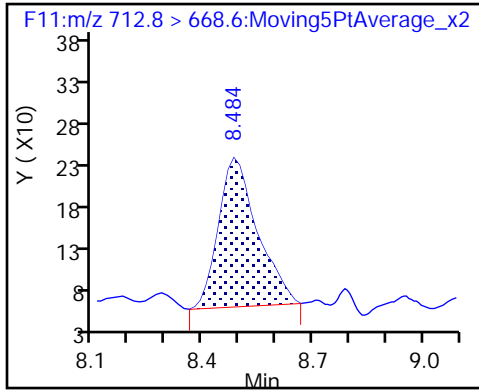
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

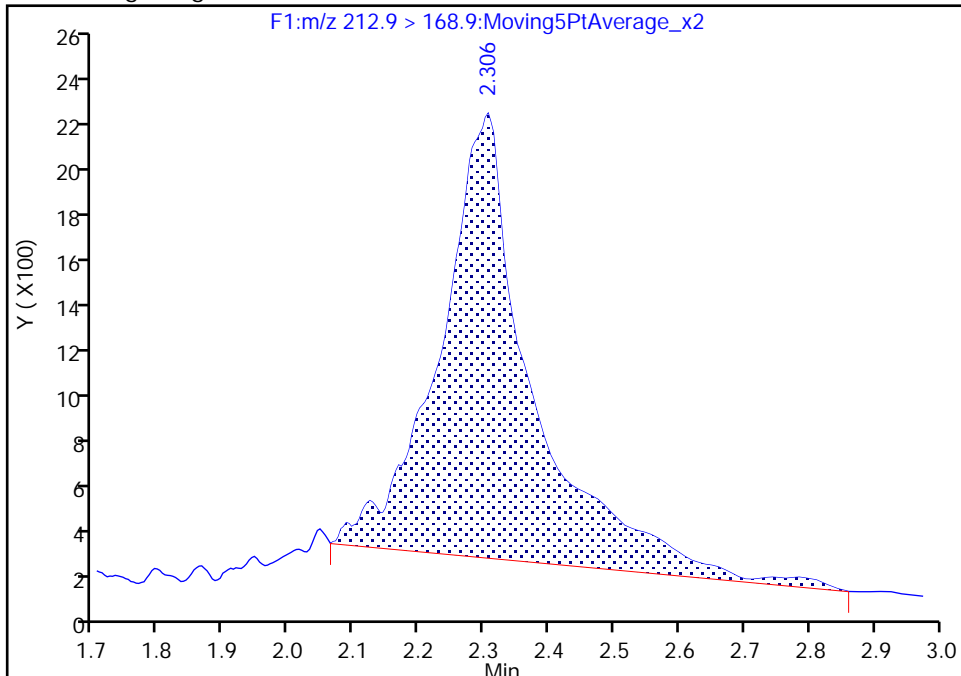
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

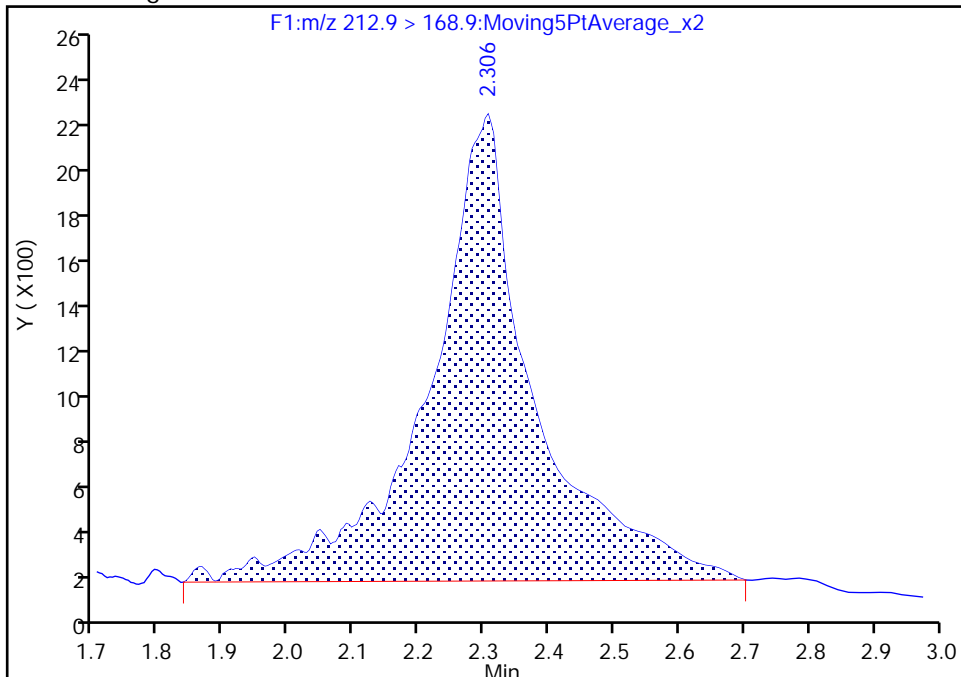
RT: 2.31  
Area: 18704  
Amount: 7.774284  
Amount Units: ng/ml

Processing Integration Results



RT: 2.31  
Area: 22384  
Amount: 9.334162  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:05:23  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

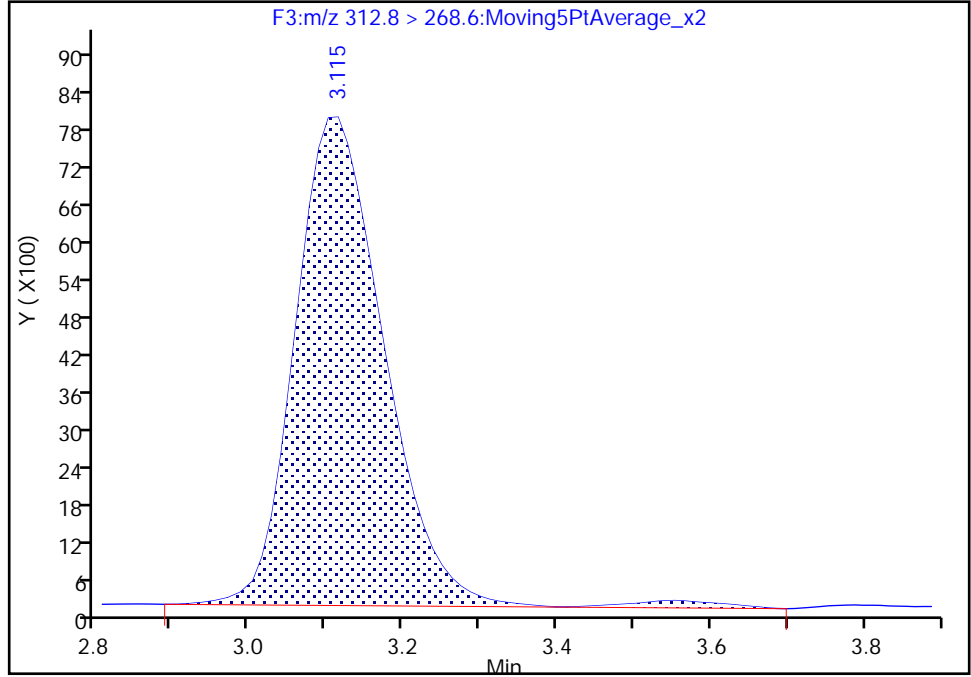
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

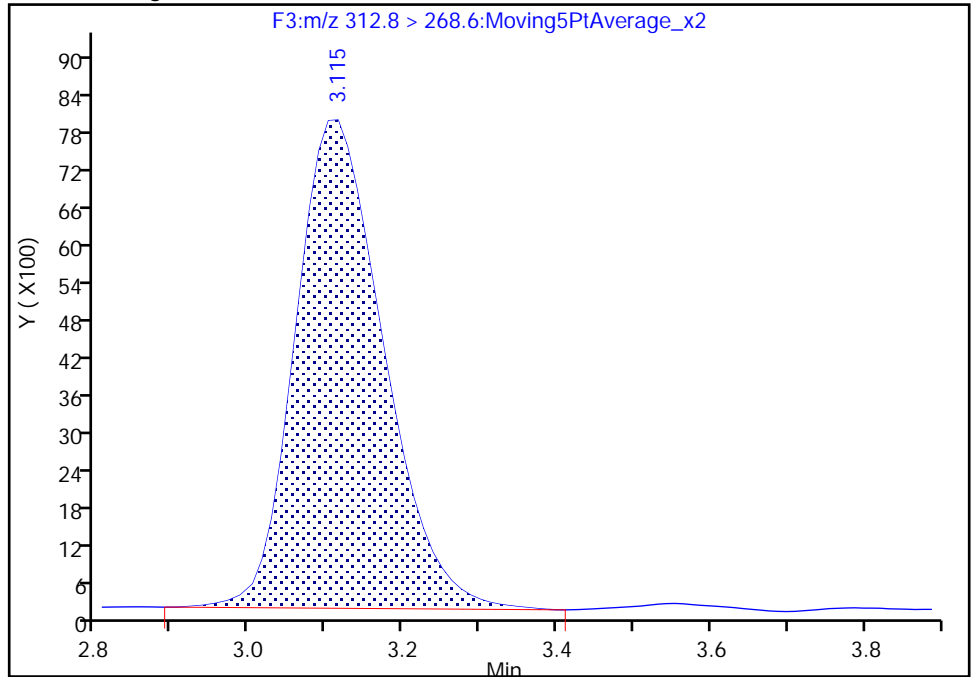
RT: 3.11  
Area: 63482  
Amount: 13.542175  
Amount Units: ng/ml

Processing Integration Results



RT: 3.11  
Area: 62463  
Amount: 13.325579  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:05:31  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

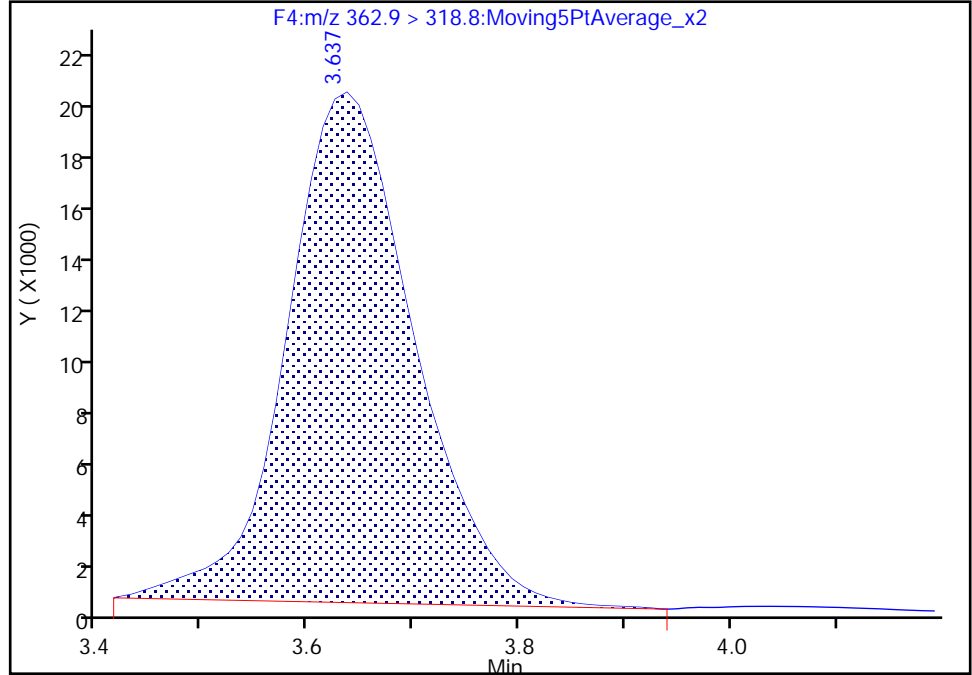
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

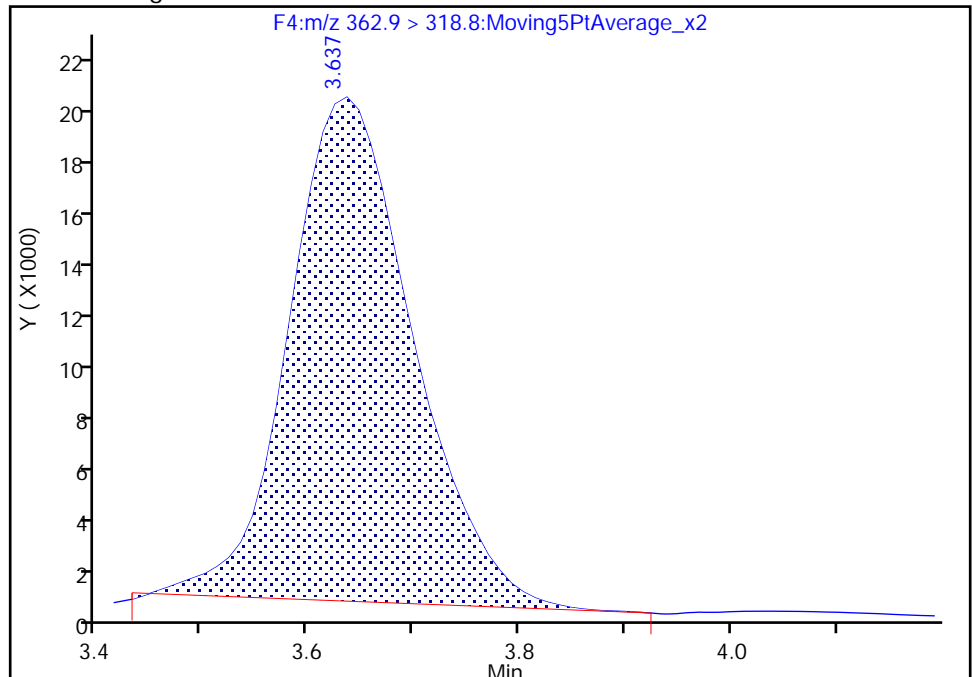
RT: 3.64  
Area: 162221  
Amount: 9.780697  
Amount Units: ng/ml

Processing Integration Results



RT: 3.64  
Area: 156458  
Amount: 9.434934  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:05:37  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

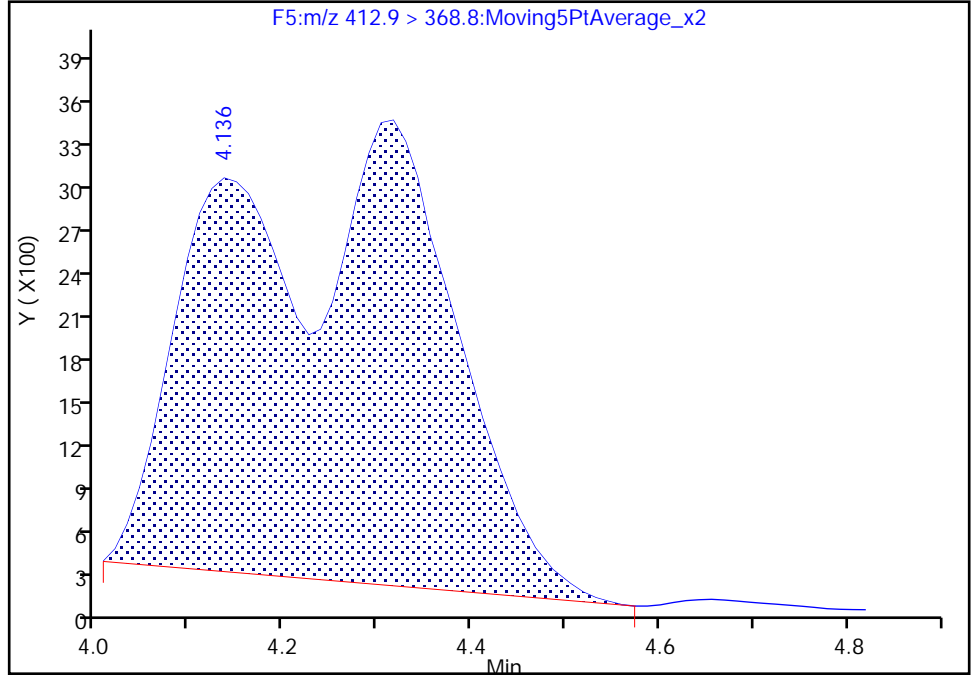
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

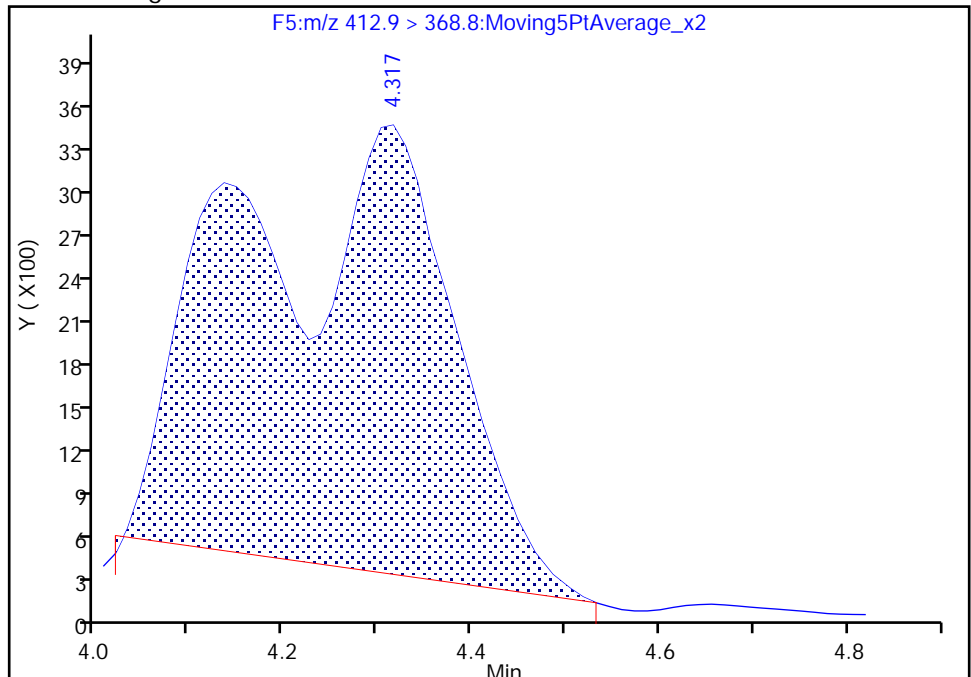
RT: 4.14  
Area: 51356  
Amount: 2.778578  
Amount Units: ng/ml

Processing Integration Results



RT: 4.32  
Area: 47603  
Amount: 2.574558  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

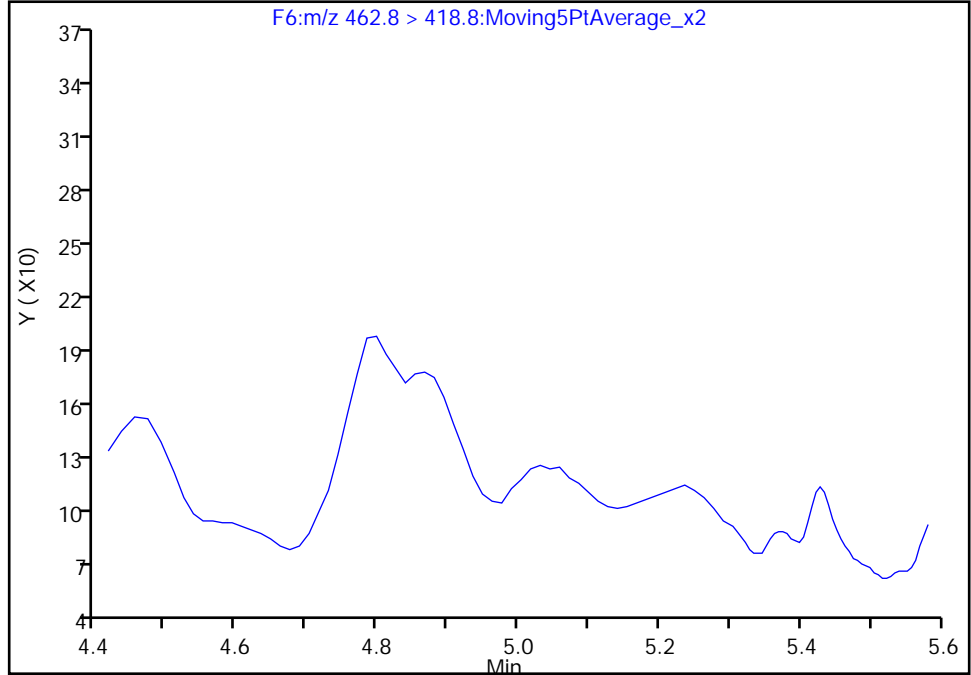
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

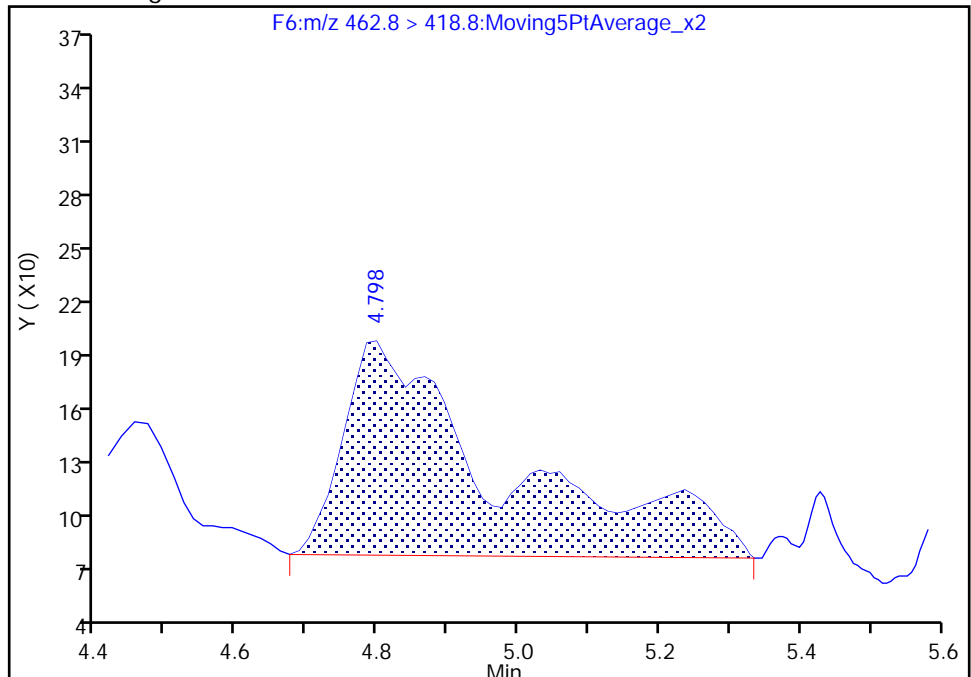
Not Detected  
Expected RT: 5.14

Processing Integration Results



Manual Integration Results

RT: 4.80  
Area: 1869  
Amount: 0.205617  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:06:09  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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TestAmerica Burlington

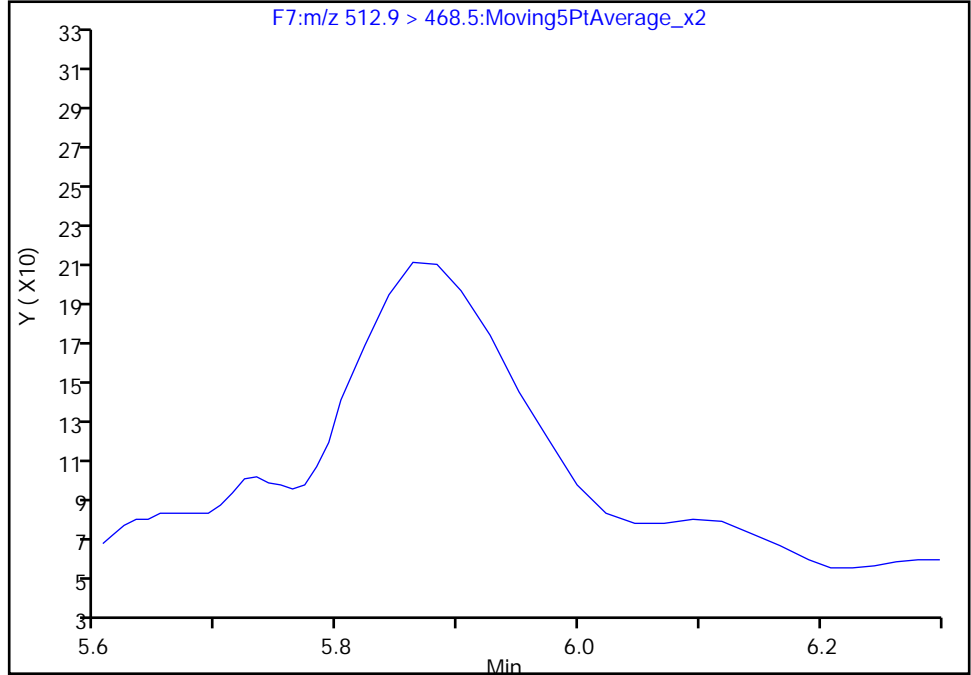
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

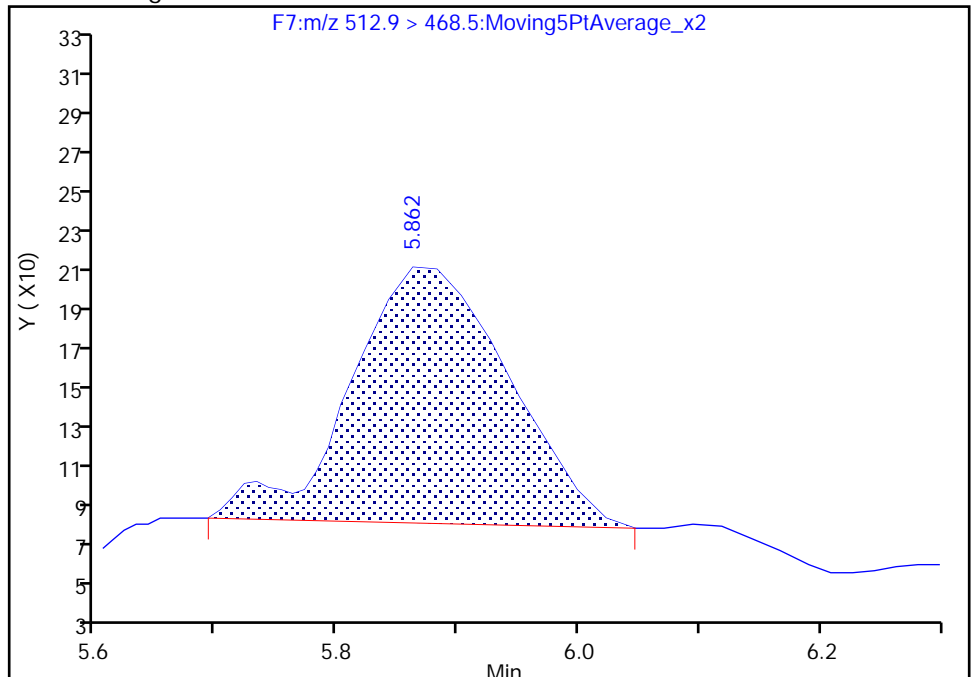
Not Detected  
Expected RT: 5.94

Processing Integration Results



Manual Integration Results

RT: 5.86  
Area: 1151  
Amount: -0.057715  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:06:24  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

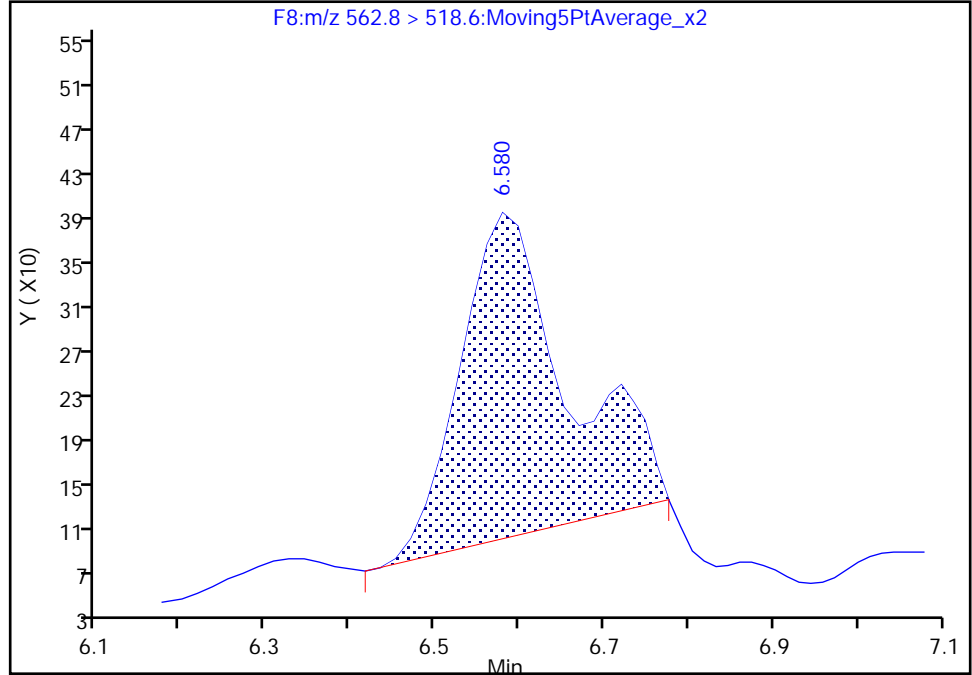
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

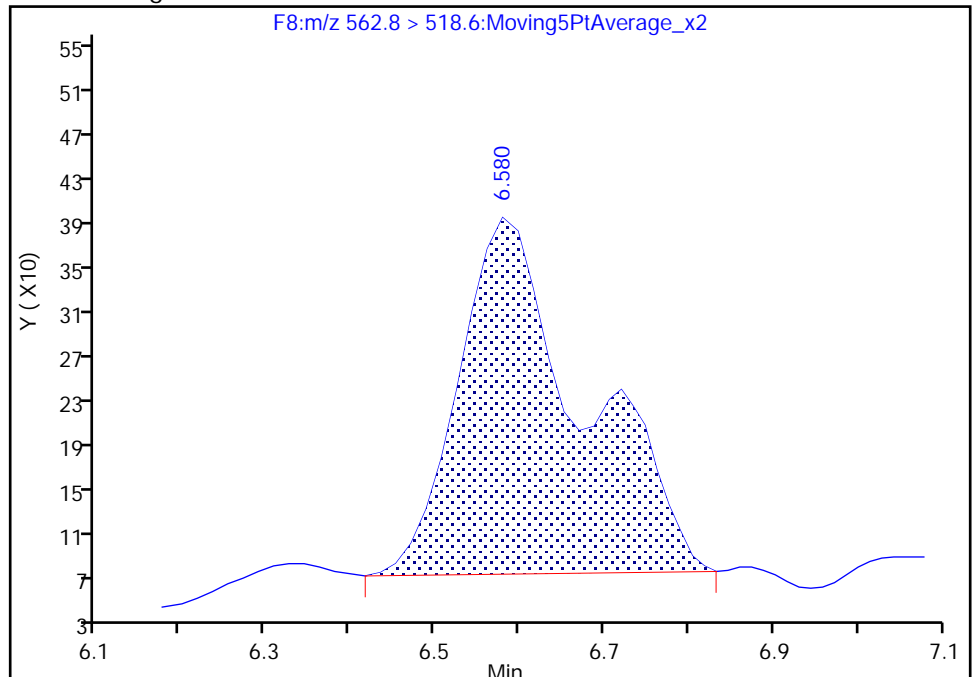
RT: 6.58  
Area: 2551  
Amount: 0.129722  
Amount Units: ng/ml

Processing Integration Results



RT: 6.58  
Area: 3275  
Amount: 0.153039  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:07:16  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

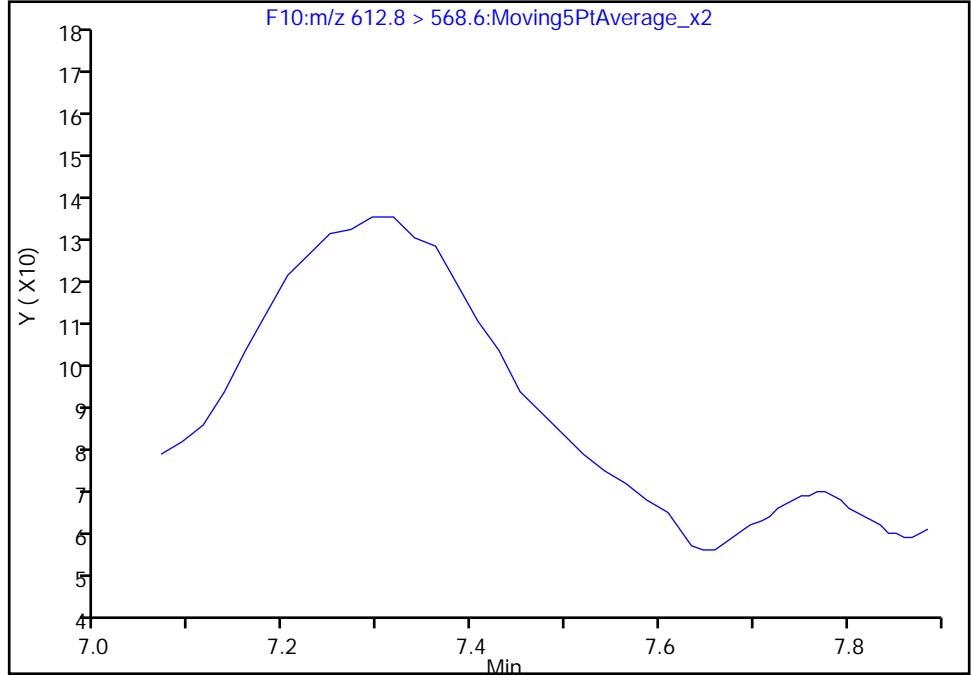
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

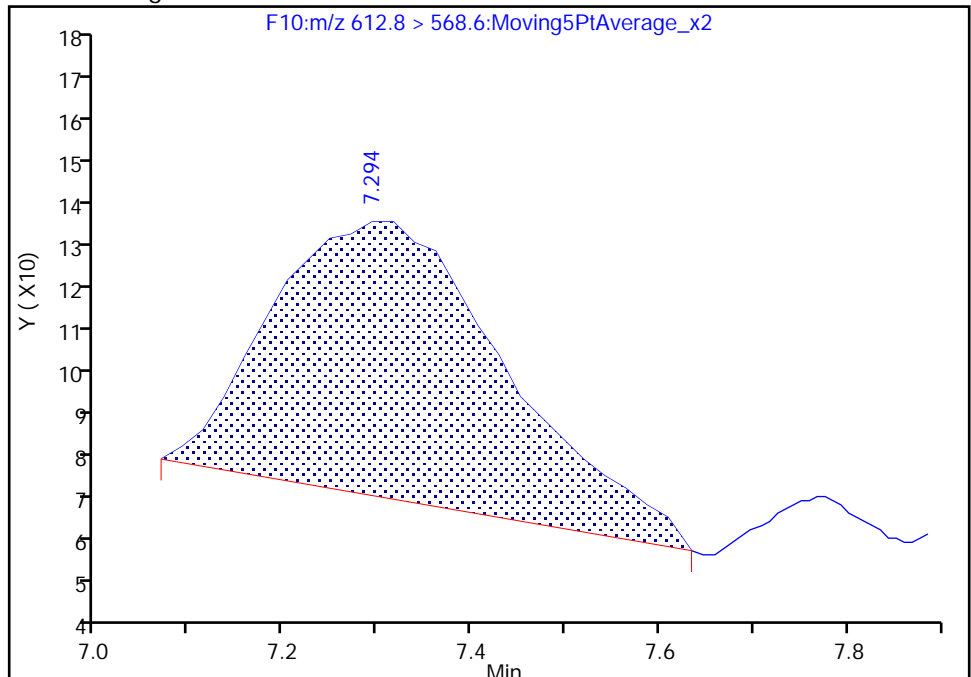
Not Detected  
Expected RT: 7.40

Processing Integration Results



RT: 7.29  
Area: 1151  
Amount: 0.019666  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:06:54  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

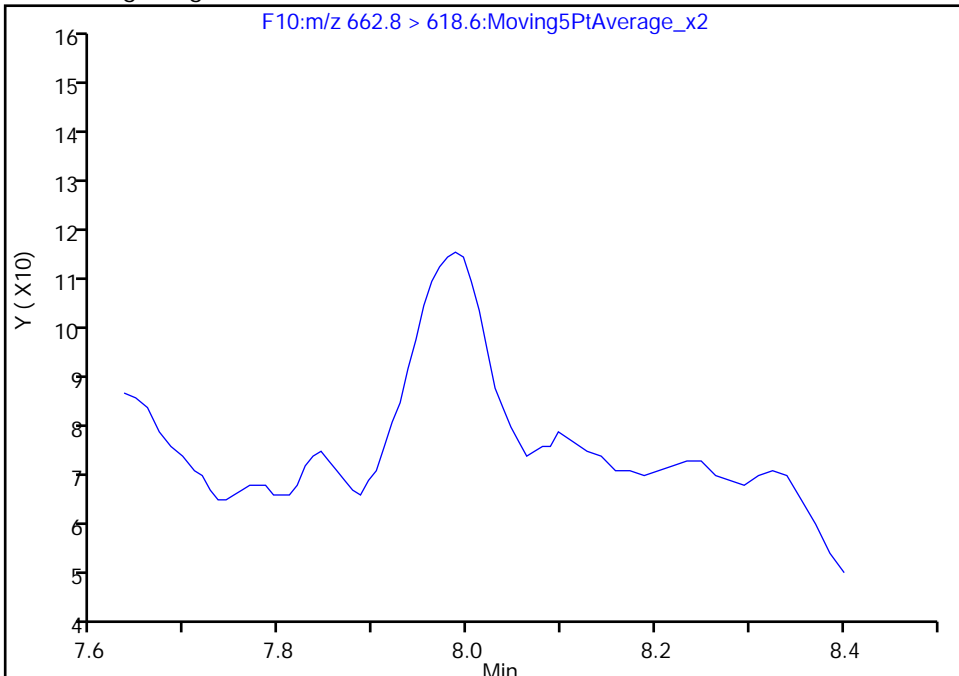
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:MRM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

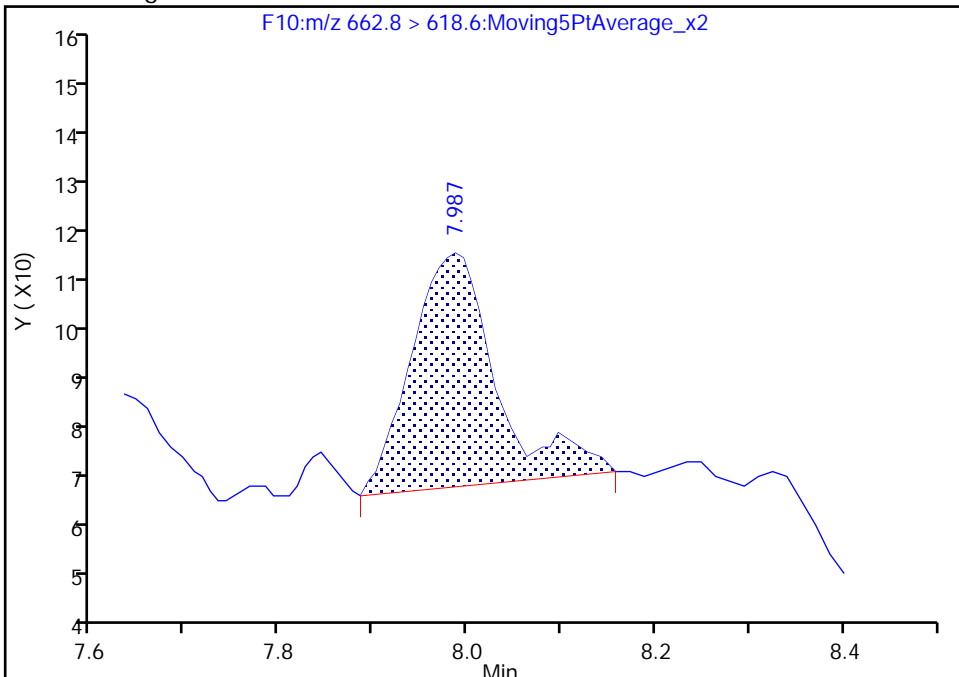
Not Detected  
Expected RT: 8.02

Processing Integration Results



RT: 7.99  
Area: 300  
Amount: -0.083246  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:06:59  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

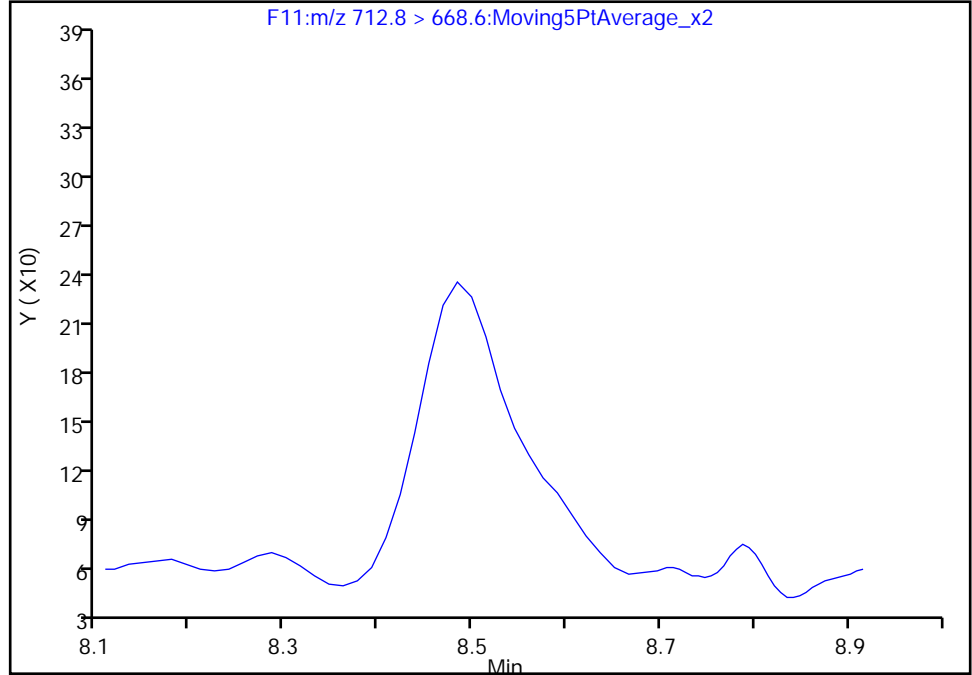
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:M/RM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

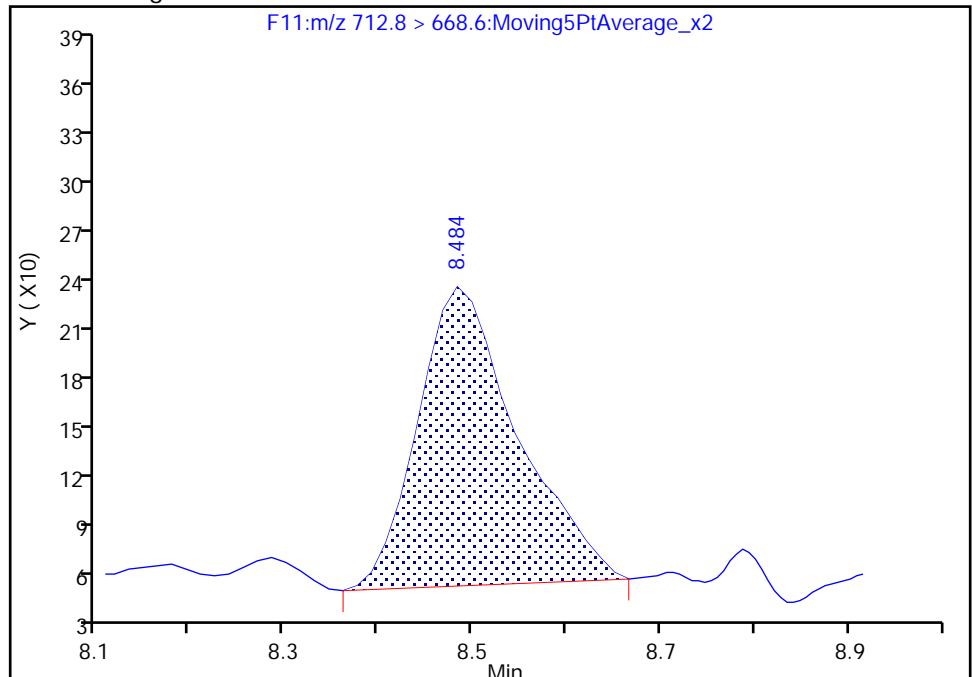
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.48  
Area: 1323  
Amount: -0.107949  
Amount Units: ng/ml



TestAmerica Burlington

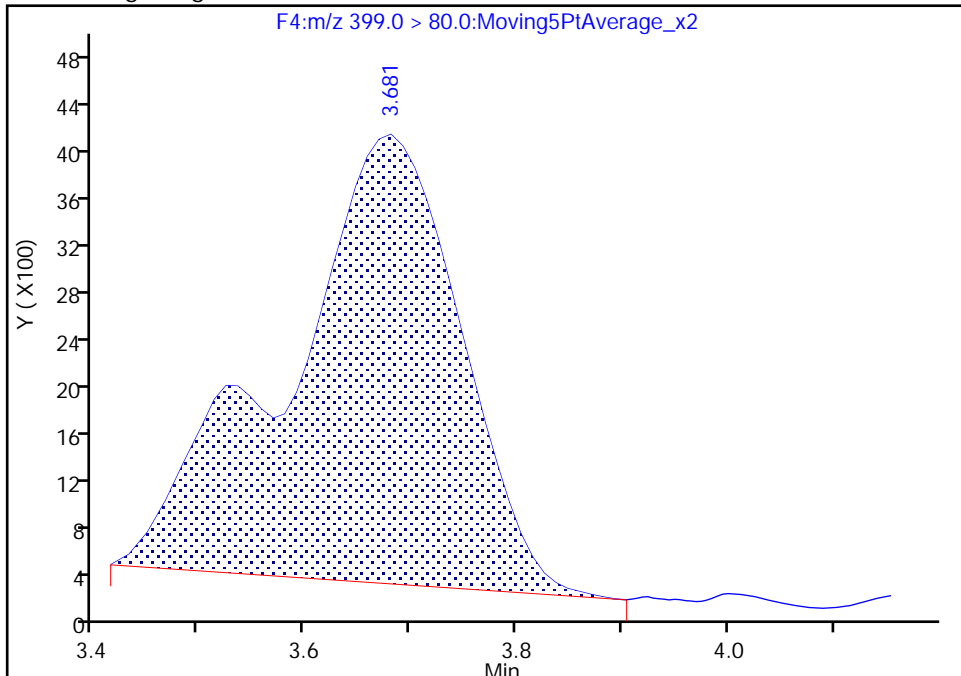
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

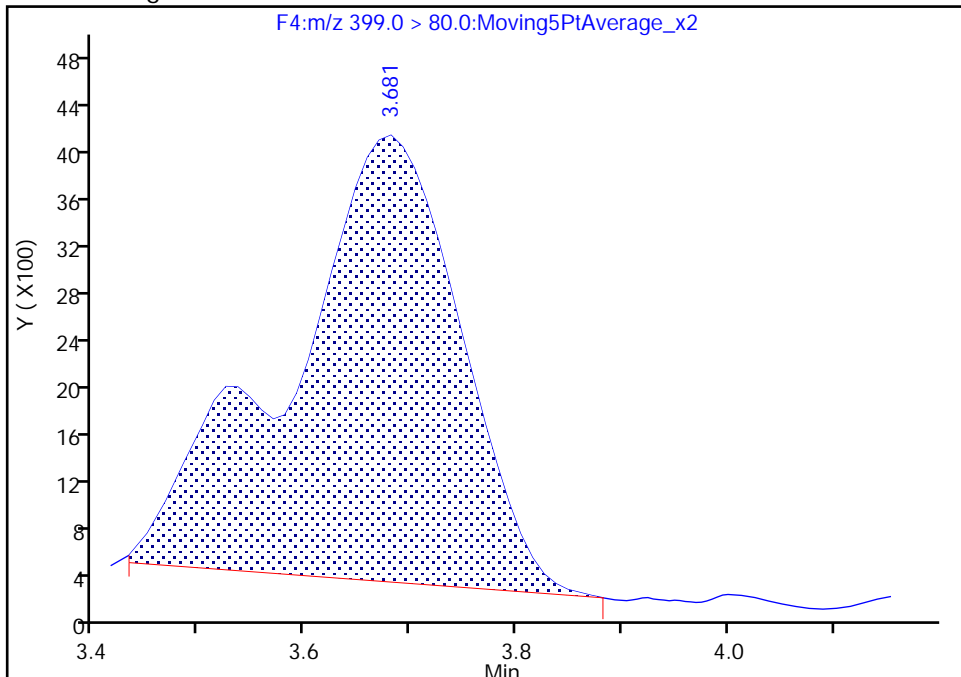
RT: 3.68  
Area: 43110  
Amount: 4.235905  
Amount Units: ng/ml

Processing Integration Results



RT: 3.68  
Area: 42269  
Amount: 4.152722  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:05:40  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

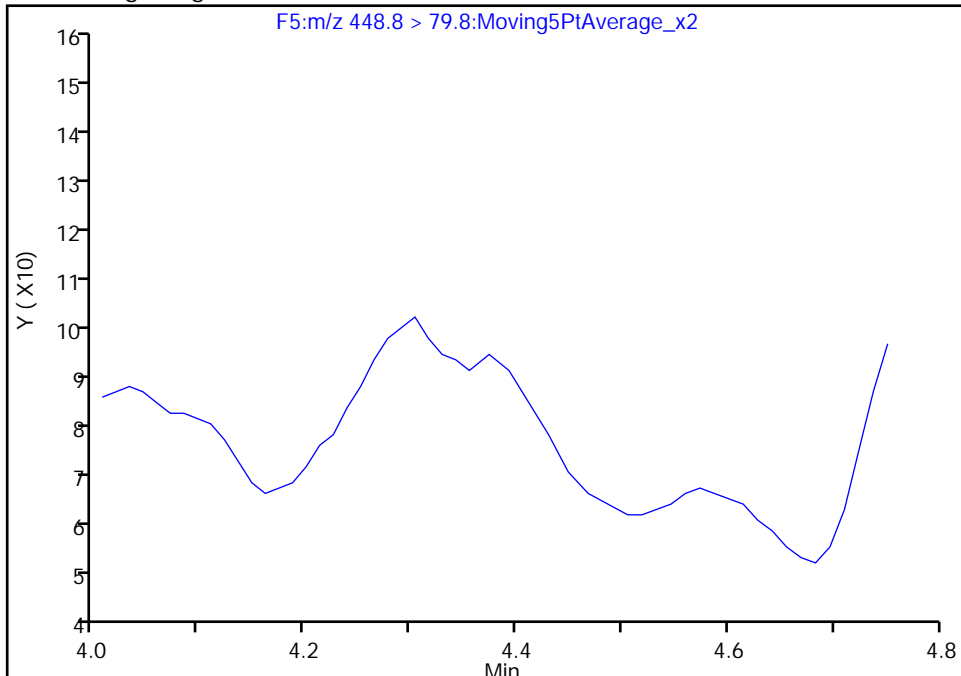
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

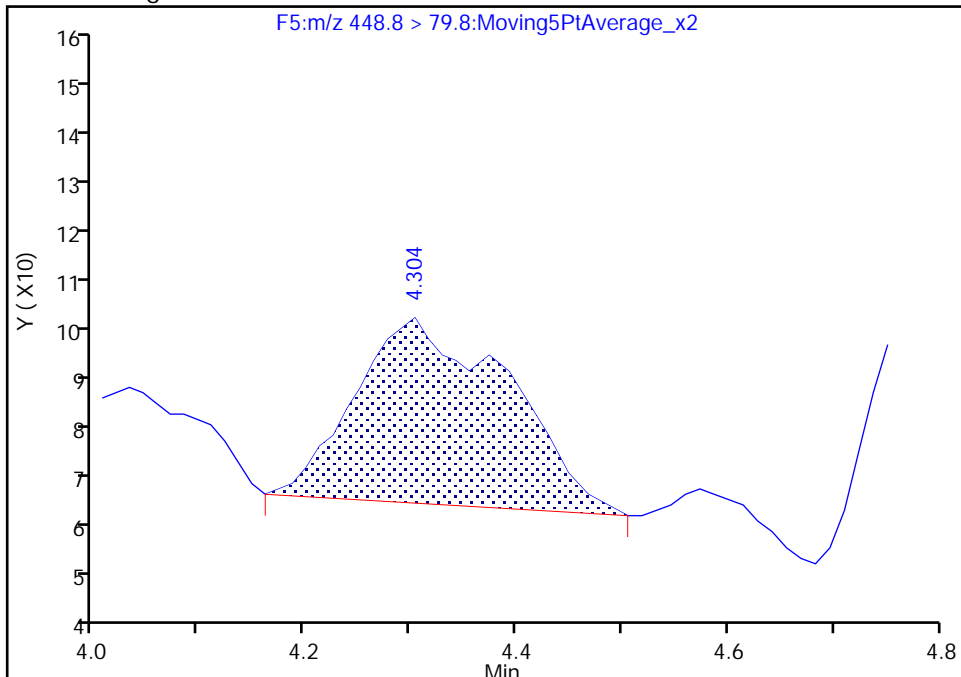
Not Detected  
Expected RT: 4.41

Processing Integration Results



Manual Integration Results

RT: 4.30  
Area: 351  
Amount: 0.198863  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:06:03  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

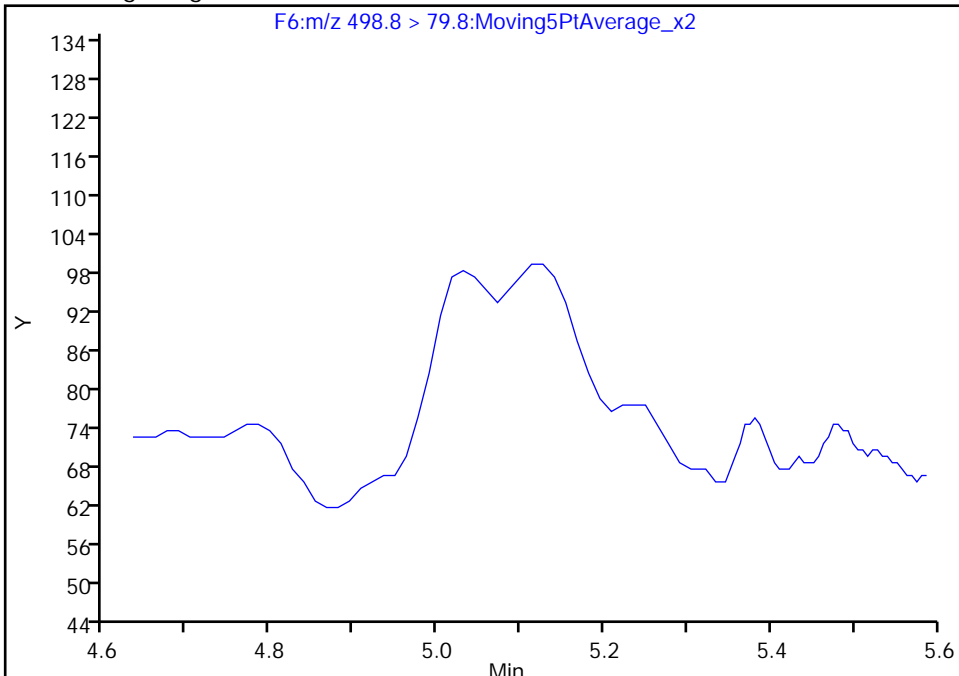
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

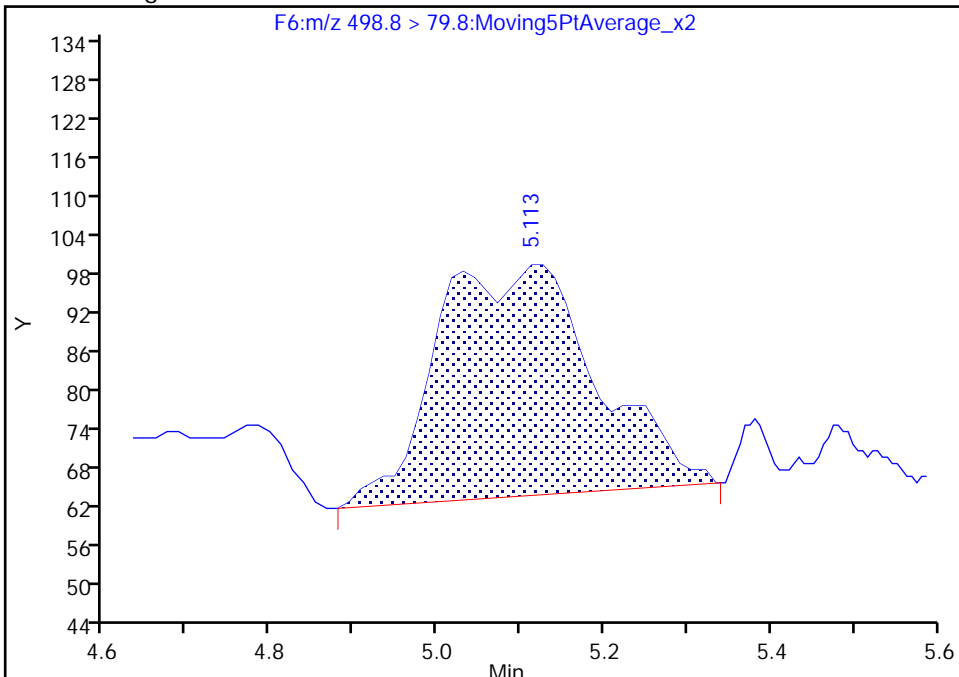
Not Detected  
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.11  
Area: 481  
Amount: 0.239011  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 16:06:13  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

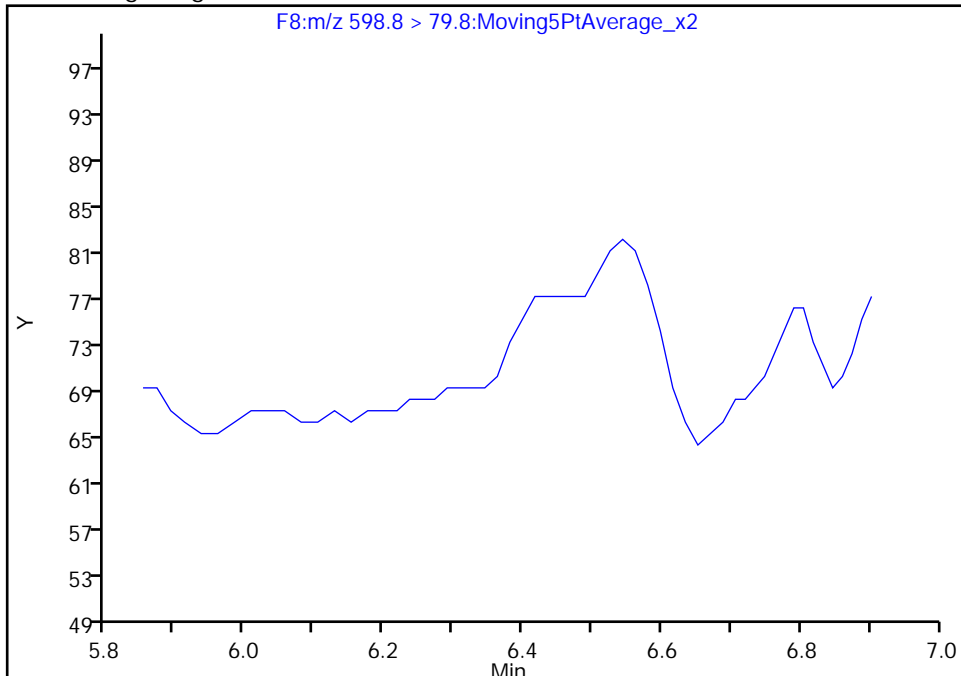
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

31 Perfluorodecane Sulfonic acid, CAS: 335-77-3

Signal: 1

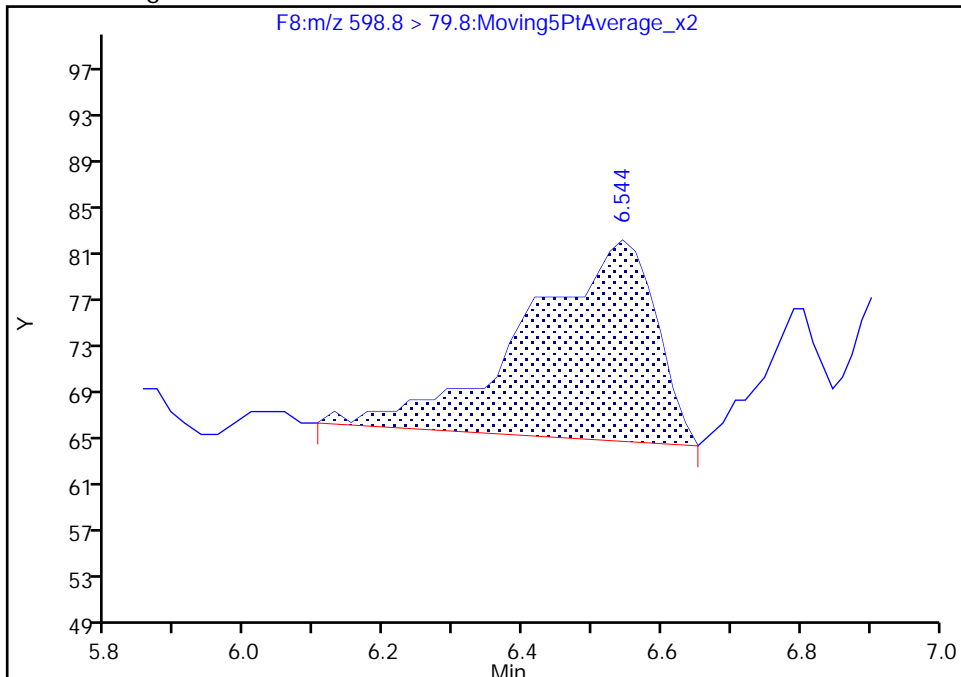
Not Detected  
Expected RT: 6.70

Processing Integration Results



Manual Integration Results

RT: 6.54  
Area: 226  
Amount: 0.083762  
Amount Units: ng/ml



TestAmerica Burlington

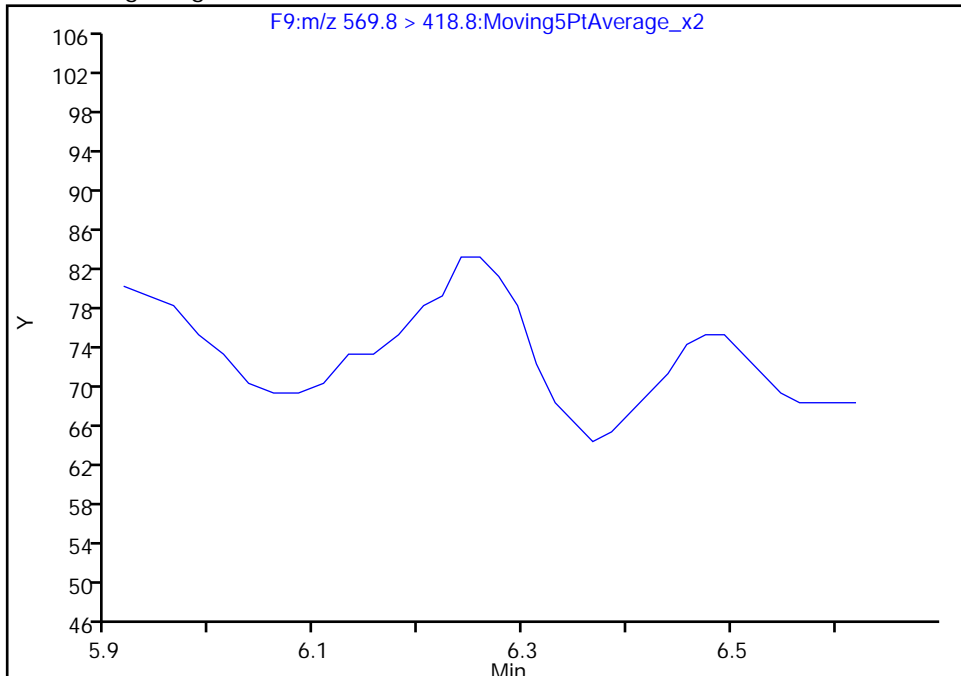
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F9:MRM

28 N-methyl perfluorooctane sulfonamidoacetic a, CAS: 2355-31-9

Signal: 1

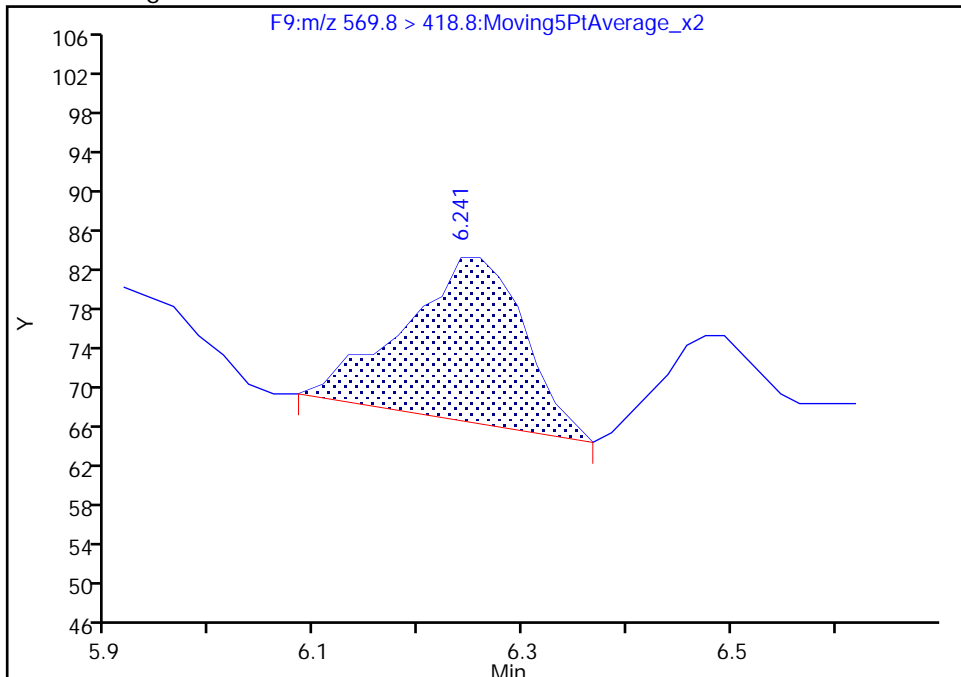
Not Detected  
Expected RT: 6.31

Processing Integration Results



RT: 6.24  
Area: 135  
Amount: 0.063775  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:06:28  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

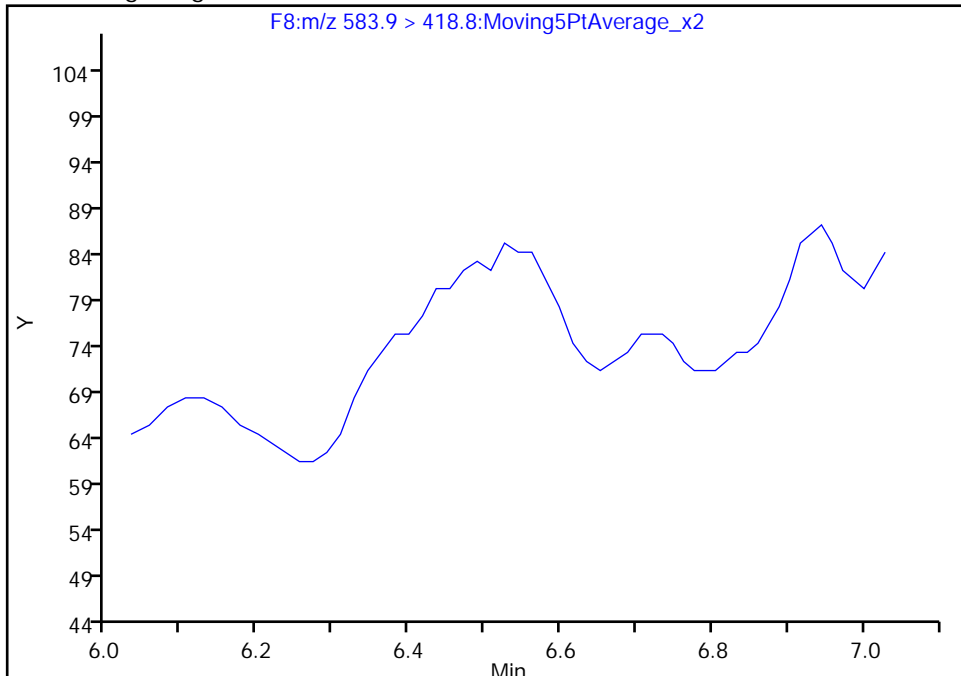
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

30 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

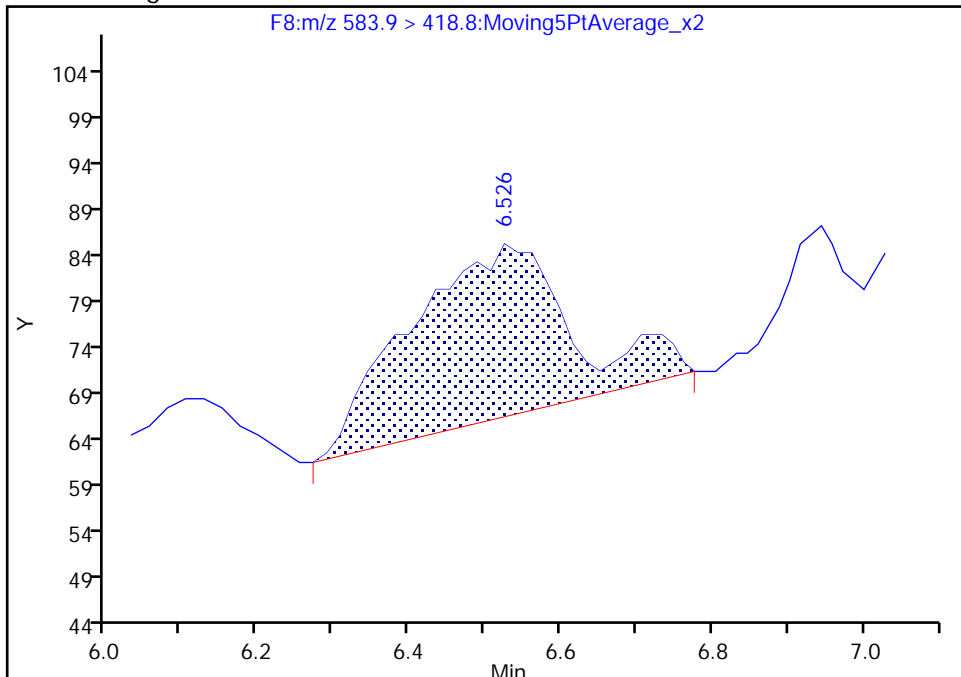
Not Detected  
Expected RT: 6.69

Processing Integration Results



Manual Integration Results

RT: 6.53  
Area: 282  
Amount: -0.034095  
Amount Units: ng/ml



TestAmerica Burlington

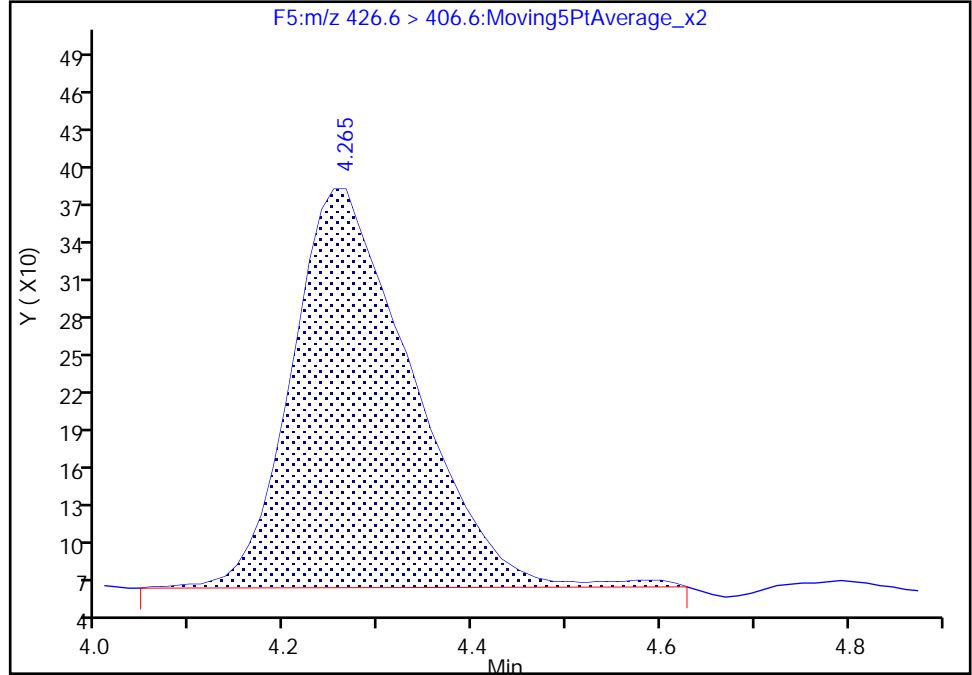
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

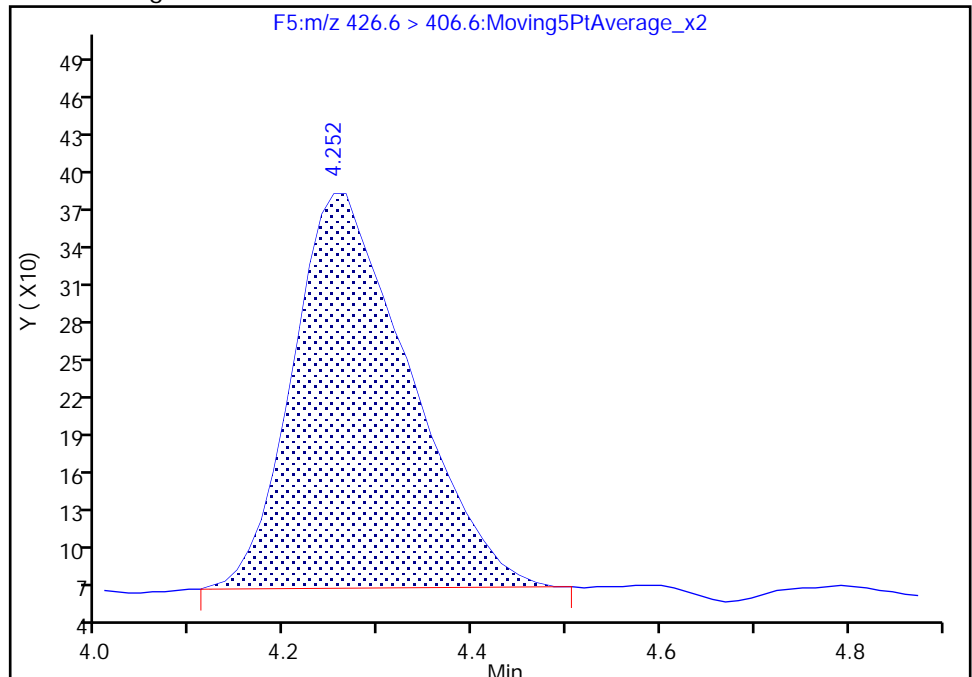
RT: 4.27  
Area: 2787  
Amount: 1.160101  
Amount Units: ng/ml

Processing Integration Results



RT: 4.25  
Area: 2667  
Amount: 1.110150  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 16:05:45  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

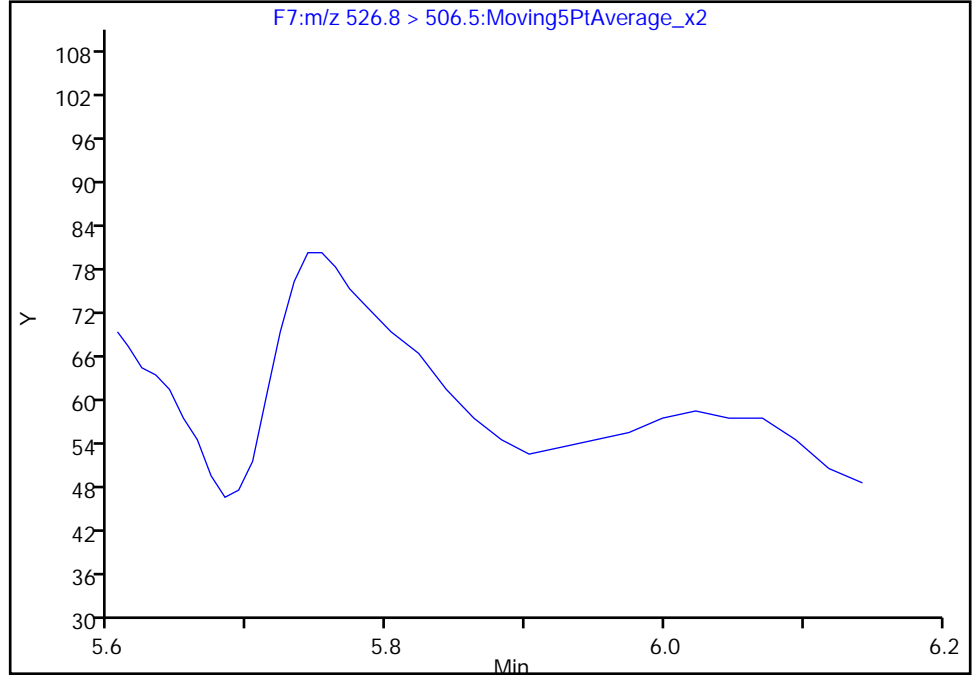
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A34.d  
Injection Date: 21-Apr-2018 19:33:38 Instrument ID: LC410  
Lims ID: 200-43041-B-9-A Lab Sample ID: 200-43041-9  
Client ID: MW-5 DUP  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 34  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F7:MRM

24 Sodium 1H,1H,2H,2H-perfluorodecane sulfonate, CAS: 39108-34-4

Signal: 1

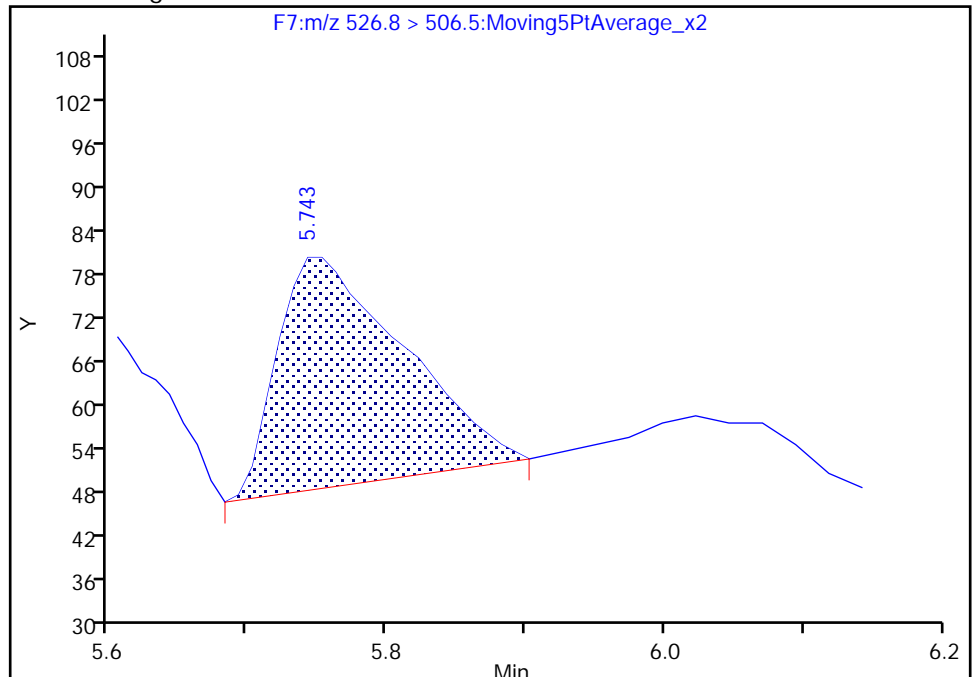
Processing Integration Results

Not Detected  
Expected RT: 5.91



Manual Integration Results

RT: 5.74  
Area: 201  
Amount: 0.028888  
Amount Units: ng/ml



FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-43041-1 Analy Batch No.: 128716

SDG No.: \_\_\_\_\_

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/21/2018 12:30 Calibration End Date: 04/21/2018 13:45 Calibration ID: 39306

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-128716/6	PF042118A06.d
Level 2	IC 200-128716/7	PF042118A07.d
Level 3	IC 200-128716/8	PF042118A08.d
Level 4	IC 200-128716/9	PF042118A09.d
Level 5	IC 200-128716/10	PF042118A10.d
Level 6	IC 200-128716/11	PF042118A11.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	1.0567 0.8672	0.9441	0.9426	0.9436	0.9257	L2ID	0.1394	0.9054						0.9990		0.9900	
Perfluoropentanoic acid (PFPeA)	8.3140 5.6684	5.8477	6.2294	5.7767	5.3904	L2ID	2.4691	5.4740						0.9900		0.9900	
Perfluorobutanesulfonic acid (PFBS)	1.6996 1.8913	1.7673	2.1823	2.0624	2.2031	L2ID	-0.364	2.0895						0.9940		0.9900	
Perfluorohexanoic acid (PFHxA)	0.9482 0.9622	0.9120	0.9922	0.9943	0.9827	L2ID	-0.048	0.9793						0.9990		0.9900	
Perfluoroheptanoic acid (PFHpA)	1.0090 1.0059	0.9826	1.0503	1.0534	1.0782	L2ID	-0.050	1.0447						0.9990		0.9900	
Perfluorohexanesulfonic acid (PFHxS)	1.8793 1.7590	1.7307	1.8444	1.7936	1.8309	L2ID	0.0503	1.7900						0.9990		0.9900	
6:2FTS	0.8931 ++++	0.9554	1.1745	1.0759	1.0415	AveID		1.0281			10.6		35.0				
Perfluorooctanoic acid (PFOA)	1.0757 1.0124	1.1304	1.0393	1.1463	1.0928	L2ID	0.0143	1.0786						0.9970		0.9900	
Perfluoroheptanesulfonic Acid (PFHpS)	0.8824 0.9352	0.8508	0.8933	1.0554	0.9884	L2ID	-0.117	0.9707						0.9950		0.9900	
Perfluorononanoic acid (PFNA)	0.8819 1.0380	0.8949	0.9928	0.9823	0.9481	L2ID	-0.125	0.9935						0.9980		0.9900	
Perfluorooctanesulfonic acid (PFOS)	0.9766 1.1288	0.9723	1.1500	1.1611	1.0892	L2ID	-0.167	1.1329						0.9980		0.9900	
8:2FTS	0.3835 ++++	0.8493	0.7384	0.9619	0.8317	AveID		0.7529			29.4		35.0				
Perfluorodecanoic acid (PFDA)	1.0407 0.9012	0.9639	0.9175	0.9878	0.9615	L2ID	0.0932	0.9345						0.9980		0.9900	
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	1.0722 1.0292	1.0244	1.1762	1.1021	1.1395	L2ID	-0.043	1.1034						0.9960		0.9900	
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.1195 0.9708	1.0207	1.1483	1.0064	1.0514	L2ID	0.0871	1.0270						0.9950		0.9900	

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-43041-1 Analy Batch No.: 128716

SDG No.: \_\_\_\_\_

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/21/2018 12:30 Calibration End Date: 04/21/2018 13:45 Calibration ID: 39306

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6																
Perfluorodecanesulfonic acid (PFDS)	1.0608 1.0707	1.0854	1.1732	1.1489	1.0803	L2ID	-0.045	1.1170						0.9980		0.9900	
Perfluoroundecanoic acid (PFUnA)	0.8968 0.9426	0.9487	0.9459	0.9698	0.9309	L2ID	-0.045	0.9525						1.0000		0.9900	
Perfluorooctane Sulfonamide (FOSA)	0.8324 0.8662	0.8726	0.8516	0.8874	0.9306	L2ID	-0.057	0.8905						0.9990		0.9900	
Perfluorododecanoic acid (PFDoA)	0.9625 0.8386	0.8283	0.8993	0.9338	0.9783	L2ID	0.0227	0.9001						0.9930		0.9900	
Perfluorotridecanoic Acid (PFTriA)	1.0384 0.8442	0.8834	0.9436	1.0128	0.9421	L2ID	0.0870	0.9183						0.9930		0.9900	
Perfluorotetradecanoic acid (PFTeA)	1.0061 0.8240	0.9280	0.8734	0.8670	0.9188	L2ID	0.1407	0.8612						0.9980		0.9900	
13C4 PFBA	0.4677 0.6318	0.4978	0.4179	0.4451	0.4591	Ave		0.4575			6.4		30.0				
13C5 PFPeA	0.1023 0.1366	0.1192	0.0987	0.1118	0.1221	Ave		0.1108			9.2		30.0				
13C3-PFBS	0.2342 0.3054	0.2615	0.1937	0.2337	0.2343	Ave		0.2315			10.5		30.0				
13C2 PFHxA	0.3935 0.4933	0.3929	0.3233	0.3707	0.4029	Ave		0.3767			8.5		30.0				
13C4-PFHpA	0.9675 1.0242	1.0428	0.8033	0.8963	0.8952	Ave		0.9210			9.7		30.0				
18O2 PFHxS	0.2710 0.3181	0.2779	0.2246	0.2564	0.2649	Ave		0.2590			8.0		30.0				
M2-6:2FTS	0.0442 0.0712	0.0456	0.0405	0.0457	0.0491	Ave		0.0494			22.4		30.0				
13C4 PFOA	0.9161 0.9313	0.9910	0.7553	0.7795	0.7953	Ave		0.8474			12.0		30.0				
13C5 PFNA	1.0698 1.0494	1.1425	0.9183	1.0141	1.0132	Ave		1.0316			8.0		30.0				
13C4 PFOS	0.2143 0.2568	0.2193	0.1713	0.2000	0.2171	Ave		0.2131			13.1		30.0				
M2-8:2FTS	0.2999 0.4317	0.3071	0.2542	0.2661	0.3000	Ave		0.3098			20.4		30.0				
13C2 PFDA	1.4437 1.6551	1.4908	1.2084	1.3311	1.3867	Ave		1.3721			8.0		30.0				
d3-NMeFOSAA	0.3291 0.4338	0.3312	0.2625	0.3076	0.3138	Ave		0.3088			9.0		30.0				
d5-NEtFOSAA	0.3044 0.2915	0.2965	0.2216	0.2663	0.2559	Ave		0.2689			12.4		30.0				

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-43041-1 Analy Batch No.: 128716

SDG No.: \_\_\_\_\_

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/21/2018 12:30 Calibration End Date: 04/21/2018 13:45 Calibration ID: 39306

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R <sup>2</sup> OR COD	#	MIN R <sup>2</sup> OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6																
13C2 PFOA	1.6521 1.3981	1.6666	1.3608	1.3811	1.4530	Ave		1.5027			9.8		30.0				
13C8 FOA	0.3679 0.5012	0.3597	0.3257	0.3734	0.3820	Ave		0.3618			6.0		30.0				
13C2 PFOA	1.5960 1.9843	1.6758	1.3652	1.4652	1.5485	Ave		1.5302			7.8		30.0				
13C2-PFOA	1.4999 1.8217	1.5338	1.2424	1.4764	1.4739	Ave		1.4453			8.0		30.0				

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-43041-1 Analy Batch No.: 128716

SDG No.: \_\_\_\_\_

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/21/2018 12:30 Calibration End Date: 04/21/2018 13:45 Calibration ID: 39306

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-128716/6	PF042118A06.d
Level 2	IC 200-128716/7	PF042118A07.d
Level 3	IC 200-128716/8	PF042118A08.d
Level 4	IC 200-128716/9	PF042118A09.d
Level 5	IC 200-128716/10	PF042118A10.d
Level 6	IC 200-128716/11	PF042118A11.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluorobutanoic acid (PFBA)		L2ID	11285 1257551	17385	43976	180447	422082	1.00 200	2.00	5.00	20.0	50.0
Perfluoropentanoic acid (PFPeA)		L2ID	19417 1777636	25789	68644	277559	653845	1.00 200	2.00	5.00	20.0	50.0
Perfluorobutanesulfonic acid (PFBS)		L2ID	8035 1171775	15114	41719	183063	453146	0.884 177	1.77	4.42	17.7	44.2
Perfluorohexanoic acid (PFHxA)		L2ID	8519 1089458	13253	35815	158371	393213	1.00 200	2.00	5.00	20.0	50.0
Perfluoroheptanoic acid (PFHpA)		L2ID	22291 2364633	37899	94206	405700	958538	1.00 200	2.00	5.00	20.0	50.0
Perfluorohexanesulfonic acid (PFHxS)		L2ID	10584 1168847	16191	42080	179841	438236	0.910 182	1.82	4.55	18.2	45.5
6:2FTS		AveID	854 +++++	1529	5035	20045	48166	0.948 +++++	1.90	4.74	19.0	47.4
Perfluorooctanoic acid (PFOA)		L2ID	22501 2164017	41435	87644	383922	863110	1.00 200	2.00	5.00	20.0	50.0
Perfluoroheptanesulfonic Acid (PFHpS)		L2ID	4111 524868	6569	16267	86333	202901	0.952 190	1.90	4.76	19.0	47.6
Perfluorononanoic acid (PFNA)		L2ID	21543 2500093	37818	101791	428031	954028	1.00 200	2.00	5.00	20.0	50.0
Perfluorooctanesulfonic acid (PFOS)		L2ID	4435 617521	7318	20414	92581	217960	0.928 186	1.86	4.64	18.6	46.4
8:2FTS		AveID	2516 +++++	9241	20072	105348	237374	0.958 +++++	1.92	4.79	19.2	47.9
Perfluorodecanoic acid (PFDA)		L2ID	34310 3423512	53152	123793	564995	1324093	1.00 200	2.00	5.00	20.0	50.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)		L2ID	8057 1024752	12549	34472	145656	355102	1.00 200	2.00	5.00	20.0	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)		L2ID	7782 649369	11192	28405	115151	267149	1.00 200	2.00	5.00	20.0	50.0
Perfluorodecanesulfonic acid (PFDS)		L2ID	5004 608442	8486	21634	95162	224560	0.964 193	1.93	4.82	19.3	48.2

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-43041-1 Analy Batch No.: 128716

SDG No.: \_\_\_\_\_

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/21/2018 12:30 Calibration End Date: 04/21/2018 13:45 Calibration ID: 39306

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluoroundecanoic acid (PFUnA)		L2ID	33832 3024732	58482	143703	575513	1343257	1.00 200	2.00	5.00	20.0	50.0
Perfluorooctane Sulfonamide (FOSA)		L2ID	6993 996505	11610	30969	142398	353049	1.00 200	2.00	5.00	20.0	50.0
Perfluorododecanoic acid (PFDoA)		L2ID	35078 3819276	51345	137083	587889	1504397	1.00 200	2.00	5.00	20.0	50.0
Perfluorotridecanoic Acid (PFTriA)		L2ID	37844 3844671	54756	143832	637634	1448702	1.00 200	2.00	5.00	20.0	50.0
Perfluorotetradecanoic acid (PFTeA)		L2ID	34459 3445304	52650	121151	549982	1344836	1.00 200	2.00	5.00	20.0	50.0
13C4 PFBA	13PF OA	Ave	533965 362551	460352	466551	478094	455966	50.0 50.0	50.0	50.0	50.0	50.0
13C5 PFPeA	13PF OA	Ave	116773 78401	110253	110194	120120	121299	50.0 50.0	50.0	50.0	50.0	50.0
13C3-PFBS	13PF OA	Ave	248680 162951	224927	201122	233453	216385	46.5 46.5	46.5	46.5	46.5	46.5
13C2 PFHxA	13PF OA	Ave	449229 283075	363306	360957	398198	400155	50.0 50.0	50.0	50.0	50.0	50.0
13C4-PFHpA	13PF OA	Ave	1104635 587700	964289	896930	962857	889058	50.0 50.0	50.0	50.0	50.0	50.0
18O2 PFHxS	13PF OA	Ave	292730 172691	243127	237176	260588	248831	47.3 47.3	47.3	47.3	47.3	47.3
M2-6:2FTS	13PF OA	Ave	47912 38825	40094	42960	46677	46344	47.5 47.5	47.5	47.5	47.5	47.5
13C4 PFOA	13PF OA	Ave	1045909 534357	916368	843282	837287	789819	50.0 50.0	50.0	50.0	50.0	50.0
13C5 PFNA	13PF OA	Ave	1221379 602138	1056506	1025285	1089351	1006206	50.0 50.0	50.0	50.0	50.0	50.0
13C4 PFOS	13PF OA	Ave	233910 140892	193831	182864	205361	206139	47.8 47.8	47.8	47.8	47.8	47.8
M2-8:2FTS	13PF OA	Ave	328072 237293	272022	271847	273806	285396	47.9 47.9	47.9	47.9	47.9	47.9
13C2 PFDA	13PF OA	Ave	1648352 949709	1378529	1349180	1429912	1377115	50.0 50.0	50.0	50.0	50.0	50.0
d3-NMeFOSAA	13PF OA	Ave	375712 248911	306256	293078	330417	311618	50.0 50.0	50.0	50.0	50.0	50.0
d5-NEtFOSAA	13PF OA	Ave	347568 167233	274136	247373	286050	254090	50.0 50.0	50.0	50.0	50.0	50.0
13C2 PFUnA	13PF OA	Ave	1886276 802241	1541104	1519286	1483568	1442924	50.0 50.0	50.0	50.0	50.0	50.0
13C8 FOSA	13PF OA	Ave	420066 287607	332613	363648	401152	379370	50.0 50.0	50.0	50.0	50.0	50.0



FORM VI  
 LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
 RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-43041-1 Analy Batch No.: 128716

SDG No.: \_\_\_\_\_

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/21/2018 12:30 Calibration End Date: 04/21/2018 13:45 Calibration ID: 39306

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)					
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	
13C2 PFDoA	13PF OA	Ave	1822229 1138571	1549668	1524291	1573917	1537805	50.0 50.0	50.0	50.0	50.0	50.0	50.0
13C2-PFTeDA	13PF OA	Ave	1712431 1045306	1418348	1387106	1585924	1463759	50.0 50.0	50.0	50.0	50.0	50.0	50.0

Curve Type Legend:

Ave = Average ISTD AveID = Average isotope dilution L2ID = Linear 1/conc^2 IsoDil
---

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 21-Apr-2018 12:30:05 ALS Bottle#: 0 Worklist Smp#: 6  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-006 IC 1  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:36:31 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d

Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:42:40

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										
216.9 > 171.5	2.314	2.319	-0.005	1.000	533965	51.1		102	342	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.318	2.320	-0.002	1.002	11285	1.01		101	29.1	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.750	2.736	0.014	1.000	116773	46.1		92.3	1138	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.739	2.738	0.001	0.996	19417	1.07		107	44.6	M
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.800	0.001	1.000	248680	47.0		101	2004	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.818	2.804	0.014	1.006	8035	0.8933		101	54.1	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.164	3.158	0.006	1.000	449229	52.2		104	2606	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.164	3.162	0.002	1.000	8519	1.02		102	142	M
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.703	3.689	0.014	1.000	22291	1.01		101	229	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.703	3.689	0.014	1.000	1104635	52.5		105	1173	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.737	3.733	0.004	0.997	10584	0.9273		102	152	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.748	3.737	0.011	1.000	292730	49.5		105	2239	
D 14 M2-6:2FTS										
428.6 > 408.6	4.330	4.319	0.011	1.000	47912	42.5		89.4	405	
15 Sodium 1H,1H,2H,2H-perfluorooctane										
426.6 > 406.6	4.317	4.319	-0.002	0.997	854	0.8235		86.9	10.6	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA	416.9 > 371.8	4.374	4.365	0.009	1.000	1045909	54.1	108	2010	
* 49 13C2-PFOA	414.9 > 369.8	4.393	4.371	0.022		1141732	50.0		12890	a
16 Perfluorooctanoic acid	412.9 > 368.8	4.393	4.374	0.019	1.004	22501	0.9840	98.4	255	
18 Perfluoroheptanesulfonic acid	448.8 > 79.8	4.430	4.408	0.022	0.855	4111	0.9863	104	39.8	
19 Perfluorononanoic acid	462.8 > 418.8	5.154	5.143	0.011	1.000	21543	1.01	101	152	
D 21 13C5 PFNA	467.8 > 422.8	5.154	5.145	0.009	1.000	1221379	51.9	104	1533	
D 22 13C4 PFOS	502.8 > 79.8	5.181	5.168	0.013	1.000	233910	48.1	101	892	
20 Perfluorooctane sulfonic acid	498.8 > 79.8	5.168	5.168	0.0	0.997	4435	0.9474	102	36.0	M
D 23 M2-8:2FTS	528.8 > 508.8	5.926	5.910	0.016	1.000	328072	46.4	96.8	918	
24 Sodium 1H,1H,2H,2H-perfluorodecane	526.8 > 506.5	5.902	5.910	-0.008	0.996	2516	0.4879	50.9	15.4	
D 25 13C2 PFDA	514.9 > 469.5	5.950	5.934	0.016	1.000	1648352	52.6	105	13499	
26 Perfluorodecanoic acid	512.9 > 468.5	5.950	5.938	0.012	1.000	34310	1.01	101	304	
D 27 d3-NMeFOSAA	572.8 > 418.8	6.313	6.298	0.015	1.000	375712	53.3	107	2444	
28 N-methyl perfluorooctane sulfonami	569.8 > 418.8	6.331	6.310	0.021	1.003	8057	1.01	101	17.2	
D 29 d5-NEtFOSAA	588.9 > 418.8	6.688	6.667	0.021	1.000	347568	56.6	113	1303	
30 N-ethyl perfluorooctane sulfonamid	583.9 > 418.8	6.706	6.688	0.018	1.003	7782	1.01	101	69.4	M
31 Perfluorodecane Sulfonic acid	598.8 > 79.8	6.720	6.699	0.021	1.297	5004	0.9556	99.1	75.0	
32 Perfluoroundecanoic acid	562.8 > 518.6	6.720	6.711	0.009	1.000	33832	0.9891	98.9	278	
D 33 13C2 PFUnA	564.8 > 519.8	6.720	6.713	0.007	1.000	1886276	55.0	110	4626	
D 35 13C8 FOSA	505.8 > 77.8	6.945	6.938	0.007	1.000	420066	50.9	102	2702	
34 Perfluorooctane Sulfonamide	497.8 > 77.8	6.959	6.940	0.019	1.002	6993	1.00	99.9	67.3	
D 36 13C2 PFDaA	614.8 > 569.6	7.407	7.392	0.015	1.000	1822229	52.2	104	1362	
37 Perfluorododecanoic acid	612.8 > 568.6	7.407	7.399	0.008	1.000	35078	1.04	104	216	
40 Perfluorotridecanoic acid	662.8 > 618.6	8.038	8.022	0.016	1.085	27841	1.04	104	383	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.590	8.572	0.018	1.000	34459	1.00		100	160	
712.8 > 168.8	8.621	8.572	0.049	1.004	8308		4.15(0.00-0.00)	100	61.0	
712.8 > 218.8	8.636	8.572	0.064	1.005	1653		20.85(0.00-0.00)	100	10.2	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.590	8.572	0.018	1.000	1712431	51.9		104	1043	

**QC Flag Legend**

Review Flags

M - Manually Integrated

a - User Assigned ID

**Reagents:**

LCPFAS21-L1\_00002

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d

Injection Date: 21-Apr-2018 12:30:05

Instrument ID: LC410

Lims ID: IC

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 6

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

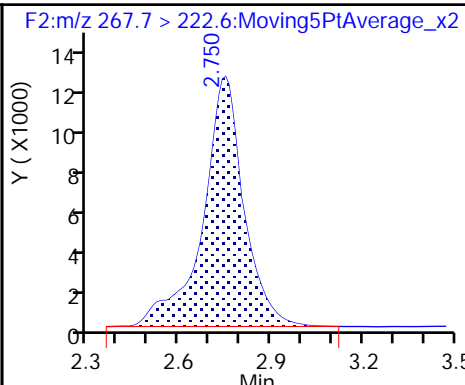
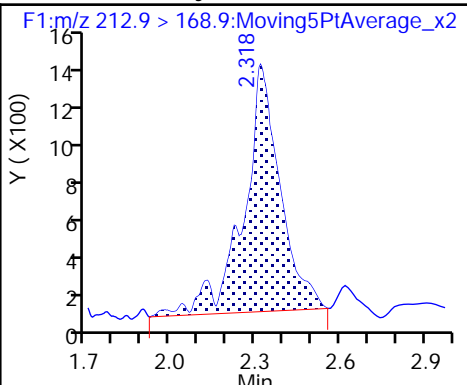
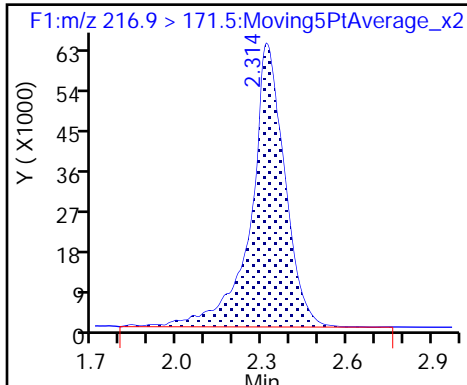
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

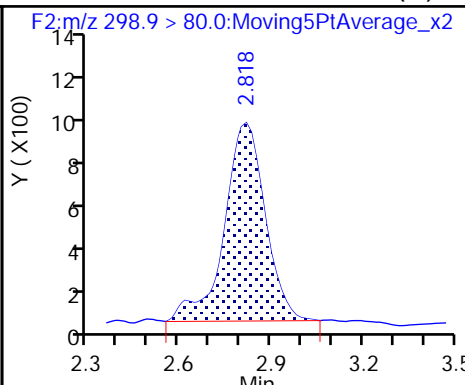
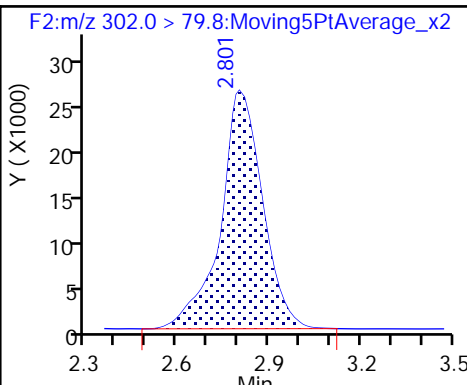
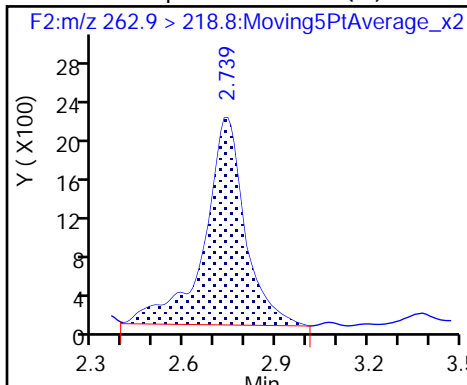
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

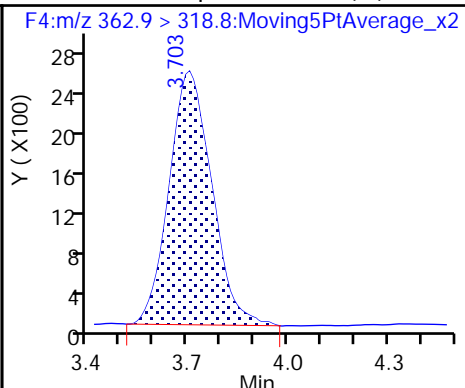
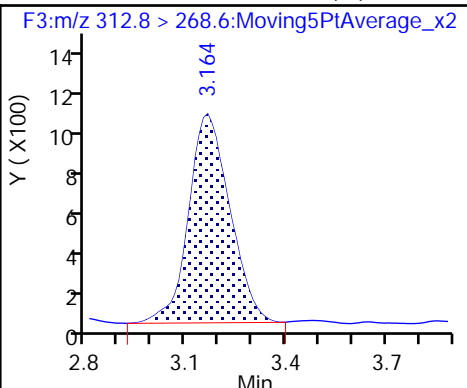
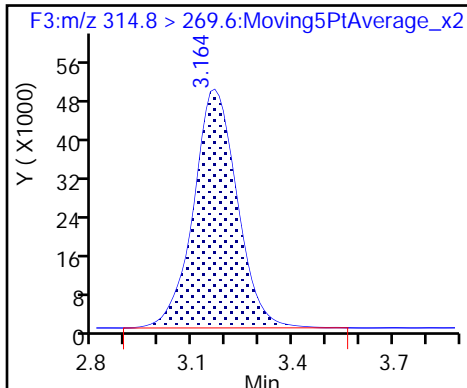
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

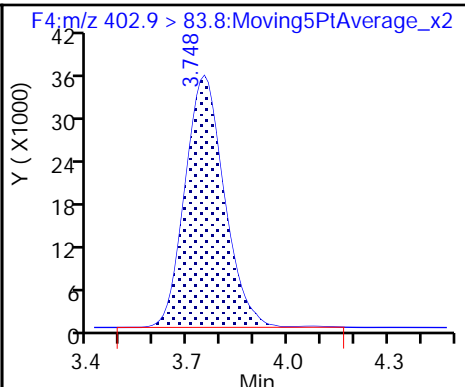
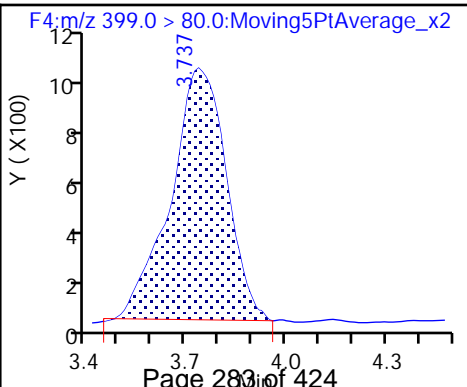
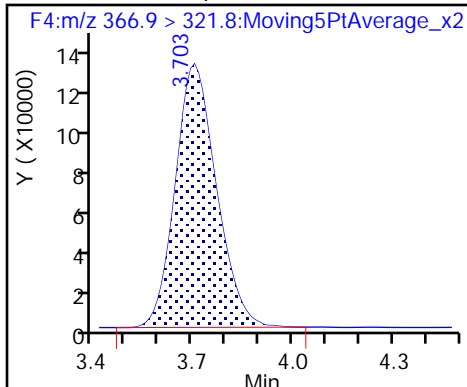
11 Perfluoroheptanoic acid (M)



D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid (M)

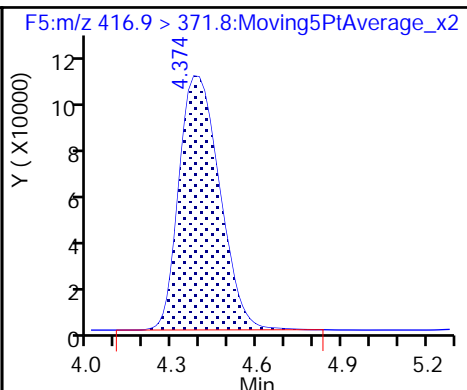
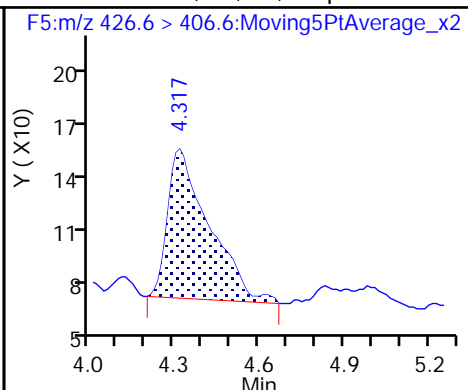
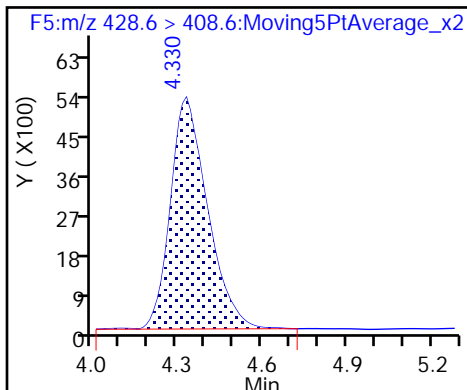
D 13 18O2 PFHxS



D 14 M2-6:2F7S

15 Sodium 1H,1H,2H,2H-perfluorooctadecane

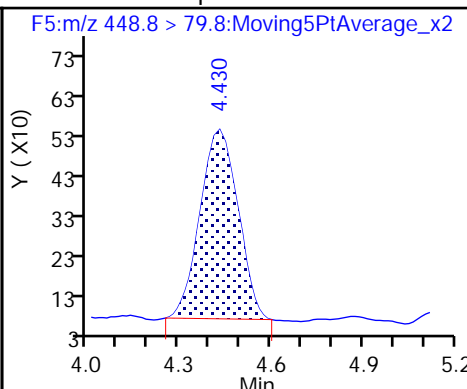
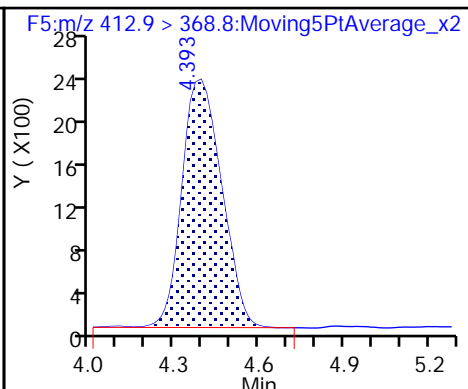
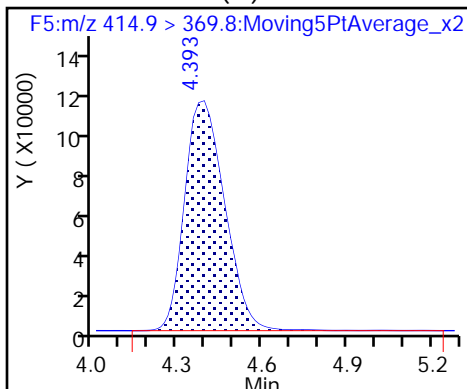
D 17 13C4 PFOA



\* 49 13C2-PFOA (M)

16 Perfluorooctanoic acid

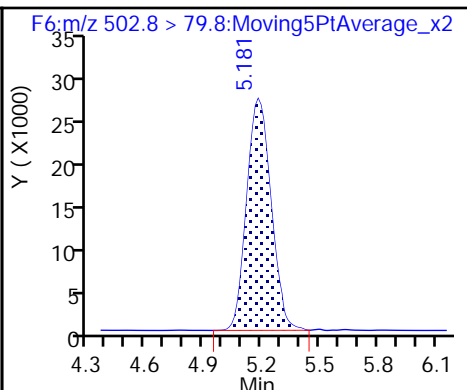
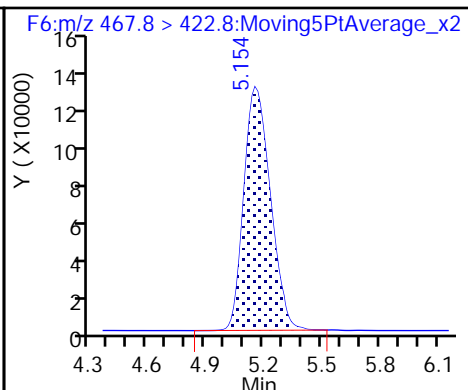
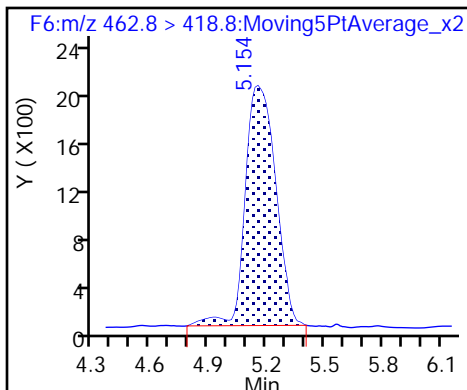
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

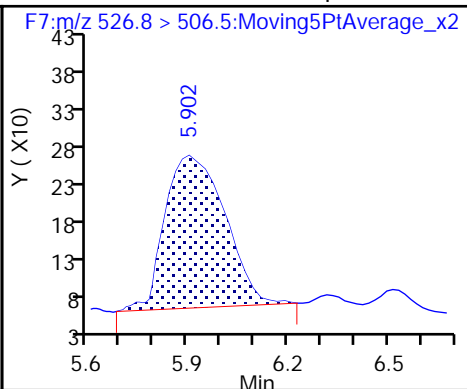
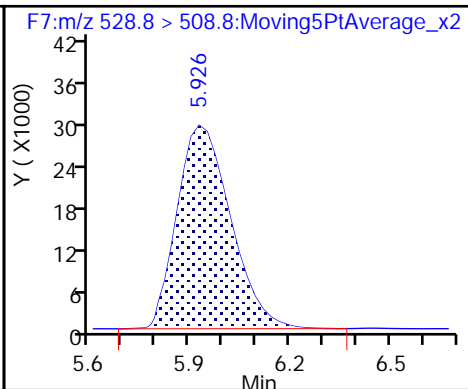
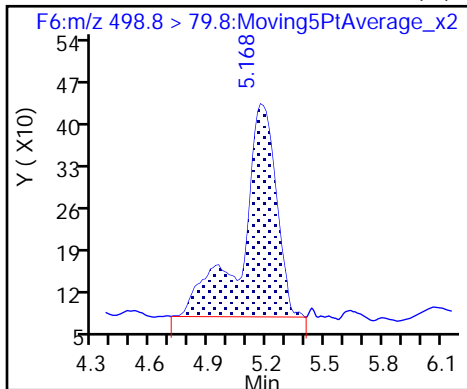
D 22 13C4 PFOS



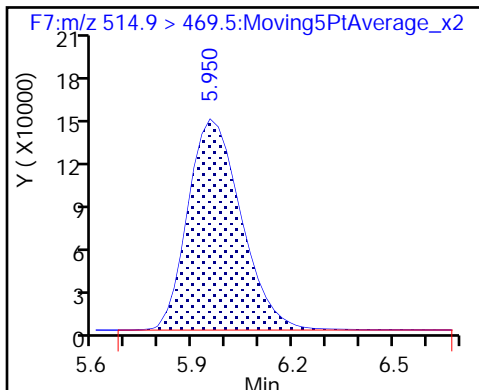
20 Perfluorooctane sulfonic acid (M)

D 23 M2-8:2F7S

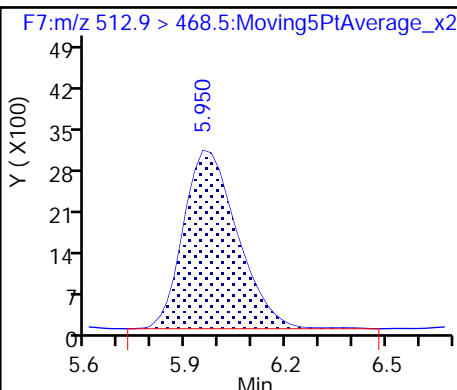
24 Sodium 1H,1H,2H,2H-perfluorodecane



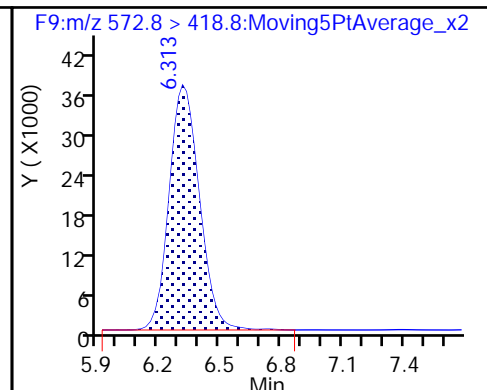
D 25 13C2 PFDA



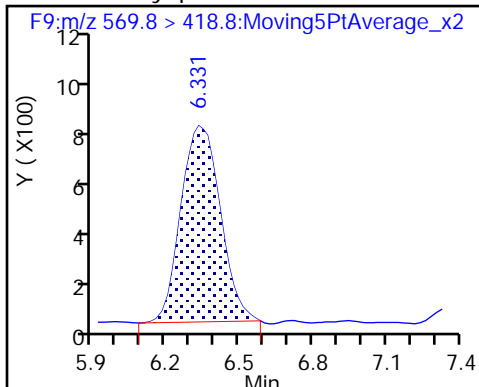
26 Perfluorodecanoic acid



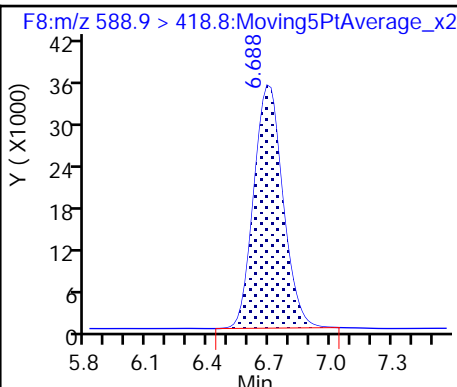
D 27 d3-NMeFOSAA



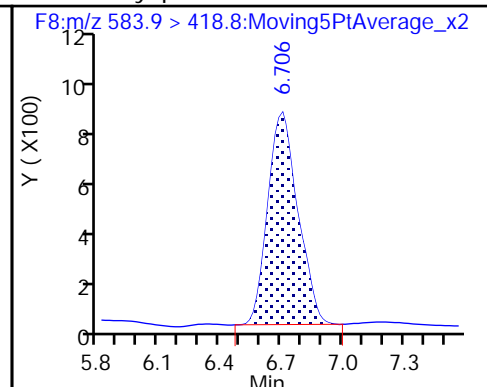
28 N-methyl perfluorooctane sulfonamid



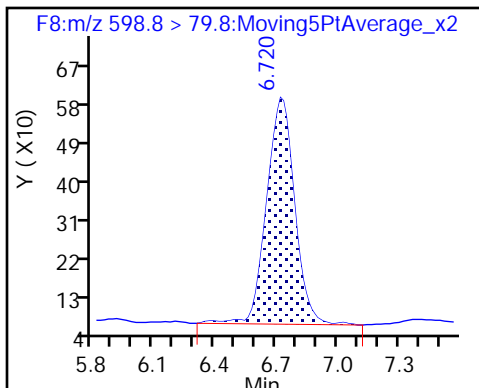
29 d5-NEtFOSAA



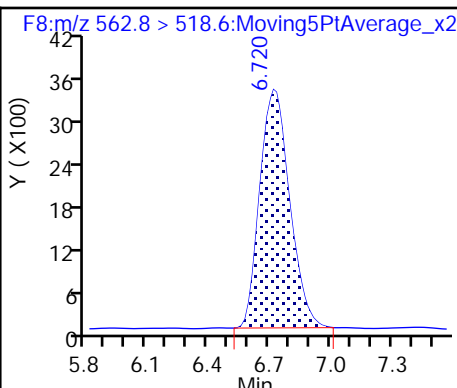
30 N-ethyl perfluorooctane sulfonamid (M)



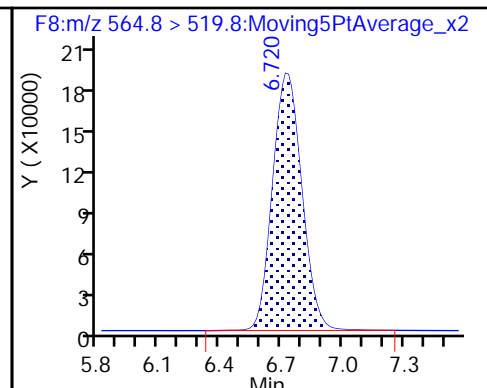
31 Perfluorodecane Sulfonic acid



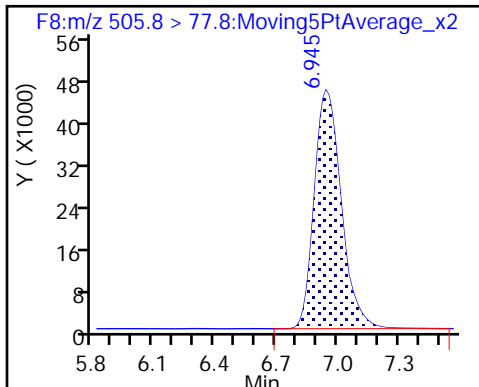
32 Perfluoroundecanoic acid



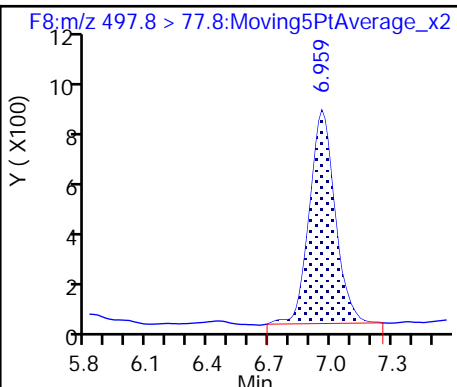
D 33 13C2 PFUnA



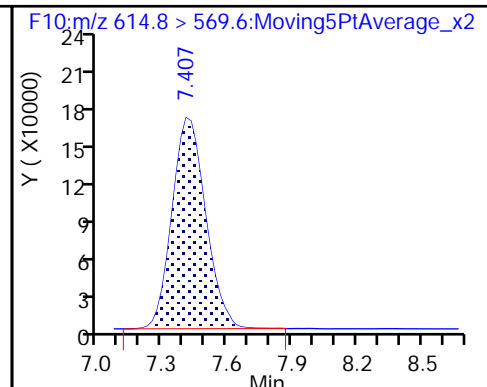
D 35 13C8 FOSA



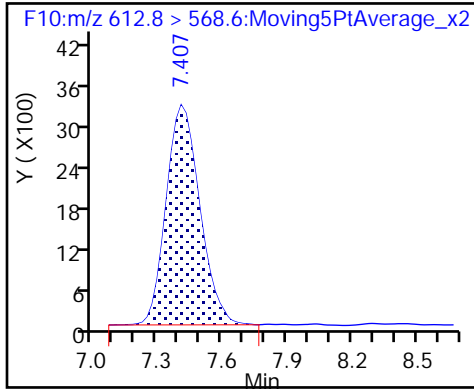
34 Perfluorooctane Sulfonamide



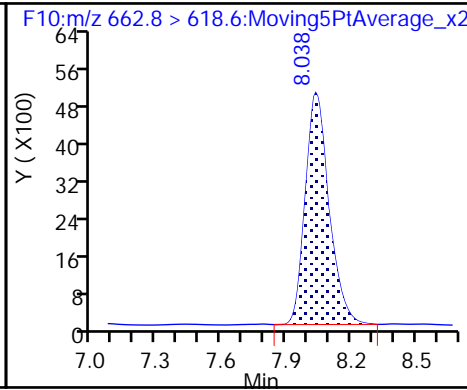
D 36 13C2 PFDoA



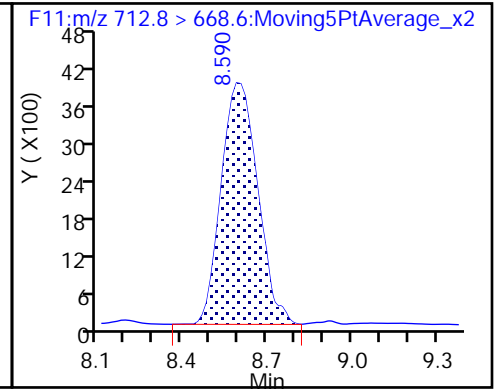
37 Perfluorododecanoic acid



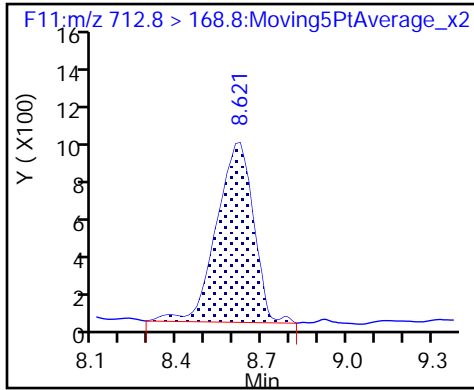
40 Perfluorotridecanoic acid



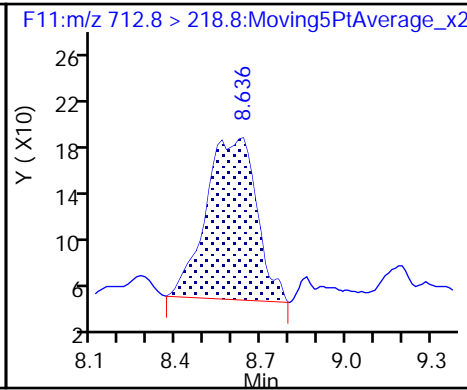
44 Perfluorotetradecanoic acid (M)



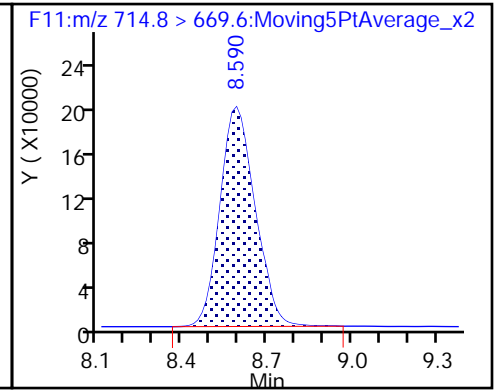
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid (M)



D 43 13C2-PFTeDA





TestAmerica Burlington

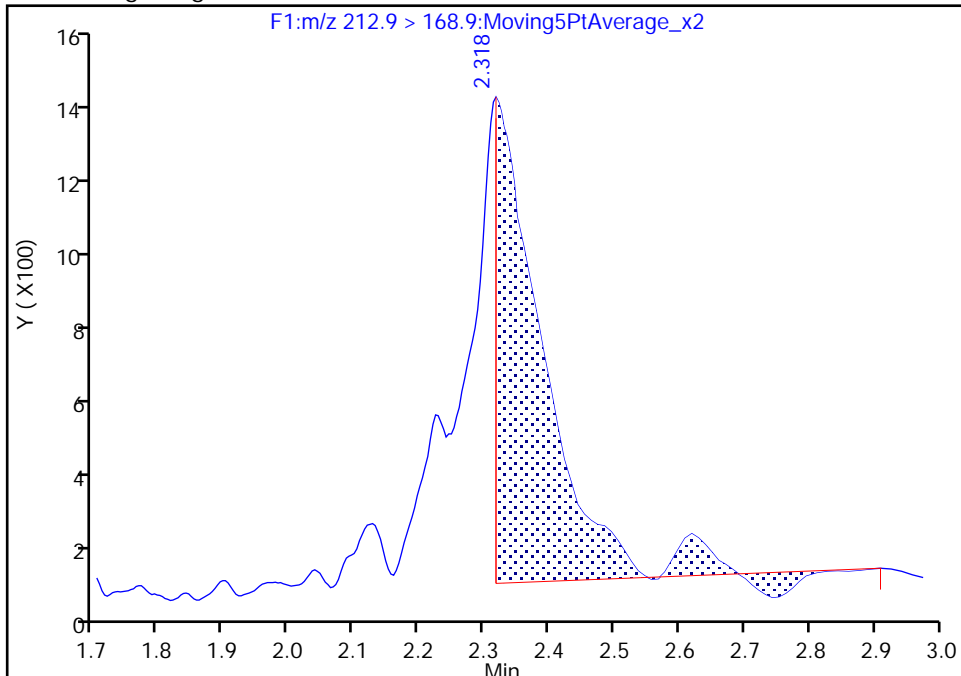
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Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

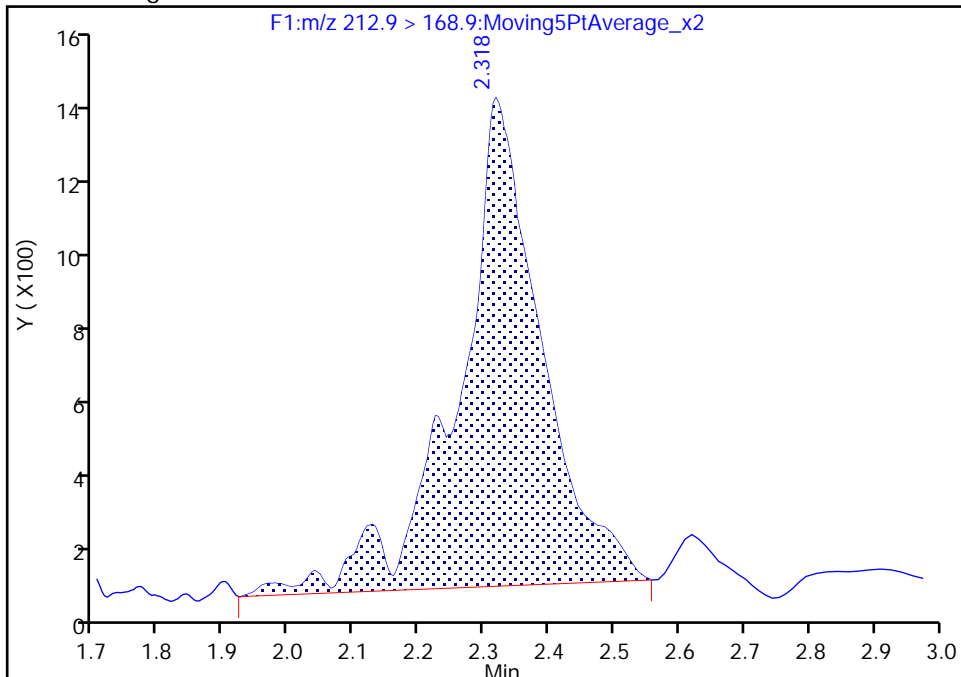
RT: 2.32  
Area: 6052  
Amount: 0.950835  
Amount Units: ng/ml

Processing Integration Results



RT: 2.32  
Area: 11285  
Amount: 1.013162  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:34:24  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

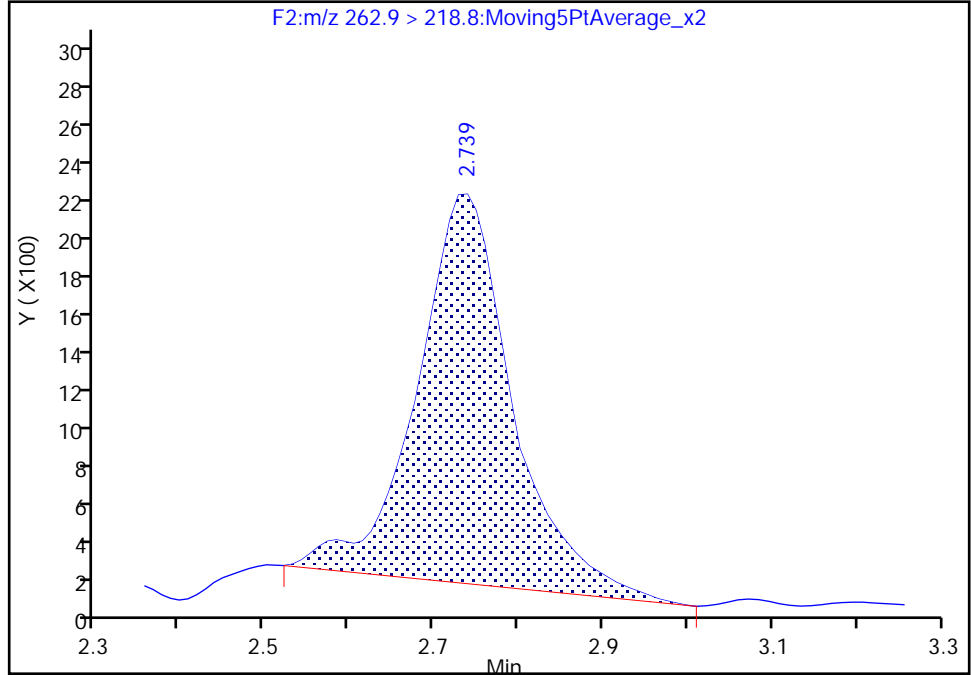
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Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
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Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

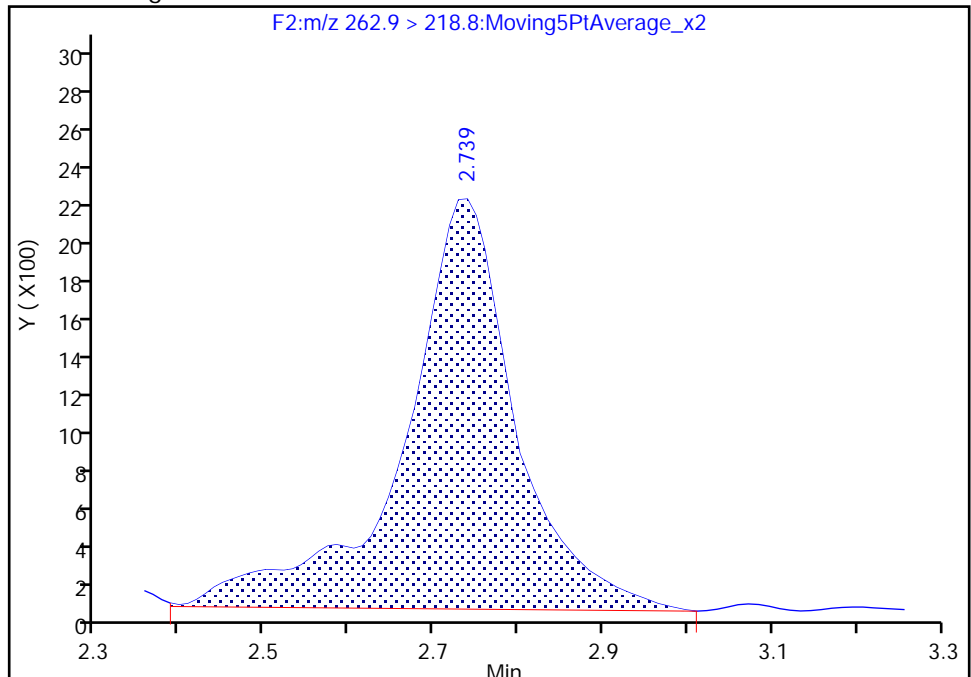
RT: 2.74  
Area: 15740  
Amount: 1.032463  
Amount Units: ng/ml

Processing Integration Results



RT: 2.74  
Area: 19417  
Amount: 1.067756  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:34:41  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

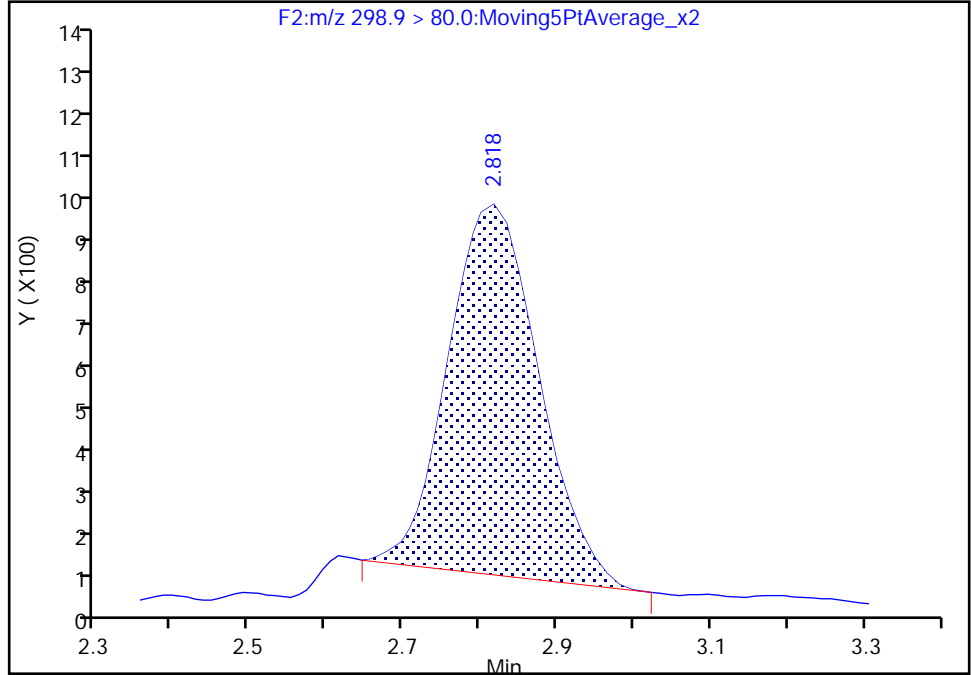
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Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

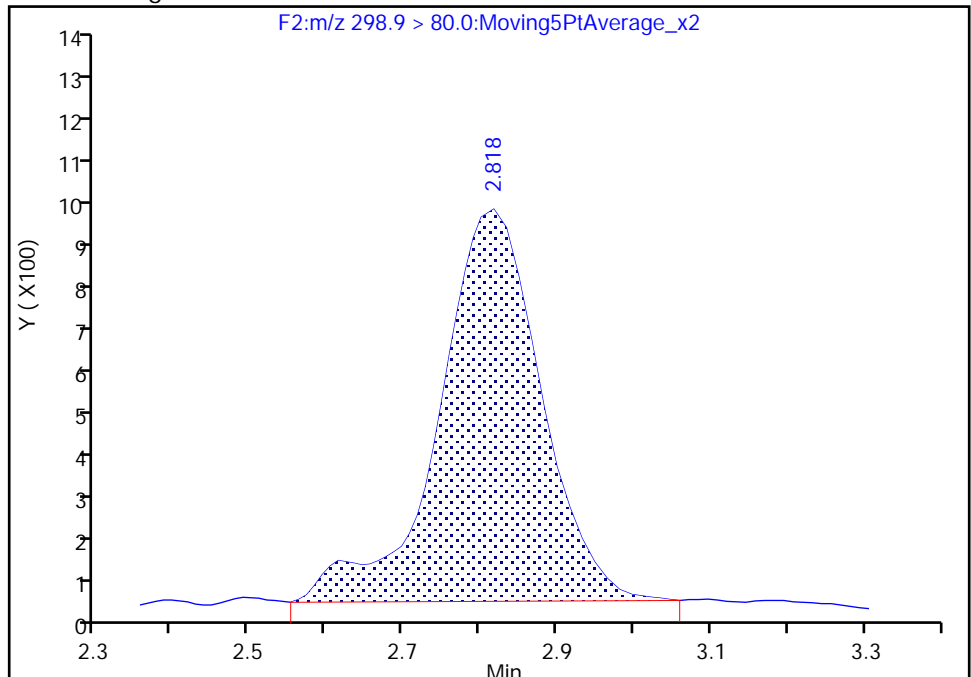
RT: 2.82  
Area: 6714  
Amount: 0.885917  
Amount Units: ng/ml

Processing Integration Results



RT: 2.82  
Area: 8035  
Amount: 0.893300  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:34:49  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

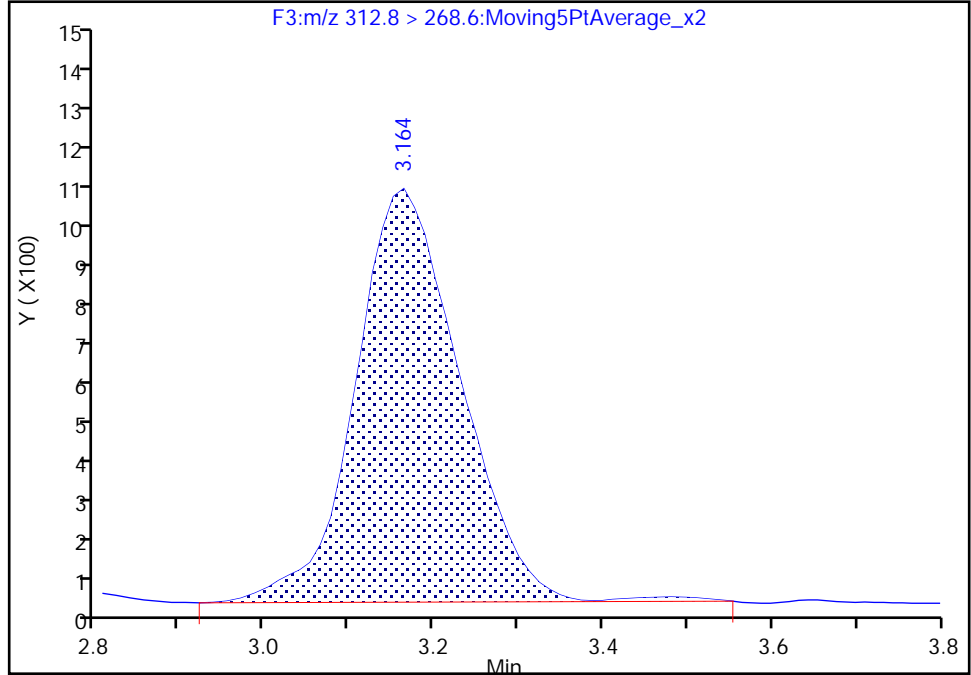
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Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
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Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

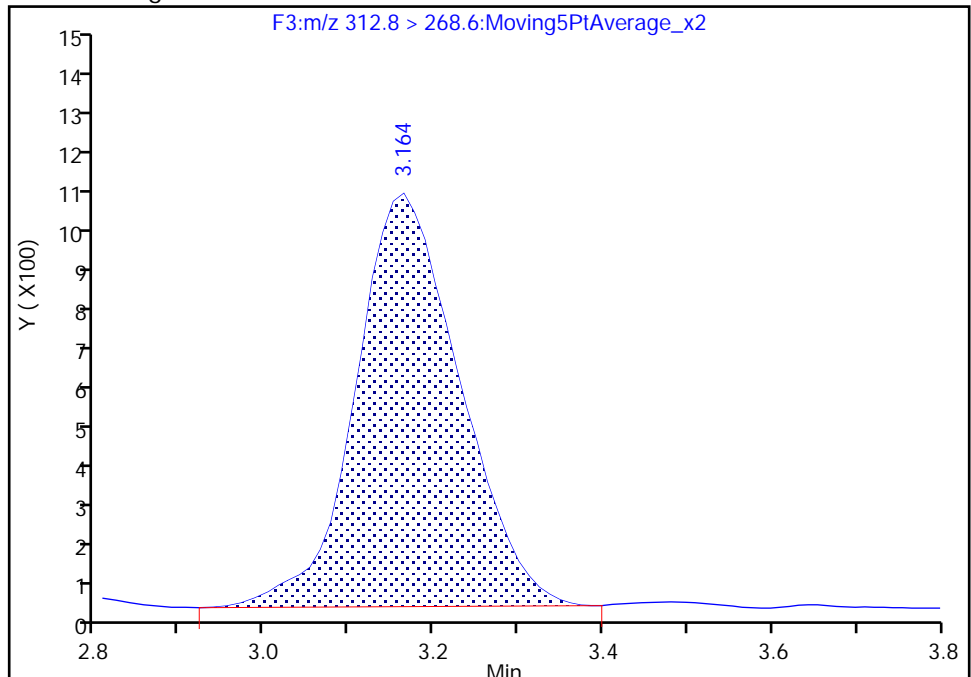
RT: 3.16  
Area: 8611  
Amount: 1.018758  
Amount Units: ng/ml

Processing Integration Results



RT: 3.16  
Area: 8519  
Amount: 1.016777  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:34:54  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

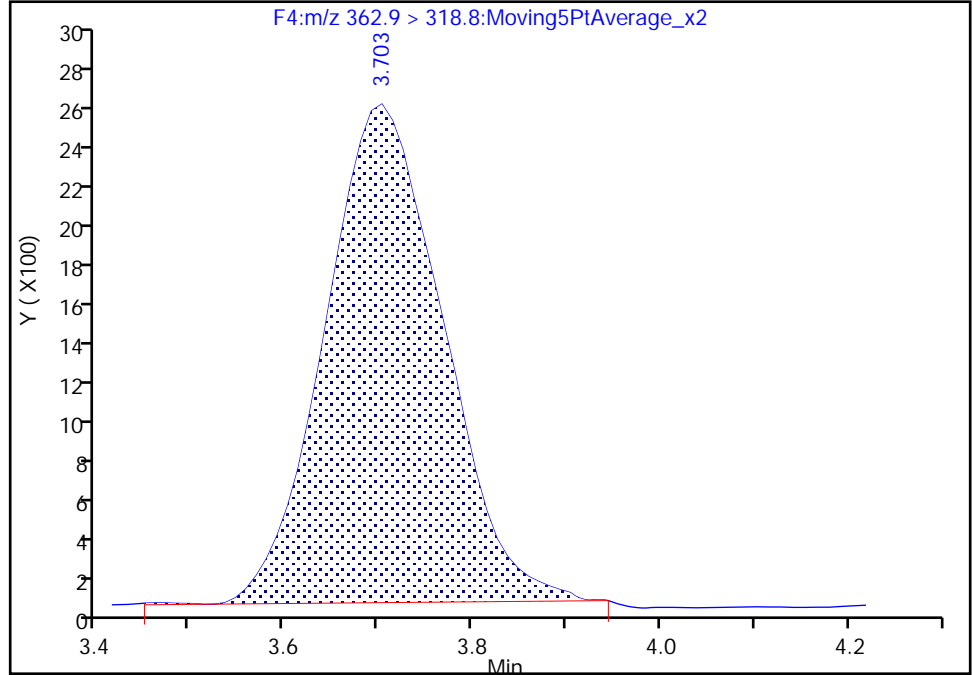
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Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

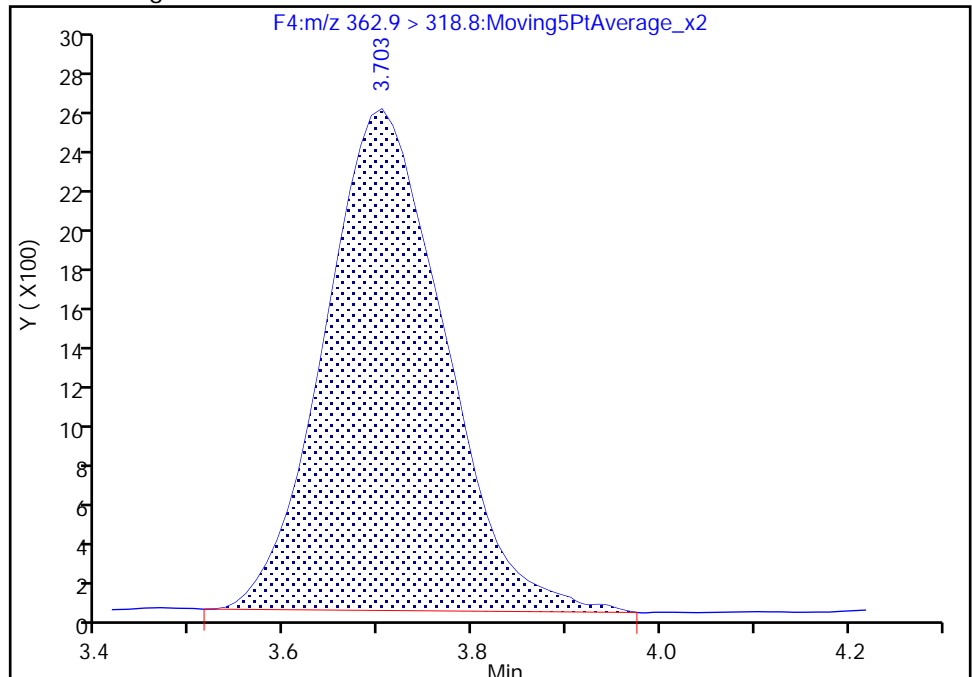
RT: 3.70  
Area: 21854  
Amount: 1.010176  
Amount Units: ng/ml

Processing Integration Results



RT: 3.70  
Area: 22291  
Amount: 1.013747  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:34:59  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

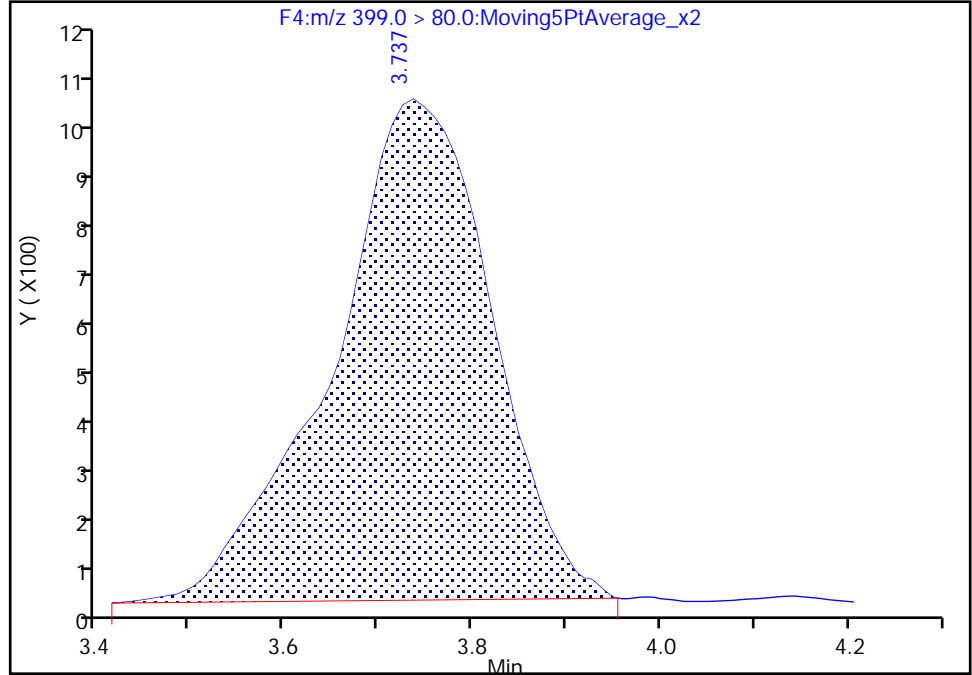
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

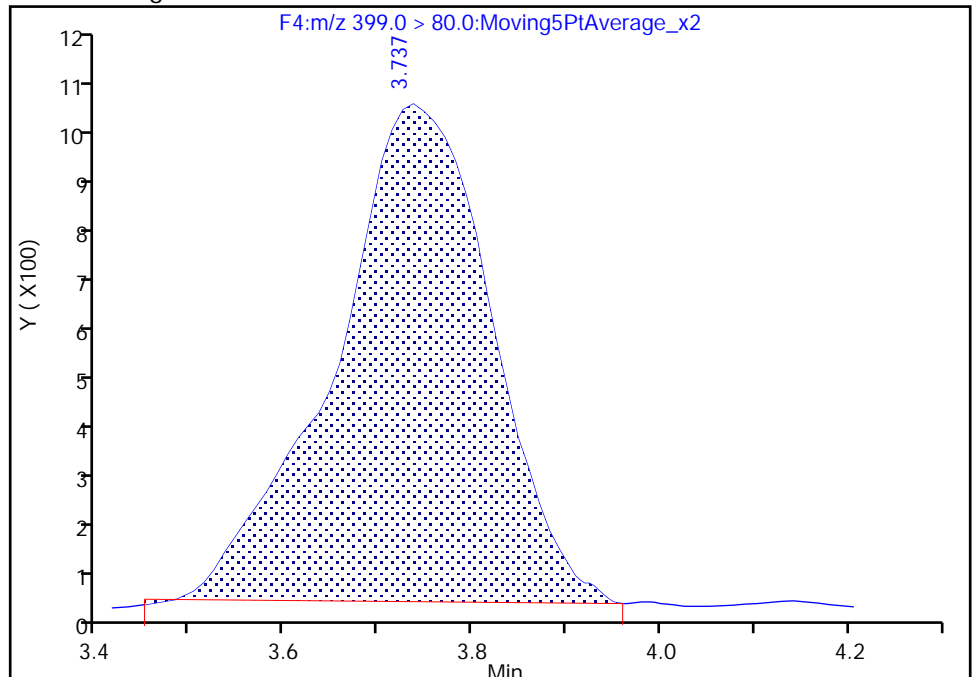
RT: 3.74  
Area: 10792  
Amount: 0.937204  
Amount Units: ng/ml

Processing Integration Results



RT: 3.74  
Area: 10584  
Amount: 0.927327  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:35:09  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

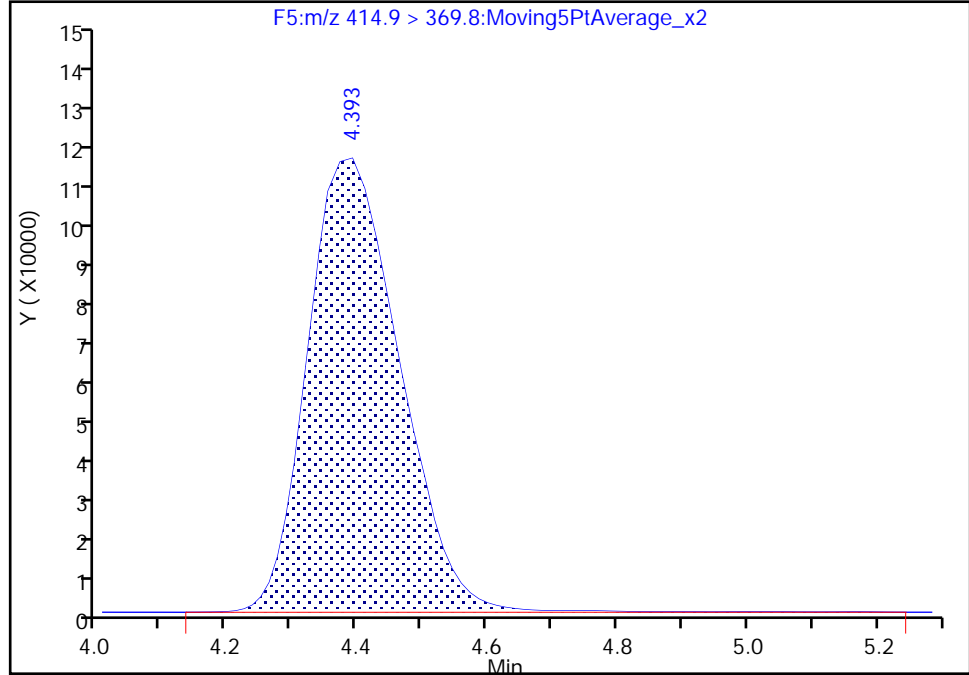
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

\* 49 13C2-PFOA, CAS: STL00623  
Signal: 1

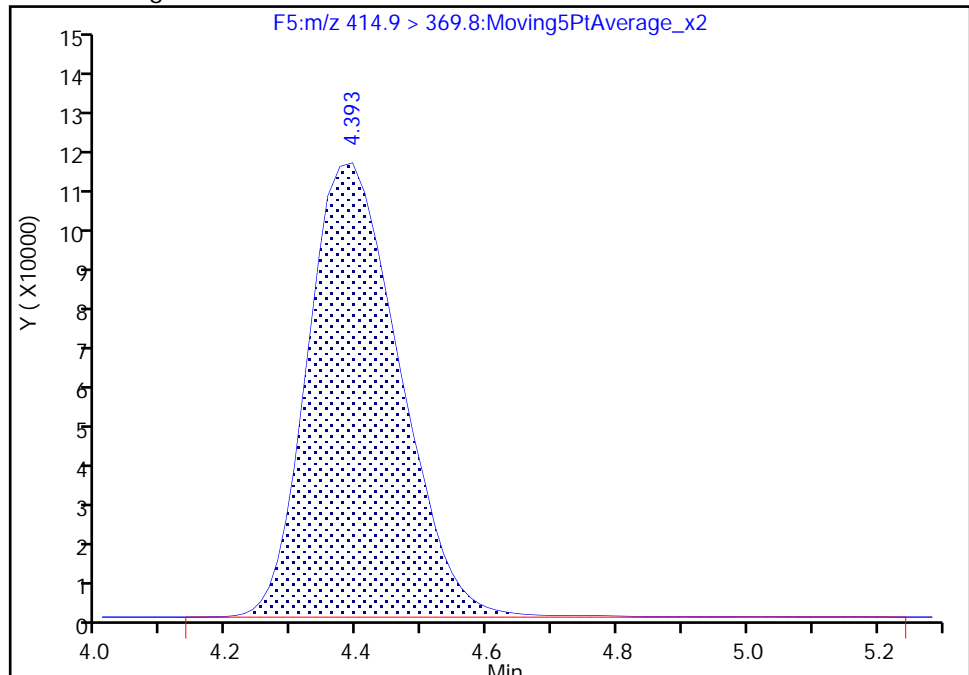
RT: 4.39  
Area: 1141732  
Amount: 50.000000  
Amount Units: ng/ml

Processing Integration Results



RT: 4.39  
Area: 1141732  
Amount: 50.000000  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:42:33  
Audit Action: Assigned Compound ID

Audit Reason: Incomplete Integration

TestAmerica Burlington

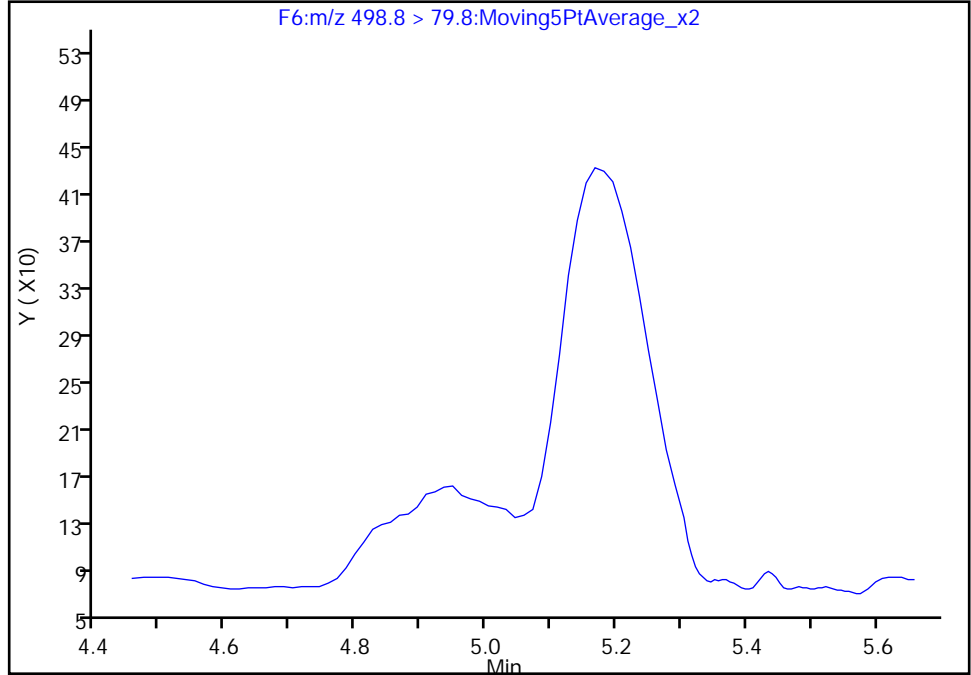
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

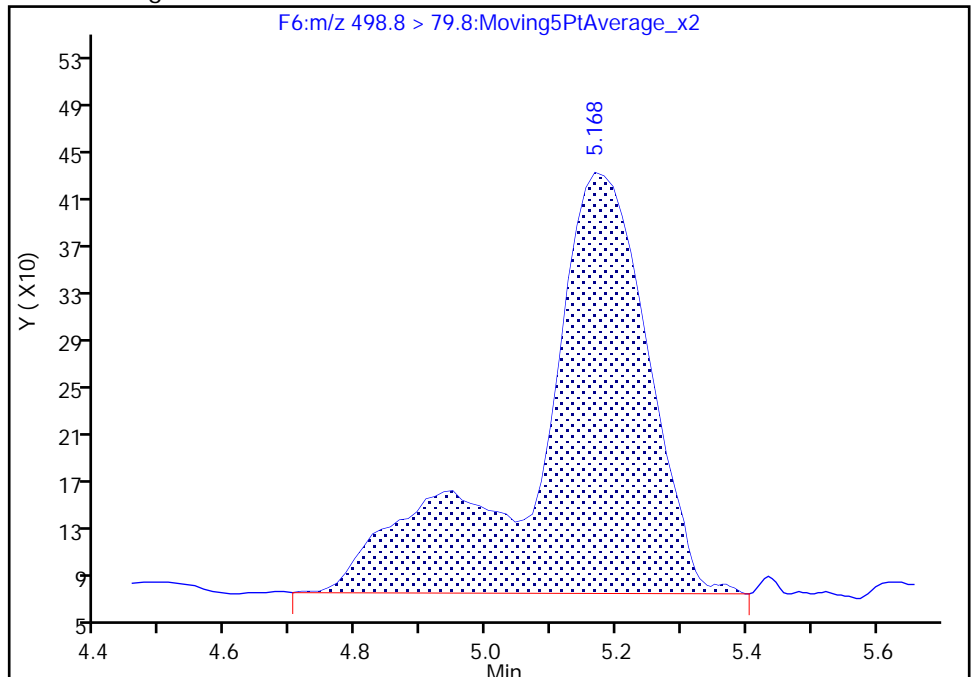
Not Detected  
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.17  
Area: 4435  
Amount: 0.947365  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 11:36:03  
Audit Action: Manually Integrated

Audit Reason: Missed Peak



TestAmerica Burlington

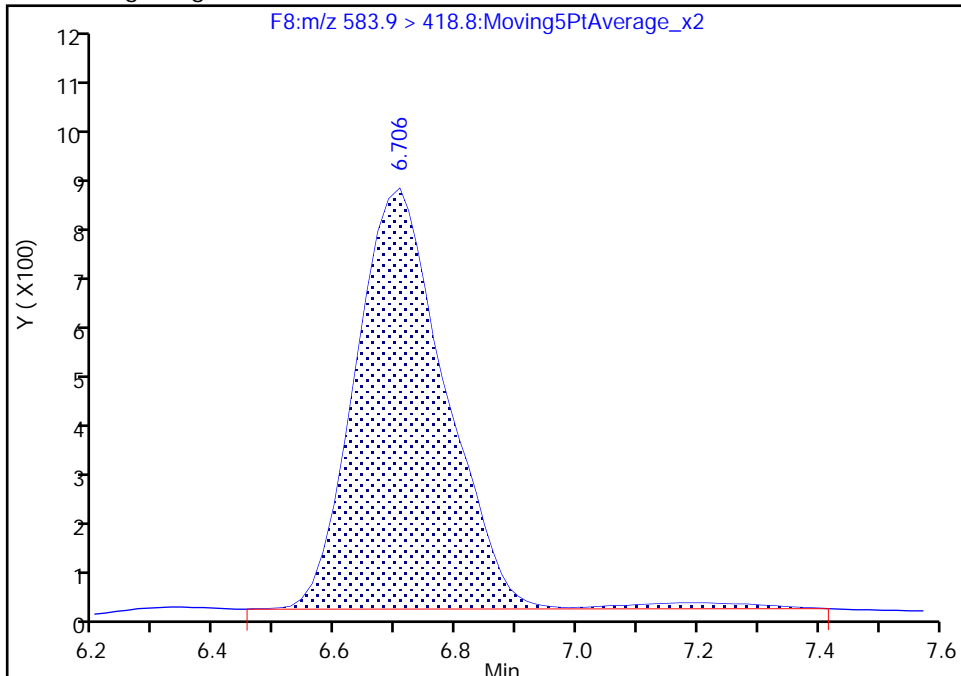
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

30 N-ethyl perfluorooctane sulfonamidoacetic ac, CAS: 2991-50-6

Signal: 1

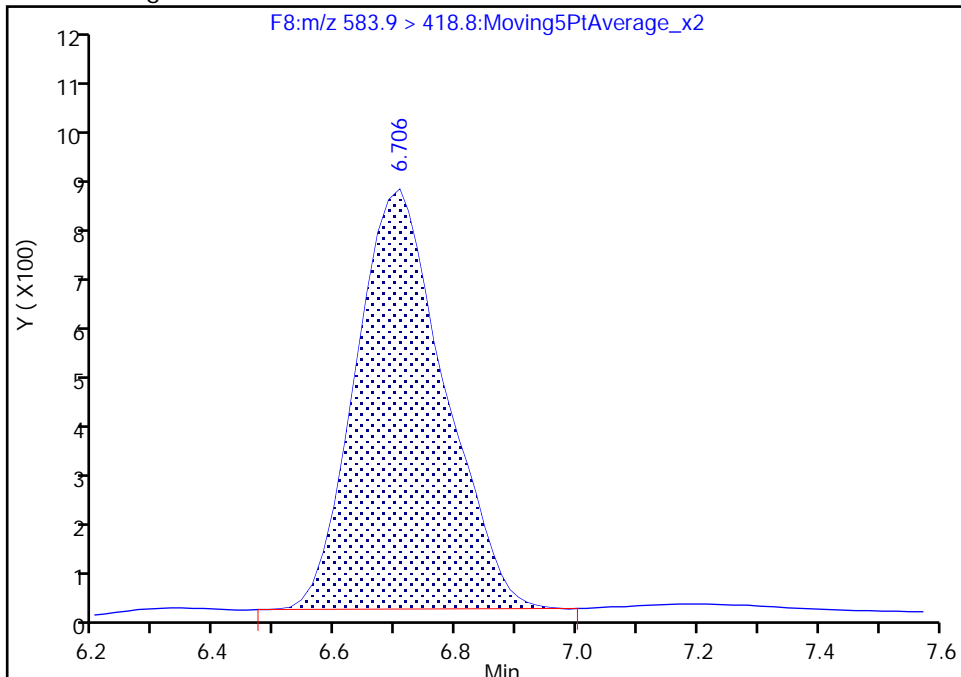
RT: 6.71  
Area: 7992  
Amount: 1.010713  
Amount Units: ng/ml

Processing Integration Results



RT: 6.71  
Area: 7782  
Amount: 1.005163  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:41:26  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

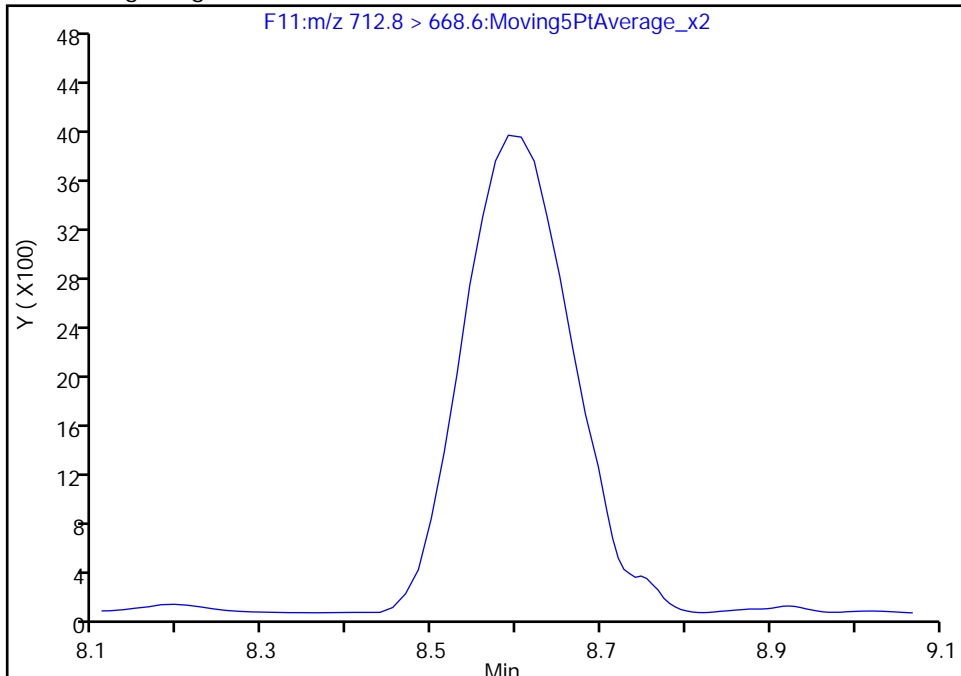
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

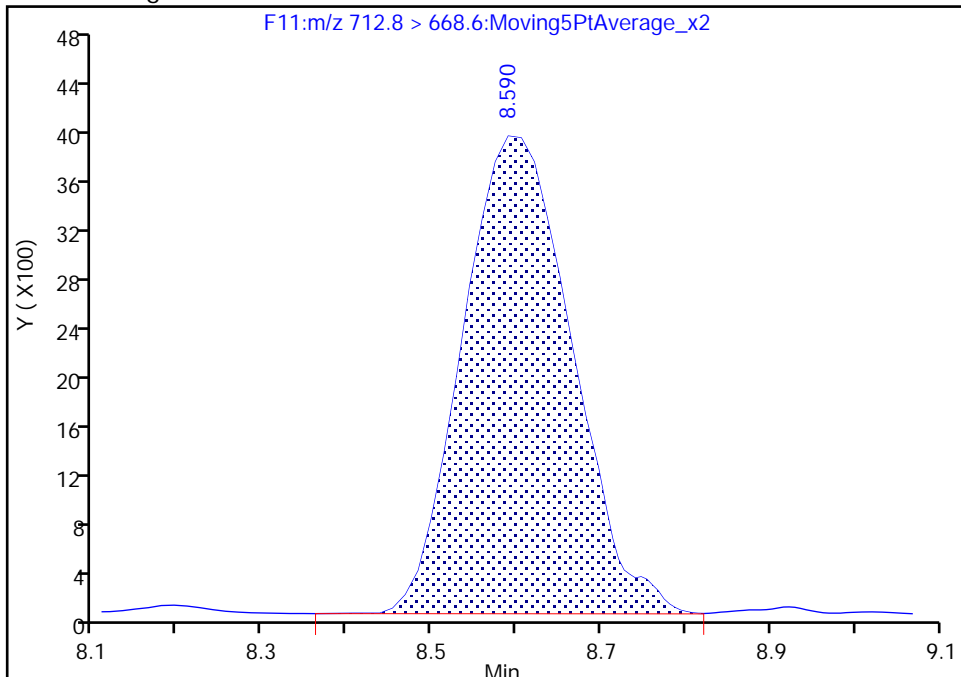
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.59  
Area: 34459  
Amount: 1.004828  
Amount Units: ng/ml



TestAmerica Burlington

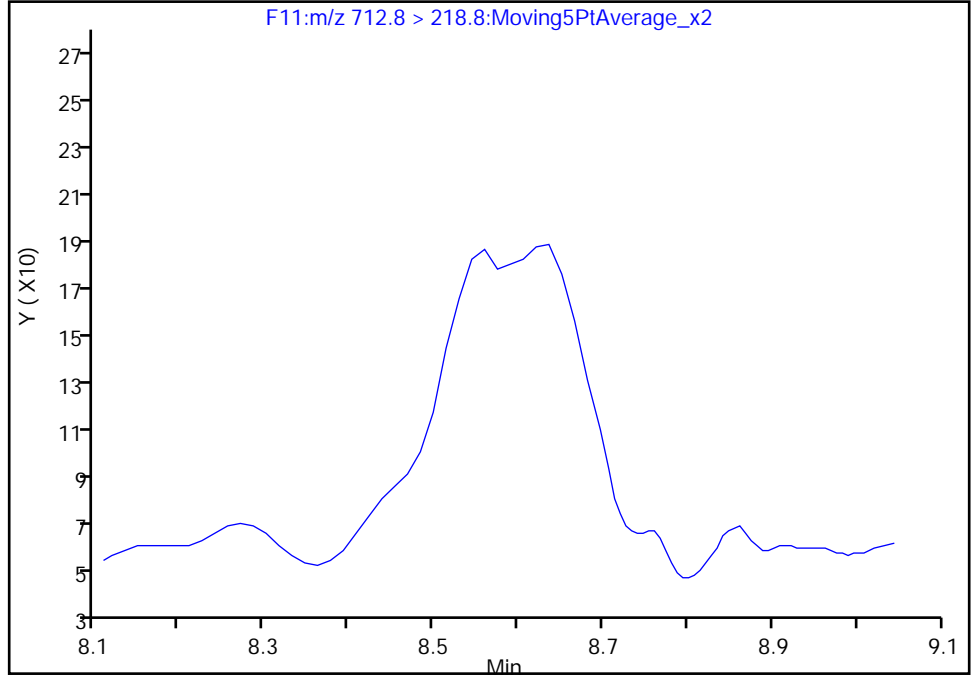
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A06.d  
Injection Date: 21-Apr-2018 12:30:05 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

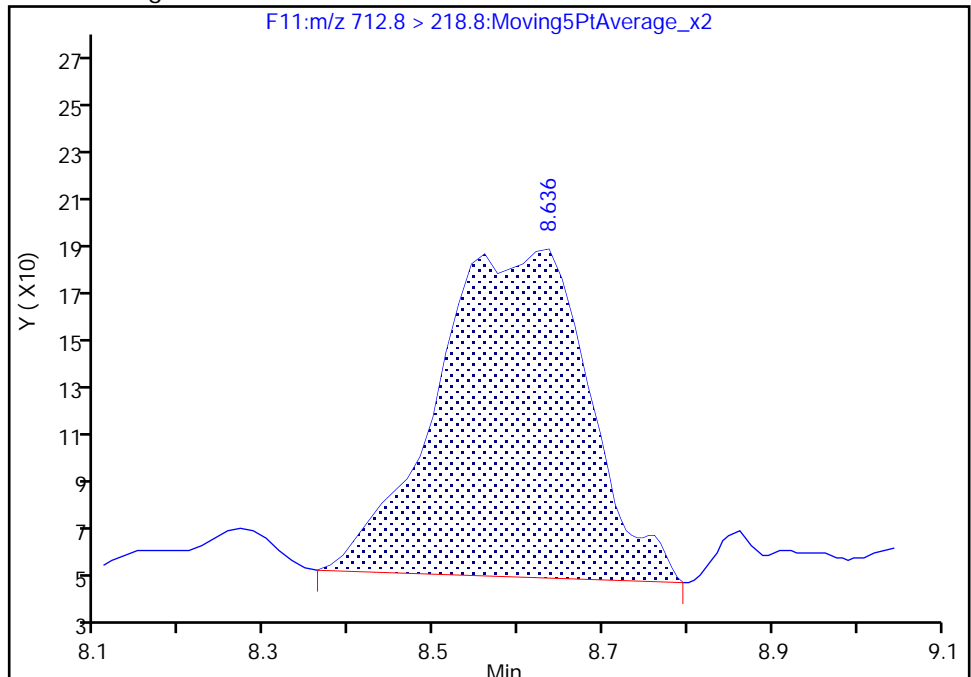
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.64  
Area: 1653  
Amount: 1.004828  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 11:42:05

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A07.d  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 21-Apr-2018 12:45:14 ALS Bottle#: 0 Worklist Smp#: 7  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-007 IC 2  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:36:39 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:43:50

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										
216.9 > 171.5	2.310	2.319	-0.009	1.000	460352	54.4		109	241	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.318	2.320	-0.002	1.003	17385	1.93		96.6	29.0	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.739	2.736	0.003	1.000	110253	53.8		108	1535	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.739	2.738	0.001	1.000	25789	1.69		84.3	84.5	M
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.800	0.001	1.000	224927	52.5		113	1040	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.801	2.804	-0.003	1.000	15114	1.67		94.4	125	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.164	3.158	0.006	1.000	363306	52.2		104	2358	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.162	0.002	1.000	13253	1.91		95.6	355	
D 10 13C4-PFHpA										
366.9 > 321.8	3.692	3.689	0.003	1.000	964289	56.6		113	859	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.692	3.689	0.003	1.000	37899	1.93		96.4	266	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.748	3.733	0.015	1.003	16191	1.73		95.1	199	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.737	3.737	0.0	1.000	243127	50.8		107	845	
D 14 M2-6:2FTS										
428.6 > 408.6	4.317	4.319	-0.002	1.000	40094	43.9		92.4	265	
15 Sodium 1H,1H,2H,2H-perfluorooctane										
426.6 > 406.6	4.330	4.319	0.011	1.003	1529	1.76		92.9	17.9	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.374	4.365	0.009	1.000	916368	58.5		117	1511	
* 49 13C2-PFOA										
414.9 > 369.8	4.374	4.371	0.003		924708	50.0			5329	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.393	4.374	0.019	1.004	41435	2.08		104	191	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.411	4.408	0.003	0.854	6569	1.79		94.0	86.7	
19 Perfluorononanoic acid										
462.8 > 418.8	5.154	5.143	0.011	1.000	37818	1.93		96.4	270	
D 21 13C5 PFNA										
467.8 > 422.8	5.154	5.145	0.009	1.000	1056506	55.4		111	2482	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.181	5.168	0.013	1.003	7318	1.74		93.8	91.3	
D 22 13C4 PFOS										
502.8 > 79.8	5.168	5.168	0.0	1.000	193831	49.2		103	566	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.926	5.910	0.016	1.000	9241	2.16		113	79.6	
D 23 M2-8:2FTS										
528.8 > 508.8	5.926	5.910	0.016	1.000	272022	47.5		99.1	824	
D 25 13C2 PFDA										
514.9 > 469.5	5.950	5.934	0.016	1.000	1378529	54.3		109	1848	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.950	5.938	0.012	1.000	53152	1.96		98.2	361	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.295	6.298	-0.003	1.000	306256	53.6		107	1026	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.313	6.310	0.003	1.003	12549	1.90		94.8	28.5	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.670	6.667	0.003	1.000	274136	55.1		110	912	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.688	6.688	0.0	1.003	11192	1.90		95.1	223	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.720	6.699	0.021	1.301	8486	1.91		99.3	114	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.720	6.711	0.009	1.000	58482	2.04		102	557	
D 33 13C2 PFUnA										
564.8 > 519.8	6.720	6.713	0.007	1.000	1541104	55.5		111	3555	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	332613	49.7		99.4	2154	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	11610	2.02		101	122	
D 36 13C2 PFDoA										
614.8 > 569.6	7.406	7.392	0.014	1.000	1549668	54.8		110	9033	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.406	7.399	0.007	1.000	51345	1.82		90.8	426	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.029	8.022	0.007	1.084	54756	1.83		91.5	668	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.575	8.572	0.003	1.000	1418348	53.1		106	1353	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.575	8.572	0.003	1.000	52650	1.99		99.6	484	
712.8 > 168.8	8.590	8.572	0.018	1.002	9860		5.34(0.00-0.00)	99.6	64.7	
712.8 > 218.8	8.605	8.572	0.033	1.004	3541		14.87(0.00-0.00)	99.6	24.2	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFAS21-L2\_00002

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A07.d

Injection Date: 21-Apr-2018 12:45:14

Instrument ID: LC410

Lims ID: IC

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 7

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

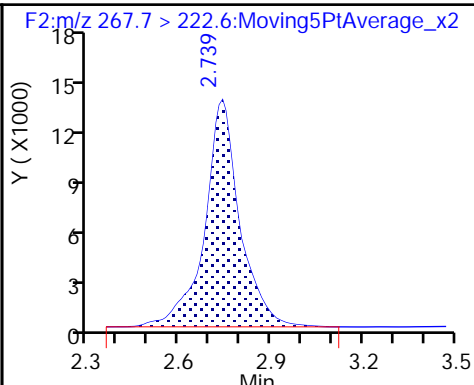
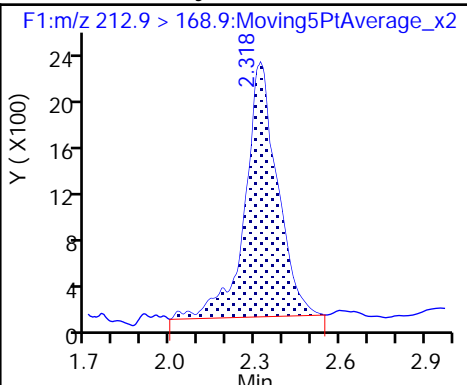
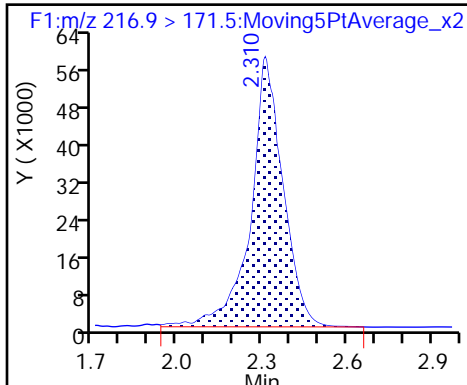
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

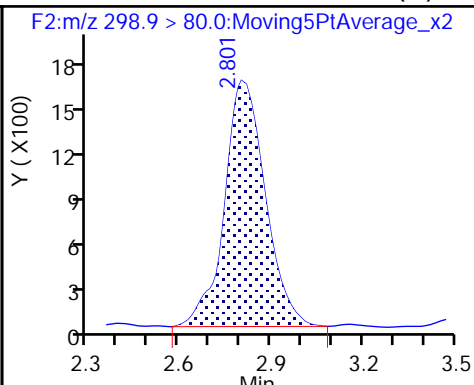
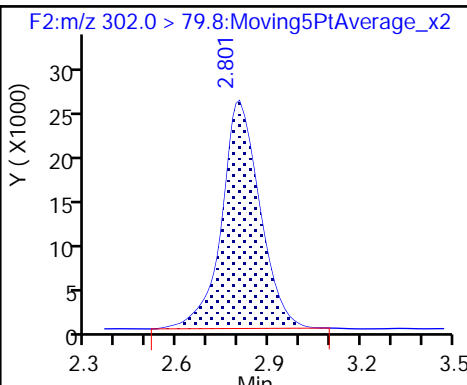
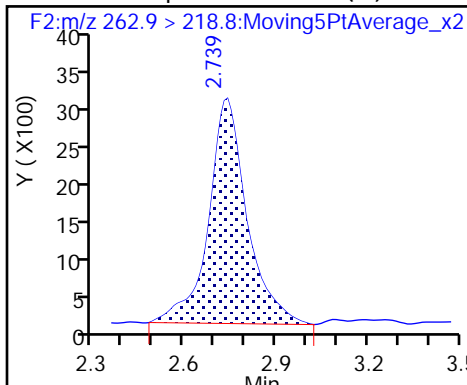
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

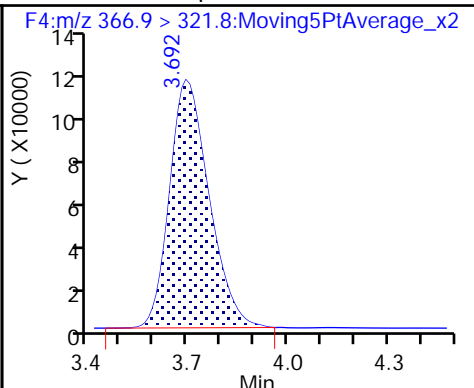
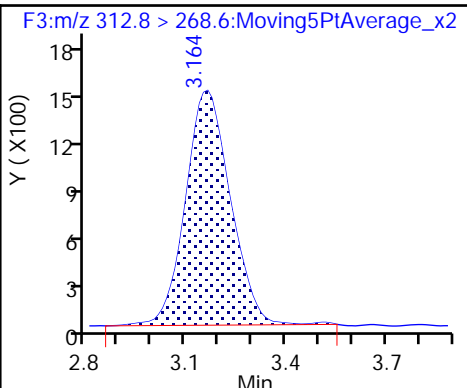
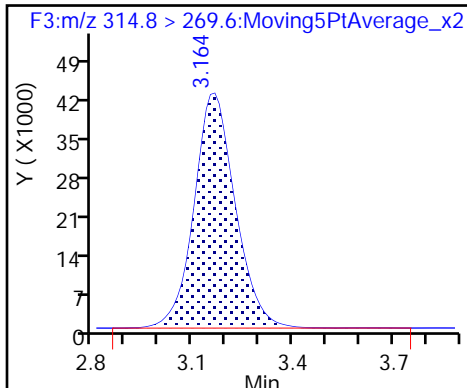
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

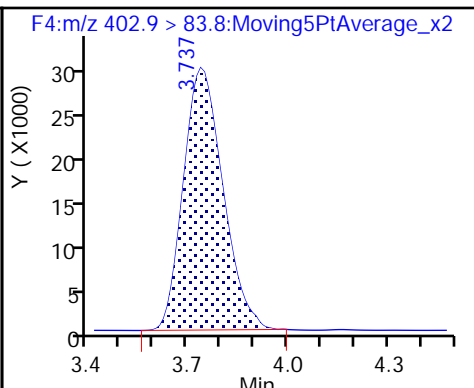
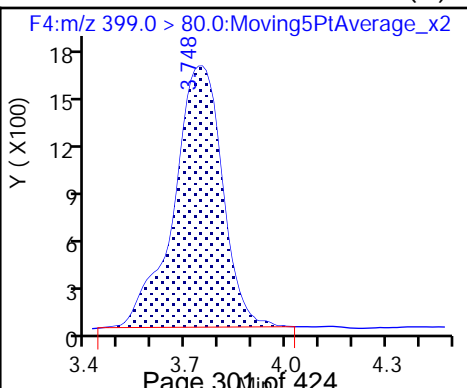
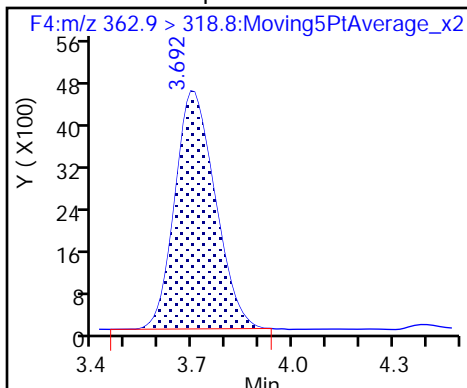
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

12 Perfluorohexanesulfonic acid (M)

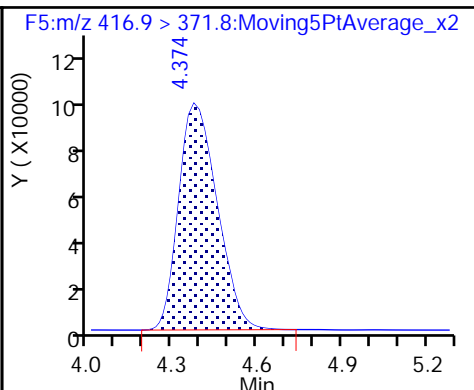
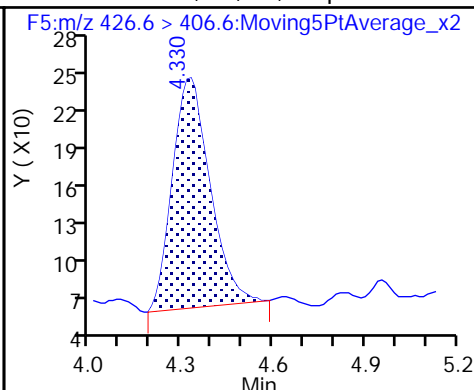
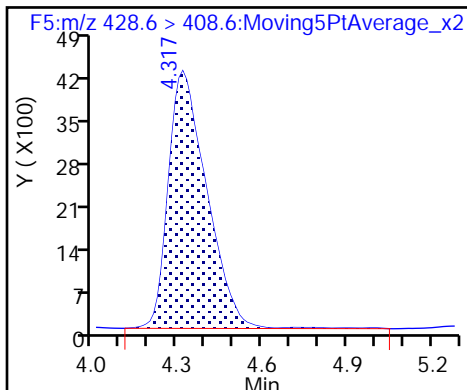
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

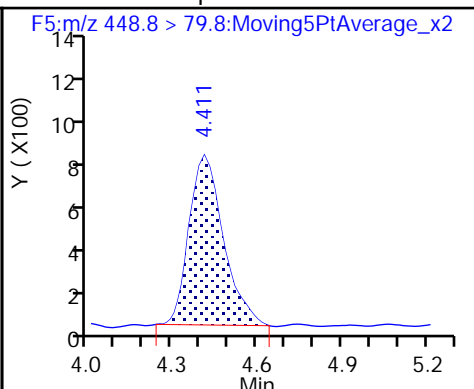
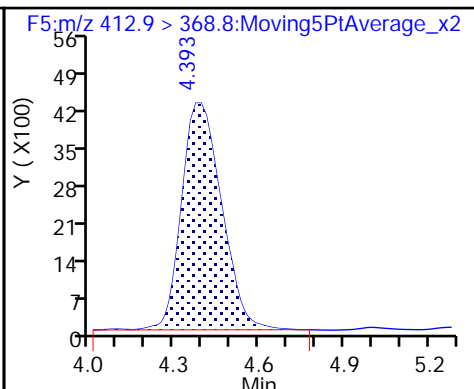
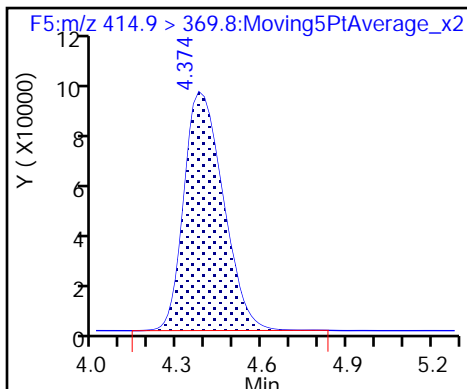
De 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

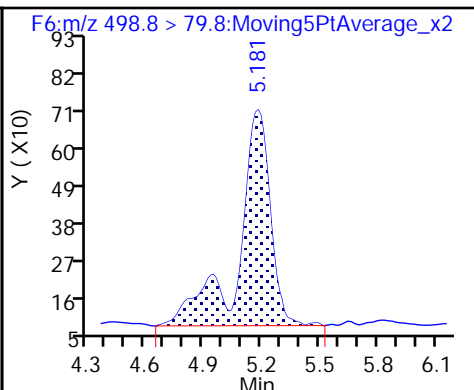
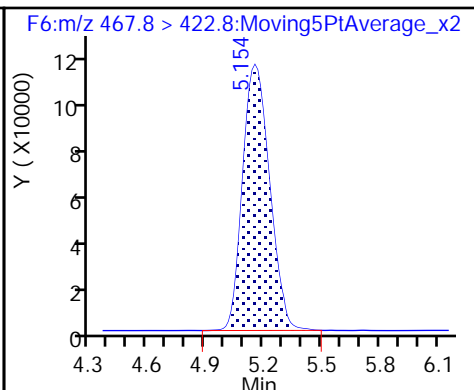
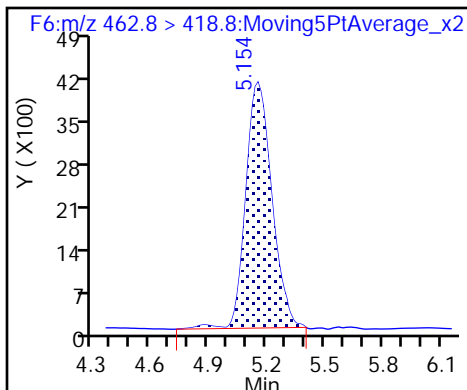
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

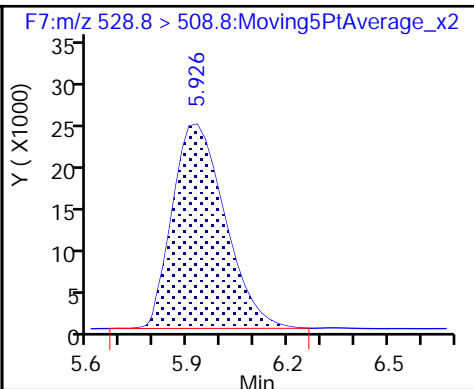
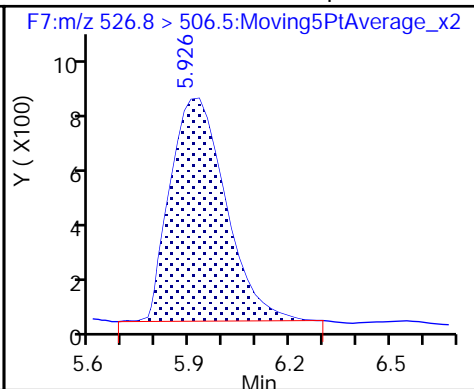
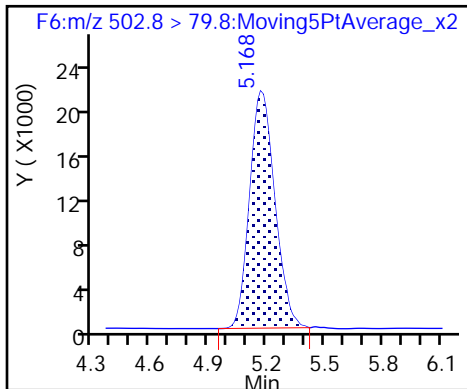
20 Perfluorooctane sulfonic acid



D 22 13C4 PFOS

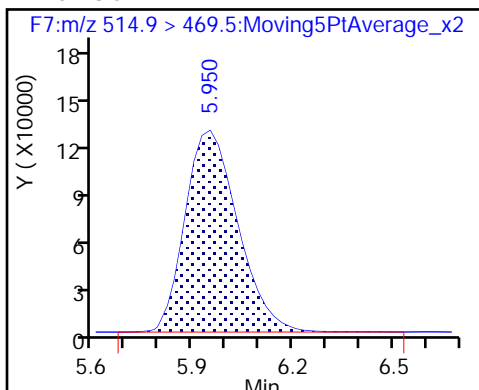
24 Sodium 1H,1H,2H,2H-perfluorodecanoate

De 23 M2-8:2FTS

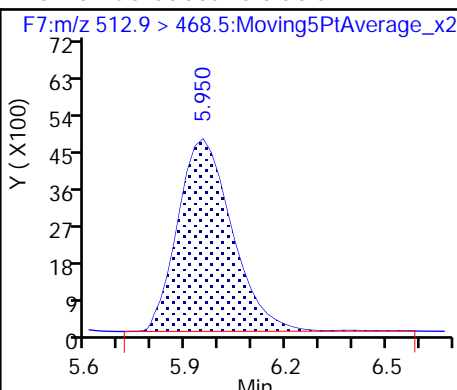




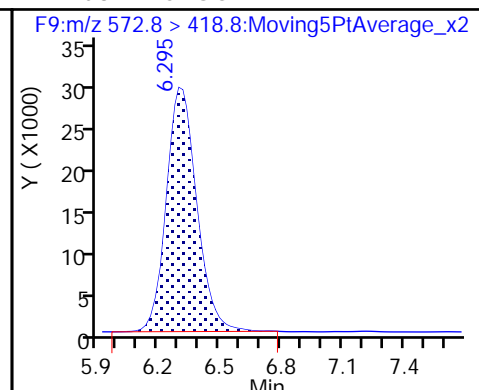
D 25 13C2 PFDA



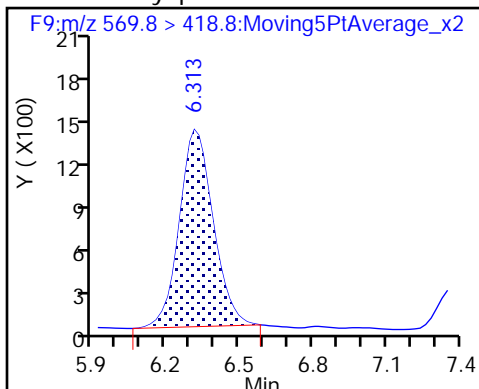
26 Perfluorodecanoic acid



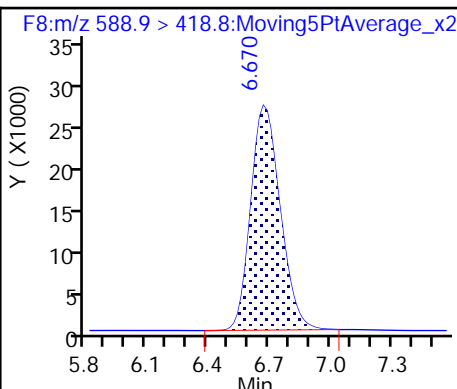
D 27 d3-NMeFOSAA



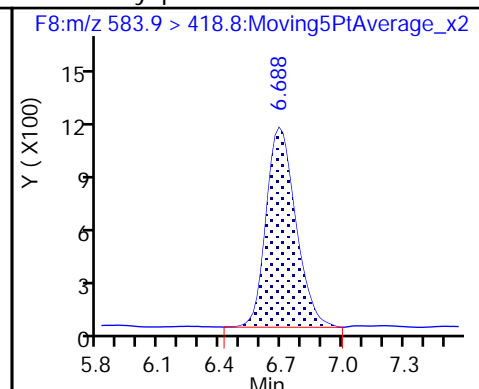
28 N-methyl perfluorooctane sulfonamid



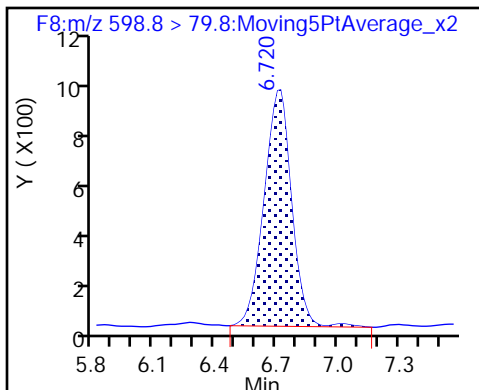
29 d5-NEtFOSAA



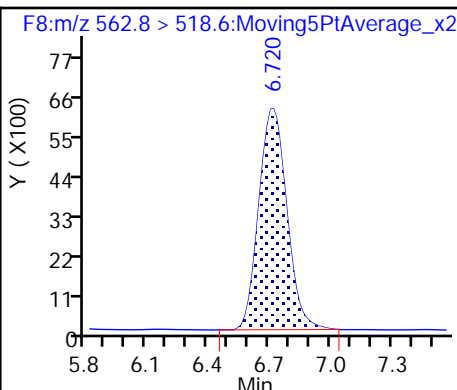
30 N-ethyl perfluorooctane sulfonamid



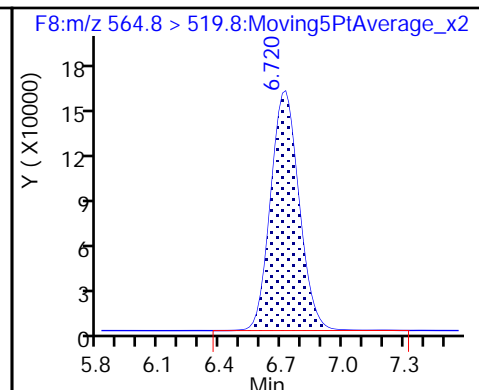
31 Perfluorodecane Sulfonic acid



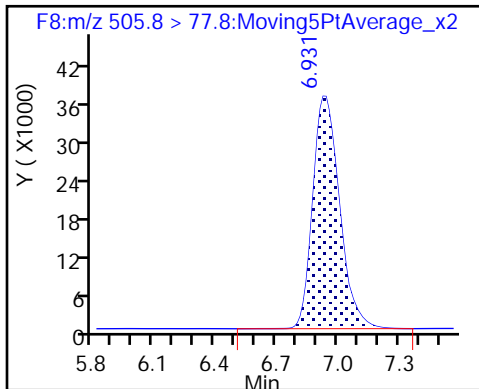
32 Perfluoroundecanoic acid



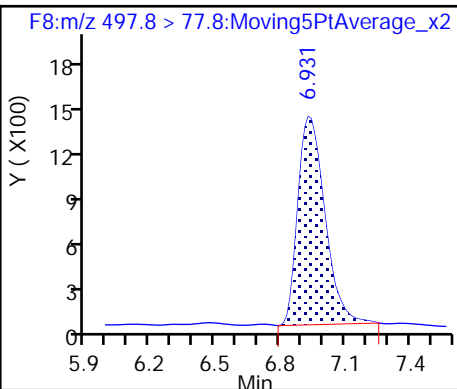
D 33 13C2 PFUnA



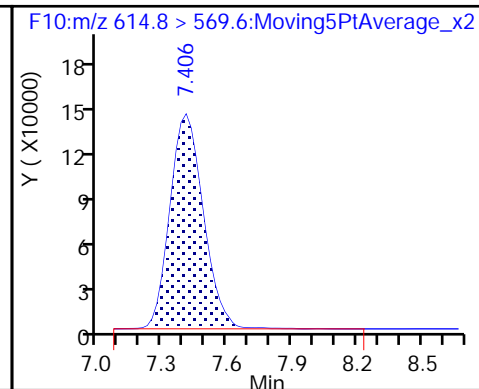
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



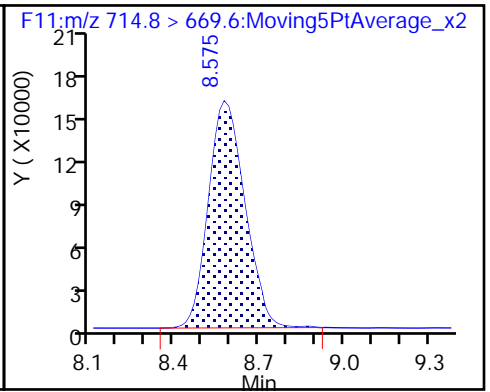
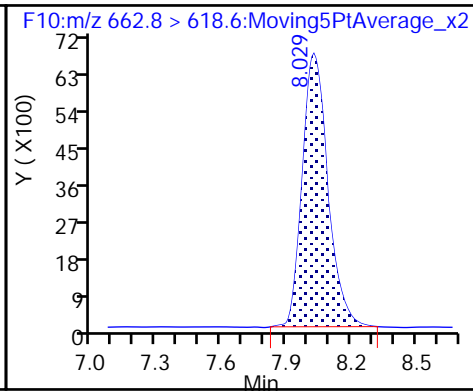
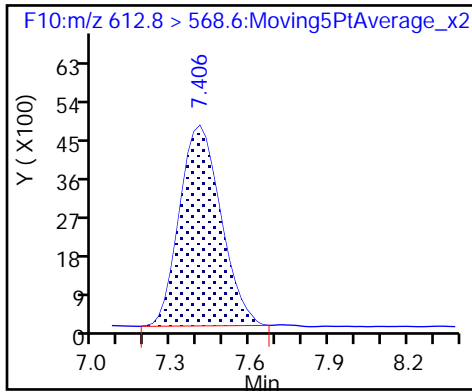
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

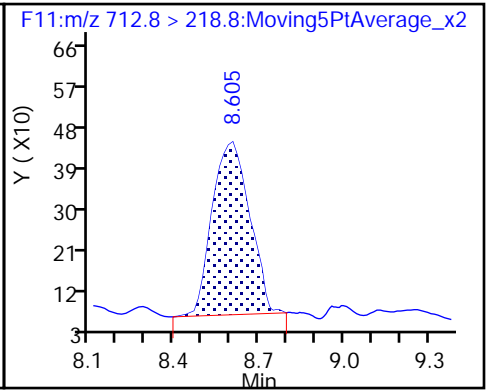
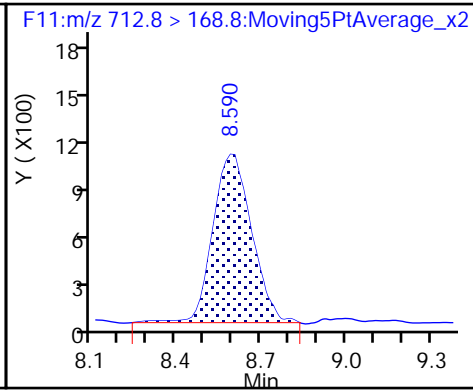
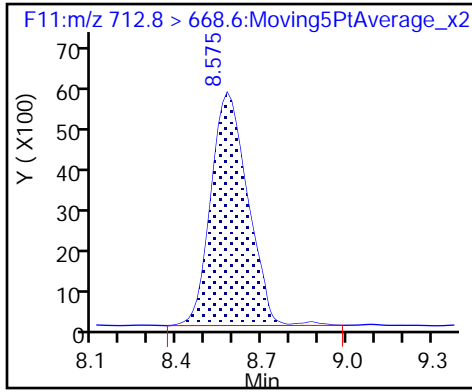
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

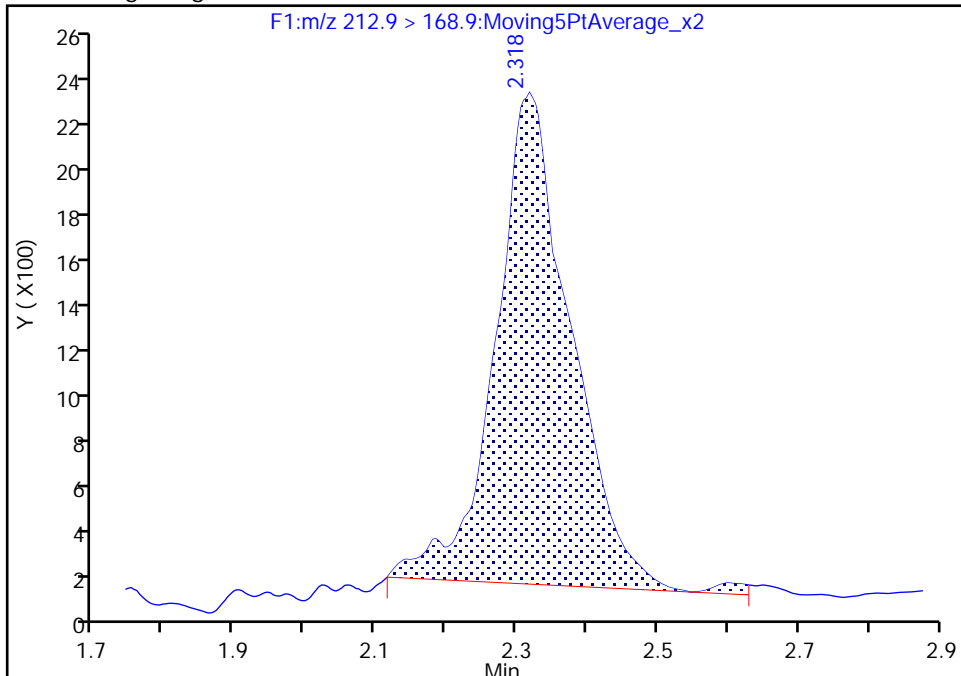
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A07.d  
Injection Date: 21-Apr-2018 12:45:14 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

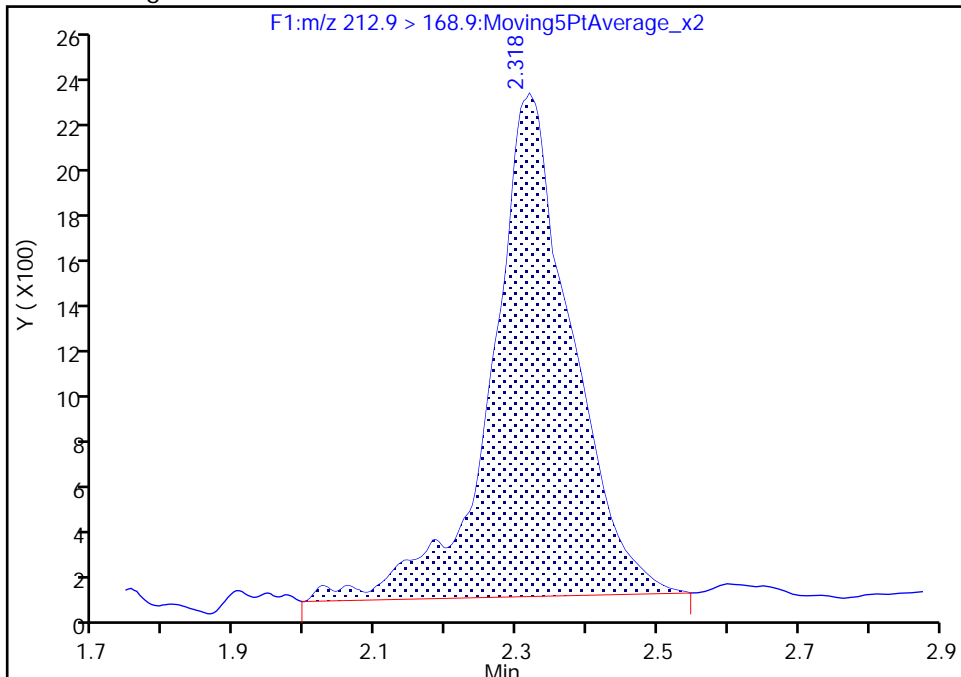
RT: 2.32  
Area: 15967  
Amount: 1.811076  
Amount Units: ng/ml

Processing Integration Results



RT: 2.32  
Area: 17385  
Amount: 1.931556  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:43:04  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

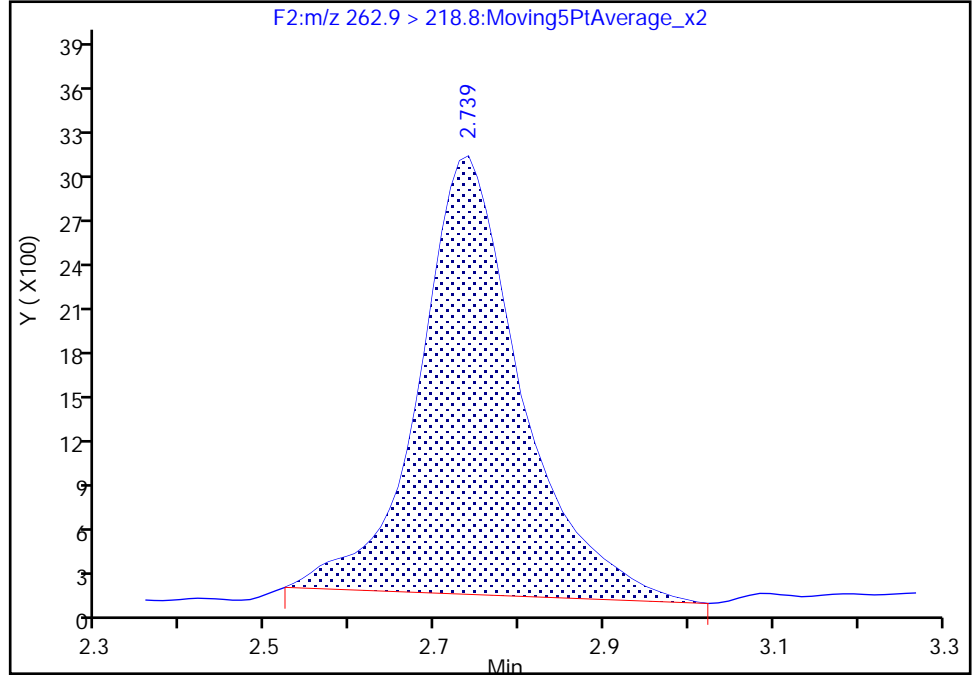
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A07.d  
Injection Date: 21-Apr-2018 12:45:14 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

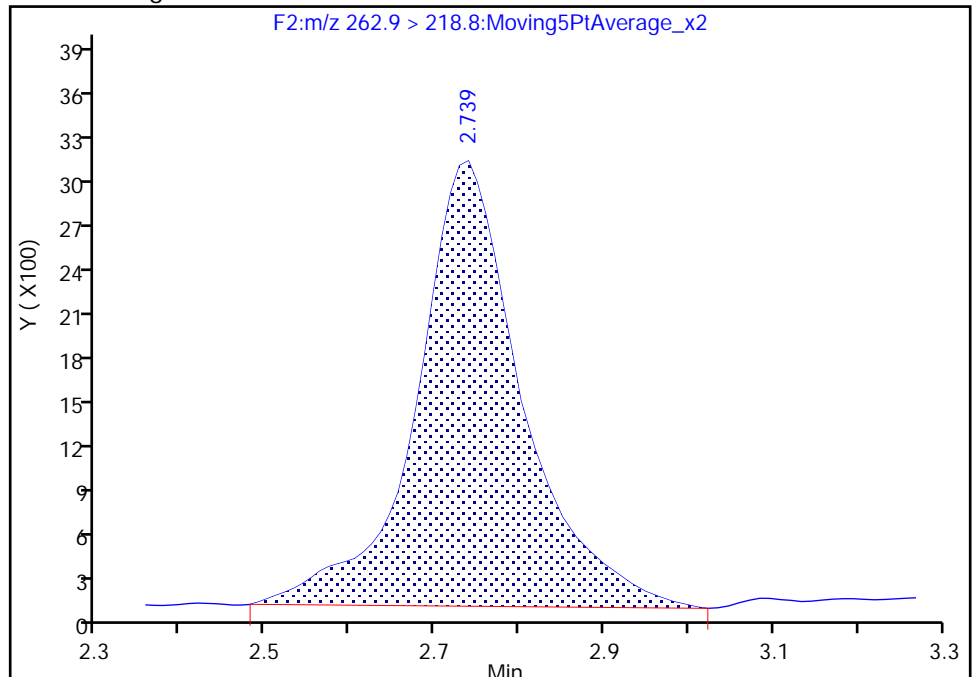
RT: 2.74  
Area: 24461  
Amount: 1.647864  
Amount Units: ng/ml

Processing Integration Results



RT: 2.74  
Area: 25789  
Amount: 1.685476  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:43:09  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

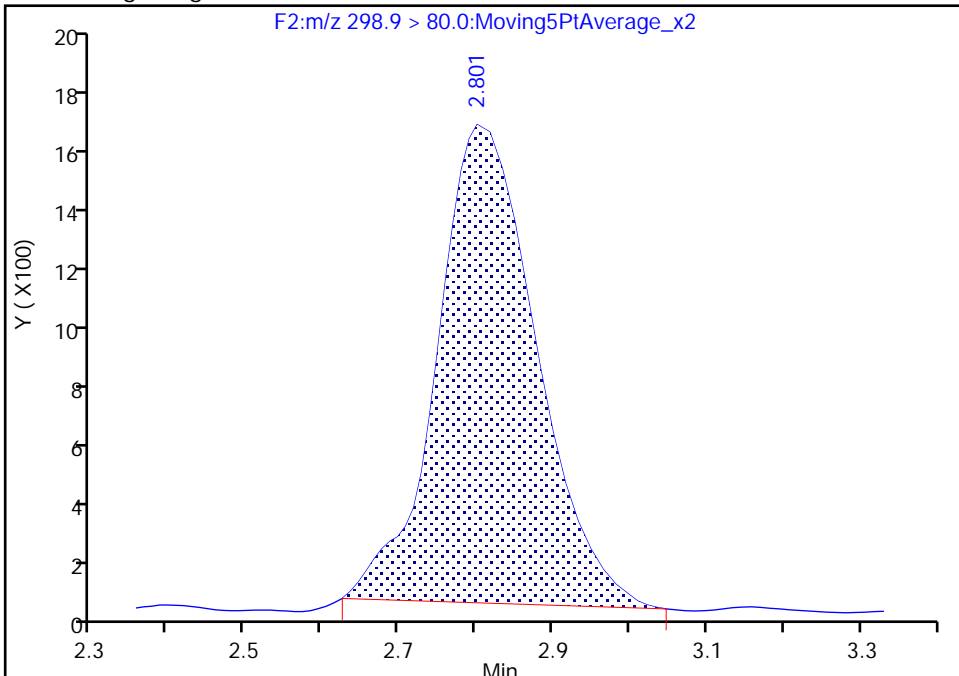
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Injection Date: 21-Apr-2018 12:45:14 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

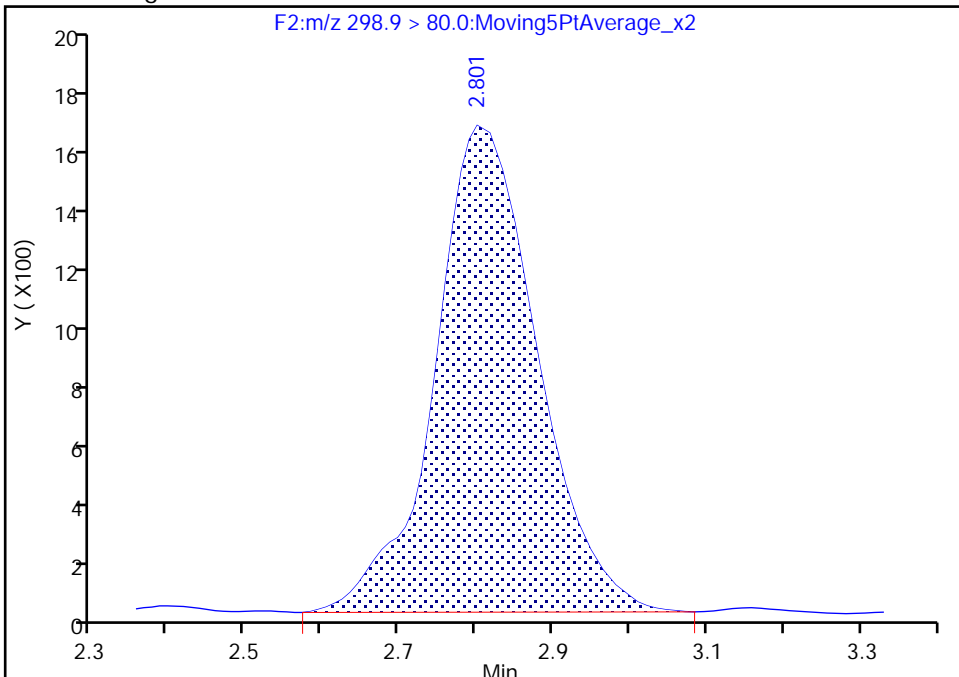
RT: 2.80  
Area: 14412  
Amount: 1.622921  
Amount Units: ng/ml

Processing Integration Results



RT: 2.80  
Area: 15114  
Amount: 1.669619  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington

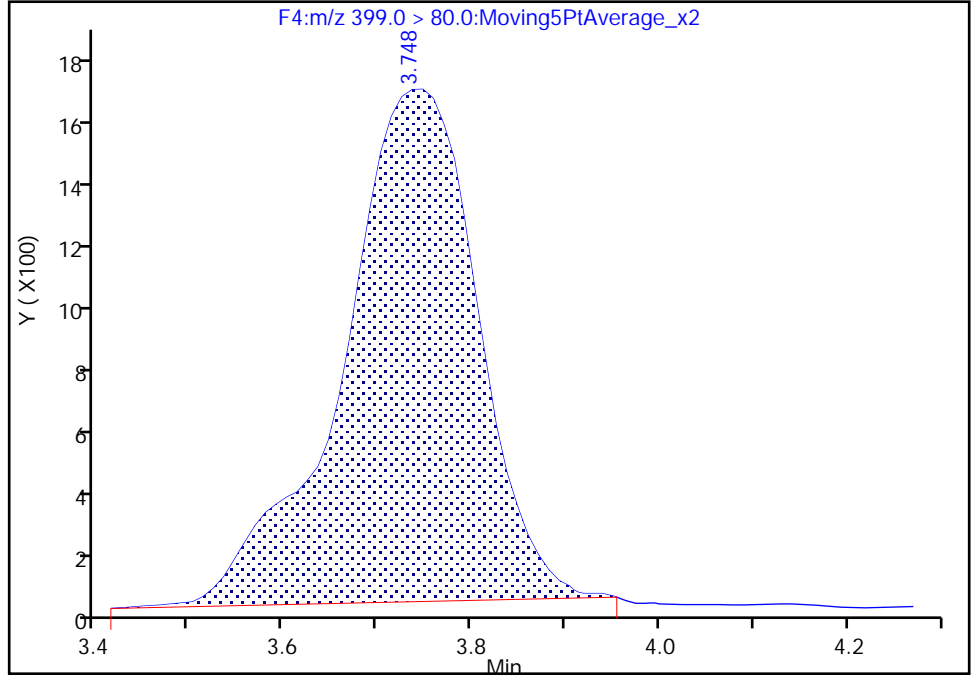
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A07.d  
Injection Date: 21-Apr-2018 12:45:14 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

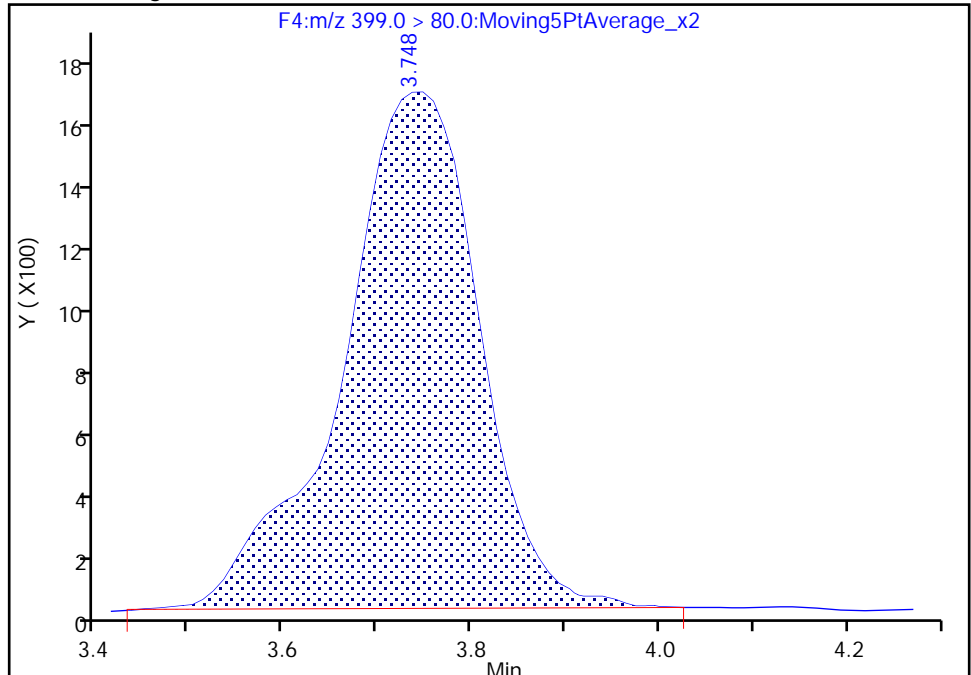
RT: 3.75  
Area: 15866  
Amount: 1.703950  
Amount Units: ng/ml

Processing Integration Results



RT: 3.75  
Area: 16191  
Amount: 1.731667  
Amount Units: ng/ml

Manual Integration Results



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A08.d  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 21-Apr-2018 13:00:15 ALS Bottle#: 0 Worklist Smp#: 8  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-008 IC 3  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:36:44 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d

Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:44:49

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										
216.9 > 171.5	2.314	2.319	-0.005	1.000	466551	45.7		91.3	669	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.322	2.320	0.002	1.004	43976	5.05		101	135	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.739	2.736	0.003	1.000	110194	44.5		89.0	1079	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.729	2.738	-0.009	0.996	68644	5.24		105	144	
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.800	0.001	1.000	201122	38.9		83.7	1750	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.801	2.804	-0.003	1.000	41719	4.79		108	802	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.152	3.158	-0.006	1.000	360957	42.9		85.8	1612	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.162	0.002	1.004	35815	5.11		102	579	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.692	3.689	0.003	1.000	94206	5.07		101	337	
D 10 13C4-PFHpA										
366.9 > 321.8	3.692	3.689	0.003	1.000	896930	43.6		87.2	686	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.726	3.733	-0.007	0.997	42080	4.66		102	476	
D 13 18O2 PFHxS										
402.9 > 83.8	3.737	3.737	0.0	1.000	237176	41.0		86.7	601	
D 14 M2-6:2FTS										
428.6 > 408.6	4.330	4.319	0.011	1.000	42960	38.9		82.0	491	
15 Sodium 1H,1H,2H,2H-perfluorooctane										M
426.6 > 406.6	4.330	4.319	0.011	1.000	5035	5.42		114	75.9	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.374	4.365	0.009	1.000	843282	44.6		89.1	3044	
* 49 13C2-PFOA										
414.9 > 369.8	4.374	4.371	0.003		1116501	50.0			7849	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.374	4.374	0.0	1.000	87644	4.80		96.1	759	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.411	4.408	0.003	0.854	16267	4.50		94.6	132	
19 Perfluorononanoic acid										
462.8 > 418.8	5.140	5.143	-0.003	1.000	101791	5.12		102	689	
D 21 13C5 PFNA										
467.8 > 422.8	5.140	5.145	-0.005	1.000	1025285	44.5		89.0	768	
D 22 13C4 PFOS										
502.8 > 79.8	5.168	5.168	0.0	1.000	182864	38.4		80.4	1018	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.168	5.168	0.0	1.000	20414	4.86		105	184	
D 23 M2-8:2FTS										
528.8 > 508.8	5.902	5.910	-0.008	1.000	271847	39.3		82.0	1183	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.926	5.910	0.016	1.004	20072	4.70		98.1	108	
D 25 13C2 PFDA										
514.9 > 469.5	5.926	5.934	-0.008	1.000	1349180	44.0		88.1	1036	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.926	5.938	-0.012	1.000	123793	4.81		96.2	550	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.295	6.298	-0.003	1.000	293078	42.5		85.0	694	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.313	6.310	0.003	1.003	34472	5.37		107	123	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.670	6.667	0.003	1.000	247373	41.2		82.4	761	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.688	6.688	0.0	1.003	28405	5.51		110	246	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.688	6.699	-0.011	1.294	21634	5.10		106	427	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.706	6.711	-0.005	1.000	143703	5.01		100	1087	
D 33 13C2 PFUnA										
564.8 > 519.8	6.706	6.713	-0.007	1.000	1519286	45.3		90.6	4451	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	363648	45.0		90.0	1403	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	30969	4.85		96.9	280	
D 36 13C2 PFDaA										
614.8 > 569.6	7.384	7.392	-0.008	1.000	1524291	44.6		89.2	2599	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.406	7.399	0.007	1.003	137083	4.97		99.4	684	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.021	8.022	-0.001	1.086	144330	5.04		101	1313	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.575	8.572	0.003	1.000	121151	4.91		98.1	649	
712.8 > 168.8	8.575	8.572	0.003	1.000	25065		4.83(0.00-0.00)	98.1	216	
712.8 > 218.8	8.575	8.572	0.003	1.000	11443		10.59(0.00-0.00)	98.1	80.0	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.575	8.572	0.003	1.000	1387106	43.0		86.0	656	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFAS21-L3\_00003

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A08.d

Injection Date: 21-Apr-2018 13:00:15

Instrument ID: LC410

Lims ID: IC

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 8

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

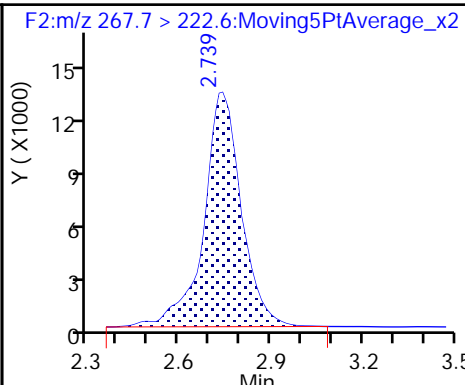
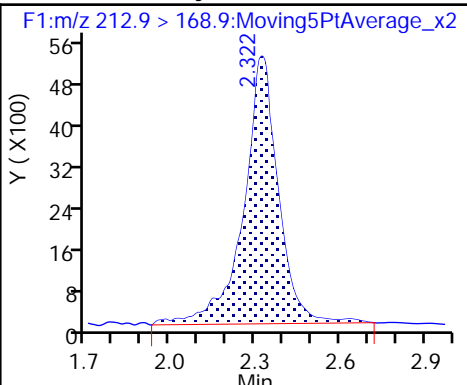
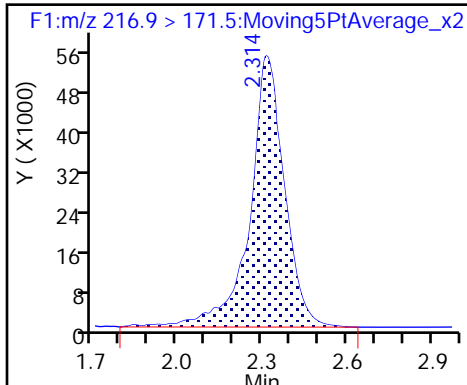
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

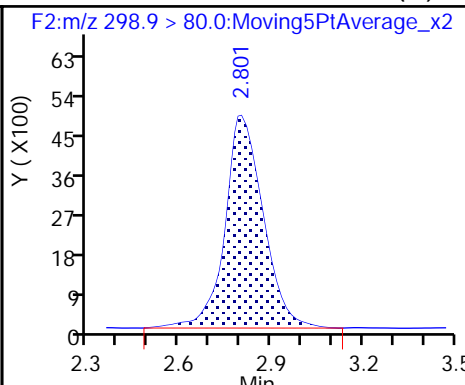
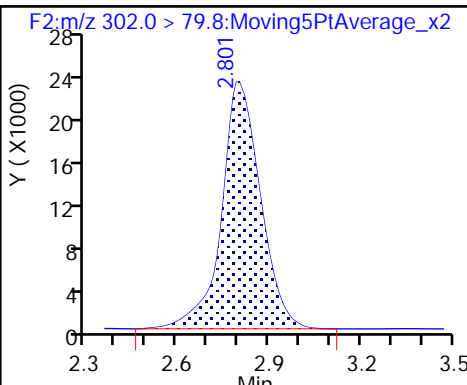
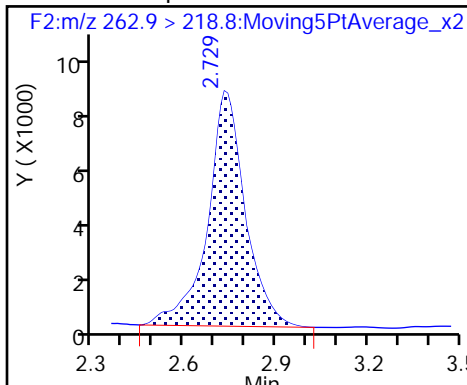
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

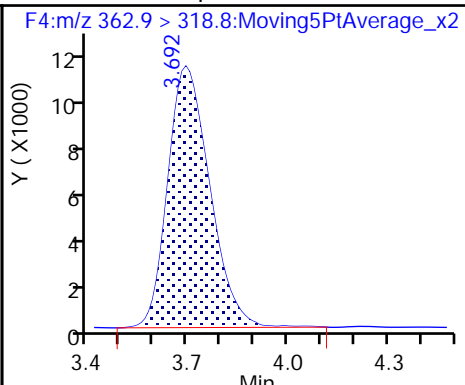
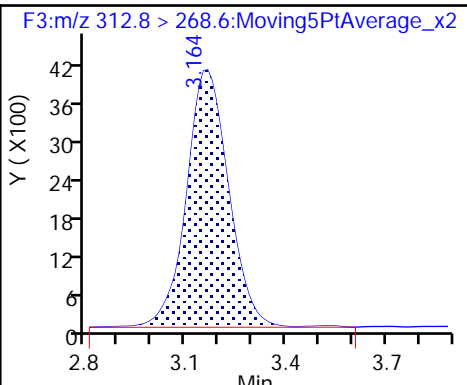
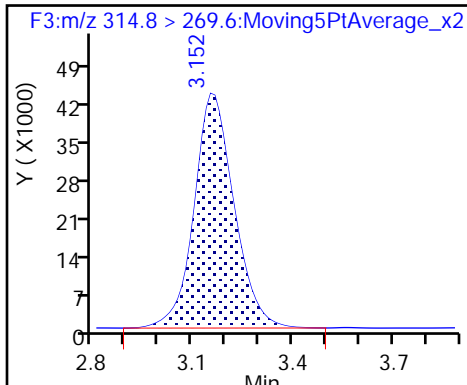
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

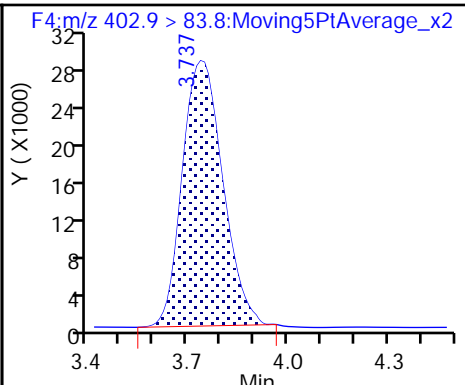
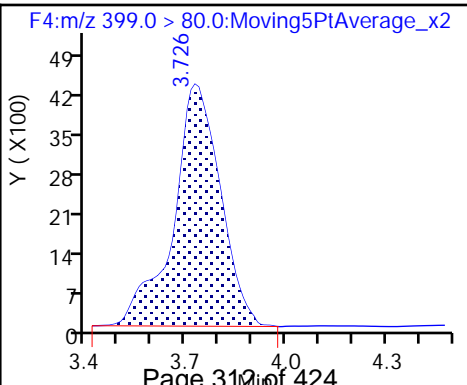
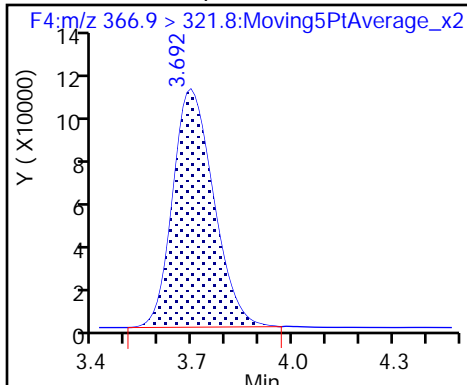
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

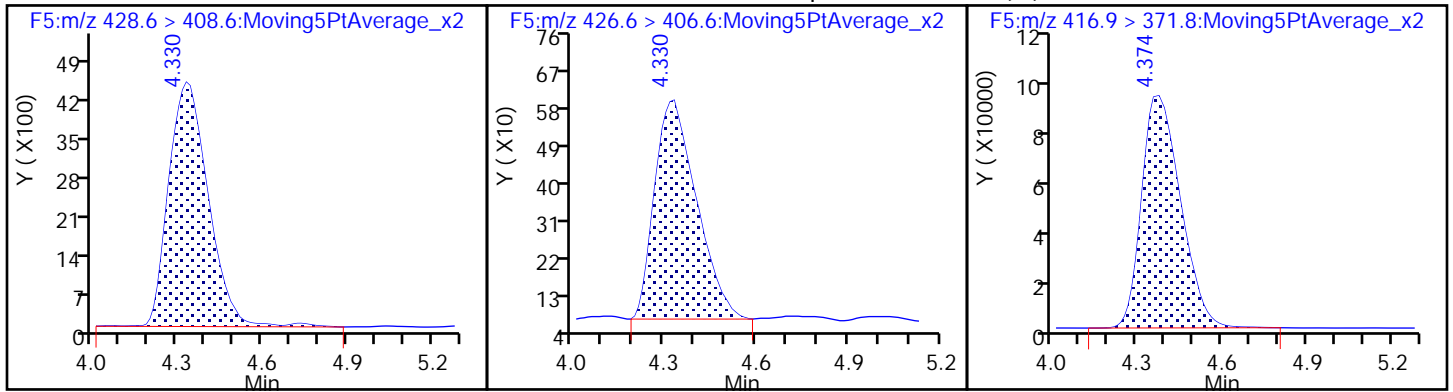
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



D 14 M2-6:2FTS

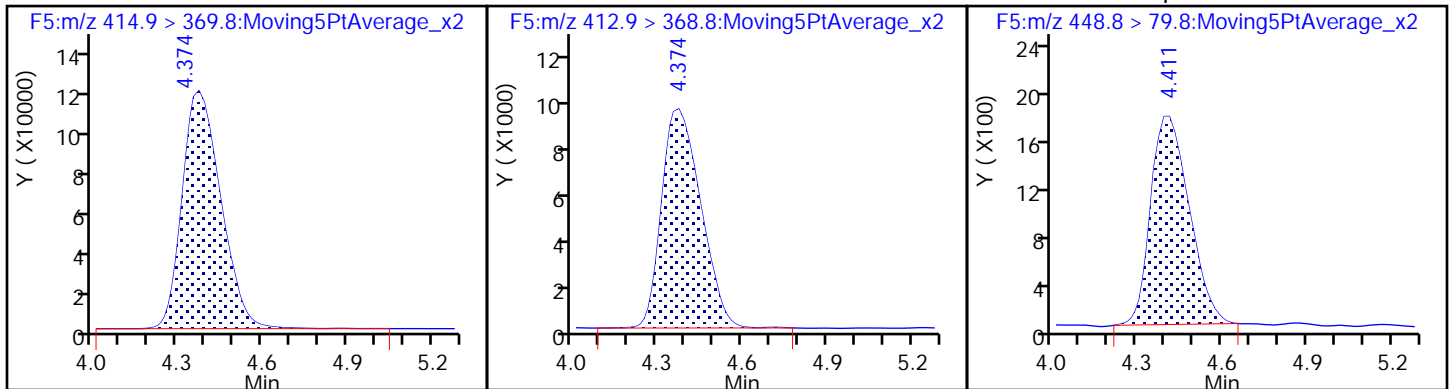
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (M) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

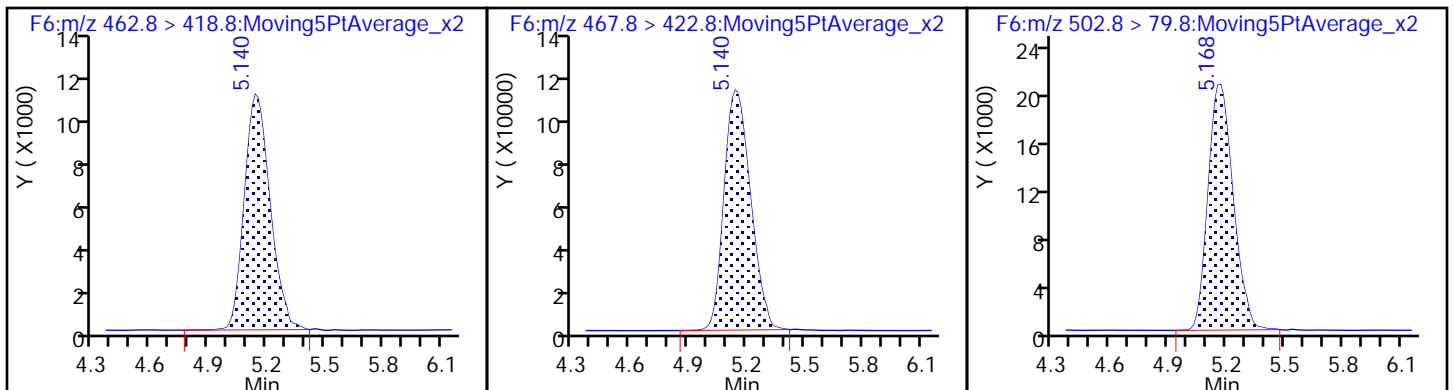
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

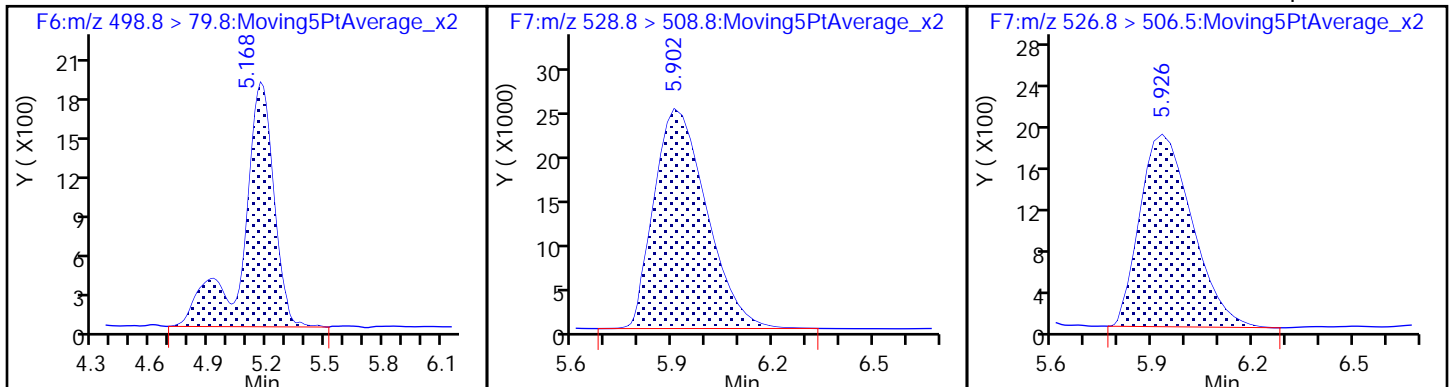
D 22 13C4 PFOS



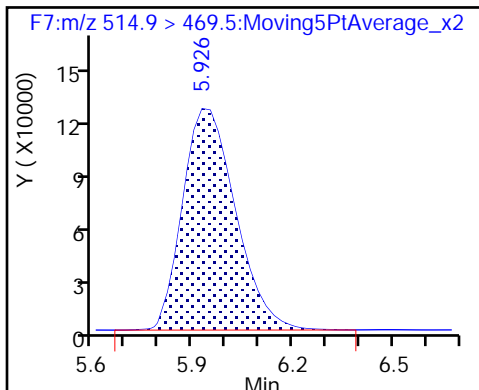
20 Perfluorooctane sulfonic acid

D 23 M2-8:2FTS

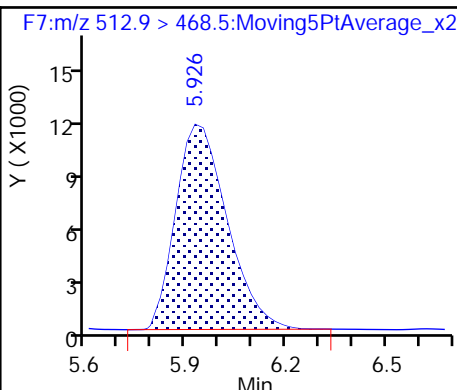
24 Sodium 1H,1H,2H,2H-perfluorodecane



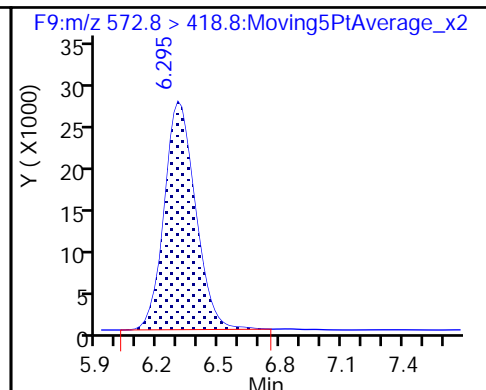
D 25 13C2 PFDA



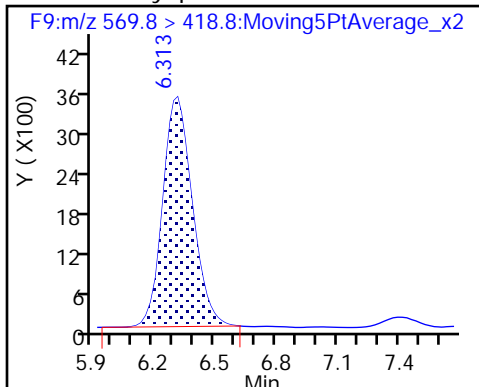
26 Perfluorodecanoic acid



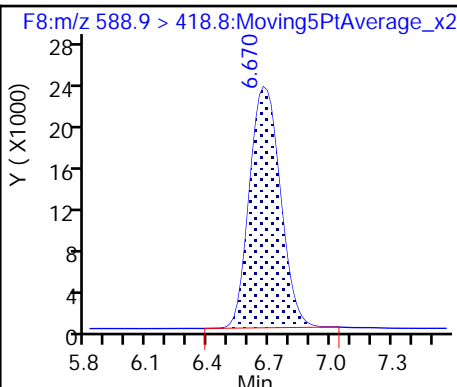
D 27 d3-NMeFOSAA



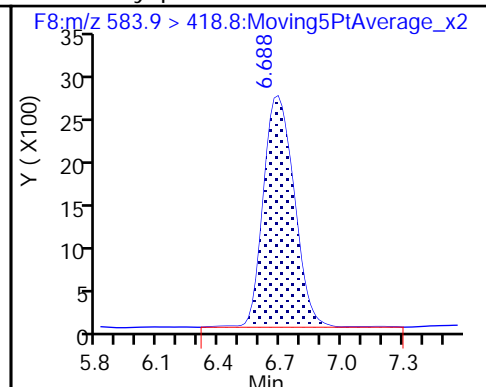
28 N-methyl perfluorooctane sulfonamid



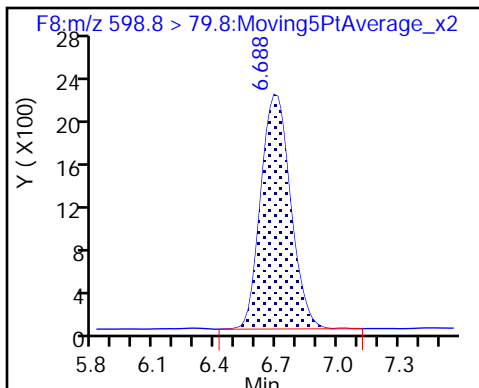
29 d5-NEtFOSAA



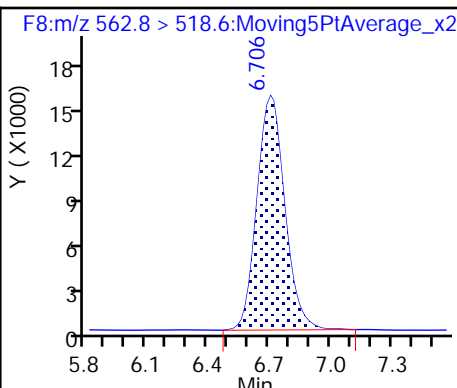
30 N-ethyl perfluorooctane sulfonamid



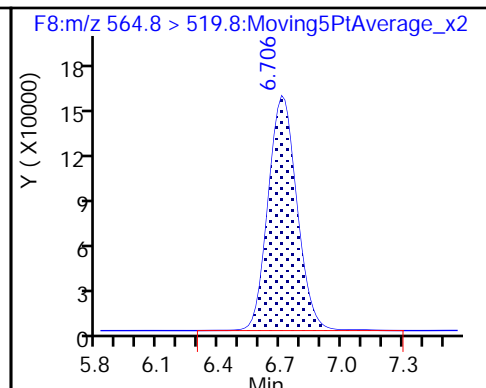
31 Perfluorodecane Sulfonic acid



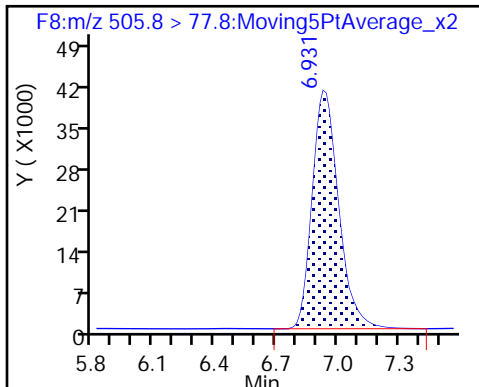
32 Perfluoroundecanoic acid



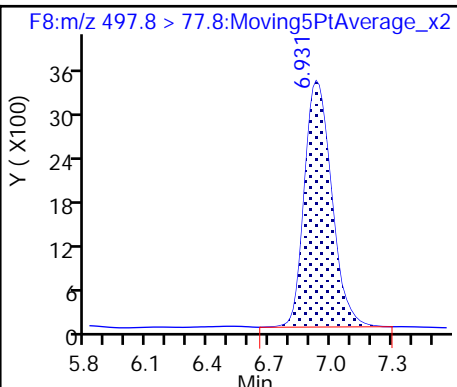
D 33 13C2 PFUnA



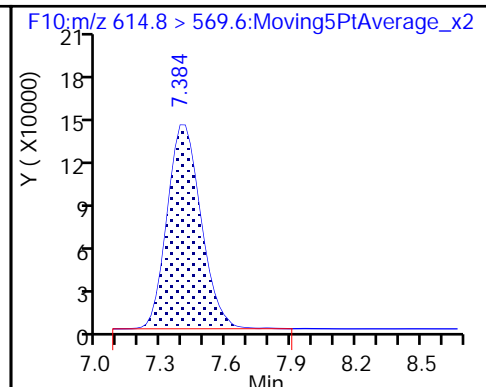
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



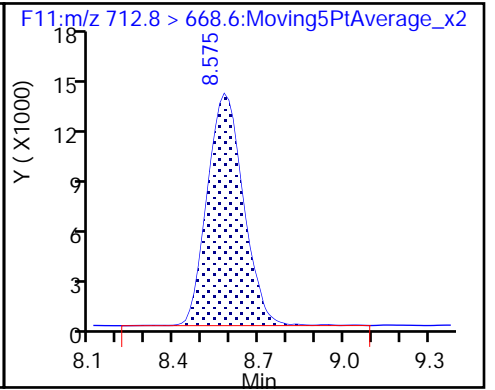
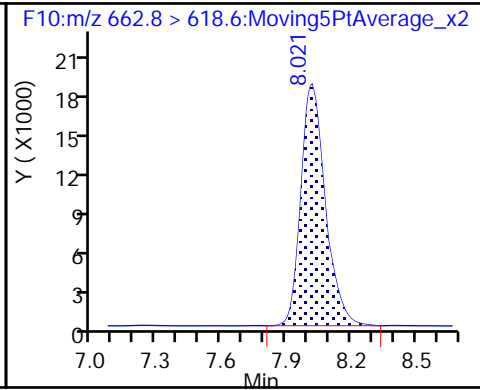
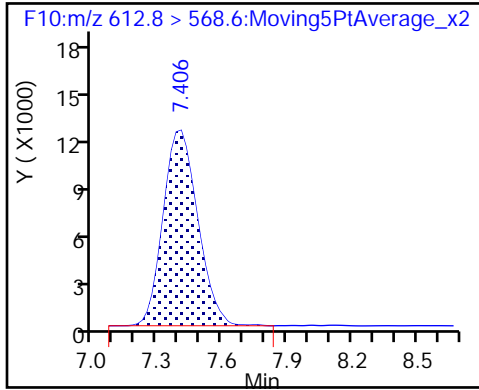
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

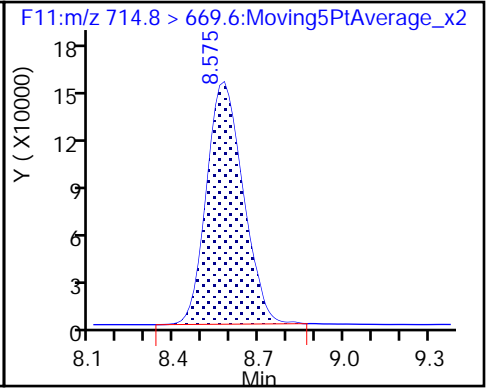
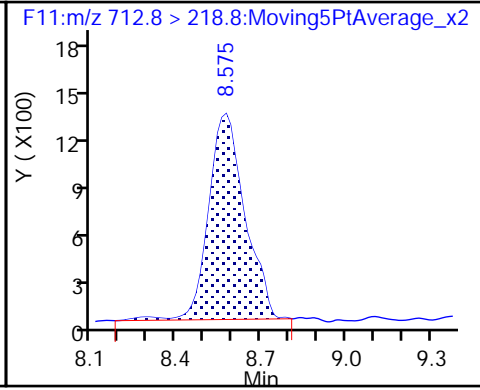
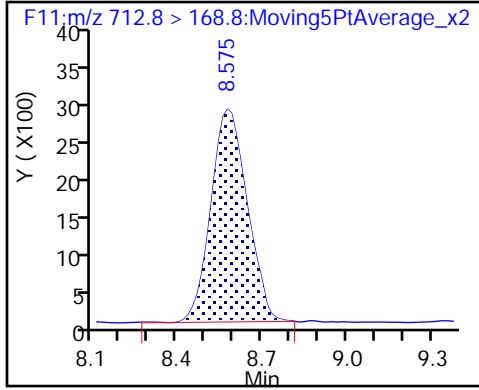
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

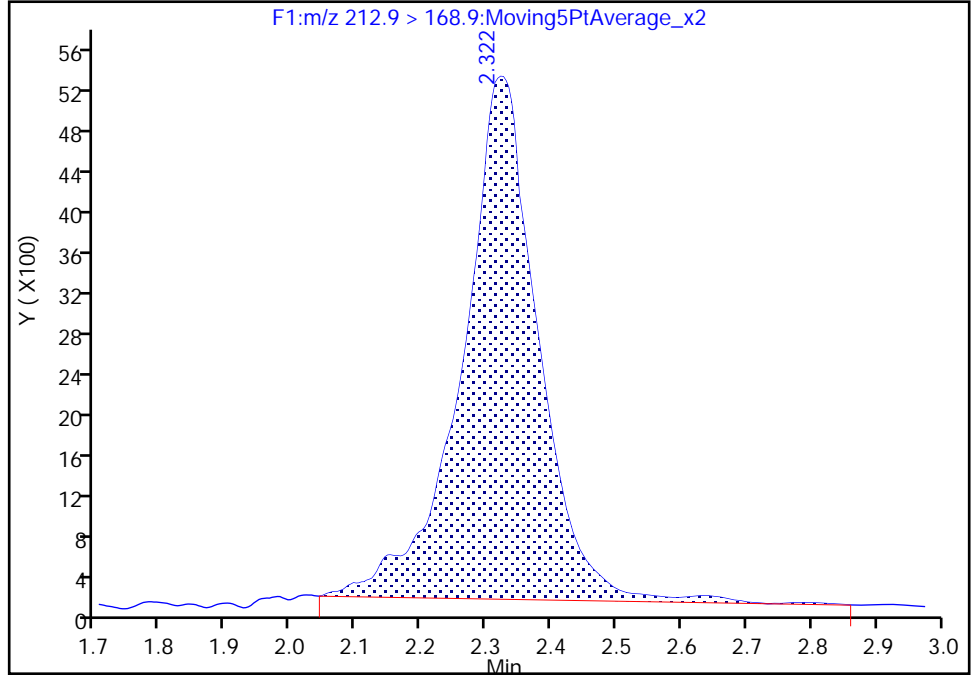
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A08.d  
Injection Date: 21-Apr-2018 13:00:15 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

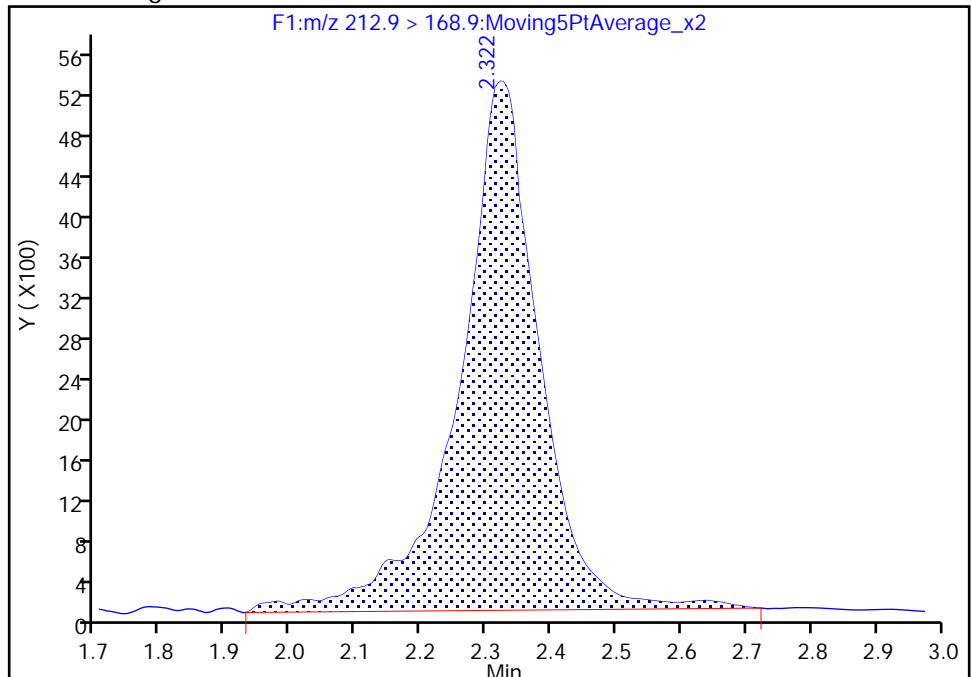
RT: 2.32  
Area: 41411  
Amount: 4.784686  
Amount Units: ng/ml

Processing Integration Results



RT: 2.32  
Area: 43976  
Amount: 5.051350  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:44:10  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

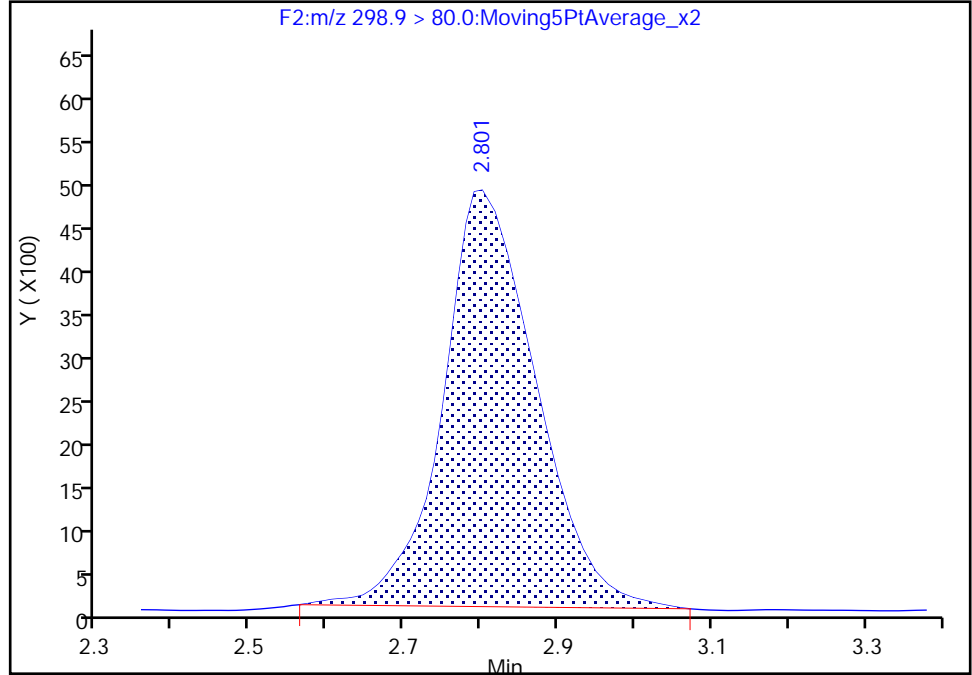
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A08.d  
Injection Date: 21-Apr-2018 13:00:15 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

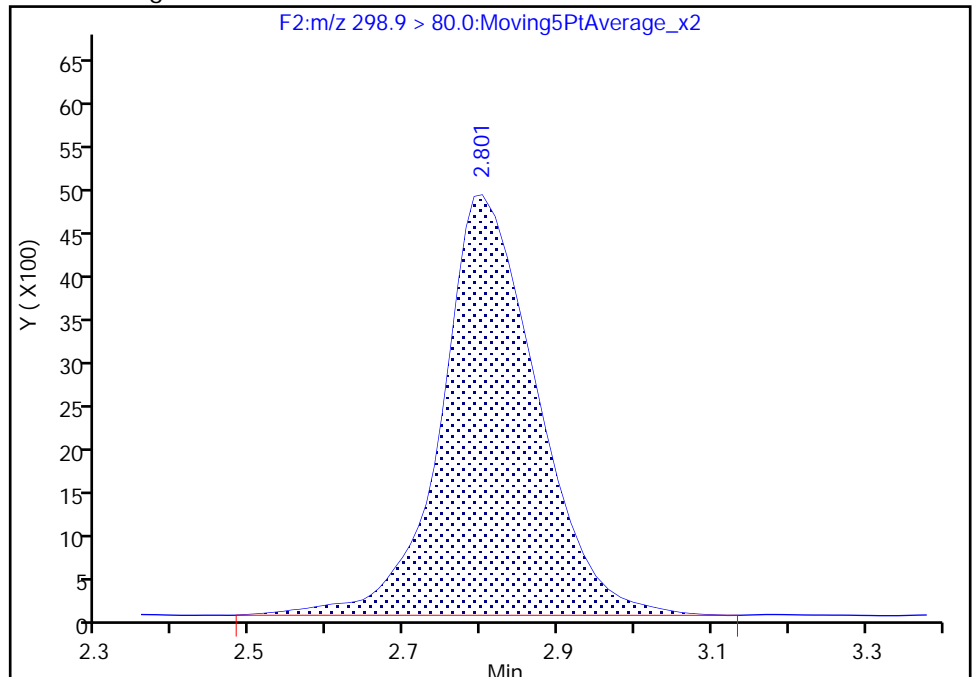
RT: 2.80  
Area: 40283  
Amount: 4.661691  
Amount Units: ng/ml

Processing Integration Results



RT: 2.80  
Area: 41719  
Amount: 4.790432  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:44:18  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

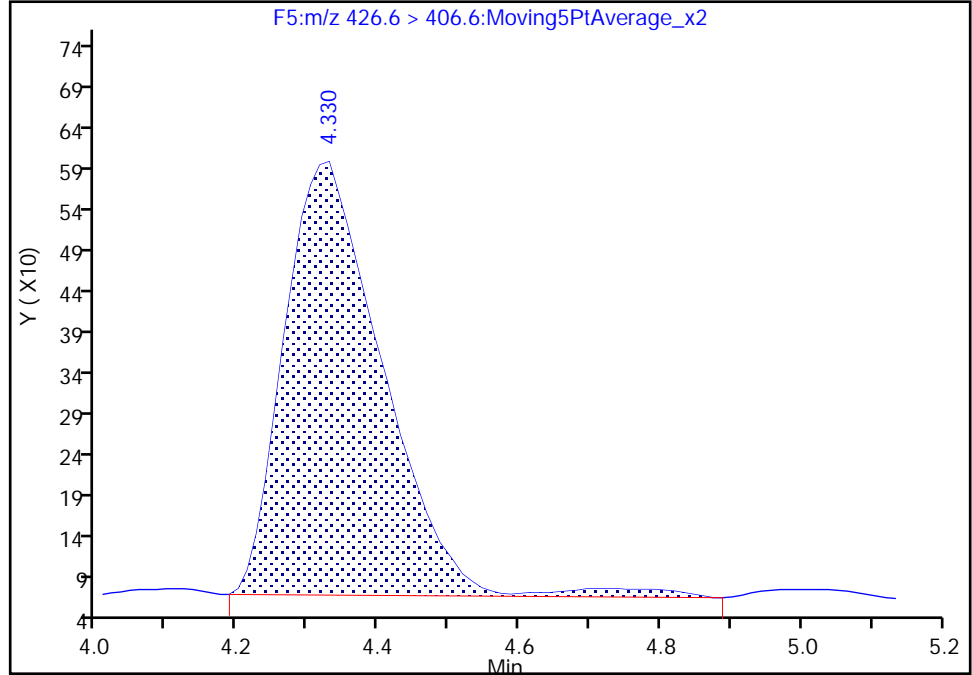
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Injection Date: 21-Apr-2018 13:00:15 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

15 Sodium 1H,1H,2H,2H-perfluorooctane sulfonate, CAS: 27619-97-2

Signal: 1

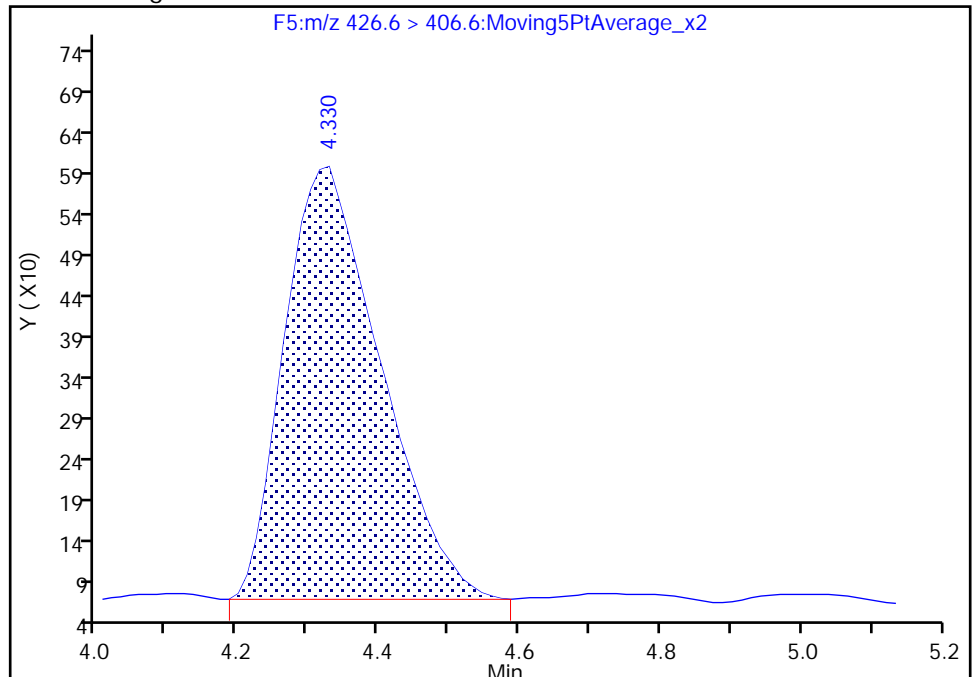
RT: 4.33  
Area: 5180  
Amount: 5.712273  
Amount Units: ng/ml

Processing Integration Results



RT: 4.33  
Area: 5035  
Amount: 5.415085  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:44:32  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A09.d  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 21-Apr-2018 13:15:24 ALS Bottle#: 0 Worklist Smp#: 9  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-009 IC 4  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:36:45 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d

Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:45:31

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.330	2.319	0.011	1.000	478094	48.6	97.3	157	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.318	2.320	-0.002	0.995	180447	20.7		103	216	M
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	120120	50.4	101	1269	
4 Perfluoropentanoic acid	262.9 > 218.8	2.739	2.738	0.001	1.004	277559	20.7	103	1248	
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	233453	46.9	101	2003	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.801	2.804	-0.003	1.004	183063	17.6	99.7	886	
D 7 13C2 PFHxA	314.8 > 269.6	3.152	3.158	-0.006	1.000	398198	49.2	98.4	1629	
8 Perfluorohexanoic acid	312.8 > 268.6	3.164	3.162	0.002	1.004	158371	20.4	102	1109	
D 10 13C4-PFHpA	366.9 > 321.8	3.681	3.689	-0.008	1.000	962857	48.7	97.3	1418	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.681	3.689	-0.008	1.000	405700	20.2	101	1960	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.726	3.733	-0.007	0.997	179841	18.2	100	712	
D 13 18O2 PFHxS	402.9 > 83.8	3.737	3.737	0.0	1.000	260588	46.8	99.0	993	
D 14 M2-6:2FTS	428.6 > 408.6	4.317	4.319	-0.002	1.000	46677	44.0	92.6	305	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.317	4.319	-0.002	1.000	20045	19.8	105	218	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.355	4.365	-0.010	1.000	837287	46.0		92.0	4715	
* 49 13C2-PFOA										
414.9 > 369.8	4.374	4.371	0.003		1074199	50.0			1757	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.374	4.374	0.0	1.004	383922	21.2		106	1234	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.393	4.408	-0.015	0.850	86333	20.8		109	678	
19 Perfluorononanoic acid										
462.8 > 418.8	5.140	5.143	-0.003	1.000	428031	19.9		99.5	2214	
D 21 13C5 PFNA										
467.8 > 422.8	5.140	5.145	-0.005	1.000	1089351	49.2		98.3	1666	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.168	5.168	0.0	1.000	92581	19.2		103	438	
D 22 13C4 PFOS										
502.8 > 79.8	5.168	5.168	0.0	1.000	205361	44.8		93.8	889	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.902	5.910	-0.008	1.000	105348	24.5		128	486	
D 23 M2-8:2FTS										
528.8 > 508.8	5.902	5.910	-0.008	1.000	273806	41.1		85.9	1125	
D 25 13C2 PFDA										
514.9 > 469.5	5.926	5.934	-0.008	1.000	1429912	48.5		97.0	2170	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.950	5.938	0.012	1.004	564995	21.0		105	1139	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.295	6.298	-0.003	1.000	330417	49.8		99.6	1291	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.313	6.310	0.003	1.003	145656	20.0		100	272	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.670	6.667	0.003	1.000	286050	49.5		99.0	3057	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.688	6.688	0.0	1.003	115151	19.5		97.6	511	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.688	6.699	-0.011	1.294	95162	19.9		103	1123	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.706	6.711	-0.005	0.998	575513	20.4		102	2200	
D 33 13C2 PFUnA										
564.8 > 519.8	6.720	6.713	0.007	1.000	1483568	46.0		91.9	1558	
D 35 13C8 FOSA										
505.8 > 77.8	6.944	6.938	0.006	1.000	401152	51.6		103	1516	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.944	6.940	0.004	1.000	142398	20.0		100.0	966	
D 36 13C2 PFDoA										
614.8 > 569.6	7.384	7.392	-0.008	1.000	1573917	47.9		95.8	2655	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.407	7.399	0.008	1.003	587889	20.7		104	1074	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.021	8.022	-0.001	1.086	437634	22.0		110	3275	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.575	8.572	0.003	1.000	1585924	51.1		102	1609	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.575	8.572	0.003	1.000	549982	20.0		99.8	2050	
712.8 > 168.8	8.575	8.572	0.003	1.000	101331		5.43(0.00-0.00)	99.8	436	
712.8 > 218.8	8.575	8.572	0.003	1.000	67306		8.17(0.00-0.00)	99.8	417	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFAS21-L4\_00003

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A09.d

Injection Date: 21-Apr-2018 13:15:24

Instrument ID: LC410

Lims ID: IC

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 9

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

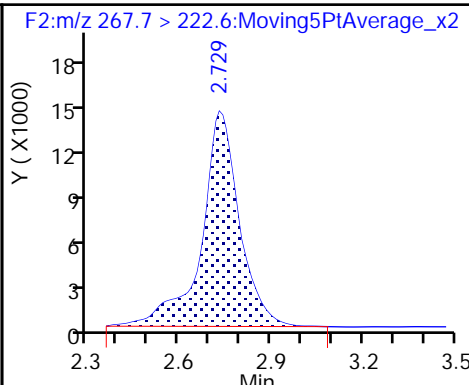
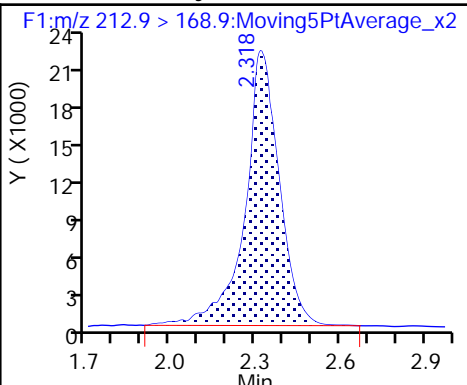
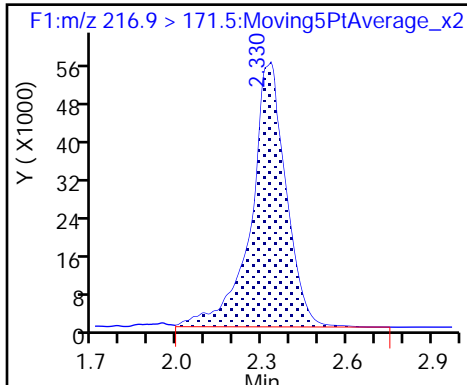
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

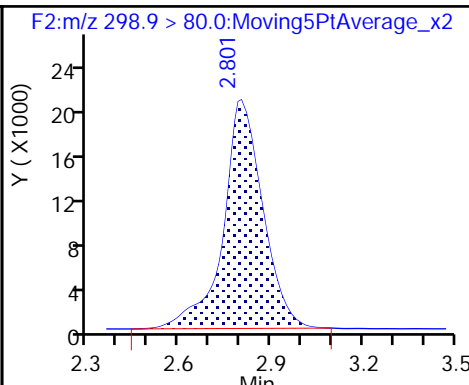
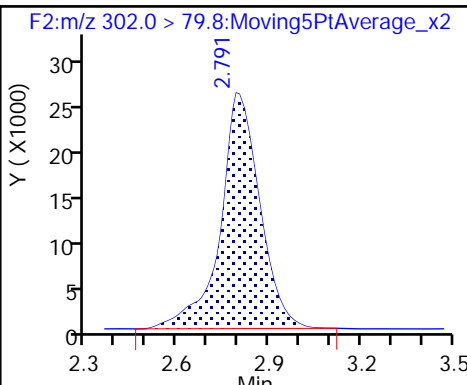
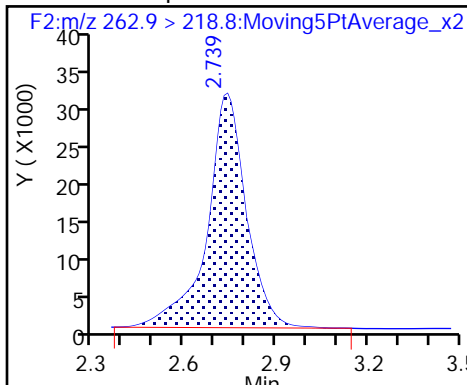
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

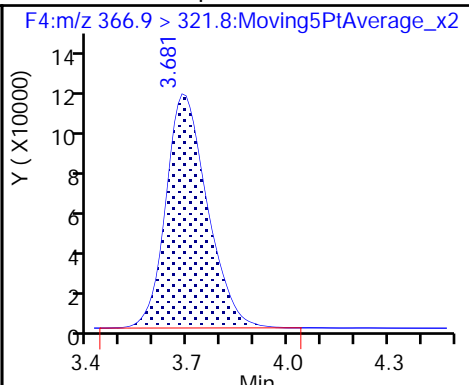
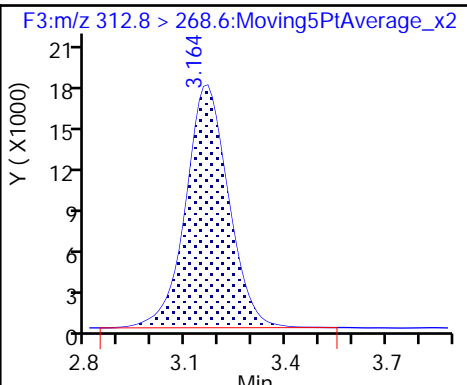
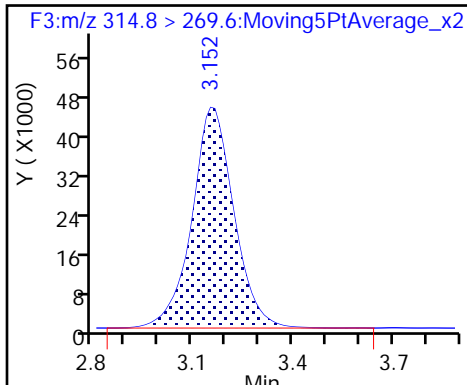
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

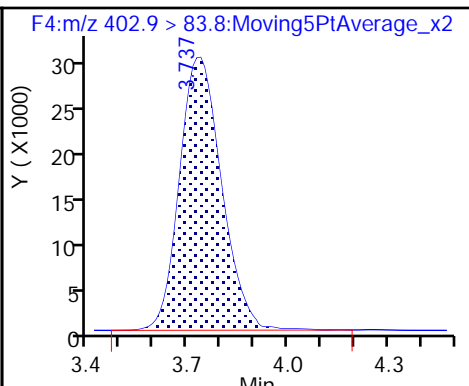
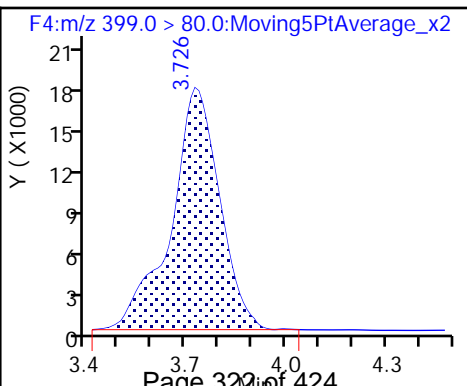
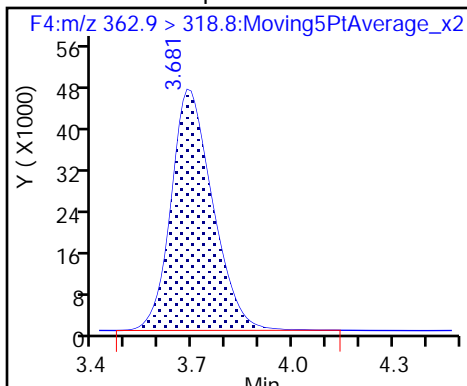
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

12 Perfluorohexanesulfonic acid

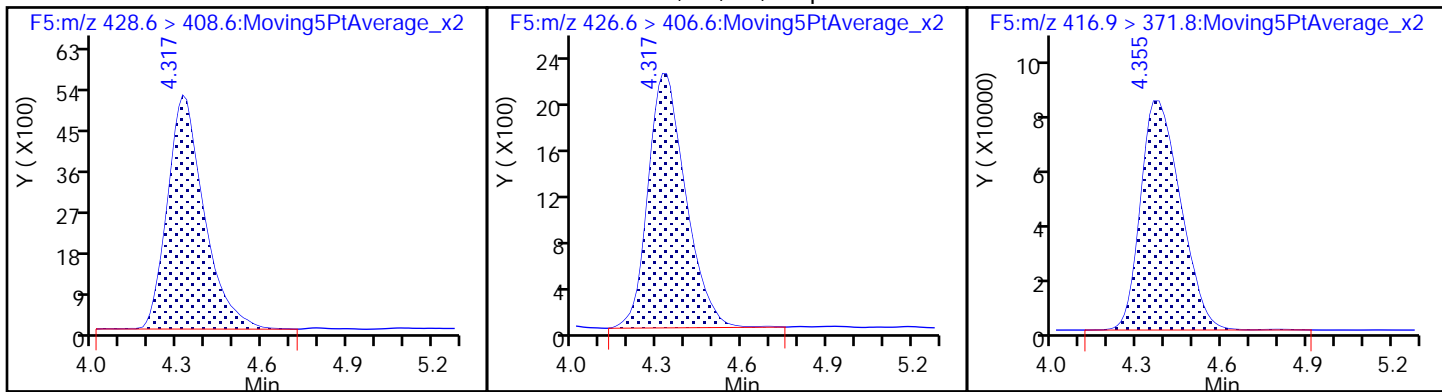
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

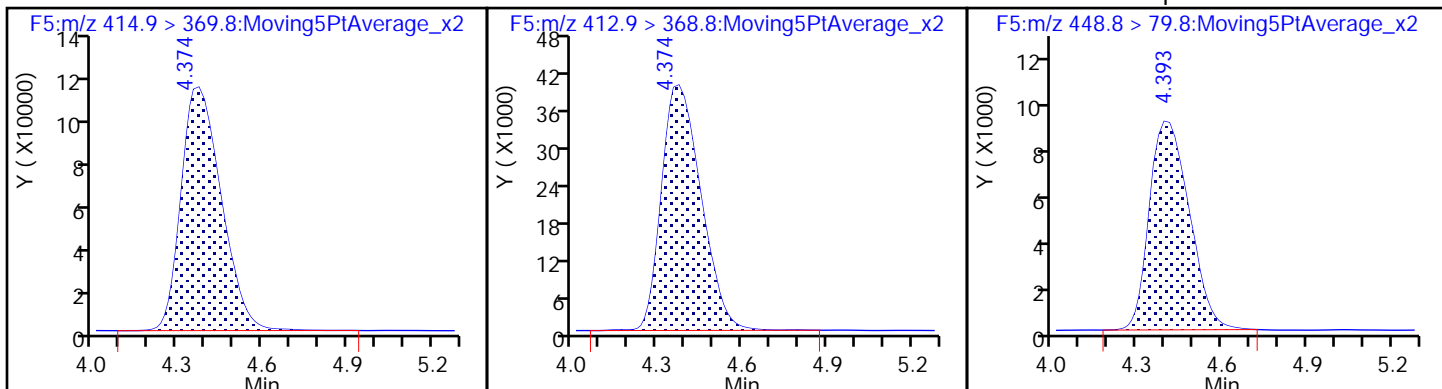
De 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

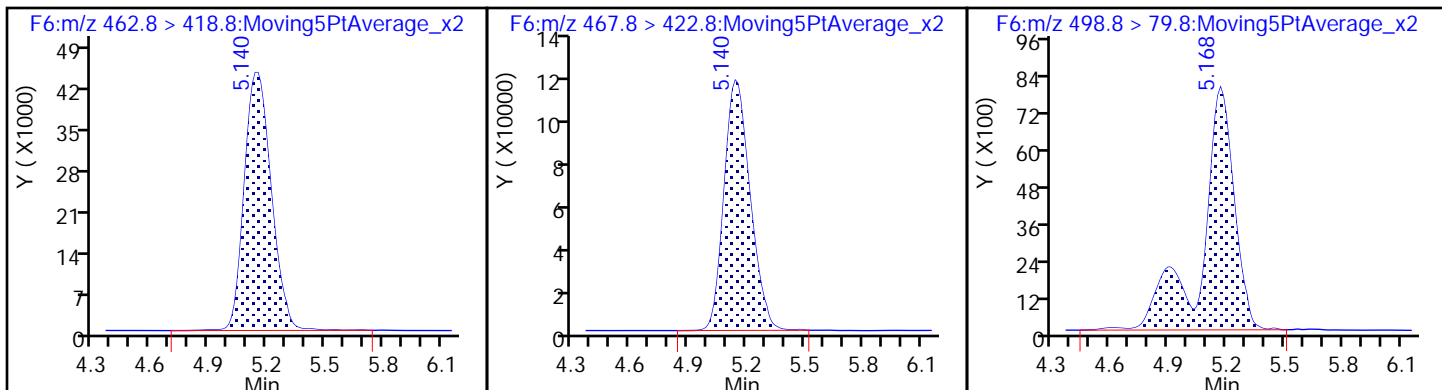
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

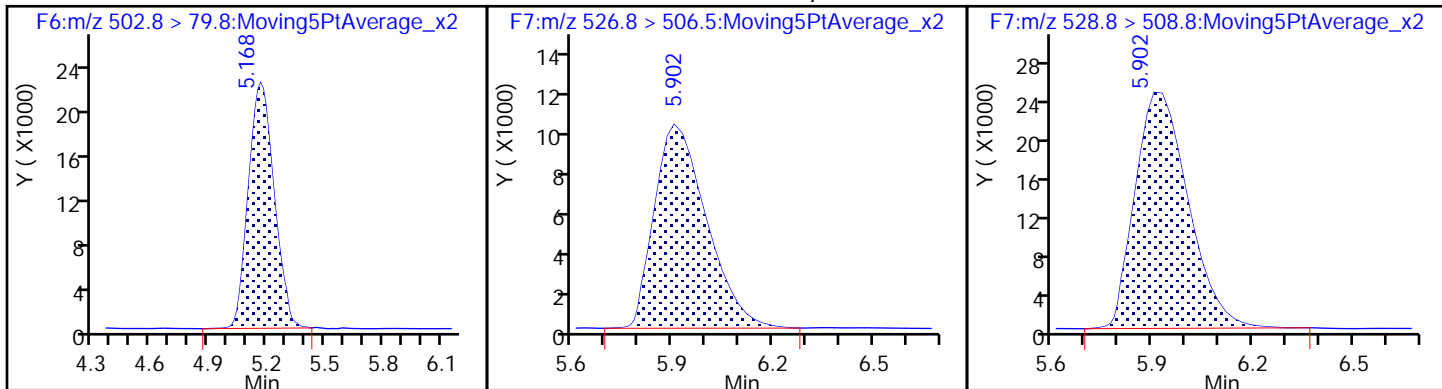
20 Perfluorooctane sulfonic acid



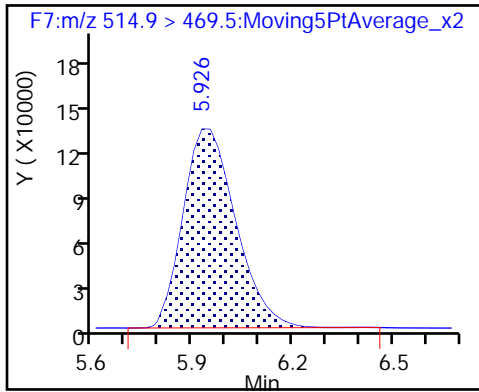
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate

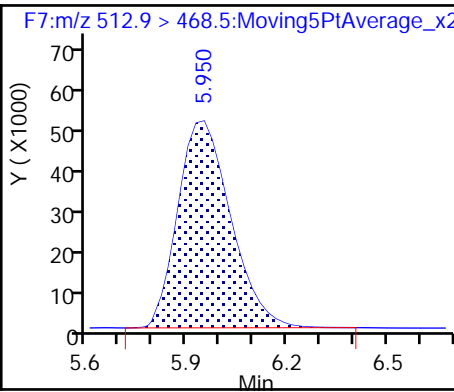
De 23 M2-8:2FTS



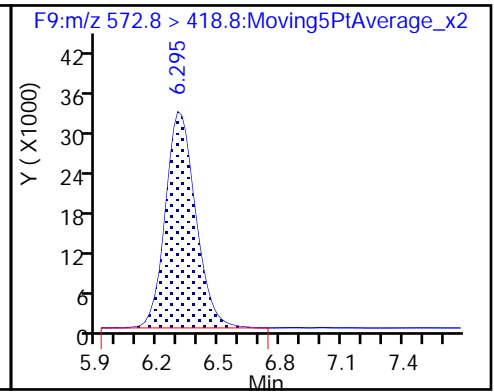
D 25 13C2 PFDA



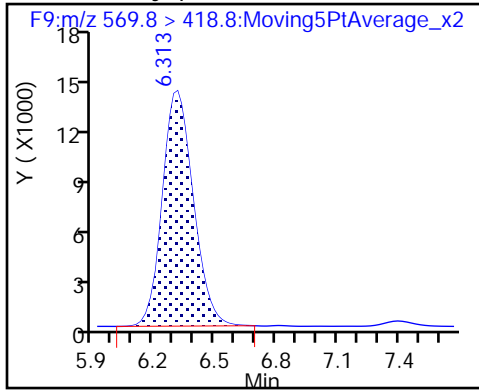
26 Perfluorodecanoic acid



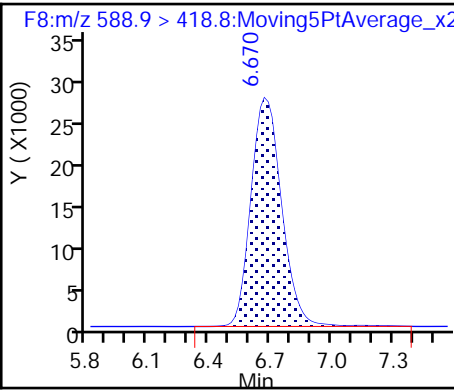
D 27 d3-NMeFOSAA



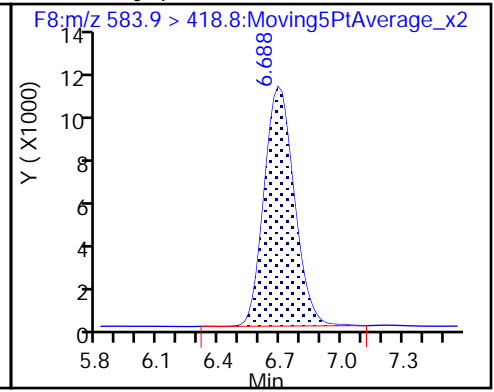
28 N-methyl perfluorooctane sulfonamid



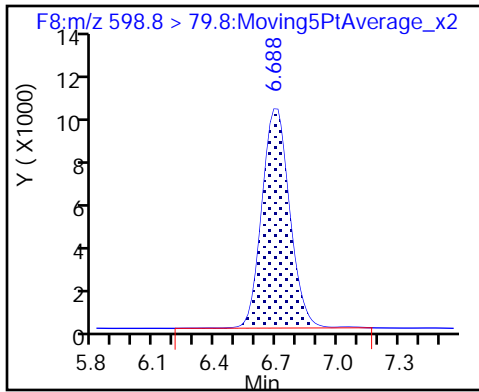
29 d5-NEtFOSAA



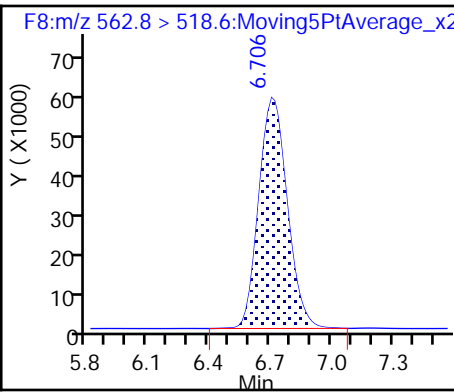
30 N-ethyl perfluorooctane sulfonamid



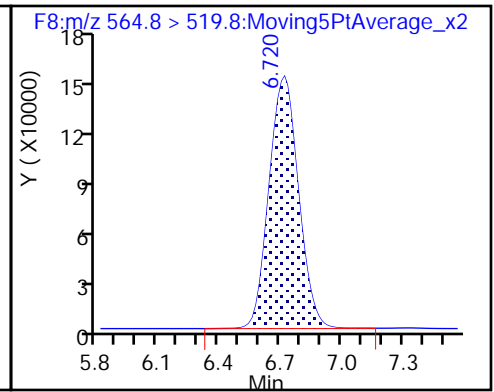
31 Perfluorodecane Sulfonic acid



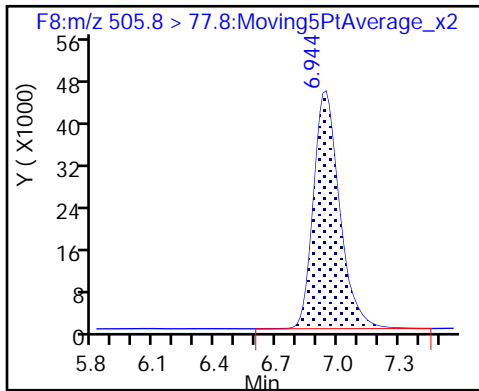
32 Perfluoroundecanoic acid



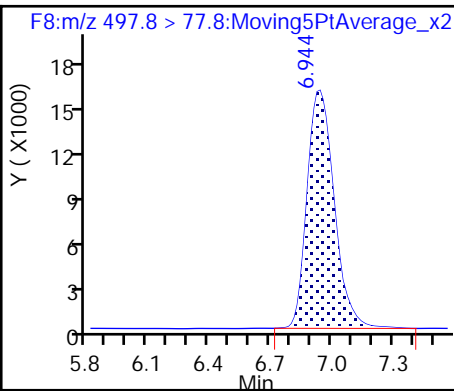
D 33 13C2 PFUnA



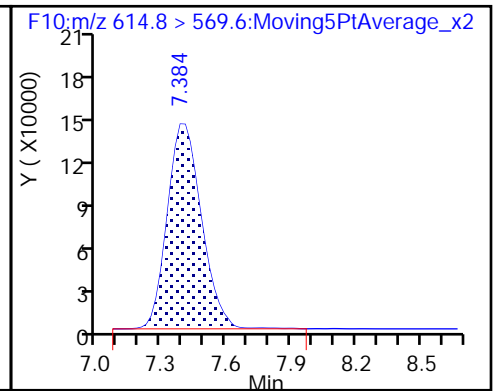
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



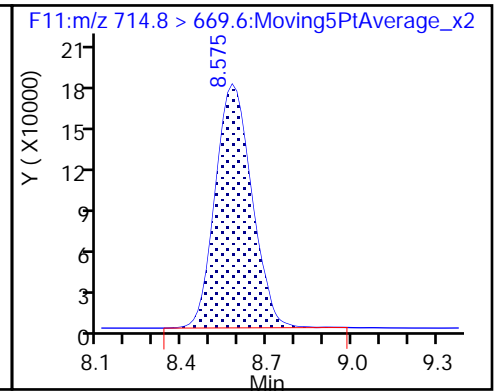
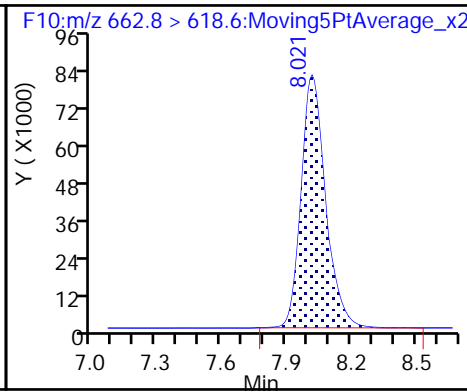
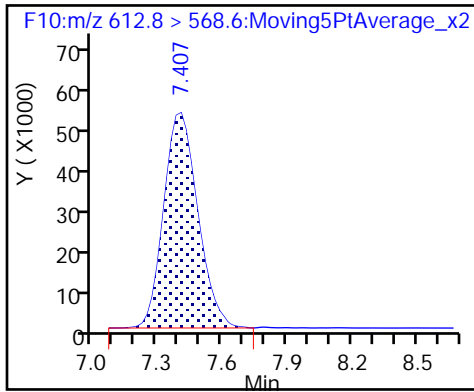
D 36 13C2 PFDaA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

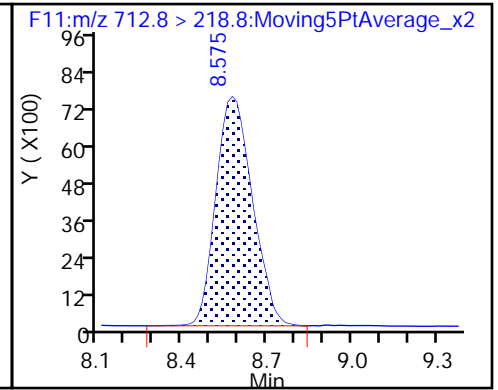
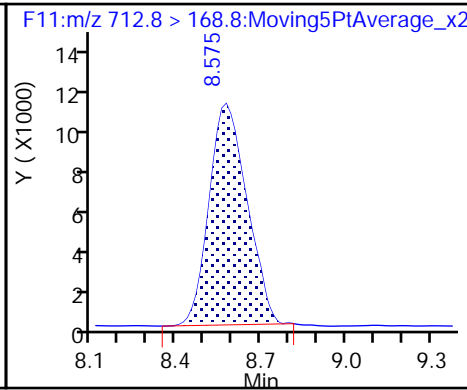
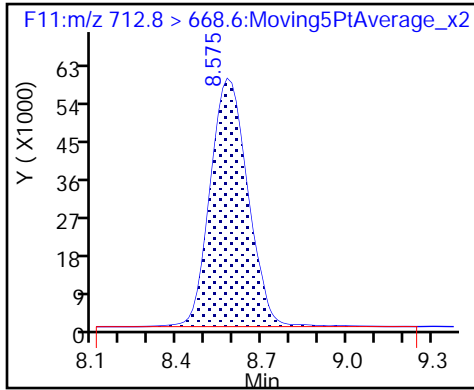
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

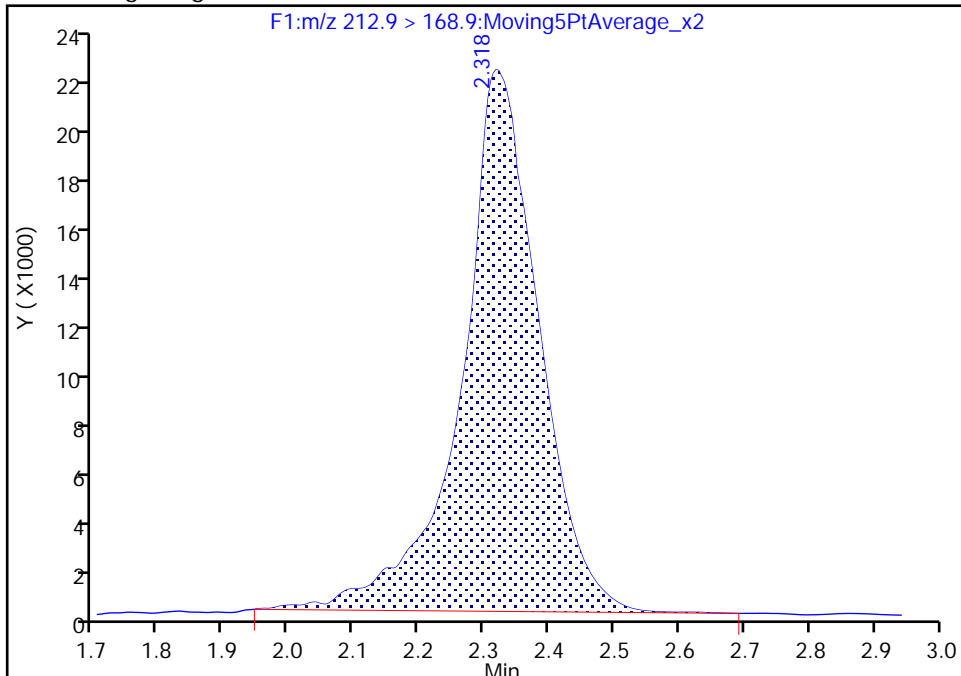
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Injection Date: 21-Apr-2018 13:15:24 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 9  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

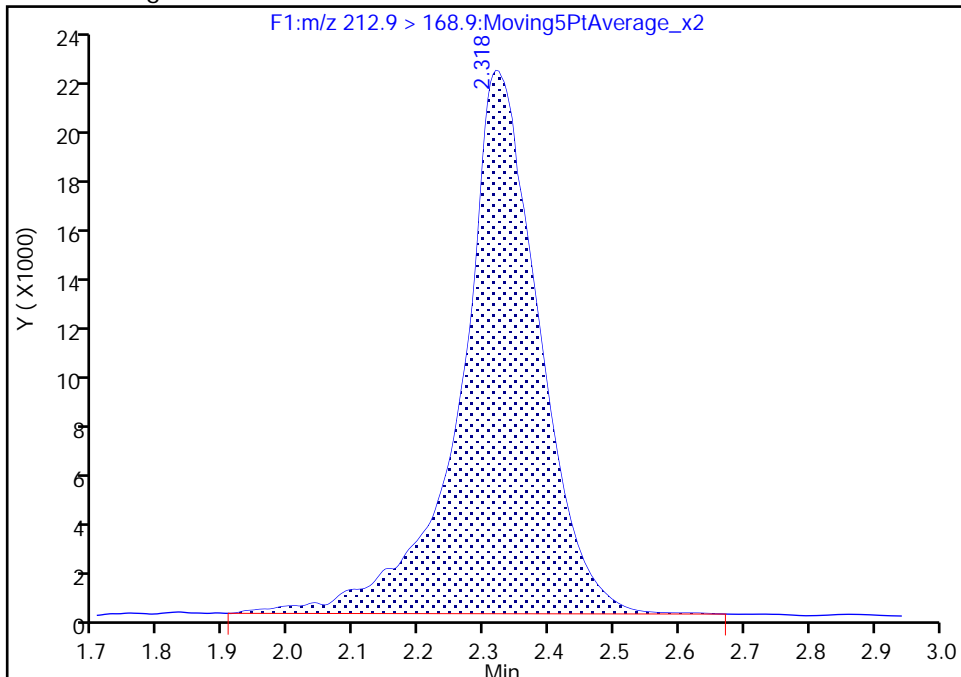
RT: 2.32  
Area: 177678  
Amount: 20.285736  
Amount Units: ng/ml

Processing Integration Results



RT: 2.32  
Area: 180447  
Amount: 20.689360  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:45:06  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A10.d  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 21-Apr-2018 13:30:33 ALS Bottle#: 0 Worklist Smp#: 10  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-010 IC 5  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:36:52 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d

Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:46:14

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.326	2.319	0.007	1.000	455966	50.2	100	849	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.318	2.320	-0.002	0.996	422082	51.0		102	366	M
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	121299	55.1	110	1156	
4 Perfluoropentanoic acid	262.9 > 218.8	2.739	2.738	0.001	1.004	653845	48.8	97.6	1773	
D 5 13C3-PFBS	302.0 > 79.8	2.801	2.800	0.001	1.000	216385	47.1	101	949	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.801	2.804	-0.003	1.000	453146	46.8	106	1399	
D 7 13C2 PFHxA	314.8 > 269.6	3.152	3.158	-0.006	1.000	400155	53.5	107	4117	
8 Perfluorohexanoic acid	312.8 > 268.6	3.152	3.162	-0.010	1.000	393213	50.2	100	4359	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.681	3.689	-0.008	1.000	958538	51.6	103	1620	
D 10 13C4-PFHpA	366.9 > 321.8	3.681	3.689	-0.008	1.000	889058	48.6	97.2	1948	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.737	3.733	0.004	1.003	438236	46.5	102	1249	
D 13 18O2 PFHxS	402.9 > 83.8	3.726	3.737	-0.011	1.000	248831	48.4	102	1706	
D 14 M2-6:2FTS	428.6 > 408.6	4.317	4.319	-0.002	1.000	46344	47.2	99.4	234	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.304	4.319	-0.015	0.997	48166	48.0	101	496	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.355	4.365	-0.010	1.000	789819	46.9		93.9	2461	
* 49 13C2-PFOA										
414.9 > 369.8	4.355	4.371	-0.016		993091	50.0			2486	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.355	4.374	-0.019	1.000	863110	50.6		101	1841	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.393	4.408	-0.015	0.852	202901	48.6		102	911	
19 Perfluorononanoic acid										
462.8 > 418.8	5.127	5.143	-0.016	0.997	954028	47.8		95.7	1166	
D 21 13C5 PFNA										
467.8 > 422.8	5.140	5.145	-0.005	1.000	1006206	49.1		98.2	1744	
D 22 13C4 PFOS										
502.8 > 79.8	5.154	5.168	-0.014	1.000	206139	48.7		102	803	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.154	5.168	-0.014	1.000	217960	44.8		96.5	1381	
D 23 M2-8:2FTS										
528.8 > 508.8	5.902	5.910	-0.008	1.000	285396	46.4		96.8	1471	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.902	5.910	-0.008	1.000	237374	52.9		110	2780	
D 25 13C2 PFDA										
514.9 > 469.5	5.926	5.934	-0.008	1.000	1377115	50.5		101	1609	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.926	5.938	-0.012	1.000	1324093	51.3		103	20188	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.295	6.298	-0.003	1.000	311618	50.8		102	1223	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.295	6.310	-0.015	1.000	355102	51.7		103	390	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.652	6.667	-0.015	1.000	254090	47.6		95.1	959	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.670	6.688	-0.018	1.003	267149	51.1		102	4315	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.688	6.699	-0.011	1.298	224560	46.7		96.8	1781	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.706	6.711	-0.005	1.000	1343257	48.9		97.8	7830	
D 33 13C2 PFUnA										
564.8 > 519.8	6.706	6.713	-0.007	1.000	1442924	48.3		96.7	4404	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	379370	52.8		106	1221	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	353049	52.3		105	3538	
D 36 13C2 PFDoA										
614.8 > 569.6	7.384	7.392	-0.008	1.000	1537805	50.6		101	1193	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.384	7.399	-0.015	1.000	1504397	54.3		109	3523	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.012	8.022	-0.010	1.085	1448728	51.2		102	3224	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.560	8.572	-0.012	1.000	1344836	53.2		106	1002	
712.8 > 168.8	8.575	8.572	0.003	1.002	283878		4.74(0.00-0.00)	106	1084	
712.8 > 218.8	8.560	8.572	-0.012	1.000	148615		9.05(0.00-0.00)	106	448	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.560	8.572	-0.012	1.000	1463759	51.0		102	1272	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFAS21-L5\_00003

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A10.d

Injection Date: 21-Apr-2018 13:30:33

Instrument ID: LC410

Lims ID: IC

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 10

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

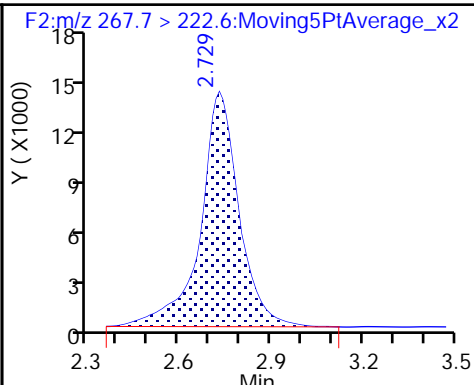
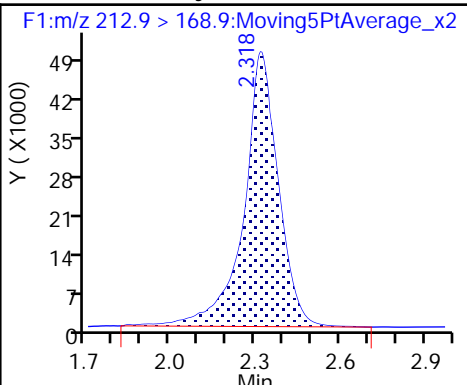
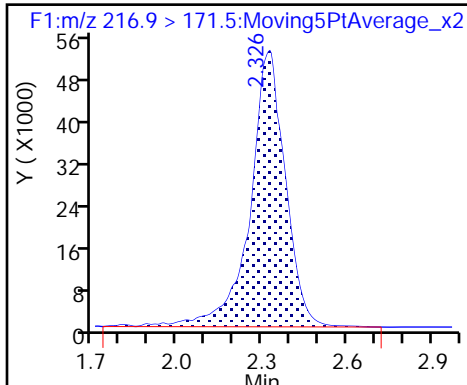
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

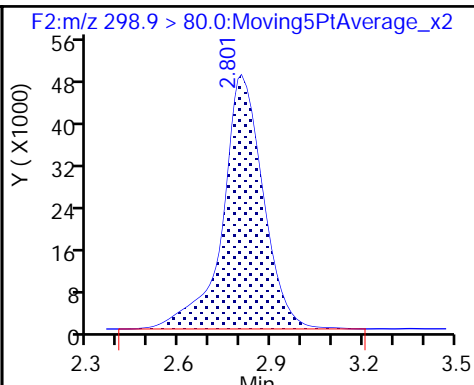
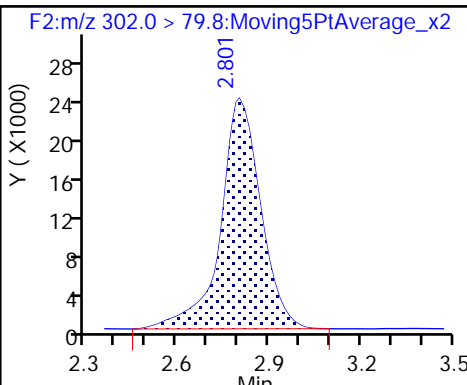
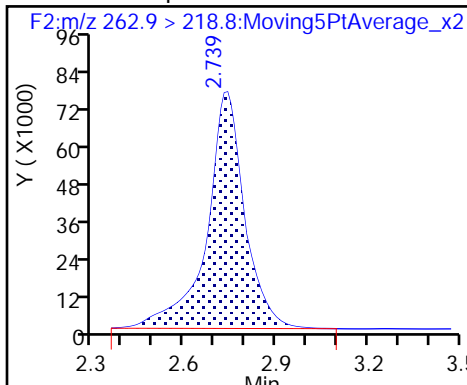
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

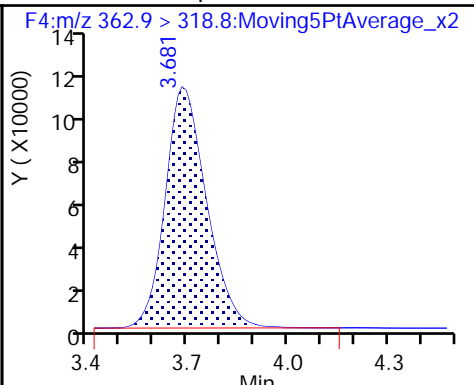
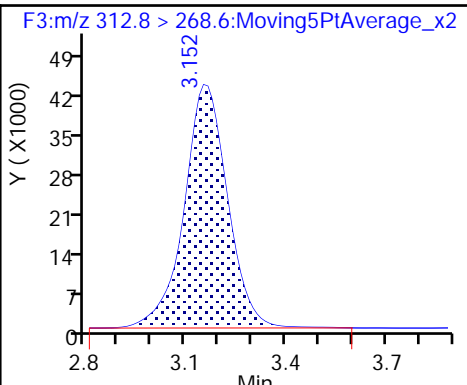
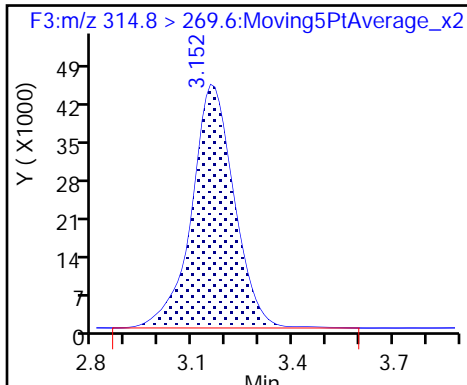
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

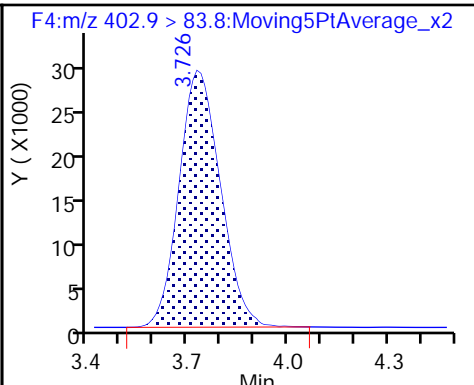
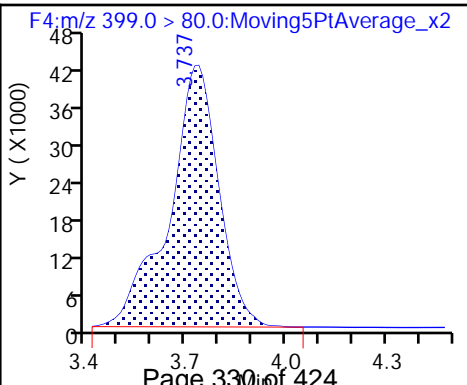
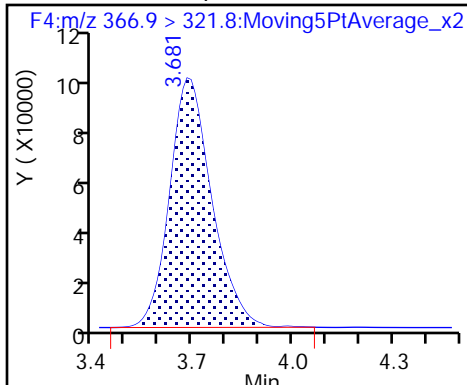
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid

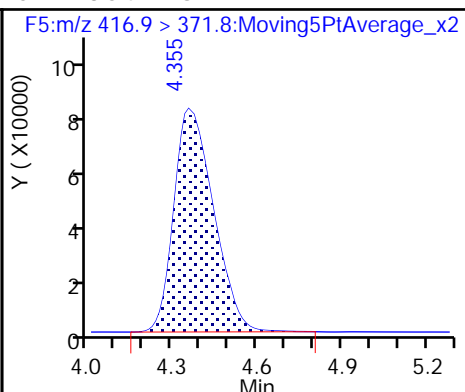
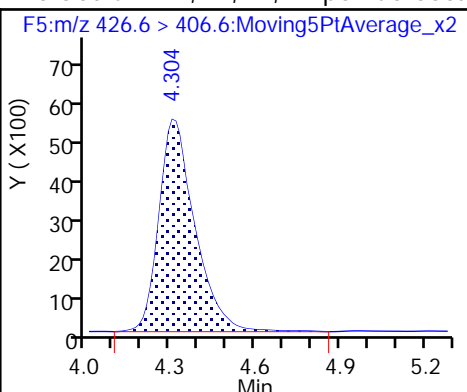
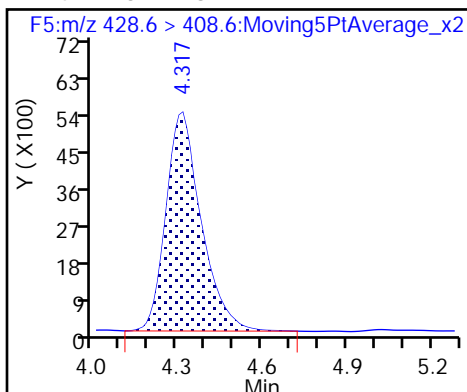
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

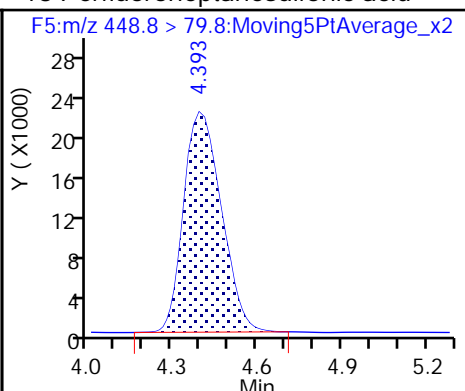
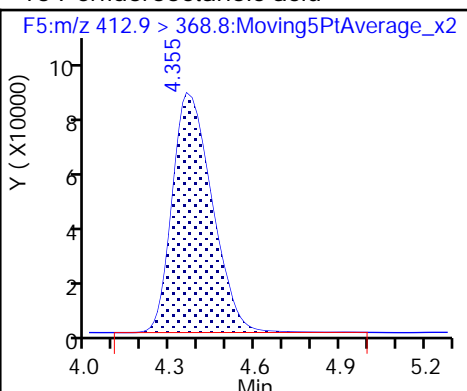
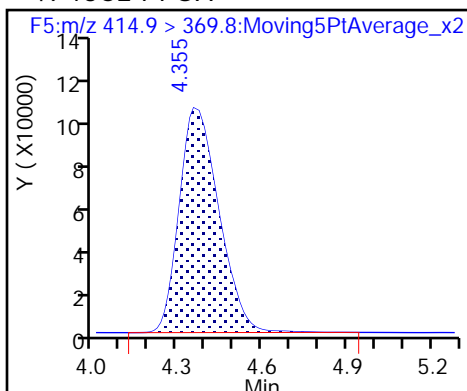
D 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

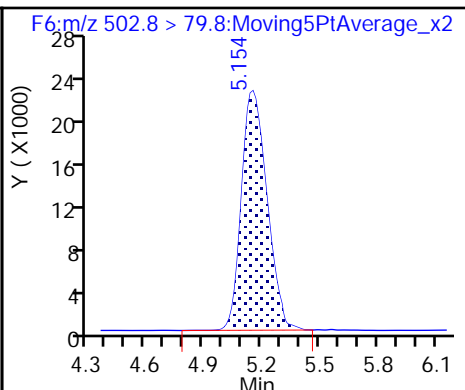
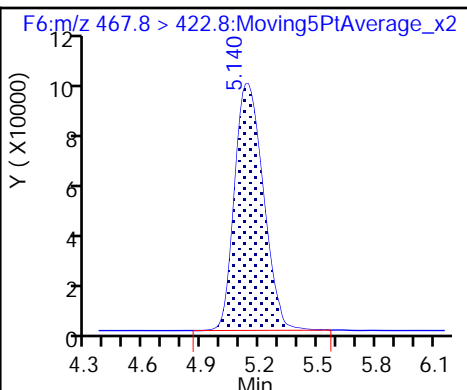
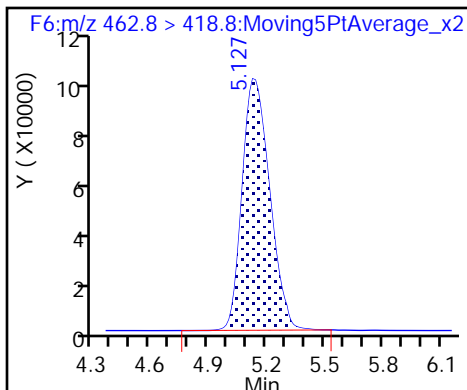
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

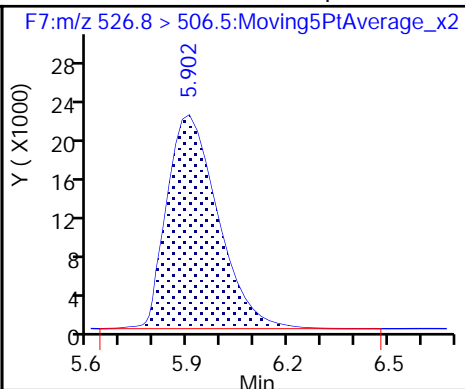
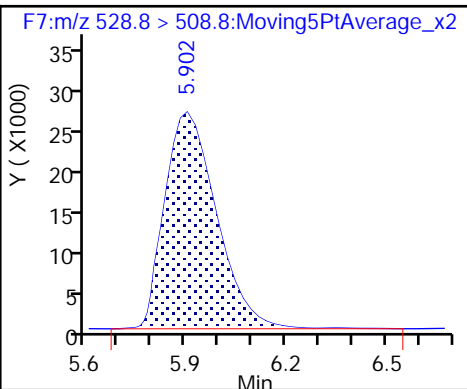
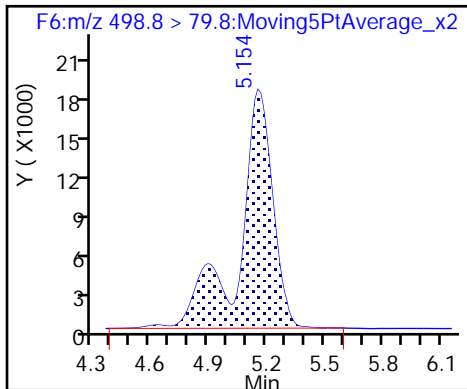
D 22 13C4 PFOS



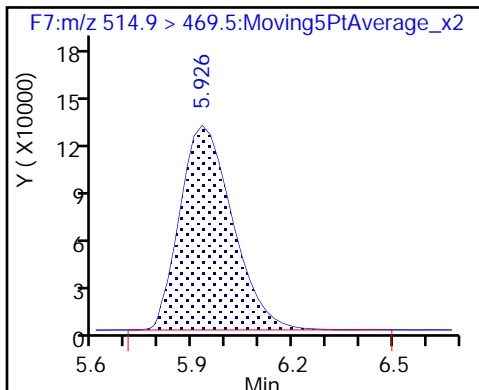
20 Perfluorooctane sulfonic acid

D 23 M2-8:2FTS

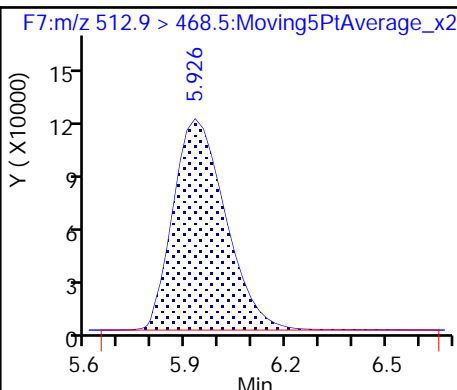
24 Sodium 1H,1H,2H,2H-perfluorodecane



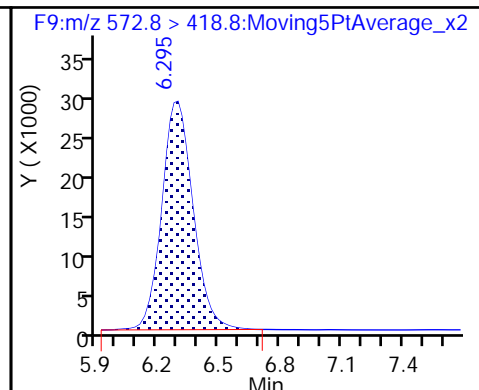
D 25 13C2 PFDA



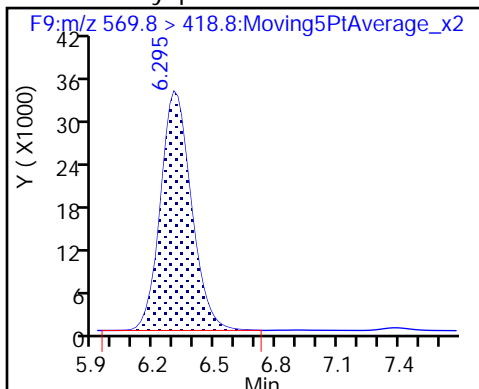
26 Perfluorodecanoic acid



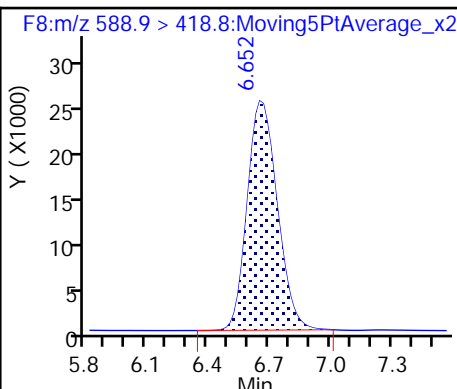
D 27 d3-NMeFOSAA



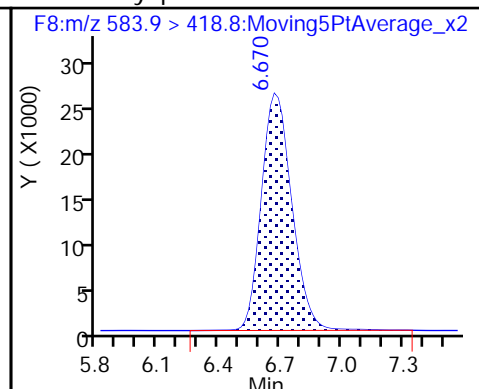
28 N-methyl perfluorooctane sulfonamid



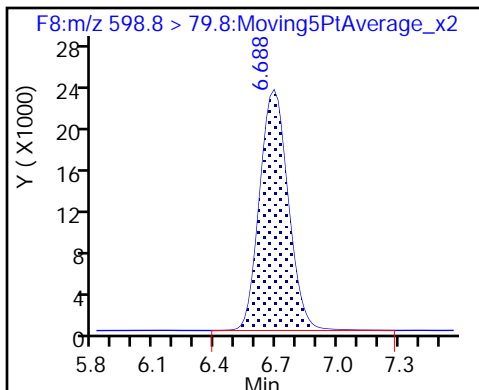
29 d5-NEtFOSAA



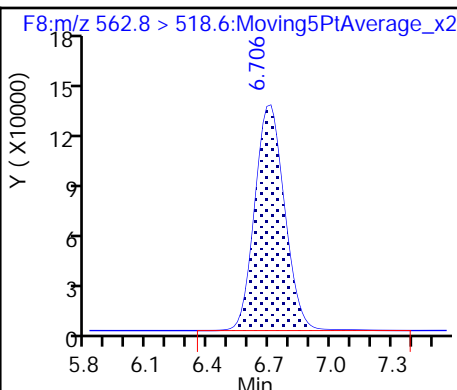
30 N-ethyl perfluorooctane sulfonamid



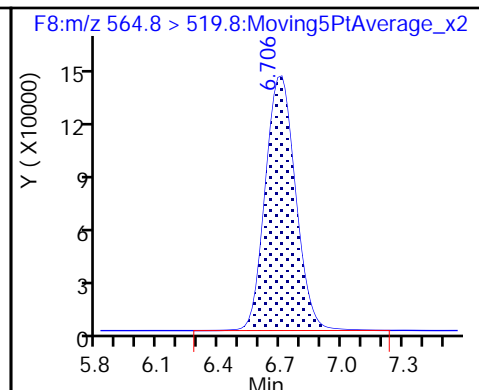
31 Perfluorodecane Sulfonic acid



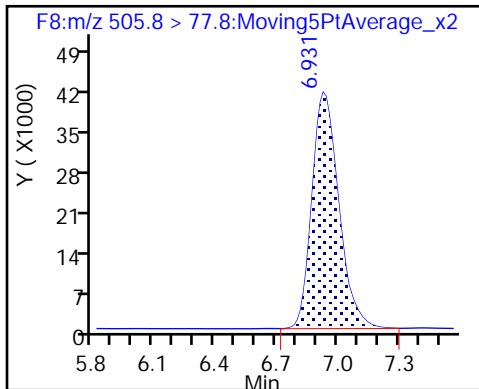
32 Perfluoroundecanoic acid



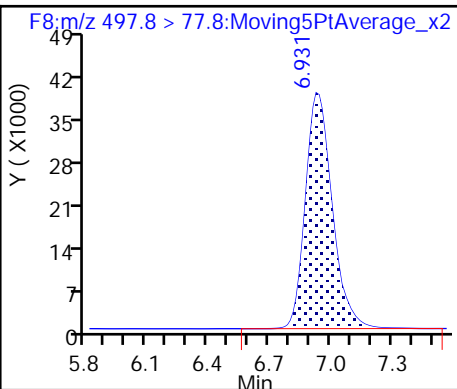
D 33 13C2 PFUnA



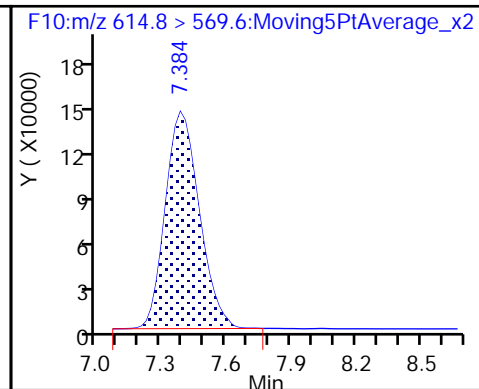
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



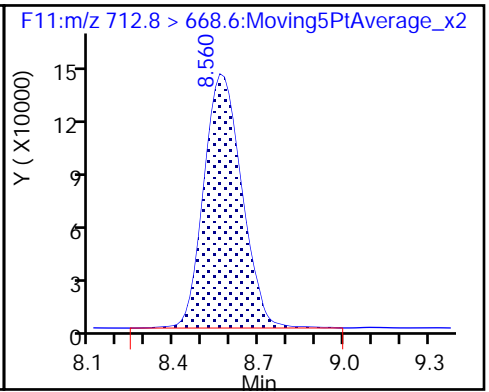
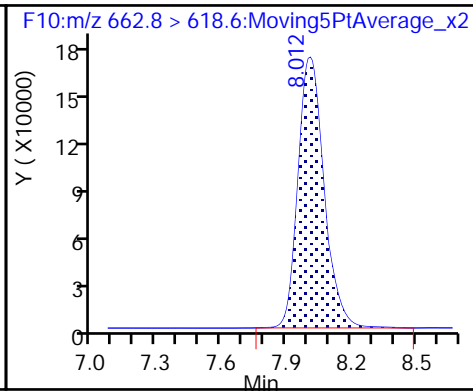
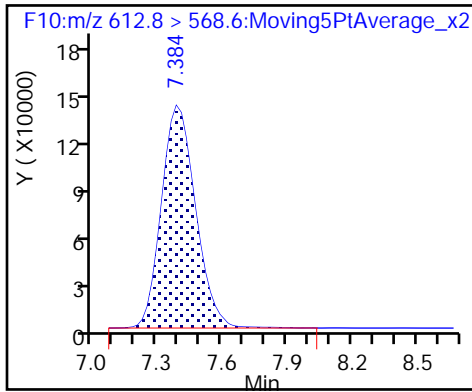
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

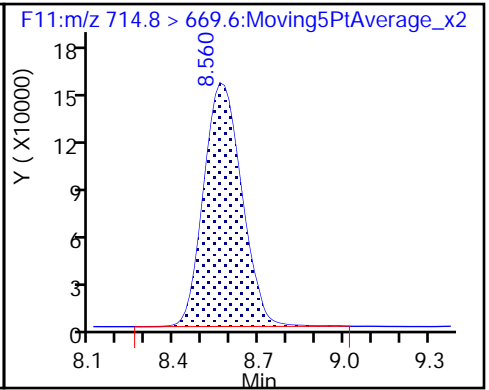
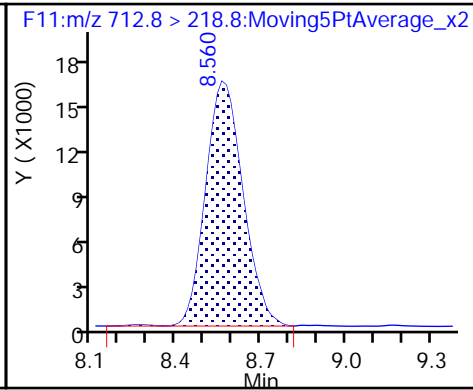
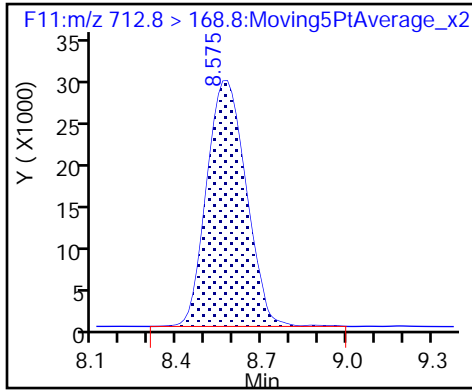
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

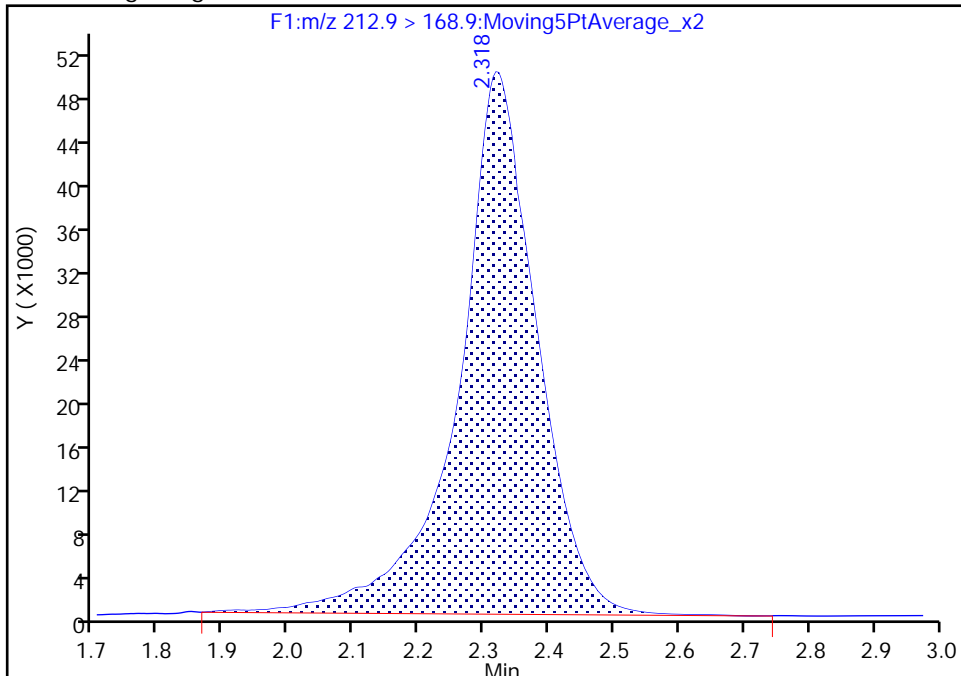
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A10.d  
Injection Date: 21-Apr-2018 13:30:33 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 10  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

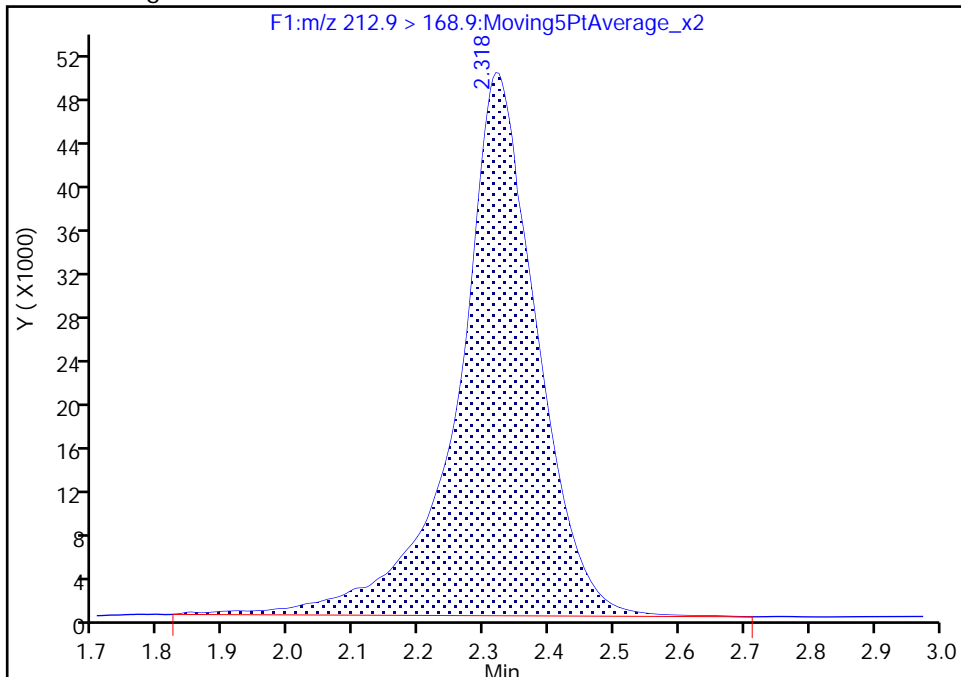
RT: 2.32  
Area: 418562  
Amount: 50.118947  
Amount Units: ng/ml

Processing Integration Results



RT: 2.32  
Area: 422082  
Amount: 50.966531  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:45:51  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 21-Apr-2018 13:45:42 ALS Bottle#: 0 Worklist Smp#: 11  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-011 IC 6  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:37:00 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d

Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:47:07

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										M
216.9 > 171.5	2.318	2.319	-0.001	1.000	362551	69.1		138	318	M
1 Perfluorobutyric acid										
212.9 > 168.9	2.322	2.320	0.002	1.002	1257551	191.4		95.7	417	
D 3 13C5-PFPeA										
267.7 > 222.6	2.729	2.736	-0.007	1.000	78401	61.6		123	706	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.739	2.738	0.001	1.004	1777636	206.7		103	2236	
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.800	0.001	1.000	162951	61.3		132	1276	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.801	2.804	-0.003	1.000	1171775	160.2		90.6	2234	
D 7 13C2 PFHxA										
314.8 > 269.6	3.164	3.158	0.006	1.000	283075	65.5		131	4706	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.162	0.002	1.000	1089458	196.5		98.3	4960	
D 10 13C4-PFHpA										
366.9 > 321.8	3.681	3.689	-0.008	1.000	587700	55.6		111	2084	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.681	3.689	-0.008	1.000	2364633	192.6		96.3	1173	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.726	3.733	-0.007	0.997	1168847	178.8		98.3	7324	
D 13 18O2 PFHxS										
402.9 > 83.8	3.737	3.737	0.0	1.000	172691	58.1		123	962	
D 14 M2-6:2FTS										
428.6 > 408.6	4.304	4.319	-0.015	1.000	38825	68.5		144	266	
15 Sodium 1H,1H,2H,2H-perfluorooctane										
426.6 > 406.6	4.317	4.319	-0.002	1.003	130445	155.2		81.9	1495	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.355	4.365	-0.010	1.000	534357	54.9		110	1009	
* 49 13C2-PFOA										
414.9 > 369.8	4.355	4.371	-0.016		573795	50.0			1390	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.355	4.374	-0.019	1.000	2164017	187.7		93.9	2341	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.411	4.408	0.003	0.854	524868	183.6		96.4	1781	
19 Perfluorononanoic acid										
462.8 > 418.8	5.140	5.143	-0.003	1.000	2500093	209.1		105	17892	
D 21 13C5 PFNA										
467.8 > 422.8	5.140	5.145	-0.005	1.000	602138	50.9		102	718	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.168	5.168	0.0	1.000	617521	185.1		99.7	3598	
D 22 13C4 PFOS										
502.8 > 79.8	5.168	5.168	0.0	1.000	140892	57.6		121	414	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.902	5.910	-0.008	1.000	627188	168.1		87.8	1885	
D 23 M2-8:2FTS										
528.8 > 508.8	5.902	5.910	-0.008	1.000	237293	66.7		139	1043	
D 25 13C2 PFDA										
514.9 > 469.5	5.926	5.934	-0.008	1.000	949709	60.3		121	2963	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.926	5.938	-0.012	1.000	3423512	192.8		96.4	2501	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.295	6.298	-0.003	1.000	248911	70.2		140	755	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.295	6.310	-0.015	1.000	1024752	186.6		93.3	1064	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.652	6.667	-0.015	1.000	167233	54.2		108	526	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.688	6.688	0.0	1.005	649369	189.0		94.5	1758	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.688	6.699	-0.011	1.294	608442	184.8		95.9	2106	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.706	6.711	-0.005	1.000	3024732	198.0		99.0	6798	
D 33 13C2 PFUnA										
564.8 > 519.8	6.706	6.713	-0.007	1.000	802241	46.5		93.0	1667	
D 35 13C8 FOSA										
505.8 > 77.8	6.944	6.938	0.006	1.000	287607	69.3		139	1607	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.944	6.940	0.004	1.000	996505	194.6		97.3	9756	
D 36 13C2 PFDoA										
614.8 > 569.6	7.384	7.392	-0.008	1.000	1138571	64.8		130	3571	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.384	7.399	-0.015	1.000	3819276	186.3		93.2	8535	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.012	8.022	-0.010	1.085	3844676	183.8		91.9	5591	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.559	8.572	-0.013	1.000	1045306	63.0		126	994	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.559	8.572	-0.013	1.000	3445304	191.2		95.6	1422	
712.8 > 168.8	8.575	8.572	0.003	1.002	782260		4.40(0.00-0.00)	95.6	646	
712.8 > 218.8	8.559	8.572	-0.013	1.000	394223		8.74(0.00-0.00)	95.6	685	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFAS21-L6\_00002

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d

Injection Date: 21-Apr-2018 13:45:42

Instrument ID: LC410

Lims ID: IC

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 11

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

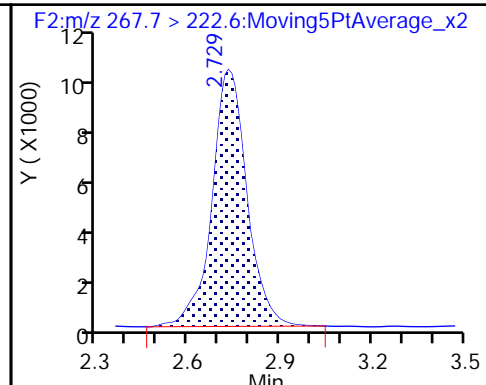
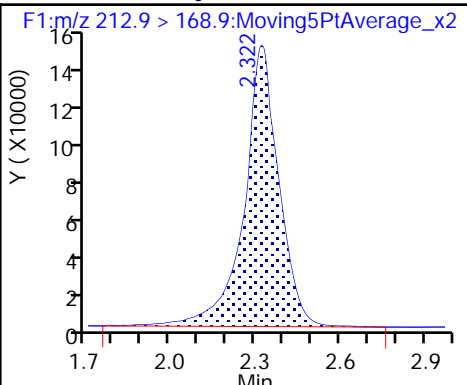
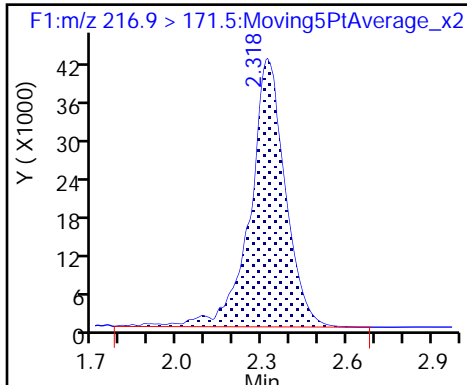
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid

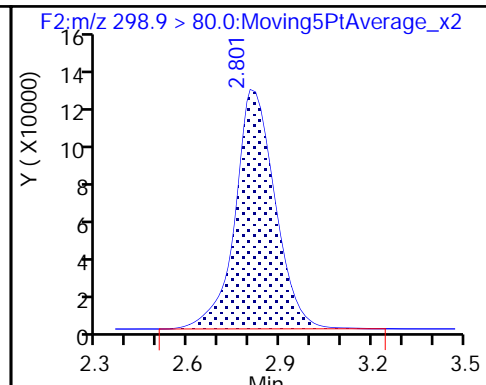
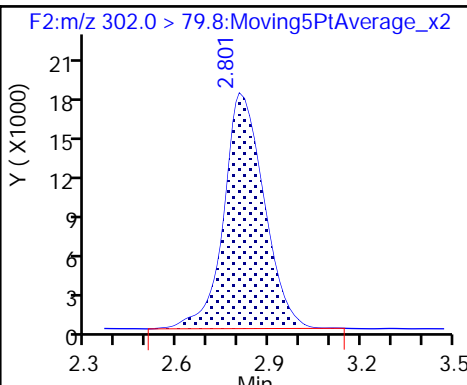
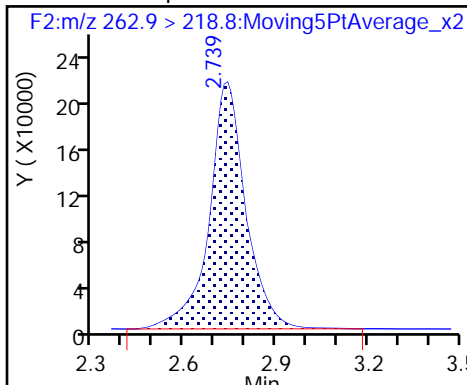
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

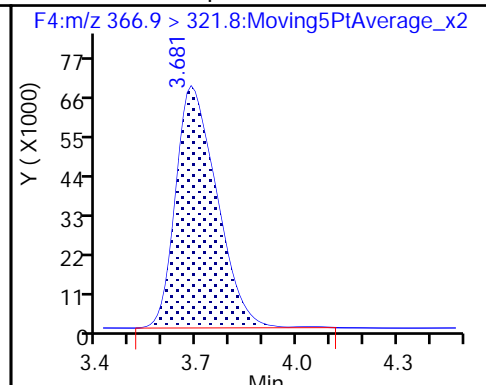
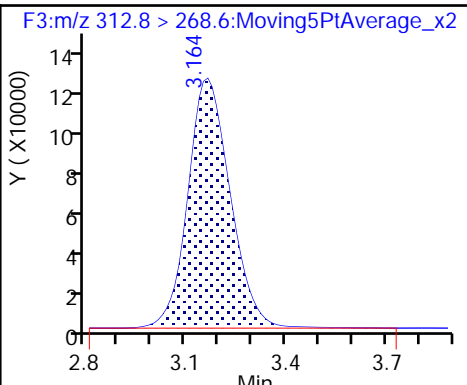
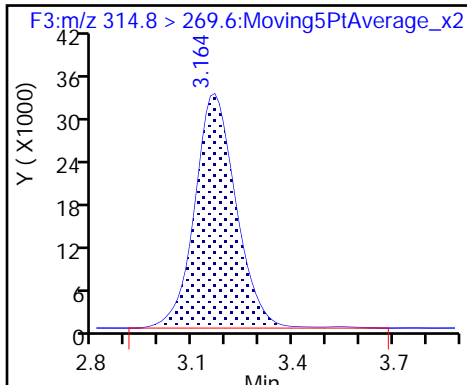
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

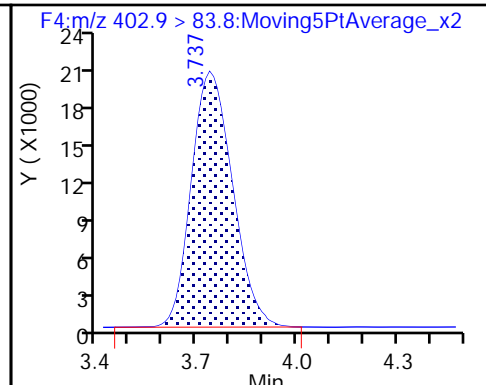
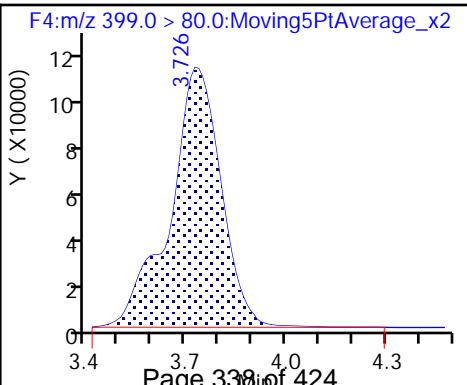
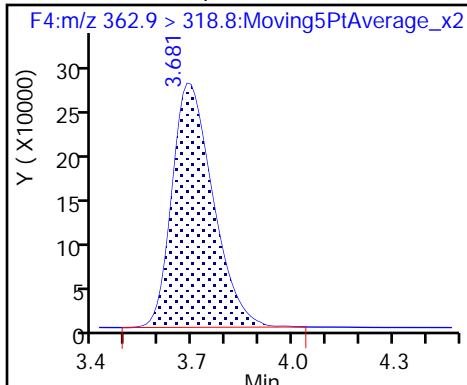
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

12 Perfluorohexanesulfonic acid

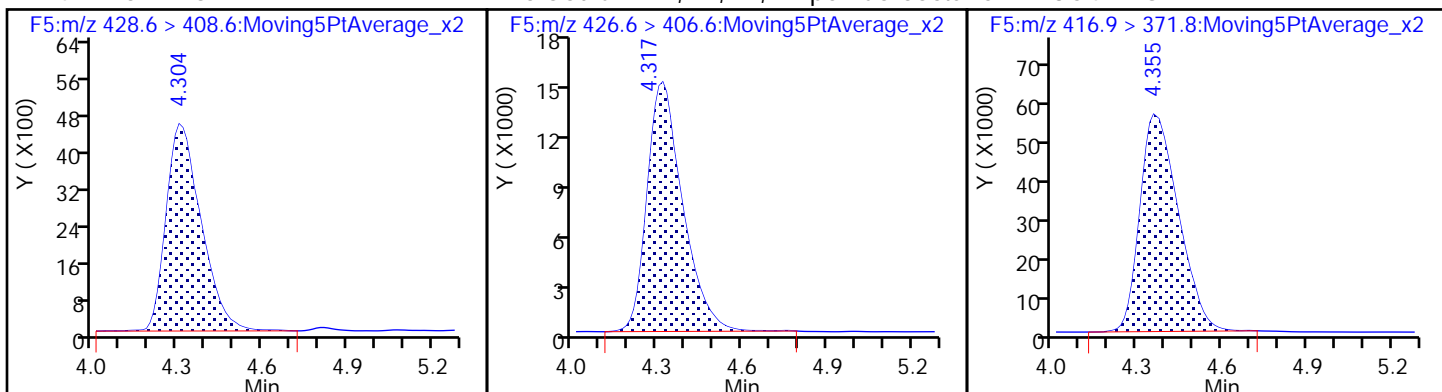
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

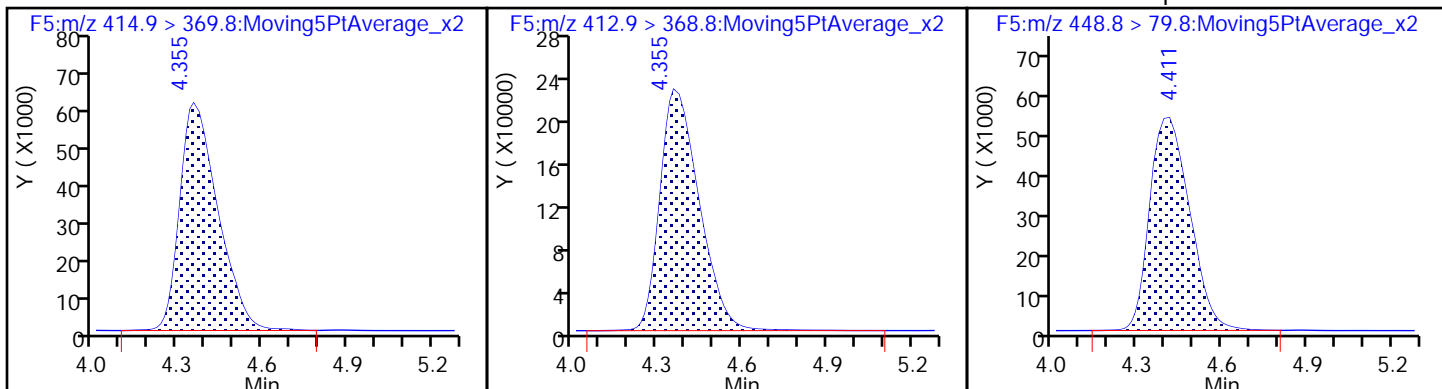
D 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

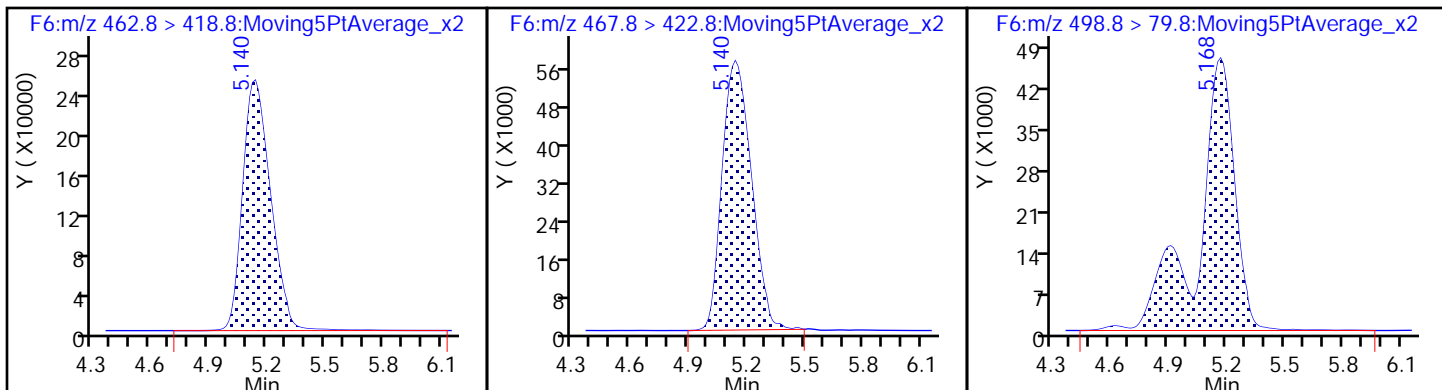
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

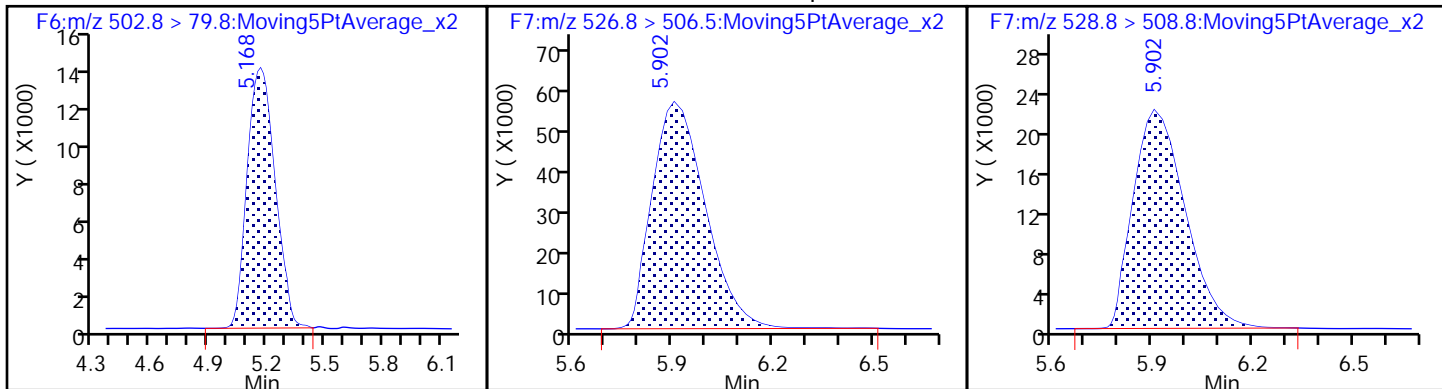
20 Perfluorooctane sulfonic acid



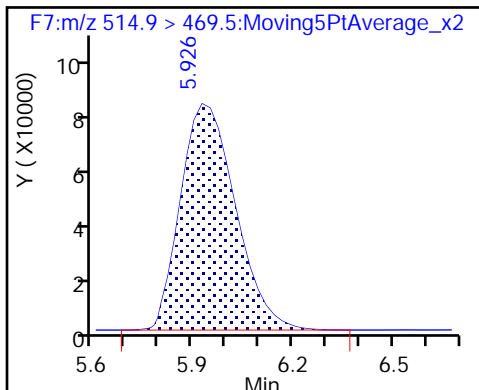
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate

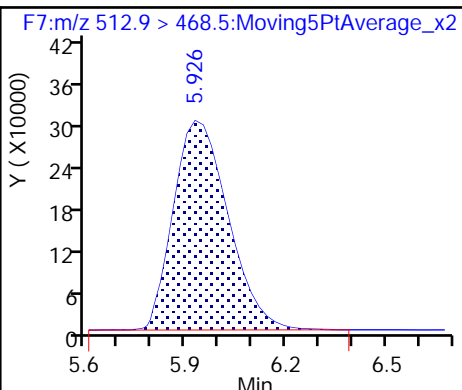
D 23 M2-8:2FTS



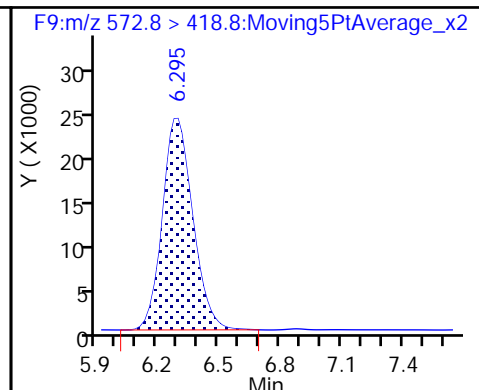
D 25 13C2 PFDA



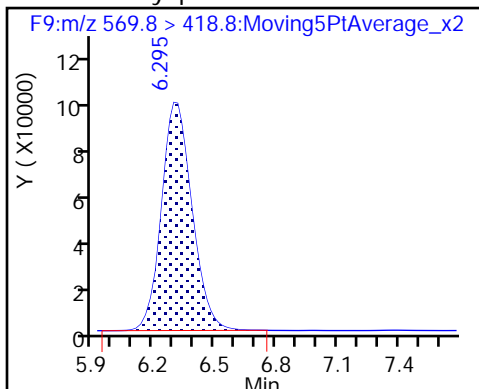
26 Perfluorodecanoic acid



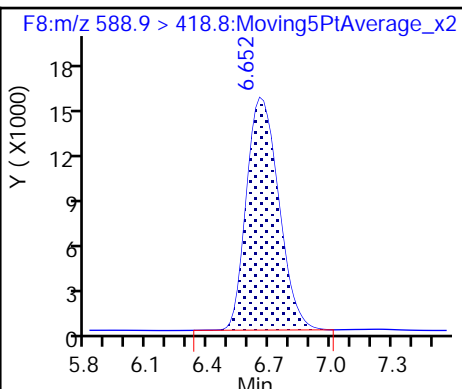
D 27 d3-NMeFOSAA



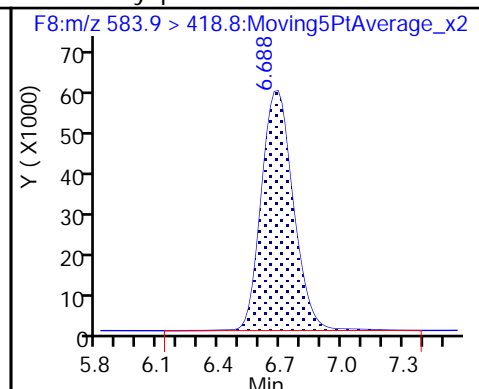
28 N-methyl perfluorooctane sulfonamid



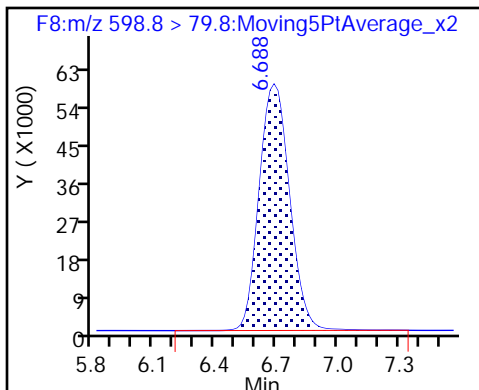
29 d5-NEtFOSAA



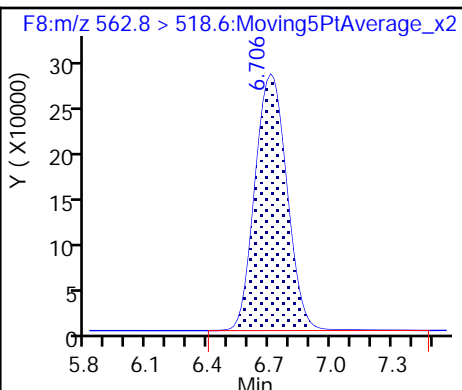
30 N-ethyl perfluorooctane sulfonamid



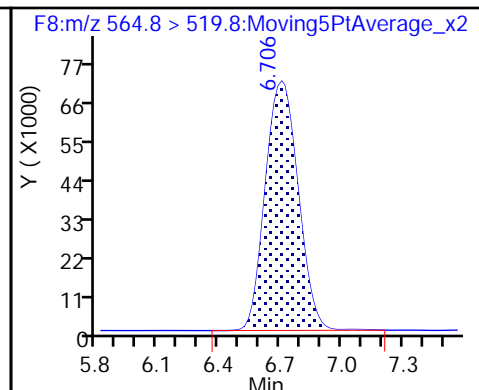
31 Perfluorodecane Sulfonic acid



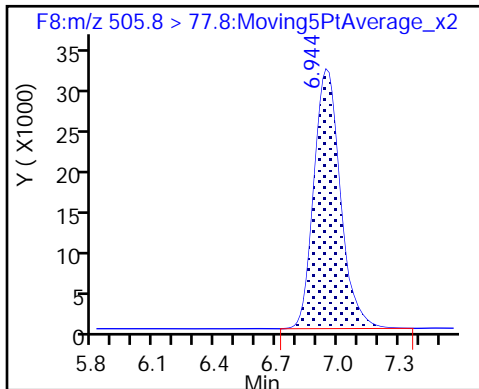
32 Perfluoroundecanoic acid



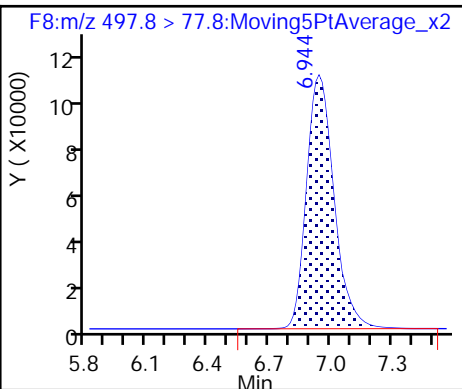
D 33 13C2 PFUnA



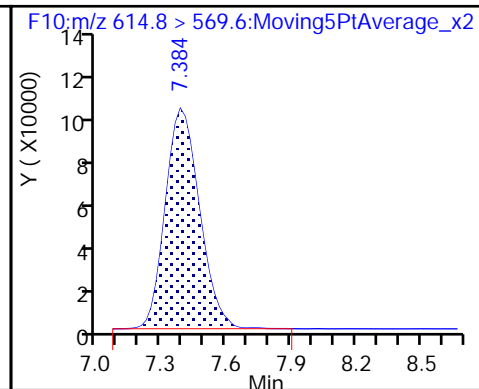
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



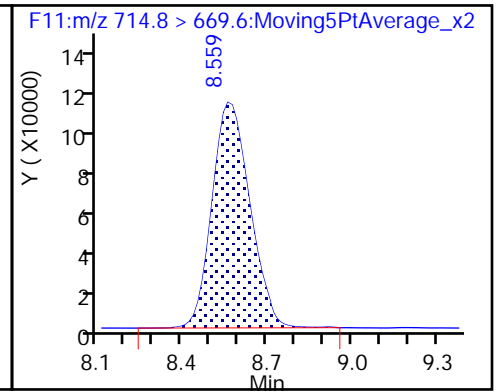
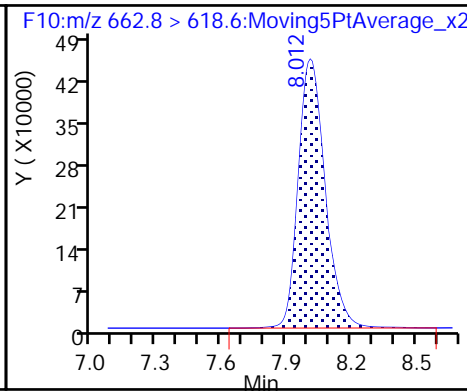
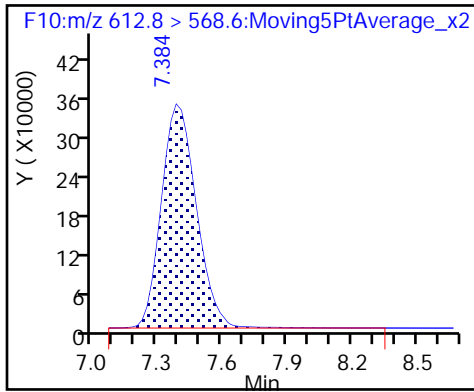
D 36 13C2 PFDaA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

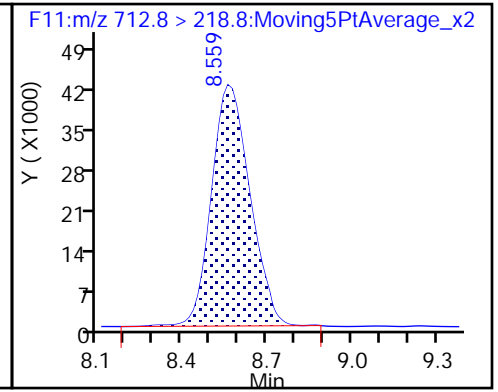
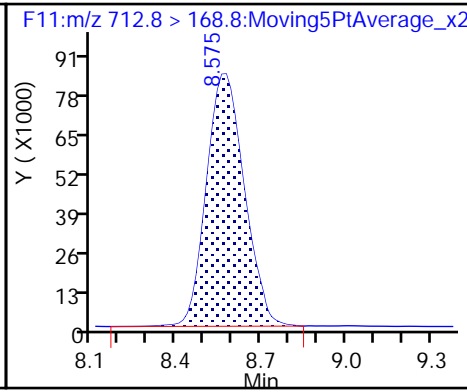
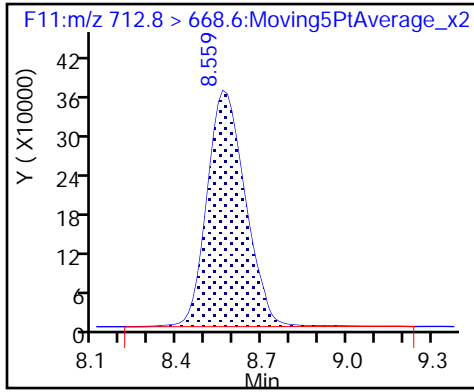
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



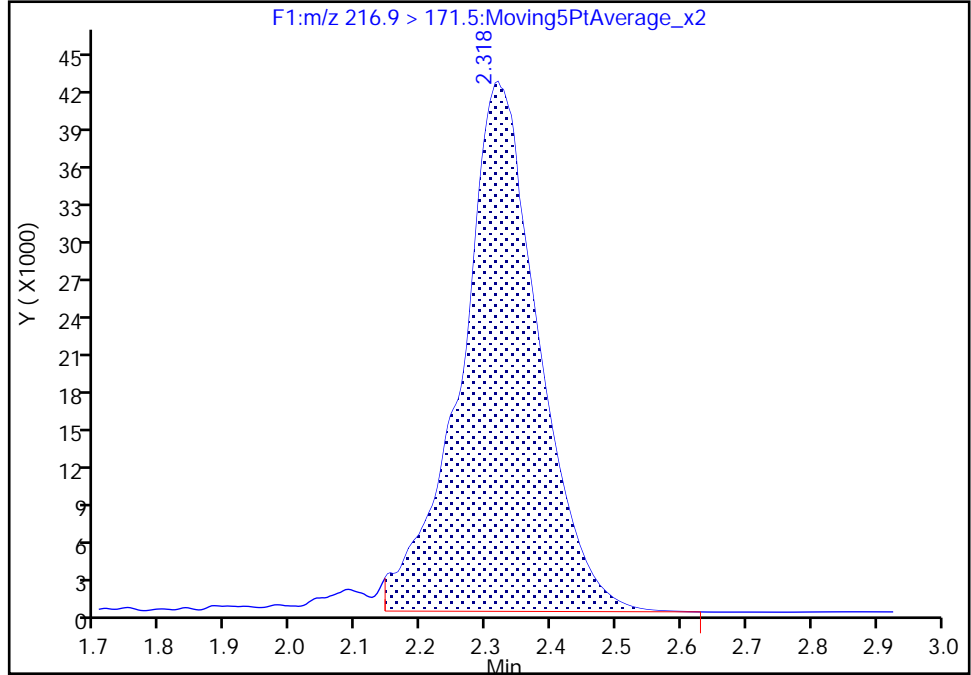
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
Injection Date: 21-Apr-2018 13:45:42 Instrument ID: LC410  
Lims ID: IC  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 11  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992  
Signal: 1

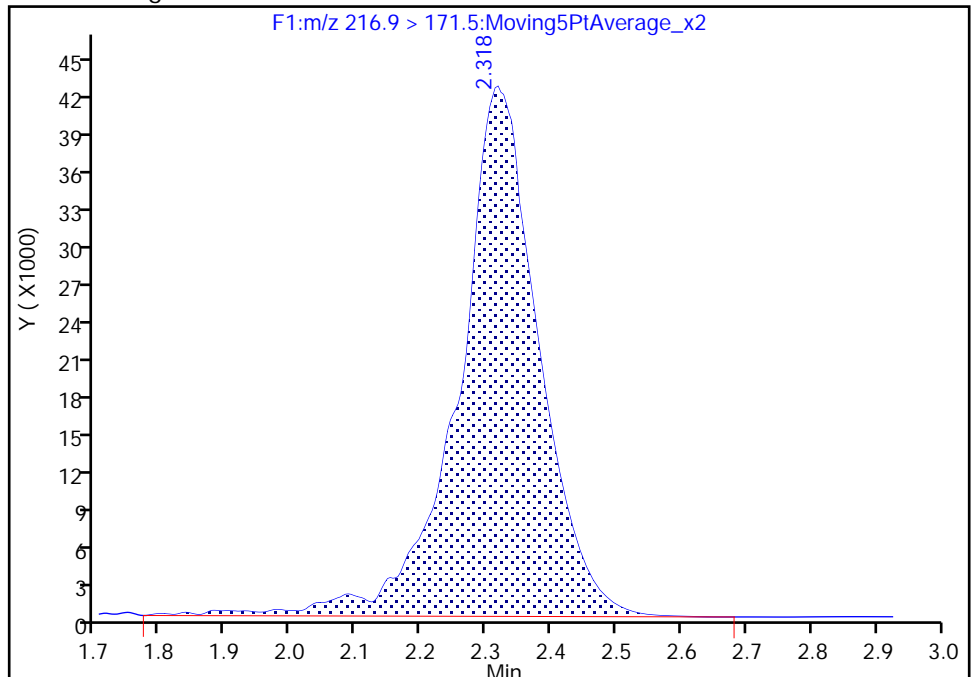
RT: 2.32  
Area: 348242  
Amount: 0  
Amount Units: ng/ml

Processing Integration Results



RT: 2.32  
Area: 362551  
Amount: 69.051604  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 11:46:36  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration  
Page 342 of 424



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 200-128716/13 Calibration Date: 04/21/2018 14:16  
 Instrument ID: LC410 Calib Start Date: 04/21/2018 12:30  
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 04/21/2018 13:45  
 Lab File ID: PF042118A13.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9509		20850	20000	4.3	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		6.651		23850	20000	19.2	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		2.170		18530	17700	4.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.083		22160	20000	10.8	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.172		22480	20000	12.4	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.747		17740	18200	-2.5	40.0
6:2FTS	AveID	1.028	1.020		18810	19000	-0.8	40.0
Perfluorooctanoic acid (PFOA)	L2ID		1.088		20150	20000	0.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L2ID		1.117		22020	19000	15.7	50.0
Perfluorononanoic acid (PFNA)	L2ID		1.080		21870	20000	9.4	40.0
Perfluorooctanesulfonic acid (PFOS)	L2ID		1.290		21290	18600	14.7	40.0
8:2FTS	AveID	0.7529	0.7015		17850	19200	-6.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9883		21050	20000	5.3	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	L2ID		1.050		19070	20000	-4.6	40.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	L2ID		0.9255		17940	20000	-10.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.254		21690	19300	12.5	50.0
Perfluoroundecanoic acid (PFUnA)	L2ID		1.010		21250	20000	6.3	40.0
Perfluorooctane Sulfonamide (FOSA)	L2ID		0.9570		21560	20000	7.8	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		0.9453		20980	20000	4.9	40.0
Perfluorotridecanoic Acid (PFTriA)	L2ID		1.042		22610	20000	13.0	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.9352		21550	20000	7.8	40.0
13C4 PFBA	Ave	0.4575	0.5333		58290	50000	16.6	50.0
13C5 PFPeA	Ave	0.1108	0.1446		65210	50000	30.4	50.0
13C3-PFBS	Ave	0.2315	0.2730		54830	46500	17.9	50.0
13C2 PFHxA	Ave	0.3767	0.4287		56910	50000	13.8	50.0
13C4-PFHpA	Ave	0.9210	1.009		54760	50000	9.5	50.0
18O2 PFHxS	Ave	0.2590	0.3136		57280	47300	21.1	50.0
M2-6:2FTS	Ave	0.0494	0.0546		52490	47500	10.5	50.0
13C4 PFOA	Ave	0.8474	0.9688		57160	50000	14.3	50.0
13C5 PFNA	Ave	1.032	1.106		53620	50000	7.2	50.0
13C4 PFOS	Ave	0.2131	0.2222		49840	47800	4.3	50.0

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 200-128716/13 Calibration Date: 04/21/2018 14:16  
 Instrument ID: LC410 Calib Start Date: 04/21/2018 12:30  
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 04/21/2018 13:45  
 Lab File ID: PF042118A13.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
M2-8:2FTS	Ave	0.3098	0.3626		56050	47900	17.0	50.0
13C2 PFDA	Ave	1.372	1.427		52000	50000	4.0	50.0
d3-NMeFOSAA	Ave	0.3088	0.3507		56780	50000	13.6	50.0
d5-NEtFOSAA	Ave	0.2689	0.3137		58330	50000	16.7	50.0
13C2 PFUnA	Ave	1.503	1.634		54370	50000	8.7	50.0
13C8 FOSA	Ave	0.3618	0.4372		60430	50000	20.9	50.0
13C2 PFDoA	Ave	1.530	1.646		53790	50000	7.6	50.0
13C2-PFTeDA	Ave	1.445	1.580		54660	50000	9.3	50.0

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A13.d  
 Lims ID: ICV  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 21-Apr-2018 14:16:00 ALS Bottle#: 0 Worklist Smp#: 13  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-013 ICV  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist:  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 12:37:13 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 11:50:16

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.306	2.319	-0.013	1.000	479917	58.3	117	321	
1 Perfluorobutyric acid	212.9 > 168.9	2.318	2.320	-0.002	1.005	182539	20.9		360	
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	130071	65.2	130	920	
4 Perfluoropentanoic acid	262.9 > 218.8	2.729	2.738	-0.009	1.000	346047	23.8		1305	
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	228435	54.8	118	1230	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.801	2.804	-0.003	1.004	188444	18.5		1197	
D 7 13C2 PFHxA	314.8 > 269.6	3.152	3.158	-0.006	1.000	385769	56.9	114	4580	
8 Perfluorohexanoic acid	312.8 > 268.6	3.152	3.162	-0.010	1.000	167056	22.2		2412	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.681	3.689	-0.008	1.000	425401	22.5		738	
D 10 13C4-PFHpA	366.9 > 321.8	3.681	3.689	-0.008	1.000	907772	54.8	110	539	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.726	3.733	-0.007	1.000	179462	17.7		730	
D 13 18O2 PFHxS	402.9 > 83.8	3.726	3.737	-0.011	1.000	266934	57.3	121	3001	
D 14 M2-6:2FTS	428.6 > 408.6	4.304	4.319	-0.015	1.000	46663	52.5	110	407	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.304	4.319	-0.015	1.000	18000	18.8		303	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA	416.9 > 371.8	4.355	4.365	-0.010	1.000	871778		114	1446	
* 49 13C2-PFOA	414.9 > 369.8	4.355	4.371	-0.016		899834			7894	
16 Perfluorooctanoic acid	412.9 > 368.8	4.355	4.374	-0.019	1.000	379224			1506	
18 Perfluoroheptanesulfonic acid	448.8 > 79.8	4.393	4.408	-0.015	0.852	85033			576	
19 Perfluorononanoic acid	462.8 > 418.8	5.127	5.143	-0.016	1.000	430050			1281	
D 21 13C5 PFNA	467.8 > 422.8	5.127	5.145	-0.018	1.000	995374		107	793	
D 22 13C4 PFOS	502.8 > 79.8	5.154	5.168	-0.014	1.000	191176		104	961	
20 Perfluorooctane sulfonic acid	498.8 > 79.8	5.154	5.168	-0.014	1.000	95794			715	
D 23 M2-8:2FTS	528.8 > 508.8	5.882	5.910	-0.028	1.000	312539		117	1111	
24 Sodium 1H,1H,2H,2H-perfluorodecane	526.8 > 506.5	5.882	5.910	-0.028	1.000	87696			313	
D 25 13C2 PFDA	514.9 > 469.5	5.926	5.934	-0.008	1.000	1284086		104	981	
26 Perfluorodecanoic acid	512.9 > 468.5	5.926	5.938	-0.012	1.000	507628			587	
D 27 d3-NMeFOSAA	572.8 > 418.8	6.277	6.298	-0.021	1.000	315595		114	1355	
28 N-methyl perfluorooctane sulfonami	569.8 > 418.8	6.295	6.310	-0.015	1.003	132543			284	
D 29 d5-NEtFOSAA	588.9 > 418.8	6.652	6.667	-0.015	1.000	282310		117	1128	
30 N-ethyl perfluorooctane sulfonamid	583.9 > 418.8	6.670	6.688	-0.018	1.003	104512			461	
31 Perfluorodecane Sulfonic acid	598.8 > 79.8	6.670	6.699	-0.029	1.294	96711			2022	
32 Perfluoroundecanoic acid	562.8 > 518.6	6.688	6.711	-0.023	1.000	594043			2625	
D 33 13C2 PFUnA	564.8 > 519.8	6.688	6.713	-0.025	1.000	1470390		109	6851	
D 35 13C8 FOSA	505.8 > 77.8	6.931	6.938	-0.007	1.000	393439		121	1570	
34 Perfluorooctane Sulfonamide	497.8 > 77.8	6.931	6.940	-0.009	1.000	150614			1054	
D 36 13C2 PFDaA	614.8 > 569.6	7.384	7.392	-0.008	1.000	1481168		108	2293	
37 Perfluorododecanoic acid	612.8 > 568.6	7.384	7.399	-0.015	1.000	560031			1296	
40 Perfluorotridecanoic acid	662.8 > 618.6	7.995	8.022	-0.027	1.083	467595			1779	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.545	8.572	-0.027	1.000	531841	21.6			5903	
712.8 > 168.8	8.545	8.572	-0.027	1.000	119426		4.45(0.00-0.00)		2477	
712.8 > 218.8	8.560	8.572	-0.012	1.002	63608		8.36(0.00-0.00)		255	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.545	8.572	-0.027	1.000	1421691	54.7		109	920	

Reagents:

LCPFAS21ISICV\_00002

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A13.d

Injection Date: 21-Apr-2018 14:16:00

Instrument ID: LC410

Lims ID: ICV

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 13

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

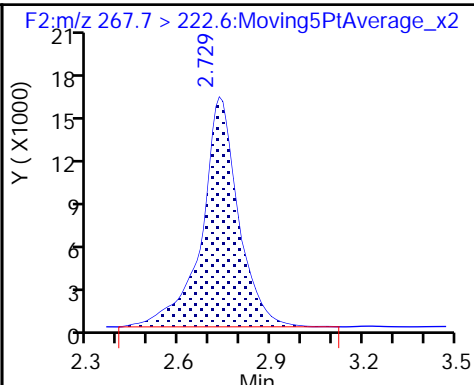
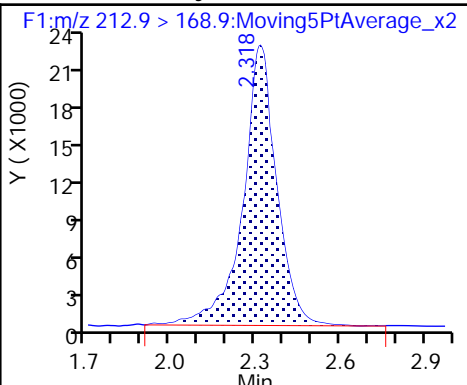
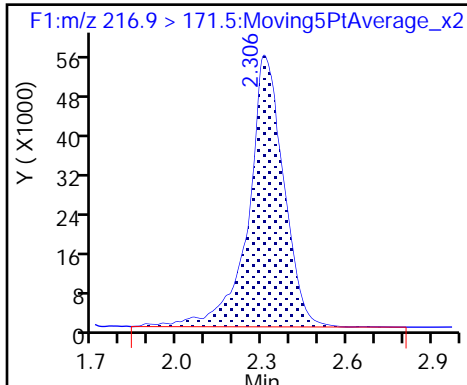
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

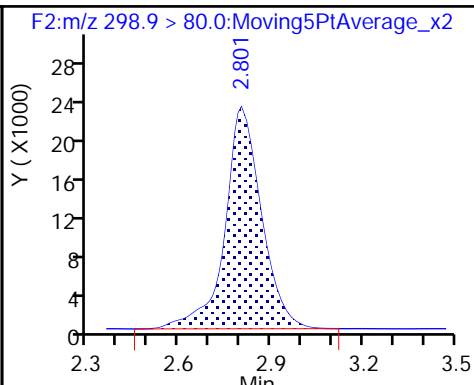
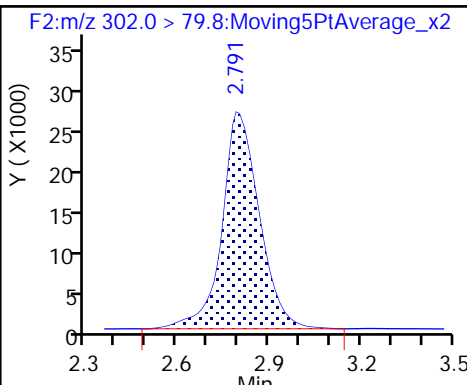
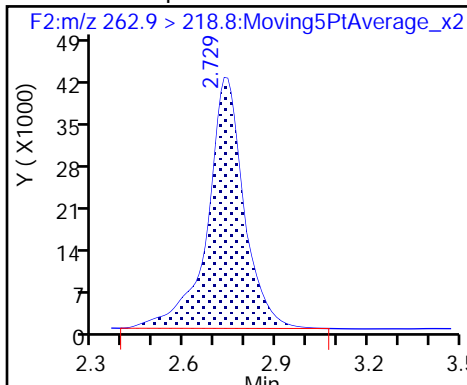
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

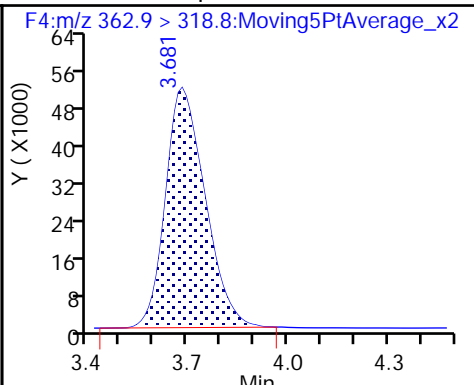
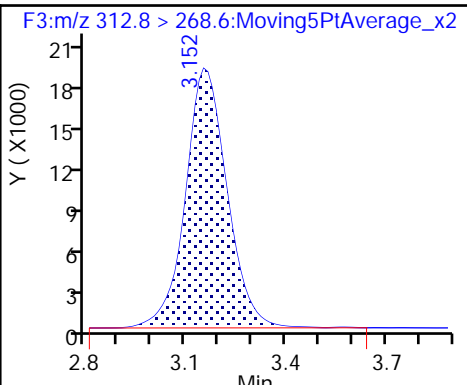
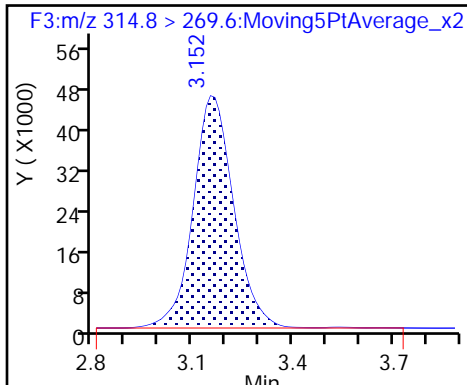
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

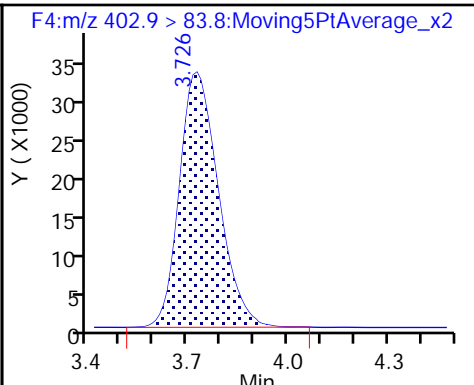
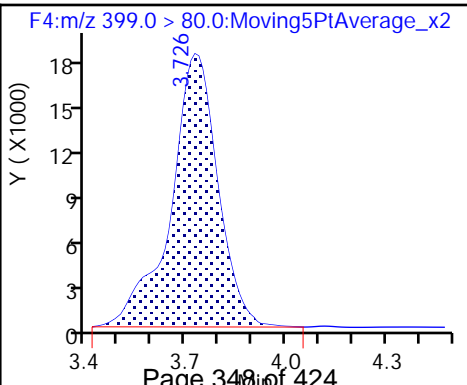
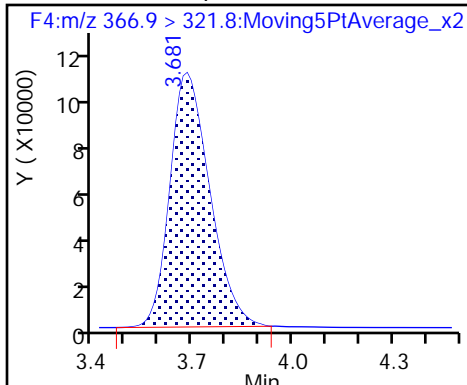
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid

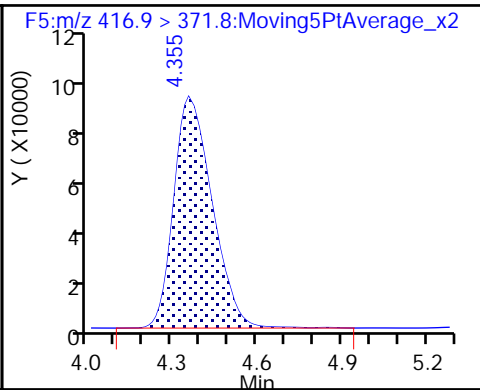
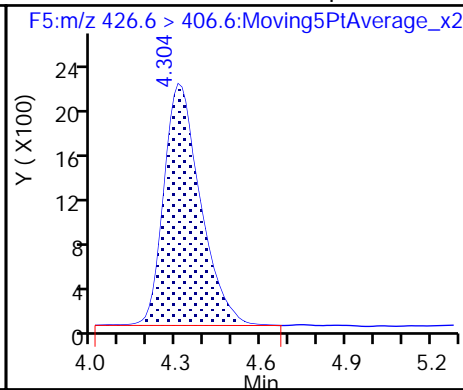
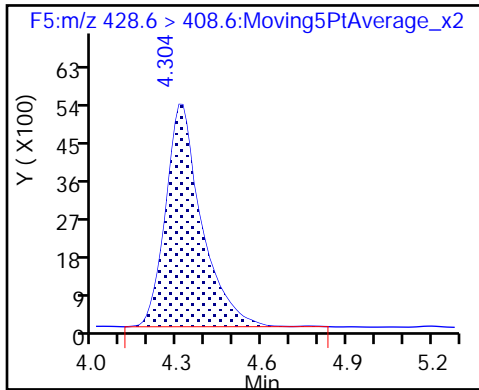
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecane

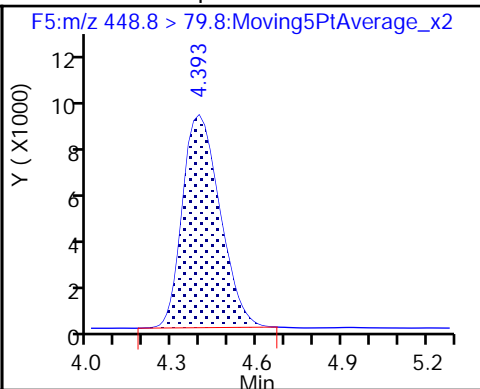
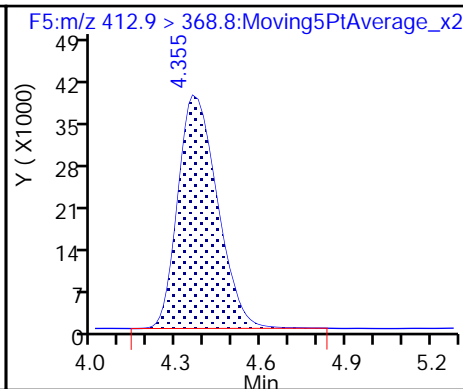
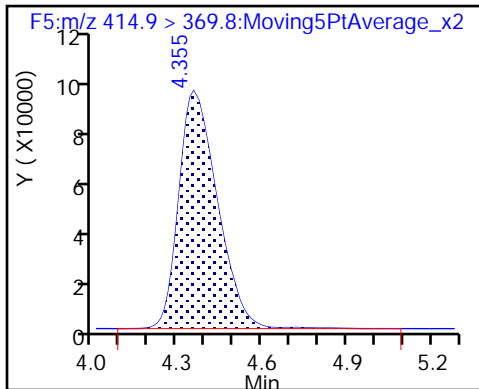
D 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

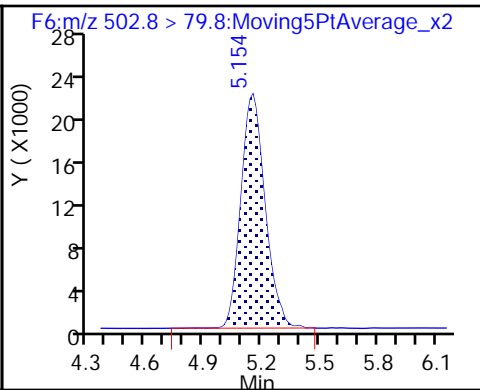
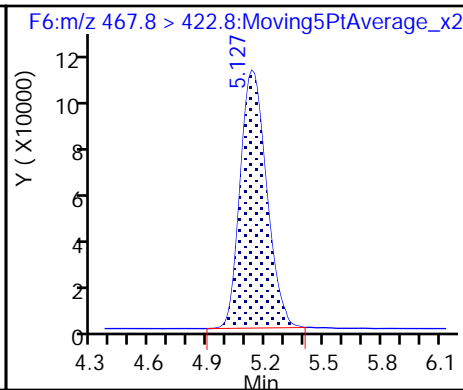
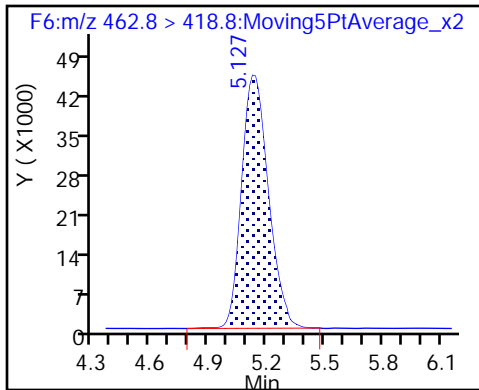
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

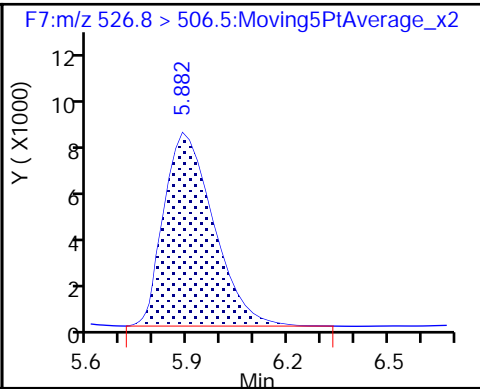
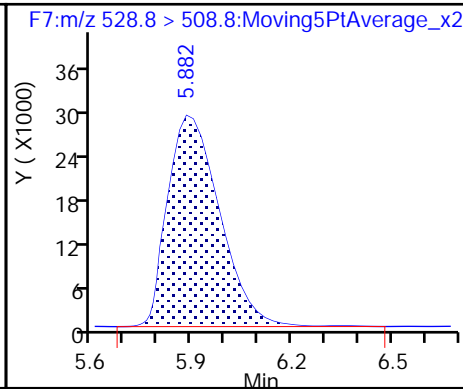
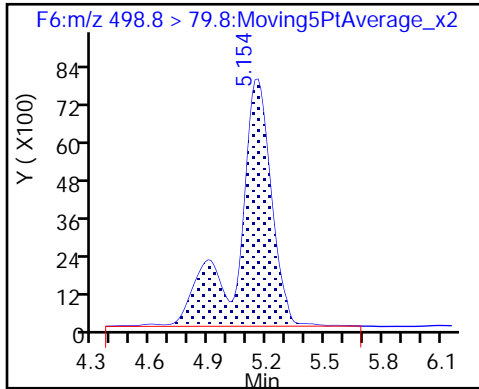
D 22 13C4 PFOS



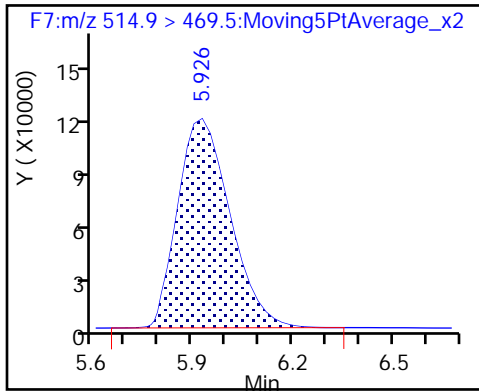
20 Perfluorooctane sulfonic acid

D 23 M2-8:2FTS

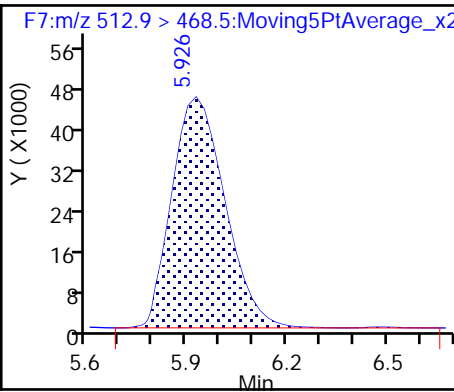
24 Sodium 1H,1H,2H,2H-perfluorodecane



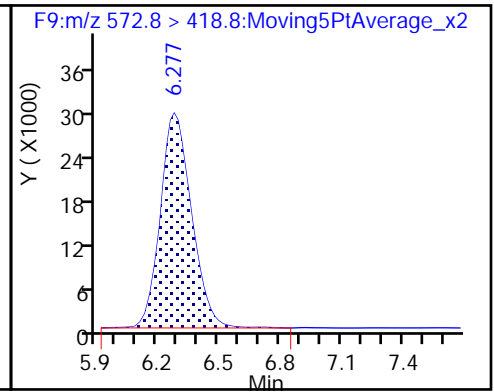
D 25 13C2 PFDA



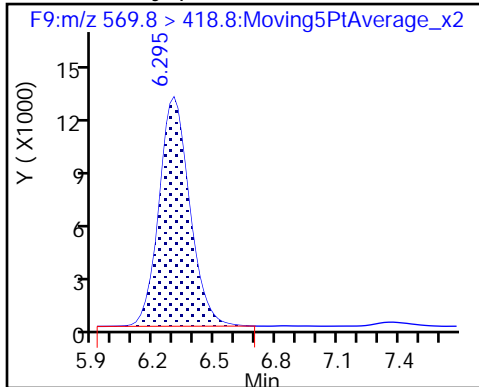
26 Perfluorodecanoic acid



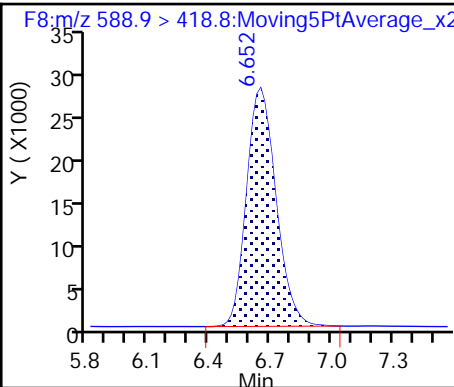
D 27 d3-NMeFOSAA



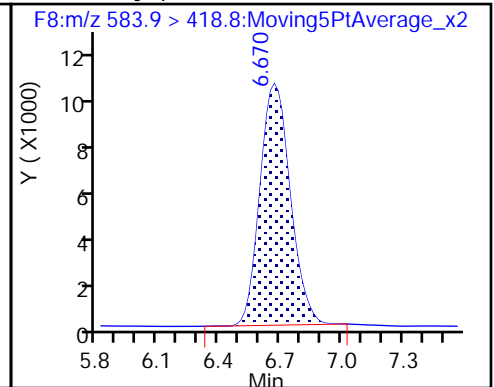
28 N-methyl perfluorooctane sulfonamid



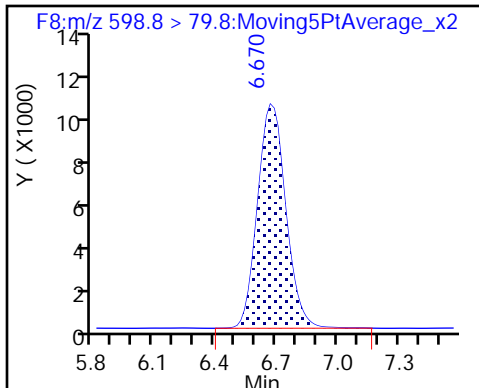
29 d5-NEtFOSAA



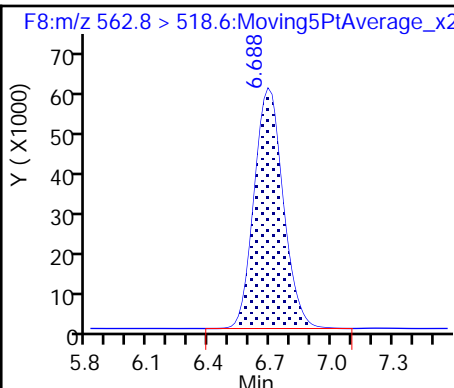
30 N-ethyl perfluorooctane sulfonamid



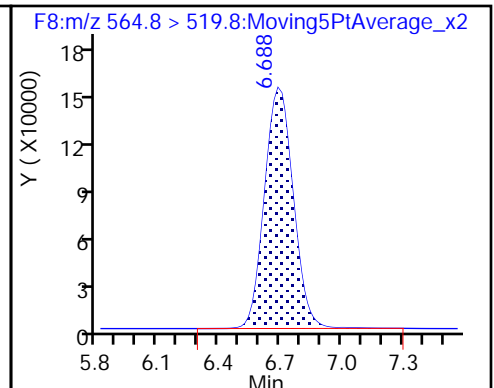
31 Perfluorodecane Sulfonic acid



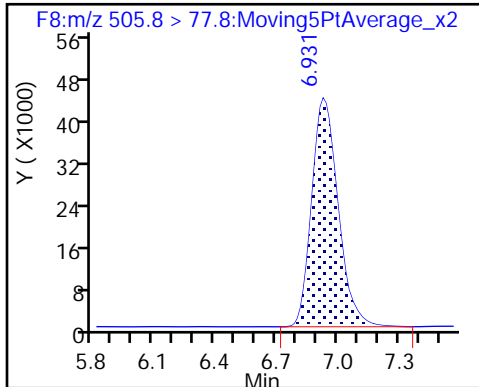
32 Perfluoroundecanoic acid



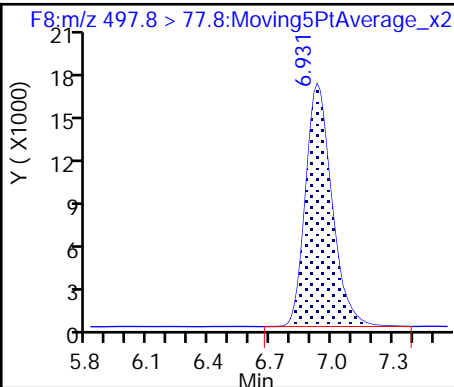
D 33 13C2 PFUnA



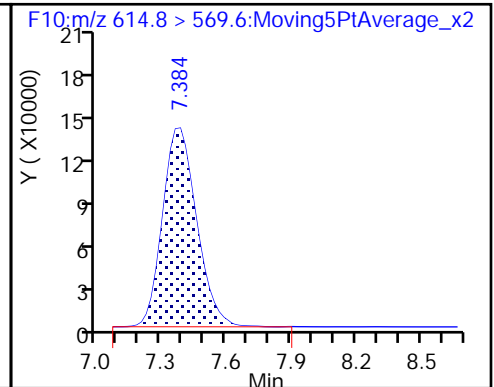
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



D 36 13C2 PFDoA

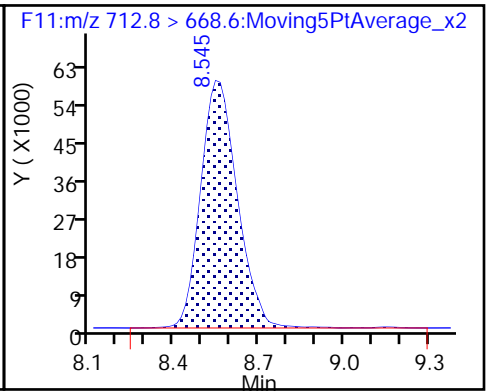
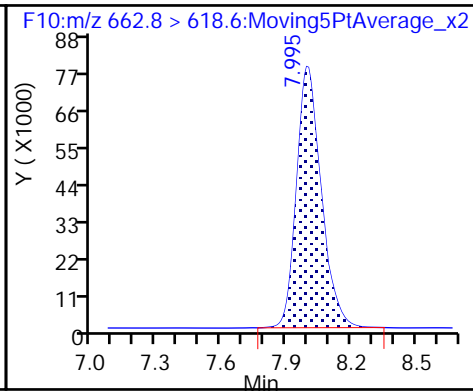
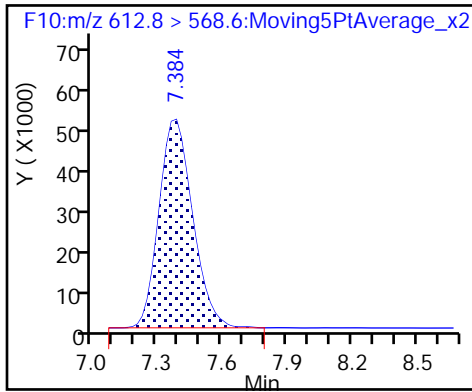




37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

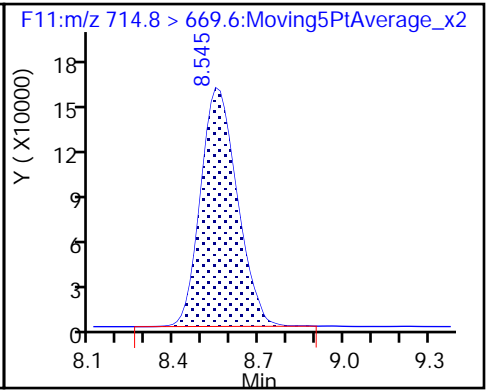
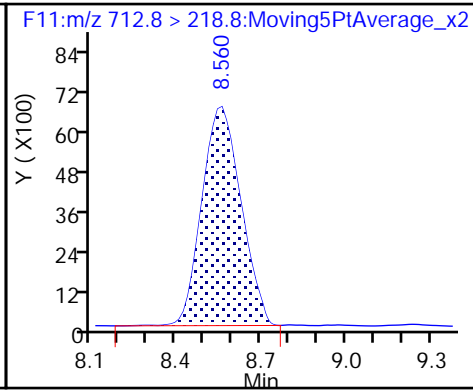
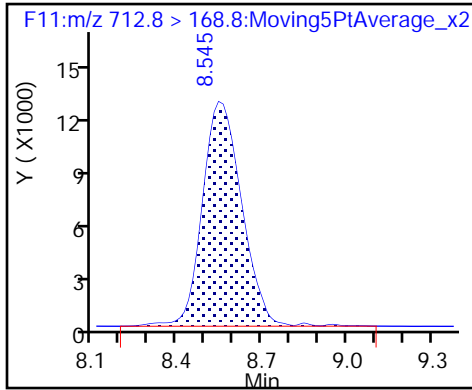
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-128716/29 Calibration Date: 04/21/2018 18:18  
 Instrument ID: LC410 Calib Start Date: 04/21/2018 12:30  
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 04/21/2018 13:45  
 Lab File ID: PF042118A29.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9159		20080	20000	0.4	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		5.624		20100	20000	0.5	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		2.061		17610	17700	-0.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.043		21340	20000	6.7	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.100		21110	20000	5.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.747		17740	18200	-2.6	40.0
6:2FTS	AveID	1.028	0.996		18360	19000	-3.2	40.0
Perfluorooctanoic acid (PFOA)	L2ID		1.074		19890	20000	-0.5	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L2ID		1.041		20550	19000	7.9	50.0
Perfluorononanoic acid (PFNA)	L2ID		0.998		20210	20000	1.1	40.0
Perfluorooctanesulfonic acid (PFOS)	L2ID		1.194		19700	18600	6.2	40.0
8:2FTS	AveID	0.7529	0.8690		22110	19200	15.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.021		21760	20000	8.8	40.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	L2ID		1.126		20440	20000	2.2	40.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	L2ID		0.998		19350	20000	-3.2	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.197		20710	19300	7.4	50.0
Perfluoroundecanoic acid (PFUnA)	L2ID		0.9941		20920	20000	4.6	40.0
Perfluorooctane Sulfonamide (FOSA)	L2ID		0.9431		21250	20000	6.2	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		0.9267		20570	20000	2.8	40.0
Perfluorotridecanoic Acid (PFTriA)	L2ID		0.9915		21500	20000	7.5	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.8532		19650	20000	-1.8	40.0
13C4 PFBA	Ave	0.4575	0.4359		47640	50000	-4.7	50.0
13C5 PFPeA	Ave	0.1108	0.1155		52090	50000	4.2	50.0
13C3-PFBS	Ave	0.2315	0.2271		45620	46500	-1.9	50.0
13C2 PFHxA	Ave	0.3767	0.3686		48930	50000	-2.1	50.0
13C4-PFHpA	Ave	0.9210	0.8801		47780	50000	-4.4	50.0
1802 PFHxS	Ave	0.2590	0.2566		46870	47300	-0.9	50.0
M2-6:2FTS	Ave	0.0494	0.0512		49260	47500	3.7	50.0
13C4 PFOA	Ave	0.8474	0.7773		45860	50000	-8.3	50.0
13C5 PFNA	Ave	1.032	0.9666		46850	50000	-6.3	50.0
13C4 PFOS	Ave	0.2131	0.1880		42150	47800	-11.8	50.0

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 200-128716/29 Calibration Date: 04/21/2018 18:18  
 Instrument ID: LC410 Calib Start Date: 04/21/2018 12:30  
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 04/21/2018 13:45  
 Lab File ID: PF042118A29.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
M2-8:2FTS	Ave	0.3098	0.2965		45850	47900	-4.3	50.0
13C2 PFDA	Ave	1.372	1.243		45310	50000	-9.4	50.0
d3-NMeFOSAA	Ave	0.3088	0.2854		46210	50000	-7.6	50.0
d5-NEtFOSAA	Ave	0.2689	0.2591		48180	50000	-3.6	50.0
13C2 PFUnA	Ave	1.503	1.333		44360	50000	-11.3	50.0
13C8 FOSA	Ave	0.3618	0.3534		48850	50000	-2.3	50.0
13C2 PFDoA	Ave	1.530	1.409		46030	50000	-7.9	50.0
13C2-PFTeDA	Ave	1.445	1.331		46040	50000	-7.9	50.0

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A29.d  
 Lims ID: CCV L4  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 21-Apr-2018 18:18:00 ALS Bottle#: 0 Worklist Smp#: 29  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-029 CCV L4  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Sublist: chrom-PFCISO\_12MRM\*sub4  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:20:49 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 13:02:04

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.314	2.319	-0.005	1.000	469331	47.6	95.3	210	
1 Perfluorobutyric acid	212.9 > 168.9	2.330	2.320	0.010	1.007	171942	20.1	100	278	
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	124318	52.1	104	340	
4 Perfluoropentanoic acid	262.9 > 218.8	2.729	2.738	-0.009	1.000	279654	20.1	100	528	
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	227407	45.6	98.1	994	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.791	2.804	-0.013	1.000	178180	17.6	99.6	1422	
D 7 13C2 PFHxA	314.8 > 269.6	3.140	3.158	-0.018	1.000	396788	48.9	97.9	2033	
8 Perfluorohexanoic acid	312.8 > 268.6	3.140	3.162	-0.022	1.000	165479	21.3	107	1250	
D 10 13C4-PFHpA	366.9 > 321.8	3.670	3.689	-0.019	1.000	947518	47.8	95.6	1031	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.670	3.689	-0.019	1.000	417033	21.1	106	1558	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.715	3.733	-0.018	1.003	175687	17.7	97.4	1003	
D 13 18O2 PFHxS	402.9 > 83.8	3.703	3.737	-0.034	1.000	261354	46.9	99.1	772	
D 14 M2-6:2FTS	428.6 > 408.6	4.278	4.319	-0.041	1.000	52394	49.3	104	497	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.291	4.319	-0.028	1.003	18.4	96.8	257		

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.342	4.365	-0.023	1.000	836800	45.9		91.7	2225	
* 49 13C2-PFOA										
414.9 > 369.8	4.342	4.371	-0.029		1076599	50.0			4649	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.342	4.374	-0.032	1.000	359349	19.9		99.5	1684	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.374	4.408	-0.034	0.853	80238	20.5		108	657	
19 Perfluorononanoic acid										
462.8 > 418.8	5.113	5.143	-0.030	1.000	415272	20.2		101	895	
D 21 13C5 PFNA										
467.8 > 422.8	5.113	5.145	-0.032	1.000	1040649	46.9		93.7	983	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.127	5.168	-0.041	1.000	89652	19.7		106	1486	M
D 22 13C4 PFOS										
502.8 > 79.8	5.127	5.168	-0.041	1.000	193443	42.2		88.2	676	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.863	5.910	-0.047	1.000	106318	22.1		115	720	
D 23 M2-8:2FTS										
528.8 > 508.8	5.863	5.910	-0.047	1.000	305848	45.8		95.7	709	
D 25 13C2 PFDA										
514.9 > 469.5	5.902	5.934	-0.032	1.000	1338670	45.3		90.6	1889	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.902	5.938	-0.036	1.000	546886	21.8		109	1905	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.241	6.298	-0.057	1.000	307302	46.2		92.4	1049	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.259	6.310	-0.051	1.003	138359	20.4		102	303	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.616	6.667	-0.051	1.000	278985	48.2		96.4	2086	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.652	6.688	-0.036	1.005	111393	19.4		96.8	900	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.652	6.699	-0.047	1.298	93429	20.7		107	1360	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.670	6.711	-0.041	1.000	570733	20.9		105	1661	
D 33 13C2 PFUnA										
564.8 > 519.8	6.670	6.713	-0.043	1.000	1435290	44.4		88.7	6732	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	380474	48.8		97.7	1975	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	143526	21.2		106	2247	
D 36 13C2 PFDaA										
614.8 > 569.6	7.339	7.392	-0.053	1.000	1516554	46.0		92.1	3128	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.339	7.399	-0.060	1.000	562144	20.6		103	1324	
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.970	8.022	-0.052	1.086	401467	21.5		107	2179	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.514	8.572	-0.058	1.000	1432631	46.0		92.1	812	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.514	8.572	-0.058	1.000	488934	19.6		98.2	573	M
712.8 > 168.8	8.572	8.572	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.514	8.572	-0.058	0.000	61866		0.00(0.00-0.00)		376	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFAS21-L4\_00002

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A29.d

Injection Date: 21-Apr-2018 18:18:00

Instrument ID: LC410

Lims ID: CCV L4

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 29

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

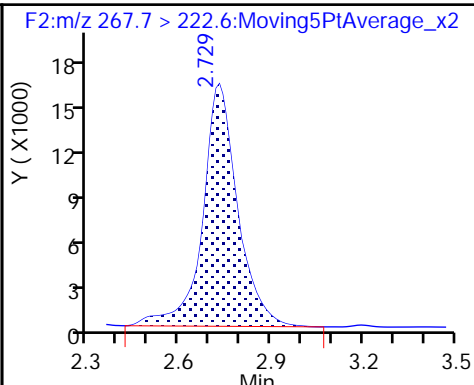
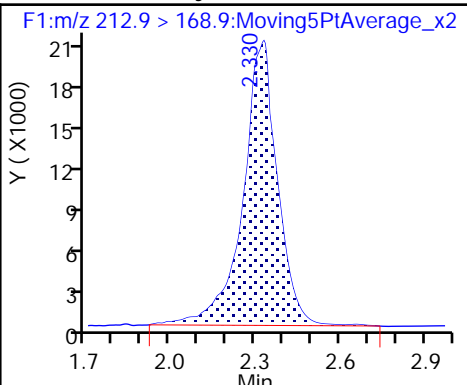
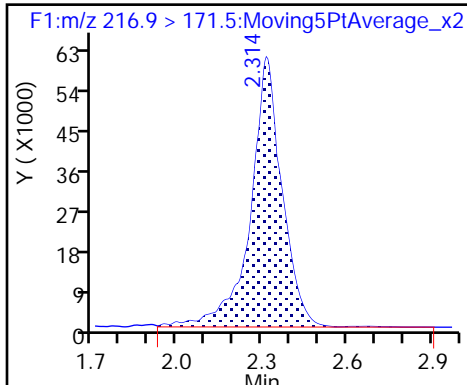
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

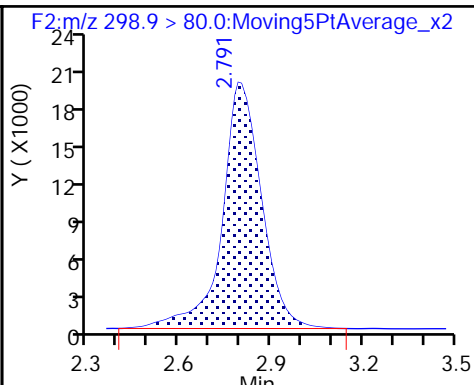
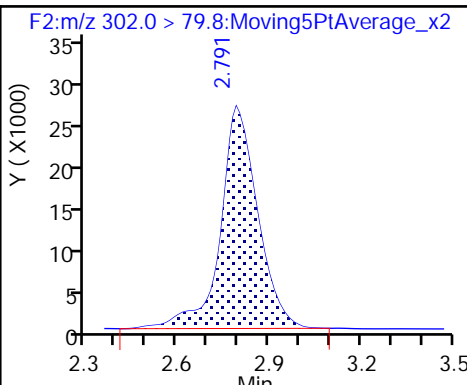
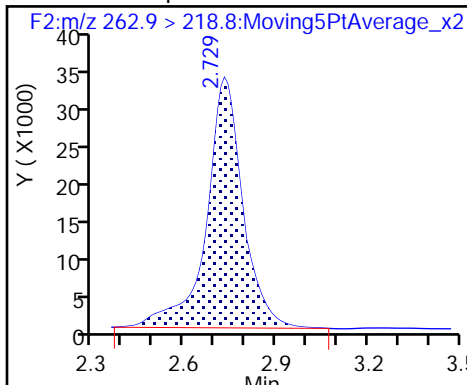
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

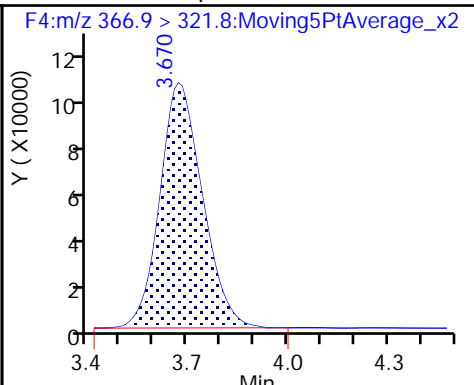
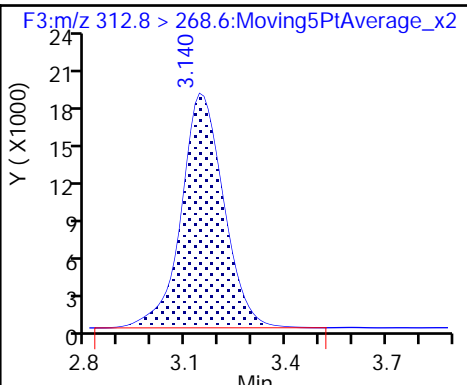
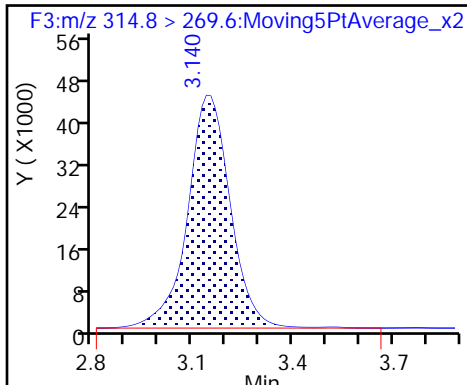
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

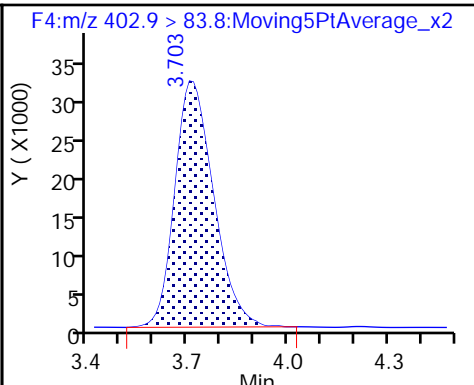
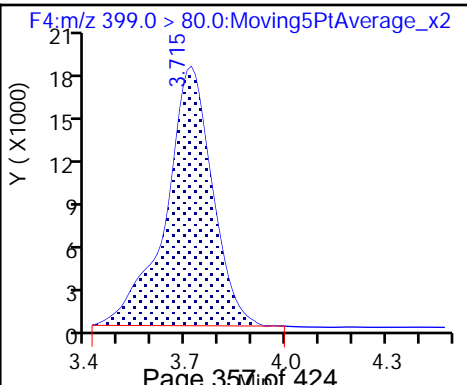
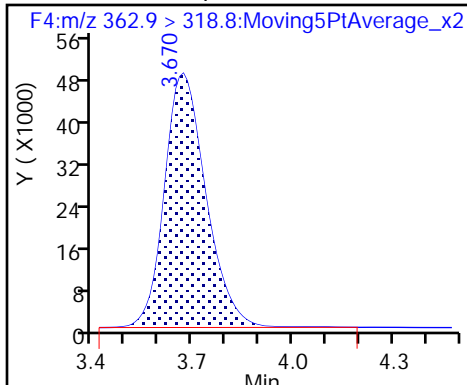
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

12 Perfluorohexanesulfonic acid

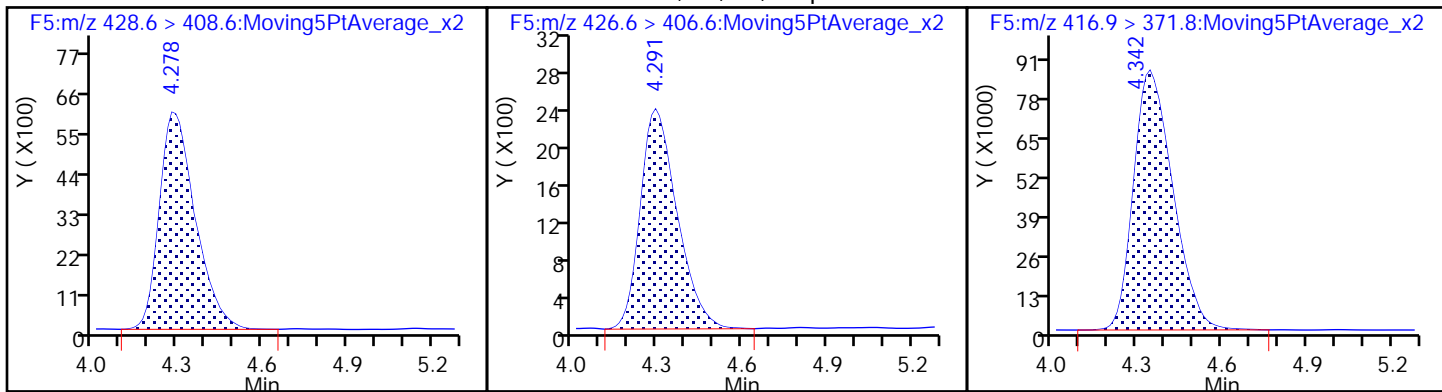
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

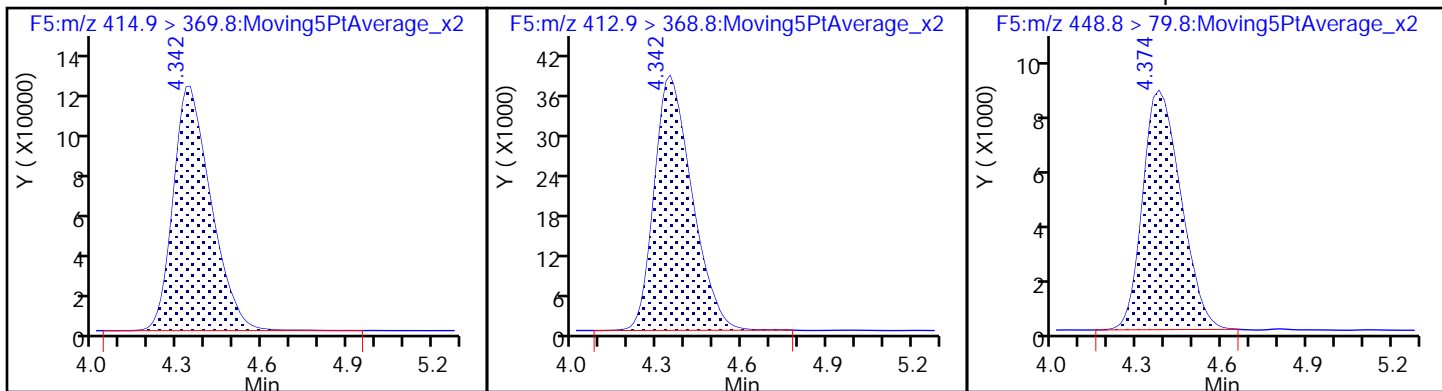
De 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

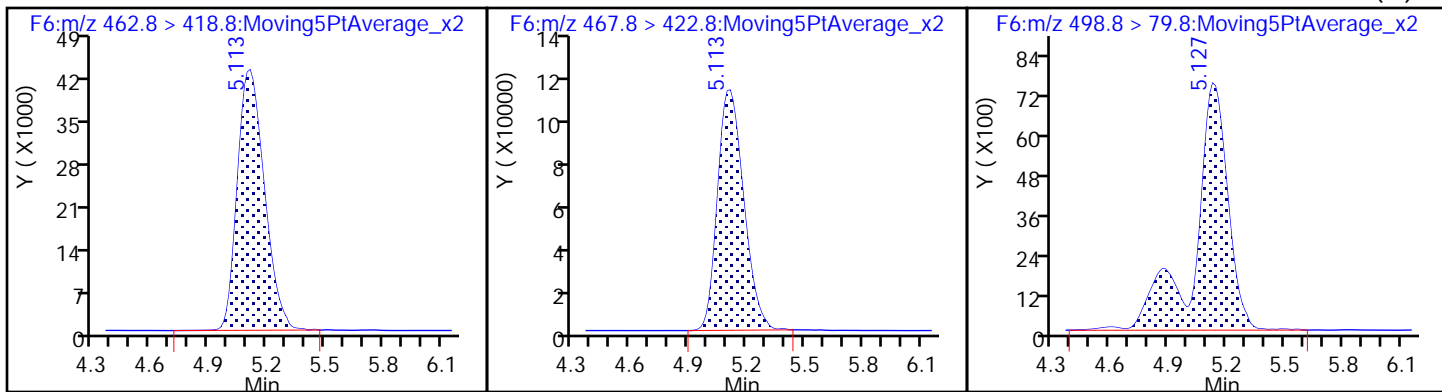
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

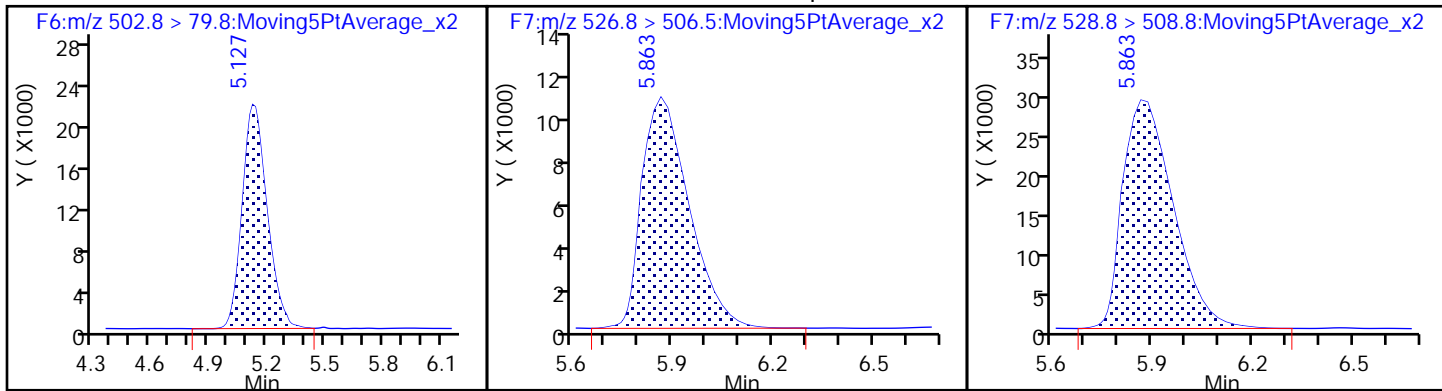
20 Perfluorooctane sulfonic acid (M)



D 22 13C4 PFOS

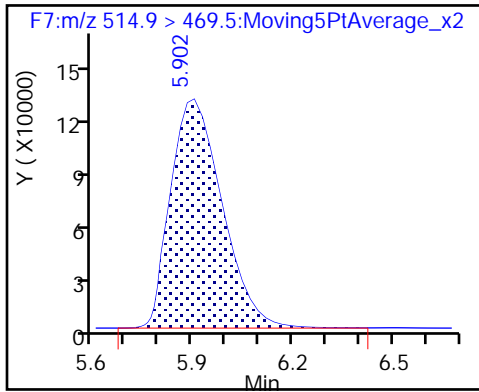
24 Sodium 1H,1H,2H,2H-perfluorodecanoate

De 23 M2-8:2FTS

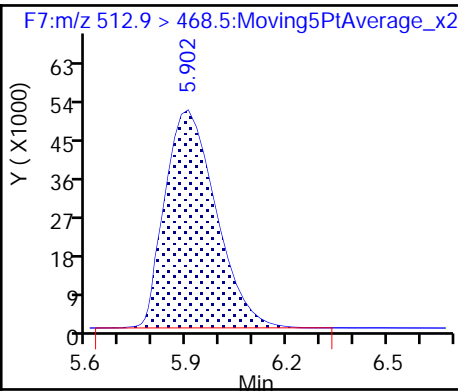




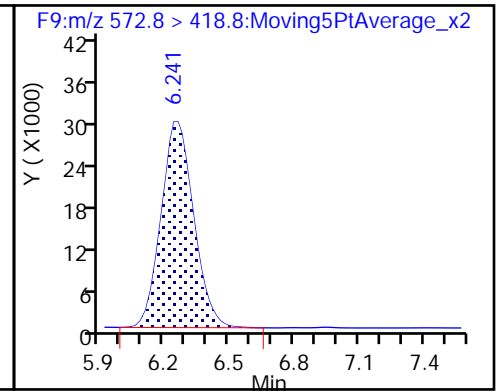
D 25 13C2 PFDA



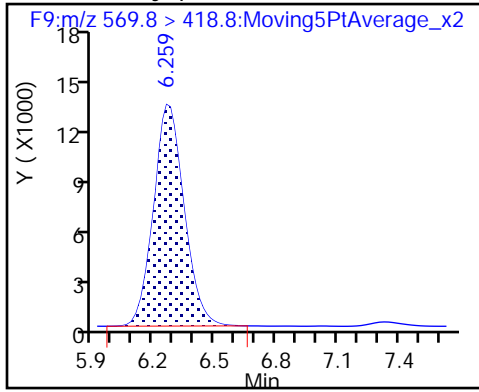
26 Perfluorodecanoic acid



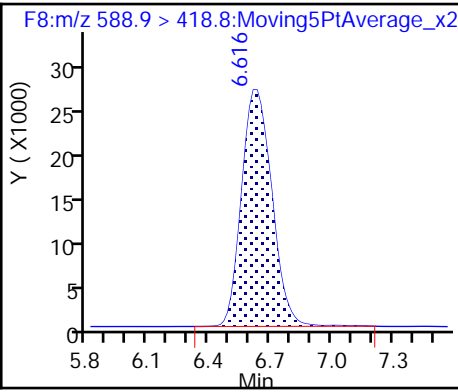
D 27 d3-NMeFOSAA



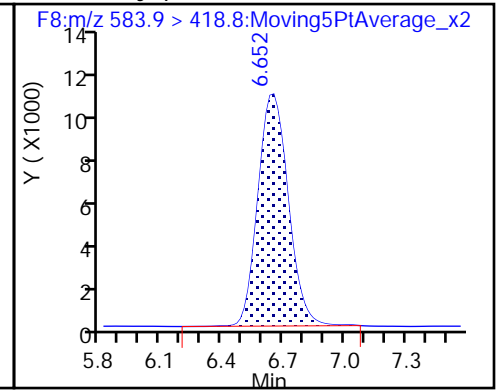
28 N-methyl perfluorooctane sulfonamid



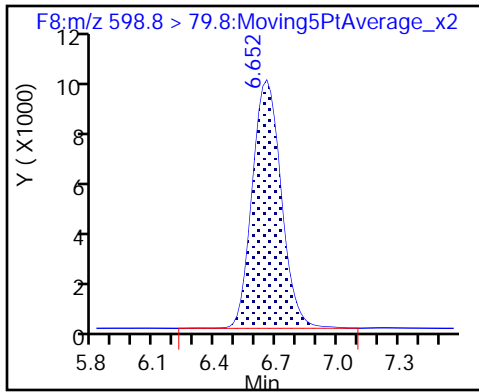
29 d5-NEtFOSAA



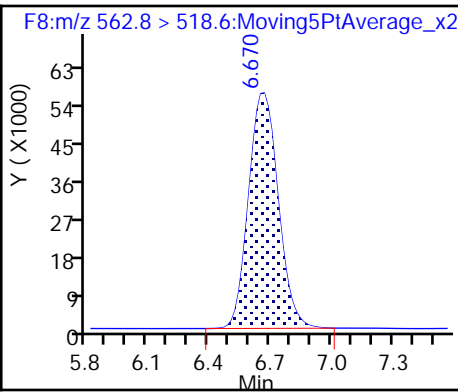
30 N-ethyl perfluorooctane sulfonamid



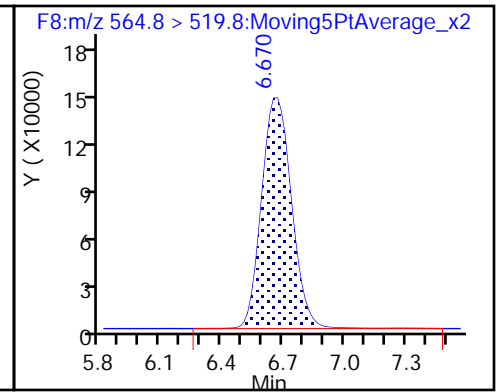
31 Perfluorodecane Sulfonic acid



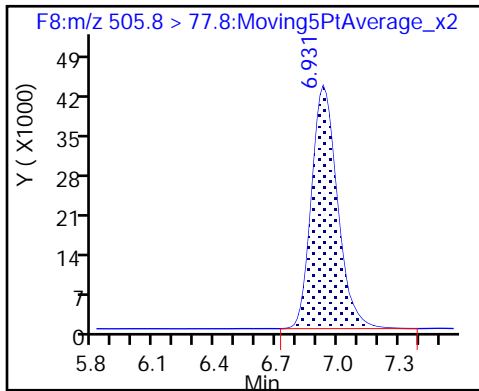
32 Perfluoroundecanoic acid



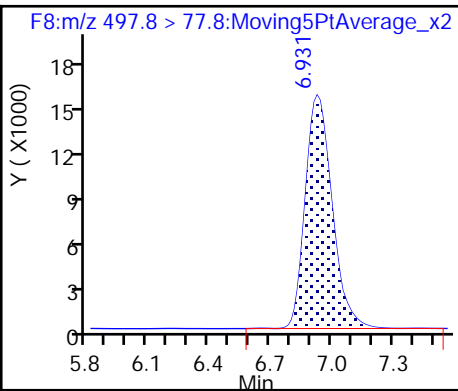
D 33 13C2 PFUnA



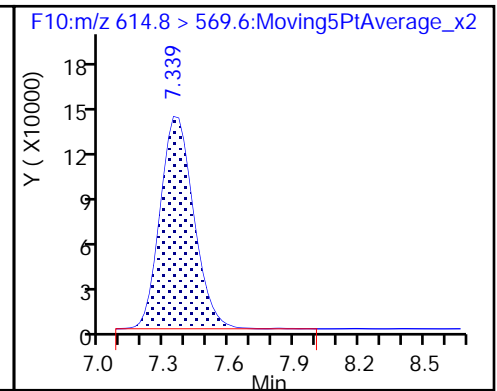
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



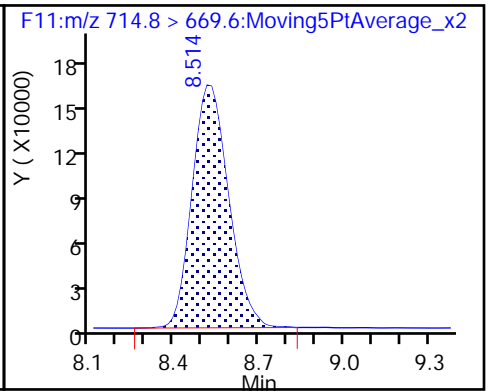
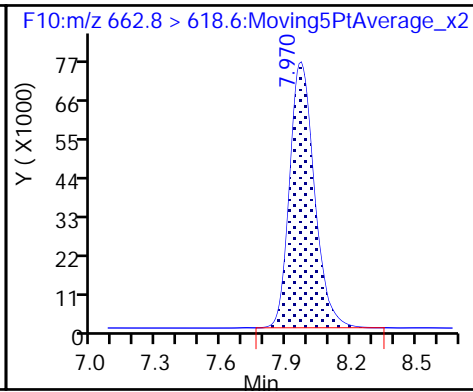
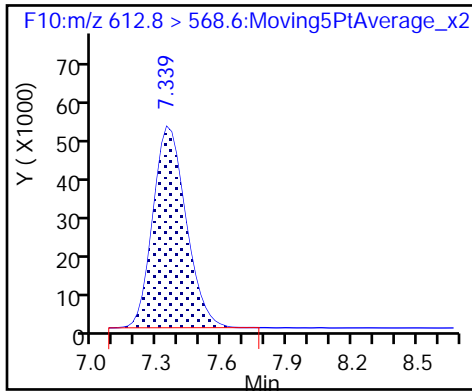
D 36 13C2 PFDaA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

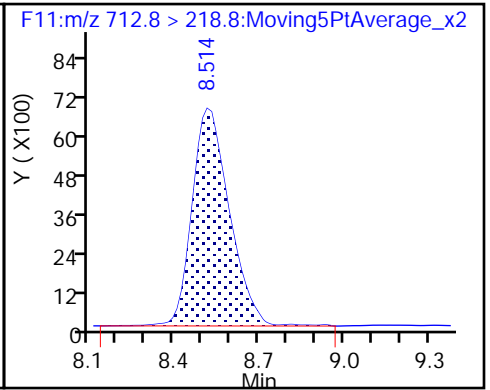
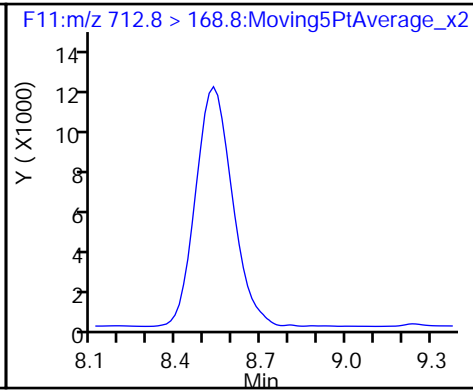
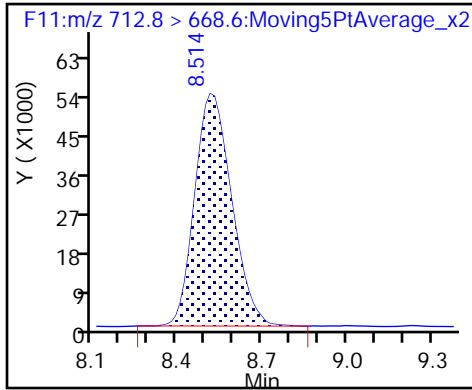
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

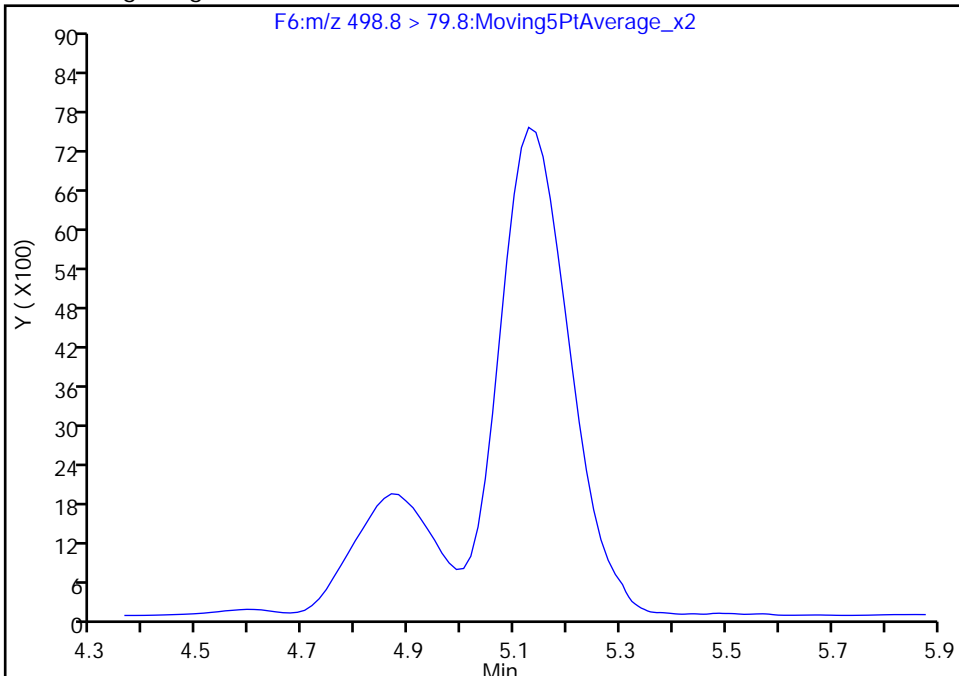
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Injection Date: 21-Apr-2018 18:18:00 Instrument ID: LC410  
Lims ID: CCV L4  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 29  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

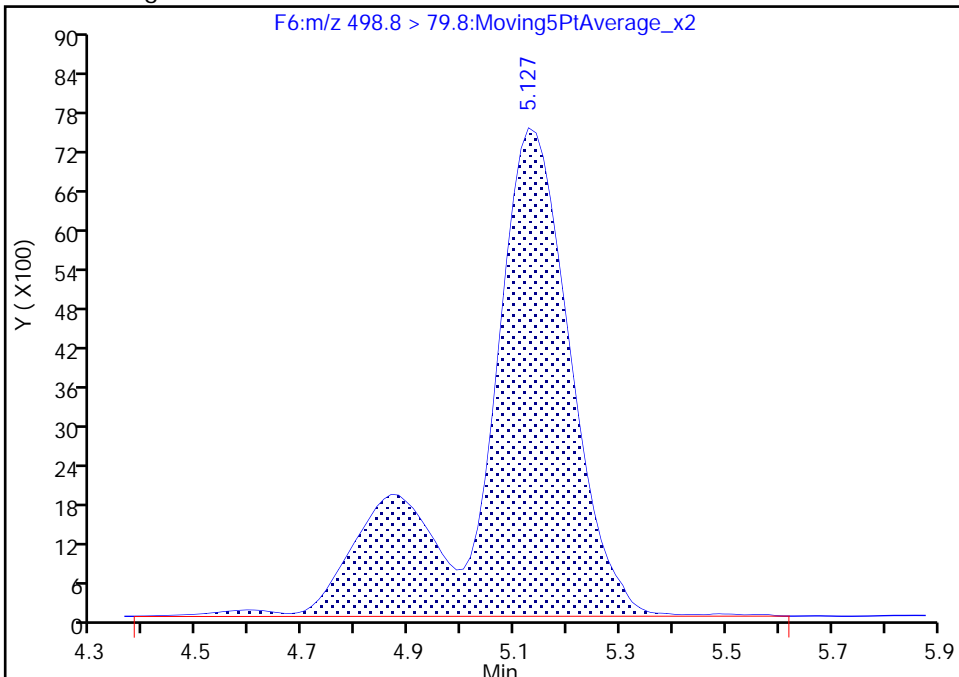
Not Detected  
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.13  
Area: 89652  
Amount: 19.701509  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 13:01:21  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

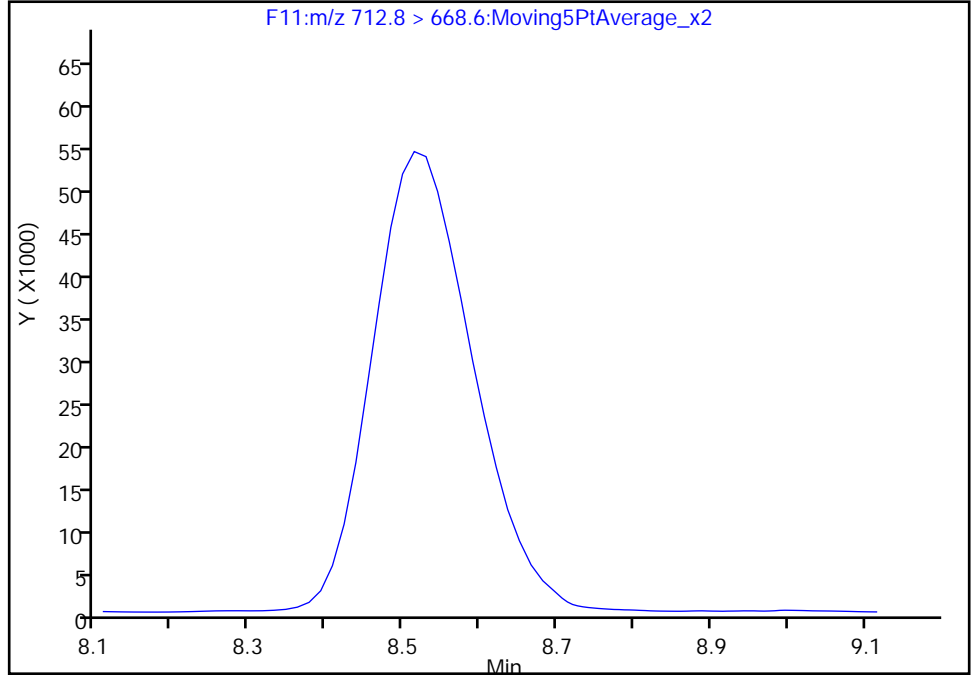
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Lims ID: CCV L4  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 29  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

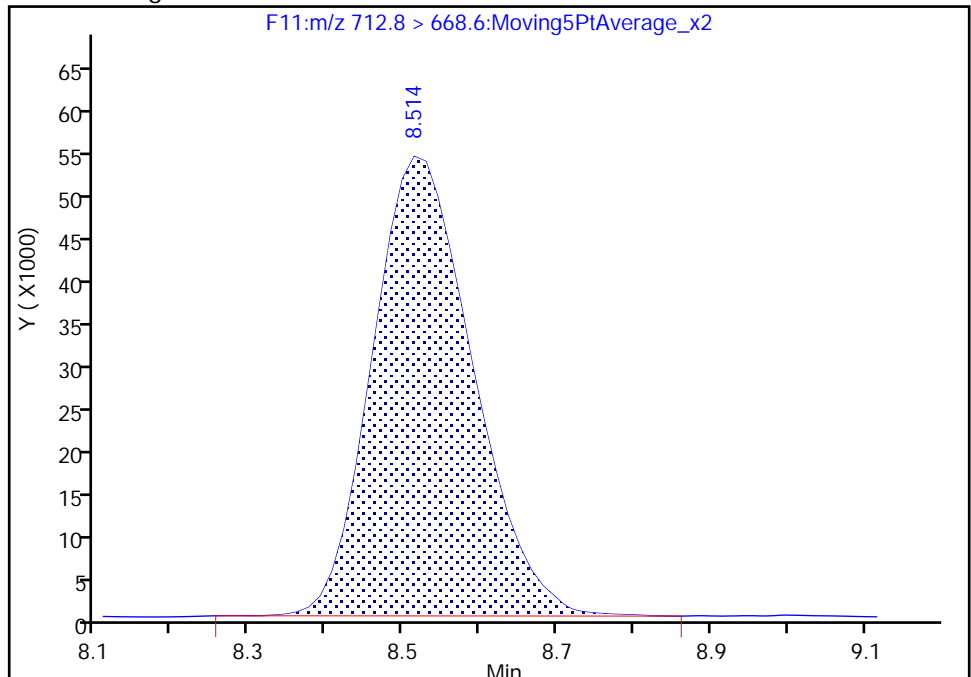
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.51  
Area: 488934  
Amount: 19.649952  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 13:01:58  
Audit Action: Manually Integrated

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 200-128603/1-A  
 Matrix: Water Lab File ID: PF042118A15.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/21/2018 14:46  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.44	U	2.00	0.44
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.44	U	2.00	0.44
307-24-4	Perfluorohexanoic acid (PFHxA)	0.44	U	2.00	0.44
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.29	U	2.00	0.29
335-67-1	Perfluorooctanoic acid (PFOA)	0.47	U	2.00	0.47
375-95-1	Perfluorononanoic acid (PFNA)	0.26	U	2.00	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	0.44	U	2.00	0.44
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.44	U	2.00	0.44
307-55-1	Perfluorododecanoic acid (PFDoA)	0.44	U	2.00	0.44
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	0.44	U	2.00	0.44
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.471	J	2.00	0.44
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.88	U	2.00	0.88
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.28	U	2.00	0.28
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.44	U	2.00	0.44
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.30	U	2.00	0.30
335-77-3	Perfluorodecanesulfonic acid (PFDS)	0.44	U	2.00	0.44
754-91-6	Perfluorooctane Sulfonamide (FOSA)	0.44	U	2.00	0.44
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.60	U	2.00	0.60
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.60	U	2.00	0.60
27619-97-2	6:2FTS	0.60	U	2.00	0.60
39108-34-4	8:2FTS	0.60	U	2.00	0.60

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 200-128603/1-A  
 Matrix: Water Lab File ID: PF042118A15.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/21/2018 14:46  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	84		25-150
STL01893	13C5 PFPeA	109		25-150
STL00993	13C2 PFHxA	93		25-150
STL01892	13C4-PFHpA	94		25-150
STL00990	13C4 PFOA	101		25-150
STL00995	13C5 PFNA	97		25-150
STL00996	13C2 PFDA	91		25-150
STL00997	13C2 PFUnA	91		25-150
STL00998	13C2 PFDoA	73		25-150
STL02116	13C2-PFTeDA	52		25-150
STL02337	13C3-PFBS	81		25-150
STL00994	18O2 PFHxS	87		25-150
STL00991	13C4 PFOS	80		25-150
STL01056	13C8 FOSA	52		25-150
STL02118	d3-NMeFOSAA	71		25-150
STL02117	d5-NEtFOSAA	80		25-150
STL02279	M2-6:2FTS	120		25-150
STL02280	M2-8:2FTS	92		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
 Lims ID: MB 200-128603/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 21-Apr-2018 14:46:10 ALS Bottle#: 0 Worklist Smp#: 15  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-015 MB 603  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 12:58:30

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.318	2.319	-0.001	1.000	423119	42.2	84.5	288	
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	132054	54.4	109	882	
4 Perfluoropentanoic acid	262.9 > 218.8	2.750	2.738	0.012	1.008	2159	-0.3017		5.7	M
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	190154	37.5	80.7	841	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.791	2.804	-0.013	1.000	578	0.2419		5.4	M
D 7 13C2 PFHxA	314.8 > 269.6	3.152	3.158	-0.006	1.000	382934	46.4	92.9	3196	
8 Perfluorohexanoic acid	312.8 > 268.6	3.127	3.162	-0.035	0.992	267	0.0842		6.0	M
D 10 13C4-PFHpA	366.9 > 321.8	3.681	3.689	-0.008	1.000	948145	47.0	94.0	2544	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.659	3.689	-0.030	0.994	558	0.0761		4.9	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.715	3.733	-0.018	0.997	786	0.0610		7.5	M
D 13 18O2 PFHxS	402.9 > 83.8	3.726	3.737	-0.011	1.000	233232	41.1	87.0	1231	
D 14 M2-6:2FTS	428.6 > 408.6	4.304	4.319	-0.015	1.000	61880	57.2	120	484	
D 17 13C4 PFOA	416.9 > 371.8	4.355	4.365	-0.010	1.000	940630	50.7	101	3224	
* 49 13C2-PFOA	414.9 > 369.8	4.355	4.371	-0.016		1094892	50.0		3733	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.355	4.374	-0.019	1.000	1824	0.0767			13.5	M
D 21 13C5 PFNA										
467.8 > 422.8	5.127	5.145	-0.018	1.000	1092272	48.4		96.7	2229	
D 22 13C4 PFOS										
502.8 > 79.8	5.154	5.168	-0.014	1.000	177535	38.0		79.6	1190	
D 23 M2-8:2FTS										
528.8 > 508.8	5.902	5.910	-0.008	1.000	298099	43.9		91.7	3810	
D 25 13C2 PFDA										
514.9 > 469.5	5.926	5.934	-0.008	1.000	1371751	45.7		91.3	8486	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.277	6.298	-0.021	1.000	238454	35.3		70.5	1744	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.652	6.667	-0.015	1.000	235815	40.0		80.1	1370	
31 Perfluorodecane Sulfonic acid										M
598.8 > 79.8	6.706	6.699	0.007	1.301	295	0.1112		4.4		M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.706	6.711	-0.005	1.003	1479	0.0996		14.8		M
D 33 13C2 PFUnA										
564.8 > 519.8	6.688	6.713	-0.025	1.000	1492835	45.4		90.7	2566	
D 35 13C8 FOSA										
505.8 > 77.8	6.944	6.938	0.006	1.000	207751	26.2		52.5	1529	
D 36 13C2 PFDoA										
614.8 > 569.6	7.384	7.392	-0.008	1.000	1217821	36.3		72.7	2865	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.362	7.399	-0.037	0.997	1223	0.0306		10.3		
40 Perfluorotridecanoic acid										M
662.8 > 618.6	7.987	8.022	-0.035	1.082	3529	0.0631		31.2		M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.545	8.572	-0.027	1.000	828866	26.2		52.4	1024	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.560	8.572	-0.012	1.002	5695	0.2355		25.6		
712.8 > 168.8	8.560	8.572	-0.012	1.002	148		38.48(0.00-0.00)	1.6		M
712.8 > 218.8	8.499	8.572	-0.073	0.995	1245		4.57(0.00-0.00)	7.5		M

### QC Flag Legend

Review Flags

M - Manually Integrated



TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d

Injection Date: 21-Apr-2018 14:46:10

Instrument ID: LC410

Lims ID: MB 200-128603/1-A

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 15

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

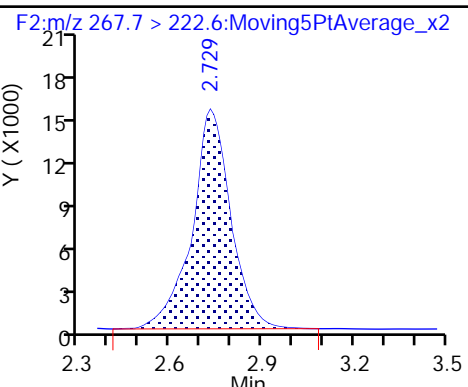
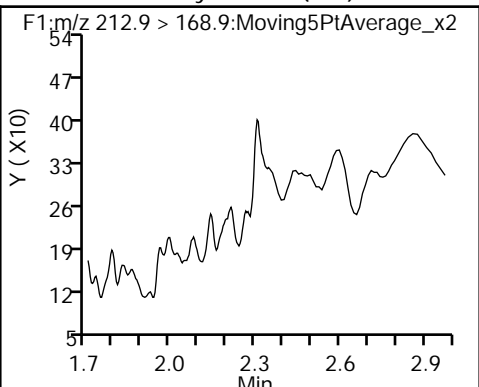
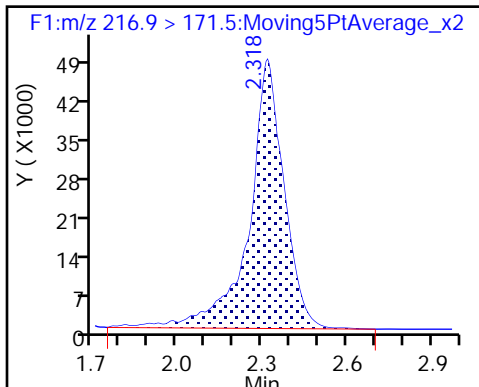
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (ND)

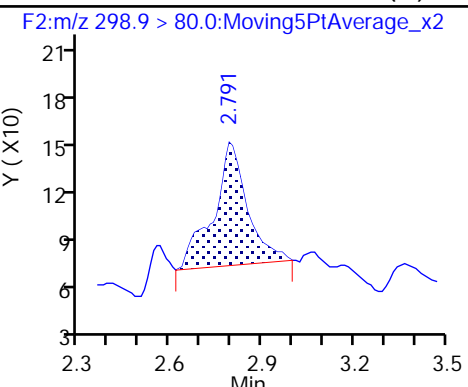
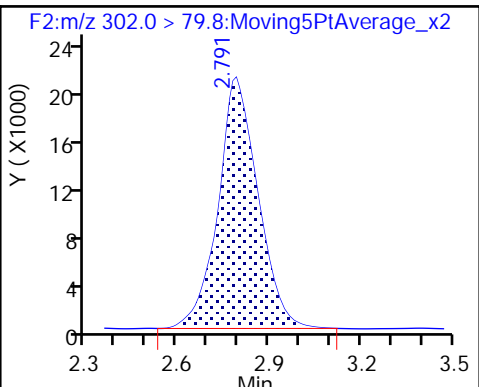
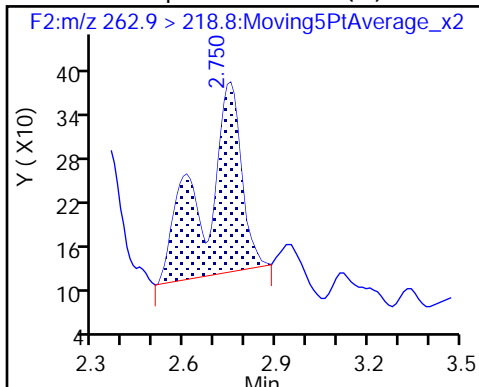
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS

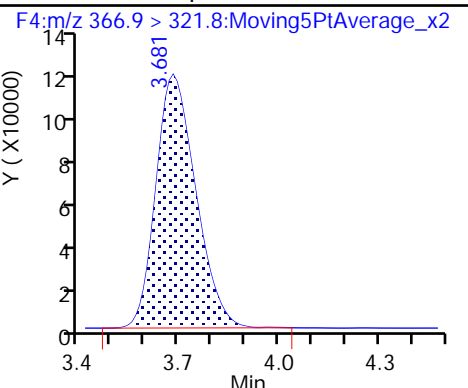
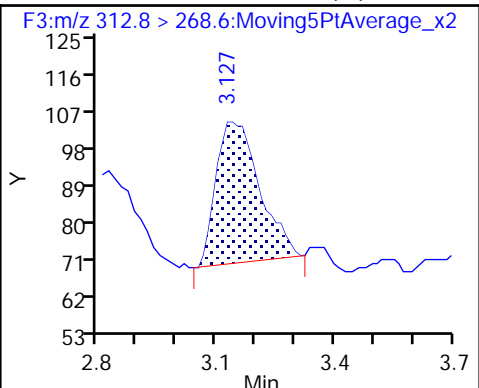
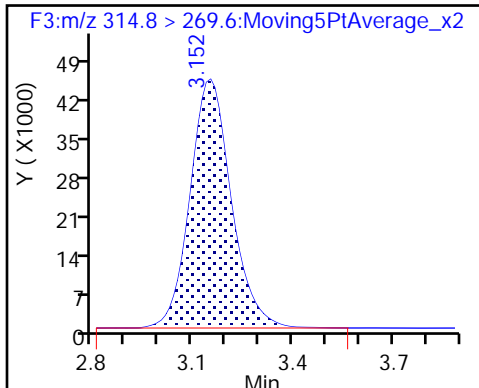
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid (M)

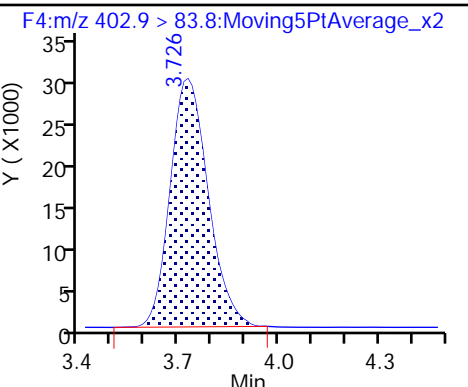
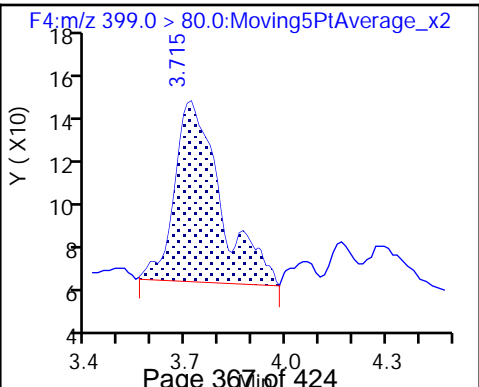
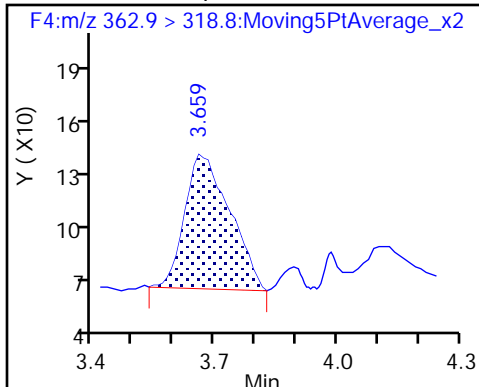
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

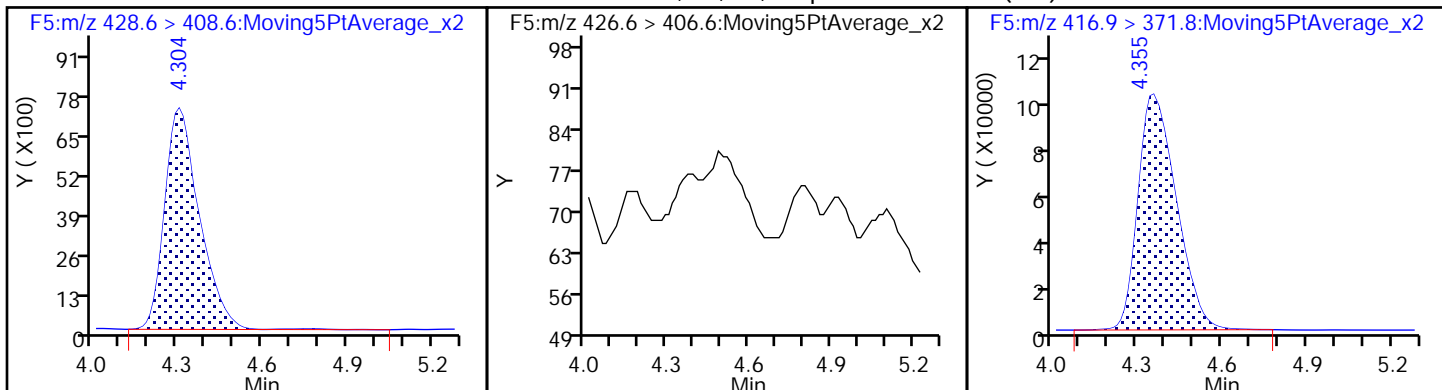
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



D 14 M2-6:2FTS

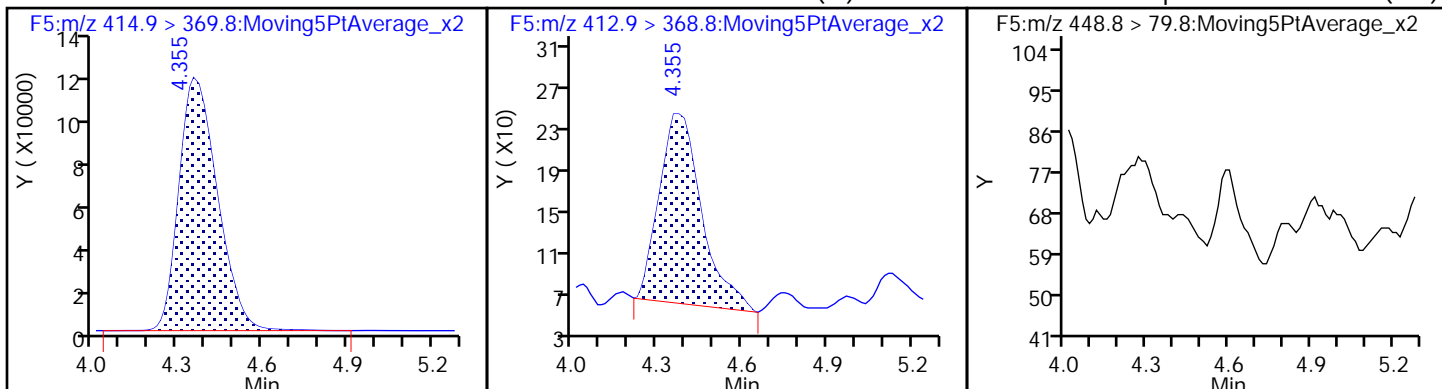
15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate (ND) 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid (M)

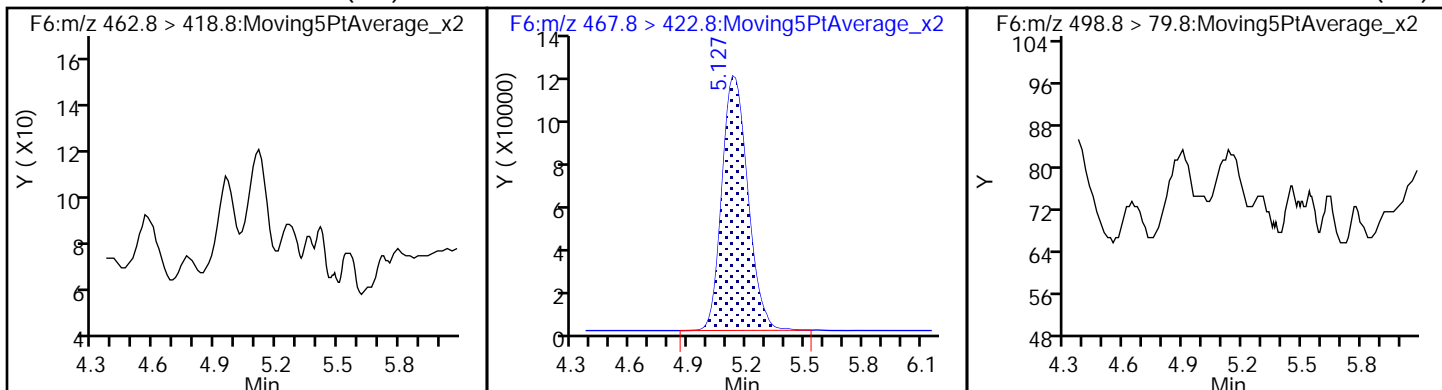
18 Perfluoroheptanesulfonic acid (ND)



19 Perfluorononanoic acid (ND)

D 21 13C5 PFNA

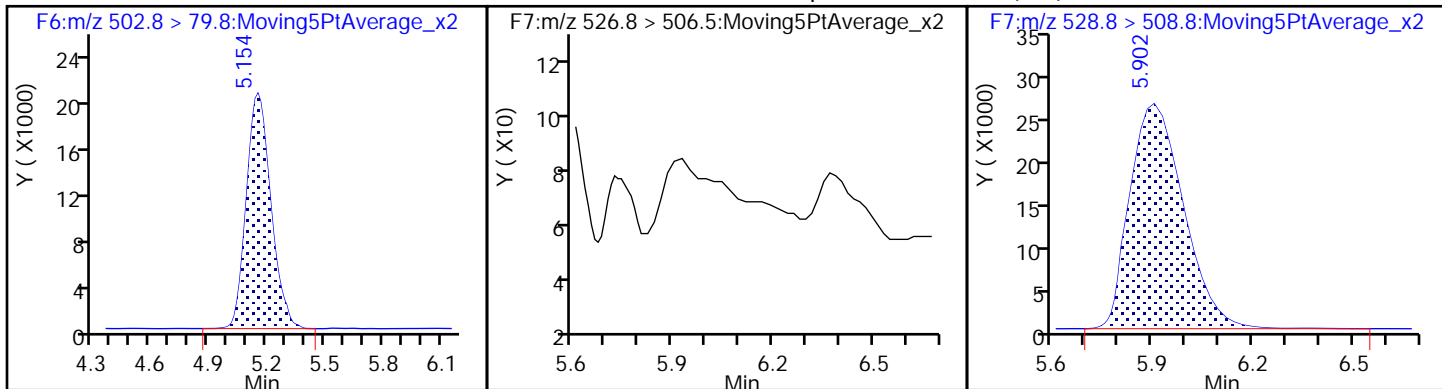
20 Perfluorooctane sulfonic acid (ND)



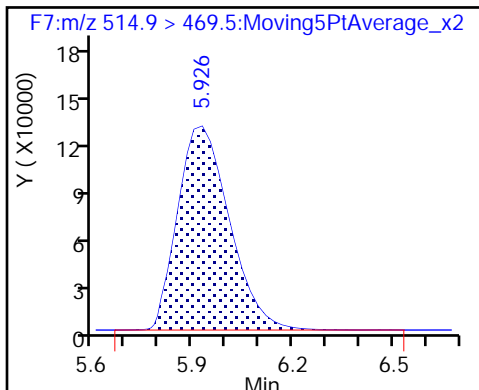
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate (ND) 13C4 PFOA

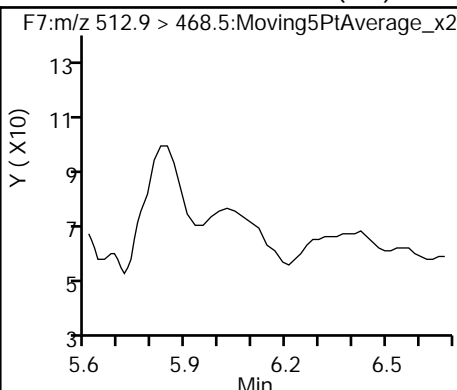
D 23 M2-8:2FTS



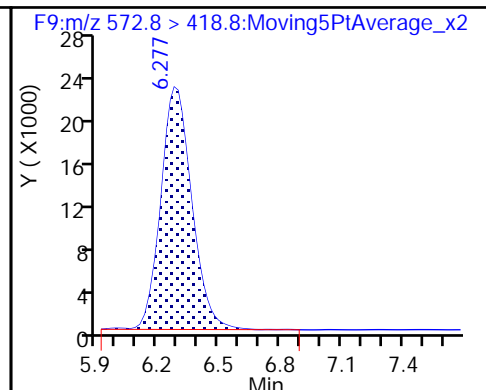
D 25 13C2 PFDA



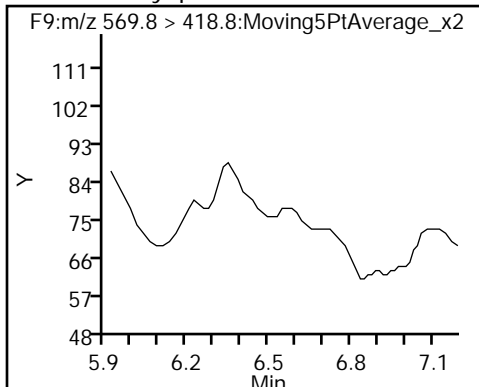
26 Perfluorodecanoic acid (ND)



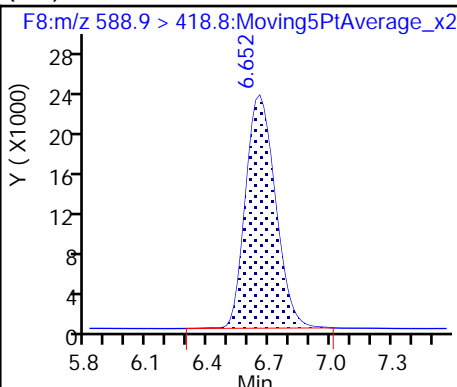
D 27 d3-NMeFOSAA



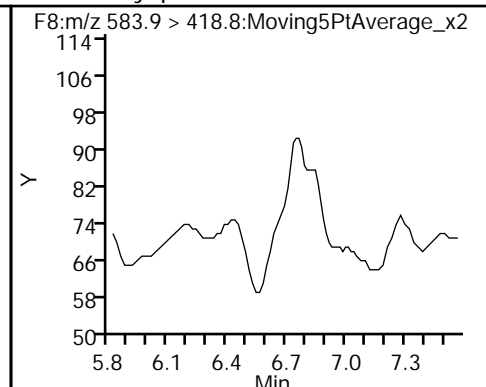
28 N-methyl perfluorooctane sulfonamide (ND)



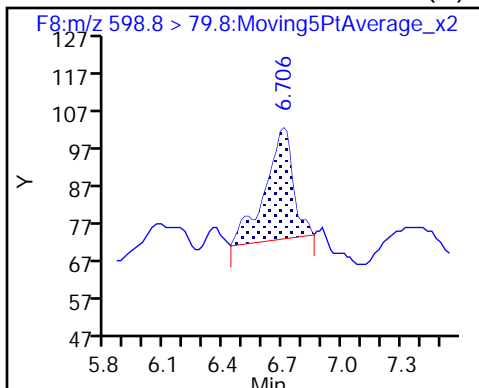
(ND) d5-NEtFOSAA



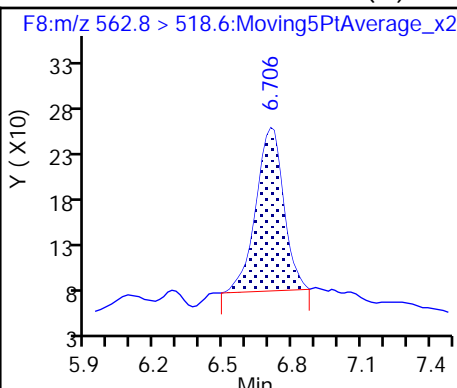
30 N-ethyl perfluorooctane sulfonamid (ND)



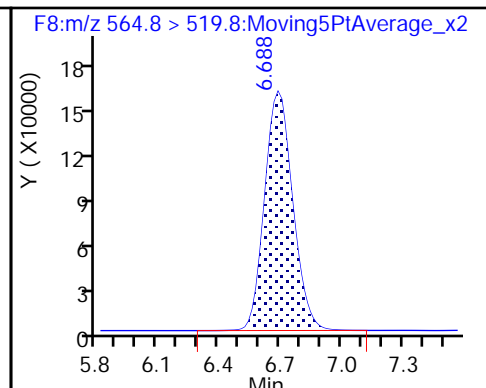
31 Perfluorodecane Sulfonic acid (M)



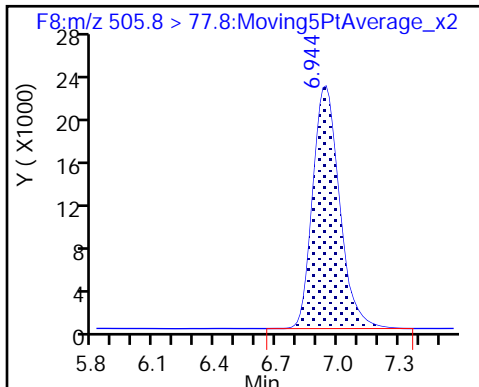
32 Perfluoroundecanoic acid (M)



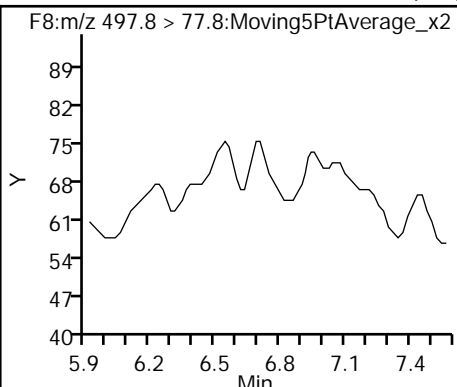
D 33 13C2 PFUnA



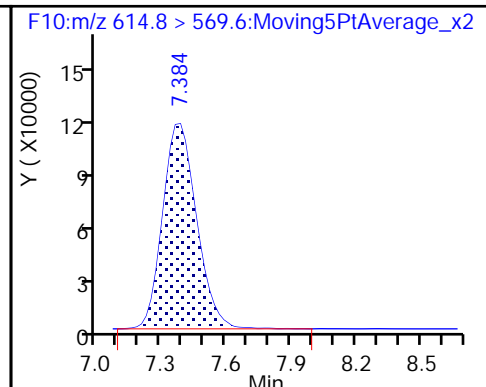
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide (ND)



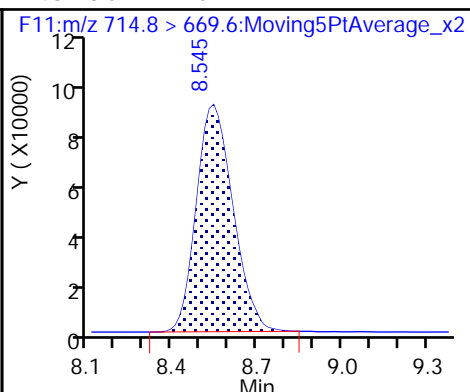
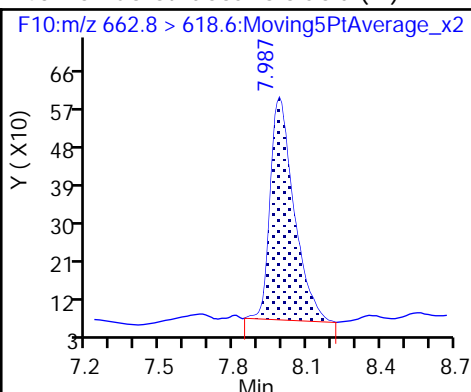
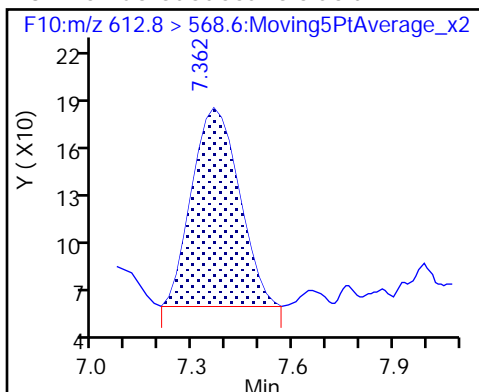
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid (M)

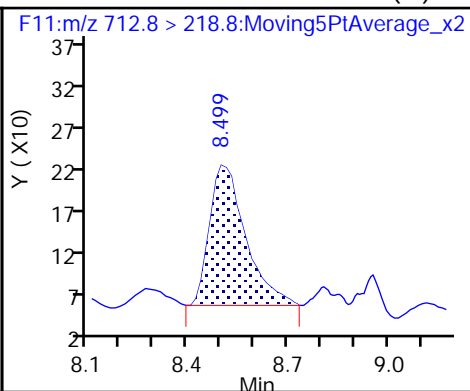
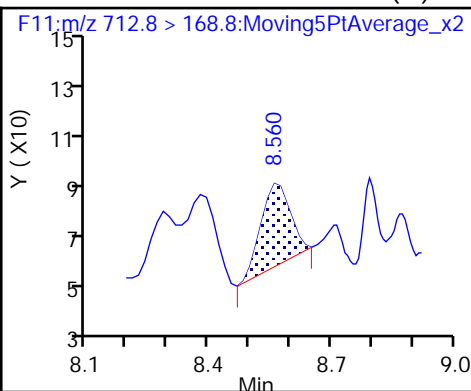
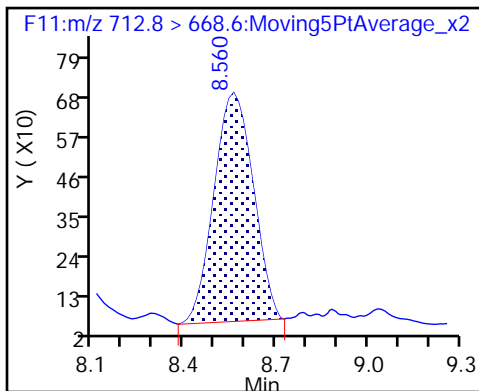
D 43 13C2-PFTeDA



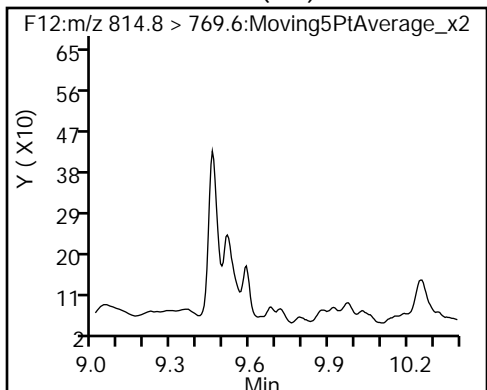
44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid (M)

44 Perfluorotetradecanoic acid (M)



D 45 13C2-PFHxDA (ND)



TestAmerica Burlington

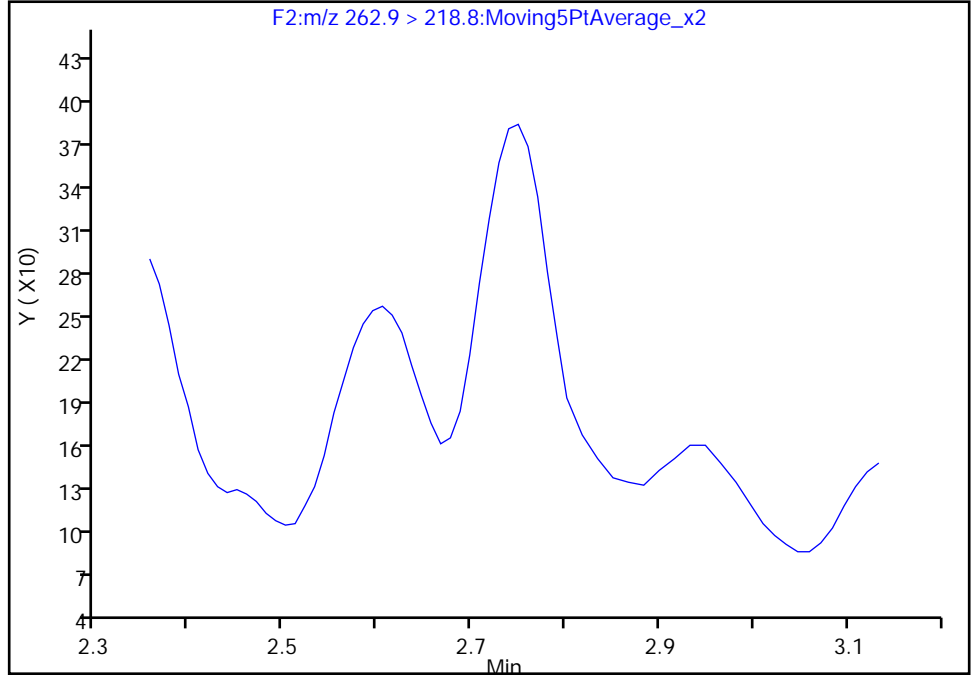
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

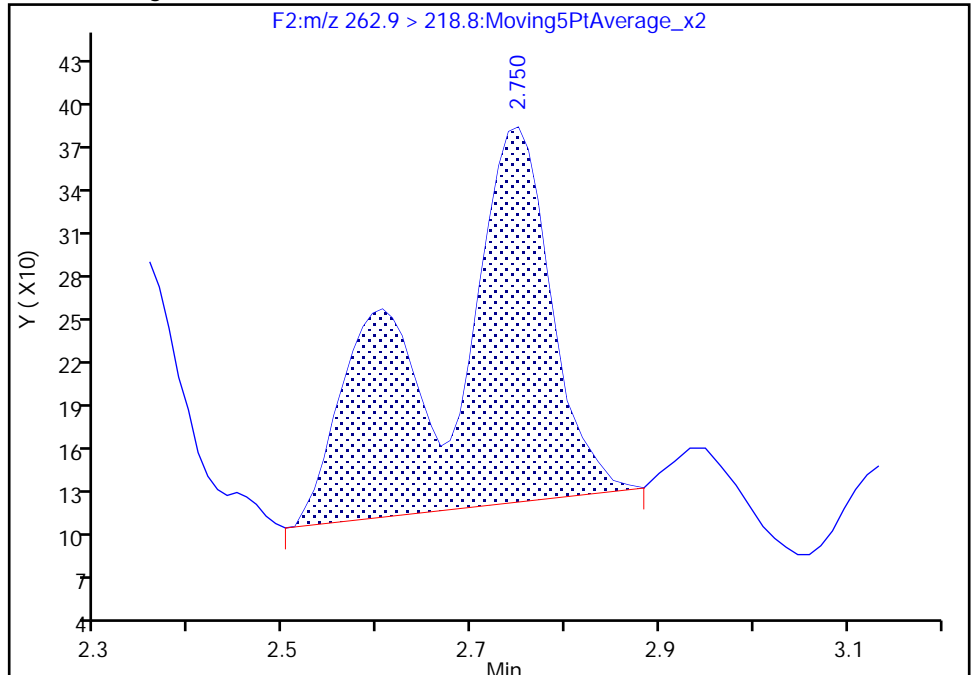
Not Detected  
Expected RT: 2.74

Processing Integration Results



RT: 2.75  
Area: 2159  
Amount: -0.301730  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 12:58:25  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

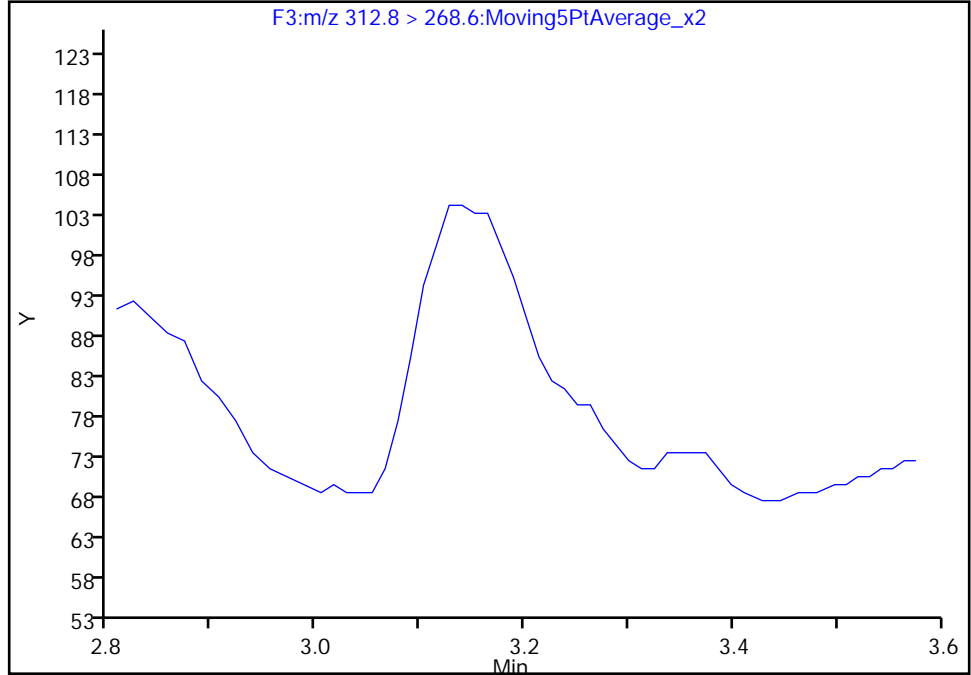
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

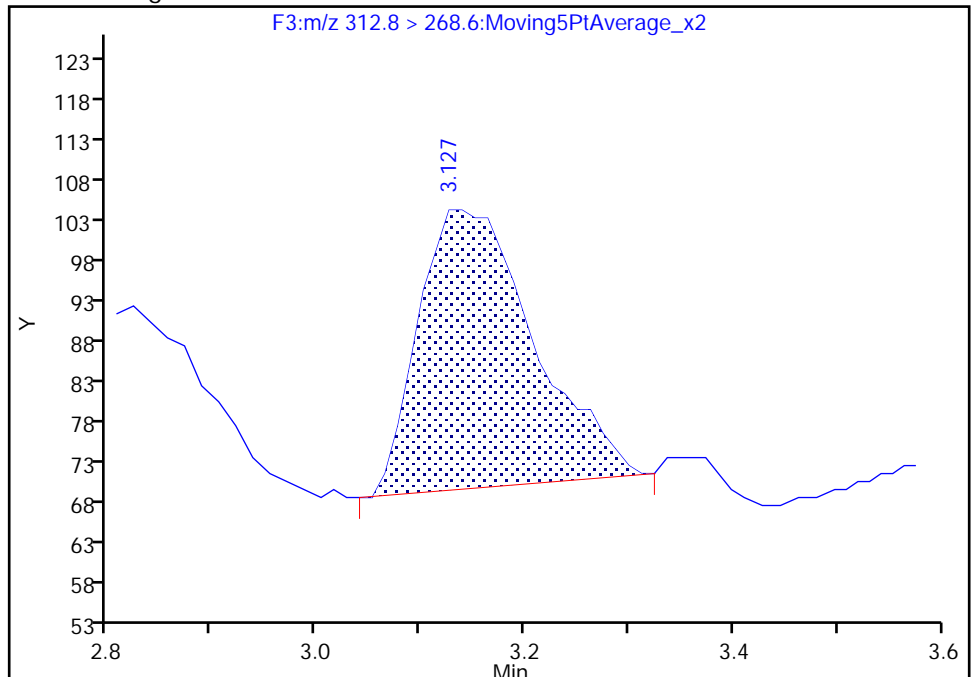
Not Detected  
Expected RT: 3.16

Processing Integration Results



Manual Integration Results

RT: 3.13  
Area: 267  
Amount: 0.084174  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 12:58:14  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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TestAmerica Burlington

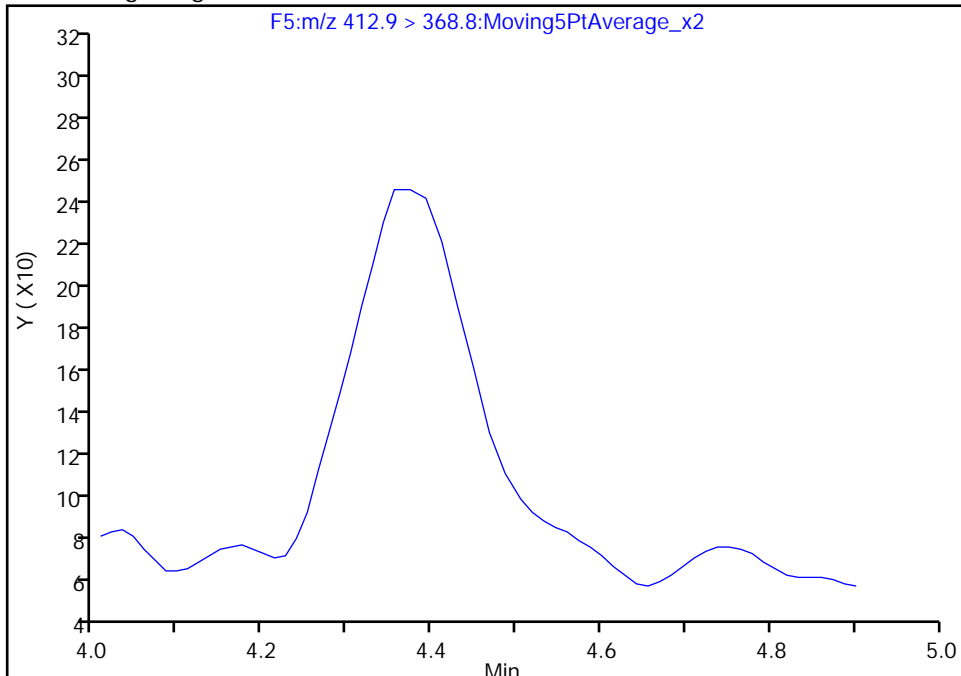
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

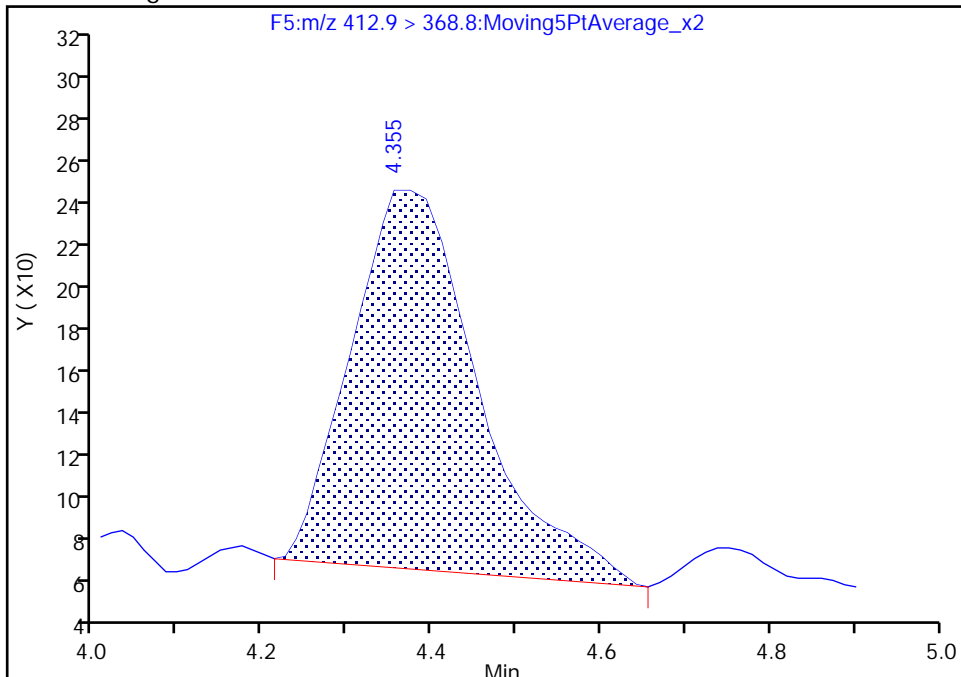
Not Detected  
Expected RT: 4.37

Processing Integration Results



Manual Integration Results

RT: 4.36  
Area: 1824  
Amount: 0.076663  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 12:57:59  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

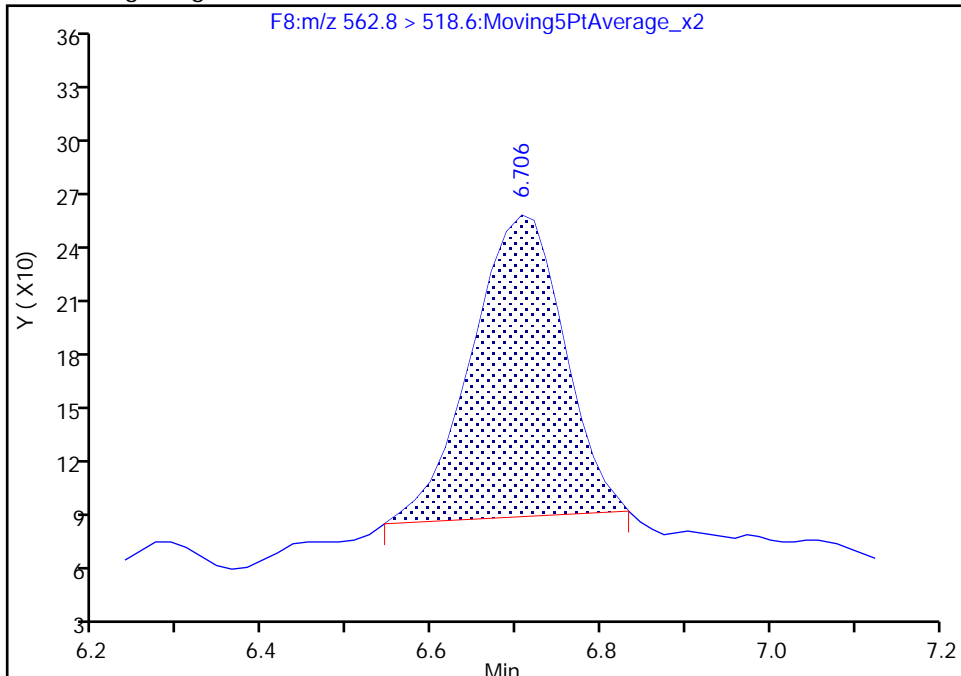
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

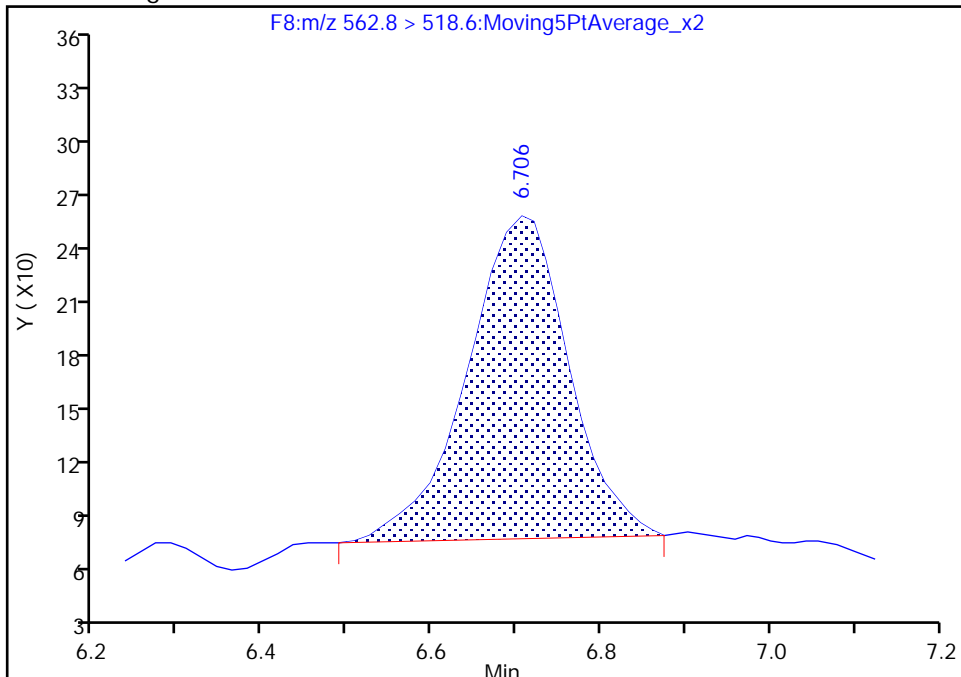
RT: 6.71  
Area: 1256  
Amount: 0.091731  
Amount Units: ng/ml

Processing Integration Results



RT: 6.71  
Area: 1479  
Amount: 0.099572  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 12:57:25  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

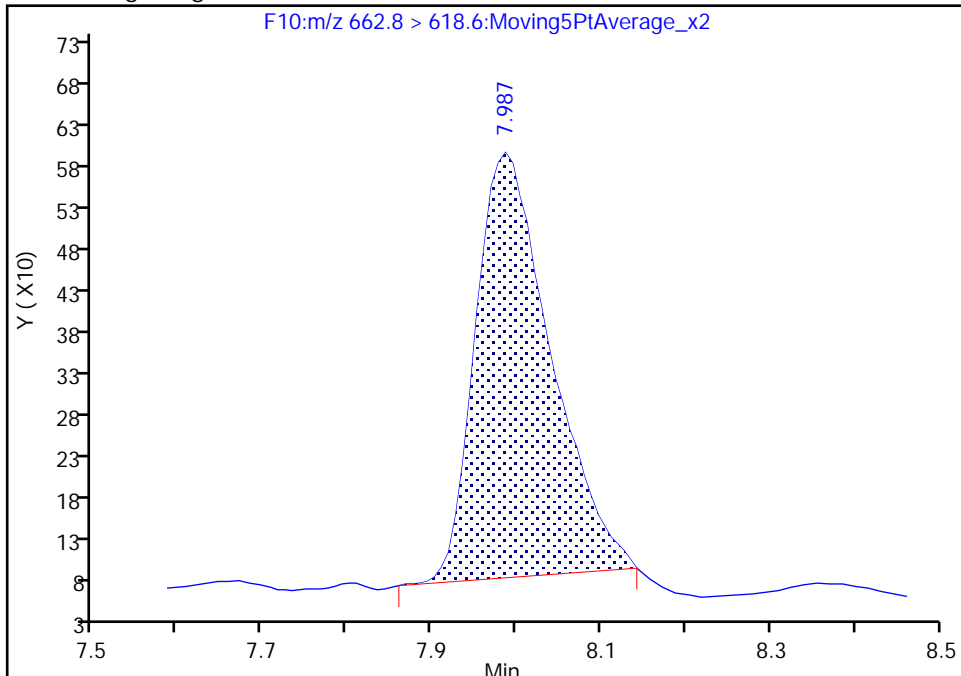
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F10:M/RM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

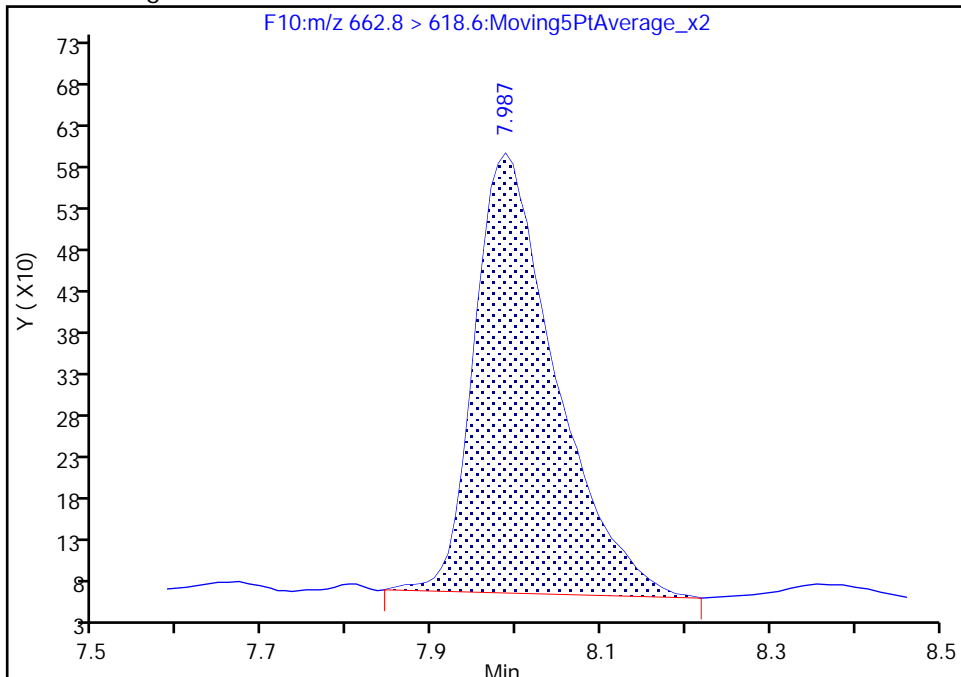
RT: 7.99  
Area: 3160  
Amount: 0.046576  
Amount Units: ng/ml

Processing Integration Results



RT: 7.99  
Area: 3529  
Amount: 0.063073  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 12:57:16  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

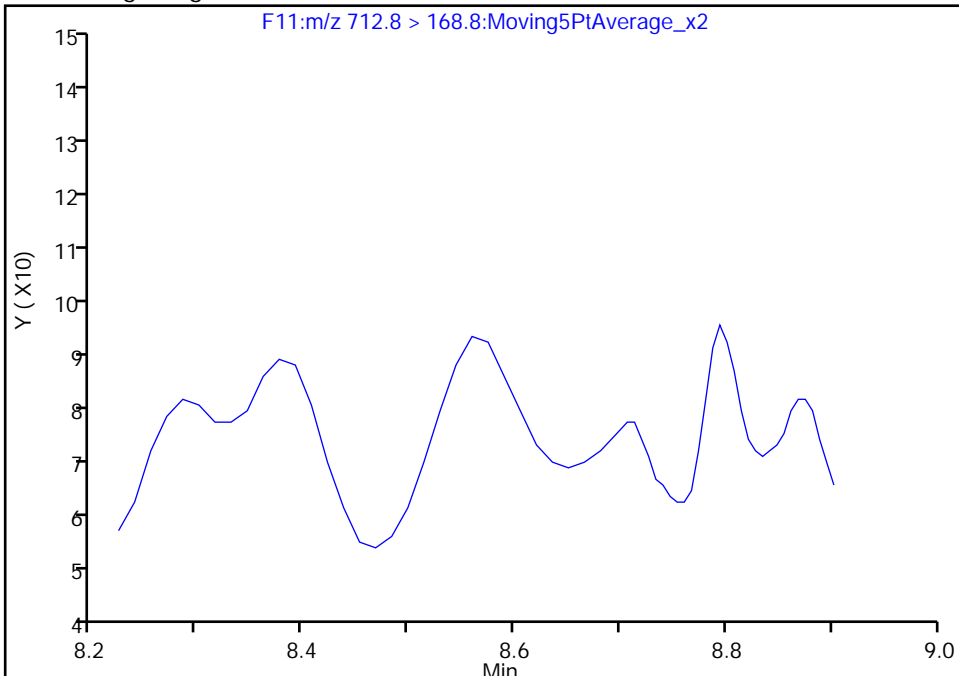
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

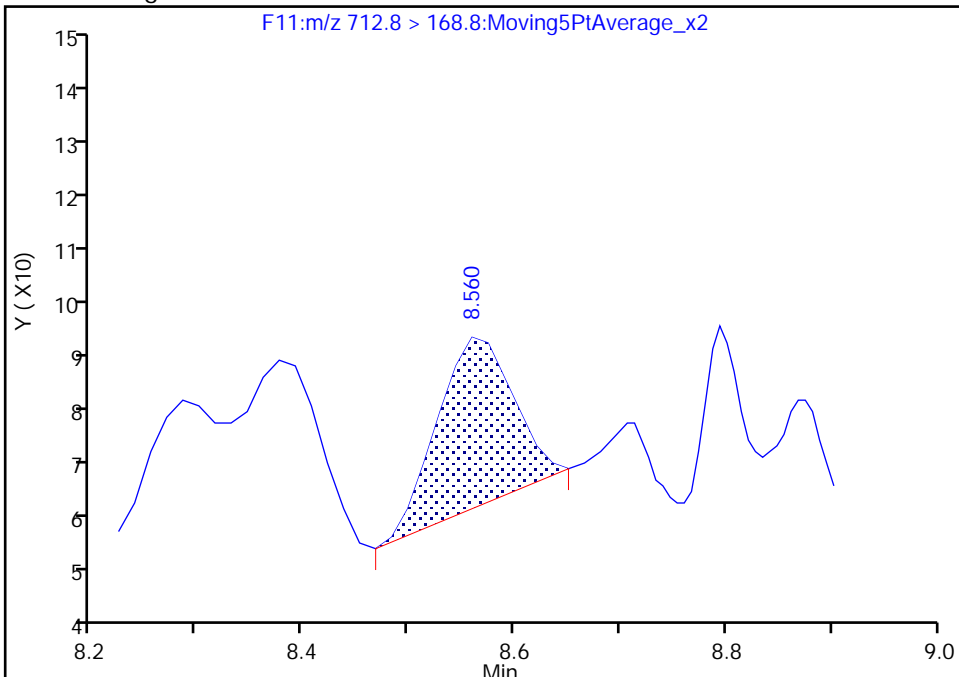
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.56  
Area: 148  
Amount: 0.235477  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 12:57:02  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

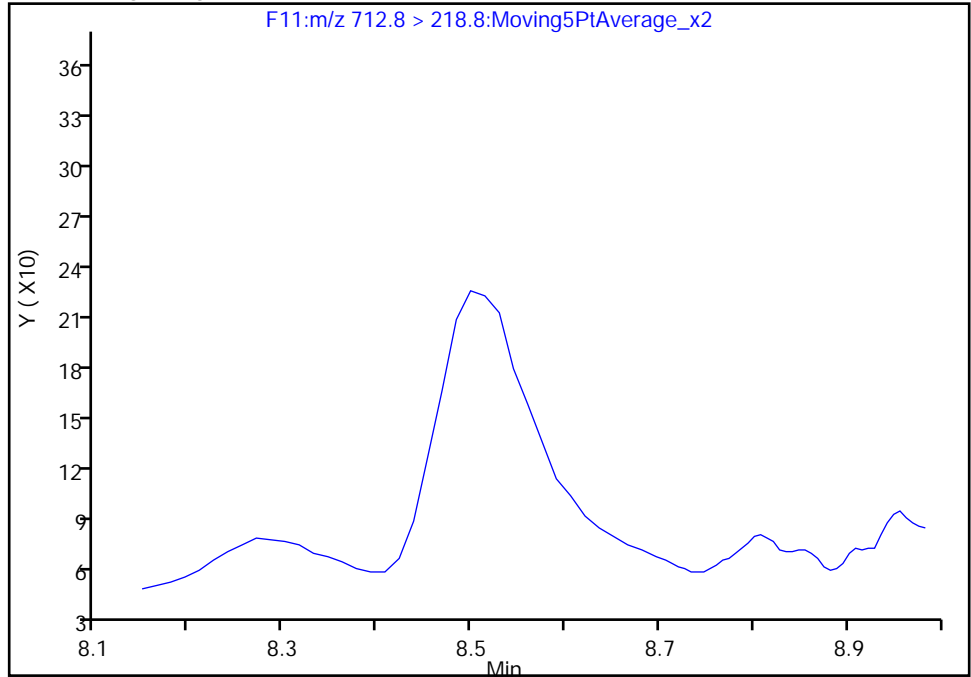
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

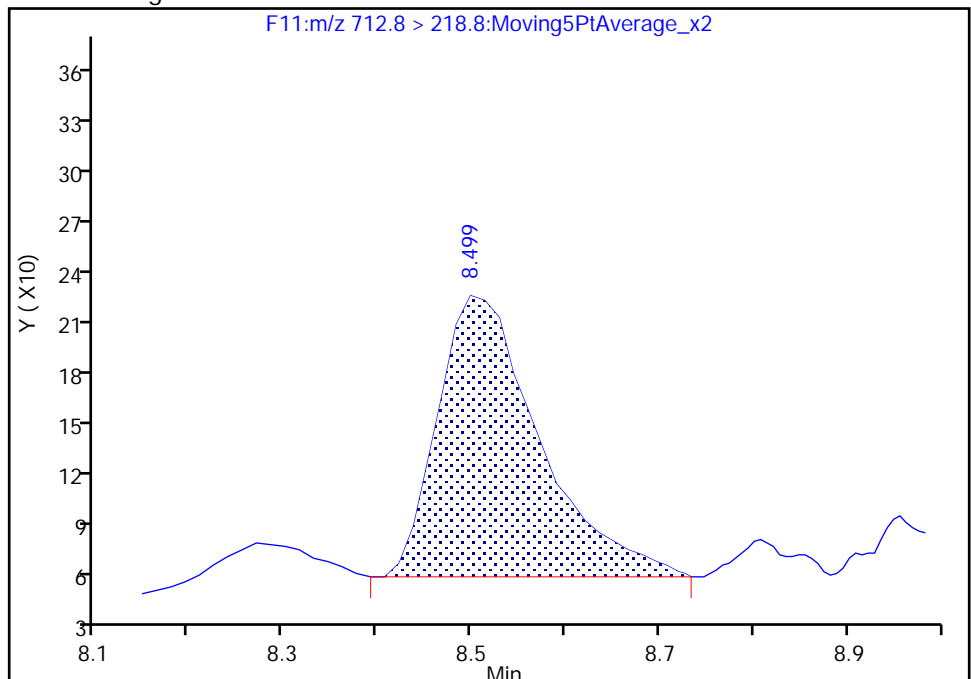
Not Detected  
Expected RT: 8.57

Processing Integration Results



Manual Integration Results

RT: 8.50  
Area: 1245  
Amount: 0.235477  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 12:57:07

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

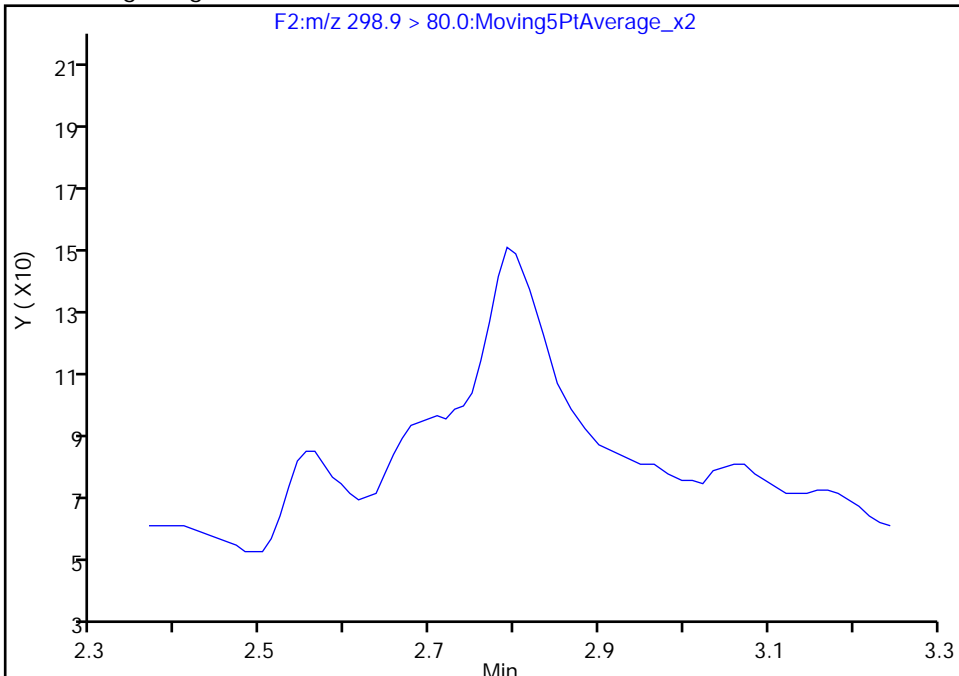
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

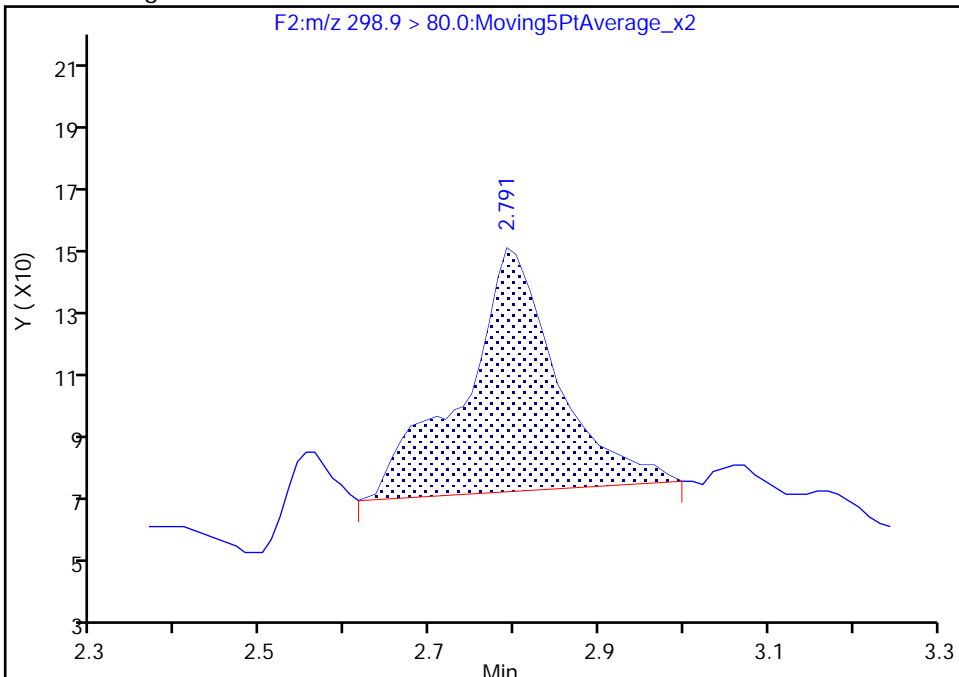
Not Detected  
Expected RT: 2.80

Processing Integration Results



Manual Integration Results

RT: 2.79  
Area: 578  
Amount: 0.241905  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 12:58:18  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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TestAmerica Burlington

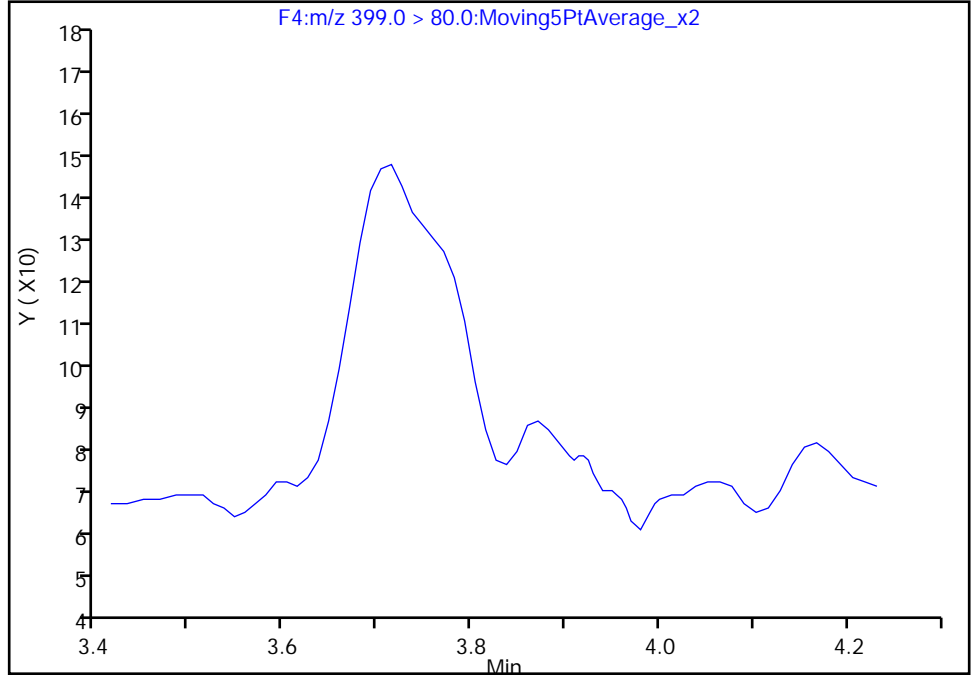
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

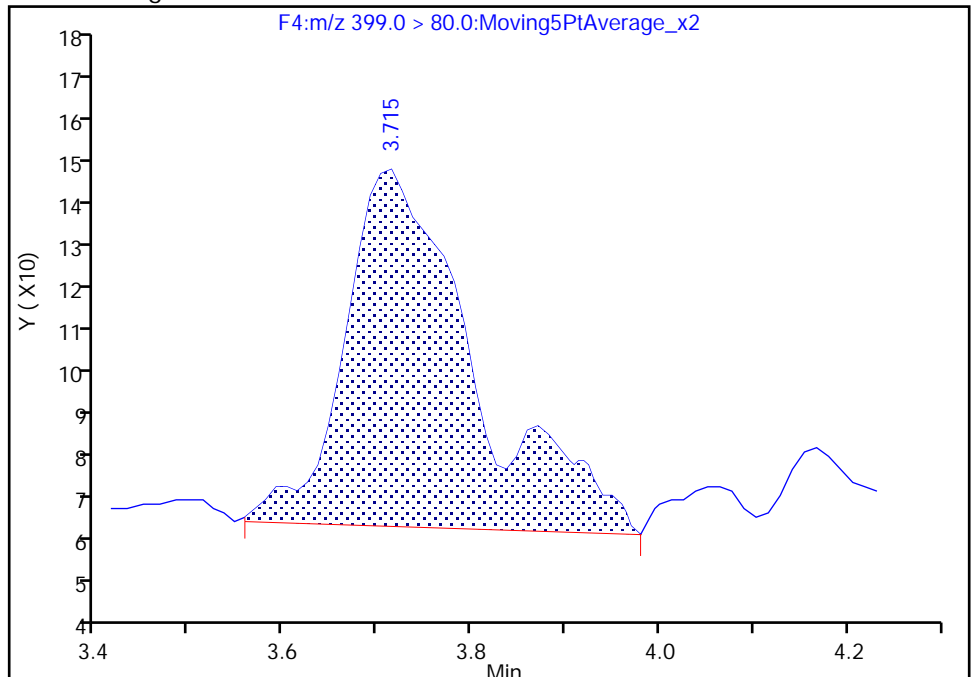
Not Detected  
Expected RT: 3.73

Processing Integration Results



RT: 3.71  
Area: 786  
Amount: 0.060954  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 12:58:10  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

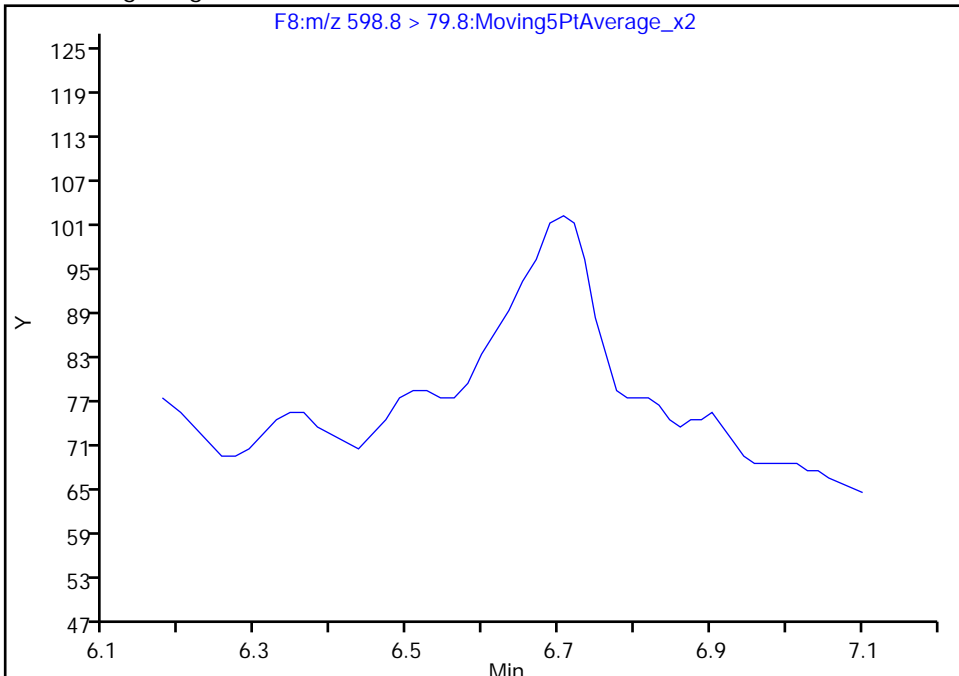
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A15.d  
Injection Date: 21-Apr-2018 14:46:10 Instrument ID: LC410  
Lims ID: MB 200-128603/1-A  
Client ID:  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 15  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

31 Perfluorodecane Sulfonic acid, CAS: 335-77-3

Signal: 1

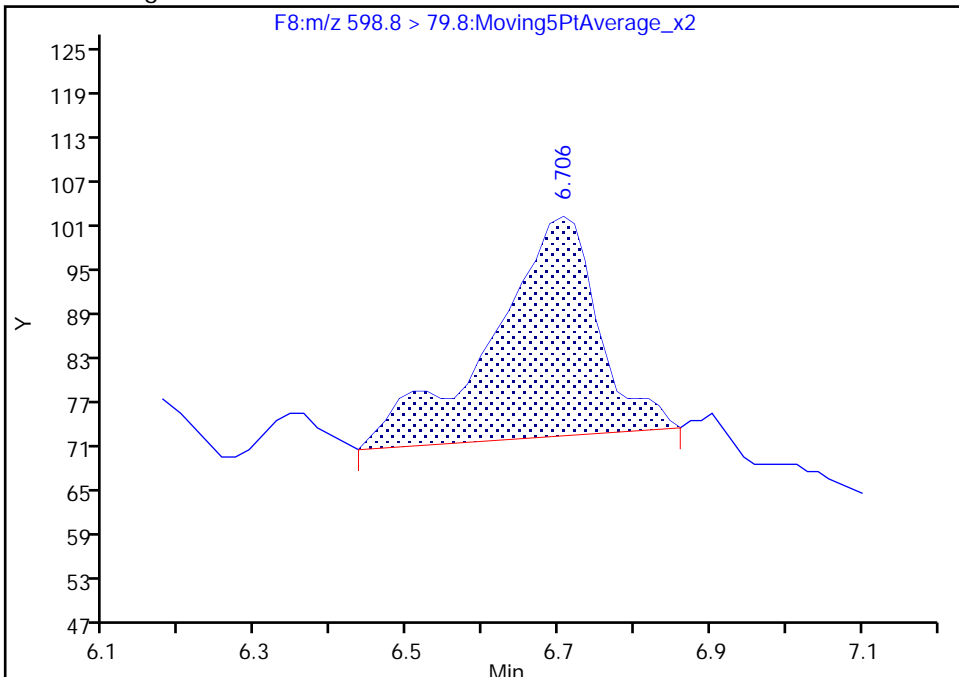
Not Detected  
Expected RT: 6.70

Processing Integration Results



Manual Integration Results

RT: 6.71  
Area: 295  
Amount: 0.111209  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 12:57:36  
Audit Action: Manually Integrated

Audit Reason: Missed Peak  
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FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 200-128603/2-A  
 Matrix: Water Lab File ID: PF042118A16.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/21/2018 15:01  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	38.26		2.00	0.44
2706-90-3	Perfluoropentanoic acid (PFPeA)	39.03		2.00	0.44
307-24-4	Perfluorohexanoic acid (PFHxA)	40.35		2.00	0.44
375-85-9	Perfluoroheptanoic acid (PFHpA)	38.69		2.00	0.29
335-67-1	Perfluorooctanoic acid (PFOA)	37.26		2.00	0.47
375-95-1	Perfluorononanoic acid (PFNA)	37.63		2.00	0.26
335-76-2	Perfluorodecanoic acid (PFDA)	39.83		2.00	0.44
2058-94-8	Perfluoroundecanoic acid (PFUnA)	39.24		2.00	0.44
307-55-1	Perfluorododecanoic acid (PFDoA)	37.53		2.00	0.44
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	30.10		2.00	0.44
376-06-7	Perfluorotetradecanoic acid (PFTeA)	36.34		2.00	0.44
375-73-5	Perfluorobutanesulfonic acid (PFBS)	35.14		2.00	0.88
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	34.97		2.00	0.28
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	39.49		2.00	0.44
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	38.97		2.00	0.30
335-77-3	Perfluorodecanesulfonic acid (PFDS)	32.61		2.00	0.44
754-91-6	Perfluorooctane Sulfonamide (FOSA)	38.02		2.00	0.44
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	39.11		2.00	0.60
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	38.93		2.00	0.60
27619-97-2	6:2FTS	40.35		2.00	0.60
39108-34-4	8:2FTS	46.15		2.00	0.60

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 200-128603/2-A  
 Matrix: Water Lab File ID: PF042118A16.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/21/2018 15:01  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	83		25-150
STL01893	13C5 PFPeA	99		25-150
STL00993	13C2 PFHxA	93		25-150
STL01892	13C4-PFHpA	90		25-150
STL00990	13C4 PFOA	94		25-150
STL00995	13C5 PFNA	91		25-150
STL00996	13C2 PFDA	85		25-150
STL00997	13C2 PFUnA	88		25-150
STL00998	13C2 PFDoA	68		25-150
STL02116	13C2-PFTeDA	55		25-150
STL02337	13C3-PFBS	83		25-150
STL00994	18O2 PFHxS	83		25-150
STL00991	13C4 PFOS	74		25-150
STL01056	13C8 FOSA	47		25-150
STL02118	d3-NMeFOSAA	70		25-150
STL02117	d5-NEtFOSAA	68		25-150
STL02279	M2-6:2FTS	117		25-150
STL02280	M2-8:2FTS	92		25-150



TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A16.d  
 Lims ID: LCS 200-128603/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 21-Apr-2018 15:01:19 ALS Bottle#: 0 Worklist Smp#: 16  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-016 LCS 603  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 13:01:00

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.314	2.319	-0.005	1.000	463966	41.4	82.9	132	
1 Perfluorobutyric acid	212.9 > 168.9	2.314	2.320	-0.006	1.000	162011	19.1	95.6	176	
D 3 13C5-PFPeA	267.7 > 222.6	2.729	2.736	-0.007	1.000	133991	49.4	98.8	1542	
4 Perfluoropentanoic acid	262.9 > 218.8	2.729	2.738	-0.009	1.000	292864	19.5	97.6	1968	
D 5 13C3-PFBS	302.0 > 79.8	2.791	2.800	-0.009	1.000	219588	38.8	83.4	1533	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.791	2.804	-0.013	1.000	171652	17.6	99.4	1031	
D 7 13C2 PFHxA	314.8 > 269.6	3.152	3.158	-0.006	1.000	429164	46.6	93.1	1044	
8 Perfluorohexanoic acid	312.8 > 268.6	3.152	3.162	-0.010	1.000	169166	20.2	101	1352	
D 10 13C4-PFHpA	366.9 > 321.8	3.670	3.689	-0.019	1.000	1008936	44.8	89.5	879	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.670	3.689	-0.019	1.000	406828	19.3	96.7	598	
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.715	3.733	-0.018	1.000	165391	17.5	96.1	530	
D 13 18O2 PFHxS	402.9 > 83.8	3.715	3.737	-0.022	1.000	249548	39.4	83.3	2030	
D 14 M2-6:2FTS	428.6 > 408.6	4.291	4.319	-0.028	1.000	67225	55.6	117	451	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.304	4.319	-0.015	1.003	29355	20.2	106	234	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.342	4.365	-0.023	1.000	970459	46.8		93.6	2675	
* 49 13C2-PFOA										
414.9 > 369.8	4.355	4.371	-0.016		1223481	50.0			6460	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.342	4.374	-0.032	1.000	390344	18.6		93.2	1676	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.374	4.408	-0.034	0.849	73390	19.7		104	535	
19 Perfluorononanoic acid										
462.8 > 418.8	5.127	5.143	-0.016	1.003	428295	18.8		94.1	1181	
D 21 13C5 PFNA										
467.8 > 422.8	5.113	5.145	-0.032	1.000	1153419	45.7		91.4	1058	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.140	5.168	-0.028	0.997	84405	19.5		105	358	
D 22 13C4 PFOS										
502.8 > 79.8	5.154	5.168	-0.014	1.000	184147	35.3		73.9	770	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.882	5.910	-0.028	1.000	120887	23.1		120	432	
D 23 M2-8:2FTS										
528.8 > 508.8	5.882	5.910	-0.028	1.000	333316	44.0		91.8	1036	
D 25 13C2 PFDA										
514.9 > 469.5	5.902	5.934	-0.032	1.000	1425946	42.5		84.9	14434	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.902	5.938	-0.036	1.000	533429	19.9		99.6	1477	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.277	6.298	-0.021	1.000	265010	35.1		70.1	1487	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.295	6.310	-0.015	1.003	114139	19.6		97.8	268	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.634	6.667	-0.033	1.000	223149	33.9		67.8	1084	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.652	6.688	-0.036	1.003	89604	19.5		97.3	1060	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.652	6.699	-0.047	1.291	69996	16.3		84.6	696	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.670	6.711	-0.041	0.997	604182	19.6		98.1	1674	
D 33 13C2 PFUnA										
564.8 > 519.8	6.688	6.713	-0.025	1.000	1620581	44.1		88.1	11014	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	206513	23.3		46.7	1112	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	69675	19.0		95.0	700	
D 36 13C2 PFDaA										
614.8 > 569.6	7.361	7.392	-0.031	1.000	1270914	33.9		67.9	2313	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.361	7.399	-0.038	1.000	429943	18.8		93.8	1909	
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.987	8.022	-0.035	1.085	253491	15.0		75.2	2169	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.529	8.572	-0.043	1.000	964250	27.3		54.5	928	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.529	8.572	-0.043	1.000	304504	18.2		90.9	1080	
712.8 > 168.8	8.529	8.572	-0.043	1.000	66669		4.57(0.00-0.00)		506	
712.8 > 218.8	8.529	8.572	-0.043	1.000	35664		8.54(0.00-0.00)		204	

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A16.d

Injection Date: 21-Apr-2018 15:01:19

Instrument ID: LC410

Lims ID: LCS 200-128603/2-A

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 16

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

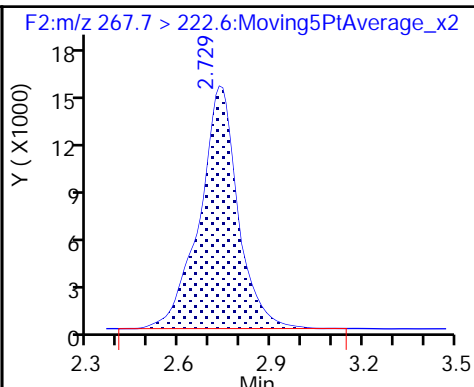
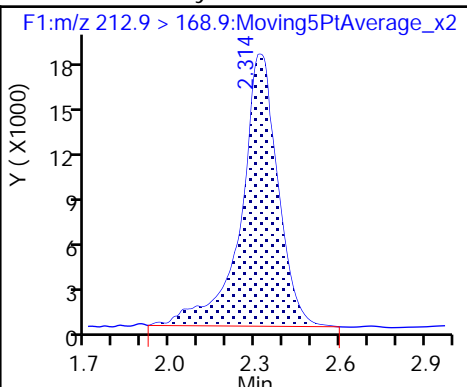
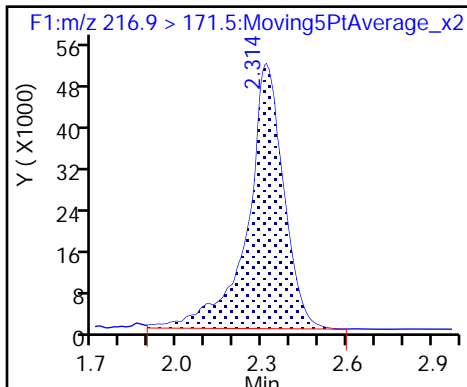
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

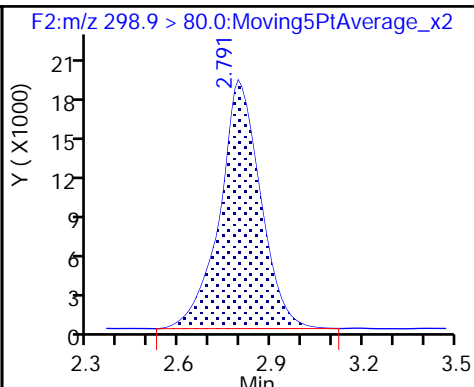
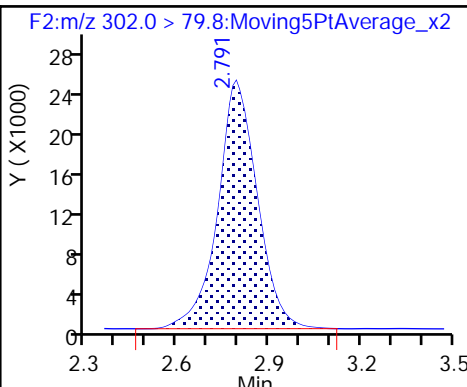
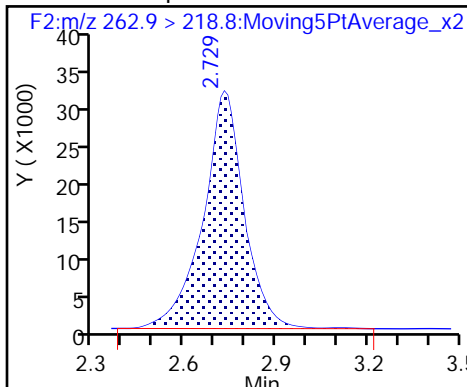
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

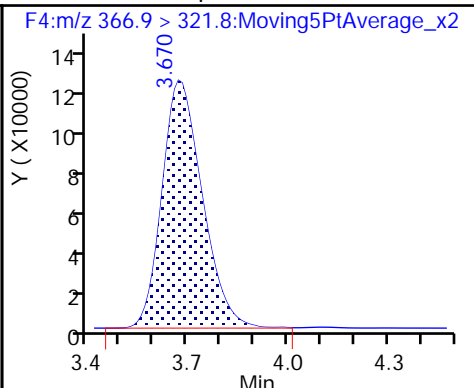
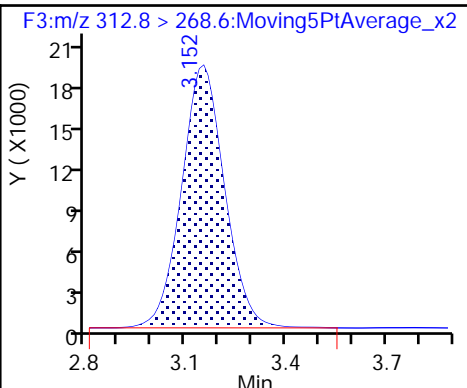
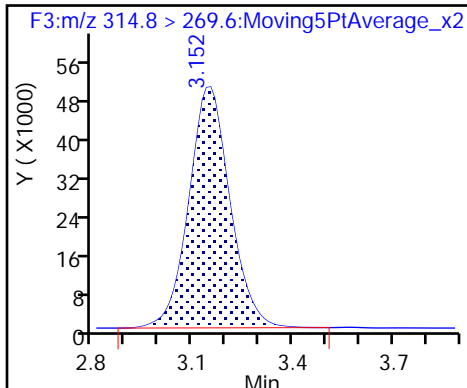
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

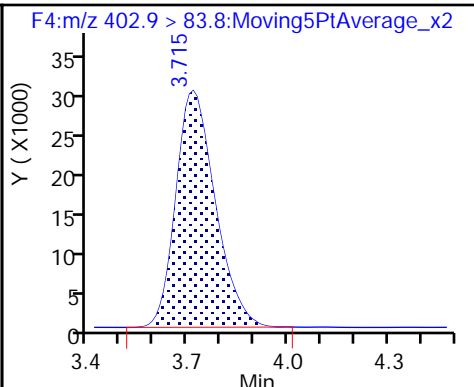
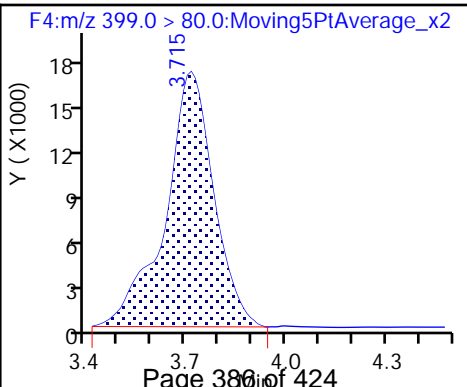
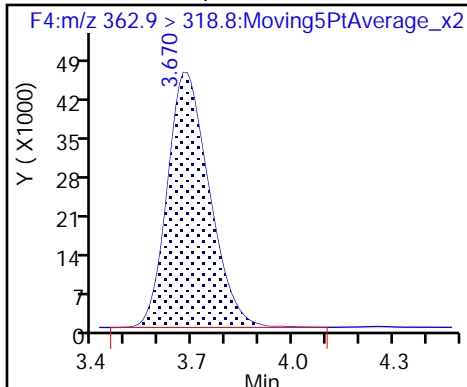
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

12 Perfluorohexanesulfonic acid

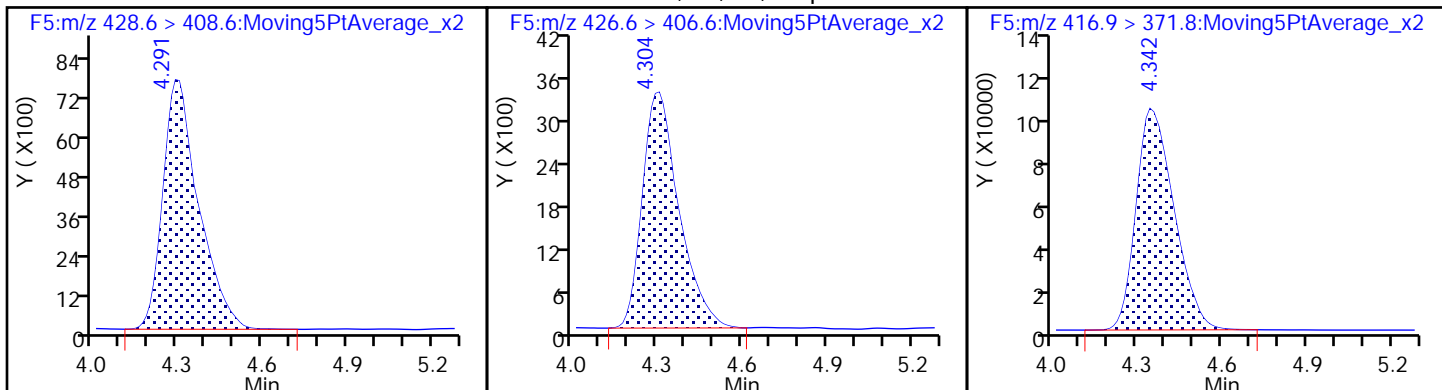
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

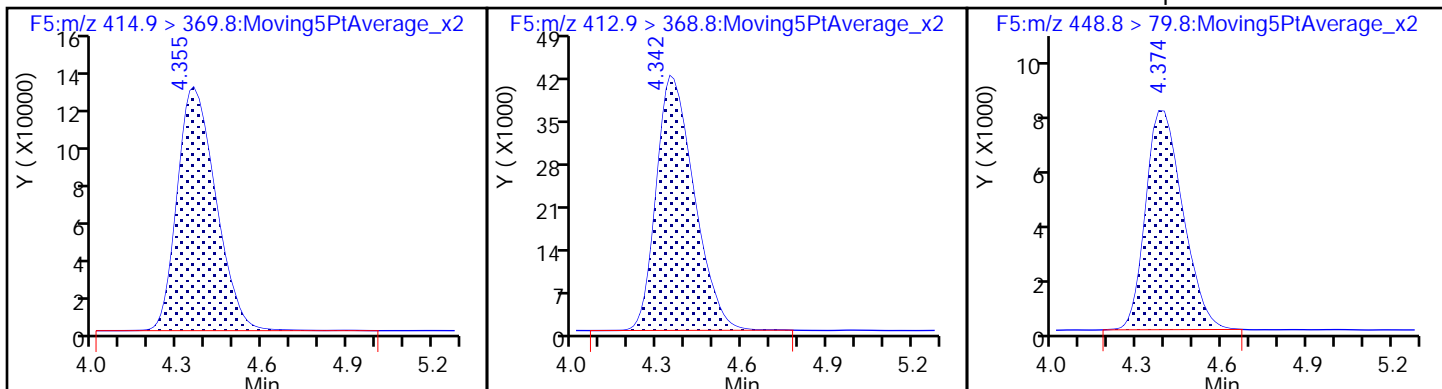
De 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

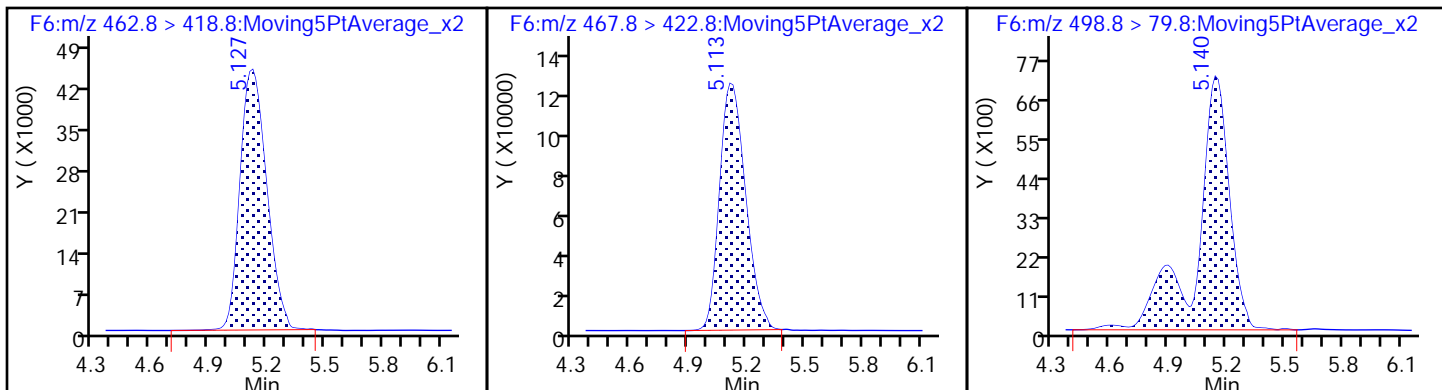
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

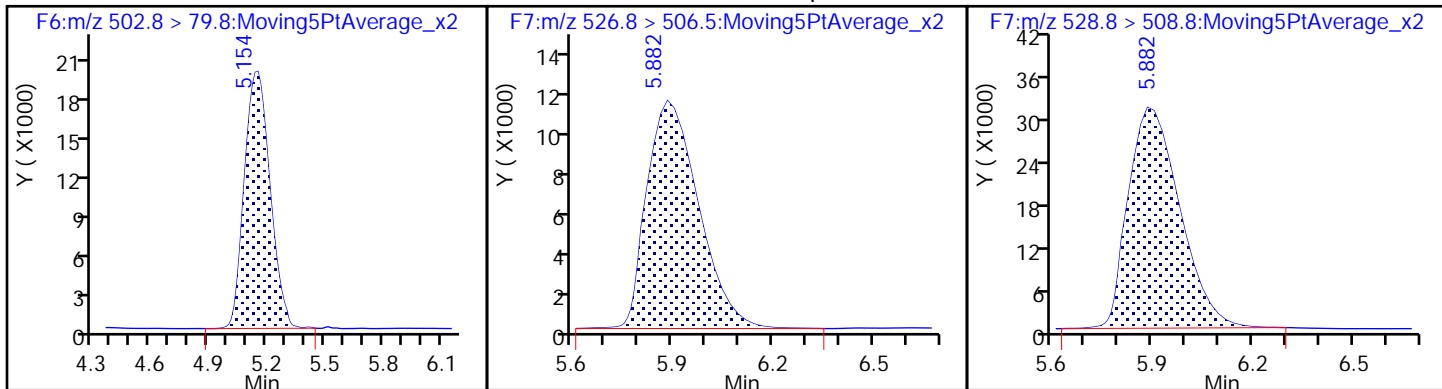
20 Perfluorooctane sulfonic acid



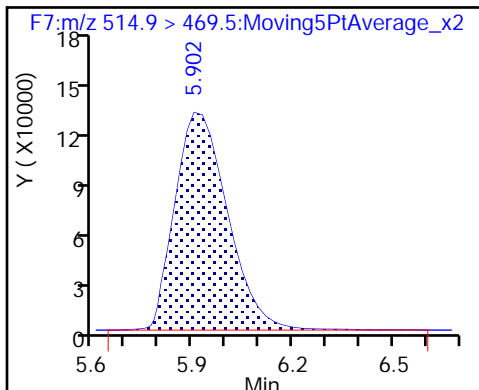
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate

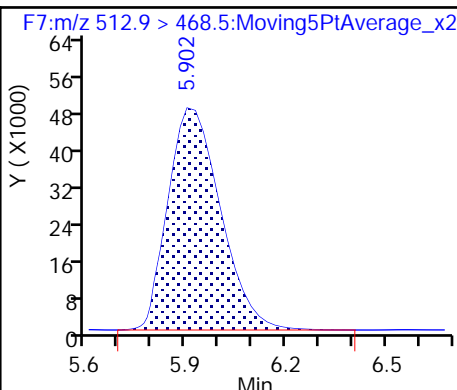
De 23 M2-8:2FTS



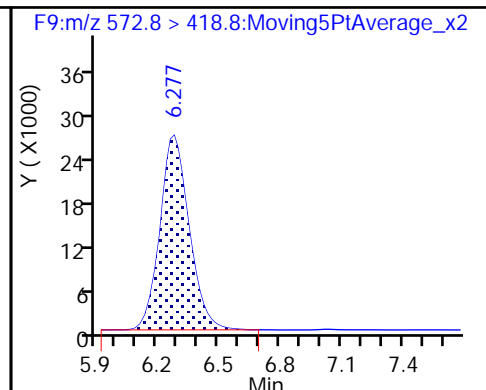
D 25 13C2 PFDA



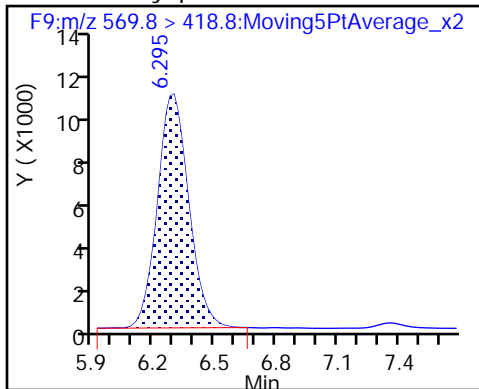
26 Perfluorodecanoic acid



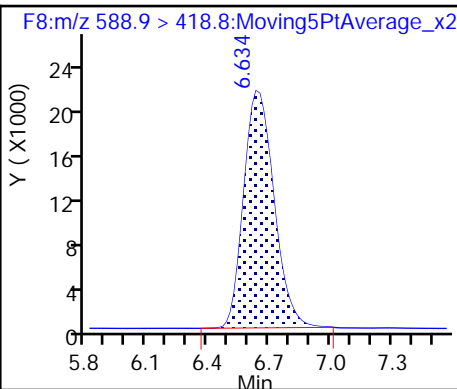
D 27 d3-NMeFOSAA



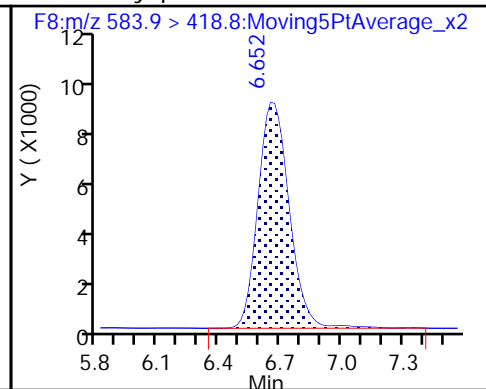
28 N-methyl perfluorooctane sulfonamid



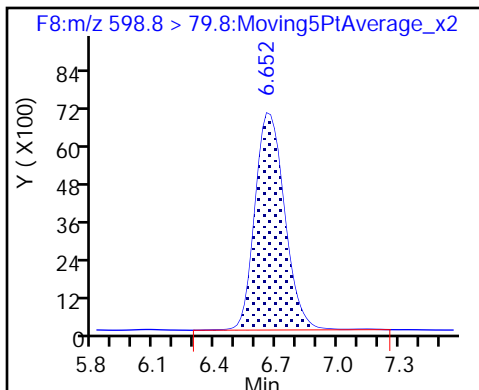
29 d5-NEtFOSAA



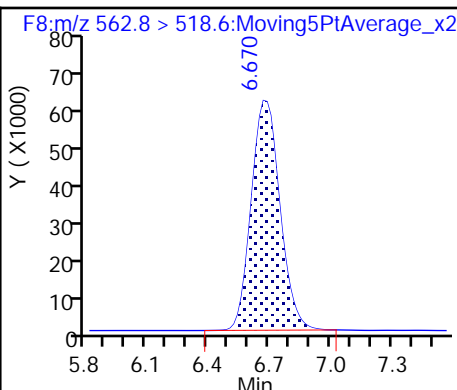
30 N-ethyl perfluorooctane sulfonamid



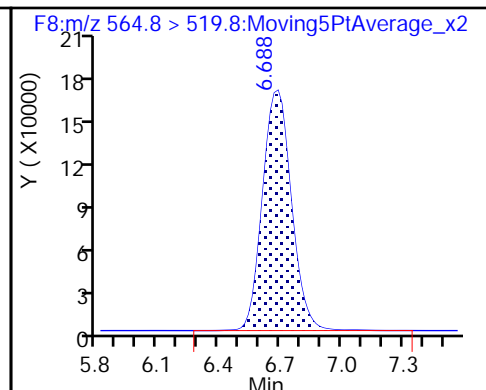
31 Perfluorodecane Sulfonic acid



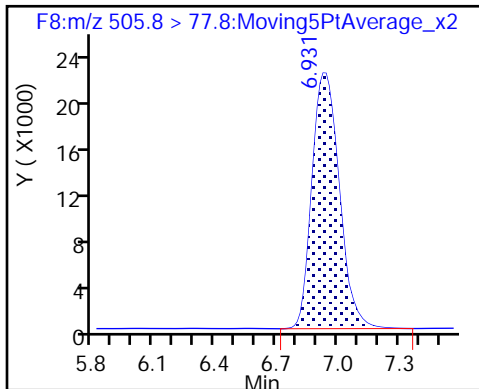
32 Perfluoroundecanoic acid



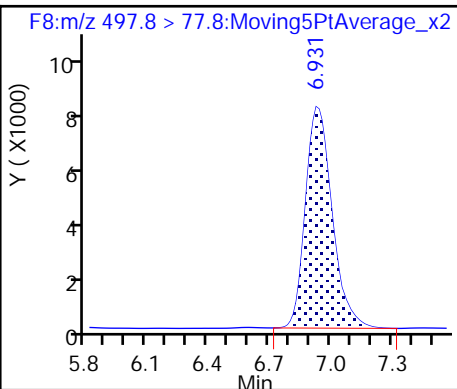
D 33 13C2 PFUnA



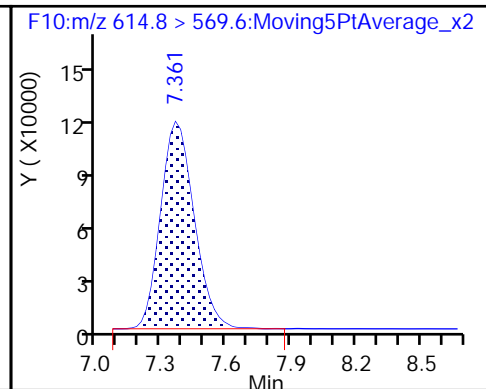
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



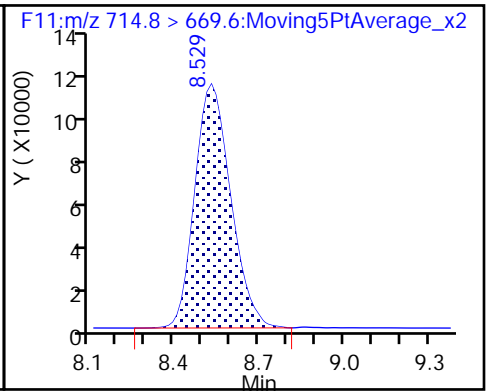
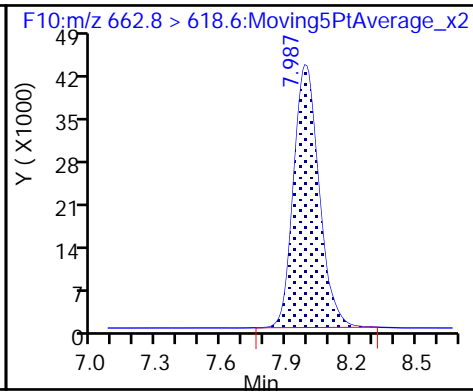
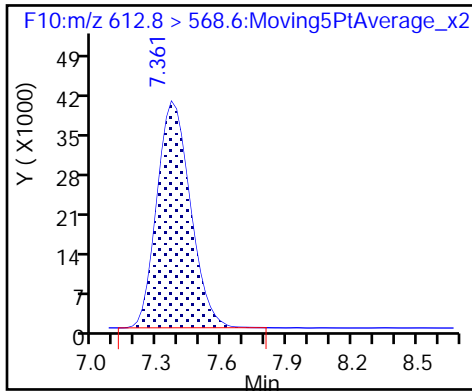
D 36 13C2 PFDaA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

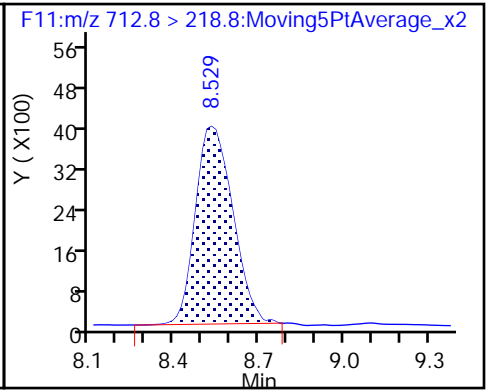
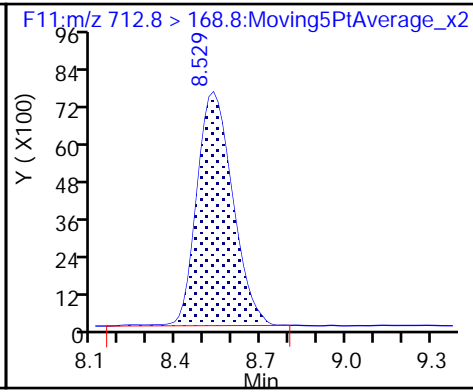
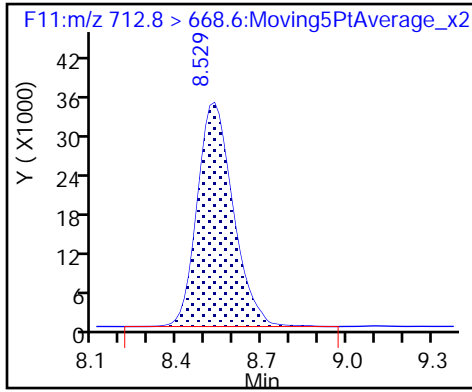
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 MS Lab Sample ID: 200-43041-2 MS  
 Matrix: Water Lab File ID: PF042118A25.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:40  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 294.6(mL) Date Analyzed: 04/21/2018 17:17  
 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1  
 Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	43.54		1.70	0.38
2706-90-3	Perfluoropentanoic acid (PFPeA)	42.04		1.70	0.38
307-24-4	Perfluorohexanoic acid (PFHxA)	44.28		1.70	0.38
375-85-9	Perfluoroheptanoic acid (PFHpA)	41.25		1.70	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	54.57		1.70	0.40
375-95-1	Perfluorononanoic acid (PFNA)	35.49		1.70	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	36.04		1.70	0.38
2058-94-8	Perfluoroundecanoic acid (PFUnA)	32.42		1.70	0.38
307-55-1	Perfluorododecanoic acid (PFDoA)	36.08		1.70	0.38
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	36.81		1.70	0.38
376-06-7	Perfluorotetradecanoic acid (PFTeA)	37.31		1.70	0.38
375-73-5	Perfluorobutanesulfonic acid (PFBS)	34.60		1.70	0.75
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	32.04		1.70	0.24
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	32.61		1.70	0.38
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	33.35		1.70	0.25
335-77-3	Perfluorodecanesulfonic acid (PFDS)	26.31		1.70	0.38
754-91-6	Perfluorooctane Sulfonamide (FOSA)	36.11		1.70	0.38
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	34.19		1.70	0.51
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	33.66		1.70	0.51
27619-97-2	6:2FTS	35.58		1.70	0.51
39108-34-4	8:2FTS	39.21		1.70	0.51



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 MS Lab Sample ID: 200-43041-2 MS  
 Matrix: Water Lab File ID: PF042118A25.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:40  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 294.6(mL) Date Analyzed: 04/21/2018 17:17  
 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1  
 Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	28		25-150
STL01893	13C5 PFPeA	45		25-150
STL00993	13C2 PFHxA	56		25-150
STL01892	13C4-PFHpA	74		25-150
STL00990	13C4 PFOA	89		25-150
STL00995	13C5 PFNA	95		25-150
STL00996	13C2 PFDA	94		25-150
STL00997	13C2 PFUnA	90		25-150
STL00998	13C2 PFDoA	81		25-150
STL02116	13C2-PFTeDA	81		25-150
STL02337	13C3-PFBS	71		25-150
STL00994	18O2 PFHxS	96		25-150
STL00991	13C4 PFOS	103		25-150
STL01056	13C8 FOSA	46		25-150
STL02118	d3-NMeFOSAA	72		25-150
STL02117	d5-NEtFOSAA	80		25-150
STL02279	M2-6:2FTS	202	*	25-150
STL02280	M2-8:2FTS	139		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A25.d  
 Lims ID: 200-43041-B-2-B MS  
 Client ID: MW-2  
 Sample Type: MS  
 Inject. Date: 21-Apr-2018 17:17:32 ALS Bottle#: 0 Worklist Smp#: 25  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-025 2MS  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:26:03

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA										
216.9 > 171.5	2.290	2.319	-0.029	1.000	129153	13.9		27.8	300	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.290	2.320	-0.030	1.000	60355	25.7		128	98.7	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.708	2.736	-0.028	1.000	50144	22.3		44.6	79.7	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.708	2.738	-0.030	1.000	138464	24.8		124	79.1	
D 5 13C3-PFBS										
302.0 > 79.8	2.760	2.800	-0.040	1.000	155981	33.2		71.4	237	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.760	2.804	-0.044	1.000	141680	20.4		115	45.2	
D 7 13C2 PFHxA										
314.8 > 269.6	3.103	3.158	-0.055	1.000	214330	28.0		56.0	608	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.103	3.162	-0.059	1.000	109313	26.1		130	149	
D 10 13C4-PFHpA										
366.9 > 321.8	3.637	3.689	-0.052	1.000	690569	36.9		73.8	1046	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.637	3.689	-0.052	1.000	349976	24.3		122	412	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.681	3.733	-0.052	1.003	170619	18.9		104	183	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.670	3.737	-0.067	1.000	238447	45.3		95.9	729	
D 14 M2-6:2FTS										
428.6 > 408.6	4.265	4.319	-0.054	1.000	96239	95.9		202	782	
15 Sodium 1H,1H,2H,2H-perfluorooctane										
426.6 > 406.6	4.265	4.319	-0.054	1.000	43667	21.0		111	615	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.316	4.365	-0.049	1.000	763686	44.4		88.7	1678	
* 49 13C2-PFOA										
414.9 > 369.8	4.316	4.371	-0.055		1015430	50.0			2565	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.316	4.374	-0.058	1.000	529864	32.1		161	671	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.342	4.408	-0.066	0.852	82585	19.2		101	457	
19 Perfluorononanoic acid										
462.8 > 418.8	5.085	5.143	-0.058	0.997	412814	20.9		105	767	
D 21 13C5 PFNA										
467.8 > 422.8	5.099	5.145	-0.046	1.000	999522	47.7		95.4	1161	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.113	5.168	-0.055	1.003	98463	19.7		106	409	M
D 22 13C4 PFOS										
502.8 > 79.8	5.099	5.168	-0.069	1.000	212987	49.2		103	874	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.793	5.910	-0.117	1.000	152440	23.1		121	1450	
D 23 M2-8:2FTS										
528.8 > 508.8	5.793	5.910	-0.117	1.000	419767	66.7		139	3718	
D 25 13C2 PFDA										
514.9 > 469.5	5.803	5.934	-0.131	1.000	1314342	47.2		94.3	2813	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.803	5.938	-0.135	1.000	524067	21.2		106	6348	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.180	6.298	-0.118	1.000	225832	36.0		72.0	819	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.180	6.310	-0.130	1.000	100199	20.1		101	270	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.526	6.667	-0.141	1.000	219447	40.2		80.4	986	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.544	6.688	-0.144	1.003	89779	19.8		99.2	913	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.544	6.699	-0.155	1.283	76964	15.5		80.4	908	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.562	6.711	-0.149	1.000	497987	19.1		95.5	1396	
D 33 13C2 PFUnA										
564.8 > 519.8	6.562	6.713	-0.151	1.000	1371836	45.0		89.9	3237	
D 35 13C8 FOSA										M
505.8 > 77.8	6.931	6.938	-0.007	1.000	170216	23.2		46.3	769	M
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	64310	21.3		106	648	
D 36 13C2 PFDoA										
614.8 > 569.6	7.294	7.392	-0.098	1.000	1258609	40.5		81.0	3234	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.294	7.399	-0.105	1.000	482205	21.3		106	1784	
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.970	8.022	-0.052	1.093	503517	21.7		108	1424	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.514	8.572	-0.058	1.000	1193867	40.7		81.3	684	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.514	8.572	-0.058	1.000	455434	22.0		110	1002	
712.8 > 168.8	8.514	8.572	-0.058	1.000	94087		4.84(0.00-0.00)		484	
712.8 > 218.8	8.514	8.572	-0.058	1.000	54716		8.32(0.00-0.00)		373	

**QC Flag Legend**

Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A25.d

Injection Date: 21-Apr-2018 17:17:32

Instrument ID: LC410

Lims ID: 200-43041-B-2-B MS

Client ID: MW-2

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 25

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

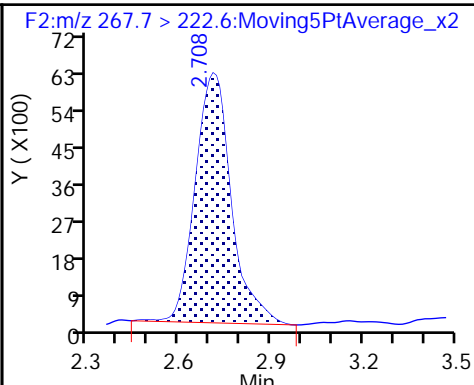
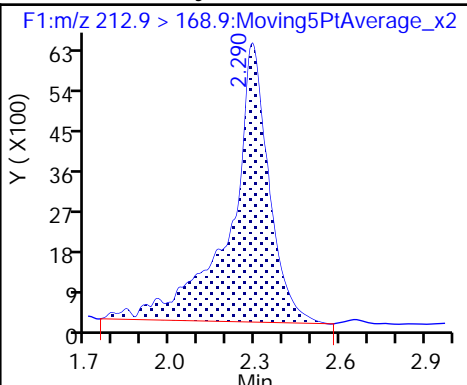
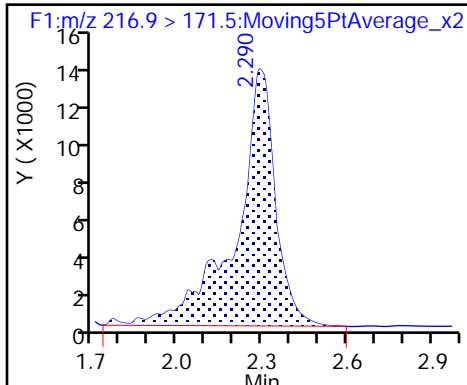
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

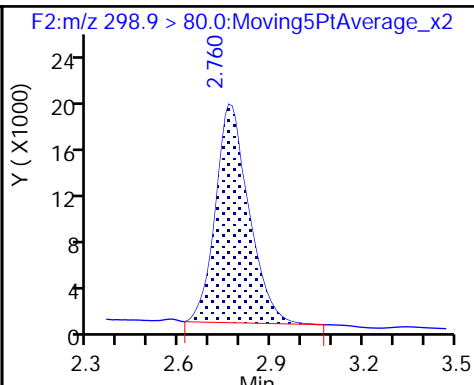
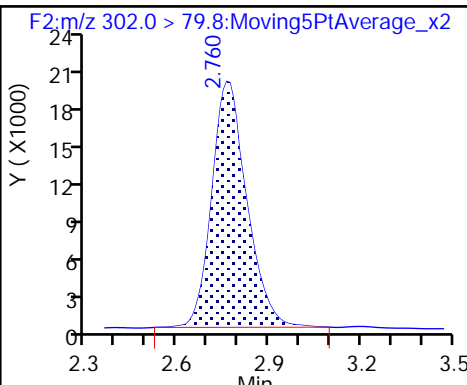
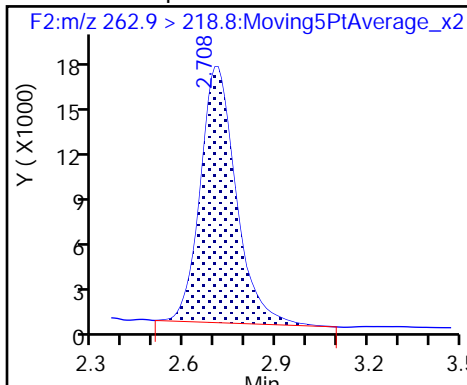
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

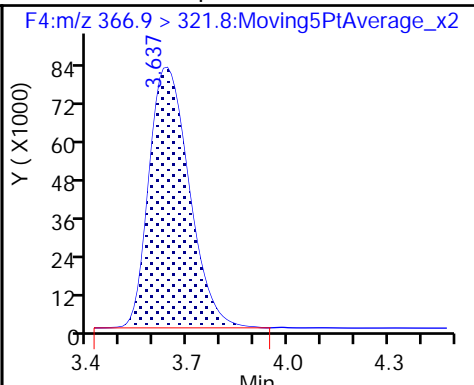
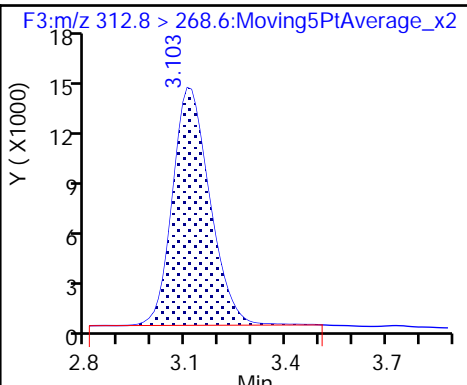
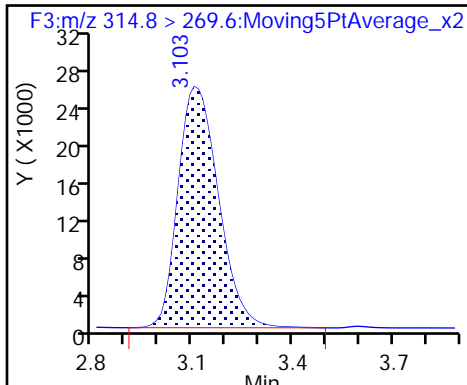
6 Perfluorobutanesulfonic acid



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

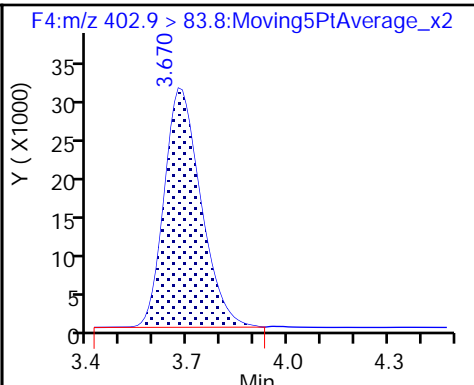
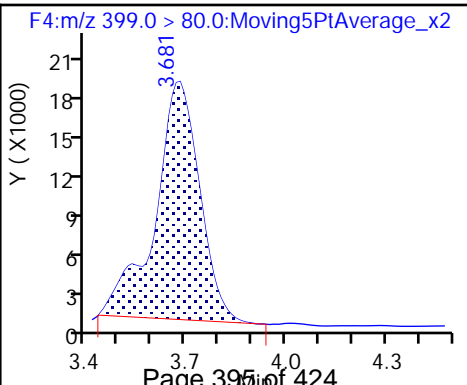
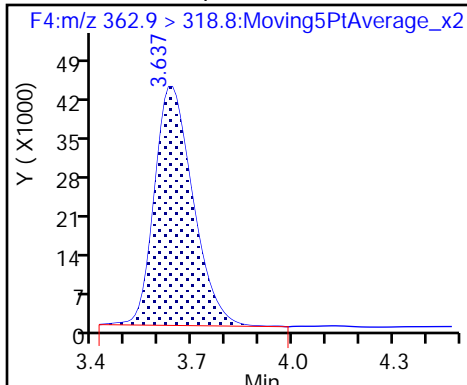
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

12 Perfluorohexanesulfonic acid (M)

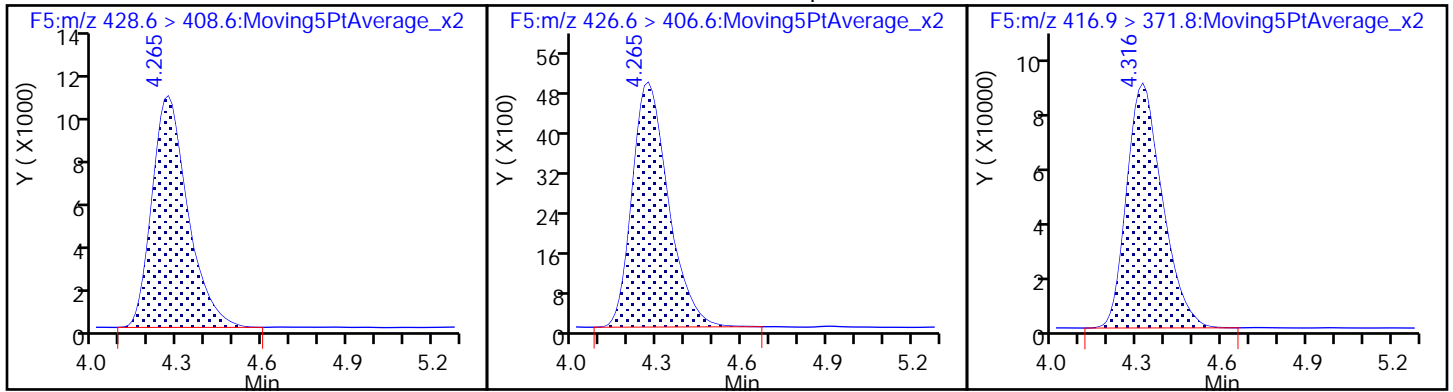
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

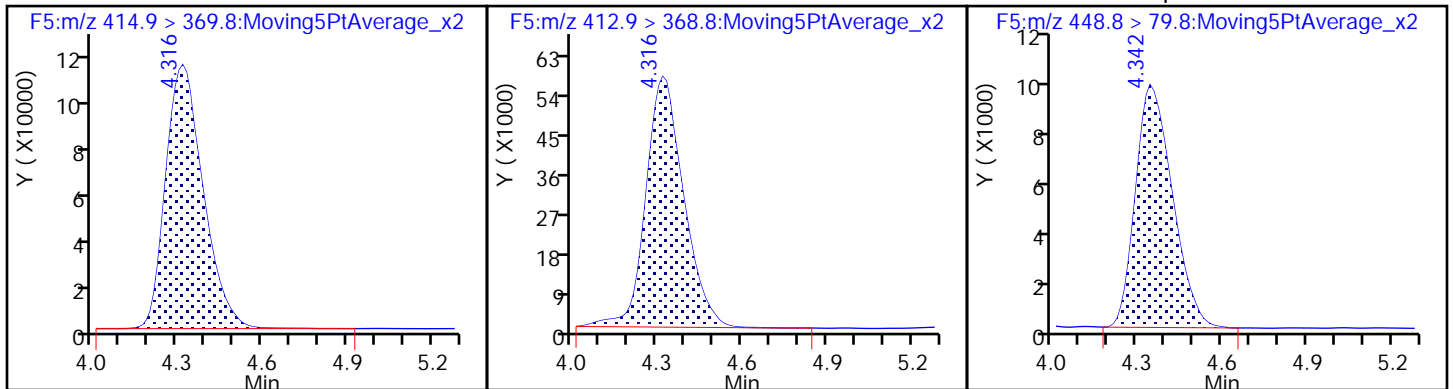
De 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

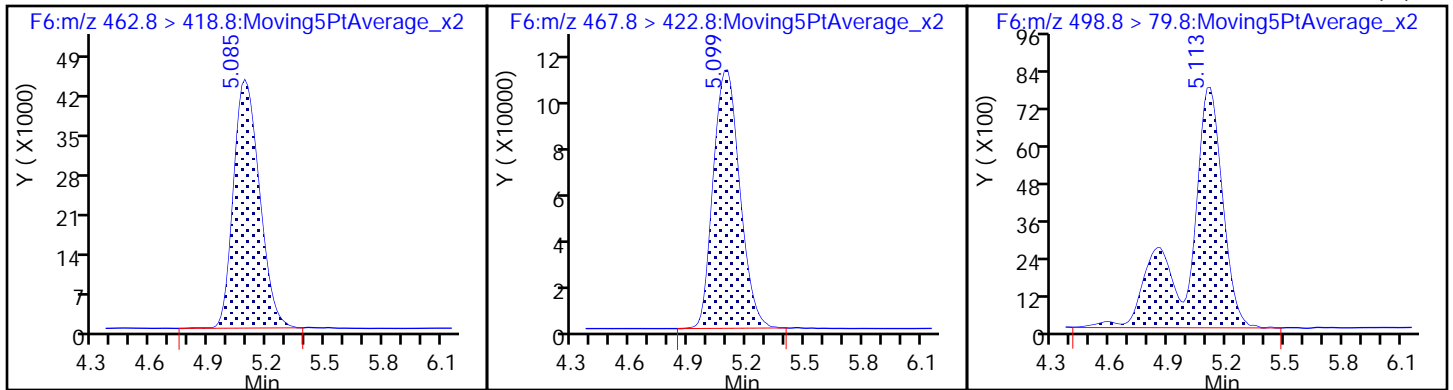
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

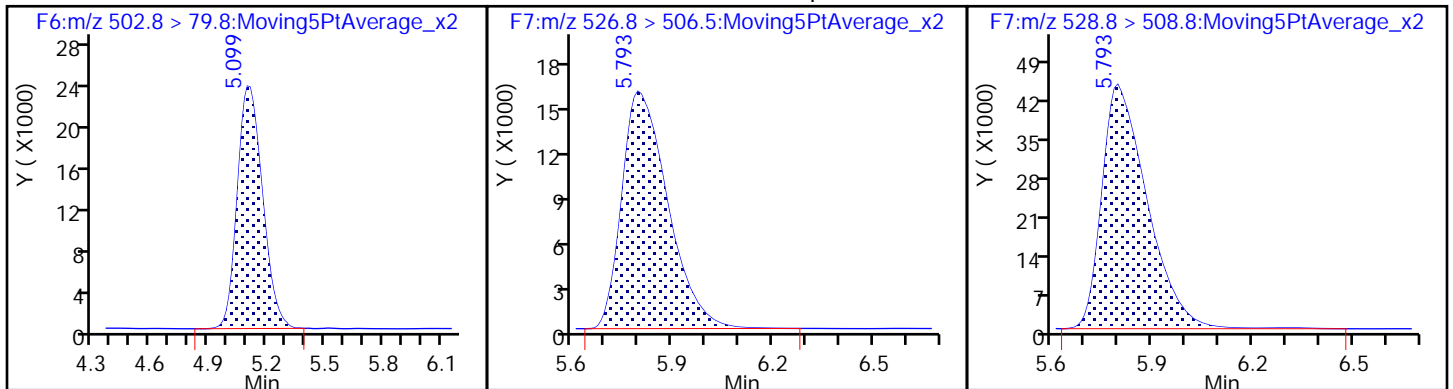
20 Perfluorooctane sulfonic acid (M)



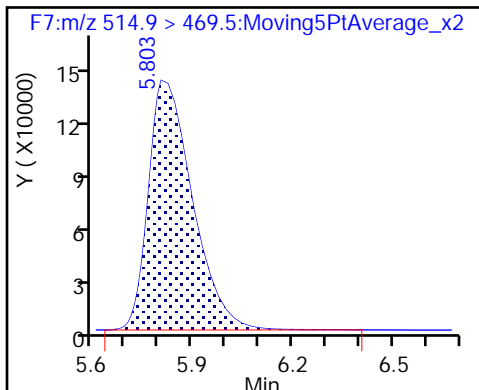
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate

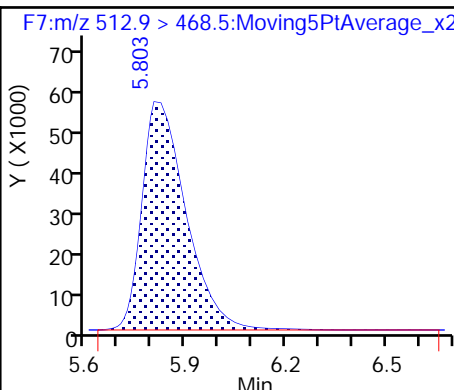
De23 M2-8:2FTS



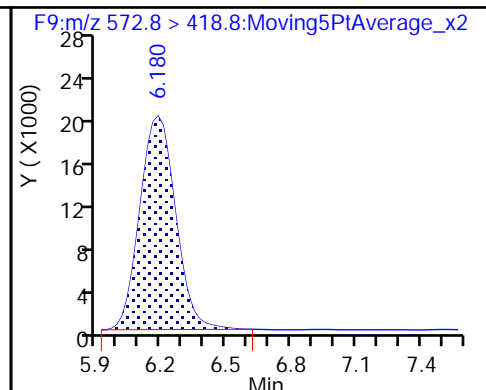
D 25 13C2 PFDA



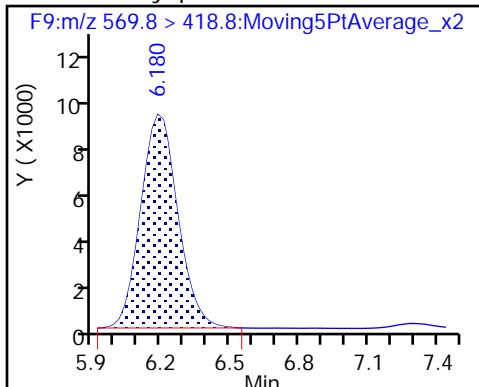
26 Perfluorodecanoic acid



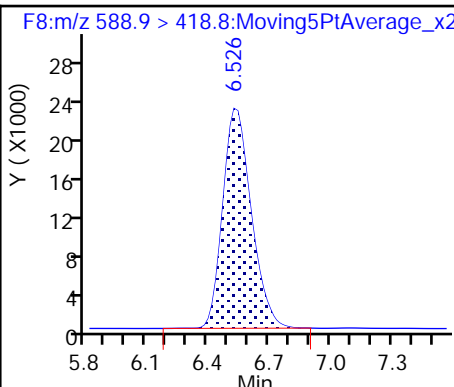
D 27 d3-NMeFOSAA



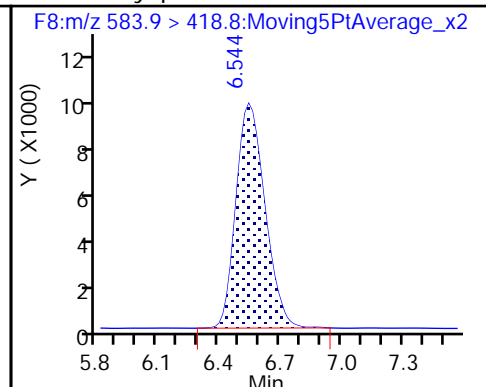
28 N-methyl perfluorooctane sulfonamid



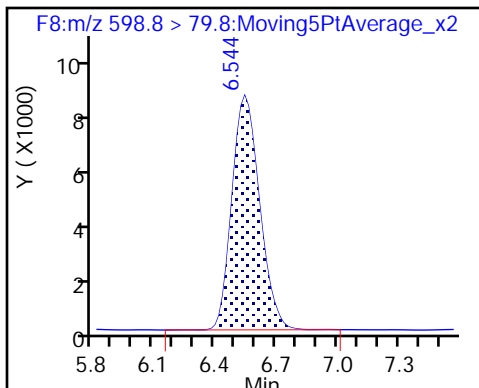
29 d5-NEtFOSAA



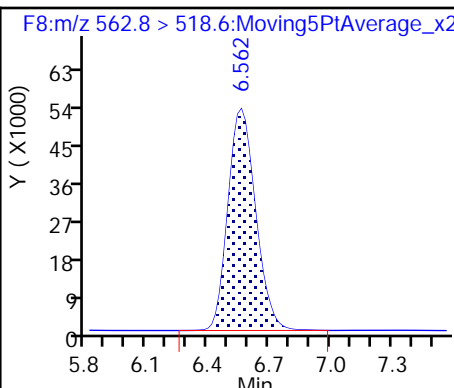
30 N-ethyl perfluorooctane sulfonamid



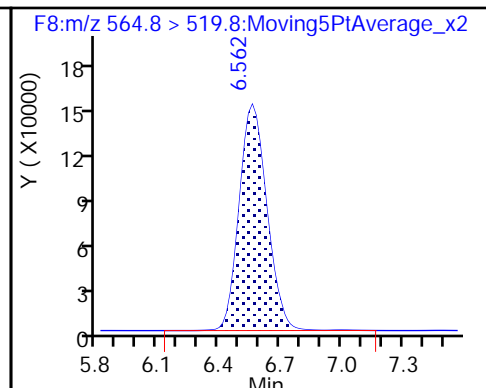
31 Perfluorodecane Sulfonic acid



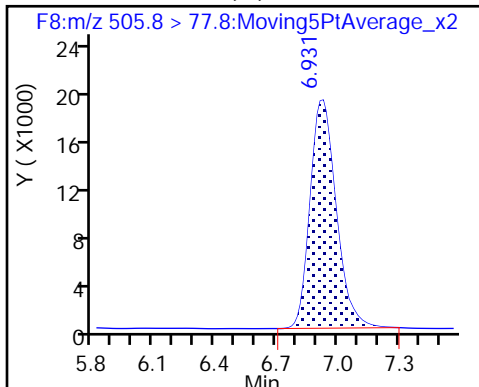
32 Perfluoroundecanoic acid



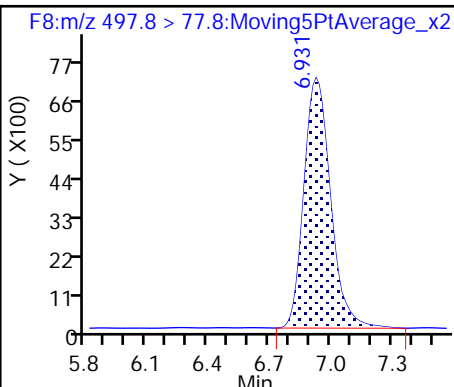
D 33 13C2 PFUnA



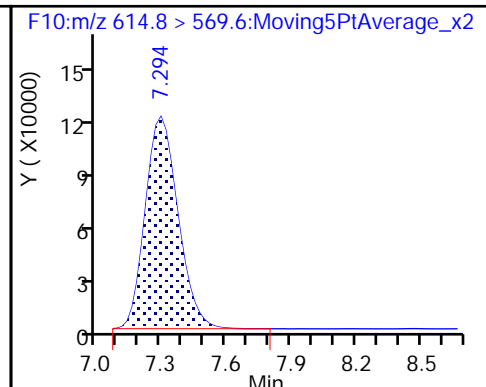
D 35 13C8 FOSA (M)



34 Perfluorooctane Sulfonamide



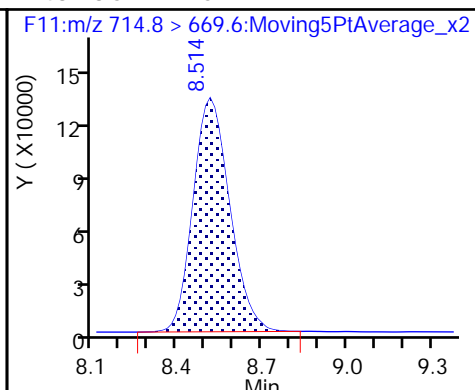
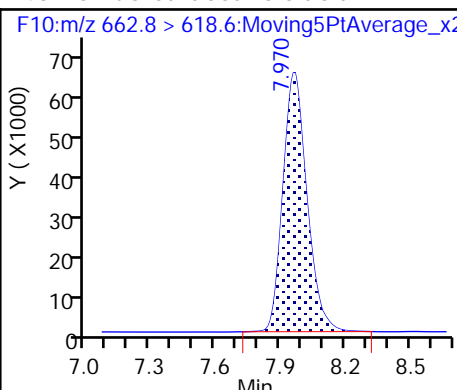
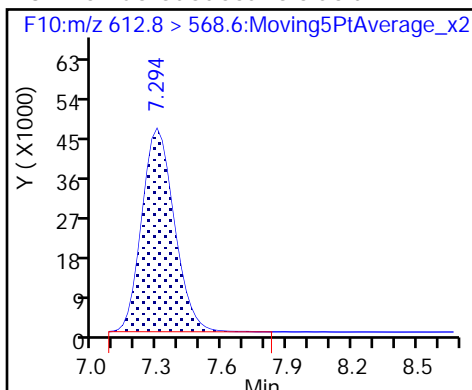
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

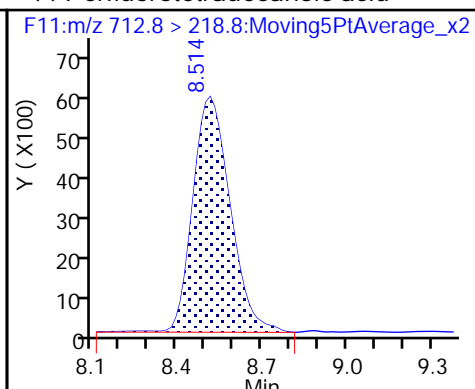
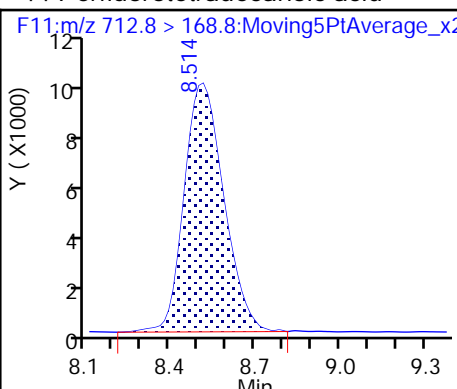
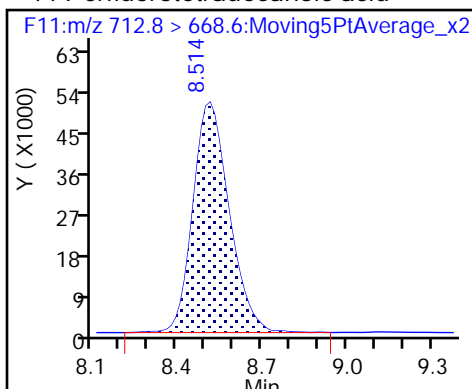
D 43 13C2-PFTeDA



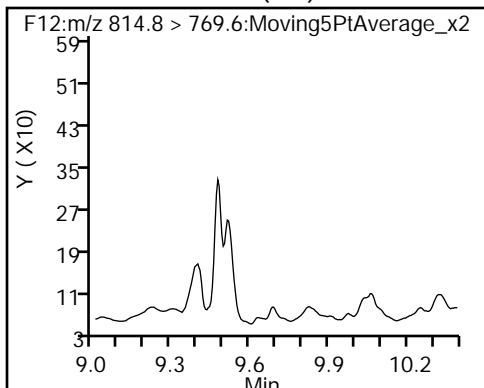
44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



D 45 13C2-PFHxDA (ND)





TestAmerica Burlington

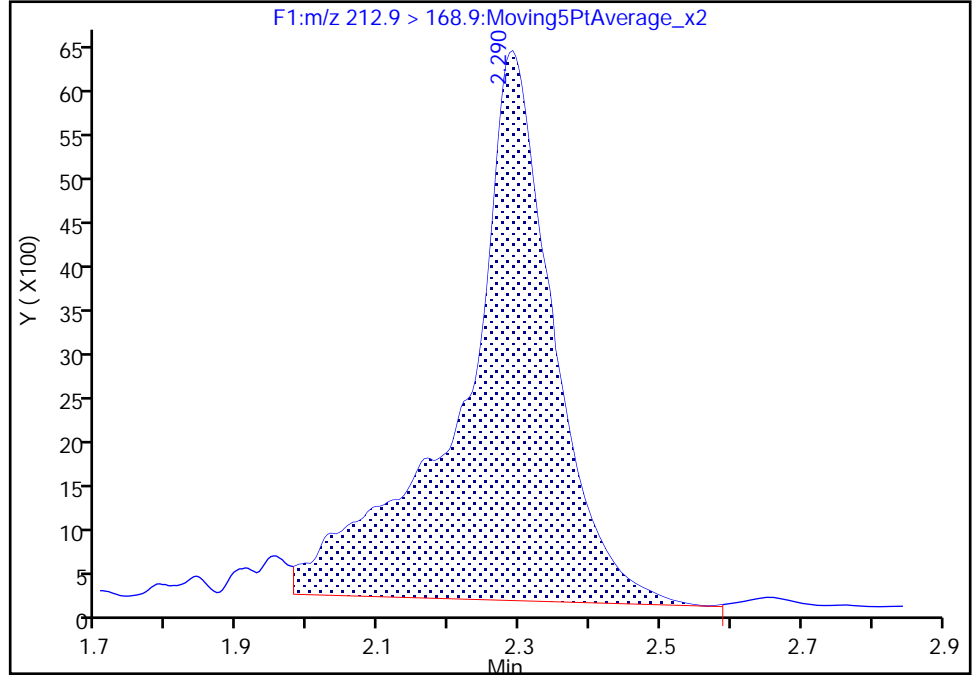
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A25.d  
Injection Date: 21-Apr-2018 17:17:32 Instrument ID: LC410  
Lims ID: 200-43041-B-2-B MS  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 25  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

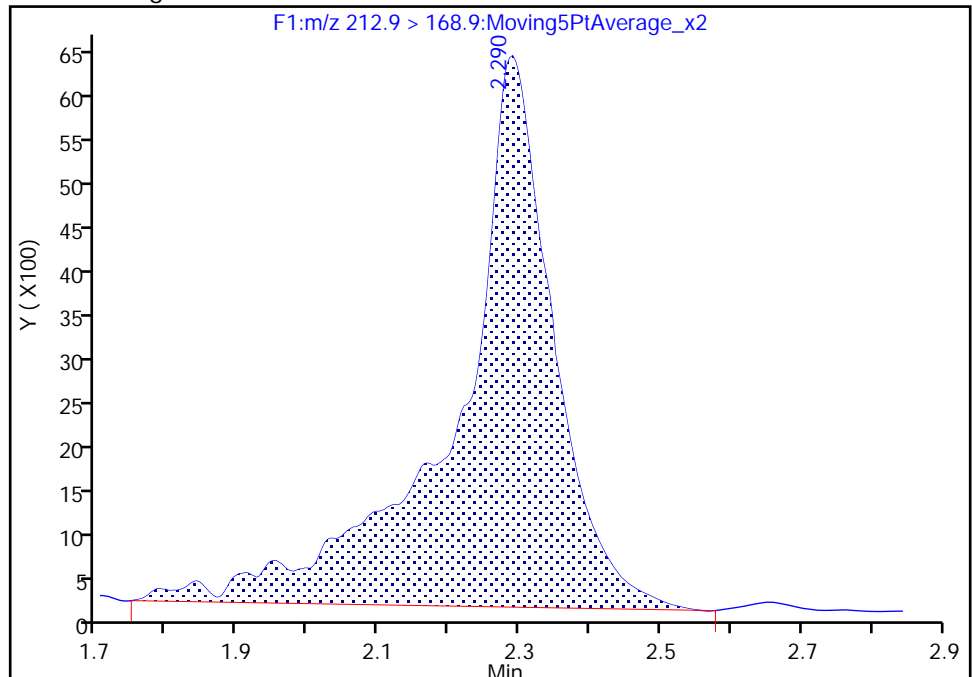
RT: 2.29  
Area: 56679  
Amount: 24.081331  
Amount Units: ng/ml

Processing Integration Results



RT: 2.29  
Area: 60355  
Amount: 25.653147  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:25:05  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

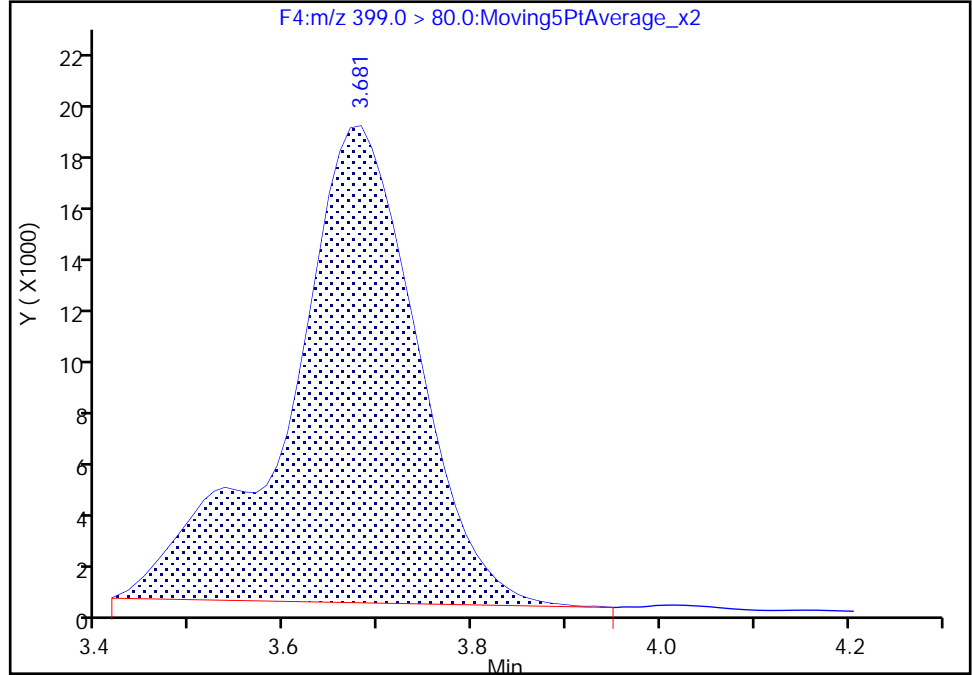
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A25.d  
Injection Date: 21-Apr-2018 17:17:32 Instrument ID: LC410  
Lims ID: 200-43041-B-2-B MS  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 25  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

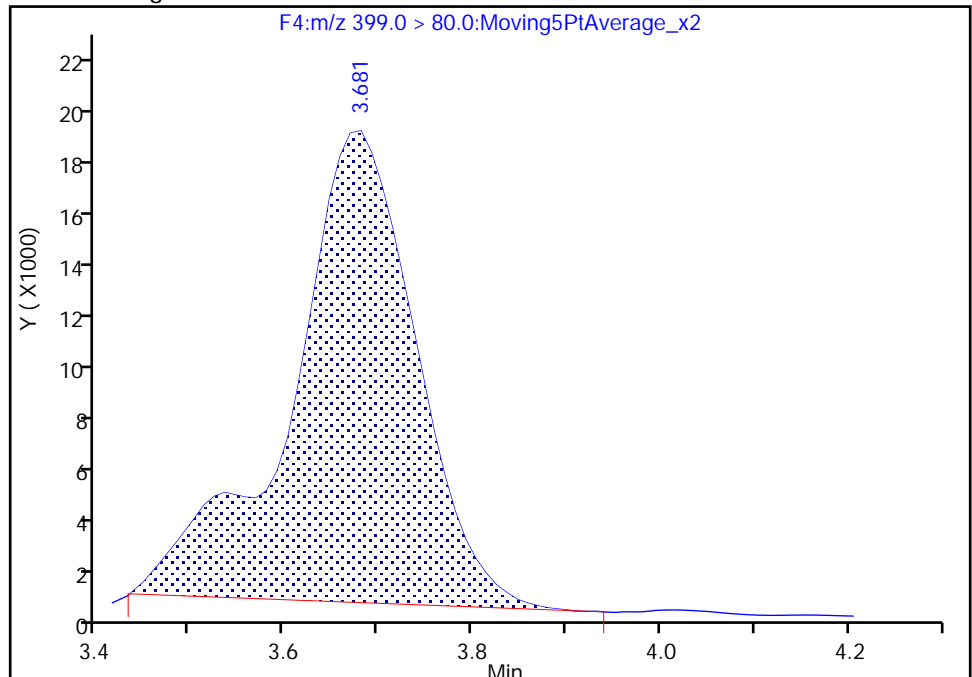
RT: 3.68  
Area: 176591  
Amount: 19.541907  
Amount Units: ng/ml

Processing Integration Results



RT: 3.68  
Area: 170619  
Amount: 18.880083  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:25:17  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

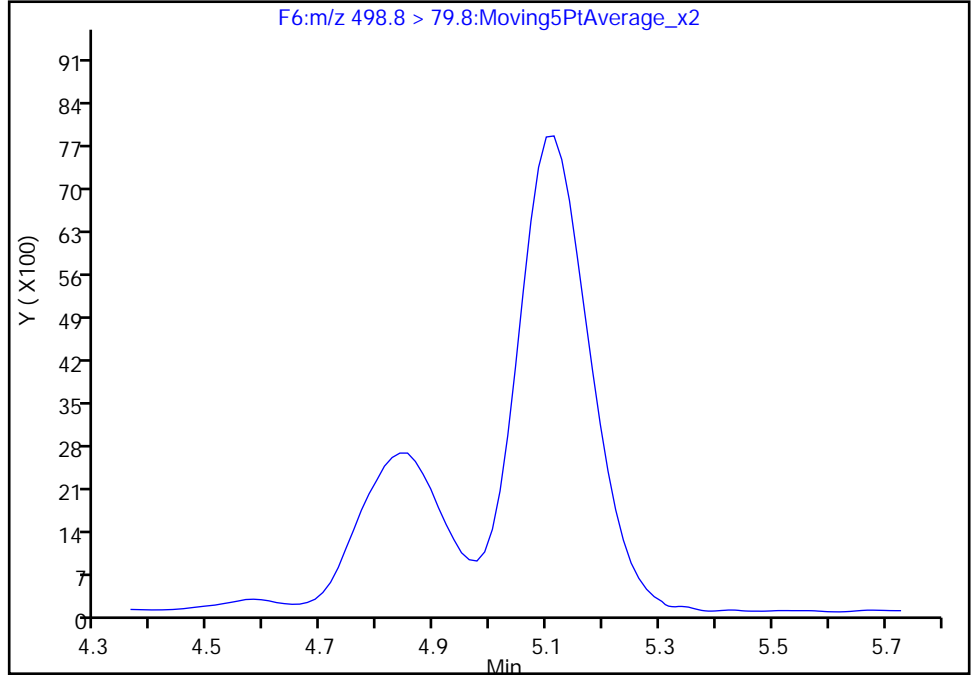
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A25.d  
Injection Date: 21-Apr-2018 17:17:32 Instrument ID: LC410  
Lims ID: 200-43041-B-2-B MS  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 25  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

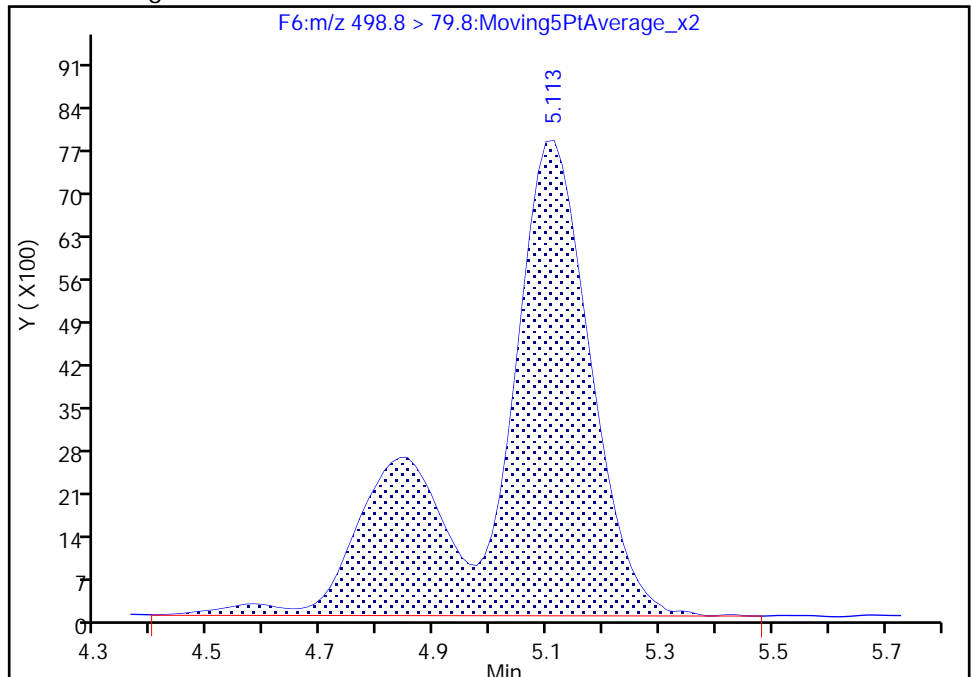
Not Detected  
Expected RT: 5.17

Processing Integration Results



Manual Integration Results

RT: 5.11  
Area: 98463  
Amount: 19.652628  
Amount Units: ng/ml



Reviewer: chirgwinb, 23-Apr-2018 15:25:35  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

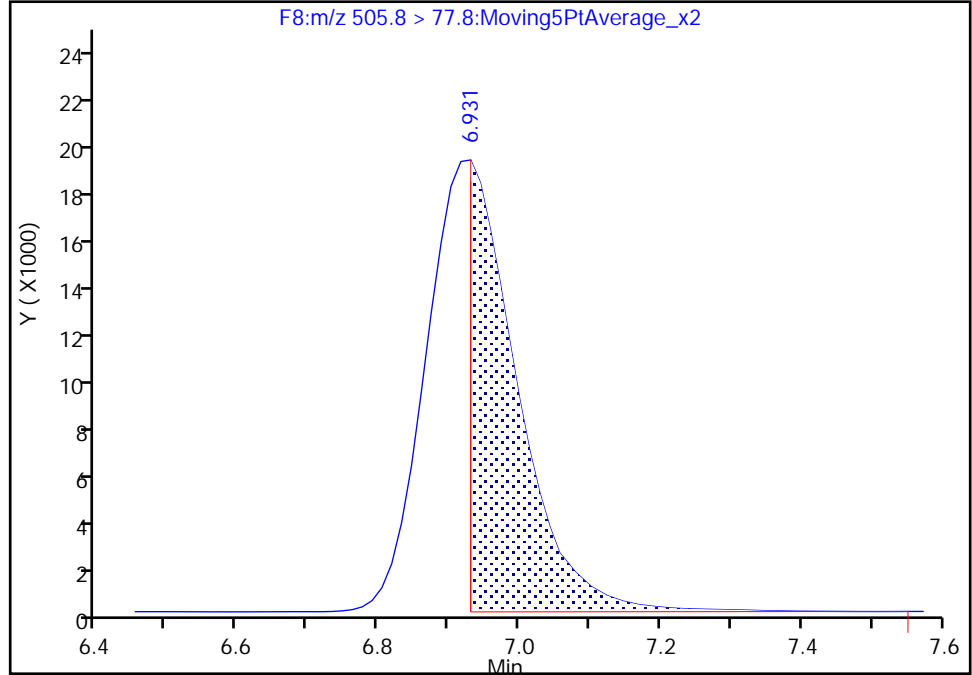
TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A25.d  
Injection Date: 21-Apr-2018 17:17:32 Instrument ID: LC410  
Lims ID: 200-43041-B-2-B MS  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 25  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F8:MRM

D 35 13C8 FOSA, CAS: STL01056  
Signal: 1

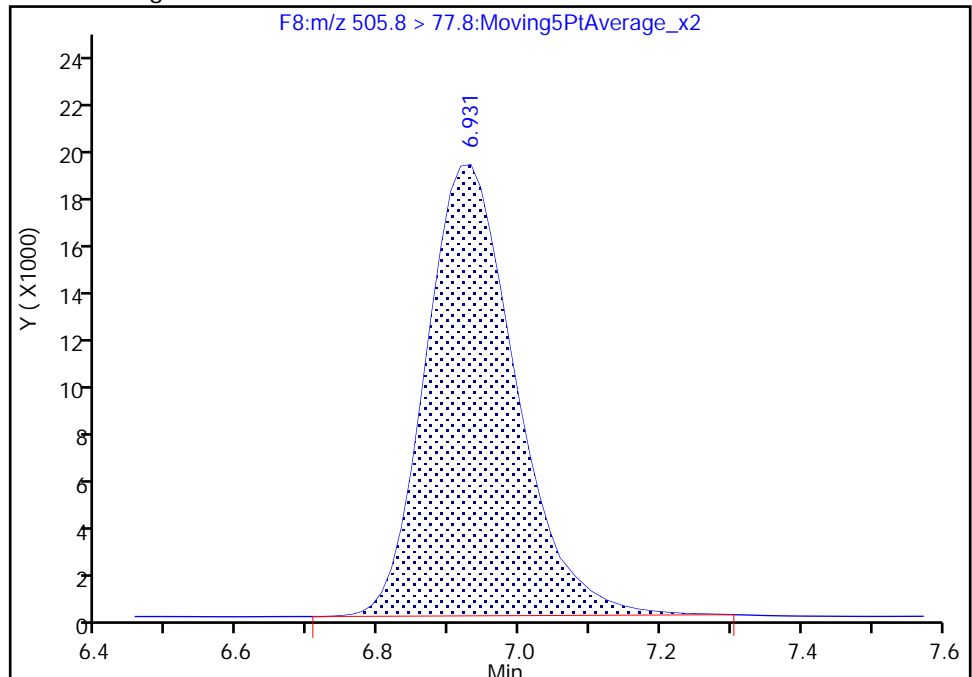
RT: 6.93  
Area: 88996  
Amount: 12.113706  
Amount Units: ng/ml

Processing Integration Results



RT: 6.93  
Area: 170216  
Amount: 23.168980  
Amount Units: ng/ml

Manual Integration Results



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 MSD Lab Sample ID: 200-43041-2 MSD  
 Matrix: Water Lab File ID: PF042118A26.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:40  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 279.9 (mL) Date Analyzed: 04/21/2018 17:32  
 Con. Extract Vol.: 0.5 (mL) Dilution Factor: 1  
 Injection Volume: 20 (uL) GC Column: C-18 ID: 4.6 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	44.52		1.79	0.40
2706-90-3	Perfluoropentanoic acid (PFPeA)	44.16		1.79	0.40
307-24-4	Perfluorohexanoic acid (PFHxA)	43.67		1.79	0.40
375-85-9	Perfluoroheptanoic acid (PFHpA)	41.59		1.79	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	57.41		1.79	0.42
375-95-1	Perfluorononanoic acid (PFNA)	35.63		1.79	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	36.62		1.79	0.40
2058-94-8	Perfluoroundecanoic acid (PFUnA)	37.59		1.79	0.40
307-55-1	Perfluorododecanoic acid (PFDoA)	35.25		1.79	0.40
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	36.46		1.79	0.40
376-06-7	Perfluorotetradecanoic acid (PFTeA)	38.39		1.79	0.40
375-73-5	Perfluorobutanesulfonic acid (PFBS)	35.12		1.79	0.79
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	34.72		1.79	0.25
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	37.61		1.79	0.40
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	35.51		1.79	0.27
335-77-3	Perfluorodecanesulfonic acid (PFDS)	26.29		1.79	0.40
754-91-6	Perfluorooctane Sulfonamide (FOSA)	35.46		1.79	0.40
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	41.29		1.79	0.54
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	38.39		1.79	0.54
27619-97-2	6:2FTS	34.57		1.79	0.54
39108-34-4	8:2FTS	35.81		1.79	0.54

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 MSD Lab Sample ID: 200-43041-2 MSD  
 Matrix: Water Lab File ID: PF042118A26.d  
 Analysis Method: 537 (modified) Date Collected: 04/10/2018 12:40  
 Extraction Method: 3535 Date Extracted: 04/18/2018 12:25  
 Sample wt/vol: 279.9(mL) Date Analyzed: 04/21/2018 17:32  
 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1  
 Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 128716 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	47		25-150
STL00993	13C2 PFHxA	58		25-150
STL01892	13C4-PFHpA	73		25-150
STL00990	13C4 PFOA	89		25-150
STL00995	13C5 PFNA	92		25-150
STL00996	13C2 PFDA	83		25-150
STL00997	13C2 PFUnA	75		25-150
STL00998	13C2 PFDoA	75		25-150
STL02116	13C2-PFTeDA	75		25-150
STL02337	13C3-PFBS	76		25-150
STL00994	18O2 PFHxS	96		25-150
STL00991	13C4 PFOS	95		25-150
STL01056	13C8 FOSA	68		25-150
STL02118	d3-NMeFOSAA	61		25-150
STL02117	d5-NEtFOSAA	68		25-150
STL02279	M2-6:2FTS	210	*	25-150
STL02280	M2-8:2FTS	112		25-150

TestAmerica Burlington  
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A26.d  
 Lims ID: 200-43041-B-2-C MSD  
 Client ID: MW-2  
 Sample Type: MSD  
 Inject. Date: 21-Apr-2018 17:32:41 ALS Bottle#: 0 Worklist Smp#: 26  
 Injection Vol: 20.0 ul Dil. Factor: 1.0000  
 Sample Info: 200-0030209-026 2MD  
 Misc. Info.: PFAS21 042118A ICAL  
 Operator ID: BC Instrument ID: LC410  
 Method: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PFCISO\_12MRM.m  
 Limit Group: LC\_PFC\_ICAL  
 Last Update: 23-Apr-2018 16:18:34 Calib Date: 21-Apr-2018 13:45:42  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A11.d  
 Column 1 : Det: F1:MRM  
 Process Host: XAWRK009

First Level Reviewer: chirgwinb Date: 23-Apr-2018 15:27:16

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	216.9 > 171.5	2.286	2.319	-0.033	1.000	128178	14.7	29.3	217	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.290	2.320	-0.030	1.002	58203	24.9		125	127	M
D 3 13C5-PFPeA	267.7 > 222.6	2.698	2.736	-0.038	1.000	49772	23.5	47.0	93.0	
4 Perfluoropentanoic acid	262.9 > 218.8	2.708	2.738	-0.030	1.004	137158	24.7	124	107	
D 5 13C3-PFBS	302.0 > 79.8	2.760	2.800	-0.040	1.000	155860	35.2	75.8	212	
6 Perfluorobutanesulfonic acid	298.9 > 80.0	2.770	2.804	-0.034	1.004	136478	19.7	111	110	M
D 7 13C2 PFHxA	314.8 > 269.6	3.115	3.158	-0.043	1.000	207639	28.9	57.7	1372	
8 Perfluorohexanoic acid	312.8 > 268.6	3.115	3.162	-0.047	1.000	99234	24.4	122	283	
D 10 13C4-PFHpA	366.9 > 321.8	3.637	3.689	-0.052	1.000	640520	36.4	72.8	1428	
11 Perfluoroheptanoic acid	362.9 > 318.8	3.648	3.689	-0.041	1.003	310977	23.3	116	306	M
12 Perfluorohexanesulfonic acid	399.0 > 80.0	3.681	3.733	-0.052	0.997	165899	19.4	107	283	M
D 13 18O2 PFHxS	402.9 > 83.8	3.692	3.737	-0.045	1.000	225239	45.5	96.3	765	
D 14 M2-6:2FTS	428.6 > 408.6	4.265	4.319	-0.054	1.000	94102	99.7	210	711	
15 Sodium 1H,1H,2H,2H-perfluorooctane	426.6 > 406.6	4.265	4.319	-0.054	1.000	39417	19.4	102	500	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.316	4.365	-0.049	1.000	722898	44.7		89.3	3240	
* 49 13C2-PFOA										
414.9 > 369.8	4.329	4.371	-0.042		955217	50.0			4548	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.316	4.374	-0.058	1.000	501379	32.1		161	589	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.355	4.408	-0.053	0.852	78720	21.1		111	721	
19 Perfluorononanoic acid										
462.8 > 418.8	5.099	5.143	-0.044	1.000	358499	19.9		99.7	1140	
D 21 13C5 PFNA										
467.8 > 422.8	5.099	5.145	-0.046	1.000	910368	46.2		92.4	1208	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.127	5.168	-0.041	1.003	86606	19.9		107	426	M
D 22 13C4 PFOS										
502.8 > 79.8	5.113	5.168	-0.055	1.000	185192	45.5		95.1	744	
24 Sodium 1H,1H,2H,2H-perfluorodecane										
526.8 > 506.5	5.862	5.910	-0.048	1.000	99958	20.0		105	952	
D 23 M2-8:2FTS										
528.8 > 508.8	5.862	5.910	-0.048	1.000	317197	53.6		112	1922	
D 25 13C2 PFDA										
514.9 > 469.5	5.882	5.934	-0.052	1.000	1086445	41.4		82.9	2964	
26 Perfluorodecanoic acid										
512.9 > 468.5	5.882	5.938	-0.056	1.000	418364	20.5		103	894	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.259	6.298	-0.039	1.000	180380	30.6		61.1	854	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.259	6.310	-0.051	1.000	91852	23.1		116	226	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.616	6.667	-0.051	1.000	173456	33.8		67.5	1077	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.634	6.688	-0.054	1.003	76879	21.5		107	630	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.634	6.699	-0.065	1.298	63520	14.7		76.3	742	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.652	6.711	-0.059	1.000	428628	21.0		105	1016	
D 33 13C2 PFUnA										
564.8 > 519.8	6.652	6.713	-0.061	1.000	1071696	37.3		74.7	3348	
D 35 13C8 FOSA										
505.8 > 77.8	6.931	6.938	-0.007	1.000	235616	34.1		68.2	1043	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	6.931	6.940	-0.009	1.000	83036	19.9		99.3	823	
D 36 13C2 PFDoA										
614.8 > 569.6	7.339	7.392	-0.053	1.000	1099375	37.6		75.2	1689	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.339	7.399	-0.060	1.000	391083	19.7		98.7	2608	
40 Perfluorotridecanoic acid										
662.8 > 618.6	7.970	8.022	-0.052	1.086	444018	20.4		102	1799	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 43 13C2-PFTeDA										
714.8 > 669.6	8.514	8.572	-0.058	1.000	1031309	37.4		74.7	1267	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.514	8.572	-0.058	1.000	384704	21.5		107	694	
712.8 > 168.8	8.514	8.572	-0.058	1.000	84328		4.56(0.00-0.00)		412	
712.8 > 218.8	8.499	8.572	-0.073	0.998	46258		8.32(0.00-0.00)		436	
D 45 13C2-PFHxDA										
814.8 > 769.6	9.416	9.621	-0.205	1.000	472	NC		0.0	5.8	

**QC Flag Legend**

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A26.d

Injection Date: 21-Apr-2018 17:32:41

Instrument ID: LC410

Lims ID: 200-43041-B-2-C MSD

Client ID: MW-2

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 26

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

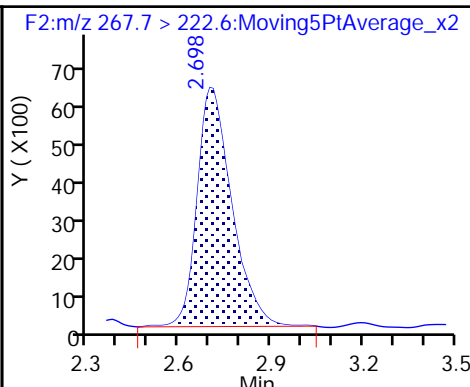
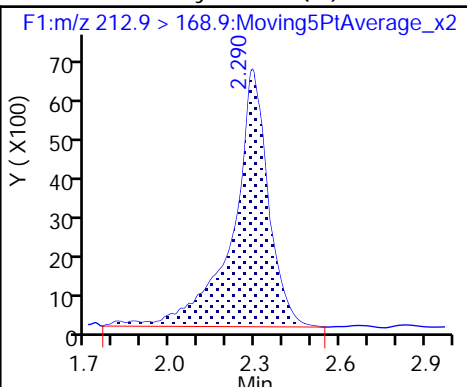
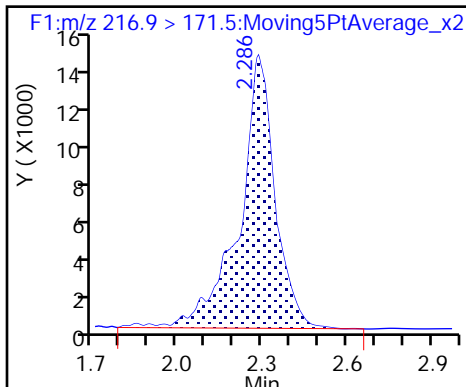
Method: PFCISO\_12MRM

Limit Group: LC\_PFC\_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

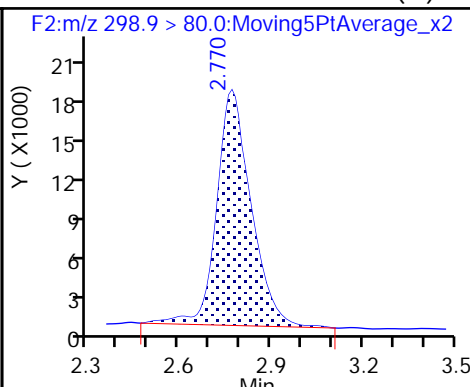
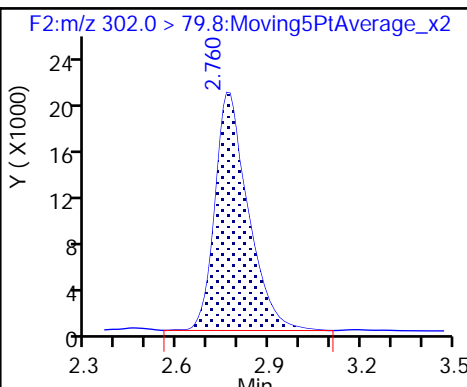
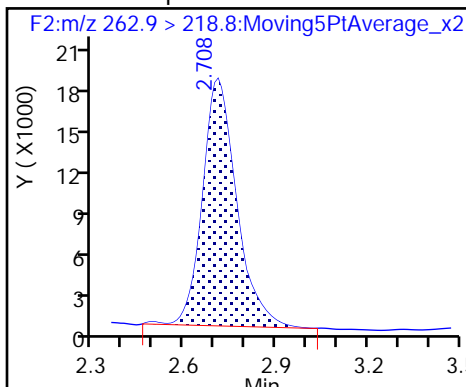
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS

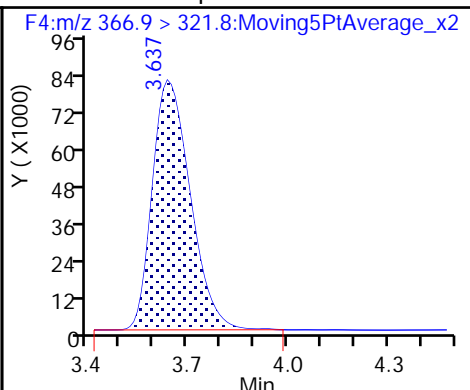
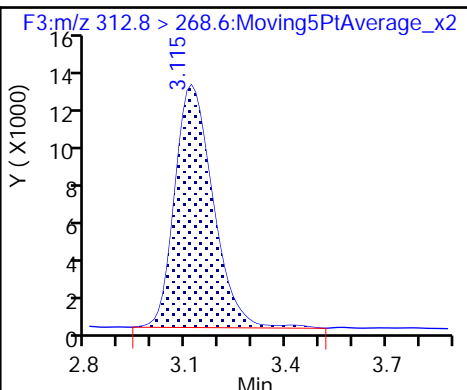
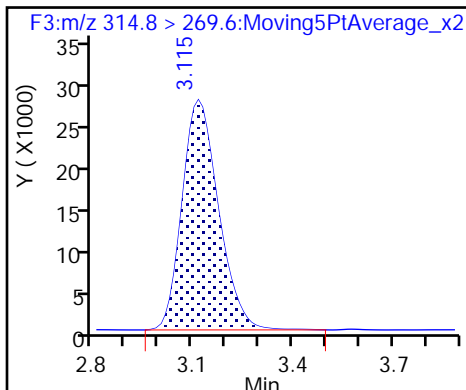
6 Perfluorobutanesulfonic acid (M)



D 7 13C2 PFHxA

8 Perfluorohexanoic acid

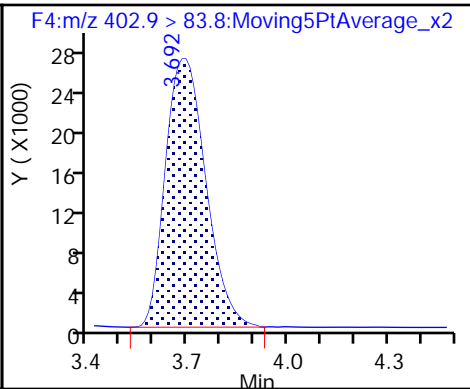
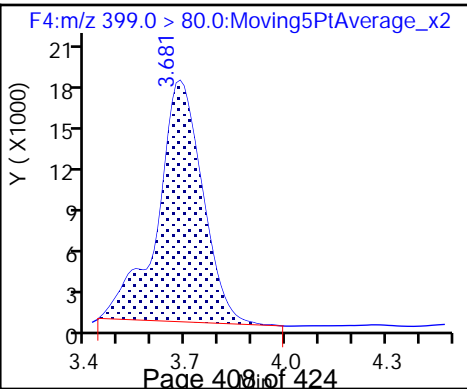
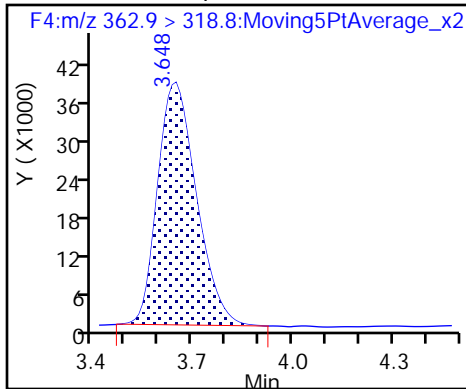
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

12 Perfluorohexanesulfonic acid (M)

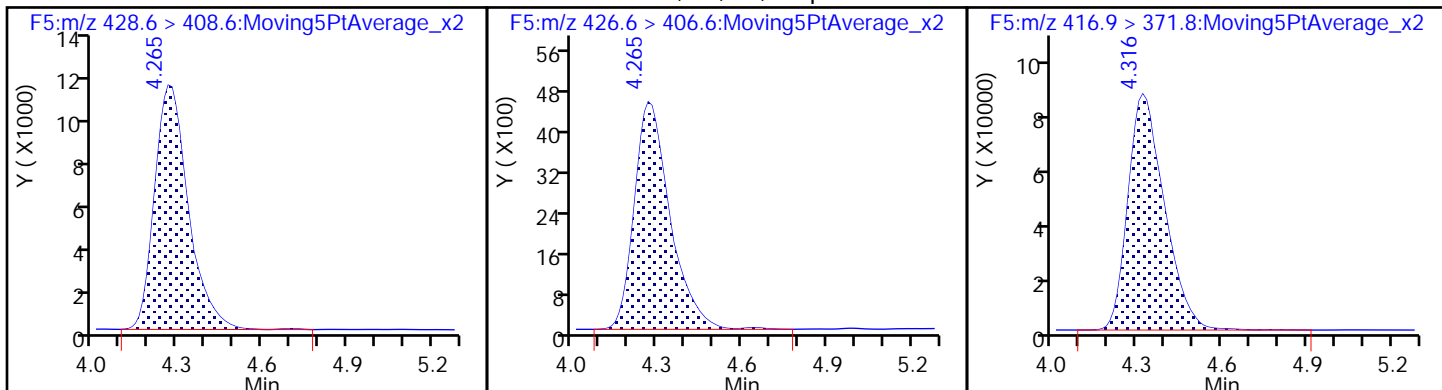
D 13 18O2 PFHxS



D 14 M2-6:2FTS

15 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

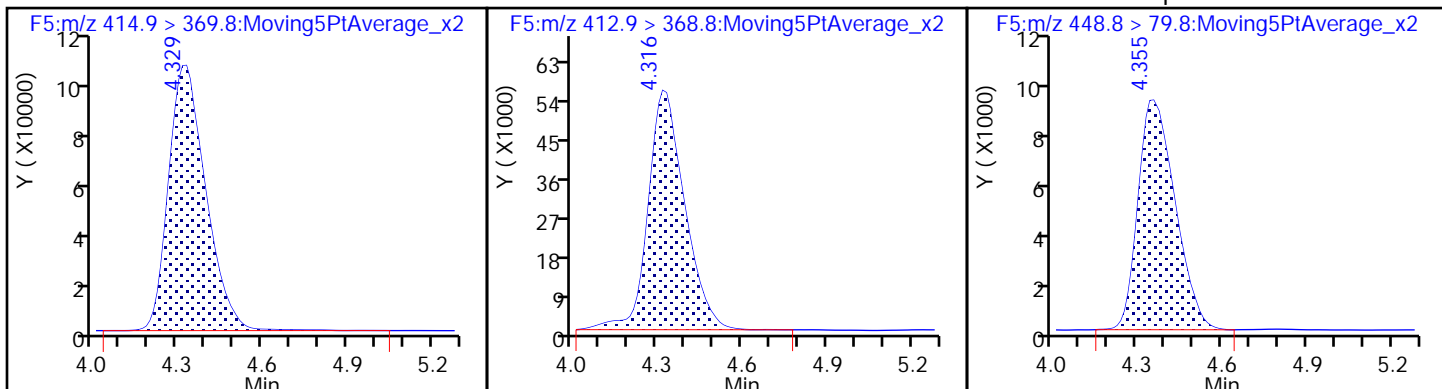
De 17 13C4 PFOA



\* 49 13C2-PFOA

16 Perfluorooctanoic acid

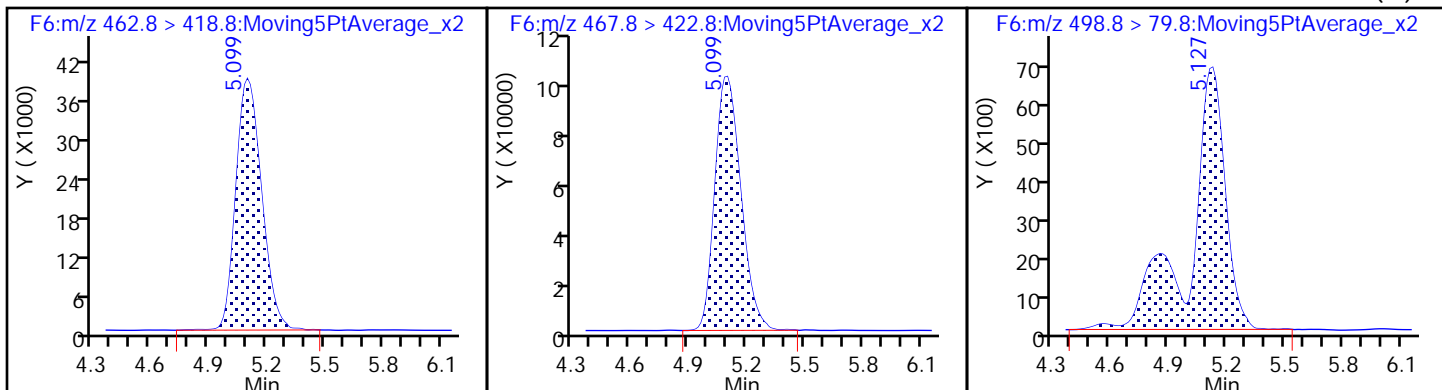
18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid

D 21 13C5 PFNA

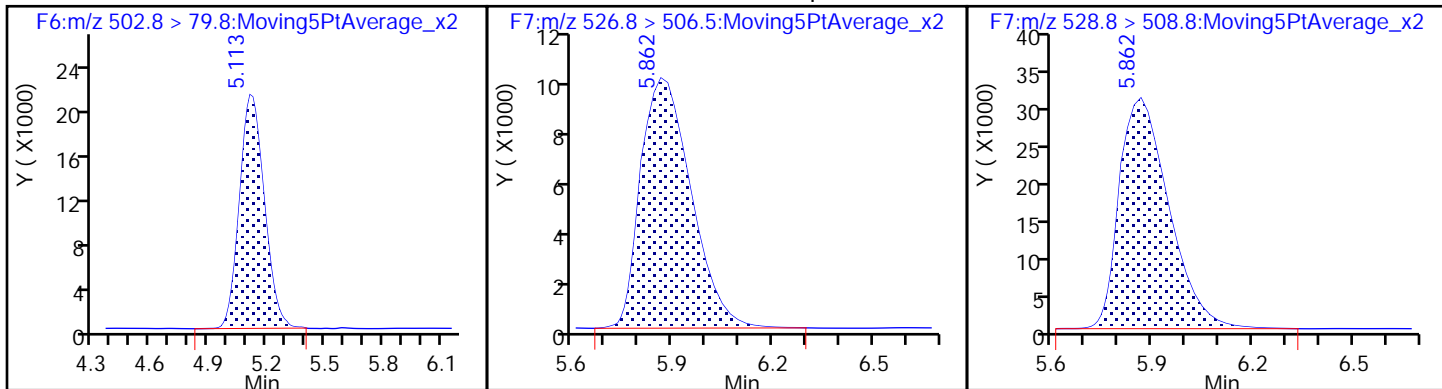
20 Perfluorooctane sulfonic acid (M)



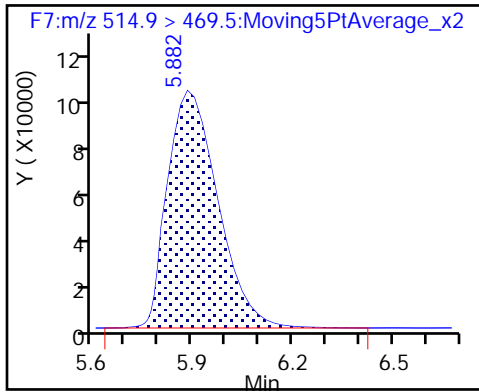
D 22 13C4 PFOS

24 Sodium 1H,1H,2H,2H-perfluorodecanoate

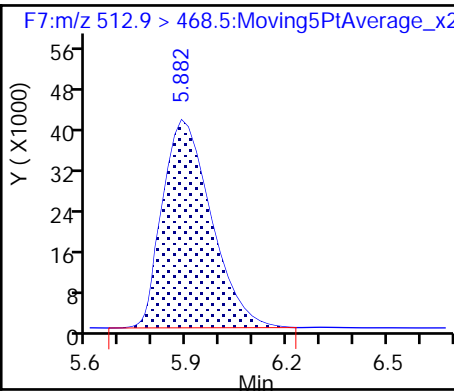
De 23 M2-8:2FTS



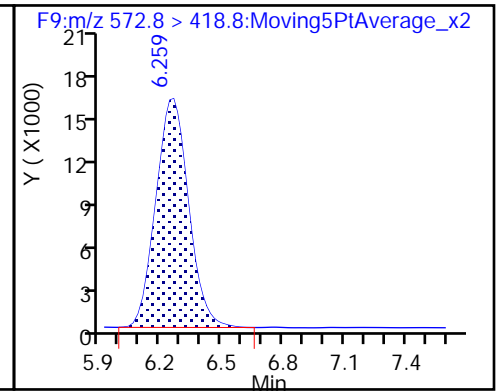
D 25 13C2 PFDA



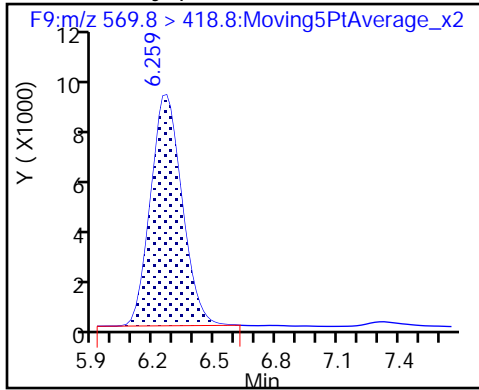
26 Perfluorodecanoic acid



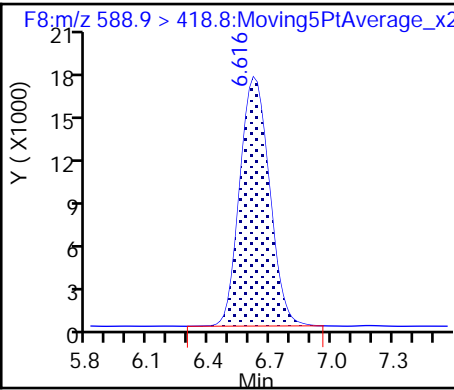
D 27 d3-NMeFOSAA



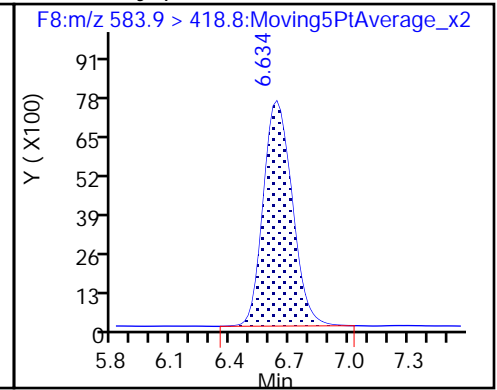
28 N-methyl perfluorooctane sulfonamid



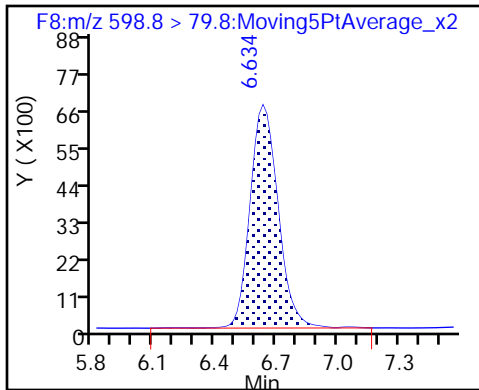
29 d5-NEtFOSAA



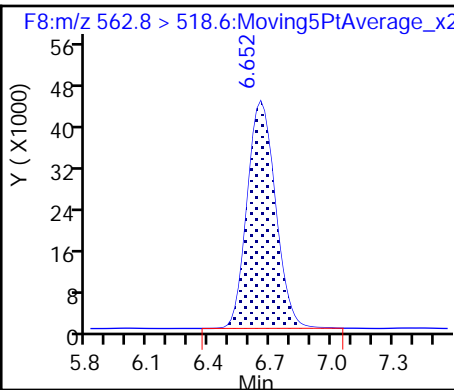
30 N-ethyl perfluorooctane sulfonamid



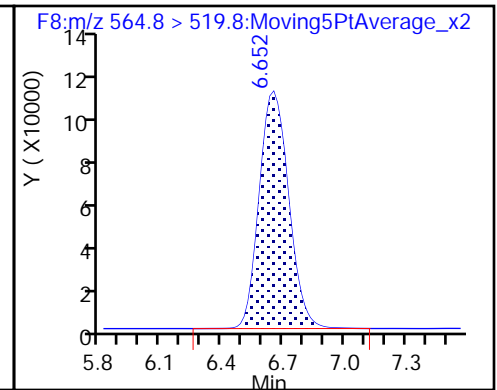
31 Perfluorodecane Sulfonic acid



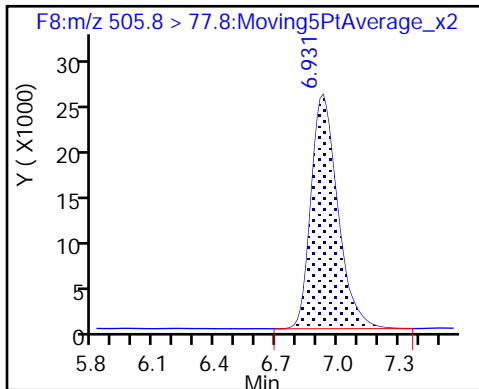
32 Perfluoroundecanoic acid



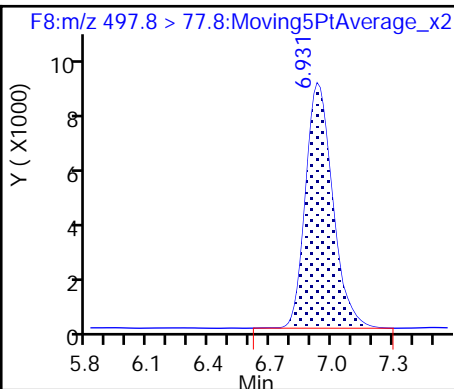
D 33 13C2 PFUnA



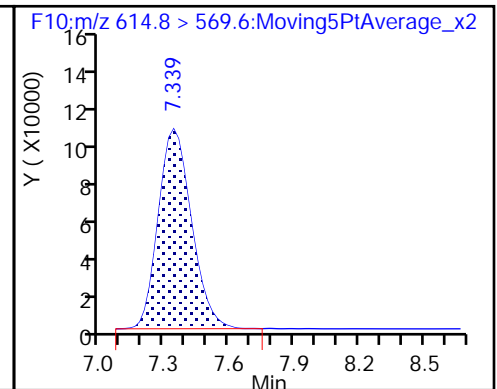
D 35 13C8 FOSA



34 Perfluorooctane Sulfonamide



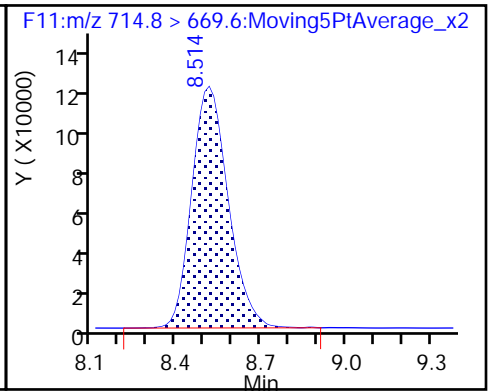
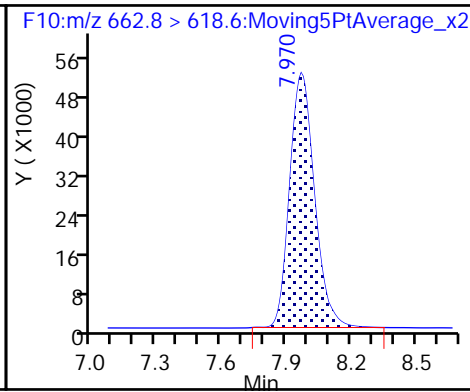
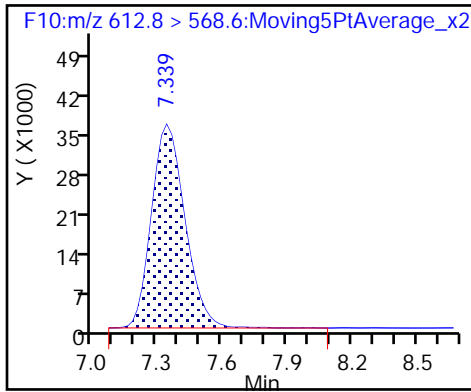
D 36 13C2 PFDoA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

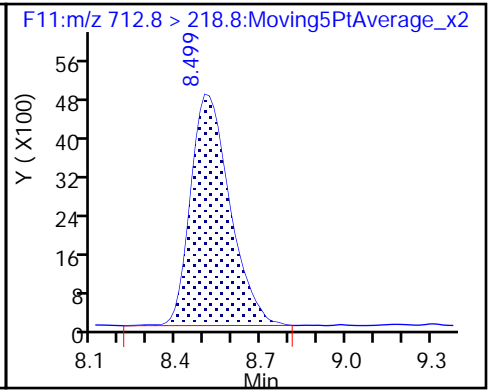
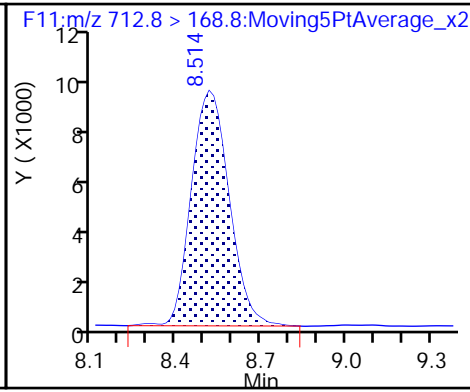
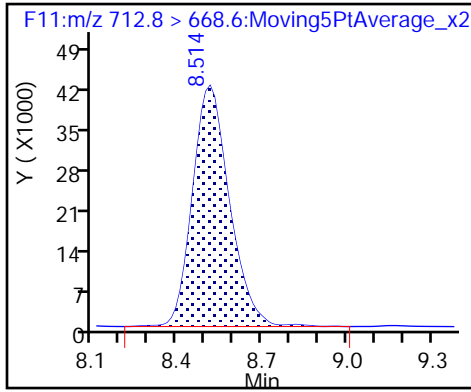
D 43 13C2-PFTeDA



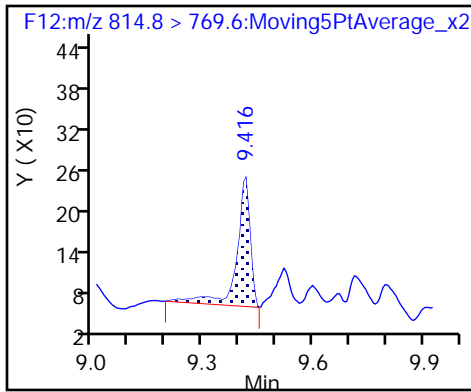
44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



D 45 13C2-PFHxDA



TestAmerica Burlington

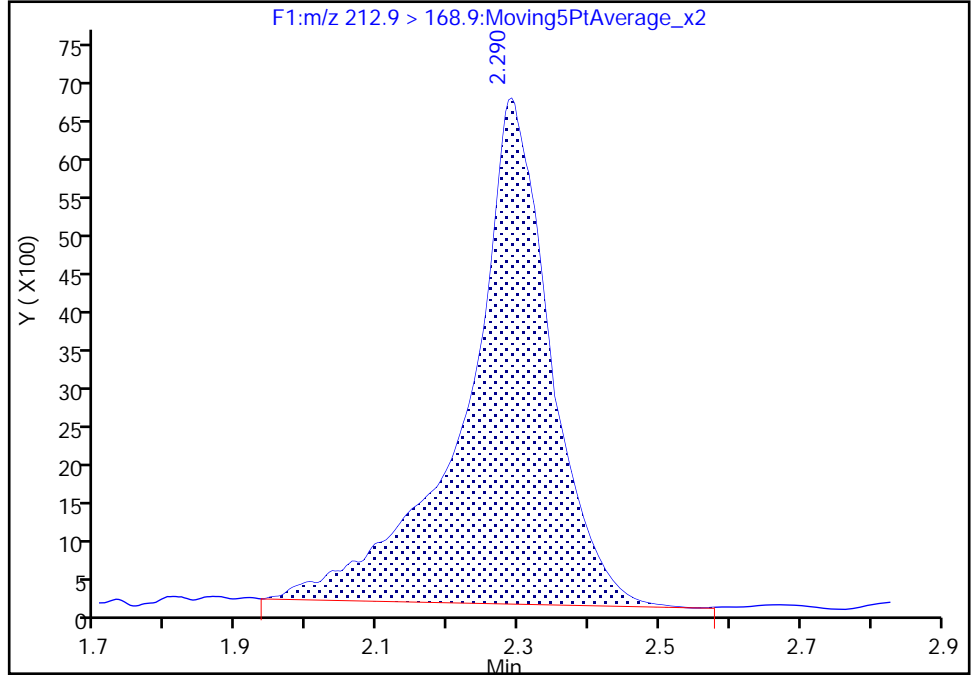
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Injection Date: 21-Apr-2018 17:32:41 Instrument ID: LC410  
Lims ID: 200-43041-B-2-C MSD  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 26  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

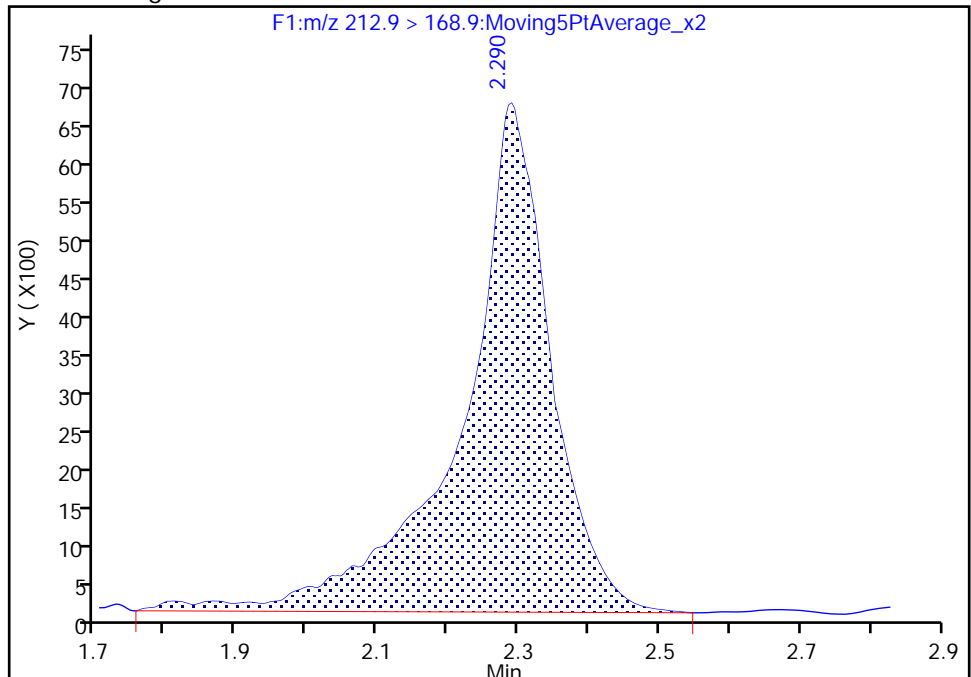
RT: 2.29  
Area: 55408  
Amount: 23.718080  
Amount Units: ng/ml

Processing Integration Results



RT: 2.29  
Area: 58203  
Amount: 24.922281  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:26:31  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

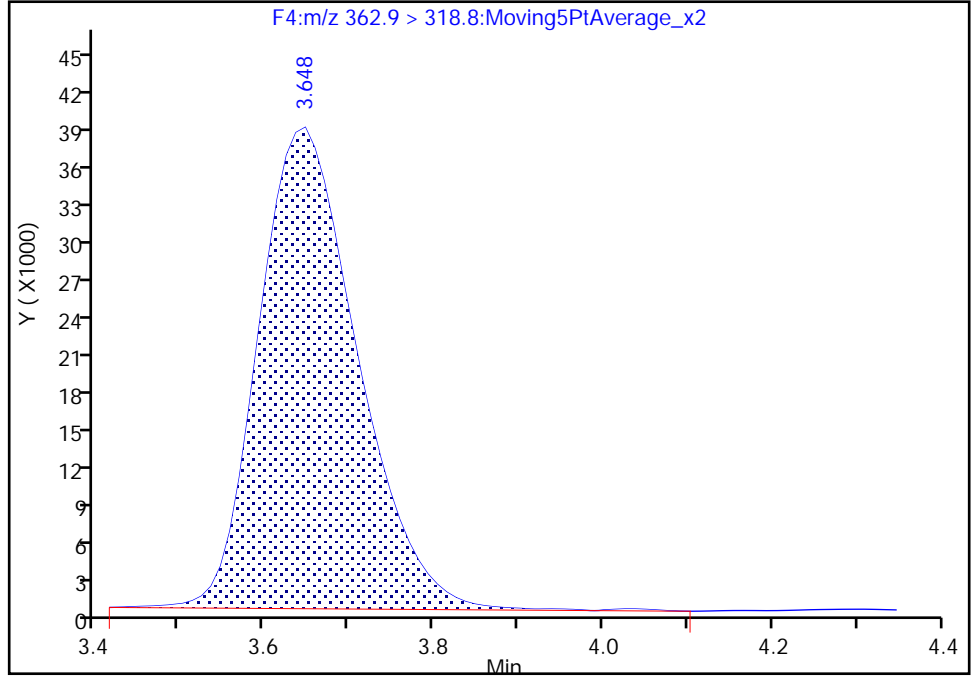
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Injection Date: 21-Apr-2018 17:32:41 Instrument ID: LC410  
Lims ID: 200-43041-B-2-C MSD  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 26  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

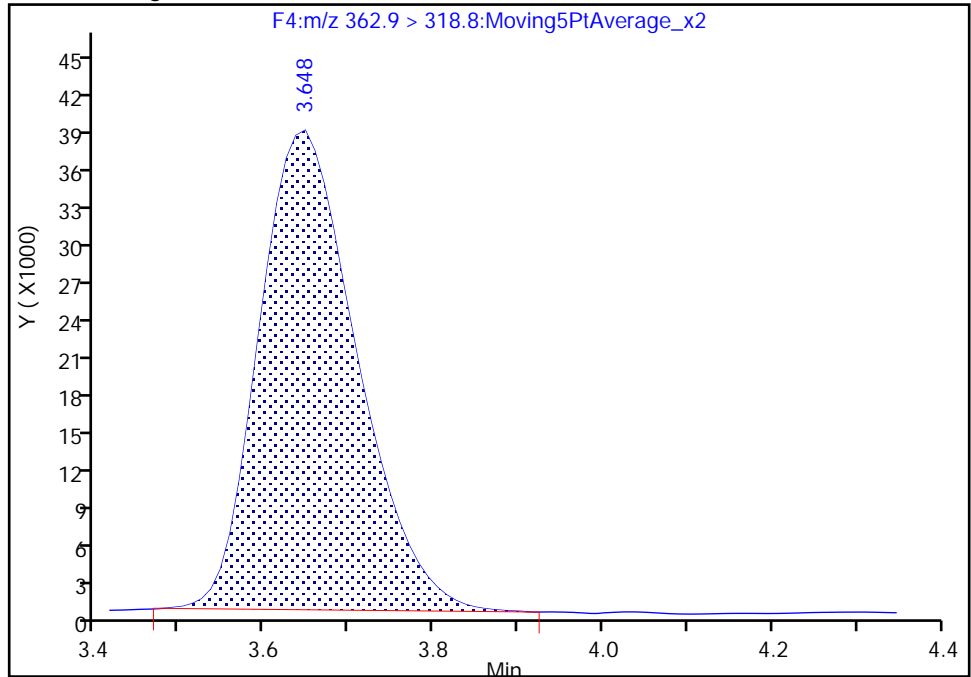
RT: 3.65  
Area: 315638  
Amount: 23.633063  
Amount Units: ng/ml

Processing Integration Results



RT: 3.65  
Area: 310977  
Amount: 23.284784  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:26:53  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

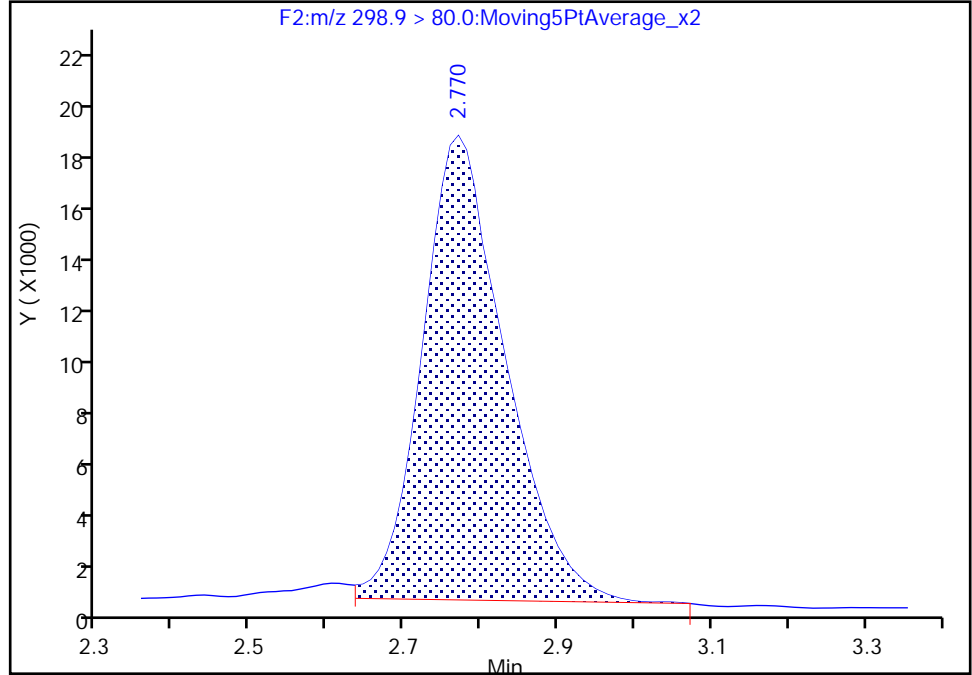
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Injection Date: 21-Apr-2018 17:32:41 Instrument ID: LC410  
Lims ID: 200-43041-B-2-C MSD  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 26  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

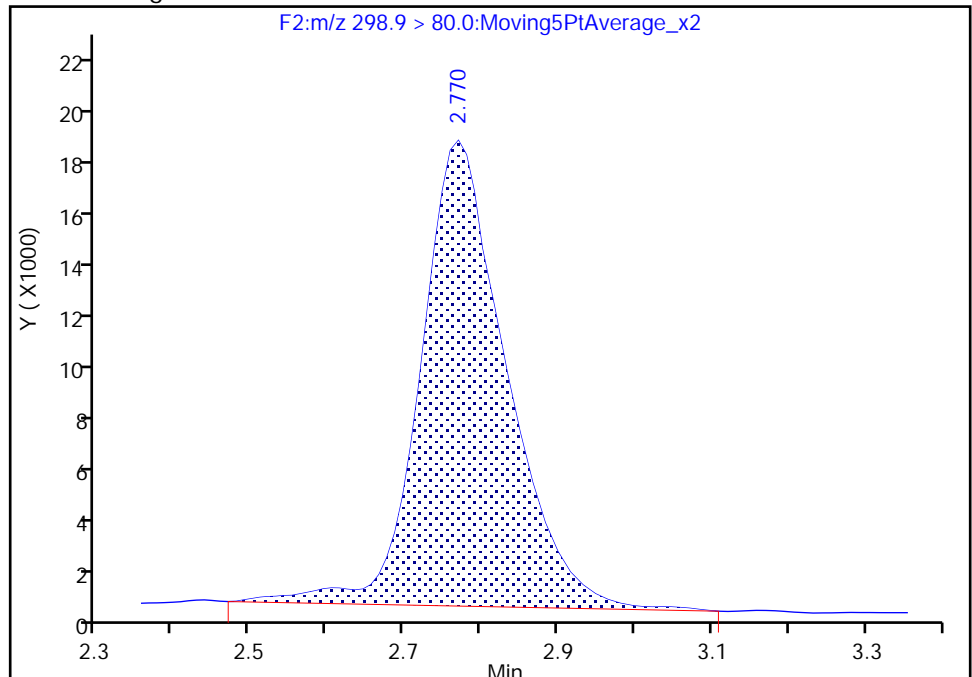
RT: 2.77  
Area: 131698  
Amount: 18.978341  
Amount Units: ng/ml

Processing Integration Results



RT: 2.77  
Area: 136478  
Amount: 19.660839  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:26:39

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration



TestAmerica Burlington

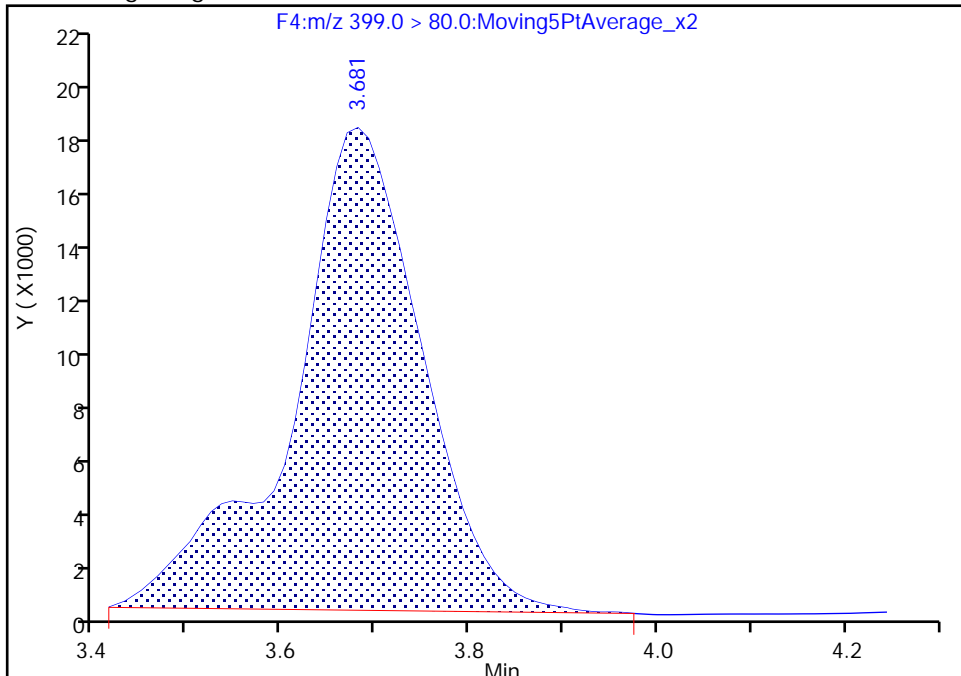
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Injection Date: 21-Apr-2018 17:32:41 Instrument ID: LC410  
Lims ID: 200-43041-B-2-C MSD  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 26  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

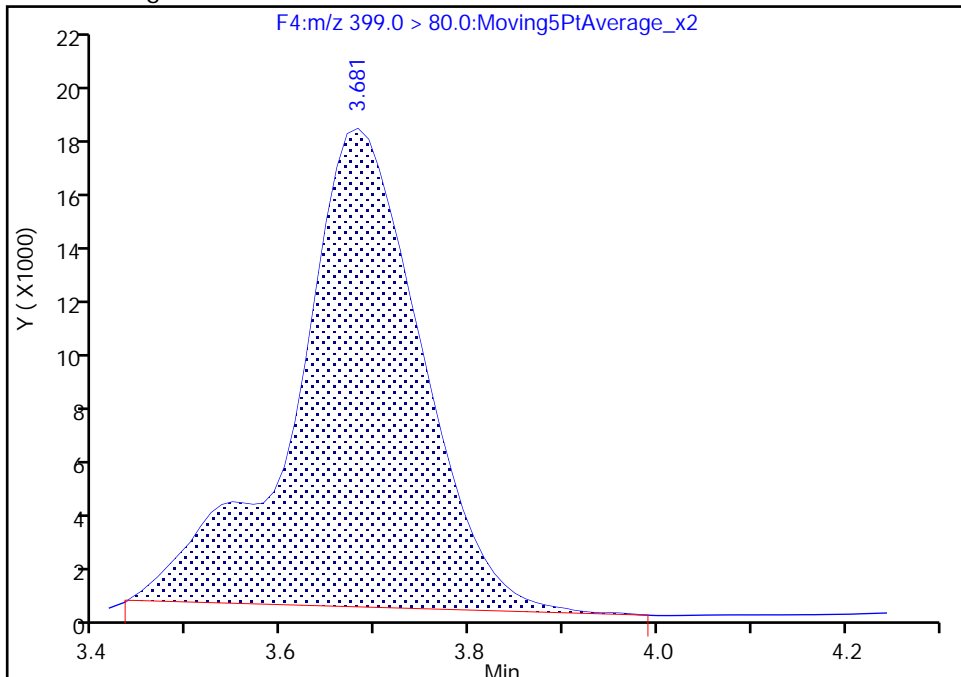
RT: 3.68  
Area: 170596  
Amount: 19.986160  
Amount Units: ng/ml

Processing Integration Results



RT: 3.68  
Area: 165899  
Amount: 19.435109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:26:49  
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

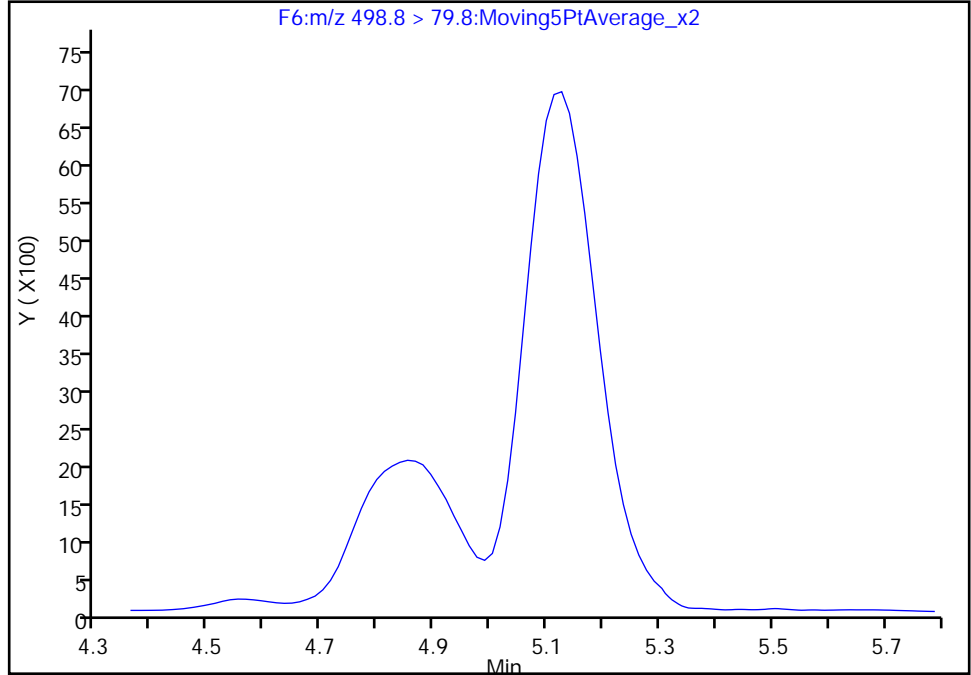
Data File: \\ChromNA\Burlington\ChromData\LC410\20180420-30209.b\PF042118A26.d  
Injection Date: 21-Apr-2018 17:32:41 Instrument ID: LC410  
Lims ID: 200-43041-B-2-C MSD  
Client ID: MW-2  
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 26  
Injection Vol: 20.0 ul Dil. Factor: 1.0000  
Method: PFCISO\_12MRM Limit Group: LC\_PFC\_ICAL  
Column: Detector F6:MRM

20 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

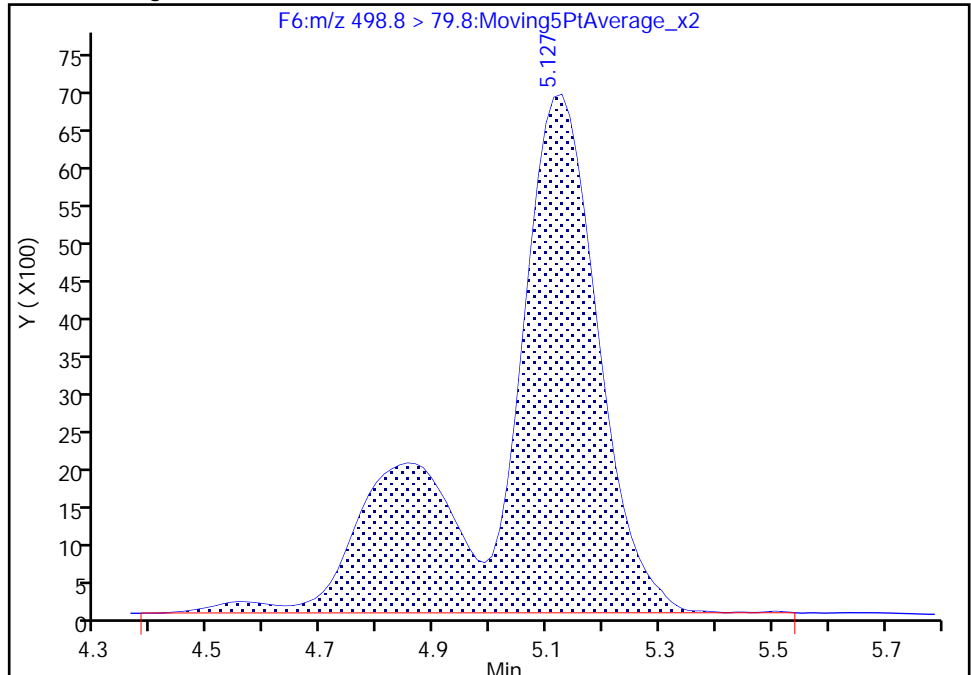
Not Detected  
Expected RT: 5.17

Processing Integration Results



RT: 5.13  
Area: 86606  
Amount: 19.878751  
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 23-Apr-2018 15:26:20  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Instrument ID: LC410 Start Date: 04/21/2018 11:07

Analysis Batch Number: 128716 End Date: 04/22/2018 03:37

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
COND CCV		04/21/2018 11:07	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 11:29	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 11:44	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 11:59	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 12:14	1		C-18 4.6 (mm)
IC 200-128716/6		04/21/2018 12:30	1	PF042118A06.d	C-18 4.6 (mm)
IC 200-128716/7		04/21/2018 12:45	1	PF042118A07.d	C-18 4.6 (mm)
IC 200-128716/8		04/21/2018 13:00	1	PF042118A08.d	C-18 4.6 (mm)
IC 200-128716/9		04/21/2018 13:15	1	PF042118A09.d	C-18 4.6 (mm)
IC 200-128716/10		04/21/2018 13:30	1	PF042118A10.d	C-18 4.6 (mm)
IC 200-128716/11		04/21/2018 13:45	1	PF042118A11.d	C-18 4.6 (mm)
ICB 200-128716/12		04/21/2018 14:00	1	PF042118A12.d	C-18 4.6 (mm)
ICV 200-128716/13		04/21/2018 14:16	1	PF042118A13.d	C-18 4.6 (mm)
ZZZZZ		04/21/2018 14:31	1		C-18 4.6 (mm)
MB 200-128603/1-A		04/21/2018 14:46	1	PF042118A15.d	C-18 4.6 (mm)
LCS 200-128603/2-A		04/21/2018 15:01	1	PF042118A16.d	C-18 4.6 (mm)
ZZZZZ		04/21/2018 15:16	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 15:31	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 15:46	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 16:01	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 16:16	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 16:32	1		C-18 4.6 (mm)
200-43041-1		04/21/2018 16:47	1	PF042118A23.d	C-18 4.6 (mm)
200-43041-2		04/21/2018 17:02	1	PF042118A24.d	C-18 4.6 (mm)
200-43041-2 MS		04/21/2018 17:17	1	PF042118A25.d	C-18 4.6 (mm)
200-43041-2 MSD		04/21/2018 17:32	1	PF042118A26.d	C-18 4.6 (mm)
200-43041-3		04/21/2018 17:47	1	PF042118A27.d	C-18 4.6 (mm)
200-43041-4		04/21/2018 18:02	1	PF042118A28.d	C-18 4.6 (mm)
CCV 200-128716/29		04/21/2018 18:18	1	PF042118A29.d	C-18 4.6 (mm)
200-43041-5		04/21/2018 18:33	1	PF042118A30.d	C-18 4.6 (mm)
200-43041-6		04/21/2018 18:48	1	PF042118A31.d	C-18 4.6 (mm)
200-43041-7		04/21/2018 19:03	1	PF042118A32.d	C-18 4.6 (mm)
200-43041-8		04/21/2018 19:18	1	PF042118A33.d	C-18 4.6 (mm)
200-43041-9		04/21/2018 19:33	1	PF042118A34.d	C-18 4.6 (mm)
ZZZZZ		04/21/2018 19:48	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 20:03	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 20:19	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 20:34	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 20:49	1		C-18 4.6 (mm)
CCV 200-128716/40		04/21/2018 21:04	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 21:19	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 21:34	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 21:49	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 22:05	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 22:20	1		C-18 4.6 (mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Burlington Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Instrument ID: LC410 Start Date: 04/21/2018 11:07

Analysis Batch Number: 128716 End Date: 04/22/2018 03:37

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		04/21/2018 22:35	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 22:50	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 23:05	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 23:20	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 23:35	1		C-18 4.6 (mm)
ZZZZZ		04/21/2018 23:50	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 00:06	1		C-18 4.6 (mm)
CCV 200-128716/53		04/22/2018 00:21	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 00:36	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 00:51	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 01:06	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 01:21	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 01:36	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 01:51	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 02:07	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 02:22	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 02:37	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 02:52	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 03:07	1		C-18 4.6 (mm)
ZZZZZ		04/22/2018 03:22	1		C-18 4.6 (mm)
CCV 200-128716/66		04/22/2018 03:37	1		C-18 4.6 (mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Batch Number: 128603 Batch Start Date: 04/18/18 12:25 Batch Analyst: Murray, John W

Batch Method: 3535 Batch End Date: 04/18/18 19:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFCIDA21 00002	LCPFC 21SP 00001
MB 200-128603/1		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	0.025 mL	
LCS 200-128603/2		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	0.025 mL	0.01 mL
200-43041-A-1	MW-101	3535, 537 (modified)	T	315.29 g	29.62 g	285.7 mL	0.5 mL	0.025 mL	
200-43041-B-2	MW-2	3535, 537 (modified)	T	322.26 g	27.91 g	294.4 mL	0.5 mL	0.025 mL	
200-43041-B-2 MS	MW-2	3535, 537 (modified)	T	322.43 g	27.88 g	294.6 mL	0.5 mL	0.025 mL	0.01 mL
200-43041-B-2 MSD	MW-2	3535, 537 (modified)	T	309.49 g	29.62 g	279.9 mL	0.5 mL	0.025 mL	0.01 mL
200-43041-B-3	MW-3	3535, 537 (modified)	T	320.24 g	27.95 g	292.3 mL	0.5 mL	0.025 mL	
200-43041-B-4	MW-4	3535, 537 (modified)	T	323.30 g	27.53 g	295.8 mL	0.5 mL	0.025 mL	
200-43041-B-5	MW-5	3535, 537 (modified)	T	315.73 g	27.90 g	287.8 mL	0.5 mL	0.025 mL	
200-43041-B-6	MW-6	3535, 537 (modified)	T	310.53 g	27.58 g	283 mL	0.5 mL	0.025 mL	
200-43041-B-7	EQUIPMENT BLANK 1	3535, 537 (modified)	T	302.81 g	29.57 g	273.2 mL	0.5 mL	0.025 mL	
200-43041-B-8	EQUIPMENT BLANK 2	3535, 537 (modified)	T	301.94 g	29.65 g	272.3 mL	0.5 mL	0.025 mL	
200-43041-B-9	MW-5 DUP	3535, 537 (modified)	T	326.78 g	27.86 g	298.9 mL	0.5 mL	0.025 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00001					
MB 200-128603/1		3535, 537 (modified)		0.005 mL					
LCS 200-128603/2		3535, 537 (modified)		0.005 mL					
200-43041-A-1	MW-101	3535, 537 (modified)	T	0.005 mL					
200-43041-B-2	MW-2	3535, 537 (modified)	T	0.005 mL					
200-43041-B-2 MS	MW-2	3535, 537 (modified)	T	0.005 mL					
200-43041-B-2 MSD	MW-2	3535, 537 (modified)	T	0.005 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

537 (modified)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Burlington Job No.: 200-43041-1

SDG No.: \_\_\_\_\_

Batch Number: 128603 Batch Start Date: 04/18/18 12:25 Batch Analyst: Murray, John W

Batch Method: 3535 Batch End Date: 04/18/18 19:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00001					
200-43041-B-3	MW-3	3535, 537 (modified)	T	0.005 mL					
200-43041-B-4	MW-4	3535, 537 (modified)	T	0.005 mL					
200-43041-B-5	MW-5	3535, 537 (modified)	T	0.005 mL					
200-43041-B-6	MW-6	3535, 537 (modified)	T	0.005 mL					
200-43041-B-7	EQUIPMENT BLANK 1	3535, 537 (modified)	T	0.005 mL					
200-43041-B-8	EQUIPMENT BLANK 2	3535, 537 (modified)	T	0.005 mL					
200-43041-B-9	MW-5 DUP	3535, 537 (modified)	T	0.005 mL					

Batch Notes	
Balance ID	M02926
First End time	1900 4/18/18
H2O ID	041018A
Hexane ID	1138942
Manifold ID	IDA 1, IDA 2
Pipette ID	V05476
Analyst ID - Reagent Drop	BC
Analyst ID - SU Reagent Drop	BC
Analyst ID - SU Reagent Drop Witness	JWM
Solvent Lot #	1131748
Solvent Name	0.3% MH4OH in MeOH
SOP Number	BR-LC-009r1
SPE Cartridge Type	Waters Oasis WAX 500mg Lot 003737320A
First Start time	1225 4/18/18

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# Shipping and Receiving Documents

Client Information  
 Client Contact: Ruth Curley  
 Company: New York State D.E.C.  
 Address: 625 Broadway, 12th Floor  
 City: Albany  
 State: NY  
 NY, 12233-7017  
 Phone: [Redacted]  
 Email: ruth.curley@dec.ny.gov  
 Project Name: DEC - Bridge Cleaners  
 Site: 241127

Lab PM: Haas, Melissa  
 E-Mail: melissa.haas@testamericainc.com

Carrier Tracking No(s): 460501

COC No: 460-96185-61055.1  
 Page: [Redacted]  
 Job #: [Redacted]

Due Date Requested: [Redacted]  
 TAT Requested (days): 10 days

PO #: [Redacted]  
 Callout: 134223; Site: 241127  
 WO #: [Redacted]  
 39-26 30th Street, Long Island City  
 Project #: 46025832  
 SSOW#: [Redacted]

Analysis Requested

Sample Identification

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	Special Instructions/Note
MW-101	4/10/18	845	G	Water	
MW-2	4/10/18	1240	G	Water	
MW-3	4/10/18	1435	G	Water	
MW-4	4/10/18	1058	G	Water	
MW-5	4/10/18	1245	G	Water	
MW-6	4/10/18	1445	G	Water	
Equipment blank 1	4/10/18	0700	G	Water	
Equipment blank 2	4/10/18	925	G	Water	
MW-5 Dup	4/10/18	1245	G	Water	

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

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: [Signature]  
 Relinquished by: [Signature]  
 Relinquished by: [Signature]  
 Relinquished by: [Signature]

Received by: [Signature]  
 Date/Time: 4/10/18 1500  
 Company: GES

Received by: [Signature]  
 Date/Time: 4/10/18 1730  
 Company: TANYC

Received by: [Signature]  
 Date/Time: [Redacted]  
 Company: [Redacted]

Cooler Temperature(s) °C and Other Remarks:  
 Δ Yes Δ No

Special Instructions/Note:  
 200-43041 COC



ORIGIN ID:AIVA (646) 745-0906  
TESTAMERICA NYC  
47-32 32ND PLACE,  
SUITE 1141  
LONG ISLAND CITY, NY 11101  
UNITED STATES US

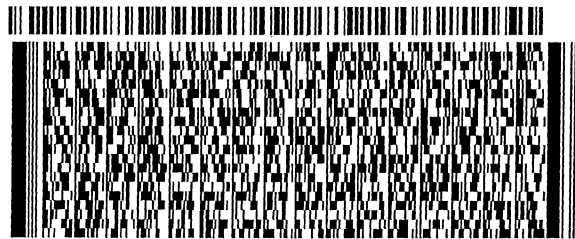
SHIP DATE: 10APR18  
ACTWGT: 10.00 LB  
CAD: 101905570/INET3980  
DIMS: 26x20x18 IN.  
BILL RECIPIENT

TO **SAMPLING RECEIVING BVT**  
**TESTAMERICA**  
**30 COMMUNITY DR STE 11**

**SOUTH BURLINGTON VT 05403**

(802) 660-1990 REF:  
INV: DEPT:  
PO:

552119132DCA5



WED - 11 APR 3:00P  
STANDARD OVERNIGHT

TRK# 7719 6307 3316  
0201

**NC BTVA**

05403  
VT-US BTV



# Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 200-43041-1

**Login Number: 43041**  
**List Number: 1**  
**Creator: Hahl, Victoria L**

**List Source: TestAmerica Burlington**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

## ANALYTICAL REPORT

Job Number: 460-153716-1

Job Description: DEC - Bridge Cleaners; Site: 241127

For:  
New York State D.E.C.  
625 Broadway  
12th Floor  
Albany, NY 12233-7017  
Attention: Ms. Ruth Curley



Approved for release.  
Thomas A Chupela  
Project Management Assistant I  
4/17/2018 9:49 AM

---

Designee for  
Melissa Haas, Project Manager I  
777 New Durham Road, Edison, NJ, 08817  
(203)944-1310  
melissa.haas@testamericainc.com  
04/17/2018

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LAO00132

**TestAmerica Laboratories, Inc.**

TestAmerica Edison 777 New Durham Road, Edison, NJ 08817  
Tel (732) 549-3900 Fax (732) 549-3679 [www.testamericainc.com](http://www.testamericainc.com)

Job Number: 460-153716-1

Job Description: DEC - Bridge Cleaners; Site: 241127

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Approved for release.  
Thomas A. Chupela  
Project Management Assistant I  
4/17/2018 9:49 AM

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Designee for  
Melissa Haas

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## CASE NARRATIVE

**Client: New York State D.E.C.**

**Project: DEC - Bridge Cleaners; Site: 241127**

**Report Number: 460-153716-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

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

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

### **RECEIPT**

The samples were received on 4/10/2018 8:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

### **1,4 DIOXANE BY METHOD 8270 SIM**

Samples MW-101 (460-153716-1), MW-2 (460-153716-2), MW-3 (460-153716-3), MW-4 (460-153716-4), MW-5 (460-153716-5), MW-6 (460-153716-6), Equipment Blank 1 (460-153716-7), Equipment Blank 2 (460-153716-8) and MW-S Dup (460-153716-9) were analyzed for 1,4 Dioxane by Method 8270 SIM in accordance with EPA SW-846 Method 8270D SIM DKQP. The samples were prepared on 04/13/2018 and analyzed on 04/14/2018.

The surrogate recovery for the blank associated with preparation batch 460-510837 and analytical batch 460-511063 was outside the upper control limits.

Refer to the QC report for details.

No other difficulties were encountered during the SVOC SIM DKQP analysis.

All other quality control parameters were within the acceptance limits.

# Sample Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-153716-1	MW-101	Water	04/10/18 08:45	04/10/18 20:00
460-153716-2	MW-2	Water	04/10/18 12:40	04/10/18 20:00
460-153716-3	MW-3	Water	04/10/18 14:35	04/10/18 20:00
460-153716-4	MW-4	Water	04/10/18 10:58	04/10/18 20:00
460-153716-5	MW-5	Water	04/10/18 12:45	04/10/18 20:00
460-153716-6	MW-6	Water	04/10/18 14:45	04/10/18 20:00
460-153716-7	Equipment Blank 1	Water	04/10/18 07:00	04/10/18 20:00
460-153716-8	Equipment Blank 2	Water	04/10/18 09:25	04/10/18 20:00
460-153716-9	MW-S Dup	Water	04/10/18 12:45	04/10/18 20:00



# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

**Client Sample ID: MW-101**

**Lab Sample ID: 460-153716-1**

No Detections.

**Client Sample ID: MW-2**

**Lab Sample ID: 460-153716-2**

No Detections.

**Client Sample ID: MW-3**

**Lab Sample ID: 460-153716-3**

No Detections.

**Client Sample ID: MW-4**

**Lab Sample ID: 460-153716-4**

No Detections.

**Client Sample ID: MW-5**

**Lab Sample ID: 460-153716-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,4-Dioxane	0.20	J	0.40	0.17	ug/L	1			8270D SIM	Total/NA

**Client Sample ID: MW-6**

**Lab Sample ID: 460-153716-6**

No Detections.

**Client Sample ID: Equipment Blank 1**

**Lab Sample ID: 460-153716-7**

No Detections.

**Client Sample ID: Equipment Blank 2**

**Lab Sample ID: 460-153716-8**

No Detections.

**Client Sample ID: MW-S Dup**

**Lab Sample ID: 460-153716-9**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Edison

# Method Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
8270D SIM	1,4-Dioxane (GC/MS SIM)	SW846	TAL EDI

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

## Client Sample ID: MW-101

Date Collected: 04/10/18 08:45  
Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-1

Matrix: Water

### Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 11:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	102		38 - 125				04/13/18 08:40	04/14/18 11:30	1

## Client Sample ID: MW-2

Date Collected: 04/10/18 12:40  
Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-2

Matrix: Water

### Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 10:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	101		38 - 125				04/13/18 08:40	04/14/18 10:05	1

## Client Sample ID: MW-3

Date Collected: 04/10/18 14:35  
Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-3

Matrix: Water

### Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 11:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	101		38 - 125				04/13/18 08:40	04/14/18 11:51	1

## Client Sample ID: MW-4

Date Collected: 04/10/18 10:58  
Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-4

Matrix: Water

### Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 12:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	95		38 - 125				04/13/18 08:40	04/14/18 12:12	1

## Client Sample ID: MW-5

Date Collected: 04/10/18 12:45  
Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-5

Matrix: Water

### Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.20	J	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 12:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	96		38 - 125				04/13/18 08:40	04/14/18 12:34	1

# Client Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

**Client Sample ID: MW-6**  
**Date Collected: 04/10/18 14:45**  
**Date Received: 04/10/18 20:00**

**Lab Sample ID: 460-153716-6**  
**Matrix: Water**

**Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 12:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	96		38 - 125				04/13/18 08:40	04/14/18 12:55	1

**Client Sample ID: Equipment Blank 1**  
**Date Collected: 04/10/18 07:00**  
**Date Received: 04/10/18 20:00**

**Lab Sample ID: 460-153716-7**  
**Matrix: Water**

**Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 13:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	103		38 - 125				04/13/18 08:40	04/14/18 13:16	1

**Client Sample ID: Equipment Blank 2**  
**Date Collected: 04/10/18 09:25**  
**Date Received: 04/10/18 20:00**

**Lab Sample ID: 460-153716-8**  
**Matrix: Water**

**Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 13:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	100		38 - 125				04/13/18 08:40	04/14/18 13:37	1

**Client Sample ID: MW-S Dup**  
**Date Collected: 04/10/18 12:45**  
**Date Received: 04/10/18 20:00**

**Lab Sample ID: 460-153716-9**  
**Matrix: Water**

**Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 13:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	98		38 - 125				04/13/18 08:40	04/14/18 13:58	1

# Surrogate Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

**Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NBZ (38-125)
460-153716-1	MW-101	102
460-153716-2	MW-2	101
460-153716-2 MS	MW-2	96
460-153716-2 MSD	MW-2	102
460-153716-3	MW-3	101
460-153716-4	MW-4	95
460-153716-5	MW-5	96
460-153716-6	MW-6	96
460-153716-7	Equipment Blank 1	103
460-153716-8	Equipment Blank 2	100
460-153716-9	MW-S Dup	98
LCS 460-510837/2-A	Lab Control Sample	100
MB 460-510837/1-A	Method Blank	98

### Surrogate Legend

NBZ = Nitrobenzene-d5

# QC Sample Results

Client: New York State D.E.C.  
 Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

## Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

**Lab Sample ID: MB 460-510837/1-A**  
**Matrix: Water**  
**Analysis Batch: 511063**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 510837**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	U	0.40	0.17	ug/L		04/13/18 08:40	04/14/18 09:23	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	98		38 - 125				04/13/18 08:40	04/14/18 09:23	1

**Lab Sample ID: LCS 460-510837/2-A**  
**Matrix: Water**  
**Analysis Batch: 511063**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 510837**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane	0.800	0.344	J	ug/L		43	10 - 137
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Nitrobenzene-d5	100		38 - 125				

**Lab Sample ID: 460-153716-2 MS**  
**Matrix: Water**  
**Analysis Batch: 511063**

**Client Sample ID: MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 510837**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane	0.17	U	0.800	0.549		ug/L		69	10 - 137
Surrogate	MS %Recovery	MS Qualifier	Limits						
Nitrobenzene-d5	96		38 - 125						

**Lab Sample ID: 460-153716-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 511063**

**Client Sample ID: MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 510837**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	0.17	U	0.800	0.523		ug/L		65	10 - 137	5	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Nitrobenzene-d5	102		38 - 125								

# Definitions/Glossary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

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## Qualifiers

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### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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## Glossary

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

# QC Association Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

## GC/MS Semi VOA

### Prep Batch: 510837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-153716-1	MW-101	Total/NA	Water	3510C	
460-153716-2	MW-2	Total/NA	Water	3510C	
460-153716-3	MW-3	Total/NA	Water	3510C	
460-153716-4	MW-4	Total/NA	Water	3510C	
460-153716-5	MW-5	Total/NA	Water	3510C	
460-153716-6	MW-6	Total/NA	Water	3510C	
460-153716-7	Equipment Blank 1	Total/NA	Water	3510C	
460-153716-8	Equipment Blank 2	Total/NA	Water	3510C	
460-153716-9	MW-S Dup	Total/NA	Water	3510C	
MB 460-510837/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-510837/2-A	Lab Control Sample	Total/NA	Water	3510C	
460-153716-2 MS	MW-2	Total/NA	Water	3510C	
460-153716-2 MSD	MW-2	Total/NA	Water	3510C	

### Analysis Batch: 511063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-153716-1	MW-101	Total/NA	Water	8270D SIM	510837
460-153716-2	MW-2	Total/NA	Water	8270D SIM	510837
460-153716-3	MW-3	Total/NA	Water	8270D SIM	510837
460-153716-4	MW-4	Total/NA	Water	8270D SIM	510837
460-153716-5	MW-5	Total/NA	Water	8270D SIM	510837
460-153716-6	MW-6	Total/NA	Water	8270D SIM	510837
460-153716-7	Equipment Blank 1	Total/NA	Water	8270D SIM	510837
460-153716-8	Equipment Blank 2	Total/NA	Water	8270D SIM	510837
460-153716-9	MW-S Dup	Total/NA	Water	8270D SIM	510837
MB 460-510837/1-A	Method Blank	Total/NA	Water	8270D SIM	510837
LCS 460-510837/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	510837
460-153716-2 MS	MW-2	Total/NA	Water	8270D SIM	510837
460-153716-2 MSD	MW-2	Total/NA	Water	8270D SIM	510837



# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

## Client Sample ID: MW-101

Date Collected: 04/10/18 08:45

Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 11:30	DAN	TAL EDI

## Client Sample ID: MW-2

Date Collected: 04/10/18 12:40

Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 10:05	DAN	TAL EDI

## Client Sample ID: MW-3

Date Collected: 04/10/18 14:35

Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 11:51	DAN	TAL EDI

## Client Sample ID: MW-4

Date Collected: 04/10/18 10:58

Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 12:12	DAN	TAL EDI

## Client Sample ID: MW-5

Date Collected: 04/10/18 12:45

Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 12:34	DAN	TAL EDI

## Client Sample ID: MW-6

Date Collected: 04/10/18 14:45

Date Received: 04/10/18 20:00

## Lab Sample ID: 460-153716-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 12:55	DAN	TAL EDI

TestAmerica Edison

# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

## Client Sample ID: Equipment Blank 1

Date Collected: 04/10/18 07:00

Date Received: 04/10/18 20:00

Lab Sample ID: 460-153716-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 13:16	DAN	TAL EDI

## Client Sample ID: Equipment Blank 2

Date Collected: 04/10/18 09:25

Date Received: 04/10/18 20:00

Lab Sample ID: 460-153716-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 13:37	DAN	TAL EDI

## Client Sample ID: MW-S Dup

Date Collected: 04/10/18 12:45

Date Received: 04/10/18 20:00

Lab Sample ID: 460-153716-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			510837	04/13/18 08:40	KMH	TAL EDI
Total/NA	Analysis	8270D SIM		1	511063	04/14/18 13:58	DAN	TAL EDI

### Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

# Accreditation/Certification Summary

Client: New York State D.E.C.  
Project/Site: DEC - Bridge Cleaners; Site: 241127

TestAmerica Job ID: 460-153716-1

## Laboratory: TestAmerica Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Connecticut	State Program	1	PH-0200	09-30-18
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	N/A	12-31-18
New Jersey	NELAP	2	12028	06-30-18
New York	NELAP	2	11452	04-01-19
Pennsylvania	NELAP	3	68-00522	02-28-19
Rhode Island	State Program	1	LAO00132	12-30-18
USDA	Federal		NJCA-003-08	06-13-20

**8270D\_SIM\_14DX**

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**1,4-Dioxane (GC/MS SIM)**

FORM II  
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Edison

Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): Rtxi-5Sil M ID: 0.25 (mm)

Client Sample ID	Lab Sample ID	NBZ #
MW-101	460-153716-1	102
MW-2	460-153716-2	101
MW-3	460-153716-3	101
MW-4	460-153716-4	95
MW-5	460-153716-5	96
MW-6	460-153716-6	96
Equipment Blank 1	460-153716-7	103
Equipment Blank 2	460-153716-8	100
MW-S Dup	460-153716-9	98
	MB 460-510837/1-A	98
	LCS 460-510837/2-A	100
MW-2 MS	460-153716-2 MS	96
MW-2 MSD	460-153716-2 MSD	102

NBZ = Nitrobenzene-d5

QC LIMITS  
38-125

# Column to be used to flag recovery values

FORM II 8270D SIM

FORM III  
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: h229219.D

Lab ID: LCS 460-510837/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,4-Dioxane	0.800	0.344 J	43	10-137	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: h229221.D  
 Lab ID: 460-153716-2 MS Client ID: MW-2 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,4-Dioxane	0.800	0.17 U	0.549	69	10-137	

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: h229222.D

Lab ID: 460-153716-2 MSD Client ID: MW-2 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,4-Dioxane	0.800	0.523	65	5	30	10-137	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: h229218.D Lab Sample ID: MB 460-510837/1-A  
 Matrix: Water Date Extracted: 04/13/2018 08:40  
 Instrument ID: CBNAMS9 Date Analyzed: 04/14/2018 09:23  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 460-510837/2-A	h229219.D	04/14/2018 09:44
MW-2	460-153716-2	h229220.D	04/14/2018 10:05
MW-2 MS	460-153716-2 MS	h229221.D	04/14/2018 10:26
MW-2 MSD	460-153716-2 MSD	h229222.D	04/14/2018 10:47
MW-101	460-153716-1	h229224.D	04/14/2018 11:30
MW-3	460-153716-3	h229225.D	04/14/2018 11:51
MW-4	460-153716-4	h229226.D	04/14/2018 12:12
MW-5	460-153716-5	h229227.D	04/14/2018 12:34
MW-6	460-153716-6	h229228.D	04/14/2018 12:55
Equipment Blank 1	460-153716-7	h229229.D	04/14/2018 13:16
Equipment Blank 2	460-153716-8	h229230.D	04/14/2018 13:37
MW-S Dup	460-153716-9	h229231.D	04/14/2018 13:58

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: h229153.D DFTPP Injection Date: 04/12/2018  
 Instrument ID: CBNAMS9 DFTPP Injection Time: 13:07  
 Analysis Batch No.: 510570

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0 % of mass 198	48.3
68	Less than 2.0 % of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	47.0
70	Less than 2.0 % of mass 69	0.0 (0.0) 1
127	40.0 - 60.0 % of mass 198	51.4
197	Less than 1.0 % of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0- 9.0 % of mass 198	5.9
275	10.0 - 30.0 % of mass 198	20.3
365	Greater than 1.0 % of mass 198	1.7
441	Present but less than mass 443	9.1 (67.8) 3
442	Greater than 40.0 % of mass 198	70.1
443	17.0 - 23.0 % of mass 442	13.5 (19.2) 2

1-Value is % mass 69                      2-Value is % mass 442                      3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 460-510570/2	h229154.D	04/12/2018	14:15
	STD6 460-510570/3	h229155.D	04/12/2018	14:36
	STD5 460-510570/4	h229156.D	04/12/2018	14:57
	STD4 460-510570/5	h229157.D	04/12/2018	15:19
	STD2 460-510570/6	h229158.D	04/12/2018	15:40
	STD1 460-510570/7	h229159.D	04/12/2018	16:01

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: h229215.D DFTPP Injection Date: 04/14/2018  
 Instrument ID: CBNAM9 DFTPP Injection Time: 08:08  
 Analysis Batch No.: 511063

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0 % of mass 198	51.8
68	Less than 2.0 % of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	47.5
70	Less than 2.0 % of mass 69	0.0 (0.0) 1
127	40.0 - 60.0 % of mass 198	56.0
197	Less than 1.0 % of mass 198	0.0
198	Base Peak, 100 % relative abundance	100.0
199	5.0- 9.0 % of mass 198	6.4
275	10.0 - 30.0 % of mass 198	21.3
365	Greater than 1.0 % of mass 198	1.8
441	Present but less than mass 443	10.0 (84.1) 3
442	Greater than 40.0 % of mass 198	64.1
443	17.0 - 23.0 % of mass 442	11.9 (18.6) 2

1-Value is % mass 69                      2-Value is % mass 442                      3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 460-511063/2	h229216.D	04/14/2018	08:25
	MB 460-510837/1-A	h229218.D	04/14/2018	09:23
	LCS 460-510837/2-A	h229219.D	04/14/2018	09:44
MW-2	460-153716-2	h229220.D	04/14/2018	10:05
MW-2 MS	460-153716-2 MS	h229221.D	04/14/2018	10:26
MW-2 MSD	460-153716-2 MSD	h229222.D	04/14/2018	10:47
MW-101	460-153716-1	h229224.D	04/14/2018	11:30
MW-3	460-153716-3	h229225.D	04/14/2018	11:51
MW-4	460-153716-4	h229226.D	04/14/2018	12:12
MW-5	460-153716-5	h229227.D	04/14/2018	12:34
MW-6	460-153716-6	h229228.D	04/14/2018	12:55
Equipment Blank 1	460-153716-7	h229229.D	04/14/2018	13:16
Equipment Blank 2	460-153716-8	h229230.D	04/14/2018	13:37
MW-S Dup	460-153716-9	h229231.D	04/14/2018	13:58

FORM VIII  
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 460-511063/2 Date Analyzed: 04/14/2018 08:25  
 Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil MS ID: 0.25 (mm)  
 Lab File ID (Standard): h229216.D Heated Purge: (Y/N) N  
 Calibration ID: 67607

	DCBd4		NPT		AREA #	RT #
	AREA #	RT #	AREA #	RT #		
12/24 HOUR STD	4453	4.31	11807	5.53		
UPPER LIMIT	8906	4.81	23614	6.03		
LOWER LIMIT	2227	3.81	5904	5.03		
LAB SAMPLE ID	CLIENT SAMPLE ID					
MB 460-510837/1-A		3844	4.31	10456	5.53	
LCS 460-510837/2-A		4305	4.31	11936	5.53	
460-153716-2	MW-2	3878	4.31	10811	5.52	
460-153716-2 MS	MW-2 MS	4663	4.31	12768	5.53	
460-153716-2 MSD	MW-2 MSD	4495	4.31	12581	5.53	
460-153716-1	MW-101	4063	4.31	10950	5.53	
460-153716-3	MW-3	4015	4.31	11049	5.53	
460-153716-4	MW-4	4135	4.31	11170	5.53	
460-153716-5	MW-5	4107	4.31	11310	5.53	
460-153716-6	MW-6	3937	4.31	11063	5.53	
460-153716-7	Equipment Blank 1	3787	4.31	10415	5.53	
460-153716-8	Equipment Blank 2	3790	4.31	10588	5.53	
460-153716-9	MW-S Dup	4073	4.31	11482	5.52	

DCBd4 = 1,4-Dichlorobenzene-d4  
 NPT = Naphthalene-d8

Area Limit = 50%-200% of internal standard area  
 RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-101 Lab Sample ID: 460-153716-1  
 Matrix: Water Lab File ID: h229224.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 08:45  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 11:30  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	102		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229224.D  
 Lims ID: 460-153716-A-1-A  
 Client ID: MW-101  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 11:30:30 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-010  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:33:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	99	4063	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	100	21876	1.02	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	10950	0.2000	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	4558	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	97	6348	0.2000	
* 25 Chrysene-d12	240	11.165	11.165	0.000	93	4635	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3250	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229224.D

Injection Date: 14-Apr-2018 11:30:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-A-1-A

Lab Sample ID: 460-153716-1

Worklist Smp#: 10

Client ID: MW-101

Injection Vol: 5.0 ul

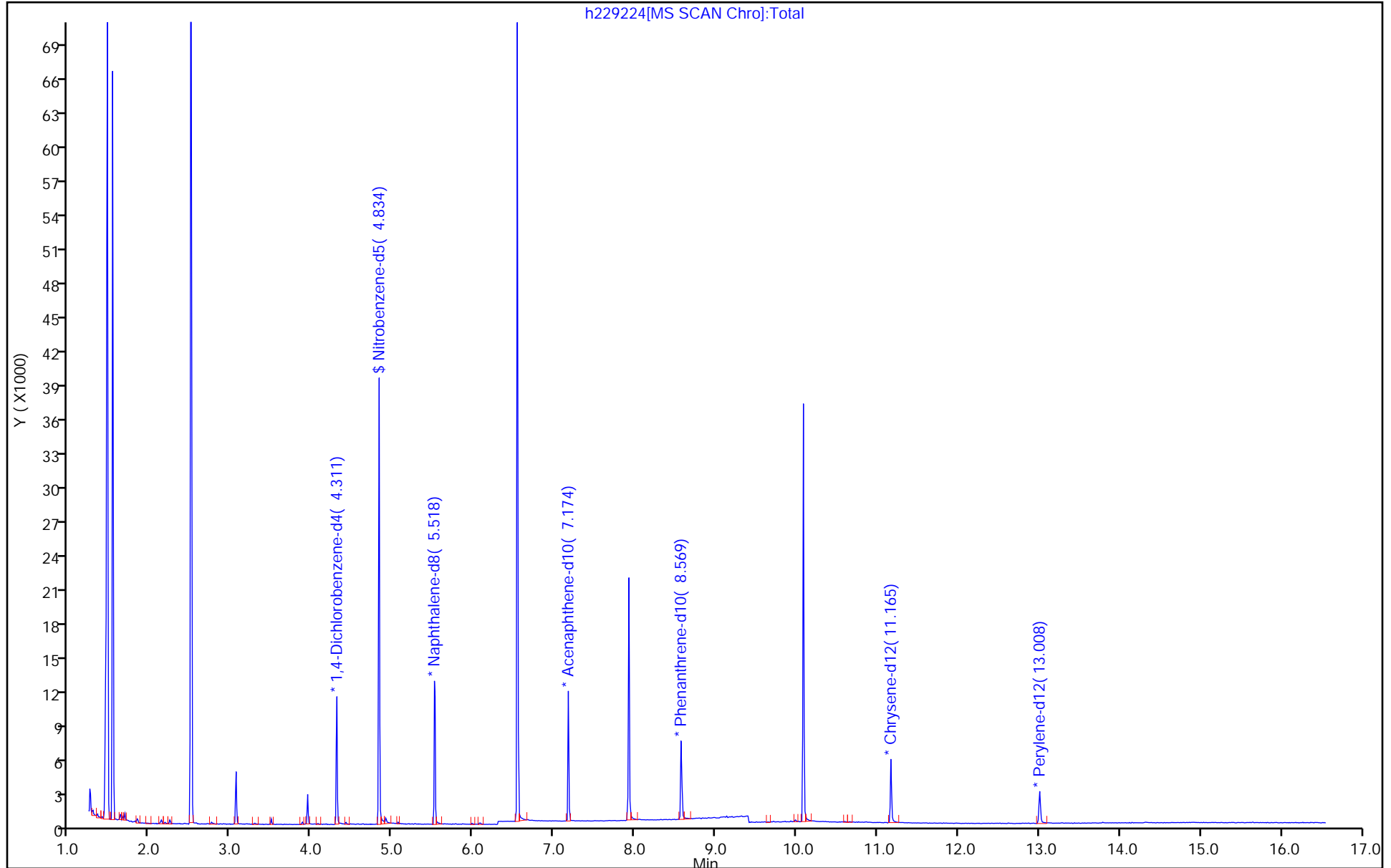
Dil. Factor: 1.0000

ALS Bottle#: 10

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 Lab Sample ID: 460-153716-2  
 Matrix: Water Lab File ID: h229220.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 12:40  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 10:05  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	101		38-125



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229220.D  
 Lims ID: 460-153716-A-2-C  
 Client ID: MW-2  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 10:05:30 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-006  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa

Date: 16-Apr-2018 11:32:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	3878	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	21327	1.01	
* 7 Naphthalene-d8	136	5.518	5.526	-0.008	100	10811	0.2000	
\$ 9 2-Fluorobiphenyl	172	6.543	6.543	0.000	96	39693	0.8891	
* 11 Acenaphthene-d10	164	7.175	7.174	0.001	97	4417	0.2000	
\$ 20 2,4,6-Tribromophenol	330	7.924	7.924	0.000	91	7776	0.9506	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	98	6419	0.2000	
\$ 23 Terphenyl-d14	244	10.083	10.083	0.000	99	20357	1.23	
* 25 Chrysene-d12	240	11.166	11.165	0.001	94	4185	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3130	0.2000	

**Reagents:**

SM\_SIMISTDLVI\_00022

Amount Added: 20.00

Units: uL

Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229220.D

Injection Date: 14-Apr-2018 10:05:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-A-2-C

Lab Sample ID: 460-153716-2

Worklist Smp#: 6

Client ID: MW-2

Injection Vol: 5.0 ul

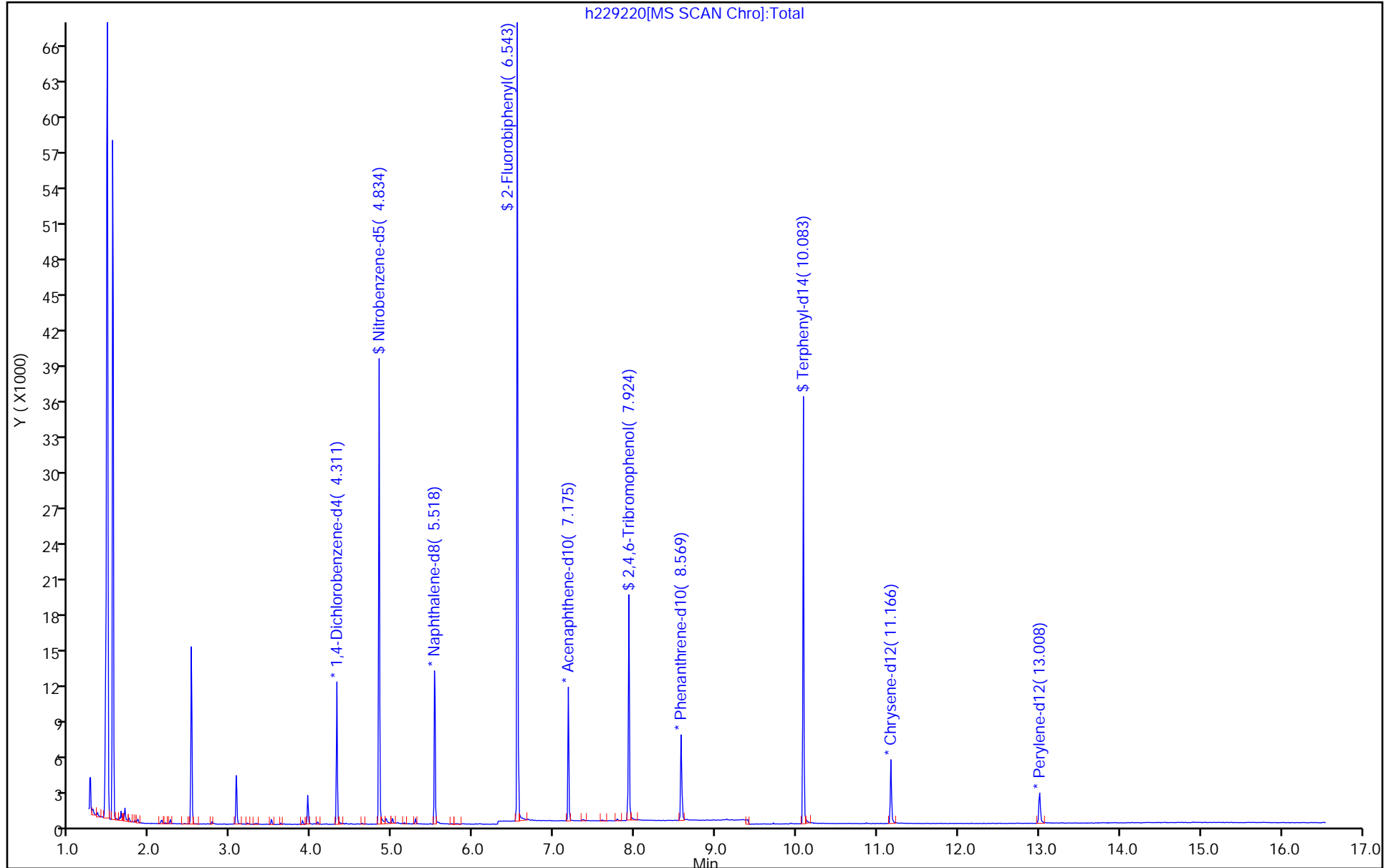
Dil. Factor: 1.0000

ALS Bottle#: 6

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229220.D

Injection Date: 14-Apr-2018 10:05:30

Instrument ID: CBNAMS9

Lims ID: 460-153716-A-2-C

Lab Sample ID: 460-153716-2

Client ID: MW-2

Operator ID:

ALS Bottle#:

6

Worklist Smp#:

6

Injection Vol: 5.0 ul

Dil. Factor: 1.0000

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

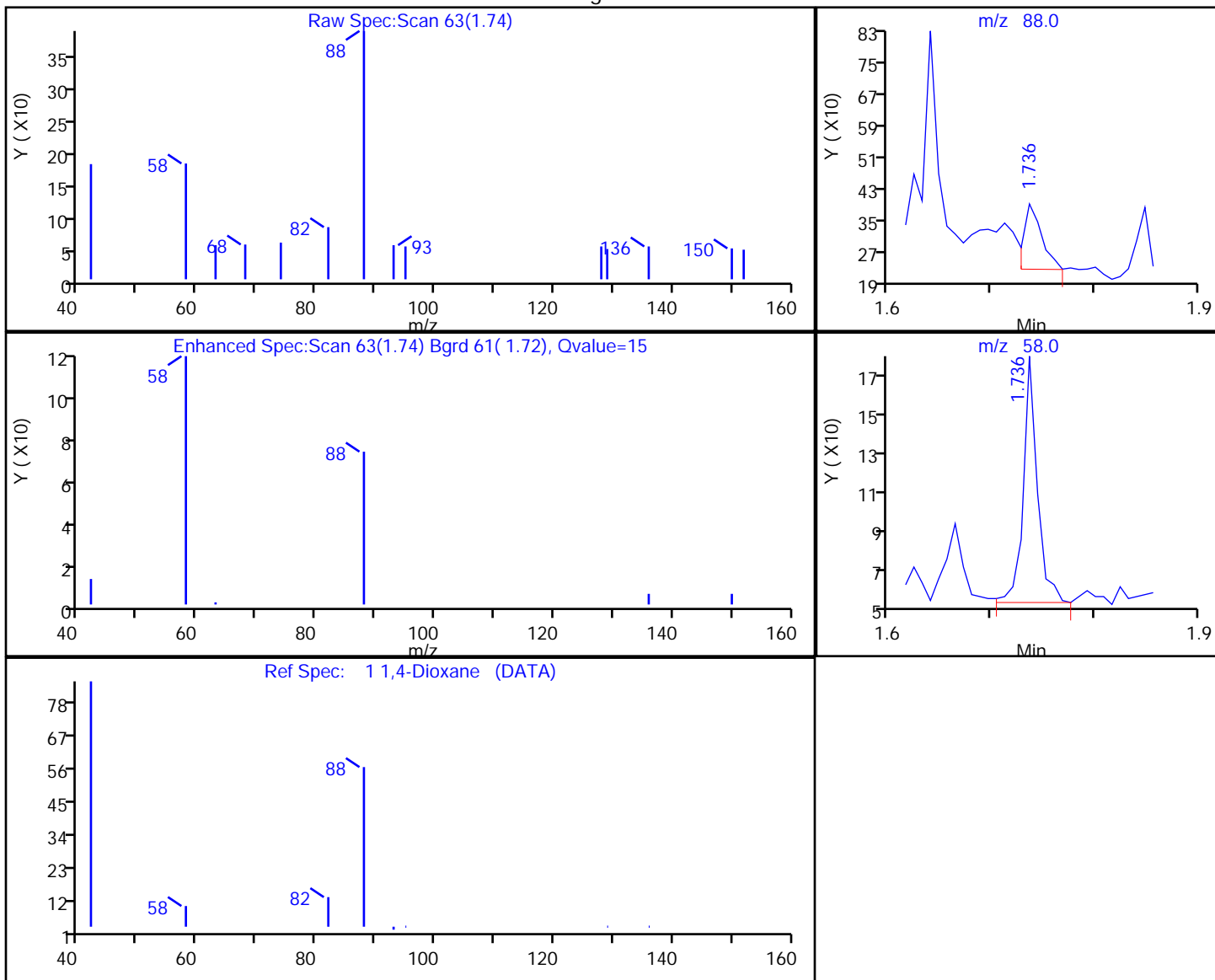
Column: Rtxi-5Sil MS (0.25 mm)

Detector

MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Processing Results



RT	Mass	Response	Amount
1.74	88.00	203	0.019088
1.74	58.00	119	

Reviewer: zhaoc, 16-Apr-2018 10:24:28

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-3 Lab Sample ID: 460-153716-3  
 Matrix: Water Lab File ID: h229225.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 14:35  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 11:51  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	101		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229225.D  
 Lims ID: 460-153716-B-3-A  
 Client ID: MW-3  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 11:51:30 ALS Bottle#: 11 Worklist Smp#: 11  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-011  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:33:40

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	4015	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	21905	1.01	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	11049	0.2000	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	4515	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	97	6796	0.2000	
* 25 Chrysene-d12	240	11.165	11.165	0.000	93	4557	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3268	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229225.D

Injection Date: 14-Apr-2018 11:51:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-B-3-A

Lab Sample ID: 460-153716-3

Worklist Smp#: 11

Client ID: MW-3

Injection Vol: 5.0 ul

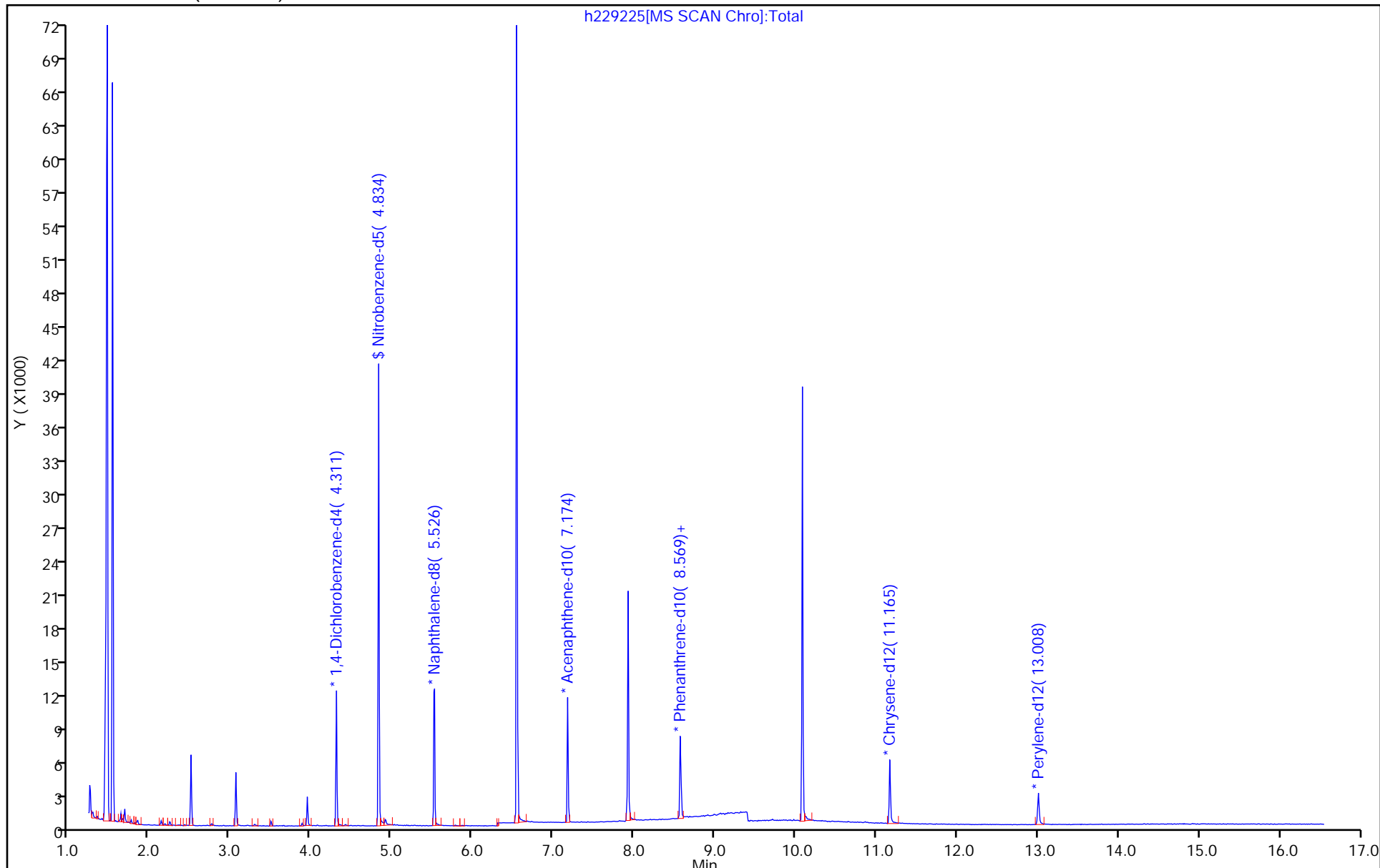
Dil. Factor: 1.0000

ALS Bottle#: 11

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-4 Lab Sample ID: 460-153716-4  
 Matrix: Water Lab File ID: h229226.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 10:58  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 12:12  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	95		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229226.D  
 Lims ID: 460-153716-B-4-A  
 Client ID: MW-4  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 12:12:30 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-012  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:33:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	99	4135	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	20696	0.9455	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	11170	0.2000	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	4428	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	98	6379	0.2000	
* 25 Chrysene-d12	240	11.165	11.165	0.000	92	4019	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	2764	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229226.D

Injection Date: 14-Apr-2018 12:12:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-B-4-A

Lab Sample ID: 460-153716-4

Worklist Smp#: 12

Client ID: MW-4

Injection Vol: 5.0 ul

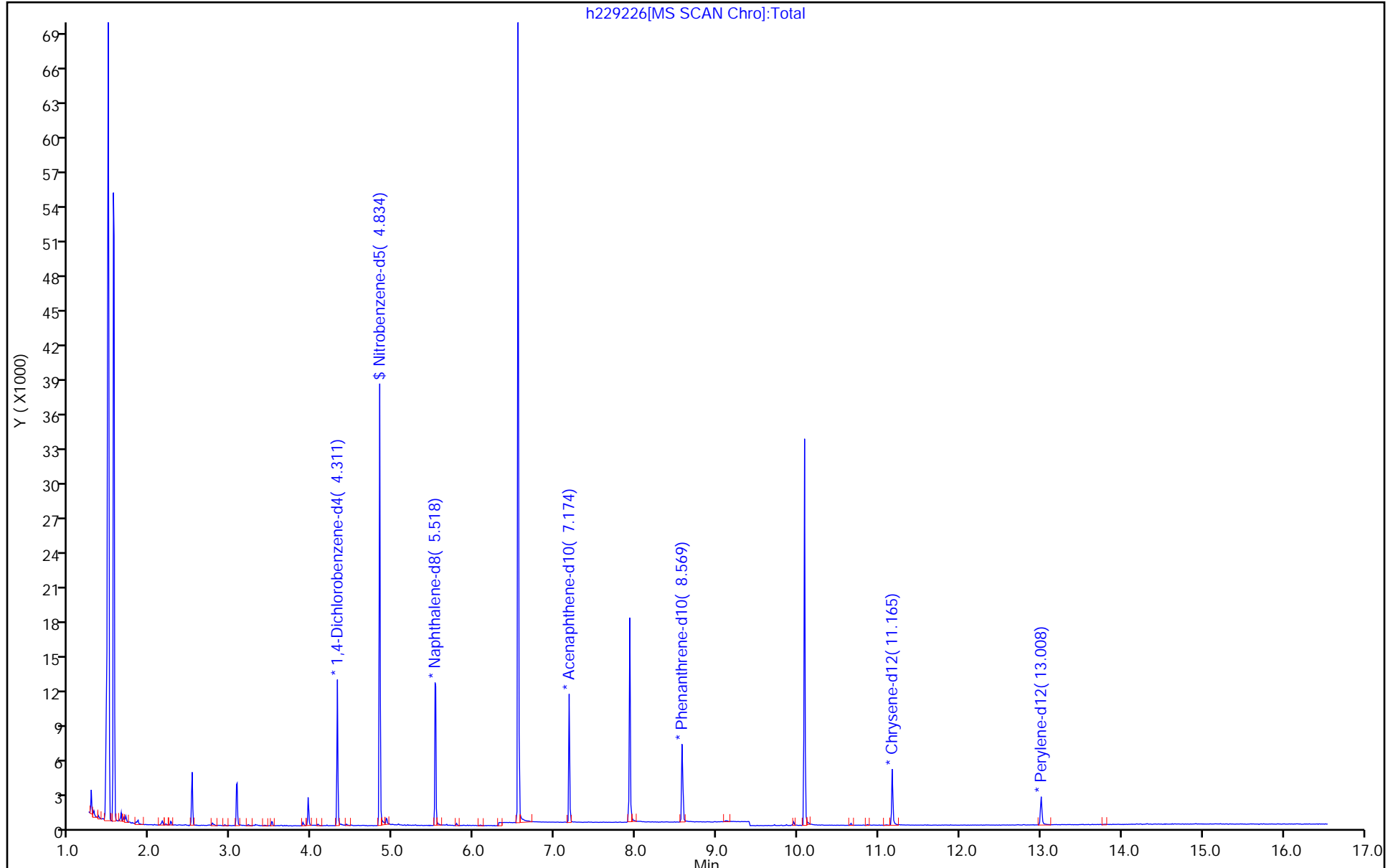
Dil. Factor: 1.0000

ALS Bottle#: 12

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-5 Lab Sample ID: 460-153716-5  
 Matrix: Water Lab File ID: h229227.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 12:45  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 12:34  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.20	J	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	96		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229227.D  
 Lims ID: 460-153716-B-5-A  
 Client ID: MW-5  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 12:34:30 ALS Bottle#: 13 Worklist Smp#: 13  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-013  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:34:11

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.736	1.736	0.000	21	283	0.0251	
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	4107	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	21378	0.9645	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	11310	0.2000	
* 11 Acenaphthene-d10	164	7.175	7.174	0.001	98	4701	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	98	6909	0.2000	
* 25 Chrysene-d12	240	11.166	11.165	0.001	94	4295	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3149	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229227.D

Injection Date: 14-Apr-2018 12:34:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-B-5-A

Lab Sample ID: 460-153716-5

Worklist Smp#: 13

Client ID: MW-5

Injection Vol: 5.0 ul

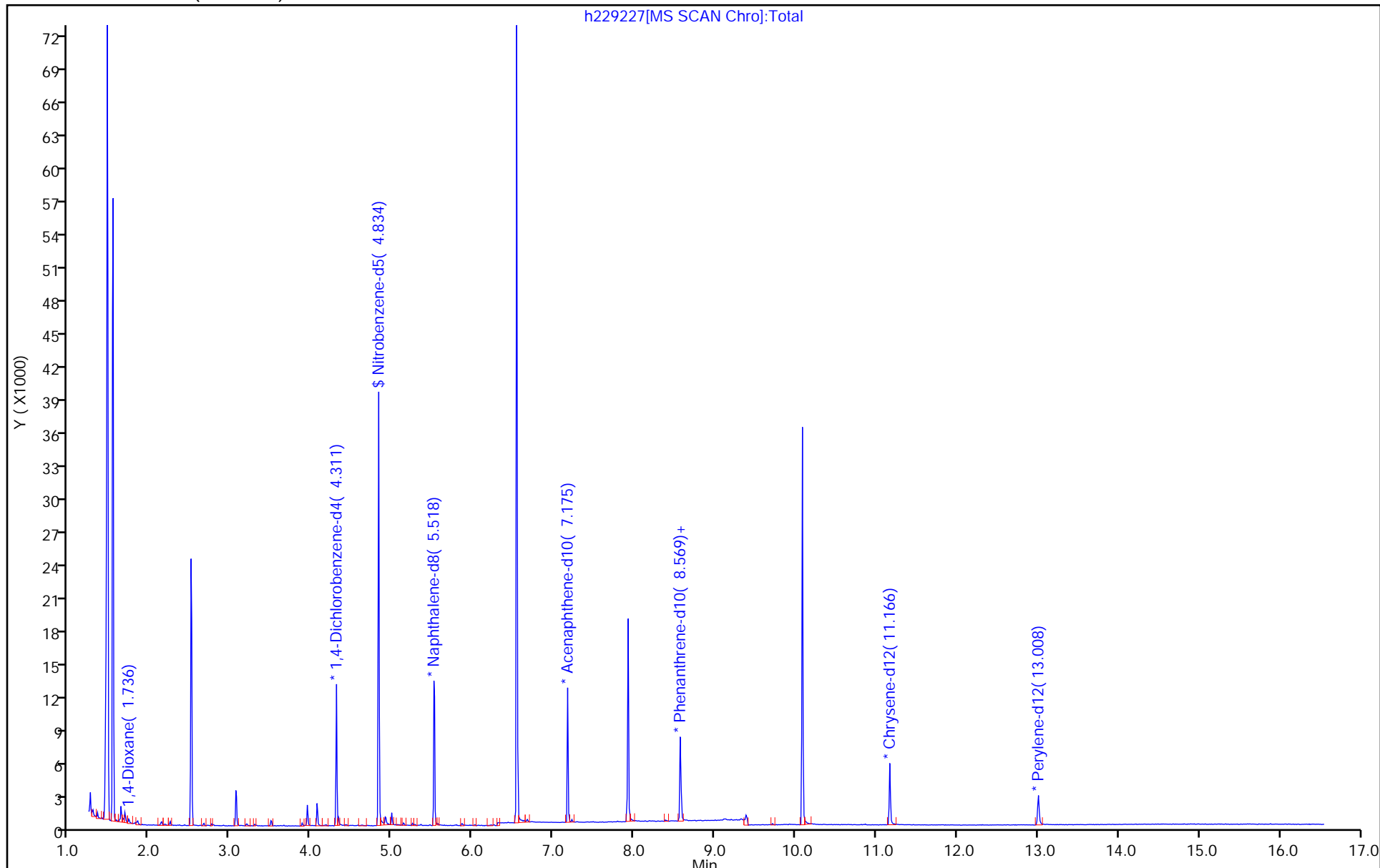
Dil. Factor: 1.0000

ALS Bottle#: 13

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229227.D

Injection Date: 14-Apr-2018 12:34:30

Instrument ID: CBNAMS9

Lims ID: 460-153716-B-5-A

Lab Sample ID: 460-153716-5

Client ID: MW-5

Operator ID:

ALS Bottle#: 13 Worklist Smp#: 13

Injection Vol: 5.0 ul

Dil. Factor: 1.0000

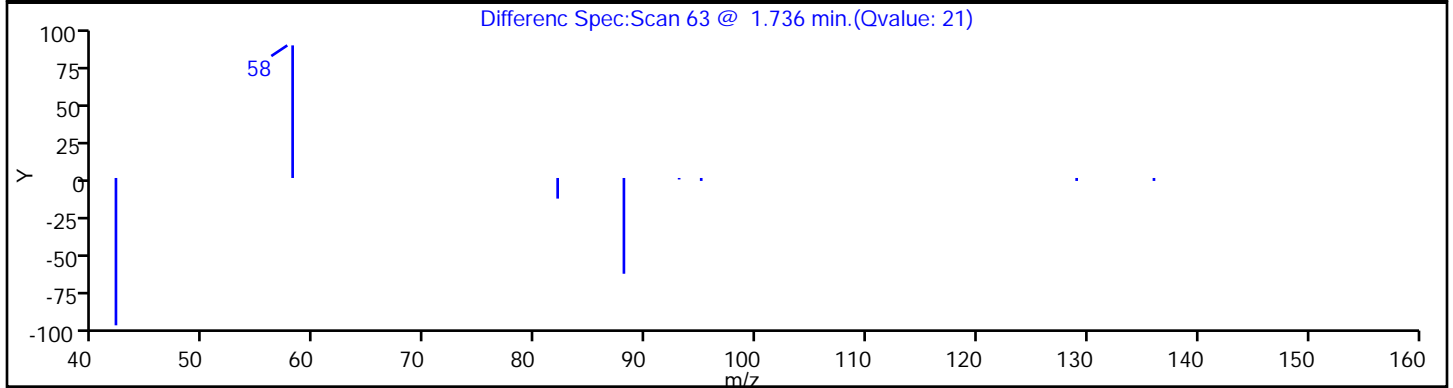
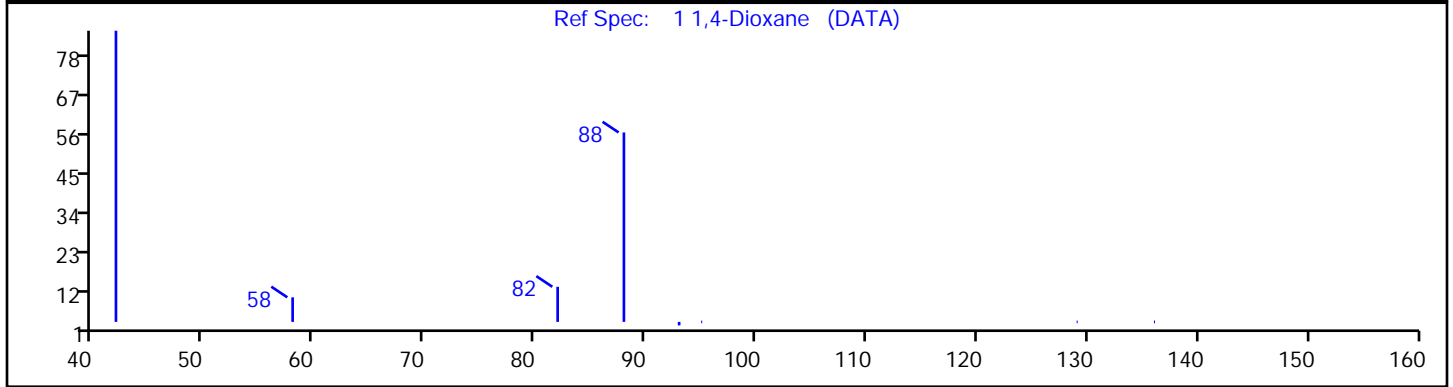
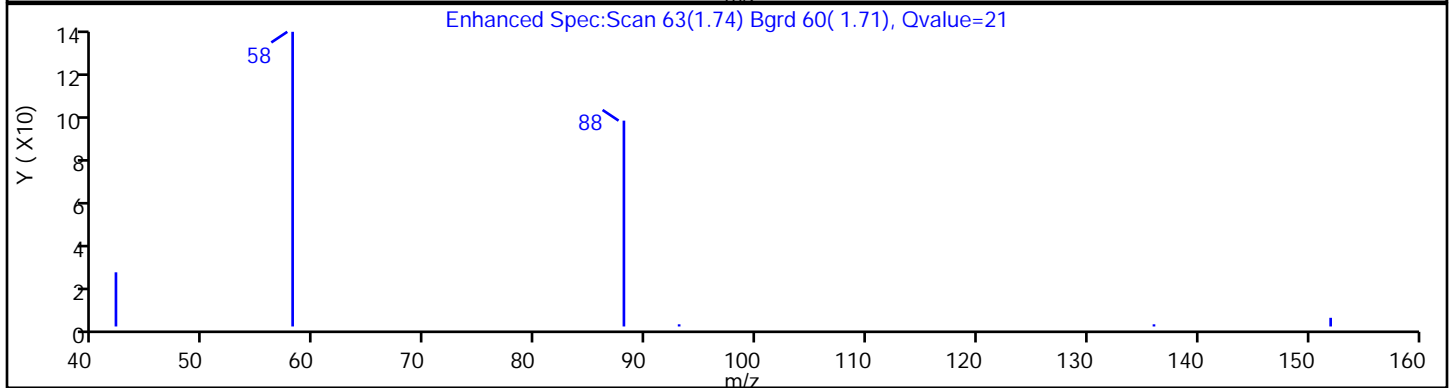
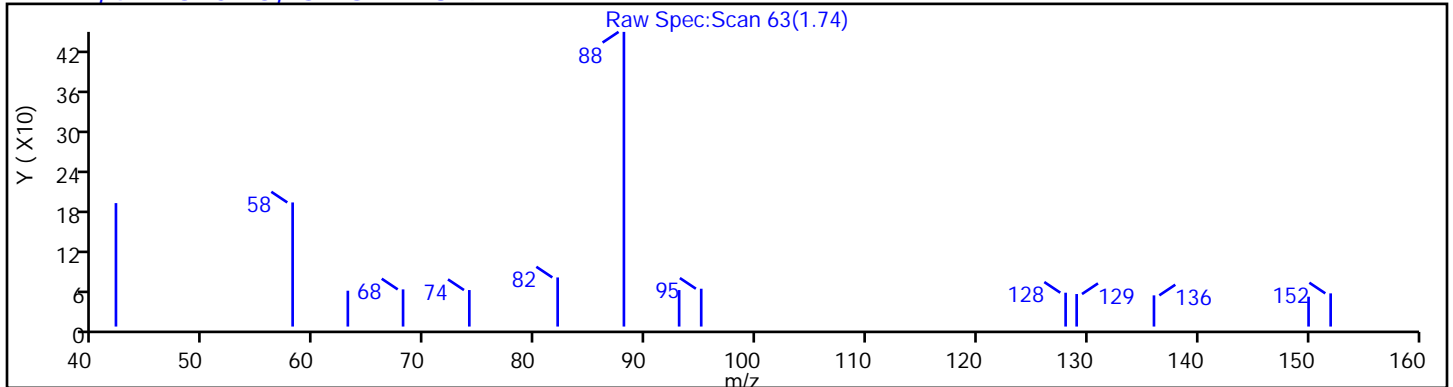
Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)

Detector: MS SCAN

1 1,4-Dioxane, CAS: 123-91-1



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-6 Lab Sample ID: 460-153716-6  
 Matrix: Water Lab File ID: h229228.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 14:45  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 12:55  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	96		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229228.D  
 Lims ID: 460-153716-B-6-A  
 Client ID: MW-6  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 12:55:30 ALS Bottle#: 14 Worklist Smp#: 14  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-014  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:34:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	3937	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	20895	0.9638	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	11063	0.2000	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	4839	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	97	7000	0.2000	
* 25 Chrysene-d12	240	11.166	11.165	0.001	94	4341	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3235	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229228.D

Injection Date: 14-Apr-2018 12:55:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-B-6-A

Lab Sample ID: 460-153716-6

Worklist Smp#: 14

Client ID: MW-6

Injection Vol: 5.0 ul

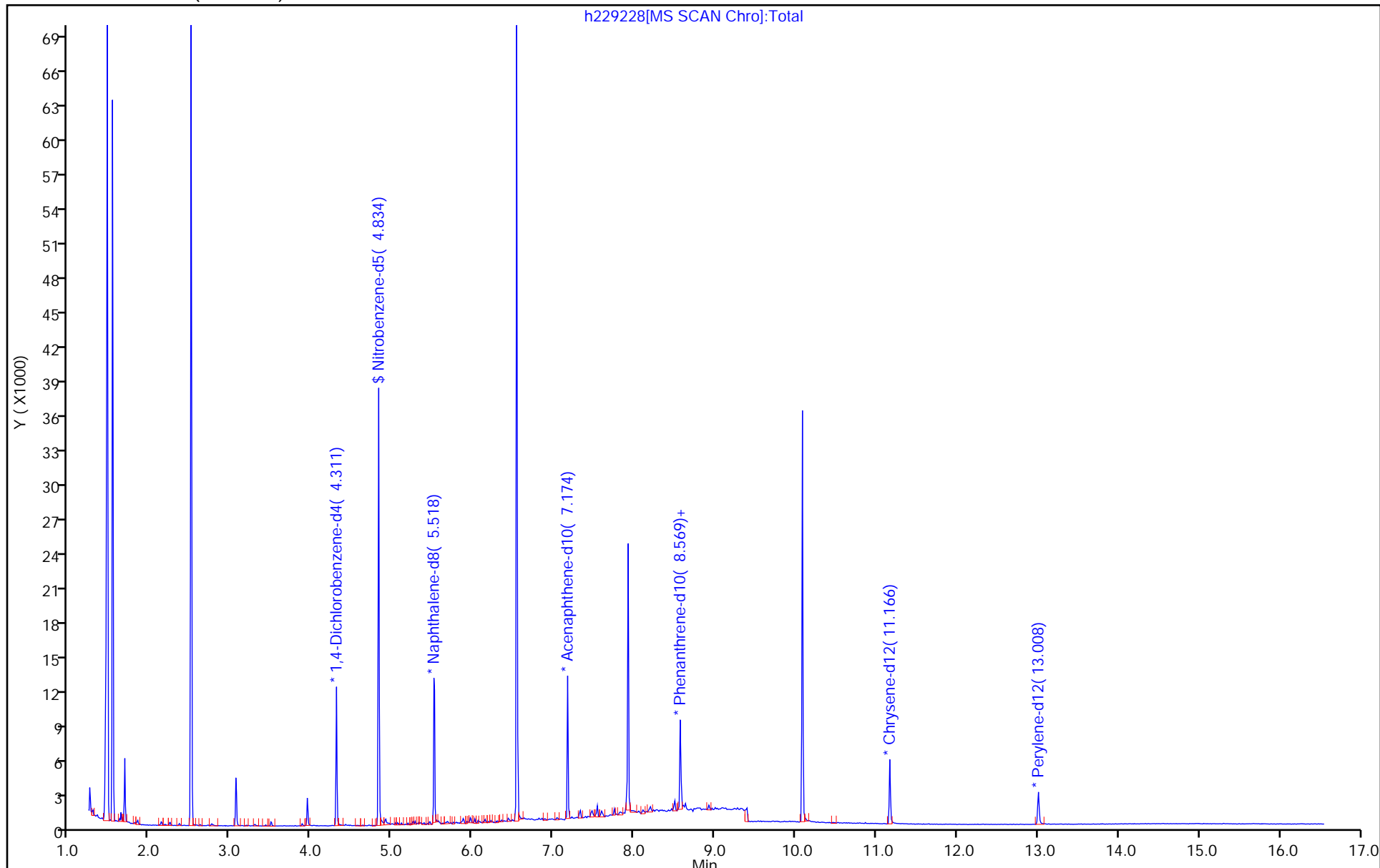
Dil. Factor: 1.0000

ALS Bottle#: 14

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)





FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: Equipment Blank 1 Lab Sample ID: 460-153716-7  
 Matrix: Water Lab File ID: h229229.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 07:00  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 13:16  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	103		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229229.D  
 Lims ID: 460-153716-B-7-A  
 Client ID: Equipment Blank 1  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 13:16:30 ALS Bottle#: 15 Worklist Smp#: 15  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-015  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:34:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	3787	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	100	20991	1.03	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	10415	0.2000	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	4519	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	97	6228	0.2000	
* 25 Chrysene-d12	240	11.165	11.165	0.000	93	4092	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	2935	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229229.D

Injection Date: 14-Apr-2018 13:16:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-B-7-A

Lab Sample ID: 460-153716-7

Worklist Smp#: 15

Client ID: Equipment Blank 1

Injection Vol: 5.0 ul

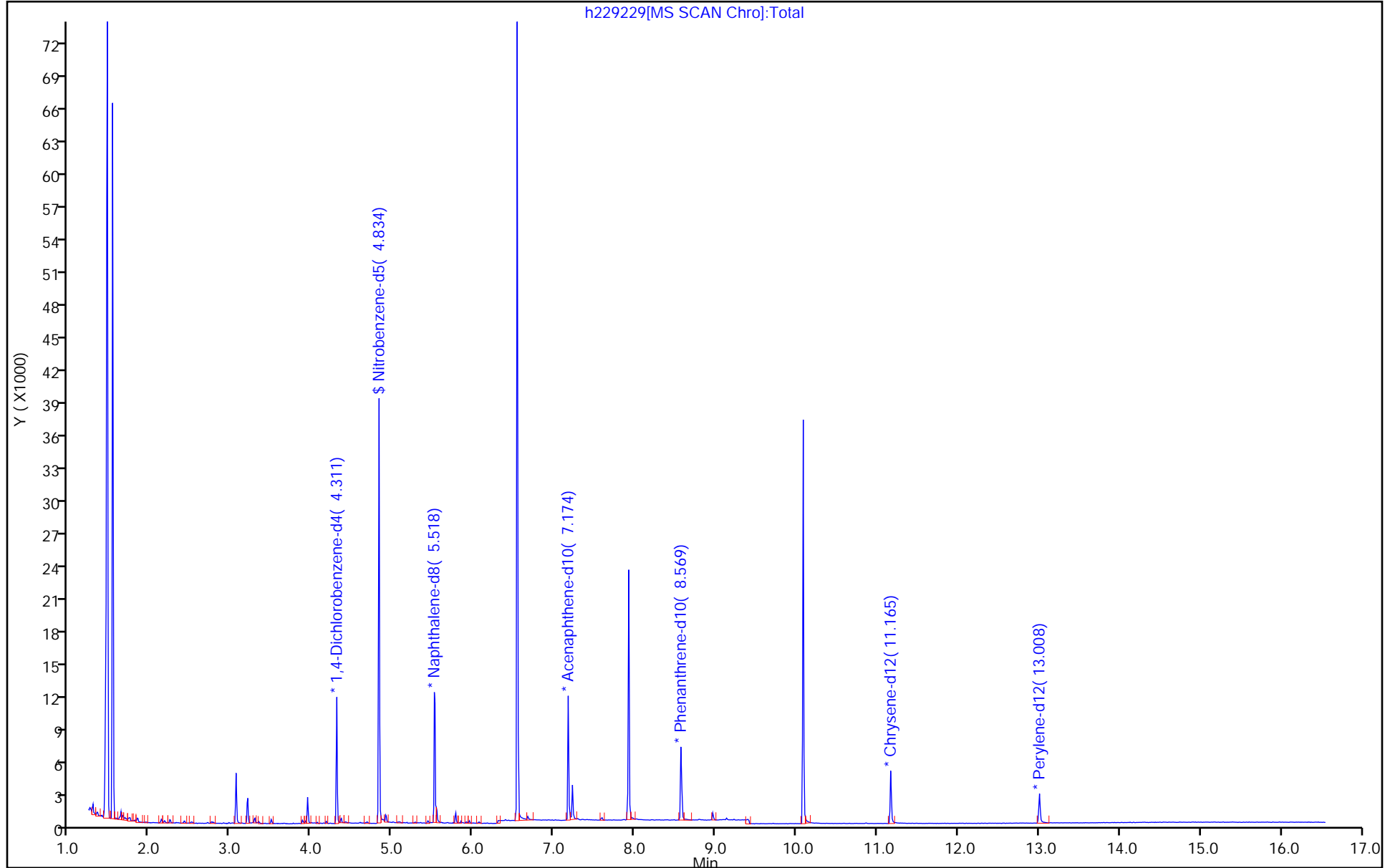
Dil. Factor: 1.0000

ALS Bottle#: 15

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS ( 0.25 mm)

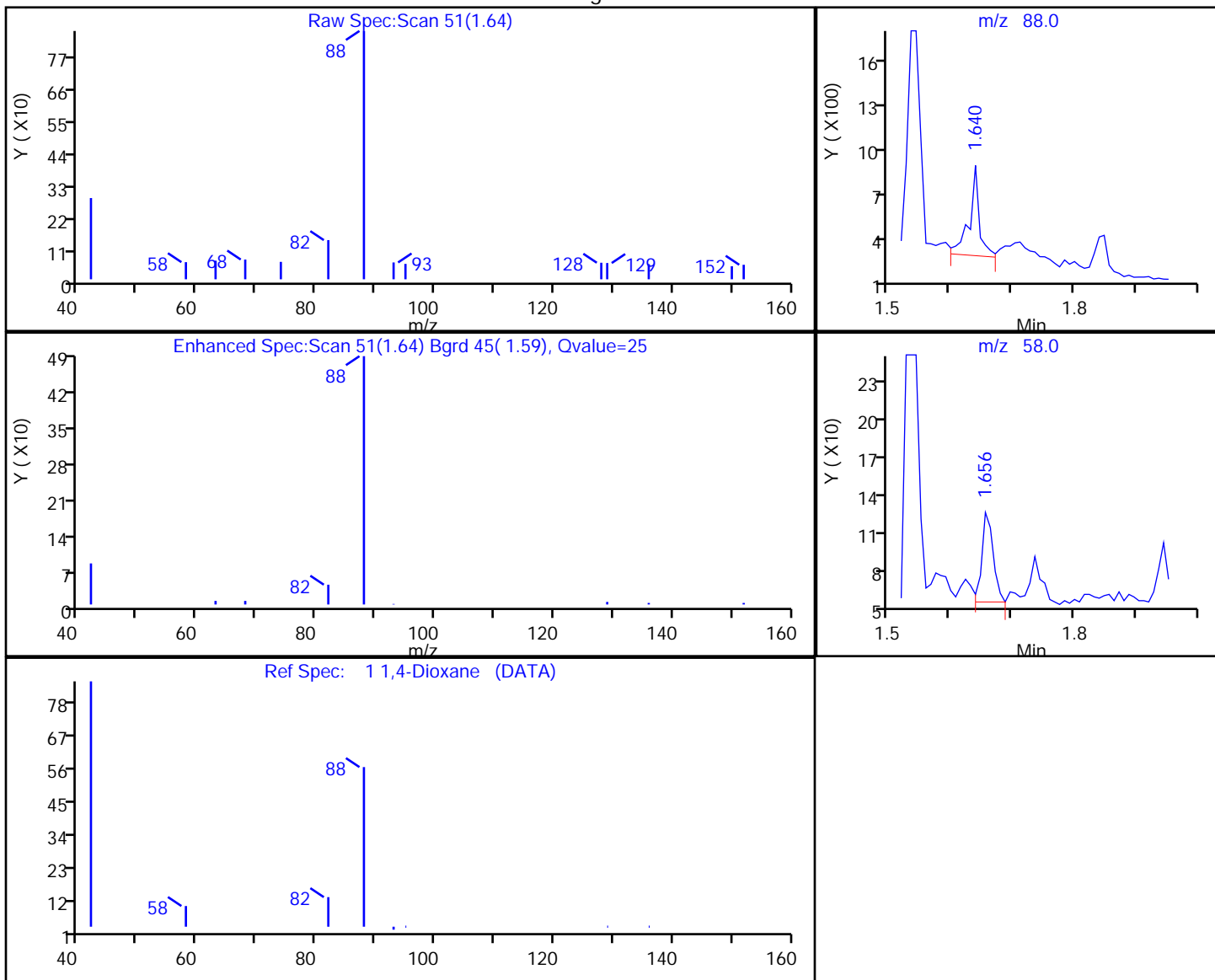


TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229229.D  
 Injection Date: 14-Apr-2018 13:16:30 Instrument ID: CBNAMS9  
 Lims ID: 460-153716-B-7-A Lab Sample ID: 460-153716-7  
 Client ID: Equipment Blank 1  
 Operator ID: ALS Bottle#: 15 Worklist Smp#: 15  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Method: BNsurrSIM\_LVI\_9 Limit Group: SV 8270D SIM ICAL  
 Column: Rtxi-5Sil MS (0.25 mm) Detector: MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Processing Results



RT	Mass	Response	Amount
1.64	88.00	652	0.062780
1.66	58.00	91	

Reviewer: zhaoc, 16-Apr-2018 10:30:14

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: Equipment Blank 2 Lab Sample ID: 460-153716-8  
 Matrix: Water Lab File ID: h229230.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 09:25  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 13:37  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	100		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229230.D  
 Lims ID: 460-153716-B-8-A  
 Client ID: Equipment Blank 2  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 13:37:30 ALS Bottle#: 16 Worklist Smp#: 16  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-016  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa

Date: 16-Apr-2018 11:34:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	3790	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	20843	1.00	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	10588	0.2000	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	4543	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	99	6445	0.2000	
* 25 Chrysene-d12	240	11.165	11.165	0.000	94	4189	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	2842	0.2000	

**Reagents:**

SM\_SIMISTDLVI\_00022

Amount Added: 20.00

Units: uL

Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229230.D

Injection Date: 14-Apr-2018 13:37:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-B-8-A

Lab Sample ID: 460-153716-8

Worklist Smp#: 16

Client ID: Equipment Blank 2

Injection Vol: 5.0 ul

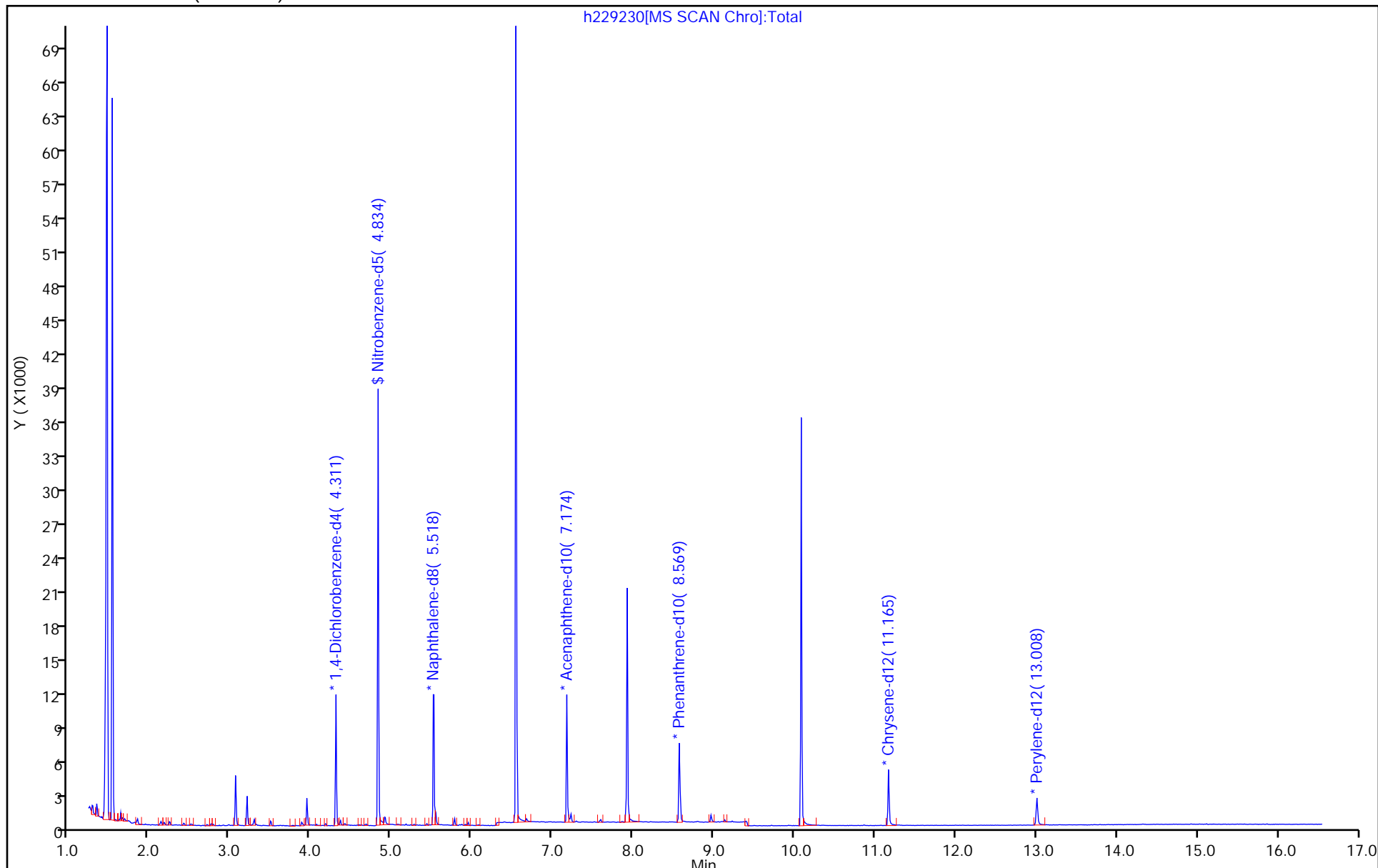
Dil. Factor: 1.0000

ALS Bottle#: 16

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229230.D

Injection Date: 14-Apr-2018 13:37:30

Instrument ID: CBNAMS9

Lims ID: 460-153716-B-8-A

Lab Sample ID: 460-153716-8

Client ID: Equipment Blank 2

Operator ID:

ALS Bottle#:

16

Worklist Smp#: 16

Injection Vol: 5.0 ul

Dil. Factor: 1.0000

Method: BNsurrSIM\_LVI\_9

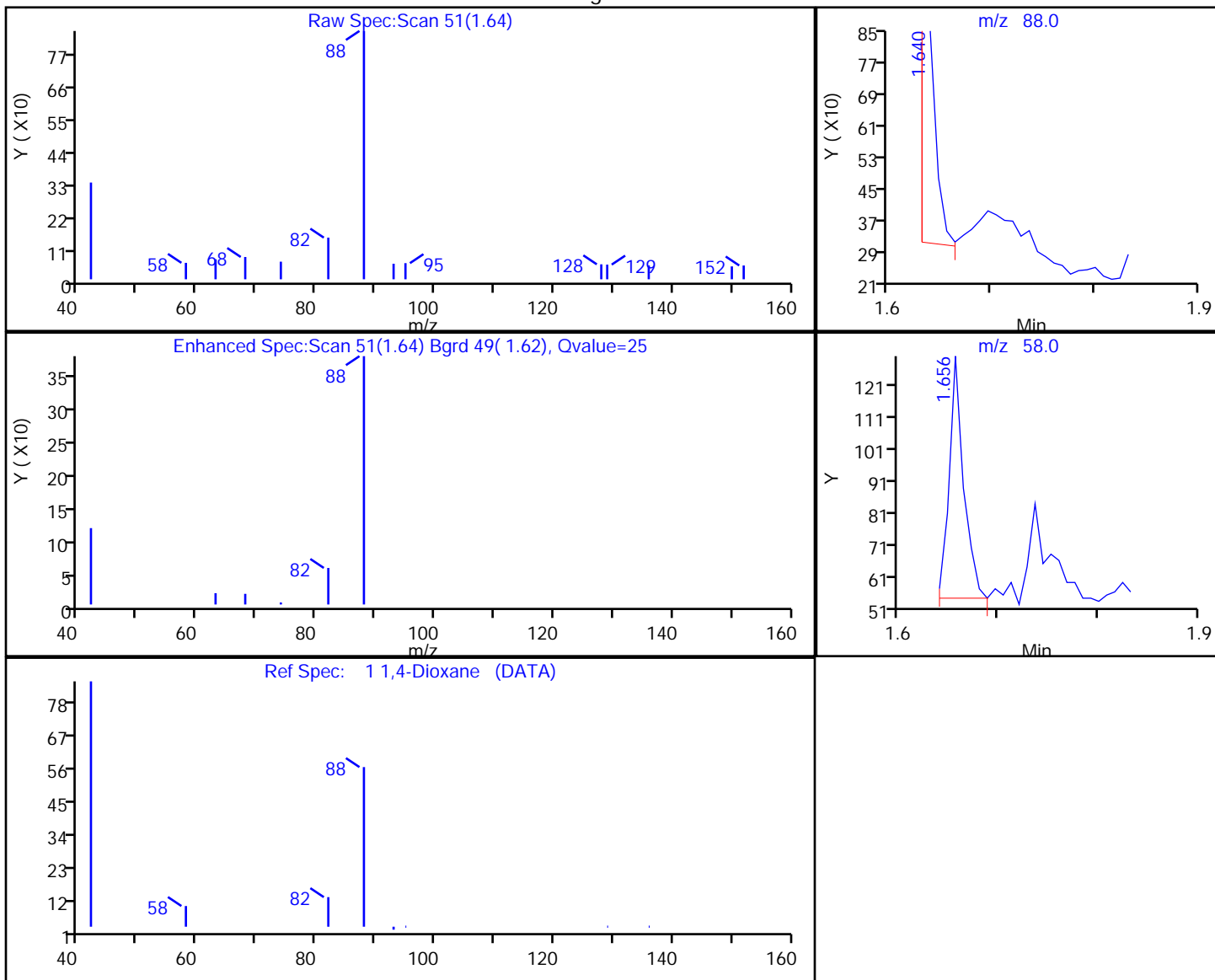
Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)

Detector: MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Processing Results



RT	Mass	Response	Amount
1.64	88.00	423	0.040697
1.66	58.00	78	

Reviewer: zhaoc, 16-Apr-2018 10:30:36

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-S Dup Lab Sample ID: 460-153716-9  
 Matrix: Water Lab File ID: h229231.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 12:45  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 13:58  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	98		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229231.D  
 Lims ID: 460-153716-A-9-A  
 Client ID: MW-S Dup  
 Sample Type: Client  
 Inject. Date: 14-Apr-2018 13:58:30 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-017  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:35:10 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:35:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	4073	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	100	22149	0.9843	
* 7 Naphthalene-d8	136	5.518	5.526	-0.008	100	11482	0.2000	
* 11 Acenaphthene-d10	164	7.175	7.174	0.000	97	4851	0.2000	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	99	7194	0.2000	
* 25 Chrysene-d12	240	11.166	11.165	0.001	94	4781	0.2000	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3213	0.2000	

Reagents:

SM\_SIMISTDLVI\_00022 Amount Added: 20.00 Units: uL Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229231.D

Injection Date: 14-Apr-2018 13:58:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-A-9-A

Lab Sample ID: 460-153716-9

Worklist Smp#: 17

Client ID: MW-S Dup

Injection Vol: 5.0 ul

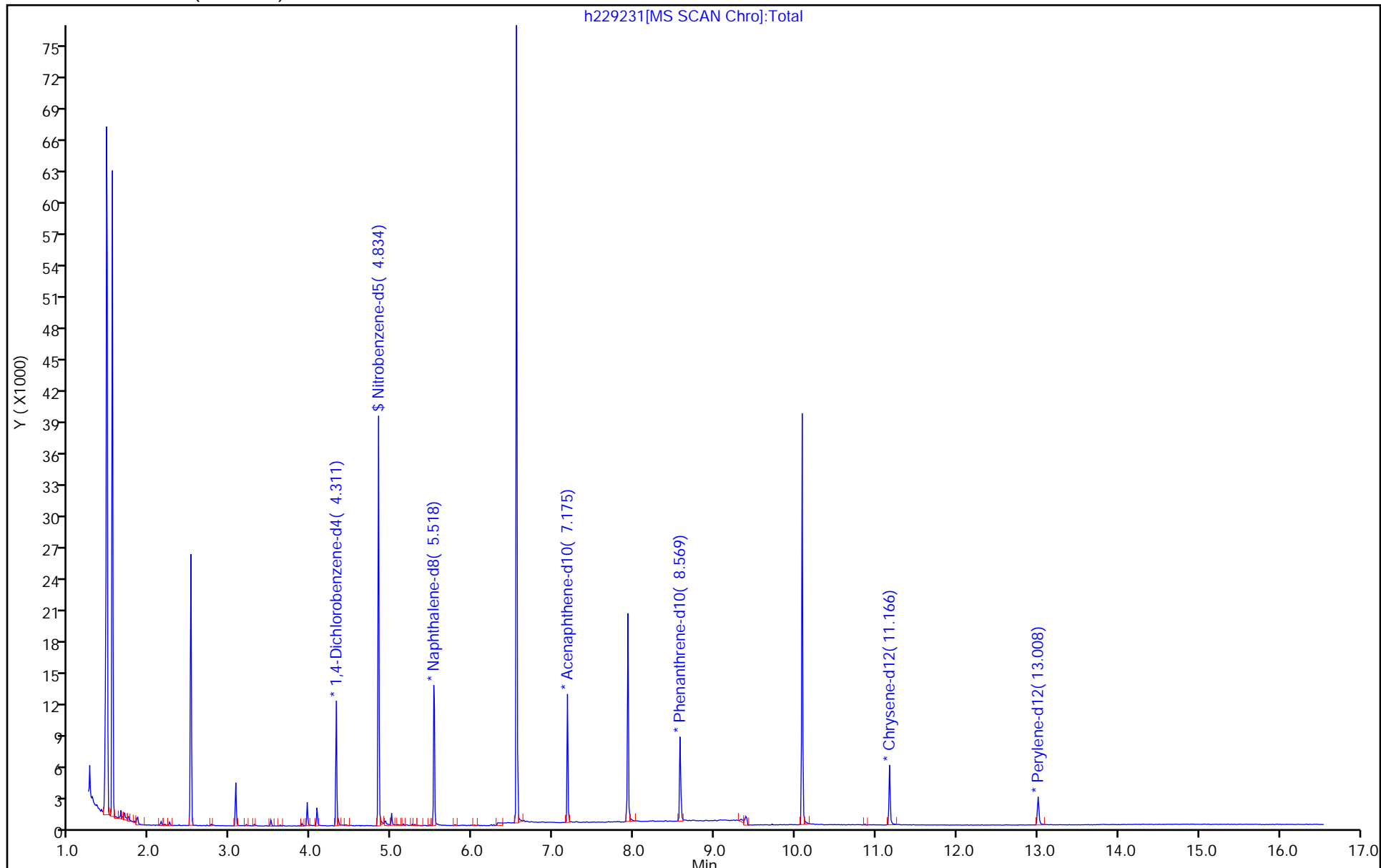
Dil. Factor: 1.0000

ALS Bottle#: 17

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS ( 0.25 mm)



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229231.D

Injection Date: 14-Apr-2018 13:58:30

Instrument ID: CBNAMS9

Lims ID: 460-153716-A-9-A

Lab Sample ID: 460-153716-9

Client ID: MW-S Dup

Operator ID:

ALS Bottle#: 17

Worklist Smp#: 17

Injection Vol: 5.0 ul

Dil. Factor: 1.0000

Method: BNsurrSIM\_LVI\_9

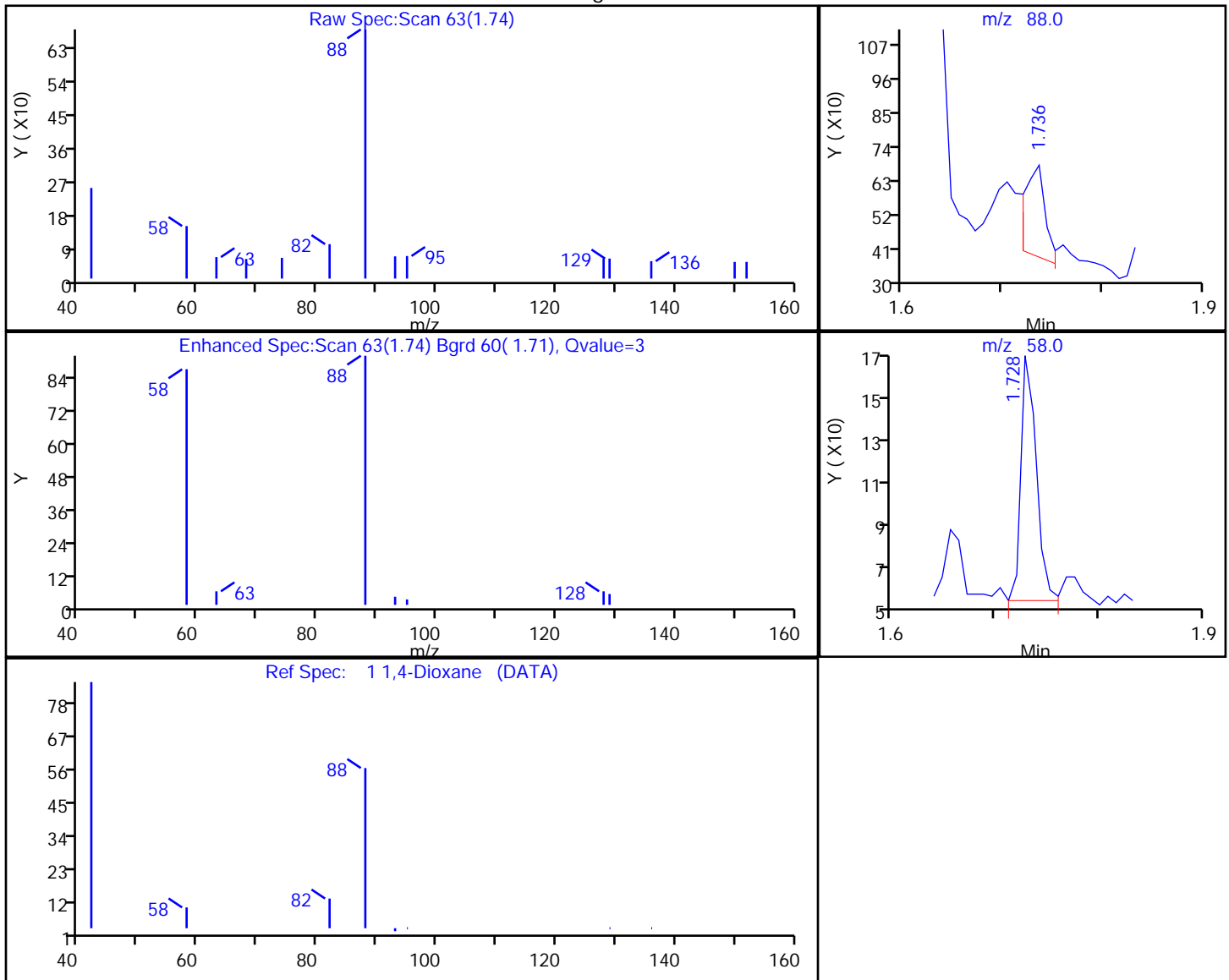
Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)

Detector: MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Processing Results



RT	Mass	Response	Amount
1.74	88.00	426	0.038138
1.73	58.00	118	

Reviewer: asfawa, 16-Apr-2018 11:35:10

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

FORM VI  
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Edison Job No.: 460-153716-1 Analy Batch No.: 510570

SDG No.: \_\_\_\_\_

Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil M ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/12/2018 14:15 Calibration End Date: 04/12/2018 16:01 Calibration ID: 67607

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	ICIS 460-510570/2	h229154.D
Level 2	STD6 460-510570/3	h229155.D
Level 3	STD5 460-510570/4	h229156.D
Level 4	STD4 460-510570/5	h229157.D
Level 5	STD2 460-510570/6	h229158.D
Level 6	STD1 460-510570/7	h229159.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	0.5502 0.3685	0.5454	0.5534	0.6085	0.6648	Ave		0.5485			0.0100	18.1		20.0			
Nitrobenzene-d5	0.3873 0.3659	0.4023	0.3963	0.3989	0.4010	Ave		0.3919			0.0100	3.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Edison Job No.: 460-153716-1 Analy Batch No.: 510570

SDG No.: \_\_\_\_\_

Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil M ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/12/2018 14:15 Calibration End Date: 04/12/2018 16:01 Calibration ID: 67607

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	ICIS 460-510570/2	h229154.D
Level 2	STD6 460-510570/3	h229155.D
Level 3	STD5 460-510570/4	h229156.D
Level 4	STD4 460-510570/5	h229157.D
Level 5	STD2 460-510570/6	h229158.D
Level 6	STD1 460-510570/7	h229159.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	2371 337	20217	8598	4374	1305	0.200 0.0400	2.00	0.800	0.400	0.100
Nitrobenzene-d5	NPT	Ave	8779 2186	193754	19949	14789	4039	0.400 0.100	10.0	1.00	0.800	0.200

Curve Type Legend:

Ave = Average ISTD

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229154.D  
 Lims ID: icis  
 Client ID:  
 Sample Type: ICIS Calib Level: 3  
 Inject. Date: 12-Apr-2018 14:15:30 ALS Bottle#: 2 Worklist Smp#: 2  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070269-002  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:48:40 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: asfawa

Date: 12-Apr-2018 16:48:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.768	1.768	0.000	48	2371	0.2000	0.2006	
2 N-Nitrosodimethylamine	74	1.994	1.994	0.000	62	1431	0.1000	0.1023	
3 Bis(2-chloroethyl)ether	93	4.086	4.086	0.000	51	466	0.0200	0.0187	
* 5 1,4-Dichlorobenzene-d4	152	4.343	4.343	0.000	98	4309	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.866	4.866	0.000	93	8779	0.4000	0.3953	
* 7 Naphthalene-d8	136	5.550	5.550	0.000	99	11334	0.2000	0.2000	
8 Naphthalene	128	5.574	5.574	0.000	80	1531	0.0200	0.0210	
\$ 9 2-Fluorobiphenyl	172	6.583	6.583	0.000	98	15814	0.4000	0.4147	
10 Acenaphthylene	152	7.069	7.069	0.000	92	1344	0.0200	0.0207	
* 11 Acenaphthene-d10	164	7.214	7.214	0.000	93	3773	0.2000	0.2000	
12 Acenaphthene	154	7.240	7.240	0.000	88	684	0.0200	0.0201	
13 Fluorene	166	7.727	7.727	0.000	52	834	0.0200	0.0220	
14 4,6-Dinitro-2-methylphenol	198	7.780	7.780	0.000	73	998	0.4000	0.3671	
\$ 20 2,4,6-Tribromophenol	330	7.951	7.951	0.000	92	2799	0.4000	0.4006	
15 Hexachlorobenzene	284	8.253	8.253	0.000	34	446	0.0200	0.0184	
16 Pentachlorophenol	266	8.437	8.437	0.000	93	454	0.1000	0.0781	
* 17 Phenanthrene-d10	188	8.608	8.608	0.000	100	7358	0.2000	0.2000	
18 Phenanthrene	178	8.621	8.621	0.000	92	1120	0.0200	0.0204	
19 Anthracene	178	8.674	8.674	0.000	95	962	0.0200	0.0182	
21 Fluoranthene	202	9.742	9.742	0.000	95	1060	0.0200	0.0206	
22 Pyrene	202	9.957	9.957	0.000	92	1102	0.0200	0.0214	
\$ 23 Terphenyl-d14	244	10.113	10.113	0.000	98	8727	0.4000	0.4116	
24 Benzo[a]anthracene	228	11.195	11.195	0.000	81	798	0.0200	0.0213	
* 25 Chrysene-d12	240	11.204	11.204	0.000	97	5381	0.2000	0.2000	
26 Chrysene	228	11.234	11.234	0.000	94	925	0.0200	0.0209	
27 Benzo[b]fluoranthene	252	12.530	12.530	0.000	95	754	0.0200	0.0207	
28 Benzo[k]fluoranthene	252	12.569	12.569	0.000	84	832	0.0200	0.0199	
29 Benzo[a]pyrene	252	12.969	12.969	0.000	93	647	0.0200	0.0202	
* 30 Perylene-d12	264	13.057	13.057	0.000	100	4718	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.578	14.578	0.000	86	622	0.0200	0.0195	
32 Dibenz(a,h)anthracene	278	14.617	14.617	0.000	80	581	0.0200	0.0191	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.987	14.987	0.000	86	804	0.0200	0.0212	

Reagents:  
SM\_simSlvl3\_00010                      Amount Added: 1.00                      Units: mL



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229154.D

Injection Date: 12-Apr-2018 14:15:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: icis

Worklist Smp#: 2

Client ID:

Injection Vol: 5.0 ul

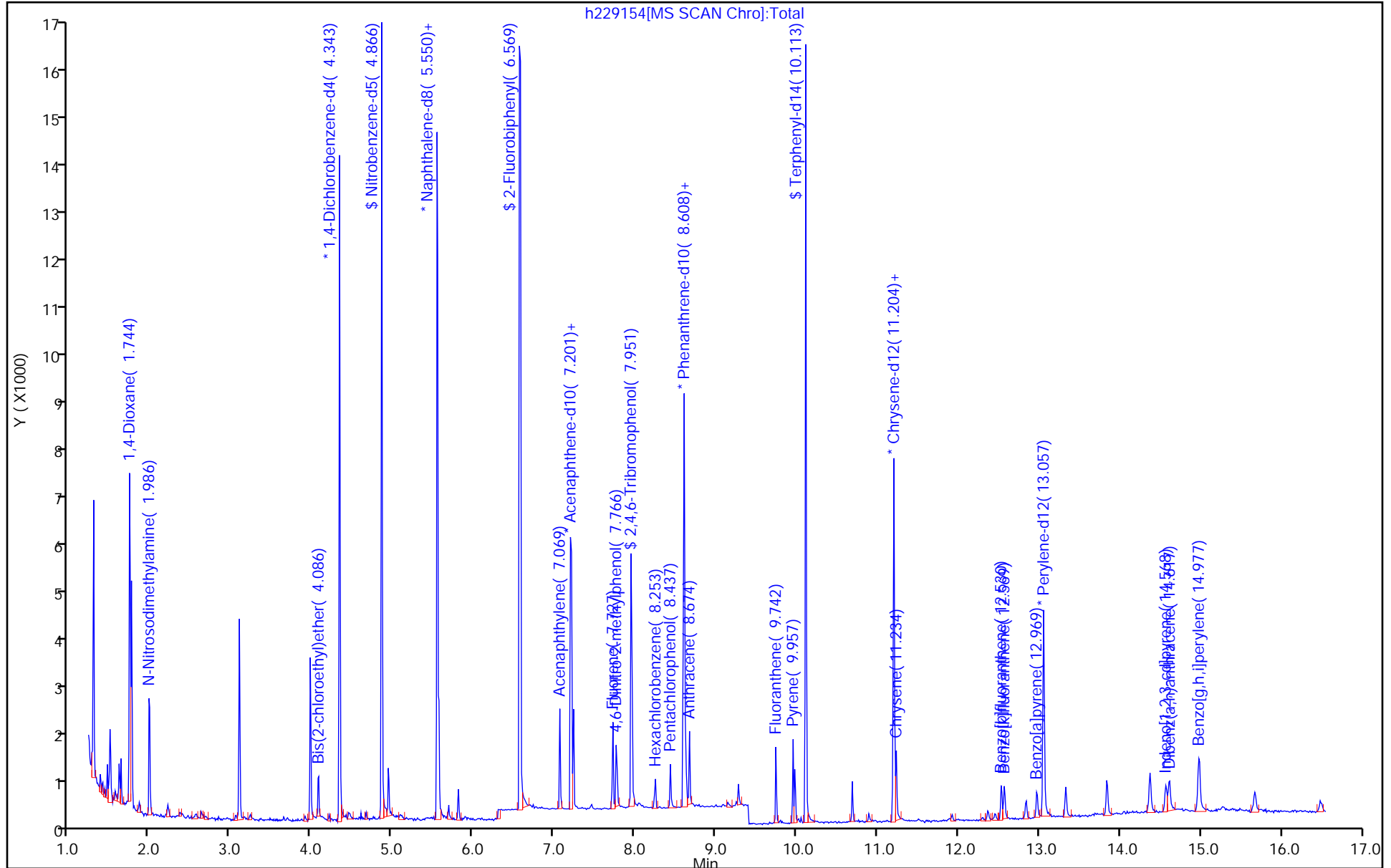
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229155.D  
 Lims ID: std6  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 12-Apr-2018 14:36:30 ALS Bottle#: 3 Worklist Smp#: 3  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070269-003  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:48:46 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: zhaoc Date: 12-Apr-2018 15:24:55

Compound	Sig	RT (min.)	Adj RT (min.)	Diff RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.760	1.768	-0.008	70	20217	2.00	1.99	
2 N-Nitrosodimethylamine	74	1.978	1.994	-0.016	62	11884	1.00	0.9879	
3 Bis(2-chloroethyl)ether	93	4.078	4.086	-0.008	39	21117	1.00	0.9872	
* 5 1,4-Dichlorobenzene-d4	152	4.343	4.343	0.000	98	3707	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.866	4.866	0.000	90	193754	10.0	10.3	
* 7 Naphthalene-d8	136	5.550	5.550	0.000	100	9633	0.2000	0.2000	
8 Naphthalene	128	5.574	5.574	0.000	80	23751	0.4000	0.3838	
\$ 9 2-Fluorobiphenyl	172	6.582	6.583	-0.001	98	301934	10.0	9.49	
10 Acenaphthylene	152	7.069	7.069	0.000	94	22867	0.4000	0.4231	
* 11 Acenaphthene-d10	164	7.201	7.214	-0.013	98	3147	0.2000	0.2000	
12 Acenaphthene	154	7.240	7.240	0.000	77	11336	0.4000	0.3993	
13 Fluorene	166	7.727	7.727	0.000	77	12821	0.4000	0.4050	
14 4,6-Dinitro-2-methylphenol	198	7.766	7.780	-0.014	83	7049	2.00	2.00	
\$ 20 2,4,6-Tribromophenol	330	7.951	7.951	0.000	94	68441	10.0	11.7	
15 Hexachlorobenzene	284	8.253	8.253	0.000	54	20409	1.00	1.03	
16 Pentachlorophenol	266	8.437	8.437	0.000	88	7889	1.00	1.00	
* 17 Phenanthrene-d10	188	8.608	8.608	0.000	100	6009	0.2000	0.2000	
18 Phenanthrene	178	8.621	8.621	0.000	96	17758	0.4000	0.3969	M
19 Anthracene	178	8.674	8.674	0.000	99	18671	0.4000	0.4334	a
21 Fluoranthene	202	9.742	9.742	0.000	96	16839	0.4000	0.4009	
22 Pyrene	202	9.957	9.957	0.000	91	18540	0.4000	0.3759	
\$ 23 Terphenyl-d14	244	10.113	10.113	0.000	97	184702	10.0	9.08	
24 Benzo[a]anthracene	228	11.195	11.195	0.000	34	13773	0.4000	0.3840	
* 25 Chrysene-d12	240	11.204	11.204	0.000	98	5162	0.2000	0.2000	
26 Chrysene	228	11.234	11.234	0.000	99	16214	0.4000	0.3815	
27 Benzo[b]fluoranthene	252	12.530	12.530	0.000	95	13771	0.4000	0.3810	
28 Benzo[k]fluoranthene	252	12.569	12.569	0.000	85	16431	0.4000	0.3967	
29 Benzo[a]pyrene	252	12.969	12.969	0.000	97	13116	0.4000	0.4124	
* 30 Perylene-d12	264	13.057	13.057	0.000	100	4681	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.568	14.578	-0.010	93	12541	0.4000	0.3958	
32 Dibenz(a,h)anthracene	278	14.607	14.617	-0.009	81	12185	0.4000	0.4027	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.987	14.987	0.000	86	13898	0.4000	0.3697	

### QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

### Reagents:

SM\_simSlvl6\_00008

Amount Added: 1.00

Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229155.D

Injection Date: 12-Apr-2018 14:36:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: std6

Worklist Smp#: 3

Client ID:

Injection Vol: 5.0 ul

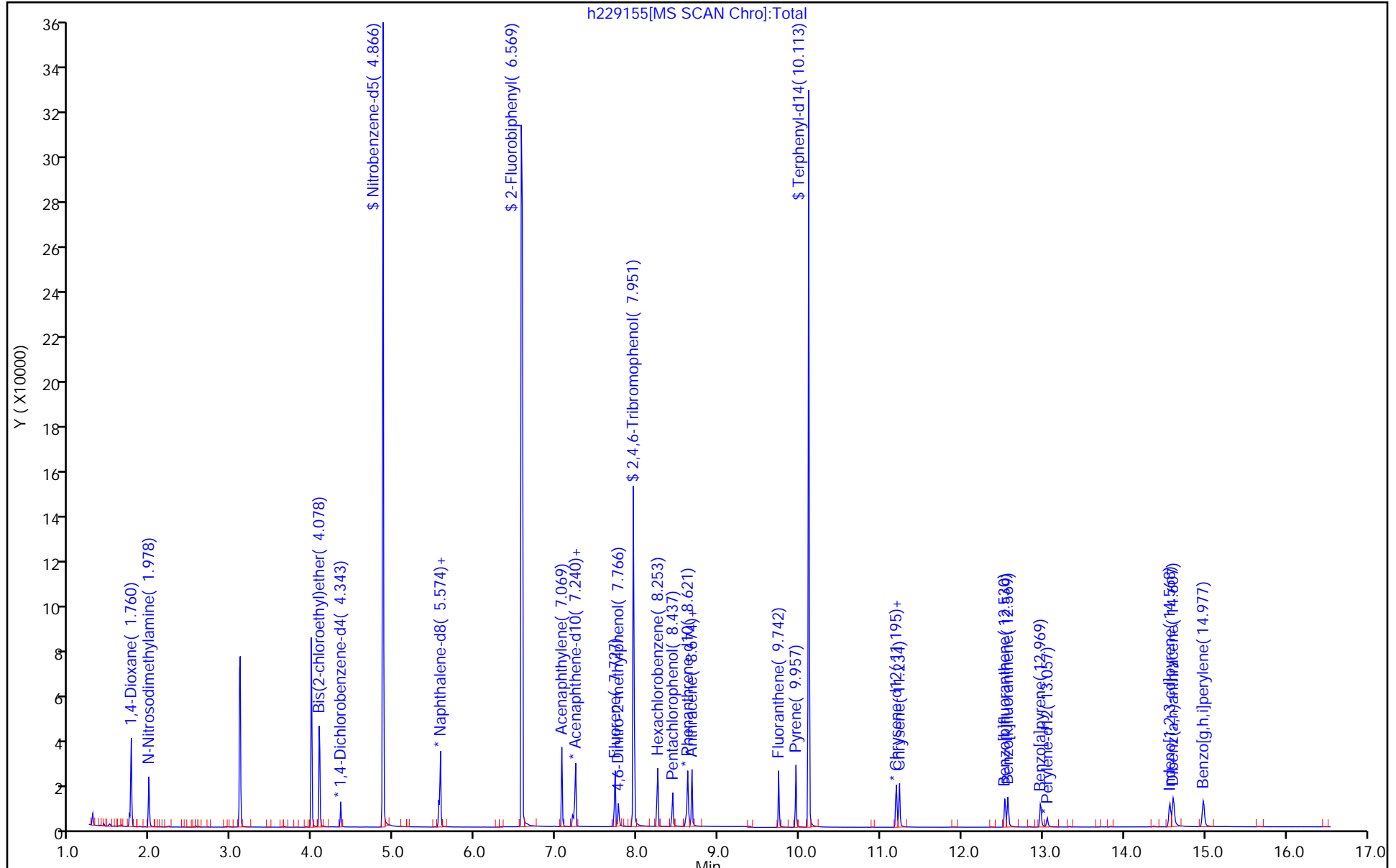
Dil. Factor: 1.0000

ALS Bottle#: 3

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229156.D  
 Lims ID: std5  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 12-Apr-2018 14:57:30 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070269-004  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:48:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: zhaoc

Date: 12-Apr-2018 15:43:11

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.769	1.768	0.001	61	8598	0.8000	0.8072	
2 N-Nitrosodimethylamine	74	1.986	1.994	-0.008	77	5133	0.4000	0.4073	
3 Bis(2-chloroethyl)ether	93	4.078	4.086	-0.008	49	8720	0.4000	0.3891	
* 5 1,4-Dichlorobenzene-d4	152	4.343	4.343	0.000	97	3884	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.866	4.866	0.000	91	19949	1.00	1.01	
* 7 Naphthalene-d8	136	5.550	5.550	0.000	100	10067	0.2000	0.2000	
8 Naphthalene	128	5.574	5.574	0.000	87	13404	0.2000	0.2072	
\$ 9 2-Fluorobiphenyl	172	6.569	6.583	-0.014	97	33498	1.00	0.9694	
10 Acenaphthylene	152	7.069	7.069	0.000	99	11938	0.2000	0.2033	
* 11 Acenaphthene-d10	164	7.201	7.214	-0.013	99	3419	0.2000	0.2000	
12 Acenaphthene	154	7.240	7.240	0.000	75	5988	0.2000	0.1941	
13 Fluorene	166	7.727	7.727	0.000	78	6917	0.2000	0.2011	
14 4,6-Dinitro-2-methylphenol	198	7.767	7.780	-0.013	78	2986	1.00	1.01	
\$ 20 2,4,6-Tribromophenol	330	7.951	7.951	0.000	94	6672	1.00	1.05	
15 Hexachlorobenzene	284	8.253	8.253	0.000	49	8157	0.4000	0.4040	
16 Pentachlorophenol	266	8.437	8.437	0.000	85	2501	0.4000	0.4152	
* 17 Phenanthrene-d10	188	8.608	8.608	0.000	100	6132	0.2000	0.2000	
18 Phenanthrene	178	8.622	8.621	0.001	96	9504	0.2000	0.2081	M
19 Anthracene	178	8.674	8.674	0.000	96	9926	0.2000	0.2258	
21 Fluoranthene	202	9.742	9.742	0.000	97	8704	0.2000	0.2031	
22 Pyrene	202	9.957	9.957	0.000	95	9068	0.2000	0.2108	
\$ 23 Terphenyl-d14	244	10.113	10.113	0.000	99	18389	1.00	1.04	
24 Benzo[a]anthracene	228	11.195	11.195	0.000	45	6698	0.2000	0.2141	
* 25 Chrysene-d12	240	11.205	11.204	0.001	98	4502	0.2000	0.2000	
26 Chrysene	228	11.234	11.234	0.000	98	7968	0.2000	0.2150	
27 Benzo[b]fluoranthene	252	12.530	12.530	0.000	95	6434	0.2000	0.2103	
28 Benzo[k]fluoranthene	252	12.569	12.569	0.000	63	7548	0.2000	0.2153	
29 Benzo[a]pyrene	252	12.969	12.969	0.000	94	5737	0.2000	0.2131	
* 30 Perylene-d12	264	13.057	13.057	0.000	100	3962	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.568	14.578	-0.010	91	5587	0.2000	0.2083	
32 Dibenz(a,h)anthracene	278	14.607	14.617	-0.009	76	5202	0.2000	0.2031	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.977	14.987	-0.010	77	6326	0.2000	0.1988	

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

SM\_simSlvlL5\_00008

Amount Added: 1.00

Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229156.D

Injection Date: 12-Apr-2018 14:57:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: std5

Worklist Smp#: 4

Client ID:

Injection Vol: 5.0 ul

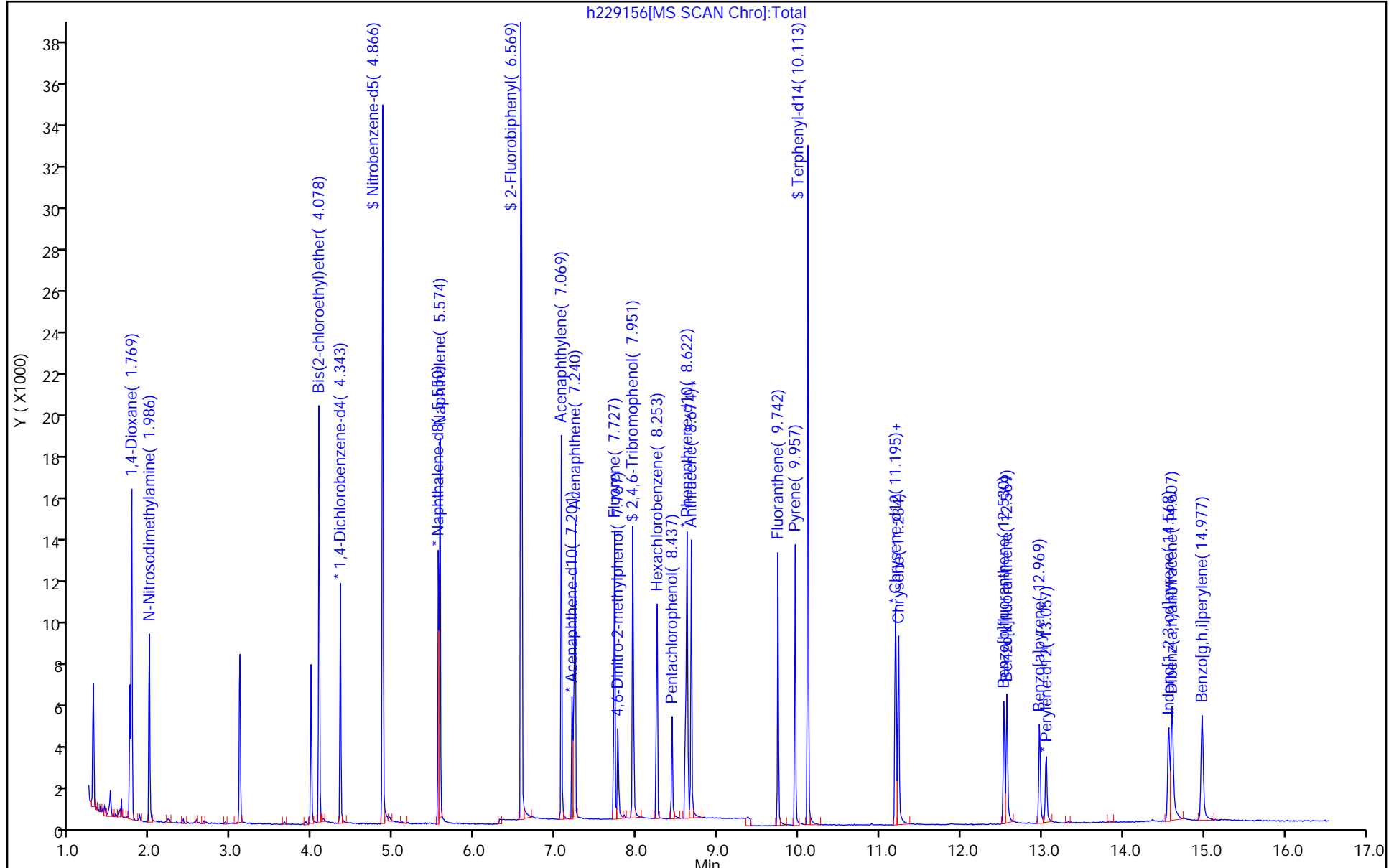
Dil. Factor: 1.0000

ALS Bottle#: 4

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229157.D  
 Lims ID: std4  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 12-Apr-2018 15:19:30 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070269-005  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:48:55 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: zhaoc

Date: 12-Apr-2018 15:50:29

Compound	Sig	RT (min.)	Adj RT (min.)	Diff RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.760	1.768	-0.008	55	4374	0.4000	0.4438	
2 N-Nitrosodimethylamine	74	1.978	1.994	-0.016	69	2323	0.2000	0.1992	
3 Bis(2-chloroethyl)ether	93	4.077	4.086	-0.009	61	4036	0.2000	0.1946	
* 5 1,4-Dichlorobenzene-d4	152	4.343	4.343	0.000	96	3594	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.866	4.866	0.000	89	14789	0.8000	0.8143	
* 7 Naphthalene-d8	136	5.550	5.550	0.000	100	9268	0.2000	0.2000	
8 Naphthalene	128	5.574	5.574	0.000	87	6011	0.1000	0.1010	
\$ 9 2-Fluorobiphenyl	172	6.569	6.583	-0.014	97	25928	0.8000	0.8206	
10 Acenaphthylene	152	7.069	7.069	0.000	92	5305	0.1000	0.0988	
* 11 Acenaphthene-d10	164	7.201	7.214	-0.013	98	3126	0.2000	0.2000	
12 Acenaphthene	154	7.240	7.240	0.000	82	2743	0.1000	0.0973	
13 Fluorene	166	7.727	7.727	0.000	66	2959	0.1000	0.0941	
14 4,6-Dinitro-2-methylphenol	198	7.766	7.780	-0.014	72	2041	0.8000	0.7990	
\$ 20 2,4,6-Tribromophenol	330	7.950	7.951	-0.001	95	4720	0.8000	0.8153	
15 Hexachlorobenzene	284	8.253	8.253	0.000	62	3837	0.2000	0.2062	
16 Pentachlorophenol	266	8.437	8.437	0.000	84	899	0.2000	0.1866	
* 17 Phenanthrene-d10	188	8.608	8.608	0.000	100	5653	0.2000	0.2000	
18 Phenanthrene	178	8.621	8.621	0.000	96	4249	0.1000	0.1009	M
19 Anthracene	178	8.674	8.674	0.000	97	4339	0.1000	0.1071	
21 Fluoranthene	202	9.742	9.742	0.000	94	3966	0.1000	0.1004	
22 Pyrene	202	9.957	9.957	0.000	94	4093	0.1000	0.0946	
\$ 23 Terphenyl-d14	244	10.113	10.113	0.000	99	14287	0.8000	0.8010	
24 Benzo[a]anthracene	228	11.195	11.195	0.000	66	2841	0.1000	0.0903	
* 25 Chrysene-d12	240	11.204	11.204	0.000	98	4527	0.2000	0.2000	
26 Chrysene	228	11.234	11.234	0.000	95	3550	0.1000	0.0952	
27 Benzo[b]fluoranthene	252	12.530	12.530	0.000	95	2823	0.1000	0.0994	
28 Benzo[k]fluoranthene	252	12.569	12.569	0.000	69	3305	0.1000	0.1016	
29 Benzo[a]pyrene	252	12.969	12.969	0.000	93	2460	0.1000	0.0985	
* 30 Perylene-d12	264	13.057	13.057	0.000	100	3677	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.568	14.578	-0.010	86	2456	0.1000	0.0987	
32 Dibenz(a,h)anthracene	278	14.607	14.617	-0.009	66	2489	0.1000	0.1047	



Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.987	14.987	0.000	62	3017	0.1000	0.1022	

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

SM\_simSlvl4\_00007

Amount Added: 1.00

Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229157.D

Injection Date: 12-Apr-2018 15:19:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: std4

Worklist Smp#: 5

Client ID:

Injection Vol: 5.0 ul

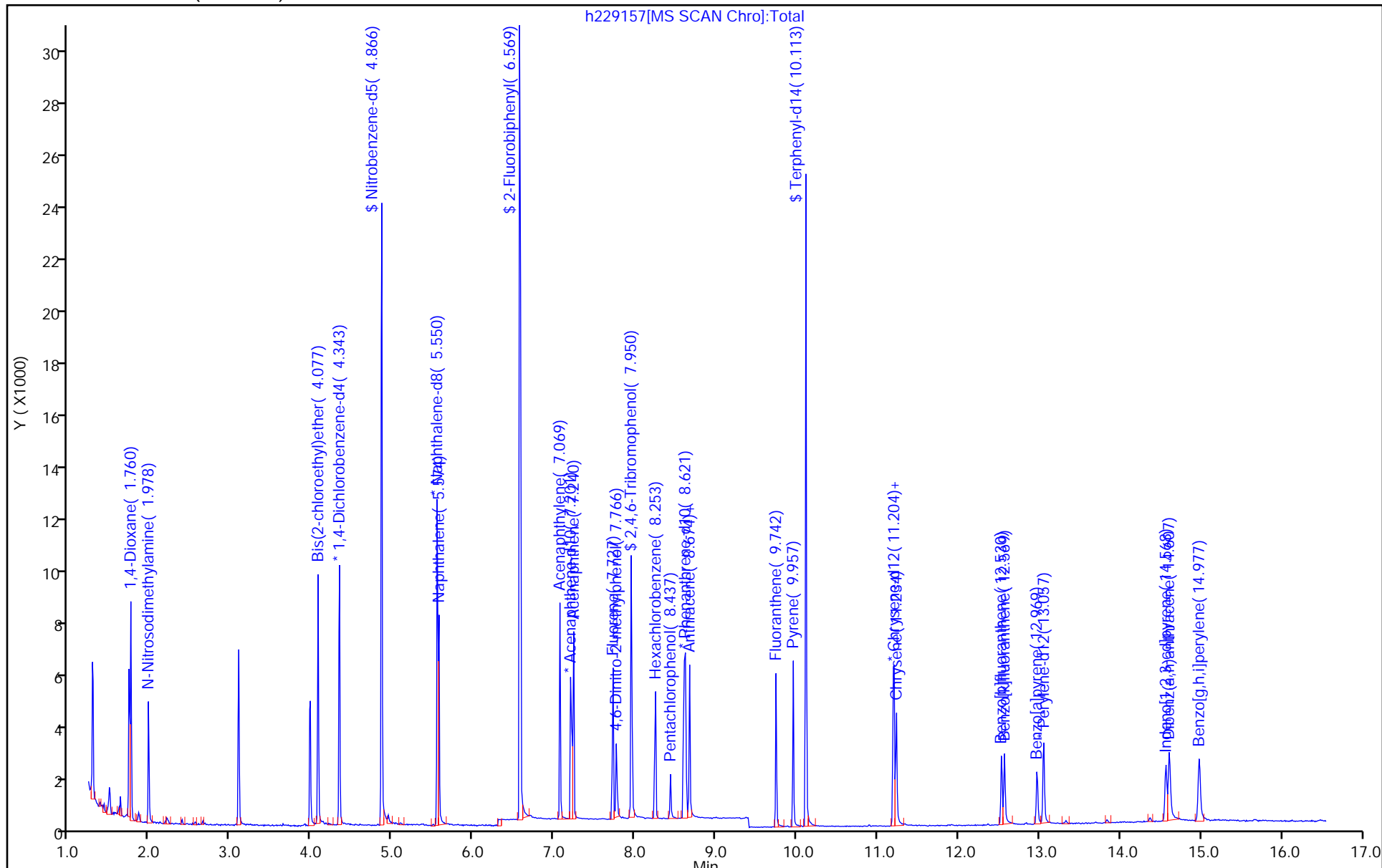
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229158.D  
 Lims ID: std2  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 12-Apr-2018 15:40:30 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070269-006  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:48:58 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: asfawa

Date: 12-Apr-2018 16:05:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.776	1.768	0.008	100	1305	0.1000	0.1212	
2 N-Nitrosodimethylamine	74	2.002	1.994	0.008	92	616	0.0500	0.0484	
3 Bis(2-chloroethyl)ether	93	4.086	4.086	0.000	91	106	0.005000	0.004679	
* 5 1,4-Dichlorobenzene-d4	152	4.343	4.343	0.000	98	3926	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.866	4.866	0.000	95	4039	0.2000	0.2046	
* 7 Naphthalene-d8	136	5.550	5.550	0.000	100	10073	0.2000	0.2000	
8 Naphthalene	128	5.574	5.574	0.000	95	629	0.0100	0.009719	
\$ 9 2-Fluorobiphenyl	172	6.582	6.583	-0.001	91	7001	0.2000	0.2057	
10 Acenaphthylene	152	7.069	7.069	0.000	100	537	0.0100	0.009286	
* 11 Acenaphthene-d10	164	7.201	7.214	-0.013	99	3367	0.2000	0.2000	
12 Acenaphthene	154	7.240	7.240	0.000	95	303	0.0100	0.0100	
13 Fluorene	166	7.727	7.727	0.000	99	347	0.0100	0.0102	
14 4,6-Dinitro-2-methylphenol	198	7.780	7.780	0.000	80	354	0.2000	0.2021	
\$ 20 2,4,6-Tribromophenol	330	7.951	7.951	0.000	100	1111	0.2000	0.1782	
15 Hexachlorobenzene	284	8.253	8.253	0.000	99	115	0.005000	0.005810	a
16 Pentachlorophenol	266	8.437	8.437	0.000	1	152	0.0500	0.0331	Ma
* 17 Phenanthrene-d10	188	8.608	8.608	0.000	100	6012	0.2000	0.2000	
18 Phenanthrene	178	8.621	8.621	0.000	97	441	0.0100	0.009851	Ma
19 Anthracene	178	8.674	8.674	0.000	100	405	0.0100	0.009397	
21 Fluoranthene	202	9.742	9.742	0.000	100	409	0.0100	0.009733	
22 Pyrene	202	9.957	9.957	0.000	99	436	0.0100	0.009828	
\$ 23 Terphenyl-d14	244	10.113	10.113	0.000	100	3726	0.2000	0.2037	
24 Benzo[a]anthracene	228	11.195	11.195	0.000	49	319	0.0100	0.009889	
* 25 Chrysene-d12	240	11.204	11.204	0.000	97	4643	0.2000	0.2000	
26 Chrysene	228	11.234	11.234	0.000	99	364	0.0100	0.009522	
27 Benzo[b]fluoranthene	252	12.530	12.530	0.000	97	297	0.0100	0.0100	
28 Benzo[k]fluoranthene	252	12.569	12.569	0.000	94	318	0.0100	0.009363	a
29 Benzo[a]pyrene	252	12.969	12.969	0.000	99	241	0.0100	0.009242	
* 30 Perylene-d12	264	13.057	13.057	0.000	100	3838	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.568	14.578	-0.010	98	255	0.0100	0.009817	M
32 Dibenz(a,h)anthracene	278	14.616	14.617	0.000	36	216	0.0100	0.008707	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.977	14.987	-0.010	88	303	0.0100	0.009830	

### QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

### Reagents:

SM\_simSlvl2\_00008

Amount Added: 1.00

Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229158.D

Injection Date: 12-Apr-2018 15:40:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: std2

Worklist Smp#: 6

Client ID:

Injection Vol: 5.0 ul

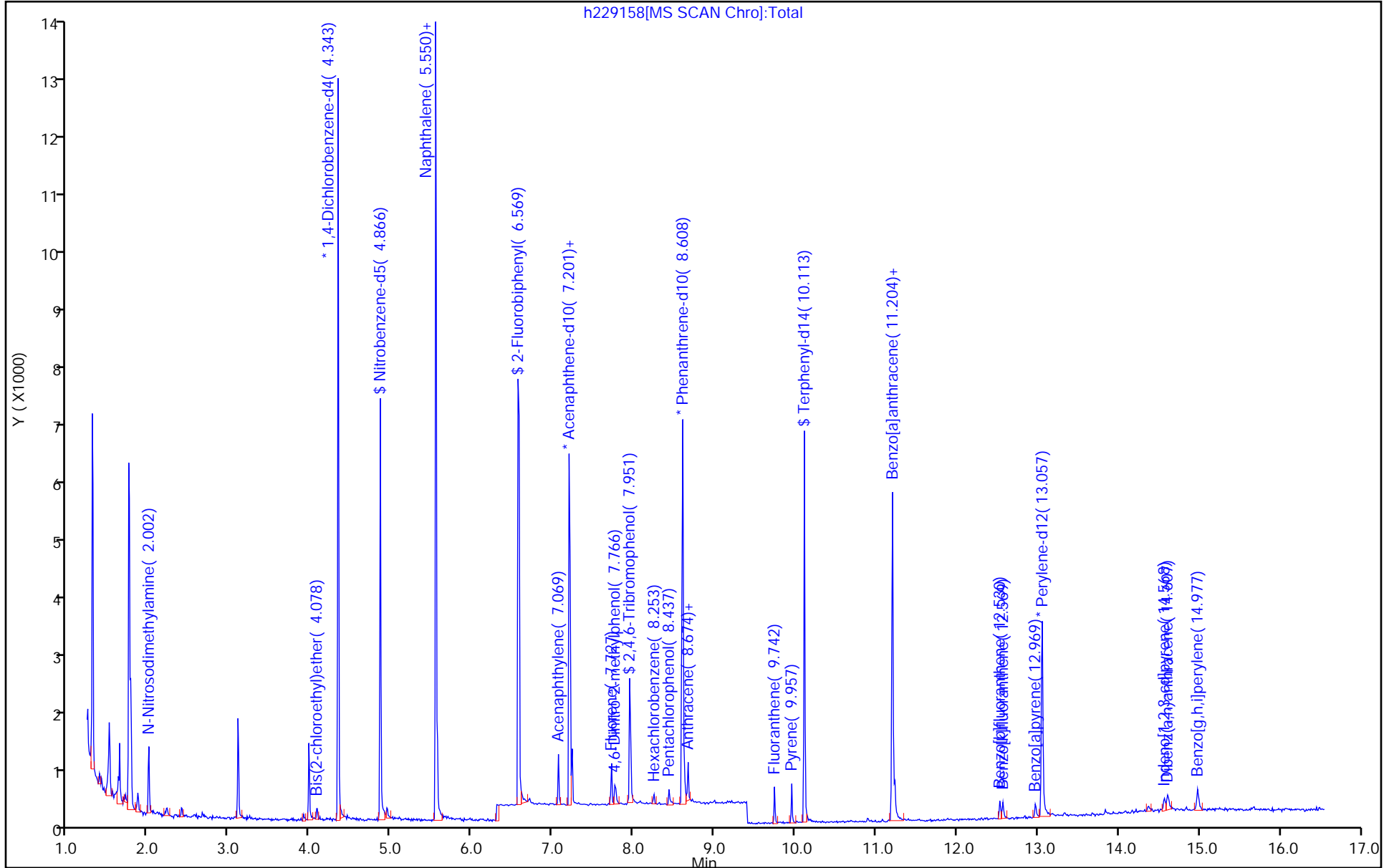
Dil. Factor: 1.0000

ALS Bottle#: 6

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Lims ID: std1  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 12-Apr-2018 16:01:30 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070269-007  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:49:02 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: asfawa

Date: 12-Apr-2018 16:23:46

Compound	Sig	RT (min.)	Adj RT (min.)	Diff RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.704	1.768	-0.064	75	337	0.0400	0.0269	
2 N-Nitrosodimethylamine	74	1.994	1.994	0.000	94	299	0.0200	0.0202	
3 Bis(2-chloroethyl)ether	93	4.078	4.086	-0.008	88	63	0.002000	0.002388	a
* 5 1,4-Dichlorobenzene-d4	152	4.343	4.343	0.000	99	4572	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.866	4.866	0.000	98	2186	0.1000	0.0933	
* 7 Naphthalene-d8	136	5.550	5.550	0.000	100	11950	0.2000	0.2000	
8 Naphthalene	128	5.574	5.574	0.000	100	373	0.005000	0.004858	a
\$ 9 2-Fluorobiphenyl	172	6.569	6.583	-0.014	95	4076	0.1000	0.0990	
10 Acenaphthylene	152	7.069	7.069	0.000	100	340	0.005000	0.004860	
* 11 Acenaphthene-d10	164	7.201	7.214	-0.013	98	4073	0.2000	0.2000	
12 Acenaphthene	154	7.240	7.240	0.000	97	194	0.005000	0.005280	
13 Fluorene	166	7.727	7.727	0.000	90	188	0.005000	0.004589	
14 4,6-Dinitro-2-methylphenol	198	7.780	7.780	0.000	78	168	0.1000	0.1191	
\$ 20 2,4,6-Tribromophenol	330	7.951	7.951	0.000	95	649	0.1000	0.0860	
15 Hexachlorobenzene	284	8.253	8.253	0.000	1	42	0.002000	0.001690	Ma
16 Pentachlorophenol	266	8.437	8.437	0.000	1	94	0.0200	0.0165	Ma
* 17 Phenanthrene-d10	188	8.608	8.608	0.000	100	7546	0.2000	0.2000	
18 Phenanthrene	178	8.622	8.621	0.001	79	267	0.005000	0.004752	M
19 Anthracene	178	8.674	8.674	0.000	90	234	0.005000	0.004326	a
21 Fluoranthene	202	9.742	9.742	0.000	98	257	0.005000	0.004873	
22 Pyrene	202	9.957	9.957	0.000	99	267	0.005000	0.005027	
\$ 23 Terphenyl-d14	244	10.113	10.113	0.000	100	2205	0.1000	0.1007	
24 Benzo[a]anthracene	228	11.195	11.195	0.000	96	195	0.005000	0.005049	a
* 25 Chrysene-d12	240	11.205	11.204	0.001	100	5559	0.2000	0.2000	
26 Chrysene	228	11.234	11.234	0.000	93	234	0.005000	0.005113	a
27 Benzo[b]fluoranthene	252	12.530	12.530	0.000	92	178	0.005000	0.004823	a
28 Benzo[k]fluoranthene	252	12.569	12.569	0.000	53	208	0.005000	0.004917	a
29 Benzo[a]pyrene	252	12.969	12.969	0.000	72	160	0.005000	0.004927	a
* 30 Perylene-d12	264	13.057	13.057	0.000	100	4780	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.568	14.578	-0.010	81	166	0.005000	0.005131	
32 Dibenz(a,h)anthracene	278	14.607	14.617	-0.009	57	171	0.005000	0.005535	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.977	14.987	-0.010	56	195	0.005000	0.005080	

### QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

### Reagents:

SM\_simSlvIL1\_00008

Amount Added: 1.00

Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D

Injection Date: 12-Apr-2018 16:01:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: std1

Worklist Smp#: 7

Client ID:

Injection Vol: 5.0 ul

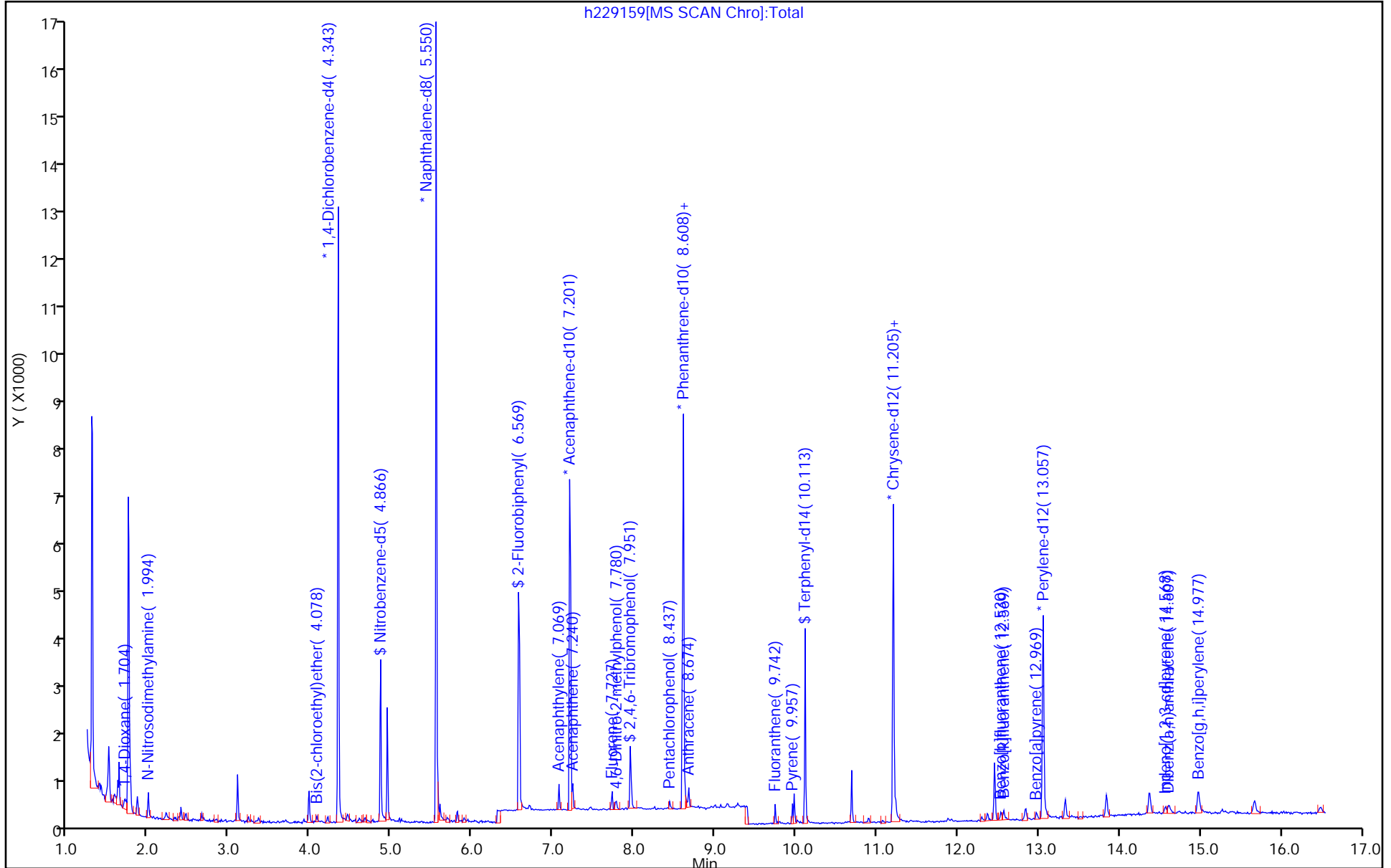
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)





FORM VI  
RESOLUTION CHECK SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Lab Sample ID (1): CCVIS 460-511063/2 Instrument ID (1): CBNAMS9

GC Column (1): Rtxi-5Sil MS ID: 0.25(mm) Date Analyzed (1): 04/14/2018 08:25

ANALYTE	RT	RESOLUTION (%)
1,4-Dioxane	1.74	100.0
Nitrobenzene-d5	4.83	100.0
2-Fluorobiphenyl	6.54	100.0
2,4,6-Tribromophenol	7.92	100.0
Terphenyl-d14	10.08	100.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 460-511063/2 Calibration Date: 04/14/2018 08:25  
 Instrument ID: CBNAMS9 Calib Start Date: 04/12/2018 14:15  
 GC Column: Rtxi-5Sil MS ID: 0.25 (mm) Calib End Date: 04/12/2018 16:01  
 Lab File ID: h229216.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5485	0.5637		206	200	2.8	20.0
N-Nitrosodimethylamine	Ave	0.6490	0.6423		99.0	100	-1.0	20.0
Bis(2-chloroethyl)ether	Ave	1.154	1.008	0.7000	17.5	20.0	-12.6	20.0
Naphthalene	Ave	1.285	1.325	0.7000	20.6	20.0	3.2	20.0
Acenaphthylene	Ave	3.435	2.781	0.9000	16.2	20.0	-19.1	20.0
Acenaphthene	Ave	1.804	1.561	0.9000	17.3	20.0	-13.5	20.0
Fluorene	Ave	2.012	1.555	0.9000	15.5	20.0	-22.7*	20.0
4,6-Dinitro-2-methylphenol	Qua		0.0997	0.0100	496	400	24.1*	20.0
Hexachlorobenzene	Ave	0.6585	0.6177	0.1000	18.8	20.0	-6.2	20.0
Pentachlorophenol	QuaF		0.1245	0.0500	78.7	100	-21.3*	20.0
Phenanthrene	Ave	1.489	1.850	0.7000	24.8	20.0	24.2*	20.0
Anthracene	Ave	1.434	1.276	0.7000	17.8	20.0	-11.0	20.0
Fluoranthene	Ave	1.398	1.432	0.6000	20.5	20.0	2.4	20.0
Pyrene	Ave	1.911	2.226	0.6000	23.3	20.0	16.5	20.0
Benzo[a]anthracene	Ave	1.390	1.406	0.8000	20.2	20.0	1.2	20.0
Chrysene	Ave	1.647	1.675	0.7000	20.4	20.0	1.8	20.0
Benzo[b]fluoranthene	Ave	1.544	1.686		21.8	20.0	9.2	20.0
Benzo[k]fluoranthene	Ave	1.770	1.909	0.7000	21.6	20.0	7.9	20.0
Benzo[a]pyrene	Ave	1.359	1.429	0.7000	21.0	20.0	5.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.354	1.511	0.5000	22.3	20.0	11.6	20.0
Dibenz(a,h)anthracene	Ave	1.293	1.417	0.4000	21.9	20.0	9.6	20.0
Benzo[g,h,i]perylene	Ave	1.606	1.804	0.5000	22.5	20.0	12.3	20.0
Nitrobenzene-d5	Ave	0.3919	0.3848		393	400	-1.8	20.0
2-Fluorobiphenyl	Ave	2.021	1.990		394	400	-1.6	20.0
2,4,6-Tribromophenol	Ave	0.3704	0.3261		352	400	-12.0	20.0
Terphenyl-d14	Ave	0.7880	0.9080		461	400	15.2	20.0

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229216.D  
 Lims ID: ccvis  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 14-Apr-2018 08:25:30 ALS Bottle#: 2 Worklist Smp#: 2  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-002  
 Operator ID: Instrument ID: CBNAMS9  
 Sublist: chrom-BNsurrSIM\_LVI\_9\*sub4  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:40 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: hamziy

Date: 14-Apr-2018 09:09:53

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.736	1.736	0.000	15	2510	0.2000	0.2055	
2 N-Nitrosodimethylamine	74	1.953	1.953	0.000	81	1430	0.1000	0.0990	
3 Bis(2-chloroethyl)ether	93	4.045	4.045	0.000	97	449	0.0200	0.0175	
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	4453	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	9087	0.4000	0.3927	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	11807	0.2000	0.2000	
8 Naphthalene	128	5.542	5.542	0.000	100	1565	0.0200	0.0206	
\$ 9 2-Fluorobiphenyl	172	6.543	6.543	0.000	97	19679	0.4000	0.3937	
10 Acenaphthylene	152	7.043	7.043	0.000	100	1375	0.0200	0.0162	
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	98	4945	0.2000	0.2000	
12 Acenaphthene	154	7.201	7.201	0.000	87	772	0.0200	0.0173	
13 Fluorene	166	7.687	7.687	0.000	82	769	0.0200	0.0155	
14 4,6-Dinitro-2-methylphenol	198	7.740	7.740	0.000	90	1311	0.4000	0.4965	
\$ 20 2,4,6-Tribromophenol	330	7.924	7.924	0.000	92	3225	0.4000	0.3522	
15 Hexachlorobenzene	284	8.227	8.227	0.000	99	406	0.0200	0.0188	
16 Pentachlorophenol	266	8.411	8.411	0.000	60	409	0.1000	0.0787	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	99	6573	0.2000	0.2000	
18 Phenanthrene	178	8.595	8.595	0.000	96	1216	0.0200	0.0248	
19 Anthracene	178	8.648	8.648	0.000	98	839	0.0200	0.0178	
21 Fluoranthene	202	9.713	9.713	0.000	99	941	0.0200	0.0205	
22 Pyrene	202	9.927	9.927	0.000	99	934	0.0200	0.0233	
\$ 23 Terphenyl-d14	244	10.083	10.083	0.000	99	7620	0.4000	0.4609	
24 Benzo[a]anthracene	228	11.156	11.156	0.000	51	590	0.0200	0.0202	
* 25 Chrysene-d12	240	11.165	11.165	0.000	97	4196	0.2000	0.2000	
26 Chrysene	228	11.195	11.195	0.000	99	703	0.0200	0.0204	
27 Benzo[b]fluoranthene	252	12.491	12.491	0.000	100	558	0.0200	0.0218	
28 Benzo[k]fluoranthene	252	12.520	12.520	0.000	44	632	0.0200	0.0216	
29 Benzo[a]pyrene	252	12.920	12.920	0.000	100	473	0.0200	0.0210	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3310	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.509	14.509	0.000	97	500	0.0200	0.0223	
32 Dibenz(a,h)anthracene	278	14.548	14.548	0.000	94	469	0.0200	0.0219	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	14.918	14.918	0.000	89	597	0.0200	0.0225	

Reagents:  
SM\_simSlvl3\_00010                      Amount Added: 1.00                      Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229216.D

Injection Date: 14-Apr-2018 08:25:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: ccvis

Worklist Smp#: 2

Client ID:

Injection Vol: 5.0 ul

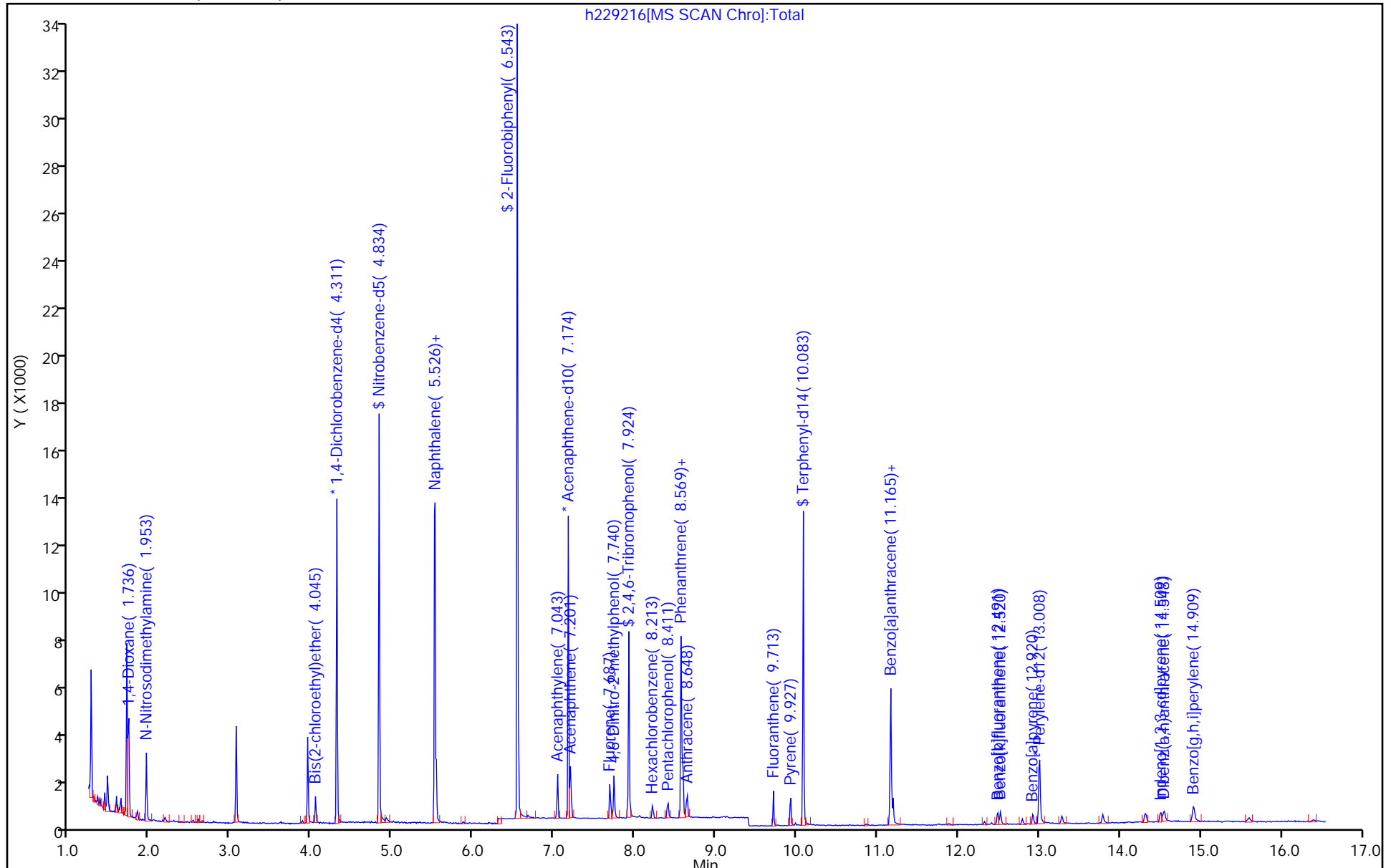
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229153.D  
 Lims ID: DFTPP  
 Client ID:  
 Sample Type: DFTPP  
 Inject. Date: 12-Apr-2018 13:07:30 ALS Bottle#: 1 Worklist Smp#: 1  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070257-001  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 12-Apr-2018 16:42:32 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK027

First Level Reviewer: zhaoc Date: 12-Apr-2018 14:16:35

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Pentachlorophenol_T 35 DFTPP	266	5.062	5.062	0.000	0	34633	NR	NR	
36 Benzidine_T	184	6.775	6.775	0.000	0	313129	NR	NR	
37 4,4'-DDD	235	7.414	7.414	0.000	0	1021		NR	Ma
39 4,4'-DDT	235	7.711	7.711	0.000	0	141705	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

M - Manually Integrated

a - User Assigned ID

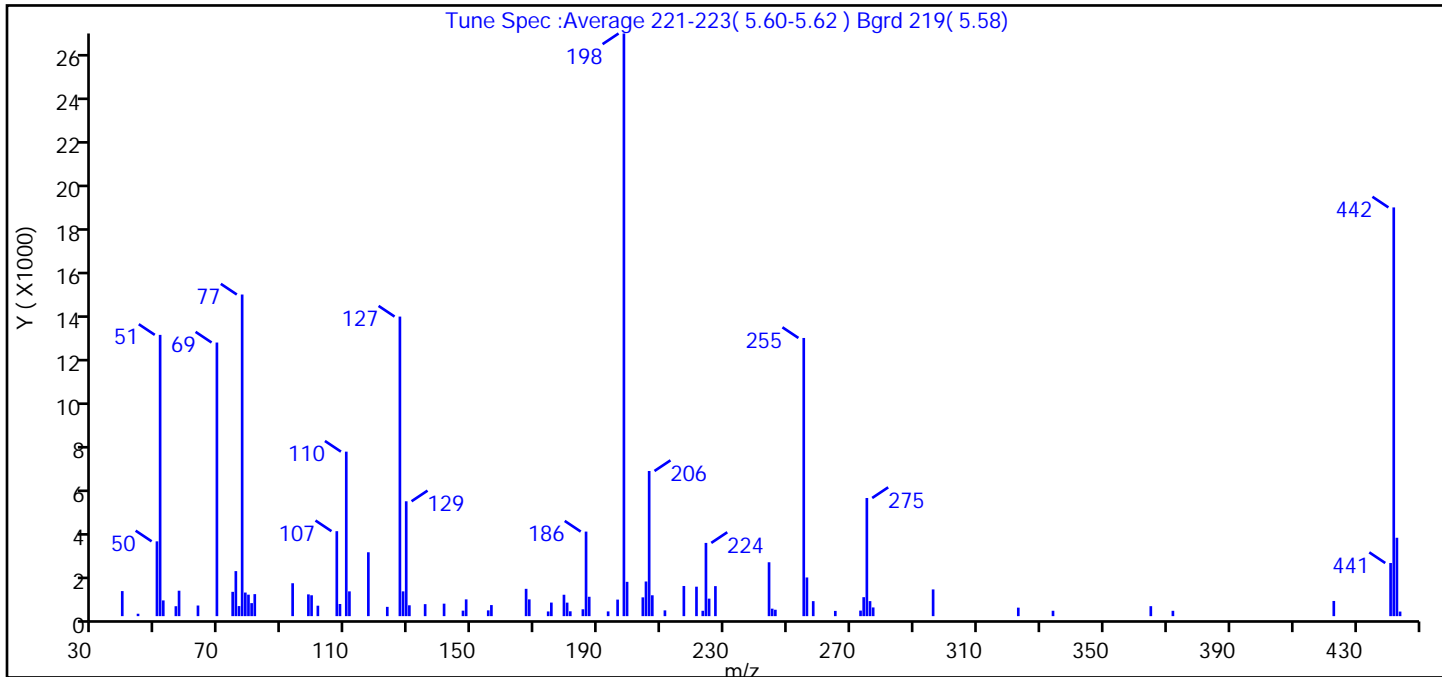
Reagents:

SMDFTP\_CH\_00024 Amount Added: 1.00 Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229153.D  
 Injection Date: 12-Apr-2018 13:07:30 Instrument ID: CBNAMS9  
 Lims ID: DFTPP  
 Client ID:  
 Operator ID: ALS Bottle#: 1 Worklist Smp#: 1  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Method: BNsurrSIM\_LVI\_9 Limit Group: SV 8270D SIM ICAL  
 Tune Method: DFTPP Method 8270

35 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	48.3
68	<2% of mass 69	0.0 (0.0)
69	Present	47.0
70	<2% of mass 69	0.0 (0.0)
127	40-60% of mass 198	51.4
197	<1% of mass 198	0.0
199	5-9% of mass 198	5.9
275	10-30% of mass 198	20.3
365	>1% of mass 198	1.7
441	Present but less than mass 443	9.1 (67.8)
442	>40% of mass 198	70.1
443	17-23% of mass 442	13.5 (19.2)

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229153.D\BNsurrSIM\_LVI\_9.rsl\spectra.d  
Injection Date: 12-Apr-2018 13:07:30  
Spectrum: Tune Spec :Average 221-223( 5.60-5.62 ) Bgrd 219( 5.58)  
Base Peak: 198.00  
Minimum % Base Peak: 0  
Number of Points: 84

m/z	Y	m/z	Y	m/z	Y	m/z	Y
39.00	1120	107.00	3798	180.00	604	245.00	334
44.00	108	108.00	543	181.00	217	246.00	286
50.00	3344	110.00	7354	185.00	307	255.00	12436
51.00	12574	111.00	1108	186.00	3780	256.00	1729
52.00	703	117.00	2856	187.00	866	258.00	671
56.00	444	123.00	415	193.00	212	265.00	234
57.00	1137	127.00	13392	196.00	740	273.00	248
63.00	475	128.00	1108	198.00	26048	274.00	848
69.00	12232	129.00	5135	199.00	1534	275.00	5282
74.00	1087	130.00	485	204.00	840	276.00	672
75.00	2013	135.00	537	205.00	1549	277.00	389
76.00	450	141.00	558	206.00	6489	296.00	1195
77.00	14378	147.00	246	207.00	933	323.00	380
78.00	1055	148.00	750	211.00	258	334.00	241
79.00	960	155.00	259	217.00	1348	365.00	446
80.00	582	156.00	495	221.00	1317	372.00	239
81.00	984	167.00	1221	223.00	240	423.00	679
93.00	1471	168.00	750	224.00	3274	441.00	2375
98.00	973	174.00	210	225.00	783	442.00	18272
99.00	933	175.00	607	227.00	1342	443.00	3504
101.00	467	179.00	957	244.00	2409	444.00	205



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229153.D

Injection Date: 12-Apr-2018 13:07:30

Instrument ID: CBNAMS9

Lims ID: DFTPP

Client ID:

Operator ID:

ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 5.0 ul

Dil. Factor: 1.0000

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

39 4,4'-DDT, Detector: MS SCAN

SW-846 Method

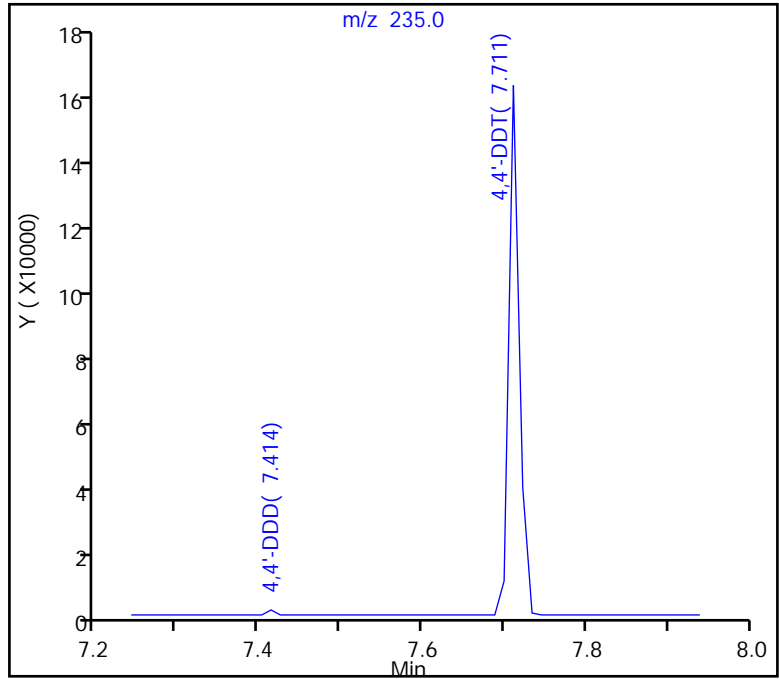
%Breakdown =  
(Area Breakdown Cpnds/  
Total Area Breakdown Cpnds) \* 100

39 4,4'-DDT, Area = 141705

37 4,4'-DDD, Area = 1021

38 4,4'-DDE, Area = 0

%Breakdown: 0.72%, Max Limit: 20.00%  
Passed



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229153.D  
Injection Date: 12-Apr-2018 13:07:30 Instrument ID: CBNAMS9  
Lims ID: DFTPP  
Client ID:  
Operator ID:  
Injection Vol: 5.0 ul  
Method: BNsurrSIM\_LVI\_9

ALS Bottle#: 1 Worklist Smp#: 1  
Dil. Factor: 1.0000  
Limit Group: SV 8270D SIM ICAL

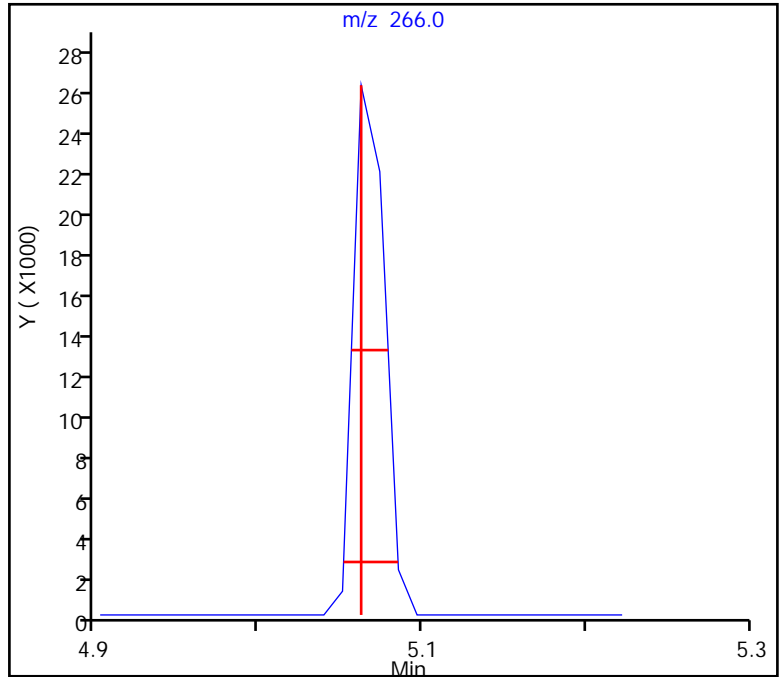
4 PentachlorophenoI\_T, Detector: MS SCAN

Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.023 (min.)  
Front Width = 0.011 (min.)

Tailing Factor = \* 2.1, Max. Tailing < 2.00  
Failed

-----



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229153.D  
Injection Date: 12-Apr-2018 13:07:30 Instrument ID: CBNAMS9  
Lims ID: DFTPP  
Client ID:  
Operator ID:  
Injection Vol: 5.0 ul  
Method: BNsurrSIM\_LVI\_9

ALS Bottle#: 1 Worklist Smp#: 1  
Dil. Factor: 1.0000  
Limit Group: SV 8270D SIM ICAL

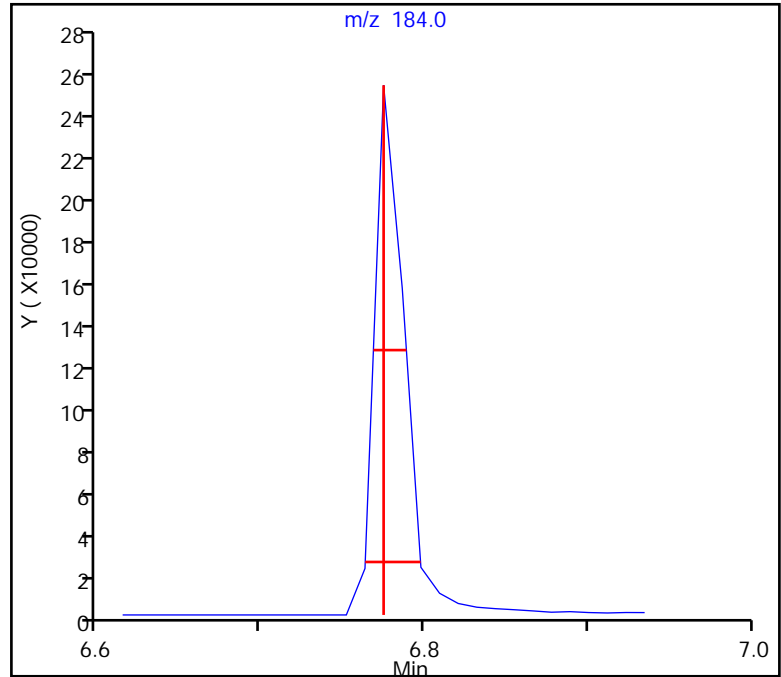
36 Benzidine\_T, Detector: MS SCAN

Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.023 (min.)  
Front Width = 0.011 (min.)

Tailing Factor = \* 2.0, Max. Tailing < 2.00  
Failed

-----



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229215.D  
 Lims ID: DFTPP  
 Client ID:  
 Sample Type: DFTPP  
 Inject. Date: 14-Apr-2018 08:08:30 ALS Bottle#: 1 Worklist Smp#: 1  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-001  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:27:41 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa Date: 16-Apr-2018 11:27:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Pentachlorophenol_T 35 DFTPP	266	5.028	5.028	0.000	0	30305	NR	NR	
36 Benzidine_T	184	6.740	6.740	0.000	0	295592	NR	NR	
37 4,4'-DDD	235	7.367	7.367	0.000	0	0		NR	a
38 4,4'-DDE	246	7.677	7.677	0.000	0	7708		NR	a
39 4,4'-DDT	235	7.677	7.677	0.000	0	125218	NR	NR	

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

Review Flags

a - User Assigned ID

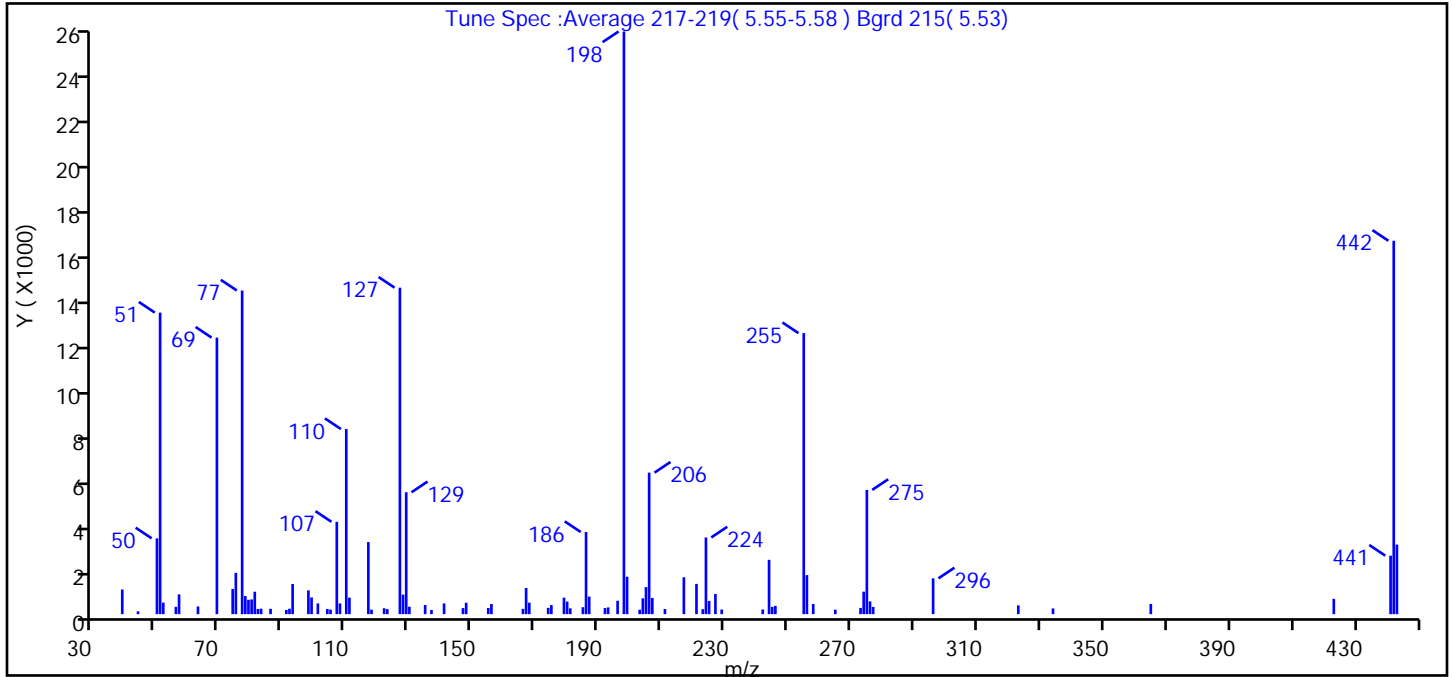
**Reagents:**

SMDFTP\_CH\_00024 Amount Added: 1.00 Units: mL

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229215.D  
 Injection Date: 14-Apr-2018 08:08:30 Instrument ID: CBNAMS9  
 Lims ID: DFTPP  
 Client ID:  
 Operator ID: ALS Bottle#: 1 Worklist Smp#: 1  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Method: BNsurrSIM\_LVI\_9 Limit Group: SV 8270D SIM ICAL  
 Tune Method: DFTPP Method 8270

35 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	51.8
68	<2% of mass 69	0.0 (0.0)
69	Present	47.5
70	<2% of mass 69	0.0 (0.0)
127	40-60% of mass 198	56.0
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.4
275	10-30% of mass 198	21.3
365	>1% of mass 198	1.8
441	Present but less than mass 443	10.0 (84.1)
442	>40% of mass 198	64.1
443	17-23% of mass 442	11.9 (18.6)

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229215.D\BNsurrSIM\_LVI\_9.rsl\spectra.d  
 Injection Date: 14-Apr-2018 08:08:30  
 Spectrum: Tune Spec :Average 217-219( 5.55-5.58 ) Bgrd 215( 5.53)  
 Base Peak: 198.00  
 Minimum % Base Peak: 0  
 Number of Points: 96

m/z	Y	m/z	Y	m/z	Y	m/z	Y
39.00	1076	101.00	469	168.00	500	225.00	577
44.00	122	104.00	226	174.00	274	227.00	880
50.00	3310	105.00	198	175.00	394	229.00	203
51.00	13170	107.00	4032	179.00	719	242.00	203
52.00	504	108.00	467	180.00	548	244.00	2372
56.00	320	110.00	8084	181.00	254	245.00	316
57.00	863	111.00	721	185.00	303	246.00	361
63.00	335	117.00	3148	186.00	3586	255.00	12274
69.00	12077	118.00	198	187.00	766	256.00	1706
74.00	1098	122.00	258	192.00	266	258.00	443
75.00	1803	123.00	219	193.00	294	265.00	196
77.00	14135	127.00	14259	196.00	584	273.00	271
78.00	791	128.00	854	198.00	25448	274.00	983
79.00	626	129.00	5324	199.00	1634	275.00	5426
80.00	643	130.00	323	203.00	194	276.00	558
81.00	980	135.00	399	204.00	691	277.00	314
82.00	226	137.00	184	205.00	1181	296.00	1563
83.00	237	141.00	468	206.00	6180	323.00	381
86.00	233	147.00	265	207.00	709	334.00	250
91.00	183	148.00	498	211.00	225	365.00	446
92.00	238	155.00	269	217.00	1610	423.00	667
93.00	1318	156.00	444	221.00	1321	441.00	2554
98.00	1039	166.00	231	223.00	218	442.00	16306
99.00	728	167.00	1141	224.00	3350	443.00	3037

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229215.D  
Injection Date: 14-Apr-2018 08:08:30 Instrument ID: CBNAMS9  
Lims ID: DFTPP  
Client ID:  
Operator ID:  
Injection Vol: 5.0 ul  
Method: BNsurrSIM\_LVI\_9

ALS Bottle#: 1 Worklist Smp#: 1  
Dil. Factor: 1.0000  
Limit Group: SV 8270D SIM ICAL

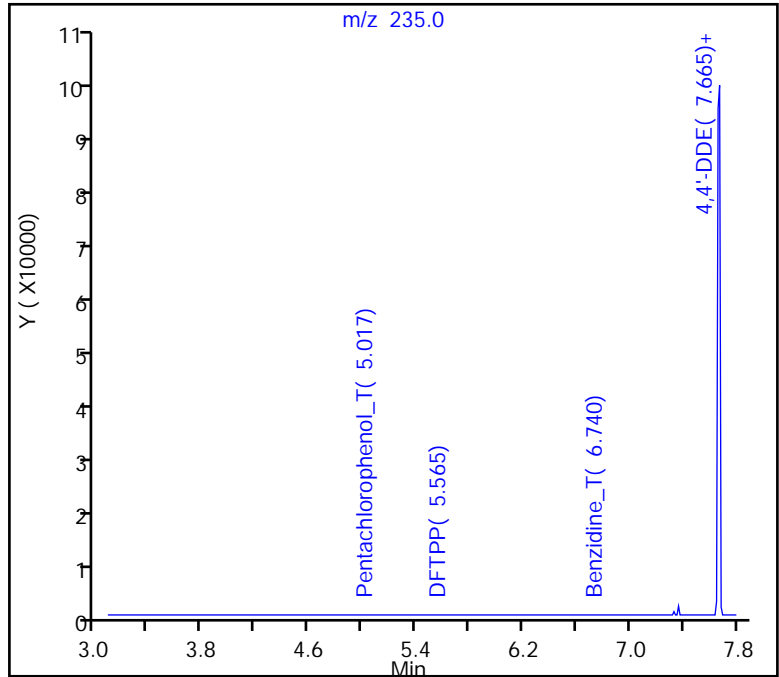
39 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =  
(Area Breakdown Cpnds/  
Total Area Breakdown Cpnds) \* 100

39 4,4'-DDT, Area = 125218  
37 4,4'-DDD, Area = 0  
38 4,4'-DDE, Area = 7708

%Breakdown: 5.80%, Max Limit: 20.00%  
Passed



TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229215.D  
Injection Date: 14-Apr-2018 08:08:30 Instrument ID: CBNAMS9  
Lims ID: DFTPP  
Client ID:  
Operator ID:  
Injection Vol: 5.0 ul  
Method: BNsurrSIM\_LVI\_9

ALS Bottle#: 1 Worklist Smp#: 1  
Dil. Factor: 1.0000  
Limit Group: SV 8270D SIM ICAL

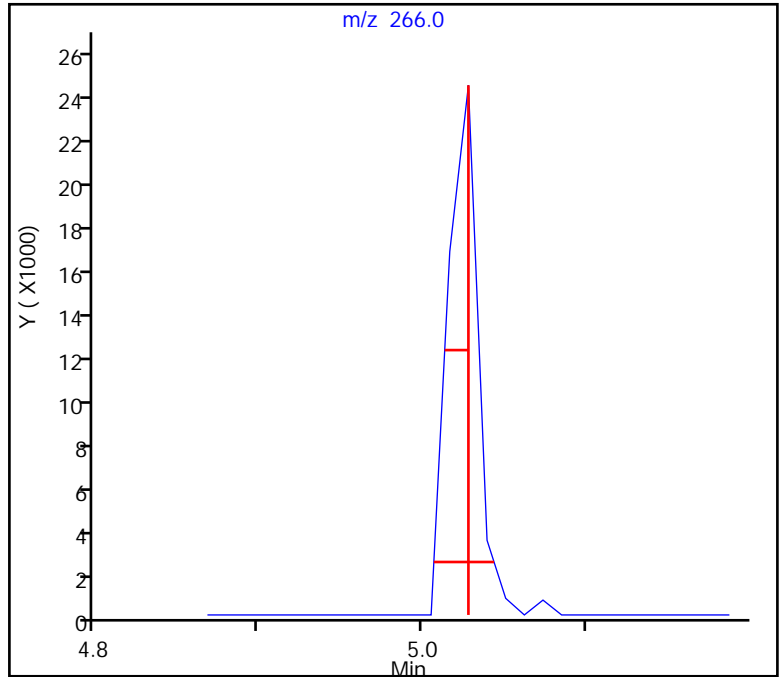
4 PentachlorophenoI\_T, Detector: MS SCAN

Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.016 (min.)  
Front Width = 0.021 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00  
Passed

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TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229215.D  
Injection Date: 14-Apr-2018 08:08:30 Instrument ID: CBNAMS9  
Lims ID: DFTPP  
Client ID:  
Operator ID:  
Injection Vol: 5.0 ul  
Method: BNsurrSIM\_LVI\_9

ALS Bottle#: 1 Worklist Smp#: 1  
Dil. Factor: 1.0000  
Limit Group: SV 8270D SIM ICAL

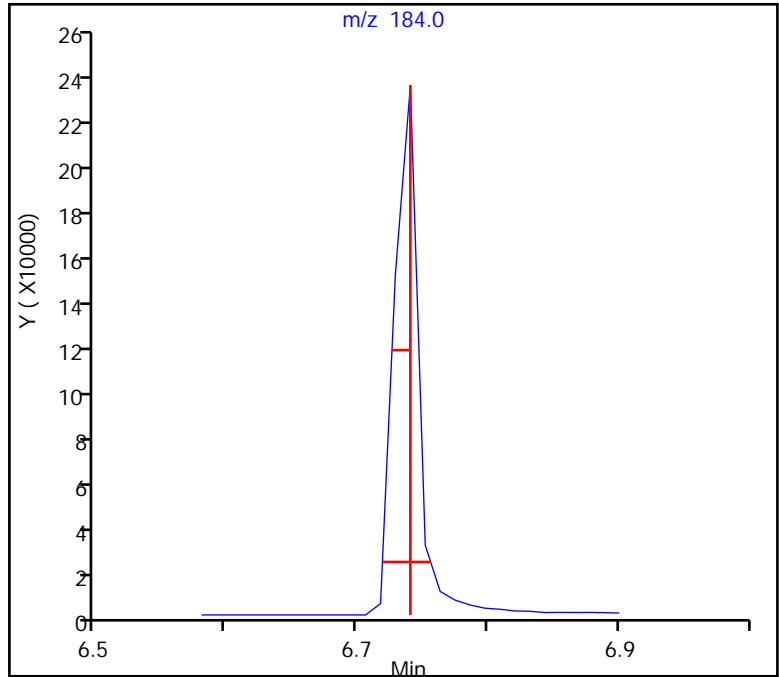
36 Benzidine\_T, Detector: MS SCAN

Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.016 (min.)  
Front Width = 0.021 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00  
Passed

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FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 460-510837/1-A  
 Matrix: Water Lab File ID: h229218.D  
 Analysis Method: 8270D SIM Date Collected: \_\_\_\_\_  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 09:23  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.17	U	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	98		38-125

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 460-510837/2-A  
 Matrix: Water Lab File ID: h229219.D  
 Analysis Method: 8270D SIM Date Collected: \_\_\_\_\_  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 09:44  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.344	J	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	100		38-125

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 MS Lab Sample ID: 460-153716-2 MS  
 Matrix: Water Lab File ID: h229221.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 12:40  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 10:26  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.549		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	96		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229221.D  
 Lims ID: 460-153716-A-2-A MS  
 Client ID: MW-2  
 Sample Type: MS  
 Inject. Date: 14-Apr-2018 10:26:30 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-007  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa

Date: 16-Apr-2018 11:32:22

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.744	1.736	0.008	9	878	0.1000	0.0687	a
2 N-Nitrosodimethylamine	74	1.961	1.953	0.008	100	645	0.1000	0.0426	
3 Bis(2-chloroethyl)ether	93	4.045	4.045	0.000	98	2839	0.1000	0.1055	
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	4663	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	24092	1.00	0.9629	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	12768	0.2000	0.2000	
8 Naphthalene	128	5.542	5.542	0.000	100	6641	0.1000	0.0810	
\$ 9 2-Fluorobiphenyl	172	6.543	6.543	0.000	96	43200	1.00	0.8259	
10 Acenaphthylene	152	7.043	7.043	0.000	100	5860	0.1000	0.0659	M
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	98	5175	0.2000	0.2000	
12 Acenaphthene	154	7.201	7.201	0.000	88	3497	0.1000	0.0749	
13 Fluorene	166	7.687	7.687	0.000	91	4209	0.1000	0.0809	
14 4,6-Dinitro-2-methylphenol	198	7.740	7.740	0.000	98	701	0.2000	0.2733	
\$ 20 2,4,6-Tribromophenol	330	7.924	7.924	0.000	92	9617	1.00	1.00	
15 Hexachlorobenzene	284	8.227	8.227	0.000	99	2046	0.1000	0.0810	
16 Pentachlorophenol	266	8.411	8.411	0.000	88	1148	0.2000	0.1768	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	96	7671	0.2000	0.2000	
18 Phenanthrene	178	8.595	8.595	0.000	95	7254	0.1000	0.1270	
19 Anthracene	178	8.648	8.648	0.000	99	5123	0.1000	0.0932	
21 Fluoranthene	202	9.713	9.713	0.000	99	5804	0.1000	0.1083	
22 Pyrene	202	9.927	9.927	0.000	99	5793	0.1000	0.1197	
\$ 23 Terphenyl-d14	244	10.083	10.083	0.000	100	23071	1.00	1.16	
24 Benzo[a]anthracene	228	11.156	11.156	0.000	77	3897	0.1000	0.1108	
* 25 Chrysene-d12	240	11.165	11.165	0.000	95	5064	0.2000	0.2000	
26 Chrysene	228	11.195	11.195	0.000	99	4889	0.1000	0.1173	
27 Benzo[b]fluoranthene	252	12.491	12.491	0.000	100	3688	0.1000	0.1259	
28 Benzo[k]fluoranthene	252	12.520	12.520	0.000	98	3982	0.1000	0.1186	
29 Benzo[a]pyrene	252	12.930	12.920	0.010	99	2743	0.1000	0.1064	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3793	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.509	14.509	0.000	100	2323	0.1000	0.0905	
32 Dibenz(a,h)anthracene	278	14.558	14.548	0.010	99	2503	0.1000	0.1021	
33 Benzo[g,h,i]perylene	276	14.919	14.918	0.001	89	2960	0.1000	0.0972	

### QC Flag Legend

#### Review Flags

M - Manually Integrated

a - User Assigned ID

### Reagents:

SM\_SIMISTDLVI\_00022

Amount Added: 20.00

Units: uL

Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229221.D

Injection Date: 14-Apr-2018 10:26:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-A-2-A MS

Worklist Smp#: 7

Client ID: MW-2

Injection Vol: 5.0 ul

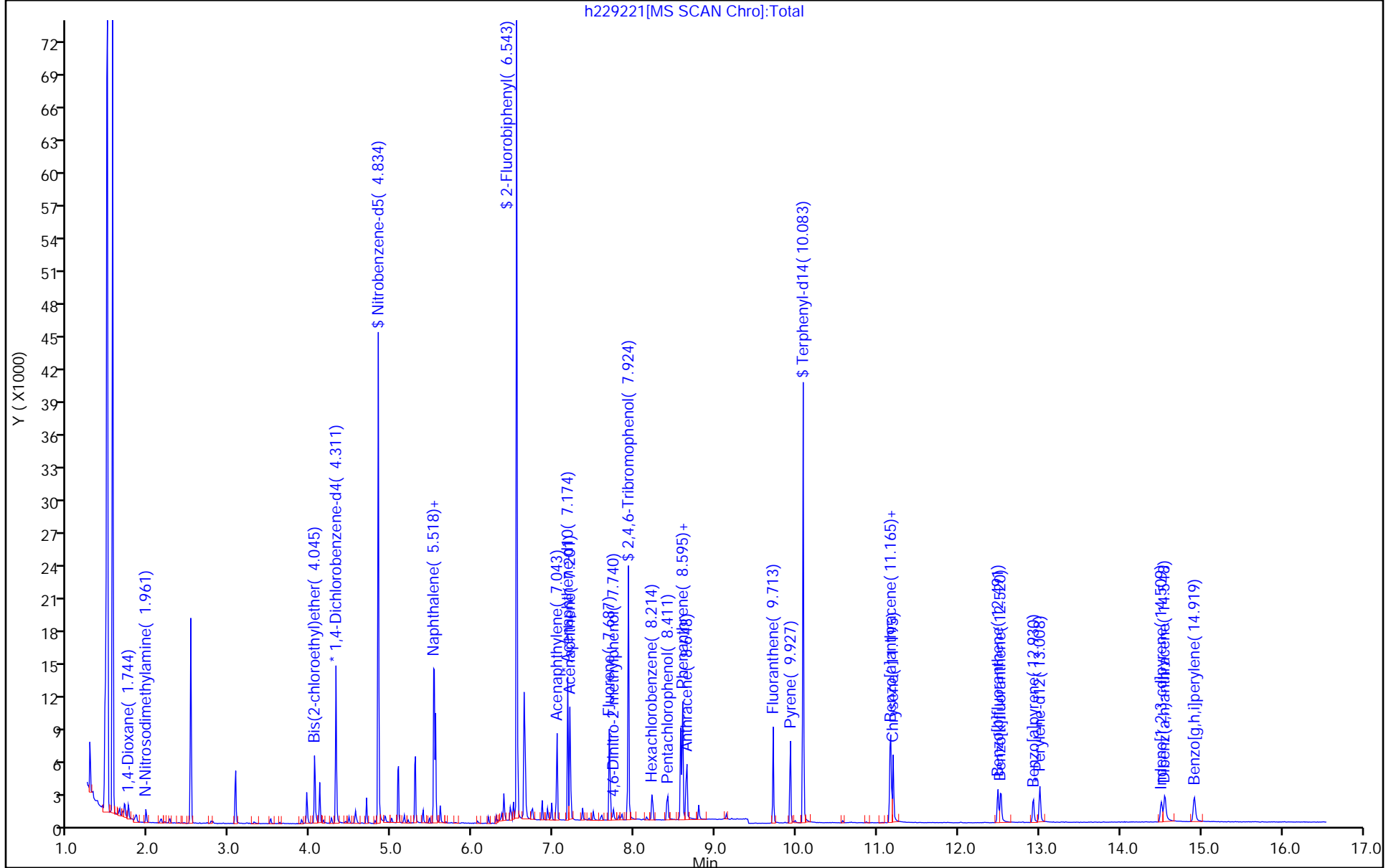
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



TestAmerica Edison

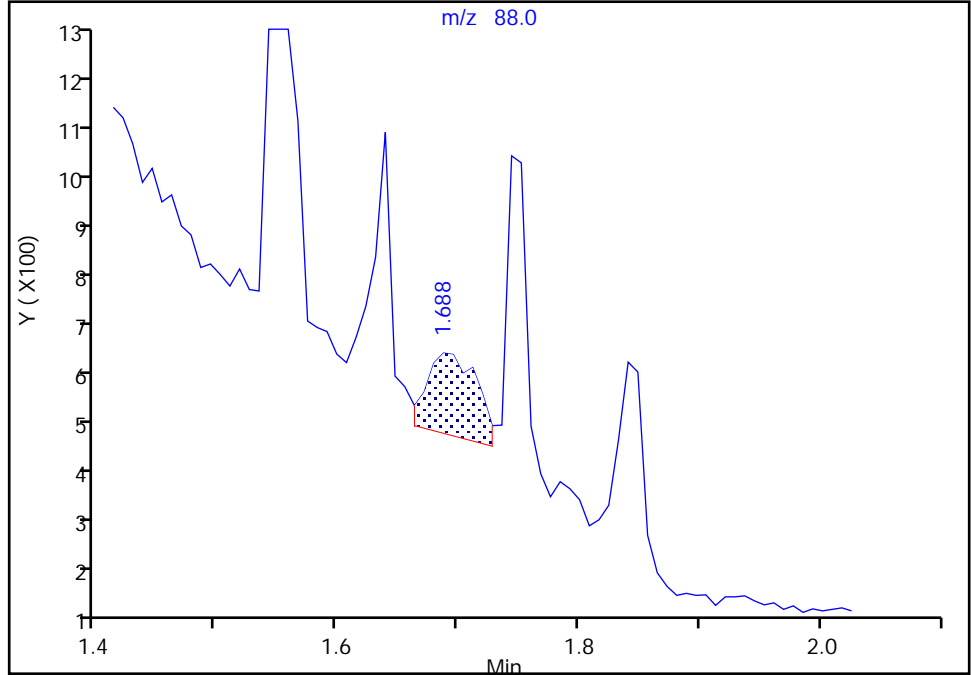
Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229221.D  
Injection Date: 14-Apr-2018 10:26:30 Instrument ID: CBNAMS9  
Lims ID: 460-153716-A-2-A MS  
Client ID: MW-2  
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 5.0 ul Dil. Factor: 1.0000  
Method: BNsurrSIM\_LVI\_9 Limit Group: SV 8270D SIM ICAL  
Column: Rtxi-5Sil MS (0.25 mm) Detector: MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Signal: 1

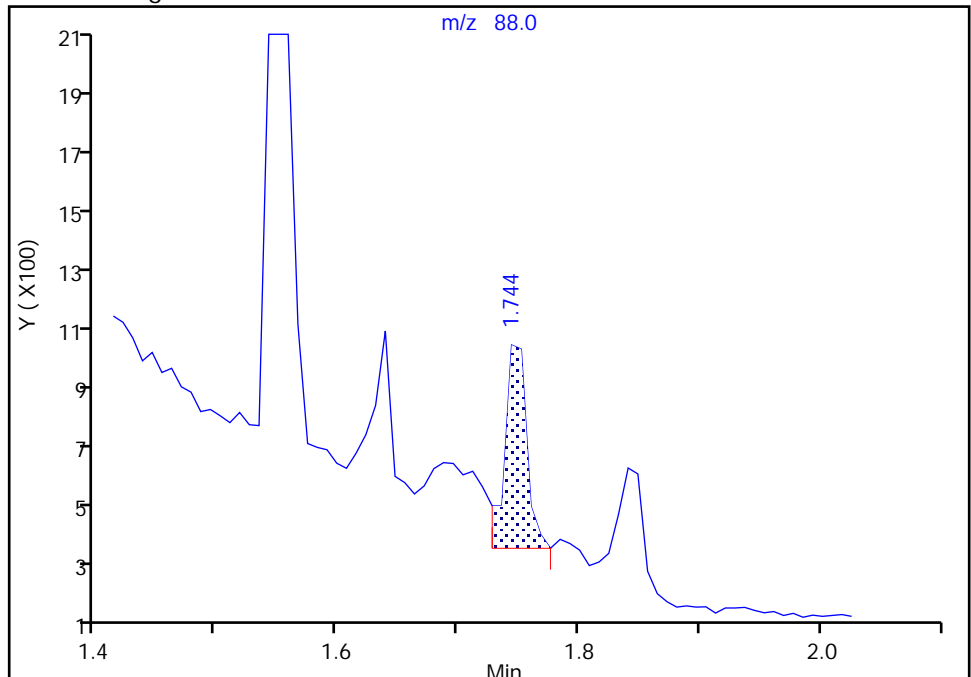
RT: 1.69  
Area: 477  
Amount: 0.037301  
Amount Units: ug/ml

Processing Integration Results



RT: 1.74  
Area: 878  
Amount: 0.068659  
Amount Units: ug/ml

Manual Integration Results



Reviewer: zhaoc, 16-Apr-2018 10:24:43  
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected



FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-2 MSD Lab Sample ID: 460-153716-2 MSD  
 Matrix: Water Lab File ID: h229222.D  
 Analysis Method: 8270D SIM Date Collected: 04/10/2018 12:40  
 Extract. Method: 3510C Date Extracted: 04/13/2018 08:40  
 Sample wt/vol: 250 (mL) Date Analyzed: 04/14/2018 10:47  
 Con. Extract Vol.: 2 (mL) Dilution Factor: 1  
 Injection Volume: 5 (uL) Level: (low/med) Low  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 511063 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.523		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	102		38-125

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229222.D  
 Lims ID: 460-153716-A-2-B MSD  
 Client ID: MW-2  
 Sample Type: MSD  
 Inject. Date: 14-Apr-2018 10:47:30 ALS Bottle#: 8 Worklist Smp#: 8  
 Injection Vol: 5.0 ul Dil. Factor: 1.0000  
 Sample Info: 460-0070364-008  
 Operator ID: Instrument ID: CBNAMS9  
 Method: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\BNsurrSIM\_LVI\_9.m  
 Limit Group: SV 8270D SIM ICAL  
 Last Update: 16-Apr-2018 11:31:51 Calib Date: 12-Apr-2018 16:01:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CBNAMS9\20180412-70269.b\h229159.D  
 Column 1 : Rtxi-5Sil MS ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: asfawa

Date: 16-Apr-2018 11:32:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.744	1.736	0.008	1	806	0.1000	0.0654	
2 N-Nitrosodimethylamine	74	1.962	1.953	0.009	91	660	0.1000	0.0452	
3 Bis(2-chloroethyl)ether	93	4.045	4.045	0.000	99	2951	0.1000	0.1138	
* 5 1,4-Dichlorobenzene-d4	152	4.311	4.311	0.000	100	4495	0.2000	0.2000	
\$ 6 Nitrobenzene-d5	82	4.834	4.834	0.000	99	25077	1.00	1.02	
* 7 Naphthalene-d8	136	5.526	5.526	0.000	98	12581	0.2000	0.2000	
8 Naphthalene	128	5.542	5.542	0.000	100	7051	0.1000	0.0872	
\$ 9 2-Fluorobiphenyl	172	6.543	6.543	0.000	96	46419	1.00	0.8725	
10 Acenaphthylene	152	7.043	7.043	0.000	100	5940	0.1000	0.0657	M
* 11 Acenaphthene-d10	164	7.174	7.174	0.000	97	5264	0.2000	0.2000	
12 Acenaphthene	154	7.201	7.201	0.000	91	3824	0.1000	0.0805	
13 Fluorene	166	7.687	7.687	0.000	90	4267	0.1000	0.0806	
14 4,6-Dinitro-2-methylphenol	198	7.740	7.740	0.000	94	695	0.2000	0.2888	
\$ 20 2,4,6-Tribromophenol	330	7.924	7.924	0.000	91	9381	1.00	0.9623	
15 Hexachlorobenzene	284	8.227	8.227	0.000	100	2116	0.1000	0.0912	
16 Pentachlorophenol	266	8.411	8.411	0.000	91	979	0.2000	0.1653	
* 17 Phenanthrene-d10	188	8.569	8.569	0.000	96	7050	0.2000	0.2000	
18 Phenanthrene	178	8.595	8.595	0.000	95	7158	0.1000	0.1364	
19 Anthracene	178	8.648	8.648	0.000	98	5129	0.1000	0.1015	
21 Fluoranthene	202	9.713	9.713	0.000	98	5653	0.1000	0.1147	
22 Pyrene	202	9.927	9.927	0.000	99	5574	0.1000	0.1233	
\$ 23 Terphenyl-d14	244	10.083	10.083	0.000	100	21655	1.00	1.16	
24 Benzo[a]anthracene	228	11.156	11.156	0.000	85	3493	0.1000	0.1063	
* 25 Chrysene-d12	240	11.165	11.165	0.000	96	4730	0.2000	0.2000	
26 Chrysene	228	11.195	11.195	0.000	100	4452	0.1000	0.1143	
27 Benzo[b]fluoranthene	252	12.491	12.491	0.000	100	3353	0.1000	0.1353	
28 Benzo[k]fluoranthene	252	12.521	12.520	0.001	98	3528	0.1000	0.1242	
29 Benzo[a]pyrene	252	12.930	12.920	0.010	100	2497	0.1000	0.1145	
* 30 Perylene-d12	264	13.008	13.008	0.000	100	3210	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.509	14.509	0.000	97	2085	0.1000	0.0960	
32 Dibenz(a,h)anthracene	278	14.558	14.548	0.010	99	2367	0.1000	0.1141	
33 Benzo[g,h,i]perylene	276	14.919	14.918	0.001	90	2762	0.1000	0.1071	

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SM\_SIMISTDLVI\_00022

Amount Added: 20.00

Units: uL

Run Reagent

TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CBNAMS9\20180414-70364.b\h229222.D

Injection Date: 14-Apr-2018 10:47:30

Instrument ID: CBNAMS9

Operator ID:

Lims ID: 460-153716-A-2-B MSD

Worklist Smp#: 8

Client ID: MW-2

Injection Vol: 5.0 ul

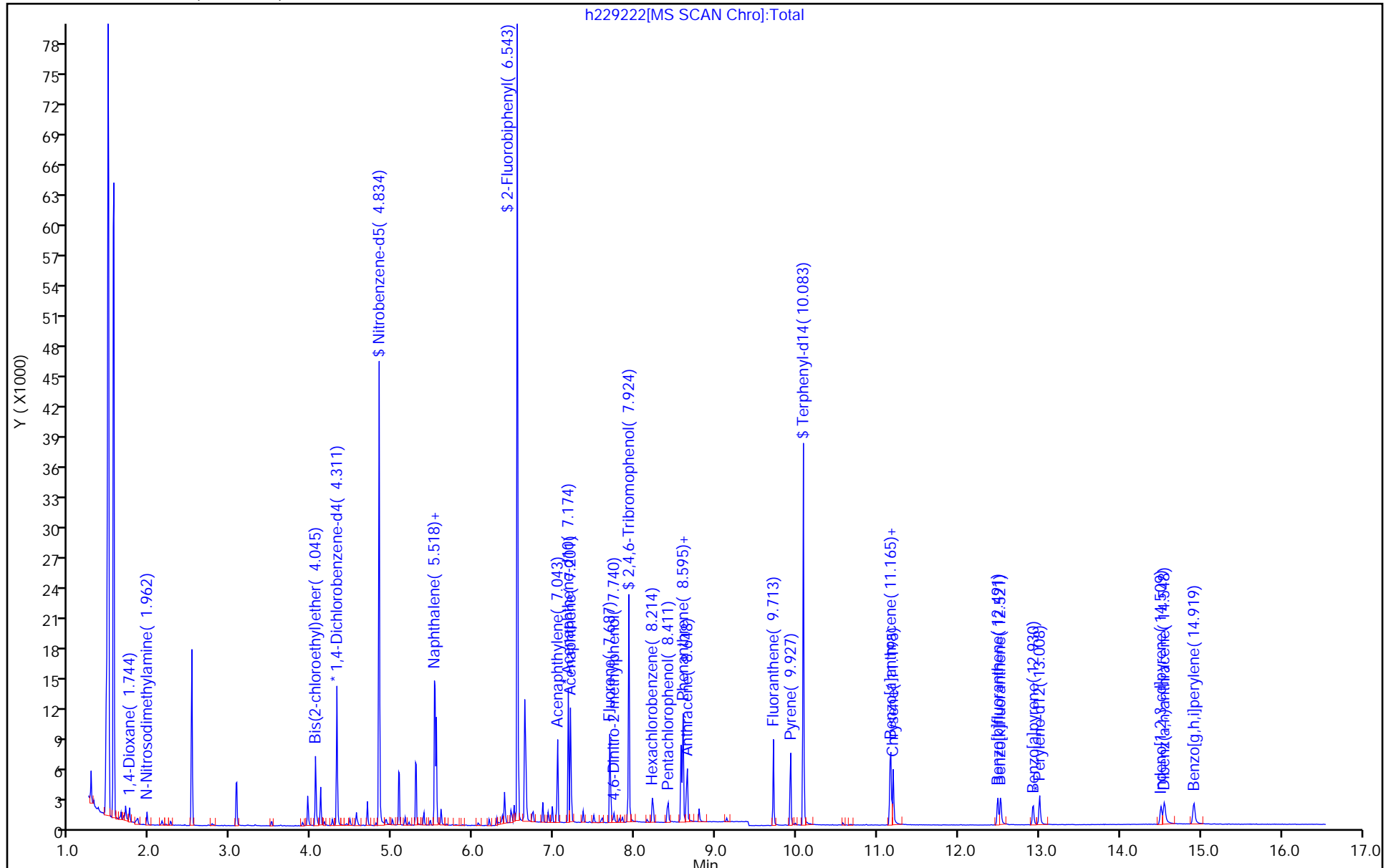
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: BNsurrSIM\_LVI\_9

Limit Group: SV 8270D SIM ICAL

Column: Rtxi-5Sil MS (0.25 mm)



GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Edison Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Instrument ID: CBNAMS9 Start Date: 04/12/2018 13:07

Analysis Batch Number: 510570 End Date: 04/12/2018 23:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 460-510570/1		04/12/2018 13:07	1	h229153.D	Rtxi-5Sil MS 0.25 (mm)
ICIS 460-510570/2		04/12/2018 14:15	1	h229154.D	Rtxi-5Sil MS 0.25 (mm)
STD6 460-510570/3 IC		04/12/2018 14:36	1	h229155.D	Rtxi-5Sil MS 0.25 (mm)
STD5 460-510570/4 IC		04/12/2018 14:57	1	h229156.D	Rtxi-5Sil MS 0.25 (mm)
STD4 460-510570/5 IC		04/12/2018 15:19	1	h229157.D	Rtxi-5Sil MS 0.25 (mm)
STD2 460-510570/6 IC		04/12/2018 15:40	1	h229158.D	Rtxi-5Sil MS 0.25 (mm)
STD1 460-510570/7 IC		04/12/2018 16:01	1	h229159.D	Rtxi-5Sil MS 0.25 (mm)
ICV 460-510570/8		04/12/2018 16:22	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 16:43	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 17:05	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 17:26	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 17:47	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 18:08	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 18:29	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 18:50	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 19:12	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 19:33	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 19:54	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 20:15	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 20:36	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 20:58	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 21:19	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 21:40	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 22:01	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 22:22	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 22:43	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/12/2018 23:04	1		Rtxi-5Sil MS 0.25 (mm)

## GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica EdisonJob No.: 460-153716-1

SDG No.: \_\_\_\_\_

Instrument ID: CBNAMS9Start Date: 04/14/2018 08:08Analysis Batch Number: 511063End Date: 04/14/2018 18:55

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 460-511063/1		04/14/2018 08:08	1	h229215.D	Rtxi-5Sil MS 0.25 (mm)
CCVIS 460-511063/2		04/14/2018 08:25	1	h229216.D	Rtxi-5Sil MS 0.25 (mm)
MB 460-510837/1-A		04/14/2018 09:23	1	h229218.D	Rtxi-5Sil MS 0.25 (mm)
LCS 460-510837/2-A		04/14/2018 09:44	1	h229219.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-2		04/14/2018 10:05	1	h229220.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-2 MS		04/14/2018 10:26	1	h229221.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-2 MSD		04/14/2018 10:47	1	h229222.D	Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 11:09	1		Rtxi-5Sil MS 0.25 (mm)
460-153716-1		04/14/2018 11:30	1	h229224.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-3		04/14/2018 11:51	1	h229225.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-4		04/14/2018 12:12	1	h229226.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-5		04/14/2018 12:34	1	h229227.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-6		04/14/2018 12:55	1	h229228.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-7		04/14/2018 13:16	1	h229229.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-8		04/14/2018 13:37	1	h229230.D	Rtxi-5Sil MS 0.25 (mm)
460-153716-9		04/14/2018 13:58	1	h229231.D	Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 14:20	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 14:41	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 15:02	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 15:23	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 15:45	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 16:06	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 16:27	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 16:48	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 17:09	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 17:31	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 17:52	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 18:13	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 18:34	1		Rtxi-5Sil MS 0.25 (mm)
ZZZZZ		04/14/2018 18:55	1		Rtxi-5Sil MS 0.25 (mm)

## GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Batch Number: 510837 Batch Start Date: 04/13/18 08:40 Batch Analyst: Hamzi, Karima MBatch Method: 3510C Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	OP_BNA SIM SP 00015	OP_BNASurroga 00014
MB 460-510837/1		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU		20 uL
LCS 460-510837/2		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
460-153716-A-2 MS	MW-2	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU	20 uL	20 uL
460-153716-A-2 MSD	MW-2	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU	20 uL	20 uL
460-153716-A-1	MW-101	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-A-2	MW-2	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-B-3	MW-3	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-B-4	MW-4	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-B-5	MW-5	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-B-6	MW-6	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-B-7	Equipment Blank 1	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-B-8	Equipment Blank 2	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL
460-153716-A-9	MW-S Dup	3510C, 8270D SIM	T	250 mL	2 mL	5 SU	<2 SU		20 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-153716-1

SDG No.: \_\_\_\_\_

Batch Number: 510837 Batch Start Date: 04/13/18 08:40 Batch Analyst: Hamzi, Karima M

Batch Method: 3510C Batch End Date: \_\_\_\_\_

Batch Notes	
Acid Used for pH Adjustment ID	184525
Base Used to Adjust pH ID	OP2414
Batch Comment	3510C LVI 8270D
Analyst ID - Concentration	KH
Equipment ID - Concentration 1	BNA
Analyst ID - Extraction	KH
Na2SO4 ID	171698
Pipette/Syringe/Dispenser ID	BNA
Prep Solvent ID	190010
Prep Solvent Volume Used	120 mL
Analyst ID - Spike Analyst	KH
Analyst ID - Spike Witness Analyst	Alissa
Sufficient Volume for Batch QC	Yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# Shipping and Receiving Documents

Chain of Custody Record



460-153716 Chain of Custody

COC No: 460-96185-61055-1

Page: 163716

Page of

Job #: 163716

Client Information

Client Contact: Ruth Curley  
Company: New York State D.E.C.

Address: 625 Broadway, 12th Floor  
City: Albany  
State, Zip: NY, 12233-7017  
Phone:   
Email: ruth.curley@dec.ny.gov

Project Name: DEC - Bridge Cleaners  
Site: 241127

Due Date Requested:   
TAT Requested (days): 10 days

Callout: 134223, Site: 241127  
WO #:   
Project #: 46025832  
SSOW#:   
Matrix (Water, Seawater, Overstabil, In-Traffic, Air, etc)

Lab PM: Haas, Melissa  
E-Mail: melissa.haas@testamericainc.com

Analysis Requested

Stabilized Sample (Mass only)

8270D SIM - 1,4-Dioxane

Number of Containers

Special Instructions/Note:

Preservation Codes:

A - HCL  
B - NaOH  
C - Zn Acetate  
D - Nitric Acid  
E - NaHSO4  
F - MeOH  
G - Acetic Acid  
H - Ascorbic Acid  
I - Ice  
J - DI Water  
K - EDTA  
L - EDTA  
M - Hexane  
N - None  
O - AsNaO2  
P - Na2O4S  
Q - Na2SO3  
R - Na2S2O3  
S - H2SO4  
T - TSP Dodecahydrate  
U - Acetone  
V - MCAA  
W - pH 4-5  
Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix	Stabilized Sample (Mass only)	Number of Containers	Special Instructions/Note:
MMW-101	4/16/18	845	G	Water	X	1	
MMW-2		1440		Water	X	3	
MMW-3		1435		Water	X	3	
MMW-4		1058		Water	X	2	
MMW-5		1245		Water	X	2	
MMW-6		1445		Water	X	2	
Equipment blank 1		0700		Water	X	1	
Equipment blank 2		1125		Water	X	8	
MWS Dup		1245		Water	X	9	
				Water		-	
				Water		-	

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

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by:   
Date:   
Time:

Relinquished by:   
Date/Time: 4/16/18 1500  
Company: GES

Relinquished by:   
Date/Time: 4/16/18 2010  
Company: RSE

Custody Seals Intact:   
Delta Yes Delta No  
Custody Seal No.:

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

Received by:   
Date/Time: 4/16/18 1500  
Company: GES

Received by:   
Date/Time: 4/16/18 2010  
Company: RSE

Received by:   
Date/Time: 4/16/18 2010  
Company: RSE

Cooler Temperature(s) °C and Other Remarks:

last to the H2000

TestAmerica Edison  
 Receipt Temperature and pH Log

Job Number: 63716

Number of Coolers: \_\_\_\_\_

IR Gun: \_\_\_\_\_

### Cooler Temperatures

	RAW	CORRECTED	RAW	CORRECTED	RAW	CORRECTED	RAW	CORRECTED
Cooler #1	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #2	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #3	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #4	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #5	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #6	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #7	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #8	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Cooler #9	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate (pH<2)	Nitrite (pH<2)	Metals (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or QAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other

If pH adjustments are required record the information below:

Sample No(s), adjusted: \_\_\_\_\_

Preservative Name/Conc.: \_\_\_\_\_

Volume of Preservative used (ml): \_\_\_\_\_

Lot # of Preservative(s): \_\_\_\_\_

Expiration Date: \_\_\_\_\_

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.

Initials:   

Date: 4/19/18

# Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 460-153716-1

**Login Number: 153716**

**List Source: TestAmerica Edison**

**List Number: 1**

**Creator: Meyers, Gary**

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



## Appendix B – DUSR

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## Quality Assessment Data Usability Summary Report

RemVer Project #2018GE05			
Client Project # 1102617-05-255			
<b>Site:</b>	Bridge Cleaners	<b>Site #:</b>	241127
<b>Client:</b>	NYSDEC via GES, Inc.	<b>Site Owner:</b>	-N/A-
<b>Sample Delivery Groups (SDGs)</b>	200-43041-1 & 460-153716-1		
<b>Sample Matrix:</b>	<input type="checkbox"/> Drinking water	<input checked="" type="checkbox"/> Groundwater	<input type="checkbox"/> Surface water
	<input type="checkbox"/> Soil	<input type="checkbox"/> Sediment	<input type="checkbox"/> Air
	<input type="checkbox"/> Biota (tissue, type: _____)		<input type="checkbox"/> Other: _____

### Introduction

RemVer performed a data quality assessment (DQA) on the analytical data reported in Sample Delivery Groups (SDGs) #200-43041-1 & 460-153716-1 for groundwater samples. The DQA evaluated the performance of the analytical procedures and the quality of the resulting data. RemVer followed the requirements of the New York State Department of Environmental Conservation (NYSDEC) Data Usability Summary Report (DUSR) guidelines for an Analytical Services Protocol (ASP) Category B Data Deliverable. This report includes a narrative discussion of sample results qualified during the DQA. Table 1 describes qualification flags applied to the data either by Test America or during the DQA process.

### Reported Methods

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Method 1311 TCLP</li> <li><input type="checkbox"/> Method 1312 SPLP</li> <li><input type="checkbox"/> Method 6010A, B &amp; C / 6020 Trace Metals</li> <li><input type="checkbox"/> Method 7000 Metals</li> <li><input type="checkbox"/> Method 7196 Hexavalent Chromium (other: _____)</li> <li><input type="checkbox"/> Method 7470A or 7471 Mercury</li> <li><input type="checkbox"/> Method 8021 Volatile Organic Compounds (VOCs) GC</li> <li><input type="checkbox"/> Method 8081B Pesticides</li> <li><input type="checkbox"/> Method 8082 PCBs</li> <li><input type="checkbox"/> Method 8151 Chlorinated Herbicides</li> <li><input type="checkbox"/> Method 8260C VOCs GC/MS</li> <li><input checked="" type="checkbox"/> Method 8270D Semi-VOCs (sVOCs) GC/MS or SIM</li> <li><input type="checkbox"/> Method 9010/9012/9014 Cyanides (_____)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Method TO-13A PAHs (air)</li> <li><input type="checkbox"/> Method TO-14A / -15 VOCs (air, summa) (_____)</li> <li><input type="checkbox"/> Method TO-17 VOCs (air, sorbent)</li> <li><input checked="" type="checkbox"/> Method 537 PFCs via SPE &amp; LC/MS-MS</li> <li><input type="checkbox"/> Volatile Petroleum Hydrocarbons (VPH) Method</li> <li><input type="checkbox"/> Extractable Petroleum Hydrocarbons (EPH)</li> <li><input checked="" type="checkbox"/> Other Methods:             <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Method 3535 Solid-Phase Extraction (SPE)</li> </ul> </li> </ul> |
|--|--|

### Quality Control Requirements Summary

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Duplicate</li> <li><input checked="" type="checkbox"/> Matrix Spike [MS] / Matrix Spike Duplicate [MSD]</li> <li><input type="checkbox"/> Trip Blank(s)</li> <li><input checked="" type="checkbox"/> Equipment, Method, &amp;/or Rinsate Blank</li> </ul> | <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Other Field QC: Field notes regarding sampling</li> <li><input type="checkbox"/> Special QAPP Requirements: _____</li> </ul> |
|--|---|

## Intended Use of Data under Review

GES collected groundwater samples during a one-day collection event: April 10, 2018 at the referenced site. The site is under New York State Department of Environmental Conservation investigation requiring several kinds of monitoring. This event provided a groundwater monitoring evaluation for perfluorinated hydrocarbons (PFCs) and 1,4-Dioxane.

## Significant Data Usability Issues

The laboratory (Test America) reported the data in two separate laboratory reports, one for each particular analyte under distinct Sample Delivery Group (SDG) numbers, as discussed below.

### ***SDG: # 200-43041-1***

Of the six (6) samples (plus one duplicate and two blanks) discussed herein, RemVer rejected no results for PFCs; all results are acceptable for use.

Please refer to the Lab Results and Data Usability Narrative section for further detail.

### ***SDG: # 460-153716-1***

Of the six (6) samples (plus one duplicate and two blanks) discussed herein, RemVer rejected no results for 1,4-Dioxane; all results are acceptable for use.

Please refer to the Lab Results and Data Usability Narrative section for further detail.

## Detailed Quality Review

### Field Notes Review

	Y	N	NA	COMMENTS
Sampling notes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Field meteorological data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No review required under QAPP
Associated sampling location and plan included	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See RAP/QAPP
Associated drilling logs available, reviewed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No review required under QAPP
Identification of QC samples in notes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sampling instrument decontamination records	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No review required under QAPP
Sampling instrument calibration logs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No review required under QAPP
Chain of custody included	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	With analytical report
Notes include communication logs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any corrective action (CA) reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If so, CA documentation of results required.
Any deviation from methods noted? If so, explain	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	None
Any electronic data deliverables	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	None
Sampling Report (by Field Team Leader)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### Lab Report Contents (Test America SDG Reports: #200-43041-1 & 460-153716-1)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> SDG Narrative   | <input checked="" type="checkbox"/> Spike recoveries                                |
| <input checked="" type="checkbox"/> Contract Lab Sample Information Sheets                    | <input checked="" type="checkbox"/> Duplicate results                               |
| <input checked="" type="checkbox"/> Data Package Summary Forms                                | <input checked="" type="checkbox"/> Confirmation (lab check/QC) samples             |
| <input checked="" type="checkbox"/> Chain-of-Custody (COC) Forms                              | <input checked="" type="checkbox"/> Internal standard area & retention time summary |
| <input checked="" type="checkbox"/> Test Results (no tentatively identified compounds [TICs]) | <input checked="" type="checkbox"/> Chromatograms                                   |
| <input checked="" type="checkbox"/> Calibration standards                                     | <input checked="" type="checkbox"/> Raw data files                                  |
| <input checked="" type="checkbox"/> Surrogate recoveries                                      | <input checked="" type="checkbox"/> Other specific information                      |
| <input checked="" type="checkbox"/> Blank results   |   |

The SDGs reported the following samples:

Sample ID	SDG #200-43041 & 460-153716 Sample #	Matrix	Sampled	Lab Received
MW-101	#-1	Water	04/10/18	04/11/18
MW-2	#-2	Water	04/10/18	04/11/18
MW-3	#-3	Water	04/10/18	04/11/18
MW-4	#-4	Water	04/10/18	04/11/18
MW-5	#-5	Water	04/10/18	04/11/18
MW-6	#-6	Water	04/10/18	04/11/18
Equipment Blank (EB) #1	#-7	Water	04/10/18	04/11/18
Equipment Blank (EB) #2	#-8	Water	04/10/18	04/11/18
Field Duplicate (FD) (MW-5)	#-9	Water	04/10/18	04/11/18

The SDGs included the following groundwater samples with their analyses:

SDG #:	460-153716	200-43041
Well	sVOC SIM	PFCs
#-1	MW-101	X
#-2	MW-2	X
#-3	MW-3	X
#-4	MW-4	X
#-5	MW-5	X
#-6	MW-6	X



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SDG #:	460-153716	200-43041
Well	sVOC SIM	PFCs
#-7	EB-1	X
#-8	EB-2	X
#-9	MW-5 duplicate	X

Is the data package complete as defined under the requirements for the NYSDEC ASP Category B?		
Laboratory Report	Complete (Y/N)	Comments
200-43041	Y	No
460-153716	Y	No

Sample Preservation Requirements & Holding Times Met?			
Laboratory Report	Hold Times (Y/N)	Preservation (Y/N)	Exception Comment
200-43041	Y	Y	None
460-153716	Y	Y	None

Do all QC data fall within the protocol required limits and specifications? (1) blanks, (2) instrument tunings, (3) calibration standards, (4) calibration verifications, (5) surrogate recoveries, (6) spike recoveries, (7) replicate analyses, (8) laboratory controls, (9) and sample data									
SDG	1	2	3	4	5	6	7	8	9
200-43041	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
460-153716	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>The narrative section, below, discusses these deficiencies in detail, see Attachment 2 as well.</i>									

Have all of the data been generated using established and agreed upon analytical protocols?		
Laboratory Report	Protocols (Y/N)	Exception Comment
200-43041	Y	No
460-153716	Y	No

Do the raw data confirm the results provided in the data summary sheets and quality control verification forms?		
Laboratory Report	Confirmation (Y/N)	Exception Comment
200-43041	Y	No
460-153716	Y	No

Have the correct data qualifiers been used and are they consistent with the most current guidance?		
Laboratory Report	Qualifiers (Y/N)	Comment
200-43041	Y	The laboratory generally applied appropriate qualifiers.
460-153716	Y	

Have any quality control (QC) exceedances been specifically noted in this DUSR and the corresponding QC summary sheets from the data packages referenced?		
Laboratory Report	QC Exceedances Documented (Y/N)	Comment
200-43041	Y	Several data qualifications were applied as described below
460-153716	Y	

## Data Quality and Usability Narrative

### Field Notes Inspection

The groundwater samples came from a one-day collection event: April 10, 2018. A review of the field notes provided the following information pertaining to data usability.

Groundwater MWs	April-2018 Comments SDG #200-43041 & 460-153716
MW-101	Low-flow sampling
MW-2	Low-flow sampling
MW-3	Low-flow sampling
MW-4	Low-flow sampling
MW-5	Low-flow sampling, duplicate sample came from this well
MW-6	Low-flow sampling

### Laboratory Report Inspection

The laboratory produced two SDG reports #200-43041 & #460-153716 (dated 24-Apr-18 and 17-Apr-18, respectively); both reports contained the required data and information.

### Chain of Custody (COC) Evaluation

NYSDEC/GES produced one COC for the referenced fieldwork (Project #-46025832, single, one-page COC). The laboratory noted no issues at the time of acceptance.

### Sample Preservation & Holding Time Evaluation

Laboratory received one cooler with samples on 4/10/2018 @ 20:00 (designated as SDG-#460-153716) 4/11/2018 @ 10:25 (designated as SDG-#200-43041) in proper condition and, where required, on ice. The temperature of the cooler at receipt was measured as 1.7 °C. Holding times and preservation requirements were met with no exceptions.

### Blank Evaluation

The Equipment Blanks (EB-1 and EB-2, respectively) had no detectable analytes (above their respective reporting limits [RLs]). The Method Blanks (MBs) for Method 8260SIM (SDG-#460-153716) had no detectable analytes. Therefore, the results were not flagged for analytical issues associated with blanks. The MB for Method 537 (SDG-#200-43041), however, had a detection of Perfluorotetradecanoic acid (PFTeA) #200-128603/1-A greater than the Method Detection Limit (MDL) but less than the Reporting Limit (RL). Therefore, detected concentrations of PFTeA should be considered as estimates and flagged UB/B, but only if the associated sample reported a result greater than the respective MDL or RL.

### Laboratory Control Samples (LCS)

The various LCS' were within the acceptable range for their particular analyses in both SDGs (#200-43041 & #460-153716).

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## Surrogates

Surrogates added to a sample allow testing of preparatory and instrument behavior resulting in recoveries within appropriate method ranges for the analytes. In these SDGs there were no exceptions other than the following:

- Recovery for the 1,4-Dioxane blank associated with preparation batch 460-510837 and analytical batch 460-511063 was greater than the upper control limits (UCLs). Therefore, the results were flagged UJ or J for this analyte.

## Site-Specific Matrix Spikes and Matrix Spike Duplicates

The matrix spike/matrix spike duplicate (MS/MSD) runs for all analyses met the QA criteria, with no exceptions.

## Duplicates

GES collected a field replicate of MW-5 (compare samples #-5 and #-9). The field duplicate and the analytical Method Duplicates met their RPD performance criteria.

## Tentatively Identified Compounds (TICs) & Detection Limits

The SDGs had no analysis of TICs.

Analytical detection limits were acceptable for all analytes causing no QA issues.

## Isotope Dilution Analyte (SDG-#200-43041)

Isotope Dilution Analyte (IDA) recovery for certain compounds (M2-8:2FTS & M2-6:2FTS) were greater than the method recommended limits as indicated below:

<u>M2-8:2FTS</u>	<u>M2-6:2FTS</u>
#-3 (MW-3)	#-1 (MW-101), #-2 (MW-2 & it's MS/MSD sub-samples), #-3 (MW-3), #-4 (MW-4), #-5 (MW-5), #-6 (MW-6), and #-9 (MW-5-DUP)

Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries; nevertheless, RemVer flagged these analytes as UJ/J.

## Sample Result and Usability Evaluation

Due to certain sample issues or laboratory performance, some results were qualified; however, the data are usable. No data received an R (rejected) flag. If an analyte was above the MDL but below the RL, then it was flagged as "UJ".

## References

- NYSDEC, 2010, *Technical Guidance for Site Investigation and Remediation*, "DER-10," Division of Environmental Remediation: Albany, NY, May, 232p
- NYSDEC, 2010, *Guidance for Data Deliverables and the Development of Data Usability Summary Reports*, Appendix 2B IN *Technical Guidance for Site Investigation and Remediation*, Division of Environmental Remediation: Albany, NY, May, 232p
- USEPA, 2008, *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, OSWER 9240.1-48, USEPA-540-R-08-01, Office of Superfund Remediation and Technology Innovation: Washington, DC, June, 225p
- USEPA, 2010, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, OSWER 9240.1-51, USEPA-540-R-10-011, Office of Superfund Remediation and Technology Innovation: Washington, DC, January, 110p
- USEPA, 2012, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846*, Current Online Revision: <http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>, accessed April 2012

## Tables

1. Qualifier Flags

## Attachments

1. Data Usability Reviewer Qualifications
2. DQA Detail Worksheet
3. DQA Non-Conformance Summary Workheet

**Prepared by:** Kurt A. Frantzen, PhD, CHMM  
April 30, 2018



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GES PO#717833-1111

**Table 1**  
**Qualifier Flags**

Qualifier	Quality Implication
U	Analyte analyzed for, but not detected above the sample's reported quantitation limit
J	Analyte positively identified at a numerical value that is the approximate concentration of the analyte in the sample
J +	Sample likely to have a high bias
J -	Sample likely to have a low bias
UJ	Analyte not detected above the sample quantitation limit; the associated quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample
N	The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
R	Sample result rejected due to serious deficiency in ability to analyze sample and meet quality control criteria; the presence or absence of the analyte cannot be confirmed. This qualifier also may apply when more than one sample result is generated for a target analyte ( <i>i.e.</i> , dilutions or re-analyses), the most technically acceptable result is considered acceptable.
B   EB TB   BB	An analyte identified in method blank (B), aqueous equipment (EB), trip (TB), or bottle blanks (BB) used to assess field contamination associated with soil or sediment samples mandates these qualifiers for only soil and sediment sample results.
P	Use professional judgment based on data use. It usually has an "M" with it, which indicates that a manual check should be made if the data that are qualified with the "P" are important to the data user. In addition, "PM" also means a decision is necessary from the Project Manager (or a delegate) concerning the need for further review of the data ( <i>see below</i> ).
PM	A manual review of the raw data is recommended to determine if the defect affects data use, as in "R" above. This review should include consideration of potential affects that could result from using the "P" qualified data. For example, in the case of holding-time exceedance, the Project Manager or delegate can decide to use the data with no qualification when analytes of interest are known not to be adversely affected by holding-time exceedances. Another example is the case where soil sample duplicate analyses for metals exceed the precision criteria; because this is likely due to sample non-homogeneity rather than contract laboratory error, then the manager or delegate must decide how to use the data.

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## Attachment 1

### Data Usability Reviewer: Kurt A. Frantzen, PhD, CHMM

#### Experience

2014-Present	AECC	Senior EHS Consultant
2013-Present	d/b/a RemVer	Owner
2011-2012	RemVer, Inc.	President
2006-2011	Kleinfelder	Senior Principal Scientist
2005	Kleinfelder	Principal Scientist, Part-Time/On Call
2004-2006	d/b/a Environmental Risk Group	Owner
2004-2006	RemVer, Inc., Larchmont, NY	Founder, President
1999-2004	VHB, Inc.	ERM Director & Associate
1997-1998	GEI Consultants, Inc.	Senior Project Manager
1992-1997	Ecology and Environment, Inc.	Technical Chief
1991-1992	EA Engineering, Science, & Technology, Inc.	Project Manager III
1990-1991	Ecology and Environment, Inc.	Technical Group Manager
1986-1990	Ecology and Environment, Inc.	Senior Environmental Scientist

#### Education

Am Cancer Soc. Post-Doctoral Fellow, U Washington	1985-1986
PhD—Life Sci. / Biochem, NU—Lincoln	1985
MS—Plant Pathology, Kansas State Univ.	1980
BS—Biology, NU—Omaha	1978

#### Registrations

Certified Hazardous Materials Manager, since 2007, #14143

#### Professional Affiliations

Society Risk Analysis ('09 & '11 Chair, Eco-Risk Assessment)	Am. Chemistry Society
Am. Assoc. Advance Science	NY Academy of Science
LSP Association	Am. Institute of Biological Sciences

#### Other

- CERCLA & RCRA experience, as well as DOD (Air Force & Army) & DOE (INEL)
- NE Regional Experience—NY BCP; Mass MCP; & various sites in CT, RI & NH
- National Experience: NE, SE, Gulf & West Coast, Mid-west, Inter-mountain, California, Alaska
- International: Germany, Israel, Kuwait, Australia
- Selected Publications
  - *Using Risk Appraisals to Manage Environmentally Impaired Properties*, 2000, VHB Site Works, Report 108
  - *Risk-Based Analysis for Environmental Managers*, 2001, CRC/Lewis
  - Chapter 7 Risk Assessment, *Managing Hazardous Materials*, 2002 & 2009, IHMM
  - Chapter 22 Cleanup Goals, *Brownfields Law & Practice*, 2004-Present, Lexis/Nexis
  - *Use of Risk Assessment in Risk Management of Contaminated Sites*, 2008, ITRC
- 60 Conference Papers & Invited Professional Presentations
  - 1999-2014, Visiting Lecturer, Brownfields Program, Harvard Graduate School of Design
  - 2010-2013, Invited Lecturer, Pace University Law School

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## Attachment 2 DQA Detail Worksheet

BLANKS	>RL?	Compounds	Notes
Method Blank: PFCs	Yes	PFTeA	Flag UB/B, if present
Method Blank: 1,4 Dioxane	No	—	No Comment
Equip. Blank (EB) #1	No	—	No Comment
Equip. Blank (EB) #2	No	—	No Comment

LCS	SV <10%	Low Bias > 10% & < LCL	High Bias >UCL	Compound(s)	Notes
sVOCs-SIM	—	—	—	1,4 Dioxane	No Comment
PFCs	—	—	—	All	No Comment

SURROGATES	SV <10%	Low Bias > 10% & < LCL	High Bias >UCL	Compound(s)	Notes
sVOCs SIM SDG #460- 153716	—	—	460-510837 460-511063	1,4 Dioxane	Flag UJJ
PFCs	—	—	—	—	No Comment

MS/MSDs	SV <10%	Low Bias > 10% & < LCL	High Bias >UCL	QC Source	RPDs	Notes
sVOCs-SIM	—	—	—	Batch	—	No Comment
PFCs	—	—	—	Batch	—	No Comment

FIELD DUPLICATES RPDs	QC Source	Soil RPD > 50%	Water RPD > 20%	Compounds	Notes
sVOCs-SIM	MW-5 (#-? & #-9)	N/A	—	—	No Comment
PFCs		N/A	—	—	No Comment

LAB DUPLICATES	QC Source	Soil RPD > 50%	Water RPD > 20%	Compounds	Notes
-----	Batch	N/A	—	As listed	No Comment

Reasonable Confidence Achieved  Y  N—Not Applicable  
 Significant QC Variances Noted  Y  N  
 Requested Reporting Limits Achieved  Y  N  
 Preservation Requirements Met  Y  N  
 Holding Time Requirements Met  Y  N

### Abbreviations:

RL = Reporting Limit      LCS = Laboratory Control Sample      SV = Significant QC Variance  
 RPD = Relative Percent Difference      LCL= RCP Lower Control Limit      UCL= RCP Upper Control Limit  
 VOCs = Volatile Organic Compounds      SVOCs = Semi-volatile Organic Compounds      Pest = Pesticides  
 EPH = Extractable Petroleum Hydrocarbons      VPH = Volatile Petroleum Hydrocarbons      ETPH = EPH-Total  
 PCBs = Polychlorinated Biphenyls      N/A = Not Applicable      N/C = Not Collected      -- = nothing to report

**Notes:** \* Typical lab contaminants, not site-related

## Attachment 3

### DQA Non-Conformance Summary Worksheet

Only Flagged Results Shown Below

Sample Number(s)	Compound(s)	QC Non-Conformance	% Recovery	% RPD †	High or Low Bias ‡	Comments
MW-101 #1	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-6:2FTS	Isotope Dilu.	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
MW-3 #2	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-6:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
MW-3 #3	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-8:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	M2-6:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
MW-4 #4	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-6:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
MW-5 #5	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-6:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
MW-6 #6	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-6:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
Equip. Blank 1 #7	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
Equip. Blank 2 #8	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J
MW-5 Dup. #9	PFTeA	Method Blank	If >RL	—	High	Flag UB / B
	M2-6:2FTS	Isotope Dilu	>UCL	—	Low/High	Flag UJ / J
	1,4-Dioxane	Surrogate	>UCL	—	—	Flag UJ / J

Notes: † RPD—Relative Percent Difference

‡ Bias High—Reported result may be lower, Reporting Limit (RL) is acceptable as reported. Bias Low—Reported results may be higher, RL may be higher than reported.