



Remedial Investigation Report

The Peninsula
1221 Spofford Avenue
Bronx, New York
Site No. C203097

October 22, 2018

Prepared for:
The Peninsula JV, LLC.

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Table of Contents

LIST OF ACRONYMS.....	1
1. INTRODUCTION.....	2
1.1 RIR Organization	2
1.2 Site Description and Setting	2
1.3 Proposed Redevelopment Plan	3
1.4 Description of Surrounding Property.....	4
1.5 Certification	4
2. BACKGROUND	5
2.1 Site History.....	5
2.1.1 City Directories	5
2.1.2 Aerial Photographs	5
2.1.3 Certified Sanborn Fire Insurance Maps.....	6
2.1.4 New York City Department of Buildings Filings	6
2.2 Environmental Conditions/Results of Previous Environmental Investigations	8
2.2.1 Remedial Action Plan (LBA 2010) (also includes 2009 Remedial Investigation by reference).....	8
2.2.2 Groundwater Monitoring and Remediation Report Fourth Quarter 2016 (URS, 2017).....	10
2.2.3 Roux Phase I ESA (2017).....	11
2.2.4 Roux Phase II ESA (2017).....	11
3. REMEDIAL INVESTIGATION ACTIVITIES	14
3.1 Site Inspection	15
3.2 Geophysical Survey	15
3.3 Utility Clearances	15
3.4 Soil Borings and Soil Sampling Activities	15
3.5 Groundwater Monitoring Well Installations	17
3.6 Groundwater Monitoring Well Gauging and Sampling	17
3.7 Soil Vapor and Sub-Slab Soil Vapor Monitoring Point Installations	18
3.8 Soil Vapor and Sub-Slab Soil Vapor Sampling.....	19
4. REMEDIAL INVESTIGATION RESULTS	20
4.1 Fish and Wildlife Remedial Impact Analysis	20
4.2 Geological and Hydrogeological Conditions	20
4.2.1 Local Geology and Stratigraphy	20
4.2.2 Site Hydrogeologic Setting	20
4.3 Geophysical Survey Results	21
4.4 Remedial Investigation Sample Results	21
4.4.1 Soil Quality.....	21
4.4.2 Groundwater Sampling Results	26
4.4.3 Product Sample Results	31
4.4.4 Soil Vapor Sampling Results	31
4.4.5 Data Usability Summary and Field Duplicate Results	33
5. CONCEPTUAL SITE MODEL.....	35

6. QUALITATIVE EXPOSURE ASSESSMENT	36
6.1 Soil Exposure	36
6.2 Groundwater Exposure	36
6.3 Soil Vapor Exposure	37
6.4 Exposure Assessment Summary.....	37
7. CONCLUSIONS.....	39

Tables

1. Construction Details for Soil Vapor Monitoring Points
2. Groundwater Monitoring Well Gauging Data – June 22, 2018
3. Summary of Volatile Organic Compounds in Soil
4. Summary of Semivolatile Organic Compounds in Soil
5. Summary of Metals in Soil
6. Summary of Polychlorinated Biphenyl Compounds in Soil
7. Summary of Pesticides and Herbicides in Soil
8. Summary of Volatile Organic Compounds in Groundwater
9. Summary of Semivolatile Organic Compounds in Groundwater
10. Summary of Metals in Groundwater
11. Summary of Polychlorinated Biphenyl Compounds in Groundwater
12. Summary of Pesticides and Herbicides in Groundwater
13. Summary of Per- and Polyfluoroalkyl Substances in Groundwater
14. Summary of Volatile Organic Compounds in Sub-Slab and Soil Vapor

Figures

1. Site Location Map
2. Site Plan
3. Groundwater Contour Map

Appendices *(Provided on CD in Bound Copy)*

- A. Tank 2 and 3 Waste Disposal and Inerting Documentation
- B. Soil Boring/Groundwater Monitoring Well Construction Logs
- C. Groundwater Sampling Logs
- D. Soil Vapor Sampling Logs
- E. Analytical Data Reports *(Provided in CD in bound copy)*
- F. Data Usability Summary Report *(Provided in CD in bound copy)*
- G. Petroleum Fingerprint Analysis Results

- H. Geophysical Survey Map
- I. CAMP Reports

Plate

- 1. Generalized Geologic Cross Section
- 2. Soil Results
- 3. Groundwater Results
- 4. Soil Vapor Results

LIST OF ACRONYMS

µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
µg/m ³	Micrograms per Cubic Meter
AOCs	Areas of Concern
AWQSGVs	Ambient Water Quality Standards and Guidance Values
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CAMP	Community Air Monitoring Plan
COC	Contaminant of Concern
CVOCs	Chlorinated Volatile Organic Compounds
DER-10	NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
FT BLS	Feet Below Land Surface
MDL	Method Detection Limit
mg/kg	Milligrams per Kilogram
MW	Monitoring Well
NTUs	Nephelometric Turbidity Units
NYCDOB	New York City Department of Buildings
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
ORP	Oxidation – Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PID	Photoionization Detector
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
TAL	Target Analyte List
TCL	Target Compound List
UST	Underground Storage Tank

1. INTRODUCTION

Roux Environmental Engineering and Geology, D.P.C. (Roux), on behalf of The Peninsula JV, LLC (Volunteer), has prepared this Remedial Investigation Report (RIR) for a site located at 1221 Spofford Avenue, Borough of the Bronx, City of New York (Figure 1) (Site). The Site is in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP), BCP Site No. C203097. The Site is currently occupied by the former Spofford Juvenile Detention facility, later renamed as Bridges Juvenile Center, and is currently vacant. The Site is the future location of Phase 1 and Phase 2 of the Peninsula Redevelopment Project (Project). The Site encompasses an area of approximately 3.78 acres and is comprised of Block 2738 Lot 35 of the Bronx County Tax map, as shown on Figure 1.

The Volunteer entered into a Brownfield Cleanup Agreement (BCA), Index No. C203097-10-17; BCP Site No. C203097, with the NYSDEC in November 2017 to investigate, remediate and redevelop the 3.78-acre Site. The Site is currently owned by the City of New York and the Volunteer has obtained access to the Site to implement the Remedial Investigation (RI).

The purpose of the RI is to determine the nature and extent of contamination at the Site, characterize environmental media at the Site, qualitatively assess the potential exposure of receptors to Site contaminants, and develop any other additional data necessary to support the development of a Remedial Action Work Plan (RAWP). All RI activities were completed in accordance NYSDEC-approved Remedial Investigation Work Plan (RIWP) dated February 6, 2018. This RIR was prepared in accordance with the DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010 (DER-10) issued by NYSDEC.

1.1 RIR Organization

In addition to this introduction section, this RIR contains the following sections:

- Section 2 – a background section describing the Site history, and results of previous environmental investigations, including findings from Roux's Phase II Environmental Site Assessment (ESA 2017);
- Section 3 – a section describing the completed RI field work activities;
- Section 4 – a section summarizing the RI laboratory analytical results;
- Section 5 – a Conceptual Site Model explaining the occurrence of contaminant sources and their fate and transport at the Site in the context of the local Site stratigraphy and hydrogeology;
- Section 6 – a qualitative exposure assessment that evaluates exposures to contaminated media including soil, groundwater and soil vapor; and
- Section 7 – a section describing the RI findings and conclusions.

Data tables, figures, plates, and appendices are provided that summarize all RI locations, analytical data, and results of the sampling efforts.

1.2 Site Description and Setting

The Site was the location of the former Spofford Juvenile Detention Facility, later renamed as Bridges Juvenile Center, which was in operation from 1956 to 2011. Based on a 1951 Sanborn® Fire Insurance Map, a stone cutting yard, a dwelling, and “coops” are depicted in north-western portion of the Site in 1951. Information contained in the 1927 and 1940 City Directory indicated that a ground floor laundry facility with second floor residential apartments (according to Sanborn maps) was located on the southeast side of the

property along Spofford Avenue, the actual period of operation is unknown. A Site location map is included as Figure 1.

Property Location	
Property Name:	The Peninsula
Property Address:	1221 Spofford Avenue
Property Town, County, State:	Neighborhood of Hunts Point, Bronx, Bronx County, New York
Property Tax Identification:	Tax Lot 35 of Tax Block 2738
Property Topographic Quadrangle:	Central Park, New York
Nearest Intersection:	Spofford Avenue and Tiffany Street

Property Information	
Property Acreage:	3.78
Property Shape:	Rectangular
Property Use:	Tax Lot 35 of Tax Block 2738 is currently vacant
Improvements:	Lot 35 of Block 2738 contains a three to six-story building, asphalt paved parking, and recreation/playground spaces such as tennis and basketball courts, comprising the Spofford Juvenile Detention Center.
Property Topographic Quadrangle:	Central Park, New York
Nearest Intersection:	Spofford Avenue and Tiffany Street

An Environmental Data Resources, Inc. (EDR) GeoCheck® Report is included in Roux's 2017 Phase I Environmental Site Assessment (ESA) (Roux, 2017a). The EDR report provides information regarding elevation, regional groundwater flow direction(s), Federal United States Geological Society (USGS) well information, Federal Reporting Data System (FRDS) Public Water Supply system information, and state database well information.

1.3 Proposed Redevelopment Plan

The proposed redevelopment plan for the Site will be for mixed use residential, commercial and light industrial uses including the construction of a vibrant live-work campus featuring affordable housing, community space, open/recreational space, industrial space, and retail space. Within the Site, there will be four (4) separate buildings constructed. Landscaped areas, walkways, and driveways will surround the buildings.

1.4 Description of Surrounding Property

The Site is located in a mixed-use area of the Bronx, New York. A review of neighboring properties, public thoroughfares, and research of available information regarding the neighboring properties, was performed to identify areas of off-Site environmental concern that could potentially adversely impact the Site. The Site is bordered to the south by mixed use multi-family residential properties and commercial properties. The Corpus Christi Monastery is located to the north of the Site. Multi/single-family residential properties and commercial properties are located west of the Site. Single-family residential properties are located to the east of the Site. There is no agricultural land use within a one-half-mile radius of the Site. There are several parks within a one-half-mile radius of the Site, including Julio Carballo Fields to the northeast and Hunts Point Playground to the southeast.

1.5 Certification

I, Frank Cherena, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER-10.

Frank Cherena

Qualified Environmental Professional

October 22, 2018

Date



Signature

2. BACKGROUND

This section provides pertinent background information, including the history of the Site, and the results of previous environmental investigation work conducted at the Site.

2.1 Site History

Roux evaluated the following information sources to determine historic uses of the property (Roux, 2017a):

- EDR Radius Map with GeoCheck, dated May 16, 2017 (EDR database report);
- City Directory search conducted by EDR;
- Aerial photographs dated 1924, 1951, 1954, 1962, 1966, 1975, 1984, 1991, 1995, 2006, 2009 and 2011;
- Historical Sanborn fire insurance maps dated 1896, 1901, 1903, 1915, 1950, 1977, 1978, 1979, 1980, 1981, 1983, 1985, 1986, 1989, 1991-1996, 1998 and 2001-2007; and
- New York City Department of Buildings (NYCDOB) Building Information System (BIS) database.

2.1.1 City Directories

A city directory abstract for the Site was obtained from EDR. Records reviewed for the time period 1927 to 2014 were sourced from New York Telephone, Manhattan and Bronx Directory Publishing Company Residential Directory, Cole Information Services, Hill-Donnelly Corporation and EDR Digital Archive. In addition, the 1927 and 1940 city directories indicated that the property located at 1231 Spofford Avenue (on the southern portion of the Site) may have been occupied by a laundry facility. It is not known whether or not dry-cleaning operations may have occurred at this potential laundry facility.

Other noted operators/tenants of the Site comprised of listings associated with children or juvenile services, probation offices, detention center and the like from 1961 to 2014.

Nearby off-site properties include residences and commercial entities including automobile repair facilities, plumbing supply warehouse and NYC sanitation collection.

2.1.2 Aerial Photographs

Historical aerial photography may indicate past activities at a property that may not have been documented by other means or observed during a reconnaissance visit. Aerial photographs were obtained from EDR for the years ranging from 1924 to 2011.

According to a review of the historical aerial photographs, the Site was developed by 1924. Based on Certified Sanborn maps, (reviewed in Section 2.1.3) this development was labeled as a stone cutting yard, an office, and a one 1-story residential structure in the northwest corner. Developments in the surrounding area of the Site include the monastery and park to the north; residential properties to the east and a mix of residential and commercial properties to the west. A review of the 1924 historical aerial photograph indicated that the area immediately south of the Site was not developed at that time. By 1951, the northwest corner of Lot 35 was improved with several structures (confirmed to be a stone cutting yard on the Certified Sanborn maps). Additional structures were noted in the southwest and southeast corners of Lot 35. Increased development of the surrounding area of the Site was also observed in the 1951 historical aerial photograph. The juvenile detention center was depicted on the 1962 historical aerial photograph.

2.1.3 Certified Sanborn Fire Insurance Maps

Certified Sanborn Maps were obtained from EDR for the years ranging from 1896 to 2007. The following is a general summary of the Site and surrounding property usage, as determined by the review of the Certified Sanborn Maps:

Timeline	
Date	Description
1896	The Site and majority of the surrounding area is not developed.
1901, 1903	One 2-story structure (presumed to be residential) is noted on Lot 35 (1901). The Corpus Christi Monastery is noted immediately north of the Site. Additional structures in the surrounding area of the Site are presumed to be 2- and 3-story residential structures.
1915	A stone cutting yard with an office and one 1-story residential structure are noted in the northwest corner of Lot 35.
1950	The stone cutting yard has expanded to include approximately six automobile garages and an office. A second residential dwelling is noted in the area of the stone yard. The surrounding area is significantly developed since the 1915 Certified Sanborn map. The majority of developments are single- and multi-family residential buildings. In addition, two garages utilizing gasoline tanks are noted across Spofford Avenue to the south of the Site. A metal works facility and an automobile repair shop with a gasoline tank are located west across Tiffany Street.
1977, 1978, 1979, 1980, 1981, 1983, 1985, 1986, 1989, 1991, 1992, 1993, 1994, 1995, 1996, 1998, 2001, 2002, 2003, 2004, 2005, 2006, and 2007	The City of New York Shelter for Delinquent Children aka Spofford (4-story building with partial basement), built in 1956 is noted on Lot 35. The building is divided into a gymnasium in the north portion of the building, elevators in the center and a 1-story garage on the east side. Development of the surrounding area has increased. Additional garages and automobile repair facilities; and candy manufacturing noted west of the Site along Tiffany Street (1978). Barretto Street is designated as 'closed' with a fence separating it from the Site.

2.1.4 New York City Department of Buildings Filings

According to the review of the New York City Department of Buildings Building Information System (NYCDOB BIS), Certificates of Occupancy (C/Os) were available for review for Lot 35. The C/O, dated October 11, 1957, for the former juvenile detention center building indicated the building use is 'Public' occupancy. The C/O references Fire Department approval for fuel oil installation. The C/O also provided building use information for each wing of the detention center building.

Wing (Location)	Level	Type of Use
Wing A (north corridor along Tiffany Street)	Crawl Space	Game Room and Crawl Space
	First through Third Floors	Bedrooms
Wings B and C (south corridor along Tiffany Street and east-west corridor on the west side of the Site, respectively)	First Floor	Bedrooms, Game Rooms, a Synagogue
	Second Floor	Bedrooms, Chapel, and Conference Rooms
	Third Floor	Bedrooms, Arts and Crafts
	Fourth Floor	Bedrooms
Wing D (north-south corridor on north side of Site)	Cellar	Gymnasium, Swimming Pool, Boy's Locker Room, General Storage, Supplies, and a Barber Shop
	First, Second, Third Floors	Bedrooms
	Roof	Penthouse
Wing E (north-south corridor on the south side of the Site)	Cellar	General Storage, Supplies, Barber Shop
	Basement	Visitor's Rooms, Public Waiting Area
	First Floor	Waiting Rooms
	Second Floor	Infirmery, Bedrooms
	Third Floor	Offices
	Fourth and Fifth Floors	Bedrooms, Dining Room
	Sixth Floor	Offices
	Roof	Elevator Machine Rooms
Wing F (east-west corridor on the east side of the Site)	Cellar	Boiler Room
	Basement	Upper Part of Boiler Room, Laundry, Maintenance Room
	First Floor	Cafeteria, Kitchen, Staff Dining Room, Garage for Five Automobiles
	Second and Third Floors	Classrooms
	Fourth Floor	Classrooms, Bedrooms
	Fifth Floor	Classrooms, Dining Room

2.2 Environmental Conditions/Results of Previous Environmental Investigations

This section provides an overview of previous environmental-related activities completed at the Site, based on a review of readily available information and the following previously completed environmental reports:

- RIR prepared by Louis Berger & Associates (LBA), dated May 15, 2009;
- Remedial Action Plan (RAP) prepared by LBA, dated May 21, 2010;
- Phase I ESA prepared by Arcadis, Inc., dated June 3, 2016;
- Groundwater Monitoring and Remediation Report for the Fourth Quarter 2016 prepared by URS, dated January 25, 2017;
- Roux Phase I ESA, dated July 11, 2017; and
- Roux Phase II ESA, dated August 10, 2017.

A summary of findings from each report, including the Site environmental history is provided below. Subsections for the evaluation of soil, groundwater and soil vapor conditions are provided for each report, as applicable.

2.2.1 Remedial Action Plan (LBA 2010) (also includes 2009 Remedial Investigation by reference)

The 2010 LBA Remedial Action Plan (RAP), prepared on behalf of New York City Department of Juvenile Justice, documents the investigation and proposed remedy for a #2 fuel oil release (NYSDEC Spill #0812579) that occurred at the Site on February 18, 2009. Approximately 2,000 gallons of #2 fuel oil was released to the subsurface from two 12,000-gallon underground storage tanks (USTs) located in the southeast courtyard of the Site.

The LBA RAP also documents analytical data and findings from an RI that was implemented by LBA between March 23-27, 2009. During the LBA RI, petroleum contamination was found in subsurface soils immediately surrounding the two USTs. In addition, separate phase petroleum product was observed atop groundwater perched above bedrock at soil borings installed in the boiler room adjacent to the north of the USTs and the exterior lot adjacent to the USTs.

The RI concluded the following:

- Soil contamination, including petroleum-related volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), exist at concentrations that exceed prior established standards, (and the current Restricted Residential Soil Cleanup Objectives, the reasonably anticipated Site use).
- The gravel sub-base of the concrete basement floor and the assumed gravel sub-base beneath the (presumed) UST vault likely provide a preferential pathway for the fuel oil release.
- Free product is present in the basement in the three borings SB-01B, SB-02, and SB-03 located closest to the vault.
- There are indications beneath the basement slab that a separate historical release occurred at the Site.
- Free product was observed in two exterior borings, SB-15 and SB-16, located approximately 3 feet east of the UST vault.
- Only localized pockets of perched water were observed and only beneath the basement; no groundwater was observed in the exterior borings.

As a result of the presence of separate phase petroleum product and extensive soil contamination, the 2010 LBA RAP proposed separate phase petroleum product recovery using dual-phase extraction and surfactant injection. Since contaminated soil would likely remain following implementation of the dual-phase extraction system, LBA concluded that engineering and institutional controls would be required to prevent unnecessary direct contact with the soil. This remedial approach was never implemented by LBA.

2.2.1.1 LBA RI Soil Conditions

VOCs – Nine (9) of the 27 soil samples collected as part of the LBA RI contained VOCs at a concentration above the NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Soil Cleanup Objectives (RRSCOs).

The highest VOC concentrations were detected at location SB-16A (15.5-16 feet below land surface [ft bls]):

- 1,2,4–Trimethylbenzene – 790 milligrams per kilogram (mg/kg) (compared to 3.6 mg/kg UUSCOs, and 52 mg/kg RRSCOs);
- 1,3,5–Trimethylbenzene – 180 mg/kg (compared to 8.4 mg/kg UUSCOs, and 52 mg/kg RRSCOs);
- Ethylbenzene – 120 mg/kg (compared to 1 mg/kg UUSCOs, and 41 mg/kg RRSCOs);
- Napthalene – 390 mg/kg (compared to 12 mg/kg UUSCOs, and 100 mg/kg RRSCOs);
- n-Butylbenzene – 60 mg/kg (compared to 12 mg/kg UUSCOs, and 100 mg/kg RRSCOs);
- n-Propylbenzene – 110 mg/kg (compared to 3.9 mg/kg UUSCOs, and 100 mg/kg RRSCOs);
- sec-butylbenzene – 68 mg/kg (compared to 11 mg/kg UUSCOs, and 100 mg/kg RRSCOs);
- Toluene – 120 mg/kg (compared to 0.7 mg/kg UUSCOs, and 100 mg/kg RRSCOs); and
- Xylenes (total) – 730 mg/kg (compared to 0.26 mg/kg UUSCOs, and 100 mg/kg RRSCOs).

SVOCs – SVOCs exceeded the UUSCOs and RRSCOs in soil samples SB-18B and SB-20, located immediately to the north and west of the existing USTs. The SVOC analyte concentrations at SB-18B (18.5-19 ft bls) and SB-20 (17-17.5 ft bls) were relatively the same as reported respectively below:

- benzo(a)anthracene – 28 mg/kg and 28 mg/kg, respectively (compared to 1 mg/kg [UUSCOs and RRSCOs]);
- benzo(a)pyrene – 14 mg/kg and 16 mg/kg (compared to 1 mg/kg [UUSCOs and RRSCOs]);
- benzo(b)fluoranthene – 21 mg/kg and 25 mg/kg (compared to 1 mg/kg [UUSCOs and RRSCOs]);
- benzo(k)fluoranthene – 8.9 mg/kg and 9.5 mg/kg (compared to 0.8 mg/kg UUSCOs, and 3.9 RRSCOs);
- chrysene – 23 mg/kg and 26 mg/kg (compared to 1 mg/kg UUSCOs, and 3.9 RRSCOs);
- dibenzo(a,h)anthracene – 2.2 mg/kg and 2.3 mg/kg (compared to 0.33 mg/kg [UUSCOs, and RRSCOs]);
- indeno(1,2,3-cd)pyrene – 6 mg/kg and 6.4 mg/kg (compared to 0.5 mg/kg [UUSCOs, and RRSCOs]); and
- naphthalene – 12 mg/kg at SB-18B (compared to 12 mg/kg UUSCOs).

2.2.1.2 LBA RI Groundwater Conditions

Temporary groundwater monitoring wells TWP01 through TWP04 were installed at basement boring locations SB-05B, SB-08, SB-10 and SB-12, respectively. TPH concentrations in groundwater ranged from 2,700 micrograms per liter (µg/L) in TWP03 to 6,500 µg/L in TWP04. VOCs were detected in groundwater

at all four locations at concentrations above the NYSDEC Ambient Groundwater Quality Standards and Guidance Values (AWQSGVs). The only SVOC detected in groundwater at a concentration above the AWQSGVs was naphthalene at a concentration of 12 µg/L in sample TWP03.

2.2.2 Groundwater Monitoring and Remediation Report Fourth Quarter 2016 (URS, 2017)

URS, on behalf of New York City Administration for Children's Services (NYCACS), implemented a monthly separate phase petroleum product recovery program in September 2014 and quarterly groundwater sampling. An estimated 11.75 gallons of product was recovered between September 2014 and October 2016. The separate phase petroleum product was initially recovered using a peristaltic pump and by June 2015, the separate phase petroleum product thickness in the monitoring wells had decreased substantially enough to switch to using petroleum absorbent socks in monitoring wells MW-02, MW-03, MW-04, and MW-05 for recovery. However, due to the amount of separate phase petroleum product present at monitoring well MW-05 manual product recovery with a pump resumed in November 2015. From May through August 2016, no separate phase petroleum product was detected in this well but in October 2016, product was measured at a thickness of 0.05 feet.

The separate phase petroleum product was detected at monitoring well MW-06 in February 2016 and was detected monthly thereafter. A petroleum absorbent sock was installed in MW-06 in April 2016 and replaced monthly. During the October 2016 monitoring event product was not detected at MW-06.

Due to the continued presence of separate phase petroleum product in monitoring wells MW-02, MW-03, MW-04, and MW-05, groundwater has not been sampled from these monitoring wells. Groundwater sampling has occurred quarterly at MW-01, during the most recent sampling round in October 2016, the following analytes were present at concentrations above the AWQSGVs:

- Benzene 3.3 µg/L (compared to 1 µg/L AWQSGVs);
- Ethylbenzene 67.9 µg/L (compared to 5 µg/L AWQSGVs);
- Total Xylenes 79.7 µg/L (compared to 5 µg/L AWQSGVs);
- Isopropylbenzene 17.2 µg/L (compared to 5 µg/L AWQSGVs);
- n-Propylbenzene 30.1 µg/L (compared to 5 µg/L AWQSGVs);
- p-Isopropyltoluene 9.1 µg/L (compared to 5 µg/L AWQSGVs);
- 1,2,4-Trimethylbenzene 313 µg/L (compared to 5 µg/L AWQSGVs);
- 1,3,5-Trimethylbenzene 70 µg/L (compared to 5 µg/L AWQSGVs);
- n-Butylbenzene 12.2 µg/L (compared to 5 µg/L AWQSGVs); and
- Naphthalene 112 µg/L (compared to 10 µg/L AWQSGVs).

Monitoring Well MW-06 was also sampled for VOCs and SVOCs in 2016 when separate phase petroleum product was not present (January and October 2016). Neither VOCs or SVOCs were not detected above reporting limits during the sampling events, with exception of one SVOC, Naphthalene, which was detected at a concentration of 36 µg/L, above the AWQSGV of 10 µg/L during the January 2016 sampling event. Chlorinated VOCs (CVOs) were not analyzed in groundwater.

2.2.3 Roux Phase I ESA (2017)

Roux completed a Phase I ESA in 2017, as part of the ESA, the following environmental concerns were identified:

- Documented petroleum contamination in soil and groundwater as a result of the fuel oil release from UST supply lines located near the basement boiler room of the Spofford Juvenile Detention Center. Based on information reviewed by Roux, it was assumed that separate phase petroleum product and extensive soil contamination still exists at the Site.
- The following table summarized findings from NYSDEC Petroleum Bulk Storage (PBS) Records for the Site, which is currently registered under PBS#2-604085.

Tank ID	Tank Location	Tank Contents	Capacity (Gal)	Status
1	Underground	#6 Fuel Oil	20,000	Closed-Removed 2002
2	Underground	#2 Fuel Oil	12,000	In Service
3	Underground	#2 Fuel Oil	12,000	In Service
Diesel	Aboveground (in vault)	Diesel (generator)	5,000	Closed in Place 2002
Heat	Aboveground (in vault)	Closed – Removed	20,000	Closed in Place 2002

- Staining: Staining observed on the concrete basement floor was presumably associated with oil spills and cleanup materials, and other universal wastes (such as batteries) or degreasers, electrical equipment, and lubricating oils).
- Historical Uses: The Site was occupied by a laundry facility, stone cutting yard and an asphalt paving contractor prior to being developed as a juvenile detention center. It is possible that potential undocumented releases from the operations may have impacted the subsurface at the Site.

On July 26, 2018, existing Tanks 2 and 3 were emptied and both tanks were filled with inert nitrogen gas. Waste disposal and inerting documentation are provided in Appendix A.

2.2.4 Roux Phase II ESA (2017)

In 2017, Roux completed a Phase II ESA for the Site. This investigation consisted of 6 soil borings with 12 soil samples, one sub-slab soil gas sample, and two soil vapor samples. Groundwater was not collected as part of this assessment. The results of the Phase II ESA and Roux's conclusions related to environmental conditions at the Site are summarized in the soil and soil vapor sections below.

2.2.4.1 Soil Conditions

Previous investigations indicated the presence of petroleum-related VOCs in soils at concentrations above UUSCOs, RRSCOs and/or Protection of Groundwater Soil Cleanup Objectives (PGWSCOs) associated with releases from former tank systems and/or other Site uses. Site soils have not been remediated since completion of prior investigations.

These soil exceedances above criteria represented reasonable Site use and were confirmed by the Roux's Phase II ESA. Several petroleum-related and historic fill-related SVOCs were detected in shallow soil (i.e., 0-2 ft bls) at concentrations above the UUSCOs, RRSCOs and/or PGWSCOs. Arsenic was detected in soil at a concentration above UUSCOs, RRSCOs and PGWSCOs from one shallow soil sample. Copper, lead and zinc were detected in soil at concentrations above UUSCOs but below RRSCO and PGWSCOs.

VOCs - There were no VOC detections above NYSDEC UUSCOs, and RRSCOs.

SVOCs - As shown in Table 3 of the RIWP, six SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and/or indeno(1,2,3-c,d)pyrene) were detected in three of the 19 samples, including the duplicate sample, at concentrations exceeding UUSCOs, and/or RRSCOs. Laboratory analytical data for the SVOC soil exceedances are summarized below.

- Benzo(a)anthracene was detected in samples RXSB-4 (0-2), and RXSB-6 (0-2) at a concentration of 4 mg/kg, and 1.5 mg/kg, respectively (compared to 1 mg/kg [UUSCOs, and RRSCOs]).
- Benzo(a)pyrene was detected in samples RXSB-4 (0-2) at a concentration of 3.5 mg/kg (compared to 1 mg/kg [UUSCOs and RRSCOs]).
- Benzo(b)fluoranthene was detected in samples RXSB-4 (0-2), and RXSB-6 (0-2) at concentrations of 4.8 mg/kg, and 1.4 mg/kg, respectively (compared to 1 mg/kg [UUSCOs, and RRSCOs]).
- Benzo(k)fluoranthene was detected in sample RXSB-4 (0-2) at a concentration of 1.5 mg/kg (compared to 0.8 mg/kg [UUSCOs]).
- Chrysene was detected in samples RXSB-4 (0-2), and RXSB-6 (0-2) at a concentration of 3.5 mg/kg, and 1.3 mg/kg, respectively (compared to 1 mg/kg [UUSCOs]).
- Dibenzo(a,h)anthracene was detected in samples RXSB-4 (0-2) at a concentration of 0.580 mg/kg (compared to 0.330 mg/kg [UUSCOs]).
- Indeno(1,2,3-c,d)pyrene was detected in samples RXSB-4 (0-2), and RXSB-6 (0-2) at a concentration of 2.5 mg/kg, and 0.580 mg/kg, respectively (compared to 0.500 mg/kg [UUSCOs and RRSCOs]).

Metals – As shown in Table 4 of the RIWP, four metals (arsenic, copper, lead and/or zinc) were detected in six of the 19 soil samples, including the duplicate sample, at concentrations exceeding UUSCOs, RRSCOs and/or PGWSCOs. Laboratory analytical data for soil exceedances for metals are summarized below.

- Arsenic was detected in sample RXSB-3 (0-2) at a concentration of 18 mg/kg (compared to 13 mg/kg [UUSCOs] and 16 mg/kg [RRSCOs]).
- Copper was detected in samples RXSB-3 (0-2), RXSB-6 (0-2) and RXSB-6 (8-10) at a concentration of 64 mg/kg, 190 mg/kg and 72 mg/kg, respectively (compared to 50 mg/kg [UUSCOs]).
- Lead was detected in samples RXSB-4 (0-2) and RXSB-6 (0-2) at a concentration of 64 mg/kg and 150 mg/kg, respectively (compared to 63 mg/kg [UUSCOs]).
- Zinc was detected in samples RXSB-3 (0-2), RXSB-4 (0-2), RXSB-5 (0-2), RXSB-6 (0-2) and RXSB-6 (8-10) at concentrations ranging from 120 mg/kg to 1,200 mg/kg (compared to 109 mg/kg [UUSCOs]).

Polychlorinated biphenyls (PCBs) – As shown Table 5 of the RIWP, PCBs were not detected at concentration exceeding UUSCOs, or RRSCOs during the Phase II ESA.

Pesticides – As shown in Table 6 of the RIWP, three (3) pesticides (4,4-DDD, 4,4-DDE and/or 4,4-DDT) were detected in three (3) of the 19 samples, including the duplicate sample, at concentrations exceeding UUSCOs only. Laboratory analytical data for the soil exceedances for pesticides are summarized below.

- 4,4-DDD was detected in samples RXSB-4 (0-2) Duplicate and RXSB-5 (5-6) at a concentration of 0.00457 mg/kg and 0.0616 mg/kg, respectively (compared to 0.0033 mg/kg [UUSCOs]).
- 4,4-DDE was detected in sample RXSB-5 (5-6) at a concentration of 0.0766 mg/kg (compared to 0.0033 mg/kg [UUSCOs]).

- 4,4-DDT was detected in samples RXSB-5 (5-6) at a concentration of 0.513 mg/kg (compared to 0.0033 mg/kg [UUSCOs]).

2.2.4.2 Soil Vapor Conditions

Several petroleum-related VOCs and chlorinated VOCs were detected in soil vapor samples throughout the Site. Specifically, three petroleum-related VOCs were detected at elevated concentrations in the sub-slab soil gas sample (RXSS-1): benzene detected at a concentration of 377 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), cyclohexane detected at a concentration of 20,200 $\mu\text{g}/\text{m}^3$, and propylene detected at a concentration of 181 $\mu\text{g}/\text{m}^3$. The source of the petroleum-related VOCs (benzene and propylene) is likely attributed to the 2009 #2 fuel oil spill and/or other historic spills. The source of cyclohexane is likely attributed to other historic spills.

One sample location (RXSV-2) contained concentrations of Trichloroethylene (TCE) (1.75 $\mu\text{g}/\text{m}^3$) in soil vapor that exceeded the New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion in the State of New York Matrices of May 2017.

3. REMEDIAL INVESTIGATION ACTIVITIES

The following sections summarize the work completed by Roux and its subcontractors during the RI. The Scope of Work was completed in accordance with the RIWP dated February 6, 2018, and associated project plans [Health and Safety Plan (HASP), Field Sampling Plan (FSP), and Quality Assurance Project Plan (QAPP)]. All work was also performed in accordance with NYSDEC DER 10 Technical Guidance for Site Investigation and Remediation (May 2010).

The data for all media (soil, groundwater, and soil vapor) sampled during the RI were reported using Category B data deliverables. A Data Usability Summary Report (DUSR) was prepared by Data Validation Services (DVS) of North Creek, New York. Laboratory analytical reports are provided in Appendix E. The DUSR is provided in Appendix F.

In consultation with NYSDEC, field activities were completed in two phases due to ongoing interior asbestos abatement within the existing Site buildings, which prevented access to sample locations along Tiffany Street, within the building and in the northeast courtyard. The first phase of the RI was completed in April/May 2018, the second phase of the RI was completed in May/June 2018. Field activities completed during the RI included:

First Phase of RI Field Activities:

- Completion of a geophysical survey investigation;
- Installation of 11 soil borings (RXSB-11 through RXSB-15, and RXMW-4 through RXMW-6, and RXMW-9 through RXMW-11) along with the collection and analysis of 24 soil samples;
- Installation of six groundwater monitoring wells (RXMW-4 through RXMW-6, RXMW-9 through RXMW-11; and
- Installation of six soil vapor monitoring points (RXSV-4 through RXSV-6, RXSV-8, RXSV-9 and RXSV-11).

Second Phase of RI Field Activities:

- Installation of 13 soil borings (RXSB-3A, RXSB-3AE, RXSB-3AW, RXSB-3AN, RXSB-3AS, RXSB-16, RXSB-17, RXMW-1 through RXMW-3, RXMW-7, RXMW-8 and RXTGW-12) along with the collection and analysis of 31 soil samples;
- Installation of five groundwater monitoring wells (RXMW-1 through RXMW-3, RXMW-7, RXMW-8);
- Collection and analysis of 15 groundwater samples (from newly installed RXMW-1 through RXMW-11 and exiting monitoring wells MW-1, MW-2 and MW-6);
- Installation of five soil vapor monitoring points (RXSV-7, RXSV-10, RXSB-12 through RXSV-14) and four sub-slab soil vapor monitoring points (RXSS-2 through RXSS-5); and
- Collection and analysis of nine soil vapor samples and four sub-slab soil vapor samples.

Field activities were completed in general accordance with the RIWP with exception of the following changes:

- Water encountered at Soil Vapor Sampling Points RXSV-6 and RXSV-8

Roux attempted to collect soil vapor samples from RXSV-8 on three separate days, however, a sample was not able to be collected due to the continued presence of perched water in the sampling point. Prior to sample attempts, Roux purged approximately three gallons of the perched water from the vapor point. Roux also reinstalled a new vapor point directly adjacent to the original RXSV-8 and screened it five feet shallower

at 10 ft bls due to concerns about water perched on bedrock. During installation, Roux encountered perched water directly beneath the surface at a depth of approximately one ft bls. Unfortunately, the second location was also affected by perched water and was not able to be sampled. Water also pools on the asphalt surface in this courtyard after a rain event due to poor drainage.

Roux attempted to collect a sample from RXSV-6 on June 21, 2018 and June 22, 2018, however, water was observed in the sample tubing and a sample was not collected at this location. The areas at RXSV-6 and RXSV-8 appear to be affected by perched water or poor surface water drainage; therefore, soil vapor samples were not able to be collected from these locations.

- Slight Relocation of RXMW-7 due to access constraints

An attempt was made to install RXMW-7 within the former Garage however, due to limited height access/unsafe drilling conditions, the location was moved approximately 10 feet west, and installed at the entrance way to the former garage. All sample locations are shown on Figure 2.

3.1 Site Inspection

A Site inspection of the existing Site conditions was conducted on April 9, 2018, to determine final locations of soil borings, monitoring wells and soil vapor point locations, based on actual field conditions. In addition, the presence and condition of existing monitoring wells, MW-1 through MW-6, was evaluated and were determined to be in good condition. Additionally, an onsite meeting with the NYSDEC was conducted on May 1, 2018, during RI activities.

3.2 Geophysical Survey

On April 23, 2018, a geophysical survey was performed at the Site in an attempt to identify the locations of additional potential USTs, any other potential areas of concern (AOCs), and to perform borehole pre-clearance for proposed RI drilling locations. The geophysical survey consisted of utilizing ground penetrating radar (GPR) and electromagnetic methods (EM), which both can detect potential USTs and/or utilities within the subsurface. All geophysical survey activities were performed by Ground Penetrating Radar Systems, LLC of Toledo, Ohio.

3.3 Utility Clearances

Prior to the advancement of soil borings and the installation of monitoring wells and soil vapor monitoring pints, utility clearances were performed using hand tools and a Vactron clearance unit to a minimum of five ft bls at each location to confirm that no subsurface utilities were present. All locations were determined to be clear of utilities, with the exception of RXMW-7 location. During utility clearance, an approximate 12-inch diameter metal pipe was observed at approximately two and a half ft bls. RXMW-7 was moved approximately two feet to the west to avoid this pipe anticipated to be a stormwater drainage pipe. During utility clearance, shallow bedrock was encountered at approximately three ft below the basement concrete slab in soil boring RXMW-3 located in the former boiler room (basement of existing building Wing F).

3.4 Soil Borings and Soil Sampling Activities

From April 26, 2018 through June 22, 2018, a total of 24 soil borings were installed and 55 soil samples were collected as part of the RI. All soil boring work was completed by Aquifer Drilling and Testing of Mineola, New York under the supervision of Roux. Soil boring locations are shown on Figure 2.

Following utility clearances, soil borings were advanced using Geoprobe® direct push technology, Sonic technology or hand tools. Limited access and/or shallow borings necessitated the use of a Geoprobe® drill rig and/or hand tools. Ten soil borings, RXSB-11 through RXSB-17, RXMW-3, RXMW-8, and RXTGW-12, were advanced with Geoprobe® direct push methods using five-foot long macro core samplers, and soil was collected from land surface to bedrock at each location. RXMW-3 and RXMW-8 were terminated approximately five feet into bedrock utilizing a Geoprobe® fitted with a compressed air hammer. Nine soil borings, RXMW-1, RXMW-2, RXMW-4 through RXMW-7, and RXMW-9 through RXMW-11, were advanced with a Sonic drill rig and were terminated approximately five feet into bedrock. RXMW-5 was terminated approximately 8 feet into bedrock.

During soil boring installations, the lithology was recorded, and soil was visually inspected for evidence (visual and/or olfactory) of contamination and field screened continuously for VOCs using a photoionization detector (PID) with a 10.6 eV lamp at each soil boring location.

Two (2) soil samples were typically collected for laboratory analyses from each soil boring location. A shallow soil sample was collected from 0 to 2 ft bls, and a deeper soil sample was collected from either the 2-ft interval containing indications of contamination (either observed contamination, as described above, or elevated PID measurements) or the 2-ft interval directly above competent bedrock. Soil boring lithology logs are provided in Appendix B.

Two (2) blind duplicate soil samples were collected as an additional quality assurance method. Duplicate samples DUP-042418 and DUP-05232018, were collected from soil boring intervals, RXSB-14 (0-2) and RXSB-11 (0-2), respectively. A discussion of duplicate soil sample results compared to their parent sample results is provided in Section 4.2.4.

All soil samples were placed in the appropriate containers and sent, under chain-of-custody procedures, to TestAmerica Laboratories, Inc. (TestAmerica) of Edison, New Jersey, a laboratory with a current New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) Contract and Laboratory Protocol (CLP) and analyzed for the following parameters:

- Full Target Compound List (TCL) VOCs and SVOCs plus 30 tentatively identified compounds (TICS) via United States Environmental Protection Agency (USEPA) Methods 8260C and 8270D, respectively;
- Target Analyte List (TAL) metals via USEPA Method 6020A;
- PCBs via USEPA Method 8082A;
- TCL pesticides via USEPA Method 8081B;
- TCL herbicides via USEPA Method 8151A;
- Hexavalent chromium using USEPA method 7196A; and
- Total cyanide via USEPA Method 9012B.

In accordance with the RIWP, soil samples collected from RXSB-3A, RXSB-3AN, RXSB-3AW, RXSB-3AS and RXSB-3AS were analyzed for TAL metals only.

Following sample collection, boreholes were backfilled with soil cuttings and clean sand. The surface was restored to match the surrounding media (e.g. asphalt, soil, concrete). All excess soil cuttings generated

during soil boring activities were containerized in labeled 55-gallon drums and staged on-Site pending disposal at an approved facility.

3.5 Groundwater Monitoring Well Installations

On April 25, 2018 to June 15, 2018 a total of 11 groundwater monitoring wells (RXMW-1 Through RXMW-11) were installed at the Site. Groundwater monitoring well (monitoring well) locations are shown on Figure 2. The monitoring well locations were selected to evaluate groundwater quality in areas not previously monitored, while also helping to refine the understanding of Site groundwater flow. Monitoring well construction logs are provided in Appendix B.

All newly installed monitoring wells were constructed of 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and approximately 5-ft to 8-ft of 2-inch diameter, 20-slot (0.020 inches) PVC screen flush-threaded onto the PVC casing. The screened intervals of the wells were based on depth to groundwater field observations made during drilling. During drilling activities, groundwater was observed between approximately one to three feet into the bedrock. However, perched water was observed approximately one to two ft bls at RXSB-13/RXSV-8, RXMW-6, RXMW-7 and RXMW-11. RXSB-13/RXSV-8 and RXMW-11 are located in the southwest courtyard, and RXMW-6 and RXMW-7 are located in the southeast courtyard. The perched zone at these locations appeared limited as soil beneath two ft bls at these locations was observed to be dry, suggesting poor surface drainage in these areas.

During monitoring well installation activities, #1 sand filter pack was placed around the well screen to approximately 2-ft above the top of the well screen. The annulus above the filter pack was sealed with a two- to three-foot hydrated bentonite seal. A cement-bentonite grout was then placed in the annulus above the bentonite seal to approximately 4-inches bls. Surface completion of each monitoring well consisted of a locking J-plug and a protective flush-mounted manhole cover. Immediately following installation, newly constructed monitoring wells were developed using a surge block and submersible pump to equilibrate monitoring well water levels with the surrounding formation and to remove fine sediments from the well and filter pack.

All newly installed monitoring wells, and existing monitoring wells MW-1 through MW-6, were surveyed by a New York State licensed surveyor to obtain surface and top of well casing elevations as well as horizontal and vertical survey coordinates.

All excess soil cuttings and purge water generated during well installation and development activities were containerized in labeled 55-gallon drums and staged on-Site pending disposal at an approved facility.

3.6 Groundwater Monitoring Well Gauging and Sampling

On June 22, 2018, groundwater levels were measured by Roux to evaluate Site-wide groundwater elevations and groundwater flow. Groundwater levels were collected with an electronic oil/water interface probe. All groundwater level measurements were collected on the same day to provide a snapshot of the Site-wide conditions. During the gauging event, separate phase product was observed in existing wells MW-3, MW-4 and MW-5 at thicknesses of 0.08 ft, 0.01 ft and 0.11 ft, respectively. A summary of water-level data is provided in Table 2.

On June 21, 2018 through June 22, 2018, a comprehensive groundwater sampling event was completed at the Site. Groundwater samples were collected from newly installed monitoring wells, RXMW-1 through RXMW-11, and from existing monitoring wells, MW-1, MW-2 and MW-6. Groundwater samples were not

collected from existing wells MW-3 through MW-5 due to the presence of measurable separate phase product. Groundwater samples were collected using the methods described in the USEPA guidance document titled “Ground Water Sampling Procedure, Low Stress (Low Flow) Purging and Sampling” (USEPA, 2010) and the NYSDEC PFC Groundwater Samples from Monitoring Wells Sample Protocol Revision 1.2 dated June 29, 2016. During purging, a water quality meter was used to monitor water quality indicator parameters such as pH, dissolved oxygen, conductivity, temperature, turbidity, and oxidation reduction potential (ORP). The field parameters were recorded on monitoring well sampling field data sheets, which are included in Appendix C.

As an additional quality assurance method, one blind duplicate groundwater sample was collected. Duplicate sample DUP-062118 was collected from monitoring well RXMW-4. A discussion of duplicate groundwater sample results compared to the parent sample results are discussed in Section 4.2.4.

Groundwater samples collected during the RI were analyzed for the following parameters:

- TCL VOCs and SVOCs plus 30 TICs via USEPA Methods 8260C and 8270D, respectively;
- Total and dissolved TAL metals via USEPA Method 6020A, including mercury using Method 7470A;
- PCBs via USEPA Method 8082A;
- TCL pesticides via USEPA Method 8081B;
- TCL herbicides via USEPA Method 8151A;
- Hexavalent chromium using USEPA method 7196A; and
- Total cyanide via USEPA Method 9012B.

Additionally, groundwater samples collected from RXMW-2, RXMW-4 and RXMW-7 were also analyzed for Per- and Polyfluoroalkyl Substances (PFAS) using USEPA Method 537M and 1,4-Dioxane using USEPA Method 8270. All groundwater samples were placed in the appropriately preserved containers and were sent to TestAmerica under chain-of-custody procedures.

On June 22, 2018, a product sample was collected from existing monitoring well, MW-5, and sent to Torkelson Geochemistry, Inc. of Tulsa, Oklahoma, under chain-of-custody procedures, for petroleum fingerprint analysis. The fingerprint analysis results are provided in Appendix G.

3.7 Soil Vapor and Sub-Slab Soil Vapor Monitoring Point Installations

On April 25, 2018 through June 15, 2018, a total of 11 soil vapor monitoring points (RXSV-4 through RXSV-14) and four sub-slab soil vapor points (RXSS-2 through RXSS-5) were installed at the Site using a Geoprobe® drill rig or hand tools. As per NYSDEC request, , soil vapor samples were collected RXSV-9 and RXSV-11, on April 25, 2018, prior to completing other soil vapor point installations, so the data from these two locations could be included in an Interim Remedial Measure Work Plan for the Site. All soil vapor and sub-slab soil vapor monitoring point installation activities were conducted by ADT under the supervision of Roux. Soil vapor and sub-slab soil vapor monitoring point locations are shown on Figure 2.

At soil vapor monitoring point locations, RXSV-4 through RXSV-14, a six-inch long, stainless steel, sample screen attached to Teflon-lined polyethylene sample tubing was installed approximately one to two feet above bedrock and coarse sand was added to six inches above the top of the screen creating a one-foot sample zone. A two to five feet thick layer of bentonite was added to the top of the sand, hydrated, and the remainder

of the boring annulus was filled with a cement-bentonite grout. The surface was completed with a secure, five-inch diameter, flush-mounted curb box concreted at grade. Soil vapor monitoring point construction details are provided in Table 1.

At sub-slab soil vapor point locations, RXSS-2 through RXSS-5, a three-inch long, Cox-Colvin stainless steel Vapor Pin® (vapor pin), fitted with a silicon sleeve, were installed in the concrete floor slabs using a hammer drill. When installed, the silicon sleeve creates an air tight seal between the vapor pin and the concrete. The surface was completed with a 2-inch diameter, flush-mounted, stainless steel cap.

3.8 Soil Vapor and Sub-Slab Soil Vapor Sampling

Soil vapor samples were collected from newly installed soil vapor monitoring points, RXSV-9 and RXSV-11 on March 23, 2018, from RXSV-4, RXSV-5, RXSV-7, RXSV-10 and RXSS-2 through RXSS-5 on June 4, 2018, and from RXSV-12 through RXSV-14 on June 22, 2018. As previously mentioned, soil vapor samples were not collected from RXSV-6 and RXSV-8 due to water in the sample tubing. All soil vapor samples were collected in accordance with the October 2006 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH Guidance).

Prior to sample collection, the integrity of each sample point seal was verified via a helium gas tracer test. This step was conducted as a quality assurance/quality control measure to verify that the soil vapor sample was not compromised by the inadvertent introduction of ambient air into the sample. During the helium gas tracer test, soil vapor was purged from the point using an air pump calibrated to approximately 0.2 liters per minute while the sampling point was covered at the surface with a small enclosure that was partially filled with helium. The soil vapor discharging from the air pump and the air within the enclosure was continuously screened for helium during purging. At all of the soil vapor and sub-slab soil vapor sample locations, helium was not detected from the sample tubing greater than 10% of the helium detected in the enriched area (i.e., within the bucket), therefore, the helium tracer test verified the integrity of the surface seal of the soil vapor and sub-slab soil vapor monitoring points. Results of helium gas tracer tests were recorded on soil vapor sampling logs, which are included in Appendix D.

Following tracer gas testing, the sample tubing at each sample point was purged of approximately two volumes of the tubing using a vacuum pump set at a rate of approximately 0.2 liters per minute. Following purging, the tubing was connected to the laboratory supplied 2.7-liter Summa canister. All soil vapor samples were collected using pre-cleaned 2.7-liter summa canisters with regulators calibrated to collect samples over a 2-hour period. Sample start and end times, and canister start, and end pressures were recorded on soil vapor sampling logs, which are included in Appendix D.

All soil vapor and sub-slab vapor samples were sent to TestAmerica, under chain-of-custody procedures, and analyzed for VOCs using USEPA Method TO-15.

4. REMEDIAL INVESTIGATION RESULTS

The following section provides a summary of the geological and hydrogeological findings, and the soil, groundwater, and soil vapor quality data that were generated by Roux during the RI. Data tables with all of the data generated during the RI are provided in Tables 3 through 13.

4.1 Fish and Wildlife Remedial Impact Analysis

The Bronx River is located approximately ½ mile east of the Site and the East River is located approximately ½ mile south of the Site, however, a fish and wildlife remedial impact analysis is not required since there are no important federal, state or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species on, adjacent to, or impacted by the Site.

4.2 Geological and Hydrogeological Conditions

The following sections provide a description of the geological and hydrogeological findings of the RI. A hydrogeologic investigation was conducted in an effort to evaluate the subsurface conditions that could influence the nature and extent, possible migration, and remediation of contamination at the Site.

4.2.1 Local Geology and Stratigraphy

Based on the lithology recorded from soil borings advanced during the RI, a fill layer consisting of fine to coarse sand, silt, gravel, concrete, brick and asphalt fragments was encountered from grade to approximately seven ft bls (in some locations). The fill layer, where present, was underlain by an approximate 2 to 14-ft thick native, glacial silty-sand and gravel stratum.

Immediately underlying the fill and native overburden, weathered bedrock and schist bedrock was identified across the Site. Weather bedrock was observed, at most locations, above competent bedrock at a thickness ranging from approximately 0.5 ft to 10 ft. Bedrock was identified at shallower depths in the northern and central portions of the Site and sloped downward in a southern direction, with the exception of bedrock encountered at RXMW-3. The bedrock surface at this location is lower in elevation compared to the surrounding area, which has been excavated during construction of the existing building basement (former boiler room of Wing F). Competent bedrock surface ranges from approximate elevation 53 ft relative to North American Vertical Datum of 1988 (NAVD88) (five ft bls) to approximately 17 ft NAVD88 (15 ft bls). Generalized geologic cross-sections are provided as Plate 1.

4.2.2 Site Hydrogeologic Setting

Based on water-level data collected during this RI, the water table surface at the Site ranges from approximate elevation 23 ft NAVD88 or 8.35 ft bls (RXMW-2) to 53 ft NAVD88 or 4.98 ft bls (RXMW-10), which is relatively consistent with observed changes in bedrock elevation. Groundwater flow direction appear to mimic bedrock topography and the general groundwater flow across the Site is to the south, with the exception of groundwater near the existing building (Wing F), beneath the basement of former boiler room where bedrock has been removed during previous building construction. Groundwater in this area flows in a southwestern to western direction. A groundwater contour map, based on the data collected during the June 22, 2018 groundwater gauging event, is provided as Figure 3. Perched water was observed approximately one to two ft bls at RXSB-13/RXSV-8, RXMW-6, RXMW-7 and RXMW-11. RXSB-13/RXSV-8 and RXMW-11 are located in the southwest courtyard, and RXMW-6 and RXMW-7 are located in the

southeast courtyard. The perched zone at these locations appeared limited as soil beneath two ft bls at these locations was observed to be dry suggesting poor surface drainage in these areas.

4.3 Geophysical Survey Results

A geophysical survey was conducted at all sample locations (soil, groundwater and soil vapor) in an attempt to identify the locations of additional potential USTs, any other potential AOCs, and to perform borehole pre-clearance for proposed RI drilling locations. During geophysical survey activities, sewer/drainage lines were identified in the northwest and southeast courtyards; electrical utilities were located in the southwest and southeast courtyards and piping associated with the existing USTs was located in the southeast courtyard, extruding from the known UST pad, in a northern direction toward the existing building (Wing F); and an unknown line/utility was identified in the northwest courtyard, bisecting the sewer/drainage line identified in this courtyard, which is believed to be associated with the sewer/drainage line. No additional USTs or any other potential AOC was identified by the geophysical survey. A map of the geophysical survey findings is provided in Appendix H.

4.4 Remedial Investigation Sample Results

The following sections summarize soil, groundwater, and soil vapor quality data that was generated by Roux during the RI. Data tables with all sample data generated during the RI are provided in Tables 3 through 13. Compounds exceeding applicable/established NYSDEC standards and criteria for soil, groundwater and soil vapor are summarized on Plates 2 through 4. Analytical reports are provided in Appendix E.

4.4.1 Soil Quality

A total of 55 soil samples, including three (3) field duplicate soil samples, were collected from 24 soil boring locations and submitted for laboratory analysis as part of the RI. All analytical soil data was compared to the NYSDEC Subpart 375-6 UUSCOs, RRSCOs and PGWSCOs, as noted in the RIWP, in order to evaluate Site-wide soil quality and to determine contamination in soil.

Laboratory analytical data generated during the RI for soil is summarized in Tables 3 through 7. Soil boring locations with soil sample exceedances of the NYSDEC SCOs are shown on Plate 2. A summary of soil quality results is provided in the below sections.

The evaluation of the soil analytical data collected during the RI as well as soil analytical data collected during previous investigations (i.e., 2009 investigation completed by LBA and 2017 Phase II ESA completed by Roux) indicates the following about the Site-wide soil conditions:

- VOCs were not detected in soil samples collected during the RI or Phase II ESA exceeding NYSDEC UUSCOs, RRSCOs or PGWSCOs. However, during the 2009 investigation, VOCs were detected in seven soil samples completed immediately north and east of the existing USTs exceeding UUSCOs, RRSCOs and/or PGWSCOs and included 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, ethylbenzene, naphthalene (reported as a VOC and SVOC during 2009 investigation), n-butylbenzene, n-propylbenzene, sec-butylbenzene, toluene and xylenes (total). VOCs exceeding NYSDEC UUSCOs, RRSCOs and/or PGWSCOs were detected in soil borings samples SB01B (1.0-1.5 ft bls), SB02A (0.5-1.0 ft bls), SB13A (11.5-12 ft bls), SB15A (15-15.5 ft bls), SB16A (15.5-16 ft bls), SB18A (17-17.5 ft bls) and SB18B (18.5-19 ft bls).
- SVOCs, primarily polycyclic aromatic hydrocarbons (PAHs), commonly associates with historic fill, were detected in two shallow soil samples (0-2 ft interval) exceeding UUSCOs, RRSCOs and/or PGWSCOs during this RI and four deep samples (between 15 to 19.5 ft bls) during the 2009 investigation and included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene,

benzo(k)fluoranthene, chrysene, naphthalene (reported as both a VOC and SVOC during 2009 investigation) and indeno(1,2,3-c,d)pyrene. SVOCs exceeding UUSCOs, RRSCOs and/or PGWSCOs were detected in soil boring samples RXMW-5 (0-2 ft bls) and RXSB-13 (0-2 ft bls) (completed during this RI and SB15A (15-15.5), SB16A (15.5-16), SB18B (18.5-19) and SB20A (17-17.5) (completed during 2009 investigation).

- Metals were detected in Site-wide soil samples collected during this RI and the 2017 Phase II ESA. Seven metals (arsenic, barium, beryllium, chromium, copper, lead, mercury and zinc) were detected in soil samples exceeding UUSCOs, RRSCOs and/or PGWSCOs during this RI and four metals (arsenic, copper, lead and zinc) were detected in soil samples exceeding UUSCOs, RRSCOs and/or PGWSCOs during the 2017 Phase II ESA. The majority of metals exceedances were detected in soil samples collected between the shallow 0-4 ft bls interval, with the exception of samples RXMW-9 (5-7 ft bls), RXSB-3AN (4-6 ft bls), RXSB-3AS (4-6 ft bls), RXSB-12 (6-8 ft bls), and RXSB-16 (9-11 ft bls) (completed during this RI) and RXSB-6 (8-10 ft bls) (completed during the 2017 Phase II ESA).
- PCBs were not detected above reporting limits in soil samples collected during this RI and previous investigations.
- Pesticides and herbicides were not detected in soil samples collected during this RI and the 2017 Phase II ESA exceeding UUSCOs, RRSCOs and/or PGWSCOs with the exception of 4,4'-DDT, 4,4'-DDD and 4,4'-DDE. 4,4'-DDT was detected at a concentration exceeding UUSCOs only in four soil samples (RXSB-13_0-2, RXSB-16_1-3, RXSB-17_0-2, and RXSB-17_0-2 duplicate) during this RI and two soil samples (RXSB-5_5-6 and RXSB-9_0-2) during the 2017 Phase II ESA. 4,4'-DDD was detected in two soil samples (RXSB-4_0-2 and RXSB-5_5-6) during the 2017 Phase II ESA, and 4,4'-DDE was detected in one soil sample RXSB-5_5-6 during the Phase II ESA.

4.4.1.1 Volatile Organic Compounds in Soil

VOCs were not detected at concentrations exceeding UUSCOs, RRSCOs or PGWSCOs in soil samples collected during the RI or 2017 Phase II ESA. VOCs results are summarized in Table 3 and on Plate 2. However, VOCs were detected in soil at concentration exceeding NYSDEC SCOs during the 2009 investigation completed by LBA, which are summarized on Plate 2. A summary of the 2009 investigation soil exceedances of NYSDEC SCOs are provided below:

Analyte	NYSDEC UUSCO/RRSCO/PGWSCO (mg/kg)	Detections above NYSDEC UUSCOs/RRSCOs/PGWSCOs (mg/kg)	Range in Concentration Above NYSDEC UUSCOs/RRSCOs/PGWSCOs (mg/kg)	Sample with Maximum Detection
1,2,4-Trimethylbenzene	3.6 / 52 / 3.6	6 / 2 / 6	5.5 - 790	SB16A_15.5-16
1,3,5-Trimethylbenzene	8.4 / 52 / 8.4	2 / 2 / 2	53 - 180	SB16A_15.5-16
Ethylbenzene	1.0 / 41 / 1.0	3 / 1 / 3	2.1 - 120	SB16A_15.5-16
Naphthalene	12 / 100 / 12	2 / 1 / 2	85 - 390	SB16A_15.5-16
N-Butylbenzene	12 / 100 / 12	3 / 0 / 3	13 - 60	SB16A_15.5-16
N-Propylbenzene	3.9 / 100 / 3.9	4 / 1 / 4	5.6 - 110	SB16A_15.5-16
Sec-Butylbenzene	11 / 100 / 11	2 / 0 / 2	18 - 68	SB16A_15.5-16

Toluene	0.7 / 100 / 0.7	4 / 1 / 4	0.8 – 120	SB16A_15.5-16
Xylenes (Total)	0.26 / 100 / 1.6	8 / 2 / 5	0.29 - 730	SB16A_15.5-16

- 1,2,4-Trimethylbenzene was detected at concentrations exceeding UUSCOs and PGWSCO (3.6 mg/kg, respectively) in six soil samples, and at a concentration exceeding RRSCO (2 mg/kg) in two soil samples with concentrations, ranging from 5.5 mg/kg to 790 mg/kg with the maximum detection in soil sample SB16A_15.5-16.
- 1,3,5-Trimethylbenzene was detected at concentrations exceeding UUSCOs and PGWSCO (8.4 mg/kg, respectively) and RRSCO (52 mg/kg) in two soil samples (SB-15A_15-15.5 and SB16A_15.5-16) at concentrations of 53 mg/kg and 180 mg/kg, respectively.
- Ethylbenzene was detected at concentrations exceeding UUSCOs and PGWSCO (1 mg/kg, respectively) in three soil samples and at a concentration exceeding RRSCO (41 mg/kg) in one soil sample (SB16A_15.5-16) at concentrations ranging from 2.1 mg/kg to 120 mg/kg, with the maximum detection from soil sample SB16A_15.5-16.
- Naphthalene was detected at concentrations exceeding UUSCOs and PGWSCO (12 mg/kg, respectively) in two soil samples and at a concentration exceeding RRSCO (100 mg/kg) in one soil sample (SB16A_15.5-16) at concentrations ranging from 85 mg/kg to 390 mg/kg, with the maximum detection from soil sample SB16A_15.5-16.
- N-Butylbenzene was detected at concentrations exceeding NYSDEC UUSCOs and PGWSCO (12 mg/kg, respectively) in three soil samples at concentrations ranging from 13 mg/kg to 60 mg/kg.
- N-Propylbenzene was detected at concentrations exceeding UUSCOs and PGWSCO (3.9 mg/kg, respectively) in four soil samples and at a concentration exceeding RRSCO (100 mg/kg) in one soil sample (SB16A_15.5-16) at concentrations ranging from 5.6 mg/kg to 110 mg/kg, with the maximum detection from soil sample SB16A_15.5-16.
- Sec-Butylbenzene was detected at concentrations exceeding NYSDEC UUSCOs and PGWSCO (11 mg/kg, respectively) in two soil samples (SB-15A_15-15.5 and SB16A_15.5-16) at a concentration of 18 mg/kg and 68 mg/kg, respectively.
- Toluene was detected at concentrations exceeding UUSCOs and PGWSCO (0.7 mg/kg, respectively) in four soil samples and at a concentration exceeding RRSCO (100 mg/kg) in one soil sample (SB16A_15.5-16) at concentrations ranging from 0.8 mg/kg to 120 mg/kg, with the maximum detection from soil sample SB16A_15.5-16.
- Xylenes (total) were detected at concentrations exceeding UUSCOs (0.26 mg/kg) in eight soil samples, at a concentration exceeding PGWSCO (1.6 mg/kg) in five soil samples and at concentrations exceeding RRSCO (100 mg/kg) in two soil samples with concentrations, ranging from 0.29 mg/kg to 730 mg/kg, with the maximum detection in soil sample SB16A_15.5-16.

4.4.1.2 Semivolatile Organic Compounds in Soil

SVOCs, primarily PAHs, that were detected in soil at concentrations exceeding NYSDEC SCOs during the RI are summarized in Table 4 and on Plate 2. Additionally, SVOC detected in soil at concentrations exceeding NYSDEC SCOs during the 2009 investigation and 2017 Phase II ESA are included on Plate 2. A summary of the SVOC soil exceedances of NYSDEC SCOs are provided below:

Analyte	NYSDEC UUSCO/RRSCO/PGWSCO (mg/kg)	Detections above NYSDEC UUSCOs/RRSCOs/PGWSCOs (mg/kg)	Range in Concentration Above NYSDEC UUSCOs/RRSCOs/PGWSCOs (mg/kg)	Sample with Maximum Detection
Benzo(A)Anthracene	1.0 / 1.0 / 1.0	6 / 6 / 6	1.2 - 28	SB18B_18.5-19 & SB20A_17-17.5
Benzo(A)Pyrene	1.0 / 1.0 / 22	5 / 5 / 0	1.3 - 16	SB20A_17-17.5
Benzo(B)Fluoranthene	1.0 / 1.0 / 1.7	6 / 6 / 4	1.4 - 25	SB20A_17-17.5
Benzo(K)Fluoranthene	0.8 / 3.9 / 1.7	4 / 2 / 2	1.4 – 9.5	SB20A_17-17.5
Chrysene	1.0 / 3.9 / 1.0	6 / 2 / 6	1.3 - 26	SB20A_17-17.5
Indeno(1,2,3- C,D)Pyrene	0.5 / 0.5 / 8.2	7 / 7 / 0	0.52 – 6.4	SB20A_17-17.5
Naphthalene	12 / 100 / 12	2 / 2 / 2	120	SB15A_15-15.5 & SB16A_15.5-16

- Benzo(a)anthracene was detected at concentrations exceeding NYSDEC UUSCOs, RRSCOs and PGWSCOs (1 mg/kg, respectively) in one soil sample (RXSB-13_0-2) during this RI, three samples during the 2017 Phase II ESA and two samples during the 2009 investigation at concentrations ranging from 1.2 mg/kg to 28 mg/kg , with the maximum detection in soil sample SB20A_17-17.5.
- Benzo(a)pyrene was detected at concentrations exceeding NYSDEC UUSCOs and RRSCOs (1 mg/kg, respectively) in one soil sample (RXSB-13_0-2) during the RI, two soil samples during the 2017 Phase II ESA and two soil samples during the 2009 investigation concentrations ranging from 1.3 mg/kg to 25 mg/kg, with the maximum detection in soil sample SB20A_17-17.5..
- Benzo(b)fluoranthene was detected at concentrations exceeding NYSDEC UUSCOs and RRSCOs in one soil sample (RXSB-13_0-2) at a concentration of 1.7 mg/kg compared to 1 mg/kg (UUSCOs and RRSCOs, respectively).
- Chrysene was detected at concentrations exceeding NYSDEC UUSCOs and PGWSCOs in one soil sample (RXSB-13_0-2) at a concentration of 1.3 mg/kg compared to 1 mg/kg (UUSCOs and PGWSCOs, respectively).
- Indeno(1,2,3-c,d)pyrene was detected at concentrations exceeding NYSDEC UUSCOs and RRSCOs in two soil samples (RXMW-5_0-2 and RXSB-13_0-2) at a concentration of 0.52 mg/kg and 0.78 mg/kg, respectively, compared to 0.50 mg/kg (UUSCOs and RRSCOs, respectively).

4.4.1.3 Metals in Soil

Metals that were detected in soil at concentrations exceeding NYSDEC SCOs during this RI are summarized in Table 5 and on Plate 2. Metals exceeding NYSDEC SCOs during the Phase II ESA are included on Plate 2. A summary of the soil exceedances of NYSDEC SCOs are provided below:

Analyte	NYSDEC UUSCO/RRSCO/PGWSCO (mg/kg)	Detections above NYSDEC UUSCOs/RRSCOs/PGWSCOs (mg/kg)	Range in Concentration Above NYSDEC UUSCOs/RRSCOs/PGWSCOs (mg/kg)	Sample with Maximum Detection
Arsenic	13 / 16 / 16	8 / 6 / 6	14.1 - 55.7	RXSB-17_0-2
Barium	350 / 400 / 820	5 / 4 / 1	382 - 855	RXSB-16_1-3
Beryllium	7.2 / 72 / 47	1 / 0 / 0	20.2	RXSB-16_1-3
Chromium, Hexavalent	1.0 / 110 / 19	1 / 0 / 0	1.1	RXMW-2_13-15
Chromium, Total*	30 / 180 / --	23 / 1 / 0	30.1 - 344	RXSB-16_1-3
Copper	50 / 270 / 1720	33 / 11 / 2	53.8 - 4,840	RXSB-16_1-3
Lead	63 / 400 / 450	27 / 6 / 5	64 - 4,010	RXSB-16_1-3
Mercury	0.18 / 0.81 / 0.73	2 / 0 / 0	0.34 - 0.65	RXSB-13_0-2
Nickel	30 / 310 / 130	24 / 1 / 1	30.1 - 487	RXSB-16_1-3
Zinc	109 / 10,000 / 2,480	33 / 1 / 7	114 - 36,000	RXSB-16_1-3

-- - No NYSDEC SCO Available

* - NYSDEC SCOs for trivalent chromium used as a comparison

- Arsenic was detected at concentrations exceeding UUSCOs (13 mg/kg) in seven soil samples, and at concentrations exceeding RRSCOs/PGWSCOs (16 mg/kg, respectively) in six soil samples during this RI, ranging in concentration from 14.1 mg/kg to 55.7 mg/kg, with the maximum detection in soil sample RXSB-17_0-2. Arsenic was detected at concentrations exceeding UUSCOs (13 mg/kg) and RRSCOs/PGWSCOs (16 mg/kg, respectively) in one soil sample (RXSB-2_0-2) during the 2017 Phase II ESA at a concentration of 18 mg/kg.
- Barium was detected at a concentration exceeding UUSCOs (350 mg/kg) in six soil samples, and at a concentration exceeding RRSCOs/PGWSCOs (400 mg/kg and 820 mg/kg, respectively) in four soil samples, ranging in concentration from 379 mg/kg to 855 mg/kg, with the maximum detection of 855 mg/kg in soil sample RXSB-16_1-3.
- Beryllium was detected at a concentration exceeding UUSCOs (7.2 mg/kg) in one sample (RXSB-16_1-3), with a concentration of 20.2 mg/kg.
- Hexavalent chromium was detected at concentrations exceeding UUSCOs (1 mg/kg) in one soil sample (RXMW-2_13-15), but did not exceed RRSCOs or PGWSCOs, at a concentration of 1.1 mg/kg.
- Total chromium was detected at concentrations exceeding UUSCOs in 23 soil samples, and at a concentration exceeding RRSCOs in one sample (RXSB-16_1-3), ranging in concentration from 30.1 mg/kg to 344 mg/kg, with the maximum detection in soil sample RXSB-16_1-3.
- Copper was detected at concentrations exceeding UUSCOs (50 mg/kg) in 30 soil samples, at concentrations exceeding RRSCOs (270 mg/kg) in 11 soil samples, and at concentrations exceeding PGWSCOs (1,720 mg/kg) in two samples during this RI, ranging in concentration from 53.8 mg/kg to 4,840 mg/kg, with the maximum detection in the soil samples RXSB-16_1-3. Copper was detected at concentrations exceeding UUSCOs (50 mg/kg) in three samples during the 2017 Phase II ESA, ranging in concentration from 64 mg/kg to 190 mg/kg, with the maximum detection in soil sample RXSB-6_0-2.
- Lead was detected at concentrations exceeding UUSCOs (63 mg/kg) in 25 soil samples, at concentrations exceeding RRSCOs (400 mg/kg) in six soil samples, and at concentrations exceeding PGWSCOs (450 mg/kg) in five soil samples during this RI, ranging in concentration from 64 mg/kg to 4,010 mg/kg, with the maximum detection in soil sample RXSB-16_1-3. Lead was detected at concentrations exceeding UUSCOs (63 mg/kg) in two samples (RXSB-4_0-2 and RXSB-6_0-2) during the 2017 Phase II ESA, at a concentration of 46 mg/kg and 150 mg/kg, respectively.

- Mercury was detected at concentrations exceeding UUSCOs (0.18 mg/kg) in two soil samples, at a concentration of 0.34 mg/kg (RXMW-2_0-2) and 0.65 mg/kg (RXSB-13_0-2).
- Nickel was detected at concentrations exceeding UUSCOs (30 mg/kg) in 24 soil samples, at a concentration exceeding RRSCOs (310 mg/kg) in one sample, and at a concentration exceeding PGWSCOs (130 mg/kg) in one sample, ranging in concentration from 30.1 mg/kg to 487 mg/kg, with the maximum detection in soil sample RXSB-16_0-2.
- Zinc was detected at concentrations exceeding UUSCOs (109 mg/kg) in 27 soil samples, at a concentration exceeding RRSCOs (10,000 mg/kg) in one sample, and at concentrations exceeding PGWSCOs (2,480 mg/kg) in seven during this RI, ranging in concentration from 114 mg/kg to 36,000 mg/kg, with the maximum detection in soil sample RXSB-16_1-3. Zinc was detected at concentrations exceeding UUSCOs (109 mg/kg) in six soil samples during the 2017 Phase II ESA, ranging in concentration from 120 mg/kg to 1,200 mg/kg, with the maximum detection in soil sample RXSB-6_0-2.

4.4.1.4 Polychlorinated Biphenyls in Soil

PCBs were not detected in soil samples collected during the RI. PCB results are summarized in Table 6.

4.4.1.5 Pesticides and Herbicides in Soil

Pesticides and herbicides that were detected in soil at concentrations exceeding NYSDEC SCOs are summarized in Table 7 and on Plate 2. A summary of the soil exceedances of NYSDEC SCOs are provided below:

- 4,4'-DDT was detected at concentrations exceeding UUSCOs (0.0033 mg/kg) in four soil samples during this RI and two soil samples during the 2017 Phase II ESA, but did not exceed RRSCOs or PGWSCOs, ranging in concentration from 0.0037 mg/kg to 0.513 mg/kg, with the maximum detection in soil sample RXSB-5_5-6.
- 4,4'-DDD was detected at concentrations exceeding UUSCOs (0.0033 mg/kg) in two soil samples (RXSB-4_0-2 and RXSB-5_5-6) during the 2017 Phase II ESA, but did not exceed RRSCOs or PGWSCOs, at a concentration of 0.00457 mg/kg and 0.0616 mg/kg, respectively.
- 4,4'-DDE was detected at a concentration exceeding UUSCOs (0.0033 mg/kg) in one soil sample (RXSB-5_5-6) during the Phase II ESA, but did not exceed RRSCOs or PGWSCOs, at a concentration of 0.0766 mg/kg.

4.4.2 Groundwater Sampling Results

A total of 17 groundwater samples and one field duplicate sample were collected from 17 monitoring wells and submitted for laboratory analysis as part of the RI. All analytical groundwater data was compared to NYSDEC AWQSGVs, as noted in the RIWP, in order to evaluate groundwater quality and to determine the contamination in groundwater, if present.

Field parameters measurements collected during groundwater purging activities, prior to sample collection, are provided on groundwater sample logs included in Appendix C. The field parameter data were reviewed to evaluate any potential anomalies in general groundwater chemistry that could potentially be influencing the groundwater sampling results. No anomalies were noted, and the field parameters measured during purging appear to be consistent with values expected to occur in the natural environment.

Analytes that exceeded PGWSCOs in Site-wide soil were compared to analyte detections in Site-wide groundwater to assess whether, and to what extent, constituents detected in soil are impacting groundwater quality. As discussed in Section 4.2.1, some metals were detected at concentrations exceeding PGWSCOs. An evaluation of soil exceedances and groundwater detections is provided in section 4.2.2.3.

Laboratory analytical data generated during the RI for groundwater is summarized in Tables 8 through 13. Monitoring well locations with groundwater sample exceedances of AWQSGVs are shown on Plate 3.

A summary of groundwater quality results is provided in the below sections.

The evaluation of the groundwater analytical data indicates the following about the Site-wide groundwater conditions:

- VOCs, including chloroform, ethylbenzene, isopropylbenzene and Tert-Butyl Methyl Ether (MTBE) were detected at concentrations exceeding NYSDEC AWQSGVs in groundwater samples collected during the RI. Chloroform was detected in three groundwater samples and exceeded NYSDEC AWQSGVs in one of the three groundwater sample (RXMW-1). Ethylbenzene was detected in two groundwater samples and exceeded NYSDEC AWQSGVs in both groundwater samples (MW-1 and MW-2). Isopropylbenzene was detected in three groundwater samples and exceeded NYSDEC AWQSGVs in one of the three groundwater samples (MW-2). MTBE was detected in two groundwater samples and exceeded the NYSDEC AWQSGVs in one of the two groundwater samples (RXMW-6).
- SVOCs were detected in five groundwater samples from MW-1, MW-2, RXMW-4, RXMW-6 and RXMW-7 (all located in the southeast courtyard) but did not exceed NYSDEC AWQSGVs.
- Metals including aluminum, barium, calcium, iron, magnesium, manganese, potassium, and sodium were detected in 100% of dissolved groundwater samples. Five metals, including iron, magnesium, manganese, and/or sodium exceeded the NYSDEC AWQSGVs in the filtered groundwater samples. Antimony exceeded the NYSDEC AWQSGVs in one unfiltered only groundwater sample. Lead exceeded the NYSDEC AWQSGVs in one unfiltered only groundwater sample. Metals concentrations were generally higher in the unfiltered groundwater due to inadvertent introduction of sediment into the sample. The concentrations of the filtered samples are indicative of dissolved concentrations in groundwater.
- Pesticides and herbicides were not detected above laboratory reporting limits in any groundwater sample.
- PCBs were not detected above laboratory reporting limits in any groundwater sample.

4.4.2.1 Volatile Organic Compounds in Groundwater

VOCs that were detected in groundwater at concentrations exceeding NYSDEC AWQSGVs are shown in Table 8 and on Plate 3. A summary of the groundwater exceedances of NYSDEC AWQSGVs are provided in the below table:

VOC Exceedances of NYSDEC AWQSGVs in Groundwater

Analyte	NYSDEC AWQSGVs (µg/L)	Detections above NYSDEC AWQSGVs	Range in Concentration Above NYSDEC AWQSGVs (µg/L)	Sample with Maximum Detection
Ethylbenzene	1	2	6.8 – 10	MW-1
Chloroform	7	1	7.3	RXMW-1
Isopropylbenzene	5	1	6.1	MW-2
MTBE	10	1	67	RXMW-6

- Ethylbenzene was detected at a concentration exceeding NYSDEC AWQSGV in two groundwater samples, with a concentration of 6.8 µg/L (MW-2) and 10 µg/L (MW-1), compared to 1 µg/L (NYSDEC AWQSGV).
- Chloroform was detected at a concentration exceeding NYSDEC AWQSGV in one groundwater sample, with a concentration of 7.3 µg/L (RXMW-1), compared to 7 µg/L (NYSDEC AWQSGV).
- Isopropylbenzene was detected at a concentration exceeding NYSDEC AWQSGV in one groundwater sample, with a concentration of 6.1 µg/L (MW-2), compared to 5 µg/L (NYSDEC AWQSGV).
- MTBE was detected at a concentration exceeding NYSDEC AWQSGV in one groundwater sample, with a concentration of 67 µg/L (RXMW-6), compared to 10 µg/L (NYSDEC AWQSGVs)

4.4.2.2 Semi-volatile Organic Compounds in Groundwater

SVOCs, including 1,4-dioxane, detected in groundwater are summarized in Table 9. As shown, there were no SVOC detections exceeding NYSDEC AWQSGVs.

4.4.2.3 Metals in Groundwater

Metals that were detected in groundwater at concentrations exceeding NYSDEC AWQSGVs are shown in Table 10 and Plate 3. A summary of the groundwater exceedances of NYSDEC AWQSGVs are provided in the below table:

Metals Exceedances of NYSDEC AWQSGVs in Groundwater

	Analyte	NYSDEC AWQSGVs (µg/L)	Detections above NYSDEC AWQSGVs	Range in Concentration Above NYSDEC AWQSGVs (µg/L)	Sample with Maximum Detection
Total (unfiltered)	Antimony	3	1	3.2	RXMW-4
	Iron	300	12	766 – 14,800	RXMW-1
	Lead	25	1	26	RXMW-1
	Magnesium	35,000	7	37,200 – 61,800	RXMW-5
	Manganese	300	9	495 – 681	RXMW-11
	Sodium	20,000	12	25,600 - 251,000	MW-6
Dissolved (Filtered)	Iron	300	5	850 – 1,770	MW-1
	Magnesium	35,000	5	35,900 – 56,300	MW-6
	Manganese	300	9	482 – 632	RXMW-10
	Sodium	20,000	12	22,000 – 206,000	RXMW-5

The concentrations of metals detected in the filtered samples are indicative of dissolved concentrations in groundwater since suspended sediment is filtered out of these samples. Detections in filtered samples indicate the following about Site-wide groundwater:

- Iron was detected at concentrations exceeding NYSDEC AWQSGVs in five filtered groundwater samples, ranging in concentration from 850 µg/L to 1,770 µg/L compared to 300 µg/L (AWQSGV), with the maximum detection in monitoring well MW-1. Iron is considered a naturally occurring metal and likely a natural component of groundwater.
- Magnesium was detected at concentrations exceeding NYSDEC AWQSGVs in five filtered groundwater samples, ranging in concentration from 35,900 µg/L to 56,300 µg/L compared to 35,000 µg/L (AWQSGV), with the maximum detection in monitoring well MW-6. Magnesium is considered a naturally occurring metal and likely a natural component of groundwater.
- Manganese was detected at concentrations exceeding NYSDEC AWQSGVs in nine filtered groundwater samples, ranging in concentration from 482 µg/L to 632 µg/L compared to 300 µg/L (AWQSGV), with the maximum detection in monitoring well RXMW-10.
- Sodium was detected at concentrations exceeding NYSDEC AWQSGVs in 12 filtered groundwater samples, ranging in concentration from 22,000 µg/L to 206,000 µg/L compared to 20,000 µg/L, with the maximum detection in monitoring well RXMW-5.

Metals were detected at concentrations above NYSDEC PGWSCOs in soil. An evaluation of these analytes and their presence in groundwater indicates the following about groundwater quality:

- Arsenic was detected at concentrations exceeding NYSDEC PGWSCOs in six soil samples, ranging in concentration from 20.3 mg/kg to 55.7 mg/kg, with the maximum detection in soil sample RXSB-11_0-2. Arsenic was detected in three groundwater samples (filtered), ranging in concentration from 0.98 µg/L to 1.4 µg/L, with the maximum detection in groundwater sample RXMW-11, but below NYSDEC AWQSGVs.
- Barium was detected at concentrations exceeding NYSDEC PGWSCOs in one soil sample (RXSB-16_1-3) at a concentration 855 mg/kg compared to 820 mg/kg. Barium was detected in all 15 groundwater samples (filtered), ranging in concentration from 51.8 µg/L to 110 µg/L, with the maximum detection in groundwater sample RXMW-1, but below NYSDEC AWQSGVs.
- Copper was detected at concentrations exceeding NYSDEC PGWSCOs in 2 soil samples, ranging in concentration from 2,100 mg/kg to 4,840 mg/kg, with the maximum detection in soil sample RXSB-16_1-3. Copper was not detected in groundwater samples (filtered) above laboratory reporting limit, which is below the NYSDEC AWQSGVs).
- Lead was detected at a concentration exceeding NYSDEC PGWSCOs in five soil samples, ranging in concentration from 481 mg/kg to 4,410 mg/kg, with the maximum detection in soil sample RXSB-16_1-3. Lead was detected in two groundwater samples (filtered), at a concentration of 0.47 µg/L (MW-1) and 2.2 µg/L (RXMW-1), but below NYSDEC AWQSGVs.
- Zinc was detected at a concentration exceeding NYSDEC PGWSCOs in seven soil sample, ranging in concentration from 2,920 mg/kg to 36,000 mg/kg, with the maximum detection from soil sample RXSB-16_1-3). Zinc was detected in two groundwater samples, at a concentration of 10.2 µg/L RXMW-4 Duplicate and 15.1 µg/L (RXMW-8), but below NYSDEC AWQSGVs.

4.4.2.4 Polychlorinated Biphenyls in Groundwater

Table 11 presents a summary of PCB analytical data collected during the RI. As shown, PCBs were not detected above laboratory reporting limit in any groundwater sample collected during the RI.

4.4.2.5 Pesticides and Herbicides in Groundwater

Table 12 presents a summary of pesticide and herbicide analytical data collected during the RI. As shown, pesticides and herbicides were not detected above laboratory reporting limit in any groundwater sample collected during the RI.

Aldrin was detected in the field blank sample (FB-062118) collected on June 21, 2018, at a concentration of 0.044 µg/L, exceeding NYSDEC AWQSGV (0.002 µg/L). However, this detection is anomalous as Aldrin was not detected in any soil sample or groundwater sample during the RI.

4.4.2.6 PFAS in Groundwater

Table 13 presents a summary of PFAS analytical data collected during the RI. As shown, a total of 13 PFAS were detected in groundwater. There are currently no NYSDEC groundwater standards for PFAS. A sample preparation data entry error was discovered by TestAmerica, which resulted in the reporting of high-biased results for PFAS analysis for sample RXMW-7. The date proved in Table 13 and below includes the revised PFAS data for RXMW-7 provided in the analytical report dated October 19, 2018 (Appendix E). A summary of the PFAS detections in groundwater is provided in the table below:

Parameter (ng/L)	RXMW-2	RXMW-4	RXMW-4 (DUP)	RXMW-7
8:2-FTS	0.69	ND	ND	ND
PFBA	19.3	54.5	47	35.1
PFBS	2.2	5.05	5.76	2.31
PFDA	0.38	ND	0.37	0.52
PFHpA	2.38	15.7	17.7	10.1
PFHpS	ND	5.01	ND	ND
PFHxA	2.29	18	17.4	12.0
PFHxS	3.03	15	15	7.38
PFNA	1.44	1.96	1.32	3.01
PFOA	12.3	64.9	65.6	19.9
PFOS	10.9	28.2	28.2	28.3
PFPeA	4.4	24.1	25.5	23.7
PFUnA	0.25	ND	ND	0.31
PFOA+PFOS	23.2	93.1	93.8	48.2

ng/L – Nanograms per Liter

ND - Not Detected

DUP - Duplicate Sample

- 8:2-FTS was detected in one groundwater sample at a concentration of 0.69 ng/L (RXMW-2).
- PFBA was detected in all four groundwater samples at concentrations ranging from 19.3 ng/L (RXMW-2) to 35.1 ng/L (RXMW-7).
- PFBS was detected in all four groundwater samples at concentrations ranging from 2.2 ng/L (RXMW-2) to 5.76 ng/L (RXMW-4 DUP).
- PFDA was detected in three groundwater samples at concentrations ranging from 0.37 ng/L (RXMW-2) to 0.52 ng/L (RXMW-7).
- PFHpA was detected in all four groundwater samples at a concentration ranging from 2.38 ng/L (RXMW-2) to 17.7 ng/L (RXMW-4 DUP).
- PFHpS was detected in one groundwater sample at a concentration of 5.01 ng/L (RXMW-4).

- PFHxA was detected in all four groundwater samples at concentrations ranging from 2.29 ng/L (RXMW-2) to 12 ng/L (RXMW-7).
- PFHxS was detected in all four groundwater samples at concentrations ranging from 3.03 ng/L (RXMW-2) to 15 ng/L (RXMW-4/RXMW-4 DUP).
- PFNA was detected in all four groundwater samples at concentrations ranging from 1.32 ng/L (RXMW-4 DUP) to 3.01 ng/L (RXMW-7).
- PFOA was detected in all four groundwater samples at concentrations ranging from 12.3 ng/L (RXMW-2) to 64.9 ng/L (RXMW-4).
- PFOS was detected in all four groundwater samples at concentrations ranging from 10.9 ng/L (RXMW-2) to 28.3 ng/L (RXMW-7).
- PFPeA was detected in all four groundwater samples at concentrations ranging from 4.4 ng/L (RXMW-2) to 25.5 ng/L (RXMW-4).
- PFUnA was detected in two groundwater samples at a concentration of 0.25 ng/L and 0.31 ng/L in RXMW-2 and RXMW-7, respectively.

4.4.3 Product Sample Results

A product sample was collected from existing monitoring well, MW-5, for petroleum fingerprint analysis. Based on the characteristics of the gas chromatogram results for the product sample collected from MW-5, the product resembles a mixture of weathered middle distillate (i.e., diesel fuel or fuel oil) and a smaller amount of an unidentified heavy material.

4.4.4 Soil Vapor Sampling Results

A total of nine (9) soil vapor samples and four sub-slab soil vapor samples were collected and submitted for laboratory analysis as part of the RI.

Laboratory analytical data generated during the RI for soil vapor is summarized in Table 13. Soil vapor and sub-slab soil vapor monitoring point locations with soil vapor sample detections are shown on Plate 4.

A summary of soil vapor quality results is provided in the below sections. Analytical data for soil vapor VOCs indicate that there were detections of 32 different VOCs across the Site, including petroleum-related and chlorinated compounds.

VOC Detections in Soil Vapor

Analyte	Detections	Range in Concentration (µg/m³)	Sample with Maximum Detection
1,1-Dichloroethene (1,1-DCE)	1	1.6	RXSV-9
1,3-Butadiene	1	64	RXSV-14*
1,3,5-Trimethylbenzene	1	1.6	RXSV-12*
1,2,4-Trimethylbenzene	2	0.90 – 3.3	RXSV-12*
1,4-Dichlorobenzene	1	1.5	RXSV-12*
2,2,4-Trimethylpentane	4	5.1 - 3,800	RXSS-4
4-Ethyltoluene	1	1.2	RXSV-12*
N-Butane	9	8.5 - 8,500	SV-2
N-Heptane	4	1.8 - 520	RXSS-4
N-Hexane	4	4.8 - 2,500	RXSS-4
N-Propylbenzene	1	1.1	RXSV-12*
Acetone	6	23 - 630	RXSV-9
Benzene	4	1.5 - 6.0	RXSV-9
Bromodichloromethane	1	3.3	RXSV-12*
Carbon Disulfide	8	4.1 - 200	RXSV-12*
Carbon Tetrachloride	2	0.39 – 0.65	RXSV-12*
Chloroform	3	7.1 - 280	RXSV-14*
Chloromethane	1	1.2	RXSV-13*
Cumene	1	2.8	RXSV-12*
Cyclohexane	8	2.6 - 7,200	RXSS-4
Ethylbenzene	2	2.2 – 57	RXSV-12*
Freon TF	2	0.75 – 1.1	RXSV-12*
Methylene Chloride	2	1.1 – 6.4	RXSV-12*
Methyl Ethyl Ketone (2-Butanone)	7	1.9 - 110	RXSV-9
Methyl Isobutyl Ketone	1	4.3	RXSV-13*
Tert-Butyl Alcohol	3	13 - 98	RXSS-5
Tetrachloroethene (PCE)	9	4.1 - 46	RXSV-5
Toluene	7	2.9 – 150	RXSV-14*
Trichloroethene (TCE)	4	1.2 - 25	RXSS-4
Trichlorofluoromethane	2	6.4 – 33	RXSV-12*
Styrene	1	1.1	RXSV-13*
Xylene (total)	3	7.4 – 340	RXSV-12*

*- Located on Tiffany Street sidewalk

As shown above and in Table 13, approximately 60% of the maximum concentrations of VOCs detected in soil vapor were detected from soil vapor samples located on Tiffany Street sidewalk. The following four compounds are discussed because they are either contaminants of concern (COCs) at the Site (namely petroleum-related compounds) or due to their presence on the NYSDOH Guidance Soil Vapor Matrices. Matrix A provides guidance relative to 1,1-DCE, carbon tetrachloride, and TCE; and Matrix B provides guidance relative to PCE. No indoor air samples were collected as part of the RI; therefore, no direct comparison is made to the NYSDOH Matrices. A summary of the detections is described below. Additional compounds detected besides those noted below are included in Table 13.

Petroleum-Related Compounds

- Benzene was detected in four soil vapor samples, ranging in concentration from 1.5 µg/m³ and 6.0 µg/m³, with the maximum concentration detected from sample RXSV-11.
- Ethylbenzene was detected in two soil vapor samples, RXSV-12 and RXSV-13 (Located in Tiffany Street sidewalk), at a concentration of 57 µg/m³ and 2.2 µg/m³, respectively.
- Toluene was detected in six soil vapor samples and one sub-slab soil vapor sample, ranging in concentration from 2.9 µg/m³ to 150 µg/m³, with the maximum concentration detected in RXSV-14 (located in Tiffany Street sidewalk).
- Xylenes (total) were detected in three soil vapor samples, RXSV-12, RXSV-13 and RXSV-14 (all located in Tiffany Street sidewalk), at a concentration of 340 µg/m³, 7.4 µg/m³ and 32 µg/m³, respectively.
- N-Hexane was detected in three soil vapor samples and one sub-slab soil vapor sample, ranging in concentration from 4.8 µg/m³ and 2,500 µg/m³, with the maximum concentration detected in sample RXSS-4.
- 2,2,4-Trimethylpentane was detected in two soil vapor sample and two sub-slab soil vapor samples, ranging in concentration from 5.1 µg/m³ to 3,800 µg/m³, with the maximum concentration detected in sample RXSS-4.

Matrix A Compounds

- 1,1-DCE was detected in one soil vapor sample, RXSV-9, at a concentration of 1.6 µg/m³.
- Carbon Tetrachloride was detected in two soil vapor samples, RXSV-12 and RXSV-13 (located on Tiffany Street sidewalk), at a concentration of 0.56 µg/m³ and 0.39 µg/m³, respectively.
- TCE was detected in two soil vapor samples and two sub-slab soil vapor samples, ranging in concentration from 1.2 µg/m³ and 25 µg/m³, with the maximum concentration detected in sample RXSS-4.

Matrix B Compounds

- PCE was detected in nine soil vapor samples and one sub-slab soil vapor sample, ranging in concentration from 4.1 µg/m³ to 46 µg/m³, with the maximum concentration detected from sample RXSV-12 (located on Tiffany Street sidewalk).

4.4.5 Data Usability Summary and Field Duplicate Results

Data validation was performed as a thorough evaluation of analytical data to determine whether or not the data, as presented, meets the Site-specific criteria for data quality and data use. All laboratory analytical data reports are provided as Appendix E. The DUSR is provided as Appendix F. A summary of the DUSR findings is provided below.

Sample analyses were found generally compliant with the method requirements. Most of the sample data are usable as reported or with minor qualification or edit (“J” or “UJ” qualifier), with the following exceptions:

- The volatile results for RXSB-17_0-2 were rejected due to an improper sealing of the Encore container. Although rejected, it is noted that the volatile data of the field duplicate of this sample is acceptable and represents the constituency at this location.
- One volatile analyte result in one sample is rejected due to an apparent matrix effect
- Results for one SVOC analyte in eight samples are rejected due to processing
- Results for three SVOC analytes in one sample and one SVOC analyte in each of two other samples were rejected due to apparent matrix effects

- The hexavalent chromium result in one sample was rejected due to delayed request for processing

The data packages include three soils and one groundwater field duplicate samples. The field duplicate samples, their corresponding parent samples, and associated data packages are listed in the table below. The groundwater and soil samples were analyzed for VOCs, SVOCs, PCBs, pesticides, total metals, dissolved metals (for groundwater only), total cyanide, and/or hexavalent chromium (Cr6+). Results for most of the analytes were either non-detect or detected above the method detection limit but below the reporting limit; an evaluation is not required for these results. Results of the parent/field duplicate sample comparison and qualifiers applied are summarized in the table below.

Data Package	Parent Sample	Duplicate Sample	Matrix	Summary of Qualifiers Applied to Both Parent and Duplicate Samples
154594	RXSB-14_0-2	DUP042418	Soil	• “J” qualifiers to three SVOCs; • No qualifiers to VOCs, pesticides, PCBs, metals, cyanide, or Cr6+.
156801	RXSB-17_0-2	DUP05232018	Soil	• No qualifiers to VOCs, SVOCs, pesticides, PCBs, metals, cyanide, or Cr6+.
158396	RXMW-7_12-14	DUP06152018	Soil	• No qualifiers to VOCs, SVOCs, pesticides, PCBs, metals, cyanide, or Cr6+.
158869/ 158870	RXMW-4	DUP-062118	Groundwater	• “J” qualifiers to five total metals; • No qualifiers to VOCs, SVOCs, PCBs, pesticides, cyanide, or Cr6+.

5. CONCEPTUAL SITE MODEL

The following section explains the occurrence of contaminant sources and their fate and transport at the Site in the context of the local Site stratigraphy and hydrogeology.

Historical information and previous investigations indicate that historical Site use included a stone cutting yard, automobile garages, office and residential dwelling, and the Spofford Juvenile Detention facility, later renamed as Bridges Juvenile Center. Based on the soil, groundwater, and soil vapor results discussed in Section 4.2, all three media are contaminated at the Site. The spatial distribution of COCs in various media is shown in Plates 2 through 4.

As discussed in Section 4.2.1 and based on the Site-wide detections and exceedances of NYSDEC SCOs, soil at the Site is impacted with metals and some PAHs. Historical operations at the Site suggest Site soils are impacted through inadvertent releases to the subsurface (e.g., known petroleum spill and historic fill), resulting in localized hot-spots in soil (e.g., majority of metals in soil exceeding NYSDEC SCOs were detected in the northeastern courtyard, two locations in the northwestern courtyard and one location in the southeastern courtyard).

There is no potential for additional releases of petroleum products to soil since the Site is vacant, currently under redevelopment and the existing USTs have been emptied.

As discussed in Section 4.2.2 and based on the Site-wide detections and exceedances of NYSDEC AWQSGVs and the presence of separate phase product (petroleum), groundwater at the Site is impacted with metals and VOCs (ethylbenzene, isopropylbenzene, chloroform and MTBE). Groundwater was impacted at the Site through inadvertent releases to Site soils (i.e., recorded fuel oil spill), and the migration of contaminants through unconsolidated soil to Site groundwater.

As discussed in Section 4.2.3, and based on the Site-wide detections, soil vapor at the Site is impacted with VOCs. Soil vapor was impacted at the Site through inadvertent releases to Site soils. Soil vapor at the Site is impacted with petroleum-related VOCs, with the highest concentrations detected in the basement of existing building (former boiler room), where measurable separate phase product (petroleum) was detected in existing monitoring well, MW-5. CVOCs (primarily PCE and TCE) were also detected in soil vapor samples however, detections are relatively low level, with the highest PCE concentration detected in soil vapor sample RXSV-12 (located on Tiffany Street sidewalk) and the highest TCE concentration detected in sub-slab soil vapor sample RXSS-4 (located in the boiler room basement). There is potential for contaminated soil vapor to migrate from the source area into the existing on-Site building since separate phase product exists beneath the building (former boiler room) and adjacent to the building (southeast courtyard) around the existing UST pad.

6. QUALITATIVE EXPOSURE ASSESSMENT

As described in Appendix 3B of DER-10, “The overall purpose of the Qualitative Human Health Exposure Assessment (or the exposure assessment) is to evaluate and document how people might be exposed to site related contaminants, and to identify and characterize the potentially exposed population(s) now and under the reasonably anticipated future use of the site.” The following section details the Qualitative Human Health Exposure Assessment based on data collected during the RI.

6.1 Soil Exposure

As described above in Section 4.2.1, soil samples collected during the RI indicated the presence of metals and SVOCs (primarily PAHs) at concentrations above the NYSDEC UUSCOs, RRSCOs and/or PGWSCOs. Additionally, free-phase product was observed in three monitoring wells during the RI and a smear zone in soil may potentially exist in these locations. An individual could be exposed to these contaminants through direct contact with Site soil/smear zone during ground intrusive work at the Site. Direct contact without the use of proper personal protective equipment (PPE) and personal hygiene measures could lead to dermal contact and incidental ingestion of these compounds. Since the Site will be fully fenced during construction activities, which will include the sidewalk (i.e., off-Site area) along Tiffany Street, and access is controlled, potential contact with Site soil is restricted to remedial and construction contract workers at the Site performing ground intrusive activities in addition to trespassers and passersby. The general public will not be exposed to direct contact with Site soil since the Site will be fully fenced during construction and times when surficial soil will be exposed. PPE will be required during any intrusive Site work. The only potential for contaminated soil to leave the Site is by dust and mobilization of trucks for off-Site disposal of soil during construction. However, a community air monitoring program (CAMP) will be implemented during intrusive activities to minimize the potential for off-Site exposures from soil/dust leaving the Site. Also, all trucks will be fitted with covers to eliminate the potential for off-Site exposure from soil leaving the Site, and best management practices will be employed to prevent on-Site soil from being tracked out into the public right-of-way.

As described in Section 1.3, the proposed plan for Site redevelopment consists of excavation for the construction of a vibrant live-work campus featuring affordable housing, community space, open/recreational space, industrial space, and retail space. The proposed remedy to be described in the RAWP will include addressing impacted soil. Some soil impacted above SCOs and a potential smear zone may remain in-place. However, portions of the Site will be excavated to bedrock and the majority of the Site will be covered by buildings, concrete sidewalks, asphalt parking, etc., therefore, the potential for exposure by direct contact with remaining contaminated soil, including potential smear zone, if any, will be minimized for both the public and any future construction workers performing ground intrusive activities at the Site.

6.2 Groundwater Exposure

As described above in Section 4.2.2, groundwater samples collected during the RI indicated the presence of metals, and VOCs (chloroform, ethylbenzene, isopropylbenzene and MTBE) at concentrations above the NYSDEC AWQSGVs and separate phase product was observed in three groundwater monitoring wells at the Site. While not currently occurring, groundwater contamination could eventually migrate off-site. The proposed development and remediation will effectively eliminate all source areas by removing separate phase product, USTs, and source-contaminated soil, thereby eliminating continued impact to groundwater, and the potential for off-site migration to affect the existing neighboring residential, community, and commercial uses.

Furthermore, groundwater is not used for drinking or other potable purposes (the area is connected to the public water supply), and there is no direct contact with or ingestion of groundwater by the general public from existing neighboring residential, community and commercial uses. CAMP will be implemented during intrusive activities to minimize the potential for off-Site exposures from vapors potentially volatilizing from contaminated groundwater. Furthermore, no public water supply wells are located in the area surrounding the Site.

Individuals who perform intrusive work (i.e., utility construction and/or repair), perform groundwater sampling or remedial activities may come into contact with contaminated groundwater. Proper PPE and personal hygiene measures will be required to prevent dermal contact and the potential for incidental ingestion of these compounds.

The proposed on-Site buildings will be serviced by the public water supply. The proposed remedy to address contaminants in Site groundwater will be described in the RAWP. Based on this, the potential for public exposure by direct contact with contaminated groundwater will be reduced or eliminated.

6.3 Soil Vapor Exposure

As described above in Section 4.2.3, soil vapor samples collected during the RI indicated the presence of petroleum-related VOCs and CVOCs. There is a potential for vapor intrusion into newly constructed buildings and off-Site structures however, source removal as part of a remediation plan, which will be described in the RAWP, will ensure there will be neither a source nor pathways for migration. CAMP will be implemented during all intrusive activities to minimize the potential for off-Site exposure from potentially contaminated soil vapor. Also, a roaming PID will be used to monitor work safety during all invasive activities. Vapor suppression may be needed during excavations within the area of observed free-phase product accumulations (MW-3, MW-4 and MW-5). The proposed remedy to address contaminants in Site soil vapor will be described in the RAWP. Based on this, the potential for public exposure to contaminated soil vapor will be reduced or eliminated.

6.4 Exposure Assessment Summary

The following table summarizes the exposure assessment.

Environmental Media and Exposure Route	Human Exposure Assessment
Direct contact with subsurface soils (and incidental ingestion)	- Demolition, construction and remedial contractors can come into contact with soil if they complete ground intrusive work at the Site. - During remediation, remedial workers, trespassers, passersby, and utility workers could come into contact with contaminated soil contained in dust through inhalation, incidental ingestion and dermal contact. - Future exposure will be eliminated through addressing contaminated soil in the RAWP and capping of the Site by the newly constructed buildings.
Ingestion of groundwater	Contaminated groundwater is not used for drinking water, as the Site will be connected to the public water supply.

Environmental Media and Exposure Route	Human Exposure Assessment
Direct contact with groundwater (and incidental ingestion)	• Remedial workers, trespassers, and utility workers could come into contact with contaminated groundwater through dermal contact and incidental ingestion during ground intrusive work, and groundwater remediation and sampling activities. • Offsite utility workers could come into contact with contaminated groundwater through dermal contact and incidental ingestion during ground intrusive work. • Future exposure will be reduced or eliminated by addressing contaminated soil that is acting as a source of contamination to groundwater and addressing groundwater contamination in the RAWP.
Inhalation of air (exposures related to soil vapor intrusion)	• Remedial workers, trespassers, and utility workers may be exposed to contaminated soil vapor within open excavations. • Future exposure will be reduced or eliminated by addressing soil vapor contamination in the RAWP.

7. CONCLUSIONS

In summary, the data generated during the RI indicate the following about Site-wide conditions:

- Measurable separate phase product (petroleum) was detected in existing monitoring wells MW-3, MW-4 and MW-5. Based on the petroleum fingerprint analysis conducted on a product sample collected from MW-5, the separate phase product appears to be attributed to the historical fuel oil reported in 2009 (NYSDEC Spill #0812579).
- Metals were detected in soil at elevated concentrations above NYSDEC SCOs across the Site. Seven metals (arsenic, barium, beryllium, chromium, copper, lead, mercury and zinc) were detected in soil samples exceeding UUSCOs, RRSCOs and/or PGWSCOs during this RI and four metals (arsenic, copper, lead and zinc) were detected in soil samples exceeding UUSCOs, RRSCOs and/or PGWSCOs during the 2017 Phase II ESA. The majority of metals exceedances were detected in soil samples collected between the shallow 0-4 ft bls interval and are associated with historic fill. However, these metals were not detected in filtered samples groundwater samples above NYSDEC AWQSGVs. The majority of metals exceeding NYSDEC UUSCOs, RRSCOs and/or PGWSCOs were detected in soil samples collected from soil borings located in the northeast courtyard as well as two locations in the northwest courtyard and one location in the southeast courtyard, which are indicative of historic fill.
- SVOCs, primarily PAHs commonly associated with historic fill, were detected at concentrations above NYSDEC UUSCOs, RRSCOs and/or PGWSCOs at two soil boring locations at the Site. However, SVOCs were not detected in groundwater at concentrations exceeding NYSDEC AWQSGVs.
- Only one pesticide, 4,4-DDT, was detected above NYSDEC UUSCOs in shallow Site soils (within the 0-3 ft bls interval) at three locations throughout the Site. However, 4,4-DDT was not detected in groundwater.
- VOCs, including chloroform, ethylbenzene, isopropylbenzene and MTBE, were detected in groundwater above NYSDEC AWQSGVs. The petroleum-related VOCs (ethylbenzene and isopropylbenzene) are likely attributed to the historical fuel oil spill. The MTBE detection in RXMW-6 may be attributed to an off-Site source.
- Groundwater elevation at the Site ranges from approximately 53 ft NAVD88 (RXMW-10) in the northern portion of the Site to approximately 23 ft NAVD88 (RXMW-2) in the southern portion of the Site. Groundwater flow direction appear to mimic bedrock topography and the was calculated to be in an approximate southern direction towards the East River, with the exception of the central portion of the Site, immediately south and east of Wing F of the existing on-Site building (former boiler room), where groundwater flows in a southwestern to western direction beneath the building. The change in groundwater direction at this location is likely due to the removal of bedrock during building construction.
- VOCs, including petroleum-related compounds and chlorinated compounds, were detected in Site-wide soil vapor. Some of the VOC detections in soil vapor monitoring points, RXSV-12 and RXSV-13, located on Tiffany Street sidewalk, were not detected in soil vapor samples collected from on-Site locations and may be contributed to an off-Site source. The detected concentrations of petroleum-related VOCs are likely due to the presence of separate phase product and petroleum-related VOCs in soil and groundwater. The detected concentrations of CVOCs (PCE and TCE) in soil vapor may be related to low level detections on soil (PCE only) and groundwater however, there isn't a good correlation with CVOCs detected in groundwater since PCE was only detected in groundwater sample, RXMW-7 (0.25 µg/L), and TCE was only detected in groundwater sample, MW-2 (0.61 µg/L), both below the NYSDEC AWQSGVs.

As indicated above, there are metal and SVOC concentrations above NYSDEC SCOs however, based on the redevelopment places for the Site, portions of the Site will be excavated for foundation and footing installations, which will remove impacted soil. Any soil remaining on-Site will be addressed by the RAWP.

Additionally, additional delineation of separate phase product will occur as part of the remedial planning/waste characterization sampling program.

TABLES

1. Construction Details for Soil Vapor Monitoring Points
2. Groundwater Monitoring Well Gauging Data – June 22, 2018
3. Summary of Volatile Organic Compounds in Soil
4. Summary of Semivolatile Organic Compounds in Soil
5. Summary of Metals in Soil
6. Summary of Polychlorinated Biphenyl Compounds in Soil
7. Summary of Pesticides and Herbicides in Soil
8. Summary of Volatile Organic Compounds in Groundwater
9. Summary of Semivolatile Organic Compounds in Groundwater
10. Summary of Metals in Groundwater
11. Summary of Polychlorinated Biphenyl Compounds in Groundwater
12. Summary of Pesticides and Herbicides in Groundwater
13. Summary of Per- and Polyfluoroalkyl Substances in Groundwater
14. Summary of Volatile Organic Compounds in Sub-Slab and Soil Vapor

Notes Utilized Throughout Tables	
Soil Tables	
J - Estimated value	
U - Indicates that the compound was analyzed for but not detected	
D - A secondary analysis after dilution due to exceedance of the calibration range in the original sample.	
B - The analyte was found in an associated blank as well as in the sample	
V - Value altered or qualifier added during data validation	
R - Sample results rejected by validator	
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate	
NJ - Detection is tentative in identification and estimated in value	
J+ - Estimated value, high bias	
T - Indicates that a quality control parameter has exceeded laboratory limits	
N - Spike recovery exceeds upper or lower control limits	
ft bls - Feet below land surface	
FD - Duplicate sample	
NA - Compound was not analyzed for by laboratory	
mg/kg - Milligrams per kilogram	
NYSDEC - New York State Department of Environmental Conservation	
SCO - Soil Cleanup Objectives	
-- No SCO available	
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use SCO	
Shaded data indicates that parameter was detected above the NYSDEC Part 375 Restricted Residential SCO	
Red data indicates that parameter was detected above the NYSDEC Part 375 Protection of Groundwater SCO	
Groundwater Tables	
NYSDEC - New York State Department of Environmental Conservation	
AWQSGVs - Ambient Water-Quality Standards and Guidance Values	
µg/L - Micrograms per liter	
ng/L - Nanogram per liter	
J - Estimated Value	
U - Compound was analyzed for but not detected	
V - Value altered or qualifier added during data validation	
R - Sample results rejected by validator	
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate	
NJ - Detection is tentative in identification and estimated in value	
J+ - Estimated value, high bias	
FD - Duplicate	
-- No NYSDEC AWQSGV available	
NA - Compound was not analyzed for by laboratory	
Bold data indicates that parameter was detected above the NYSDEC AWQSGVs	
Soil Vapor/Ambient Air	
J - Estimated value	
U - Indicates that the compound was analyzed for but not detected	
V - Value altered or qualifier added during data validation	
UJ - Analyte was not detected. The associated reported quantitation limit is an estimate	
FD - Duplicate sample	
ug/m3 - Micrograms per cubic meter	
Bold data indicates that parameter was detected	

Table 1. Soil Vapor Monitoring Point Construction Details - 1221 Spofford Avenue, Bronx, New York

Well	Installation Date	Surface Elevation (ft NAVD88)	Sample Screen Type	Sample Screen Depth (ft bls)	Comments
RXSV-4	5/1/2018	51.00	6-inch, Stainless Steel Mess	7	Installed approximately 1-2 ft above bedrock
RXSV-5	4/27/2018	50.98	6-inch, Stainless Steel Mess	14	Installed approximately 1-2 ft above bedrock
RXSV-6	4/27/2018	51.12	6-inch, Stainless Steel Mess	9	Installed approximately 1-2 ft above bedrock
RXSV-7	5/23/2018	56.31	6-inch, Stainless Steel Mess	6	Installed approximately 1-2 ft above bedrock
RXSV-8	5/24/2018	34.80	6-inch, Stainless Steel Mess	10	Installed approximately 1-2 ft above bedrock
RXSV-9	4/26/2018	58.71	6-inch, Stainless Steel Mess	4	Installed approximately 1-2 ft above bedrock
RXSV-10	5/24/2018	56.74	6-inch, Stainless Steel Mess	4	Installed approximately 1-2 ft above bedrock
RXSV-11	4/26/2018	58.57	6-inch, Stainless Steel Mess	5.5	Installed approximately 1-2 ft above bedrock
RXSV-12	6/15/2018	33.46	6-inch, Stainless Steel Mess	7	Installed approximately 1-2 ft above bedrock
RXSV-13	6/15/2018	34.97	6-inch, Stainless Steel Mess	7	Installed approximately 1-2 ft above bedrock
RXSV-14	6/15/2018	32.15	6-inch, Stainless Steel Mess	12	Installed approximately 1-2 ft above bedrock
RXSS-2	5/30/2018	51.04	3-inch Cox Colvin Vapor Pin	SS	Installed in concrete floor slab within Wing F (former garage)
RXSS-3	5/29/2018	42.70	3-inch Cox Colvin Vapor Pin	SS	Installed in concrete floor slab within Wing F (former laundry room)
RXSS-4	5/23/2018	29.70	3-inch Cox Colvin Vapor Pin	SS	Installed in concrete floor slab within basement of Wing F (former boiler room)
RXSS-5	5/23/2018	29.83	3-inch Cox Colvin Vapor Pin	SS	Installed in concrete floor slab within basement of Wing F (former boiler room)

ft - Feet

ft bls - Feet below land surface

ft NAVD88 - Feet relative to North American Vertical Datum of 1988

SS - Sub-Slab

Table 2. Groundwater Gauging Data - 1221 Spofford Avenue, Bronx, New York

Well	Date	Measuring Point Elevation (ft NAVD88)	Depth to Product (ft bls)	Depth To Water (ft bls)	Product Thickness (ft)	Groundwater Elevation (ft NAVD88)	Comments
MW-1	6/22/2018	50.31	-	12.43	-	37.88	
MW-2	6/22/2018	50.10	-	13.55	-	36.55	
MW-3	6/22/2018	50.23	16.52	16.60	0.08	33.70	Measurable product, product observed on interface probe
MW-4	6/22/2018	50.08	18.21	18.22	0.01	31.87	Measurable product, product observed on interface probe
MW-5	6/22/2018	29.08	1.40	1.51	0.11	27.67	Measurable product, product observed on interface probe
MW-6	6/22/2018	29.18	-	1.12	-	28.06	
RXMW-1	6/22/2018	34.91	-	9.41	-	25.50	
RXMW-2	6/22/2018	32.09	-	8.35	-	23.74	
RXMW-3	6/22/2018	29.48	-	1.30	-	28.18	
RXMW-4	6/22/2018	50.48	-	21.39	-	29.09	
RXMW-5	6/22/2018	50.37	-	13.33	-	37.04	
RXMW-6	6/22/2018	50.52	-	4.00	-	46.52	
RXMW-7	6/22/2018	50.71	-	2.90	-	47.81	
RXMW-8	6/22/2018	44.01	-	13.24	-	30.77	
RXMW-9	6/22/2018	58.21	-	8.46	-	49.75	
RXMW-10	6/22/2018	58.48	-	4.98	-	53.50	
RXMW-11	6/22/2018	34.33	-	5.00	-	29.33	

ft - Feet

ft bls - Feet below land surface

ft NAVD88 - Feet relative to North American Vertical Datum of 1988

Italicized groundwater elevation data has been corrected for free-product thickness

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-1	RXMW-1	RXMW-10	RXMW-10
Sample Date:					06/14/2018	06/15/2018	04/23/2018	04/23/2018
Sample Depth (ft bls):					0 - 2	7 - 9	0 - 2	2 - 4
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0013 RV	0.0011 U	0.00094 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.026 U	0.021 U	0.019 U	0.023 U
2-Hexanone	--	--	--	MG/KG	0.0066 U	0.0054 U	0.0047 U	0.0057 U
Acetone	0.05	100	0.05	MG/KG	0.0072 UJV	0.0085 UV	0.0047 U	0.0057 U
Benzene	0.06	4.8	0.06	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Carbon Disulfide	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Chloroform	0.37	49	0.37	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-1	RXMW-1	RXMW-10	RXMW-10
Sample Date:					06/14/2018	06/15/2018	04/23/2018	04/23/2018
Sample Depth (ft bls):					0 - 2	7 - 9	0 - 2	2 - 4
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 UJV	0.0011 UJV
Ethylbenzene	1	41	1	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0066 UJV	0.0054 U	0.0047 U	0.0057 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0066 U	0.0054 U	0.0047 U	0.0057 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0066 U	0.0054 U	0.0047 U	0.0057 U
Methylcyclohexane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.0013 U	0.0011 UV	0.00094 UV	0.0011 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0013 UJV	0.0011 U	0.00094 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Toluene	0.7	100	0.7	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0013 U	0.0011 U	0.00094 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-11	RXMW-11	RXMW-2	RXMW-2
Sample Date:					4/23/2018	04/27/2018	06/15/2018	06/15/2018
Sample Depth (ft bls):					0 - 2	11 - 13	0 - 2	13 - 15
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.018 U	0.019 U	0.025 U	0.023 U
2-Hexanone	--	--	--	MG/KG	0.0044 U	0.0049 U	0.0063 U	0.0057 U
Acetone	0.05	100	0.05	MG/KG	0.0044 U	0.0064	0.027 UV	0.012 UV
Benzene	0.06	4.8	0.06	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Carbon Disulfide	--	--	--	MG/KG	0.00088 U	0.0012	0.0013 U	0.0011 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Chloroform	0.37	49	0.37	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-11	RXMW-11	RXMW-2	RXMW-2
Sample Date:					4/23/2018	04/27/2018	06/15/2018	06/15/2018
Sample Depth (ft bls):					0 - 2	11 - 13	0 - 2	13 - 15
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.00088 UJV	0.00097 UJV	0.0013 U	0.0011 U
Ethylbenzene	1	41	1	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0044 U	0.0049 U	0.0063 U	0.0057 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0044 U	0.0012 J	0.0033 J	0.0014 J
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0044 U	0.0049 U	0.0063 U	0.0057 U
Methylcyclohexane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.00088 U	0.00097 U	0.0013 UV	0.0011 UV
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Styrene	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Toluene	0.7	100	0.7	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.00088 U	0.00097 U	0.0013 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-3	RXMW-4	RXMW-4	RXMW-5
Sample Date:					05/25/2018	04/24/2018	05/01/2018	04/26/2018
Sample Depth (ft bls):					1 - 3	0 - 2	13 - 15	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.021 U	0.02 U	0.023 U	0.021 U
2-Hexanone	--	--	--	MG/KG	0.0053 U	0.0049 U	0.0058 U	0.0053 U
Acetone	0.05	100	0.05	MG/KG	0.0053 U	0.0049 U	0.0044 J	0.0053 U
Benzene	0.06	4.8	0.06	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Bromomethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Carbon Disulfide	--	--	--	MG/KG	0.00057 J	0.00099 U	0.0012 U	0.0011 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Chloroform	0.37	49	0.37	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-3	RXMW-4	RXMW-4	RXMW-5
Sample Date:					05/25/2018	04/24/2018	05/01/2018	04/26/2018
Sample Depth (ft bls):					1 - 3	0 - 2	13 - 15	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.00099 UJV	0.0012 U	0.0011 UJV
Ethylbenzene	1	41	1	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.0053 U	0.0049 U	0.0058 U	0.0053 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0024 J	0.0049 U	0.0058 U	0.0053 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0053 U	0.0049 U	0.0058 U	0.0053 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.0011 UV	0.00099 U	0.0012 U	0.00019 BJ
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.00035 J	0.00099 U	0.0012 U	0.00094 J
Toluene	0.7	100	0.7	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.00099 U	0.0012 U	0.0011 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0011 U	0.00099 U	0.0012 UJV	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-5	RXMW-6	RXMW-6	RXMW-7
Sample Date:					05/02/2018	04/25/2018	04/27/2018	06/14/2018
Sample Depth (ft bls):					12 - 14	0 - 2	9 - 11	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 UJV	0.0011 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0012 U	0.001 U	0.0011 UJV	0.0011 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.024 U	0.021 U	0.022 U	0.021 U
2-Hexanone	--	--	--	MG/KG	0.006 U	0.0051 U	0.0055 U	0.0053 U
Acetone	0.05	100	0.05	MG/KG	0.006 U	0.0051 U	0.0055 U	0.0053 U
Benzene	0.06	4.8	0.06	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Bromochloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Bromodichloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 UJV
Bromoform	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 UJV
Bromomethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Carbon Disulfide	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Chloroethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Chloroform	0.37	49	0.37	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Chloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Cyclohexane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-5	RXMW-6	RXMW-6	RXMW-7
Sample Date:					05/02/2018	04/25/2018	04/27/2018	06/14/2018
Sample Depth (ft bls):					12 - 14	0 - 2	9 - 11	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 UJV
Dichlorodifluoromethane	--	--	--	MG/KG	0.0012 UT	0.001 UJV	0.0011 UJV	0.0011 U
Ethylbenzene	1	41	1	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
m,p-Xylene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Methyl Acetate	--	--	--	MG/KG	0.006 U	0.0051 U	0.0055 U	0.0053 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.006 U	0.0051 U	0.0055 U	0.0053 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.006 U	0.0051 U	0.0055 U	0.0053 U
Methylcyclohexane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.00031 BJ	0.001 U	0.00021 BJ	0.0011 UV
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Styrene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Toluene	0.7	100	0.7	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0012 U	0.001 U	0.0011 U	0.0011 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-7	RXMW-7	RXMW-8	RXMW-8
Sample Date:					06/15/2018	06/15/2018	05/29/2018	05/29/2018
Sample Depth (ft bls):					12 - 14	12 - 14	1 - 3	9 - 11
Normal or Field Duplicate:					N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.023 U	0.023 U	0.02 U	0.018 U
2-Hexanone	--	--	--	MG/KG	0.0057 U	0.0057 U	0.0049 U	0.0045 U
Acetone	0.05	100	0.05	MG/KG	0.0087 UV	0.0057 U	0.0063 UV	0.0056 UV
Benzene	0.06	4.8	0.06	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Bromomethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Carbon Disulfide	--	--	--	MG/KG	0.00034 J	0.00031 J	0.00099 U	0.0009 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Chloroform	0.37	49	0.37	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-7	RXMW-7	RXMW-8	RXMW-8
Sample Date:					06/15/2018	06/15/2018	05/29/2018	05/29/2018
Sample Depth (ft bls):					12 - 14	12 - 14	1 - 3	9 - 11
Normal or Field Duplicate:					N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Ethylbenzene	1	41	1	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Methyl Acetate	--	--	--	MG/KG	0.0057 U	0.0057 U	0.0049 U	0.0045 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0057 U	0.0057 U	0.0049 UV	0.0045 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0057 U	0.0057 U	0.0049 U	0.0045 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.0011 UV	0.0011 UV	0.00099 UV	0.0009 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Styrene	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Toluene	0.7	100	0.7	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0011 U	0.0011 U	0.00099 U	0.0009 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-9	RXMW-9	RXSB-11
Sample Date:					04/23/2018	04/25/2018	04/23/2018
Sample Depth (ft bls):					0 - 2	5 - 7	0 - 2
Normal or Field Duplicate:					N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit			
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.00092 U	0.00094 U	0.001 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.00092 U	0.00094 U	0.001 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.00092 U	0.00094 U	0.001 U
1,2-Dichloropropane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.00092 U	0.00094 U	0.001 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.00092 U	0.00094 U	0.001 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.018 U	0.019 U	0.02 U
2-Hexanone	--	--	--	MG/KG	0.0046 U	0.0047 U	0.005 U
Acetone	0.05	100	0.05	MG/KG	0.0046 U	0.0044 J	0.005 U
Benzene	0.06	4.8	0.06	MG/KG	0.00092 U	0.00094 U	0.001 U
Bromochloromethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Bromodichloromethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Bromoform	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Bromomethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Carbon Disulfide	--	--	--	MG/KG	0.00092 U	0.00046 J	0.001 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.00092 U	0.00094 U	0.001 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.00092 U	0.00094 U	0.001 U
Chloroethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Chloroform	0.37	49	0.37	MG/KG	0.00092 U	0.00094 U	0.001 U
Chloromethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.00092 U	0.00094 U	0.001 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Cyclohexane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-9	RXMW-9	RXSB-11
Sample Date:					04/23/2018	04/25/2018	04/23/2018
Sample Depth (ft bls):					0 - 2	5 - 7	0 - 2
Normal or Field Duplicate:					N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit			
Dibromochloromethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.00092 UJV	0.00094 UJV	0.001 UJV
Ethylbenzene	1	41	1	MG/KG	0.00092 U	0.00094 U	0.001 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
m,p-Xylene	--	--	--	MG/KG	0.00092 U	0.00021 J	0.001 U
Methyl Acetate	--	--	--	MG/KG	0.0046 U	0.0047 U	0.005 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0046 U	0.0047 U	0.005 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0046 U	0.0047 U	0.005 U
Methylcyclohexane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.00092 UV	0.00094 U	0.001 UV
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.00092 U	9.5E-05 J	0.001 U
Styrene	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.00092 U	0.00094 U	0.001 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.00092 U	0.00094 U	0.001 U
Toluene	0.7	100	0.7	MG/KG	0.00092 U	0.00094 U	0.001 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.00092 U	0.00094 U	0.001 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.00092 U	0.00094 U	0.001 U
Trichlorofluoromethane	--	--	--	MG/KG	0.00092 U	0.00094 U	0.001 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.00092 U	0.00094 U	0.001 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-11	RXSB-12	RXSB-12	RXSB-13
Sample Date:					04/26/2018	04/23/2018	04/26/2018	04/24/2018
Sample Depth (ft bls):					3 - 5	0 - 2	6 - 8	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.021 U	0.019 U	0.025 U	0.023 U
2-Hexanone	--	--	--	MG/KG	0.0053 U	0.0048 U	0.0063 U	0.0058 U
Acetone	0.05	100	0.05	MG/KG	0.0053 U	0.0048 U	0.0063 U	0.0058 U
Benzene	0.06	4.8	0.06	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Bromoform	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Bromomethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Carbon Disulfide	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Chloroethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Chloroform	0.37	49	0.37	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Chloromethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-11	RXSB-12	RXSB-12	RXSB-13
Sample Date:					04/26/2018	04/23/2018	04/26/2018	04/24/2018
Sample Depth (ft bls):					3 - 5	0 - 2	6 - 8	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 UJV	0.00096 UJV	0.0013 UJV	0.0012 UJV
Ethylbenzene	1	41	1	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Methyl Acetate	--	--	--	MG/KG	0.0053 U	0.0048 U	0.0063 U	0.0058 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0053 U	0.0048 U	0.0063 U	0.0058 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0053 U	0.0048 U	0.0063 U	0.0058 U
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.00021 BJ	0.00096 U	0.00027 BJ	0.0012 U
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Styrene	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.00071 J
Toluene	0.7	100	0.7	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.00081 J
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0011 U	0.00096 U	0.0013 U	0.0012 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-13	RXSB-14	RXSB-14	RXSB-15
Sample Date:					04/26/2018	04/24/2018	04/24/2018	04/26/2018
Sample Depth (ft bls):					13 - 15	0 - 2	0 - 2	0 - 2
Normal or Field Duplicate:					N	N	FD	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,2-Dichloropropane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.021 U	0.022 U	0.021 U	0.02 U
2-Hexanone	--	--	--	MG/KG	0.0052 U	0.0054 U	0.0053 U	0.005 U
Acetone	0.05	100	0.05	MG/KG	0.0052 U	0.0054 U	0.0053 U	0.005 U
Benzene	0.06	4.8	0.06	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Bromochloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Bromodichloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Bromoform	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Bromomethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Carbon Disulfide	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Chloroethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Chloroform	0.37	49	0.37	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Chloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Cyclohexane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-13	RXSB-14	RXSB-14	RXSB-15
Sample Date:					04/26/2018	04/24/2018	04/24/2018	04/26/2018
Sample Depth (ft bls):					13 - 15	0 - 2	0 - 2	0 - 2
Normal or Field Duplicate:					N	N	FD	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.001 UJV	0.0011 UJV	0.0011 UJV	0.001 UJV
Ethylbenzene	1	41	1	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
m,p-Xylene	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Methyl Acetate	--	--	--	MG/KG	0.0052 U	0.0054 U	0.0053 U	0.005 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0052 U	0.0054 U	0.0053 U	0.005 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0052 U	0.0054 U	0.0053 U	0.005 U
Methylcyclohexane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.00018 BJ	0.0011 U	0.0011 U	0.0002 BJ
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Styrene	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Toluene	0.7	100	0.7	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Trichlorofluoromethane	--	--	--	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.001 U	0.0011 U	0.0011 U	0.001 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-15	RXSB-16	RXSB-16	RXSB-17
Sample Date:					05/01/2018	05/29/2018	05/29/2018	05/23/2018
Sample Depth (ft bls):					6 - 8	1 - 3	9 - 11	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,2-Dichloropropane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.021 U	0.02 U	0.019 U	0.03 UJV
2-Hexanone	--	--	--	MG/KG	0.0053 U	0.005 U	0.0048 U	0.0075 UJV
Acetone	0.05	100	0.05	MG/KG	0.0048 J	0.005 UV	0.006 UV	0.0079 UJV
Benzene	0.06	4.8	0.06	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Bromochloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Bromodichloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Bromoform	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Bromomethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Carbon Disulfide	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Chlorobenzene	1.1	100	1.1	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Chloroethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Chloroform	0.37	49	0.37	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Chloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Cyclohexane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-15	RXSB-16	RXSB-16	RXSB-17
Sample Date:					05/01/2018	05/29/2018	05/29/2018	05/23/2018
Sample Depth (ft bls):					6 - 8	1 - 3	9 - 11	0 - 2
Normal or Field Duplicate:					N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Dichlorodifluoromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Ethylbenzene	1	41	1	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
m,p-Xylene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Methyl Acetate	--	--	--	MG/KG	0.0053 U	0.005 U	0.0048 U	0.0075 UJV
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.0053 U	0.005 U	0.0048 U	0.0075 UJV
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.0053 U	0.005 U	0.0048 U	0.0075 UJV
Methylcyclohexane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Methylene Chloride	0.05	100	0.05	MG/KG	0.0011 U	0.001 U	0.00096 U	0.011 UJV
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Styrene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.0011 U	0.00016 J	0.00027 J	0.0015 UJV
Toluene	0.7	100	0.7	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Trichlorofluoromethane	--	--	--	MG/KG	0.0011 U	0.001 U	0.00096 U	0.0015 UJV
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0011 UJV	0.001 U	0.00096 U	0.0015 UJV

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-17	RXSB-17	RXTGW-12	RXTGW-12
Sample Date:					05/23/2018	05/23/2018	05/24/2018	05/24/2018
Sample Depth (ft bls):					0 - 2	5 - 7	0 - 2	4 - 6
Normal or Field Duplicate:					FD	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,1,1-Trichloroethane (TCA)	0.68	100	0.68	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,1,2,2-Tetrachloroethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,1,2-Trichloroethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,1-Dichloroethane	0.27	26	0.27	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,1-Dichloroethene	0.33	100	0.33	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2,3-Trichlorobenzene	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2,4-Trichlorobenzene	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2-Dibromo-3-Chloropropane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2-Dichlorobenzene	1.1	100	1.1	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2-Dichloroethane	0.02	3.1	0.02	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,2-Dichloropropane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,3-Dichlorobenzene	2.4	49	2.4	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
1,4-Dichlorobenzene	1.8	13	1.8	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 UJV
1,4-Dioxane (P-Dioxane)	0.1	13	0.1	MG/KG	0.047 U	0.019 U	0.016 U	0.017 U
2-Hexanone	--	--	--	MG/KG	0.012 U	0.0049 U	0.0039 U	0.0042 U
Acetone	0.05	100	0.05	MG/KG	0.012 U	0.0049 U	0.0045 UV	0.0042 U
Benzene	0.06	4.8	0.06	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Bromochloromethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Bromodichloromethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Bromoform	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Bromomethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Carbon Disulfide	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Carbon Tetrachloride	0.76	2.4	0.76	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Chlorobenzene	1.1	100	1.1	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Chloroethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Chloroform	0.37	49	0.37	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Chloromethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Cis-1,2-Dichloroethylene	0.25	100	0.25	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Cis-1,3-Dichloropropene	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Cyclohexane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U

Table 3. Summary of Volatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-17	RXSB-17	RXTGW-12	RXTGW-12
Sample Date:					05/23/2018	05/23/2018	05/24/2018	05/24/2018
Sample Depth (ft bls):					0 - 2	5 - 7	0 - 2	4 - 6
Normal or Field Duplicate:					FD	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Dibromochloromethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Dichlorodifluoromethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Ethylbenzene	1	41	1	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Isopropylbenzene (Cumene)	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
m,p-Xylene	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Methyl Acetate	--	--	--	MG/KG	0.012 U	0.0049 U	0.0039 U	0.0042 U
Methyl Ethyl Ketone (2-Butanone)	0.12	100	0.12	MG/KG	0.012 U	0.0049 U	0.0039 U	0.0042 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	--	--	MG/KG	0.012 U	0.0049 U	0.0039 U	0.0042 U
Methylcyclohexane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Methylene Chloride	0.05	100	0.05	MG/KG	0.016 B	0.0024 UV	0.0099 UV	0.00083 UV
O-Xylene (1,2-Dimethylbenzene)	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Styrene	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Tert-Butyl Methyl Ether	0.93	100	0.93	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Tetrachloroethylene (PCE)	1.3	19	1.3	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Toluene	0.7	100	0.7	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Trans-1,2-Dichloroethene	0.19	100	0.19	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Trans-1,3-Dichloropropene	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Trichloroethylene (TCE)	0.47	21	0.47	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Trichlorofluoromethane	--	--	--	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U
Vinyl Chloride	0.02	0.9	0.02	MG/KG	0.0023 U	0.00097 U	0.00078 U	0.00083 U

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-1	RXMW-1	RXMW-10	RXMW-10
					Sample Date:	06/14/2018	06/15/2018	04/23/2018	04/23/2018
					Sample Depth (ft bls):	0 - 2	7 - 9	0 - 2	2 - 4
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.16 UJV	0.14 U	0.15 U	0.15 U	
2,4-Dichlorophenol	--	--	--	MG/KG	0.16 UJV	0.14 U	0.15 U	0.15 U	
2,4-Dimethylphenol	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2,4-Dinitrophenol	--	--	--	MG/KG	0.31 RV	0.29 U	0.3 U	0.3 U	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.078 UJV	0.072 U	0.076 U	0.075 U	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.078 UJV	0.072 U	0.076 U	0.075 U	
2-Chloronaphthalene	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2-Chlorophenol	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2-Methylnaphthalene	--	--	--	MG/KG	0.038 JV	0.35 U	0.38 U	0.036 J	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2-Nitroaniline	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
2-Nitrophenol	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.16 UJV	0.14 U	0.15 U	0.15 U	
3-Nitroaniline	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.31 RV	0.29 U	0.3 U	0.3 U	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4-Chloroaniline	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4-Nitroaniline	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
4-Nitrophenol	--	--	--	MG/KG	0.78 UJV	0.72 U	0.76 U	0.75 U	
Acenaphthene	20	100	98	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Acenaphthylene	100	100	107	MG/KG	0.054 JV	0.35 U	0.38 U	0.37 U	
Acetophenone	--	--	--	MG/KG	0.011 JV	0.35 U	0.38 U	0.37 U	
Anthracene	100	100	1000	MG/KG	0.013 JV	0.35 U	0.38 U	0.023 J	
Atrazine	--	--	--	MG/KG	0.16 UJV	0.14 U	0.15 U	0.15 U	
Benzaldehyde	--	--	--	MG/KG	0.019 JV	0.35 U	0.38 U	0.37 U	
Benzo(A)Anthracene	1	1	1	MG/KG	0.1 JV	0.035 U	0.052	0.095	
Benzo(A)Pyrene	1	1	22	MG/KG	0.076 JV	0.035 U	0.051	0.12	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.14 JV	0.035 U	0.067	0.23	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-1	RXMW-1	RXMW-10	RXMW-10
					Sample Date:	06/14/2018	06/15/2018	04/23/2018	04/23/2018
					Sample Depth (ft bls):	0 - 2	7 - 9	0 - 2	2 - 4
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.051 JV	0.35 U	0.022 J	0.12 J	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.054 JV	0.035 U	0.024 J	0.08	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.039 UJV	0.035 U	0.038 U	0.037 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.22 JV	0.022 J	0.38 U	0.37 U	
Caprolactam	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Carbazole	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Chrysene	1	3.9	1	MG/KG	0.11 JV	0.35 U	0.053 J	0.12 J	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.018 JV	0.035 U	0.038 U	0.047	
Dibenzofuran	7	59	210	MG/KG	0.011 JV	0.35 U	0.38 U	0.37 U	
Diethyl Phthalate	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Fluoranthene	100	100	1000	MG/KG	0.15 JV	0.35 U	0.078 J	0.17 J	
Fluorene	30	100	386	MG/KG	0.01 JV	0.35 U	0.38 U	0.37 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.039 UJV	0.035 U	0.038 U	0.037 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.078 UJV	0.072 U	0.076 U	0.075 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.39 RV	0.35 U	0.38 U	0.37 U	
Hexachloroethane	--	--	--	MG/KG	0.039 UJV	0.035 U	0.038 U	0.037 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.047 JV	0.035 U	0.029 J	0.12	
Isophorone	--	--	--	MG/KG	0.16 UJV	0.14 U	0.15 U	0.15 U	
Naphthalene	12	100	12	MG/KG	0.087 JV	0.35 U	0.38 U	0.08 J	
Nitrobenzene	--	--	--	MG/KG	0.039 UJV	0.035 U	0.038 U	0.037 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.039 UJV	0.035 U	0.038 U	0.037 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.31 UJV	0.29 U	0.3 U	0.3 U	
Phenanthrene	100	100	1000	MG/KG	0.085 JV	0.35 U	0.035 J	0.085 J	
Phenol	0.33	100	0.33	MG/KG	0.39 UJV	0.35 U	0.38 U	0.37 U	
Pyrene	100	100	1000	MG/KG	0.22 JV	0.35 U	0.079 J	0.16 J	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-11	RXMW-11	RXMW-2	RXMW-2
					Sample Date:	04/23/2018	04/27/2018	06/15/2018	06/15/2018
					Sample Depth (ft bls):	0 - 2	11 - 13	0 - 2	13 - 15
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.15 U	
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.15 U	
2,4-Dimethylphenol	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2,4-Dinitrophenol	--	--	--	MG/KG	0.28 U	0.29 U	0.29 U	0.29 U	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.071 U	0.072 U	0.074 U	0.073 U	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.071 U	0.072 U	0.074 U	0.073 U	
2-Chloronaphthalene	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2-Chlorophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2-Methylnaphthalene	--	--	--	MG/KG	0.35 U	0.35 U	0.028 J	0.014 J	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2-Nitroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
2-Nitrophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.15 U	
3-Nitroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.28 U	0.29 U	0.29 U	0.29 U	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4-Chloroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4-Nitroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
4-Nitrophenol	--	--	--	MG/KG	0.71 U	0.72 U	0.74 U	0.73 U	
Acenaphthene	20	100	98	MG/KG	0.35 U	0.35 U	0.11 J	0.36 U	
Acenaphthylene	100	100	107	MG/KG	0.35 U	0.35 U	0.0089 J	0.36 U	
Acetophenone	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Anthracene	100	100	1000	MG/KG	0.35 U	0.35 U	0.11 J	0.36 U	
Atrazine	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.15 U	
Benzaldehyde	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Benzo(A)Anthracene	1	1	1	MG/KG	0.035 U	0.035 U	0.35	0.036 U	
Benzo(A)Pyrene	1	1	22	MG/KG	0.017 JV	0.035 U	0.3	0.036 U	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.028 JV	0.035 U	0.41	0.036 U	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-11	RXMW-11	RXMW-2	RXMW-2
					Sample Date:	04/23/2018	04/27/2018	06/15/2018	06/15/2018
					Sample Depth (ft bls):	0 - 2	11 - 13	0 - 2	13 - 15
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.35 UJV	0.35 U	0.14 J	0.36 U	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.014 JV	0.035 U	0.18	0.036 U	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.035 U	0.035 U	0.037 U	0.036 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.46	0.36 U	
Caprolactam	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Carbazole	--	--	--	MG/KG	0.35 U	0.35 U	0.071 J	0.36 U	
Chrysene	1	3.9	1	MG/KG	0.35 U	0.35 U	0.34 J	0.36 U	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.035 UJV	0.035 U	0.046	0.036 U	
Dibenzofuran	7	59	210	MG/KG	0.35 U	0.35 U	0.038 J	0.36 U	
Diethyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.12 JV	0.35 U	0.37 U	0.36 U	
Fluoranthene	100	100	1000	MG/KG	0.011 J	0.35 U	0.68	0.36 U	
Fluorene	30	100	386	MG/KG	0.35 U	0.35 U	0.061 J	0.36 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.035 U	0.035 U	0.037 U	0.036 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.071 U	0.072 U	0.074 U	0.073 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Hexachloroethane	--	--	--	MG/KG	0.035 U	0.035 U	0.037 U	0.036 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.035 UJV	0.035 U	0.18	0.036 U	
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.15 U	
Naphthalene	12	100	12	MG/KG	0.35 U	0.35 U	0.07 J	0.038 J	
Nitrobenzene	--	--	--	MG/KG	0.035 U	0.035 U	0.037 U	0.036 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.035 U	0.035 U	0.037 U	0.036 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.28 U	0.29 U	0.29 U	0.29 U	
Phenanthrene	100	100	1000	MG/KG	0.35 U	0.35 U	0.6	0.36 U	
Phenol	0.33	100	0.33	MG/KG	0.35 U	0.35 U	0.37 U	0.36 U	
Pyrene	100	100	1000	MG/KG	0.35 U	0.35 U	0.71	0.36 U	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-3	RXMW-4	RXMW-4	RXMW-5
					Sample Date:	05/25/2018	04/24/2018	05/01/2018	04/26/2018
					Sample Depth (ft bls):	1 - 3	0 - 2	13 - 15	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.16 U	0.14 U	0.15 U	0.15 U	
2,4-Dichlorophenol	--	--	--	MG/KG	0.16 U	0.14 U	0.15 U	0.15 U	
2,4-Dimethylphenol	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2,4-Dinitrophenol	--	--	--	MG/KG	0.31 U	0.29 U	0.29 U	0.3 U	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.079 U	0.073 U	0.073 U	0.075 U	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.079 U	0.073 U	0.073 U	0.075 U	
2-Chloronaphthalene	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2-Chlorophenol	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2-Methylnaphthalene	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2-Nitroaniline	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
2-Nitrophenol	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.16 U	0.14 U	0.15 U	0.15 U	
3-Nitroaniline	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.31 U	0.29 U	0.29 U	0.3 U	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
4-Chloroaniline	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.39 UJV	0.36 U	0.36 U	0.37 U	
4-Nitroaniline	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
4-Nitrophenol	--	--	--	MG/KG	0.79 U	0.73 U	0.73 U	0.75 U	
Acenaphthene	20	100	98	MG/KG	0.39 U	0.36 U	0.36 U	0.056 J	
Acenaphthylene	100	100	107	MG/KG	0.39 U	0.36 U	0.36 U	0.056 J	
Acetophenone	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Anthracene	100	100	1000	MG/KG	0.39 U	0.36 U	0.36 U	0.16 J	
Atrazine	--	--	--	MG/KG	0.16 U	0.14 UT	0.15 UJV	0.15 U	
Benzaldehyde	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Benzo(A)Anthracene	1	1	1	MG/KG	0.07	0.078	0.036 U	0.67	
Benzo(A)Pyrene	1	1	22	MG/KG	0.063	0.09	0.036 U	0.7	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.079	0.11	0.036 U	0.89	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-3	RXMW-4	RXMW-4	RXMW-5
					Sample Date:	05/25/2018	04/24/2018	05/01/2018	04/26/2018
					Sample Depth (ft bls):	1 - 3	0 - 2	13 - 15	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.04 J	0.049 J	0.36 U	0.37	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.036 J	0.042	0.036 U	0.39	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.2 J	0.36 U	0.36 U	0.37 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.29 J	0.36 U	0.36 U	0.37 U	
Caprolactam	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Carbazole	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.046 J	
Chrysene	1	3.9	1	MG/KG	0.058 J	0.095 J	0.36 U	0.75	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.039 U	0.019 J	0.036 U	0.11	
Dibenzofuran	7	59	210	MG/KG	0.39 U	0.36 U	0.36 U	0.022 J	
Diethyl Phthalate	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Fluoranthene	100	100	1000	MG/KG	0.11 J	0.12 J	0.36 U	1	
Fluorene	30	100	386	MG/KG	0.39 U	0.36 U	0.36 U	0.056 J	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.079 U	0.073 U	0.073 U	0.075 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Hexachloroethane	--	--	--	MG/KG	0.039 U	0.036 U	0.036 UJV	0.037 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.038 J	0.056	0.036 U	0.52	
Isophorone	--	--	--	MG/KG	0.16 U	0.14 U	0.15 U	0.15 U	
Naphthalene	12	100	12	MG/KG	0.39 U	0.014 J	0.36 U	0.37 U	
Nitrobenzene	--	--	--	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.31 U	0.29 U	0.29 U	0.3 U	
Phenanthrene	100	100	1000	MG/KG	0.023 J	0.033 J	0.36 U	0.61	
Phenol	0.33	100	0.33	MG/KG	0.39 U	0.36 U	0.36 U	0.37 U	
Pyrene	100	100	1000	MG/KG	0.14 J	0.13 J	0.36 U	1.1	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-5	RXMW-6	RXMW-6	RXMW-7
					Sample Date:	05/02/2018	04/25/2018	04/27/2018	06/14/2018
					Sample Depth (ft bls):	12 - 14	0 - 2	9 - 11	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.29 U	0.29 U	0.29 RV	0.3 U	0.3 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.073 U	0.072 U	0.074 U	0.075 U	0.075 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.073 U	0.072 U	0.074 U	0.075 U	0.075 U
2-Chloronaphthalene	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2-Chlorophenol	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2-Methylnaphthalene	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.0086 J
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2-Nitroaniline	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
2-Nitrophenol	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.29 U	0.29 U	0.29 UJV	0.3 U	0.3 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4-Chloroaniline	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4-Nitroaniline	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
4-Nitrophenol	--	--	--	MG/KG	0.73 U	0.72 U	0.74 U	0.75 U	0.75 U
Acenaphthene	20	100	98	MG/KG	0.36 U	0.035 J	0.36 U	0.36 U	0.051 J
Acenaphthylene	100	100	107	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
Acetophenone	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
Anthracene	100	100	1000	MG/KG	0.36 U	0.058 J	0.36 U	0.36 U	0.065 J
Atrazine	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.36 U	0.37 U
Benzo(A)Anthracene	1	1	1	MG/KG	0.036 U	0.14	0.036 U	0.036 U	0.25
Benzo(A)Pyrene	1	1	22	MG/KG	0.036 U	0.12	0.036 U	0.036 U	0.21
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.036 U	0.15	0.036 U	0.036 U	0.29

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-5	RXMW-6	RXMW-6	RXMW-7
					Sample Date:	05/02/2018	04/25/2018	04/27/2018	06/14/2018
					Sample Depth (ft bls):	12 - 14	0 - 2	9 - 11	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.36 U	0.059 J	0.36 U	0.11 J	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.036 U	0.058	0.036 U	0.12	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.036 U	0.036 U	0.036 U	0.037 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Caprolactam	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Carbazole	--	--	--	MG/KG	0.36 U	0.024 J	0.36 U	0.038 J	
Chrysene	1	3.9	1	MG/KG	0.36 U	0.13 J	0.36 U	0.23 J	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.036 U	0.027 J	0.036 U	0.039	
Dibenzofuran	7	59	210	MG/KG	0.36 U	0.012 J	0.36 U	0.37 U	
Diethyl Phthalate	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Fluoranthene	100	100	1000	MG/KG	0.36 U	0.26 J	0.36 U	0.52	
Fluorene	30	100	386	MG/KG	0.36 U	0.025 J	0.36 U	0.029 J	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.036 U	0.036 U	0.036 U	0.037 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.073 U	0.072 U	0.074 U	0.075 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Hexachloroethane	--	--	--	MG/KG	0.036 U	0.036 U	0.036 UJV	0.037 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.036 U	0.061	0.036 U	0.14	
Isophorone	--	--	--	MG/KG	0.15 U	0.14 U	0.15 U	0.15 U	
Naphthalene	12	100	12	MG/KG	0.36 U	0.36 U	0.36 U	0.024 J	
Nitrobenzene	--	--	--	MG/KG	0.036 U	0.036 U	0.036 U	0.037 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.036 U	0.036 U	0.036 U	0.037 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.29 U	0.29 U	0.29 U	0.3 U	
Phenanthrene	100	100	1000	MG/KG	0.36 U	0.23 J	0.36 U	0.32 J	
Phenol	0.33	100	0.33	MG/KG	0.36 U	0.36 U	0.36 U	0.37 U	
Pyrene	100	100	1000	MG/KG	0.36 U	0.25 J	0.0092 J	0.43	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-7	RXMW-7	RXMW-8	RXMW-8
					Sample Date:	06/15/2018	06/15/2018	05/29/2018	05/29/2018
					Sample Depth (ft bls):	12 - 14	12 - 14	1 - 3	9 - 11
					Normal or Field Duplicate:	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.31 U	0.31 U	0.29 UJV	0.29 UJV	0.29 UJV
2,4-Dinitrotoluene	--	--	--	MG/KG	0.078 U	0.078 U	0.073 U	0.074 U	0.074 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.078 U	0.078 U	0.073 U	0.074 U	0.074 U
2-Chloronaphthalene	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2-Chlorophenol	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2-Methylnaphthalene	--	--	--	MG/KG	0.014 J	0.39 U	0.36 U	0.36 U	0.36 U
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2-Nitroaniline	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
2-Nitrophenol	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U
3-Nitroaniline	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.31 U	0.31 U	0.29 UJV	0.29 UJV	0.29 UJV
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
4-Chloroaniline	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.38 U	0.39 U	0.36 U	0.011 J	0.011 J
4-Nitroaniline	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
4-Nitrophenol	--	--	--	MG/KG	0.78 U	0.78 U	0.73 U	0.74 U	0.74 U
Acenaphthene	20	100	98	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
Acenaphthylene	100	100	107	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
Acetophenone	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
Anthracene	100	100	1000	MG/KG	0.38 U	0.39 U	0.039 J	0.36 U	0.36 U
Atrazine	--	--	--	MG/KG	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U
Benzaldehyde	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	0.36 U
Benzo(A)Anthracene	1	1	1	MG/KG	0.038 U	0.039 U	0.2	0.031 J	0.031 J
Benzo(A)Pyrene	1	1	22	MG/KG	0.038 U	0.039 U	0.19	0.023 J	0.023 J
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.038 U	0.039 U	0.26	0.034 J	0.034 J

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-7	RXMW-7	RXMW-8	RXMW-8
					Sample Date:	06/15/2018	06/15/2018	05/29/2018	05/29/2018
					Sample Depth (ft bls):	12 - 14	12 - 14	1 - 3	9 - 11
					Normal or Field Duplicate:	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.38 U	0.39 U	0.15 J	0.36 U	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.038 U	0.039 U	0.095	0.0096 J	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.039 J	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.038 U	0.039 U	0.036 U	0.036 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.3 J	
Caprolactam	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Carbazole	--	--	--	MG/KG	0.38 U	0.39 U	0.029 J	0.36 U	
Chrysene	1	3.9	1	MG/KG	0.38 U	0.39 U	0.19 J	0.021 J	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.038 U	0.039 U	0.031 J	0.036 U	
Dibenzofuran	7	59	210	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Diethyl Phthalate	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Fluoranthene	100	100	1000	MG/KG	0.38 U	0.39 U	0.37	0.045 J	
Fluorene	30	100	386	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.038 U	0.039 U	0.036 U	0.036 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.078 U	0.078 U	0.073 U	0.074 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Hexachloroethane	--	--	--	MG/KG	0.038 U	0.039 U	0.036 U	0.036 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.038 U	0.039 U	0.15	0.019 J	
Isophorone	--	--	--	MG/KG	0.15 U	0.16 U	0.15 U	0.15 U	
Naphthalene	12	100	12	MG/KG	0.03 J	0.39 U	0.36 U	0.36 U	
Nitrobenzene	--	--	--	MG/KG	0.038 U	0.039 U	0.036 U	0.036 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.038 U	0.039 U	0.036 U	0.036 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.31 U	0.31 U	0.29 U	0.29 U	
Phenanthrene	100	100	1000	MG/KG	0.38 U	0.39 U	0.2 J	0.032 J	
Phenol	0.33	100	0.33	MG/KG	0.38 U	0.39 U	0.36 U	0.36 U	
Pyrene	100	100	1000	MG/KG	0.38 U	0.39 U	0.3 J	0.36 U	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-9	RXMW-9	RXSB-11	RXSB-11
					Sample Date:	04/23/2018	04/25/2018	04/23/2018	04/26/2018
					Sample Depth (ft bls):	0 - 2	5 - 7	0 - 2	3 - 5
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U
2,4-Dimethylphenol	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2,4-Dinitrophenol	--	--	--	MG/KG	0.3 U	0.29 U	0.28 U	0.29 U	0.29 U
2,4-Dinitrotoluene	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.072 U
2,6-Dinitrotoluene	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.072 U
2-Chloronaphthalene	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2-Chlorophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2-Methylnaphthalene	--	--	--	MG/KG	0.37 U	0.36 U	0.035 J	0.36 U	0.36 U
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2-Nitroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
2-Nitrophenol	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U
3-Nitroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.3 U	0.29 U	0.28 U	0.29 U	0.29 U
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4-Chloroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4-Nitroaniline	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
4-Nitrophenol	--	--	--	MG/KG	0.75 U	0.73 U	0.71 U	0.72 U	0.72 U
Acenaphthene	20	100	98	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
Acenaphthylene	100	100	107	MG/KG	0.37 U	0.36 U	0.068 J	0.36 U	0.36 U
Acetophenone	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
Anthracene	100	100	1000	MG/KG	0.37 U	0.36 U	0.06 J	0.36 U	0.36 U
Atrazine	--	--	--	MG/KG	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U
Benzaldehyde	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	0.36 U
Benzo(A)Anthracene	1	1	1	MG/KG	0.028 J	0.036 U	0.061	0.036 U	0.036 U
Benzo(A)Pyrene	1	1	22	MG/KG	0.022 J	0.036 U	0.1	0.036 U	0.036 U
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.027 J	0.012 J	0.15	0.036 U	0.036 U

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-9	RXMW-9	RXSB-11	RXSB-11
					Sample Date:	04/23/2018	04/25/2018	04/23/2018	04/26/2018
					Sample Depth (ft bls):	0 - 2	5 - 7	0 - 2	3 - 5
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.37 U	0.36 U	0.062 J	0.36 U	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.037 U	0.036 U	0.051	0.036 U	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Caprolactam	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Carbazole	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Chrysene	1	3.9	1	MG/KG	0.021 J	0.011 J	0.06 J	0.36 U	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.037 U	0.036 U	0.019 J	0.036 U	
Dibenzofuran	7	59	210	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Diethyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Fluoranthene	100	100	1000	MG/KG	0.027 J	0.015 J	0.081 J	0.36 U	
Fluorene	30	100	386	MG/KG	0.37 U	0.36 U	0.02 J	0.36 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Hexachloroethane	--	--	--	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.016 J	0.036 U	0.077	0.036 U	
Isophorone	--	--	--	MG/KG	0.15 U	0.15 U	0.14 U	0.14 U	
Naphthalene	12	100	12	MG/KG	0.37 U	0.36 U	0.061 J	0.36 U	
Nitrobenzene	--	--	--	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.3 U	0.29 U	0.28 U	0.29 U	
Phenanthrene	100	100	1000	MG/KG	0.37 U	0.36 U	0.052 J	0.36 U	
Phenol	0.33	100	0.33	MG/KG	0.37 U	0.36 U	0.35 U	0.36 U	
Pyrene	100	100	1000	MG/KG	0.032 J	0.019 J	0.079 J	0.36 U	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-12	RXSB-12	RXSB-13	RXSB-13
					Sample Date:	04/23/2018	04/26/2018	04/24/2018	04/26/2018
					Sample Depth (ft bls):	0 - 2	6 - 8	0 - 2	13 - 15
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.15 U	0.16 U	0.15 U	
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.15 U	0.16 U	0.15 U	
2,4-Dimethylphenol	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2,4-Dinitrophenol	--	--	--	MG/KG	0.29 U	0.31 U	0.32 U	0.29 U	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.073 U	0.077 U	0.079 U	0.074 U	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.073 U	0.077 U	0.079 U	0.074 U	
2-Chloronaphthalene	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2-Chlorophenol	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2-Methylnaphthalene	--	--	--	MG/KG	0.36 U	0.38 U	0.045 J	0.36 U	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2-Nitroaniline	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
2-Nitrophenol	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.15 U	0.16 U	0.15 U	
3-Nitroaniline	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.29 U	0.31 U	0.32 U	0.29 U	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4-Chloroaniline	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4-Nitroaniline	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
4-Nitrophenol	--	--	--	MG/KG	0.73 U	0.77 U	0.79 U	0.74 U	
Acenaphthene	20	100	98	MG/KG	0.36 U	0.38 U	0.11 J	0.36 U	
Acenaphthylene	100	100	107	MG/KG	0.36 U	0.38 U	0.11 J	0.36 U	
Acetophenone	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Anthracene	100	100	1000	MG/KG	0.36 U	0.38 U	0.29 J	0.36 U	
Atrazine	--	--	--	MG/KG	0.14 U	0.15 U	0.16 UJV	0.15 U	
Benzaldehyde	--	--	--	MG/KG	0.36 U	0.38 U	0.019 J	0.36 U	
Benzo(A)Anthracene	1	1	1	MG/KG	0.036 U	0.038 U	1.2	0.036 U	
Benzo(A)Pyrene	1	1	22	MG/KG	0.036 U	0.038 U	1.3	0.036 U	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.036 U	0.038 U	1.7	0.036 U	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-12	RXSB-12	RXSB-13	RXSB-13
					Sample Date:	04/23/2018	04/26/2018	04/24/2018	04/26/2018
					Sample Depth (ft bls):	0 - 2	6 - 8	0 - 2	13 - 15
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.36 U	0.38 U	0.79	0.36 U	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.036 U	0.038 U	0.65	0.036 U	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.036 U	0.038 U	0.039 U	0.036 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Caprolactam	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Carbazole	--	--	--	MG/KG	0.36 U	0.38 U	0.12 J	0.36 U	
Chrysene	1	3.9	1	MG/KG	0.36 U	0.38 U	1.3	0.36 U	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.036 U	0.038 U	0.23	0.036 U	
Dibenzofuran	7	59	210	MG/KG	0.36 U	0.38 U	0.069 J	0.36 U	
Diethyl Phthalate	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Fluoranthene	100	100	1000	MG/KG	0.36 U	0.38 U	2.3	0.36 U	
Fluorene	30	100	386	MG/KG	0.36 U	0.38 U	0.086 J	0.36 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.036 U	0.038 U	0.039 U	0.036 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.073 U	0.077 U	0.079 U	0.074 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Hexachloroethane	--	--	--	MG/KG	0.036 U	0.038 U	0.039 U	0.036 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.036 U	0.038 U	0.78	0.036 U	
Isophorone	--	--	--	MG/KG	0.14 U	0.15 U	0.16 U	0.15 U	
Naphthalene	12	100	12	MG/KG	0.36 U	0.38 U	0.12 J	0.36 U	
Nitrobenzene	--	--	--	MG/KG	0.036 U	0.038 U	0.039 U	0.036 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.036 U	0.038 U	0.039 U	0.036 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.29 U	0.31 U	0.32 U	0.29 U	
Phenanthrene	100	100	1000	MG/KG	0.36 U	0.38 U	1.1	0.36 U	
Phenol	0.33	100	0.33	MG/KG	0.36 U	0.38 U	0.39 U	0.36 U	
Pyrene	100	100	1000	MG/KG	0.36 U	0.38 U	2.2	0.36 U	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-14	RXSB-14	RXSB-15	RXSB-15
					Sample Date:	04/24/2018	04/24/2018	04/26/2018	05/01/2018
					Sample Depth (ft bls):	0 - 2	0 - 2	0 - 2	6 - 8
					Normal or Field Duplicate:	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.13 U	
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.13 U	
2,4-Dimethylphenol	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2,4-Dinitrophenol	--	--	--	MG/KG	0.28 U	0.28 U	0.29 U	0.27 U	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.071 U	0.072 U	0.073 U	0.067 U	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.071 U	0.072 U	0.073 U	0.067 U	
2-Chloronaphthalene	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2-Chlorophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2-Methylnaphthalene	--	--	--	MG/KG	0.35 U	0.014 J	0.36 U	0.33 U	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2-Nitroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
2-Nitrophenol	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.13 U	
3-Nitroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.28 U	0.28 U	0.29 U	0.27 U	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4-Chloroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4-Nitroaniline	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
4-Nitrophenol	--	--	--	MG/KG	0.71 U	0.72 U	0.73 U	0.67 U	
Acenaphthene	20	100	98	MG/KG	0.35 U	0.12 J	0.36 U	0.33 U	
Acenaphthylene	100	100	107	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Acetophenone	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Anthracene	100	100	1000	MG/KG	0.35 U	0.14 J	0.039 J	0.33 U	
Atrazine	--	--	--	MG/KG	0.14 UJV	0.14 UJV	0.15 U	0.13 UJV	
Benzaldehyde	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Benzo(A)Anthracene	1	1	1	MG/KG	0.11	0.4	0.16	0.033 U	
Benzo(A)Pyrene	1	1	22	MG/KG	0.11	0.32	0.15	0.016 J	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.15	0.44	0.19	0.024 J	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-14	RXSB-14	RXSB-15	RXSB-15
					Sample Date:	04/24/2018	04/24/2018	04/26/2018	05/01/2018
					Sample Depth (ft bls):	0 - 2	0 - 2	0 - 2	6 - 8
					Normal or Field Duplicate:	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.063 J	0.15 J	0.092 J	0.33 U	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.05	0.16	0.074	0.033 U	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.035 U	0.035 U	0.036 U	0.033 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Caprolactam	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Carbazole	--	--	--	MG/KG	0.35 U	0.065 J	0.02 J	0.33 U	
Chrysene	1	3.9	1	MG/KG	0.12 J	0.37	0.17 J	0.018 J	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.023 J	0.054	0.031 J	0.033 U	
Dibenzofuran	7	59	210	MG/KG	0.35 U	0.03 J	0.36 U	0.33 U	
Diethyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.044 J	0.35 U	0.36 U	0.33 U	
Fluoranthene	100	100	1000	MG/KG	0.2 J	0.79	0.31 J	0.023 J	
Fluorene	30	100	386	MG/KG	0.35 U	0.057 J	0.013 J	0.33 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.035 U	0.035 U	0.036 U	0.033 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.071 U	0.072 U	0.073 U	0.067 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Hexachloroethane	--	--	--	MG/KG	0.035 U	0.035 U	0.036 U	0.033 UJV	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.077	0.19	0.11	0.018 J	
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.15 U	0.13 U	
Naphthalene	12	100	12	MG/KG	0.35 U	0.024 J	0.36 U	0.33 U	
Nitrobenzene	--	--	--	MG/KG	0.035 U	0.035 U	0.036 U	0.033 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.035 U	0.035 U	0.036 U	0.033 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.35 U	0.35 U	0.36 U	0.33 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.28 U	0.28 U	0.29 U	0.27 U	
Phenanthrene	100	100	1000	MG/KG	0.086 J	0.62	0.17 J	0.33 U	
Phenol	0.33	100	0.33	MG/KG	0.35 U	0.016 J	0.36 U	0.33 U	
Pyrene	100	100	1000	MG/KG	0.17 J	0.69	0.28 J	0.026 J	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-16	RXSB-16	RXSB-17	RXSB-17
					Sample Date:	05/29/2018	05/29/2018	05/23/2018	05/23/2018
					Sample Depth (ft bls):	1 - 3	9 - 11	0 - 2	0 - 2
					Normal or Field Duplicate:	N	N	N	FD
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.18 U	0.18 U	
2,4-Dichlorophenol	--	--	--	MG/KG	0.14 U	0.14 U	0.18 U	0.18 U	
2,4-Dimethylphenol	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2,4-Dinitrophenol	--	--	--	MG/KG	0.27 UJV	0.29 UJV	0.35 U	0.36 U	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.069 U	0.073 U	0.089 U	0.091 U	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.069 U	0.073 U	0.089 U	0.091 U	
2-Chloronaphthalene	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2-Chlorophenol	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2-Methylnaphthalene	--	--	--	MG/KG	0.34 U	0.36 U	0.14 J	0.15 J	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2-Nitroaniline	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
2-Nitrophenol	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.14 U	0.14 U	0.18 U	0.18 U	
3-Nitroaniline	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.27 UJV	0.29 UJV	0.35 U	0.36 U	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4-Chloroaniline	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4-Nitroaniline	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
4-Nitrophenol	--	--	--	MG/KG	0.69 U	0.73 U	0.89 U	0.91 U	
Acenaphthene	20	100	98	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Acenaphthylene	100	100	107	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Acetophenone	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Anthracene	100	100	1000	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Atrazine	--	--	--	MG/KG	0.14 U	0.14 U	0.18 U	0.18 U	
Benzaldehyde	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Benzo(A)Anthracene	1	1	1	MG/KG	0.082	0.025 J	0.028 J	0.052	
Benzo(A)Pyrene	1	1	22	MG/KG	0.083	0.019 J	0.017 J	0.044 J	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.12	0.027 J	0.031 J	0.069	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-16	RXSB-16	RXSB-17	RXSB-17
					Sample Date:	05/29/2018	05/29/2018	05/23/2018	05/23/2018
					Sample Depth (ft bls):	1 - 3	9 - 11	0 - 2	0 - 2
					Normal or Field Duplicate:	N	N	N	FD
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.072 J	0.36 U	0.44 U	0.028 J	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.042	0.036 U	0.0096 J	0.024 J	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.066 J	0.018 J	0.44 U	0.45 U	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.066 J	0.36 U	0.44 U	0.45 U	
Caprolactam	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Carbazole	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Chrysene	1	3.9	1	MG/KG	0.082 J	0.02 J	0.028 J	0.065 J	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.018 J	0.036 U	0.044 U	0.045 U	
Dibenzofuran	7	59	210	MG/KG	0.34 U	0.36 U	0.024 J	0.031 J	
Diethyl Phthalate	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Dimethyl Phthalate	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Di-N-Octylphthalate	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Fluoranthene	100	100	1000	MG/KG	0.13 J	0.038 J	0.04 J	0.093 J	
Fluorene	30	100	386	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
Hexachlorobutadiene	--	--	--	MG/KG	0.069 U	0.073 U	0.089 U	0.091 U	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Hexachloroethane	--	--	--	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.075	0.016 J	0.044 U	0.034 J	
Isophorone	--	--	--	MG/KG	0.14 U	0.14 U	0.18 U	0.18 U	
Naphthalene	12	100	12	MG/KG	0.34 U	0.36 U	0.11 J	0.11 J	
Nitrobenzene	--	--	--	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.27 U	0.29 U	0.35 U	0.36 U	
Phenanthrene	100	100	1000	MG/KG	0.062 J	0.024 J	0.061 J	0.1 J	
Phenol	0.33	100	0.33	MG/KG	0.34 U	0.36 U	0.44 U	0.45 U	
Pyrene	100	100	1000	MG/KG	0.12 J	0.031 J	0.037 J	0.086 J	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-17	RXTGW-12	RXTGW-12
					Sample Date:	05/23/2018	05/24/2018	05/24/2018
					Sample Depth (ft bls):	5 - 7	0 - 2	4 - 6
					Normal or Field Duplicate:	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
1,2,4,5-Tetrachlorobenzene	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
2,3,4,6-Tetrachlorophenol	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
2,4,5-Trichlorophenol	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
2,4,6-Trichlorophenol	--	--	--	MG/KG	0.15 U	0.15 UJV	0.15 UJV	
2,4-Dichlorophenol	--	--	--	MG/KG	0.15 U	0.15 U	0.15 UJV	
2,4-Dimethylphenol	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
2,4-Dinitrophenol	--	--	--	MG/KG	0.3 U	0.31 UJV	0.3 UJV	
2,4-Dinitrotoluene	--	--	--	MG/KG	0.074 U	0.078 U	0.075 UJV	
2,6-Dinitrotoluene	--	--	--	MG/KG	0.074 U	0.078 U	0.075 UJV	
2-Chloronaphthalene	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
2-Chlorophenol	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
2-Methylnaphthalene	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
2-Methylphenol (O-Cresol)	0.33	100	0.33	MG/KG	0.37 U	0.38 U	0.37 UJV	
2-Nitroaniline	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
2-Nitrophenol	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
3,3'-Dichlorobenzidine	--	--	--	MG/KG	0.15 U	0.15 U	0.15 UJV	
3-Nitroaniline	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
4,6-Dinitro-2-Methylphenol	--	--	--	MG/KG	0.3 U	0.31 UJV	0.3 UJV	
4-Bromophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
4-Chloro-3-Methylphenol	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
4-Chloroaniline	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
4-Chlorophenyl Phenyl Ether	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
4-Methylphenol (P-Cresol)	0.33	100	0.33	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
4-Nitroaniline	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
4-Nitrophenol	--	--	--	MG/KG	0.74 U	0.78 UJV	0.75 UJV	
Acenaphthene	20	100	98	MG/KG	0.37 U	0.38 U	0.37 UJV	
Acenaphthylene	100	100	107	MG/KG	0.37 U	0.38 U	0.37 UJV	
Acetophenone	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Anthracene	100	100	1000	MG/KG	0.077 J	0.38 U	0.37 UJV	
Atrazine	--	--	--	MG/KG	0.15 U	0.15 U	0.15 UJV	
Benzaldehyde	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Benzo(A)Anthracene	1	1	1	MG/KG	0.47	0.038 U	0.037 UJV	
Benzo(A)Pyrene	1	1	22	MG/KG	0.45	0.038 U	0.037 UJV	
Benzo(B)Fluoranthene	1	1	1.7	MG/KG	0.61	0.038 UJV	0.037 UJV	

Table 4. Summary of Semivolatile Organic Compounds in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-17	RXTGW-12	RXTGW-12
					Sample Date:	05/23/2018	05/24/2018	05/24/2018
					Sample Depth (ft bls):	5 - 7	0 - 2	4 - 6
					Normal or Field Duplicate:	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
Benzo(G,H,I)Perylene	100	100	1000	MG/KG	0.27 J	0.38 U	0.37 UJV	
Benzo(K)Fluoranthene	0.8	3.9	1.7	MG/KG	0.23	0.038 U	0.037 UJV	
Benzyl Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Biphenyl (Diphenyl)	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Bis(2-Chloroethoxy) Methane	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	--	--	MG/KG	0.037 U	0.038 UJV	0.037 UJV	
Bis(2-Chloroisopropyl) Ether	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Bis(2-Ethylhexyl) Phthalate	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Caprolactam	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Carbazole	--	--	--	MG/KG	0.016 J	0.38 U	0.37 UJV	
Chrysene	1	3.9	1	MG/KG	0.45	0.38 U	0.37 UJV	
Dibenz(A,H)Anthracene	0.33	0.33	1000	MG/KG	0.066	0.038 U	0.037 UJV	
Dibenzofuran	7	59	210	MG/KG	0.37 U	0.38 U	0.37 UJV	
Diethyl Phthalate	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Dimethyl Phthalate	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Di-N-Butyl Phthalate	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Di-N-Octylphthalate	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Fluoranthene	100	100	1000	MG/KG	0.83	0.38 U	0.37 UJV	
Fluorene	30	100	386	MG/KG	0.37 U	0.38 U	0.37 UJV	
Hexachlorobenzene	0.33	1.2	3.2	MG/KG	0.037 U	0.038 U	0.037 UJV	
Hexachlorobutadiene	--	--	--	MG/KG	0.074 U	0.078 UJV	0.075 UJV	
Hexachlorocyclopentadiene	--	--	--	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Hexachloroethane	--	--	--	MG/KG	0.037 U	0.038 UJV	0.037 UJV	
Indeno(1,2,3-C,D)Pyrene	0.5	0.5	8.2	MG/KG	0.33	0.038 U	0.037 UJV	
Isophorone	--	--	--	MG/KG	0.15 U	0.15 UJV	0.15 UJV	
Naphthalene	12	100	12	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Nitrobenzene	--	--	--	MG/KG	0.037 U	0.038 U	0.037 UJV	
N-Nitrosodi-N-Propylamine	--	--	--	MG/KG	0.037 U	0.038 UJV	0.037 UJV	
N-Nitrosodiphenylamine	--	--	--	MG/KG	0.37 U	0.38 U	0.37 UJV	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.3 U	0.31 UJV	0.3 UJV	
Phenanthrene	100	100	1000	MG/KG	0.13 J	0.38 U	0.37 UJV	
Phenol	0.33	100	0.33	MG/KG	0.37 U	0.38 UJV	0.37 UJV	
Pyrene	100	100	1000	MG/KG	0.75	0.38 U	0.37 UJV	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-1	RXMW-1	RXMW-10	RXMW-10	RXMW-11
					Sample Date:	06/14/2018	06/15/2018	04/23/2018	04/23/2018	04/23/2018
					Sample Depth (ft bls):	0 - 2	7 - 9	0 - 2	2 - 4	0 - 2
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	8220	11100	18900	24400	12700	
Antimony	--	--	--	MG/KG	1.1 UJV	0.92 U	1.1 U	1.1 UJV	0.99 U	
Arsenic	13	16	16	MG/KG	14.1	0.63 J	1.9	1.5	0.58 J	
Barium	350	400	820	MG/KG	295 JV	121	419	489	111	
Beryllium	7.2	72	47	MG/KG	0.65	0.34 J	0.53	0.68	0.6	
Cadmium	2.5	4.3	7.5	MG/KG	0.39 J	0.92 U	1.1 U	1.1 U	0.99 U	
Calcium	--	--	--	MG/KG	8350	1630	6370	5180	2030	
Chromium, Hexavalent	1	110	19	MG/KG	2.3 U	2.2 U	2.3 U	2.2 U	2.1 U	
Chromium, Total	30	180	--	MG/KG	15.3	29.5	38.1	46.4	30.1	
Cobalt	--	--	--	MG/KG	7.5	11.2	15.4	17.9	22.2	
Copper	50	270	1720	MG/KG	46.3	39.8	58.9	57.6	48.3	
Cyanide	27	27	40	MG/KG	0.13 J+V	0.24 U	0.26 U	0.26 U	0.23 U	
Iron	--	--	--	MG/KG	17700	23600	30300	34900	24900	
Lead	63	400	450	MG/KG	69.9	4.6	12.7	9.2	7.3	
Magnesium	--	--	--	MG/KG	2320 JV	5080	9770	11200	6040	
Manganese	1600	2000	2000	MG/KG	289	226	343	339	197	
Mercury	0.18	0.81	0.73	MG/KG	0.14 JV	0.017 U	0.076	0.018 U	0.017 U	
Nickel	30	310	130	MG/KG	18.3	25.4	36.7	41.9	34.7	
Potassium	--	--	--	MG/KG	1710	6650	7790	9120	7670	
Selenium	3.9	180	4	MG/KG	1.9 J	4.6 U	5.5 U	5.6 U	5 U	
Silver	2	180	8.3	MG/KG	1.1 U	0.92 U	1.1 U	1.1 U	0.99 U	
Sodium	--	--	--	MG/KG	567	394	303	357	130	
Thallium	--	--	--	MG/KG	0.55	0.32 J	0.45	0.51	0.47	
Vanadium	--	--	--	MG/KG	30.7	31.7	75.3	88.2	35.7	
Zinc	109	10000	2480	MG/KG	109 JV	60.3	78.9	80.4	101	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-11	RXMW-2	RXMW-2	RXMW-3	RXMW-4
					Sample Date:	04/27/2018	06/15/2018	06/15/2018	05/25/2018	04/24/2018
					Sample Depth (ft bls):	11 - 13	0 - 2	13 - 15	1 - 3	0 - 2
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	11100	7160	10500	13600	9900	
Antimony	--	--	--	MG/KG	1.1 U	1.1 U	1.1 U	0.3 J	0.82 J	
Arsenic	13	16	16	MG/KG	1.1 U	4.8	1.2	2.9	2.2	
Barium	350	400	820	MG/KG	71.1	95.4	125	379	161	
Beryllium	7.2	72	47	MG/KG	0.45	0.36 J	0.44	0.6	3	
Cadmium	2.5	4.3	7.5	MG/KG	1.1 U	1.1 U	1.1 U	0.92 U	0.42 J	
Calcium	--	--	--	MG/KG	436	8850	1420	23900	21600	
Chromium, Hexavalent	1	110	19	MG/KG	2.2 U	2.1 U	1.1 J	2.3 U	2.1 U	
Chromium, Total	30	180	--	MG/KG	25.3	14.3	23.8	42.4	66.4	
Cobalt	--	--	--	MG/KG	13.2	6.8	10.4	13.8	32.5	
Copper	50	270	1720	MG/KG	34.4	24	36.5	60.6	468	
Cyanide	27	27	40	MG/KG	9.1E-06 U	0.25 U	0.23 U	0.071 J	0.26 U	
Iron	--	--	--	MG/KG	18400	13900	21500	26400	44600	
Lead	63	400	450	MG/KG	4.7	72.5	5.9	16.4	486	
Magnesium	--	--	--	MG/KG	5810	2580	4750	8210	13500	
Manganese	1600	2000	2000	MG/KG	151	224	125	308	580	
Mercury	0.18	0.81	0.73	MG/KG	0.017 U	0.34	0.019 U	0.019 U	0.039	
Nickel	30	310	130	MG/KG	31	14.9	27.5	30.8	67.2	
Potassium	--	--	--	MG/KG	8040	2170	6480	7650	3730	
Selenium	3.9	180	4	MG/KG	0.33 J	5.3 U	5.3 U	0.75 J	5.3 U	
Silver	2	180	8.3	MG/KG	1.1 U	1.1 U	1.1 U	0.92 U	1.1 U	
Sodium	--	--	--	MG/KG	88.2 J	376	118	462	455	
Thallium	--	--	--	MG/KG	0.47	0.17 J	0.36 J	0.28 J	0.19 J	
Vanadium	--	--	--	MG/KG	37.8	25.9	29.3	41.6	30.4	
Zinc	109	10000	2480	MG/KG	72.3	68.4	74.7	95.5	3460	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-4	RXMW-5	RXMW-5	RXMW-6	RXMW-6
					Sample Date:	05/01/2018	04/26/2018	05/02/2018	04/25/2018	04/27/2018
					Sample Depth (ft bls):	13 - 15	0 - 2	12 - 14	0 - 2	9 - 11
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	19500	7910	17400	2800	12600	
Antimony	--	--	--	MG/KG	1.1 U	1 U	1 U	0.74 J	1.1 UJV	
Arsenic	13	16	16	MG/KG	0.6 J	3	0.77 J	7.8	1.1 U	
Barium	350	400	820	MG/KG	224	198	254	81.6	125	
Beryllium	7.2	72	47	MG/KG	1	0.83	1.2	1.3	0.98	
Cadmium	2.5	4.3	7.5	MG/KG	0.4 J	1 U	1 U	1.1 U	1.1 U	
Calcium	--	--	--	MG/KG	5050	52600	2150	153000	2990	
Chromium, Hexavalent	1	110	19	MG/KG	2.2 U	2.3 U	2.2 U	2.1 U	2.2 U	
Chromium, Total	30	180	--	MG/KG	35.6	22	32.9	22	27	
Cobalt	--	--	--	MG/KG	15.3	10.9	14.2	13.6	11.7 JV	
Copper	50	270	1720	MG/KG	70.4	93	46.4	219	7.8 JV	
Cyanide	27	27	40	MG/KG	0.24 UV	0.24 U	0.24 U	0.26 U	0.26 U	
Iron	--	--	--	MG/KG	37200	19400	38100	17600	25900	
Lead	63	400	450	MG/KG	27.9	170	12.1	173	14.6 JV	
Magnesium	--	--	--	MG/KG	7890	19800	5660	54700	5520	
Manganese	1600	2000	2000	MG/KG	333	459	526	252	309	
Mercury	0.18	0.81	0.73	MG/KG	0.017 U	0.031	0.017 U	0.012 J	0.017 U	
Nickel	30	310	130	MG/KG	31.4	22.6	30.1	29.7	23.5 JV	
Potassium	--	--	--	MG/KG	11400	2710	10300	588	8240	
Selenium	3.9	180	4	MG/KG	5.5 U	5.2 U	5.2 U	5.3 U	5.3 U	
Silver	2	180	8.3	MG/KG	1.1 U	1 U	1 U	1.1 U	1.1 U	
Sodium	--	--	--	MG/KG	167	190	110	261	99.7 J	
Thallium	--	--	--	MG/KG	0.65	0.18 J	0.44	0.43 U	0.34 J	
Vanadium	--	--	--	MG/KG	47.4	27.1	43.8	10.2	32.2	
Zinc	109	10000	2480	MG/KG	188	666	75.7	1510	98.5 JV	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-7	RXMW-7	RXMW-7	RXMW-8	RXMW-8
					Sample Date:	06/14/2018	06/15/2018	06/15/2018	05/29/2018	05/29/2018
					Sample Depth (ft bls):	0 - 2	12 - 14	12 - 14	1 - 3	9 - 11
					Normal or Field Duplicate:	N	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	5320	13700	13800	6840	15000	
Antimony	--	--	--	MG/KG	0.44 J	1 U	1 U	3.3	0.89 U	
Arsenic	13	16	16	MG/KG	2	1 U	1 U	7.4	0.75 J	
Barium	350	400	820	MG/KG	80.9	149	148	139	246	
Beryllium	7.2	72	47	MG/KG	3.3	0.85	0.85	2.2	1.9	
Cadmium	2.5	4.3	7.5	MG/KG	1.1 U	1 U	1 U	0.81 U	0.89 U	
Calcium	--	--	--	MG/KG	28500	2150	2050	5180	3950	
Chromium, Hexavalent	1	110	19	MG/KG	2.2 U	2.3 U	2.3 U	2.2 U	2.2 U	
Chromium, Total	30	180	--	MG/KG	29.4	27.1	27.5	71.1	41.3	
Cobalt	--	--	--	MG/KG	16.7	16.8	14.4	37	17.4	
Copper	50	270	1720	MG/KG	299	50	39.3	549	113	
Cyanide	27	27	40	MG/KG	0.26 U	0.23 U	0.27 U	0.25 U	0.26 U	
Iron	--	--	--	MG/KG	17500	25100	25000	238000	35100	
Lead	63	400	450	MG/KG	313	10.5	10	390	102	
Magnesium	--	--	--	MG/KG	11300	5480	5470	4380	5870	
Manganese	1600	2000	2000	MG/KG	231	143	142	902	132	
Mercury	0.18	0.81	0.73	MG/KG	0.031	0.019 U	0.019 U	0.02	0.018 U	
Nickel	30	310	130	MG/KG	43.3	25.5	24.3	106	40.8	
Potassium	--	--	--	MG/KG	1540	10500	10500	3250	10200	
Selenium	3.9	180	4	MG/KG	5.4 U	5.2 U	5.2 U	4.1 U	4.4 U	
Silver	2	180	8.3	MG/KG	1.1 U	1 U	1 U	0.81 U	0.89 U	
Sodium	--	--	--	MG/KG	269	107	106	1950	608	
Thallium	--	--	--	MG/KG	0.44 U	0.43	0.42	0.14 J	0.47	
Vanadium	--	--	--	MG/KG	16.5	36.6	36	20.3	38.3	
Zinc	109	10000	2480	MG/KG	2760	65.8	67.2	2920	840	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-9	RXMW-9	RXSB-11	RXSB-11	RXSB-12
					Sample Date:	04/23/2018	04/25/2018	04/23/2018	04/26/2018	04/23/2018
					Sample Depth (ft bls):	0 - 2	5 - 7	0 - 2	3 - 5	0 - 2
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	9210	15200	5220	17800	11300	
Antimony	--	--	--	MG/KG	0.52 J	0.72 J	0.97 U	1.1 U	1.1 U	
Arsenic	13	16	16	MG/KG	3.4	1.1	3.9	1.1 U	2	
Barium	350	400	820	MG/KG	124	186	67.7	191	142	
Beryllium	7.2	72	47	MG/KG	6.3	1.2	0.33 J	1.1	0.55	
Cadmium	2.5	4.3	7.5	MG/KG	1.1 U	1.1 U	0.97 U	1.1 U	1.1 U	
Calcium	--	--	--	MG/KG	31100	10700	100000	3310	48000	
Chromium, Hexavalent	1	110	19	MG/KG	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	
Chromium, Total	30	180	--	MG/KG	39.6	51.1	15.2	33.3	27.1	
Cobalt	--	--	--	MG/KG	23	20.1	5.7	17.1	11	
Copper	50	270	1720	MG/KG	242	481	31.1	59.1	38.5	
Cyanide	27	27	40	MG/KG	0.27 UJV	0.26 U	0.25 U	0.063 J	0.24 U	
Iron	--	--	--	MG/KG	25700	36800	11600	27200	20400	
Lead	63	400	450	MG/KG	306	163	38.6	9.5	11.9	
Magnesium	--	--	--	MG/KG	20200	8020	59700	7590	30900	
Manganese	1600	2000	2000	MG/KG	461	627	186	235	164	
Mercury	0.18	0.81	0.73	MG/KG	0.046	0.018 U	0.026	0.018 U	0.018 U	
Nickel	30	310	130	MG/KG	39.8	48.5	14.7	37.8	23.3	
Potassium	--	--	--	MG/KG	2840	4950	2680	8640	6900	
Selenium	3.9	180	4	MG/KG	5.5 U	0.32 J	4.9 U	5.4 U	5.4 U	
Silver	2	180	8.3	MG/KG	1.1 U	1.1 U	0.97 U	1.1 U	1.1 U	
Sodium	--	--	--	MG/KG	274	365	151	176	136	
Thallium	--	--	--	MG/KG	0.21 J	0.25 J	0.19 J	0.42 J	0.33 J	
Vanadium	--	--	--	MG/KG	30.6	40.5	19	58.9	34.4	
Zinc	109	10000	2480	MG/KG	2330	1050	91.7	63.1	71.3	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-12	RXSB-13	RXSB-13	RXSB-14	RXSB-14
					Sample Date:	04/26/2018	04/24/2018	04/26/2018	04/24/2018	04/24/2018
					Sample Depth (ft bls):	6 - 8	0 - 2	13 - 15	0 - 2	0 - 2
					Normal or Field Duplicate:	N	N	N	N	FD
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	33400	15500	12400	13600	14400	
Antimony	--	--	--	MG/KG	2.7 U	0.52 J	1 U	1 U	1 U	
Arsenic	13	16	16	MG/KG	1.2 J	7.7	0.77 J	0.74 J	0.9 J	
Barium	350	400	820	MG/KG	220	630	147	188	233	
Beryllium	7.2	72	47	MG/KG	1.5	1.1	0.7	0.59	0.75	
Cadmium	2.5	4.3	7.5	MG/KG	2.7 U	0.82 J	1 U	1 U	1 U	
Calcium	--	--	--	MG/KG	3390	50100	1590	10300	9700	
Chromium, Hexavalent	1	110	19	MG/KG	2.3 U	2.4 U	2.2 U	2.1 U	2.1 U	
Chromium, Total	30	180	--	MG/KG	102	55.7	34.5	25.2	26.8	
Cobalt	--	--	--	MG/KG	99.6	12.4	18.3	11.3	12	
Copper	50	270	1720	MG/KG	2100	121	46	47.1	53.8	
Cyanide	27	27	40	MG/KG	0.26 U	0.29 U	0.24 U	0.27 U	0.12 J	
Iron	--	--	--	MG/KG	73400	28900	26800	26100	26900	
Lead	63	400	450	MG/KG	9.7	424	7.1	27.4	37.2	
Magnesium	--	--	--	MG/KG	20800	11400	6580	9300	8410	
Manganese	1600	2000	2000	MG/KG	373	390	292	155	179	
Mercury	0.18	0.81	0.73	MG/KG	0.019 U	0.65	0.017 U	0.017 U	0.018 U	
Nickel	30	310	130	MG/KG	85.7	27.2	44.7	23.5	24.4	
Potassium	--	--	--	MG/KG	11700	3020	7370	7950	8250	
Selenium	3.9	180	4	MG/KG	2.7 J	0.33 J	5.2 U	5.1 U	5.1 U	
Silver	2	180	8.3	MG/KG	2.7 U	1.1 U	1 U	1 U	1 U	
Sodium	--	--	--	MG/KG	201 J	913	190	102 J	121	
Thallium	--	--	--	MG/KG	0.53 J	0.23 J	0.71	0.31 J	0.32 J	
Vanadium	--	--	--	MG/KG	117	44.3	42.5	32.5	34.7	
Zinc	109	10000	2480	MG/KG	269	899	84.1	104	128	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-15	RXSB-15	RXSB-16	RXSB-16	RXSB-17
					Sample Date:	04/26/2018	05/01/2018	05/29/2018	05/29/2018	05/23/2018
					Sample Depth (ft bls):	0 - 2	6 - 8	1 - 3	9 - 11	0 - 2
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	7210	13800	14500	11800	13300	
Antimony	--	--	--	MG/KG	1 U	0.94 U	8.8 JV	2.1 J	0.6 J	
Arsenic	13	16	16	MG/KG	3	0.85 J	3.6	2.3	55.7	
Barium	350	400	820	MG/KG	108	142	855	343	382	
Beryllium	7.2	72	47	MG/KG	0.51	0.43	20.2	6.2	1.5	
Cadmium	2.5	4.3	7.5	MG/KG	1 U	0.94 U	8 UJV	4.1 U	1 U	
Calcium	--	--	--	MG/KG	59700	11600	8270	6200	10700	
Chromium, Hexavalent	1	110	19	MG/KG	2.2 U	2 U	0.66 J	2.2 U	2.6 U	
Chromium, Total	30	180	--	MG/KG	17.7	27.5	344	133	24.9	
Cobalt	--	--	--	MG/KG	7.9	10.7	229	71.8	10	
Copper	50	270	1720	MG/KG	21.5	4.3	4840	1170	94.2	
Cyanide	27	27	40	MG/KG	0.26 U	0.24 U	0.22 U	0.24 U	0.26 U	
Iron	--	--	--	MG/KG	16400	25400	165000	69200	38600	
Lead	63	400	450	MG/KG	26.3	6.7	4010	972	96.9	
Magnesium	--	--	--	MG/KG	12000	10000	8940	6050	4070	
Manganese	1600	2000	2000	MG/KG	356	209	1240	531	165	
Mercury	0.18	0.81	0.73	MG/KG	0.015 J	0.016 U	0.13	0.088	0.093	
Nickel	30	310	130	MG/KG	15.8	22.1	487	148	25	
Potassium	--	--	--	MG/KG	3060	8560	1900	5730	1070	
Selenium	3.9	180	4	MG/KG	5.1 U	4.7 U	0.72 J	4.1 U	3.4 J	
Silver	2	180	8.3	MG/KG	1 U	0.94 U	8 U	4.1 U	1 U	
Sodium	--	--	--	MG/KG	139	137	2830	908	435	
Thallium	--	--	--	MG/KG	0.17 J	0.36 J	0.32 U	0.24 J	0.54	
Vanadium	--	--	--	MG/KG	21.6	32.7	31.4	29.3	50.8	
Zinc	109	10000	2480	MG/KG	114	65.2	36000	9030	671	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-17	RXSB-17	RXSB-3A	RXSB-3A	RXSB-3A
					Sample Date:	05/23/2018	05/23/2018	05/22/2018	05/22/2018	05/22/2018
					Sample Depth (ft bls):	0 - 2	5 - 7	0 - 2	2 - 4	4 - 6
					Normal or Field Duplicate:	FD	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	17000	10700	9430	9330	8920	
Antimony	--	--	--	MG/KG	0.37 J	0.26 J	0.3 J	0.87 U	0.87 U	
Arsenic	13	16	16	MG/KG	37.8	2.2	4.2	2.5	1.4	
Barium	350	400	820	MG/KG	297	160	109	112	86.2	
Beryllium	7.2	72	47	MG/KG	1.4	4	1.3	0.53	0.52	
Cadmium	2.5	4.3	7.5	MG/KG	1.1 U	0.87 U	0.89 U	0.87 U	0.87 U	
Calcium	--	--	--	MG/KG	12100	13900	26400	24700	17200	
Chromium, Hexavalent	1	110	19	MG/KG	2.7 U	2.2 U	NA	NA	NA	
Chromium, Total	30	180	--	MG/KG	31.2	35.9	28.4	20.8	20.7	
Cobalt	--	--	--	MG/KG	10.2	13.8	13	8.1	8.3	
Copper	50	270	1720	MG/KG	80	143	148	30.4	21.1	
Cyanide	27	27	40	MG/KG	0.091 J	0.22 U	NA	NA	NA	
Iron	--	--	--	MG/KG	34100	23000	20700	17500	16900	
Lead	63	400	450	MG/KG	88.9	169	179	59	23.9	
Magnesium	--	--	--	MG/KG	4920	9700	13700	12600	10900	
Manganese	1600	2000	2000	MG/KG	192	336	371	334	403	
Mercury	0.18	0.81	0.73	MG/KG	0.11	0.031	0.077	0.034	0.025	
Nickel	30	310	130	MG/KG	24.8	40.6	31.3	16.3	15.8	
Potassium	--	--	--	MG/KG	1570	3330	2660	2910	3020	
Selenium	3.9	180	4	MG/KG	1.9 J	4.3 U	0.33 J	4.4 U	4.4 U	
Silver	2	180	8.3	MG/KG	1.1 U	0.87 U	0.89 U	0.87 U	0.87 U	
Sodium	--	--	--	MG/KG	361	172	217	122	90.1	
Thallium	--	--	--	MG/KG	0.44	0.21 J	0.2 J	0.19 J	0.18 J	
Vanadium	--	--	--	MG/KG	45	29.8	30.7	28.1	26.7	
Zinc	109	10000	2480	MG/KG	448	1030	1240	91.8	58.9	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-3AE	RXSB-3AE	RXSB-3AE	RXSB-3AN	RXSB-3AN
					Sample Date:	05/22/2018	05/22/2018	05/22/2018	05/22/2018	05/22/2018
					Sample Depth (ft bls):	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	11700	8780	8900	13600	13300	
Antimony	--	--	--	MG/KG	1.7	0.95	0.9 U	0.95 U	1	
Arsenic	13	16	16	MG/KG	36.9	6.7	1.7	20.3	12.9	
Barium	350	400	820	MG/KG	244	194	81.8	139	137	
Beryllium	7.2	72	47	MG/KG	2.8	3.8	0.49	1.8	3.6	
Cadmium	2.5	4.3	7.5	MG/KG	0.56 J	0.84 U	0.9 U	0.95 U	1 U	
Calcium	--	--	--	MG/KG	13500	15200	15500	4840	7870	
Chromium, Hexavalent	1	110	19	MG/KG	NA	NA	NA	NA	NA	
Chromium, Total	30	180	--	MG/KG	35.9	44	21.2	23	45.8	
Cobalt	--	--	--	MG/KG	18.8	28.5	8.4	10.8	26.6	
Copper	50	270	1720	MG/KG	1170	457	29.4	86.3	524	
Cyanide	27	27	40	MG/KG	NA	NA	NA	NA	NA	
Iron	--	--	--	MG/KG	44400	30200	17700	19800	29600	
Lead	63	400	450	MG/KG	338	481	25	129	604	
Magnesium	--	--	--	MG/KG	3540	9500	10500	3360	4200	
Manganese	1600	2000	2000	MG/KG	238	414	362	329	357	
Mercury	0.18	0.81	0.73	MG/KG	0.12	0.11	0.033	0.12	0.12	
Nickel	30	310	130	MG/KG	75.1	64.6	16.5	28.5	70.2	
Potassium	--	--	--	MG/KG	1440	2010	2970	2050	1170	
Selenium	3.9	180	4	MG/KG	1.9 J	0.37 J	4.5 U	0.9 J	0.7 J	
Silver	2	180	8.3	MG/KG	0.94 U	0.84 U	0.9 U	0.95 U	1 U	
Sodium	--	--	--	MG/KG	372	345	92.8	148	303	
Thallium	--	--	--	MG/KG	2.3	0.2 J	0.19 J	0.56	0.16 J	
Vanadium	--	--	--	MG/KG	50.8	27	27.4	34.1	27.4	
Zinc	109	10000	2480	MG/KG	3010	3840	79	569	4410	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-3AN	RXSB-3AS	RXSB-3AS	RXSB-3AS	RXSB-3AW
					Sample Date:	05/22/2018	05/22/2018	05/22/2018	05/22/2018	05/22/2018
					Sample Depth (ft bls):	4 - 6	0 - 2	2 - 4	4 - 6	0 - 2
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
Aluminum	--	--	--	MG/KG	8030	14300	16000	11800	13600	
Antimony	--	--	--	MG/KG	0.7 J	0.97 U	1.2 U	0.9 U	0.97 U	
Arsenic	13	16	16	MG/KG	1.7	14.7	11.6	2.5	40.4	
Barium	350	400	820	MG/KG	121	92.1	61.6	113	337	
Beryllium	7.2	72	47	MG/KG	2.3	0.64	0.65	0.62	0.99	
Cadmium	2.5	4.3	7.5	MG/KG	0.83 U	0.97 U	1.2 U	0.9 U	0.97 U	
Calcium	--	--	--	MG/KG	20500	10700	3000	4800	5480	
Chromium, Hexavalent	1	110	19	MG/KG	NA	NA	NA	NA	NA	
Chromium, Total	30	180	--	MG/KG	39.7	21.5	19.4	24.8	19.9	
Cobalt	--	--	--	MG/KG	20.5	7	8.3	10.3	10.7	
Copper	50	270	1720	MG/KG	323	60.6	92.1	35.8	92.7	
Cyanide	27	27	40	MG/KG	NA	NA	NA	NA	NA	
Iron	--	--	--	MG/KG	23100	18400	18700	20600	30800	
Lead	63	400	450	MG/KG	382	64	113	67.5	49.2	
Magnesium	--	--	--	MG/KG	12500	6220	3000	6120	1900	
Manganese	1600	2000	2000	MG/KG	399	219	180	445	497	
Mercury	0.18	0.81	0.73	MG/KG	0.067	0.069	0.071	0.026	0.15	
Nickel	30	310	130	MG/KG	47.6	16.5	20.3	20	19.5	
Potassium	--	--	--	MG/KG	2220	1310	1330	3620	1330	
Selenium	3.9	180	4	MG/KG	4.1 U	0.88 J	0.94 J	0.31 J	2.5 J	
Silver	2	180	8.3	MG/KG	0.83 U	0.97 U	1.2 U	0.9 U	0.97 U	
Sodium	--	--	--	MG/KG	230	114	67.2 J	97	258	
Thallium	--	--	--	MG/KG	0.14 J	0.25 J	0.21 J	0.24 J	0.86	
Vanadium	--	--	--	MG/KG	24.2	32.6	26.8	33.6	58.9	
Zinc	109	10000	2480	MG/KG	2330	322	708	140	98.8	

Table 5. Summary of Metals in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-3AW	RXSB-3AW	RXTGW-12	RXTGW-12
					Sample Date:	05/22/2018	05/22/2018	05/24/2018	05/24/2018
					Sample Depth (ft bls):	2 - 4	4 - 6	0 - 2	4 - 6
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
Aluminum	--	--	--	MG/KG	4850	7860	7110	5550	
Antimony	--	--	--	MG/KG	0.81 U	0.89 U	0.86 U	0.82 UJV	
Arsenic	13	16	16	MG/KG	1.5	1.5	3.5	0.91	
Barium	350	400	820	MG/KG	48.1	75.8	81.7	46.3	
Beryllium	7.2	72	47	MG/KG	0.4	0.41	1.4	0.58	
Cadmium	2.5	4.3	7.5	MG/KG	0.81 U	0.89 U	0.86 U	0.82 U	
Calcium	--	--	--	MG/KG	17200	17000	63700	57800	
Chromium, Hexavalent	1	110	19	MG/KG	NA	NA	2.3 U	2.2 U	
Chromium, Total	30	180	--	MG/KG	14.9	17.6	16.7	14	
Cobalt	--	--	--	MG/KG	5.7	6.7	9.3	6.3	
Copper	50	270	1720	MG/KG	18.8	19.7	22.8	12	
Cyanide	27	27	40	MG/KG	NA	NA	0.28 U	0.23 UV	
Iron	--	--	--	MG/KG	11400	14900	20200	13000	
Lead	63	400	450	MG/KG	18.8	20.1	13.3	3.5	
Magnesium	--	--	--	MG/KG	10600	10800	34100	30300	
Manganese	1600	2000	2000	MG/KG	268	338	537	360	
Mercury	0.18	0.81	0.73	MG/KG	0.018	0.023	0.015 J	0.017 U	
Nickel	30	310	130	MG/KG	10.7	13.3	13.8	10.9	
Potassium	--	--	--	MG/KG	1250	2650	2210	1520	
Selenium	3.9	180	4	MG/KG	4 U	4.5 U	4.3 U	0.27 J	
Silver	2	180	8.3	MG/KG	0.81 U	0.89 U	0.86 U	0.82 U	
Sodium	--	--	--	MG/KG	55.8 J	77.8 J	146	141	
Thallium	--	--	--	MG/KG	0.1 J	0.16 J	0.35 U	0.33 U	
Vanadium	--	--	--	MG/KG	15.2	22.6	26.3	19.6	
Zinc	109	10000	2480	MG/KG	88.5	48.2	108	45.2	

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-1	RXMW-1	RXMW-10	RXMW-10	RXMW-11
Sample Date:					06/14/2018	06/15/2018	04/23/2018	04/23/2018	04/23/2018
Sample Depth (ft bls):					0 - 2	7 - 9	0 - 2	2 - 4	0 - 2
Normal or Field Duplicate:					N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.078 U	0.072 U	0.076 U	0.075 U	0.071 U

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-11	RXMW-2	RXMW-2	RXMW-3	RXMW-4
Sample Date:					04/27/2018	06/15/2018	06/15/2018	05/25/2018	04/24/2018
Sample Depth (ft bls):					11 - 13	0 - 2	13 - 15	1 - 3	0 - 2
Normal or Field Duplicate:					N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.072 U	0.074 U	0.073 U	0.079 U	0.073 U

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-4	RXMW-5	RXMW-5	RXMW-6	RXMW-6
Sample Date:					05/01/2018	04/26/2018	05/02/2018	04/25/2018	04/27/2018
Sample Depth (ft bls):					13 - 15	0 - 2	12 - 14	0 - 2	9 - 11
Normal or Field Duplicate:					N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.073 U	0.075 U	0.073 U	0.072 U	0.074 U

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-7	RXMW-7	RXMW-7	RXMW-8	RXMW-8
Sample Date:					06/14/2018	06/15/2018	06/15/2018	05/29/2018	05/29/2018
Sample Depth (ft bls):					0 - 2	12 - 14	12 - 14	1 - 3	9 - 11
Normal or Field Duplicate:					N	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.075 U	0.078 U	0.078 U	0.073 U	0.074 U

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXMW-9	RXMW-9	RXSB-11	RXSB-11	RXSB-12
Sample Date:					04/23/2018	04/25/2018	04/23/2018	04/26/2018	04/23/2018
Sample Depth (ft bls):					0 - 2	5 - 7	0 - 2	3 - 5	0 - 2
Normal or Field Duplicate:					N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	0.073 U

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-12	RXSB-13	RXSB-13	RXSB-14	RXSB-14
Sample Date:					04/26/2018	04/24/2018	04/26/2018	04/24/2018	04/24/2018
Sample Depth (ft bls):					6 - 8	0 - 2	13 - 15	0 - 2	0 - 2
Normal or Field Duplicate:					N	N	N	N	FD
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.077 U	0.08 U	0.074 U	0.072 U	0.072 U

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-15	RXSB-15	RXSB-16	RXSB-16	RXSB-17
					Sample Date:	04/26/2018	05/01/2018	05/29/2018	05/29/2018	05/23/2018
					Sample Depth (ft bls):	0 - 2	6 - 8	1 - 3	9 - 11	0 - 2
					Normal or Field Duplicate:	N	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit						
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.073 U	0.067 U	0.069 U	0.073 U	0.089 U	

Table 6. Summary of Polychlorinated Biphenyls in Soil, 1221 Spofford Avenue, Bronx, New York

Sample Designation:					RXSB-17	RXSB-17	RXTGW-12	RXTGW-12
Sample Date:					05/23/2018	05/23/2018	05/24/2018	05/24/2018
Sample Depth (ft bls):					0 - 2	5 - 7	0 - 2	4 - 6
Normal or Field Duplicate:					FD	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit				
PCB-1016 (Aroclor 1016)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1221 (Aroclor 1221)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1232 (Aroclor 1232)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1242 (Aroclor 1242)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1248 (Aroclor 1248)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1254 (Aroclor 1254)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1260 (Aroclor 1260)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1262 (Aroclor 1262)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
PCB-1268 (Aroclor 1268)	--	--	--	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U
Polychlorinated Biphenyl (PCBs)	0.1	1	3.2	MG/KG	0.091 U	0.075 U	0.077 U	0.074 U

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-1	RXMW-1	RXMW-10	RXMW-10
					Sample Date:	06/14/2018	06/15/2018	04/23/2018	04/23/2018
					Sample Depth (ft bls):	0 - 2	7 - 9	0 - 2	2 - 4
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.039 U	0.036 U	0.038 U	0.038 U	0.038 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.039 U	0.036 U	0.038 U	0.038 U	0.038 U
Aldrin	0.005	0.097	0.19	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0023 U	0.0021 U	0.0023 U	0.0023 U	0.0023 U
Alpha Endosulfan	2.4	24	102	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0023 U	0.0021 U	0.0023 U	0.0023 U	0.0023 U
Beta Endosulfan	2.4	24	102	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Chlordane	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.076 U	0.076 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0023 U	0.0021 U	0.0023 U	0.0023 U	0.0023 U
Dieldrin	0.005	0.2	0.1	MG/KG	0.0023 UJV	0.0021 U	0.0023 U	0.0023 U	0.0023 U
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Endrin	0.014	11	0.06	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Endrin Aldehyde	--	--	--	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Endrin Ketone	--	--	--	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0023 U	0.0021 U	0.0023 U	0.0023 U	0.0023 U
Heptachlor	0.042	2.1	0.38	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Methoxychlor	--	--	--	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
P,P'-DDD	0.0033	13	14	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0025 J	0.0072 U	0.0076 U	0.0076 U	0.0076 U
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0078 U	0.0072 U	0.0076 U	0.0076 U	0.0076 U
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.31 UJV	0.29 U	0.3 U	0.3 U	0.3 U
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.039 UJV	0.036 U	0.038 U	0.038 U	0.038 U
Toxaphene	--	--	--	MG/KG	0.078 U	0.072 U	0.076 U	0.076 U	0.076 U

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-11	RXMW-11	RXMW-2	RXMW-2
					Sample Date:	04/23/2018	04/27/2018	06/15/2018	06/15/2018
					Sample Depth (ft bls):	0 - 2	11 - 13	0 - 2	13 - 15
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.035 U	0.036 U	0.037 U	0.036 U	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.035 U	0.036 U	0.037 U	0.036 U	
Aldrin	0.005	0.097	0.19	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Chlordane	--	--	--	MG/KG	0.071 U	0.072 U	0.074 U	0.073 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Endrin	0.014	11	0.06	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Endrin Ketone	--	--	--	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Methoxychlor	--	--	--	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0071 U	0.0072 U	0.0074 U	0.0073 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.28 U	0.29 U	0.29 U	0.29 U	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.035 U	0.036 U	0.037 U	0.036 U	
Toxaphene	--	--	--	MG/KG	0.071 U	0.072 U	0.074 U	0.073 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-3	RXMW-4	RXMW-4	RXMW-5
					Sample Date:	05/25/2018	04/24/2018	05/01/2018	04/26/2018
					Sample Depth (ft bls):	1 - 3	0 - 2	13 - 15	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
Aldrin	0.005	0.097	0.19	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0024 U	0.0022 U	0.0022 U	0.0022 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0024 U	0.0022 U	0.0022 U	0.0022 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Chlordane	--	--	--	MG/KG	0.079 U	0.073 U	0.073 U	0.075 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0024 U	0.0022 U	0.0022 U	0.0022 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.0024 U	0.0022 U	0.0022 U	0.0022 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Endrin	0.014	11	0.06	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Endrin Ketone	--	--	--	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0024 U	0.0022 U	0.0022 U	0.0022 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Methoxychlor	--	--	--	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0079 U	0.0073 U	0.0073 U	0.0075 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.31 U	0.29 U	0.29 U	0.3 U	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.039 U	0.036 U	0.036 U	0.037 U	
Toxaphene	--	--	--	MG/KG	0.079 U	0.073 U	0.073 U	0.075 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-5	RXMW-6	RXMW-6	RXMW-7
					Sample Date:	05/02/2018	04/25/2018	04/27/2018	06/14/2018
					Sample Depth (ft bls):	12 - 14	0 - 2	9 - 11	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.036 U	0.036 U	0.037 U	0.037 U	0.037 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.036 U	0.036 U	0.037 U	0.037 U	0.037 U
Aldrin	0.005	0.097	0.19	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U
Alpha Endosulfan	2.4	24	102	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U
Beta Endosulfan	2.4	24	102	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Chlordane	--	--	--	MG/KG	0.073 U	0.072 U	0.074 U	0.075 U	0.075 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U
Dieldrin	0.005	0.2	0.1	MG/KG	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Endrin	0.014	11	0.06	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Endrin Aldehyde	--	--	--	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Endrin Ketone	--	--	--	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U
Heptachlor	0.042	2.1	0.38	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Methoxychlor	--	--	--	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
P,P'-DDD	0.0033	13	14	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0073 U	0.0072 U	0.0074 U	0.0075 U	0.0075 U
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.29 U	0.29 U	0.29 U	0.3 U	0.3 U
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.036 U	0.036 U	0.037 U	0.037 UJV	0.037 UJV
Toxaphene	--	--	--	MG/KG	0.073 U	0.072 U	0.074 U	0.075 U	0.075 U

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-7	RXMW-7	RXMW-8	RXMW-8
					Sample Date:	06/15/2018	06/15/2018	05/29/2018	05/29/2018
					Sample Depth (ft bls):	12 - 14	12 - 14	1 - 3	9 - 11
					Normal or Field Duplicate:	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.039 U	0.039 U	0.036 U	0.037 U	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.039 U	0.039 U	0.036 U	0.037 U	
Aldrin	0.005	0.097	0.19	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0023 U	0.0023 U	0.0022 U	0.0022 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0023 U	0.0023 U	0.0022 U	0.0022 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Chlordane	--	--	--	MG/KG	0.078 U	0.078 U	0.073 U	0.074 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0023 U	0.0023 U	0.0022 U	0.0022 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.0023 U	0.0023 U	0.0022 U	0.0022 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Endrin	0.014	11	0.06	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Endrin Ketone	--	--	--	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0023 U	0.0023 U	0.0022 U	0.0022 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Methoxychlor	--	--	--	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0078 U	0.0078 U	0.0073 U	0.0074 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.31 U	0.31 U	0.29 U	0.29 U	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.039 U	0.039 U	0.036 U	0.037 U	
Toxaphene	--	--	--	MG/KG	0.078 U	0.078 U	0.073 U	0.074 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXMW-9	RXMW-9	RXSB-11	RXSB-11
					Sample Date:	04/23/2018	04/25/2018	04/23/2018	04/26/2018
					Sample Depth (ft bls):	0 - 2	5 - 7	0 - 2	3 - 5
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
Aldrin	0.005	0.097	0.19	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0022 U	0.0022 U	0.0021 U	0.0022 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0022 U	0.0022 U	0.0021 U	0.0022 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Chlordane	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0022 U	0.0022 U	0.0021 U	0.0022 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.0022 U	0.0022 U	0.0021 U	0.0022 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Endrin	0.014	11	0.06	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Endrin Ketone	--	--	--	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0022 U	0.0022 U	0.0021 U	0.0022 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Methoxychlor	--	--	--	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0075 U	0.0073 U	0.0071 U	0.0072 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.3 U	0.29 U	0.28 U	0.29 U	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.037 U	0.036 U	0.035 U	0.036 U	
Toxaphene	--	--	--	MG/KG	0.075 U	0.073 U	0.071 U	0.072 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-12	RXSB-12	RXSB-13	RXSB-13
					Sample Date:	04/23/2018	04/26/2018	04/24/2018	04/26/2018
					Sample Depth (ft bls):	0 - 2	6 - 8	0 - 2	13 - 15
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.036 U	0.038 U	0.04 U	0.037 U	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.036 U	0.038 U	0.04 U	0.037 U	
Aldrin	0.005	0.097	0.19	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0022 U	0.0023 U	0.0024 U	0.0022 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0022 U	0.0023 U	0.0024 U	0.0022 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Chlordane	--	--	--	MG/KG	0.073 U	0.077 U	0.08 U	0.074 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0022 U	0.0023 U	0.0024 U	0.0022 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.0022 U	0.0023 U	0.0024 U	0.0022 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Endrin	0.014	11	0.06	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Endrin Ketone	--	--	--	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0022 U	0.0023 U	0.0024 U	0.0022 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
Methoxychlor	--	--	--	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0073 U	0.0077 U	0.008 U	0.0074 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0073 U	0.0077 U	0.0037 J	0.0074 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.29 U	0.31 U	0.32 U	0.29 U	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.036 U	0.038 U	0.04 U	0.037 U	
Toxaphene	--	--	--	MG/KG	0.073 U	0.077 U	0.08 U	0.074 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-14	RXSB-14	RXSB-15	RXSB-15
					Sample Date:	04/24/2018	04/24/2018	04/26/2018	05/01/2018
					Sample Depth (ft bls):	0 - 2	0 - 2	0 - 2	6 - 8
					Normal or Field Duplicate:	N	FD	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.036 U	0.036 U	0.036 U	0.036 U	0.033 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.036 U	0.036 U	0.036 U	0.036 U	0.033 U
Aldrin	0.005	0.097	0.19	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	0.002 U
Alpha Endosulfan	2.4	24	102	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	0.002 U
Beta Endosulfan	2.4	24	102	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Chlordane	--	--	--	MG/KG	0.072 U	0.072 U	0.073 U	0.073 U	0.067 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	0.002 U
Dieldrin	0.005	0.2	0.1	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	0.002 U
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Endrin	0.014	11	0.06	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Endrin Aldehyde	--	--	--	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Endrin Ketone	--	--	--	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0021 U	0.0021 U	0.0022 U	0.0022 U	0.002 U
Heptachlor	0.042	2.1	0.38	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Methoxychlor	--	--	--	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
P,P'-DDD	0.0033	13	14	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0072 U	0.0072 U	0.0073 U	0.0073 U	0.0067 U
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.28 U	0.28 U	0.29 U	0.29 U	0.27 U
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.036 U	0.036 U	0.036 U	0.036 U	0.033 U
Toxaphene	--	--	--	MG/KG	0.072 U	0.072 U	0.073 U	0.073 U	0.067 U

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-16	RXSB-16	RXSB-17	RXSB-17
					Sample Date:	05/29/2018	05/29/2018	05/23/2018	05/23/2018
					Sample Depth (ft bls):	1 - 3	9 - 11	0 - 2	0 - 2
					Normal or Field Duplicate:	N	N	N	FD
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
Aldrin	0.005	0.097	0.19	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.002 U	0.0022 U	0.0026 U	0.0027 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.002 U	0.0022 U	0.0026 U	0.0027 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Chlordane	--	--	--	MG/KG	0.069 U	0.073 U	0.089 U	0.091 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.002 U	0.0022 U	0.0026 U	0.0027 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.002 U	0.0022 U	0.0026 U	0.0027 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Endrin	0.014	11	0.06	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Endrin Ketone	--	--	--	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.002 U	0.0022 U	0.0026 U	0.0027 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
Methoxychlor	--	--	--	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0069 U	0.0073 U	0.0089 U	0.0091 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0037 J	0.0073 U	0.0063 J	0.005 J	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.27 U	0.29 U	0.35 U	0.36 U	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.034 U	0.036 U	0.044 U	0.045 U	
Toxaphene	--	--	--	MG/KG	0.069 U	0.073 U	0.089 U	0.091 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

					Sample Designation:	RXSB-17	RXTGW-12	RXTGW-12	RXTGW-12
					Sample Date:	05/23/2018	05/24/2018	05/24/2018	06/14/2018
					Sample Depth (ft bls):	5 - 7	0 - 2	4 - 6	0 - 2
					Normal or Field Duplicate:	N	N	N	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit					
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	0.037 U	0.039 U	0.037 U	NA	
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	0.037 U	0.039 U	0.037 U	NA	
Aldrin	0.005	0.097	0.19	MG/KG	0.0075 U	NA	NA	0.0082 U	
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0022 U	NA	NA	0.0025 U	
Alpha Endosulfan	2.4	24	102	MG/KG	0.0075 U	NA	NA	0.0082 U	
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0022 U	NA	NA	0.0025 U	
Beta Endosulfan	2.4	24	102	MG/KG	0.0075 U	NA	NA	0.0082 U	
Chlordane	--	--	--	MG/KG	0.075 U	NA	NA	0.082 U	
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0022 U	NA	NA	0.0025 U	
Dieldrin	0.005	0.2	0.1	MG/KG	0.0022 U	NA	NA	0.0025 U	
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0075 U	NA	NA	0.0082 U	
Endrin	0.014	11	0.06	MG/KG	0.0075 U	NA	NA	0.0082 U	
Endrin Aldehyde	--	--	--	MG/KG	0.0075 U	NA	NA	0.0082 U	
Endrin Ketone	--	--	--	MG/KG	0.0075 U	NA	NA	0.0082 U	
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0022 U	NA	NA	0.0025 U	
Heptachlor	0.042	2.1	0.38	MG/KG	0.0075 U	NA	NA	0.0082 U	
Heptachlor Epoxide	--	--	--	MG/KG	0.0075 U	NA	NA	0.0082 U	
Methoxychlor	--	--	--	MG/KG	0.0075 U	NA	NA	0.0082 U	
P,P'-DDD	0.0033	13	14	MG/KG	0.0075 U	NA	NA	0.0082 U	
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0075 U	NA	NA	0.0082 U	
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0075 U	NA	NA	0.0082 U	
Pentachlorophenol	0.8	6.7	0.8	MG/KG	0.3 U	0.31 UJV	0.3 UJV	NA	
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	0.037 U	0.039 U	0.037 U	NA	
Toxaphene	--	--	--	MG/KG	0.075 U	NA	NA	0.082 U	

Table 7. Summary of Pesticides and Herbicides in Soil, 1221 Spofford Avenue, Bronx, New York

				Sample Designation:	RXTGW-12
				Sample Date:	06/14/2018
				Sample Depth (ft bls):	4 - 6
				Normal or Field Duplicate:	N
Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO	Unit	
2,4-D (Dichlorophenoxyacetic Acid)	--	--	--	MG/KG	NA
Acetic acid, (2,4,5-trichlorophenoxy)-	--	--	--	MG/KG	NA
Aldrin	0.005	0.097	0.19	MG/KG	0.0074 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02	0.48	0.02	MG/KG	0.0022 U
Alpha Endosulfan	2.4	24	102	MG/KG	0.0074 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.036	0.36	0.09	MG/KG	0.0022 U
Beta Endosulfan	2.4	24	102	MG/KG	0.0074 U
Chlordane	--	--	--	MG/KG	0.074 U
Delta BHC (Delta Hexachlorocyclohexane)	0.04	100	0.25	MG/KG	0.0022 U
Dieldrin	0.005	0.2	0.1	MG/KG	0.0022 U
Endosulfan Sulfate	2.4	24	1000	MG/KG	0.0074 U
Endrin	0.014	11	0.06	MG/KG	0.0074 U
Endrin Aldehyde	--	--	--	MG/KG	0.0074 U
Endrin Ketone	--	--	--	MG/KG	0.0074 U
Gamma Bhc (Lindane)	0.1	1.3	0.1	MG/KG	0.0022 U
Heptachlor	0.042	2.1	0.38	MG/KG	0.0074 U
Heptachlor Epoxide	--	--	--	MG/KG	0.0074 U
Methoxychlor	--	--	--	MG/KG	0.0074 U
P,P'-DDD	0.0033	13	14	MG/KG	0.0074 U
P,P'-DDE	0.0033	8.9	17	MG/KG	0.0074 U
P,P'-DDT	0.0033	7.9	136	MG/KG	0.0074 U
Pentachlorophenol	0.8	6.7	0.8	MG/KG	NA
Silvex (2,4,5-TP)	3.8	100	3.8	MG/KG	NA
Toxaphene	--	--	--	MG/KG	0.074 U

Table 8. Summary of Volatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-02	MW-6	RXMW-1	RXMW-10	RXMW-11
Sample Date:			06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards	Unit						
1,1,1-Trichloroethane (TCA)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	0.04	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (Ethylene Dibromide)	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.6	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane (P-Dioxane)	--	UG/L	50 U	50 U	50 U	50 U	50 U	50 U
2-Hexanone	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	50	UG/L	5.9 UV	5.4 UV	5 U	7.9 UV	5 U	5 U
Benzene	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	50	UG/L	1 UJV	1 UJV	1 U	1 U	1 U	1 U
Bromomethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	60	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	5	UG/L	1 UJV	1 UJV	1 U	1 U	1 U	1 U
Chlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	5	UG/L	1 UT	1 UT	1 U	1 U	1 U	1 U
Chloroform	7	UG/L	1 U	1 U	1 U	7.3	1 U	1 U
Chloromethane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5	UG/L	1 U	0.32 J	1 U	0.56 J	1 U	1 U
Cis-1,3-Dichloropropene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	--	UG/L	1 U	0.71 J	1 U	1 U	1 U	1 U
Dibromochloromethane	50	UG/L	1 UJV	1 UJV	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U

Table 8. Summary of Volatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-02	MW-6	RXMW-1	RXMW-10	RXMW-11
Sample Date:			06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards	Unit						
Ethylbenzene	5	UG/L	10	6.8	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	5	UG/L	3.3	6.1	0.38 J	1 U	1 U	1 U
m,p-Xylene	5	UG/L	2.3	3.4	1 U	1 U	1 U	1 U
Methyl Acetate	--	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	--	UG/L	0.59 J	1.6	1 U	1 U	1 U	1 U
Methylene Chloride	5	UG/L	1 U	1 U	1 U	1.4	1 U	1 U
O-Xylene (1,2-Dimethylbenzene)	5	UG/L	0.56 J	0.58 J	1 U	1 U	1 U	1 U
Styrene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Tert-Butyl Methyl Ether	10	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethylene (PCE)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethylene (TCE)	5	UG/L	1 U	0.61 J	1 U	1 U	1 U	1 U
Trichlorofluoromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	2	UG/L	1 U	1 U	1 U	1 U	1 U	1 U

Table 8. Summary of Volatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-2	RXMW-3	RXMW-4	RXMW-4	RXMW-5	RXMW-6
Sample Date:			06/22/2018	06/22/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018
Normal or Field Duplicate:			N	N	N	FD	N	N
Parameter	NYSDEC Ambient Water-Quality Standards	Unit						
1,1,1-Trichloroethane (TCA)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	0.04	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (Ethylene Dibromide)	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.6	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane (P-Dioxane)	--	UG/L	50 U	50 U	50 U	50 U	50 U	50 U
2-Hexanone	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	50	UG/L	10 UV	5 U	5 U	5 U	14 UV	5 U
Benzene	1	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	50	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	50	UG/L	1 U	1 U	1 UJV	1 UJV	1 UJV	1 UJV
Bromomethane	5	UG/L	1 UJV	1 UJV	1 U	1 U	1 U	1 U
Carbon Disulfide	60	UG/L	1 U	0.2 J	1 U	1 U	1 U	1 U
Carbon Tetrachloride	5	UG/L	1 U	1 U	1 UJV	1 UJV	1 UJV	1 UJV
Chlorobenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	5	UG/L	1 U	1 U	1 UT	1 UT	1 UT	1 UT
Chloroform	7	UG/L	6.4	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Cis-1,3-Dichloropropene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	50	UG/L	1 U	1 U	1 UJV	1 UJV	1 UJV	1 UJV
Dichlorodifluoromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U

Table 8. Summary of Volatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-2	RXMW-3	RXMW-4	RXMW-4	RXMW-5	RXMW-6
Sample Date:			06/22/2018	06/22/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018
Normal or Field Duplicate:			N	N	N	FD	N	N
Parameter	NYSDEC Ambient Water-Quality Standards	Unit						
Ethylbenzene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Methyl Acetate	--	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	UG/L	5 U	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
O-Xylene (1,2-Dimethylbenzene)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Tert-Butyl Methyl Ether	10	UG/L	1 U	1 U	1 U	1 U	1 U	67
Tetrachloroethylene (PCE)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	--	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethylene (TCE)	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	5	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	2	UG/L	1 U	1 U	1 U	1 U	1 U	1 U

Table 8. Summary of Volatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-7	RXMW-8	RXMW-9
Sample Date:			06/21/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards	Unit			
1,1,1-Trichloroethane (TCA)	5	UG/L	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	UG/L	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	UG/L	1 U	1 U	1 U
1,1,2-Trichloroethane	1	UG/L	1 U	1 U	1 U
1,1-Dichloroethane	5	UG/L	1 U	1 U	1 U
1,1-Dichloroethene	5	UG/L	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	UG/L	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	UG/L	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	0.04	UG/L	1 U	1 U	1 U
1,2-Dibromoethane (Ethylene Dibromide)	--	UG/L	1 U	1 U	1 U
1,2-Dichlorobenzene	3	UG/L	1 U	1 U	1 U
1,2-Dichloroethane	0.6	UG/L	1 U	1 U	1 U
1,2-Dichloropropane	1	UG/L	1 U	1 U	1 U
1,3-Dichlorobenzene	3	UG/L	1 U	1 U	1 U
1,4-Dichlorobenzene	3	UG/L	1 U	1 U	1 U
1,4-Dioxane (P-Dioxane)	--	UG/L	50 U	50 U	50 U
2-Hexanone	50	UG/L	5 U	5 U	5 U
Acetone	50	UG/L	5 U	5 U	5 U
Benzene	1	UG/L	1 U	1 U	1 U
Bromochloromethane	5	UG/L	1 U	1 U	1 U
Bromodichloromethane	50	UG/L	1 U	1 U	1 U
Bromoform	50	UG/L	1 UJV	1 U	1 U
Bromomethane	5	UG/L	1 U	1 UJV	1 UJV
Carbon Disulfide	60	UG/L	1 U	1 U	1 U
Carbon Tetrachloride	5	UG/L	1 UJV	1 U	1 U
Chlorobenzene	5	UG/L	1 U	1 U	1 U
Chloroethane	5	UG/L	1 UT	1 U	1 U
Chloroform	7	UG/L	3	1 U	1 U
Chloromethane	--	UG/L	1 U	1 U	1 U
Cis-1,2-Dichloroethylene	5	UG/L	1 U	1 U	1 U
Cis-1,3-Dichloropropene	5	UG/L	1 U	1 U	1 U
Cyclohexane	--	UG/L	1 U	1 U	1 U
Dibromochloromethane	50	UG/L	1 UJV	1 U	1 U
Dichlorodifluoromethane	5	UG/L	1 U	1 U	1 U

Table 8. Summary of Volatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-7	RXMW-8	RXMW-9
Sample Date:			06/21/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards	Unit			
Ethylbenzene	5	UG/L	1 U	1 U	1 U
Isopropylbenzene (Cumene)	5	UG/L	1 U	1 U	1 U
m,p-Xylene	5	UG/L	1 U	1 U	1 U
Methyl Acetate	--	UG/L	5 U	5 U	5 U
Methyl Ethyl Ketone (2-Butanone)	50	UG/L	5 U	5 U	5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	UG/L	5 U	5 U	5 U
Methylcyclohexane	--	UG/L	1 U	1 U	1 U
Methylene Chloride	5	UG/L	1 U	1 U	1 U
O-Xylene (1,2-Dimethylbenzene)	5	UG/L	1 U	1 U	1 U
Styrene	5	UG/L	1 U	1 U	1 U
Tert-Butyl Methyl Ether	10	UG/L	1	1 U	1 U
Tetrachloroethylene (PCE)	5	UG/L	0.25 J	1 U	1 U
Toluene	5	UG/L	1 U	1 U	1 U
Trans-1,2-Dichloroethene	5	UG/L	1 U	1 U	1 U
Trans-1,3-Dichloropropene	--	UG/L	1 U	1 U	1 U
Trichloroethylene (TCE)	5	UG/L	1 U	1 U	1 U
Trichlorofluoromethane	5	UG/L	1 U	1 U	1 U
Vinyl Chloride	2	UG/L	1 U	1 U	1 U

Table 9. Summary of Semivolatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-02	MW-6	RXMW-1	RXMW-10	RXMW-11	RXMW-2
Sample Date:			06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit							
1,2,4,5-Tetrachlorobenzene	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
1,4-Dioxane (P-Dioxane)	--	UG/L	NA	NA	NA	NA	NA	NA	0.23 U
2,3,4,6-Tetrachlorophenol	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2,4,5-Trichlorophenol	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2,4,6-Trichlorophenol	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2,4-Dichlorophenol	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2,4-Dimethylphenol	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2,4-Dinitrophenol	10	UG/L	20 U	20 U	20 U	26 U	20 U	20 U	26 U
2,4-Dinitrotoluene	5	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
2,6-Dinitrotoluene	5	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
2-Chloronaphthalene	10	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2-Chlorophenol	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2-Methylnaphthalene	--	UG/L	10 U	3.9 J	10 U	13 U	10 U	10 U	13 U
2-Methylphenol (O-Cresol)	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2-Nitroaniline	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
2-Nitrophenol	--	UG/L	10 UT	10 UT	10 U	13 U	10 U	10 U	13 U
3,3'-Dichlorobenzidine	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
3-Nitroaniline	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4,6-Dinitro-2-Methylphenol	--	UG/L	20 U	20 U	20 U	26 U	20 U	20 U	26 U
4-Bromophenyl Phenyl Ether	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4-Chloro-3-Methylphenol	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4-Chloroaniline	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4-Chlorophenyl Phenyl Ether	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4-Methylphenol (P-Cresol)	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4-Nitroaniline	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
4-Nitrophenol	--	UG/L	20 U	20 U	20 U	26 U	20 U	20 U	26 U
Acenaphthene	20	UG/L	3.1 J	5.2 J	10 U	13 U	10 U	10 U	13 U
Acenaphthylene	20	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Acetophenone	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Anthracene	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Atrazine	--	UG/L	2 U	2 U	2 UJV	2.6 UJV	2 UJV	2 UJV	2.6 UJV
Benzaldehyde	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Benzo(A)Anthracene	0.002	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
Benzo(A)Pyrene	0	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U

Table 9. Summary of Semivolatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-02	MW-6	RXMW-1	RXMW-10	RXMW-11	RXMW-2
Sample Date:			06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit							
Benzo(B)Fluoranthene	0.002	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
Benzo(G,H,I)Perylene	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Benzo(K)Fluoranthene	0.002	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
Benzyl Butyl Phthalate	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Biphenyl (Diphenyl)	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Bis(2-Chloroethoxy) Methane	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
Bis(2-Chloroisopropyl) Ether	5	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Bis(2-Ethylhexyl) Phthalate	5	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
Caprolactam	--	UG/L	10 U	10 U	10 RV	13 RV	10 RV	10 RV	13 RV
Carbazole	--	UG/L	2.2 J	1.2 J	10 U	13 U	10 U	10 U	13 U
Chrysene	0.002	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
Dibenz(A,H)Anthracene	--	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
Dibenzofuran	--	UG/L	10 U	10 UV	10 U	13 U	10 U	10 U	13 U
Diethyl Phthalate	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Dimethyl Phthalate	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Di-N-Butyl Phthalate	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Di-N-Octylphthalate	--	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Fluoranthene	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Fluorene	50	UG/L	2.8 J	3.7 J	10 U	13 U	10 U	10 U	13 U
Hexachlorobenzene	0.04	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
Hexachlorobutadiene	0.5	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
Hexachlorocyclopentadiene	5	UG/L	10 UT	10 UT	10 U	13 U	10 U	10 U	13 U
Hexachloroethane	5	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
Indeno(1,2,3-C,D)Pyrene	0.002	UG/L	2 U	2 U	2 U	2.6 U	2 U	2 U	2.6 U
Isophorone	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Naphthalene	10	UG/L	7.5 J	6.8 J	10 U	13 U	10 U	10 U	13 U
Nitrobenzene	0.4	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
N-Nitrosodi-N-Propylamine	--	UG/L	1 U	1 U	1 U	1.3 U	1 U	1 U	1.3 U
N-Nitrosodiphenylamine	50	UG/L	10 U	10 UV	10 U	13 U	10 U	10 U	13 U
Pentachlorophenol	1	UG/L	20 U	20 U	20 U	26 U	20 U	20 U	26 U
Phenanthrene	50	UG/L	3 J	3.3 J	10 U	13 U	10 U	10 U	13 U
Phenol	1	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U
Pyrene	50	UG/L	10 U	10 U	10 U	13 U	10 U	10 U	13 U

Table 9. Summary of Semivolatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-3	RXMW-4	RXMW-4	RXMW-5	RXMW-6	RXMW-7	RXMW-8	RXMW-9
Sample Date:			06/22/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	FD	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit								
1,2,4,5-Tetrachlorobenzene	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
1,4-Dioxane (P-Dioxane)	--	UG/L	NA	0.17 UT	NA	NA	NA	0.33 T	NA	NA
2,3,4,6-Tetrachlorophenol	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2,4-Dichlorophenol	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2,4-Dimethylphenol	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2,4-Dinitrophenol	10	UG/L	26 U	20 U	20 U	20 U	22 U	20 U	20 U	20 U
2,4-Dinitrotoluene	5	UG/L	2.6 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U
2,6-Dinitrotoluene	5	UG/L	2.6 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U
2-Chloronaphthalene	10	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Chlorophenol	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Methylnaphthalene	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Methylphenol (O-Cresol)	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Nitroaniline	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Nitrophenol	--	UG/L	13 U	10 UT	10 UT	10 UT	11 UT	10 UT	10 U	10 U
3,3'-Dichlorobenzidine	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
3-Nitroaniline	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4,6-Dinitro-2-Methylphenol	--	UG/L	26 U	20 U	20 U	20 U	22 U	20 U	20 U	20 U
4-Bromophenyl Phenyl Ether	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4-Chloroaniline	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4-Chlorophenyl Phenyl Ether	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4-Methylphenol (P-Cresol)	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4-Nitroaniline	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
4-Nitrophenol	--	UG/L	26 U	20 U	20 U	20 U	22 U	20 U	20 U	20 U
Acenaphthene	20	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Acenaphthylene	20	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Acetophenone	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Anthracene	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Atrazine	--	UG/L	2.6 UJV	2 U	2 U	2 U	2.2 U	2 U	2 UJV	2 UJV
Benzaldehyde	--	UG/L	13 U	10 RV	10 U	10 U	11 U	10 U	10 U	10 U
Benzo(A)Anthracene	0.002	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Benzo(A)Pyrene	0	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U

Table 9. Summary of Semivolatile Organic Compounds in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-3	RXMW-4	RXMW-4	RXMW-5	RXMW-6	RXMW-7	RXMW-8	RXMW-9
Sample Date:			06/22/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	FD	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit								
Benzo(B)Fluoranthene	0.002	UG/L	2.6 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U
Benzo(G,H,I)Perylene	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Benzo(K)Fluoranthene	0.002	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Benzyl Butyl Phthalate	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Biphenyl (Diphenyl)	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Bis(2-Chloroethoxy) Methane	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Bis(2-Chloroisopropyl) Ether	5	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Bis(2-Ethylhexyl) Phthalate	5	UG/L	2.6 U	1.8 J	2 U	2 U	2 J	1.7 J	2 U	2 U
Caprolactam	--	UG/L	13 RV	10 U	10 U	10 U	11 U	10 U	10 RV	10 RV
Carbazole	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Chrysene	0.002	UG/L	2.6 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U
Dibenz(A,H)Anthracene	--	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Dibenzofuran	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Diethyl Phthalate	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Dimethyl Phthalate	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Di-N-Butyl Phthalate	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Di-N-Octylphthalate	--	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Fluoranthene	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Fluorene	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Hexachlorobutadiene	0.5	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene	5	UG/L	13 U	10 UT	10 UT	10 UT	11 UT	10 UT	10 U	10 U
Hexachloroethane	5	UG/L	2.6 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U
Indeno(1,2,3-C,D)Pyrene	0.002	UG/L	2.6 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U
Isophorone	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Naphthalene	10	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Nitrobenzene	0.4	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
N-Nitrosodi-N-Propylamine	--	UG/L	1.3 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
N-Nitrosodiphenylamine	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Pentachlorophenol	1	UG/L	26 U	20 U	20 U	20 U	22 U	20 U	20 U	20 U
Phenanthrene	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Phenol	1	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U
Pyrene	50	UG/L	13 U	10 U	10 U	10 U	11 U	10 U	10 U	10 U

Table 10. Summary of Metals in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-01	MW-02	MW-02	MW-6	MW-6	RXMW-1	RXMW-1	RXMW-10
Sample Date:			06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N	N	N	N
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit									
Aluminum	--	UG/L	228	92.2	44.5	40 U	62.1	84.4	10500	241	219
Antimony	3	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.72 J
Arsenic	25	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2.7	2 U	6.1
Barium	1000	UG/L	111	104	119	100	113	105	193	110	81.4
Beryllium	3	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	1.2	0.8 U	0.8 U
Cadmium	5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Calcium	--	UG/L	107000	103000	61800	52500	164000	169000	68800	92600	54500
Chromium, Hexavalent	50	UG/L	10 U	NA	10 RV	NA	10 U	NA	10 U	NA	10 U
Chromium, Total	50	UG/L	4 U	4 U	4 U	4 U	4 U	4 U	23.1	4 U	4 U
Cobalt	--	UG/L	4 U	4 U	4 U	4 U	4 U	4 U	9.7	4 U	1.7 J
Copper	200	UG/L	2.6 J	4 U	4 U	4 U	4 U	4 U	29.8	4 U	4 U
Cyanide	200	UG/L	10 U	NA	10 U	NA	10 U	NA	10 U	NA	10 U
Iron	300	UG/L	2820	1770	2330 B	353	4270	1310	14800	191	1560
Lead	25	UG/L	0.72 J	0.47 J	1.2 U	1.2 U	1.2 U	1.2 U	26	2.2	0.42 J
Magnesium	35000	UG/L	21200	18800	24400	20000	59800	56600	24700	27400	19500
Manganese	300	UG/L	526	486	533	428	495	464	269	117	651
Mercury	0.7	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	UG/L	4 U	4 U	4 U	4 U	4 U	1.5 J	26	1.5 J	4.1
Potassium	--	UG/L	6280	5720	4780	4090	7420	7260	9560	6840	5670
Selenium	10	UG/L	10 U	10 U	10 UJV	10 U	10 U	10 U	10 U	10 U	10 U
Silver	50	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	20000	UG/L	9740	9010	22900	17100	251000	151000	21100	23200	25600
Thallium	0.5	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.25 J	0.8 U	0.8 U
Vanadium	--	UG/L	4 U	4 U	4 U	4 U	4 U	4 U	31.8	4 U	4 U
Zinc	2000	UG/L	8.2 J	16 U	16 U	16 U	16 U	16 U	60.8	16 U	16 U

Table 10. Summary of Metals in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation: Sample Date: Normal or Field Duplicate:			RXMW-10	RXMW-11	RXMW-11	RXMW-2	RXMW-2	RXMW-3	RXMW-3	RXMW-4	RXMW-4
			06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/21/2018	06/21/2018
			N	N	N	N	N	N	N	N	N
			Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit									
Aluminum	--	UG/L	17.5 J	71.8	40 U	509	27.3 J	233	30.4 J	3220	40 U
Antimony	3	UG/L	2 U	2 U	2 U	2 U	2 U	0.8 J	2 U	3.2	2 U
Arsenic	25	UG/L	3.5	2	1.4 J	2 U	2 U	1.2 J	0.96 J	2 U	2 U
Barium	1000	UG/L	90.1	60.5	55	66.7	60.8	114	109	98.4	63.3
Beryllium	3	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Cadmium	5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Calcium	--	UG/L	57900	75500	76100	79500	80100	125000	126000	87000	82700
Chromium, Hexavalent	50	UG/L	NA	10 U	NA	10 U	NA	10 U	NA	10 U	NA
Chromium, Total	50	UG/L	4 U	4 U	4 U	1.3 J	4 U	4 U	4 U	5.8	4 U
Cobalt	--	UG/L	3 J	4 U	4 U	4.6	3.7 J	4 U	4 U	4.8	2.2 J
Copper	200	UG/L	4 U	4 U	4 U	2.4 J	4 U	4 U	4 U	11.1	4 U
Cyanide	200	UG/L	NA	10 U	NA	10 U	NA	10 U	NA	10 U	NA
Iron	300	UG/L	850	2250	1060	973	120 U	2520	960	5190	120 U
Lead	25	UG/L	1.2 U	1.2 U	1.2 U	0.47 J	1.2 U	1.2 U	1.2 U	5.7	1.2 U
Magnesium	35000	UG/L	19400	30800	29100	26900	25300	37300	35900	37800	34100
Manganese	300	UG/L	632	681	616	606	525	506	480	655	548
Mercury	0.7	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	UG/L	12.7	4 U	1.8 J	5.2	3.6 J	1.7 J	1.3 J	8.2	3.6 J
Potassium	--	UG/L	4950	8190	7510	5770	5230	7650	7360	7990	5620
Selenium	10	UG/L	0.79 J	10 U	10 U	10 U	10 U	10 U	10 U	1.3 J	1.5 J
Silver	50	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	20000	UG/L	22000	34700	32400	70900	68500	27300	26100	132000	128000
Thallium	0.5	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Vanadium	--	UG/L	4 U	4 U	4 U	2 J	4 U	4 U	4 U	7.2	4 U
Zinc	2000	UG/L	16 U	16 U	16 U	6.6 J	16 U	16 U	16 U	25	16 U

Table 10. Summary of Metals in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation: Sample Date: Normal or Field Duplicate:			RXMW-4	RXMW-4	RXMW-5	RXMW-5	RXMW-6	RXMW-6	RXMW-7	RXMW-7	RXMW-8
			06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/22/2018
			FD	FD	N	N	N	N	N	N	N
			Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit									
Aluminum	--	UG/L	7230	23.7 J	53.6	40 U	30.8 J	21.2 J	401	40 U	41.1
Antimony	3	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	25	UG/L	0.83 J	2 U	2 U	2 U	1.5 J	1.2 J	2 U	2 U	2 U
Barium	1000	UG/L	137	63.5	84.5	77.6	55	51.8	75.7	74.3	73.2
Beryllium	3	UG/L	0.44 J	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Cadmium	5	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Calcium	--	UG/L	75800	83500	149000	149000	85700	89100	69200	75100	101000
Chromium, Hexavalent	50	UG/L	10 U	NA	10 U	NA	10 U	NA	10 U	NA	10 U
Chromium, Total	50	UG/L	13.3	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Cobalt	--	UG/L	8.6	2.1 J	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Copper	200	UG/L	27.1	4 U	4 U	4 U	4 U	4 U	4 U	4 U	5.7
Cyanide	200	UG/L	10 U	NA	2 J	NA	10 U	NA	10 U	NA	10 U
Iron	300	UG/L	12100	126	152	120 U	1190	120 U	766	120 U	70 J
Lead	25	UG/L	13.4	1.2 U	0.39 J	1.2 U	1.2 U	1.2 U	0.7 J	1.2 U	1.2 U
Magnesium	35000	UG/L	37200	34400	61800	54800	46100	42500	34900	33600	49600
Manganese	300	UG/L	653	543	167	114	500	482	240	213	38.5
Mercury	0.7	UG/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	UG/L	14.5	3.4 J	1.6 J	2.2 J	4 U	4 U	1.8 J	4 U	3.2 J
Potassium	--	UG/L	9210	5670	7350	6690	6030	5750	5590	5260	7180
Selenium	10	UG/L	1.4 J	1.1 J	1.4 J	1.4 J	10 U	10 U	10 U	10 U	10 U
Silver	50	UG/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	20000	UG/L	123000	129000	245000	206000	48800	50500	44800	42200	40200
Thallium	0.5	UG/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Vanadium	--	UG/L	15.4	4 U	4 U	4 U	4 U	4 U	2.4 J	1.3 J	4 U
Zinc	2000	UG/L	52.4	10.2 J	16 U	16 U	16 U	16 U	16 U	16 U	18.1

Table 10. Summary of Metals in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-8	RXMW-9	RXMW-9
Sample Date:			06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N
			Dissolved	Total	Dissolved
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit			
Aluminum	--	UG/L	22.1 J	7090	47.7
Antimony	3	UG/L	2 U	2	1.7 J
Arsenic	25	UG/L	2 U	1.5 J	2 U
Barium	1000	UG/L	70.6	114	61.9
Beryllium	3	UG/L	0.8 U	0.8 UV	0.8 U
Cadmium	5	UG/L	2 U	2 U	2 U
Calcium	--	UG/L	101000	65000	74100
Chromium, Hexavalent	50	UG/L	NA	10 U	NA
Chromium, Total	50	UG/L	4 U	21	4 U
Cobalt	--	UG/L	4 U	57.5	8.1
Copper	200	UG/L	4 U	31.4	4 U
Cyanide	200	UG/L	NA	2.2 J	NA
Iron	300	UG/L	120 U	14600	120 U
Lead	25	UG/L	1.2 U	12.9	1.2 U
Magnesium	35000	UG/L	47100	25000	25600
Manganese	300	UG/L	25	132	3.5 J
Mercury	0.7	UG/L	0.2 U	0.2 U	0.2 U
Nickel	100	UG/L	2.3 J	14.1	4 U
Potassium	--	UG/L	6540	6190	3930
Selenium	10	UG/L	10 U	1.1 J	1.2 J
Silver	50	UG/L	2 U	2 U	2 U
Sodium	20000	UG/L	37700	10800	11900
Thallium	0.5	UG/L	0.8 U	0.8 U	0.8 U
Vanadium	--	UG/L	4 U	19.3	4 U
Zinc	2000	UG/L	15.1 J	85.6	16 U

Table 11. Summary of Polychlorinated Biphenyls in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-02	MW-6	RXMW-1	RXMW-10	RXMW-11	RXMW-2	RXMW-3
Sample Date:			06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit								
PCB-1016 (Aroclor 1016)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1221 (Aroclor 1221)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1232 (Aroclor 1232)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1242 (Aroclor 1242)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1248 (Aroclor 1248)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1254 (Aroclor 1254)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1260 (Aroclor 1260)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1262 (Aroclor 1262)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
PCB-1268 (Aroclor 1268)	--	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Polychlorinated Biphenyl (PCBs)	0.09	UG/L	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Table 11. Summary of Polychlorinated Biphenyls in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-4	RXMW-4	RXMW-5	RXMW-6	RXMW-7	RXMW-8	RXMW-9
Sample Date:			06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	FD	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit							
PCB-1016 (Aroclor 1016)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1221 (Aroclor 1221)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1232 (Aroclor 1232)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1242 (Aroclor 1242)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1248 (Aroclor 1248)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1254 (Aroclor 1254)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1260 (Aroclor 1260)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1262 (Aroclor 1262)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
PCB-1268 (Aroclor 1268)	--	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U
Polychlorinated Biphenyl (PCBs)	0.09	UG/L	0.42 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U

Table 12. Summary of Pesticides and Herbicides in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			MW-01	MW-02	MW-6	RXMW-1	RXMW-10	RXMW-11	RXMW-2
Sample Date:			06/21/2018	06/21/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:			N	N	N	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit							
2,4-D (Dichlorophenoxyacetic Acid)	50	UG/L	1.2 U	1.2 UJV	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	UG/L	1.2 U	1.2 UJV	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Aldrin	0	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Alpha Endosulfan	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta Bhc (Beta Hexachlorocyclohexane)	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beta Endosulfan	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Chlordane	0.05	UG/L	0.51 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Delta BHC (Delta Hexachlorocyclohexane)	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.004	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	0	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde	5	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Ketone	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Gamma Bhc (Lindane)	--	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.04	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor Epoxide	0.03	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Methoxychlor	35	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
P,P'-DDD	0.3	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
P,P'-DDE	0.2	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
P,P'-DDT	0.2	UG/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Pentachlorophenol	1	UG/L	20 U	20 U	20 U	26 U	20 U	20 U	26 U
Silvex (2,4,5-TP)	0.26	UG/L	1.2 U	1.2 UJV	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Toxaphene	0.06	UG/L	0.51 U	0.51 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 12. Summary of Pesticides and Herbicides in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:			RXMW-3	RXMW-4	RXMW-4	RXMW-5	RXMW-6	RXMW-7	RXMW-8
Sample Date:			06/22/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/21/2018	06/22/2018
Normal or Field Duplicate:			N	N	FD	N	N	N	N
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit							
2,4-D (Dichlorophenoxyacetic Acid)	50	UG/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	UG/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Aldrin	0	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Alpha Endosulfan	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Beta Bhc (Beta Hexachlorocyclohexane)	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Beta Endosulfan	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Chlordane	0.05	UG/L	0.5 U	0.52 U	0.5 U	0.52 U	0.52 U	0.5 U	0.5 U
Delta BHC (Delta Hexachlorocyclohexane)	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Dieldrin	0.004	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Endosulfan Sulfate	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Endrin	0	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Endrin Aldehyde	5	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Endrin Ketone	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Gamma Bhc (Lindane)	--	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Heptachlor	0.04	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Heptachlor Epoxide	0.03	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Methoxychlor	35	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
P,P'-DDD	0.3	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
P,P'-DDE	0.2	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
P,P'-DDT	0.2	UG/L	0.02 U	0.021 U	0.02 U	0.021 U	0.021 U	0.02 U	0.02 U
Pentachlorophenol	1	UG/L	26 U	20 U	20 U	20 U	22 U	20 U	20 U
Silvex (2,4,5-TP)	0.26	UG/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Toxaphene	0.06	UG/L	0.5 U	0.52 U	0.5 U	0.52 U	0.52 U	0.5 U	0.5 U

Table 12. Summary of Pesticides and Herbicides in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXMW-9	
Sample Date:		06/22/2018	
Normal or Field Duplicate:		N	
Parameter	NYSDEC Ambient Water-Quality Standards and Guidance Values	Unit	
2,4-D (Dichlorophenoxyacetic Acid)	50	UG/L	1.2 U
Acetic acid, (2,4,5-trichlorophenoxy)-	--	UG/L	1.2 U
Aldrin	0	UG/L	0.02 U
Alpha Bhc (Alpha Hexachlorocyclohexane)	--	UG/L	0.02 U
Alpha Endosulfan	--	UG/L	0.02 U
Beta Bhc (Beta Hexachlorocyclohexane)	--	UG/L	0.02 U
Beta Endosulfan	--	UG/L	0.02 U
Chlordane	0.05	UG/L	0.5 U
Delta BHC (Delta Hexachlorocyclohexane)	--	UG/L	0.02 U
Dieldrin	0.004	UG/L	0.02 U
Endosulfan Sulfate	--	UG/L	0.02 U
Endrin	0	UG/L	0.02 U
Endrin Aldehyde	5	UG/L	0.02 U
Endrin Ketone	--	UG/L	0.02 U
Gamma Bhc (Lindane)	--	UG/L	0.02 U
Heptachlor	0.04	UG/L	0.02 U
Heptachlor Epoxide	0.03	UG/L	0.02 U
Methoxychlor	35	UG/L	0.02 U
P,P'-DDD	0.3	UG/L	0.02 U
P,P'-DDE	0.2	UG/L	0.02 U
P,P'-DDT	0.2	UG/L	0.02 U
Pentachlorophenol	1	UG/L	20 U
Silvex (2,4,5-TP)	0.26	UG/L	1.2 U
Toxaphene	0.06	UG/L	0.5 U

Table 13. Summary of Perfluorinated Alkyl Acids in Groundwater, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXMW-2	RXMW-4	RXMW-4	RXMW-7
Sample Date:		06/22/2018	06/21/2018	06/21/2018	06/21/2018
Normal or Field Duplicate:		N	N	FD	N
Parameter	Unit				
6:2-FTS	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
8:2-FTS	NG/L	0.69 J	1.74 U	1.67 U	2.55 U
EtFOSAA	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
MeFOSAA	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
PFBA	NG/L	19.3 B	54.5 B	47 B	35.1 B
PFBS	NG/L	2.2	5.05	5.76	2.31
PFDA	NG/L	0.38 J	1.74 U	0.37 J	0.52 J
PFDoA	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
PFDS	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
PFHpA	NG/L	2.38 B	15.7 B	17.7 B	10.1 B
PFHpS	NG/L	1.71 U	5.01 B	3.81 UV	1.1 UV
PFHxA	NG/L	2.29 B	18 B	17.4 B	12.0 B
PFHxS	NG/L	3.03 B	15 B	15 B	7.38 B
PFNA	NG/L	1.44 J	1.96	1.32 J	3.01
PFOA	NG/L	12.3 B	64.9 B	65.6 B	19.9 B
PFOS	NG/L	10.9	28.2	28.2	28.3
PFOSA	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
PFPeA	NG/L	4.4	24.1	25.5	23.7
PFTeDA	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
PFTTrDA	NG/L	1.71 U	1.74 U	1.67 U	2.55 U
PFUnA	NG/L	0.25 J	1.74 U	1.67 U	0.31 J
PFOA & PFOS (total)	NG/L	23.2 B	93.1 B	93.8 B	48.2 B

Table 14. Summary of Volatile Organic Compounds in Soil Vapor, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXSS-2	RXSS-3	RXSS-4	RXSS-5	RXSV-10	RXSV-11	RXSV-12	RXSV-13	RXSV-14
Sample Date:		06/04/2018	06/04/2018	06/04/2018	06/04/2018	06/04/2018	05/23/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:		N	N	N	N	N	N	N	N	N
Parameter	Unit									
1,1,1-Trichloroethane (TCA)	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	3.3 U	2.2 U	58 U
1,1,2,2-Tetrachloroethane	UG/M3	14 UJV	14 U	150 U	14 UJV	14 U	14 U	4.1 U	2.7 U	73 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/M3	15 UJV	15 U	170 U	15 UJV	15 U	15 U	1.1 J	0.75 J	81 U
1,1,2-Trichloroethane	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	3.3 U	2.2 U	58 U
1,1-Dichloroethane	UG/M3	8.1 UJV	8.1 U	89 U	8.1 UJV	8.1 U	8.1 U	2.4 U	1.6 U	43 U
1,1-Dichloroethene	UG/M3	1.4 UJV	1.4 U	15 U	1.4 UJV	1.4 U	1.4 U	0.42 U	0.28 U	7.4 U
1,2,4-Trichlorobenzene	UG/M3	37 UJV	37 UT	410 UT	37 UJV	37 UT	37 U	11 U	7.4 U	200 U
1,2,4-Trimethylbenzene	UG/M3	9.8 UJV	9.8 U	110 U	9.8 UJV	9.8 U	9.8 U	3.3	0.9 J	52 U
1,2-Dibromoethane (Ethylene Dibromide)	UG/M3	15 UJV	15 U	170 U	15 UJV	15 U	15 U	4.6 U	3.1 U	82 U
1,2-Dichlorobenzene	UG/M3	12 UJV	12 U	130 U	12 UJV	12 U	12 U	3.6 U	2.4 U	64 U
1,2-Dichloroethane	UG/M3	8.1 UJV	8.1 U	89 U	8.1 UJV	8.1 U	8.1 U	2.4 U	1.6 U	43 U
1,2-Dichloropropane	UG/M3	9.2 UJV	9.2 U	100 U	9.2 UJV	9.2 U	9.2 U	2.8 U	1.8 U	49 U
1,2-Dichlorotetrafluoroethane	UG/M3	14 UJV	14 U	150 U	14 UJV	14 U	14 U	4.2 U	2.8 U	74 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	9.8 UJV	9.8 U	110 U	9.8 UJV	9.8 U	9.8 U	1.6 J	2 U	52 U
1,3-Butadiene	UG/M3	4.4 UJV	4.4 U	49 U	4.4 UJV	4.4 U	4.4 U	1.3 U	0.88 U	64
1,3-Dichlorobenzene	UG/M3	12 UJV	12 U	130 U	12 UJV	12 U	12 U	3.6 U	2.4 U	64 U
1,4-Dichlorobenzene	UG/M3	12 UJV	12 U	130 U	12 UJV	12 U	12 U	1.5 J	2.4 U	64 U
1,4-Dioxane (P-Dioxane)	UG/M3	180 UJV	180 U	2000 U	180 UJV	180 U	180 U	54 U	36 U	960 U
2,2,4-Trimethylpentane	UG/M3	9.3 UJV	5.1 J	3800	9.3 UJV	11	9.3 U	6.6	1.9 U	50 U
2-Chlorotoluene	UG/M3	10 UJV	10 U	110 U	10 UJV	10 U	10 U	3.1 U	2.1 U	55 U
2-Hexanone	UG/M3	20 UJV	20 U	230 U	20 UJV	20 U	20 U	6.1 U	4.1 U	110 U
4-Ethyltoluene	UG/M3	9.8 UJV	9.8 U	110 U	9.8 UJV	9.8 U	9.8 U	1.2 J	2 U	52 U
Acetone	UG/M3	120 UJV	120 U	1300 U	64 JV	220	410	36 U	23 J	630 U
Allyl Chloride (3-Chloropropene)	UG/M3	16 UJV	16 U	170 U	16 UJV	16 U	16 U	4.7 U	3.1 U	83 U
Benzene	UG/M3	6.4 UJV	6.4 U	70 U	6.4 UJV	6.4 U	5.5 J	1.5 J	1.5	34 U
Benzyl Chloride	UG/M3	10 UJV	10 U	110 U	10 UJV	10 U	10 U	3.1 U	2.1 U	55 U
Bromodichloromethane	UG/M3	13 UJV	13 U	150 U	13 UJV	13 U	13 U	3.3 J	2.7 U	71 U
Bromoform	UG/M3	21 UJV	21 U	230 U	21 UJV	21 U	21 U	6.2 U	4.1 U	110 U
Bromomethane	UG/M3	7.8 UJV	7.8 U	85 U	7.8 UJV	7.8 U	7.8 U	2.3 U	1.6 U	41 U
Carbon Disulfide	UG/M3	16 UJV	16 U	170 U	16 UJV	20	19	200	19	78 J
Carbon Tetrachloride	UG/M3	2.2 UJV	2.2 U	24 U	2.2 UJV	2.2 U	2.2 U	0.65 J	0.39 J	12 U
Chlorobenzene	UG/M3	9.2 UJV	9.2 U	100 U	9.2 UJV	9.2 U	9.2 U	2.8 U	1.8 U	49 U
Chloroethane	UG/M3	13 UJV	13 U	150 U	13 UJV	13 U	13 U	4 U	2.6 U	70 U

Table 14. Summary of Volatile Organic Compounds in Soil Vapor, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXSS-2	RXSS-3	RXSS-4	RXSS-5	RXSV-10	RXSV-11	RXSV-12	RXSV-13	RXSV-14
Sample Date:		06/04/2018	06/04/2018	06/04/2018	06/04/2018	06/04/2018	05/23/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:		N	N	N	N	N	N	N	N	N
Parameter	Unit									
Chloroform	UG/M3	9.8 UJV	9.8 U	110 U	9.8 UJV	9.8 U	9.8 U	150	16	280
Chloromethane	UG/M3	10 UJV	10 U	110 U	10 UJV	10 U	10 U	3.1 U	1.2 J	55 U
Cis-1,2-Dichloroethylene	UG/M3	1.4 UJV	1.4 U	15 U	1.4 UJV	1.4 U	1.4 U	0.42 U	0.28 U	7.4 U
Cis-1,3-Dichloropropene	UG/M3	9.1 UJV	9.1 U	100 U	9.1 UJV	9.1 U	9.1 U	2.7 U	1.8 U	48 U
Cyclohexane	UG/M3	6.9 UJV	8.6	7200	3.4 JV	8.9	6.9 U	3.5	2.6	37 U
Cymene	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	3.3 U	2.2 U	58 U
Dibromochloromethane	UG/M3	17 UJV	17 U	190 U	17 UJV	17 U	17 U	5.1 U	3.4 U	90 U
Dichlorodifluoromethane	UG/M3	25 UJV	25 U	270 U	25 UJV	25 U	25 U	7.4 U	2.5 J	130 U
Dichloroethylenes	UG/M3	16 UJV	16 U	170 U	16 UJV	16 U	16 U	4.8 U	3.2 U	84 U
Ethylbenzene	UG/M3	8.7 UJV	8.7 U	96 U	8.7 UJV	8.7 U	8.7 U	57	2.2	46 U
Hexachlorobutadiene	UG/M3	21 UJV	21 U	230 U	21 UJV	21 U	21 U	6.4 U	4.3 U	110 U
Isopropanol	UG/M3	120 UJV	120 U	1400 U	120 UJV	120 U	120 U	37 U	25 U	650 U
Isopropylbenzene (Cumene)	UG/M3	9.8 UJV	9.8 U	110 U	9.8 UJV	9.8 U	9.8 U	2.8 J	2 U	52 U
m,p-Xylene	UG/M3	22 UJV	22 U	240 U	22 UJV	22 U	22 U	250	5.5	32 J
Methyl Ethyl Ketone (2-Butanone)	UG/M3	22 JV	15 U	160 U	6.4 JV	15 U	15 UV	2.3 J	1.9 J	78 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	UG/M3	20 UJV	20 U	230 U	20 UJV	20 U	20 U	6.1 U	4.3	110 U
Methyl Methacrylate	UG/M3	20 UJV	20 U	230 U	20 UJV	20 U	20 U	6.1 U	4.1 U	110 U
Methylene Chloride	UG/M3	17 UJV	17 U	190 U	17 UJV	17 U	17 U	6.4	1.9 J	92 U
Naphthalene	UG/M3	26 UJV	26 U	290 U	26 UJV	26 U	26 U	7.9 U	5.2 U	140 U
N-Butylbenzene	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	3.3 U	2.2 U	58 U
N-Heptane	UG/M3	8.2 UJV	8.2 U	520	8.2 UJV	8.2 U	8.2 U	1.8 J	8.4	77
N-Hexane	UG/M3	7 UJV	7 U	2500	7 UJV	7 U	7 U	2.1 U	4.8	310
N-Propylbenzene	UG/M3	9.8 UJV	9.8 U	110 U	9.8 UJV	9.8 U	9.8 U	1.1 J	2 U	52 U
O-Xylene (1,2-Dimethylbenzene)	UG/M3	8.7 UJV	8.7 U	96 U	8.7 UJV	8.7 U	8.7 U	93	1.8	46 U
Sec-Butylbenzene	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	3.3 U	2.2 U	58 U
Styrene	UG/M3	8.5 UJV	8.5 U	94 U	8.5 UJV	8.5 U	8.5 U	2.6 U	1.1 J	45 U
T-Butylbenzene	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	3.3 U	2.2 U	58 U
Tert-Butyl Alcohol	UG/M3	150 UJV	150 U	1700 U	98 JV	45 J	150 U	45 U	13 J	800 U
Tert-Butyl Methyl Ether	UG/M3	7.2 UJV	7.2 U	79 U	7.2 UJV	7.2 U	7.2 U	2.2 U	1.4 U	38 U
Tetrachloroethylene (PCE)	UG/M3	14 UJV	9.3 J	150 U	14 UJV	5.3 J	8.9 J	46	5.1	13 J
Tetrahydrofuran	UG/M3	150 UJV	150 U	1600 U	150 UJV	150 U	150 U	44 U	29 U	780 U
Toluene	UG/M3	7.5 UJV	7.5 U	83 U	3.8 JV	2.9 J	22	17	9.2	150
Trans-1,2-Dichloroethene	UG/M3	7.9 UJV	7.9 U	87 U	7.9 UJV	7.9 U	7.9 U	2.4 U	1.6 U	42 U
Trans-1,3-Dichloropropene	UG/M3	9.1 UJV	9.1 U	100 U	9.1 UJV	9.1 U	9.1 U	2.7 U	1.8 U	48 U
Trichloroethylene (TCE)	UG/M3	1.9 UJV	3.4	25	1.9 UJV	1.9 U	1.9 U	1.7	1.2	10 U
Trichlorofluoromethane	UG/M3	11 UJV	11 U	120 U	11 UJV	11 U	11 U	33	6.4	60 U
Vinyl Bromide	UG/M3	8.7 UJV	8.7 U	96 U	8.7 UJV	8.7 U	8.7 U	2.6 U	1.7 U	46 U
Vinyl Chloride	UG/M3	0.89 UJV	0.89 U	9.8 U	0.89 UJV	0.89 U	0.89 U	0.27 U	0.18 U	4.8 U

Table 14. Summary of Volatile Organic Compounds in Soil Vapor, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXSS-2	RXSS-3	RXSS-4	RXSS-5	RXSV-10	RXSV-11	RXSV-12	RXSV-13	RXSV-14
Sample Date:		06/04/2018	06/04/2018	06/04/2018	06/04/2018	06/04/2018	05/23/2018	06/22/2018	06/22/2018	06/22/2018
Normal or Field Duplicate:		N	N	N	N	N	N	N	N	N
Parameter	Unit									
Xylenes, Total	UG/M3	30 UJV	30 U	330 U	30 UJV	30 U	30 U	340	7.4	160 U

Table 14. Summary of Volatile Organic Compounds in Soil Vapor, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXSV-4	RXSV-5	RXSV-7	RXSV-9
Sample Date:		06/04/2018	06/04/2018	06/04/2018	05/23/2018
Normal or Field Duplicate:		N	N	N	N
Parameter	Unit				
1,1,1-Trichloroethane (TCA)	UG/M3	11 UJV	19 U	11 U	11 U
1,1,2,2-Tetrachloroethane	UG/M3	14 UJV	23 U	14 U	14 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/M3	15 UJV	26 U	15 U	15 U
1,1,2-Trichloroethane	UG/M3	11 UJV	19 U	11 U	11 U
1,1-Dichloroethane	UG/M3	8.1 UJV	14 U	8.1 U	8.1 U
1,1-Dichloroethene	UG/M3	1.4 UJV	2.4 U	1.4 U	1.6
1,2,4-Trichlorobenzene	UG/M3	37 UJV	63 UT	37 UT	37 U
1,2,4-Trimethylbenzene	UG/M3	9.8 UJV	17 U	9.8 U	9.8 U
1,2-Dibromoethane (Ethylene Dibromide)	UG/M3	15 UJV	26 U	15 U	15 U
1,2-Dichlorobenzene	UG/M3	12 UJV	20 U	12 U	12 U
1,2-Dichloroethane	UG/M3	8.1 UJV	14 U	8.1 U	8.1 U
1,2-Dichloropropane	UG/M3	9.2 UJV	16 U	9.2 U	9.2 U
1,2-Dichlorotetrafluoroethane	UG/M3	14 UJV	24 U	14 U	14 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	9.8 UJV	17 U	9.8 U	9.8 U
1,3-Butadiene	UG/M3	4.4 UJV	7.5 U	4.4 U	4.4 U
1,3-Dichlorobenzene	UG/M3	12 UJV	20 U	12 U	12 U
1,4-Dichlorobenzene	UG/M3	12 UJV	20 U	12 U	12 U
1,4-Dioxane (P-Dioxane)	UG/M3	180 UJV	310 U	180 U	180 U
2,2,4-Trimethylpentane	UG/M3	9.3 UJV	16 U	9.3 U	9.3 U
2-Chlorotoluene	UG/M3	10 UJV	18 U	10 U	10 U
2-Hexanone	UG/M3	20 UJV	35 U	20 U	20 U
4-Ethyltoluene	UG/M3	9.8 UJV	17 U	9.8 U	9.8 U
Acetone	UG/M3	120 UJV	1400	120 U	630
Allyl Chloride (3-Chloropropene)	UG/M3	16 UJV	27 U	16 U	16 U
Benzene	UG/M3	6.4 UJV	11 U	6.4 U	6 J
Benzyl Chloride	UG/M3	10 UJV	18 U	10 U	10 U
Bromodichloromethane	UG/M3	13 UJV	23 U	13 U	13 U
Bromoform	UG/M3	21 UJV	35 U	21 U	21 U
Bromomethane	UG/M3	7.8 UJV	13 U	7.8 U	7.8 U
Carbon Disulfide	UG/M3	8.2 JV	13 J	4.9 J	13 J
Carbon Tetrachloride	UG/M3	2.2 UJV	3.7 U	2.2 U	2.2 U
Chlorobenzene	UG/M3	9.2 UJV	16 U	9.2 U	9.2 U
Chloroethane	UG/M3	13 UJV	22 U	13 U	13 U

Table 14. Summary of Volatile Organic Compounds in Soil Vapor, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXSV-4	RXSV-5	RXSV-7	RXSV-9
Sample Date:		06/04/2018	06/04/2018	06/04/2018	05/23/2018
Normal or Field Duplicate:		N	N	N	N
Parameter	Unit				
Chloroform	UG/M3	9.8 UJV	7.1 J	9.8 U	9.8 U
Chloromethane	UG/M3	10 UJV	18 U	10 U	10 U
Cis-1,2-Dichloroethylene	UG/M3	1.4 UJV	2.4 U	1.4 U	1.4 U
Cis-1,3-Dichloropropene	UG/M3	9.1 UJV	15 U	9.1 U	9.1 U
Cyclohexane	UG/M3	6.9 UJV	11 J	6.9 U	2.3 J
Cymene	UG/M3	11 UJV	19 U	11 U	11 U
Dibromochloromethane	UG/M3	17 UJV	29 U	17 U	17 U
Dichlorodifluoromethane	UG/M3	25 UJV	42 U	25 U	25 U
Dichloroethylenes	UG/M3	16 UJV	27 U	16 U	16 U
Ethylbenzene	UG/M3	8.7 UJV	15 U	8.7 U	8.7 U
Hexachlorobutadiene	UG/M3	21 UJV	36 U	21 U	21 U
Isopropanol	UG/M3	120 UJV	210 U	120 U	120 U
Isopropylbenzene (Cumene)	UG/M3	9.8 UJV	17 U	9.8 U	9.8 U
m,p-Xylene	UG/M3	22 UJV	37 U	22 U	22 U
Methyl Ethyl Ketone (2-Butanone)	UG/M3	15 UJV	31	15 U	15 UV
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	UG/M3	20 UJV	35 U	20 U	20 U
Methyl Methacrylate	UG/M3	20 UJV	35 U	20 U	20 U
Methylene Chloride	UG/M3	17 UJV	30 U	17 U	17 U
Naphthalene	UG/M3	26 UJV	45 U	26 U	26 U
N-Butylbenzene	UG/M3	11 UJV	19 U	11 U	11 U
N-Heptane	UG/M3	8.2 UJV	14 U	8.2 U	8.2 U
N-Hexane	UG/M3	6.3 JV	12 U	7 U	7 U
N-Propylbenzene	UG/M3	9.8 UJV	17 U	9.8 U	9.8 U
O-Xylene (1,2-Dimethylbenzene)	UG/M3	8.7 UJV	15 U	8.7 U	8.7 U
Sec-Butylbenzene	UG/M3	11 UJV	19 U	11 U	11 U
Styrene	UG/M3	8.5 UJV	14 U	8.5 U	8.5 U
T-Butylbenzene	UG/M3	11 UJV	19 U	11 U	11 U
Tert-Butyl Alcohol	UG/M3	150 UJV	260 U	150 U	64 J
Tert-Butyl Methyl Ether	UG/M3	7.2 UJV	12 U	7.2 U	7.2 U
Tetrachloroethylene (PCE)	UG/M3	4.1 JV	9.7 J	14 U	6 J
Tetrahydrofuran	UG/M3	150 UJV	250 U	150 U	150 U
Toluene	UG/M3	7.5 UJV	13 U	7.5 U	30
Trans-1,2-Dichloroethene	UG/M3	7.9 UJV	13 U	7.9 U	7.9 U
Trans-1,3-Dichloropropene	UG/M3	9.1 UJV	15 U	9.1 U	9.1 U
Trichloroethylene (TCE)	UG/M3	1.9 UJV	3.2 U	1.9 U	1.9 U
Trichlorofluoromethane	UG/M3	11 UJV	19 U	11 U	11 U
Vinyl Bromide	UG/M3	8.7 UJV	15 U	8.7 U	8.7 U
Vinyl Chloride	UG/M3	0.89 UJV	1.5 U	0.89 U	0.89 U

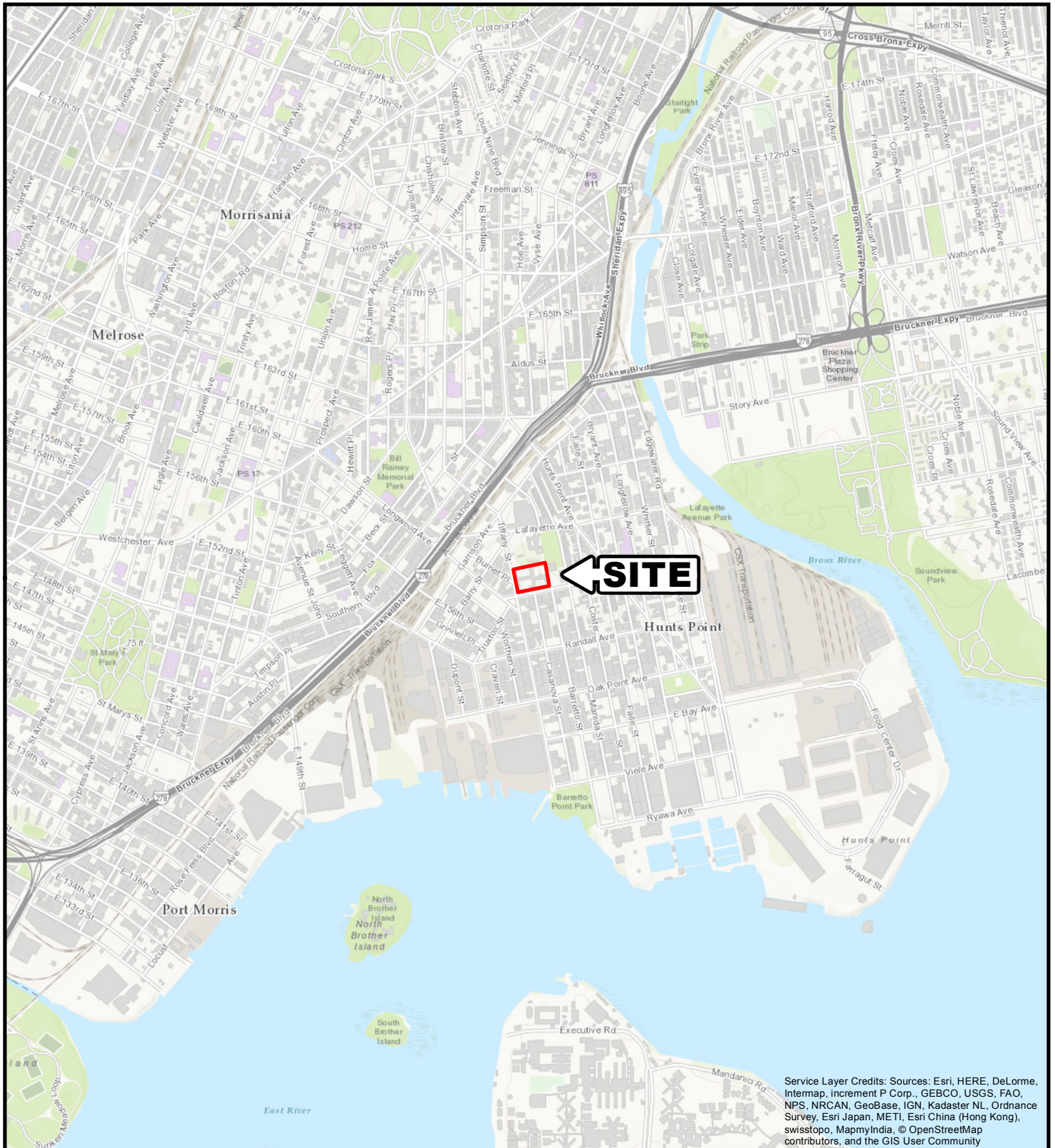
Table 14. Summary of Volatile Organic Compounds in Soil Vapor, 1221 Spofford Avenue, Bronx, New York

Sample Designation:		RXSV-4	RXSV-5	RXSV-7	RXSV-9
Sample Date:		06/04/2018	06/04/2018	06/04/2018	05/23/2018
Normal or Field Duplicate:		N	N	N	N
Parameter	Unit				
Xylenes, Total	UG/M3	30 UJV	52 U	30 U	30 U

Remedial Investigation Report
1221 Spofford Avenue, Bronx, New York

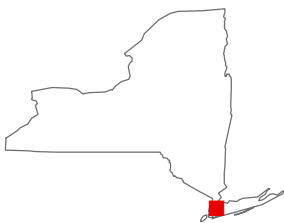
FIGURES

1. Site Location Map
2. Site Plan
3. Groundwater Contour Map



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QUADRANGLE LOCATION



1,000 0 1,000 2,000 Feet

Title:

SITE LOCATION MAP

1221 SPOFFORD AVENUE
BRONX, NEW YORK

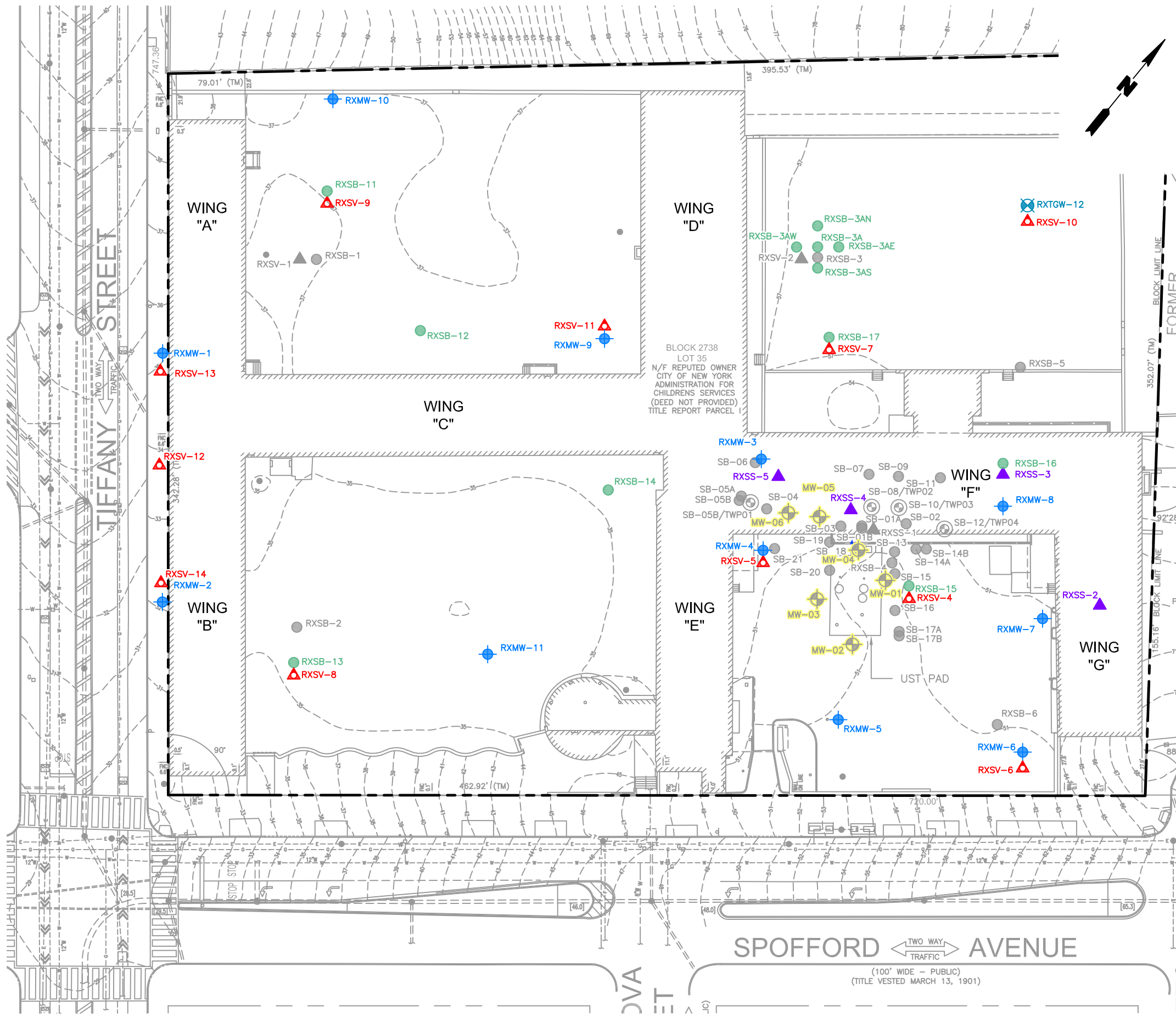
Prepared For:

THE PENINSULA JV, LLC

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting
& Management

Compiled by: J.P.G.	Date: 16JUN17	FIGURE 1
Prepared by: M.R.	Scale: AS SHOWN	
Project Mgr: J.P.G.	Project: 2611.0002Y000	
File: 2611.0002Y104.1.mxd		

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- LEGEND**
- SITE BOUNDARY
 - RXMW-1 SOIL BORING AND GROUNDWATER WELL LOCATION AND DESIGNATION
 - RXSG-11 SOIL BORING AND TEMPORARY GROUNDWATER WELL LOCATION (OVERBURDEN)
 - RXSB-15 SOIL BORING LOCATION AND DESIGNATION
 - RXSV-4 SOIL VAPOR LOCATION AND DESIGNATION
 - RXSS-2 SUB-SLAB SOIL VAPOR LOCATION AND DESIGNATION
 - SB-06 SOIL BORING LOCATION AND DESIGNATION FROM URS 2009 INVESTIGATION
 - SB-08/TWP02 COLOCATED SOIL BORING AND TEMPORARY WELL LOCATION AND DESIGNATION FROM URS 2009 INVESTIGATION
 - MW-03 MONITORING WELL LOCATION AND DESIGNATION INSTALLED BY LOUIS BERGER AND ASSOC., P.C., 2014
 - RXSB-3 APPROXIMATE SOIL BORING LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
 - RXSS-1 RXSV-2 APPROXIMATE SUB SLAB/SOIL VAPOR POINT LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
 - MW-06 MONITORING WELL RESAMPLING LOCATION AND DESIGNATION

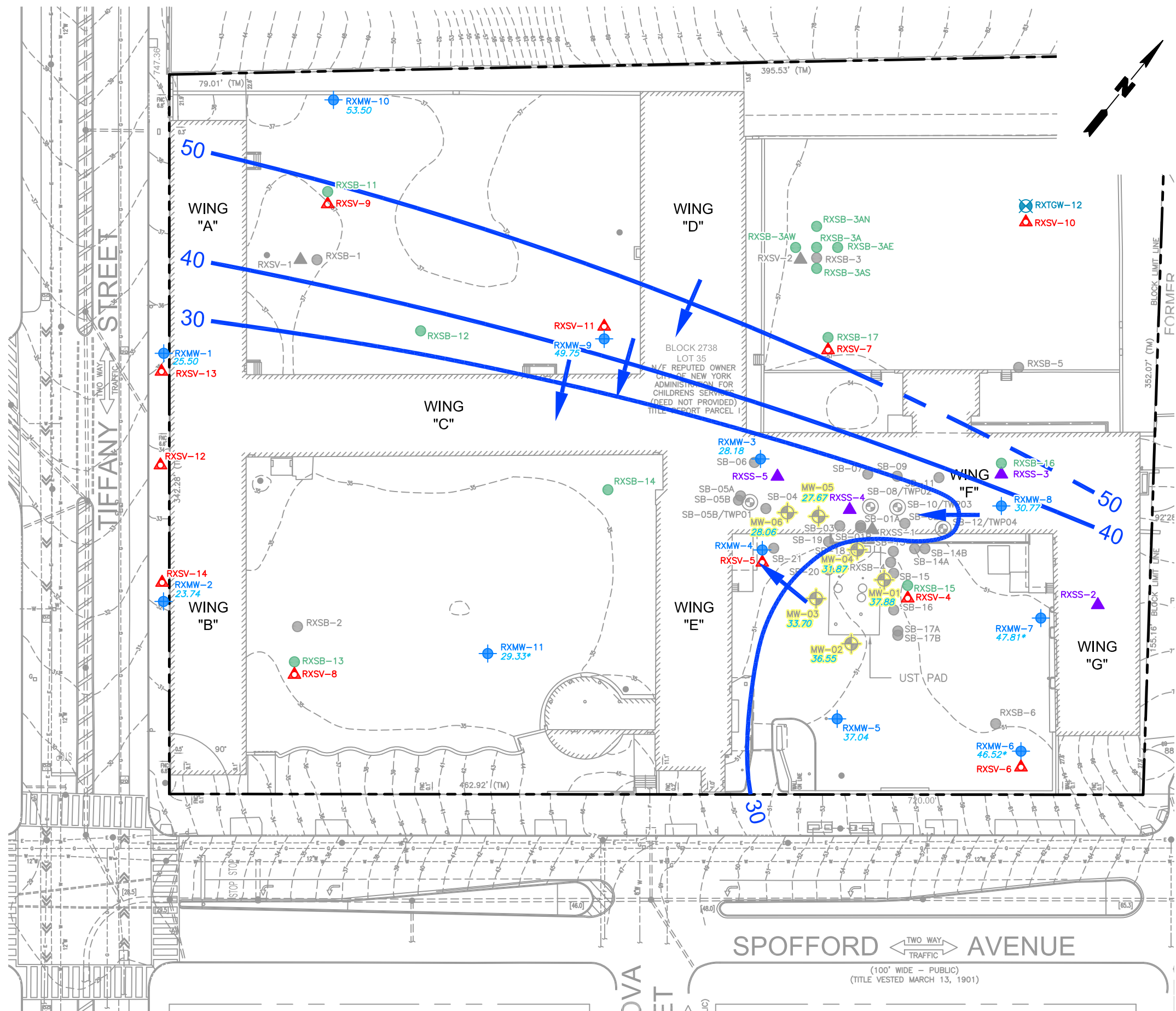
Title: **SITE PLAN**

1221 SPOFFORD AVENUE
BRONX, NEW YORK

Prepared For: **THE PENINSULA JV, LLC**

ROUX	Compiled by: J.W.	Date: 03JUL18	FIGURE 2
	Prepared by: G.M.	Scale: AS SHOWN	
	Project Mgr: J.W.	Project: 2611.0002Y000	
	File: 2611.0002Y113.02.DWG		

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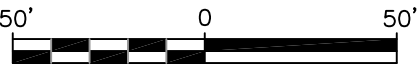


LEGEND

- SITE BOUNDARY
- RXMW-1 SOIL BORING AND GROUNDWATER WELL LOCATION AND DESIGNATION
- RXTGW-11 SOIL BORING AND TEMPORARY GROUNDWATER WELL LOCATION (OVERBURDEN)
- RXSB-15 SOIL BORING LOCATION AND DESIGNATION
- RXSV-4 SOIL VAPOR LOCATION AND DESIGNATION
- RXSS-2 SUB-SLAB SOIL VAPOR LOCATION AND DESIGNATION
- SB-06 SOIL BORING LOCATION AND DESIGNATION FROM LOUIS BERGER AND ASSOCIATES, 2009 INVESTIGATION
- SB-08/TWP02 COLOCATED SOIL BORING AND TEMPORARY WELL LOCATION AND DESIGNATION FROM LOUIS BERGER AND ASSOCIATES, 2009 INVESTIGATION
- MW-03 MONITORING WELL LOCATION AND DESIGNATION INSTALLED BY URS, 2014
- RXSB-3 APPROXIMATE SOIL BORING LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
- RXSS-1 RXSV-2 APPROXIMATE SUB SLAB/SOIL VAPOR POINT LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
- MW-06 MONITORING WELL RESAMPLING LOCATION AND DESIGNATION
- 53.50 GROUNDWATER ELEVATION (FEET RELATIVE TO NAVD 88)
- 40 GROUNDWATER CONTOUR ELEVATION (FEET RELATIVE TO NAVD 88) (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- * GROUNDWATER ELEVATION NOT USED IN CONSTRUCTION OF CONTOUR

NOTE

1. NAVD88 - NORTH AMERICAN VERTICAL DATUM OF 1988.



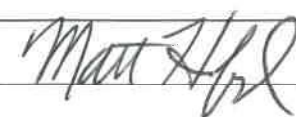
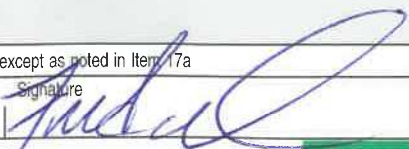
Title: GROUNDWATER CONTOUR MAP JUNE 22, 2018			
1221 SPOFFORD AVENUE BRONX, NEW YORK			
Prepared For: THE PENINSULA JV, LLC			
	Compiled by: J.W.	Date: 03JUL18	FIGURE 3
	Prepared by: G.M.	Scale: AS SHOWN	
	Project Mgr: J.W.	Project: 2611.0002Y000	
File: 2611.0002Y113.02.DWG			

APPENDICES

- A. Tank 2 and 3 Waste Disposal and Inerting Documentation
- B. Soil Boring/Groundwater Monitoring Well Construction Logs
- C. Groundwater Sampling Logs
- D. Soil Vapor Sampling Logs
- E. Analytical Data Reports (*Provided in CD in bound copy*)
- F. Data Usability Summary Report (*Provided in CD in bound copy*)
- G. Petroleum Fingerprint Analysis Results
- H. Geophysical Survey Map
- I. CAMP Reports

APPENDIX A

Tank 2 and 3 Waste Disposal and Inerting Documentation

GENERATOR	NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number NYCESQG	2. Page 1 of 1	3. Emergency Response Phone 5167813000	4. Waste Tracking Number 2018-614-ACT			
	5. Generator's Name and Mailing Address COMMERCIAL PROPERTY 1221 SPOFFORD AVE BRONX NY 10474						Generator's Site Address (if different than mailing address)		
	6. Transporter 1 Company Name Action Trucking Inc.						U.S. EPA ID Number NYD064748304		
	7. Transporter 2 Company Name						U.S. EPA ID Number		
	8. Designated Facility Name and Site Address Action Trucking 3010 Burns Ave Wantagh NY 11793						U.S. EPA ID Number NYD064748304		
TRANSPORTER	9. Waste Shipping Name and Description			10. Containers		11. Total Quantity	12. Unit Wt./Vol.		
				No.	Type				
	1. MA1983, Combustible liquid, n.o.s., PGIII (#2 Fuel Oil)			1	TT	140	G		
	2.								
	3.								
DESIGNATED FACILITY	4.								
	13. Special Handling Instructions and Additional Information 1) ERG#128 Profile #1807ACT0292 (Russo Development)								
	14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.								
	Generator's/Offeree's Printed/Typed Name R. Neidecker Jr				Signature 		Month Day Year 7 26 18		
	15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
DESIGNATED FACILITY	16. Transporter Acknowledgment of Receipt of Materials								
	Transporter 1 Printed/Typed Name MATT HUFNAGER				Signature 		Month Day Year 7 26 18		
	Transporter 2 Printed/Typed Name				Signature		Month Day Year		
	17. Discrepancy								
	17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection								
DESIGNATED FACILITY	Manifest Reference Number:								
	17b. Alternate Facility (or Generator)						U.S. EPA ID Number		
	Facility's Phone:								
	17c. Signature of Alternate Facility (or Generator)						Month Day Year		
	18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a								
Printed/Typed Name Paul Miranda				Signature 		Month Day Year 07 26 18			

Action Remediation, Inc.

3010 Burns Avenue, Wantagh, NY 11793 tel: (516) 781-3000 fax (516) 781-3085
www.actionhazmat.com

7/27/2018

New York City Fire Department
Bureau of Fire Prevention
Bulk Fuel Safety Unit-3rd Floor
9 Metrotech Center
Brooklyn, NY 11201

Re: 1221 Spofford Ave
Bronx, NY 10474

To whom it may concern:

This correspondence is in regards to the completed temporary inertion with nitrogen of (2) 12,000 gallon underground #2 fuel storage tanks at the above referenced location on 7/26/2018. These tanks were pumped, flushed & filled with inert gas in preparation for demolition on site. The tanks will be removed following building demolition. Accompanying fills and vents were capped.

Action Remediation, Inc. is in compliance with New York City fire prevention code sec R3404-01, R3404.2.13. My certificate #86389533; install, test, repair buried tank; expiration date: 9/15/2018.

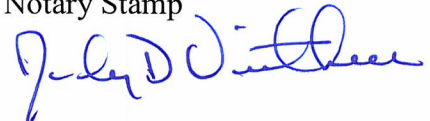
Sincerely,



Kevin O'Connor
PROJECT MANAGER

Sworn to me this 27th
day of July, 2018

Notary Stamp



Judy D. Viethier
Notary Public, State of New York
No. 01Vi4934969
Qualified in Nassau County
Commission Expires June 20, 2022

APPENDIX B

Soil Boring/Groundwater Monitoring Well Construction Logs



ROUX ASSOCIATES, INC.
Environmental Consulting
& Management

209 Shafter Street
Islandia, NY 11749
Telephone: (631) 232-2600
Fax: (631) 232-9898

Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-1	NORTHING 236040.391	EASTING 1014369.914
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / German H.	GEOGRAPHIC AREA Tiffany Street Sidewalk	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD Sonic Core
ELEVATION OF: (Feet)	GROUND SURFACE 34.91	START-FINISH DATE 6/15/18-6/15/18
	TOP OF WELL CASING 34.91	GRAVEL PACK SIZES More #2
	TOP & BOTTOM SCREEN /	
	MAT. PVC	TOTAL LENGTH 10.0ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	Flushmount J-Plug Concrete. Grout. Bentonite pellets. Morie #2 sand.	CONCRETE. Dark brown, medium to coarse SAND, some fine Sand, little Silt, trace gravel; dry. Light brown, fine to medium SAND and SILT, some medium to coarse Sand, trace clay and gravel; dry. Light brown, medium to coarse SAND and SILT, little Clay, trace gravel; moist. Light grey, fine to medium SAND and WEATHERED BEDROCK, trace cobble; moist. Grey, BEDROCK; wet.		0.0 0.0 0.2 0.0	Hand cleared to 5 ft bls. Sample RXMW-1_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Sample RXMW-1_7-11 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Bedrock encountered at 9 ft bls.
5					5
10	10' of 2-inch diameter, 0.020" slotted screen.				10
15	Bottom of well.				End of boring 15 ft bls. 15

BORING/FEET 2611.0002Y002.GPJ ROUX.GDT 7/3/18



ROUX ASSOCIATES, INC.
Environmental Consulting
& Management

209 Shafter Street
Islandia, NY 11749
Telephone: (631) 232-2600
Fax: (631) 232-9898

Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-2	NORTHING 235940.279	EASTING 1014390.293
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / German H.	GEOGRAPHIC AREA Tiffany Street Sidewalk	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD Sonic Core
ELEVATION OF: (Feet)	GROUND SURFACE 32.09	START-FINISH DATE 6/15/18-6/15/18
	TOP OF WELL CASING 32.09	GRAVEL PACK SIZES More #2
	TOP & BOTTOM SCREEN /	
	MAT. PVC	TOTAL LENGTH 10.0ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Flushmount	J-Plug	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
				CONCRETE.		0.0	Hand cleared to 5 ft bls.
				Dark brown, medium to coarse SAND, some fine Sand, little Silt, trace gravel; dry.		0.0	Sample RXMW-2_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
5				Light brown, medium to coarse SAND and SILT, some fine Sand, little Gravel, trace Clay; dry.		0.0	
				Light brown, medium to coarse SAND and SILT, some fine Sand, little Gravel, trace Clay; moist.		0.0	
10				Light grey, medium to coarse SAND and WEATHERED BEDROCK, little cobbles; moist.		0.2	Sample RXMW-2_13-15 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
15				Grey, BEDROCK; wet.			Bedrock encountered at 15 ft bls.
20							End of boring 20 ft bls.

BORING/FEET 2611.0002Y002.GPJ ROUX.GDT 7/3/18



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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-3	NORTHING 236050.062	EASTING 1014667.432
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Former Boiler Room Basement (Wing F)	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 3-inches	DRILLING EQUIPMENT/METHOD 420 / Geoprobe
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD 2" Macro-Core
ELEVATION OF: (Feet)	GROUND SURFACE 29.48	TOP OF WELL CASING 29.48
	TOP & BOTTOM SCREEN /	START-FINISH DATE 5/24/18-5/29/18
		GRAVEL PACK SIZES Morie #2
		TOTAL LENGTH 7.0 ft
		DIA. 2-inch
		SLOT SIZE 20-Slot

Depth, feet	Flushmount	J-Plug	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1				CONCRETE.			
2				Dark brown to dark grey, fine SAND and SILT, some coarse Sand, little Gravel; wet.			Sample RXMW-3 1-3 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Odor and staining observed in soil at approximately 1.5 ft bls.
3				Grey, BEDROCK; wet.			Bedrock encountered at 3 ft bls.
4							
5							
6							
7							
8							End of boring at 8 ft bls.

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-4	NORTHING 236005.467	EASTING 1014676.725
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Southeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD Sonic Core
ELEVATION OF: (Feet)	GROUND SURFACE 50.48	START-FINISH DATE 4/24/18-5/1/18
	TOP OF WELL CASING 50.48	GRAVEL PACK SIZES Morie #2
	TOP & BOTTOM SCREEN /	
	MAT. PVC	TOTAL LENGTH 8.0 ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	Flushmount J-Plug Concrete.	ASPHALT.			Hand cleared to 5 ft bls.
		Dark brown, fine SAND and SILT, some medium to coarse Sand, little Gravel, trace cobble; moist.		0.0	Sample RXMW-4_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
				0.0	
5	Grout.	Dark brown, fine SAND and SILT, some medium to coarse Sand, trace cobble; moist.		0.0	
	Bentonite pellets.				
10	Morie #2 sand.	Dark grey, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	
		Grey to brown, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	Sample RXMW-4_13-15 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
15		BEDROCK; wet.		0.0	Bedrock encountered at 15 ft bls.
	15' of 2-inch diameter, 0.020" slotted screen.				
20					
25	Bottom of well.				End of boring at 25 ft bls.

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-5	NORTHING 235954.481	EASTING 1014711.047
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY L. Sugano	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Southeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotasonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	MAT. PVC
ELEVATION OF: (Feet)	GROUND SURFACE 50.37	TOP OF WELL CASING /
		TOP & BOTTOM SCREEN /
		GRAVEL PACK SIZES Morie #2

Depth, feet	Flushmount	J-Plug	Concrete.	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
					ASPHALT.		0.0	Hand cleared to 5 ft bls.
					Grey, medium to coarse SAND and GRAVEL, some fine Sand and Silt, trace cobble (fill); moist.		0.0	Sample RXMW-5_0-2 collected for TCL VOCs, TCL
					Dark brown, fine SAND and SILT, some Gravel, little Cobble and Brick, trace medium to coarse Sand (fill); moist.		0.0	SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
							0.0	
5					Dark brown, fine SAND and SILT, some medium to coarse Sand, trace gravel and brick (fill); moist.		0.0	
							0.0	
					Brown, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	
							0.0	
10							0.0	
							0.0	
							0.0	
							0.0	
15					Grey, BEDROCK; wet.		0.0	Sample RXMW-5_12-14 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
							0.0	Bedrock encountered at 14 ft bls.
20							0.0	End of boring at 20 ft bls.

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-6	NORTHING 235938.248	EASTING 1014802.507
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY L. Sugano	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Southeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	MAT. PVC
ELEVATION OF: (Feet)	GROUND SURFACE 50.52	TOP OF WELL CASING 50.52
	TOP & BOTTOM SCREEN /	SAMPLING METHOD Sonic Core
		START-FINISH DATE 4/25/18-4/30/18
		GRAVEL PACK SIZES Morie #2
		TOTAL LENGTH 10.0ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	Flushmount J-Plug Concrete.	ASPHALT.			Hand cleared to 5 ft bls.
		Dark brown, fine SAND and SILT, some medium to coarse Sand, little Brick, trace wood and cobble (fill); wet.		0.0	Sample RXMW-6_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Perched water observed at approximately 1 ft bls.
	Grout.	Brown, fine SAND and SILT, some Gravel, trace cobble (fill); wet.		0.0	
5	Bentonite pellets.	Brown to grey, fine SAND and SILT, some medium to coarse Sand, little Gravel, trace brick (fill); moist.		0.0	
	Morie #2 sand.	Brown, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	
10		Grey, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	Sample RXMW-6_9-11 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
	10' of 2-inch diameter, 0.020" slotted screen.	Grey, BEDROCK; wet.			Bedrock encountered at 11 ft bls.
15					End of boring at 16 ft bls.
	Bottom of well.				

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-7	NORTHING 236006.039	EASTING 1014809.493
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / German H.	GEOGRAPHIC AREA Southeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	MAT. PVC
ELEVATION OF: (Feet)	GROUND SURFACE 50.71	TOP OF WELL CASING /
		TOP & BOTTOM SCREEN /
		GRAVEL PACK SIZES Morie #2
		TOTAL LENGTH 10.0ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	Flushmount Concrete. Grout. Bentonite pellets. Morie #2 sand. 10' of 2-inch diameter, 0.020" slotted screen. Bottom of well.	Light brown, fine to medium SAND and SILT, little medium to coarse Sand and Gravel; moist. Light brown, fine to medium SAND and SILT, little Clay and Gravel; moist. Light brown, medium to coarse SAND and SILT, little Clay and Cobble; moist. Light brown to grey, fine to medium SAND and WEATHERED BEDROCK, some Clay, little Silt; moist. Grey, BEDROCK; wet.		0.0 0.0 0.1 0.0	Hand cleared to 5 ft bls. Sample RXMW-7_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Sample RXMW-7_12-14 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Bedrock encountered at 14 ft bls. End of boring 20 ft bls.
5					5
10					10
15					15
20					20

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-8	NORTHING 236049.926	EASTING 1014756.752
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Former Laundry Room (Wing F)	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 3-inches	DRILLING EQUIPMENT/METHOD 420 / Geoprobe
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD 2" Macro-Core
ELEVATION OF: (Feet)	GROUND SURFACE 44.01	START-FINISH DATE 5/29/18-5/29/18
	TOP OF WELL CASING /	GRAVEL PACK SIZES More #2
	MAT. PVC	TOTAL LENGTH 8.0 ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Flushmount	J-Plug	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
				CONCRETE.			
				Dark brown, fine SAND and SILT, some medium to coarse Sand, little Gravel; dry.		0.1	Sample RXMW-8_1-3 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
				Grout.			
5				Light brown, fine SAND and SILT, some medium to coarse Sand; moist.		0.1	
				Bentonite pellets.			
				More #2 sand.			
10				Grey, medium to coarse SAND, some Gravel, little fine Sand; wet.		1.7	Sample RXMW-8_9-11 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
				Grey, BEDROCK; wet.			Bedrock encountered at 11 ft bls.
				8' of 2-inch diameter, 0.020" slotted screen.			
15							
				Bottom of well.			End of boring 17 ft bls.

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-9	NORTHING 236110.801	EASTING 1014579.727
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Northwest Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD Sonic Core
ELEVATION OF: (Feet)	GROUND SURFACE 58.21	START-FINISH DATE 4/23/18-4/25/18
	TOP OF WELL CASING /	GRAVEL PACK SIZES Morie #2
	TOTAL LENGTH 8.0 ft	DIA. 2-inch SLOT SIZE 20-slot

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	Flushmount	ASPHALT.			Hand cleared to 5 ft bls.
1	Concrete.	Dark to light grey, fine to coarse SAND, some Gravel, little Silt; moist.			Sample RXMW-9_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. 1
2	Grout.	Dark brown, fine SAND and SILT, some medium to coarse Sand and Gravel, little Cobble; moist.		0.0	2
3	Bentonite pellets.			0.0	3
4	Morie #2 sand.			0.0	4
5				0.0	5
6				0.0	Sample RXMW-9_5-7 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. 6
7		Grey, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	7
8	8' of 2-inch diameter, 0.020" slotted screen.	Grey, BEDROCK; wet.		0.0	Bedrock encountered at 7.5 ft bls. 8
9					9
10					10
11					11
12	Bottom of well.				End of boring at 12 ft bls. 12

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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-10	NORTHING 236169.224	EASTING 1014436.137
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Northwest Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
CASING MAT./DIA. PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD Sonic Core
ELEVATION OF: (Feet)	GROUND SURFACE 58.48	START-FINISH DATE 4/23/18-4/25/18
	TOP OF WELL CASING /	GRAVEL PACK SIZES Morie #2
	MAT. PVC	TOTAL LENGTH 8.0 ft
		DIA. 2-inch
		SLOT SIZE 20-slot

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	Flushmount				
	J-Plug				
	Concrete.	ASPHALT.		0.0	Hand cleared to 5 ft bls.
1	Bentonite pellets.	CONCRETE.		0.0	Sample RXMW-10_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
2	Morie #2 sand.	Dark brown, fine SAND and SILT, some Gravel, little medium to coarse Sand, trace brick (fill); moist.		0.0	
3		Dark brown, fine SAND and SILT, some Gravel, little medium to coarse Sand, trace cobble; moist.		0.0	Sample RXMW-10_2-4 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
4					Bedrock encountered at 5 ft bls.
5		Grey, BEDROCK, wet.		0.0	
6	8' of 2-inch diameter, 0.020" slotted screen.				
7					
8					
9					
10	Bottom of well.				End of boring 10 ft bls.

BORING/FEET 2611.0002Y002.GPJ ROUX.GDT 7/3/18

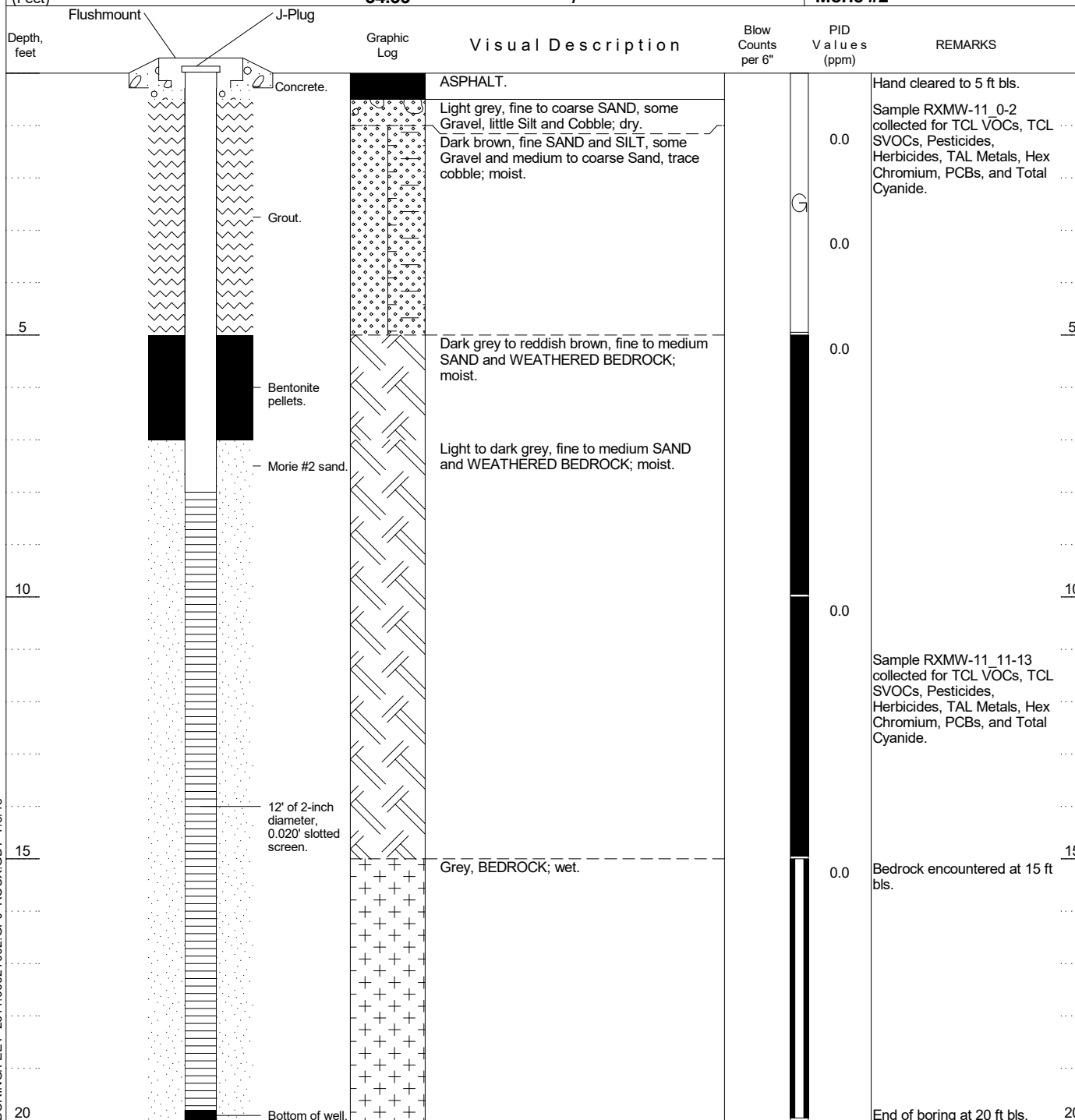


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Page 1 of 1

WELL CONSTRUCTION LOG

WELL NO. RXMW-11		NORTHING 235951.167		EASTING 1014554.65	
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue				LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills		LOGGED BY Ron Lombino		Bronx, New York	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.				GEOGRAPHIC AREA Southwest Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler		BOREHOLE DIAMETER 4-inches		DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic	
CASING MAT./DIA. PVC / 2-inch		SCREEN: TYPE Slotted		SAMPLING METHOD Sonic Core	
ELEVATION OF: (Feet)		GROUND SURFACE 34.33		START-FINISH DATE 4/23/18-4/27/18	
TOP OF WELL CASING 34.33		TOP & BOTTOM SCREEN /		TOTAL LENGTH 12.0ft	
				DIA. 2-inch	
				SLOT SIZE 20-slot	
				GRAVEL PACK SIZES Morie #2	



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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-3A	NORTHING 236146.957	EASTING 1014659.927
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Northeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger
LAND SURFACE ELEVATION 56.51(FT.)	DEPTH TO WATER Not Measured	BACKFILL Soil Cuttings

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.		0.3	
1					Sample RXSB-3A_0-2 collected for TAL Metals.
2				0.2	Sample RXSB-3A_2-4 collected for TAL Metals.
3			G		
4				0.2	Sample RXSB-3A_4-6 collected for TAL Metals.
5					
6					End of boring at 6 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-3AE	NORTHING 236156.88	EASTING 1014665.488
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Northeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger
LAND SURFACE ELEVATION 56.62(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 4" Hand Auger
	BACKFILL Soil Cuttings	START-FINISH DATE 5/22/18-5/22/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			
1		Dark brown, fine SAND, some medium to coarse Sand, trace gravel; moist.		0.5	Sample RXSB-3AE_0-2 collected for TAL Metals.
2		Light brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.4	Sample RXSB-3AE_2-4 collected for TAL Metals.
3					
4		Light brown, fine SAND and SILT, some medium to coarse Sand, little fine Clay, trace gravel; moist.		0.3	Sample RXSB-3AE_4-6 collected for TAL Metals.
5					
6					End of boring at 6 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-3AN	NORTHING 236158.633	EASTING 1014657.319
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Northeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger
LAND SURFACE ELEVATION 56.67(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 4" Hand Auger
	BACKFILL Soil Cuttings	START-FINISH DATE 5/22/18-5/22/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			
1		Dark brown, fine SAND and SILT, some fine to medium Sand, little coarse Sand, trace gravel; moist.		0.4	Sample RXSB-3AN_0-2 collected for TAL Metals.
2		Dark brown to reddish brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.3	Sample RXSB-3AN_2-4 collected for TAL Metals.
3					
4		Light brown, fine SAND and SILT, little medium to coarse Sand, trace clay and gravel; moist.		0.1	Sample RXSB-3AN_4-6 collected for TAL Metals.
5					
6					End of boring at 6 ft bls.

BORING/FEET 2611.0002Y002.GPJ ROUX.GDT 7/3/18



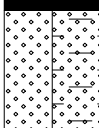
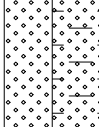
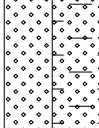
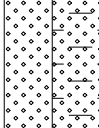
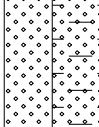
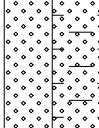
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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-3AS	NORTHING 236132.386	EASTING 1014661.622
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Northeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger
LAND SURFACE ELEVATION 56.57(FT.)	DEPTH TO WATER Not Measured	BACKFILL Soil Cuttings

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			
1		Dark brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	Sample RXSB-3AS_0-2 collected for TAL Metals.
2				0.2	Sample RXSB-3AS_2-4 collected for TAL Metals.
3					
4		Light brown, fine SAND and SILT, little medium to coarse Sand, trace clay and gravel; moist.		0.0	Sample RXSB-3AS_4-6 collected for TAL Metals.
5					
6					End of boring at 6 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-3AW	NORTHING 236152.153	EASTING 1014648.226
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Northeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger
LAND SURFACE ELEVATION 56.75(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 4" Hand Auger
	BACKFILL Soil Cuttings	START-FINISH DATE 5/22/18-5/22/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			
1		Dark brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	Sample RXSB-3AW_0-2 collected for TAL Metals.
2		Light brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	Sample RXSB-3AW_2-4 collected for TAL Metals.
3		Light brown to reddish brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	Sample RXSB-3AW_4-6 collected for TAL Metals.
4		Light brown to reddish brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	Sample RXSB-3AW_4-6 collected for TAL Metals.
5		Light brown to reddish brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	Sample RXSB-3AW_4-6 collected for TAL Metals.
6		Light brown to reddish brown, fine SAND and SILT, some medium to coarse Sand, trace gravel; moist.		0.2	End of boring at 6 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-11/RXSV-9	NORTHING 236127.932	EASTING 1014439.082
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Northwest Courtyard	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 2-inches	DRILLING EQUIPMENT/METHOD 78226T / Geoprobe
LAND SURFACE ELEVATION 58.71(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 2" Macro-Core
	BACKFILL Soil Cuttings	START-FINISH DATE 4/23/18-4/23/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			Hand cleared to 5 ft bls.
0.0					
0.0		Dark grey, fine to coarse SAND, some Gravel, little Silt; dry.			Sample RXSB-11_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
1.0		Dark brown, fine SAND and SILT, some Gravel, trace cobble; moist.			
2.0					
3.0					
4.0					Sample RXSB-11_3-5 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
5.0					Soil vapor point, RXSV-9, installed at 4 ft bls.
					Bedrock at 5.5 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-12	NORTHING 236100.328	EASTING 1014507.534
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue Bronx, New York	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Northwest Courtyard	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 2-inches	DRILLING EQUIPMENT/METHOD 78226T / Geoprobe
LAND SURFACE ELEVATION 58.64(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 2" Macro-Core
	BACKFILL Soil Cuttings	START-FINISH DATE 4/23/18-4/23/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			Hand cleared to 5 ft bls.
1		Light grey, fine to coarse SAND, some Gravel, little Silt; dry.		0.0	
2		Dark brown, fine SAND, little medium Sand and Gravel, trace cobble and coarse sand; moist.		0.0	Sample RXSB-12_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
3		Dark brown, fine SAND, little medium Sand and Gravel, trace cobble, coarse sand, and weathered rock; moist.		0.0	
4					
5		Dark brown, fine SAND and SILT, some medium Sand, trace gravel; moist.		0.0	
6		Dark grey, fine to medium SAND and WEATHERED BEDROCK; moist.			Sample RXSB-12_6-8 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
7					
8					
					Bedrock at 8.5 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-13/RXSV-8	NORTHING 235918.902	EASTING 1014455.098
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Southwest Courtyard	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 2-inches	DRILLING EQUIPMENT/METHOD 78226T / Geoprobe
LAND SURFACE ELEVATION 34.82(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 2" Macro-Core
	BACKFILL Soil Cuttings	START-FINISH DATE 4/24/18-4/26/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			Hand cleared to 5 ft bls.
		Light grey, coarse SAND and GRAVEL, some Cobble (fill); dry.			Sample RXSB-13_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
		Dark brown, fine SAND and SILT, some medium to coarse Sand, little Brick (fill); moist.		0.0	Perched water observed at approximately 1 ft bls.
		Dark brown, SILT, some fine Sand, trace gravel; moist.		0.0	
5		Dark brown, fine SAND and SILT, some medium to coarse Sand, little Gravel; moist.		0.0	
		Light grey, COBBLE; moist.			
		Dark brown, fine SAND, some Silt, little medium to coarse Sand, trace cobble and gravel; moist.			
10		Dark brown, fine to medium SAND, some coarse Sand, little Silt, trace gravel; wet.		0.0	Soil vapor point, RXSV-8, installed at 10 ft bls.
		Dark brown to gray, fine SAND, some medium to coarse Sand, little Silt, trace weathered rock; moist.			
		Dark grey, fine to medium SAND and WEATHERED BEDROCK; moist.			Sample RXSB-13_13-15 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
15				0.0	Bedrock at 16 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-14	NORTHING Not Measured	EASTING Not Measured
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Southwest Courtyard	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 2-inches	DRILLING EQUIPMENT/METHOD 78226T / Geoprobe
LAND SURFACE ELEVATION Not Measured	DEPTH TO WATER Not Measured	SAMPLING METHOD 2" Macro-Core
	BACKFILL Soil Cuttings	START-FINISH DATE 4/24/18-4/24/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT.			Hand cleared to 5 ft bls.
1				0.0	
		Light to dark grey, coarse SAND and GRAVEL, some Cobble (fill); dry.		0.0	Sample RXSB-14_0-2 & DUP042418 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
		Light brown, fine to medium SAND and WEATHERED BEDROCK; dry.		0.0	
2					
3		Light grey, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	
4					
5					Bedrock at 5 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-15/RXSV-4	NORTHING 236006.876	EASTING 1014739.477
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Ron Lombino	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Tony P.	GEOGRAPHIC AREA Southeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Drive Sampler	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD 8140LC / Rotosonic
LAND SURFACE ELEVATION 51.00(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 2" Macro-Core
	BACKFILL Soil Cuttings	START-FINISH DATE 4/26/18-4/26/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT		0.0	Hand cleared to 5 ft bls.
1		Gray, medium to coarse SAND and GRAVEL, some fine Sand and Silt, little Cobble (fill); dry.		0.0	Sample RXSB-15_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
2		Brown, fine SAND and SILT, some Gravel, little Cobble, trace brick (fill); moist.		0.0	
3				0.0	
4				0.0	
5				0.0	
6		Grey, fine to medium SAND and WEATHERED BEDROCK; moist.		0.0	
7				0.0	Sample RXSB-15_6-8 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide. Soil vapor point, RXSV-4, installed at 7 ft bls.
8		Grey, BEDROCK; moist.		0.0	Bedrock at 8 ft bls.
9				0.0	
10				0.0	Bottom of boring at 10 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-16	NORTHING 236067.495	EASTING 1014752.943
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Former Laundry Room (Wing F)	
DRILL BIT DIAMETER/TYPE 2" / Drive Sampler	BOREHOLE DIAMETER 3-inches	DRILLING EQUIPMENT/METHOD 420 / Geoprobe
LAND SURFACE ELEVATION 42.70(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 2" Macro-Core
	BACKFILL Soil Cuttings	START-FINISH DATE 5/24/18-5/29/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		CONCRETE.			
2		Dark brown to dark grey, fine SAND, some medium to coarse Sand, trace brick (fill); dry.		6.4	Dark stained soil observed on soil at 1 ft bls. Sample RXSB-16_1-3 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
3				2.6	
4					
5					
6		Dark grey, fine SAND and SILT, some medium to coarse Sand and Weathered Bedrock; moist.		4.7	
7					
8					
9				2.5	Sample RXSB-16_9-11 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
10					
11					Bedrock at 11 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXSB-17/RXSV-7	NORTHING 236108.297	EASTING 1014667.266
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue	LOCATION 1221 Spofford Avenue	
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.	GEOGRAPHIC AREA Northeast Courtyard	
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger
LAND SURFACE ELEVATION 56.31(FT.)	DEPTH TO WATER Not Measured	SAMPLING METHOD 4" Hand Auger
	BACKFILL Soil Cuttings	START-FINISH DATE 5/23/18-5/23/18

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark brown, fine to medium SAND, little fine Silt and Gravel; moist.		7.5	Hand cleared to 5 ft bls. Sample RXSB-17_0-2 & DUP05232108 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
2		Dark brown, fine SAND and SILT, some medium to coarse Sand, little Gravel; moist.		5.8	
3					
4		Light brown, fine SAND and SILT, some medium to coarse Sand, little Gravel; moist.		0.0	
5					Sample RXSB-17_5-7 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
6		Light brown, fine SAND and SILT, some medium to coarse Sand, little Clay, trace gravel and cobbles; moist.		0.0	Soil vapor point, RXSV-7, installed at 6 ft bls.
7					Bedrock at 7 ft bls.

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Page 1 of 1

SOIL BORING LOG

WELL NO. RXTGW-12	NORTHING 236188.723	EASTING 1014776.812		
PROJECT NO./NAME 2611.0002Y002 / Spofford Avenue		LOCATION 1221 Spofford Avenue		
APPROVED BY J. Wills	LOGGED BY Rachel Miller	Bronx, New York		
DRILLING CONTRACTOR/DRILLER Aquifer Drilling and Testing / Rob G.		GEOGRAPHIC AREA Northeast Courtyard		
DRILL BIT DIAMETER/TYPE 4" / Hand Auger	BOREHOLE DIAMETER 4-inches	DRILLING EQUIPMENT/METHOD / Hand Auger	SAMPLING METHOD 4" Hand Auger	START-FINISH DATE 5/24/18-5/24/18
LAND SURFACE ELEVATION 56.73(FT.)	DEPTH TO WATER Not Measured	BACKFILL Soil Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark brown, fine SAND and SILT, some medium to coarse Sand and medium Silt, trace gravel; wet.		1.2	Hand cleared to 5 ft bls. Sample RXTGW-12_0-2 collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
2		Light brown, fine SAND and SILT, some medium to coarse Sand, trace clay and gravel; moist.		3.6	
3				G	
4				10.7	Sample RXTGW-12_4-6 & MS/MSD collected for TCL VOCs, TCL SVOCs, Pesticides, Herbicides, TAL Metals, Hex Chromium, PCBs, and Total Cyanide.
5					
6					Bedrock at 6 ft bls.

BORING/FEET 2611.0002Y002.GPJ ROUX.GDT 7/3/18

APPENDIX C

Groundwater Sampling Logs

Well Sampling Data Form

Client: The Peninsula JV LLC **Project Number:** 2611.0002Y000
Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: MW-1 Weather: 80 ° F, sunny
 Date: 6/21/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 23.12 Water Column (ft): 10.69
 Depth to Water(ft): 12.43 Volume of Water in Well (gal): 1.74
 Depth to Product (ft): - Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 12:50 Purge Rate: ~100 mL/min
 End Purging: 13:30 Volume of Water Removed (gal): 0.5-0.75
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: Clear, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: Sample time 1330 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
12:50	12.43	100	-140	0.56	0.0	5.74	28.32	6.95
12:55	12.57	100	-88	0.57	0.0	5.04	27.70	6.85
13:00	12.63	100	-22	0.59	0.0	3.69	25.50	6.64
13:05	12.70	100	-14	0.58	0.0	3.55	25.42	6.50
13:10	12.87	100	-4	0.59	0.0	3.32	24.41	6.63
13:15	13.11	100	-2	0.59	0.0	3.29	24.47	6.53
13:20	13.21	100	2	0.59	0.0	3.16	24.59	6.51
13:25	13.23	100	5	0.59	0.0	3.11	24.56	6.49
13:30	13.29	100	7	0.59	0.0	3.10	24.59	6.43

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000

Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: MW-2 Weather: 65-85° F, partly cloudy

Date: 6/21/2018 Purge Water Disposal: 55-Gallon Drum

Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 25.70 Water Column (ft): 12.15

Depth to Water(ft): 13.55 Volume of Water in Well (gal): 1.98

Depth to Product (ft): - Volume of Water to Remove (gal): 3.5 gallons

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 12:46 Purge Rate: ~100 mL/min

End Purging: 13:30 Volume of Water Removed (gal):

Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
Comments: very slight sheen and light odor, cloudy

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
(analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 13:20 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
12:50	13.90	100	-41	0.59	3.4	7.58	18.69	2.90
12:55	13.90	100	-190	0.58	4.9	7.50	16.68	0.97
13:00	14.00	100	-191	0.54	3.9	7.36	16.06	0.00
13:05	14.20	100	-192	0.53	3.4	7.21	15.77	0.00
13:10	14.35	100	-194	0.53	3.8	7.13	15.66	0.00
13:15	14.35	100	-198	0.53	3.2	7.08	15.84	0.00
13:20	14.40	199	-200	0.53	2.3	7.06	15.65	0.00

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: MW-6 Weather: ° F
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 12.80 Water Column (ft): 11.68
 Depth to Water(ft): 1.12 Volume of Water in Well (gal): 1.91
 Depth to Product (ft): - Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 10:25 Purge Rate: ~100 mL/min
 End Purging: 11:30 Volume of Water Removed (gal): 2
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: clear, some film on top, no odor, minimal sediment

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 11:05 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
10:30	1.25	100	-48	1.86	2.6	7.21	15.44	0.00
10:35	1.21	100	-84	1.88	0.0	7.23	14.22	0.00
10:40	1.20	100	-90	1.88	0.0	7.22	13.44	0.00
10:45	1.20	100	-93	1.89	0.0	7.21	13.16	0.00
10:50	1.20	100	-95	1.89	0.0	7.21	13.09	0.00
10:55	1.20	100	-95	1.90	0.0	7.18	13.06	0.00
11:00	1.20	100	-96	1.90	0.0	7.18	13.01	0.00

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-1 Weather: ° F
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 13.85 Water Column (ft): 4.44
 Depth to Water(ft): 9.41 Volume of Water in Well (gal): 0.72
 Depth to Product (ft): - Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: _____ Purge Rate: ~100 mL/min
 End Purging: _____ Volume of Water Removed (gal): 0.5-0.75
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: slightly cloudy, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 13:35 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
13:00	9.41	100	98	0.69	499.0	6.09	19.83	3.71
13:05	9.64	100	112	0.69	224.0	5.71	19.24	3.64
13:10	9.70	100	126	0.69	492.0	5.41	19.08	3.69
13:15	9.77	100	134	0.68	394.0	5.37	18.98	3.91
13:20	9.89	100	131	0.69	255.0	5.43	18.81	3.71
13:25	10.02	100	129	0.68	287.0	5.44	18.7	3.67
13:30	10.12	100	129	0.68	257.0	5.45	18.73	3.67
13:35	10.14	100	127	0.68	197.0	5.46	18.69	3.61

Well Sampling Data Form

Client: The Peninsula JV LLC **Project Number:** 2611.0002Y000
Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-2 Weather: 73° F,
Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 19.70 Water Column (ft): 11.35
Depth to Water(ft): 8.35 Volume of Water in Well (gal): 1.85
Depth to Product (ft): - Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 12:55 Purge Rate: ~100 mL/min
End Purging: 14:30 Volume of Water Removed (gal):
Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
Comments: cloudy, no odor.

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
(analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide, PFAS (4-250ML HDPE plastic) and 1,4-dioxane
HDPE tubing was used for sampling. No teflon, waterproof material, glass or aluminum was in the vicinity of the sample.

Time: 14:05 Laboratory : TestAmerica

Final Field Measurements: Re-zeroed DW1 & DW2 due to humidity.

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
13:05	9.80	100	38	0.80	1.9	7.45	21.01	0.76
13:20	9.75	100	-19	0.82	252.0	7.38	17.12	0.00
13:25	9.75	100	-18	0.82	282.0	7.37	17.99	0.00
13:30	9.70	100	-15	0.80	181.0	7.40	17.53	0.00
13:35	9.70	100	-21	0.81	99.4	7.40	17.6	0.00
13:40	9.71	100	-23	0.81	92.6	7.41	17.71	0.00
13:45	9.70	100	-33	0.81	88.0	7.43	17.42	0.00
13:50	9.67	100	-33	0.80	36.5	7.44	18.44	0.00
13:55	9.55	100	-34	0.80	32.3	7.45	18.78	0.00
14:00	9.50	100	-34	0.80	31.9	7.44	18.78	0.00
14:05	9.50	100	-34	0.80	32.9	7.44	18.80	0.00

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-3 Weather: ° F
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 5.00 Water Column (ft): 3.70
 Depth to Water(ft): 1.30 Volume of Water in Well (gal): 0.60
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 8:50 Purge Rate: ~100 mL/min
 End Purging: 9:30 Volume of Water Removed (gal): 2
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: clear, little sediment, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 9:35 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
8:55	1.65	110	7	0.81	82.7	7.07	14.35	0.36
9:00	1.66	110	-44	0.81	54.3	6.95	14.12	0.00
9:05	1.60	110	-45	0.82	39.7	6.87	14.16	0.00
9:10	1.62	110	-49	0.83	23.5	6.83	14.15	0.00
9:15	1.70	110	-50	0.84	18.5	6.81	14.11	0.00
9:20	1.75	110	-50	0.84	17.3	6.79	14.12	0.00
9:25	1.75	110	-48	0.85	19.6	6.82	14.11	0.00
9:30	1.70	110	-50	0.84	19.9	6.77	14.14	0.00

Well Sampling Data Form

Client: The Peninsula JV LLC **Project Number:** 2611.0002Y000

Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-4 Weather: 68° F, Rain AM clearing

Date: 6/21/2018 Purge Water Disposal: 55-Gallon Drum

Sampled By: JF Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 24.50 Water Column (ft): 3.11

Depth to Water(ft): 21.39 Volume of Water in Well (gal): 0.51

- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 9:00 Purge Rate: ~100 mL/min

End Purging: 9:35 Volume of Water Removed (gal):

Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
Comments: No odor, grey in color.

Samples Collected:
(analyses / no. bottles) TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide, PFAS (4-250ML HDPE plastic) and 1,4-dioxane
HDPE tubing was used for sampling. No teflon, waterproof material, glass or aluminum was in the vicinity of the sample.

Time: 9:35 Duplicate Sample Time: 9:45 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
9:00	21.39	100	184	0.73	947.0	5.66	17.29	7.61
9:05	21.49	100	185	0.73	912.0	5.65	17.46	7.87
9:10	21.57	100	158	0.73	917.0	6.02	16.16	8.32
9:15	21.59	100	106	0.73	746.0	6.65	15.38	7.37
9:20	21.61	100	88	0.73	676.0	6.44	15.32	7.20
9:25	21.63	100	90	0.73	591.0	6.16	15.28	7.18
9:30	21.63	100	88	0.72	581.0	5.89	15.19	6.87
9:35	21.69	100	84	0.72	493.0	5.73	15.17	6.73

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-5 Weather: 65-85° F, RH 75%
 Date: 6/21/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 20.20 Water Column (ft): 6.87
 Depth to Water(ft): 13.33 Volume of Water in Well (gal): 1.12
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 10:55 Purge Rate: ~100 mL/min
 End Purging: 12:35 Volume of Water Removed (gal): 2
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: clear with some sediment, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 11:35 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
11:00	13.40	77	-26	2.34	39.7	7.32	21	1.17
11:05	13.40	67	-23	2.34	32.7	7.26	18.50	0.00
11:10	13.35	62	-21	2.32	33.7	7.23	17.75	0.00
11:15	13.30	57	-21	2.32	32.7	7.23	17.75	0.00
11:20	13.30	53	-21	2.31	32.0	7.23	17.78	0.00
11:25	13.32	51	-21	2.33	32.1	7.22	17.85	0.00
11:30	13.34	50	-23	2.25	33.1	7.23	17.85	0.00

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-6 Weather: ° F
 Date: 6/21/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 14.70 Water Column (ft): 10.70
 Depth to Water(ft): 4.00 Volume of Water in Well (gal): 1.75
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 8:45 Purge Rate: ~100 mL/min
 End Purging: 10:00 Volume of Water Removed (gal): 3
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: Clear, no sediment, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 9:50 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
8:50	5.00	110	65	0.95	5.5	7.52	18.77	0.00
8:55	5.30	110	-63	0.92	6.2	7.90	17.96	0.00
9:00	5.30	110	-56	0.90	6.1	7.87	18.35	0.00
9:05	5.20	110	-63	0.90	5.9	7.99	17.70	0.00
9:10	5.26	110	-65	0.88	7.3	8.04	17.61	0.00
9:15	6.50	110	-67	0.87	9.0	8.06	17.58	0.00
9:20	6.80	110	-64	0.88	9.1	8.02	17.5	0.00

Well Sampling Data Form

Client: The Peninsula JV LLC **Project Number:** 2611.0002Y000
Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-7 Weather: ° F, Rain cleared, mostly sunny
 Date: 6/21/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 18.38 Water Column (ft): 15.47
 Depth to Water(ft): 2.91 Volume of Water in Well (gal): 2.52
 - Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 11:30 Purge Rate: ~100 mL/min
 End Purging: 12:10 Volume of Water Removed (gal): 0.5-0.75
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: Clear, no odor.

Samples Collected:
 (analyses / no. bottles) TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unreserved; Hex Chrom, total Cyanide, PFAS (4-250ML HDPE plastic) and 1,4-dioxane
HDPE tubing was used for sampling. No teflon, waterproof material, glass or aluminum was in the vicinity of the sample.

Time: 12:10 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
11:30	2.91	100	61	0.91	374.0	6.62	18.29	3.94
11:35	3.94	100	64	0.91	354.0	6.37	18.38	3.76
11:40	4.28	100	56	0.91	275.0	5.69	18.54	3.43
11:45	4.38	100	59	0.91	230.0	5.25	18.45	3.42
11:50	4.41	100	58	0.91	190.0	4.98	18.41	3.29
11:55	4.56	100	47	0.91	118.0	4.94	18.38	3.18
12:00	4.61	100	36	0.91	109.0	5.02	18.3	2.90
12:05	4.63	100	33	0.90	111.0	5.03	18.29	3.01
12:10	4.63	100	30	0.90	108.0	5.05	18.27	3.03

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-8 Weather: 69 ° F,
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 18.70 Water Column (ft): 5.46
 Depth to Water(ft): 13.24 Volume of Water in Well (gal): 0.89
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 7:25 Purge Rate: ~100 mL/min
 End Purging: 8:00 Volume of Water Removed (gal): 3
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: clear, little to no sediment, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 8:00 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
7:30	13.29	100	260	0.84	35.3	6.90	17.47	0.00
7:35	13.26	100	191	0.86	12.6	7.13	14.98	0.00
7:40	13.25	100	182	0.86	5.1	7.12	14.32	0.34
7:45	13.20	100	175	0.86	2.7	7.11	14.06	0.93
7:50	13.22	100	173	0.86	3.7	7.11	14.07	2.05
7:55	13.29	100	171	0.87	1.4	7.11	13.94	1.20
8:00	13.29	100	173	0.86	0.5	7.12	14.06	2.83

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-9 Weather: Mid 80's ° F, sunny
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM & JF Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 11.41 Water Column (ft): 2.95
 Depth to Water(ft): 8.46 Volume of Water in Well (gal): 0.48
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 9:45 Purge Rate: ~100 mL/min
 End Purging: 11:00 Volume of Water Removed (gal): _____
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: Grey in color, no odor

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 10:30 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
9:45	8.46	100	-32	0.45	570.0	7.42	17.2	6.55
9:50	8.68	100	-11	0.45	540.0	7.59	17.18	6.21
9:55	8.62	100	-14	0.45	943.0	7.37	17.07	6.16
10:00	8.65	100	6	0.46	901.0	7.15	16.93	6.01
10:05	8.62	100	21	0.49	813.0	6.87	16.74	5.76
10:10	8.62	100	33	0.51	723.0	6.61	16.59	5.43
10:15	8.62	100	38	0.52	692.0	6.53	16.5	5.39
10:20	8.62	100	49	0.52	651.0	6.47	16.43	5.35
10:25	8.62	100	50	0.54	623.0	6.36	16.39	5.34
10:30	8.62	100	51	0.55	571.0	6.22	16.32	5.24

Well Sampling Data Form

Client: The Peninsula JV LLC Project Number: 2611.0002Y000
 Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-10 Weather: Mid 80s ° F, sunny
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM-JF Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 9.00 Water Column (ft): 4.02
 Depth to Water(ft): 4.98 Volume of Water in Well (gal): 0.66
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 8:35 Purge Rate: ~100 mL/min
 End Purging: 0:00 Volume of Water Removed (gal): 0.50-0.75
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: clear

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 9:10 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
8:35	5.00	100	-22	0.56	179.0	5.51	18.84	10.56
8:40	5.11	100	-46	0.55	167.0	5.10	18.92	9.89
8:45	5.27	100	-41	0.55	153.0	5.48	18.95	9.75
8:50	5.41	100	-47	0.54	111.0	5.46	18.97	9.49
8:55	5.65	100	-48	0.53	73.0	5.44	19.11	9.17
9:00	5.81	100	-47	0.53	78.0	5.42	19.17	9.11
9:05	5.90	100	-46	0.53	72.0	5.41	19.2	9.04
9:10	5.95	100	-44	0.52	77.0	5.40	19.23	8.90

Well Sampling Data Form

Client: The Peninsula JV LLC **Project Number:** 2611.0002Y000
Site Location: The Peninsula - 1221 Spofford Avenue, Bronx, New York

Well No: RXMW-11 Weather: 70 ° F, overcast
 Date: 6/22/2018 Purge Water Disposal: 55-Gallon Drum
 Sampled By: RM Well Diameter / Type: 2-inch / PVC

Depth of Well (ft): 19.80 Water Column (ft): 14.80
 Depth to Water(ft): 5.00 Volume of Water in Well (gal): 2.42
- Volume of Water to Remove (gal): -

well diameter:	1 in	2 in	4 in	6 in	8 in
gallons per foot:	0.041	0.163	0.653	1.469	2.611

Start Purging: 7:30 Purge Rate: ~100 mL/min
 End Purging: 8:10 Volume of Water Removed (gal): _____
 Method of Purge: peristaltic pump Method of Sampling: low flow

Physical Appearance/
 Comments: Clear, no odor.

Samples Collected: TCL VOCs: 3-40mL voas with HCL, TCL SVOCs: 2-1L ambers; TCL Pest/Herb: 2-1L ambers; PCBs: 2-1L ambers;
 (analyses / no. bottles) TAL Metals (filter/unfiltered): 1-250mL NHO3 and 1-250mL unpreserved; Hex Chrom, total Cyanide

Time: 8:10 Laboratory : TestAmerica

Final Field Measurements:

Time	DTW ft	Flow Rate ml/min	ORP mV (+/- 10 mV)	Conductivity mS/m - S/m (w/in 3%)	Turbidity NTU (w/in %10)	pH SU (+/- 0.1)	Temperature C° - F° (w/in 3%)	Dissolved O ₂ mg/L (w/in 10%)
7:30	5.00	100	-215	0.734	0.0	7.35	17.36	6.50
7:35	5.51	100	-207	0.737	0.0	7.15	17.32	6.54
7:40	5.67	100	-198	0.737	0.0	6.97	17.23	6.32
7:45	5.77	100	-189	0.745	0.0	6.73	17.18	6.20
7:50	5.85	100	-169	0.739	0.0	6.35	17.08	5.90
8:00	5.91	100	-166	0.740	0.0	6.28	16.88	5.76
8:05	5.93	100	-163	0.741	0.0	6.22	16.96	5.87
8:10	5.95	100	-161	0.741	0.0	6.17	16.89	5.81
8:15	6.00	100	-159	0.740	0.0	6.14	16.83	5.82

APPENDIX D

Soil Vapor Sampling Logs

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:02
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSV-4 - SE courtyard.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
Parking lot, car traffic.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 6575

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -28.5 in. of Hg

Starting Time: 09:20

Ending Time: 11:17

Ending Pressure: -5.5 in. of Hg

Summa Canister Identification #: 6409

Flow Regulator ID # 2826

Sample ID # RXSV-4

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:00
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSV-5 - SE Courtyard parking lot

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Uneven ground between sidewalk and streetParking lot, car traffic, behind dumpster.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 4050

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -30.0 in. of Hg

Starting Time: 09:22

Ending Time: 12:56

Ending Pressure: -9.5 in. of Hg

Summa Canister Identification #: 4667

Flow Regulator ID # 3492

Sample ID # RXSV-5

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:08
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSV-7 - NE Courtyard.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
In corner of yard with lots of vegetation and uneven ground.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 2900

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -26.0 in. of Hg

Starting Time: 09:31

Ending Time: 11:55

Ending Pressure: -7.5 in. of Hg

Summa Canister Identification #: 6459

Flow Regulator ID # 3754

Sample ID # RXSV-7

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 5/23/2018 **Time:** 08:11
Weather : Cloudy.
Temperature: 65 Humidity: 70%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 29.97 Precipitation: -

Sampling Team: Ron Lombino

Sampling Location: RXSV-9 - NW Courtyard.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
In NW corner of yard with installed at RXSB-11 location.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 3000

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -31.0 in. of Hg

Starting Time: 08:29

Ending Time: 10:35

Ending Pressure: -6.5 in. of Hg

Summa Canister Identification #: 5842

Flow Regulator ID # 4180

Sample ID # RXSV-9

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 10:10
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Ron Lombino

Sampling Location: RXSV-10 - NE Courtyard.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
In NE corner of Courtyard, installed at soil boring RXTGW-12 location.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 2100

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -30.0 in. of Hg

Starting Time: 10:26

Ending Time: 12:18

Ending Pressure: -8.0 in. of Hg

Summa Canister Identification #: 5831

Flow Regulator ID # 3788

Sample ID # RXSV-10

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 5/23/2018 **Time:** 08:20
Weather : Cloudy.
Temperature: 65 Humidity: 70%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 29.97 Precipitation: -

Sampling Team: Ron Lombino

Sampling Location: RXSV-11 - NW Courtyard.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
In SE corner of yard with installed adjacent to RXMW-9.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 4000

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -29.5 in. of Hg

Starting Time: 08:35

Ending Time: 10:46

Ending Pressure: -9.0 in. of Hg

Summa Canister Identification #: 5875

Flow Regulator ID # 4204

Sample ID # RXSV-11

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/22/2018 **Time:** 10:35
Weather : Cloudy.
Temperature: 71 Humidity: 60%
Wind Magnitude: 11 mph Wind Direction: ENE
Barometric Pressure: 30.03 Precipitation: -

Sampling Team: Rachel Miller and Maggie Todaro

Sampling Location: RXSV-12 - Sidewalk of Tiffany St.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Uneven ground between sidewalk and street

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter
Utility Clearance Completed: Yes
Sampling Depth: ~7 ft feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with Rubber Gasket: Yes
Apparent Moisture Content: N/A
Purge Rate: 200 cc/min Must be less than 0.2 L/min
Purge Time: 2 min
Helium Rate at enclosure: 1140
Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -30.0 in. of Hg
Starting Time: 10:45
Ending Time: 12:40
Ending Pressure: -7.5 in. of Hg

Summa Canister Identification #: 4911
Flow Regulator ID # 5195
Sample ID # RXSV-12
Time 2 hr
Analysis TO-15
Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/22/2018

Time: 10:40

Weather : Cloudy

Temperature: 71

Humidity: 60%

Wind Magnitude: 11 mph

Wind Direction: ENE

Barometric Pressure: 30.03

Precipitation: -

Sampling Team: Rachel Miller and Maggie Todaro

Sampling Location: RXSV-13 - Sidewalk of Tiffany St.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Uneven ground between sidewalk and street

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: Yes

feet below land surface (if ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: ~7 ft

Sealed with Rubber Gasket: Yes

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 2550

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure Yes / No

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time Yes

Starting Pressure: -30.0 in. of Hg

Starting Time: 10:49

Ending Time: 12:35

Ending Pressure: -7.0 in. of Hg

Summa Canister Identification #: 3522

Flow Regulator ID #: 4931

Sample ID #: RXSV-13

Time: 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/22/2018 **Time:** 10:30
Weather : Cloudy.
Temperature: 71 Humidity: 60%
Wind Magnitude: 11 mph Wind Direction: ENE
Barometric Pressure: 30.03 Precipitation: -

Sampling Team: Rachel Miller and Maggie Todaro

Sampling Location: RXSV-14 - Sidewalk of Tiffany St.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Uneven ground between sidewalk and street

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter
Utility Clearance Completed: Yes

Sampling Depth: ~12 ft feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)
Sealed with Rubber Gasket: Yes
Apparent Moisture Content: N/A
Purge Rate: 200 cc/min Must be less than 0.2 L/min
Purge Time: 2 min
Helium Rate at enclosure: 850
Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -29.0 in. of Hg
Starting Time: 10:42
Ending Time: 12:30
Ending Pressure: -6.5 in. of Hg

Summa Canister Identification #: 4329
Flow Regulator ID # 5212
Sample ID # RXSV-14
Time 2 hr
Analysis TO-15
Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:05
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSS-2 - SE Courtyard garage

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
In garage, truck traffic in parking lot.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 6725

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -30.0 in. of Hg

Starting Time: 09:15

Ending Time: 11:26

Ending Pressure: -6.00 in. of Hg

Summa Canister Identification #: 4671

Flow Regulator ID # 4031

Sample ID # RXSS-2

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:12
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSS-3 - In laundry room.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present
Dark, washer and dryers present.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 3500

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -30.0 in. of Hg

Starting Time: 09:34

Ending Time: 1151

Ending Pressure: -5.0 in. of Hg

Summa Canister Identification #: 6386

Flow Regulator ID # 3993

Sample ID # RXSS-3

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:11
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSS-4 - In basement boiler room.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
Basement/ boiler room.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 6150

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -24.5 in. of Hg

Starting Time: 09:37

Ending Time: 11:40

Ending Pressure: -3.0 in. of Hg

Summa Canister Identification #: 6355

Flow Regulator ID # 4007

Sample ID # RXSS-4

Time 2 hr

Analysis TO-15

Laboratory TA

Spofford Ave - 2611.0002Y002
Soil Vapor Sampling Form

Date: 6/4/2018 **Time:** 09:10
Weather : Cloudy.
Temperature: 62 Humidity: 87%
Wind Magnitude: 12 mph Wind Direction: ENE
Barometric Pressure: 30 Precipitation: -

Sampling Team: Rachel Miller

Sampling Location: RXSS-5 - In basement boiler room.

Site Condition (i.e. any adjacent questionable facilities, vent pipes, tanks, etc. and what type of basements are present)
basement, dark, boiler room.

Prior to commencing the sampling activity, remove the brass cap from the end of the sample tubing and fit a new brass hose barb fitting onto the sample tubing.

Calibrate the Helium detection meter

Utility Clearance Completed: -

feet below land surface (If ambient air sample, elevate can to approx. 3 ft - 5 ft above land surface)

Sampling Depth: -

Sealed with Rubber Gasket: -

Apparent Moisture Content: N/A

Purge Rate: 200 cc/min Must be less than 0.2 L/min

Purge Time: 2 min

Helium Rate at enclosure: 5400

Helium Rate from sample tubing: 0.00 Is this rate <10% of the rate at the enclosure **Yes / No**

If the Helium readings have a greater ratio than 10% the seals should be rechecked and the tracer gas should be reapplied.

Once the tracer gas screening procedures are completed and no short-circuiting is determined to be present at the location the soil vapor sample can be collected in a lab certified clean summa canister at a rate less than 0.2 L/min.

Finishing pressure should be within 0.5 - 4 " of Hg

Is the Summa Canister Certified Clean and within the proper holding time ? **Yes**

Starting Pressure: -30.0 in. of Hg

Starting Time: 09:36

Ending Time: 11:39

Ending Pressure: -8.0 in. of Hg

Summa Canister Identification #: 4844

Flow Regulator ID # 6010

Sample ID # RXSS-5

Time 2 hr

Analysis TO-15

Laboratory TA

Remedial Investigation Report
1221 Spofford Avenue, Bronx, New York

APPENDIX E

Analytical Data Reports (*Provided in CD in bound copy*)

ANALYTICAL REPORT

Job Number: 200-44045-1

Job Description: The Peninsula

For:
Roux Environmental Eng & Geology DPC
209 Shafter St
Islandia, NY 11749
Attention: Mr. Frank Cherena

Melissa Haas

Approved for release.
Melissa Haas
Project Manager I
10/19/2018 2:19 PM

Melissa Haas, Project Manager I
777 New Durham Road, Edison, NJ, 08817
(203)944-1310
melissa.haas@testamericainc.com
10/19/2018
Revision: 1

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 LA000132

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



Job Number: 200-44045-1
Job Description: The Peninsula

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.

A handwritten signature in dark ink that reads "Melissa Haas". The signature is written in a cursive style with a horizontal line underneath.

Approved for release.
Melissa Haas
Project Manager I
10/19/2018 2:19 PM

Melissa Haas

Table of Contents

Cover Title Page	1
Data Summaries	5
Report Narrative	5
Sample Summary	8
Detection Summary	9
Method Summary	11
Client Sample Results	12
Isotope Dilution Summary	17
QC Sample Results	19
Definitions	24
QC Association	25
Chronicle	26
Certification Summary	27
Organic Sample Data	28
LCMS	28
Method PFC IDA	28
Method PFC IDA QC Summary	29
Method PFC IDA Sample Data	41
Standards Data	135
Method PFC IDA ICAL Data	135
Method PFC IDA CCAL Data	247
Raw QC Data	360
Method PFC IDA Blank Data	360
Method PFC IDA LCS/LCSD Data	386
Method PFC IDA MS/MSD Data	395
Method PFC IDA Run Logs	425

Table of Contents

Method PFC IDA Prep Data	429
Shipping and Receiving Documents	431
Client Chain of Custody	432
Sample Receipt Checklist	434

CASE NARRATIVE

Client: Roux Environmental Eng & Geology DPC

Project: The Peninsula

**Report Number: 200-44045-1
Revised Report #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.

REVISED REPORT #1

The following report required a revision: 200-44045-1

The enclosed submittal has been revised to provide for the correction of the PFAS sample results for select samples in order to account for the incorrect sample volume entered for samples affected by particulate clogging of the sorbent cartridge. This particulate clogging did result in an incomplete extraction for the samples. The original results were calculated using the volume of sample extracted, which created artificially elevated results that were proportional to the amount of sample initially spiked, while the revised results were calculated using the entire sample volume in the sample container provided. Please see the letter dated October, 1 2018 for additional details.

RECEIPT

The samples were received on 6/26/2018 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° 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 RXMW-2 (200-44045-1), RXMW-4 (200-44045-2), RXMW-7 (200-44045-3), DUP062118 (200-44045-4) and FB062118 (200-44045-5) were analyzed for Perfluorinated Hydrocarbons (PFC) in accordance with PFC. The samples were prepared on 06/27/2018 and analyzed on 06/28/2018 and 06/29/2018.

Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: RXMW-7 (200-44045-3). The reporting limits (RLs) have been adjusted proportionately.

The low level continuing calibration verification (CCVL) associated with batch 200-131275 recovered above the upper control limit for 8:2 FTS and Perfluorooctane Sulfonamide (FOSA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

The method blank for preparation batch 200-131185 and analytical batch 200-131275 contained Perfluorobutanoic acid (PFBA), Perfluorohexanoic acid (PFHxA), Perfluoroheptanoic acid (PFHpA), Perfluorooctanoic acid (PFOA), Perfluorohexanesulfonic acid (PFHxS) and Perfluoroheptanesulfonic Acid (PFHpS) above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed.

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.

October 1, 2018

Mr. Frank Cherena
Roux Environmental Eng & Geology DPC
209 Shafter St
Islandia, NY 11749

RE: Data Entry Error for Initial Volumes for PFAS Analysis
Program: The Peninsula

Dear Mr. Cherena:

It is the policy of TestAmerica to conduct its business with honesty and integrity, to produce accurate and useable environmental analytical test results and related services and to provide the best possible service to our clients. As such, we routinely conduct internal data reviews to assess our adherence to method requirements and Quality Assurance protocols. If any issues are noted during these reviews that impact the quality of data, we will notify affected clients and correct the issue.

During a recent internal data review, TestAmerica Burlington discovered a sample preparation data entry error that resulted in the reporting of high-biased results for PFAS analysis. Per the procedure, the entire initial sample volume is spiked with isotope dilution internal standard (IDA) prior to solid-phase extraction (SPE), and the entire sample volume and total mass of IDA spiked is used in subsequent calculations. Matrix impacts that reduce extraction efficiency (evident in reduced recovery of IDAs) are automatically accounted for and corrected by use of the isotope dilution technique for quantitation.

We observed reduced extraction efficiency for some samples with high particulate content, which resulted in partial clogging of the SPE column. In these circumstances, the laboratory sample preparation staff recorded the partial volume of sample that passed through the SPE cartridge, but associated it with the total mass of IDAs added initially. This error increased the correction for reduced extraction efficiency that is inherent in the isotope dilution technique, generating a high bias in the associated results.

TestAmerica will be submitting a revised report to reflect correct results in the affected samples. Depending on individual sample volumes, previously reported results will decrease by approximately 5 – 50% in the revised reports. A table summarizing the impacted jobs for this program is below.

Sample Number	Date Received	Project Description	Original Result Overestimation (%)
200-44045-3	6/26/2018	The Peninsula	57.36

TestAmerica regrets the inconvenience that has resulted from this issue. However, TestAmerica will always aggressively be proactive in correcting errors, performing internal critical reviews and forthrightly reporting the results. We look forward to continuing our relationship and stand by our commitment of providing high quality data and service.

If you have questions or need further information please feel free to contact me at the laboratory (802-660-1990).

Sincerely,



Don Dawicki
Laboratory Director

cc: Job 200-44045-1 Project File.

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-44045-1	RXMW-2	Water	06/22/18 14:05	06/26/18 10:05
200-44045-2	RXMW-4	Water	06/21/18 09:35	06/26/18 10:05
200-44045-3	RXMW-7	Water	06/21/18 12:10	06/26/18 10:05
200-44045-4	DUP062118	Water	06/21/18 09:45	06/26/18 10:05
200-44045-5	FB062118	Water	06/21/18 15:00	06/26/18 10:05

Detection Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: RXMW-2

Lab Sample ID: 200-44045-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	19.3	B	1.71	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.40		1.71	0.64	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.29	B	1.71	0.21	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.38	B	1.71	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	12.3	B	1.71	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.44	J	1.71	0.33	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.38	J	1.71	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.25	J	1.71	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.20		1.71	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.03	B	1.71	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10.9		1.71	0.65	ng/L	1		537 (modified)	Total/NA
8:2 FTS	0.69	J	1.71	0.48	ng/L	1		537 (modified)	Total/NA

Client Sample ID: RXMW-4

Lab Sample ID: 200-44045-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	54.5	B	1.74	0.36	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	24.1		1.74	0.65	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	18.0	B	1.74	0.21	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	15.7	B	1.74	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	64.9	B	1.74	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.96		1.74	0.33	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.05		1.74	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.74	0.23	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	5.01	B	1.74	0.71	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	28.2		1.74	0.66	ng/L	1		537 (modified)	Total/NA

Client Sample ID: RXMW-7

Lab Sample ID: 200-44045-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	35.1	B	1.62	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	23.7		1.62	0.61	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	12.0	B	1.62	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	10.1	B	1.62	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	19.9	B	1.62	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	3.01		1.62	0.31	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.52	J	1.62	0.31	ng/L	1		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.31	J	1.62	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.31		1.62	0.36	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.38	B	1.62	0.21	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	1.01	J B	1.62	0.66	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	28.3		1.62	0.62	ng/L	1		537 (modified)	Total/NA

Client Sample ID: DUP062118

Lab Sample ID: 200-44045-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	47.0	B	1.67	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	25.5		1.67	0.62	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	17.4	B	1.67	0.20	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Detection Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: DUP062118 (Continued)

Lab Sample ID: 200-44045-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	17.7	B	1.67	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	65.6	B	1.67	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.32	J	1.67	0.32	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.37	J	1.67	0.32	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.76		1.67	0.37	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.67	0.22	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	3.81	B	1.67	0.68	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	28.2		1.67	0.63	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB062118

Lab Sample ID: 200-44045-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.49	J B	1.66	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.59	J B	1.66	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.39	J B	1.66	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.68	J	1.66	0.63	ng/L	1		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.60	J	1.66	0.58	ng/L	1		537 (modified)	Total/NA
6:2 FTS	5.65		1.66	0.83	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Method Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Method	Method Description	Protocol	Laboratory
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: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: RXMW-2

Date Collected: 06/22/18 14:05

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	19.3	B	1.71	0.35	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluoropentanoic acid (PFPeA)	4.40		1.71	0.64	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorohexanoic acid (PFHxA)	2.29	B	1.71	0.21	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluoroheptanoic acid (PFHpA)	2.38	B	1.71	0.27	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorooctanoic acid (PFOA)	12.3	B	1.71	0.27	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorononanoic acid (PFNA)	1.44	J	1.71	0.33	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorodecanoic acid (PFDA)	0.38	J	1.71	0.33	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluoroundecanoic acid (PFUnA)	0.25	J	1.71	0.21	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorododecanoic acid (PFDoA)	1.71	U	1.71	0.30	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorotridecanoic acid (PFTriA)	1.71	U	1.71	0.21	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorotetradecanoic acid (PFTeA)	1.71	U	1.71	0.39	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorobutanesulfonic acid (PFBS)	2.20		1.71	0.38	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorohexanesulfonic acid (PFHxS)	3.03	B	1.71	0.22	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.71	U	1.71	0.70	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorodecanesulfonic acid (PFDS)	1.71	U	1.71	0.45	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorooctanesulfonic acid (PFOS)	10.9		1.71	0.65	ng/L		06/27/18 09:42	06/28/18 23:17	1
Perfluorooctanesulfonamide (FOSA)	1.71	U	1.71	0.48	ng/L		06/27/18 09:42	06/28/18 23:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.71	U	1.71	0.39	ng/L		06/27/18 09:42	06/28/18 23:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.71	U	1.71	0.60	ng/L		06/27/18 09:42	06/28/18 23:17	1
6:2 FTS	1.71	U	1.71	0.86	ng/L		06/27/18 09:42	06/28/18 23:17	1
8:2 FTS	0.69	J	1.71	0.48	ng/L		06/27/18 09:42	06/28/18 23:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	64		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C4 PFBA	31		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C5-PFPeA DNU	47		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C2 PFHxA	60		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C4 PFHpA	75		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C4 PFOA	86		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C5 PFNA	104		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C2 PFDA	94		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C2 PFUnA	92		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C2 PFDoA	80		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C2 PFTeA	79		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C3 PFBS	69		25 - 150	06/27/18 09:42	06/28/18 23:17	1
18O2 PFHxS	76		25 - 150	06/27/18 09:42	06/28/18 23:17	1
13C4 PFOS	77		25 - 150	06/27/18 09:42	06/28/18 23:17	1
d3-NMeFOSAA	72		25 - 150	06/27/18 09:42	06/28/18 23:17	1
d5-NEtFOSAA	70		25 - 150	06/27/18 09:42	06/28/18 23:17	1
M2-6:2 FTS	155		25 - 150	06/27/18 09:42	06/28/18 23:17	1
M2-8:2 FTS	125		25 - 150	06/27/18 09:42	06/28/18 23:17	1

TestAmerica Burlington

Client Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: RXMW-4

Date Collected: 06/21/18 09:35

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	54.5	B	1.74	0.36	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluoropentanoic acid (PFPeA)	24.1		1.74	0.65	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorohexanoic acid (PFHxA)	18.0	B	1.74	0.21	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluoroheptanoic acid (PFHpA)	15.7	B	1.74	0.28	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorooctanoic acid (PFOA)	64.9	B	1.74	0.28	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorononanoic acid (PFNA)	1.96		1.74	0.33	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorodecanoic acid (PFDA)	1.74	U	1.74	0.33	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluoroundecanoic acid (PFUnA)	1.74	U	1.74	0.22	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorododecanoic acid (PFDoA)	1.74	U	1.74	0.30	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorotridecanoic acid (PFTriA)	1.74	U	1.74	0.21	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorotetradecanoic acid (PFTeA)	1.74	U	1.74	0.39	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorobutanesulfonic acid (PFBS)	5.05		1.74	0.38	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.74	0.23	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	5.01	B	1.74	0.71	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorodecanesulfonic acid (PFDS)	1.74	U	1.74	0.46	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorooctanesulfonic acid (PFOS)	28.2		1.74	0.66	ng/L		06/27/18 09:42	06/28/18 23:33	1
Perfluorooctanesulfonamide (FOSA)	1.74	U	1.74	0.49	ng/L		06/27/18 09:42	06/28/18 23:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.74	U	1.74	0.39	ng/L		06/27/18 09:42	06/28/18 23:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.74	U	1.74	0.61	ng/L		06/27/18 09:42	06/28/18 23:33	1
6:2 FTS	1.74	U	1.74	0.87	ng/L		06/27/18 09:42	06/28/18 23:33	1
8:2 FTS	1.74	U	1.74	0.49	ng/L		06/27/18 09:42	06/28/18 23:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	71		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C4 PFBA	26		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C5-PFPeA DNU	43		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C2 PFHxA	56		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C4 PFHpA	82		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C4 PFOA	92		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C5 PFNA	107		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C2 PFDA	115		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C2 PFUnA	123		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C2 PFDoA	101		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C2 PFTeA	101		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C3 PFBS	77		25 - 150	06/27/18 09:42	06/28/18 23:33	1
18O2 PFHxS	87		25 - 150	06/27/18 09:42	06/28/18 23:33	1
13C4 PFOS	100		25 - 150	06/27/18 09:42	06/28/18 23:33	1
d3-NMeFOSAA	97		25 - 150	06/27/18 09:42	06/28/18 23:33	1
d5-NEtFOSAA	111		25 - 150	06/27/18 09:42	06/28/18 23:33	1
M2-6:2 FTS	242		25 - 150	06/27/18 09:42	06/28/18 23:33	1
M2-8:2 FTS	209		25 - 150	06/27/18 09:42	06/28/18 23:33	1

TestAmerica Burlington

Client Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: RXMW-7

Date Collected: 06/21/18 12:10

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	35.1	B	1.62	0.33	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluoropentanoic acid (PFPeA)	23.7		1.62	0.61	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorohexanoic acid (PFHxA)	12.0	B	1.62	0.19	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluoroheptanoic acid (PFHpA)	10.1	B	1.62	0.26	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorooctanoic acid (PFOA)	19.9	B	1.62	0.26	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorononanoic acid (PFNA)	3.01		1.62	0.31	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorodecanoic acid (PFDA)	0.52	J	1.62	0.31	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluoroundecanoic acid (PFUnA)	0.31	J	1.62	0.20	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorododecanoic acid (PFDoA)	1.62	U	1.62	0.28	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorotridecanoic acid (PFTriA)	1.62	U	1.62	0.19	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorotetradecanoic acid (PFTeA)	1.62	U	1.62	0.36	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorobutanesulfonic acid (PFBS)	2.31		1.62	0.36	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorohexanesulfonic acid (PFHxS)	7.38	B	1.62	0.21	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.01	J B	1.62	0.66	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorodecanesulfonic acid (PFDS)	1.62	U	1.62	0.43	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorooctanesulfonic acid (PFOS)	28.3		1.62	0.62	ng/L		06/27/18 09:42	06/29/18 00:22	1
Perfluorooctanesulfonamide (FOSA)	1.62	U	1.62	0.45	ng/L		06/27/18 09:42	06/29/18 00:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.62	U	1.62	0.36	ng/L		06/27/18 09:42	06/29/18 00:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.62	U	1.62	0.57	ng/L		06/27/18 09:42	06/29/18 00:22	1
6:2 FTS	1.62	U	1.62	0.81	ng/L		06/27/18 09:42	06/29/18 00:22	1
8:2 FTS	1.62	U	1.62	0.45	ng/L		06/27/18 09:42	06/29/18 00:22	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	39		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C4 PFBA	18	*	25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C5-PFPeA DNU	30		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C2 PFHxA	34		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C4 PFHpA	45		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C4 PFOA	61		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C5 PFNA	65		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C2 PFDA	67		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C2 PFUnA	70		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C2 PFDoA	67		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C2 PFTeA	73		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C3 PFBS	48		25 - 150				06/27/18 09:42	06/29/18 00:22	1
18O2 PFHxS	54		25 - 150				06/27/18 09:42	06/29/18 00:22	1
13C4 PFOS	56		25 - 150				06/27/18 09:42	06/29/18 00:22	1
d3-NMeFOSAA	51		25 - 150				06/27/18 09:42	06/29/18 00:22	1
d5-NEtFOSAA	60		25 - 150				06/27/18 09:42	06/29/18 00:22	1
M2-6:2 FTS	150		25 - 150				06/27/18 09:42	06/29/18 00:22	1
M2-8:2 FTS	109		25 - 150				06/27/18 09:42	06/29/18 00:22	1

TestAmerica Burlington

Client Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: DUP062118

Lab Sample ID: 200-44045-4

Date Collected: 06/21/18 09:45

Matrix: Water

Date Received: 06/26/18 10:05

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	47.0	B	1.67	0.34	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluoropentanoic acid (PFPeA)	25.5		1.67	0.62	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorohexanoic acid (PFHxA)	17.4	B	1.67	0.20	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluoroheptanoic acid (PFHpA)	17.7	B	1.67	0.27	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorooctanoic acid (PFOA)	65.6	B	1.67	0.27	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorononanoic acid (PFNA)	1.32	J	1.67	0.32	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorodecanoic acid (PFDA)	0.37	J	1.67	0.32	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluoroundecanoic acid (PFUnA)	1.67	U	1.67	0.21	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorododecanoic acid (PFDoA)	1.67	U	1.67	0.29	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorotridecanoic acid (PFTriA)	1.67	U	1.67	0.20	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorotetradecanoic acid (PFTeA)	1.67	U	1.67	0.37	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorobutanesulfonic acid (PFBS)	5.76		1.67	0.37	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.67	0.22	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.81	B	1.67	0.68	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorodecanesulfonic acid (PFDS)	1.67	U	1.67	0.44	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorooctanesulfonic acid (PFOS)	28.2		1.67	0.63	ng/L		06/27/18 09:42	06/29/18 00:38	1
Perfluorooctanesulfonamide (FOSA)	1.67	U	1.67	0.47	ng/L		06/27/18 09:42	06/29/18 00:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.67	U	1.67	0.37	ng/L		06/27/18 09:42	06/29/18 00:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.67	U	1.67	0.58	ng/L		06/27/18 09:42	06/29/18 00:38	1
6:2 FTS	1.67	U	1.67	0.83	ng/L		06/27/18 09:42	06/29/18 00:38	1
8:2 FTS	1.67	U	1.67	0.47	ng/L		06/27/18 09:42	06/29/18 00:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
¹³ C8 FOSA	70		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C4 PFBA	21		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C5-PFPeA DNU	30		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C2 PFHxA	49		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C4 PFHpA	69		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C4 PFOA	86		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C5 PFNA	109		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C2 PFDA	101		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C2 PFUnA	119		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C2 PFDoA	97		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C2 PFTeDA	96		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C3 PFBS	65		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹⁸ O2 PFHxS	86		25 - 150	06/27/18 09:42	06/29/18 00:38	1
¹³ C4 PFOS	92		25 - 150	06/27/18 09:42	06/29/18 00:38	1
d3-NMeFOSAA	92		25 - 150	06/27/18 09:42	06/29/18 00:38	1
d5-NEtFOSAA	97		25 - 150	06/27/18 09:42	06/29/18 00:38	1
M2-6:2 FTS	231		25 - 150	06/27/18 09:42	06/29/18 00:38	1
M2-8:2 FTS	213		25 - 150	06/27/18 09:42	06/29/18 00:38	1

TestAmerica Burlington

Client Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: FB062118

Date Collected: 06/21/18 15:00

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.66	U	1.66	0.34	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluoropentanoic acid (PFPeA)	1.66	U	1.66	0.62	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorohexanoic acid (PFHxA)	0.49	J B	1.66	0.20	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluoroheptanoic acid (PFHpA)	1.66	U	1.66	0.26	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorooctanoic acid (PFOA)	0.59	J B	1.66	0.26	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorononanoic acid (PFNA)	1.66	U	1.66	0.31	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorodecanoic acid (PFDA)	1.66	U	1.66	0.31	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluoroundecanoic acid (PFUnA)	1.66	U	1.66	0.21	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorododecanoic acid (PFDoA)	1.66	U	1.66	0.29	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorotridecanoic acid (PFTriA)	1.66	U	1.66	0.20	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorotetradecanoic acid (PFTeA)	1.66	U	1.66	0.37	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorobutanesulfonic acid (PFBS)	1.66	U	1.66	0.36	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorohexanesulfonic acid (PFHxS)	0.39	J B	1.66	0.22	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.66	U	1.66	0.68	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorodecanesulfonic acid (PFDS)	1.66	U	1.66	0.44	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorooctanesulfonic acid (PFOS)	0.68	J	1.66	0.63	ng/L		06/27/18 09:42	06/29/18 00:54	1
Perfluorooctanesulfonamide (FOSA)	1.66	U	1.66	0.46	ng/L		06/27/18 09:42	06/29/18 00:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.66	U	1.66	0.37	ng/L		06/27/18 09:42	06/29/18 00:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.60	J	1.66	0.58	ng/L		06/27/18 09:42	06/29/18 00:54	1
6:2 FTS	5.65		1.66	0.83	ng/L		06/27/18 09:42	06/29/18 00:54	1
8:2 FTS	1.66	U	1.66	0.46	ng/L		06/27/18 09:42	06/29/18 00:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	38		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C4 PFBA	67		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C5-PFPeA DNU	76		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C2 PFHxA	80		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C4 PFHpA	79		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C4 PFOA	84		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C5 PFNA	87		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C2 PFDA	80		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C2 PFUnA	87		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C2 PFDoA	70		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C2 PFTeA	65		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C3 PFBS	78		25 - 150	06/27/18 09:42	06/29/18 00:54	1
18O2 PFHxS	80		25 - 150	06/27/18 09:42	06/29/18 00:54	1
13C4 PFOS	77		25 - 150	06/27/18 09:42	06/29/18 00:54	1
d3-NMeFOSAA	58		25 - 150	06/27/18 09:42	06/29/18 00:54	1
d5-NEtFOSAA	69		25 - 150	06/27/18 09:42	06/29/18 00:54	1
M2-6:2 FTS	115		25 - 150	06/27/18 09:42	06/29/18 00:54	1
M2-8:2 FTS	89		25 - 150	06/27/18 09:42	06/29/18 00:54	1

TestAmerica Burlington

Isotope Dilution Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
200-44045-1	RXMW-2	64	31	47	60	75	86	104	94
200-44045-2	RXMW-4	71	26	43	56	82	92	107	115
200-44045-2 MS	RXMW-4	72	22	33	55	68	84	101	106
200-44045-2 MSD	RXMW-4	72	22	34	47	65	83	101	98
200-44045-3	RXMW-7	39	18 *	30	34	45	61	65	67
200-44045-4	DUP062118	70	21	30	49	69	86	109	101
200-44045-5	FB062118	38	67	76	80	79	84	87	80
LCS 200-131185/2-A	Lab Control Sample	49	84	87	93	86	84	87	84
MB 200-131185/1-A	Method Blank	42	74	79	80	81	89	86	83

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDaA (25-150)	PFTDA (25-150)	3C3-PFB (25-150)	PFHxS (25-150)	PFOS (25-150)	-NMeFOS (25-150)	-NEtFOS (25-150)
200-44045-1	RXMW-2	92	80	79	69	76	77	72	70
200-44045-2	RXMW-4	123	101	101	77	87	100	97	111
200-44045-2 MS	RXMW-4	103	103	103	68	85	89	77	97
200-44045-2 MSD	RXMW-4	103	82	83	66	80	92	78	93
200-44045-3	RXMW-7	70	67	73	48	54	56	51	60
200-44045-4	DUP062118	119	97	96	65	86	92	92	97
200-44045-5	FB062118	87	70	65	78	80	77	58	69
LCS 200-131185/2-A	Lab Control Sample	89	75	67	92	78	77	67	67
MB 200-131185/1-A	Method Blank	92	75	62	78	77	80	67	75

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
200-44045-1	RXMW-2	155	125
200-44045-2	RXMW-4	242	209
200-44045-2 MS	RXMW-4	230	196
200-44045-2 MSD	RXMW-4	261	184
200-44045-3	RXMW-7	150	109
200-44045-4	DUP062118	231	213
200-44045-5	FB062118	115	89
LCS 200-131185/2-A	Lab Control Sample	105	100
MB 200-131185/1-A	Method Blank	112	95

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5-PFPeA DNU
PFHxA = 13C2 PFHxA
PFHpA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDaA = 13C2 PFDaA
PFTDA = 13C2 PFTeDA
13C3-PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS

Isotope Dilution Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

d3-NMeFOSAA = d3-NMeFOSAA

d5-NEtFOSAA = d5-NEtFOSAA

M262FTS = M2-6:2 FTS

M282FTS = M2-8:2 FTS

QC Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-131185/1-A

Matrix: Water

Analysis Batch: 131275

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131185

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.859	J	2.00	0.41	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluoropentanoic acid (PFPeA)	2.00	U	2.00	0.75	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorohexanoic acid (PFHxA)	0.291	J	2.00	0.24	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluoroheptanoic acid (PFHpA)	0.442	J	2.00	0.32	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorooctanoic acid (PFOA)	0.586	J	2.00	0.32	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.38	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorodecanoic acid (PFDA)	2.00	U	2.00	0.38	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluoroundecanoic acid (PFUnA)	2.00	U	2.00	0.25	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorododecanoic acid (PFDoA)	2.00	U	2.00	0.35	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorotridecanoic acid (PFTriA)	2.00	U	2.00	0.24	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorotetradecanoic acid (PFTeA)	2.00	U	2.00	0.45	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.44	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorohexanesulfonic acid (PFHxS)	0.447	J	2.00	0.26	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.829	J	2.00	0.82	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorodecanesulfonic acid (PFDS)	2.00	U	2.00	0.53	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	0.76	ng/L		06/27/18 09:42	06/28/18 19:14	1
Perfluorooctanesulfonamide (FOSA)	2.00	U	2.00	0.56	ng/L		06/27/18 09:42	06/28/18 19:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	U	2.00	0.45	ng/L		06/27/18 09:42	06/28/18 19:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	U	2.00	0.70	ng/L		06/27/18 09:42	06/28/18 19:14	1
6:2 FTS	2.00	U	2.00	1.00	ng/L		06/27/18 09:42	06/28/18 19:14	1
8:2 FTS	2.00	U	2.00	0.56	ng/L		06/27/18 09:42	06/28/18 19:14	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	42		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C4 PFBA	74		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C5-PFPeA DNU	79		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C2 PFHxA	80		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C4 PFHpA	81		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C4 PFOA	89		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C5 PFNA	86		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C2 PFDA	83		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C2 PFUnA	92		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C2 PFDoA	75		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C2 PFTeA	62		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C3 PFBS	78		25 - 150	06/27/18 09:42	06/28/18 19:14	1
18O2 PFHxS	77		25 - 150	06/27/18 09:42	06/28/18 19:14	1
13C4 PFOS	80		25 - 150	06/27/18 09:42	06/28/18 19:14	1
d3-NMeFOSAA	67		25 - 150	06/27/18 09:42	06/28/18 19:14	1
d5-NEtFOSAA	75		25 - 150	06/27/18 09:42	06/28/18 19:14	1
M2-6:2 FTS	112		25 - 150	06/27/18 09:42	06/28/18 19:14	1
M2-8:2 FTS	95		25 - 150	06/27/18 09:42	06/28/18 19:14	1

TestAmerica Burlington

QC Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

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

Lab Sample ID: LCS 200-131185/2-A

Matrix: Water

Analysis Batch: 131275

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131185

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	41.38		ng/L		103	50 - 150
Perfluoropentanoic acid (PFPeA)	40.0	43.24		ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	40.0	41.48		ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	41.64		ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	40.0	39.99		ng/L		100	50 - 150
Perfluorononanoic acid (PFNA)	40.0	42.41		ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	41.37		ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	40.0	40.74		ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	40.0	40.13		ng/L		100	50 - 150
Perfluorotridecanoic acid (PFTriA)	40.0	35.12		ng/L		88	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	38.68		ng/L		97	50 - 150
Perfluorobutanesulfonic acid (PFBS)	35.4	34.54		ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	36.4	40.06		ng/L		110	50 - 150
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	43.58		ng/L		114	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	38.77		ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	40.01		ng/L		108	50 - 150
Perfluorooctanesulfonamide (FOSA)	40.0	39.08		ng/L		98	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.95		ng/L		105	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.23		ng/L		108	50 - 150
6:2 FTS	37.9	48.68		ng/L		128	50 - 150
8:2 FTS	38.3	45.81		ng/L		120	50 - 150

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	49		25 - 150
13C4 PFBA	84		25 - 150
13C5-PFPeA DNU	87		25 - 150
13C2 PFHxA	93		25 - 150
13C4 PFHpA	86		25 - 150
13C4 PFOA	84		25 - 150
13C5 PFNA	87		25 - 150
13C2 PFDA	84		25 - 150
13C2 PFUnA	89		25 - 150
13C2 PFDoA	75		25 - 150
13C2 PFTeDA	67		25 - 150
13C3 PFBS	92		25 - 150
18O2 PFHxS	78		25 - 150
13C4 PFOS	77		25 - 150
d3-NMeFOSAA	67		25 - 150
d5-NEtFOSAA	67		25 - 150

TestAmerica Burlington

QC Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

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

Lab Sample ID: LCS 200-131185/2-A

Matrix: Water

Analysis Batch: 131275

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131185

<i>Isotope Dilution</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
M2-6:2 FTS	105		25 - 150
M2-8:2 FTS	100		25 - 150

Lab Sample ID: 200-44045-2 MS

Matrix: Water

Analysis Batch: 131275

Client Sample ID: RXMW-4

Prep Type: Total/NA

Prep Batch: 131185

<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>%Rec. Limits</i>
Perfluorobutanoic acid (PFBA)	54.5	B	34.2	81.36		ng/L		79	40 - 160
Perfluoropentanoic acid (PFPeA)	24.1		34.2	65.24		ng/L		120	40 - 160
Perfluorohexanoic acid (PFHxA)	18.0	B	34.2	48.81		ng/L		90	40 - 160
Perfluoroheptanoic acid (PFHpA)	15.7	B	34.2	55.14		ng/L		115	40 - 160
Perfluorooctanoic acid (PFOA)	64.9	B	34.2	103.2		ng/L		112	40 - 160
Perfluorononanoic acid (PFNA)	1.96		34.2	39.70		ng/L		110	40 - 160
Perfluorodecanoic acid (PFDA)	1.74	U	34.2	34.82		ng/L		102	40 - 160
Perfluoroundecanoic acid (PFUnA)	1.74	U	34.2	36.76		ng/L		107	40 - 160
Perfluorododecanoic acid (PFDoA)	1.74	U	34.2	34.06		ng/L		100	40 - 160
Perfluorotridecanoic acid (PFTriA)	1.74	U	34.2	36.51		ng/L		107	40 - 160
Perfluorotetradecanoic acid (PFTeA)	1.74	U	34.2	34.78		ng/L		102	40 - 160
Perfluorobutanesulfonic acid (PFBS)	5.05		30.2	42.00		ng/L		122	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	31.1	48.92		ng/L		109	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	5.01	B	32.6	44.04		ng/L		120	40 - 160
Perfluorodecanesulfonic acid (PFDS)	1.74	U	33.0	35.20		ng/L		107	40 - 160
Perfluorooctanesulfonic acid (PFOS)	28.2		31.7	66.20		ng/L		120	40 - 160
Perfluorooctanesulfonamide (FOSA)	1.74	U	34.2	35.42		ng/L		104	40 - 160
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.74	U	34.2	40.40		ng/L		118	40 - 160
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.74	U	34.2	35.52		ng/L		104	40 - 160
6:2 FTS	1.74	U	32.4	34.46		ng/L		106	40 - 160
8:2 FTS	1.74	U	32.8	47.60		ng/L		145	40 - 160
<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>						
13C8 FOSA	72		25 - 150						
13C4 PFBA	22		25 - 150						
13C5-PFPeA DNU	33		25 - 150						
13C2 PFHxA	55		25 - 150						
13C4 PFHpA	68		25 - 150						
13C4 PFOA	84		25 - 150						
13C5 PFNA	101		25 - 150						
13C2 PFDA	106		25 - 150						

TestAmerica Burlington

QC Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

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

Lab Sample ID: 200-44045-2 MS

Matrix: Water

Analysis Batch: 131275

Client Sample ID: RXMW-4

Prep Type: Total/NA

Prep Batch: 131185

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C2 PFUnA	103		25 - 150
13C2 PFDoA	103		25 - 150
13C2 PFTeDA	103		25 - 150
13C3 PFBS	68		25 - 150
18O2 PFHxS	85		25 - 150
13C4 PFOS	89		25 - 150
d3-NMeFOSAA	77		25 - 150
d5-NEtFOSAA	97		25 - 150
M2-6:2 FTS	230		25 - 150
M2-8:2 FTS	196		25 - 150

Lab Sample ID: 200-44045-2 MSD

Matrix: Water

Analysis Batch: 131275

Client Sample ID: RXMW-4

Prep Type: Total/NA

Prep Batch: 131185

<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)	54.5	B	34.2	76.85		ng/L		65	40 - 160	6	30
Perfluoropentanoic acid (PFPeA)	24.1		34.2	57.41		ng/L		98	40 - 160	13	30
Perfluorohexanoic acid (PFHxA)	18.0	B	34.2	55.55		ng/L		110	40 - 160	13	30
Perfluoroheptanoic acid (PFHpA)	15.7	B	34.2	55.40		ng/L		116	40 - 160	0	30
Perfluorooctanoic acid (PFOA)	64.9	B	34.2	93.53		ng/L		84	40 - 160	10	30
Perfluorononanoic acid (PFNA)	1.96		34.2	37.12		ng/L		103	40 - 160	7	30
Perfluorodecanoic acid (PFDA)	1.74	U	34.2	35.97		ng/L		105	40 - 160	3	30
Perfluoroundecanoic acid (PFUnA)	1.74	U	34.2	34.41		ng/L		101	40 - 160	7	30
Perfluorododecanoic acid (PFDoA)	1.74	U	34.2	35.37		ng/L		103	40 - 160	4	30
Perfluorotridecanoic acid (PFTriA)	1.74	U	34.2	35.81		ng/L		105	40 - 160	2	30
Perfluorotetradecanoic acid (PFTeA)	1.74	U	34.2	36.45		ng/L		107	40 - 160	5	30
Perfluorobutanesulfonic acid (PFBS)	5.05		30.2	40.48		ng/L		117	40 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)	15.0	B	31.1	46.77		ng/L		102	40 - 160	4	30
Perfluoroheptanesulfonic Acid (PFHpS)	5.01	B	32.5	37.44		ng/L		100	40 - 160	16	30
Perfluorodecanesulfonic acid (PFDS)	1.74	U	33.0	29.18		ng/L		89	40 - 160	19	30
Perfluorooctanesulfonic acid (PFOS)	28.2		31.7	60.25		ng/L		101	40 - 160	9	30
Perfluorooctanesulfonamide (FOSA)	1.74	U	34.2	34.07		ng/L		100	40 - 160	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.74	U	34.2	35.85		ng/L		105	40 - 160	12	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.74	U	34.2	33.75		ng/L		99	40 - 160	5	30
6:2 FTS	1.74	U	32.4	28.47		ng/L		88	40 - 160	19	30
8:2 FTS	1.74	U	32.8	47.35		ng/L		145	40 - 160	1	30

TestAmerica Burlington

QC Sample Results

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

<i>Isotope Dilution</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
13C8 FOSA	72		25 - 150
13C4 PFBA	22		25 - 150
13C5-PFPeA DNU	34		25 - 150
13C2 PFHxA	47		25 - 150
13C4 PFHpA	65		25 - 150
13C4 PFOA	83		25 - 150
13C5 PFNA	101		25 - 150
13C2 PFDA	98		25 - 150
13C2 PFUnA	103		25 - 150
13C2 PFDoA	82		25 - 150
13C2 PFTeDA	83		25 - 150
13C3 PFBS	66		25 - 150
18O2 PFHxS	80		25 - 150
13C4 PFOS	92		25 - 150
d3-NMeFOSAA	78		25 - 150
d5-NEtFOSAA	93		25 - 150
M2-6:2 FTS	261		25 - 150
M2-8:2 FTS	184		25 - 150

Definitions/Glossary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Analyzed for but not detected.
J	Indicates an estimated value.
B	The analyte was found in an associated blank, as well as in the sample.
*	Isotope Dilution analyte is outside acceptance limits.

Glossary

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: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

LCMS

Prep Batch: 131185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-44045-1	RXMW-2	Total/NA	Water	3535	
200-44045-2	RXMW-4	Total/NA	Water	3535	
200-44045-3	RXMW-7	Total/NA	Water	3535	
200-44045-4	DUP062118	Total/NA	Water	3535	
200-44045-5	FB062118	Total/NA	Water	3535	
MB 200-131185/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-131185/2-A	Lab Control Sample	Total/NA	Water	3535	
200-44045-2 MS	RXMW-4	Total/NA	Water	3535	
200-44045-2 MSD	RXMW-4	Total/NA	Water	3535	

Analysis Batch: 131275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-44045-1	RXMW-2	Total/NA	Water	537 (modified)	131185
200-44045-2	RXMW-4	Total/NA	Water	537 (modified)	131185
200-44045-3	RXMW-7	Total/NA	Water	537 (modified)	131185
200-44045-4	DUP062118	Total/NA	Water	537 (modified)	131185
200-44045-5	FB062118	Total/NA	Water	537 (modified)	131185
MB 200-131185/1-A	Method Blank	Total/NA	Water	537 (modified)	131185
LCS 200-131185/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	131185
200-44045-2 MS	RXMW-4	Total/NA	Water	537 (modified)	131185
200-44045-2 MSD	RXMW-4	Total/NA	Water	537 (modified)	131185

Lab Chronicle

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Client Sample ID: RXMW-2

Date Collected: 06/22/18 14:05

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			131185	06/27/18 09:42	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	131275	06/28/18 23:17	BWC	TAL BUR

Client Sample ID: RXMW-4

Date Collected: 06/21/18 09:35

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			131185	06/27/18 09:42	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	131275	06/28/18 23:33	BWC	TAL BUR

Client Sample ID: RXMW-7

Date Collected: 06/21/18 12:10

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			131185	06/27/18 09:42	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	131275	06/29/18 00:22	BWC	TAL BUR

Client Sample ID: DUP062118

Date Collected: 06/21/18 09:45

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			131185	06/27/18 09:42	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	131275	06/29/18 00:38	BWC	TAL BUR

Client Sample ID: FB062118

Date Collected: 06/21/18 15:00

Date Received: 06/26/18 10:05

Lab Sample ID: 200-44045-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			131185	06/27/18 09:42	JM1	TAL BUR
Total/NA	Analysis	537 (modified)		1	131275	06/29/18 00:54	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: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

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
Maine	State Program	1	VT00008	04-17-19
Minnesota	NELAP	5	050-999-436	12-31-18
New Hampshire	NELAP	1	2006	12-18-18
New Jersey	NELAP	2	VT972	06-30-19
New York	NELAP	2	10391	04-01-19
Pennsylvania	NELAP	3	68-00489	04-30-19
Rhode Island	State Program	1	LAO00298	12-30-18
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
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

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11452	04-01-19

Method PFC IDA

Fluorinated Hydrocarbons by Method
PFAS IDA

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 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 #
RXMW-2	200-44045-1	31	47	69	60	75	76	155	86
RXMW-4	200-44045-2	26	43	77	56	82	87	242	92
RXMW-7	200-44045-3	18 *	30	48	34	45	54	150	61
DUP062118	200-44045-4	21	30	65	49	69	86	231	86
FB062118	200-44045-5	67	76	78	80	79	80	115	84
	MB 200-131185/1-A	74	79	78	80	81	77	112	89
	LCS 200-131185/2-A	84	87	92	93	86	78	105	84
RXMW-4 MS	200-44045-2 MS	22	33	68	55	68	85	230	84
RXMW-4 MSD	200-44045-2 MSD	22	34	66	47	65	80	261	83

	<u>QC LIMITS</u>
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5-PFPeA DNU	25-150
PFBS = 13C3 PFBS	25-150
PFHxA = 13C2 PFHxA	25-150
PFHpA = 13C4 PFHpA	25-150
PFHxS = 18O2 PFHxS	25-150
M262FTS = M2-6:2 FTS	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.: 200-44045-1
 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 #
RXMW-2	200-44045-1	104	77	125	94	72	70	92	64
RXMW-4	200-44045-2	107	100	209	115	97	111	123	71
RXMW-7	200-44045-3	65	56	109	67	51	60	70	39
DUP062118	200-44045-4	109	92	213	101	92	97	119	70
FB062118	200-44045-5	87	77	89	80	58	69	87	38
	MB 200-131185/1-A	86	80	95	83	67	75	92	42
	LCS 200-131185/2-A	87	77	100	84	67	67	89	49
RXMW-4 MS	200-44045-2 MS	101	89	196	106	77	97	103	72
RXMW-4 MSD	200-44045-2 MSD	101	92	184	98	78	93	103	72

	<u>QC LIMITS</u>
PFNA = 13C5 PFNA	25-150
PFOS = 13C4 PFOS	25-150
M282FTS = M2-8:2 FTS	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.: 200-44045-1
 SDG No.: _____
 Matrix: Water Level: Low
 GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFD _o A #	PFTD _A #
RXMW-2	200-44045-1	80	79
RXMW-4	200-44045-2	101	101
RXMW-7	200-44045-3	67	73
DUP062118	200-44045-4	97	96
FB062118	200-44045-5	70	65
	MB 200-131185/1-A	75	62
	LCS 200-131185/2-A	75	67
RXMW-4 MS	200-44045-2 MS	103	103
RXMW-4 MSD	200-44045-2 MSD	82	83

PFD_oA = 13C2 PFD_oA
 PFTD_A = 13C2 PFTeD_A

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.: 200-44045-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: PF062818A12.d
 Lab ID: LCS 200-131185/2-A Client ID: _____

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	41.38	103	50-150	
Perfluoropentanoic acid (PFPeA)	40.0	43.24	108	50-150	
Perfluorohexanoic acid (PFHxA)	40.0	41.48	104	50-150	
Perfluoroheptanoic acid (PFHpA)	40.0	41.64	104	50-150	
Perfluorooctanoic acid (PFOA)	40.0	39.99	100	50-150	
Perfluorononanoic acid (PFNA)	40.0	42.41	106	50-150	
Perfluorodecanoic acid (PFDA)	40.0	41.37	103	50-150	
Perfluoroundecanoic acid (PFUnA)	40.0	40.74	102	50-150	
Perfluorododecanoic acid (PFDoA)	40.0	40.13	100	50-150	
Perfluorotridecanoic acid (PFTriA)	40.0	35.12	88	50-150	
Perfluorotetradecanoic acid (PFTeA)	40.0	38.68	97	50-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	34.54	98	50-150	
Perfluorohexanesulfonic acid (PFHxS)	36.4	40.06	110	50-150	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	43.58	114	50-150	
Perfluorodecanesulfonic acid (PFDS)	38.6	38.77	101	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	40.01	108	50-150	
Perfluorooctanesulfonamide (FOSA)	40.0	39.08	98	50-150	
13C8 FOSA	100	49.04	49	25-150	
13C4 PFBA	100	84.20	84	25-150	
13C5-PFPeA DNU	100	87.46	87	25-150	
13C2 PFHxA	100	92.90	93	25-150	
13C4 PFHpA	100	85.57	86	25-150	
13C4 PFOA	100	84.17	84	25-150	
13C5 PFNA	100	86.72	87	25-150	
13C2 PFDA	100	83.93	84	25-150	
13C2 PFUnA	100	88.99	89	25-150	
13C2 PFDoA	100	74.62	75	25-150	
13C2 PFTeDA	100	66.60	67	25-150	
13C3 PFBS	93.0	85.60	92	25-150	
18O2 PFHxS	94.6	73.70	78	25-150	
13C4 PFOS	95.6	73.34	77	25-150	
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	40.0	41.95	105	50-150	

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.: 200-44045-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: PF062818A12.d
 Lab ID: LCS 200-131185/2-A Client ID: _____

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
N-ethylperfluorooctanesulfonam idoacetic acid (NEtFOSAA)	40.0	43.23	108	50-150	
d3-NMeFOSAA	100	67.22	67	25-150	
d5-NEtFOSAA	100	67.21	67	25-150	
6:2 FTS	37.9	48.68	128	50-150	
8:2 FTS	38.3	45.81	120	50-150	
M2-6:2 FTS	95.0	99.35	105	25-150	
M2-8:2 FTS	95.8	95.46	100	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.: 200-44045-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: PF062818A28.d
 Lab ID: 200-44045-2 MS Client ID: RXMW-4 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	34.2	54.5	81.36	79	40-160	
Perfluoropentanoic acid (PFPeA)	34.2	24.1	65.24	120	40-160	
Perfluorohexanoic acid (PFHxA)	34.2	18.0	48.81	90	40-160	
Perfluoroheptanoic acid (PFHpA)	34.2	15.7	55.14	115	40-160	
Perfluorooctanoic acid (PFOA)	34.2	64.9	103.2	112	40-160	
Perfluorononanoic acid (PFNA)	34.2	1.96	39.70	110	40-160	
Perfluorodecanoic acid (PFDA)	34.2	1.74 U	34.82	102	40-160	
Perfluoroundecanoic acid (PFUnA)	34.2	1.74 U	36.76	107	40-160	
Perfluorododecanoic acid (PFDoA)	34.2	1.74 U	34.06	100	40-160	
Perfluorotridecanoic acid (PFTriA)	34.2	1.74 U	36.51	107	40-160	
Perfluorotetradecanoic acid (PFTeA)	34.2	1.74 U	34.78	102	40-160	
Perfluorobutanesulfonic acid (PFBS)	30.2	5.05	42.00	122	40-160	
Perfluorohexanesulfonic acid (PFHxS)	31.1	15.0	48.92	109	40-160	
Perfluoroheptanesulfonic Acid (PFHpS)	32.6	5.01	44.04	120	40-160	
Perfluorodecanesulfonic acid (PFDS)	33.0	1.74 U	35.20	107	40-160	
Perfluorooctanesulfonic acid (PFOS)	31.7	28.2	66.20	120	40-160	
Perfluorooctanesulfonamide (FOSA)	34.2	1.74 U	35.42	104	40-160	
13C8 FOSA	85.5	62.2	61.15	72	25-150	
13C4 PFBA	85.5	22.8	18.93	22	25-150	
13C5-PFPeA DNU	85.5	37.1	27.79	33	25-150	
13C2 PFHxA	85.5	48.9	46.64	55	25-150	
13C4 PFHpA	85.5	71.1	57.80	68	25-150	
13C4 PFOA	85.5	80.0	71.45	84	25-150	
13C5 PFNA	85.5	93.5	86.04	101	25-150	
13C2 PFDA	85.5	100	91.03	106	25-150	
13C2 PFUnA	85.5	107	87.87	103	25-150	
13C2 PFDoA	85.5	87.6	88.21	103	25-150	
13C2 PFTeDA	85.5	88.0	87.94	103	25-150	
13C3 PFBS	79.5	62.7	53.70	68	25-150	
18O2 PFHxS	80.9	72.1	68.52	85	25-150	
13C4 PFOS	81.7	83.5	72.70	89	25-150	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	34.2	1.74 U	40.40	118	40-160	

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.: 200-44045-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: PF062818A28.d
 Lab ID: 200-44045-2 MS Client ID: RXMW-4 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
N-ethylperfluorooctanesulfonam idoacetic acid (NEtFOSAA)	34.2	1.74 U	35.52	104	40-160	
d3-NMeFOSAA	85.5	84.3	65.90	77	25-150	
d5-NEtFOSAA	85.5	96.7	83.19	97	25-150	
6:2 FTS	32.4	1.74 U	34.46	106	40-160	
8:2 FTS	32.8	1.74 U	47.60	145	40-160	
M2-6:2 FTS	81.2	200	186.5	230	25-150	
M2-8:2 FTS	81.9	174	160.2	196	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.: 200-44045-1

SDG No.: _____

Matrix: Water Level: Low

Lab File ID: PF062818A29.d

Lab ID: 200-44045-2 MSD

Client ID: RXMW-4 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Perfluorobutanoic acid (PFBA)	34.2	76.85	65	6	30	40-160	
Perfluoropentanoic acid (PFPeA)	34.2	57.41	98	13	30	40-160	
Perfluorohexanoic acid (PFHxA)	34.2	55.55	110	13	30	40-160	
Perfluoroheptanoic acid (PFHpA)	34.2	55.40	116	0	30	40-160	
Perfluorooctanoic acid (PFOA)	34.2	93.53	84	10	30	40-160	
Perfluorononanoic acid (PFNA)	34.2	37.12	103	7	30	40-160	
Perfluorodecanoic acid (PFDA)	34.2	35.97	105	3	30	40-160	
Perfluoroundecanoic acid (PFUnA)	34.2	34.41	101	7	30	40-160	
Perfluorododecanoic acid (PFDoA)	34.2	35.37	103	4	30	40-160	
Perfluorotridecanoic acid (PFTriA)	34.2	35.81	105	2	30	40-160	
Perfluorotetradecanoic acid (PFTeA)	34.2	36.45	107	5	30	40-160	
Perfluorobutanesulfonic acid (PFBS)	30.2	40.48	117	4	30	40-160	
Perfluorohexanesulfonic acid (PFHxS)	31.1	46.77	102	4	30	40-160	
Perfluoroheptanesulfonic Acid (PFHpS)	32.5	37.44	100	16	30	40-160	
Perfluorodecanesulfonic acid (PFDS)	33.0	29.18	89	19	30	40-160	
Perfluorooctanesulfonic acid (PFOS)	31.7	60.25	101	9	30	40-160	
Perfluorooctanesulfonamide (FOSA)	34.2	34.07	100	4	30	40-160	
13C8 FOSA	85.5	61.52	72			25-150	
13C4 PFBA	85.5	18.60	22			25-150	
13C5-PFPeA DNU	85.5	28.69	34			25-150	
13C2 PFHxA	85.5	39.77	47			25-150	
13C4 PFHpA	85.5	55.33	65			25-150	
13C4 PFOA	85.5	71.21	83			25-150	
13C5 PFNA	85.5	86.21	101			25-150	
13C2 PFDA	85.5	83.39	98			25-150	
13C2 PFUnA	85.5	88.10	103			25-150	
13C2 PFDoA	85.5	69.78	82			25-150	
13C2 PFTeDA	85.5	70.94	83			25-150	
13C3 PFBS	79.5	52.07	66			25-150	
18O2 PFHxS	80.9	65.08	80			25-150	
13C4 PFOS	81.7	75.05	92			25-150	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	34.2	35.85	105	12	30	40-160	

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.: 200-44045-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: PF062818A29.d
 Lab ID: 200-44045-2 MSD Client ID: RXMW-4 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
N-ethylperfluorooctanesulfonam idoacetic acid (NEtFOSAA)	34.2	33.75	99	5	30	40-160	
d3-NMeFOSAA	85.5	66.77	78			25-150	
d5-NEtFOSAA	85.5	79.16	93			25-150	
6:2 FTS	32.4	28.47	88	19	30	40-160	
8:2 FTS	32.8	47.35	145	1	30	40-160	
M2-6:2 FTS	81.2	211.6	261			25-150	
M2-8:2 FTS	81.9	150.4	184			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.: 200-44045-1
 SDG No.: _____
 Lab File ID: PF062818A11.d Lab Sample ID: MB 200-131185/1-A
 Matrix: Water Date Extracted: 06/27/2018 09:42
 Instrument ID: LC410 Date Analyzed: 06/28/2018 19:14
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-131185/2-A	PF062818A12 .d	06/28/2018 19:30
RXMW-2	200-44045-1	PF062818A26 .d	06/28/2018 23:17
RXMW-4	200-44045-2	PF062818A27 .d	06/28/2018 23:33
RXMW-4 MS	200-44045-2 MS	PF062818A28 .d	06/28/2018 23:49
RXMW-4 MSD	200-44045-2 MSD	PF062818A29 .d	06/29/2018 00:06
RXMW-7	200-44045-3	PF062818A30 .d	06/29/2018 00:22
DUP062118	200-44045-4	PF062818A31 .d	06/29/2018 00:38
FB062118	200-44045-5	PF062818A32 .d	06/29/2018 00:54

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Sample No.: ICIS 200-131165/9 Date Analyzed: 06/27/2018 11:40
 Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm)
 Lab File ID (Standard): PF062718A09.d Heated Purge: (Y/N) N
 Calibration ID: 39703

	13PFOA					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	466072	4.57				
UPPER LIMIT	699108	4.77				
LOWER LIMIT	233036	4.37				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 200-131165/13		484925 4.56				
CCVIS 200-131275/2		471996 4.51				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
 RT Limit = $\pm$ 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Sample No.: CCVIS 200-131275/2 Date Analyzed: 06/28/2018 16:48
 Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm)
 Lab File ID (Standard): PF062818A02.d Heated Purge: (Y/N) N
 Calibration ID: 39703

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		471996	4.51				
UPPER LIMIT		707994	4.71				
LOWER LIMIT		235998	4.31				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 200-131275/3		494548	4.49				
CCV 200-131275/10		619136	4.51				
MB 200-131185/1-A		673073	4.51				
LCS 200-131185/2-A		664306	4.51				
CCV 200-131275/23		547142	4.51				
200-44045-1	RXMW-2	609365	4.47				
200-44045-2	RXMW-4	423031	4.41				
200-44045-2 MS	RXMW-4 MS	502056	4.41				
200-44045-2 MSD	RXMW-4 MSD	520399	4.43				
200-44045-3	RXMW-7	568761	4.45				
200-44045-4	DUP062118	442133	4.39				
200-44045-5	FB062118	608812	4.51				
CCV 200-131275/33		590159	4.52				

13PFOA = 13C2 PFOA
 13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
 RT Limit = $\pm$ 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-2</u>	Lab Sample ID: <u>200-44045-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A26.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/22/2018 14:05</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>291.9 (mL)</u>	Date Analyzed: <u>06/28/2018 23:17</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	19.3	B	1.71	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.40		1.71	0.64
307-24-4	Perfluorohexanoic acid (PFHxA)	2.29	B	1.71	0.21
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.38	B	1.71	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	12.3	B	1.71	0.27
375-95-1	Perfluorononanoic acid (PFNA)	1.44	J	1.71	0.33
335-76-2	Perfluorodecanoic acid (PFDA)	0.38	J	1.71	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.25	J	1.71	0.21
307-55-1	Perfluorododecanoic acid (PFDoA)	1.71	U	1.71	0.30
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.71	U	1.71	0.21
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.71	U	1.71	0.39
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.20		1.71	0.38
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	3.03	B	1.71	0.22
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.71	U	1.71	0.70
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.71	U	1.71	0.45
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	10.9		1.71	0.65
754-91-6	Perfluorooctanesulfonamide (FOSA)	1.71	U	1.71	0.48
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.71	U	1.71	0.39
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.71	U	1.71	0.60
27619-97-2	6:2 FTS	1.71	U	1.71	0.86
39108-34-4	8:2 FTS	0.69	J	1.71	0.48

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-2</u>	Lab Sample ID: <u>200-44045-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A26.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/22/2018 14:05</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>291.9 (mL)</u>	Date Analyzed: <u>06/28/2018 23:17</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	64		25-150
STL00992	13C4 PFBA	31		25-150
STL01893	13C5-PFPeA DNU	47		25-150
STL00993	13C2 PFHxA	60		25-150
STL01892	13C4 PFHpA	75		25-150
STL00990	13C4 PFOA	86		25-150
STL00995	13C5 PFNA	104		25-150
STL00996	13C2 PFDA	94		25-150
STL00997	13C2 PFUnA	92		25-150
STL00998	13C2 PFDoA	80		25-150
STL02116	13C2 PFTeDA	79		25-150
STL02337	13C3 PFBS	69		25-150
STL00994	18O2 PFHxS	76		25-150
STL00991	13C4 PFOS	77		25-150
STL02118	d3-NMeFOSAA	72		25-150
STL02117	d5-NEtFOSAA	70		25-150
STL02279	M2-6:2 FTS	155		25-150
STL02280	M2-8:2 FTS	125		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d
 Lims ID: 200-44045-B-1-A
 Client ID: RXMW-2
 Sample Type: Client
 Inject. Date: 28-Jun-2018 23:17:29 ALS Bottle#: 0 Worklist Smp#: 26
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-026 45-1
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 15:08:10

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	2.334	2.370	-0.036	1.000	101069	15.6		31.1	69.7	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.382	2.371	0.011	1.020	22681	11.3			20.1	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.781	2.801	-0.020	1.004	13151	2.57			5.2	M
D 3 13C5-PFPeA										M
267.7 > 222.6	2.770	2.802	-0.032	1.000	58461	23.3		46.6	77.0	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.834	2.883	-0.049	1.000	5684	1.28			3.8	M
D 5 13C3-PFBS										
302.0 > 79.8	2.834	2.883	-0.049	1.000	146988	32.0		68.9	335	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.201	3.250	-0.049	1.000	4132	1.34			14.1	
D 7 13C2 PFHxA										
314.8 > 269.6	3.201	3.265	-0.064	1.000	150861	29.8		59.6	631	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.748	3.804	-0.056	0.997	14107	1.39			19.6	
D 10 13C4-PFHpA										
366.9 > 321.8	3.759	3.843	-0.084	1.000	515167	37.7		75.4	1936	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.804	3.848	-0.044	1.003	9533	1.77			20.7	
D 13 18O2 PFHxS										
402.9 > 83.8	3.793	3.889	-0.096	1.000	201421	35.9		76.0	2399	
* 49 13C2-PFOA										
414.9 > 369.8	4.468	4.505	-0.037		609365	50.0			2866	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.468	4.505	-0.037	1.004	83690	7.19			196	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 M2-6:2FTS										M
428.6 > 408.6	4.411	4.525	-0.114	1.000	23283	73.9		155	151	M
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.519	4.532	-0.013	0.859	253	0.2339			3.9	M
D 17 13C4 PFOA										
416.9 > 371.8	4.449	4.567	-0.118	1.000	478817	43.1		86.2	1944	
19 Perfluorononanoic acid										
462.8 > 418.8	5.250	5.304	-0.054	1.000	10695	0.8431			77.8	
20 Perfluorooctane sulfonic acid										a
498.8 > 79.8	4.990	5.304	-0.314	0.948	24672	6.35			105	a
D 21 13C5 PFNA										
467.8 > 422.8	5.250	5.363	-0.113	1.000	625737	52.0		104	2217	
D 22 13C4 PFOS										
502.8 > 79.8	5.263	5.382	-0.119	1.000	153597	37.0		77.5	789	
24 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	5.974	6.046	-0.072	0.992	193	0.4031			2.5	M
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.070	6.070	0.0	1.004	3300	0.2215			10.4	M
D 23 M2-8:2FTS										
528.8 > 508.8	6.022	6.147	-0.125	1.000	211460	59.9		125	1647	
D 25 13C2 PFDA										
514.9 > 469.5	6.046	6.186	-0.140	1.000	786855	46.9		93.8	1060	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.403	6.530	-0.127	1.000	141966	35.9		71.7	576	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.818	6.804	0.014	1.008	148	0.3022			1.4	M
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.804	6.832	-0.028	1.000	2187	0.1447			10.2	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.762	6.903	-0.141	1.000	129983	34.9		69.7	738	
D 33 13C2 PFUnA										
564.8 > 519.8	6.804	6.942	-0.138	1.000	724765	46.0		92.1	2910	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	204979	32.0		63.9	1250	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.474	7.497	-0.023	0.997	770	0.0121			5.6	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	634849	39.9		79.8	5671	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.666	8.666	0.0	1.002	583	0.0540			5.9	M
712.8 > 168.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	628984	39.3		78.6	2138	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d

Injection Date: 28-Jun-2018 23:17:29

Instrument ID: LC410

Lims ID: 200-44045-B-1-A

Lab Sample ID: 200-44045-1

Client ID: RXMW-2

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 26

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

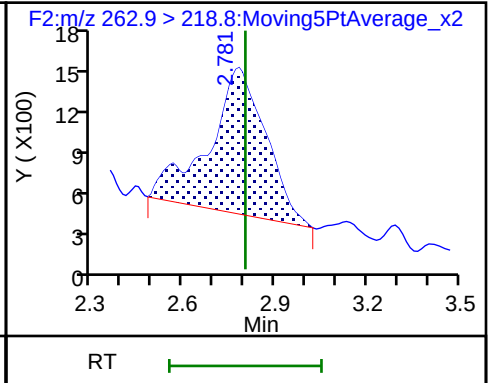
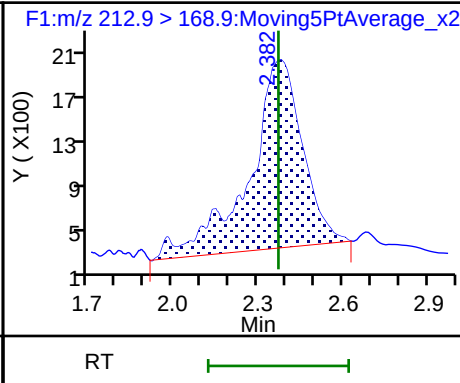
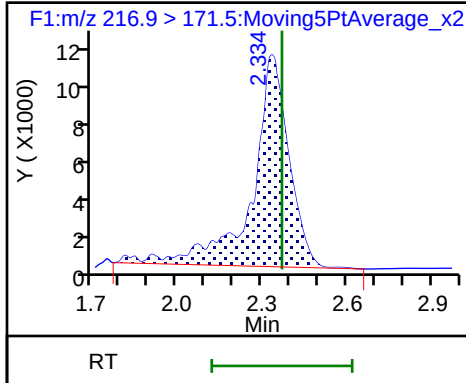
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

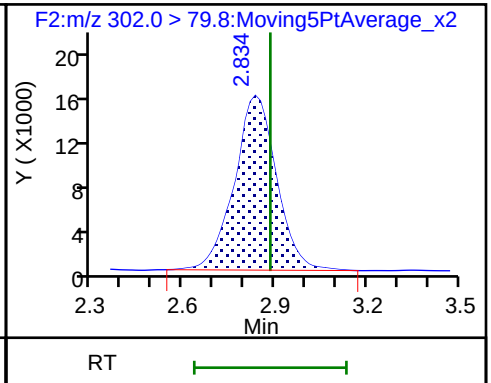
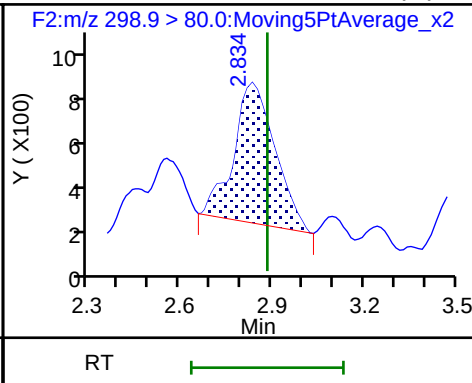
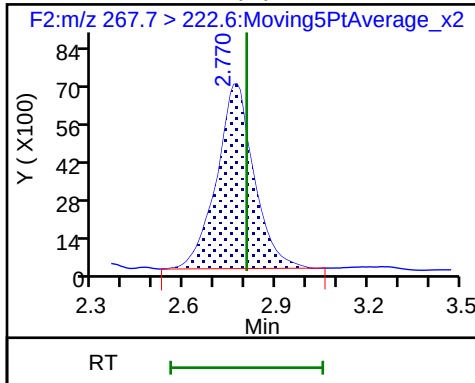
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA (M)

6 Perfluorobutanesulfonic acid (M)

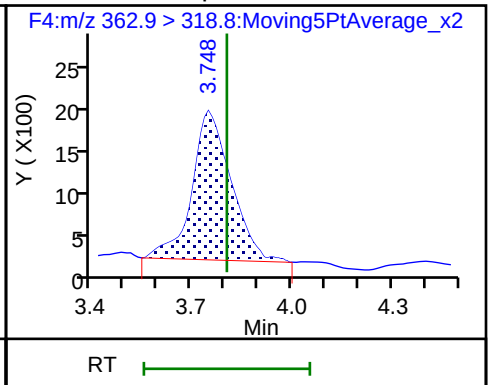
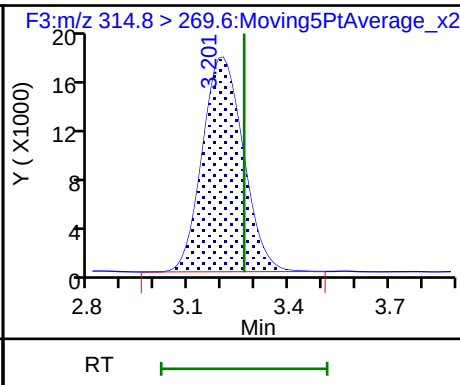
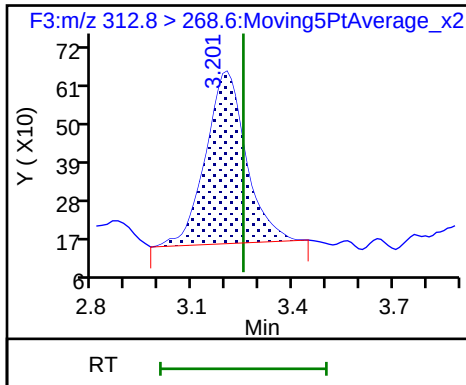
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

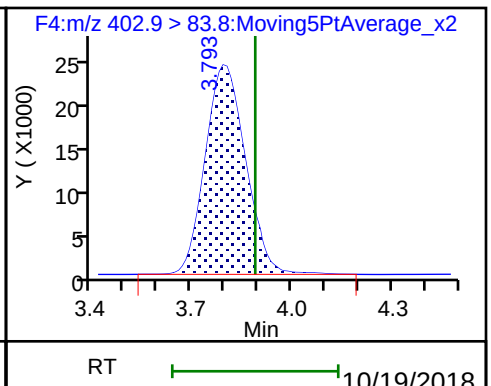
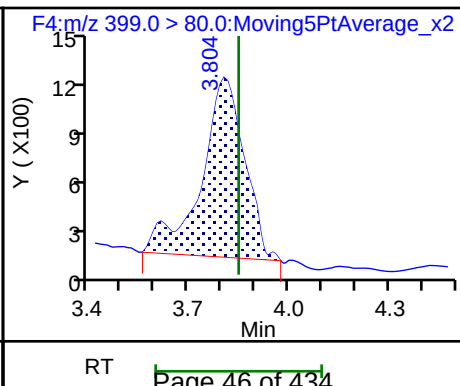
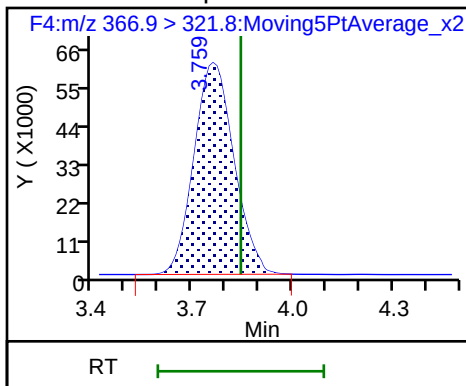
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

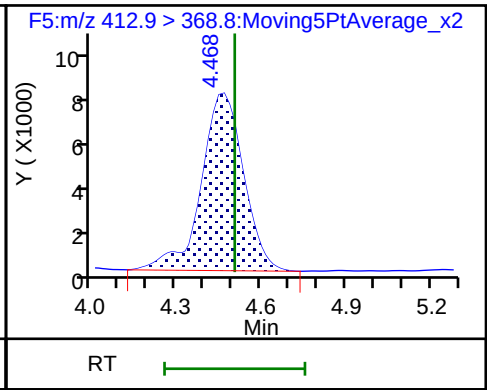
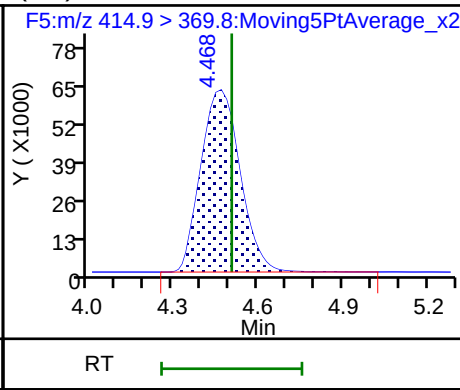
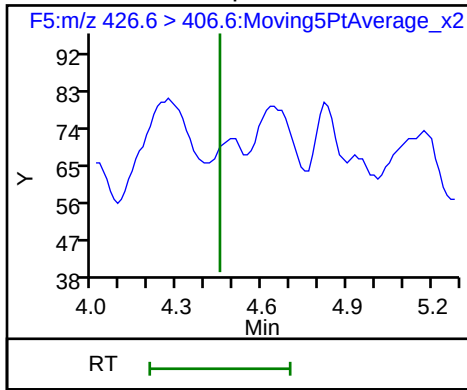
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



15 1H,1H,2H,2H-perfluorooctanesulfonate (M) 13C2-PFOA

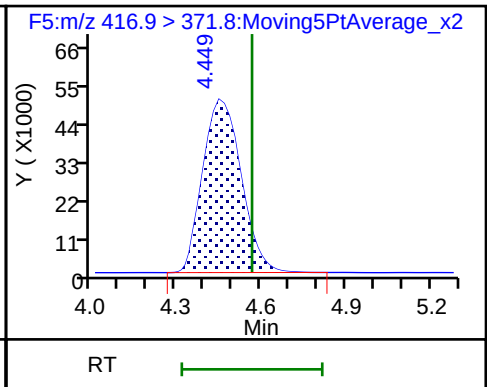
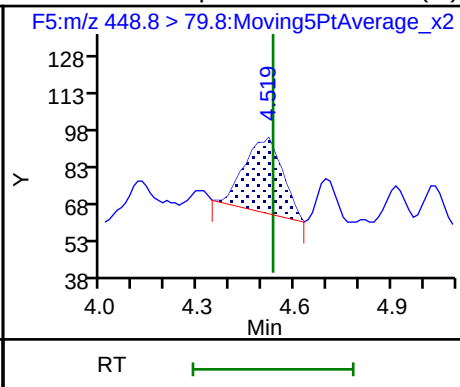
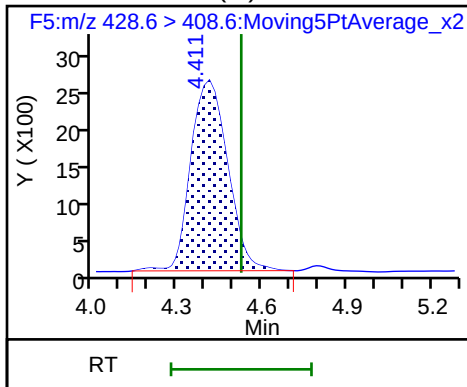
16 Perfluorooctanoic acid



D 14 M2-6:2FTS (M)

18 Perfluoroheptanesulfonic acid (M)

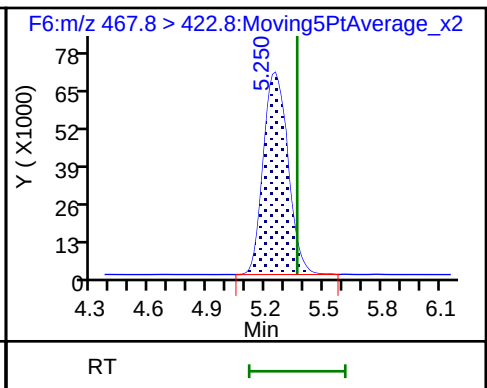
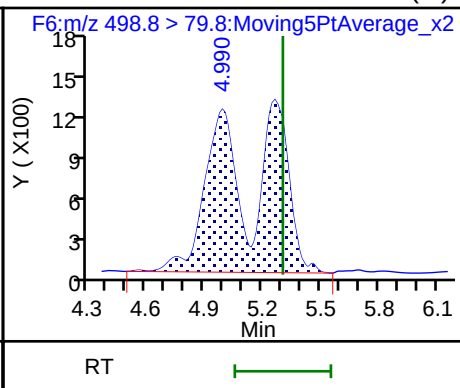
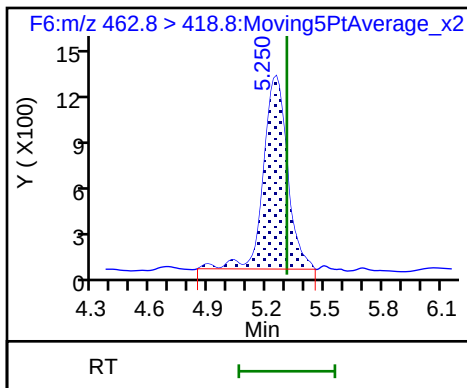
D 17 13C4 PFOA



19 Perfluorononanoic acid

20 Perfluorooctane sulfonic acid (M)

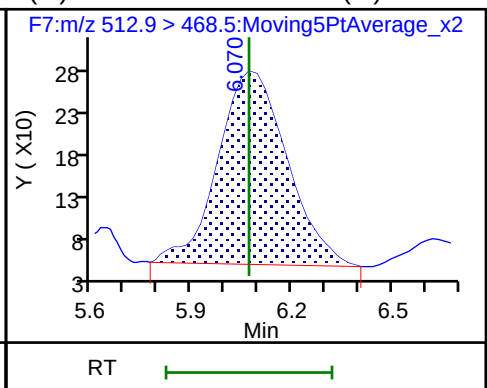
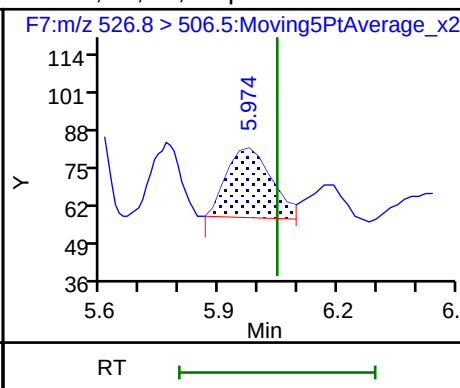
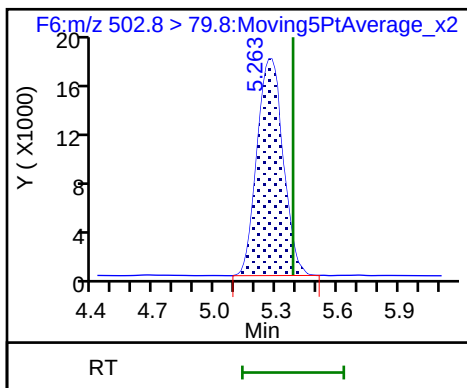
D 21 13C5 PFNA



D 22 13C4 PFOS

24 1H,1H,2H,2H-perfluorodecanesulfonate (M) 13C4-PFOS

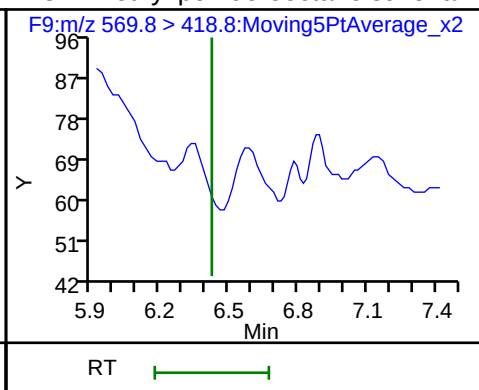
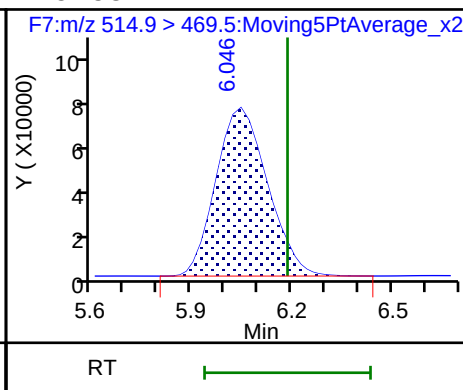
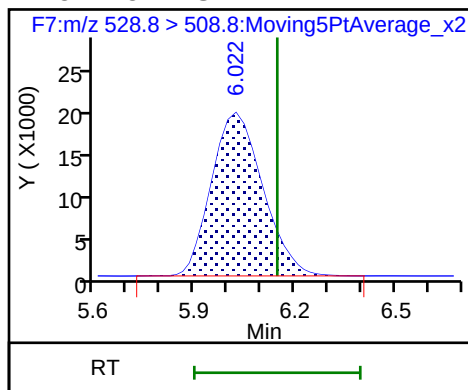
20 Perfluorodecanoic acid (M)



D 23 M2-8:2FTS

D 25 13C2 PFDA

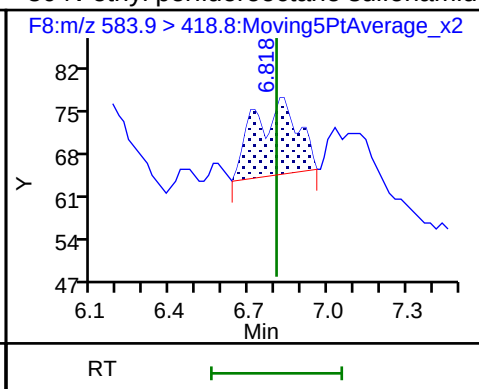
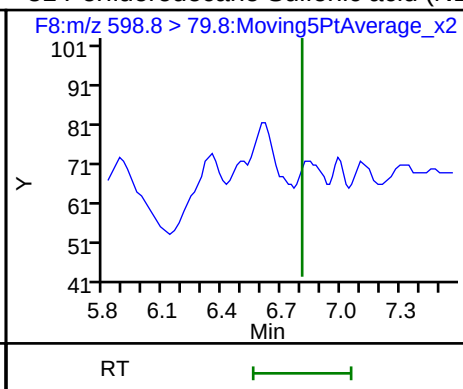
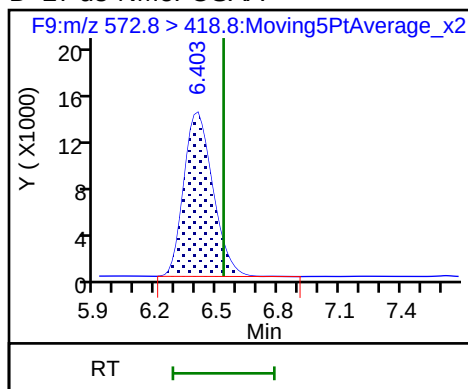
28 N-methyl perfluorooctane sulfonami (ND)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid (ND)

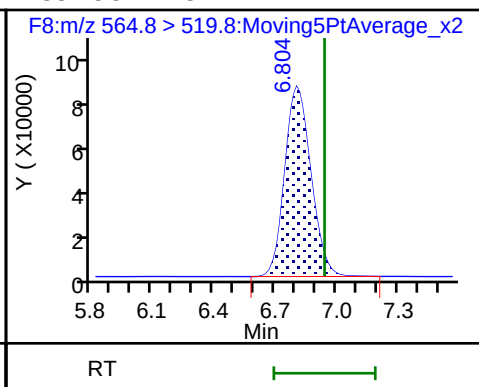
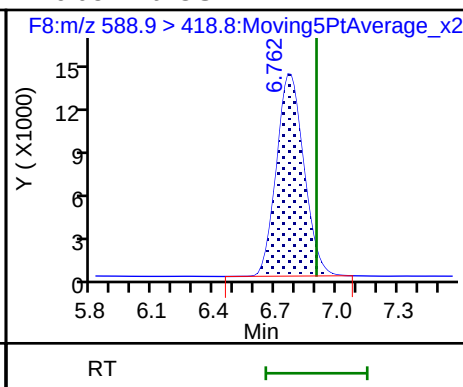
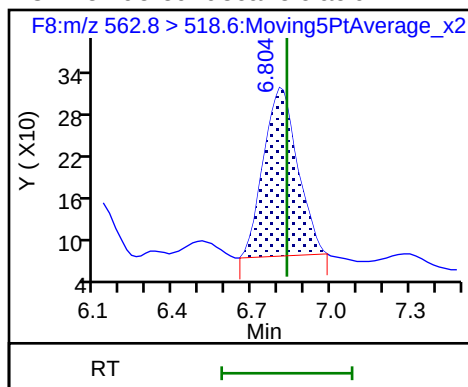
30 N-ethyl perfluorooctane sulfonamid (M)



32 Perfluoroundecanoic acid

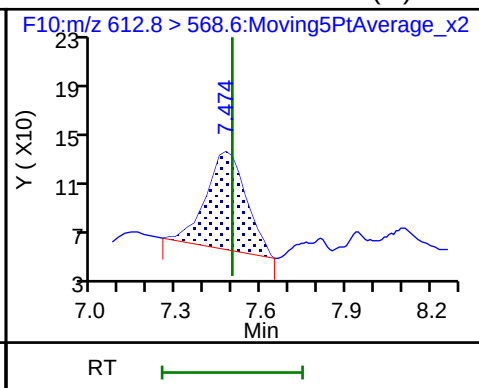
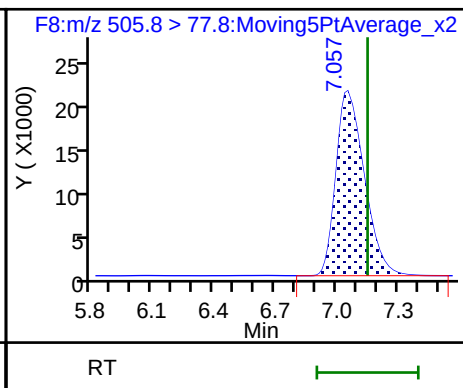
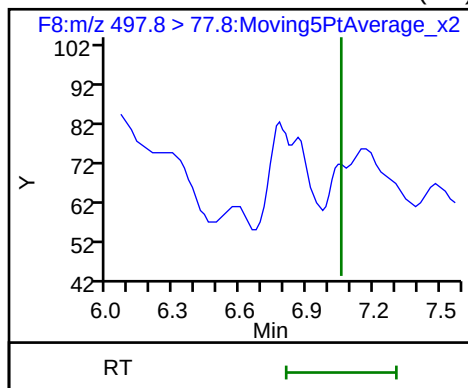
D 29 d5-NEtFOSAA

D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (ND) D 35 13C8 FOSA

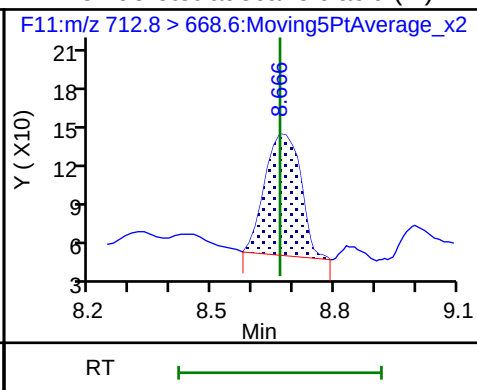
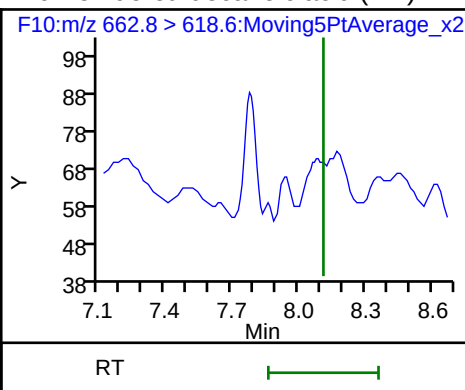
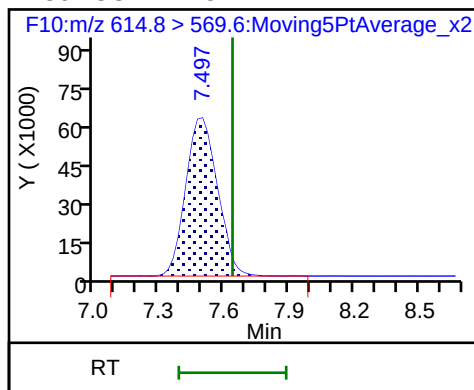
37 Perfluorododecanoic acid (M)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid (ND)

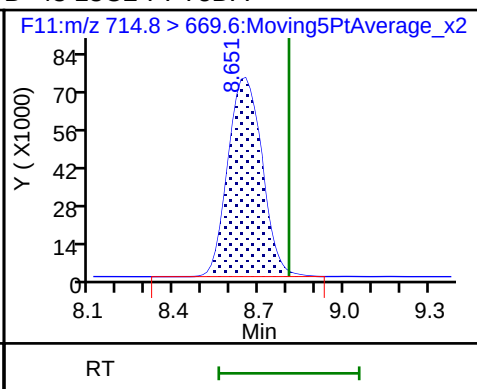
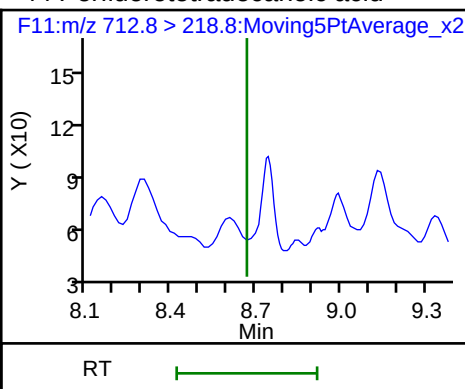
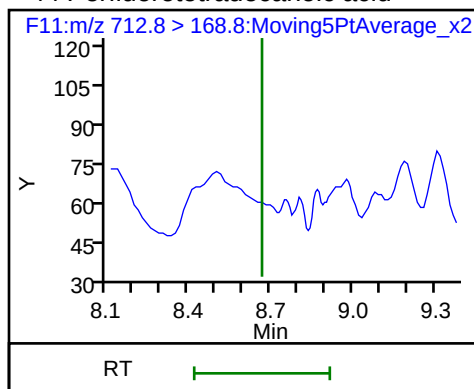
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

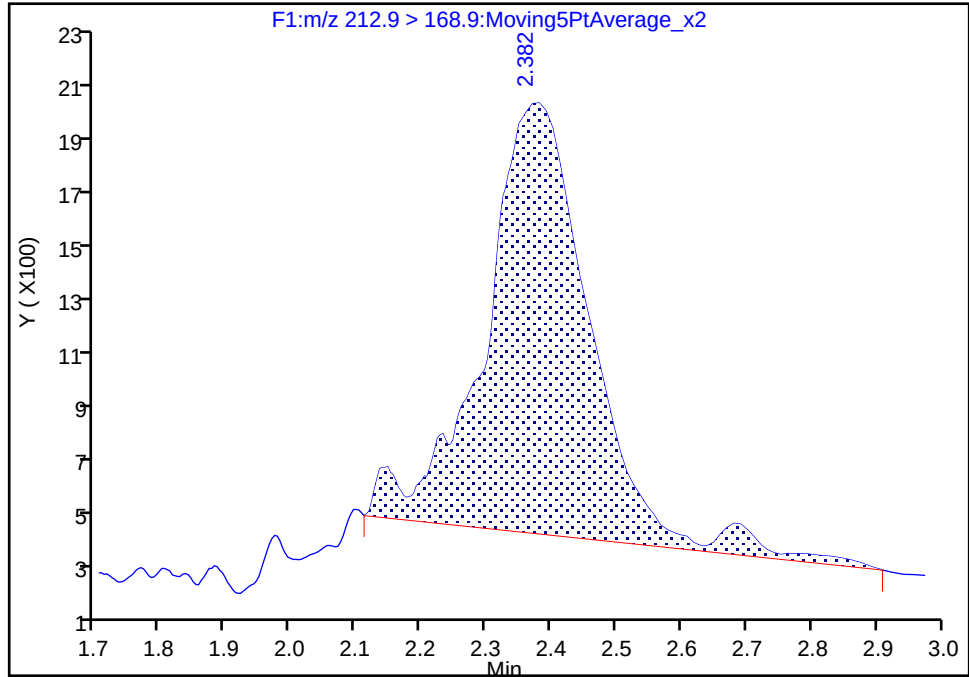
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	26

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

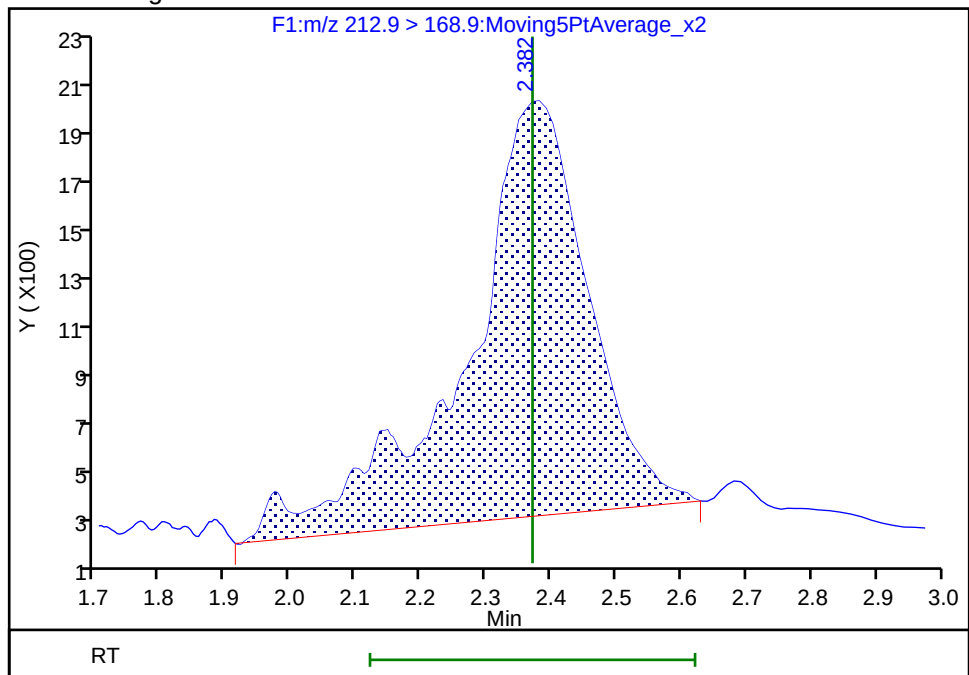
RT: 2.38
Area: 18457
Amount: 9.111439
Amount Units: ng/ml

Processing Integration Results



RT: 2.38
Area: 22681
Amount: 11.266938
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:05:39
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 50 of 434

10/19/2018

TestAmerica Burlington

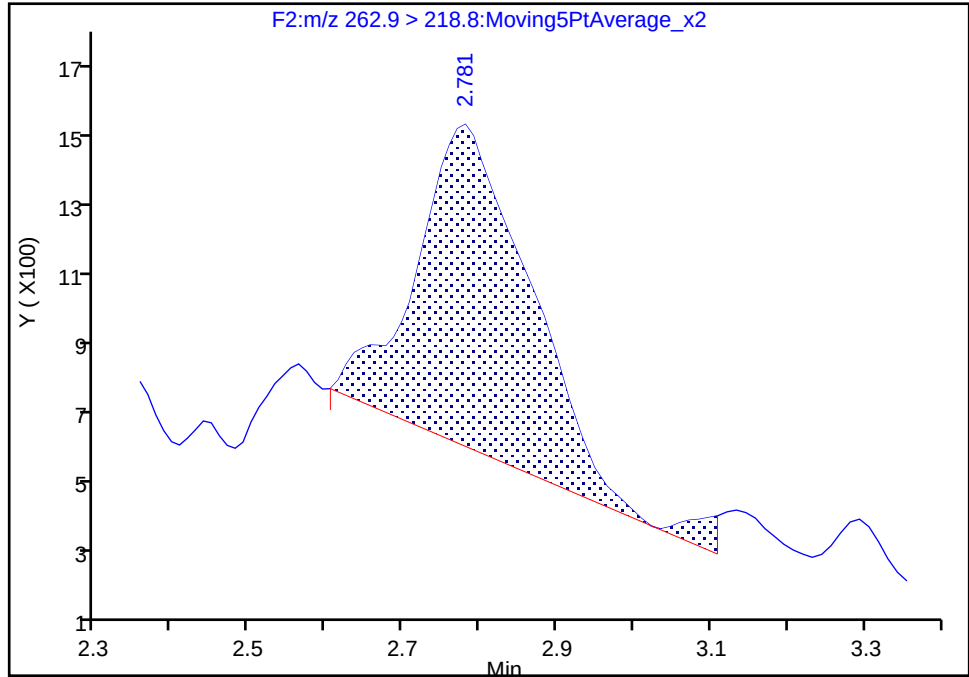
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM
		Worklist Smp#:	26

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

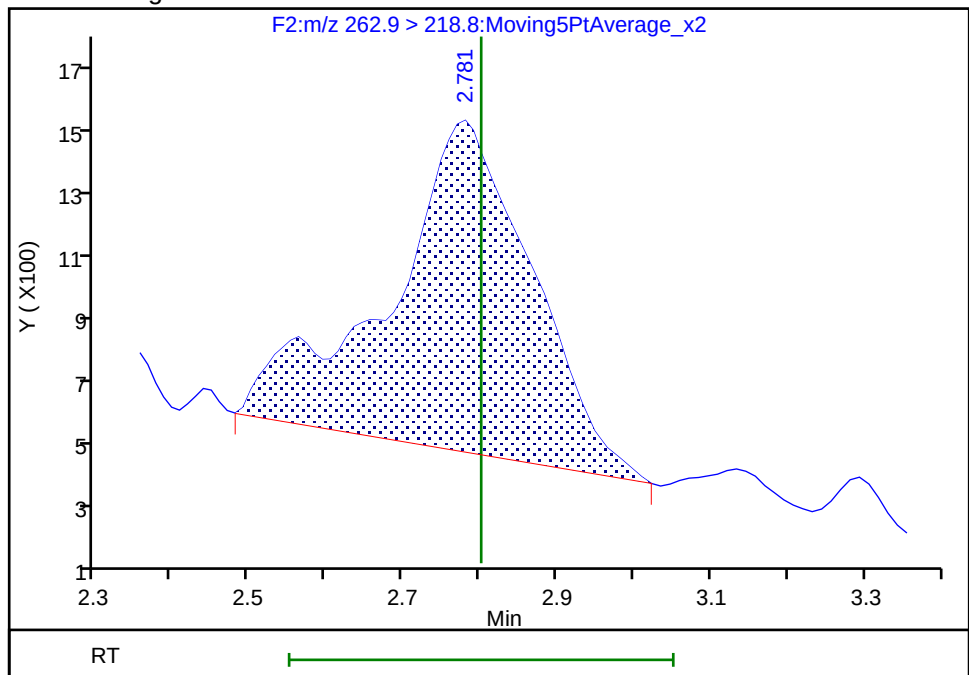
RT: 2.78
Area: 9400
Amount: 1.825487
Amount Units: ng/ml

Processing Integration Results



RT: 2.78
Area: 13151
Amount: 2.571141
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:05:58
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 51 of 434

10/19/2018

TestAmerica Burlington

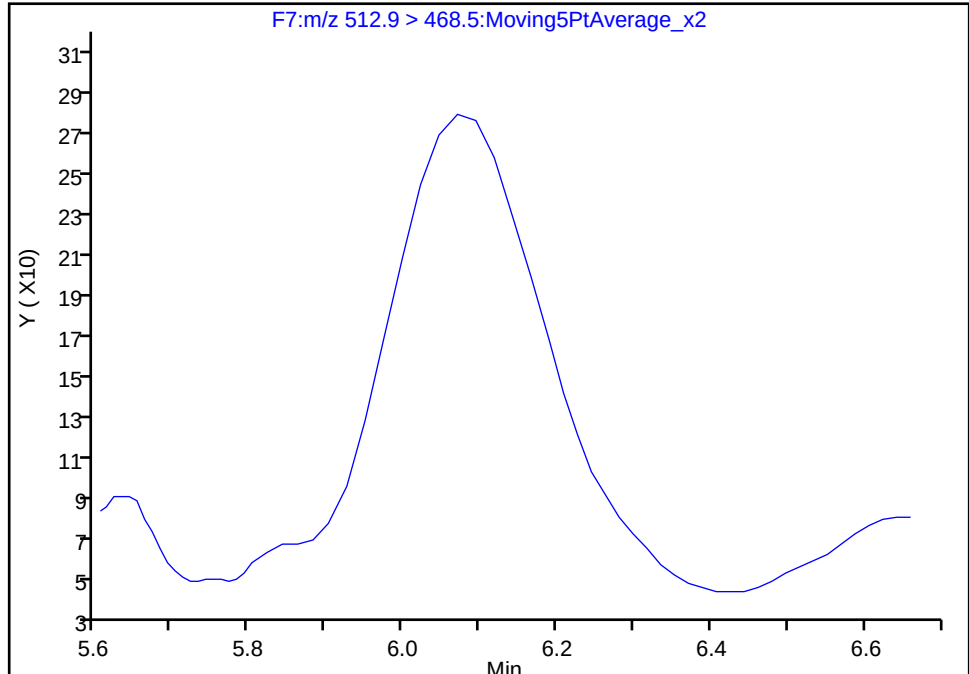
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d				
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410		
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1		
Client ID:	RXMW-2				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

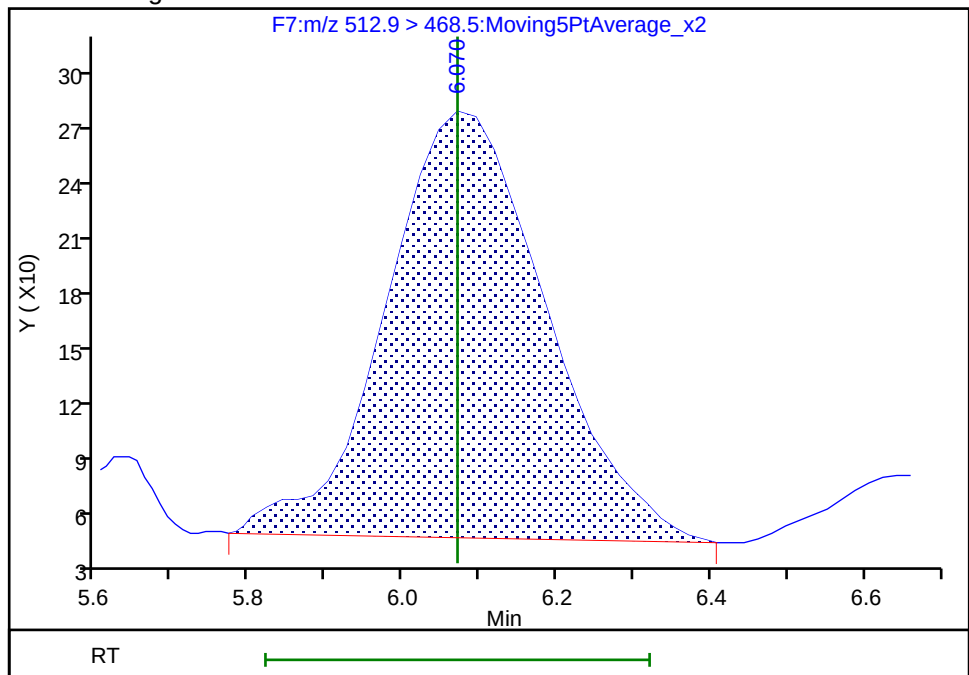
Signal: 1

Not Detected
Expected RT: 6.07

Processing Integration Results



Manual Integration Results



RT: 6.07
Area: 3300
Amount: 0.221473
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 15:07:01

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

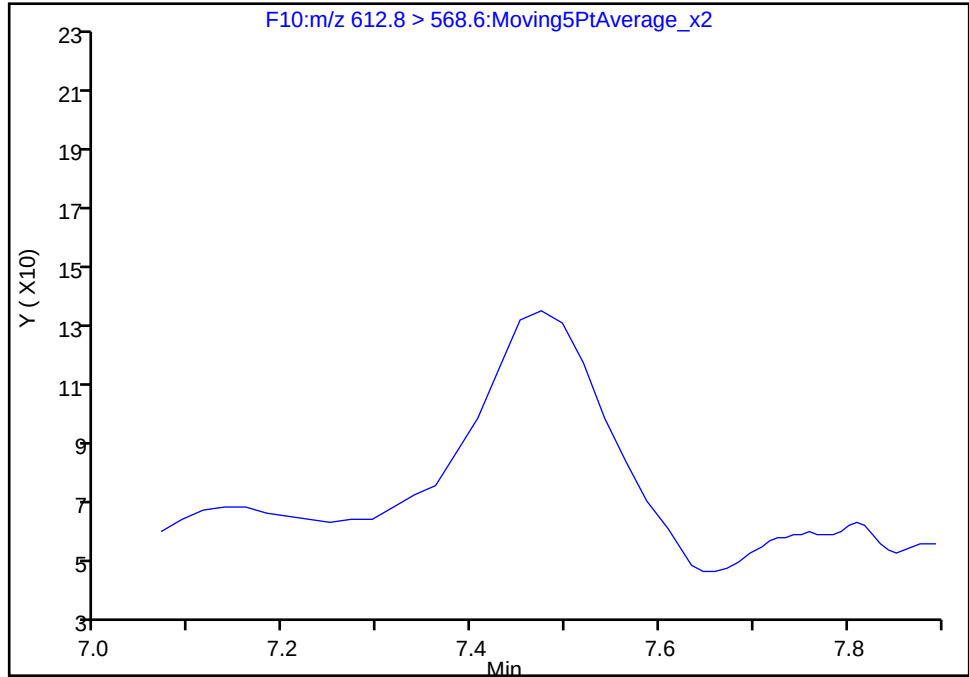
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d				
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410		
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1		
Client ID:	RXMW-2				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector:	F10:MRM		

37 Perfluorododecanoic acid, CAS: 307-55-1

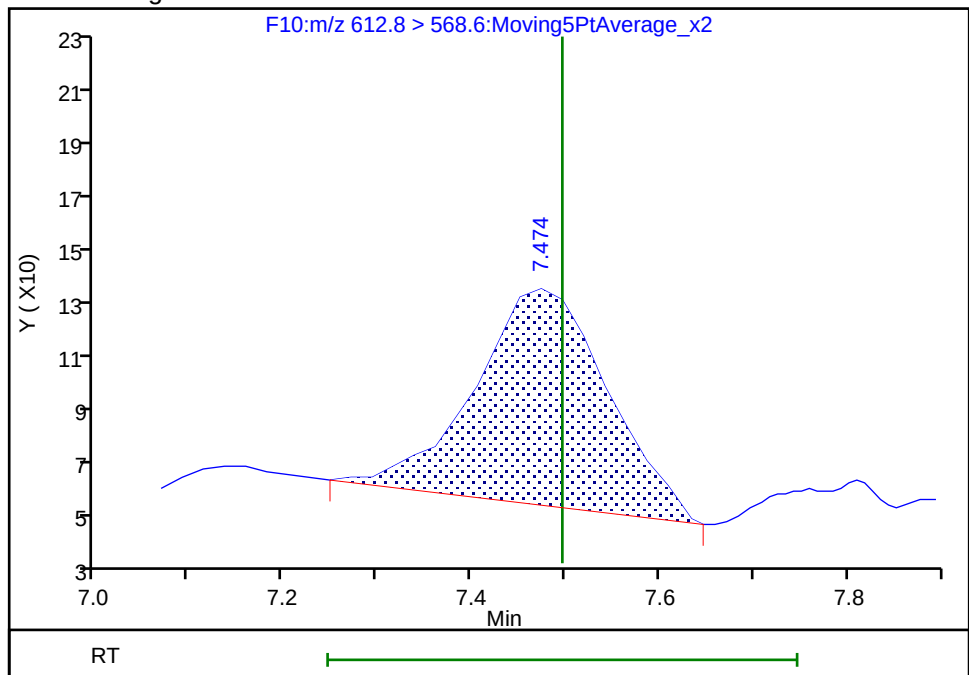
Signal: 1

Not Detected
Expected RT: 7.50

Processing Integration Results

RT: 7.47
Area: 770
Amount: 0.012149
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:07:51

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

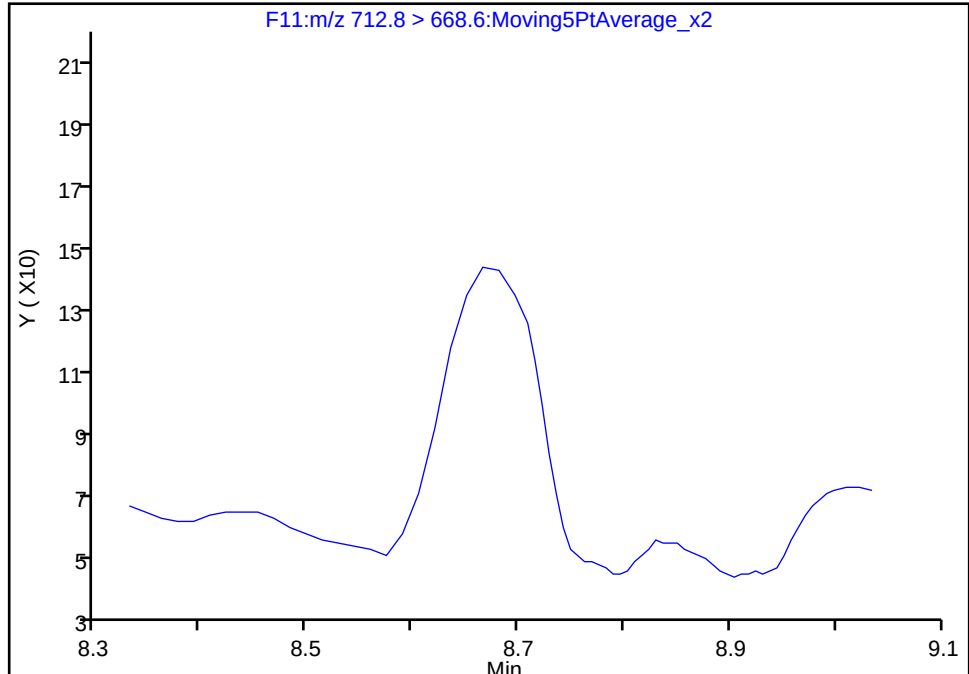
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d				
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410		
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1		
Client ID:	RXMW-2				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F11:MRM		

44 Perfluorotetradecanoic acid, CAS: 376-06-7

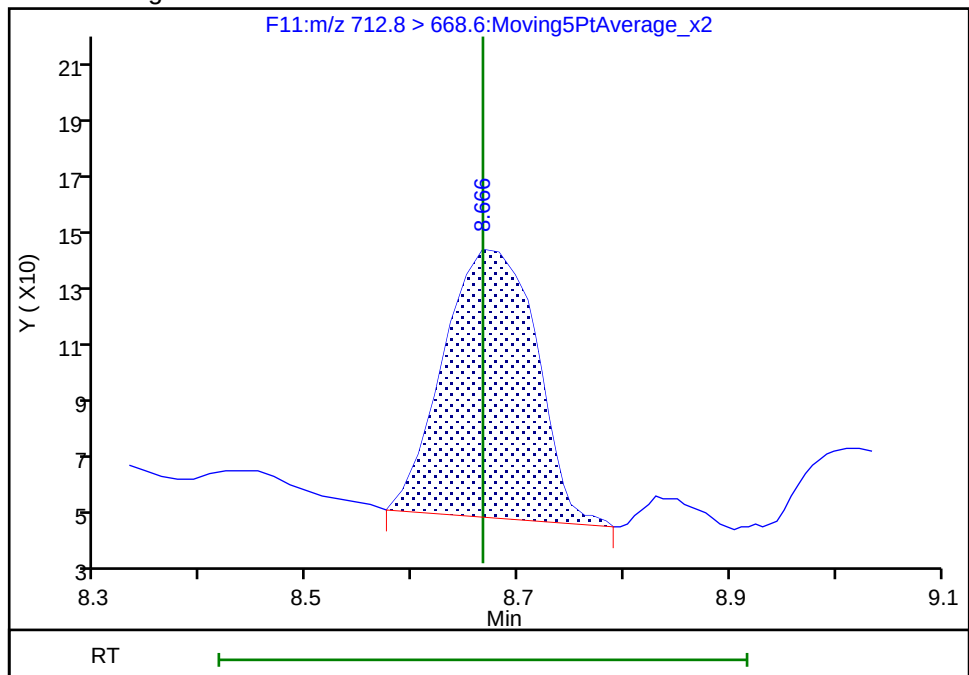
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results



RT: 8.67
Area: 583
Amount: 0.053954
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 15:08:05
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 54 of 434

10/19/2018

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d

Injection Date: 28-Jun-2018 23:17:29

Instrument ID: LC410

Lims ID: 200-44045-B-1-A

Lab Sample ID: 200-44045-1

Client ID: RXMW-2

Operator ID: JWM

ALS Bottle#: 0 Worklist Smp#: 26

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

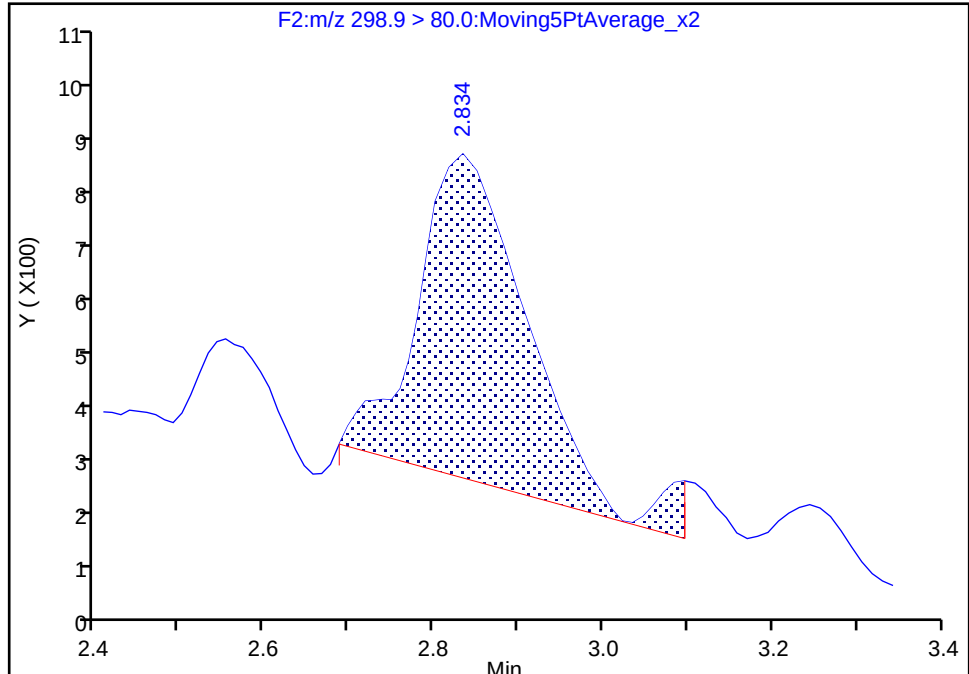
Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

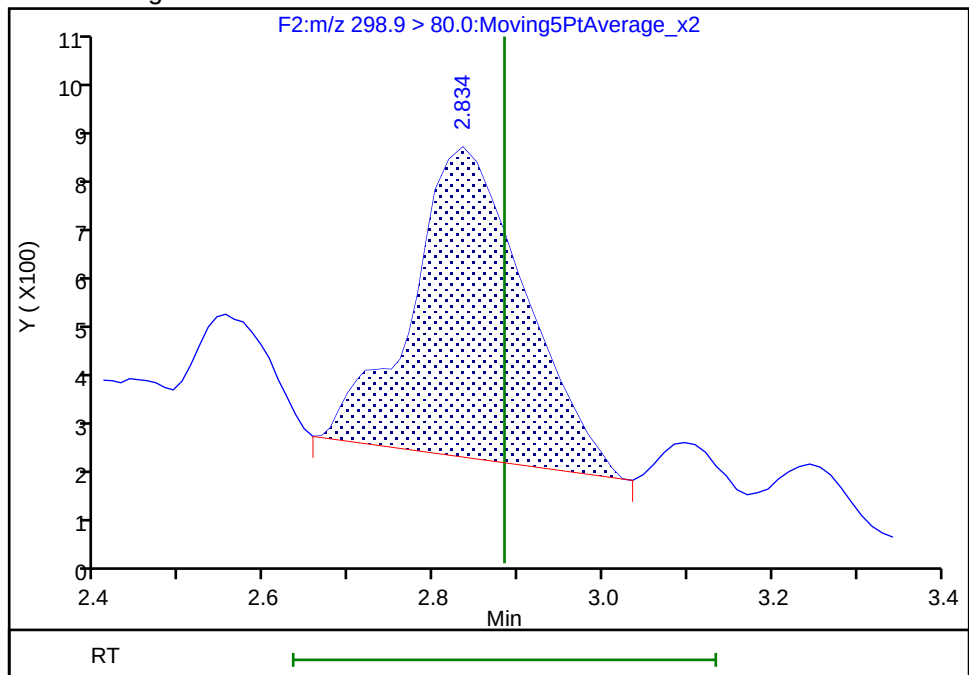
RT: 2.83
Area: 5261
Amount: 1.193832
Amount Units: ng/ml

Processing Integration Results



RT: 2.83
Area: 5684
Amount: 1.281855
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:06:04

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

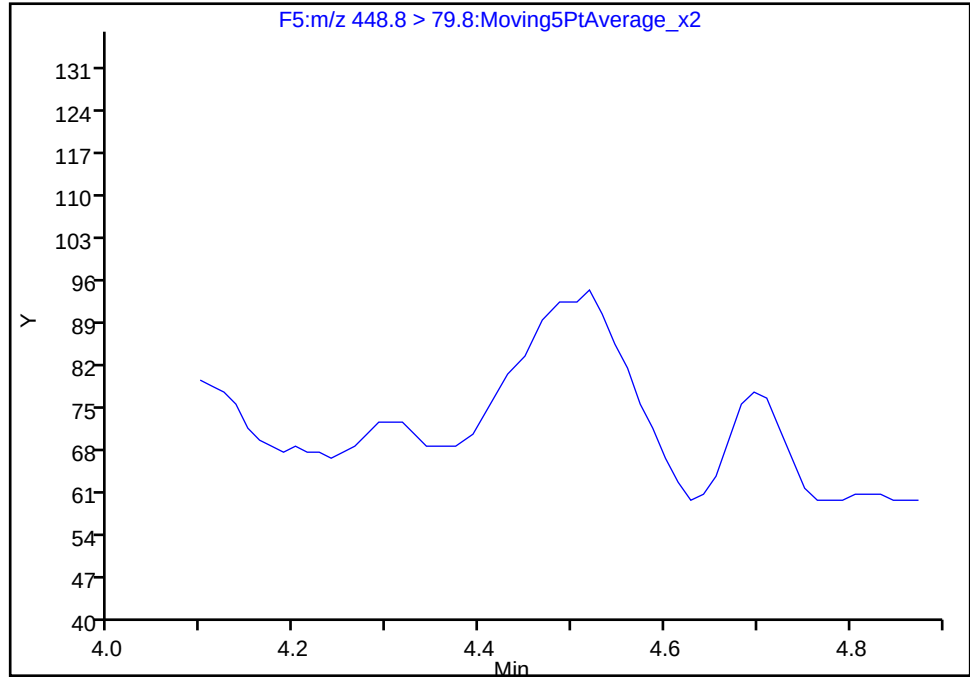
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F5:MRM
		Worklist Smp#:	26

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

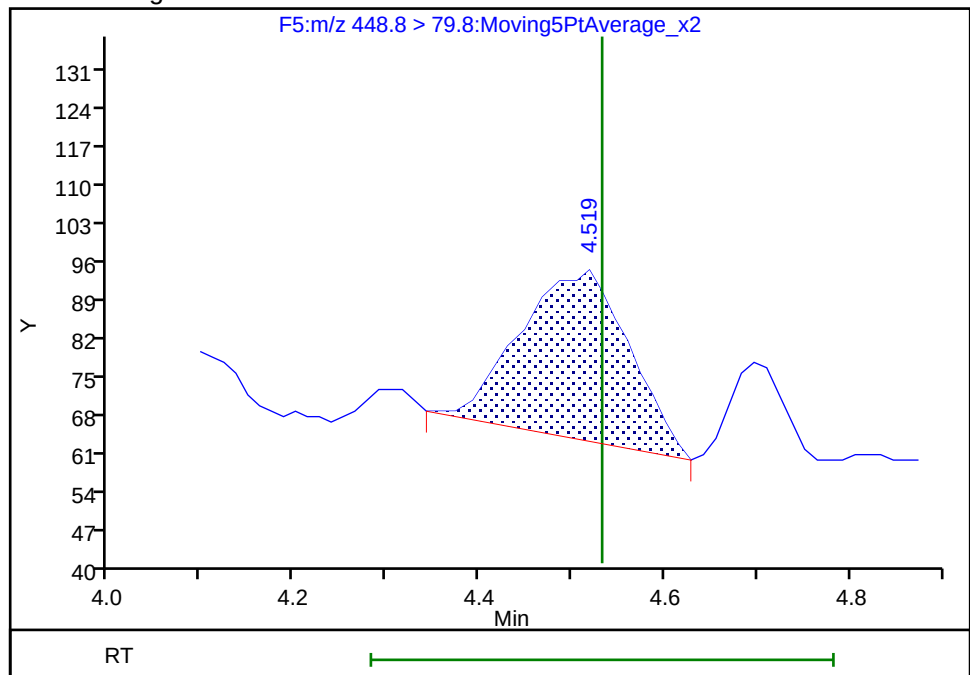
Signal: 1

Not Detected
Expected RT: 4.53

Processing Integration Results



Manual Integration Results

RT: 4.52
Area: 253
Amount: 0.233880
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 15:06:35
Audit Action: Manually IntegratedAudit Reason: Incomplete Integration
Page 56 of 434

10/19/2018

TestAmerica Burlington

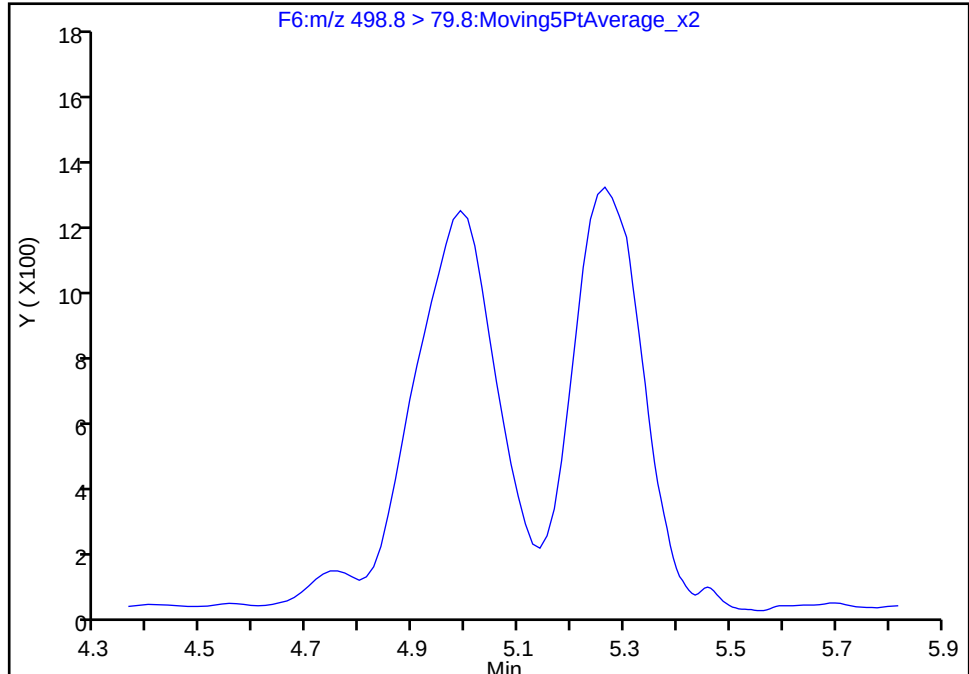
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F6:MRM
		Worklist Smp#:	26

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

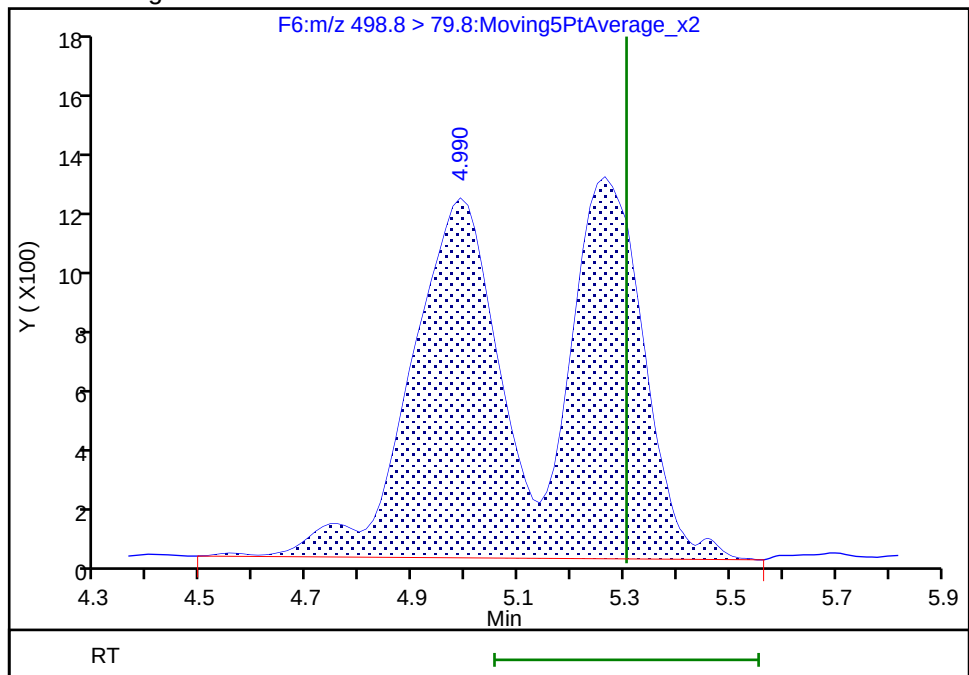
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results

RT: 4.99
Area: 24672
Amount: 6.350061
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 15:06:42
Audit Action: Assigned Compound ID

Audit Reason: Incomplete Integration

TestAmerica Burlington

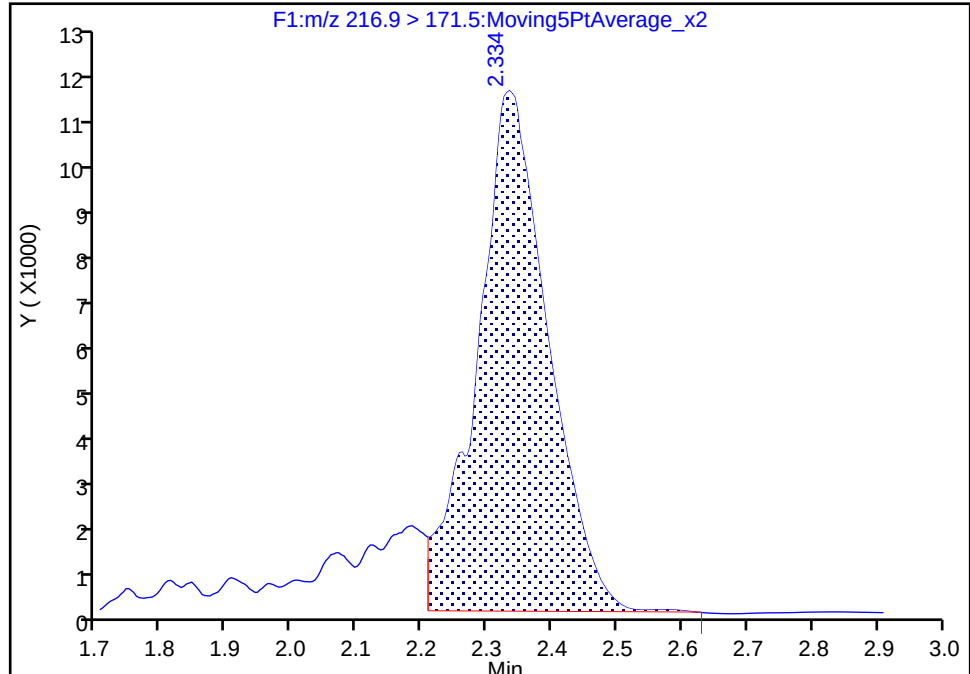
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	26

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

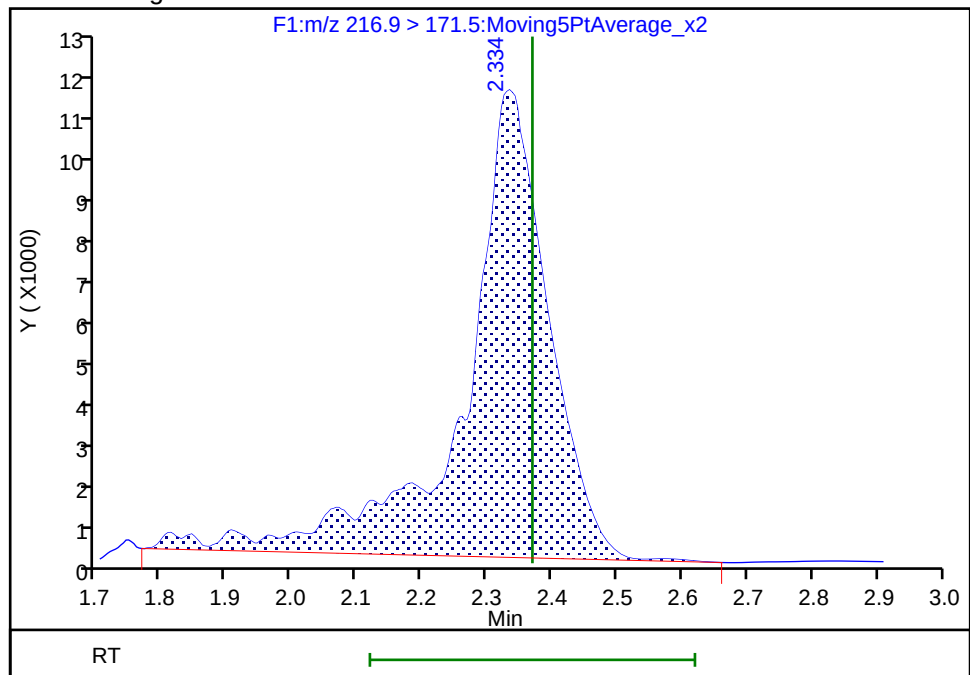
RT: 2.33
Area: 84858
Amount: 13.059469
Amount Units: ng/ml

Processing Integration Results



RT: 2.33
Area: 101069
Amount: 15.554308
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:05:30

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d

Injection Date: 28-Jun-2018 23:17:29

Instrument ID: LC410

Lims ID: 200-44045-B-1-A

Lab Sample ID: 200-44045-1

Client ID: RXMW-2

Operator ID: JWM

ALS Bottle#: 0 Worklist Smp#: 26

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

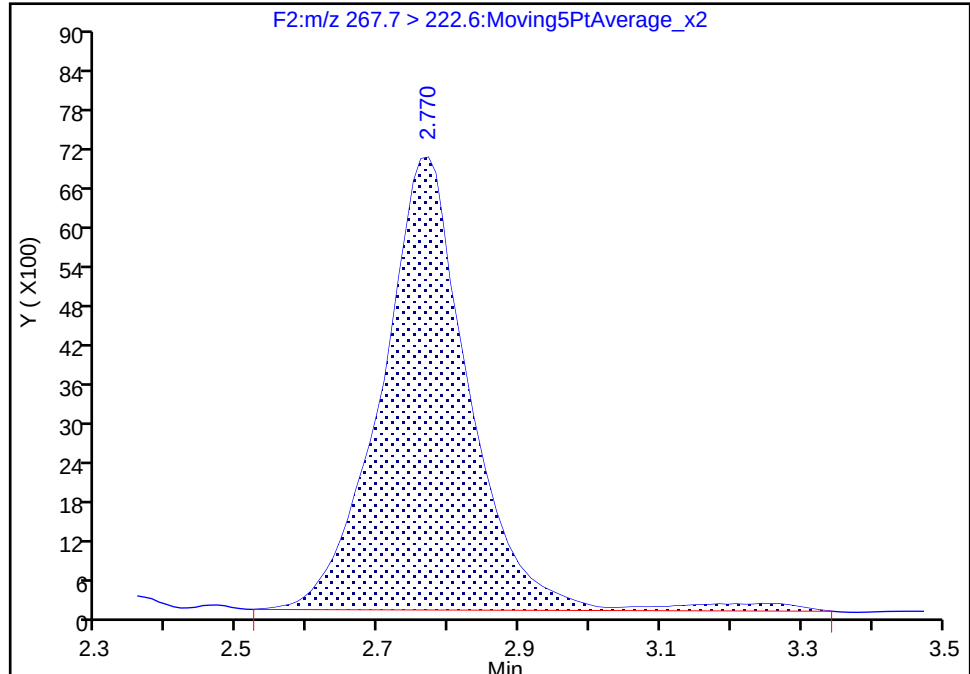
Detector F2:MRM

D 3 13C5-PFPeA, CAS: STL01893

Signal: 1

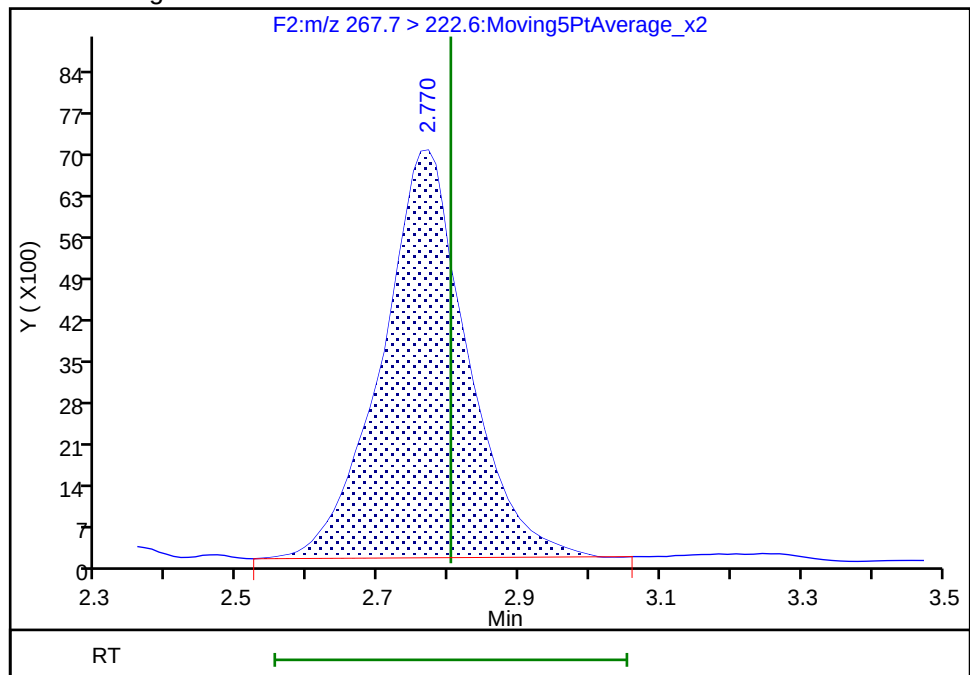
RT: 2.77
Area: 60683
Amount: 24.163986
Amount Units: ng/ml

Processing Integration Results



RT: 2.77
Area: 58461
Amount: 23.279185
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:05:52

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

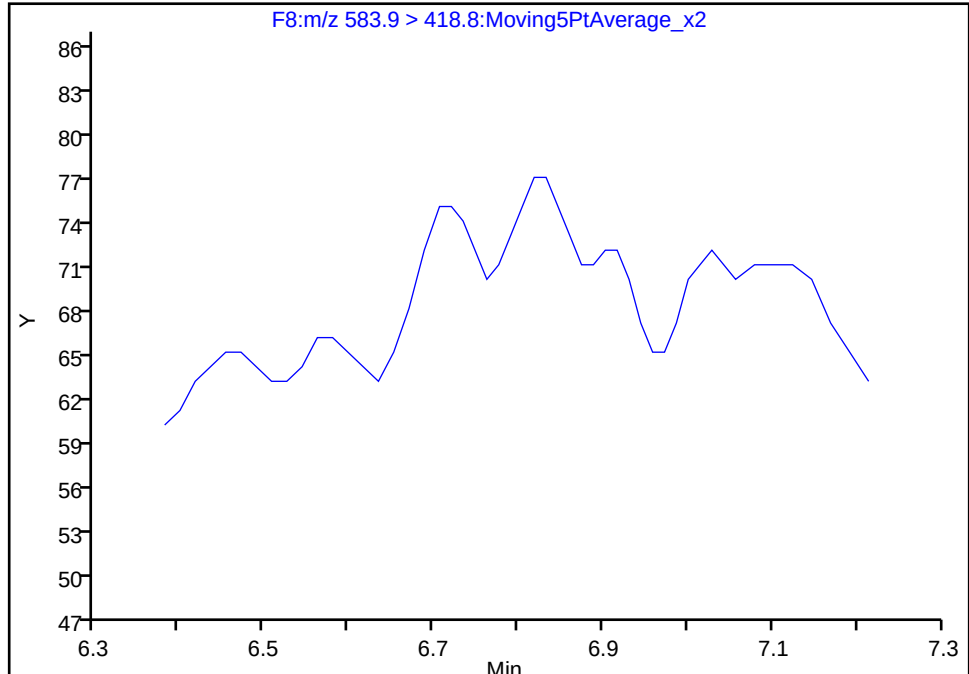
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F8:MRM
		Worklist Smp#:	26

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

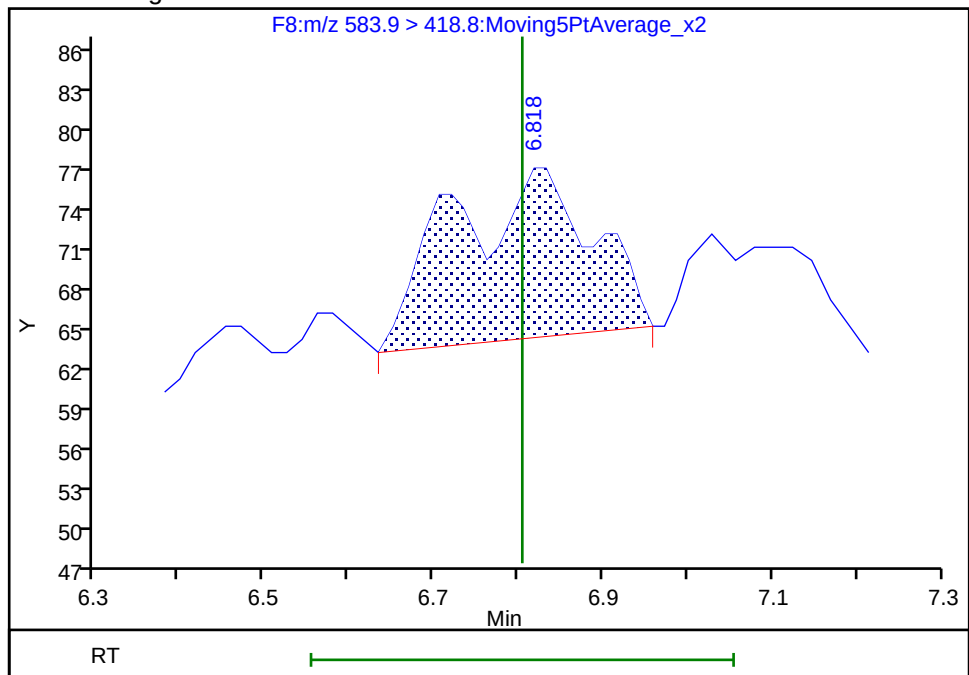
Signal: 1

Not Detected
Expected RT: 6.80

Processing Integration Results



Manual Integration Results

RT: 6.82
Area: 148
Amount: 0.302225
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 15:07:15
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 60 of 434

10/19/2018

TestAmerica Burlington

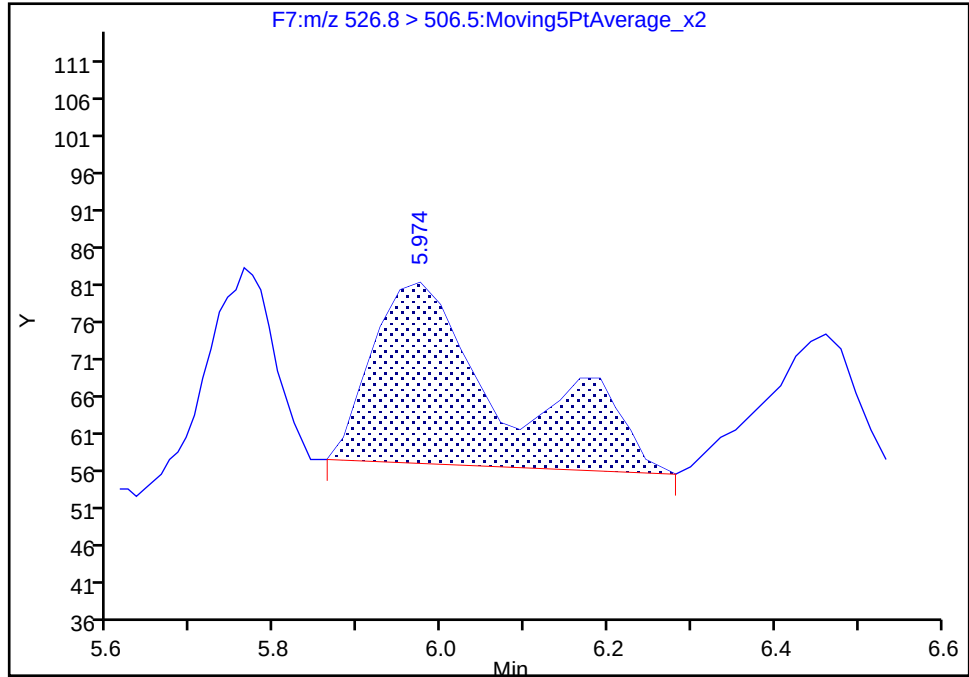
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d				
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410		
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1		
Client ID:	RXMW-2				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F7:MRM		

24 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

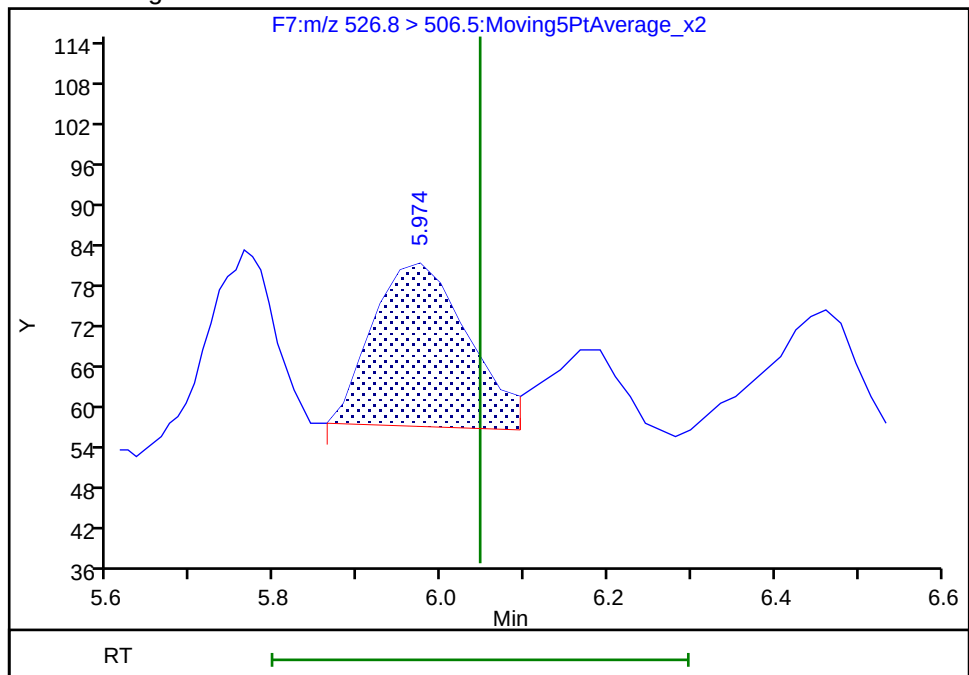
RT: 5.97
Area: 274
Amount: 0.428272
Amount Units: ng/ml

Processing Integration Results



RT: 5.97
Area: 193
Amount: 0.403074
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 12-Jul-2018 12:56:41
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 61 of 434

10/19/2018

TestAmerica Burlington

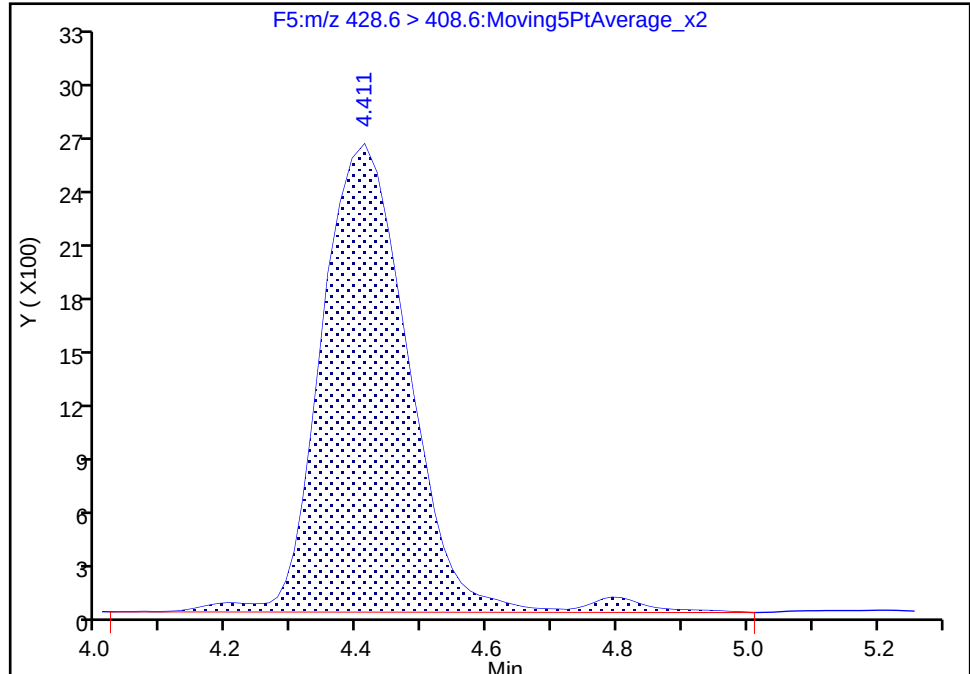
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A26.d		
Injection Date:	28-Jun-2018 23:17:29	Instrument ID:	LC410
Lims ID:	200-44045-B-1-A	Lab Sample ID:	200-44045-1
Client ID:	RXMW-2		
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F5:MRM

D 14 M2-6:2FTS, CAS: STL02279

Signal: 1

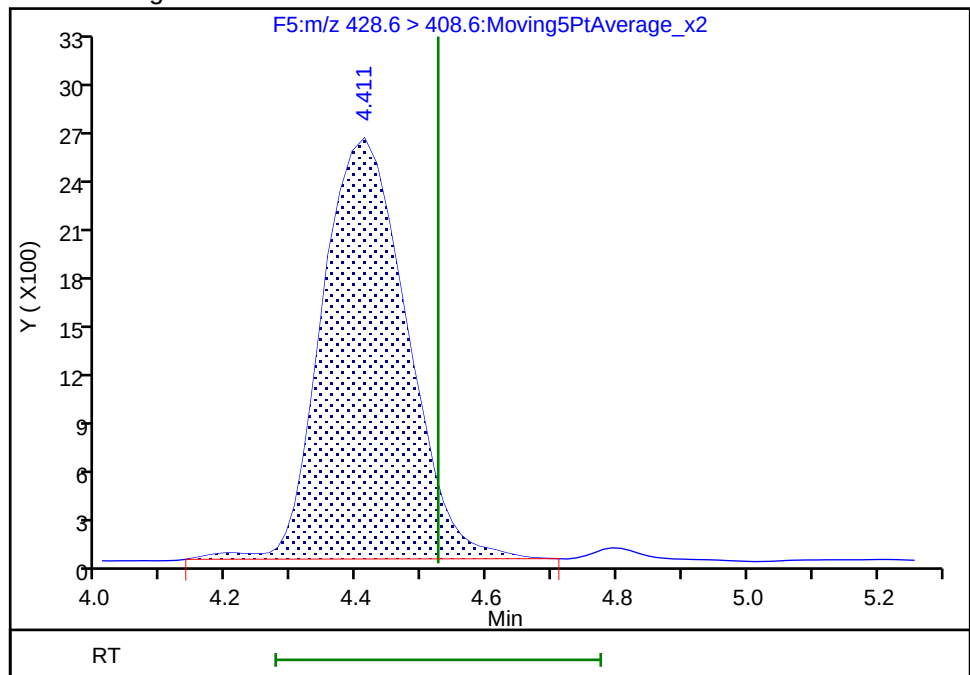
RT: 4.41
Area: 24302
Amount: 77.090016
Amount Units: ng/ml

Processing Integration Results



RT: 4.41
Area: 23283
Amount: 73.857577
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:06:22
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 62 of 434

10/19/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-4</u>	Lab Sample ID: <u>200-44045-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A27.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:35</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>287.1 (mL)</u>	Date Analyzed: <u>06/28/2018 23:33</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	54.5	B	1.74	0.36
2706-90-3	Perfluoropentanoic acid (PFPeA)	24.1		1.74	0.65
307-24-4	Perfluorohexanoic acid (PFHxA)	18.0	B	1.74	0.21
375-85-9	Perfluoroheptanoic acid (PFHpA)	15.7	B	1.74	0.28
335-67-1	Perfluorooctanoic acid (PFOA)	64.9	B	1.74	0.28
375-95-1	Perfluorononanoic acid (PFNA)	1.96		1.74	0.33
335-76-2	Perfluorodecanoic acid (PFDA)	1.74	U	1.74	0.33
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.74	U	1.74	0.22
307-55-1	Perfluorododecanoic acid (PFDoA)	1.74	U	1.74	0.30
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.74	U	1.74	0.21
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.74	U	1.74	0.39
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.05		1.74	0.38
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.74	0.23
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	5.01	B	1.74	0.71
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.74	U	1.74	0.46
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	28.2		1.74	0.66
754-91-6	Perfluorooctanesulfonamide (FOSA)	1.74	U	1.74	0.49
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.74	U	1.74	0.39
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.74	U	1.74	0.61
27619-97-2	6:2 FTS	1.74	U	1.74	0.87
39108-34-4	8:2 FTS	1.74	U	1.74	0.49

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-4</u>	Lab Sample ID: <u>200-44045-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A27.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:35</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>287.1 (mL)</u>	Date Analyzed: <u>06/28/2018 23:33</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	71		25-150
STL00992	13C4 PFBA	26		25-150
STL01893	13C5-PFPeA DNU	43		25-150
STL00993	13C2 PFHxA	56		25-150
STL01892	13C4 PFHpA	82		25-150
STL00990	13C4 PFOA	92		25-150
STL00995	13C5 PFNA	107		25-150
STL00996	13C2 PFDA	115		25-150
STL00997	13C2 PFUnA	123		25-150
STL00998	13C2 PFDoA	101		25-150
STL02116	13C2 PFTeDA	101		25-150
STL02337	13C3 PFBS	77		25-150
STL00994	18O2 PFHxS	87		25-150
STL00991	13C4 PFOS	100		25-150
STL02118	d3-NMeFOSAA	97		25-150
STL02117	d5-NEtFOSAA	111		25-150
STL02279	M2-6:2 FTS	242		25-150
STL02280	M2-8:2 FTS	209		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d
 Lims ID: 200-44045-B-2-A
 Client ID: RXMW-4
 Sample Type: Client
 Inject. Date: 28-Jun-2018 23:33:43 ALS Bottle#: 0 Worklist Smp#: 27
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-027 2
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 15:46:18

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	2.370	-0.052	1.000	58998	13.1		26.2	33.9	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.454	2.371	0.083	1.059	36147	31.3			5.6	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.750	2.801	-0.051	1.004	44257	13.8			27.5	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.739	2.802	-0.063	1.000	37124	21.3		42.6	28.3	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.801	2.883	-0.082	1.000	10509	2.90			4.7	
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.883	-0.082	1.000	114776	36.0		77.5	256	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.250	-0.086	1.000	21669	10.3			51.3	
D 7 13C2 PFHxA										
314.8 > 269.6	3.164	3.265	-0.101	1.000	98588	28.1		56.1	449	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.703	3.804	-0.101	1.000	78094	9.01			89.6	
D 10 13C4-PFHpA										
366.9 > 321.8	3.703	3.843	-0.140	1.000	387035	40.8		81.6	1118	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.748	3.848	-0.100	1.000	38707	8.62			96.8	
D 13 18O2 PFHxS										
402.9 > 83.8	3.748	3.889	-0.141	1.000	160978	41.4		87.5	791	
* 49 13C2-PFOA										
414.9 > 369.8	4.412	4.505	-0.093		423031	50.0			1290	
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.412	4.505	-0.093	1.000	326851	37.3			578	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 M2-6:2FTS										
428.6 > 408.6	4.355	4.525	-0.170	1.000	25123	114.8		242	135	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.430	4.532	-0.102	0.848	7999	2.88			35.8	M
D 17 13C4 PFOA										
416.9 > 371.8	4.412	4.567	-0.155	1.000	354311	45.9		91.8	1669	
19 Perfluorononanoic acid										
462.8 > 418.8	5.222	5.304	-0.082	1.003	10268	1.12			48.7	
20 Perfluorooctane sulfonic acid										a
498.8 > 79.8	4.935	5.304	-0.369	0.945	58492	16.2			466	a
D 21 13C5 PFNA										
467.8 > 422.8	5.209	5.363	-0.154	1.000	448147	53.7		107	1061	
D 22 13C4 PFOS										
502.8 > 79.8	5.222	5.382	-0.160	1.000	138091	47.9		100	622	
26 Perfluorodecanoic acid										M
512.9 > 468.5	5.974	6.070	-0.096	0.992	477	0.0521			1.6	M
D 23 M2-8:2FTS										
528.8 > 508.8	5.999	6.147	-0.148	1.000	245130	100.1		209	1053	
D 25 13C2 PFDA										
514.9 > 469.5	6.022	6.186	-0.164	1.000	670875	57.6		115	4450	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.385	6.530	-0.145	1.000	132988	48.4		96.8	754	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.833	6.804	0.029	1.010	293	0.3411			2.5	M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.791	6.832	-0.041	1.000	1077	0.0711			5.9	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.762	6.903	-0.141	1.000	143638	55.5		111	1146	
D 33 13C2 PFUnA										
564.8 > 519.8	6.791	6.942	-0.151	1.000	674545	61.7		123	3002	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	159033	35.7		71.4	2383	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.609	7.497	0.112	1.015	345	-0.0181			2.6	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	556136	50.3		101	1536	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.651	8.666	-0.015	1.000	410	0.0438			2.6	M
712.8 > 168.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	561293	50.5		101	1642	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d

Injection Date: 28-Jun-2018 23:33:43

Instrument ID: LC410

Lims ID: 200-44045-B-2-A

Lab Sample ID: 200-44045-2

Client ID: RXMW-4

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 27

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

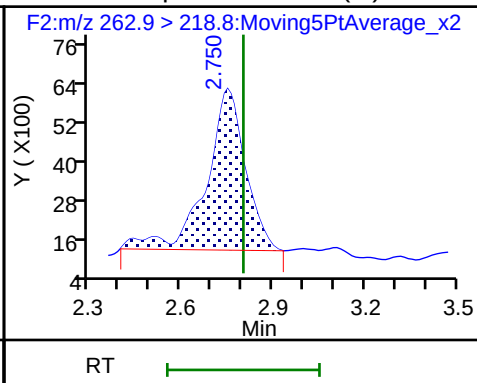
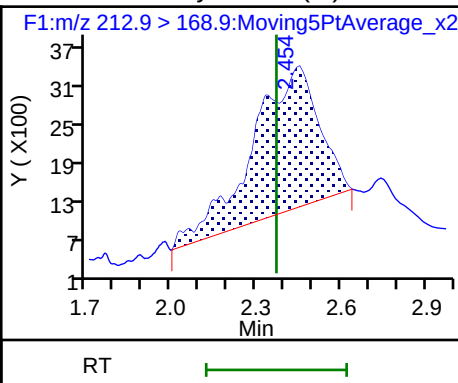
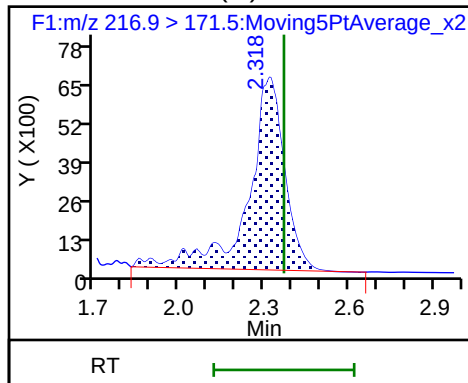
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

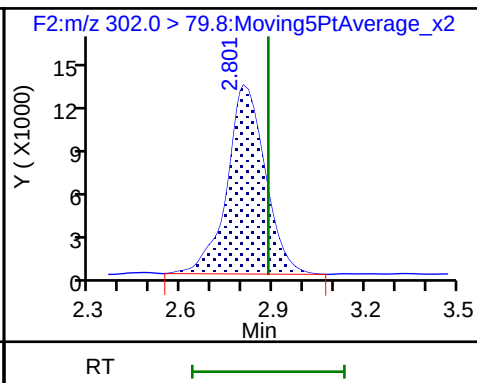
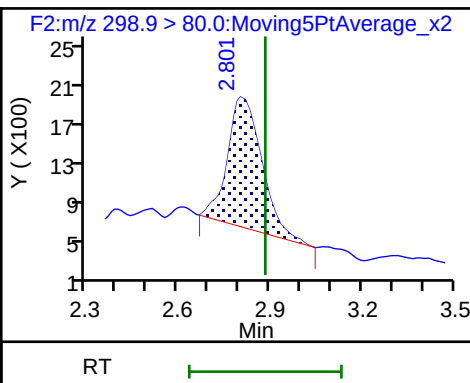
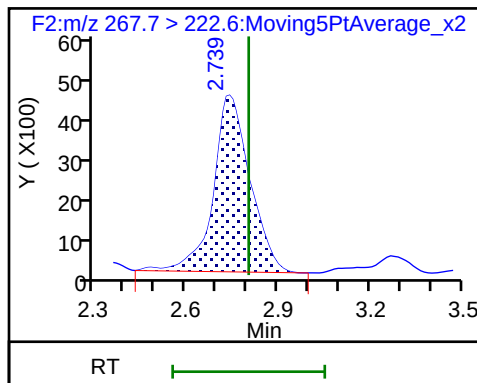
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid

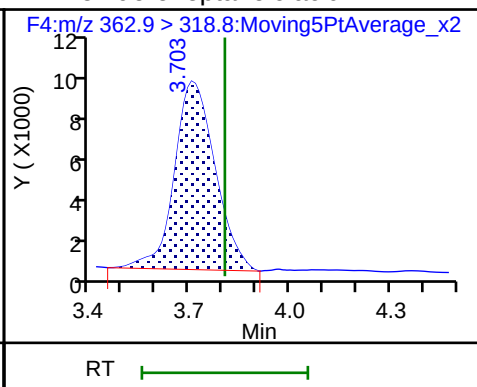
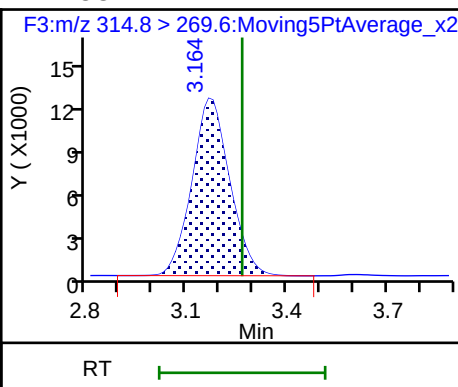
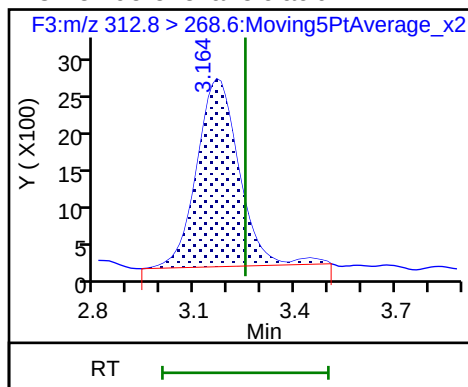
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

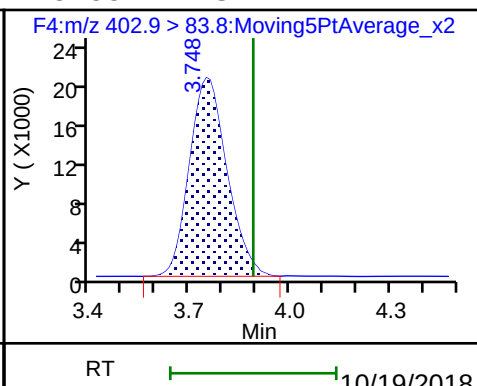
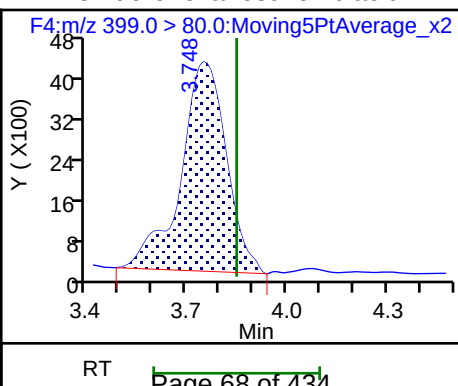
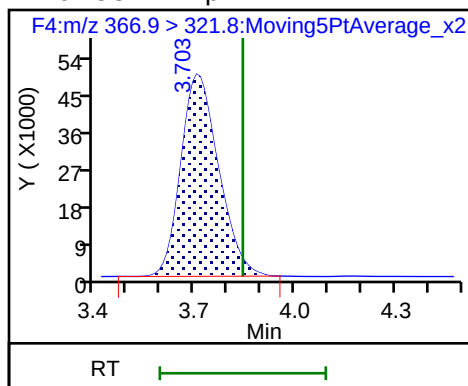
11 Perfluoroheptanoic acid



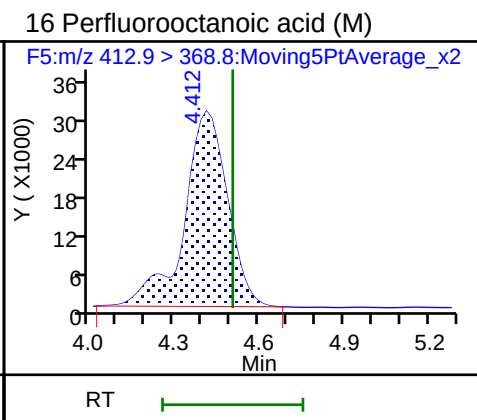
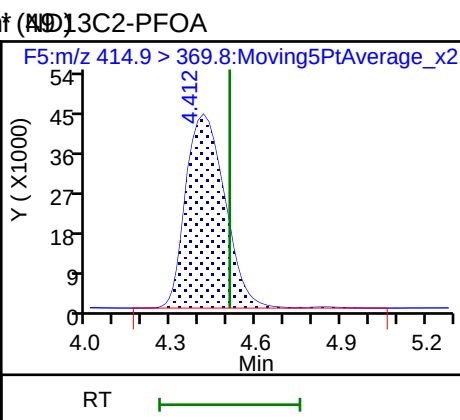
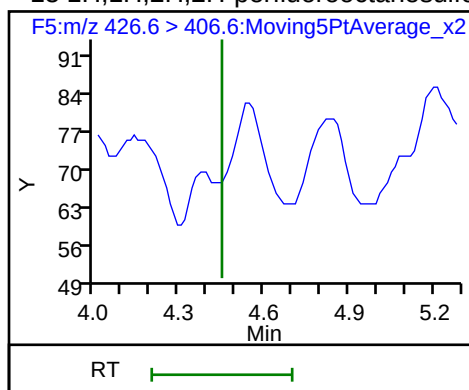
D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid

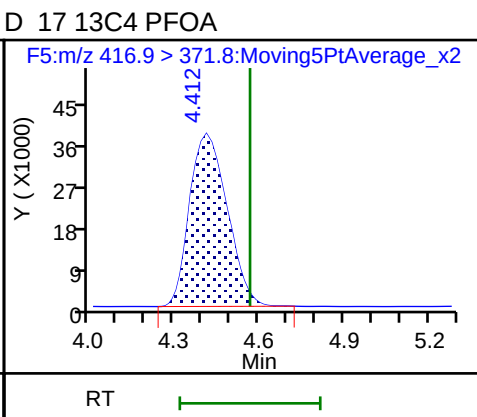
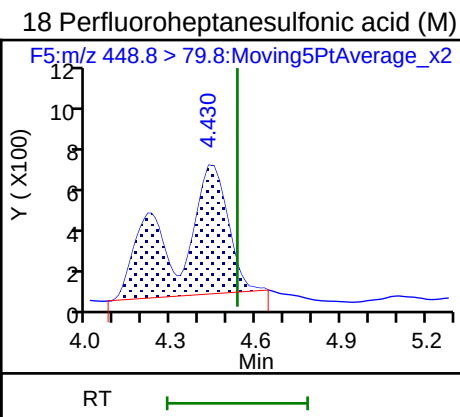
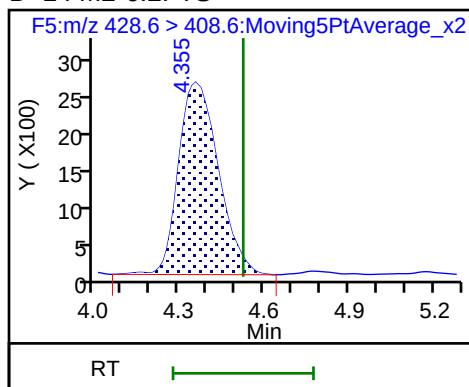
D 13 18O2 PFHxS



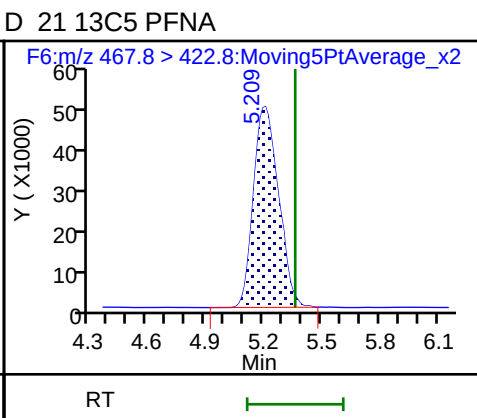
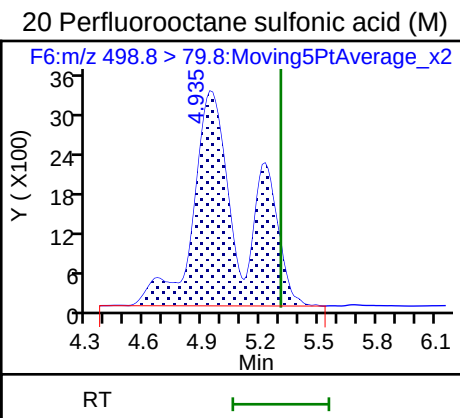
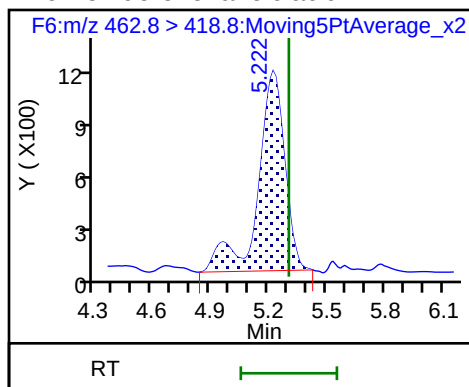
15 1H,1H,2H,2H-perfluorooctanesulfonate (M)



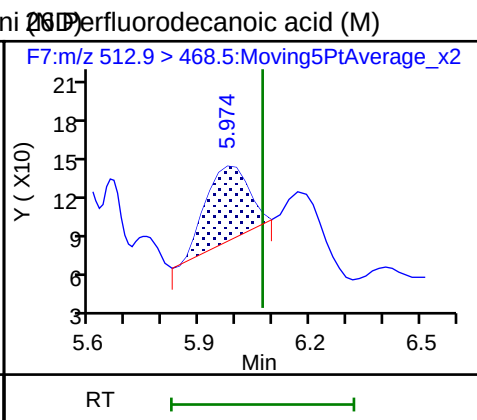
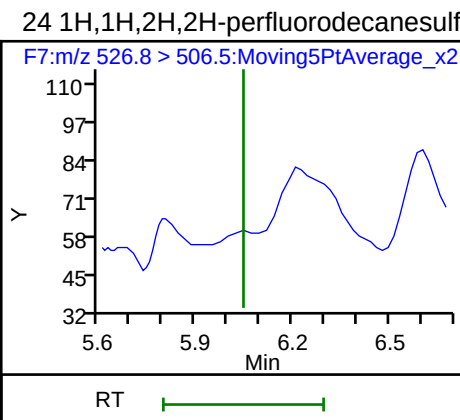
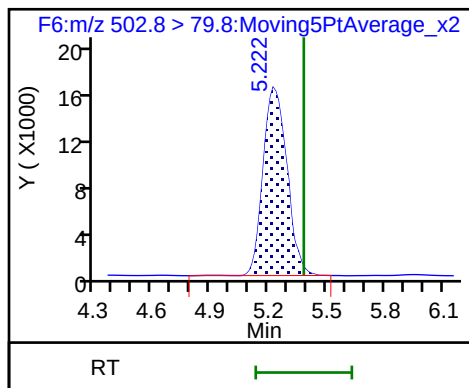
D 14 M2-6:2FTS



19 Perfluorononanoic acid



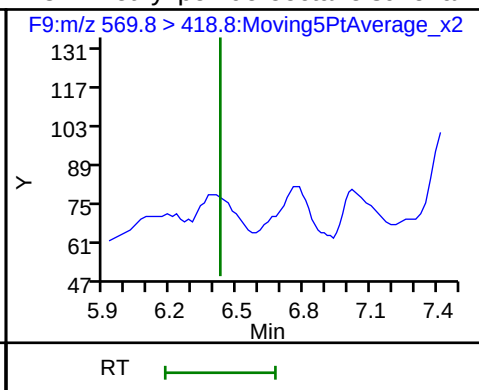
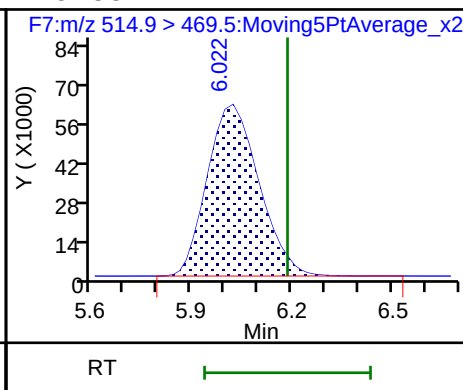
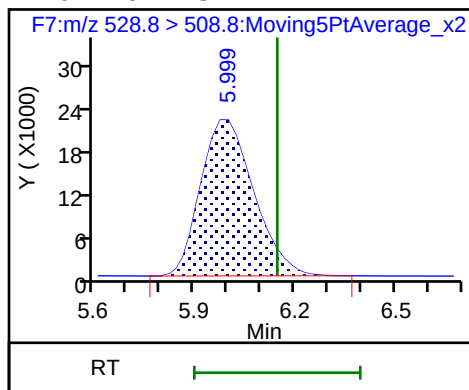
D 22 13C4 PFOS



D 23 M2-8:2FTS

D 25 13C2 PFDA

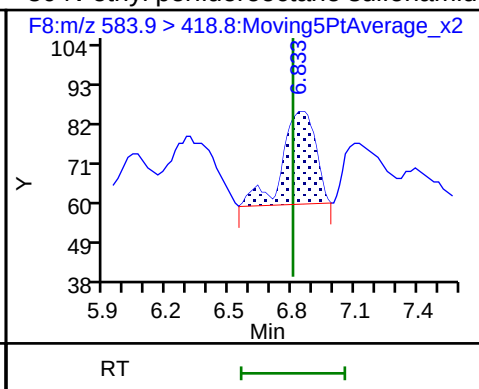
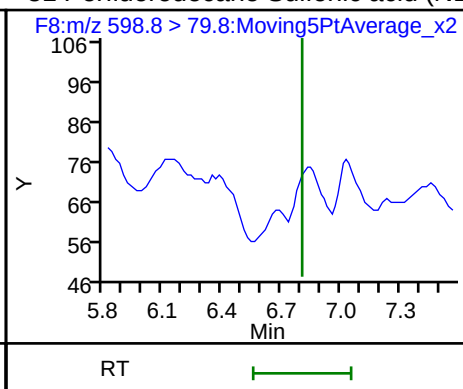
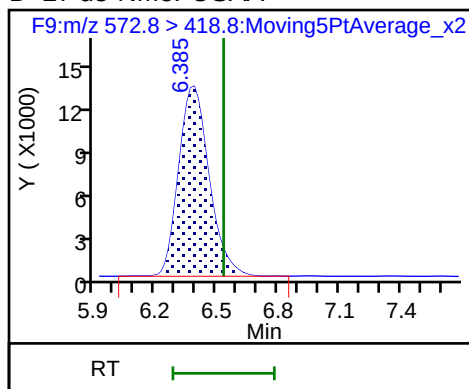
28 N-methyl perfluorooctane sulfonami (ND)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid (ND)

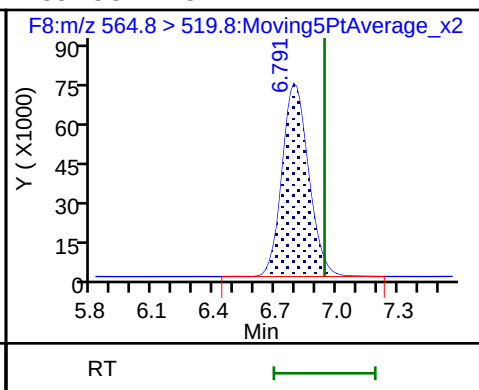
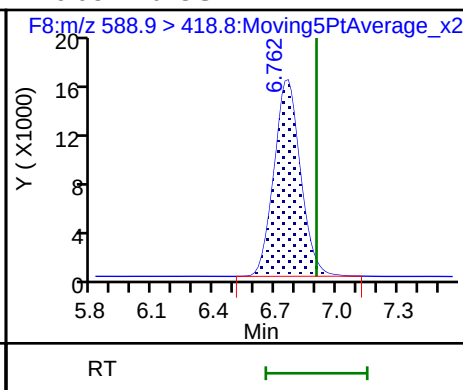
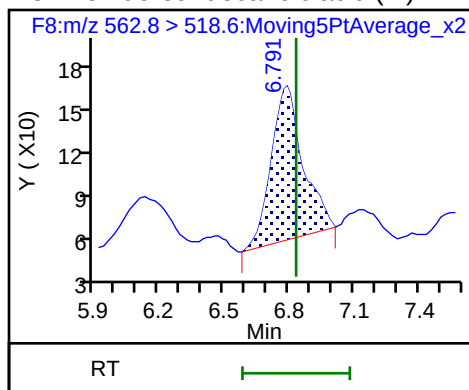
30 N-ethyl perfluorooctane sulfonamid (M)



32 Perfluoroundecanoic acid (M)

D 29 d5-NEtFOSAA

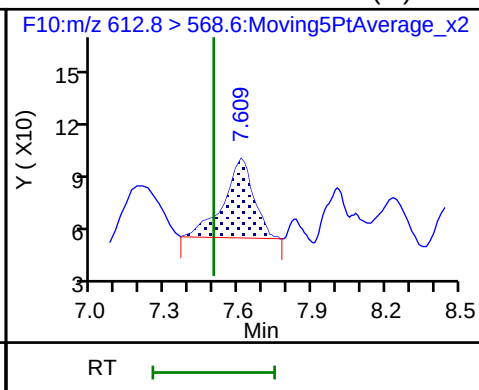
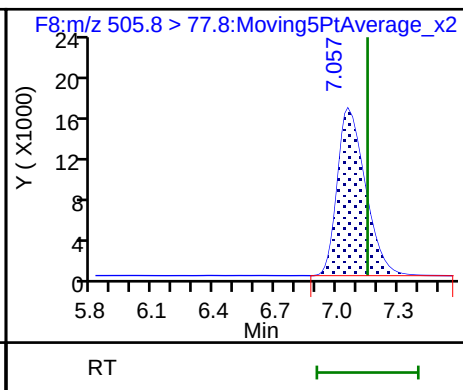
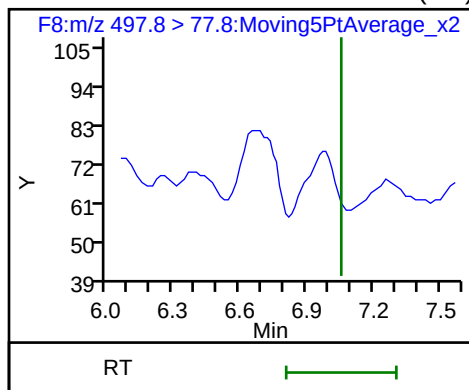
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (ND)

D 35 13C8 FOSA

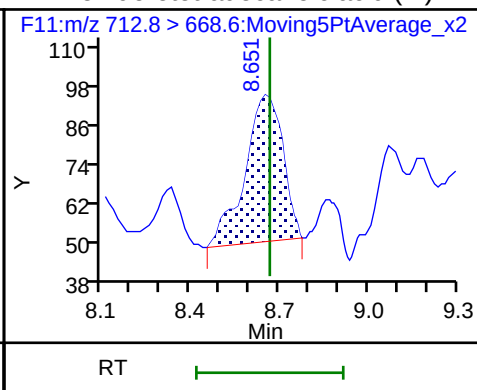
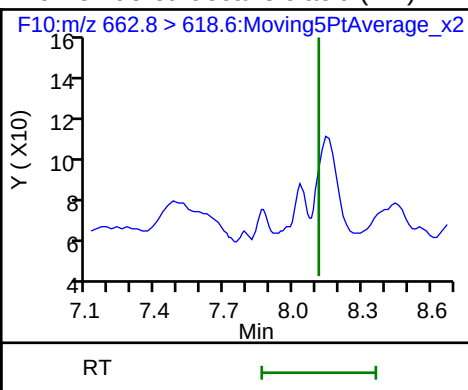
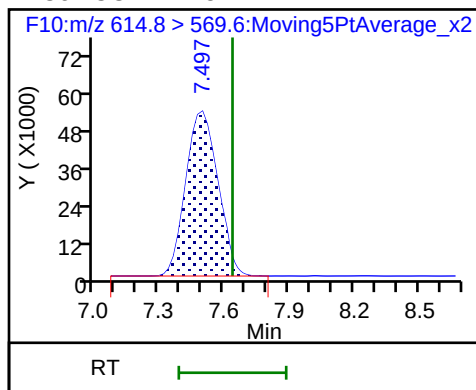
37 Perfluorododecanoic acid (M)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid (ND)

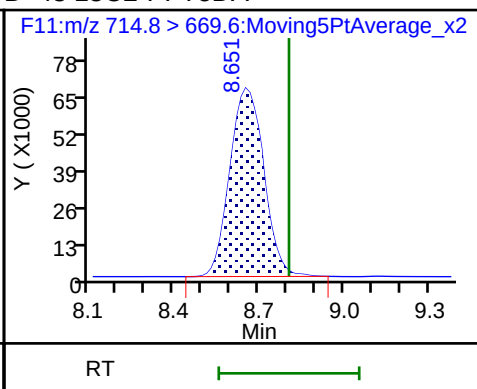
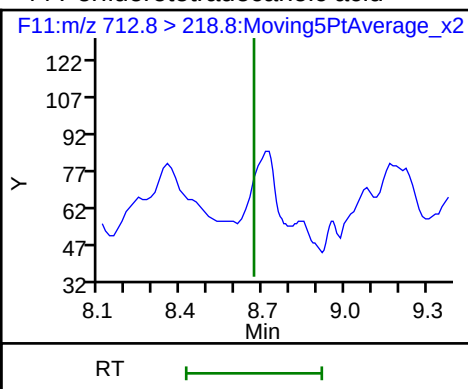
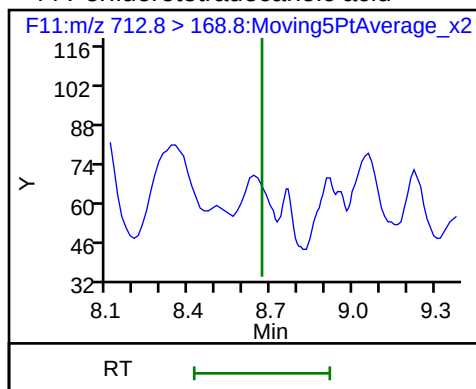
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

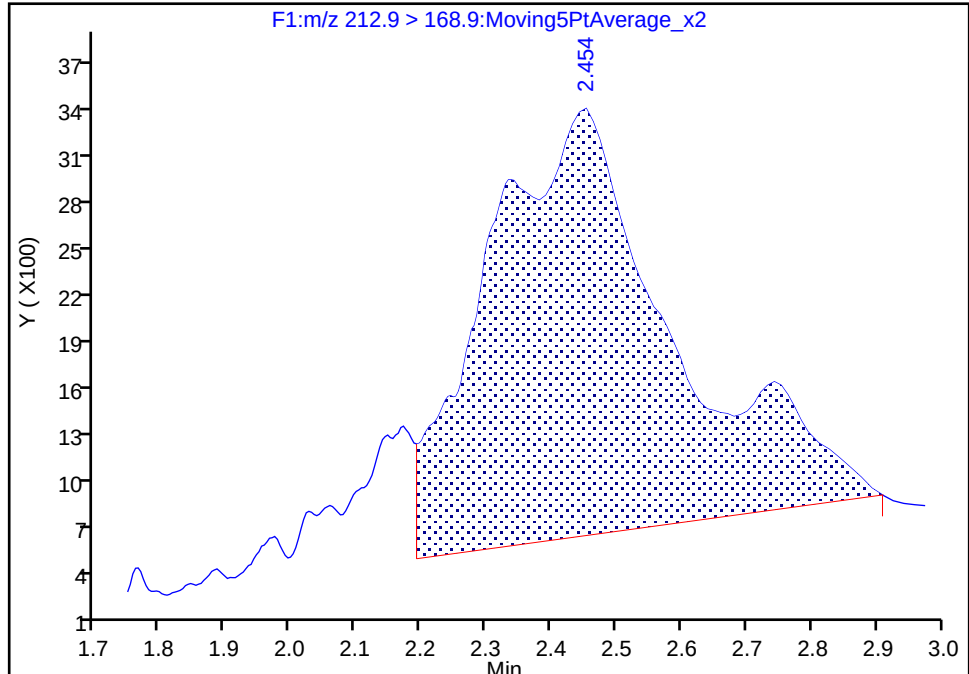
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Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	27

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

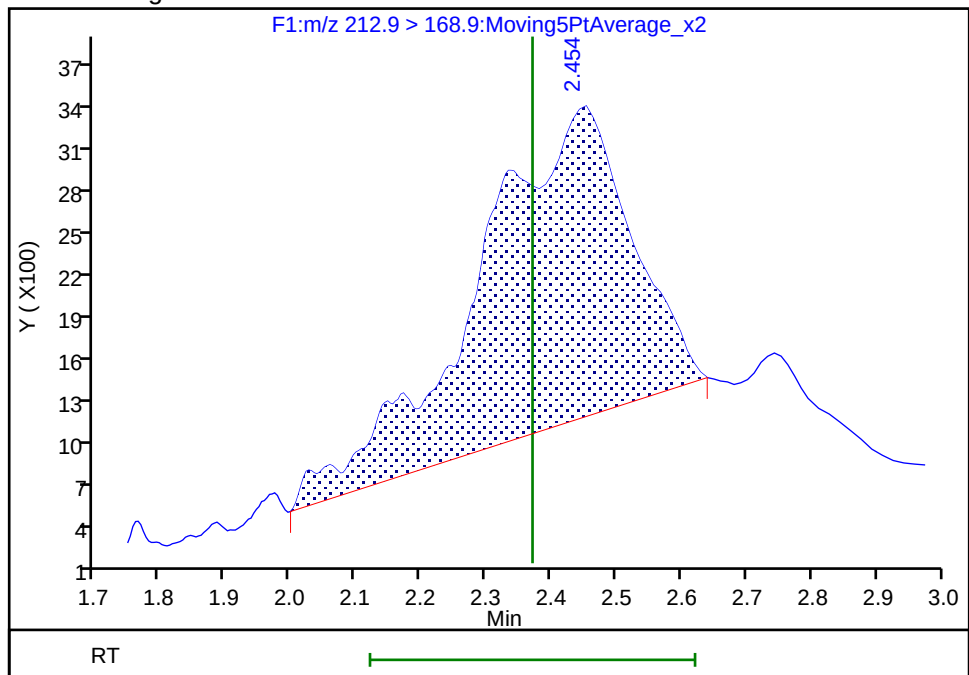
RT: 2.45
Area: 53567
Amount: 46.520465
Amount Units: ng/ml

Processing Integration Results



RT: 2.45
Area: 36147
Amount: 31.292121
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:43:39
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 72 of 434

10/19/2018

TestAmerica Burlington

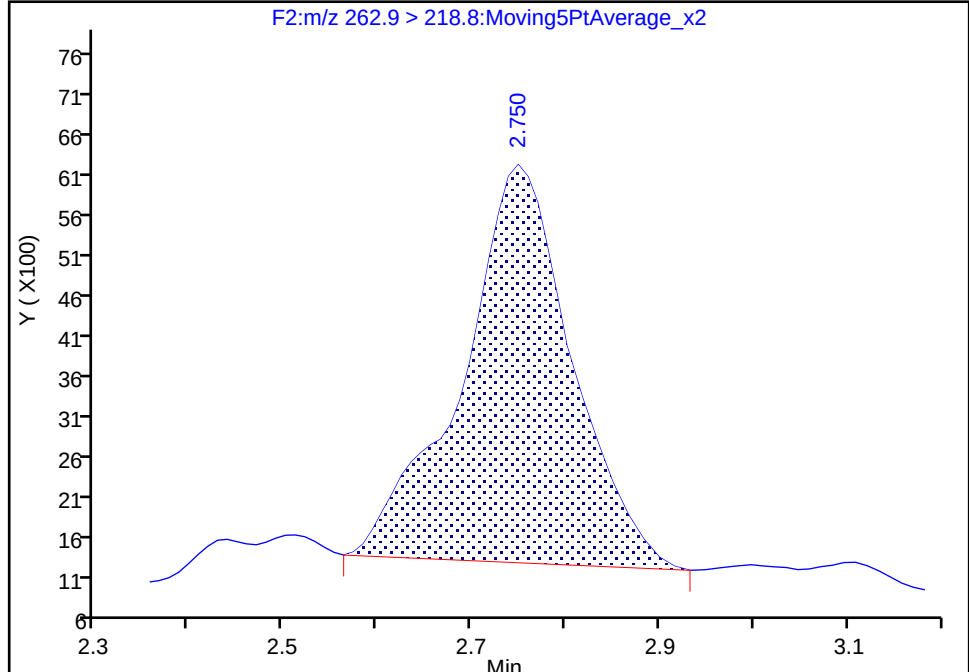
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Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM
		Worklist Smp#:	27

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

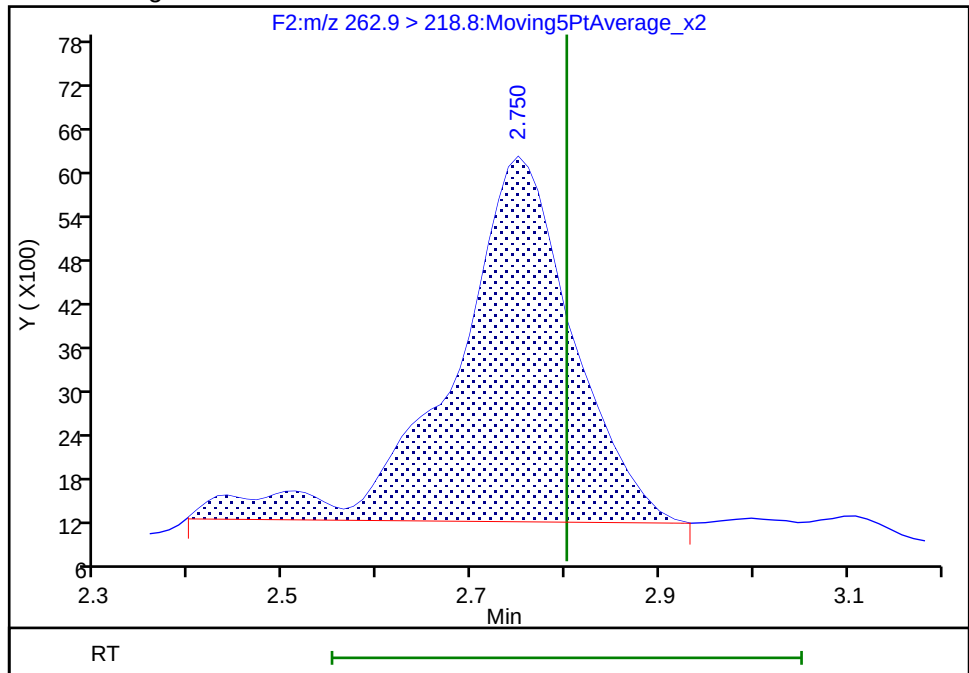
RT: 2.75
Area: 39877
Amount: 12.440028
Amount Units: ng/ml

Processing Integration Results



RT: 2.75
Area: 44257
Amount: 13.811149
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:43:59
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 73 of 434

10/19/2018

TestAmerica Burlington

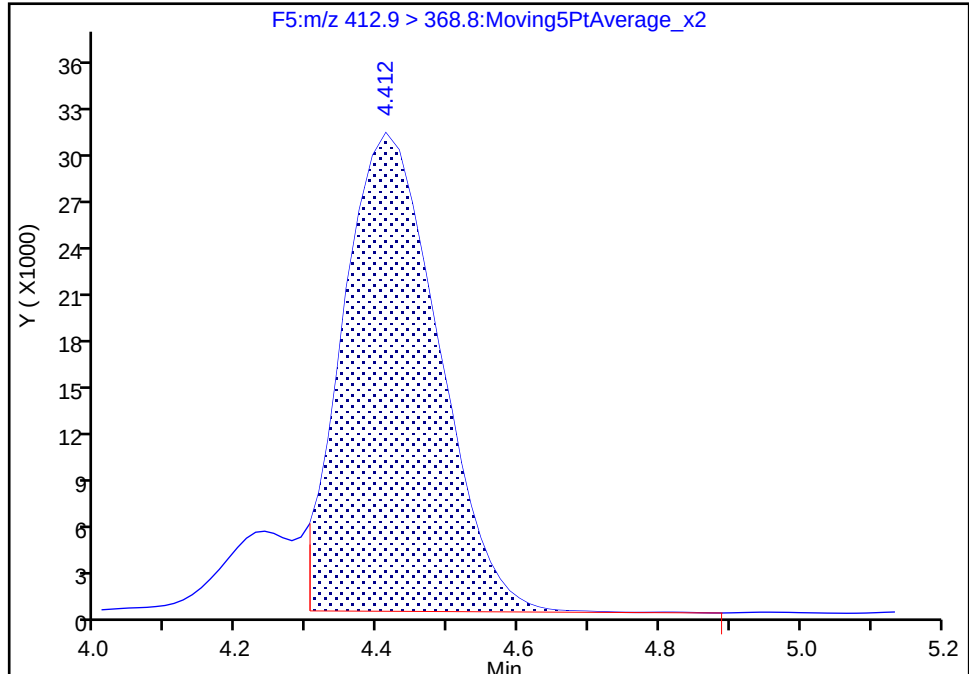
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Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

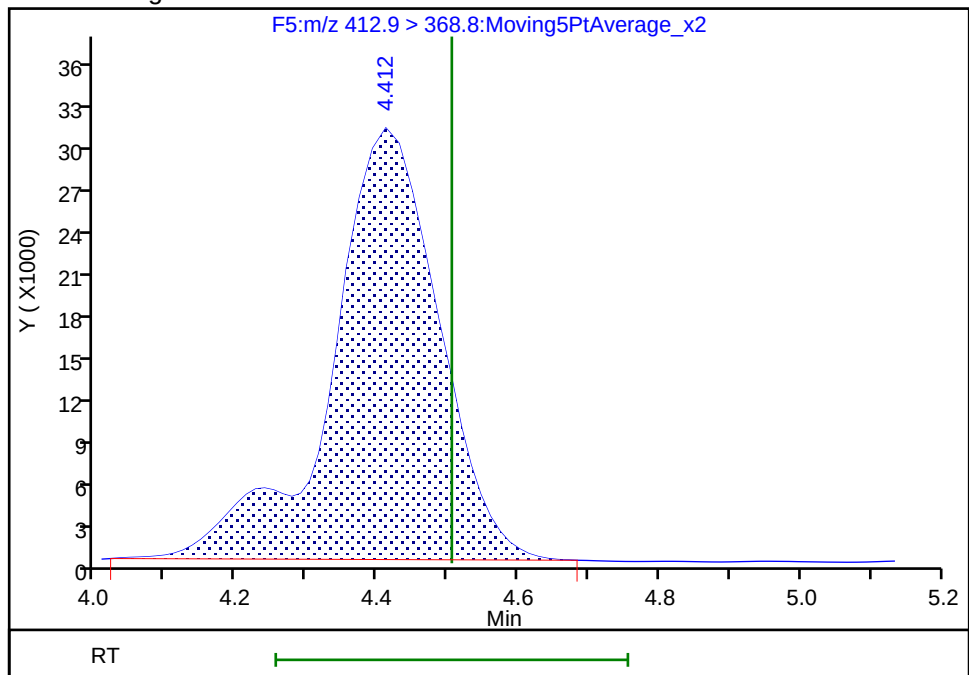
RT: 4.41
Area: 288536
Amount: 32.921083
Amount Units: ng/ml

Processing Integration Results



RT: 4.41
Area: 326851
Amount: 37.271317
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:44:25
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 74 of 434

10/19/2018

TestAmerica Burlington

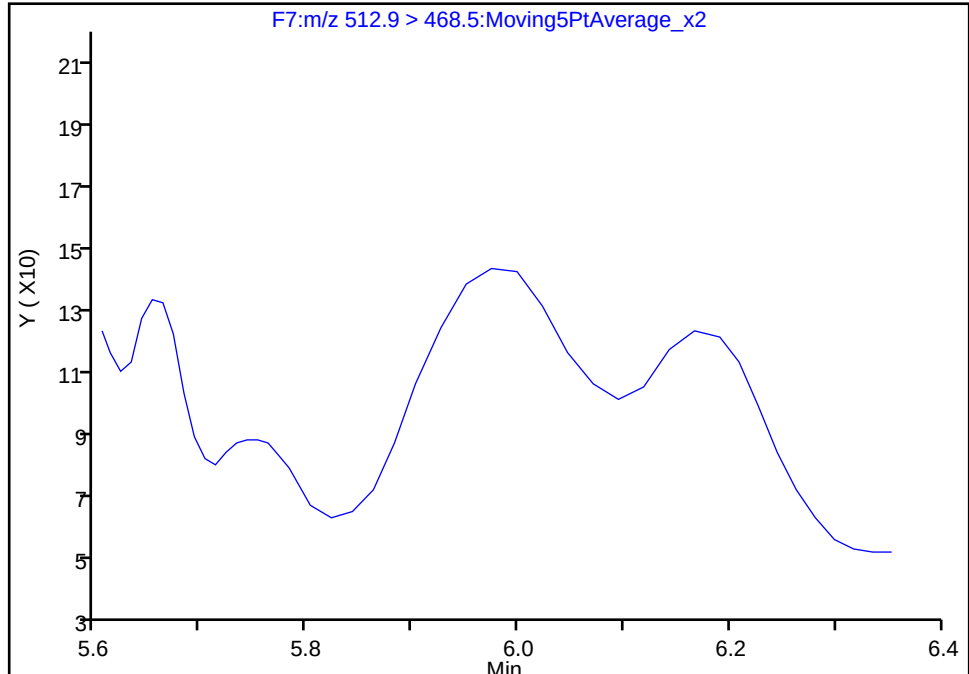
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Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410		
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2		
Client ID:	RXMW-4				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

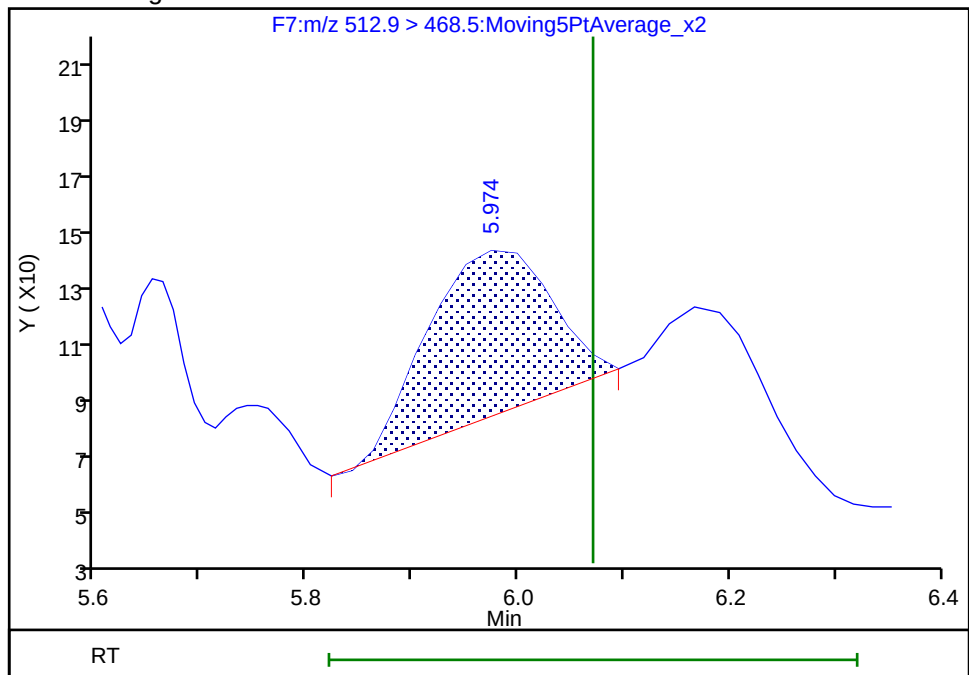
Signal: 1

Not Detected
Expected RT: 6.07

Processing Integration Results



Manual Integration Results

RT: 5.97
Area: 477
Amount: 0.052131
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 15:45:06
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

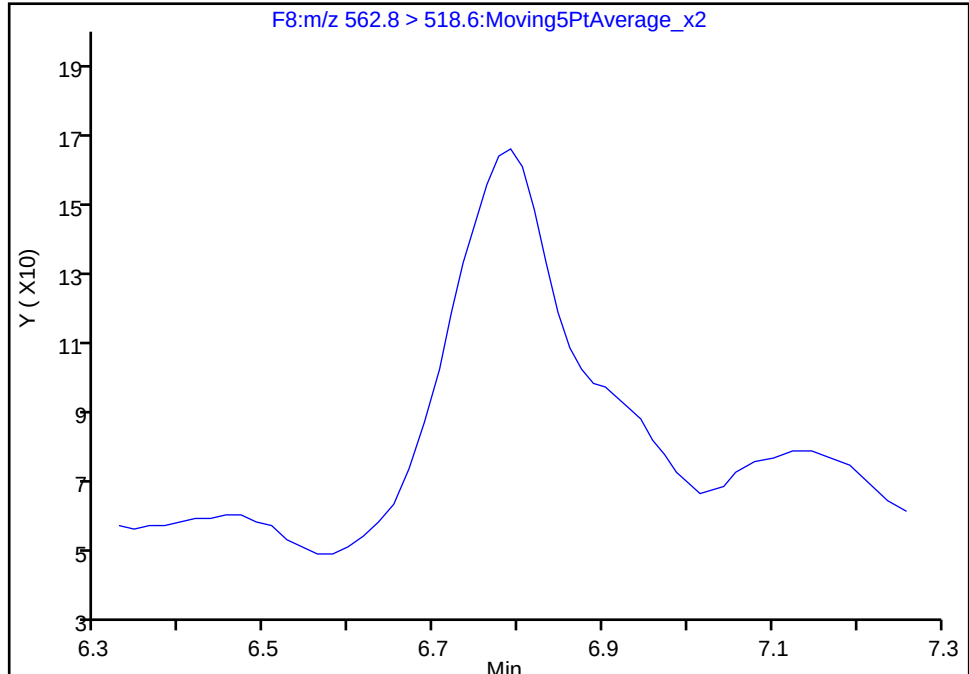
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d				
Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410		
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2		
Client ID:	RXMW-4				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector:	F8:MRM		

32 Perfluoroundecanoic acid, CAS: 2058-94-8

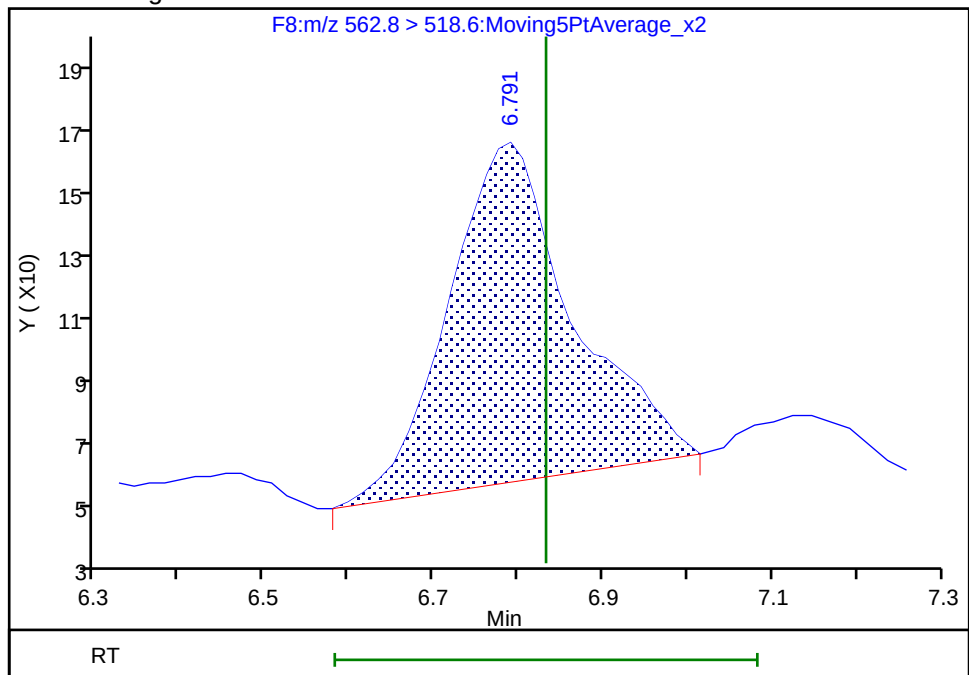
Signal: 1

Not Detected
Expected RT: 6.83

Processing Integration Results



Manual Integration Results

RT: 6.79
Area: 1077
Amount: 0.071142
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 15:45:43
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

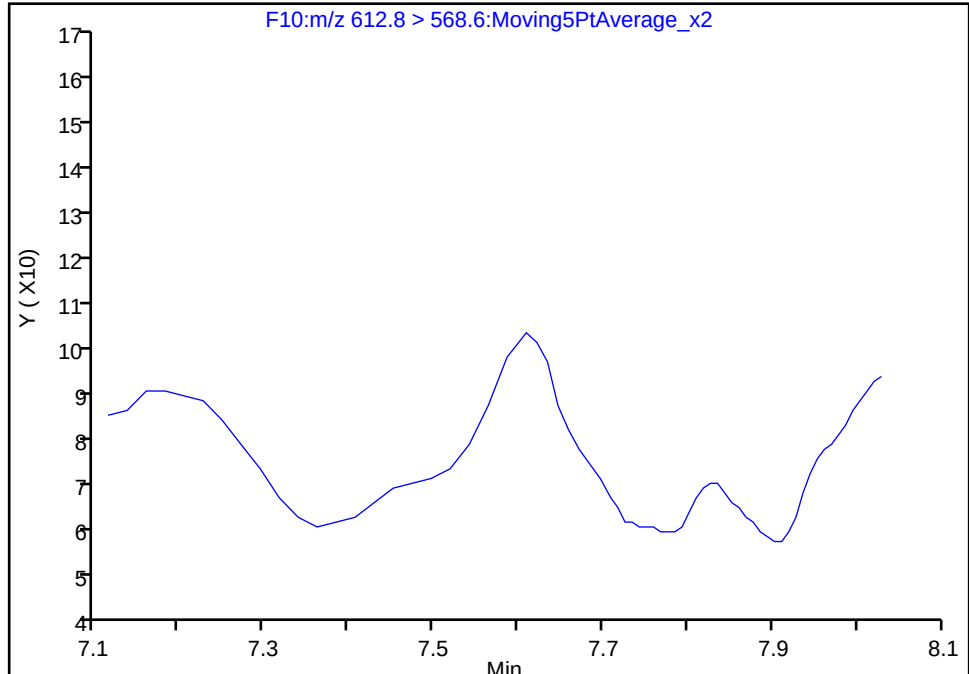
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d		
Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F10:MRM
		Worklist Smp#:	27

37 Perfluorododecanoic acid, CAS: 307-55-1

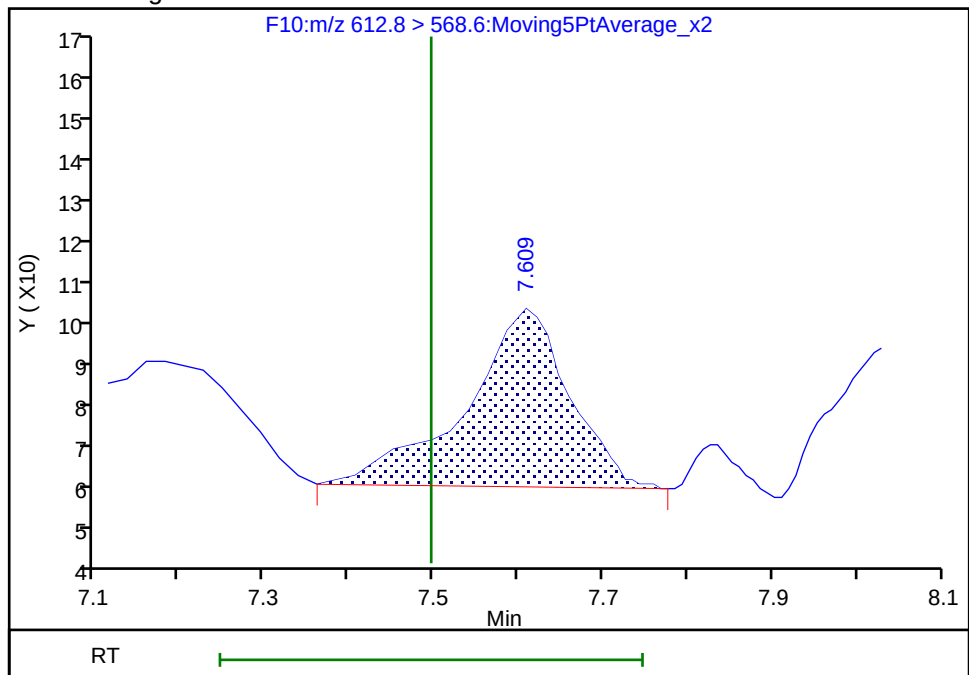
Signal: 1

Not Detected
Expected RT: 7.50

Processing Integration Results

RT: 7.61
Area: 345
Amount: -0.018117
Amount Units: ng/ml

Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 15:45:56
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 77 of 434

10/19/2018

TestAmerica Burlington

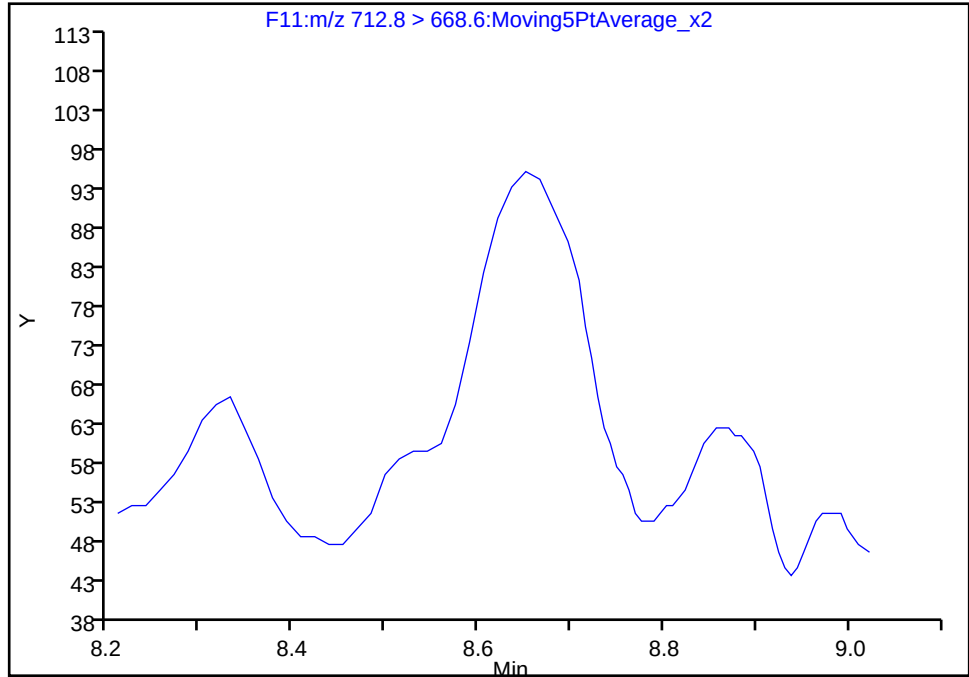
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d				
Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410		
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2		
Client ID:	RXMW-4				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F11:MRM		

44 Perfluorotetradecanoic acid, CAS: 376-06-7

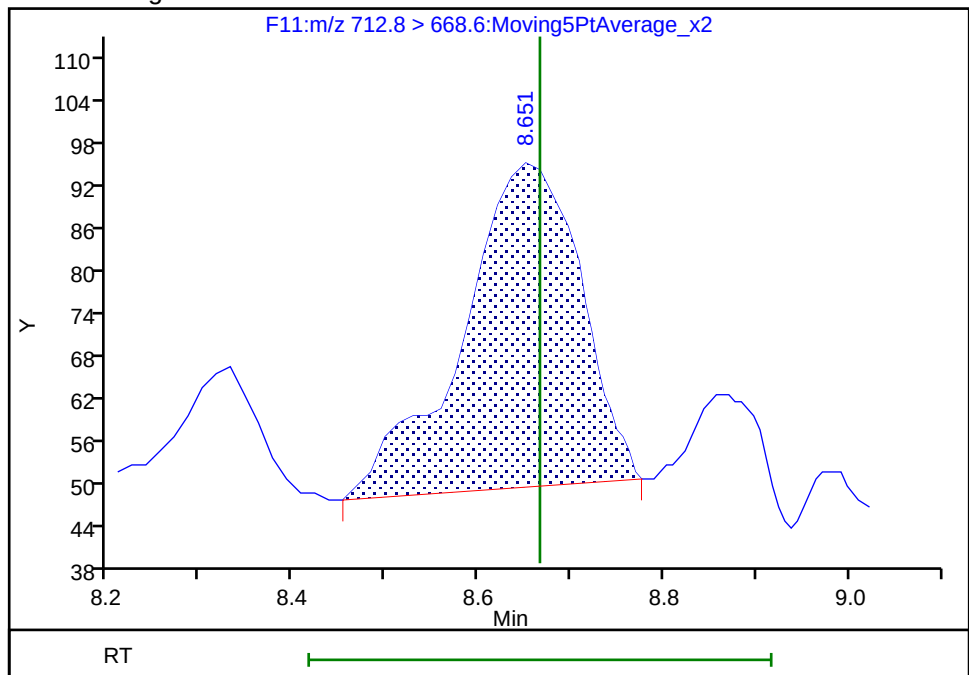
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results

RT: 8.65
Area: 410
Amount: 0.043788
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 15:46:14
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

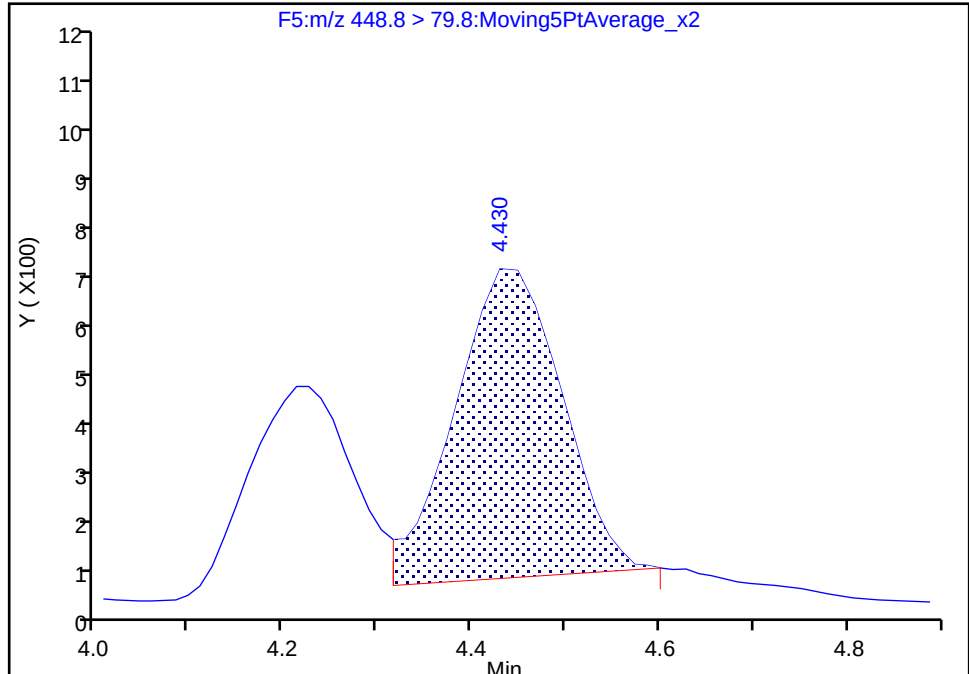
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d		
Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F5:MRM
		Worklist Smp#:	27

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

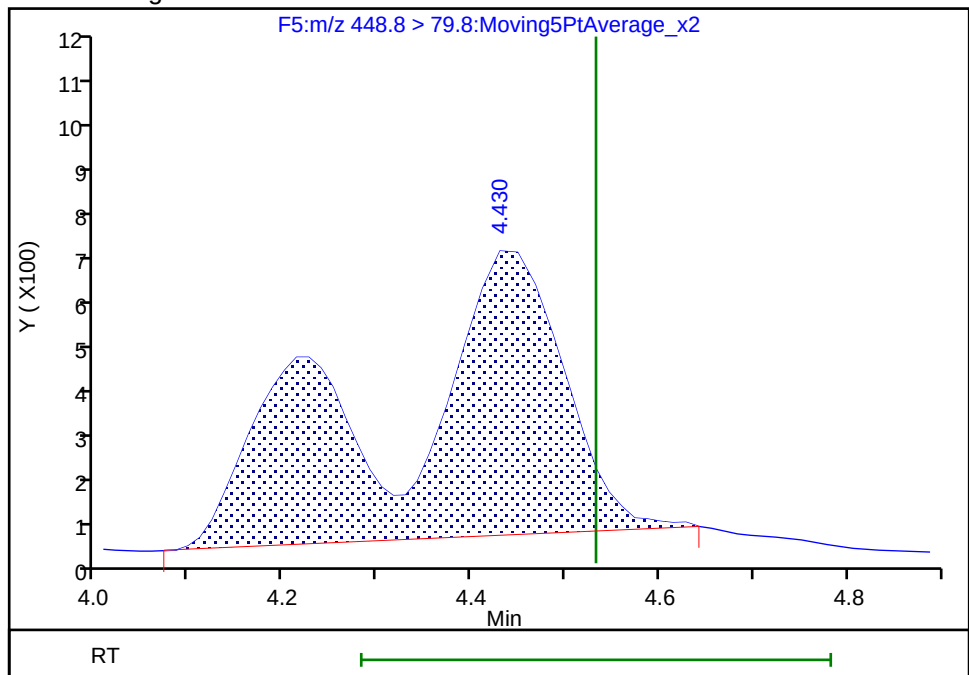
RT: 4.43
Area: 4759
Amount: 1.775913
Amount Units: ng/ml

Processing Integration Results



RT: 4.43
Area: 7999
Amount: 2.878449
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:44:38
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 79 of 434

10/19/2018

TestAmerica Burlington

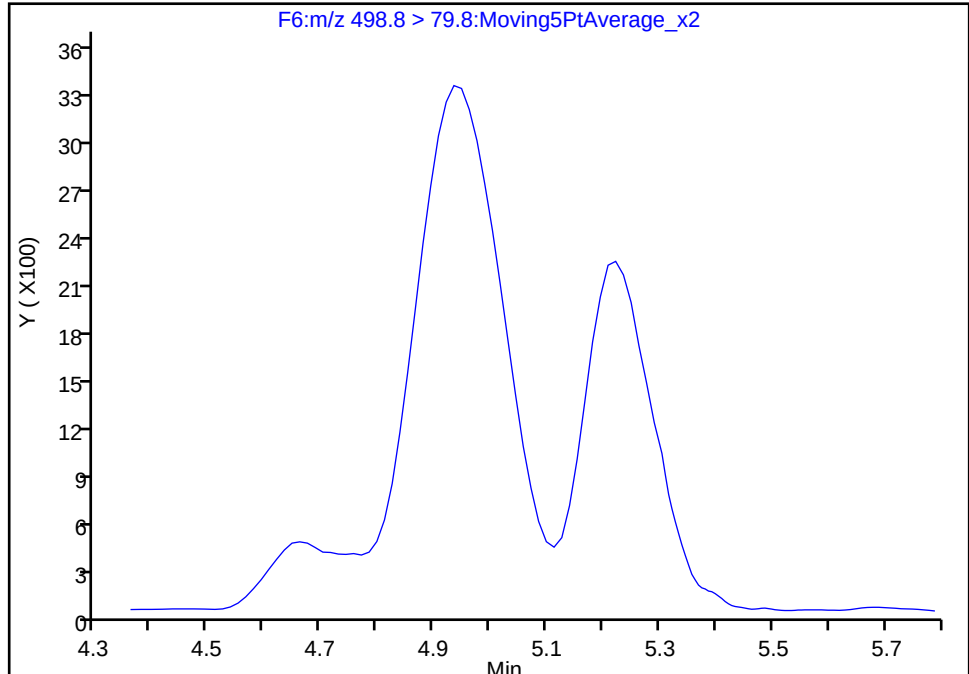
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d		
Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F6:MRM
		Worklist Smp#:	27

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

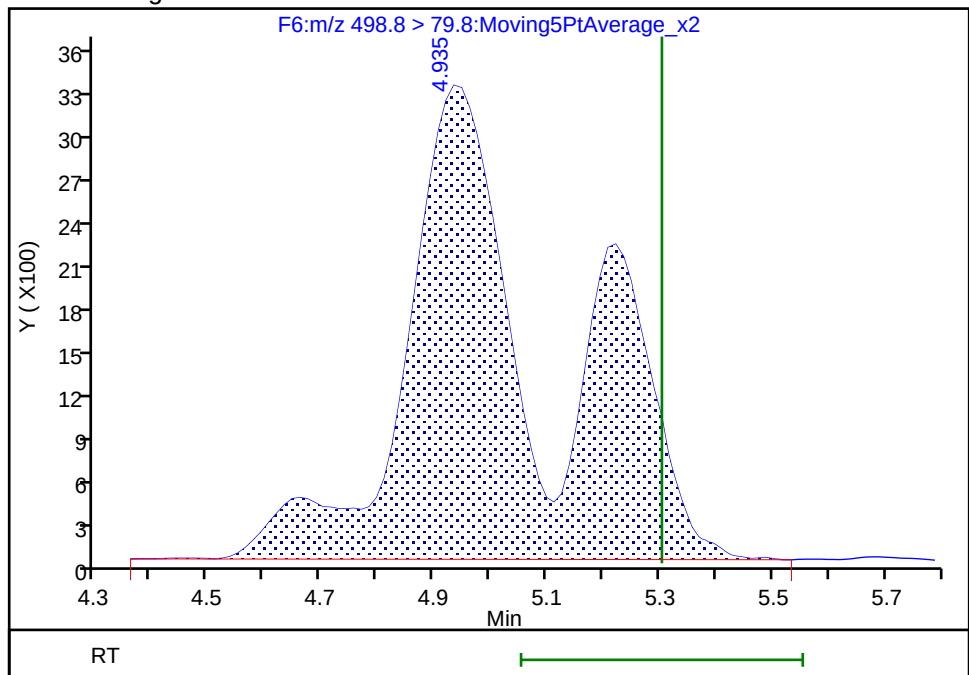
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results



RT: 4.94
Area: 58492
Amount: 16.208477
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 15:44:46
Audit Action: Assigned Compound ID

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d

Injection Date: 28-Jun-2018 23:33:43

Instrument ID: LC410

Lims ID: 200-44045-B-2-A

Lab Sample ID: 200-44045-2

Client ID: RXMW-4

Operator ID: JWM

ALS Bottle#: 0 Worklist Smp#: 27

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

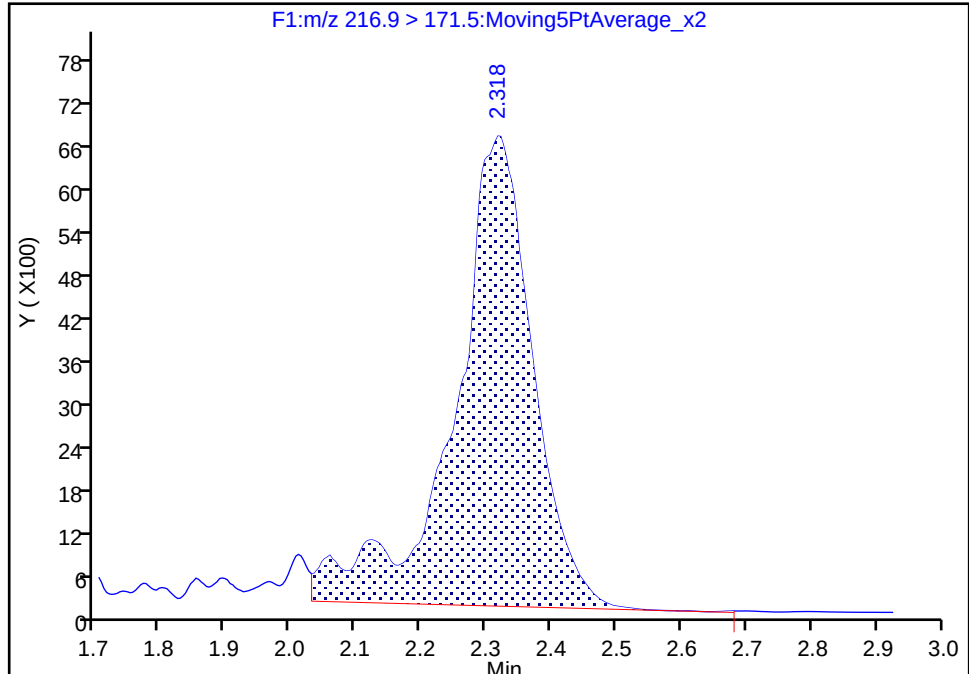
Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

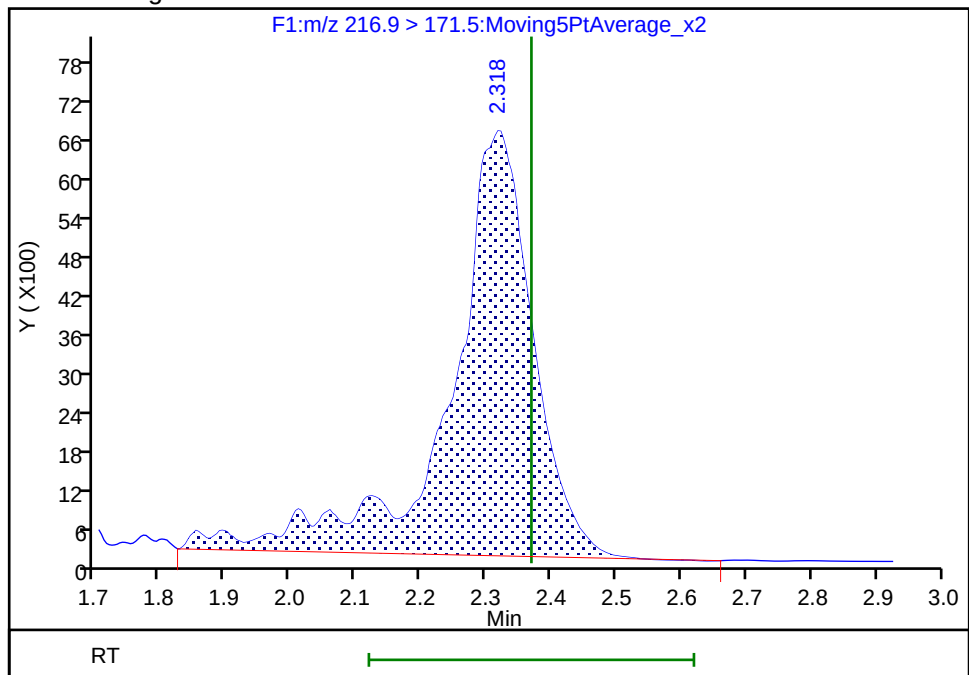
RT: 2.32
Area: 55816
Amount: 12.373619
Amount Units: ng/ml

Processing Integration Results



RT: 2.32
Area: 58998
Amount: 13.079023
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:43:25

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

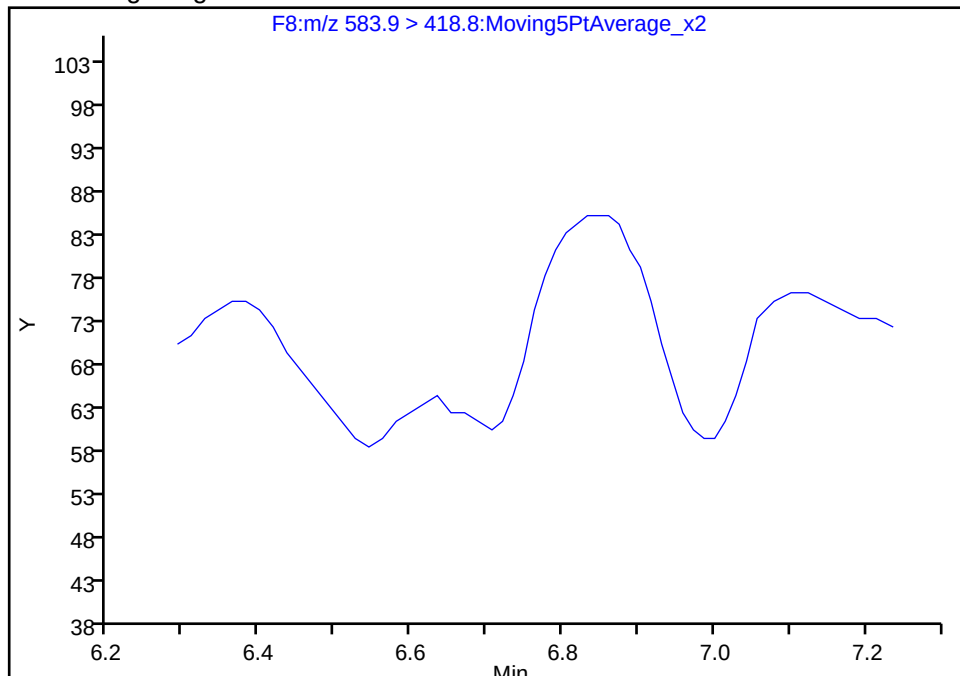
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A27.d				
Injection Date:	28-Jun-2018 23:33:43	Instrument ID:	LC410		
Lims ID:	200-44045-B-2-A	Lab Sample ID:	200-44045-2		
Client ID:	RXMW-4				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F8:MRM		

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

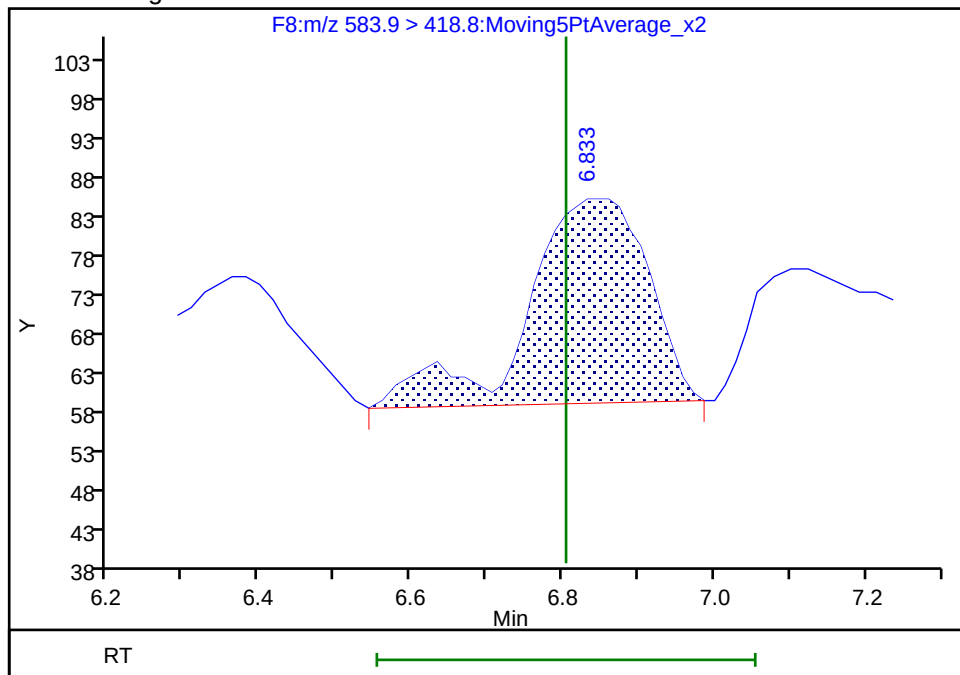
Signal: 1

Not Detected
Expected RT: 6.80

Processing Integration Results

RT: 6.83
Area: 293
Amount: 0.341089
Amount Units: ng/ml

Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 15:45:31
Audit Action: Manually Integrated

Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-7</u>	Lab Sample ID: <u>200-44045-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A30.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 12:10</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>308.9 (mL)</u>	Date Analyzed: <u>06/29/2018 00:22</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	35.1	B	1.62	0.33
2706-90-3	Perfluoropentanoic acid (PFPeA)	23.7		1.62	0.61
307-24-4	Perfluorohexanoic acid (PFHxA)	12.0	B	1.62	0.19
375-85-9	Perfluoroheptanoic acid (PFHpA)	10.1	B	1.62	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	19.9	B	1.62	0.26
375-95-1	Perfluorononanoic acid (PFNA)	3.01		1.62	0.31
335-76-2	Perfluorodecanoic acid (PFDA)	0.52	J	1.62	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.31	J	1.62	0.20
307-55-1	Perfluorododecanoic acid (PFDoA)	1.62	U	1.62	0.28
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.62	U	1.62	0.19
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.62	U	1.62	0.36
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.31		1.62	0.36
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	7.38	B	1.62	0.21
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.01	J B	1.62	0.66
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.62	U	1.62	0.43
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	28.3		1.62	0.62
754-91-6	Perfluorooctanesulfonamide (FOSA)	1.62	U	1.62	0.45
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.62	U	1.62	0.36
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.62	U	1.62	0.57
27619-97-2	6:2 FTS	1.62	U	1.62	0.81
39108-34-4	8:2 FTS	1.62	U	1.62	0.45

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-7</u>	Lab Sample ID: <u>200-44045-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A30.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 12:10</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>308.9 (mL)</u>	Date Analyzed: <u>06/29/2018 00:22</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	39		25-150
STL00992	13C4 PFBA	18	*	25-150
STL01893	13C5-PFPeA DNU	30		25-150
STL00993	13C2 PFHxA	34		25-150
STL01892	13C4 PFHpA	45		25-150
STL00990	13C4 PFOA	61		25-150
STL00995	13C5 PFNA	65		25-150
STL00996	13C2 PFDA	67		25-150
STL00997	13C2 PFUnA	70		25-150
STL00998	13C2 PFDoA	67		25-150
STL02116	13C2 PFTeDA	73		25-150
STL02337	13C3 PFBS	48		25-150
STL00994	18O2 PFHxS	54		25-150
STL00991	13C4 PFOS	56		25-150
STL02118	d3-NMeFOSAA	51		25-150
STL02117	d5-NEtFOSAA	60		25-150
STL02279	M2-6:2 FTS	150		25-150
STL02280	M2-8:2 FTS	109		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A30.d
 Lims ID: 200-44045-B-3-A
 Client ID: RXMW-7
 Sample Type: Client
 Inject. Date: 29-Jun-2018 00:22:25 ALS Bottle#: 0 Worklist Smp#: 30
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-030 3
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 16:40:11

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	2.334	2.370	-0.036	1.000	54510	8.99		18.0	33.7	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.382	2.371	0.011	1.020	23270	21.7			22.4	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.770	2.801	-0.031	0.996	44437	14.6			24.1	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.781	2.802	-0.021	1.000	35167	15.0		30.0	68.6	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.850	2.883	-0.033	1.006	4146	1.43			1.2	M
D 5 13C3-PFBS										
302.0 > 79.8	2.834	2.883	-0.049	1.000	95426	22.3		47.9	137	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.189	3.250	-0.061	1.000	12845	7.42			19.3	
D 7 13C2 PFHxA										
314.8 > 269.6	3.189	3.265	-0.076	1.000	81427	17.2		34.5	416	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.748	3.804	-0.056	1.000	39610	6.23			40.0	
D 10 13C4-PFHpA										
366.9 > 321.8	3.748	3.843	-0.095	1.000	286729	22.5		45.0	919	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.793	3.848	-0.055	1.003	16864	4.56			29.7	
D 13 18O2 PFHxS										
402.9 > 83.8	3.782	3.889	-0.107	1.000	133950	25.6		54.2	659	
* 49 13C2-PFOA										
414.9 > 369.8	4.449	4.505	-0.056		568761	50.0			4014	
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.449	4.505	-0.056	1.000	95294	12.3			110	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 M2-6:2FTS										
428.6 > 408.6	4.374	4.525	-0.151	1.000	20946	71.2		150	206	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.505	4.532	-0.027	0.858	1042	0.6249			6.0	M
D 17 13C4 PFOA										
416.9 > 371.8	4.449	4.567	-0.118	1.000	315308	30.4		60.8	1756	
19 Perfluorononanoic acid										
462.8 > 418.8	5.250	5.304	-0.054	1.003	13896	1.86			77.4	
20 Perfluorooctane sulfonic acid										Ma
498.8 > 79.8	5.250	5.304	-0.054	1.000	47813	17.5			256	M
D 21 13C5 PFNA										
467.8 > 422.8	5.236	5.363	-0.127	1.000	363845	32.4		64.8	1564	
D 22 13C4 PFOS										
502.8 > 79.8	5.250	5.382	-0.132	1.000	104527	27.0		56.5	706	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.046	6.070	-0.024	1.000	3311	0.3239			14.6	
D 23 M2-8:2FTS										
528.8 > 508.8	5.998	6.147	-0.149	1.000	171397	52.0		109	1362	
D 25 13C2 PFDA										
514.9 > 469.5	6.046	6.186	-0.140	1.000	525508	33.6		67.1	3268	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.403	6.530	-0.127	1.000	95107	25.7		51.5	457	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.804	6.832	-0.028	1.000	2022	0.1918			25.6	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.762	6.903	-0.141	1.000	104375	30.0		60.0	1229	
D 33 13C2 PFUnA										
564.8 > 519.8	6.804	6.942	-0.138	1.000	514957	35.0		70.1	5341	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	116590	19.5		39.0	646	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.497	7.497	0.0	1.000	1091	0.0616			13.0	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	500383	33.7		67.4	1565	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.636	8.666	-0.030	0.998	438	0.0478			3.2	M
712.8 > 168.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	542142	36.3		72.6	1239	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A30.d

Injection Date: 29-Jun-2018 00:22:25

Instrument ID: LC410

Lims ID: 200-44045-B-3-A

Lab Sample ID: 200-44045-3

Client ID: RXMW-7

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 30

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

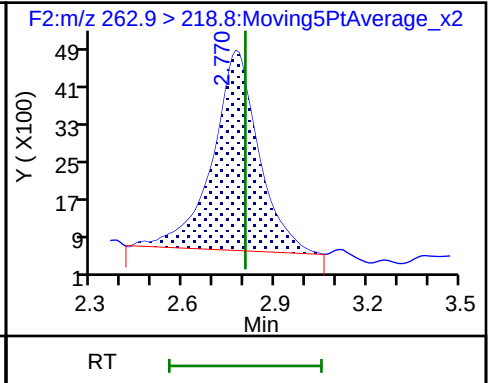
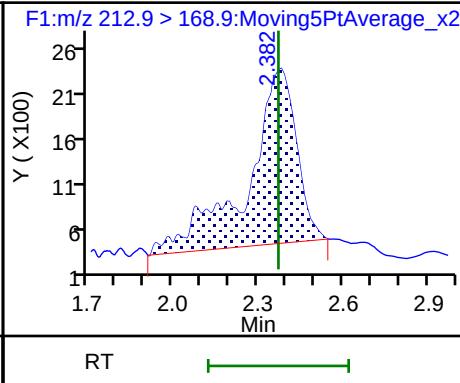
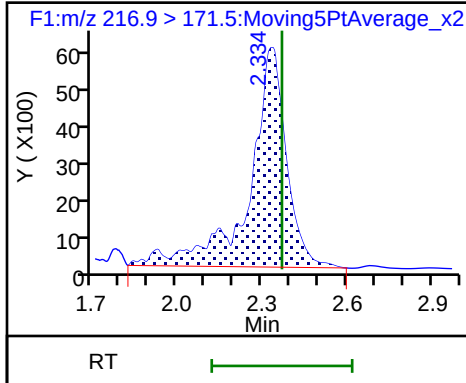
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

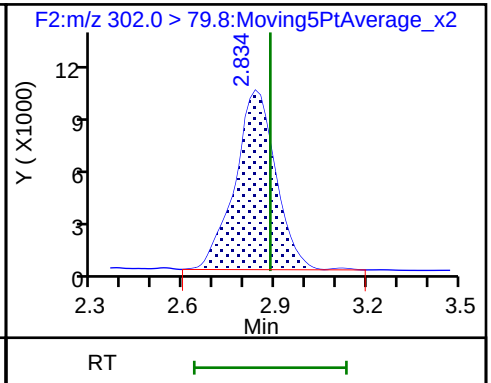
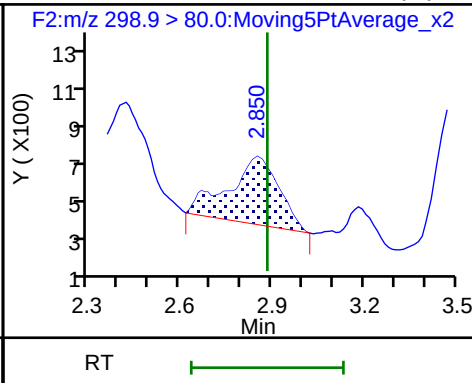
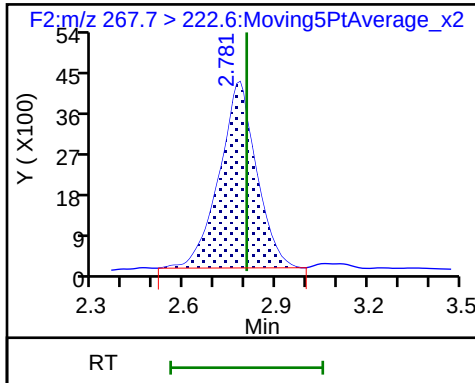
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (M)

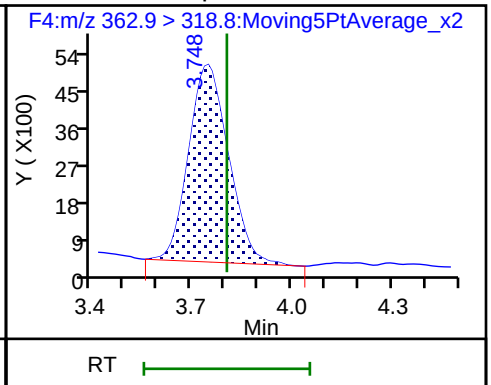
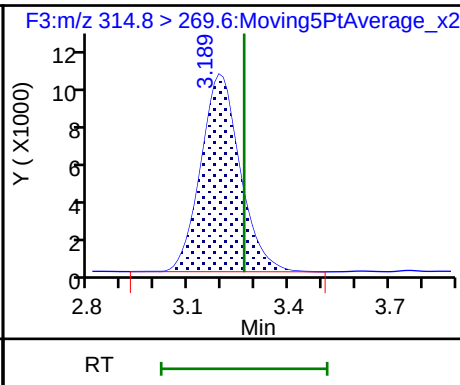
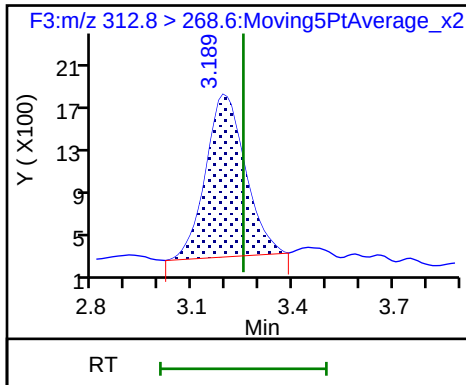
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

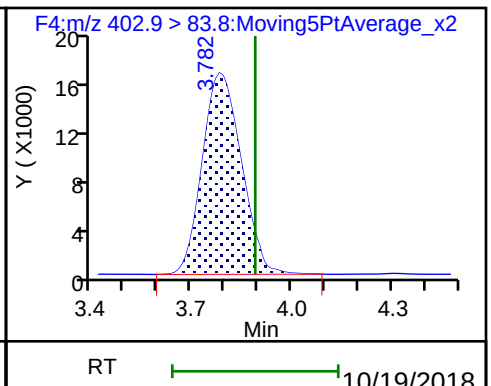
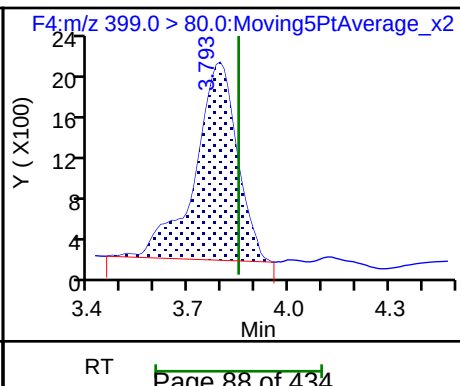
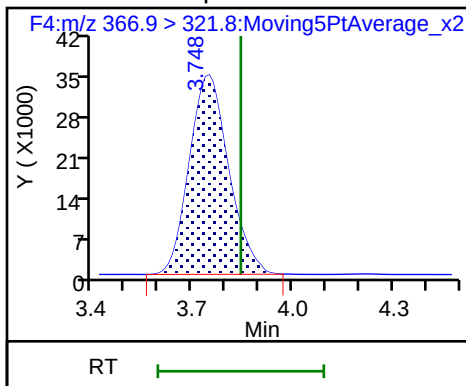
11 Perfluoroheptanoic acid



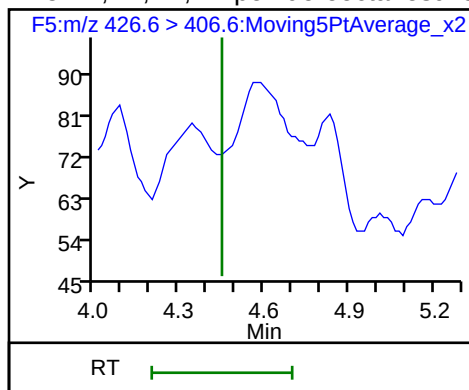
D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid

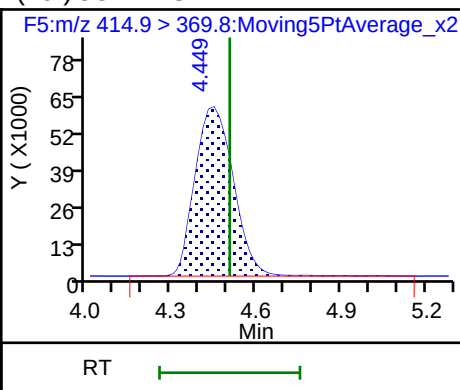
D 13 18O2 PFHxS



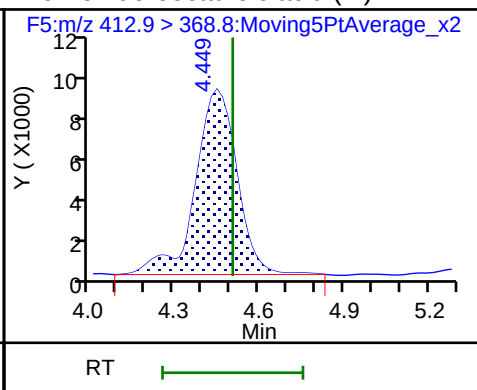
15 1H,1H,2H,2H-perfluorooctanesulfonate (M)



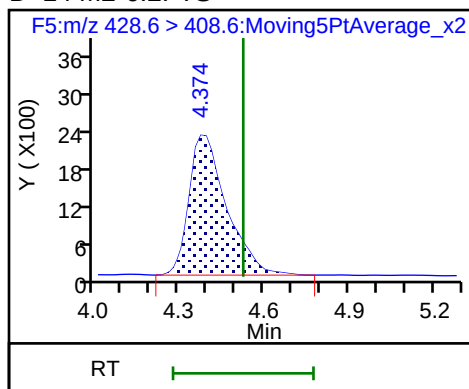
16 Perfluorooctanoic acid (M)



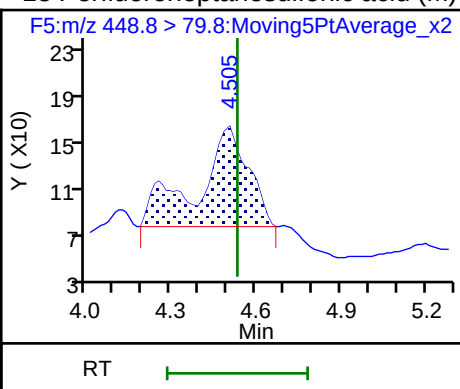
17 13C2-PFOA



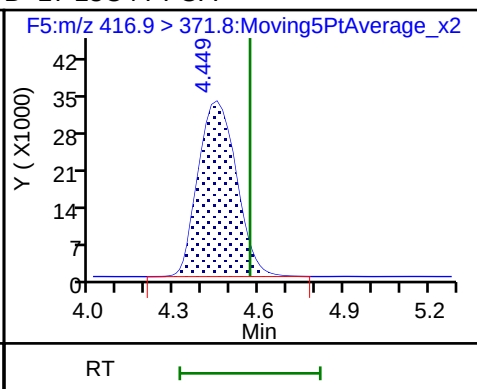
D 14 M2-6:2FTS



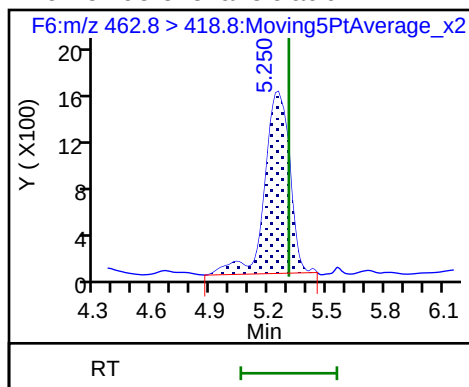
18 Perfluoroheptanesulfonic acid (M)



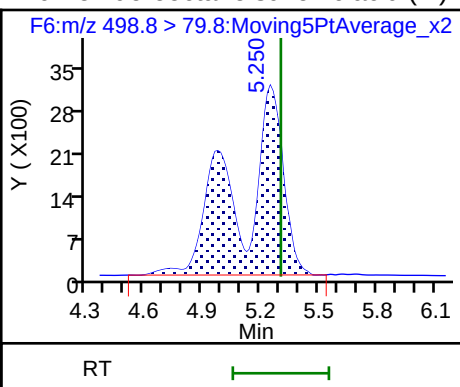
D 17 13C4 PFOA



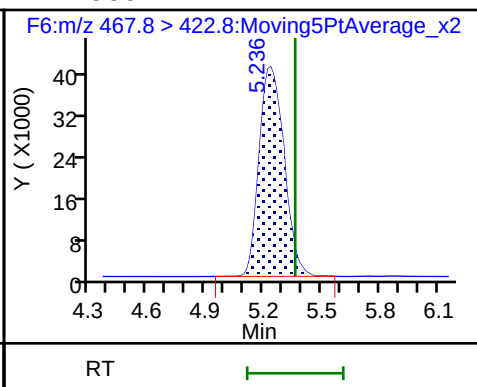
19 Perfluorononanoic acid



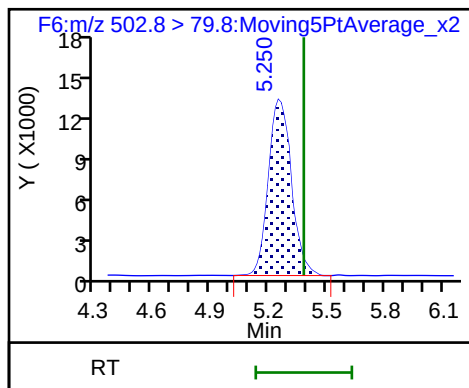
20 Perfluorooctane sulfonic acid (M)



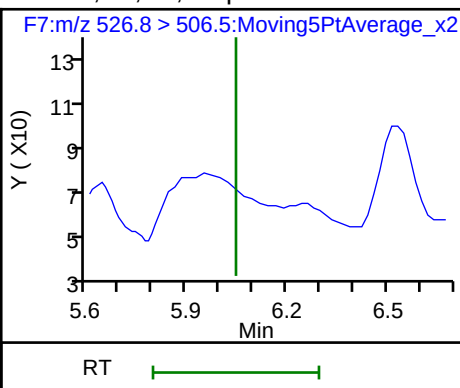
D 21 13C5 PFNA



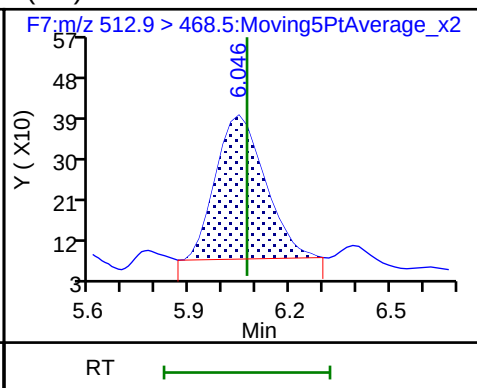
D 22 13C4 PFOS



24 1H,1H,2H,2H-perfluorodecanesulfonate (M)



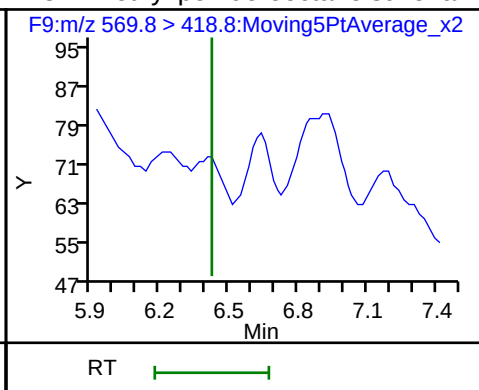
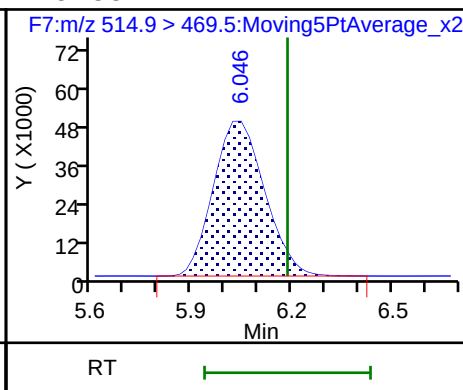
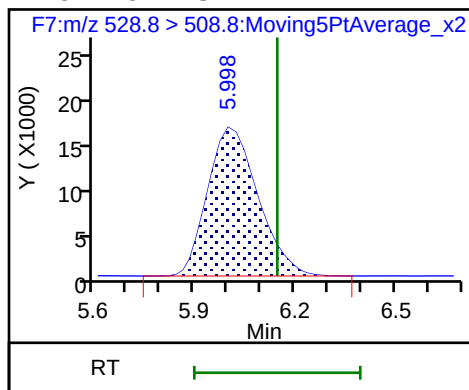
25 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

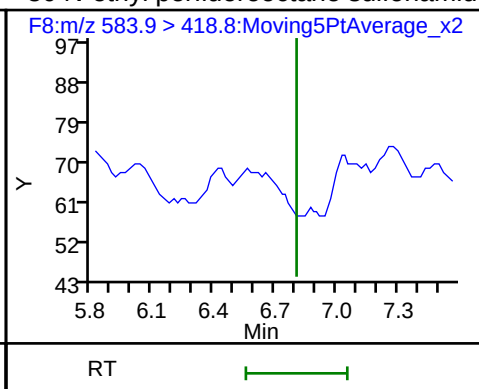
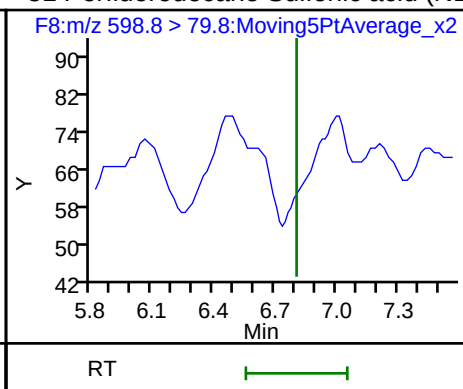
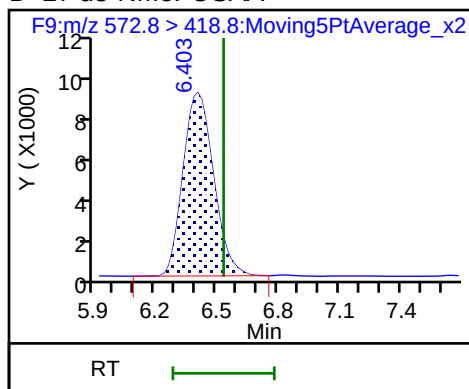
28 N-methyl perfluorooctane sulfonami (ND)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid (ND)

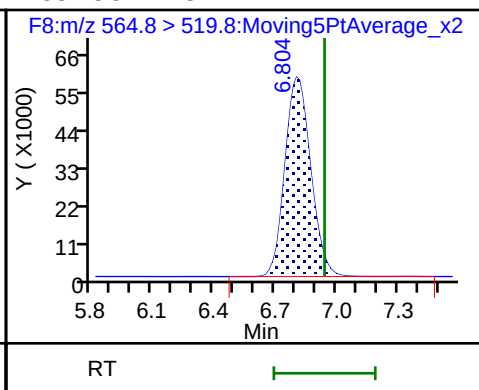
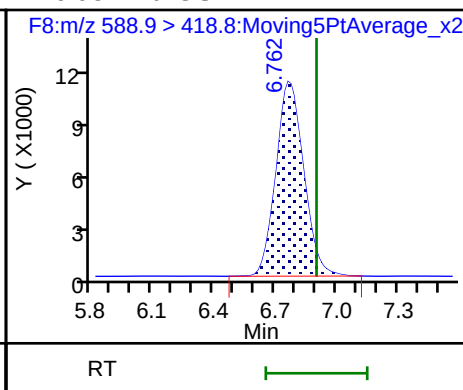
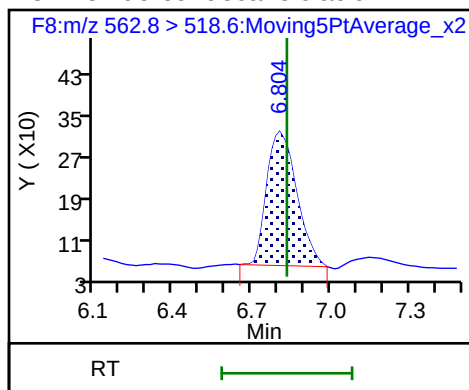
30 N-ethyl perfluorooctane sulfonamid (ND)



32 Perfluoroundecanoic acid

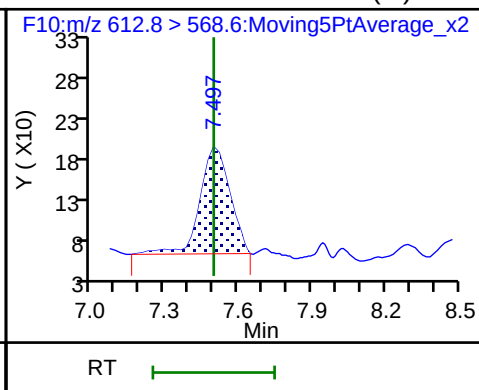
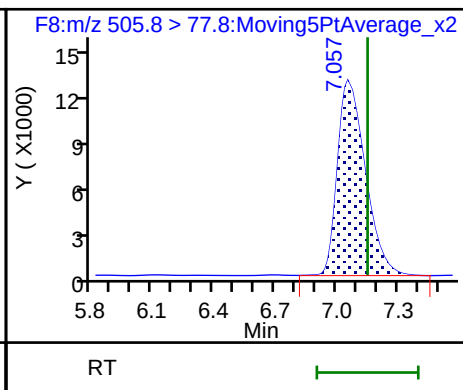
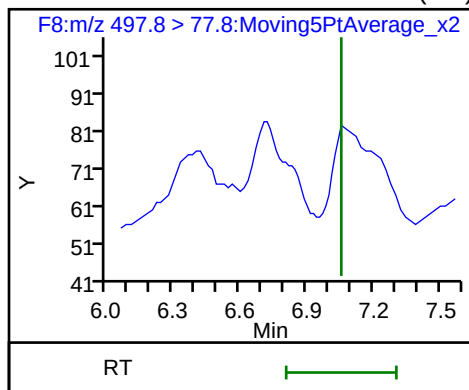
D 29 d5-NEtFOSAA

D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (ND) D 35 13C8 FOSA

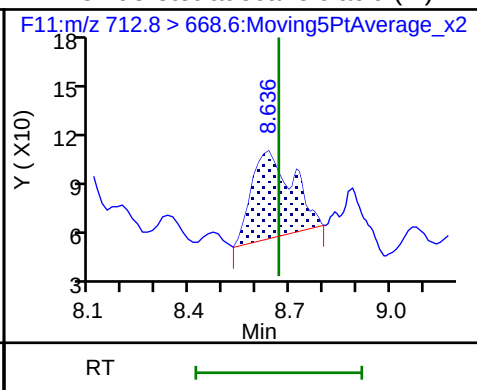
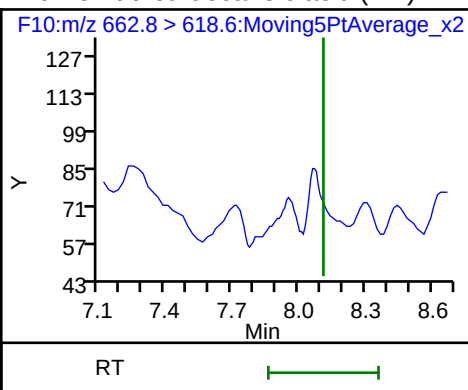
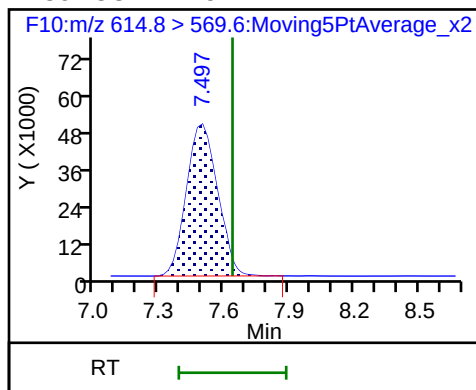
37 Perfluorododecanoic acid (M)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid (ND)

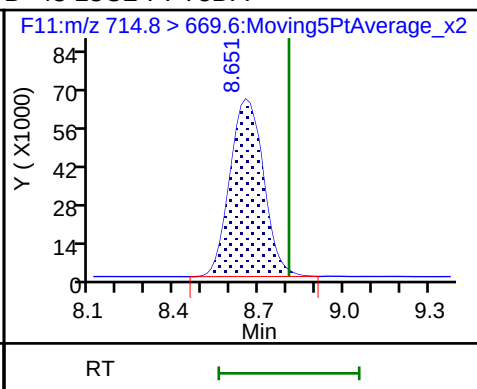
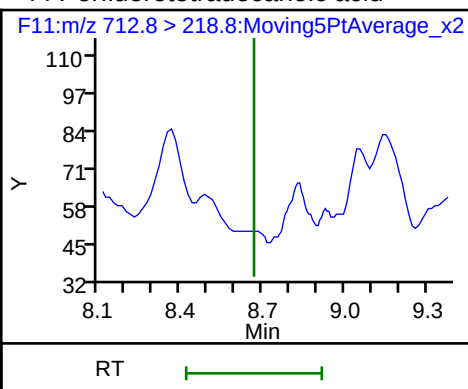
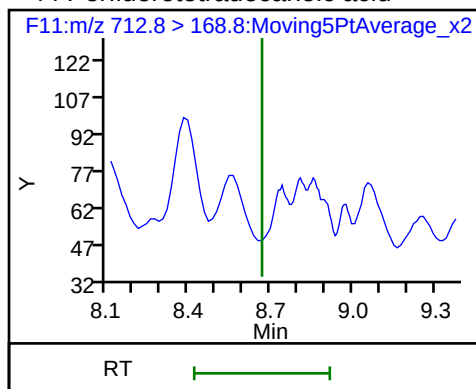
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

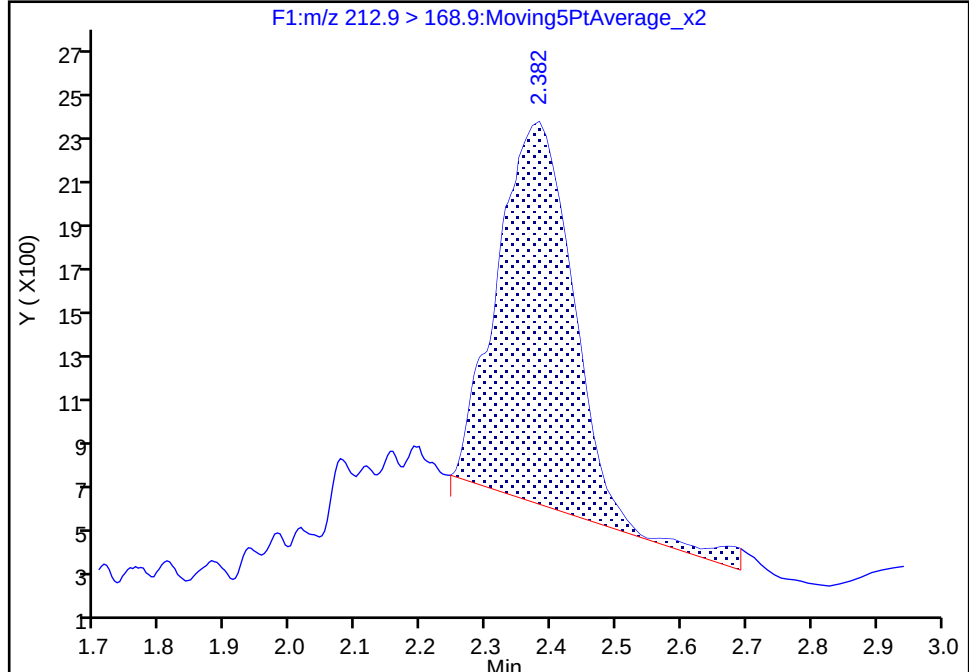
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Injection Date:	29-Jun-2018 00:22:25	Instrument ID:	LC410
Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3
Client ID:	RXMW-7		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	30

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

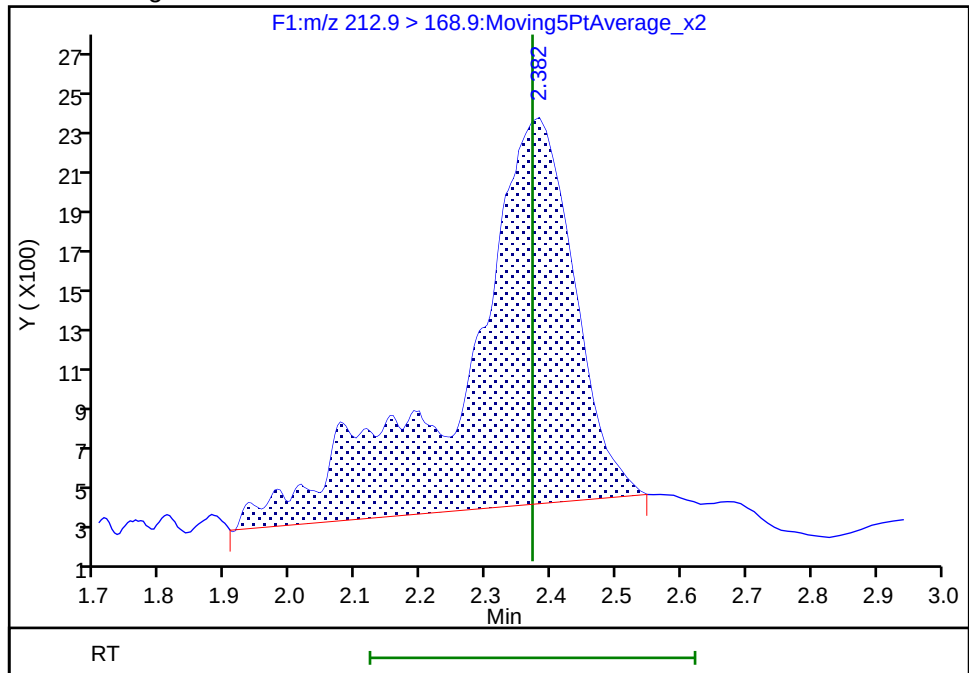
RT: 2.38
Area: 14228
Amount: 13.154867
Amount Units: ng/ml

Processing Integration Results



RT: 2.38
Area: 23270
Amount: 21.710066
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:37:31
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 92 of 434

10/19/2018

TestAmerica Burlington

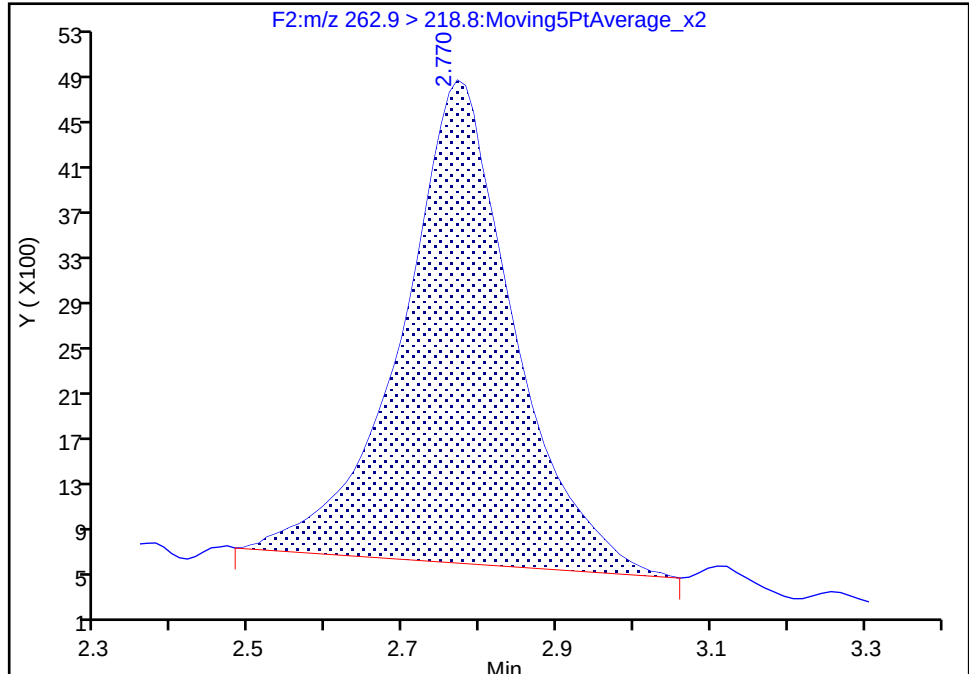
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Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3		
Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F2:MRM		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

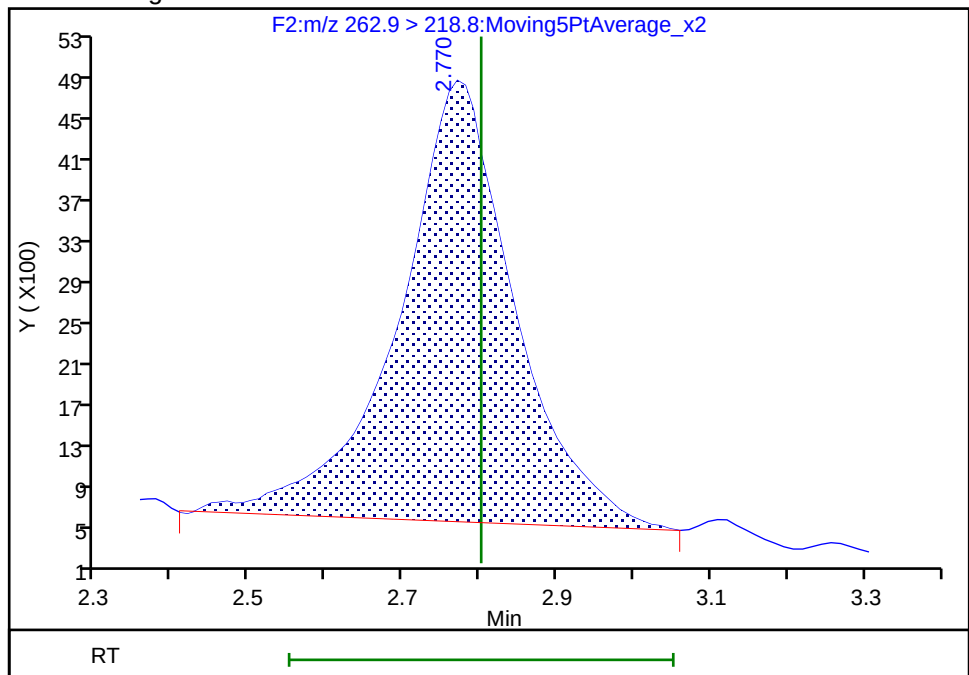
RT: 2.77
Area: 42606
Amount: 14.036530
Amount Units: ng/ml

Processing Integration Results



RT: 2.77
Area: 44437
Amount: 14.641605
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:37:41
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 93 of 434

10/19/2018

TestAmerica Burlington

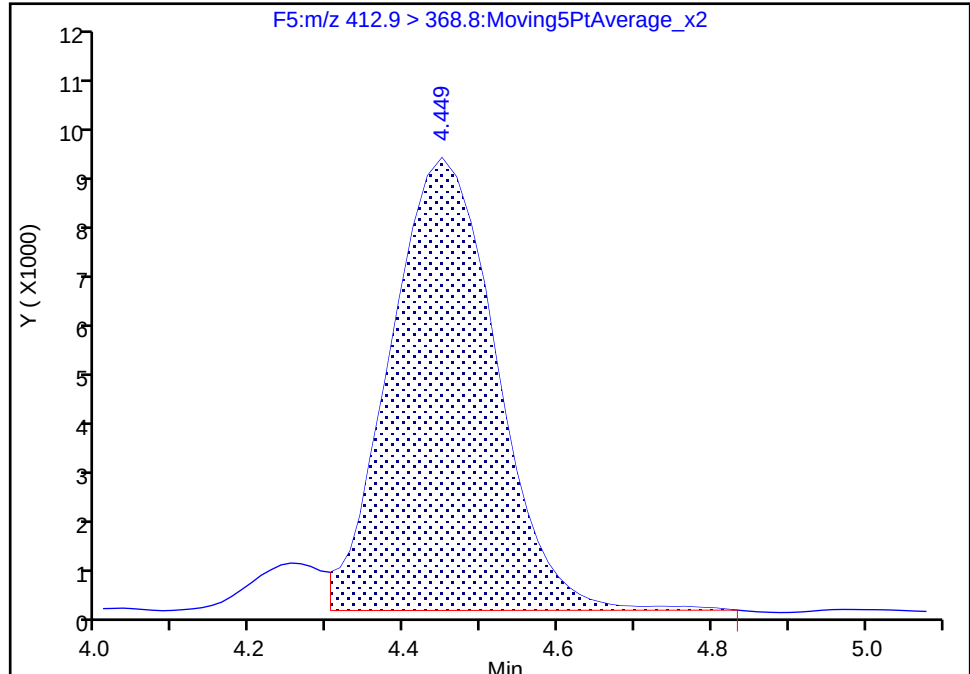
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Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3		
Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F5:MRM		

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

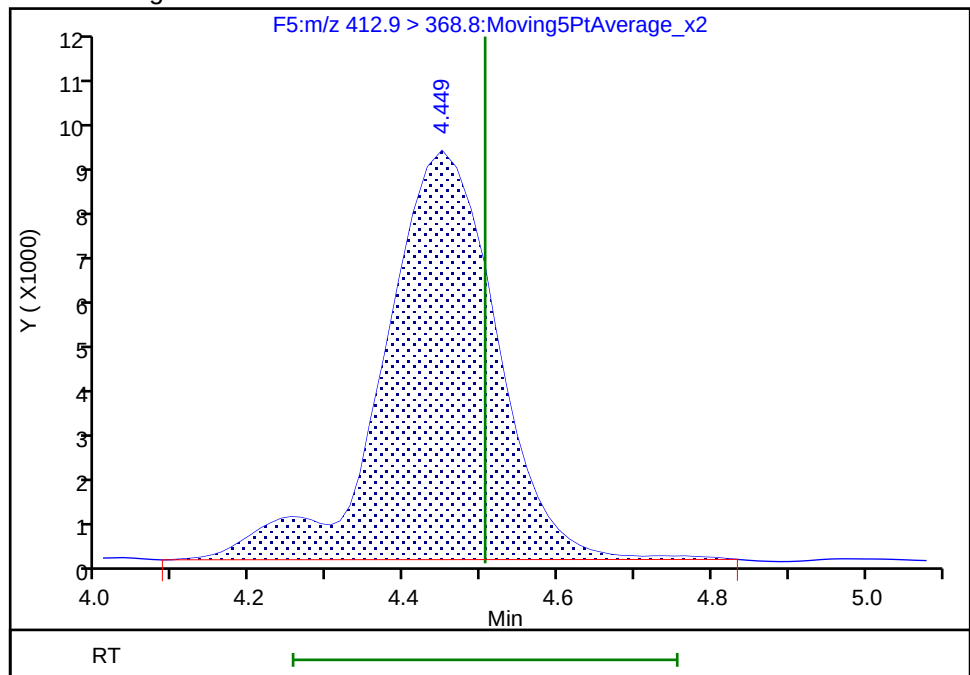
RT: 4.45
Area: 89007
Amount: 11.516889
Amount Units: ng/ml

Processing Integration Results



RT: 4.45
Area: 95294
Amount: 12.319004
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:38:23
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 94 of 434

10/19/2018

TestAmerica Burlington

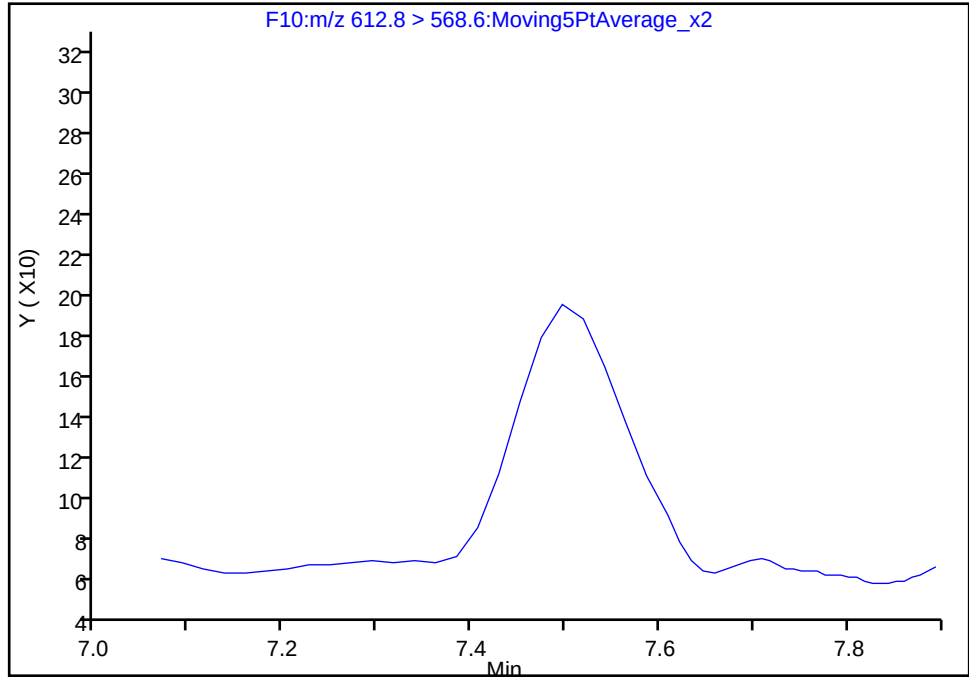
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Injection Date:	29-Jun-2018 00:22:25	Instrument ID:	LC410		
Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3		
Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F10:MRM		

37 Perfluorododecanoic acid, CAS: 307-55-1

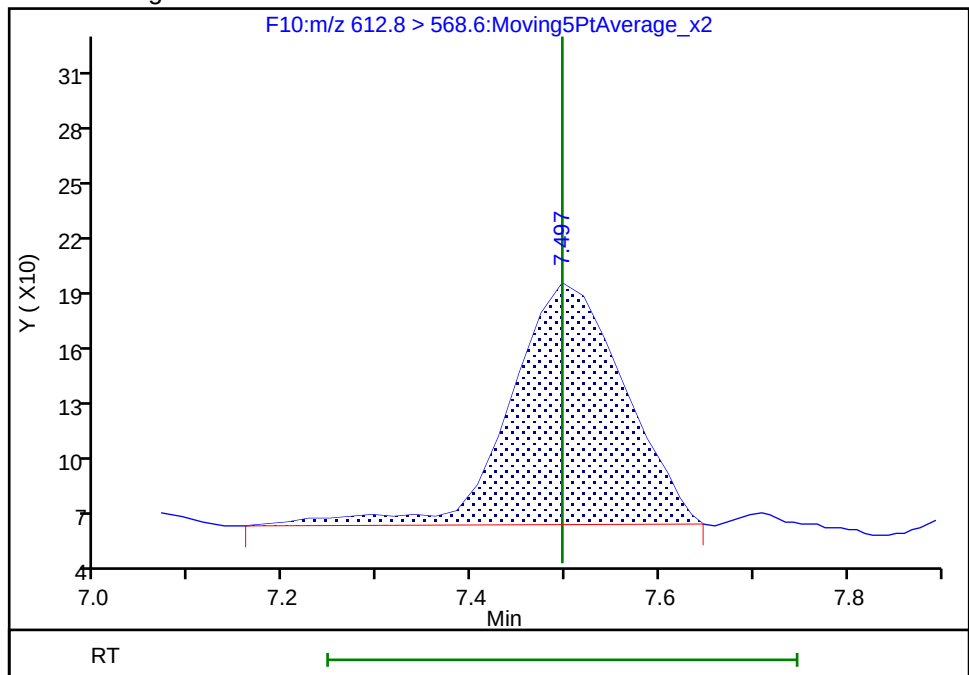
Signal: 1

Not Detected
Expected RT: 7.50

Processing Integration Results



Manual Integration Results



RT: 7.50
Area: 1091
Amount: 0.061565
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 16:39:52
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 95 of 434

10/19/2018

TestAmerica Burlington

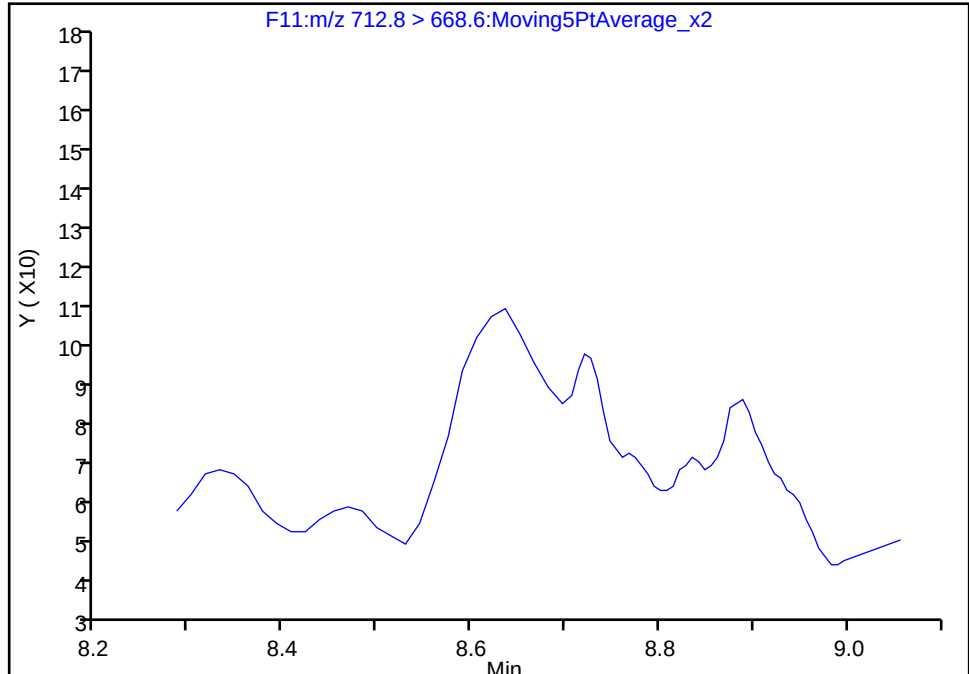
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Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3		
Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector:	F11:MRM		

44 Perfluorotetradecanoic acid, CAS: 376-06-7

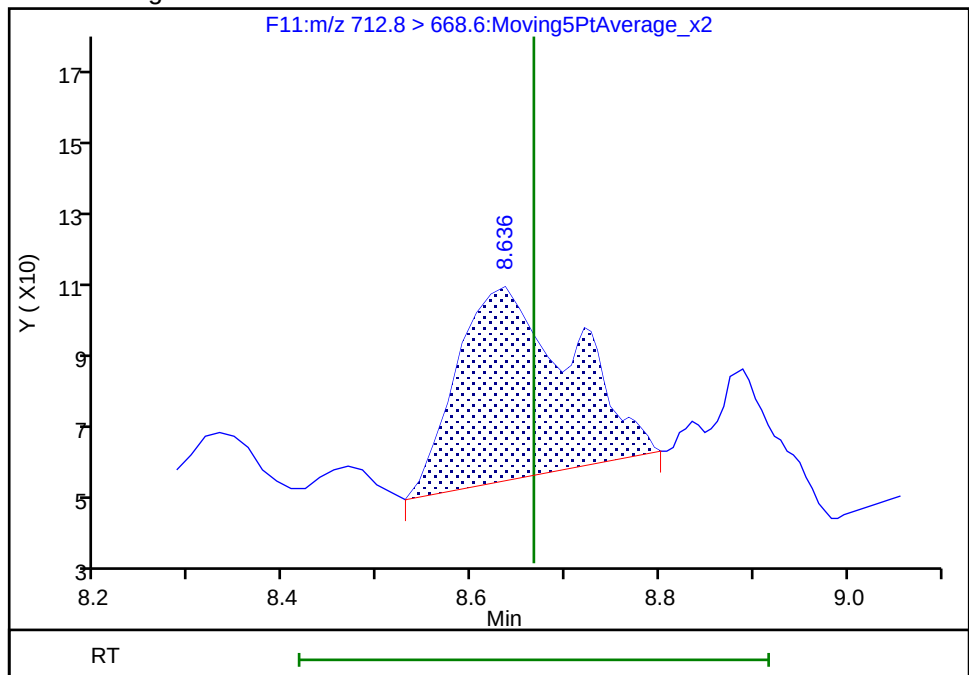
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:40:07
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

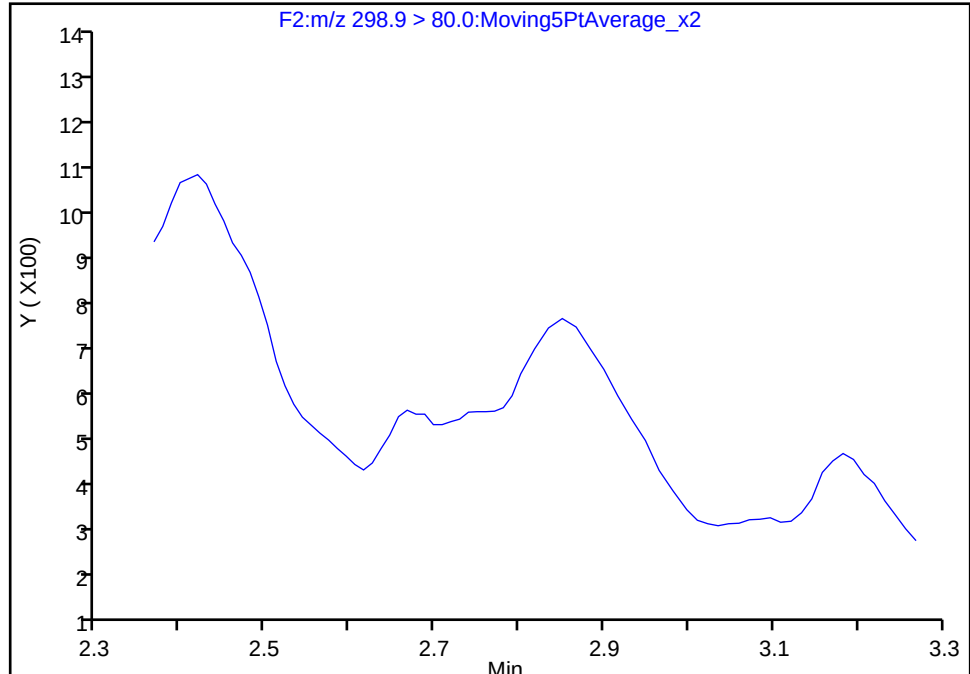
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Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

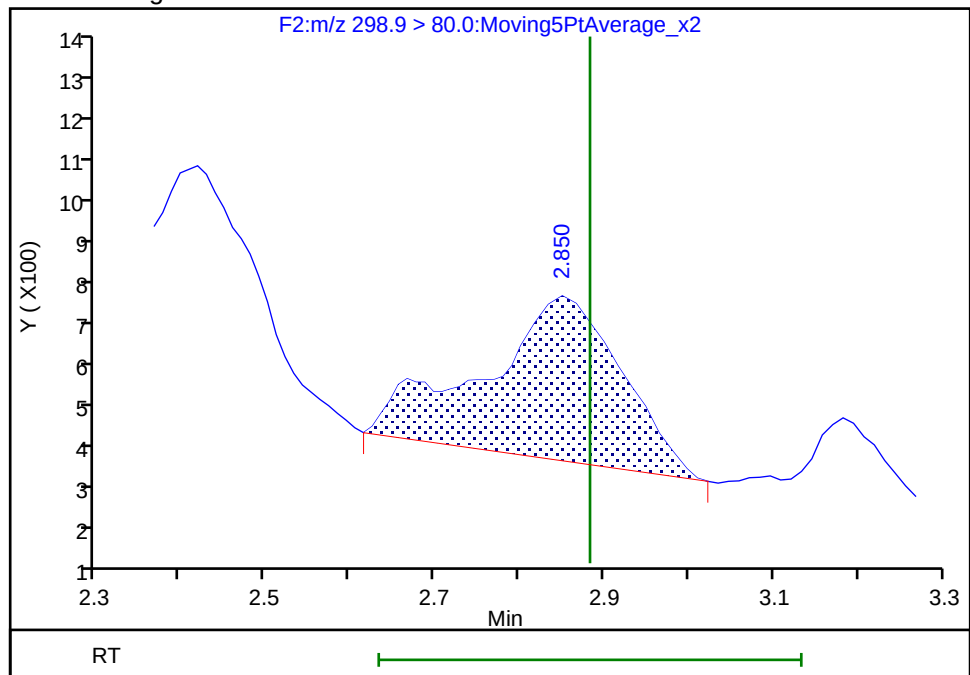
Signal: 1

Not Detected
Expected RT: 2.88

Processing Integration Results



Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:38:01
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

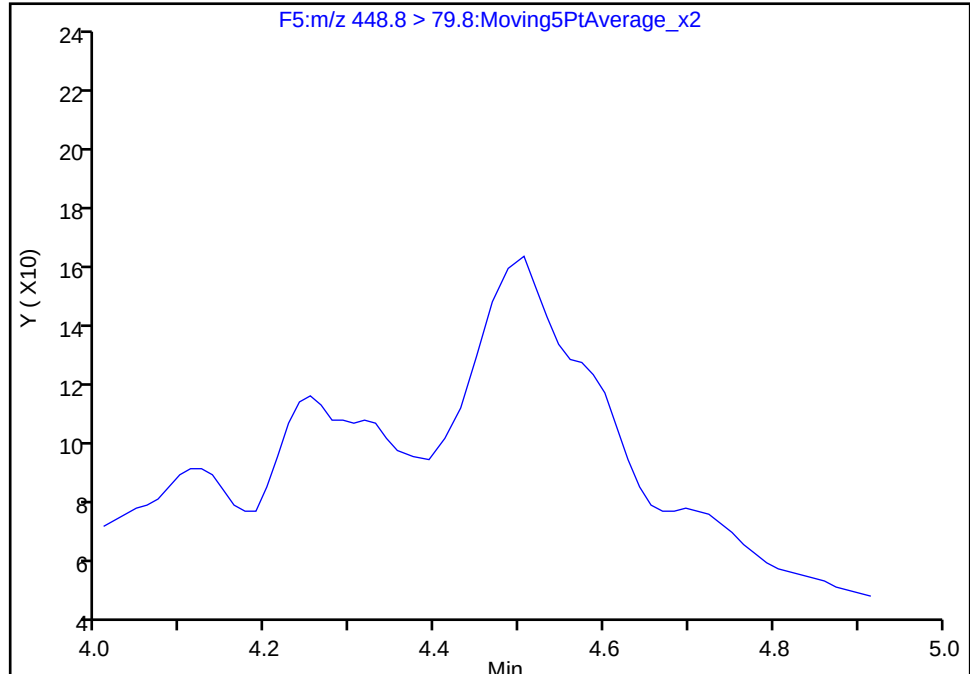
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Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

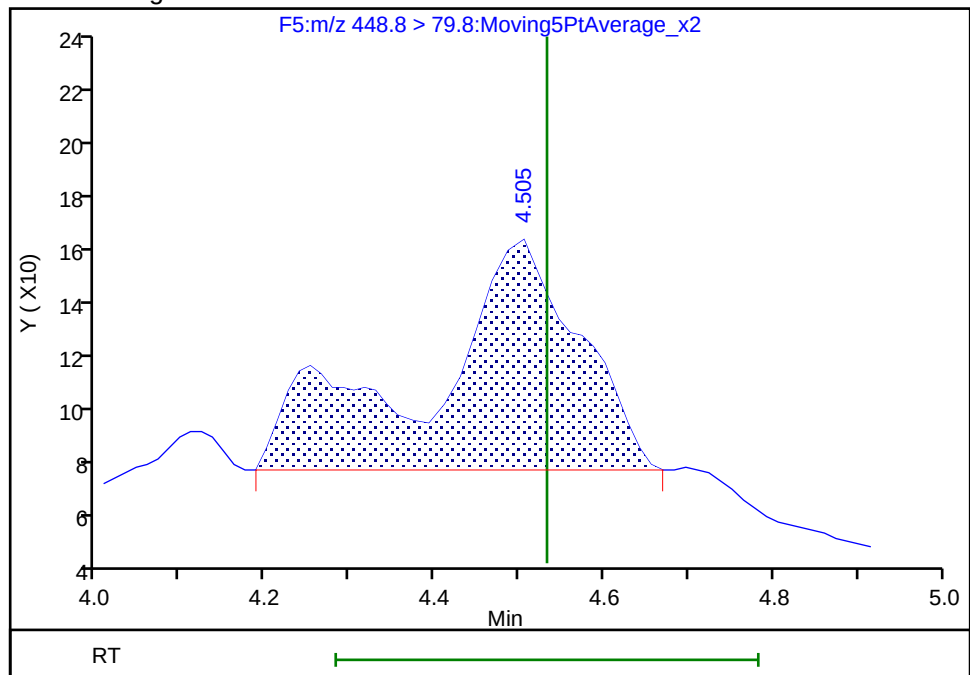
Signal: 1

Not Detected
Expected RT: 4.53

Processing Integration Results



Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:38:40
Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

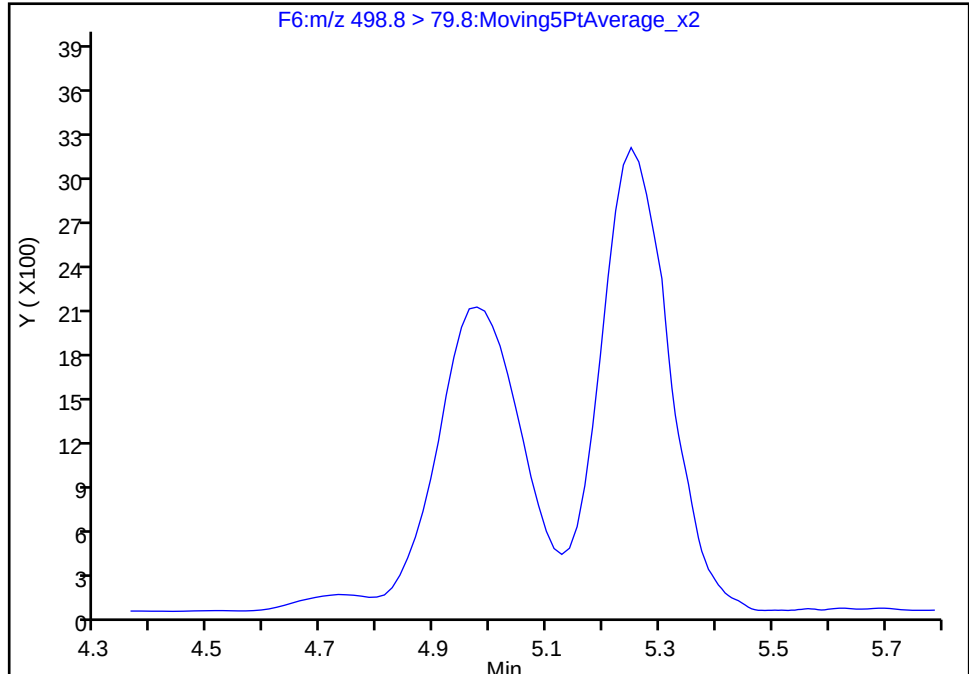
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Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3		
Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F6:MRM		

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

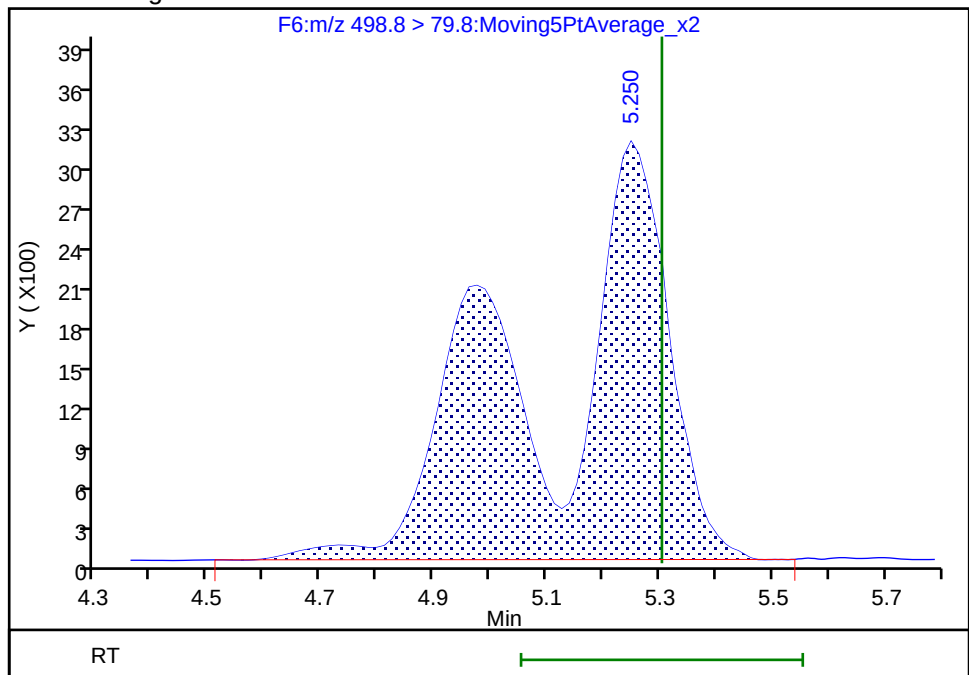
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results

RT: 5.25
Area: 47813
Amount: 17.477456
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 16:38:55
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

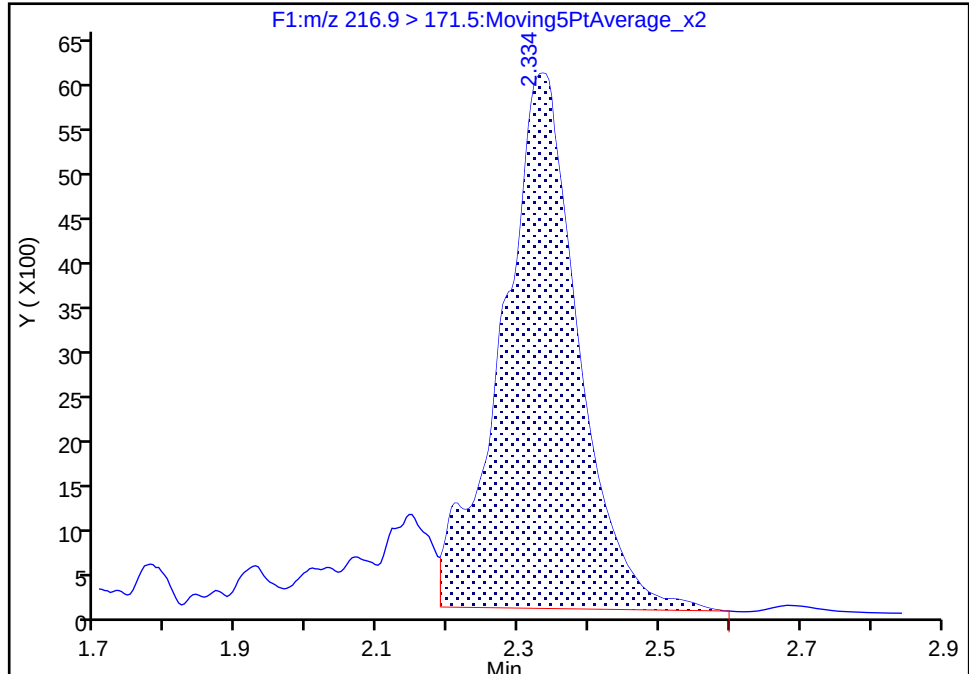
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Lims ID:	200-44045-B-3-A	Lab Sample ID:	200-44045-3		
Client ID:	RXMW-7				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector:	F1:MRM		

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

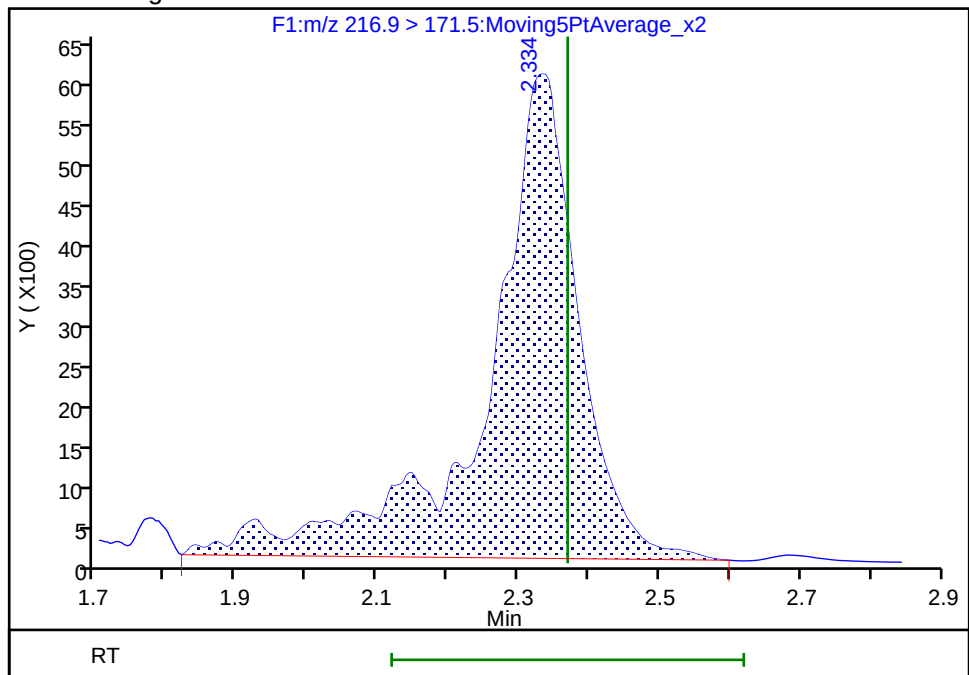
RT: 2.33
Area: 44949
Amount: 7.411403
Amount Units: ng/ml

Processing Integration Results



RT: 2.33
Area: 54510
Amount: 8.987866
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:37:12

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>DUP062118</u>	Lab Sample ID: <u>200-44045-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A31.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:45</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>300.1 (mL)</u>	Date Analyzed: <u>06/29/2018 00:38</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	47.0	B	1.67	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	25.5		1.67	0.62
307-24-4	Perfluorohexanoic acid (PFHxA)	17.4	B	1.67	0.20
375-85-9	Perfluoroheptanoic acid (PFHpA)	17.7	B	1.67	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	65.6	B	1.67	0.27
375-95-1	Perfluorononanoic acid (PFNA)	1.32	J	1.67	0.32
335-76-2	Perfluorodecanoic acid (PFDA)	0.37	J	1.67	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.67	U	1.67	0.21
307-55-1	Perfluorododecanoic acid (PFDoA)	1.67	U	1.67	0.29
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.67	U	1.67	0.20
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.67	U	1.67	0.37
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.76		1.67	0.37
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15.0	B	1.67	0.22
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	3.81	B	1.67	0.68
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.67	U	1.67	0.44
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	28.2		1.67	0.63
754-91-6	Perfluorooctanesulfonamide (FOSA)	1.67	U	1.67	0.47
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.67	U	1.67	0.37
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.67	U	1.67	0.58
27619-97-2	6:2 FTS	1.67	U	1.67	0.83
39108-34-4	8:2 FTS	1.67	U	1.67	0.47

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>DUP062118</u>	Lab Sample ID: <u>200-44045-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A31.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:45</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>300.1 (mL)</u>	Date Analyzed: <u>06/29/2018 00:38</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	70		25-150
STL00992	13C4 PFBA	21		25-150
STL01893	13C5-PFPeA DNU	30		25-150
STL00993	13C2 PFHxA	49		25-150
STL01892	13C4 PFHpA	69		25-150
STL00990	13C4 PFOA	86		25-150
STL00995	13C5 PFNA	109		25-150
STL00996	13C2 PFDA	101		25-150
STL00997	13C2 PFUnA	119		25-150
STL00998	13C2 PFDoA	97		25-150
STL02116	13C2 PFTeDA	96		25-150
STL02337	13C3 PFBS	65		25-150
STL00994	18O2 PFHxS	86		25-150
STL00991	13C4 PFOS	92		25-150
STL02118	d3-NMeFOSAA	92		25-150
STL02117	d5-NEtFOSAA	97		25-150
STL02279	M2-6:2 FTS	231		25-150
STL02280	M2-8:2 FTS	213		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d
 Lims ID: 200-44045-B-4-A
 Client ID: DUP062118
 Sample Type: Client
 Inject. Date: 29-Jun-2018 00:38:39 ALS Bottle#: 0 Worklist Smp#: 31
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-031 4
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 16:42:42

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	2.306	2.370	-0.064	1.000	50158	10.6		21.3	45.9	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.433	2.371	0.062	1.055	27720	28.2			3.6	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.739	2.801	-0.062	1.000	35988	15.3			12.1	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.739	2.802	-0.063	1.000	27286	15.0		29.9	19.6	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.801	2.883	-0.082	1.004	11096	3.46			5.1	
D 5 13C3-PFBS										
302.0 > 79.8	2.791	2.883	-0.092	1.000	101030	30.3		65.3	112	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.250	-0.086	1.004	20004	10.4			40.9	
D 7 13C2 PFHxA										
314.8 > 269.6	3.152	3.265	-0.113	1.000	89937	24.5		49.0	309	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.692	3.804	-0.112	0.997	81192	10.6			76.8	
D 10 13C4-PFHpA										
366.9 > 321.8	3.703	3.843	-0.140	1.000	340569	34.3		68.7	1445	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.737	3.848	-0.111	1.000	41372	8.98			55.5	
D 13 18O2 PFHxS										
402.9 > 83.8	3.737	3.889	-0.152	1.000	165051	40.6		85.8	1380	
* 49 13C2-PFOA										
414.9 > 369.8	4.393	4.505	-0.112		442133	50.0			1541	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.393	4.505	-0.112	0.996	337196	39.4			507	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 M2-6:2FTS										
428.6 > 408.6	4.342	4.525	-0.183	1.000	25136	109.9		231	122	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.430	4.532	-0.102	0.848	5986	2.29			39.5	M
D 17 13C4 PFOA										
416.9 > 371.8	4.411	4.567	-0.156	1.000	345912	42.9		85.8	827	
19 Perfluorononanoic acid										
462.8 > 418.8	5.209	5.304	-0.095	1.003	7575	0.7899			50.8	
20 Perfluorooctane sulfonic acid										Ma
498.8 > 79.8	4.935	5.304	-0.369	0.945	58366	16.9			305	M
D 21 13C5 PFNA										
467.8 > 422.8	5.195	5.363	-0.168	1.000	473724	54.3		109	813	
D 22 13C4 PFOS										
502.8 > 79.8	5.222	5.382	-0.160	1.000	132043	43.9		91.8	990	
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.166	6.070	0.096	1.028	2562	0.2196			5.9	M
D 23 M2-8:2FTS										
528.8 > 508.8	5.974	6.147	-0.173	1.000	260579	101.8		213	2037	
D 25 13C2 PFDA										
514.9 > 469.5	5.998	6.186	-0.188	1.000	616603	50.7		101	2429	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.367	6.530	-0.163	1.000	132595	46.2		92.3	812	
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.832	6.832	0.0	1.006	1108	0.0727			4.8	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.748	6.903	-0.155	1.000	130646	48.3		96.6	1281	
D 33 13C2 PFUnA										
564.8 > 519.8	6.791	6.942	-0.151	1.000	680917	59.6		119	4963	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	161923	34.8		69.6	806	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.452	7.497	-0.045	0.997	637	0.008075			6.2	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.474	7.636	-0.162	1.000	562158	48.7		97.3	2069	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	558286	48.1		96.1	1126	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d

Injection Date: 29-Jun-2018 00:38:39

Instrument ID: LC410

Lims ID: 200-44045-B-4-A

Lab Sample ID: 200-44045-4

Client ID: DUP062118

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 31

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

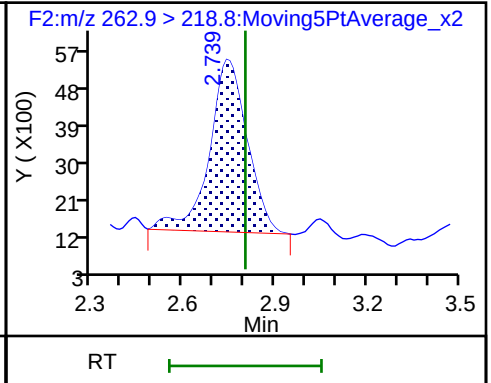
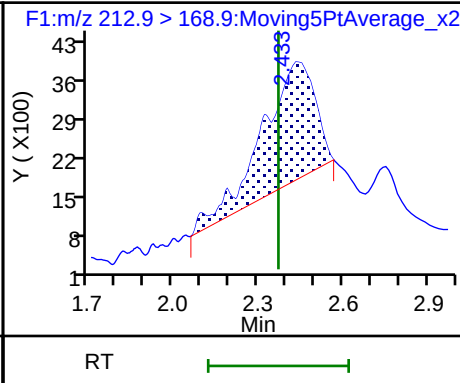
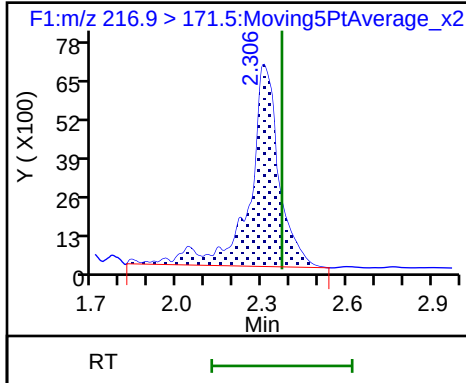
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

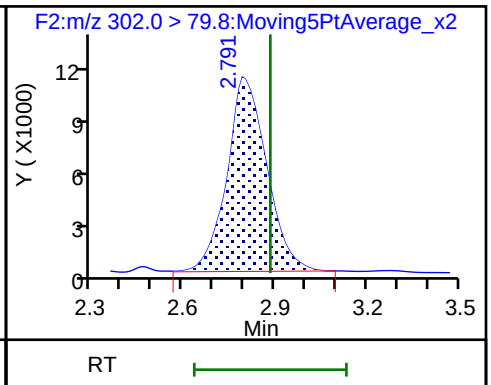
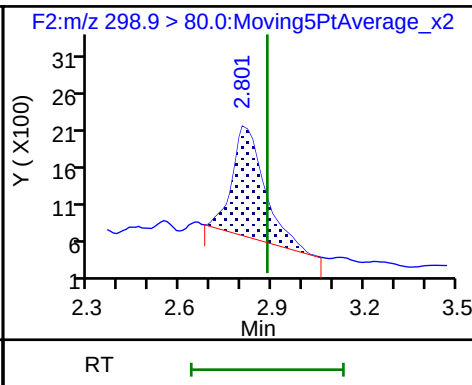
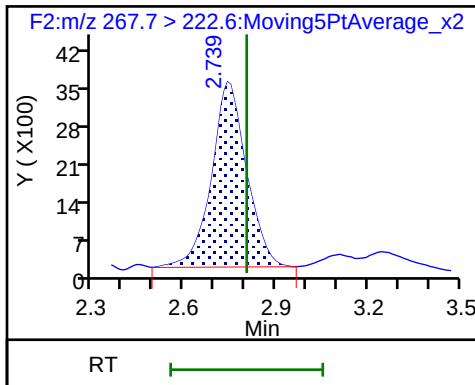
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid

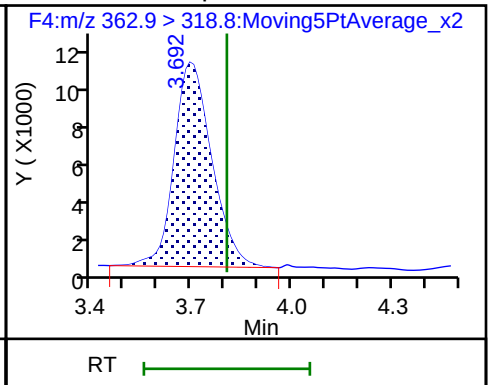
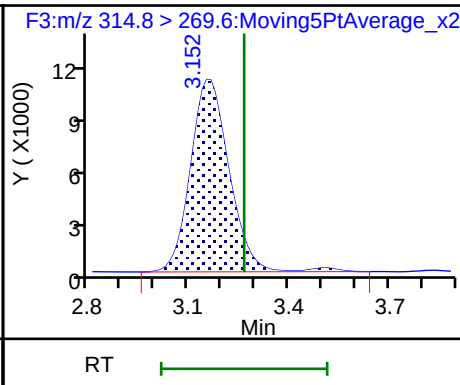
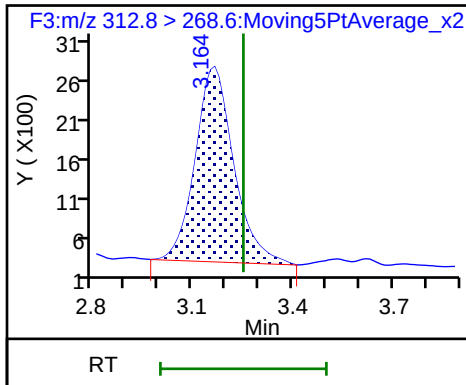
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

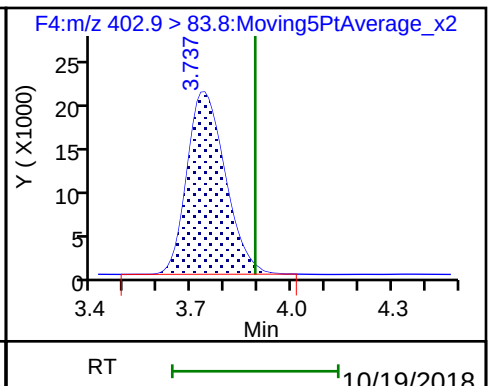
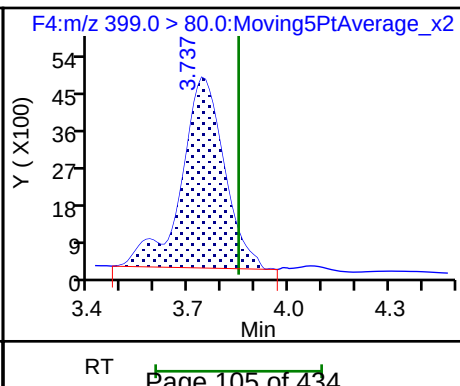
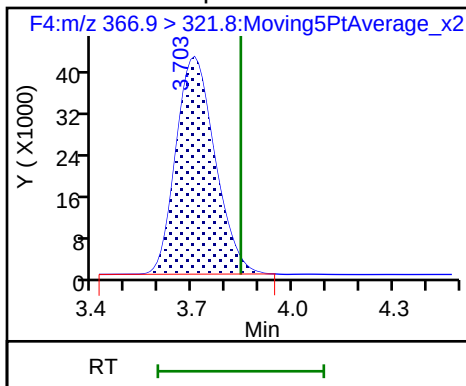
11 Perfluoroheptanoic acid



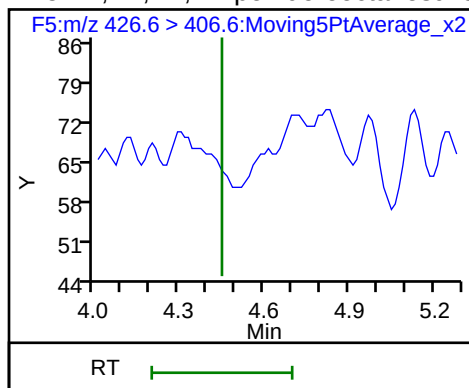
D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid

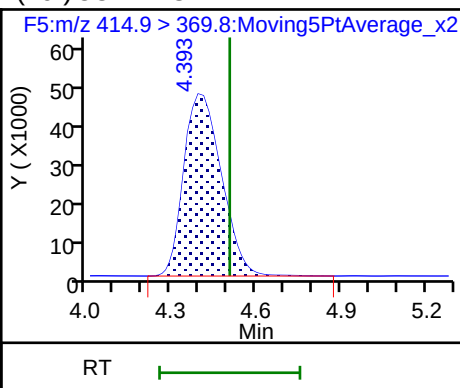
D 13 18O2 PFHxS



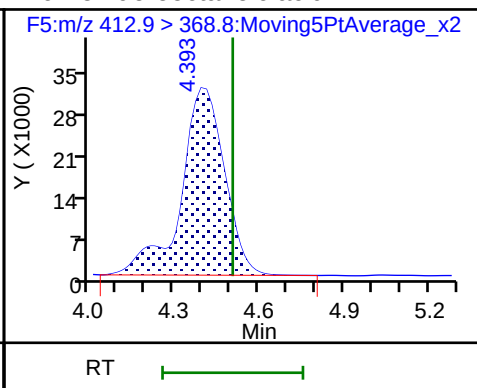
15 1H,1H,2H,2H-perfluorooctanesulfonate (M)



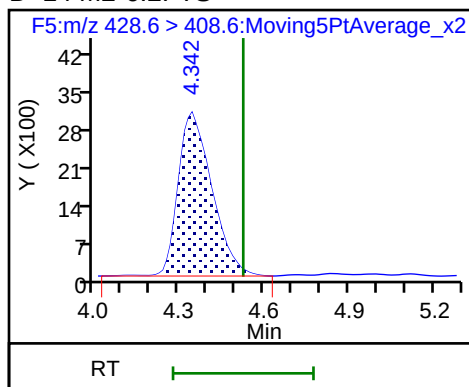
16 Perfluorooctanoic acid



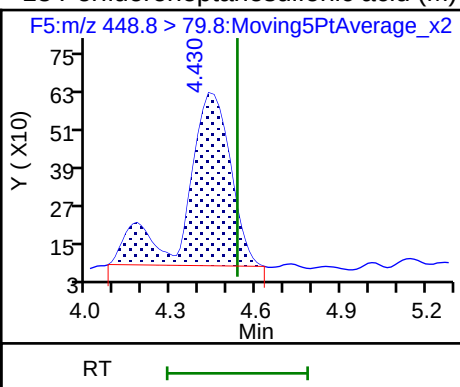
17 13C4 PFOA



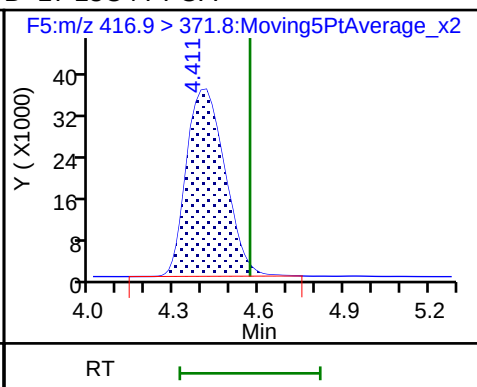
D 14 M2-6:2FTS



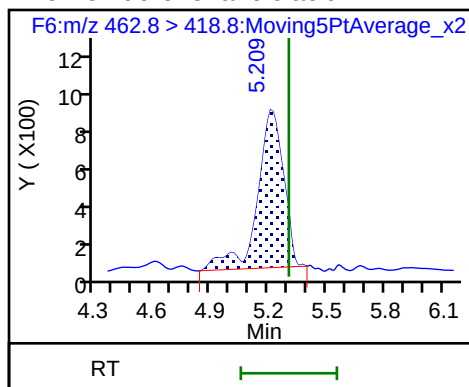
18 Perfluoroheptanesulfonic acid (M)



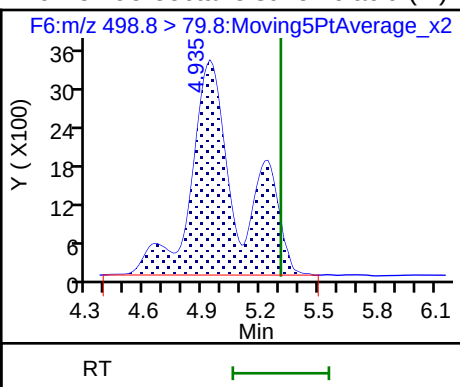
D 17 13C4 PFOA



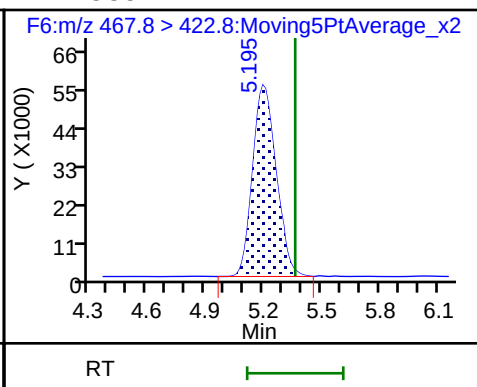
19 Perfluorononanoic acid



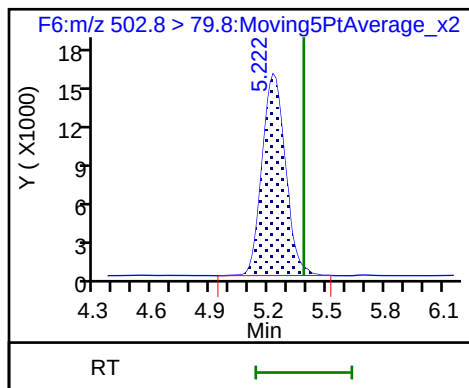
20 Perfluorooctane sulfonic acid (M)



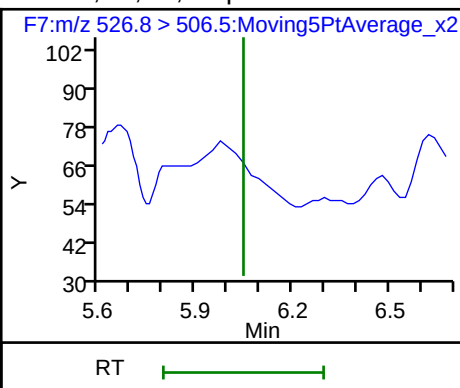
D 21 13C5 PFNA



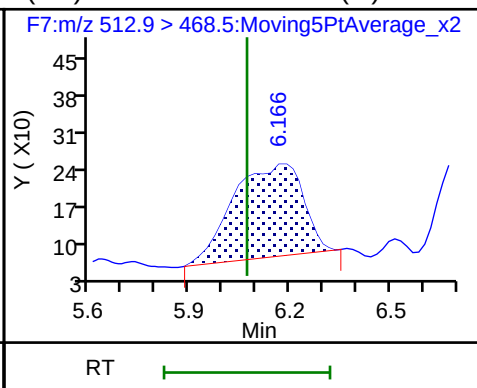
D 22 13C4 PFOS



24 1H,1H,2H,2H-perfluorodecanesulfonate (M)



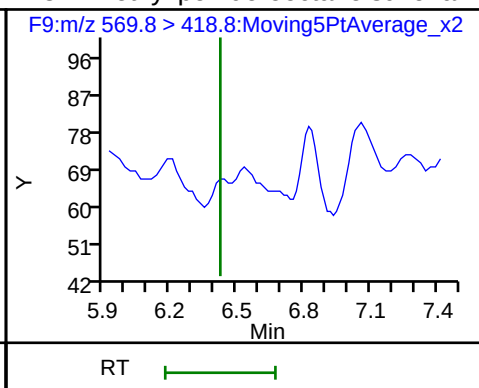
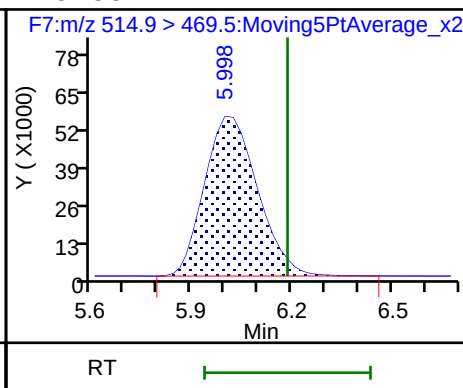
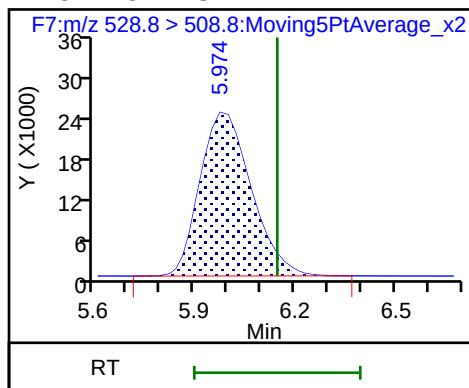
25 Perfluorodecanoic acid (M)



D 23 M2-8:2FTS

D 25 13C2 PFDA

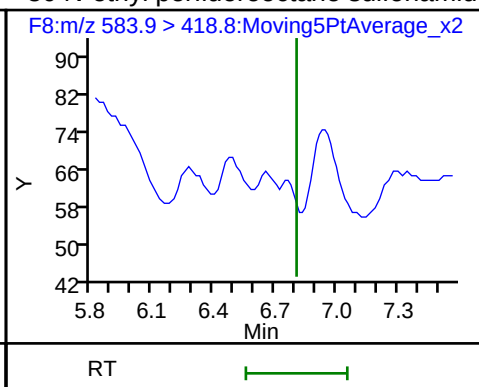
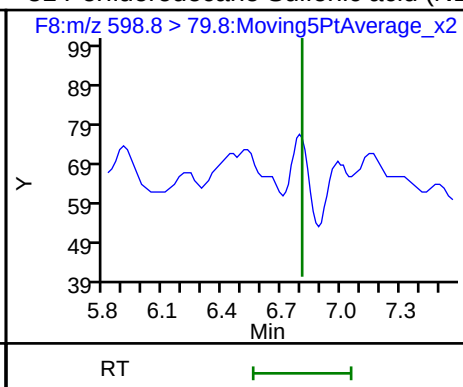
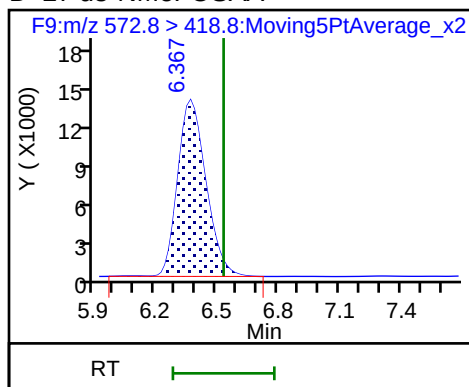
28 N-methyl perfluorooctane sulfonami (ND)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid (ND)

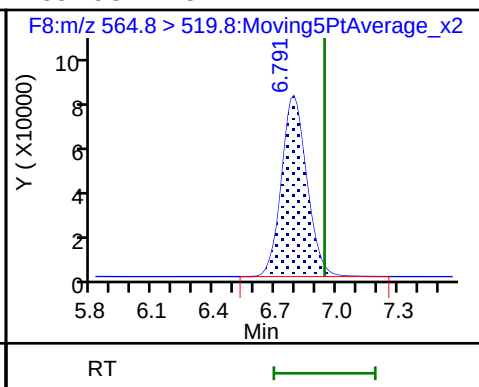
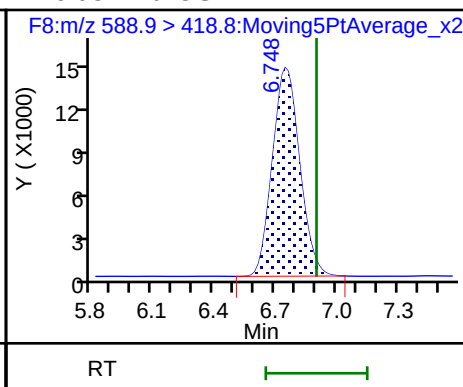
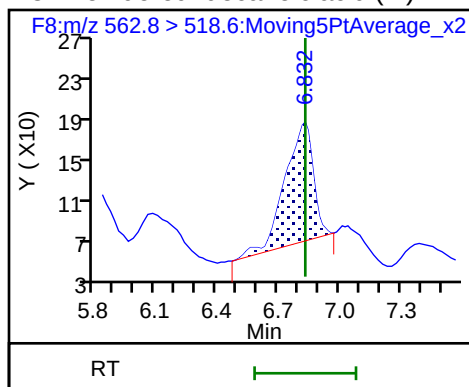
30 N-ethyl perfluorooctane sulfonamid (ND)



32 Perfluoroundecanoic acid (M)

D 29 d5-NEtFOSAA

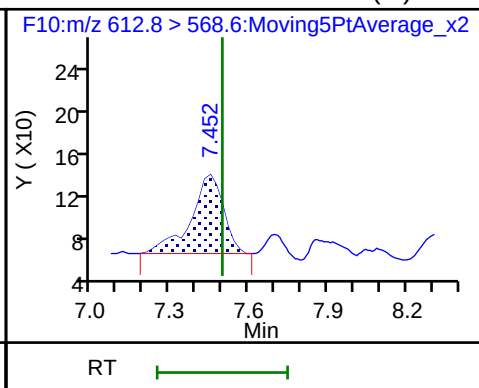
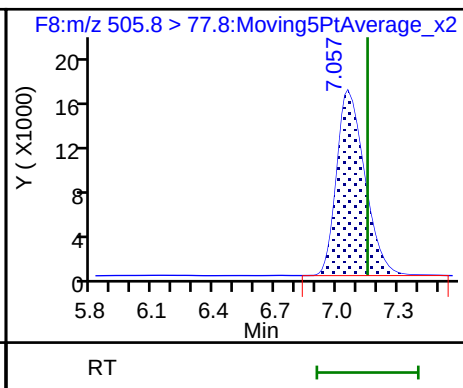
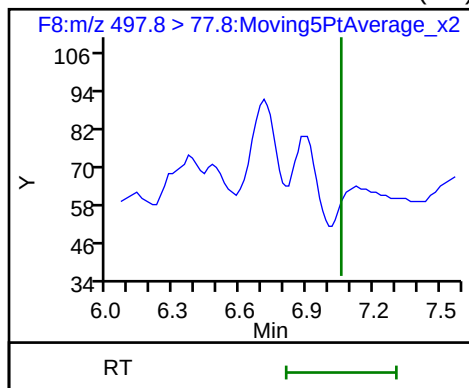
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (ND)

D 35 13C8 FOSA

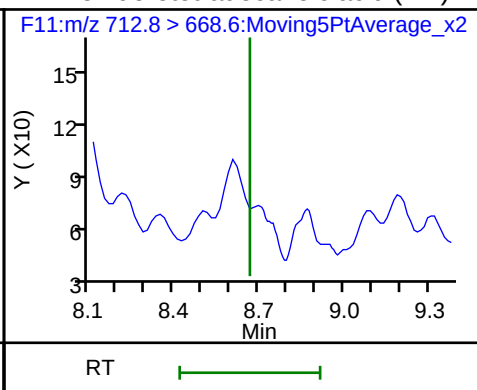
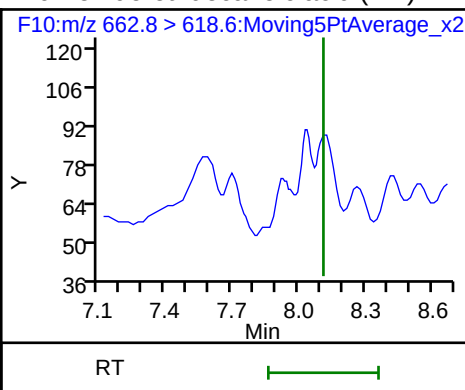
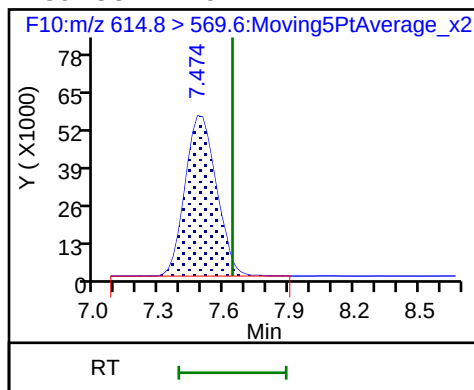
37 Perfluorododecanoic acid (M)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid (ND)

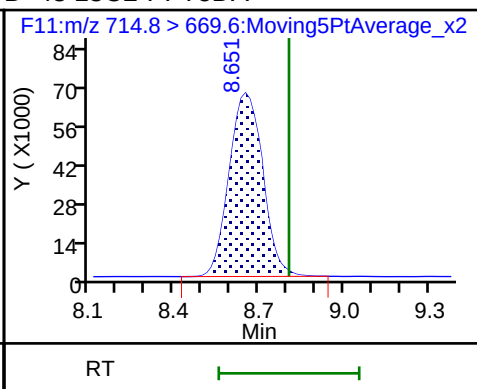
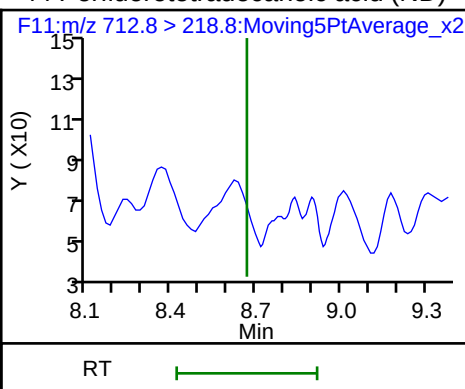
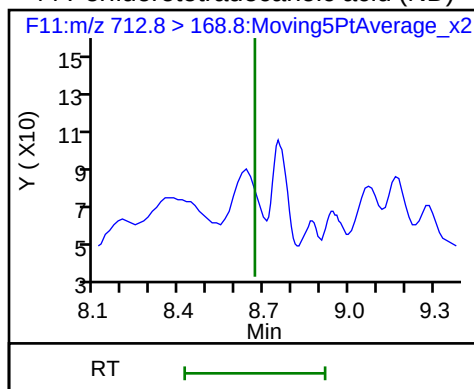
44 Perfluorotetradecanoic acid (ND)



44 Perfluorotetradecanoic acid (ND)

44 Perfluorotetradecanoic acid (ND)

D 43 13C2-PFTeDA



TestAmerica Burlington

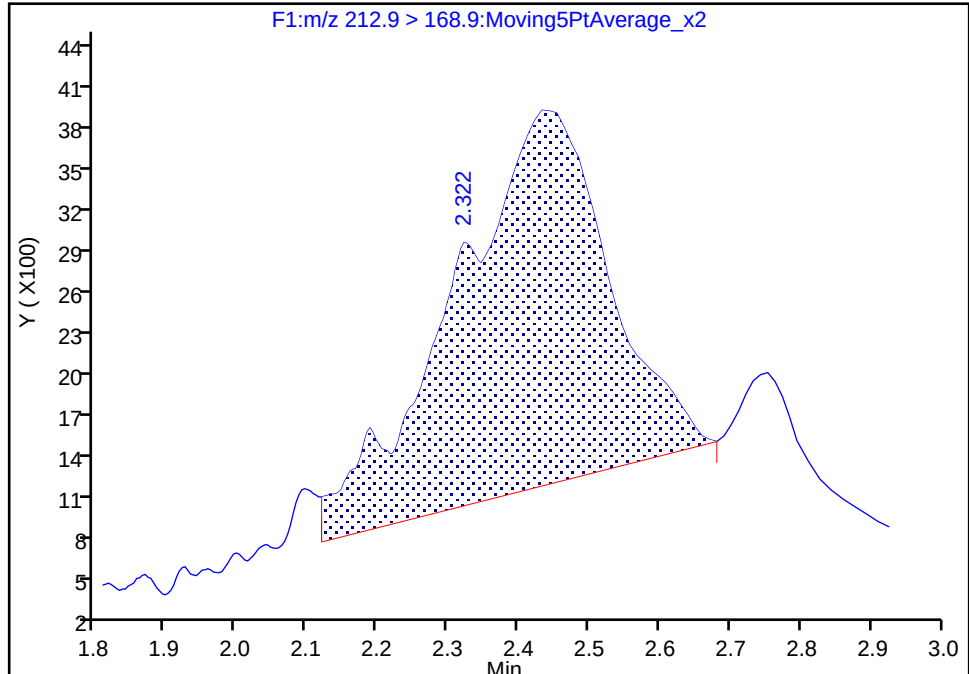
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d		
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4
Client ID:	DUP062118		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	31

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

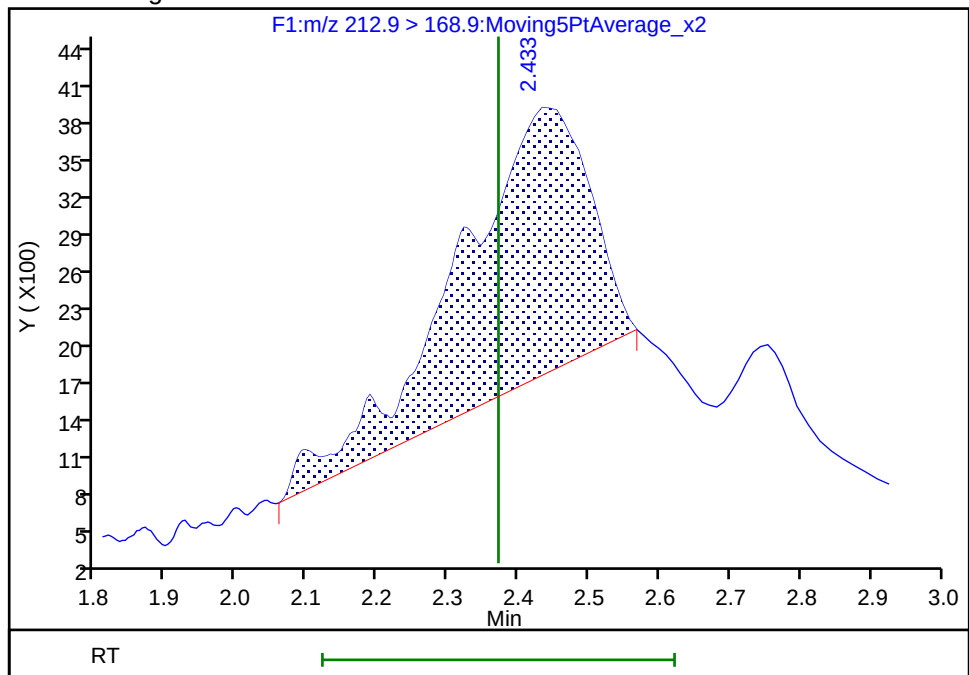
RT: 2.32
Area: 41268
Amount: 42.126973
Amount Units: ng/ml

Processing Integration Results



RT: 2.43
Area: 27720
Amount: 28.196149
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:40:57

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

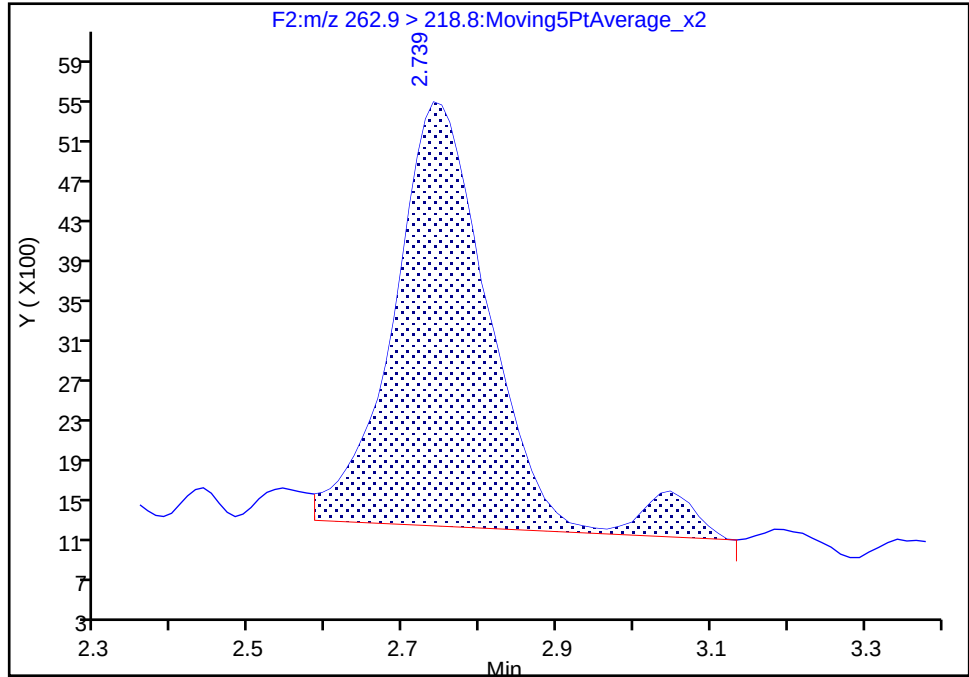
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d				
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410		
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4		
Client ID:	DUP062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F2:MRM		

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

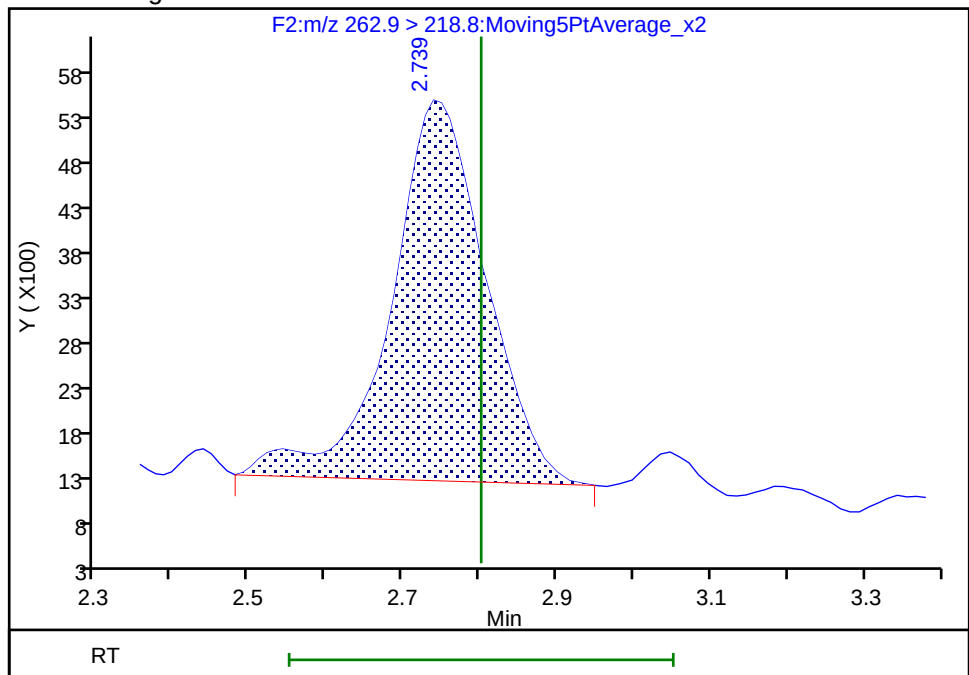
RT: 2.74
Area: 37563
Amount: 15.955290
Amount Units: ng/ml

Processing Integration Results



RT: 2.74
Area: 35988
Amount: 15.284483
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:41:08
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 110 of 434

10/19/2018

TestAmerica Burlington

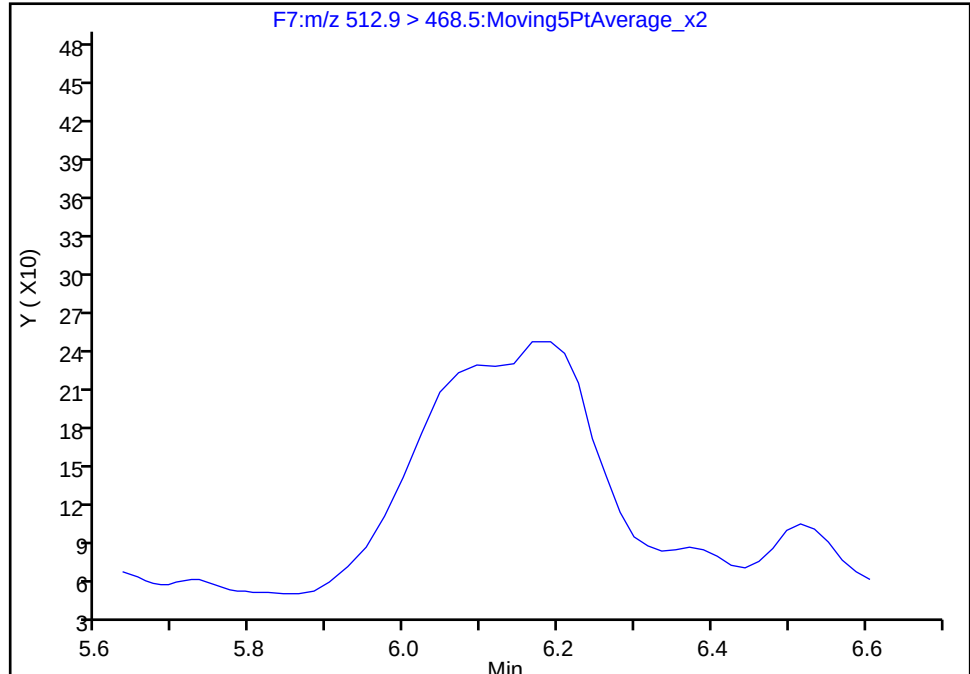
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d				
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410		
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4		
Client ID:	DUP062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

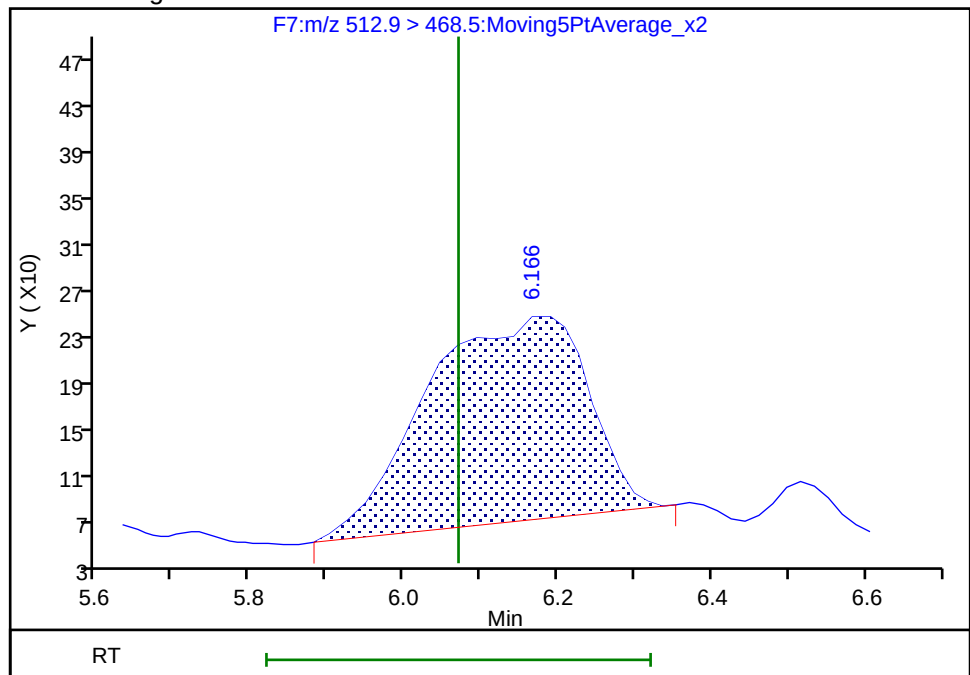
Signal: 1

Not Detected
Expected RT: 6.07

Processing Integration Results



Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:41:53
Audit Action: Manually IntegratedAudit Reason: Incomplete Integration
Page 111 of 434

10/19/2018

TestAmerica Burlington

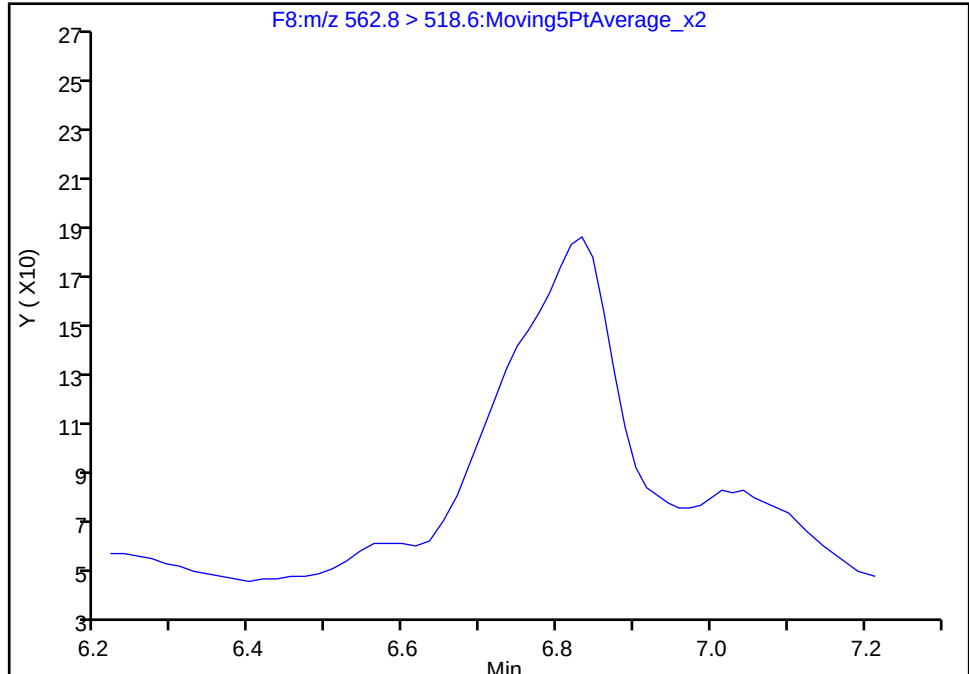
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d				
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410		
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4		
Client ID:	DUP062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector:	F8:MRM		

32 Perfluoroundecanoic acid, CAS: 2058-94-8

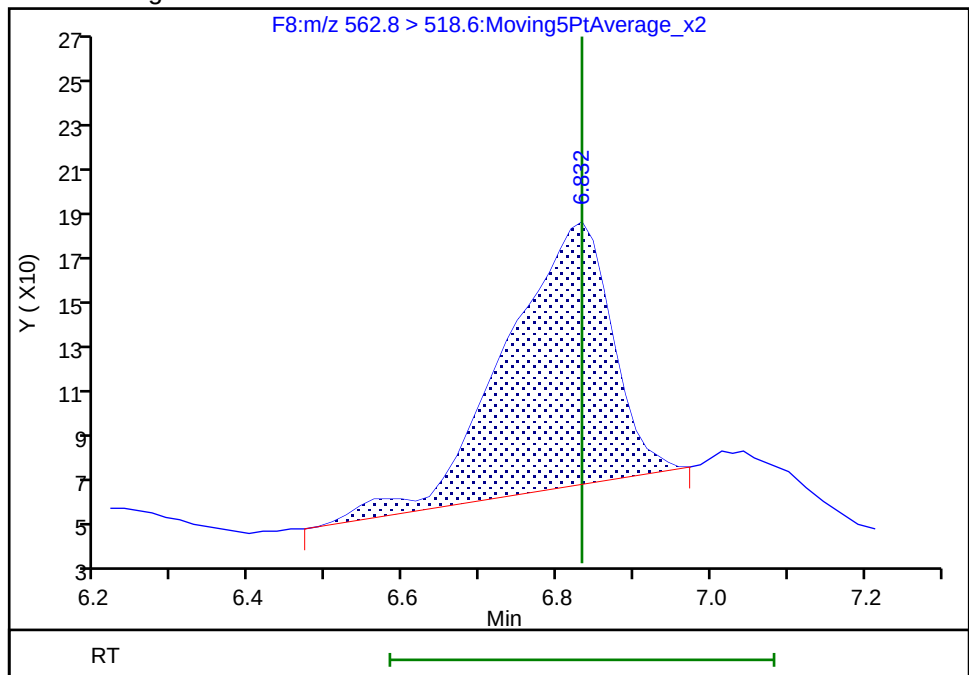
Signal: 1

Not Detected
Expected RT: 6.83

Processing Integration Results



Manual Integration Results

RT: 6.83
Area: 1108
Amount: 0.072726
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 16:42:22
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 112 of 434

10/19/2018

TestAmerica Burlington

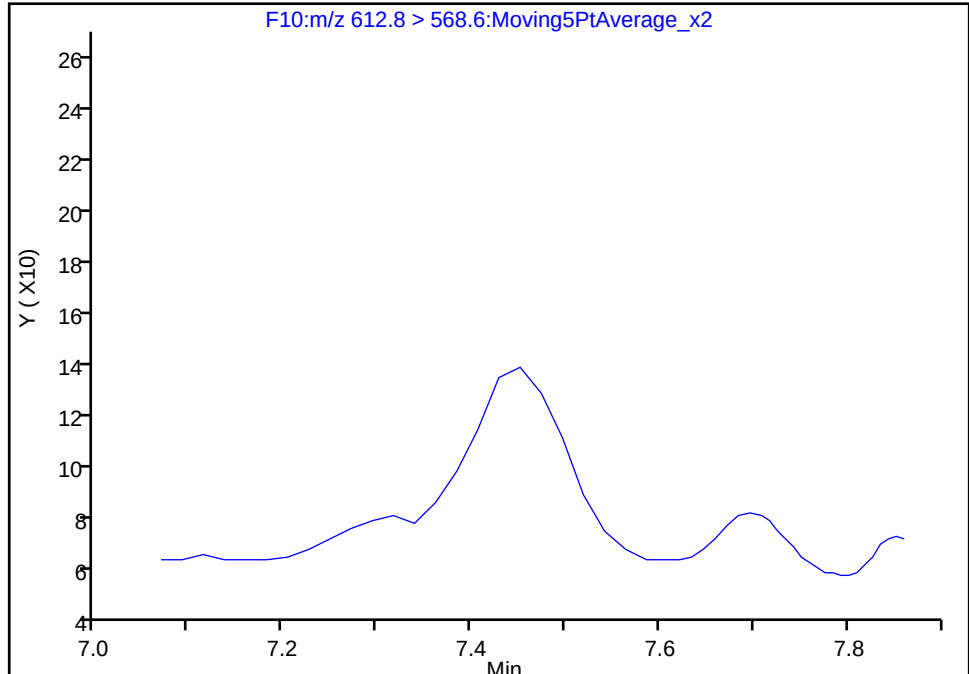
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d				
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410		
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4		
Client ID:	DUP062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F10:MRM		

37 Perfluorododecanoic acid, CAS: 307-55-1

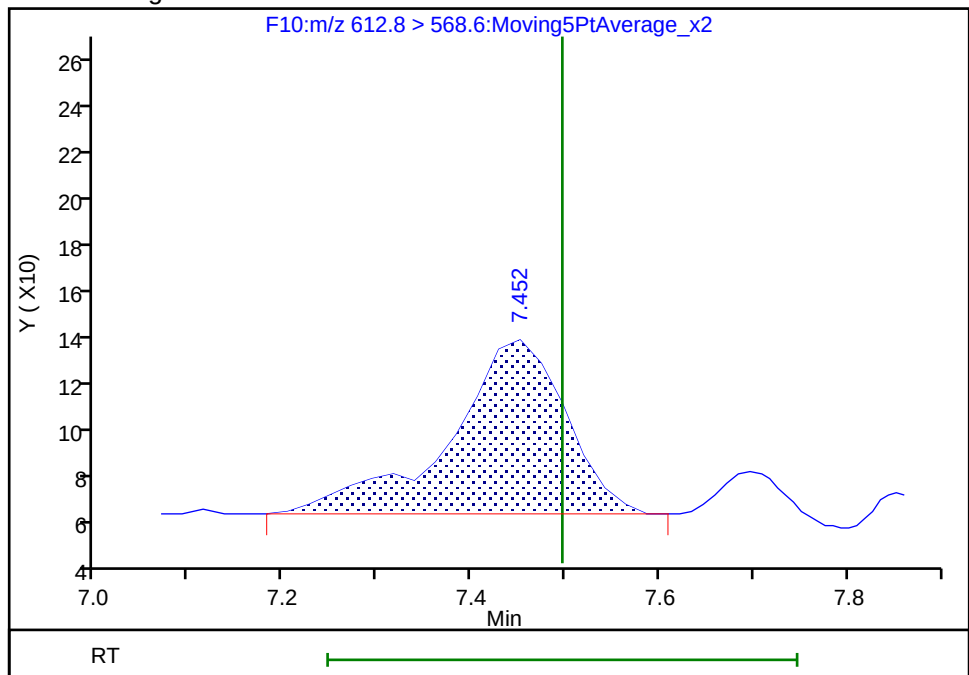
Signal: 1

Not Detected
Expected RT: 7.50

Processing Integration Results



Manual Integration Results

RT: 7.45
Area: 637
Amount: 0.008075
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 16:42:33
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 113 of 434

10/19/2018

TestAmerica Burlington

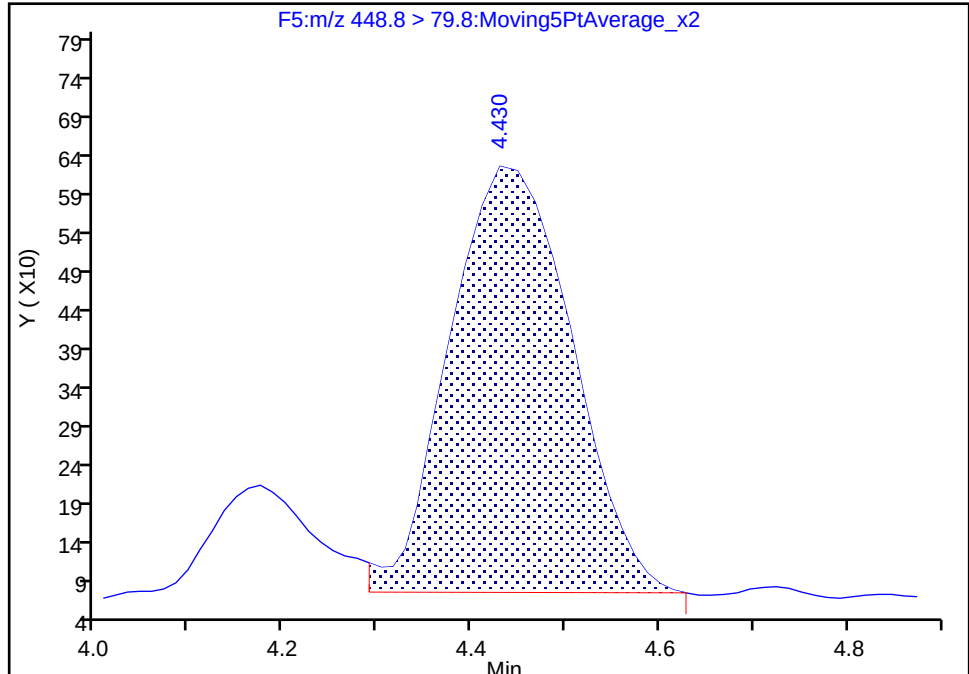
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d
Injection Date: 29-Jun-2018 00:38:39 Instrument ID: LC410
Lims ID: 200-44045-B-4-A Lab Sample ID: 200-44045-4
Client ID: DUP062118
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 31
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

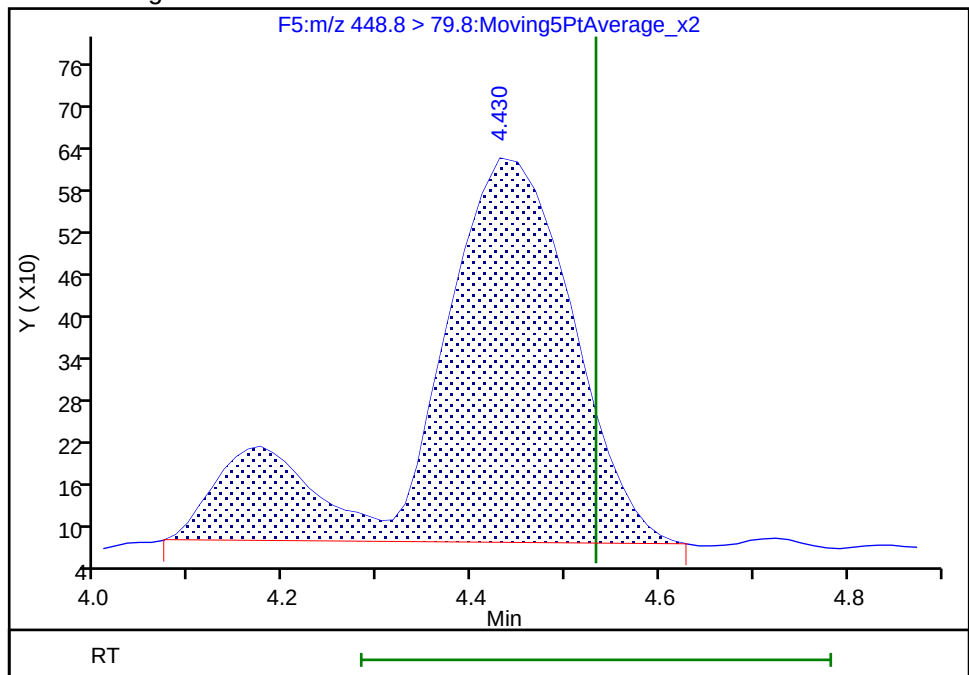
RT: 4.43
Area: 5030
Amount: 1.946531
Amount Units: ng/ml

Processing Integration Results



RT: 4.43
Area: 5986
Amount: 2.286747
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:41:24
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 114 of 434

10/19/2018

TestAmerica Burlington

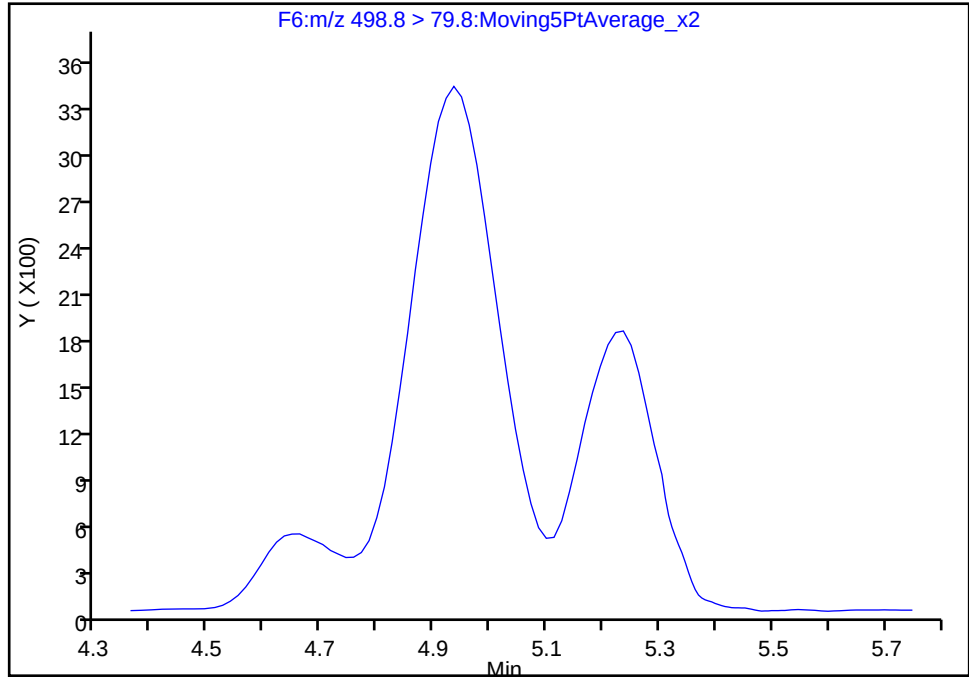
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d				
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410		
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4		
Client ID:	DUP062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	31
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F6:MRM		

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

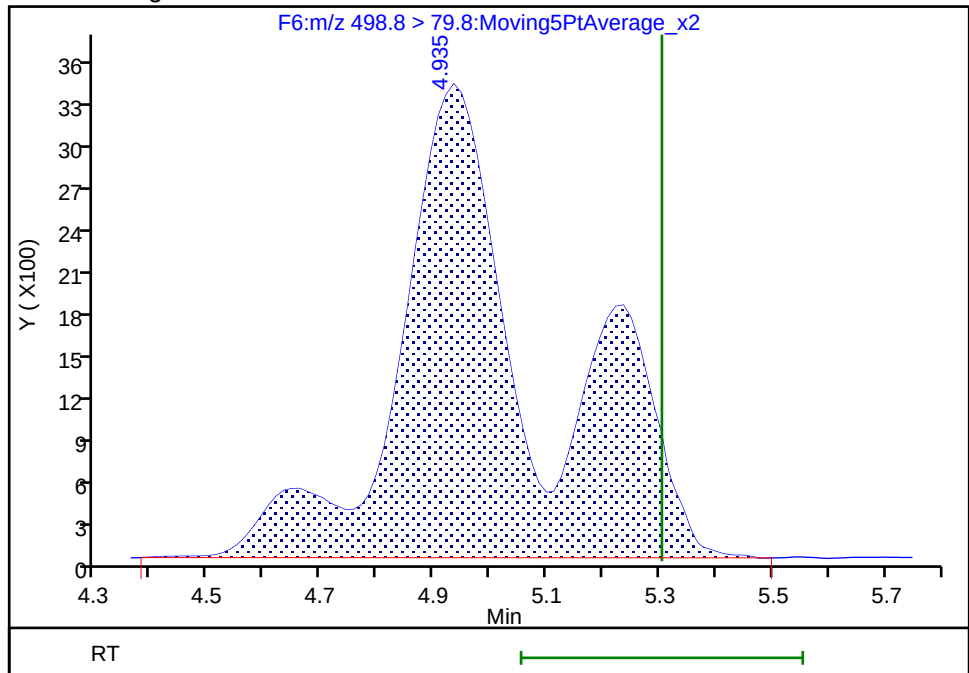
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:41:35
Audit Action: Manually IntegratedAudit Reason: Incomplete Integration
Page 115 of 434

10/19/2018

TestAmerica Burlington

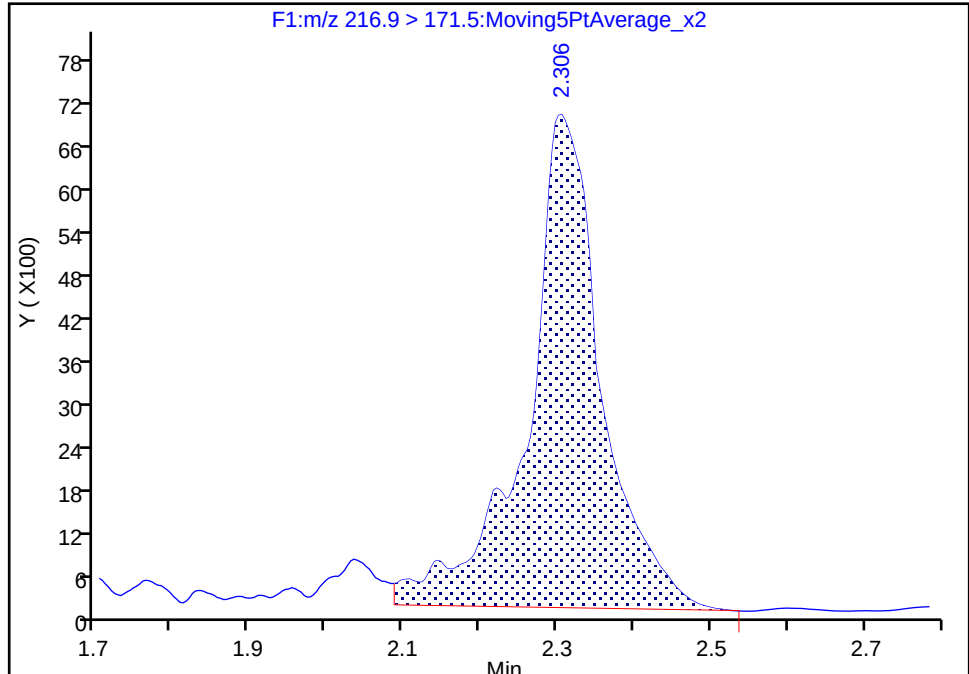
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A31.d		
Injection Date:	29-Jun-2018 00:38:39	Instrument ID:	LC410
Lims ID:	200-44045-B-4-A	Lab Sample ID:	200-44045-4
Client ID:	DUP062118		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	31

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

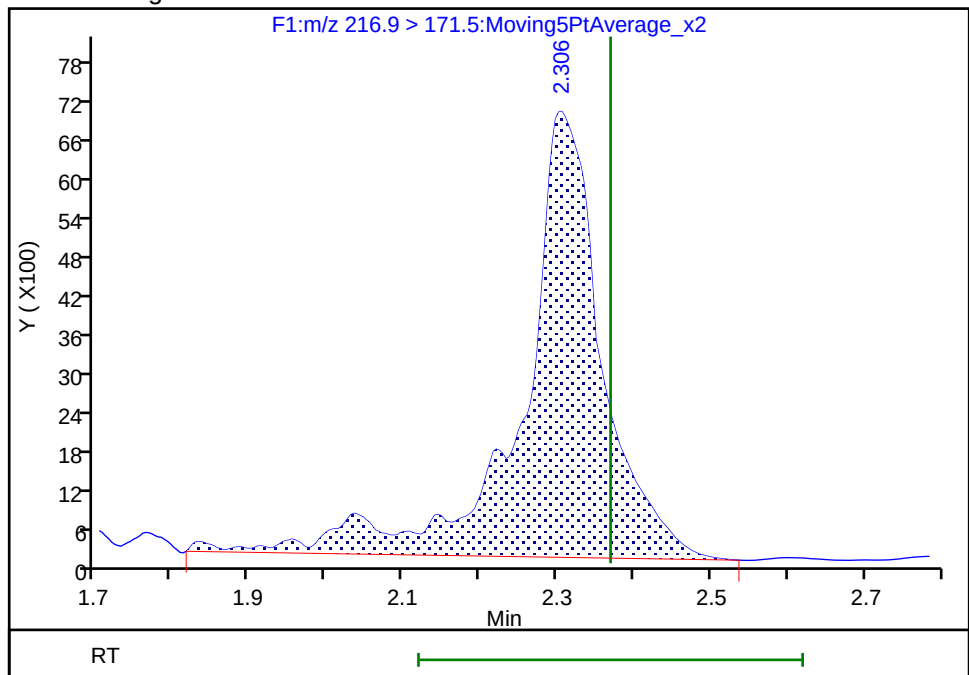
RT: 2.31
Area: 46486
Amount: 9.860058
Amount Units: ng/ml

Processing Integration Results



RT: 2.31
Area: 50158
Amount: 10.638919
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:40:29

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>FB062118</u>	Lab Sample ID: <u>200-44045-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A32.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 15:00</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>301.9(mL)</u>	Date Analyzed: <u>06/29/2018 00:54</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.66	U	1.66	0.34
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.66	U	1.66	0.62
307-24-4	Perfluorohexanoic acid (PFHxA)	0.49	J B	1.66	0.20
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.66	U	1.66	0.26
335-67-1	Perfluorooctanoic acid (PFOA)	0.59	J B	1.66	0.26
375-95-1	Perfluorononanoic acid (PFNA)	1.66	U	1.66	0.31
335-76-2	Perfluorodecanoic acid (PFDA)	1.66	U	1.66	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1.66	U	1.66	0.21
307-55-1	Perfluorododecanoic acid (PFDoA)	1.66	U	1.66	0.29
72629-94-8	Perfluorotridecanoic acid (PFTriA)	1.66	U	1.66	0.20
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.66	U	1.66	0.37
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.66	U	1.66	0.36
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.39	J B	1.66	0.22
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.66	U	1.66	0.68
335-77-3	Perfluorodecanesulfonic acid (PFDS)	1.66	U	1.66	0.44
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.68	J	1.66	0.63
754-91-6	Perfluorooctanesulfonamide (FOSA)	1.66	U	1.66	0.46
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.66	U	1.66	0.37
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.60	J	1.66	0.58
27619-97-2	6:2 FTS	5.65		1.66	0.83
39108-34-4	8:2 FTS	1.66	U	1.66	0.46

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>FB062118</u>	Lab Sample ID: <u>200-44045-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A32.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 15:00</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>301.9 (mL)</u>	Date Analyzed: <u>06/29/2018 00:54</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	38		25-150
STL00992	13C4 PFBA	67		25-150
STL01893	13C5-PFPeA DNU	76		25-150
STL00993	13C2 PFHxA	80		25-150
STL01892	13C4 PFHpA	79		25-150
STL00990	13C4 PFOA	84		25-150
STL00995	13C5 PFNA	87		25-150
STL00996	13C2 PFDA	80		25-150
STL00997	13C2 PFUnA	87		25-150
STL00998	13C2 PFDoA	70		25-150
STL02116	13C2 PFTeDA	65		25-150
STL02337	13C3 PFBS	78		25-150
STL00994	18O2 PFHxS	80		25-150
STL00991	13C4 PFOS	77		25-150
STL02118	d3-NMeFOSAA	58		25-150
STL02117	d5-NEtFOSAA	69		25-150
STL02279	M2-6:2 FTS	115		25-150
STL02280	M2-8:2 FTS	89		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d
 Lims ID: 200-44045-B-5-A
 Client ID: FB062118
 Sample Type: Client
 Inject. Date: 29-Jun-2018 00:54:53 ALS Bottle#: 0 Worklist Smp#: 32
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-032 5
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 16:45:38

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	2.361	2.370	-0.009	1.000	219076	33.7		67.5	206	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.338	2.371	-0.033	0.990	1627	0.0759			4.3	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.818	2.801	0.017	1.006	903	0.0668			2.2	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	95437	38.0		76.1	360	
D 5 13C3-PFBS										M
302.0 > 79.8	2.867	2.883	-0.016	1.000	166735	36.4		78.2	137	M
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.238	3.250	-0.012	1.000	1030	0.2966			8.8	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.238	3.265	-0.027	1.000	201779	39.9		79.8	276	
D 10 13C4-PFHpA										
366.9 > 321.8	3.804	3.843	-0.039	1.000	537132	39.3		78.7	4814	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.860	3.848	0.012	1.006	860	0.2371			17.3	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.837	3.889	-0.052	1.000	211980	37.9		80.1	7033	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.468	4.449	0.019	1.004	1265	3.41			8.6	
* 49 13C2-PFOA										
414.9 > 369.8	4.505	4.505	0.0		608812	50.0			4396	
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.505	4.505	0.0	1.000	2239	0.3550			13.0	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.449	4.525	-0.076	1.000	17168	54.5		115	122	

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	4.505	4.567	-0.062	1.000	464416	41.8		83.6	2565	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.263	5.304	-0.041	0.992	324	0.4077			2.4	M
D 21 13C5 PFNA										
467.8 > 422.8	5.291	5.363	-0.072	1.000	524354	43.6		87.3	1160	
D 22 13C4 PFOS										
502.8 > 79.8	5.304	5.382	-0.078	1.000	151991	36.7		76.7	598	
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	149890	42.5		88.8	1920	
D 25 13C2 PFDA										
514.9 > 469.5	6.071	6.186	-0.115	1.000	671309	40.1		80.1	6550	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.421	6.530	-0.109	1.000	113784	28.8		57.5	721	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.819	6.804	0.015	1.004	328	0.3631			3.3	M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.861	6.832	0.029	1.004	1385	0.0933			14.1	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.791	6.903	-0.112	1.000	128593	34.5		69.0	1987	
D 33 13C2 PFUnA										
564.8 > 519.8	6.833	6.942	-0.109	1.000	684211	43.5		87.0	2437	
D 35 13C8 FOSA										
505.8 > 77.8	7.079	7.154	-0.075	1.000	123032	19.2		38.4	1141	
D 36 13C2 PFDaA										
614.8 > 569.6	7.519	7.636	-0.117	1.000	554973	34.9		69.8	1561	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.709	8.666	0.043	1.005	659	0.0719			10.5	M
712.8 > 168.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
D 43 13C2-PFTeDA										
714.8 > 669.6	8.666	8.805	-0.139	1.000	517637	32.4		64.7	2515	

QC Flag Legend

Review Flags

M - Manually Integrated

TestAmerica Burlington

Data File: \\ChromNA\\Burlington\\ChromData\\LC410\\20180628-31168.b\\PF062818A32.d

Injection Date: 29-Jun-2018 00:54:53

Instrument ID: LC410

Lims ID: 200-44045-B-5-A

Lab Sample ID: 200-44045-5

Client ID: FB062118

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 32

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

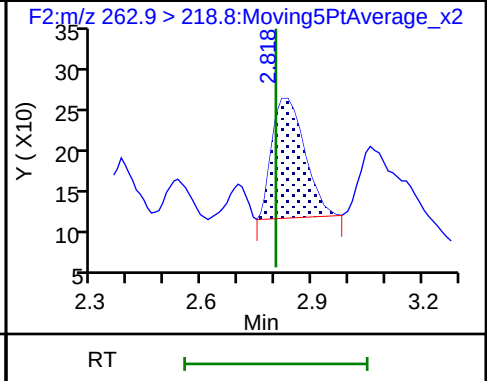
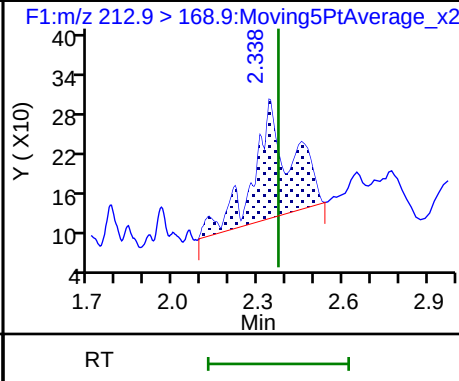
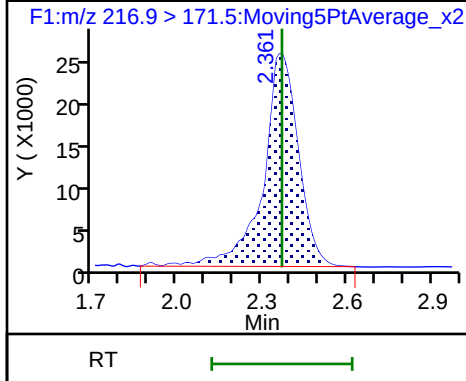
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

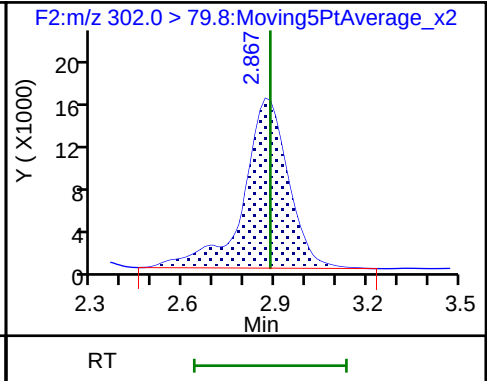
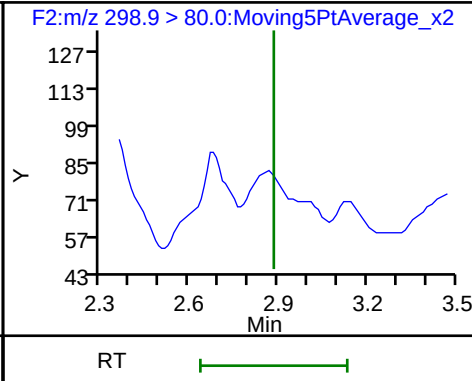
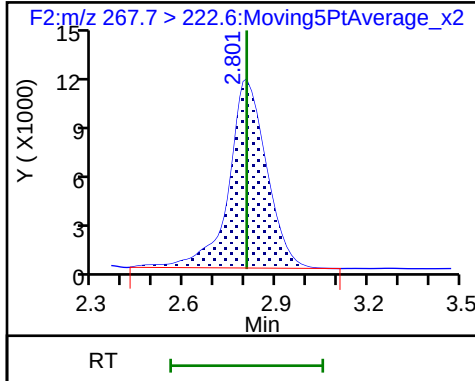
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (ND)

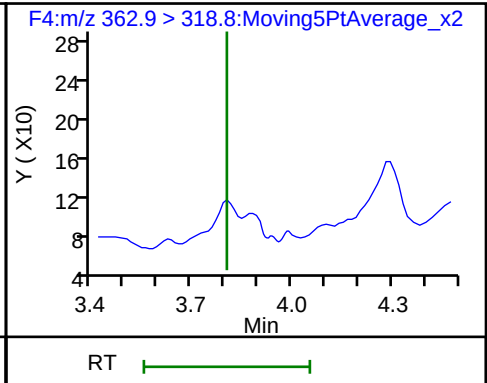
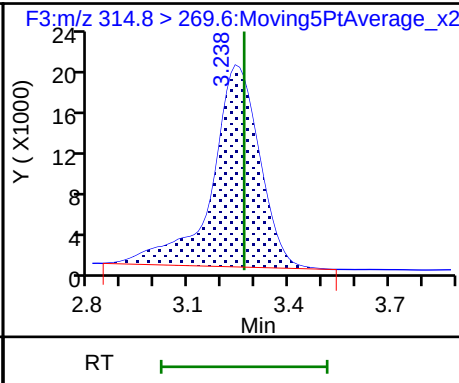
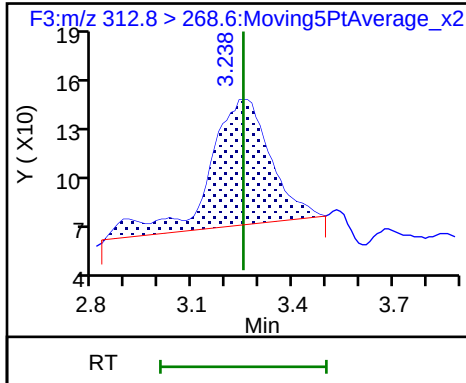
D 5 13C3-PFBS (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA

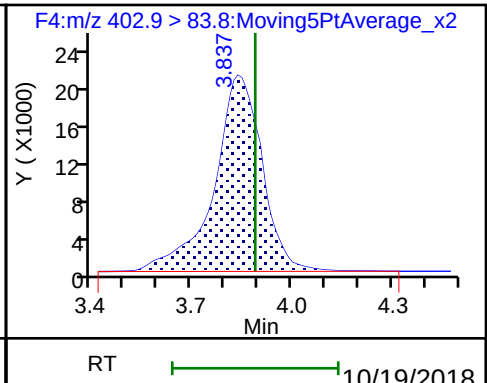
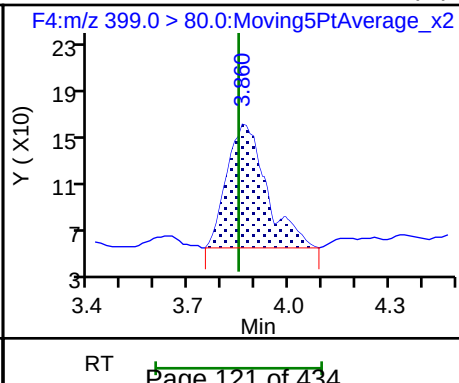
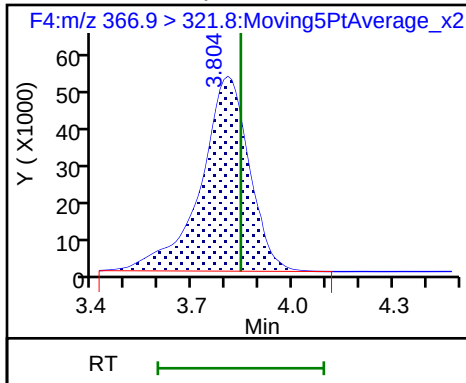
11 Perfluoroheptanoic acid (ND)



D 10 13C4-PFHpA

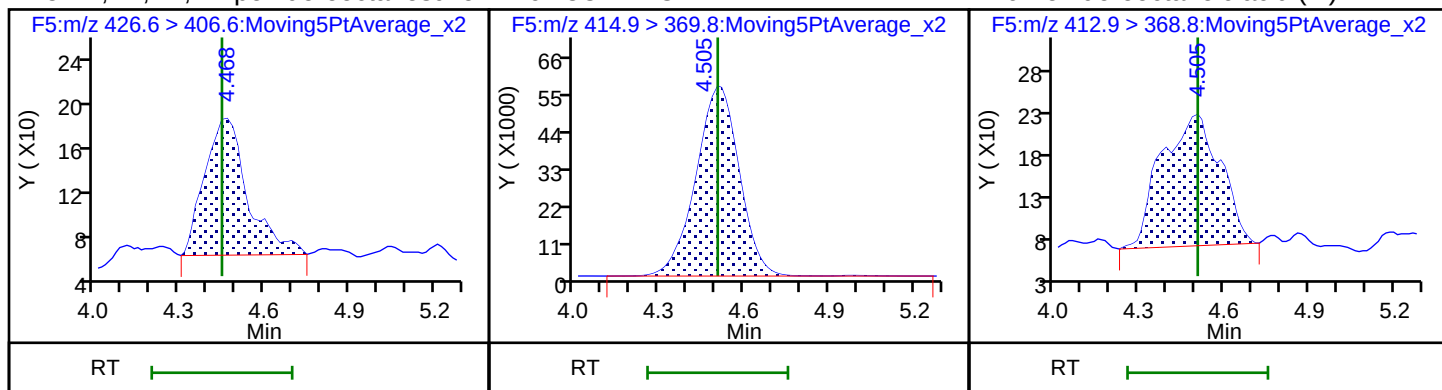
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



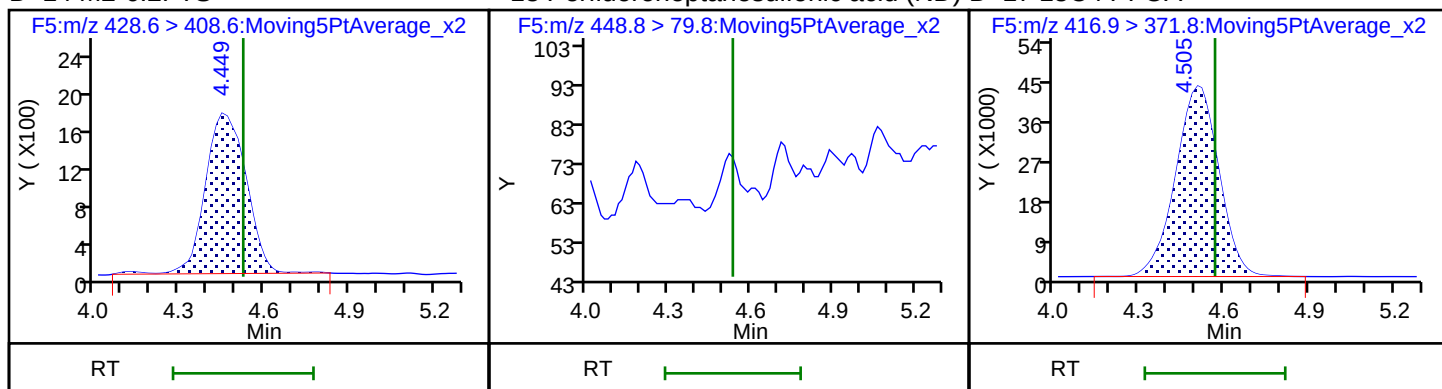
15 1H,1H,2H,2H-perfluorooctanesulfonate 49 13C2-PFOA

16 Perfluorooctanoic acid (M)



D 14 M2-6:2FTS

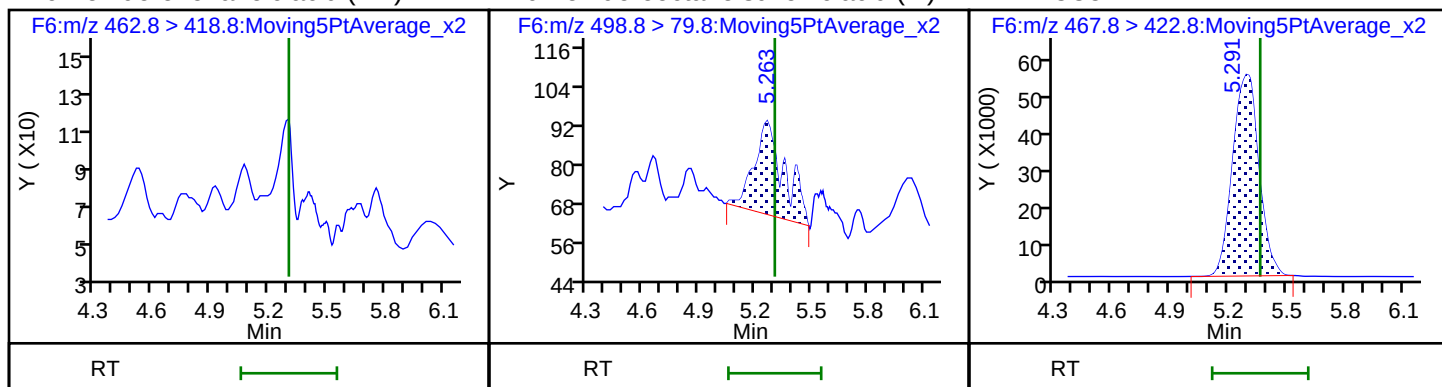
18 Perfluoroheptanesulfonic acid (ND) D 17 13C4 PFOA



19 Perfluorononanoic acid (ND)

20 Perfluorooctane sulfonic acid (M)

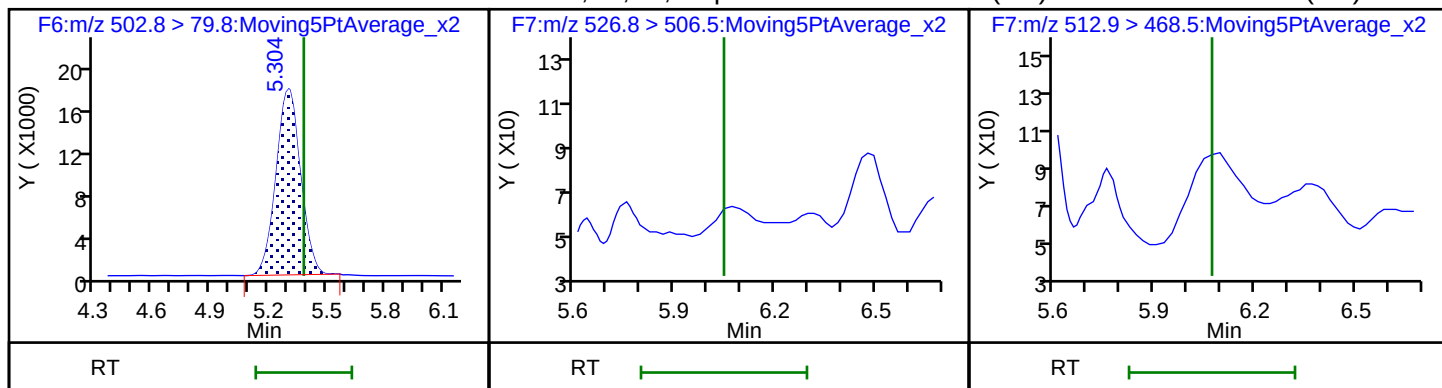
D 21 13C5 PFNA



D 22 13C4 PFOS

24 1H,1H,2H,2H-perfluorodecanesulfonate (ND)

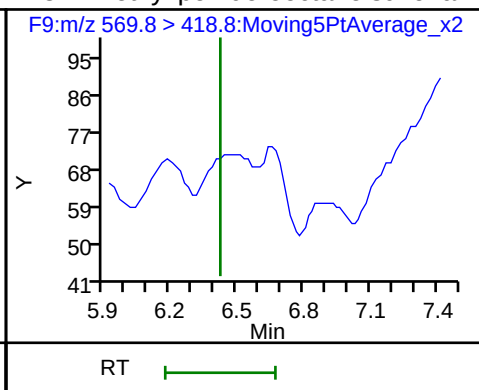
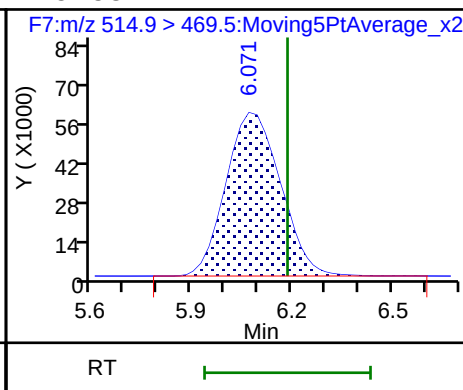
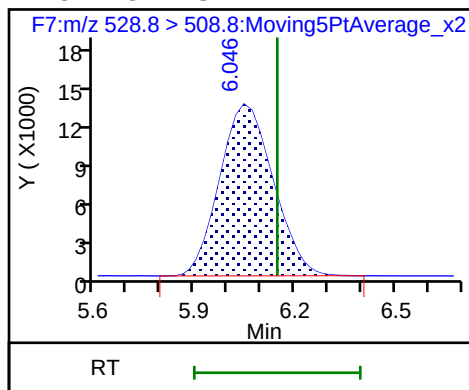
25 Perfluorodecanoic acid (ND)



D 23 M2-8:2FTS

D 25 13C2 PFDA

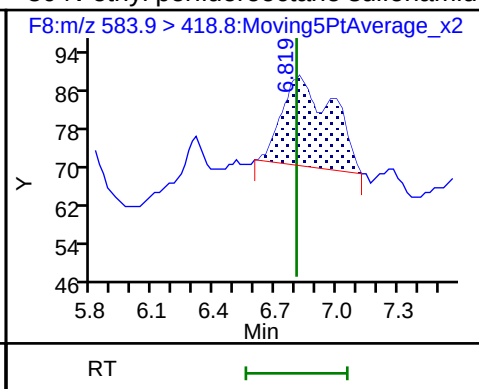
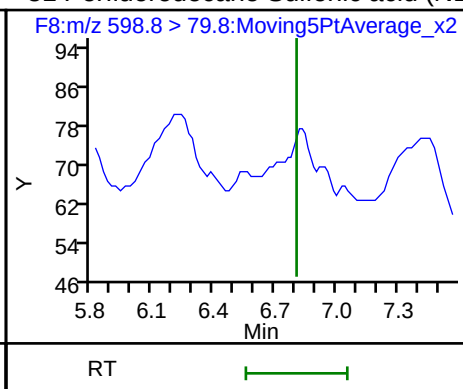
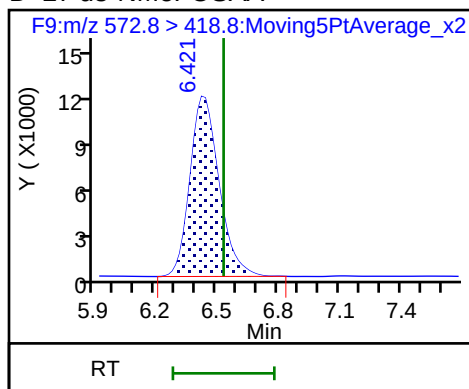
28 N-methyl perfluorooctane sulfonami (ND)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid (ND)

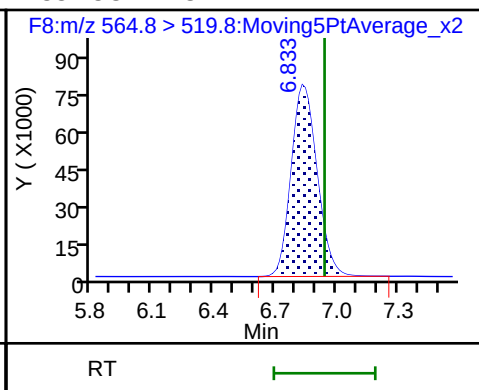
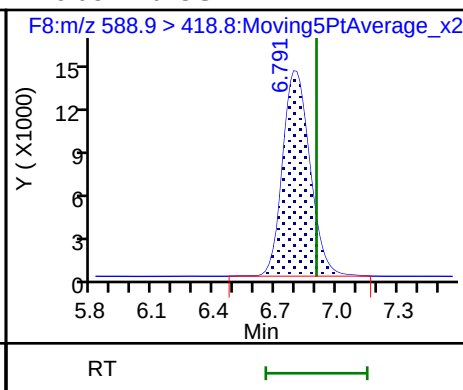
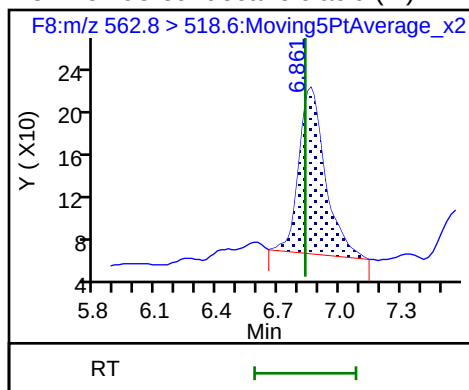
30 N-ethyl perfluorooctane sulfonamid (M)



32 Perfluoroundecanoic acid (M)

D 29 d5-NEtFOSAA

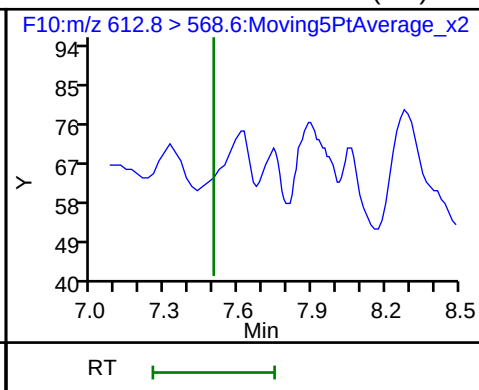
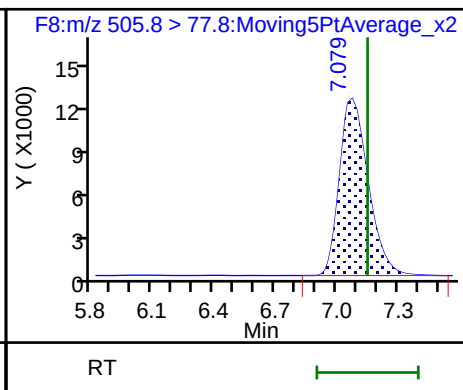
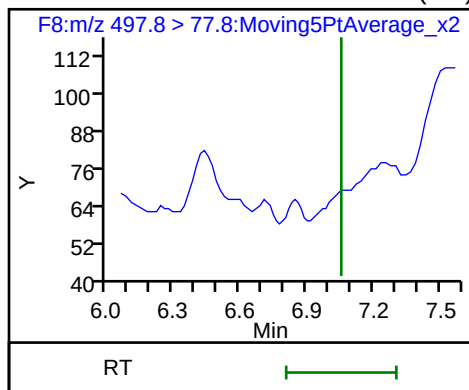
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (ND)

D 35 13C8 FOSA

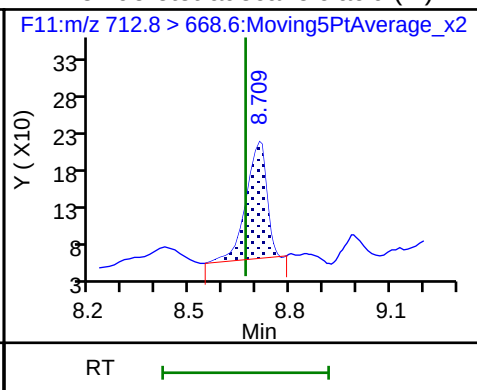
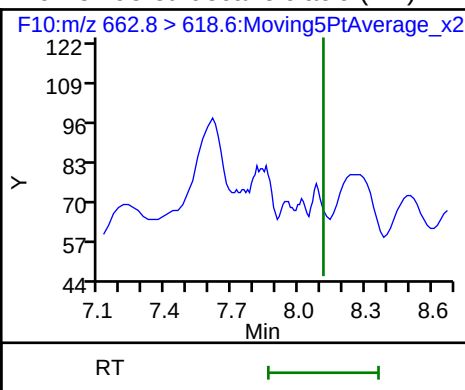
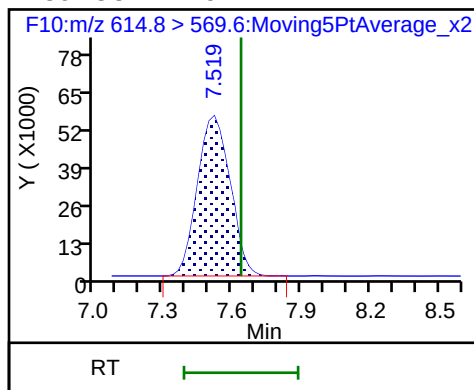
37 Perfluorododecanoic acid (ND)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid (ND)

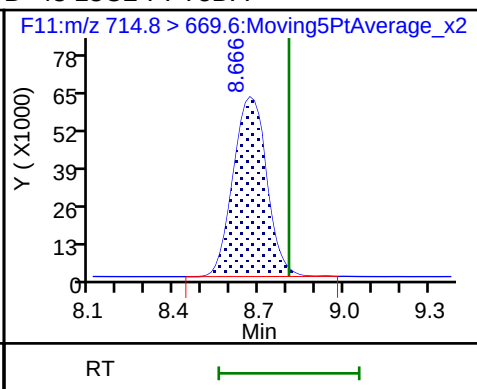
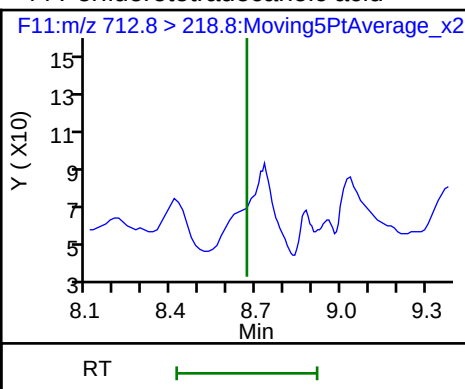
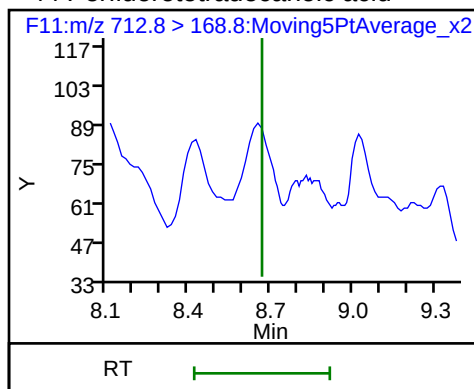
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

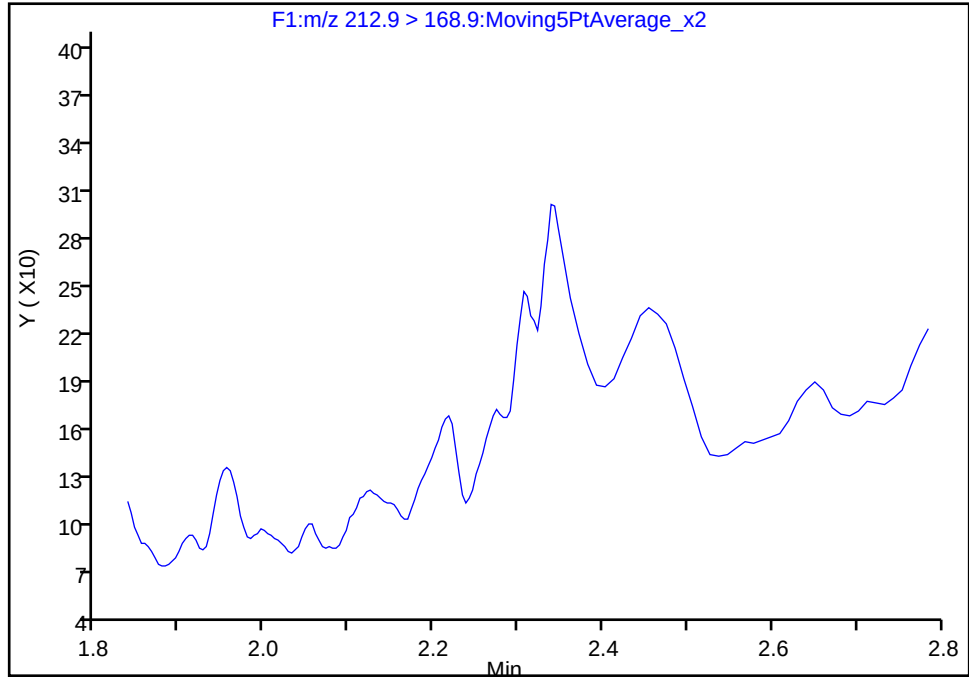
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d				
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410		
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5		
Client ID:	FB062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector:	F1:MRM		

1 Perfluorobutyric acid, CAS: 375-22-4

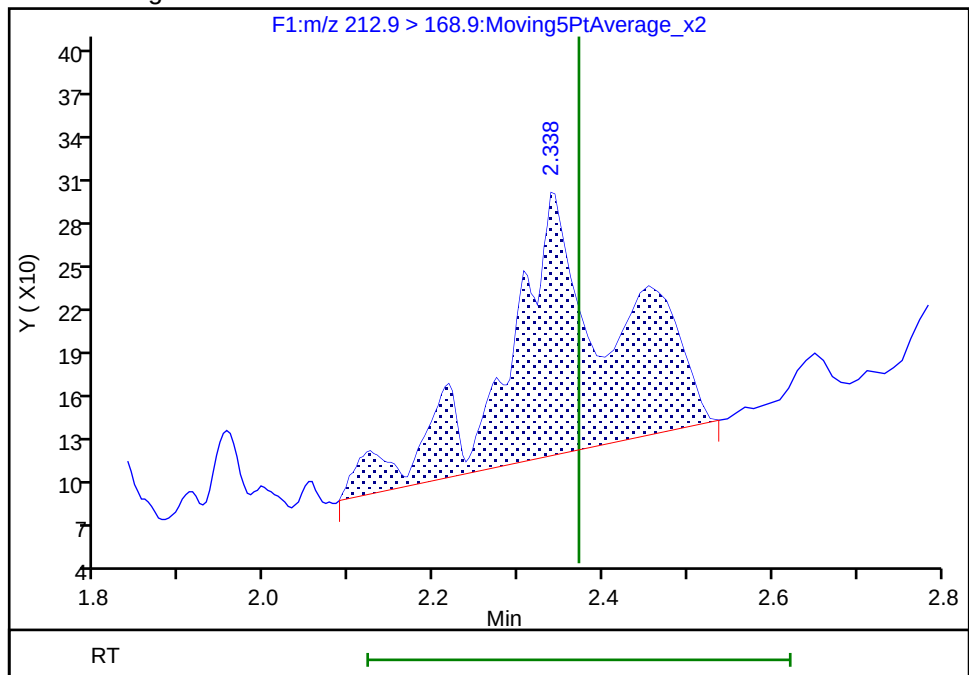
Signal: 1

Not Detected
Expected RT: 2.37

Processing Integration Results



Manual Integration Results

RT: 2.34
Area: 1627
Amount: 0.075901
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 16:43:12

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

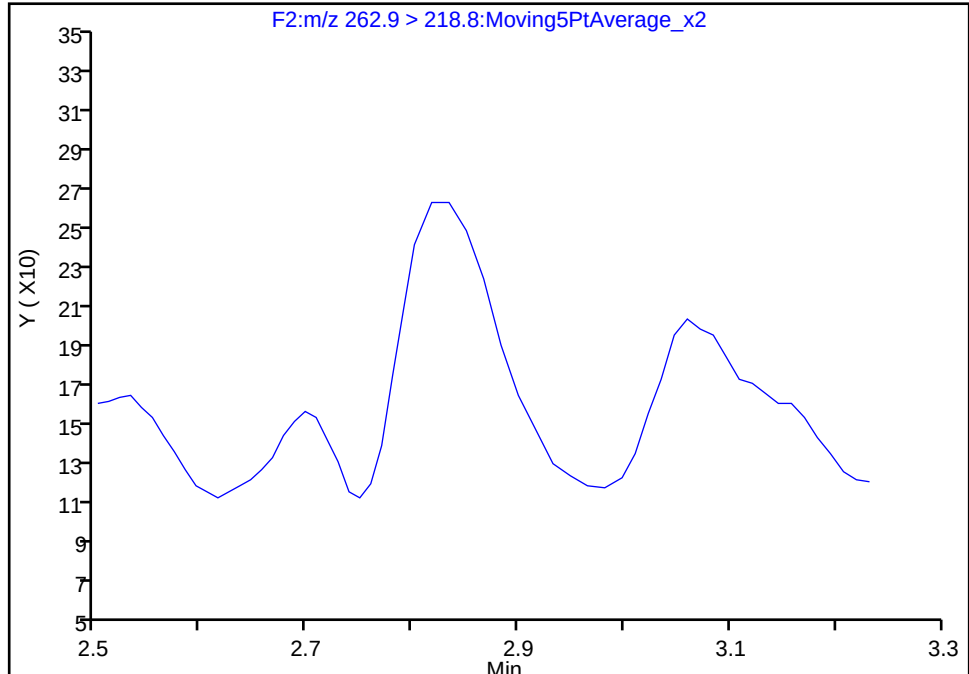
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d				
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410		
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5		
Client ID:	FB062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F2:MRM		

4 Perfluoropentanoic acid, CAS: 2706-90-3

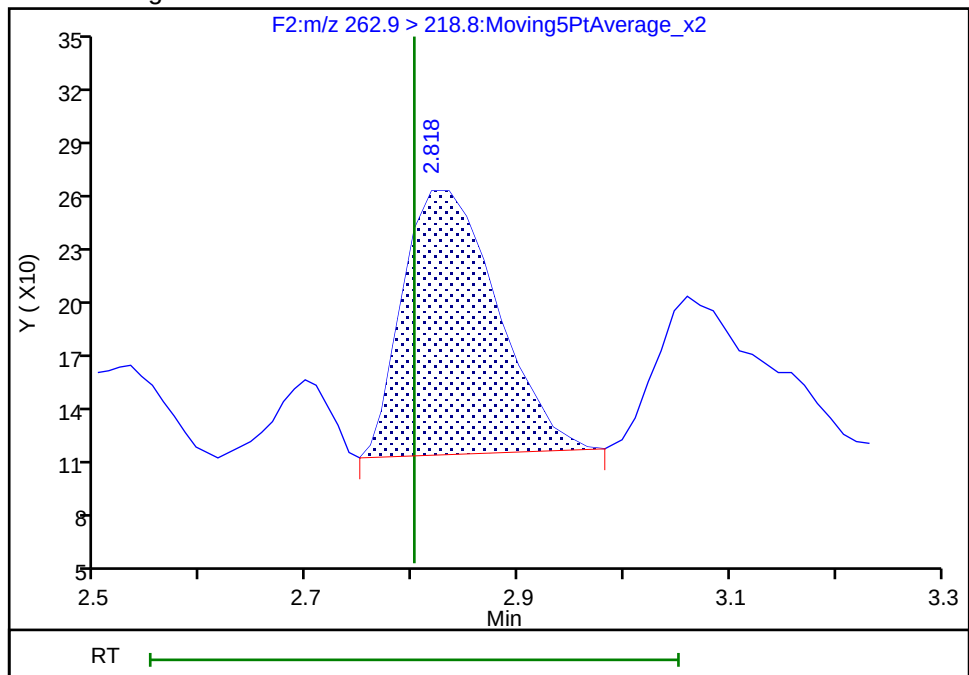
Signal: 1

Not Detected
Expected RT: 2.80

Processing Integration Results



Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:43:21

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

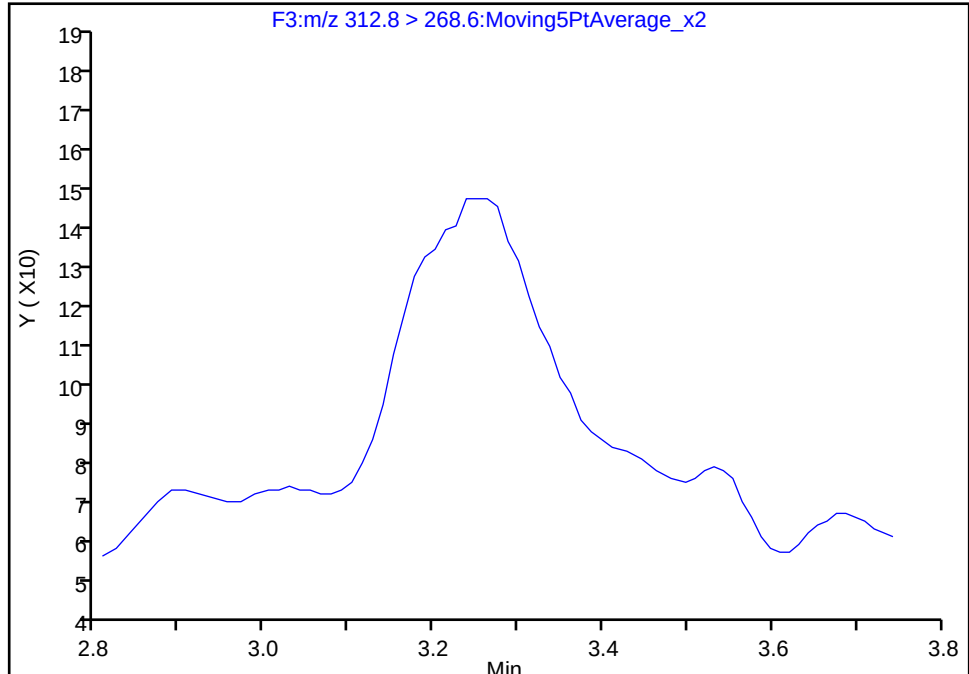
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d				
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410		
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5		
Client ID:	FB062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F3:MRM		

8 Perfluorohexanoic acid, CAS: 307-24-4

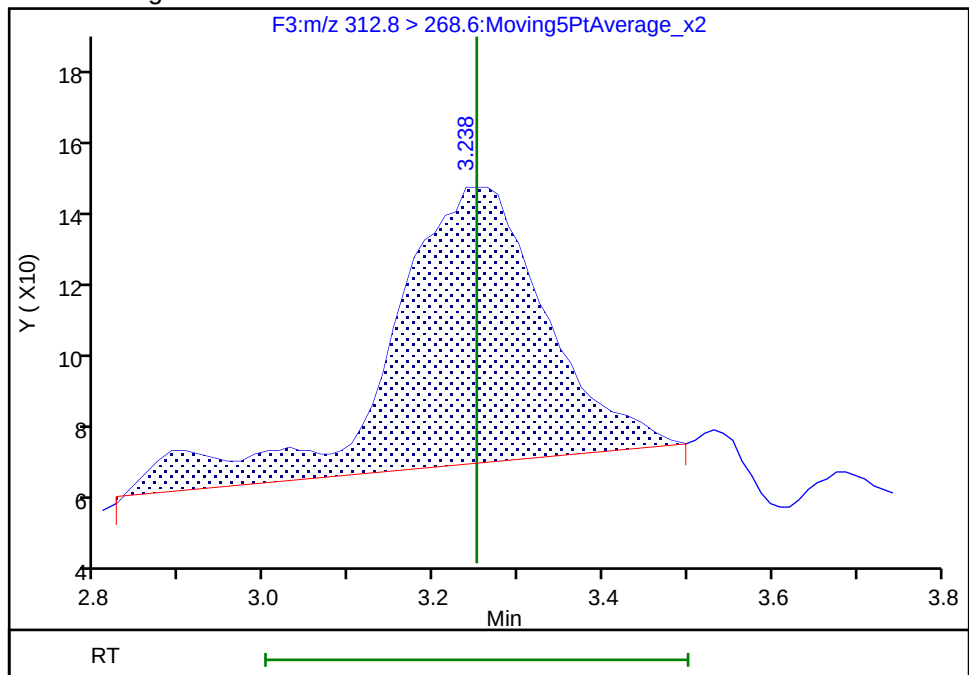
Signal: 1

Not Detected
Expected RT: 3.25

Processing Integration Results

RT: 3.24
Area: 1030
Amount: 0.296552
Amount Units: ng/ml

Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:43:44
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 127 of 434

10/19/2018

TestAmerica Burlington

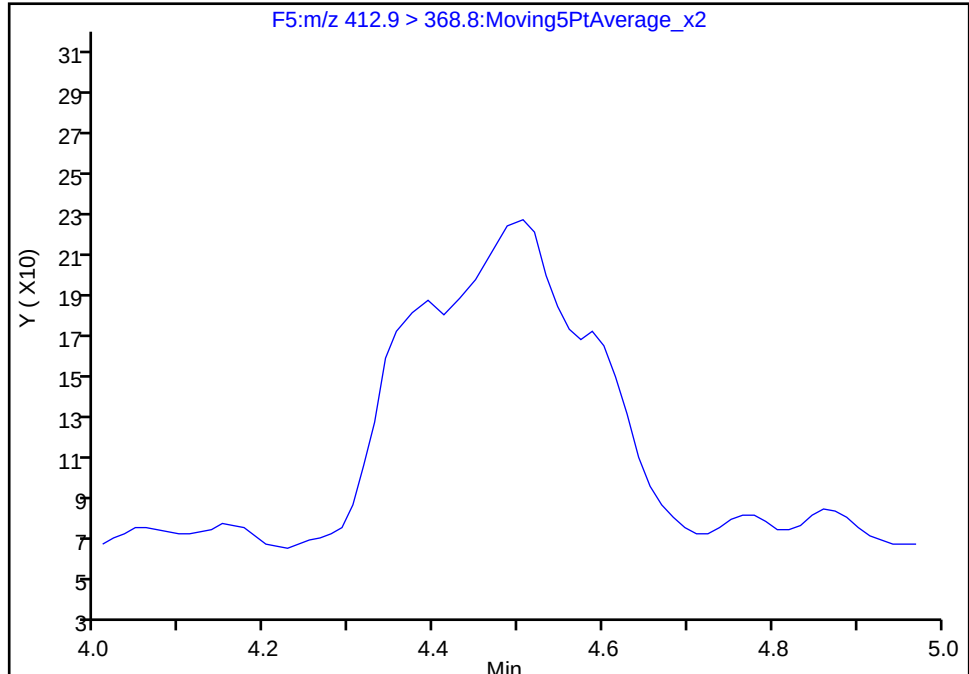
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d				
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410		
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5		
Client ID:	FB062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F5:MRM		

16 Perfluorooctanoic acid, CAS: 335-67-1

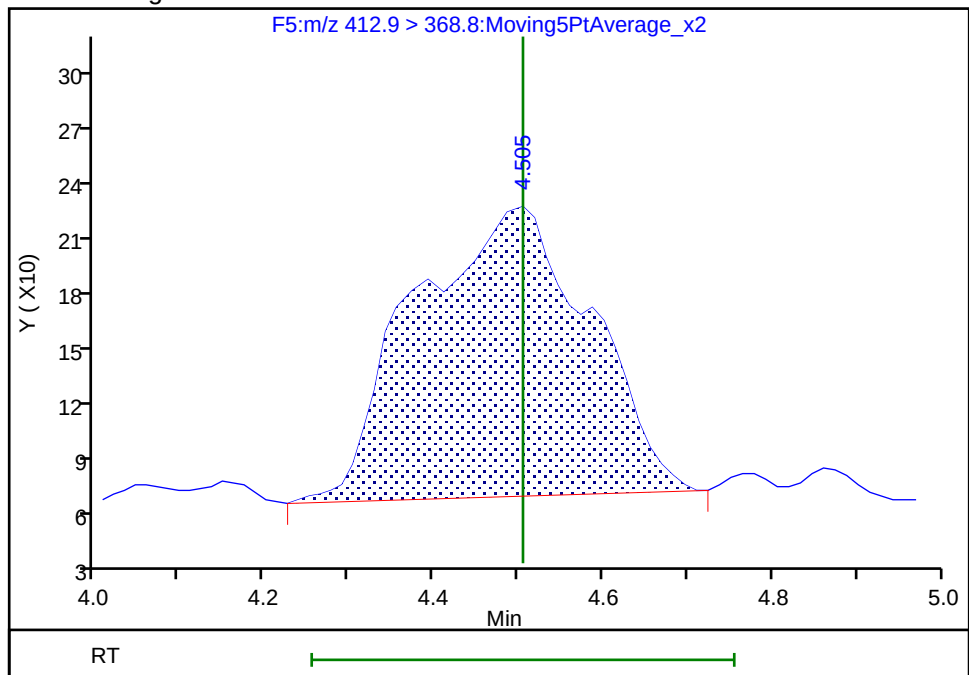
Signal: 1

Not Detected
Expected RT: 4.51

Processing Integration Results



Manual Integration Results

RT: 4.51
Area: 2239
Amount: 0.355037
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 16:44:14
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 128 of 434

10/19/2018

TestAmerica Burlington

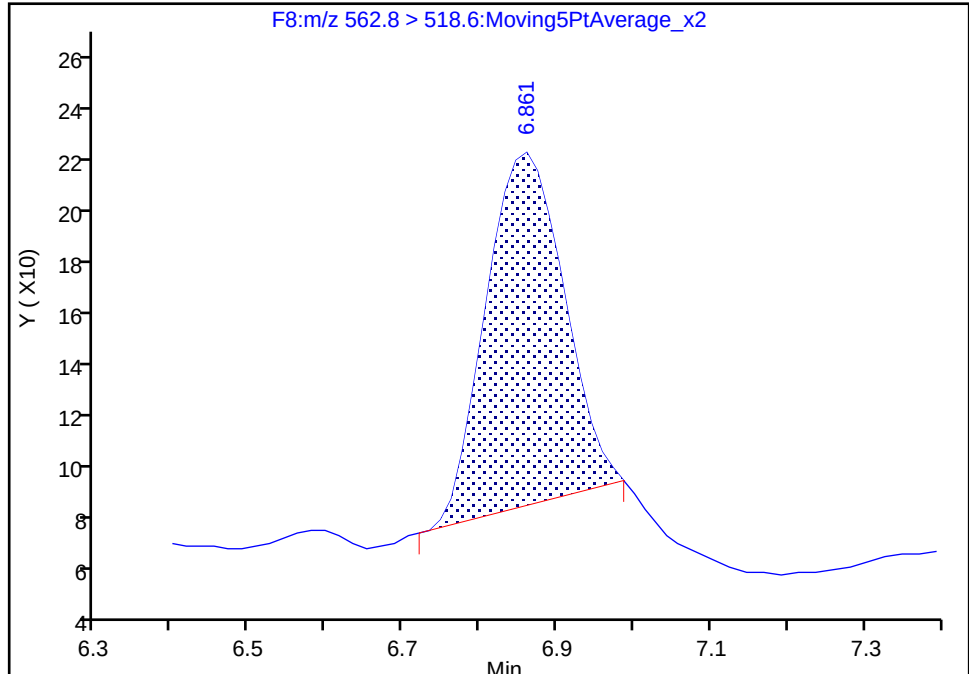
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d		
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5
Client ID:	FB062118		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F8:MRM
		Worklist Smp#:	32

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

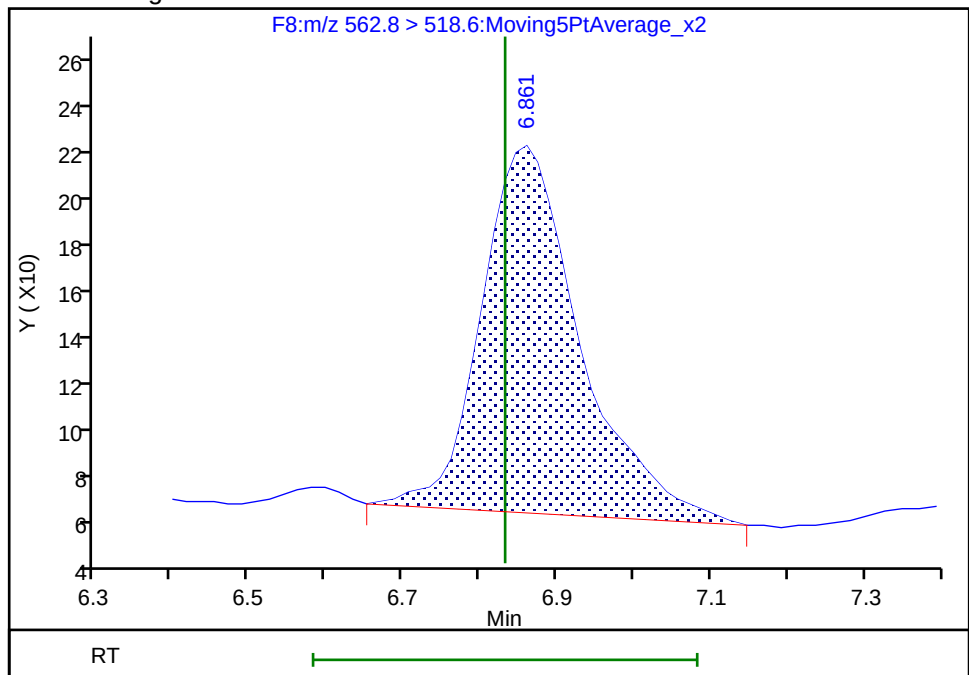
RT: 6.86
Area: 951
Amount: 0.060435
Amount Units: ng/ml

Processing Integration Results



RT: 6.86
Area: 1385
Amount: 0.093290
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:45:13
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 129 of 434

10/19/2018

TestAmerica Burlington

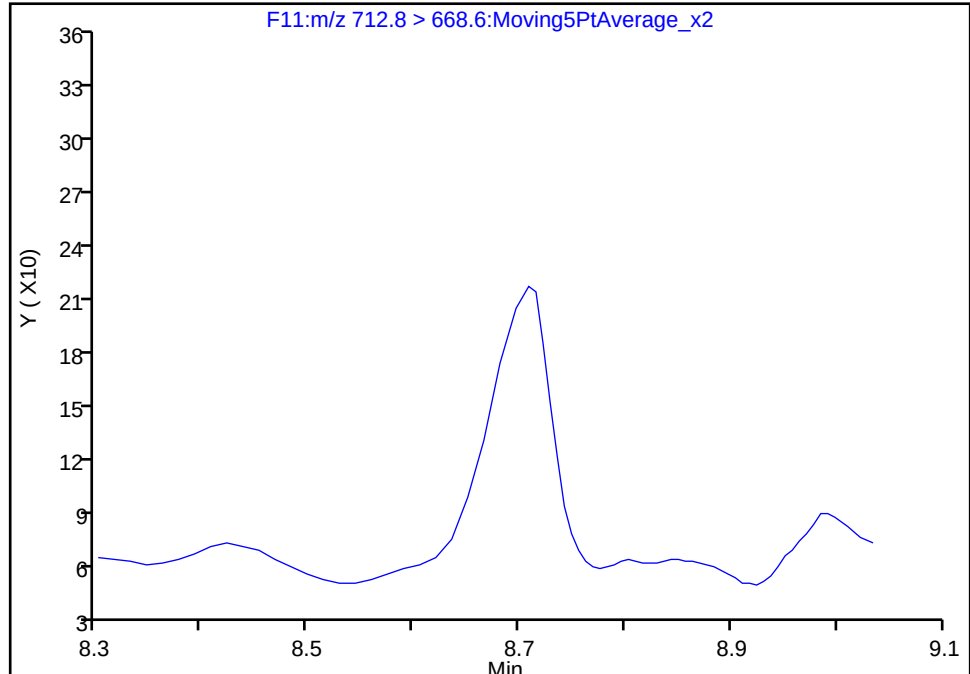
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d		
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5
Client ID:	FB062118		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F11:MRM
		Worklist Smp#:	32

44 Perfluorotetradecanoic acid, CAS: 376-06-7

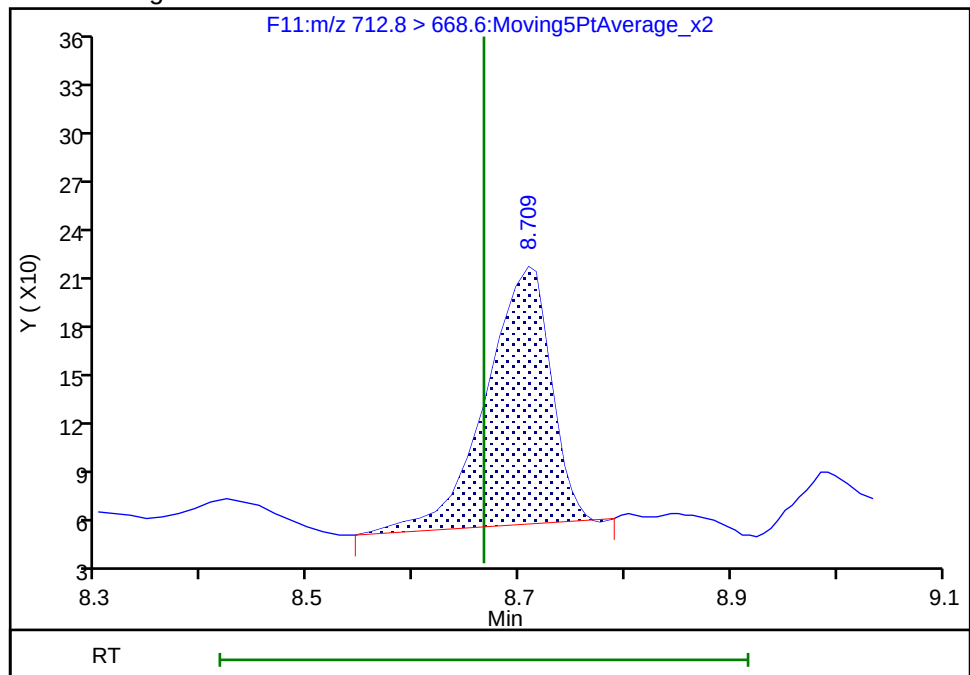
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results

RT: 8.71
Area: 659
Amount: 0.071871
Amount Units: ng/ml

Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:45:34
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 130 of 434

10/19/2018

TestAmerica Burlington

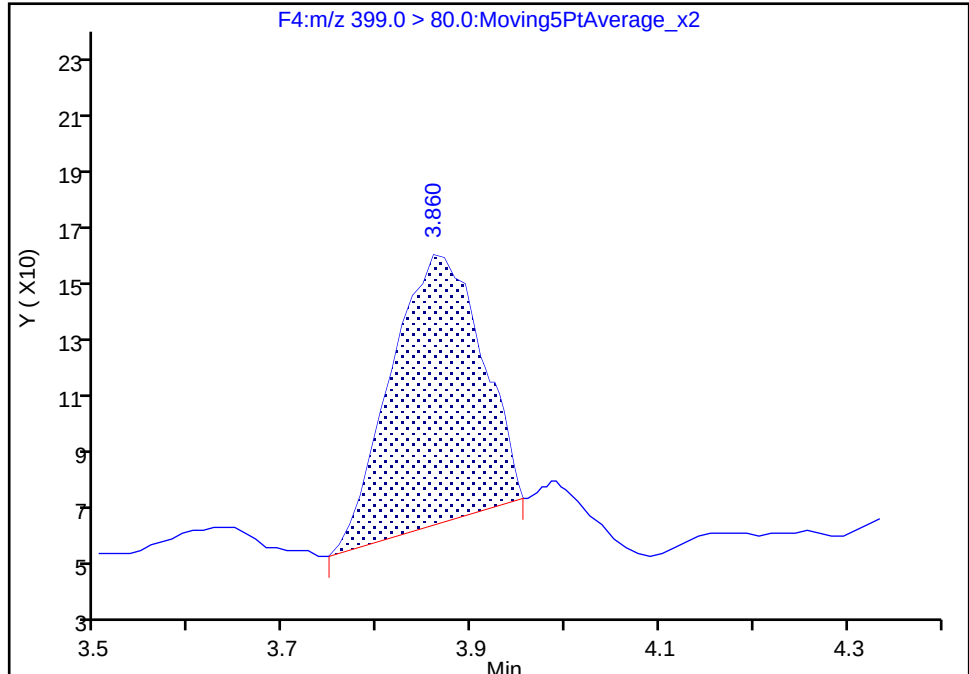
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d				
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410		
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5		
Client ID:	FB062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F4:MRM		

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

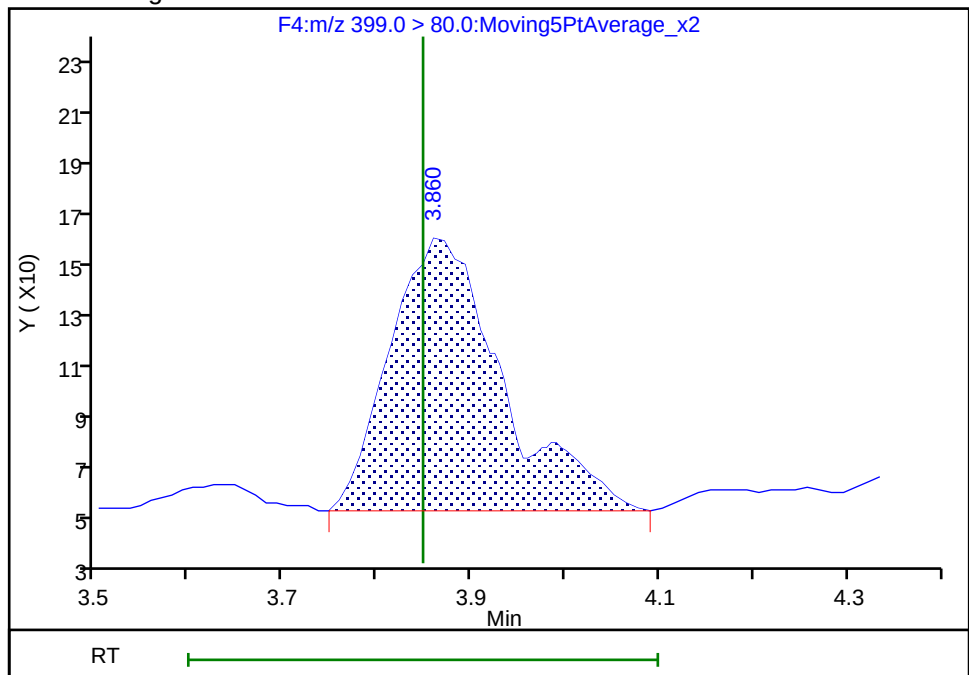
RT: 3.86
Area: 622
Amount: 0.197296
Amount Units: ng/ml

Processing Integration Results



RT: 3.86
Area: 860
Amount: 0.237096
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:44:00
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 131 of 434

10/19/2018

TestAmerica Burlington

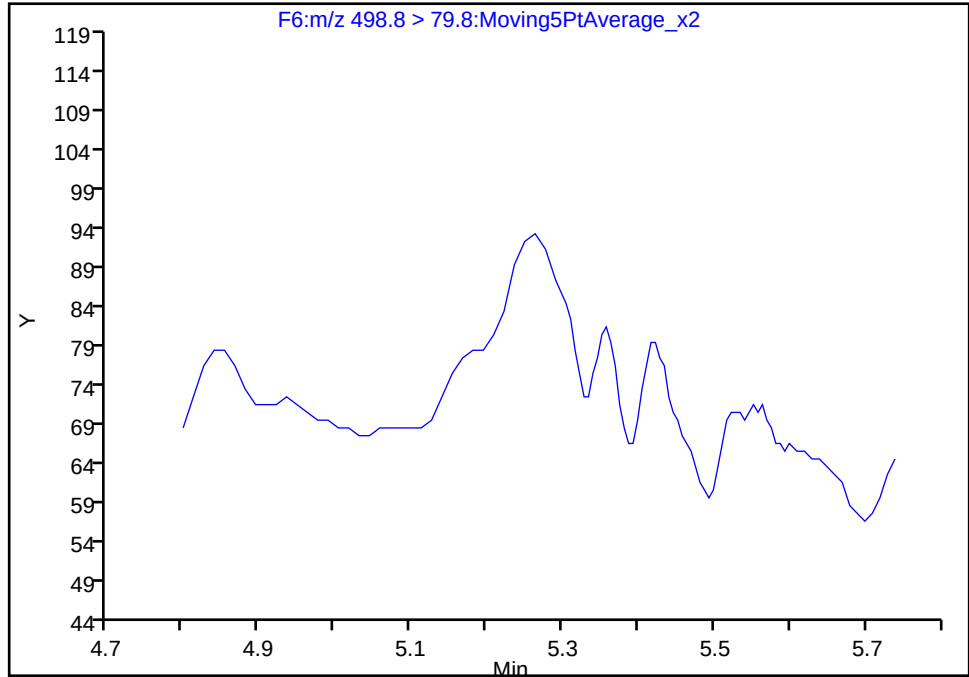
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d		
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5
Client ID:	FB062118		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F6:MRM
		Worklist Smp#:	32

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

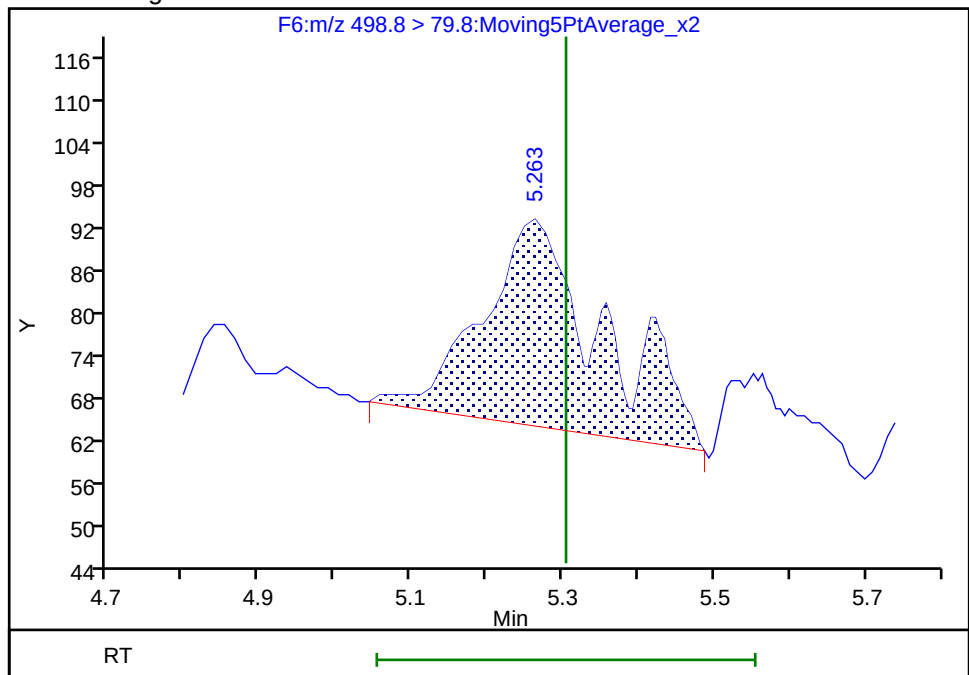
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results

Reviewer: murrayjw, 02-Jul-2018 16:44:30
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 132 of 434

10/19/2018

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d

Injection Date: 29-Jun-2018 00:54:53

Instrument ID: LC410

Lims ID: 200-44045-B-5-A

Lab Sample ID: 200-44045-5

Client ID: FB062118

Operator ID: JWM

ALS Bottle#: 0 Worklist Smp#: 32

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

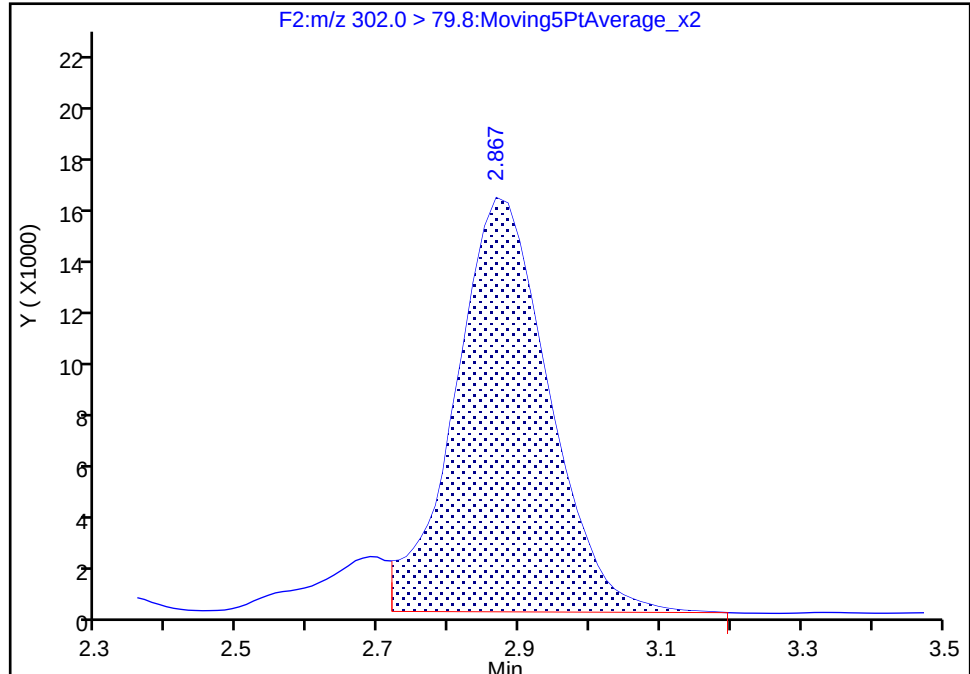
Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

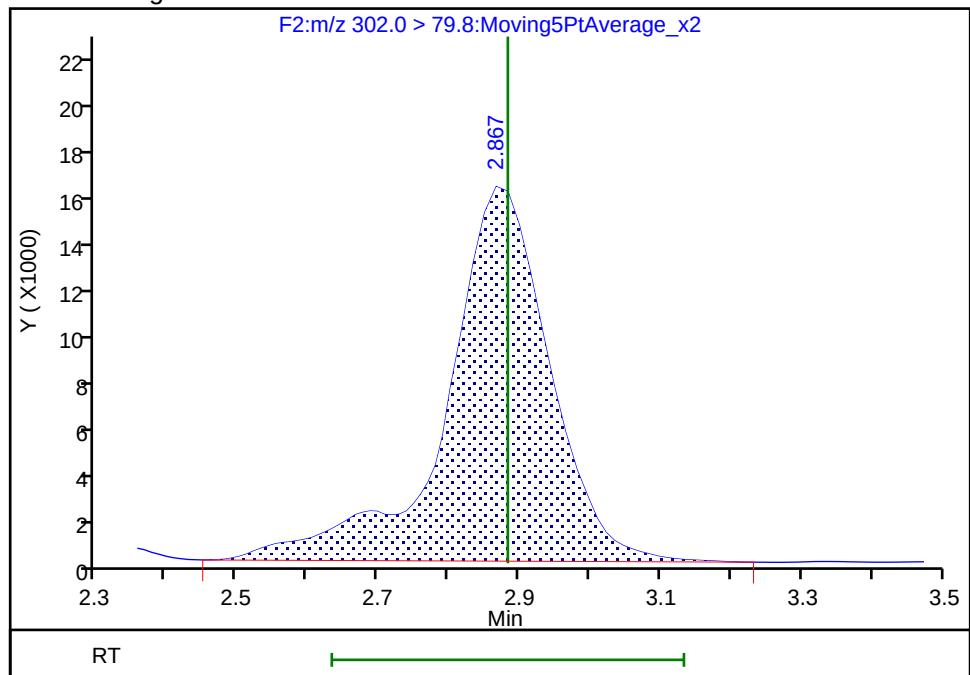
RT: 2.87
Area: 150488
Amount: 32.824865
Amount Units: ng/ml

Processing Integration Results



RT: 2.87
Area: 166735
Amount: 36.368706
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 16:43:31

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

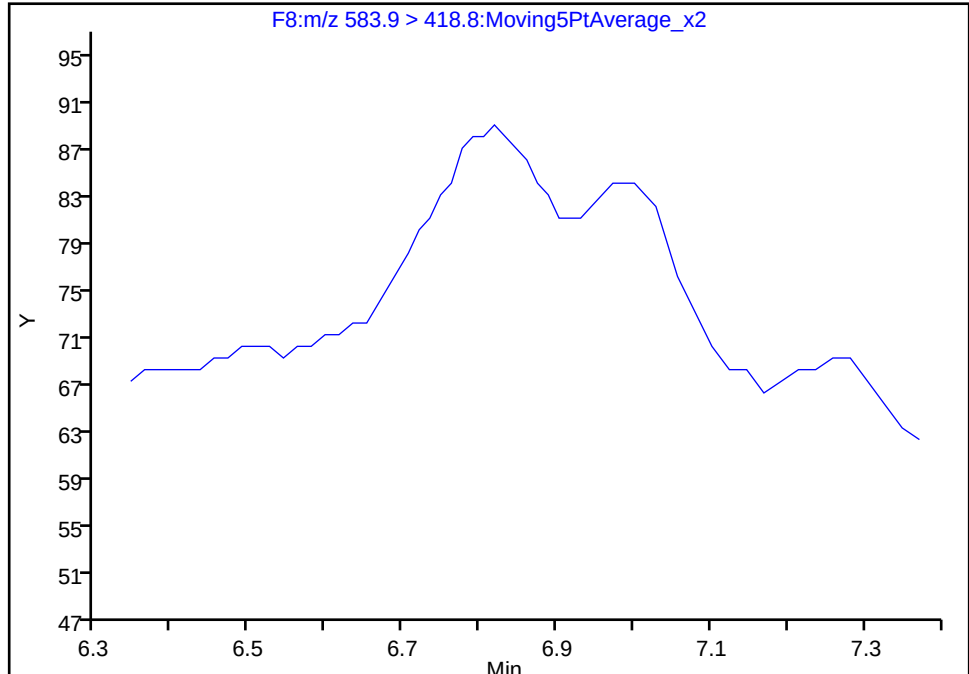
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A32.d				
Injection Date:	29-Jun-2018 00:54:53	Instrument ID:	LC410		
Lims ID:	200-44045-B-5-A	Lab Sample ID:	200-44045-5		
Client ID:	FB062118				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL		
Column:		Detector	F8:MRM		

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

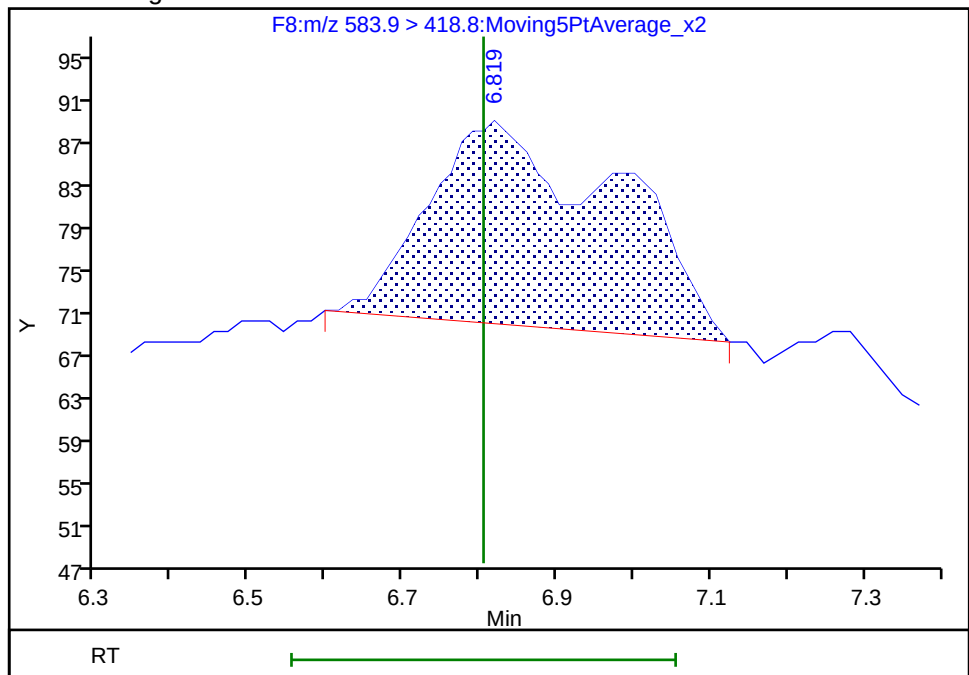
Signal: 1

Not Detected
Expected RT: 6.80

Processing Integration Results



Manual Integration Results

RT: 6.82
Area: 328
Amount: 0.363117
Amount Units: ng/mlReviewer: murrayjw, 02-Jul-2018 16:44:59
Audit Action: Manually IntegratedAudit Reason: Missed Peak
Page 134 of 434

10/19/2018

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-44045-1 Analy Batch No.: 131165

SDG No.: _____

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/27/2018 10:51 Calibration End Date: 06/27/2018 12:12 Calibration ID: 39703

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-131165/6	PF062718A06.d
Level 2	IC 200-131165/7	PF062718A07.d
Level 3	IC 200-131165/8	PF062718A08.d
Level 4	ICIS 200-131165/9	PF062718A09.d
Level 5	IC 200-131165/10	PF062718A10.d
Level 6	IC 200-131165/11	PF062718A11.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								
Perfluorobutanoic acid (PFBA)	1.2935 1.0527	1.1140	0.8997	1.0093	0.9760	L2ID	0.2977	0.9695							0.9930		0.9900
Perfluoropentanoic acid (PFPeA)	4.6500 4.7435	4.2470	3.9061	4.2082	4.3890	L2ID	0.1855	4.3024							0.9930		0.9900
Perfluorobutanesulfonic acid (PFBS)	1.4562 1.5996	1.2214	1.4983	1.4234	1.6202	L2ID	-0.151	1.5203							0.9900		0.9900
Perfluorohexanoic acid (PFHxA)	1.0755 1.2066	0.9484	0.9559	1.0758	1.0591	L2ID	-0.063	1.0721							0.9900		0.9900
Perfluoroheptanoic acid (PFHpA)	0.9628 1.2095	0.9835	1.0007	1.2286	1.0888	L2ID	-0.223	1.1450							0.9940		0.9900
Perfluorohexanesulfonic acid (PFHxS)	1.2177 1.5198	1.2867	1.1725	1.2361	1.3301	L2ID	-0.124	1.3343							0.9900		0.9900
6:2 FTS	0.8549 1.1297	0.7390	1.0452	1.3398	1.0047	L1ID	-0.339	1.1248							0.9940		0.9900
Perfluorooctanoic acid (PFOA)	1.4351 1.2656	0.9767	1.0996	1.1310	1.1940	L1ID	-0.200	1.2429							0.9980		0.9900
Perfluoroheptanesulfonic Acid (PFHpS)	1.1628 1.0193	0.7467	0.8499	1.0124	1.0154	L1ID	-0.159	1.0172							0.9990		0.9900
Perfluorononanoic acid (PFNA)	1.0626 1.1301	0.9584	0.9780	1.0066	1.0452	L2ID	-0.019	1.0356							0.9950		0.9900
Perfluorooctanesulfonic acid (PFOS)	1.2009 1.3077	0.9871	1.0178	1.1638	1.1729	L1ID	-0.418	1.2749							0.9970		0.9900
8:2 FTS	0.4281 0.6977	0.7114	0.4282	0.8234	0.8174	L1ID	-0.250	0.7282							0.9910		0.9900
Perfluorodecanoic acid (PFDA)	1.0115 1.1314	1.0640	0.9129	0.9970	1.0214	L2ID	-0.018	1.0284							0.9930		0.9900
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.2363 1.3341	1.2523	1.1849	1.1064	1.2038	L2ID	0.0269	1.2117							0.9950		0.9900
Perfluorodecanesulfonic acid (PFDS)	0.9691 1.1312	0.9864	1.0085	1.1664	1.1452	L2ID	-0.181	1.1235							0.9970		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.: 200-44045-1 Analy Batch No.: 131165

SDG No.: _____

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/27/2018 10:51 Calibration End Date: 06/27/2018 12:12 Calibration ID: 39703

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								
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.2100 1.1838	0.9605	0.9282	1.0544	1.0990	L1ID	-0.293	1.1595							0.9980		0.9900
Perfluoroundecanoic acid (PFUnA)	1.1722 0.9689	0.8649	0.8824	0.9612	0.9620	L1ID	0.0112	0.9653							1.0000		0.9900
Perfluorooctanesulfonamide (FOSA)	0.8279 1.1028	0.9629	0.7002	1.0349	1.0278	L1ID	-0.483	1.0856							0.9980		0.9900
Perfluorododecanoic acid (PFDoA)	1.0368 1.0929	1.0214	0.9137	0.8985	0.9965	L2ID	0.0488	0.9789							0.9920		0.9900
Perfluorotridecanoic acid (PFTriA)	1.1649 1.0702	0.9976	0.9507	0.9431	0.9837	L2ID	0.1543	0.9727							0.9950		0.9900
Perfluorotetradecanoic acid (PFTeA)	0.9767 1.0260	0.9754	0.8492	0.9619	0.9974	L2ID	-0.006	0.9661							0.9940		0.9900
13C4 PFBA	0.4827 0.5772	0.5383	0.4793	0.5443	0.5772	Ave		0.5332				8.2		30.0			
13C5-PFPeA DNU	0.1983 0.2018	0.2107	0.1908	0.2188	0.2160	Ave		0.2061				5.3		30.0			
13C3 PFBS	0.3519 0.3731	0.3949	0.3602	0.4042	0.3747	Ave		0.3765				5.3		30.0			
13C2 PFHxA	0.3817 0.4154	0.4132	0.3882	0.4468	0.4457	Ave		0.4152				6.6		30.0			
13C4 PFHpA	1.1051 1.0523	1.1529	1.1043	1.0921	1.2211	Ave		1.1213				5.2		30.0			
18O2 PFHxS	0.4572 0.4237	0.4985	0.4372	0.4761	0.4657	Ave		0.4597				5.9		30.0			
M2-6:2 FTS	0.0275 0.0272	0.0199	0.0206	0.0267	0.0334	Ave		0.0259				19.4		30.0			
13C4 PFOA	0.9130 0.8062	1.0131	0.8823	0.9570	0.9003	Ave		0.9120				7.7		30.0			
13C5 PFNA	0.9509 0.9047	1.0401	0.9664	1.0543	1.0059	Ave		0.9871				5.8		30.0			
13C4 PFOS	0.3484 0.3068	0.3503	0.3325	0.3591	0.3455	Ave		0.3404				5.5		30.0			
M2-8:2 FTS	0.2547 0.3463	0.2865	0.2827	0.2950	0.2717	Ave		0.2895				10.8		30.0			
13C2 PFDA	1.3351 1.2713	1.4239	1.3713	1.4538	1.4022	Ave		1.3763				4.8		30.0			
d3-NMeFOSAA	0.3096 0.3301	0.3341	0.2938	0.3459	0.3358	Ave		0.3249				6.0		30.0			
d5-NEtFOSAA	0.3166 0.2643	0.3300	0.2972	0.3236	0.3037	Ave		0.3059				7.8		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.: 200-44045-1 Analy Batch No.: 131165

SDG No.: _____

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/27/2018 10:51 Calibration End Date: 06/27/2018 12:12 Calibration ID: 39703

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								
13C2 PUnA	1.3851 1.0826	1.3931	1.2840	1.3202	1.2875	Ave		1.2921				8.7		30.0			
13C8 FOSA	0.5510 0.4950	0.5202	0.5142	0.5264	0.5504	Ave		0.5262				4.1		30.0			
13C2 PFDoA	1.2414 1.2211	1.3495	1.2740	1.4301	1.3215	Ave		1.3063				5.9		30.0			
13C2 PFTeDA	1.2881 1.2803	1.3388	1.2762	1.3611	1.3357	Ave		1.3134				2.8		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.: 200-44045-1 Analy Batch No.: 131165

SDG No.: _____

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/27/2018 10:51 Calibration End Date: 06/27/2018 12:12 Calibration ID: 39703

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-131165/6	PF062718A06.d
Level 2	IC 200-131165/7	PF062718A07.d
Level 3	IC 200-131165/8	PF062718A08.d
Level 4	ICIS 200-131165/9	PF062718A09.d
Level 5	IC 200-131165/10	PF062718A10.d
Level 6	IC 200-131165/11	PF062718A11.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	7627 949074	11594	23258	102413	237377	1.00 200	2.00	5.00	20.0	50.0
Perfluoropentanoic acid (PFPeA)		L2ID	11261 1495169	17299	40196	171683	399452	1.00 200	2.00	5.00	20.0	50.0
Perfluorobutanesulfonic acid (PFBS)		L2ID	5534 824178	8243	25732	94820	226158	0.884 177	1.77	4.42	17.7	44.2
Perfluorohexanoic acid (PFHxA)		L2ID	5015 782824	7575	20015	89616	198938	1.00 200	2.00	5.00	20.0	50.0
Perfluoroheptanoic acid (PFHpA)		L2ID	12997 1987858	21919	59604	250150	560282	1.00 200	2.00	5.00	20.0	50.0
Perfluorohexanesulfonic acid (PFHxS)		L2ID	6189 915395	11284	25158	99842	237561	0.910 182	1.82	4.55	18.2	45.5
6:2 FTS		L1ID	272 45428	269	1101	6324	13404	0.948 190	1.90	4.74	19.0	47.4
Perfluorooctanoic acid (PFOA)		L1ID	16006 1593672	19128	52329	201794	453012	1.00 200	2.00	5.00	20.0	50.0
Perfluoroheptanesulfonic Acid (PFHpS)		L1ID	4711 464937	4814	14510	64531	140727	0.952 190	1.90	4.76	19.0	47.6
Perfluorononanoic acid (PFNA)		L2ID	12343 1597072	19270	50977	197849	443059	1.00 200	2.00	5.00	20.0	50.0
Perfluorooctanesulfonic acid (PFOS)		L1ID	4743 581457	6203	16937	72313	158463	0.928 186	1.86	4.64	18.6	46.4
8:2 FTS		L1ID	1276 361554	3775	6254	43385	89656	0.958 192	1.92	4.79	19.2	47.9
Perfluorodecanoic acid (PFDA)		L2ID	16496 2246588	29289	67520	270199	603529	1.00 200	2.00	5.00	20.0	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)		L2ID	4676 687748	8089	18778	71342	170332	1.00 200	2.00	5.00	20.0	50.0
Perfluorodecanesulfonic acid (PFDS)		L2ID	3976 522485	6439	17434	75287	160719	0.964 193	1.93	4.82	19.3	48.2
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		L1ID	4679 488696	6128	14880	63608	140648	1.00 200	2.00	5.00	20.0	50.0

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Burlington Job No.: 200-44045-1 Analy Batch No.: 131165

SDG No.: _____

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/27/2018 10:51 Calibration End Date: 06/27/2018 12:12 Calibration ID: 39703

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)		L1ID	19833 1638406	23291	61113	236589	521971	1.00 200	2.00	5.00	20.0	50.0
Perfluorooctanesulfonamide (FOSA)		L1ID	5572 852721	9683	19421	101555	238423	1.00 200	2.00	5.00	20.0	50.0
Perfluorododecanoic acid (PFDoA)		L2ID	15721 2084549	26646	62783	239538	554962	1.00 200	2.00	5.00	20.0	50.0
Perfluorotridecanoic acid (PFTriA)		L2ID	17664 2041229	26025	65326	251428	547810	1.00 200	2.00	5.00	20.0	50.0
Perfluorotetradecanoic acid (PFTeA)		L2ID	15368 2051730	25244	58451	244077	561437	1.00 200	2.00	5.00	20.0	50.0
13C4 PFBA	13PF OA	Ave	294810 225387	260178	258511	253677	243224	50.0 50.0	50.0	50.0	50.0	50.0
13C5-PFPeA DNU	13PF OA	Ave	121085 78801	101830	102907	101992	91012	50.0 50.0	50.0	50.0	50.0	50.0
13C3 PFBS	13PF OA	Ave	199896 135510	177496	180682	175205	146852	46.5 46.5	46.5	46.5	46.5	46.5
13C2 PFHxA	13PF OA	Ave	233145 162196	199679	209376	208262	187843	50.0 50.0	50.0	50.0	50.0	50.0
13C4 PFHpA	13PF OA	Ave	674938 410898	557170	595604	509002	514592	50.0 50.0	50.0	50.0	50.0	50.0
18O2 PFHxS	13PF OA	Ave	264188 156530	227912	223050	209910	185671	47.3 47.3	47.3	47.3	47.3	47.3
M2-6:2 FTS	13PF OA	Ave	15942 10074	9119	10556	11825	13370	47.5 47.5	47.5	47.5	47.5	47.5
13C4 PFOA	13PF OA	Ave	557646 314804	489618	475878	446044	379402	50.0 50.0	50.0	50.0	50.0	50.0
13C5 PFNA	13PF OA	Ave	580783 353293	502666	521226	491383	423908	50.0 50.0	50.0	50.0	50.0	50.0
13C4 PFOS	13PF OA	Ave	203427 114512	161844	171435	160021	139178	47.8 47.8	47.8	47.8	47.8	47.8
M2-8:2 FTS	13PF OA	Ave	149021 129560	132665	146066	131732	109680	47.9 47.9	47.9	47.9	47.9	47.9
13C2 PFDA	13PF OA	Ave	815450 496407	688153	739647	677556	590911	50.0 50.0	50.0	50.0	50.0	50.0
d3-NMeFOSAA	13PF OA	Ave	189106 128882	161489	158475	161202	141495	50.0 50.0	50.0	50.0	50.0	50.0
d5-NEtFOSAA	13PF OA	Ave	193355 103204	159503	160307	150811	127975	50.0 50.0	50.0	50.0	50.0	50.0
13C2 PFUnA	13PF OA	Ave	845940 422733	673261	692538	615319	542583	50.0 50.0	50.0	50.0	50.0	50.0
13C8 FOSA	13PF OA	Ave	336509 193304	251409	277355	245319	231965	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.: 200-44045-1 Analy Batch No.: 131165

SDG No.: _____

Instrument ID: LC410 GC Column: C-18 ID: 4.6 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/27/2018 10:51 Calibration End Date: 06/27/2018 12:12 Calibration ID: 39703

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	758168 476833	652189	687141	666510	556899	50.0 50.0	50.0	50.0	50.0	50.0
13C2 PFTeDA	13PF OA	Ave	786725 499947	647015	688306	634392	562884	50.0 50.0	50.0	50.0	50.0	50.0

Curve Type Legend:

Ave = Average ISTD
L1ID = Linear 1/conc IsoDil
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 27-Jun-2018 10:51:48 ALS Bottle#: 0 Worklist Smp#: 6
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-006 IC 1
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:39:35 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.371	2.370	0.001	1.000	294810	45.3		90.5	327	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.382	2.375	0.007	1.004	7627	1.03		103	44.7	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	121085	48.1		96.2	261	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.801	2.807	-0.006	1.000	11261	1.04		104	52.2	M
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	199896	43.5		93.5	591	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.900	2.889	0.011	1.006	5534	0.9458		107	35.8	M
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.263	3.263	0.0	1.000	5015	1.06		106	90.7	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.263	3.265	-0.002	1.000	233145	46.0		91.9	134	
D 10 13C4-PFHpA										
366.9 > 321.8	3.848	3.843	0.005	1.000	674938	49.3		98.6	1748	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.848	3.848	0.0	1.000	12997	1.04		104	51.1	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.893	3.889	0.004	1.000	264188	47.0		99.5	330	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.893	3.894	-0.001	1.000	6189	0.9237		102	41.2	M
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.546	4.513	0.033	1.006	272	1.02		108	4.5	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.519	4.525	-0.006	1.000	15942	50.5		106	123	

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	4.574	4.567	0.007	1.000	557646	50.1		100	2812	
16 Perfluorooctanoic acid										M
412.9 > 368.8	4.574	4.567	0.007	1.000	16006	1.32		132	121	M
* 49 13C2-PFOA										
414.9 > 369.8	4.574	4.569	0.005		610757	50.0			781	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.587	4.596	-0.009	0.852	4711	1.24		131	32.0	M
D 21 13C5 PFNA										
467.8 > 422.8	5.364	5.363	0.001	1.000	580783	48.2		96.3	1578	
19 Perfluorononanoic acid										
462.8 > 418.8	5.369	5.368	0.001	1.001	12343	1.04		104	123	
D 22 13C4 PFOS										
502.8 > 79.8	5.381	5.382	-0.001	1.000	203427	48.9		102	1652	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.381	5.386	-0.005	1.000	4743	1.20		130	62.5	M
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.143	6.147	-0.004	1.000	1276	0.9063		94.6	5.0	
D 23 M2-8:2FTS										
528.8 > 508.8	6.143	6.147	-0.004	1.000	149021	42.1		88.0	493	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.190	6.186	0.004	1.000	16496	1.00		100	83.2	
D 25 13C2 PFDA										
514.9 > 469.5	6.190	6.186	0.004	1.000	815450	48.5		97.0	5937	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	189106	47.7		95.3	1412	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.548	6.539	0.009	1.003	4676	1.00		99.8	27.2	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.903	6.903	0.0	1.000	193355	51.7		103	1932	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.917	6.924	-0.007	1.285	3976	0.99		103	86.2	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.945	6.926	0.019	1.006	4679	1.30		130	93.2	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	6.942	0.003	1.000	845940	53.6		107	5039	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.945	6.947	-0.002	1.000	19833	1.20		120	150	
D 35 13C8 FOSA										
505.8 > 77.8	7.169	7.154	0.015	1.000	336509	52.4		105	1778	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.169	7.158	0.011	1.000	5572	1.21		121	33.9	
D 36 13C2 PFDoA										
614.8 > 569.6	7.634	7.636	-0.002	1.000	758168	47.5		95.0	3647	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.634	7.640	-0.006	1.000	15721	1.01		101	147	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.264	8.259	0.005	1.082	176642	1.04		104	93.1	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d

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	8.808	8.805	0.003	1.000	786725	49.0		98.1	4281	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.808	8.808	0.0	1.000	15368	1.02		102	124	M
712.8 > 168.8	8.801	8.808	-0.007	0.999	2414		6.37(0.00-0.00)	102	27.6	M
712.8 > 218.8	8.808	8.808	0.0	1.000	1226		12.54(0.00-0.00)	102	11.4	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS21-L1_00003

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d

Injection Date: 27-Jun-2018 10:51:48

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

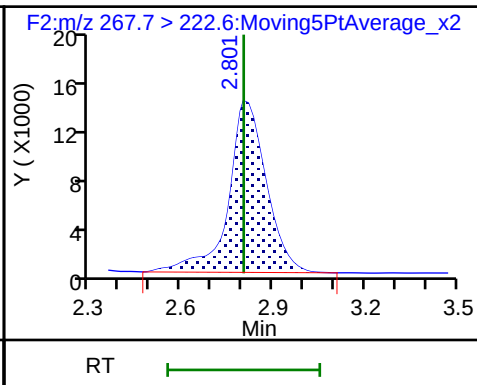
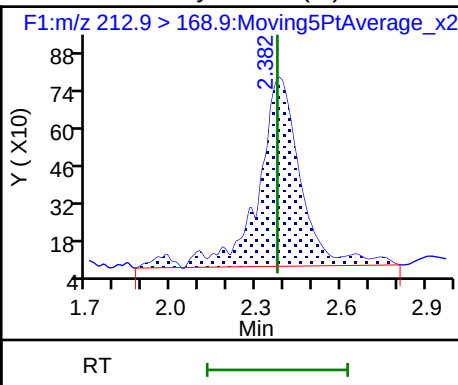
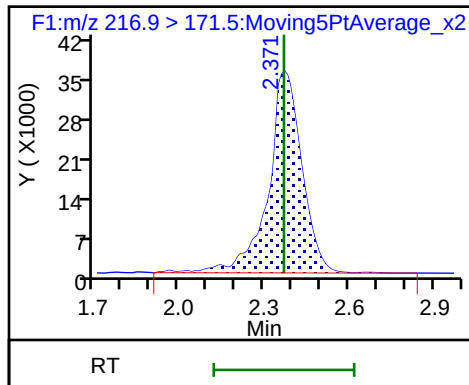
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

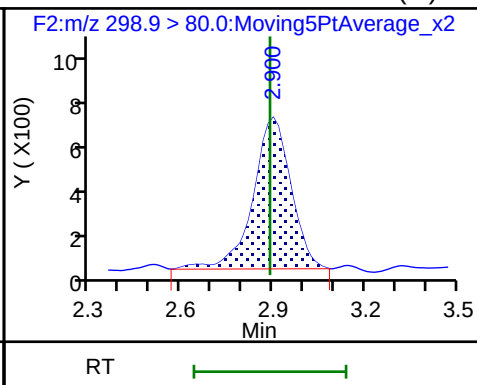
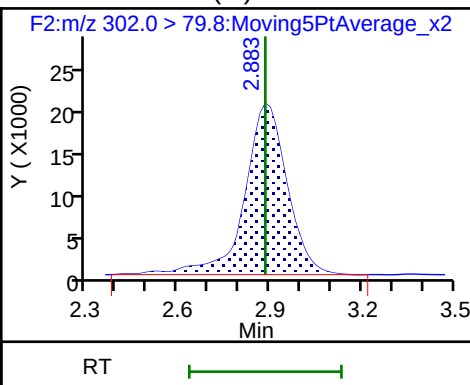
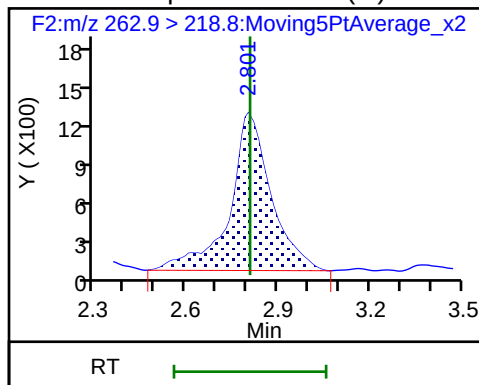
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS (M)

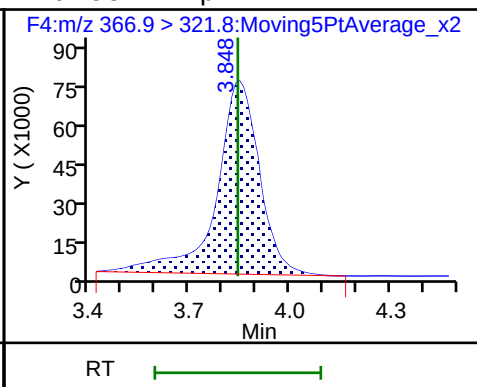
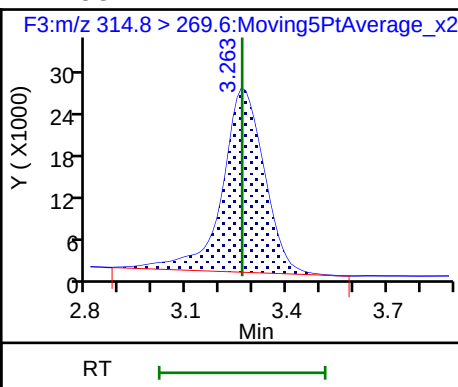
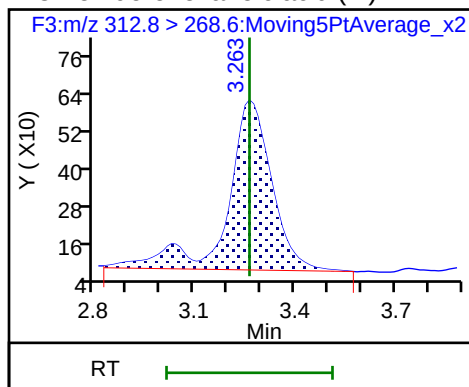
6 Perfluorobutanesulfonic acid (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA

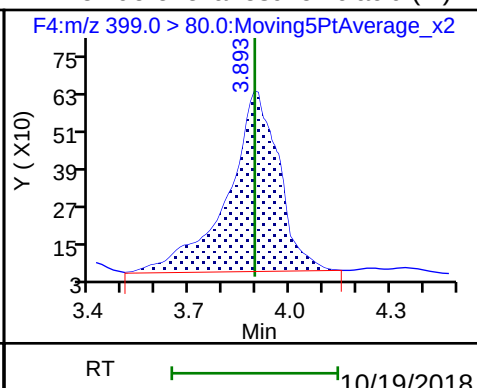
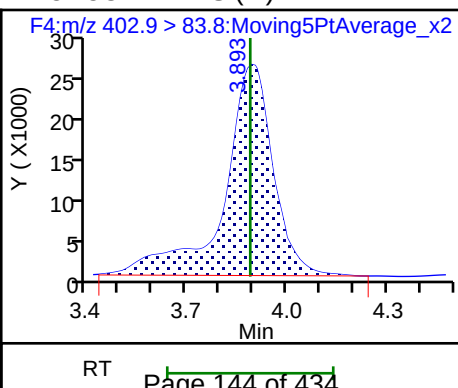
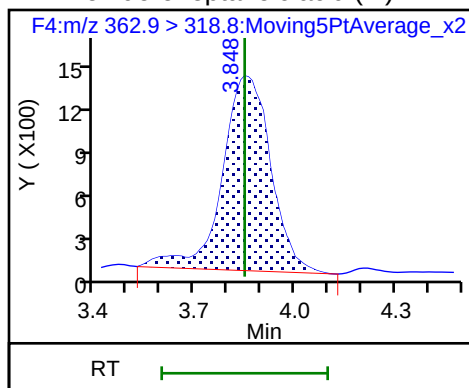
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

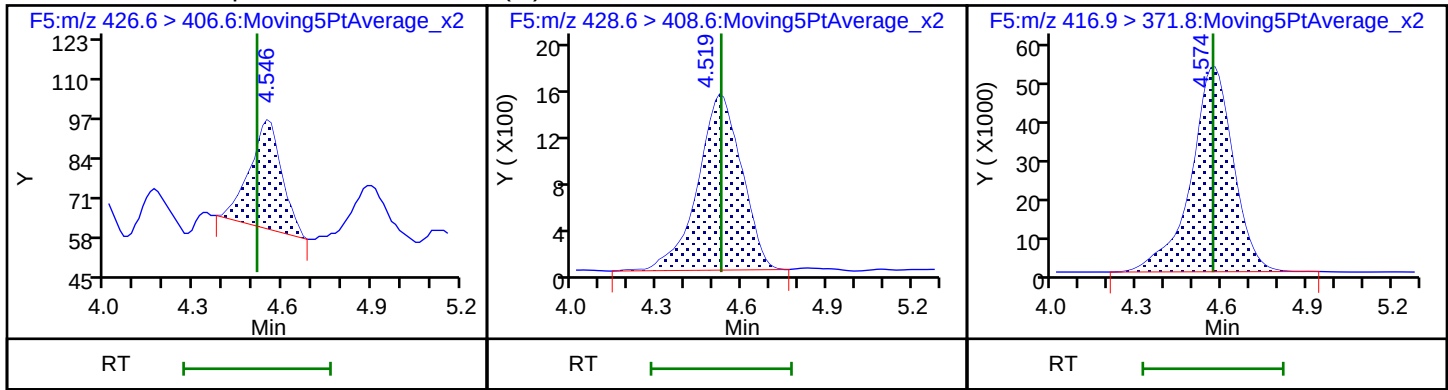
D 13 18O2 PFHxS (M)

12 Perfluorohexanesulfonic acid (M)



15 1H,1H,2H,2H-perfluorooctanesulfonate (M) M2-6:2FTS

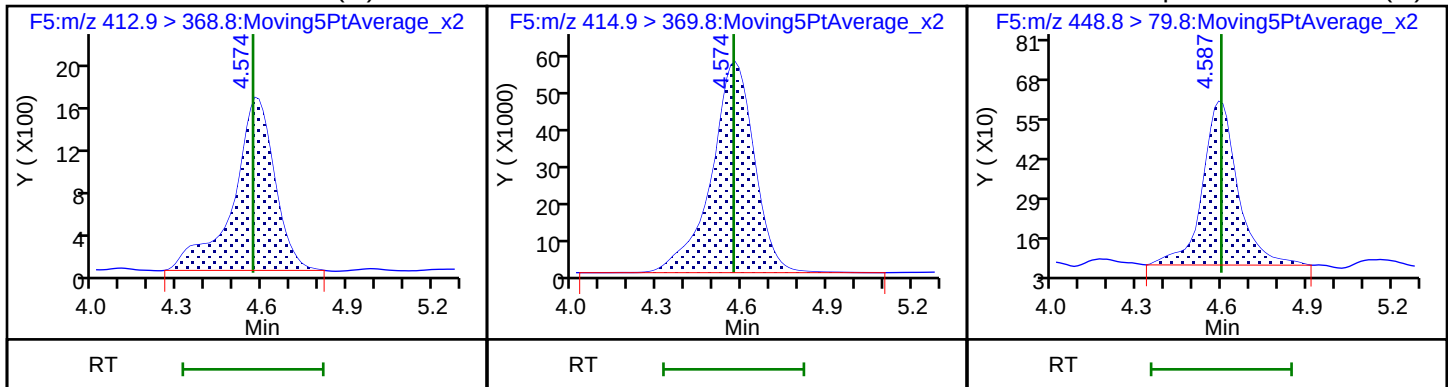
D 17 13C4 PFOA



16 Perfluorooctanoic acid (M)

* 49 13C2-PFOA

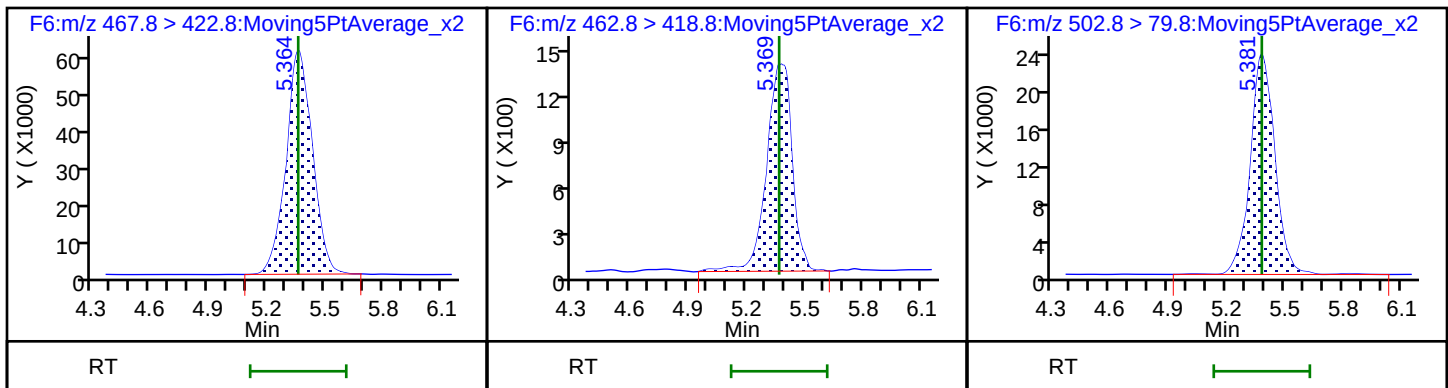
18 Perfluoroheptanesulfonic acid (M)



D 21 13C5 PFNA

19 Perfluorononanoic acid

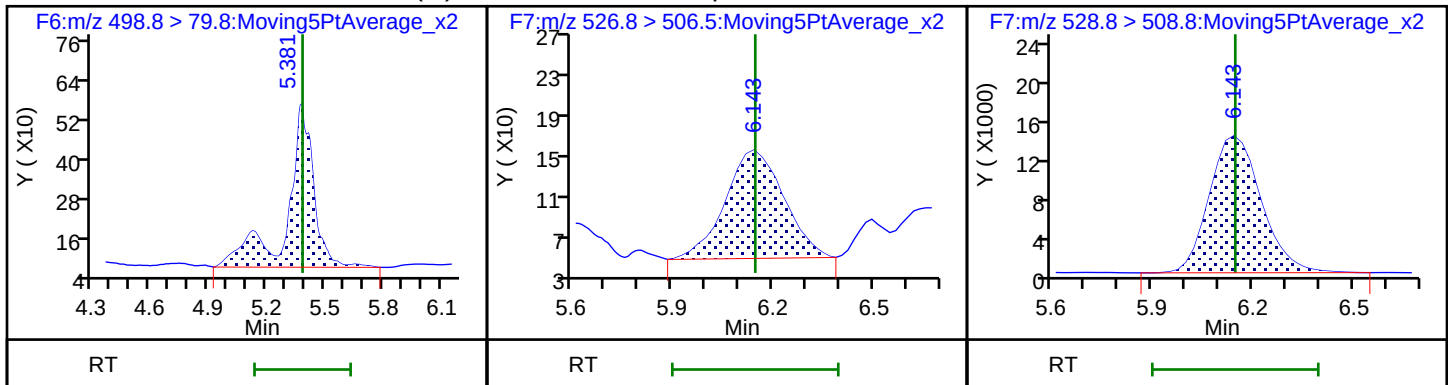
D 22 13C4 PFOS

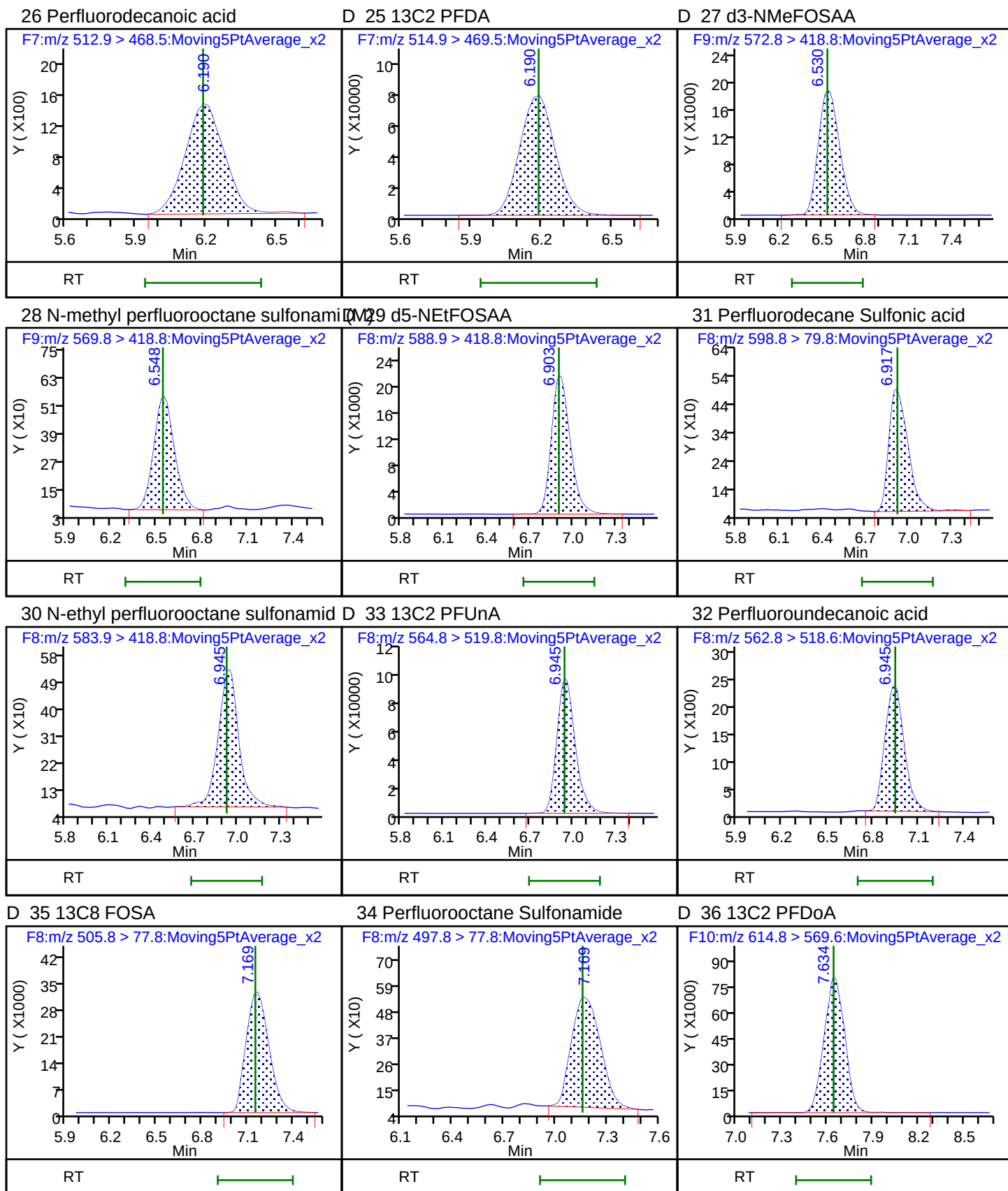


20 Perfluorooctane sulfonic acid (M)

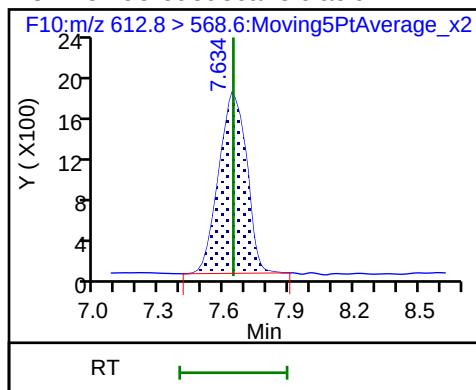
24 1H,1H,2H,2H-perfluorodecanesulfonate (M) M2-8:2FTS

D 23 M2-8:2FTS

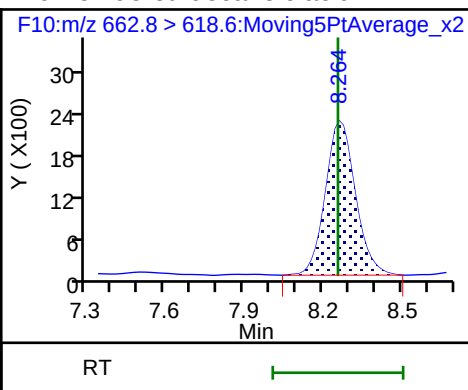




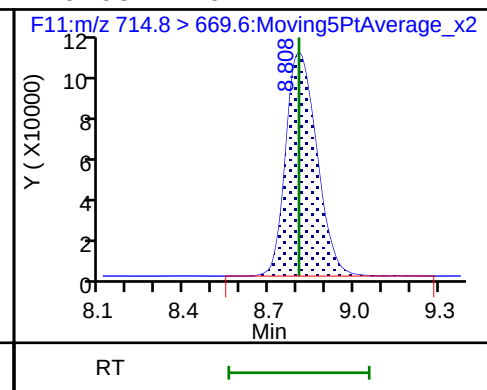
37 Perfluorododecanoic acid



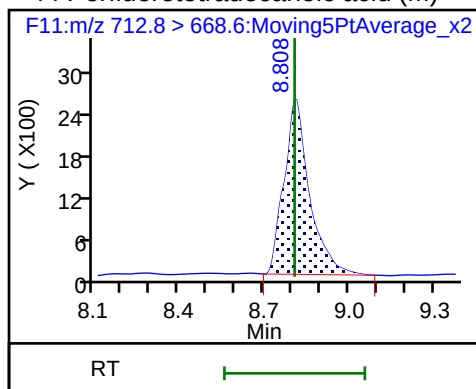
40 Perfluorotridecanoic acid



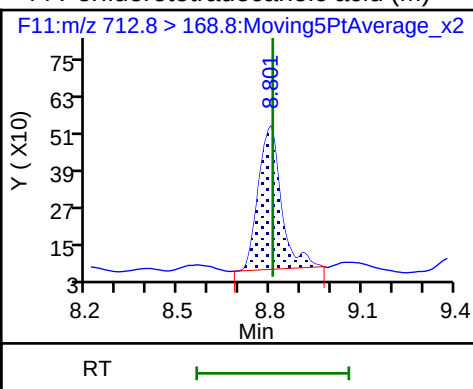
D 43 13C2-PFTeDA



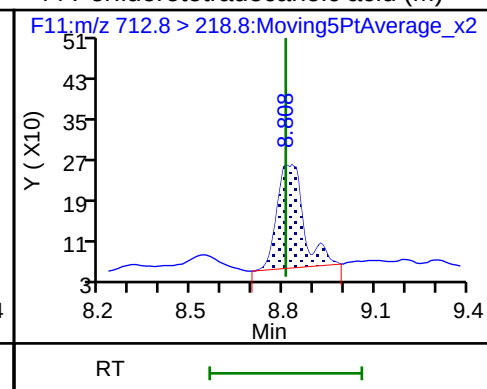
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid (M)



TestAmerica Burlington

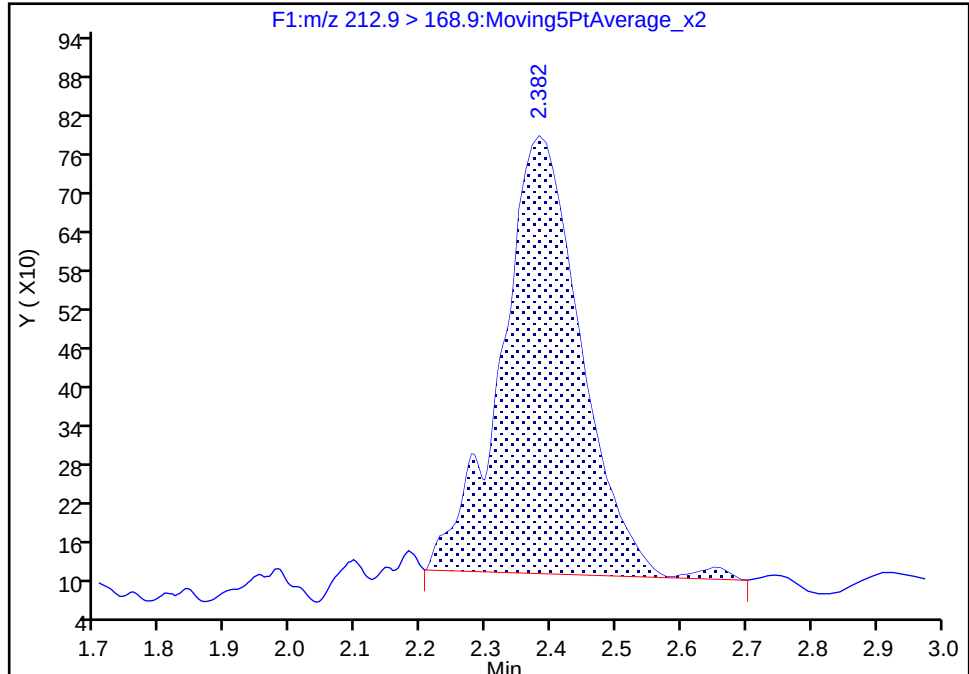
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

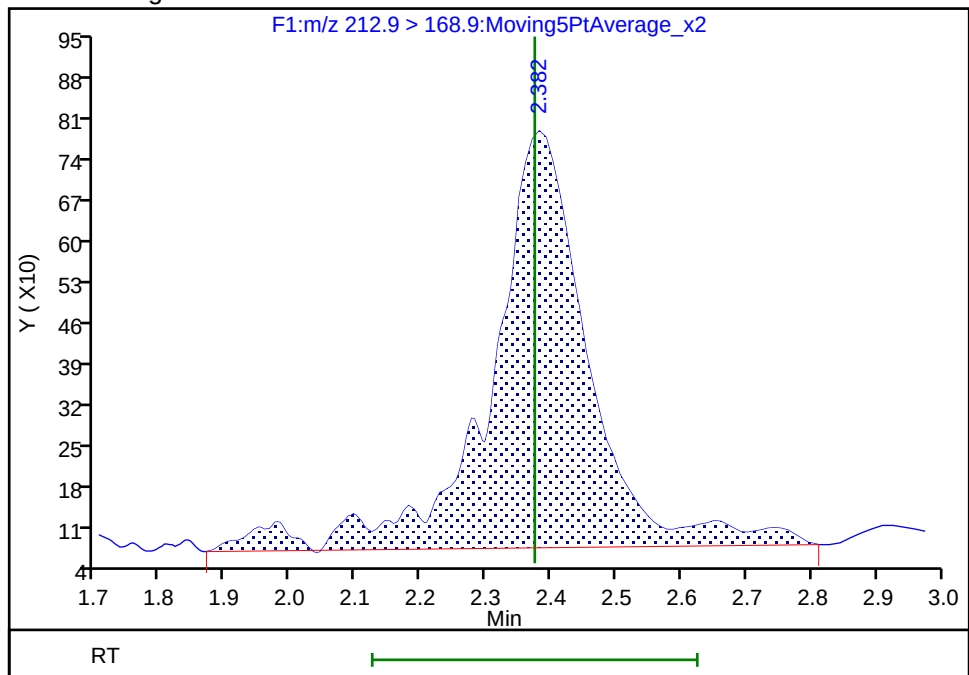
RT: 2.38
Area: 5823
Amount: 1.000000
Amount Units: ng/ml

Processing Integration Results



RT: 2.38
Area: 7627
Amount: 1.027169
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:57:39

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

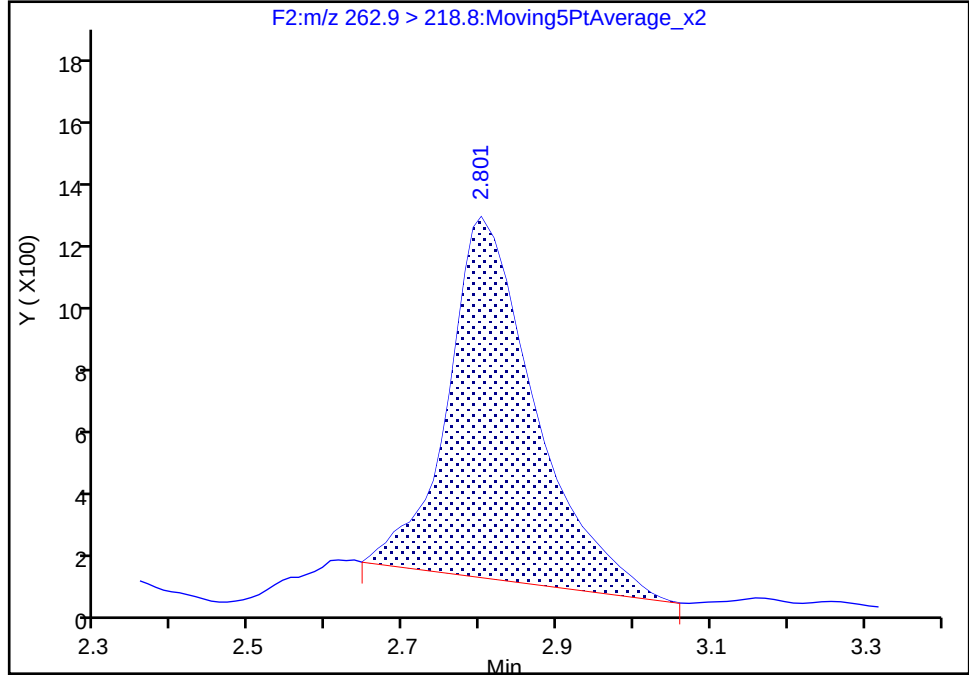
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

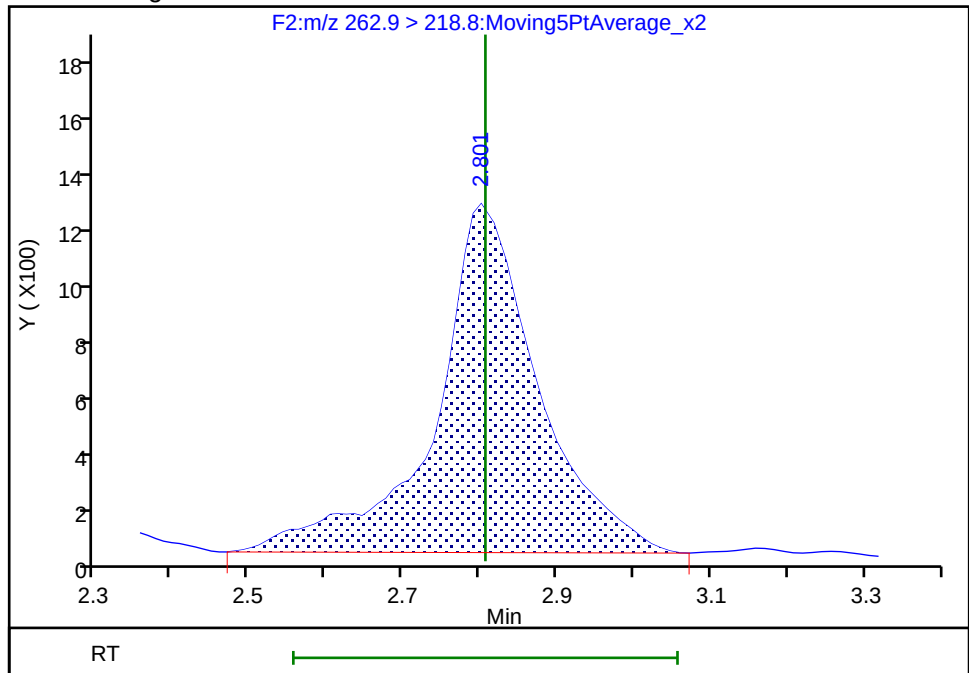
RT: 2.80
Area: 8940
Amount: 1.000000
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 11261
Amount: 1.037674
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:57:45
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 149 of 434

10/19/2018

TestAmerica Burlington

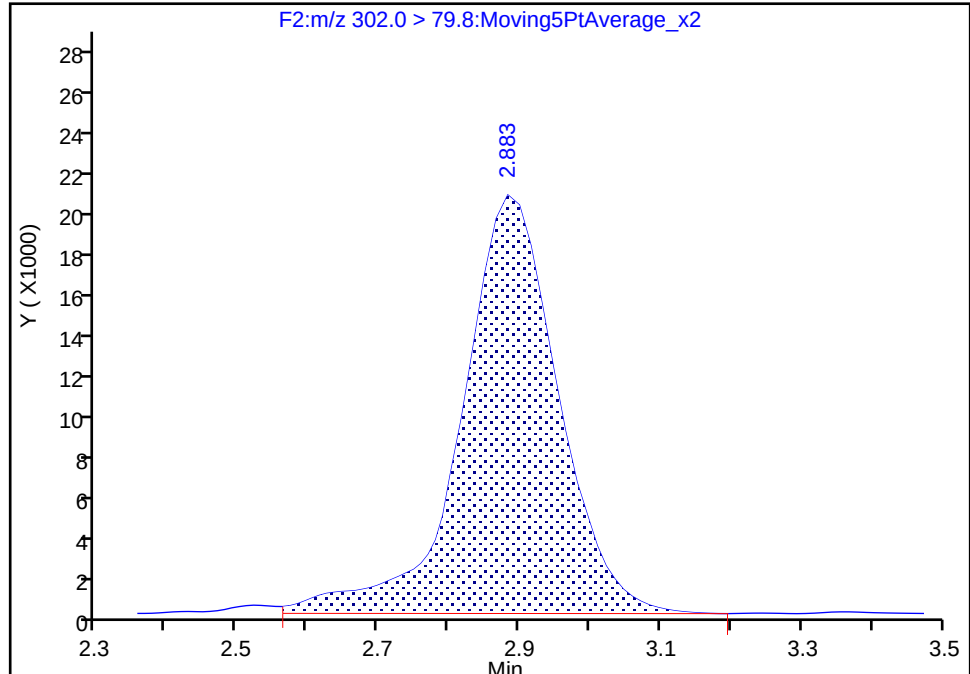
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Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

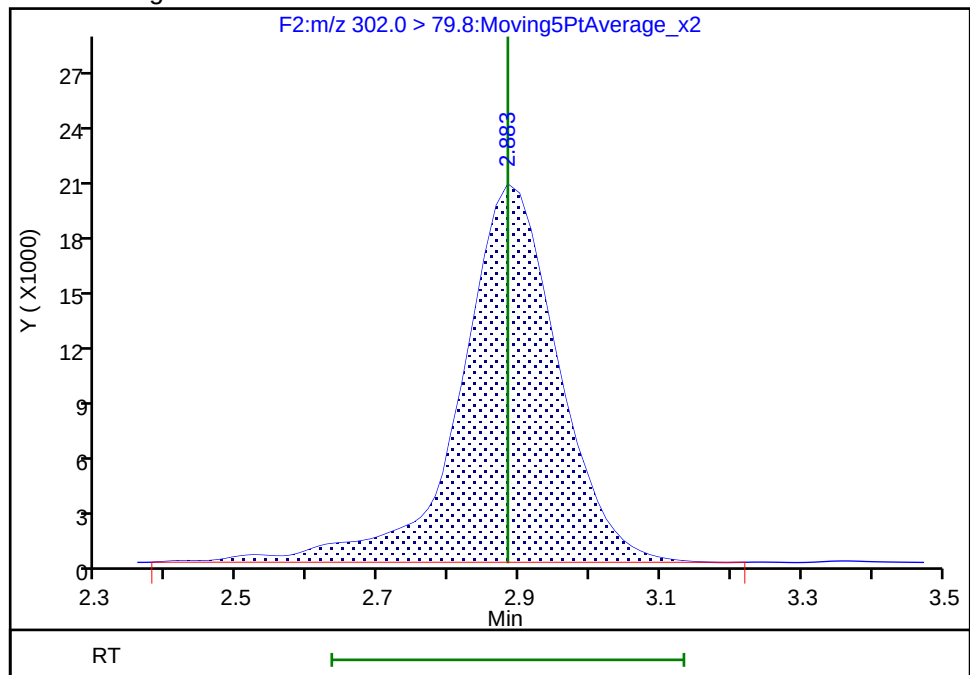
RT: 2.88
Area: 198205
Amount: 43.838188
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 199896
Amount: 43.463023
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:57:56

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

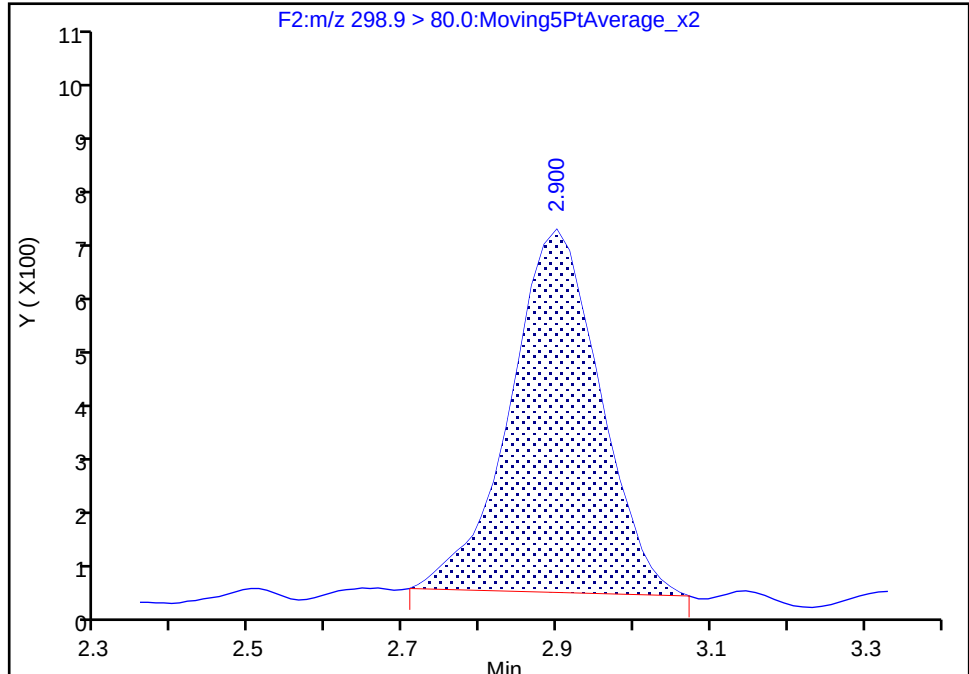
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d		
Injection Date:	27-Jun-2018 10:51:48	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

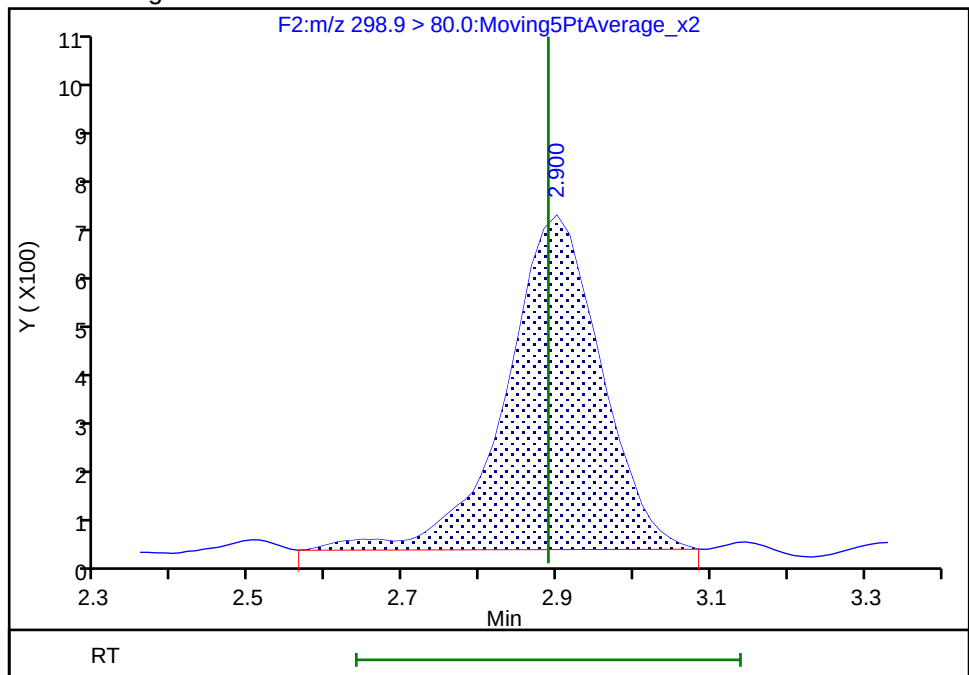
RT: 2.90
Area: 5141
Amount: 0.884000
Amount Units: ng/ml

Processing Integration Results



RT: 2.90
Area: 5534
Amount: 0.945845
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:57:59
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 151 of 434

10/19/2018

TestAmerica Burlington

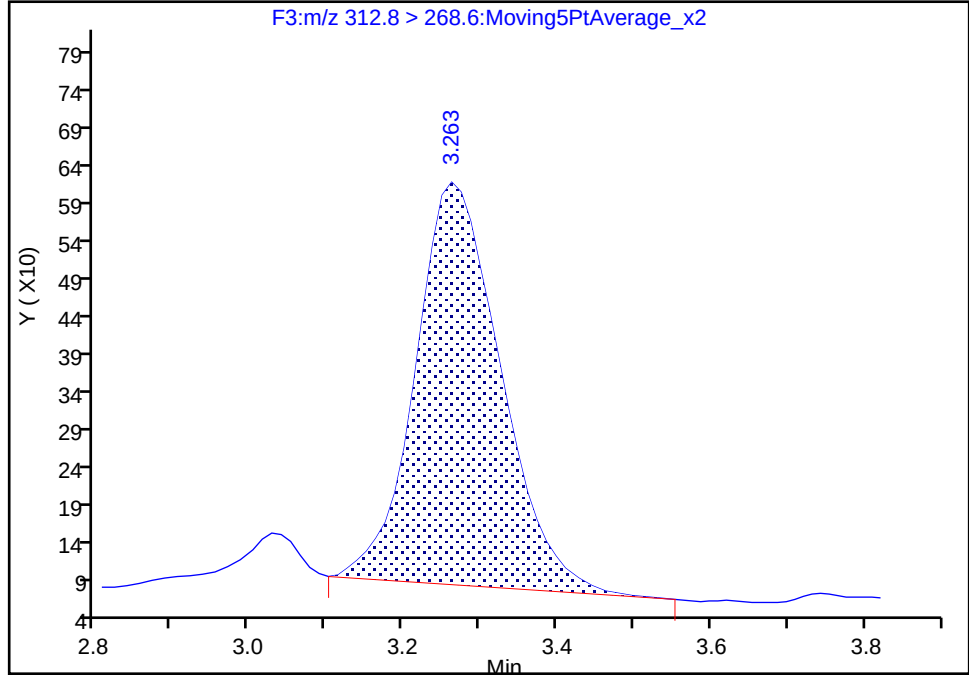
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Injection Date:	27-Jun-2018 10:51:48	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F3:MRM
		Worklist Smp#:	6

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

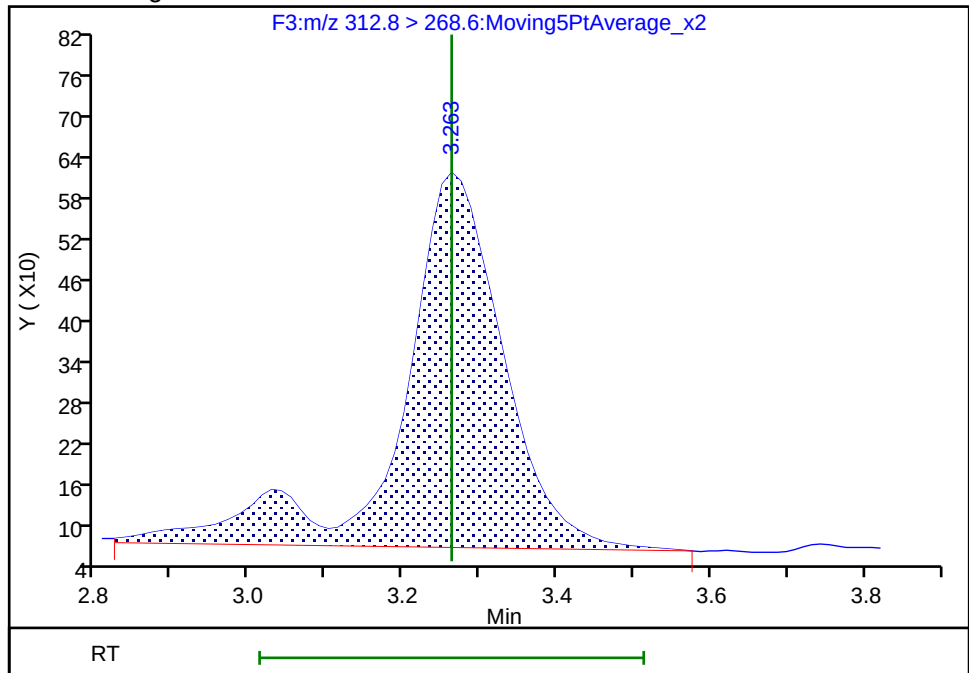
RT: 3.26
Area: 4078
Amount: 1.000000
Amount Units: ng/ml

Processing Integration Results



RT: 3.26
Area: 5015
Amount: 1.061672
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:58:54

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

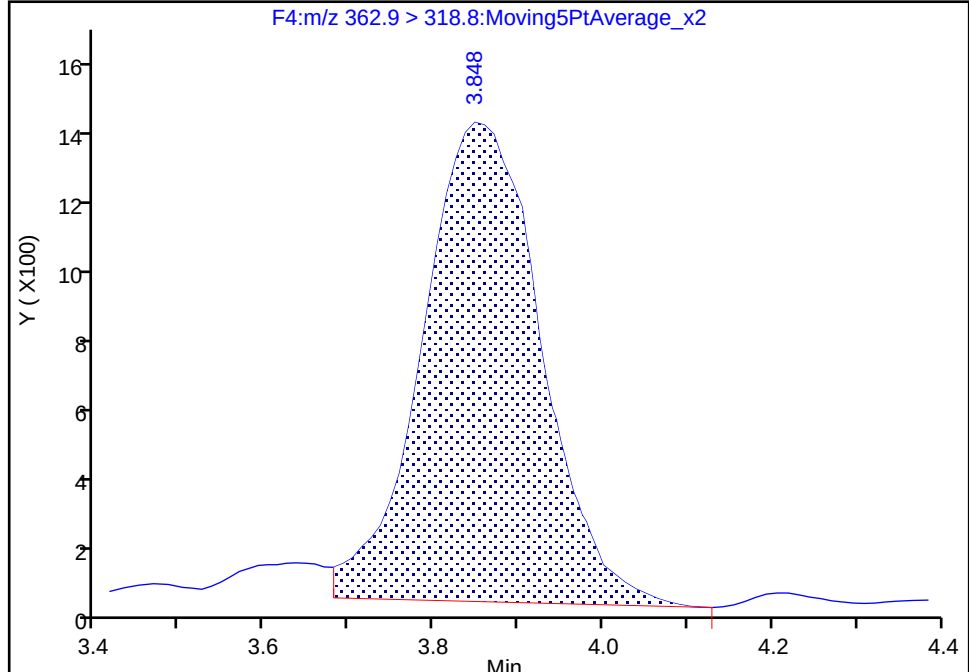
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

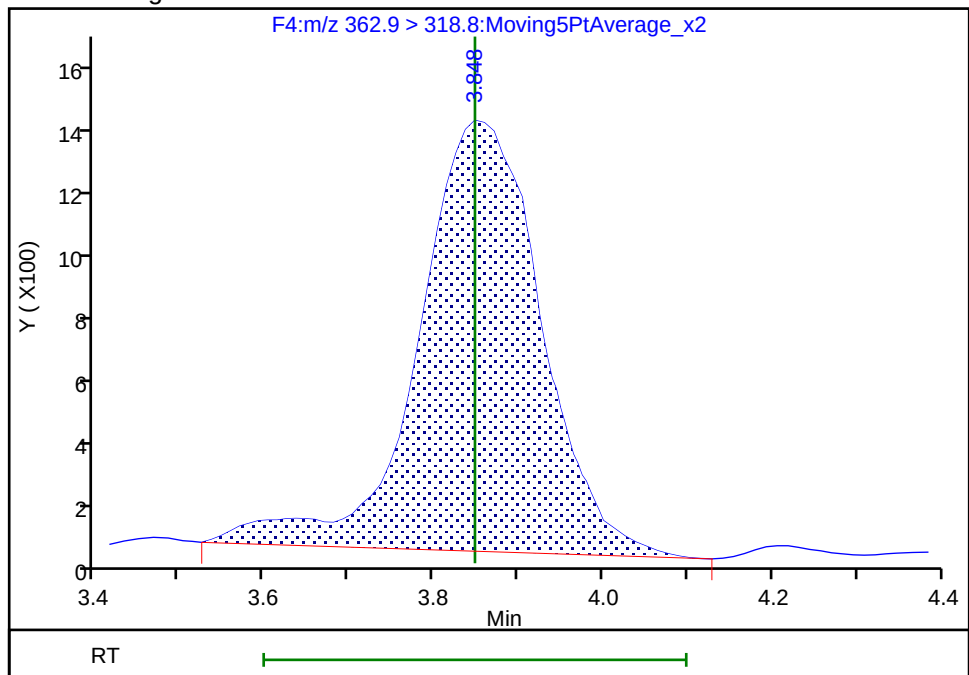
RT: 3.85
Area: 12589
Amount: 1.000000
Amount Units: ng/ml

Processing Integration Results



RT: 3.85
Area: 12997
Amount: 1.035697
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:59:00

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

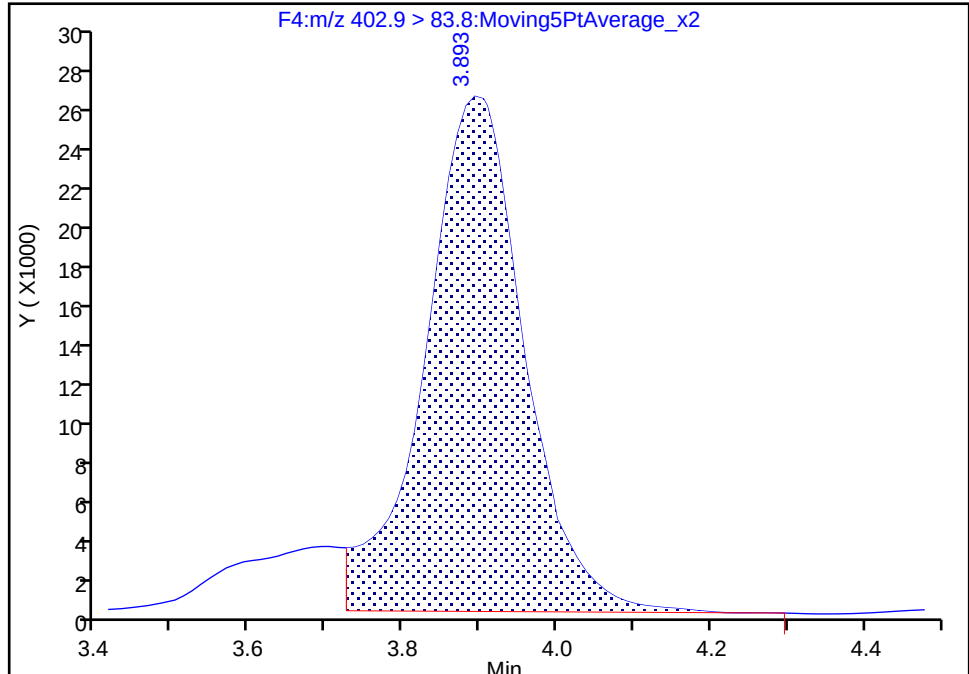
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

D 13 18O2 PFHxS, CAS: STL00994

Signal: 1

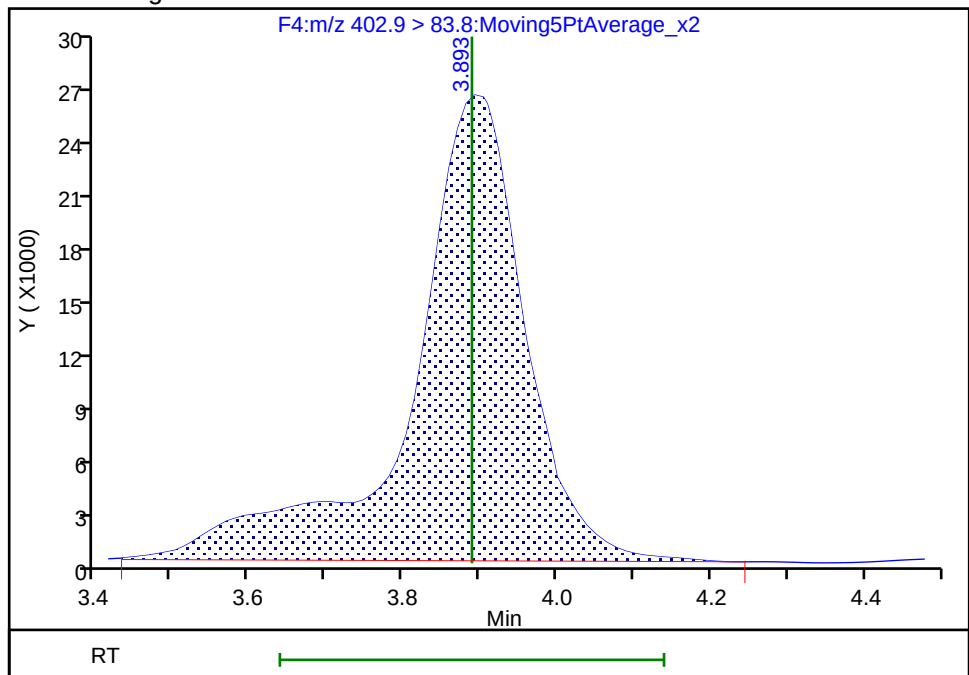
RT: 3.89
Area: 231301
Amount: 42.133969
Amount Units: ng/ml

Processing Integration Results



RT: 3.89
Area: 264188
Amount: 47.043231
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:59:08

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

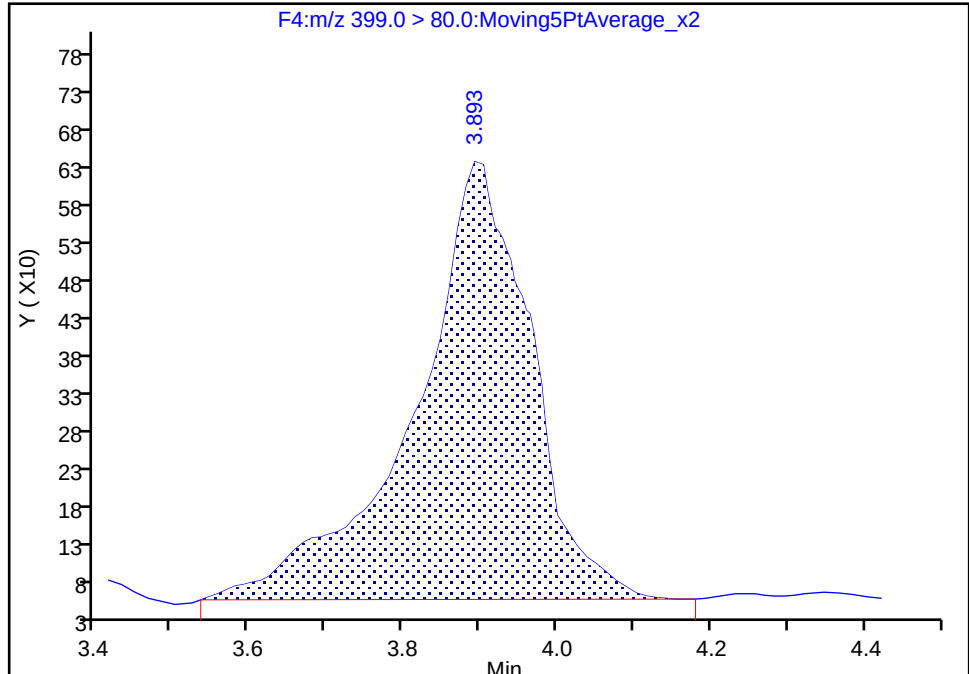
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

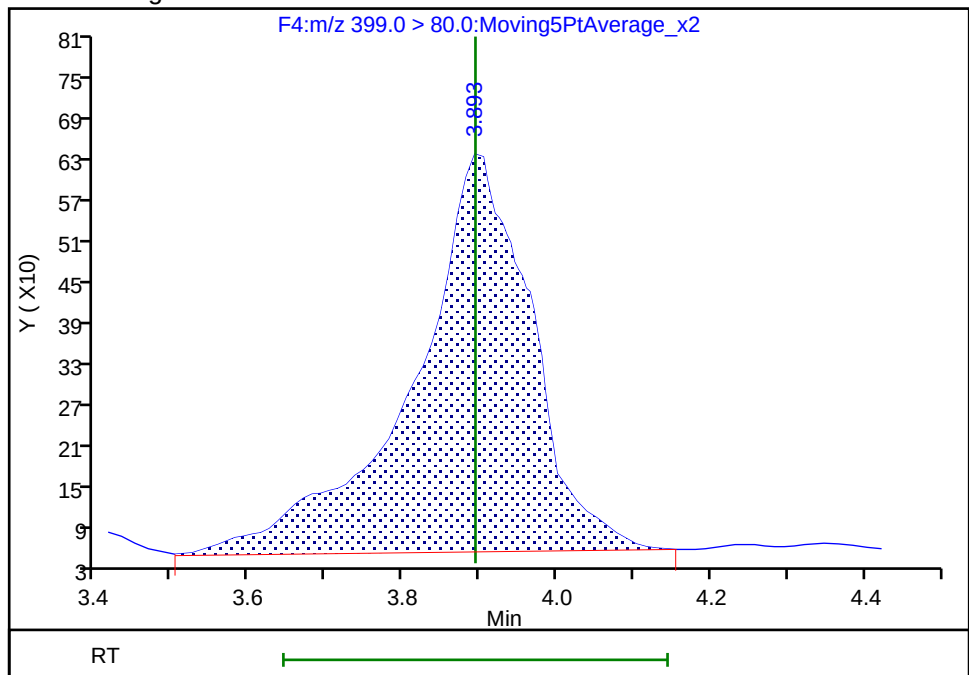
RT: 3.89
Area: 6045
Amount: 0.910000
Amount Units: ng/ml

Processing Integration Results



RT: 3.89
Area: 6189
Amount: 0.923735
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:59:05
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 155 of 434

10/19/2018

TestAmerica Burlington

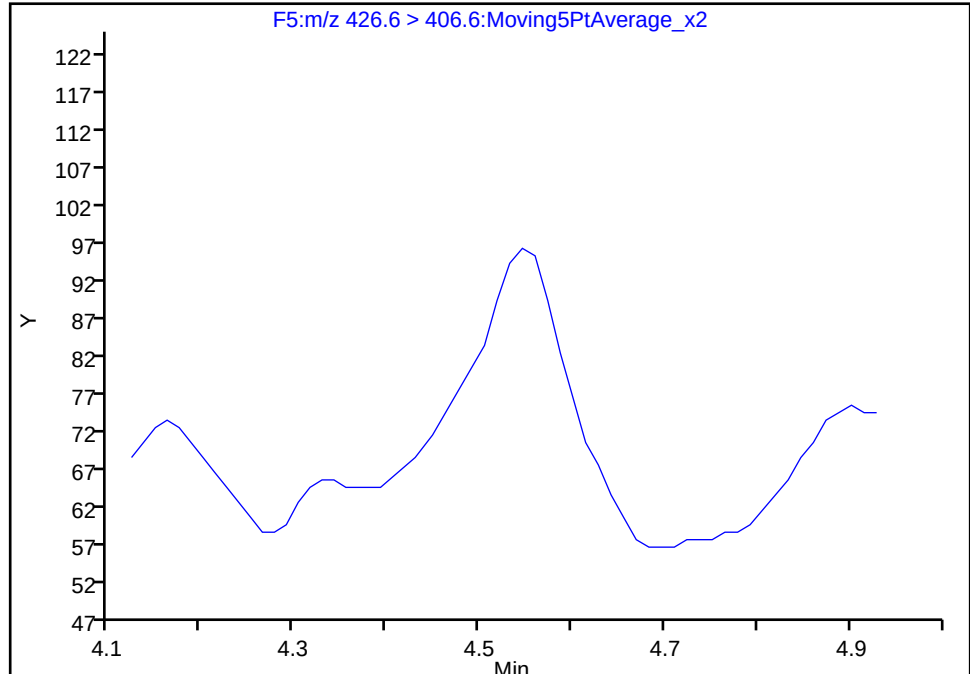
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

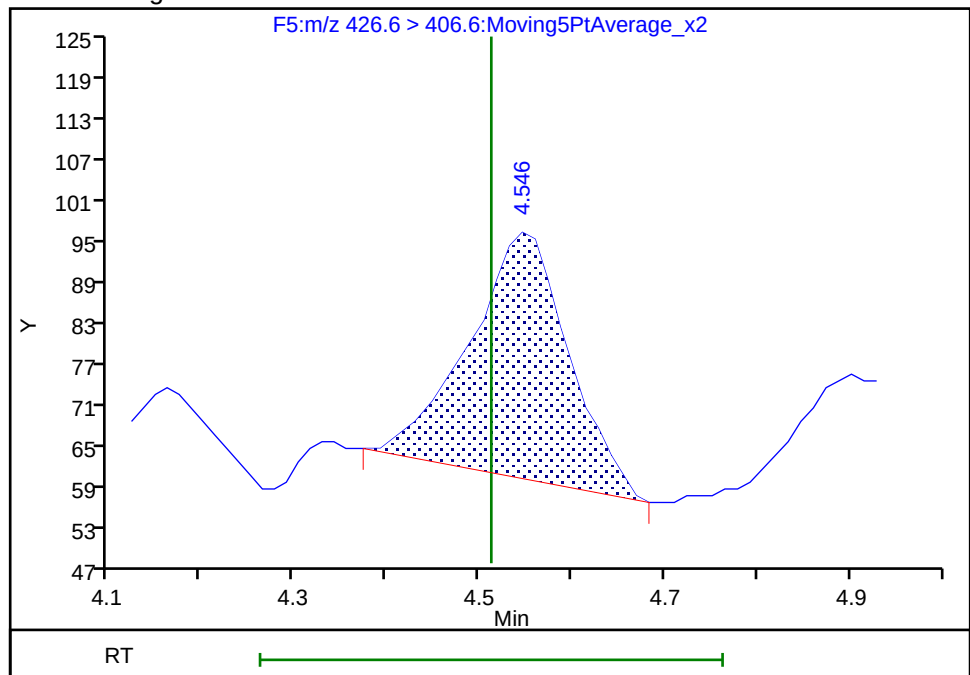
Not Detected
Expected RT: 4.51

Processing Integration Results



RT: 4.55
Area: 272
Amount: 1.022168
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:00:45
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 156 of 434

10/19/2018

TestAmerica Burlington

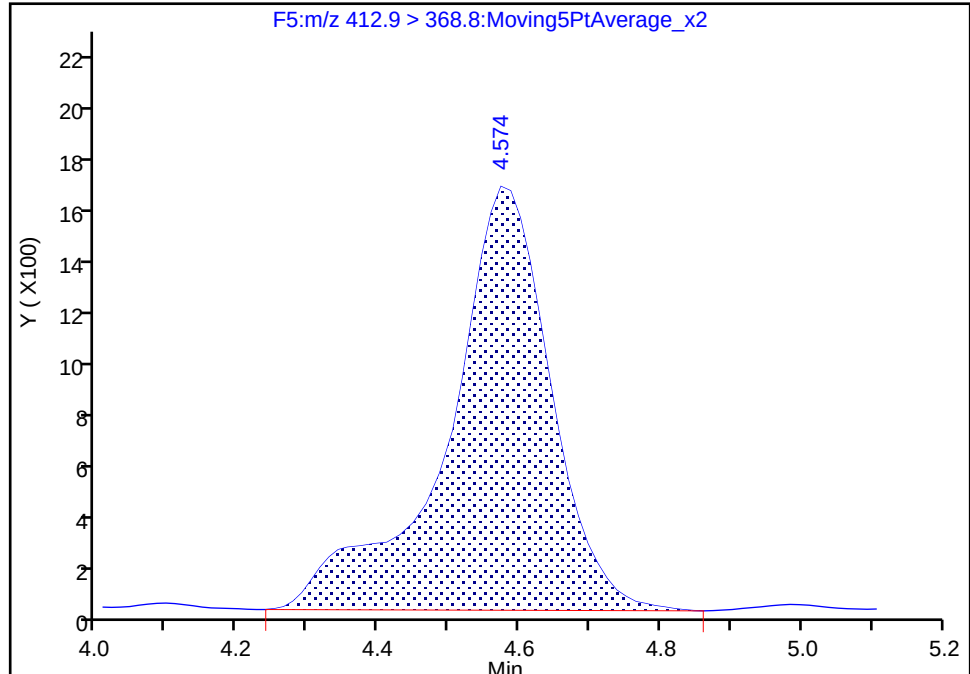
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

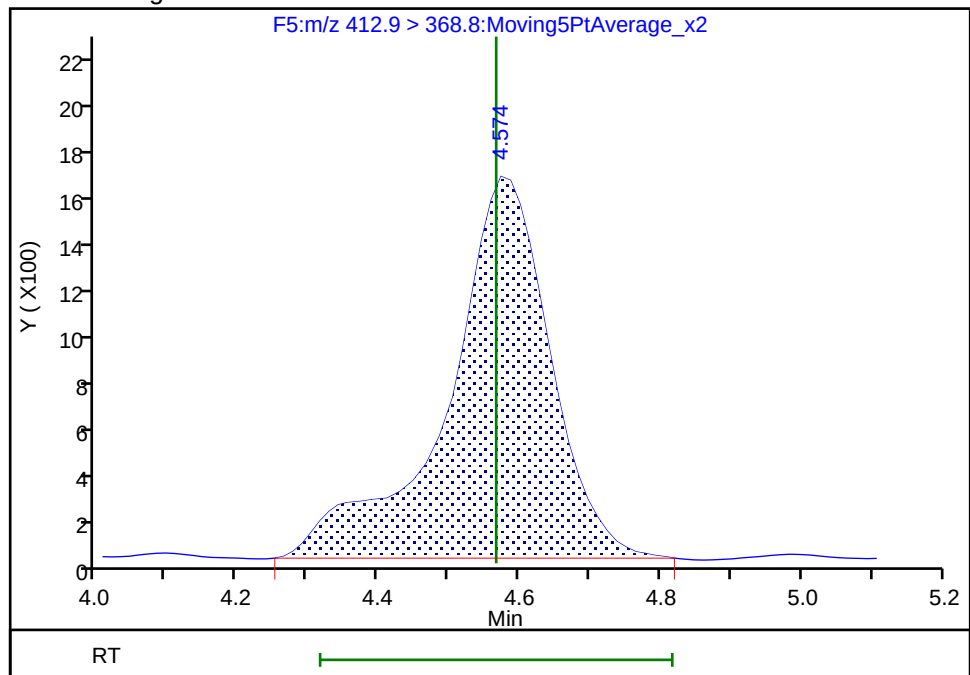
RT: 4.57
Area: 16198
Amount: 1.321533
Amount Units: ng/ml

Processing Integration Results



RT: 4.57
Area: 16006
Amount: 1.315749
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:32:53

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

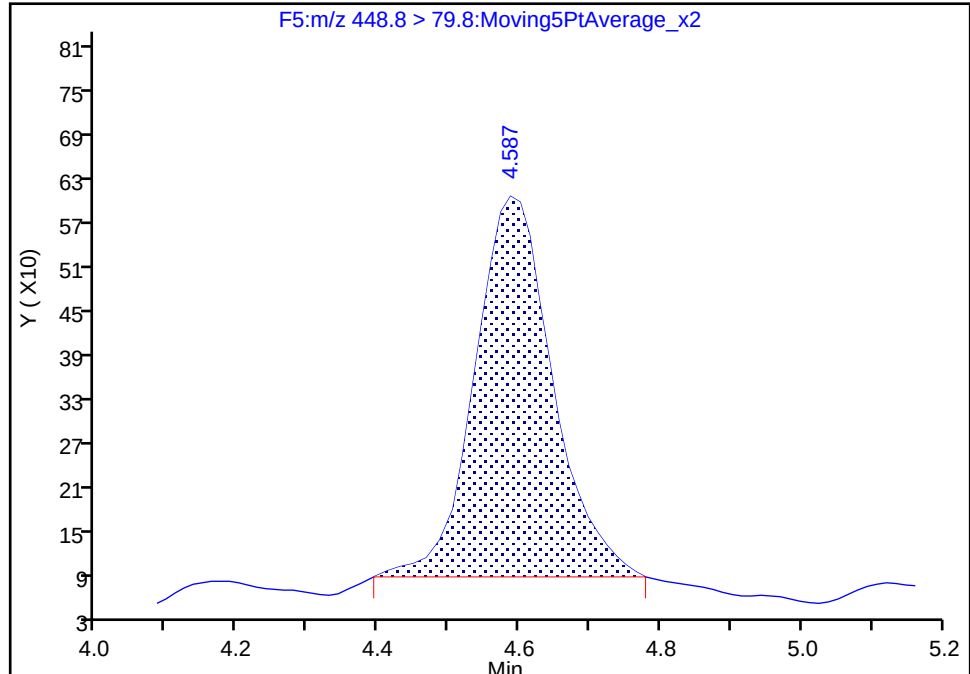
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

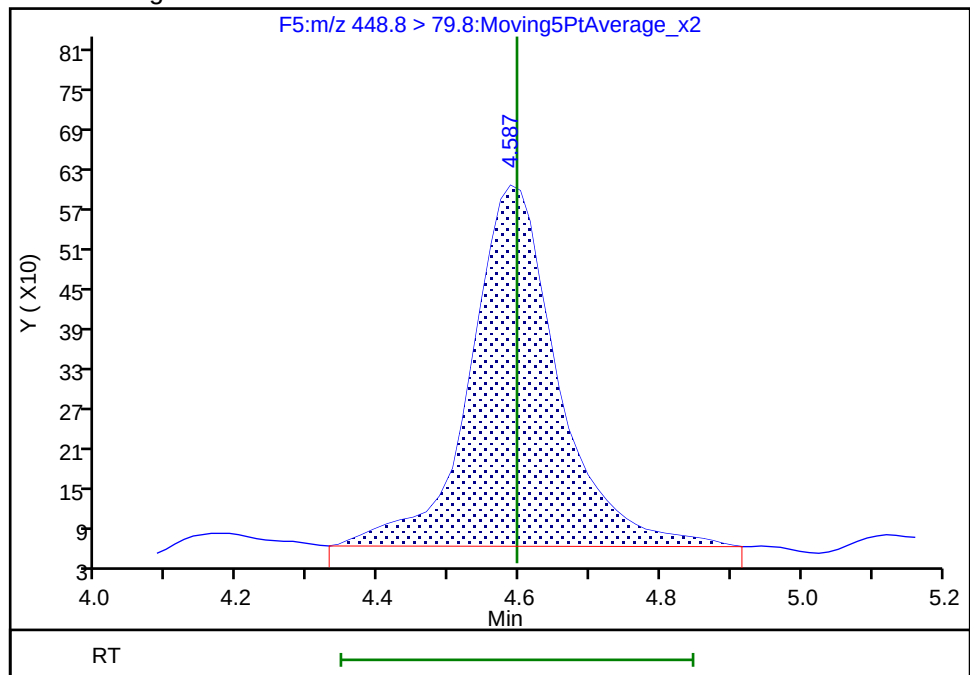
RT: 4.59
Area: 3973
Amount: 0.952000
Amount Units: ng/ml

Processing Integration Results



RT: 4.59
Area: 4711
Amount: 1.244701
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:59:27

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

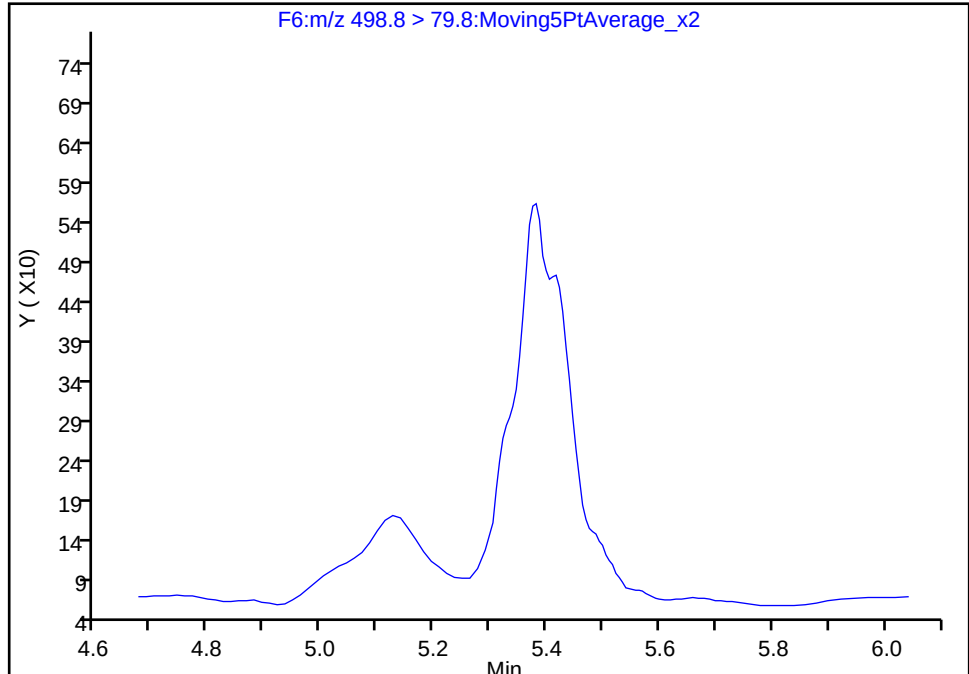
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

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

Signal: 1

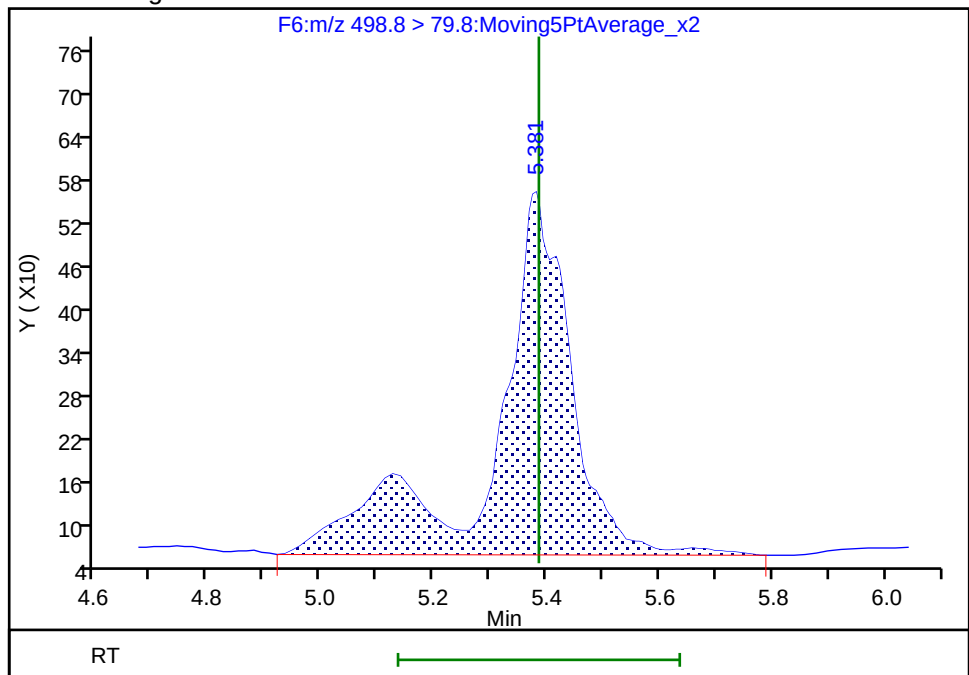
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.38
Area: 4743
Amount: 1.201944
Amount Units: ng/ml



Reviewer: chirgwinb, 27-Jun-2018 11:56:47

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

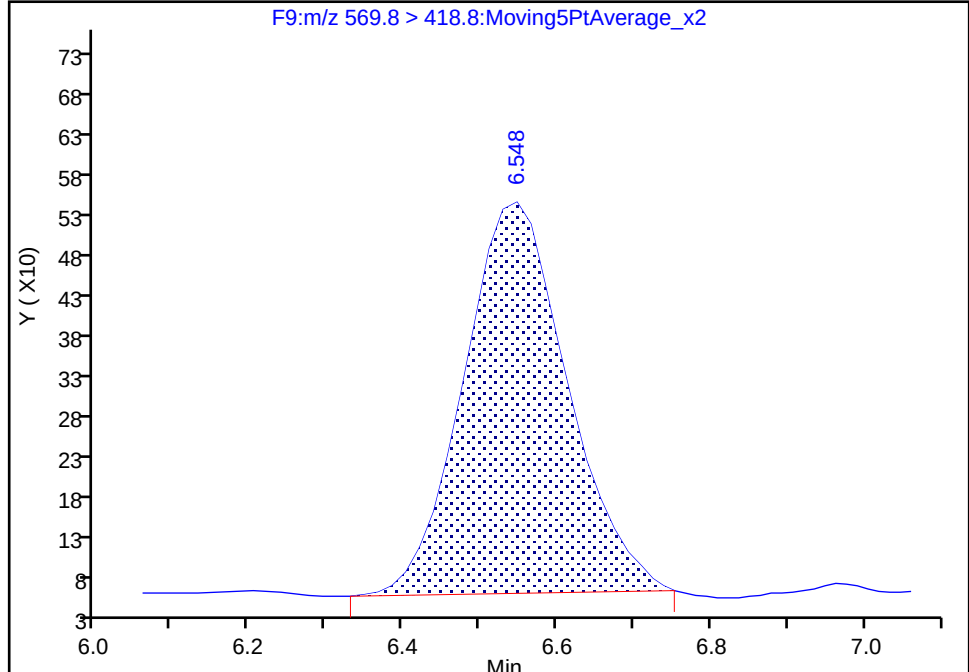
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d
Injection Date: 27-Jun-2018 10:51:48 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F9:MRM

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

Signal: 1

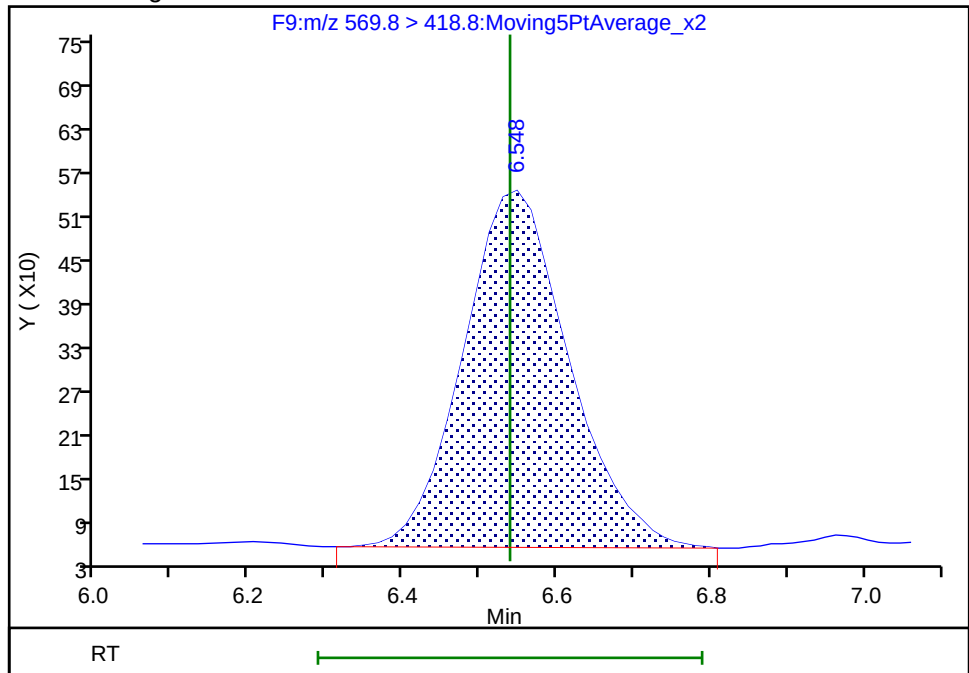
RT: 6.55
Area: 4551
Amount: 1.000000
Amount Units: ng/ml

Processing Integration Results



RT: 6.55
Area: 4676
Amount: 0.998144
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 11:59:38
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 160 of 434

10/19/2018

TestAmerica Burlington

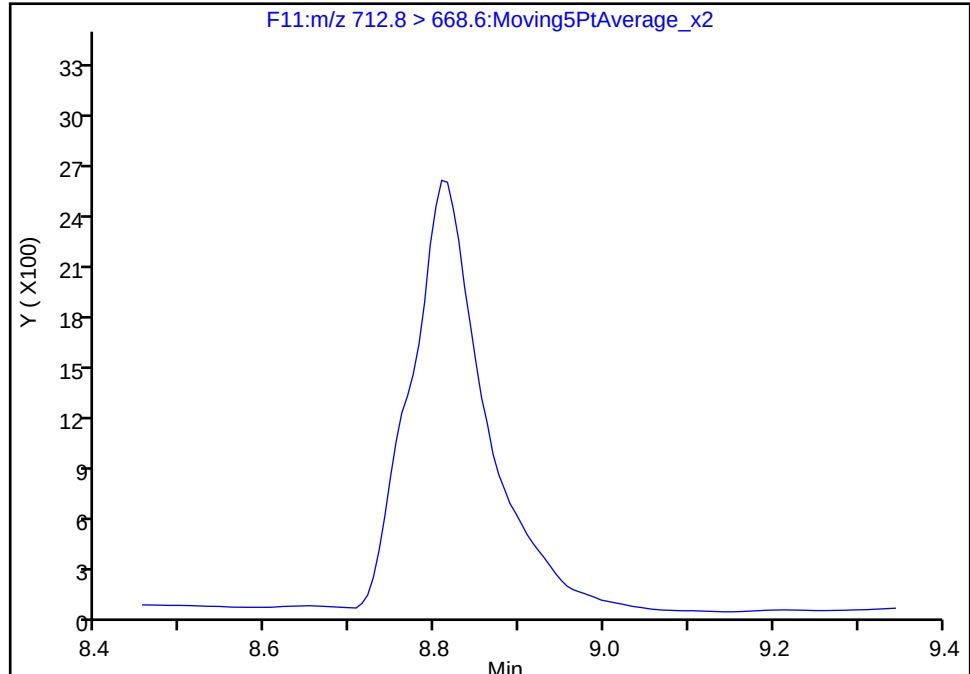
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d		
Injection Date:	27-Jun-2018 10:51:48	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

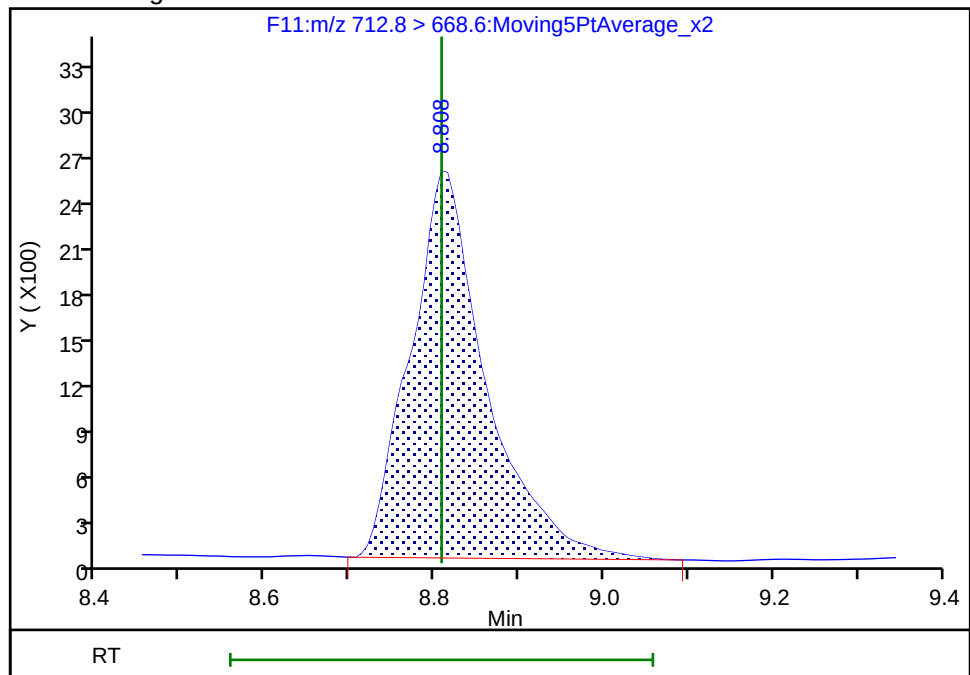
Signal: 1

Not Detected
Expected RT: 8.81

Processing Integration Results



Manual Integration Results



RT: 8.81
Area: 15368
Amount: 1.016924
Amount Units: ng/ml

Reviewer: chirgwinb, 27-Jun-2018 11:56:59

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

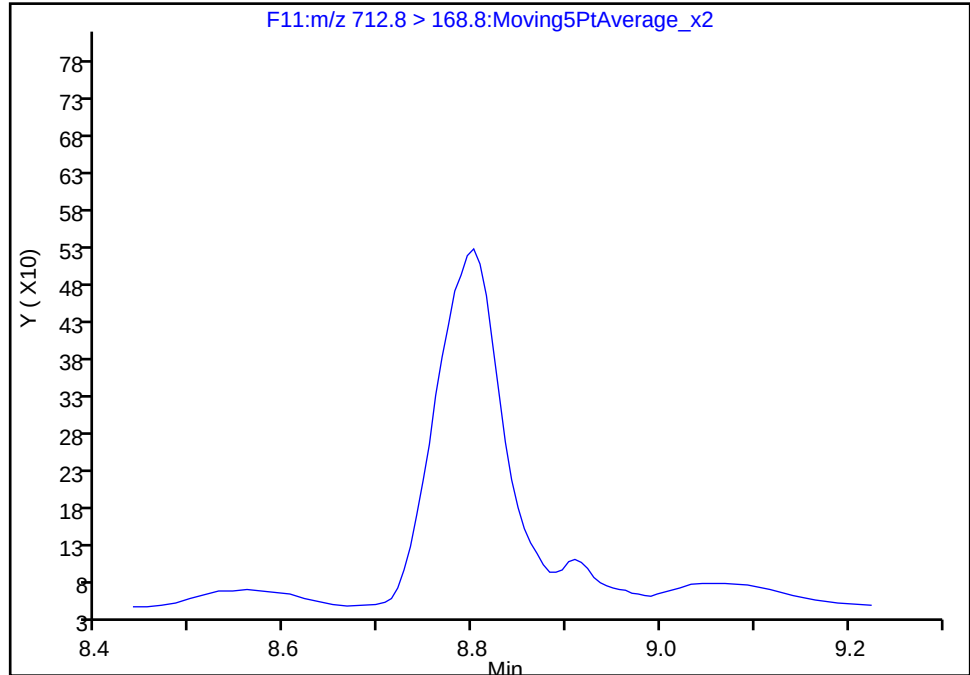
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d		
Injection Date:	27-Jun-2018 10:51:48	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

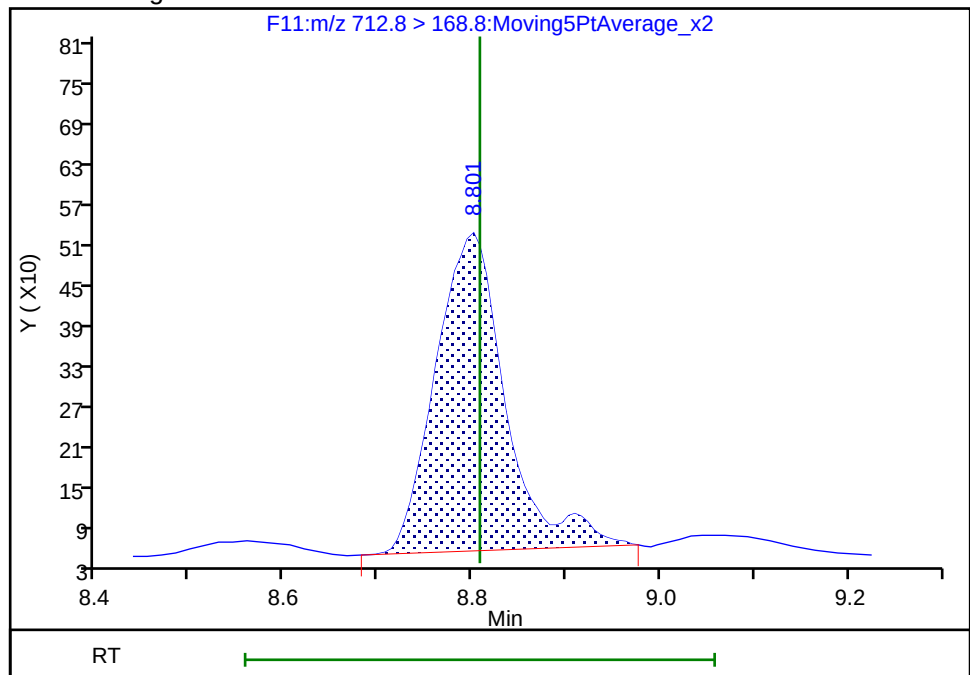
Signal: 2

Not Detected
Expected RT: 8.81

Processing Integration Results



Manual Integration Results

RT: 8.80
Area: 2414
Amount: 1.016924
Amount Units: ng/ml

Reviewer: chirgwinb, 27-Jun-2018 11:57:02

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A06.d

Injection Date: 27-Jun-2018 10:51:48

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

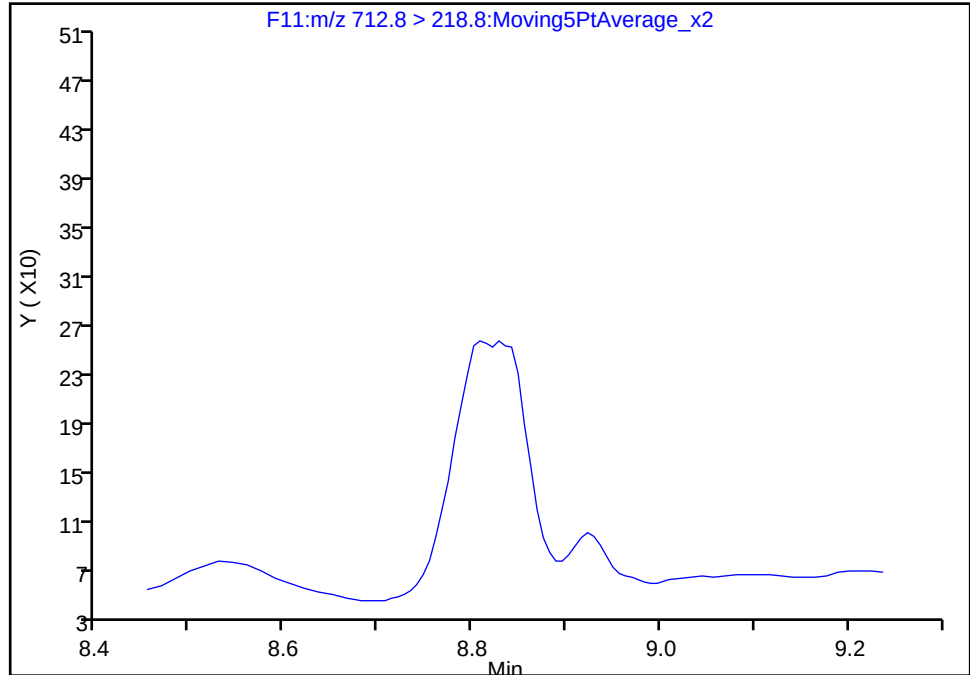
44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 3

Not Detected

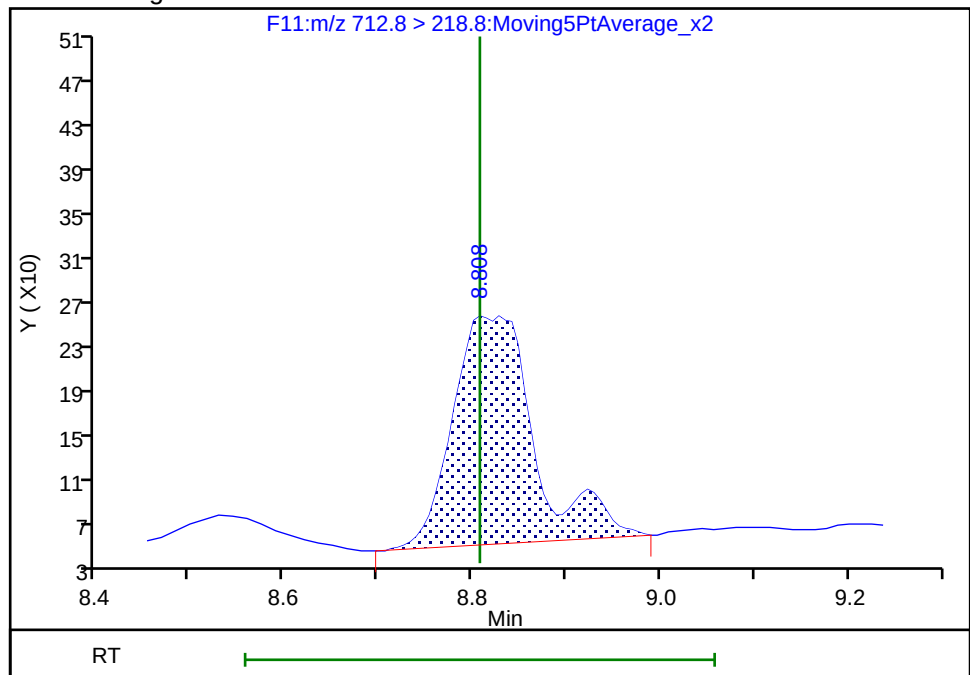
Expected RT: 8.81

Processing Integration Results



Manual Integration Results

RT: 8.81
Area: 1226
Amount: 1.016924
Amount Units: ng/ml



Reviewer: chirgwinb, 27-Jun-2018 11:57:05

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 27-Jun-2018 11:07:54 ALS Bottle#: 0 Worklist Smp#: 7
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-007 IC 2
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:39:41 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.371	2.370	0.001	1.000	260178	50.5		101	444	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.371	2.375	-0.004	1.000	11594	1.99		99.6	49.6	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	101830	51.1		102	593	
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.801	2.807	-0.006	1.000	17299	1.93		96.6	47.9	M
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	177496	48.8		105	296	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.900	2.889	0.011	1.006	8243	1.52		85.9	87.6	M
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.250	3.263	-0.013	0.992	7575	1.83		91.4	90.2	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.275	3.265	0.010	1.000	199679	49.8		99.5	701	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.837	3.843	-0.006	1.000	557170	51.4		103	1168	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.859	3.848	0.011	1.006	21919	1.91		95.6	469	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.893	3.889	0.004	1.000	227912	51.3		108	817	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.871	3.894	-0.023	0.994	11284	1.85		102	70.5	M
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.468	4.513	-0.045	0.986	269	1.55		81.6	1.3	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.532	4.525	0.007	1.000	9119	36.5		76.8	67.4	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	4.560	4.567	-0.007	1.000	489618	55.5		111	1262	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.574	4.567	0.007	1.003	19128	1.73		86.6	147	
* 49 13C2-PFOA										
414.9 > 369.8	4.574	4.569	0.005		483295	50.0			2195	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.587	4.596	-0.009	0.852	4814	1.55		81.6	33.3	M
D 21 13C5 PFNA										
467.8 > 422.8	5.369	5.363	0.006	1.000	502666	52.7		105	2022	
19 Perfluorononanoic acid										
462.8 > 418.8	5.369	5.368	0.001	1.000	19270	1.87		93.4	203	
D 22 13C4 PFOS										
502.8 > 79.8	5.381	5.382	-0.001	1.000	161844	49.2		103	1011	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.375	5.386	-0.011	0.999	6203	1.76		95.1	62.6	M
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.143	6.147	-0.004	1.000	3775	2.21		116	26.8	M
D 23 M2-8:2FTS										
528.8 > 508.8	6.143	6.147	-0.004	1.000	132665	47.4		99.0	1560	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.190	6.186	0.004	1.000	29289	2.09		104	179	
D 25 13C2 PFDA										
514.9 > 469.5	6.190	6.186	0.004	1.000	688153	51.7		103	2483	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	161489	51.4		103	937	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.530	6.539	-0.009	1.000	8089	2.04		102	43.9	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.903	6.903	0.0	1.000	159503	53.9		108	1614	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.931	6.924	0.007	1.288	6439	1.85		96.2	118	M
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.931	6.926	0.005	1.004	6128	1.91		95.5	105	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	6.942	0.003	1.000	673261	53.9		108	4429	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.945	6.947	-0.002	1.000	23291	1.78		89.0	263	
D 35 13C8 FOSA										
505.8 > 77.8	7.147	7.154	-0.007	1.000	251409	49.4		98.9	1638	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.147	7.158	-0.011	1.000	9683	2.22		111	124	
D 36 13C2 PFDoA										
614.8 > 569.6	7.634	7.636	-0.002	1.000	652189	51.7		103	2454	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.634	7.640	-0.006	1.000	26646	2.04		102	223	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.264	8.259	0.005	1.083	26025	1.89		94.6	163	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d

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	8.808	8.805	0.003	1.000	647015	51.0		102	2779	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.828	8.808	0.020	1.002	25244	2.03		101	203	
712.8 > 168.8	8.788	8.808	-0.020	0.998	5290		4.77(0.00-0.00)	101	26.3	
712.8 > 218.8	8.815	8.808	0.007	1.001	2979		8.47(0.00-0.00)	101	25.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS21-L2_00003

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\\Burlington\\ChromData\\LC410\\20180626-31127.b\\PF062718A07.d

Injection Date: 27-Jun-2018 11:07:54

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

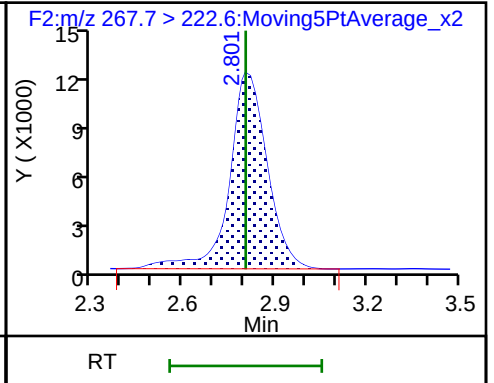
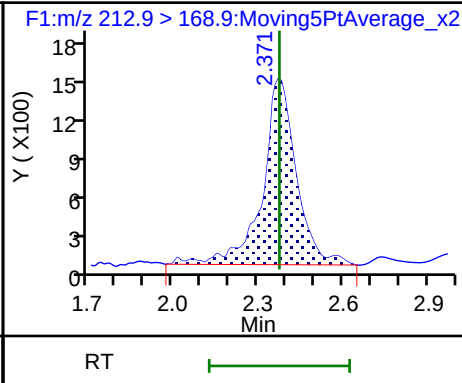
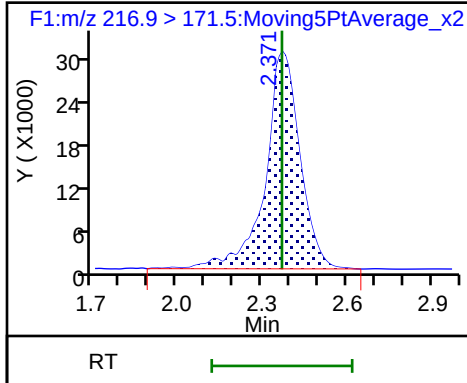
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

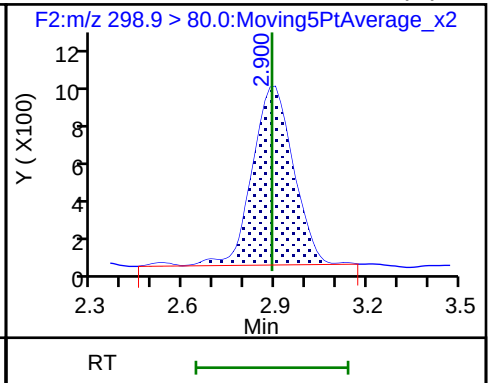
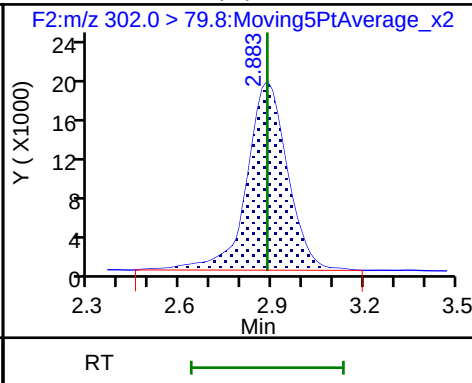
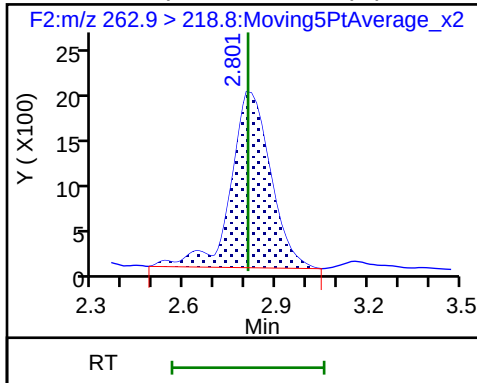
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS (M)

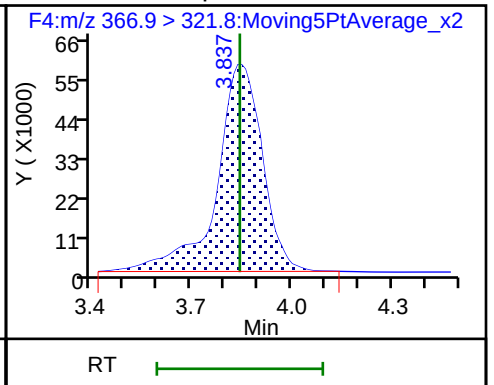
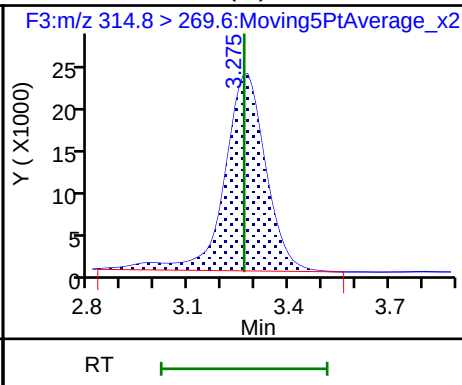
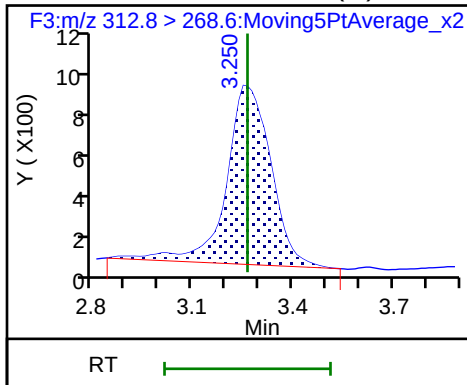
6 Perfluorobutanesulfonic acid (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA (M)

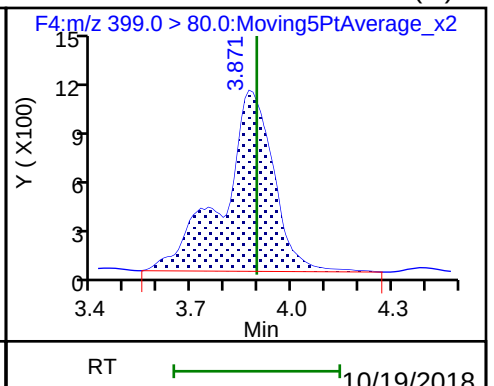
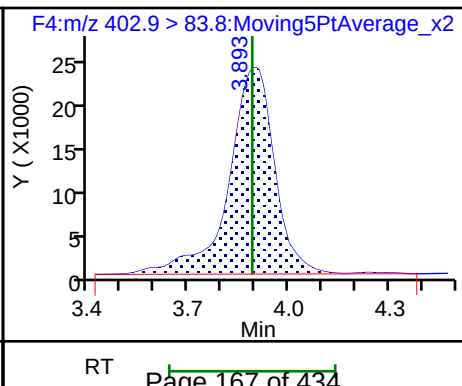
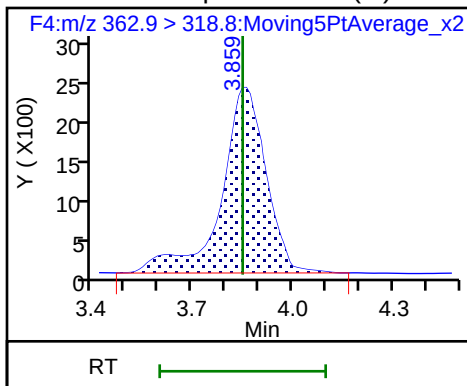
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid (M)

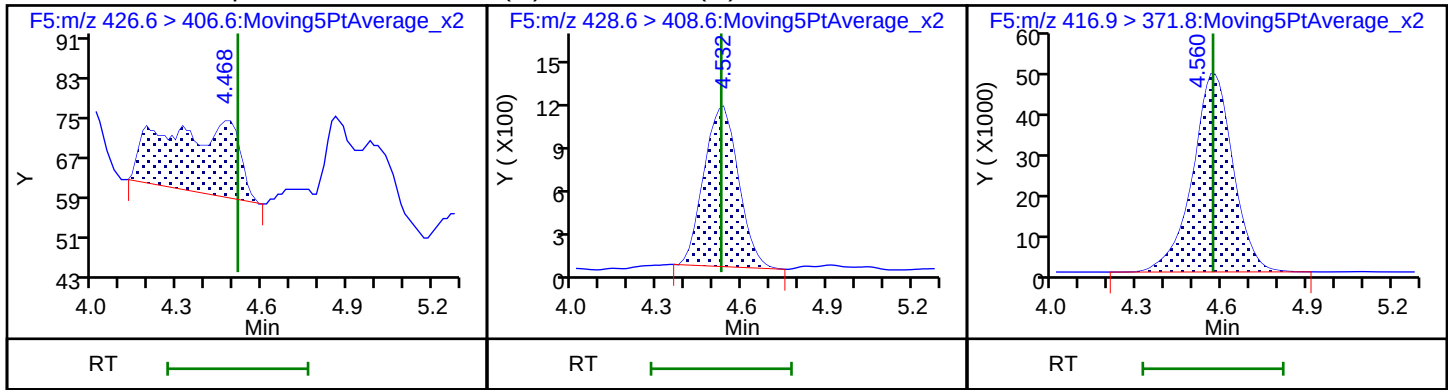
D 13 18O2 PFHxS

12 Perfluorohexanesulfonic acid (M)



15 1H,1H,2H,2H-perfluorooctanesulfonic acid (M)

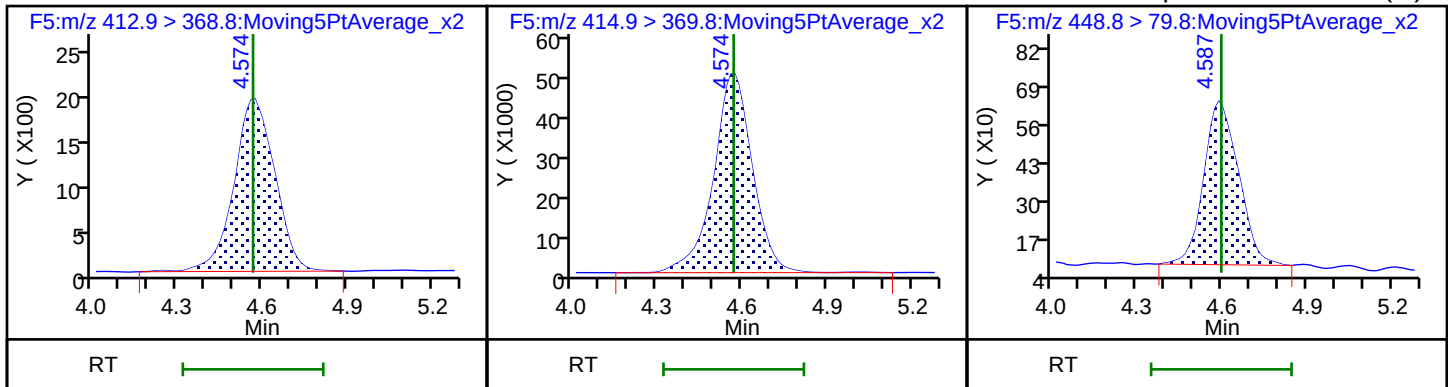
D 17 13C4 PFOA



16 Perfluorooctanoic acid

* 49 13C2-PFOA

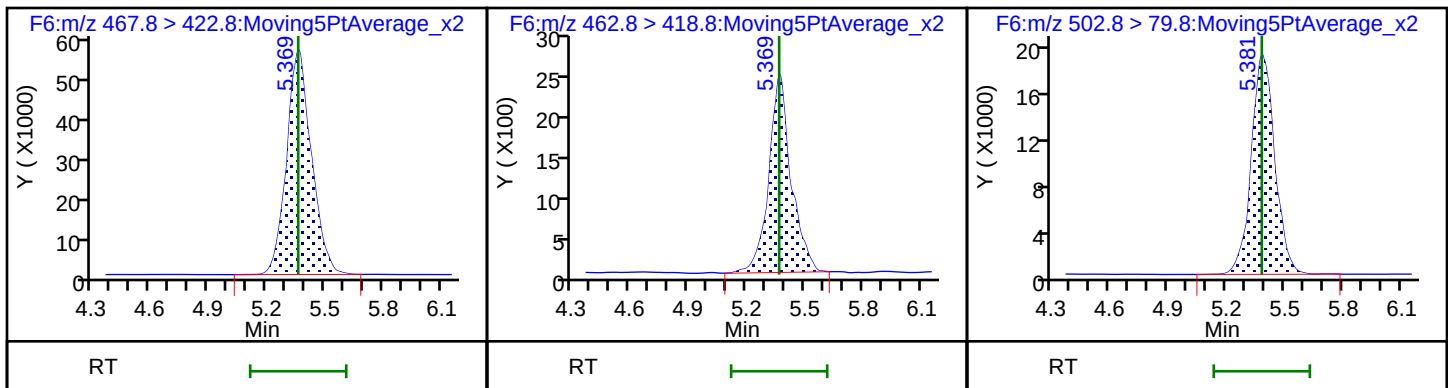
18 Perfluoroheptanesulfonic acid (M)



D 21 13C5 PFNA

19 Perfluorononanoic acid

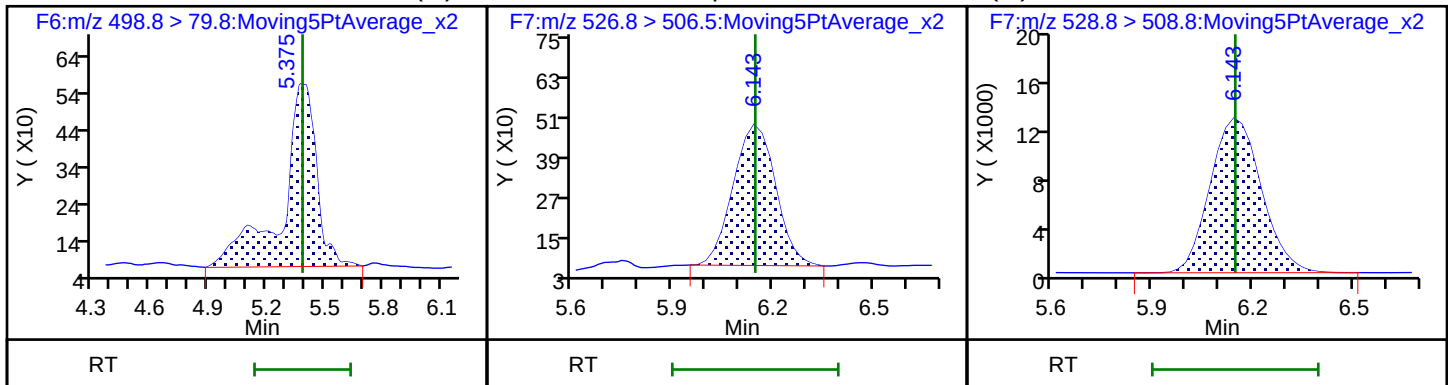
D 22 13C4 PFOS

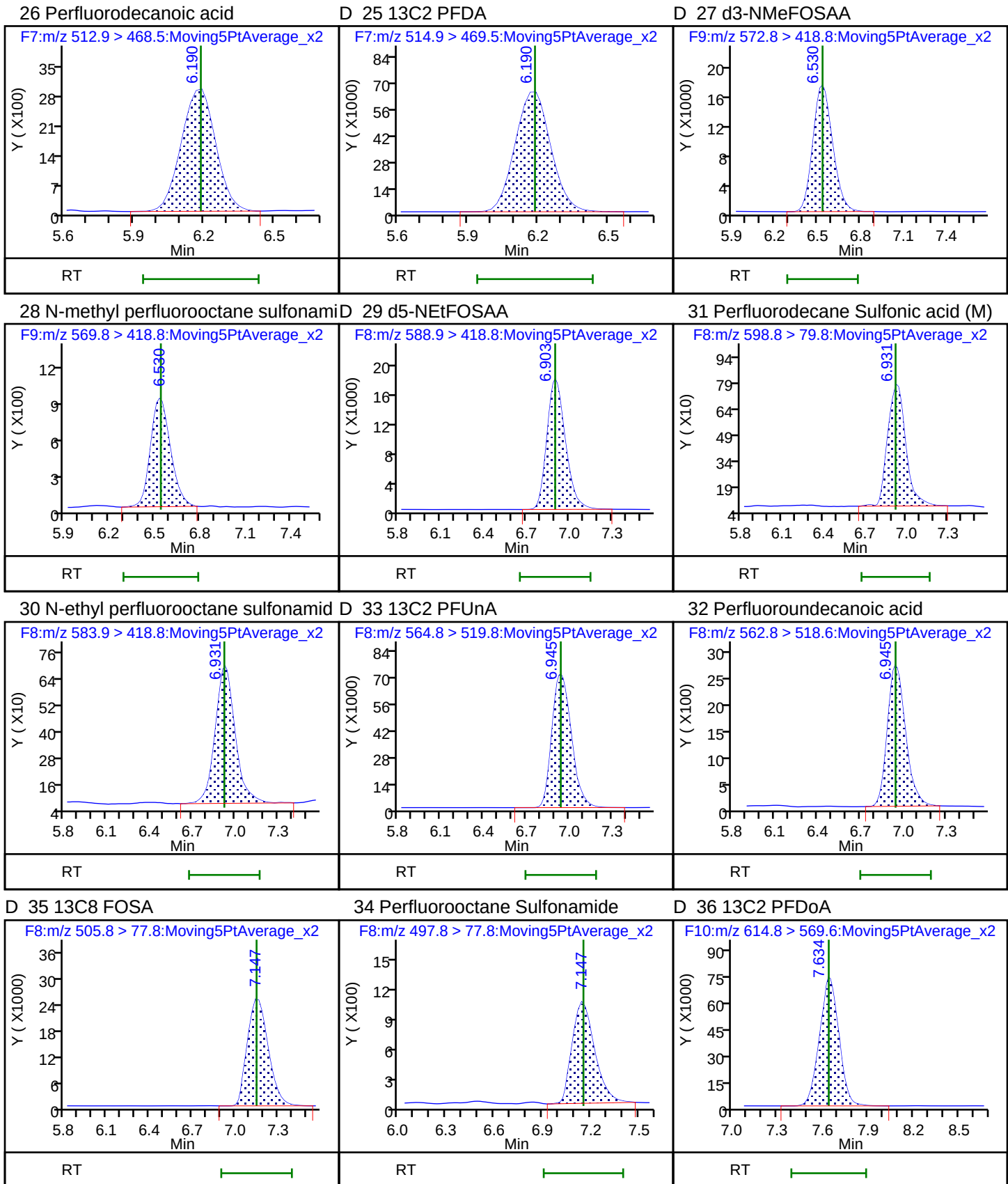


20 Perfluorooctane sulfonic acid (M)

24 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)

D 23 M2-8:2FTS

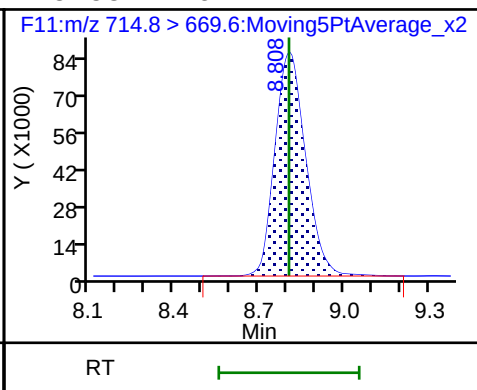
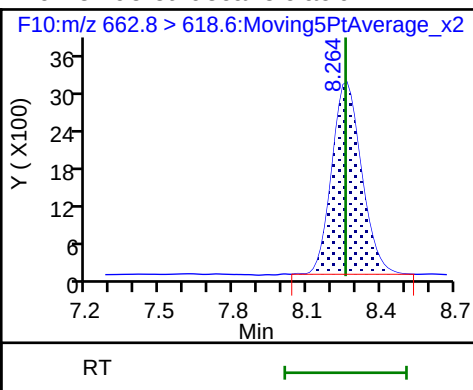
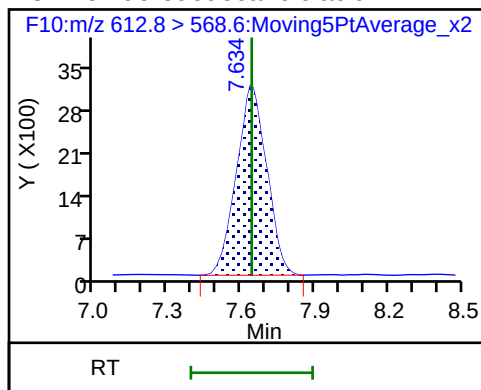




37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

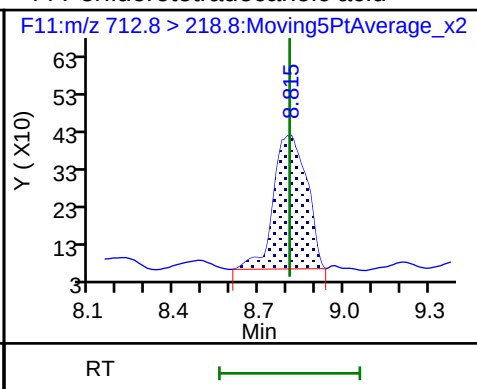
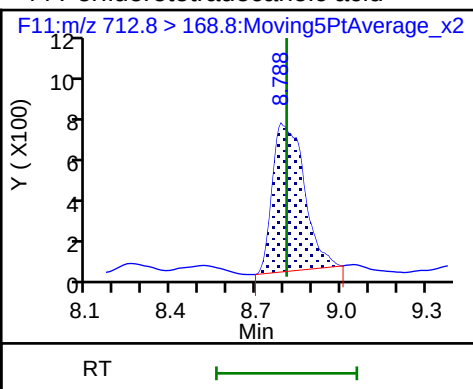
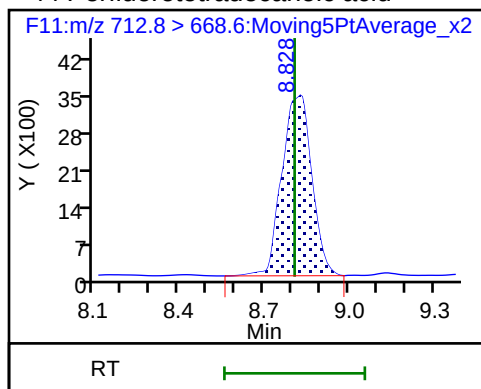
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

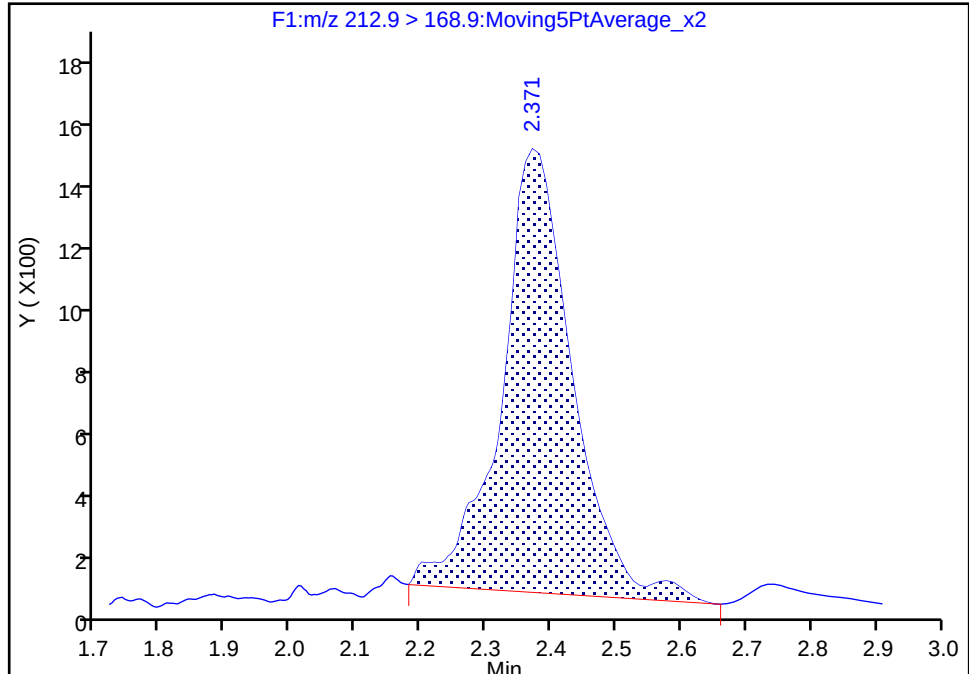
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

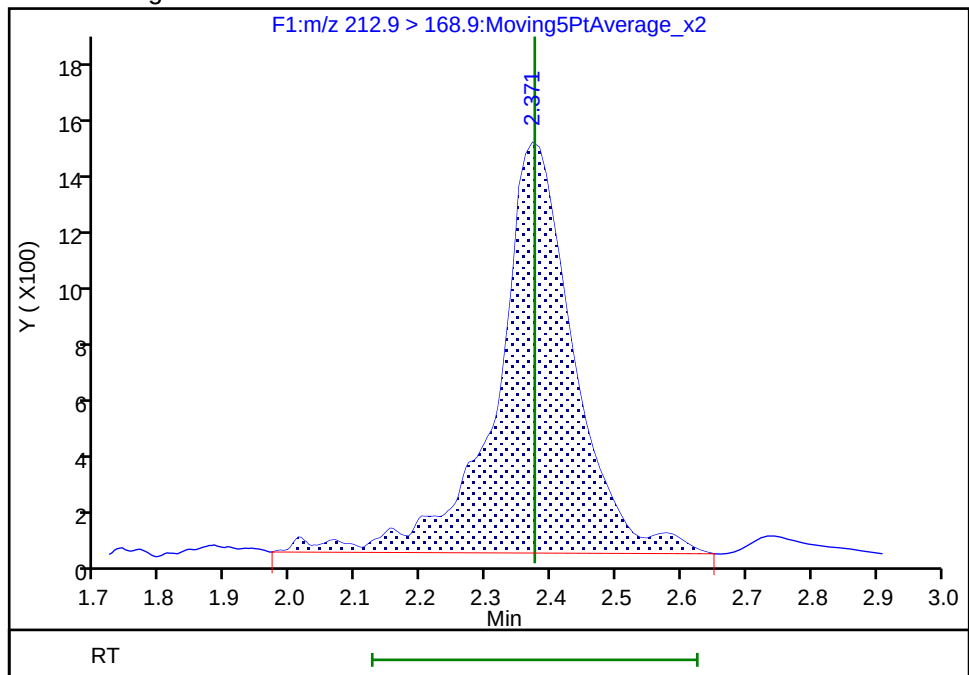
RT: 2.37
Area: 10370
Amount: 2.000000
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 11594
Amount: 1.991158
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:16
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 171 of 434

10/19/2018

TestAmerica Burlington

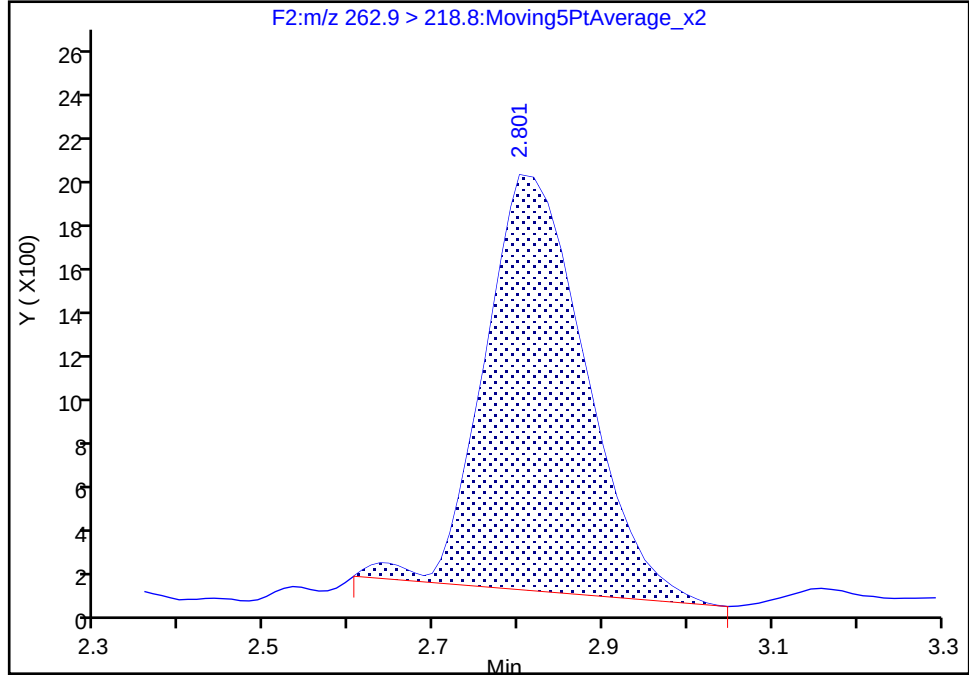
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

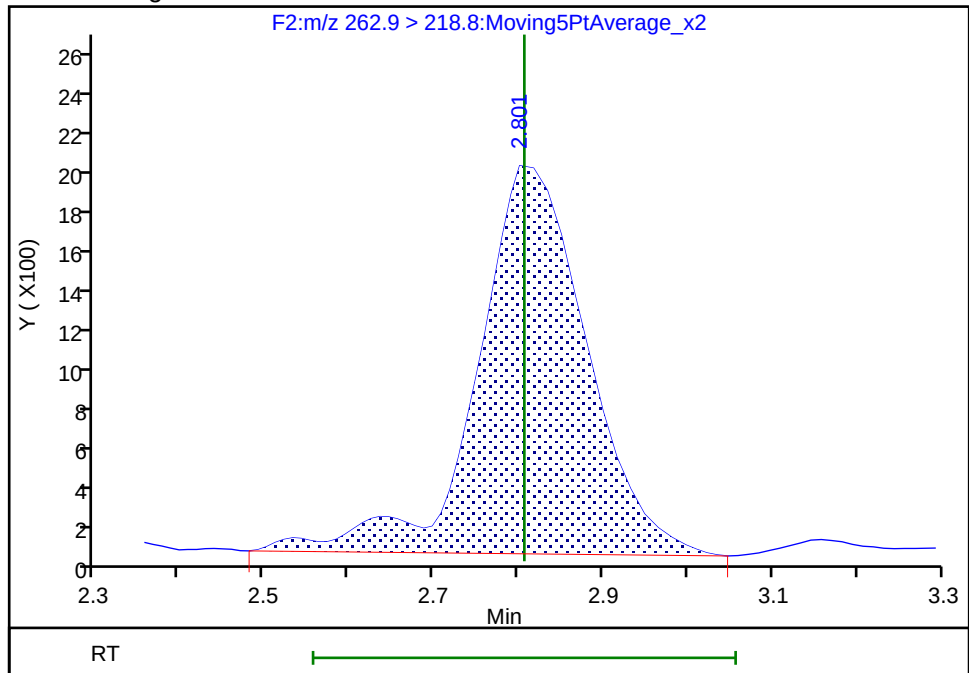
RT: 2.80
Area: 15387
Amount: 2.000000
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 17299
Amount: 1.931128
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:19

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

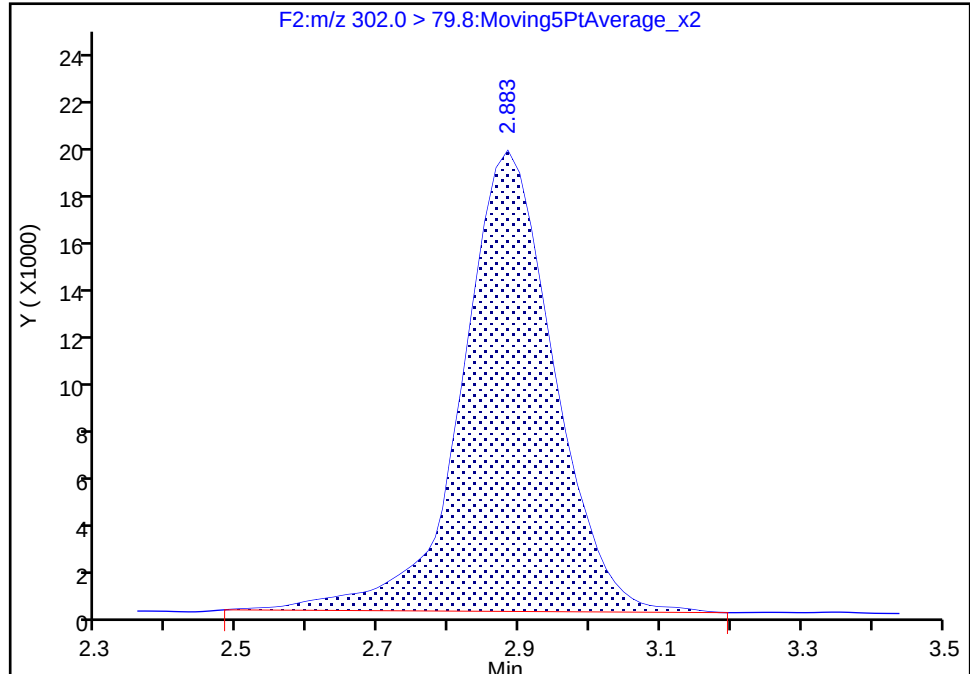
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

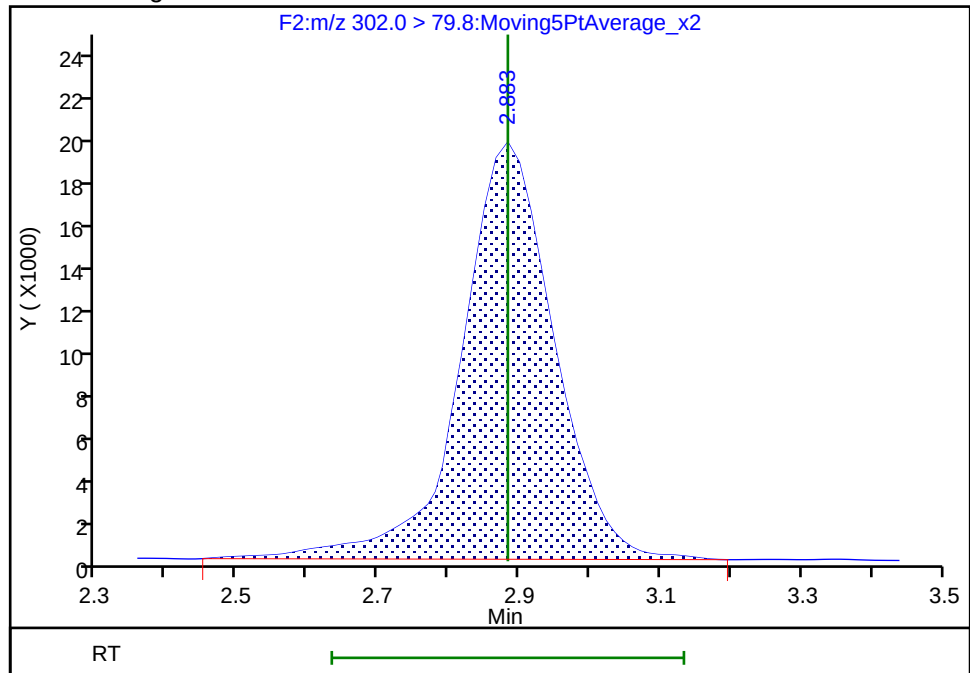
RT: 2.88
Area: 175887
Amount: 48.964895
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 177496
Amount: 48.770875
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:27

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

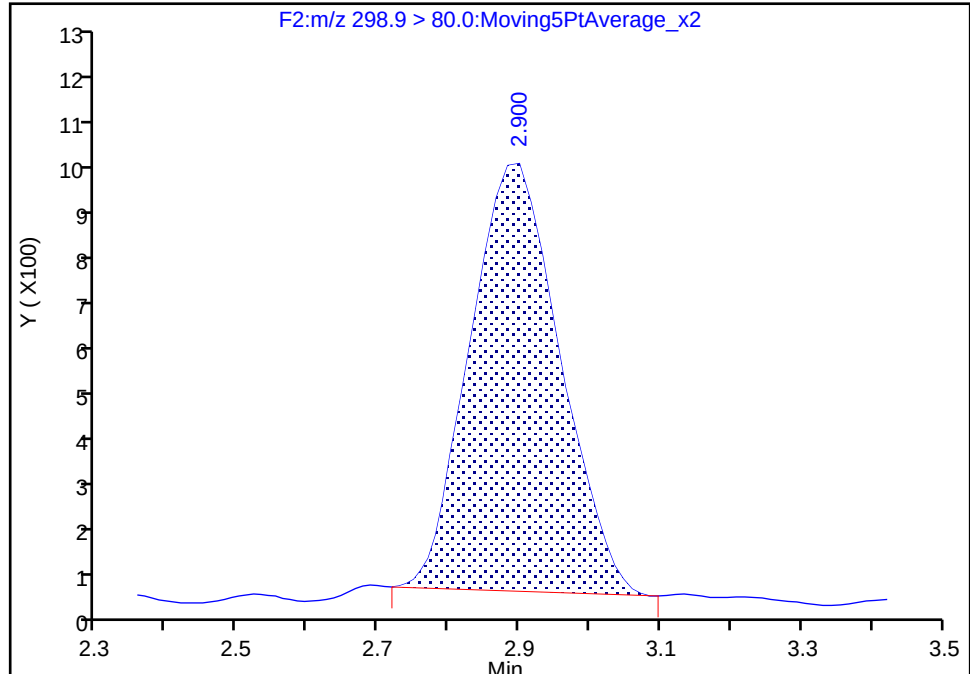
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

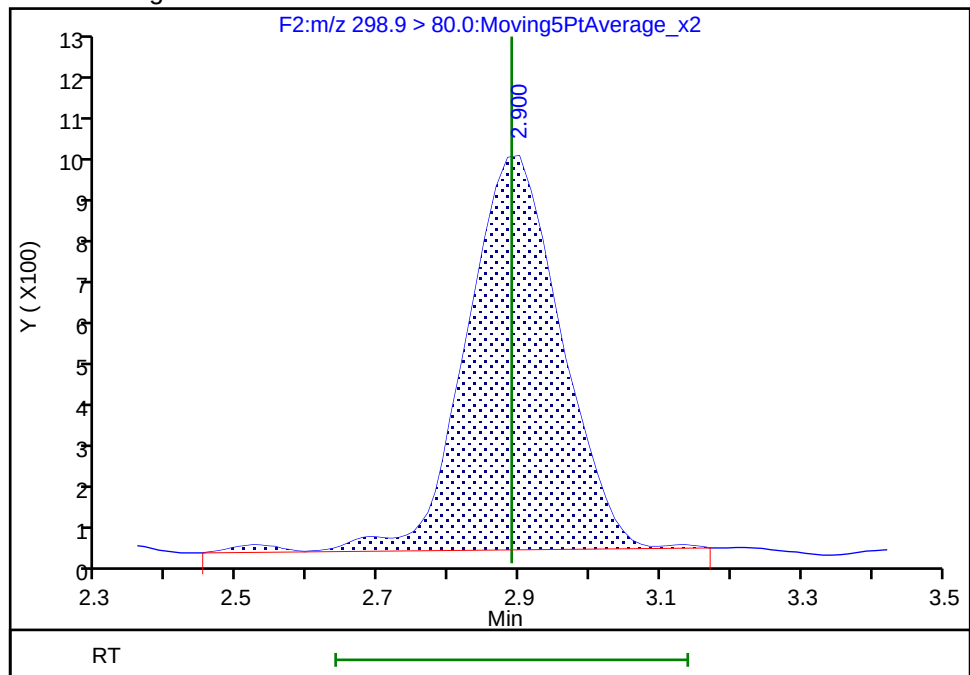
RT: 2.90
Area: 7651
Amount: 1.768000
Amount Units: ng/ml

Processing Integration Results



RT: 2.90
Area: 8243
Amount: 1.519536
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:31

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d

Injection Date: 27-Jun-2018 11:07:54

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:

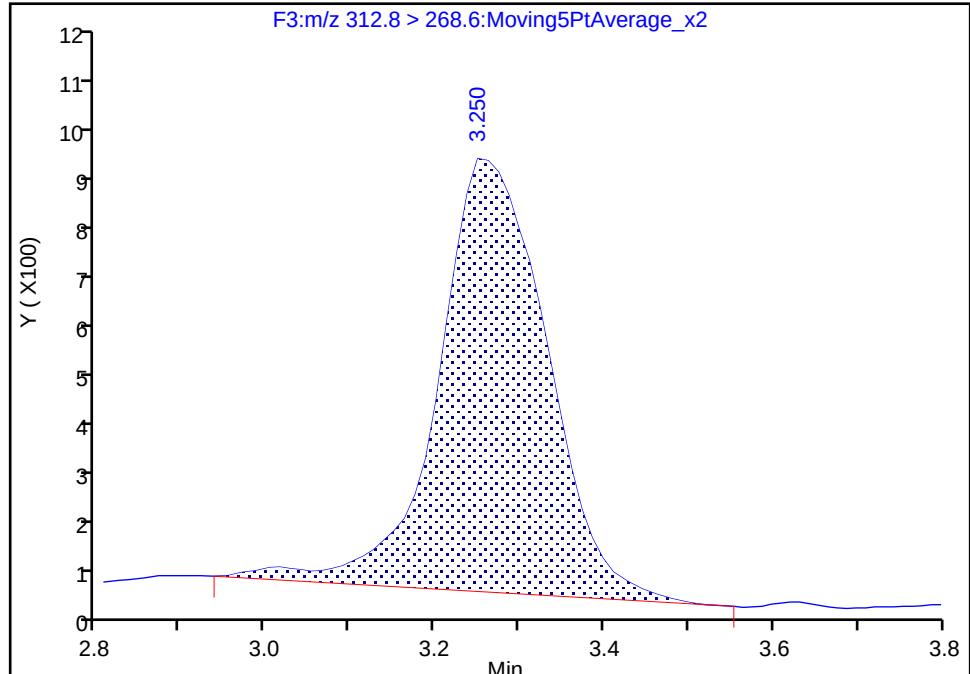
Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

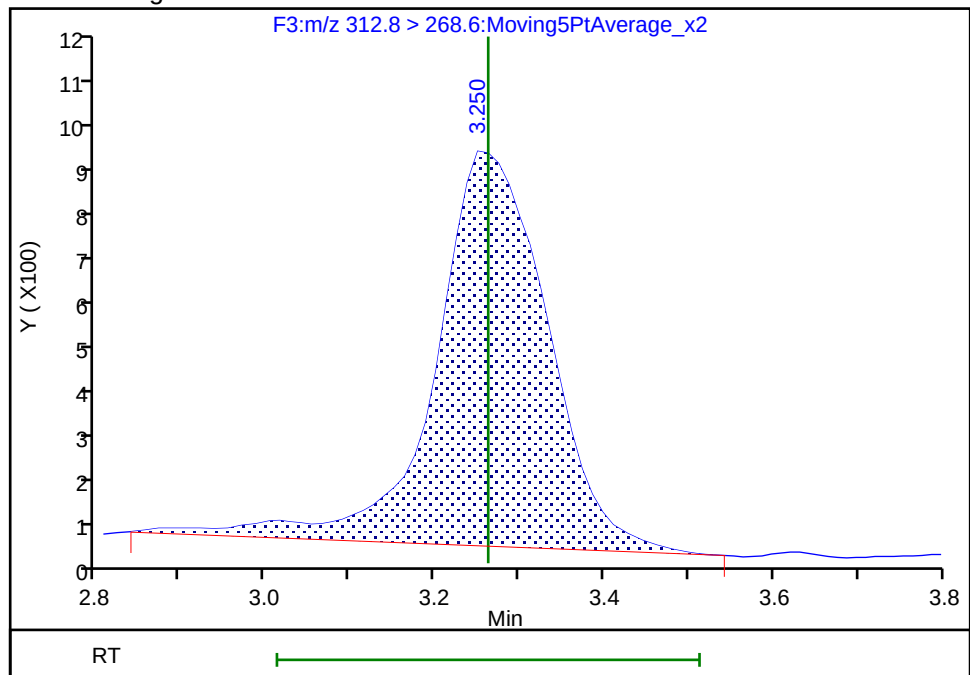
RT: 3.25
Area: 7268
Amount: 2.000000
Amount Units: ng/ml

Processing Integration Results



RT: 3.25
Area: 7575
Amount: 1.827727
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:35

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

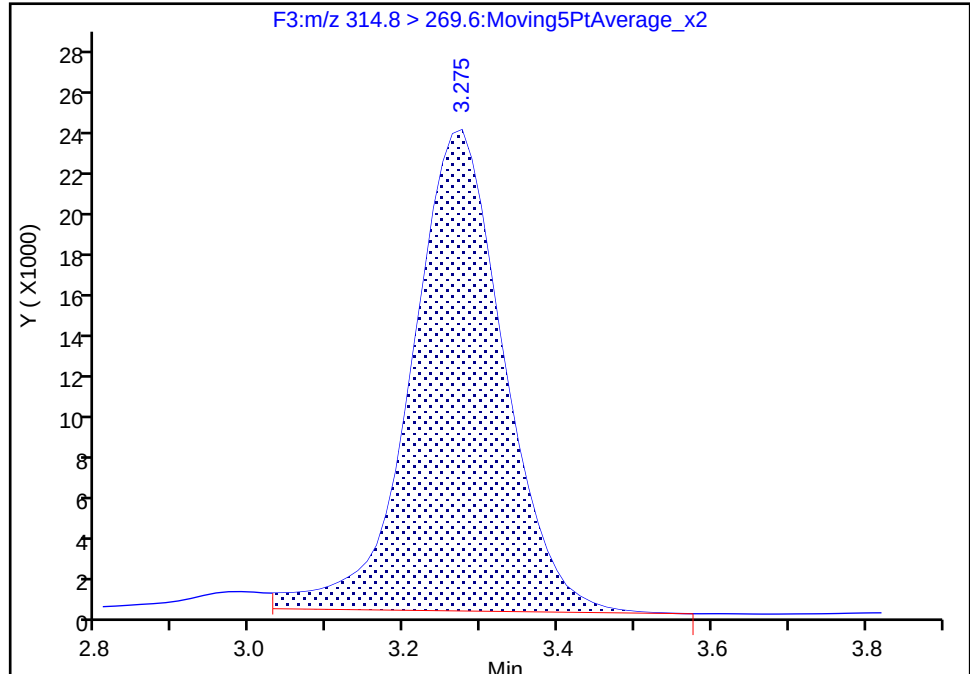
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d		
Injection Date:	27-Jun-2018 11:07:54	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 7
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F3:MRM

D 7 13C2 PFHxA, CAS: STL00993

Signal: 1

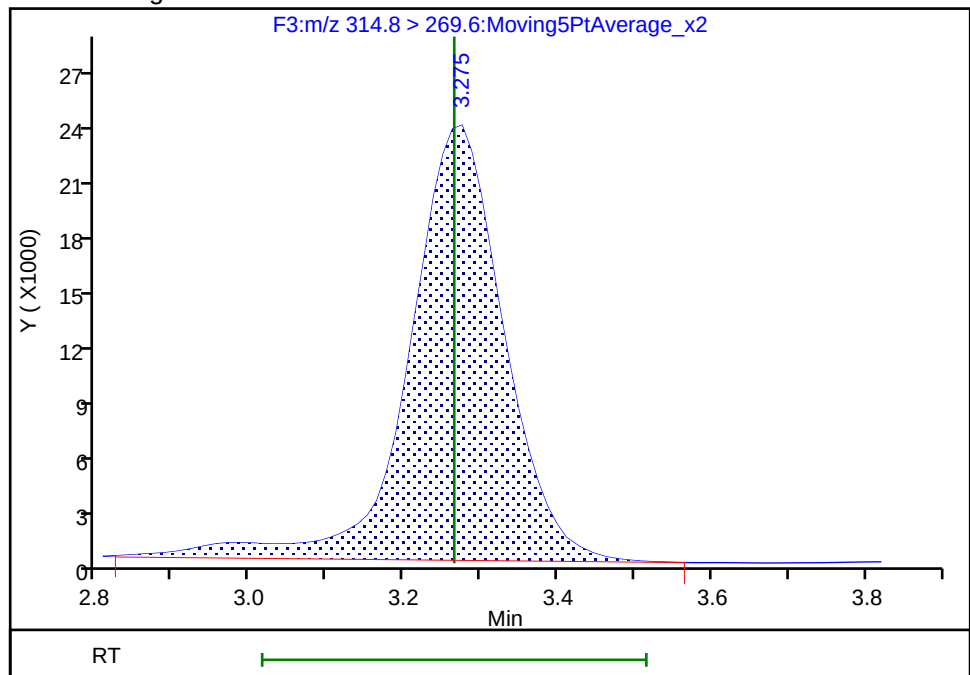
RT: 3.28
Area: 193433
Amount: 51.183343
Amount Units: ng/ml

Processing Integration Results



RT: 3.28
Area: 199679
Amount: 49.757607
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:38

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

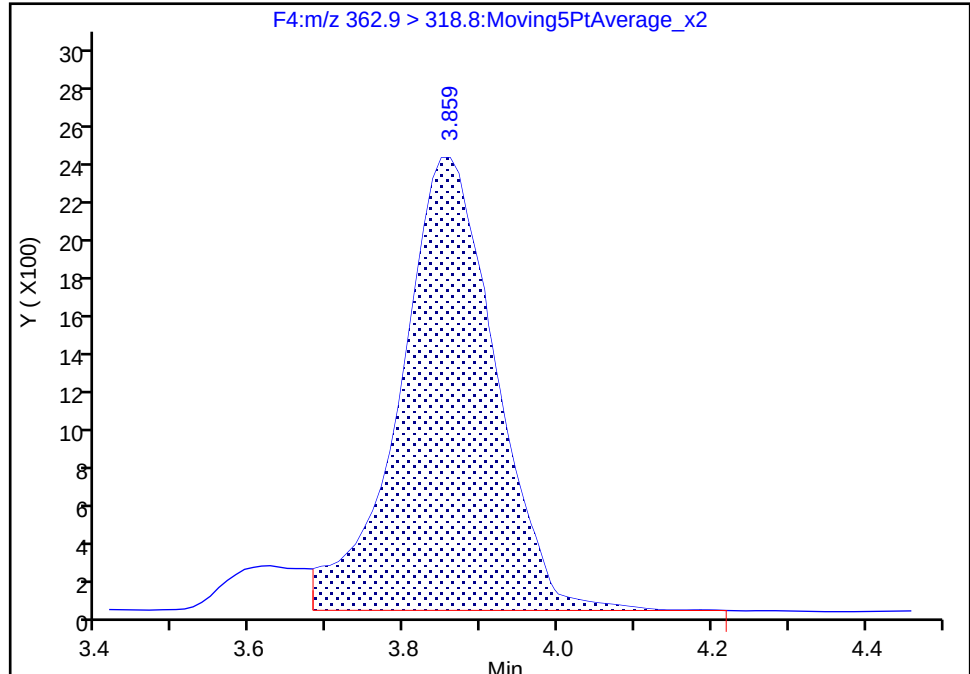
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d		
Injection Date:	27-Jun-2018 11:07:54	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F4:MRM
		Worklist Smp#:	7

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

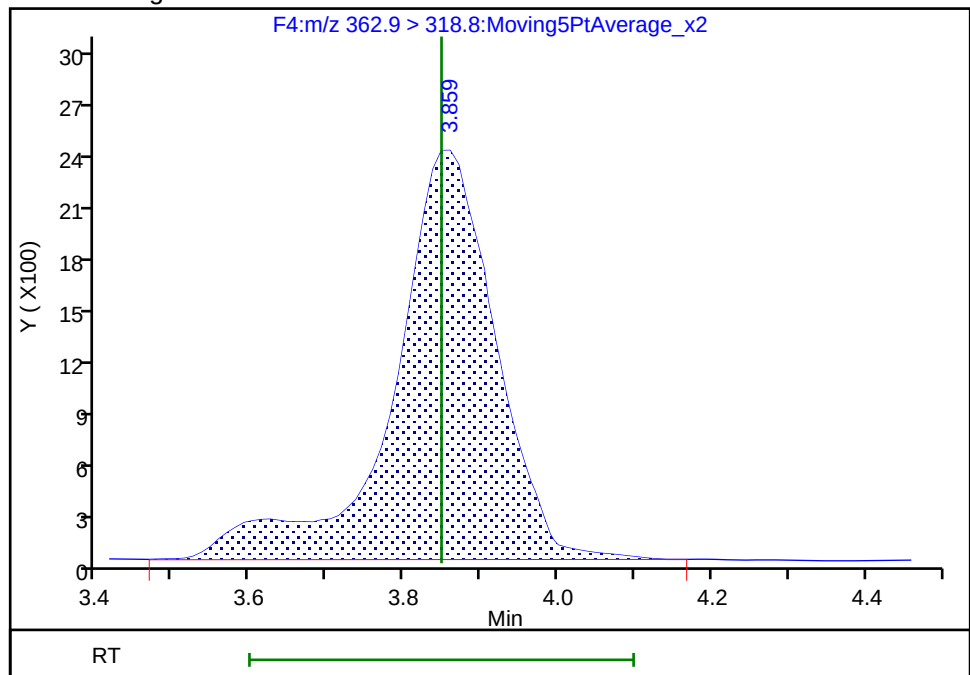
RT: 3.86
Area: 20283
Amount: 2.000000
Amount Units: ng/ml

Processing Integration Results



RT: 3.86
Area: 21919
Amount: 1.912727
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:43

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d

Injection Date: 27-Jun-2018 11:07:54

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:

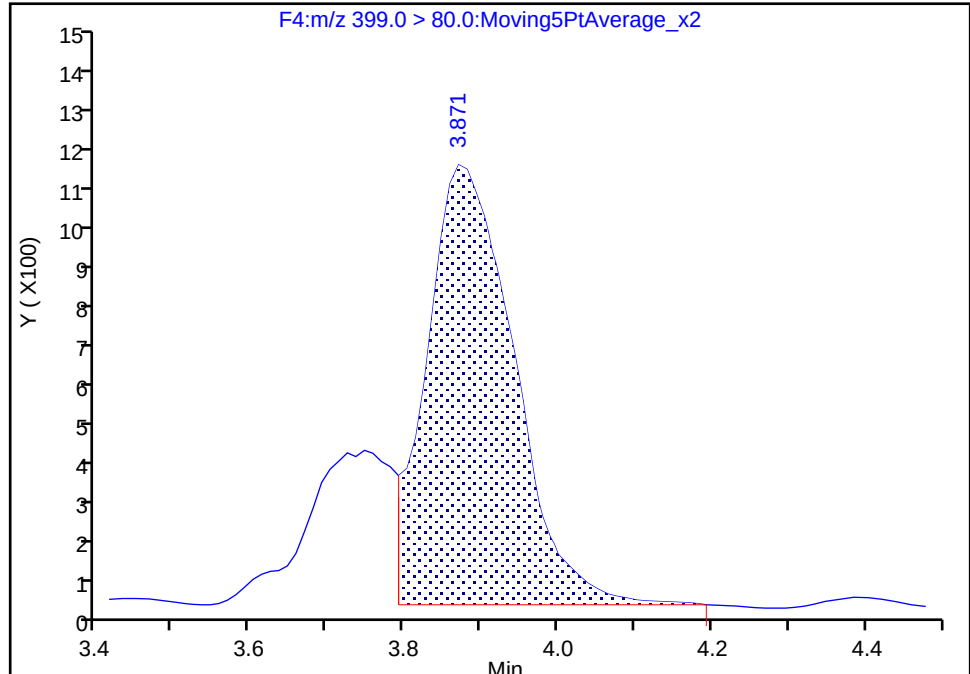
Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

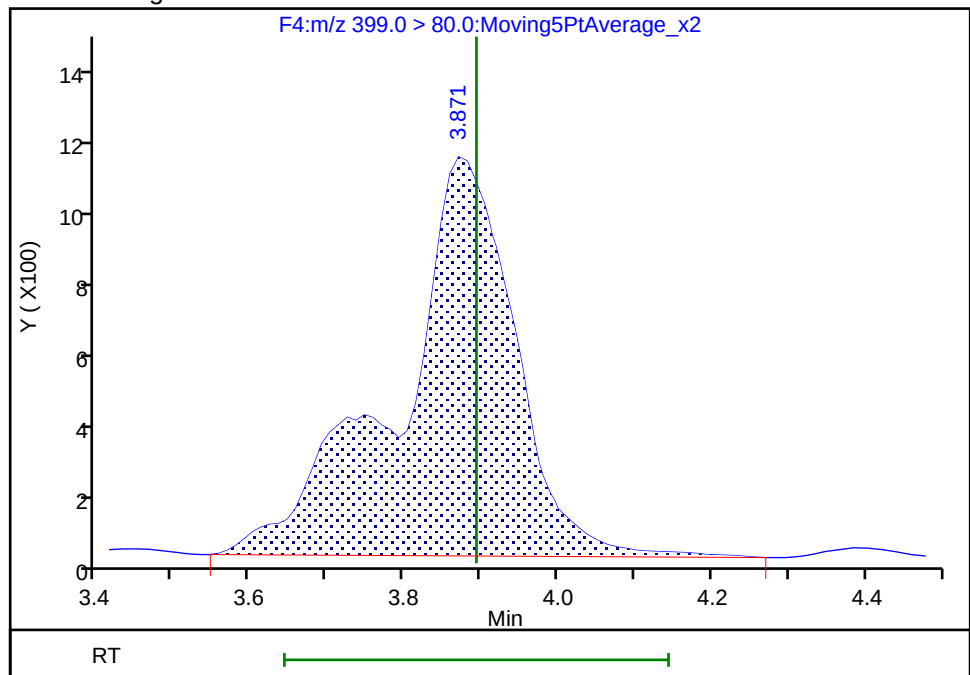
RT: 3.87
Area: 8292
Amount: 1.820000
Amount Units: ng/ml

Processing Integration Results



RT: 3.87
Area: 11284
Amount: 1.848392
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:01:52

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

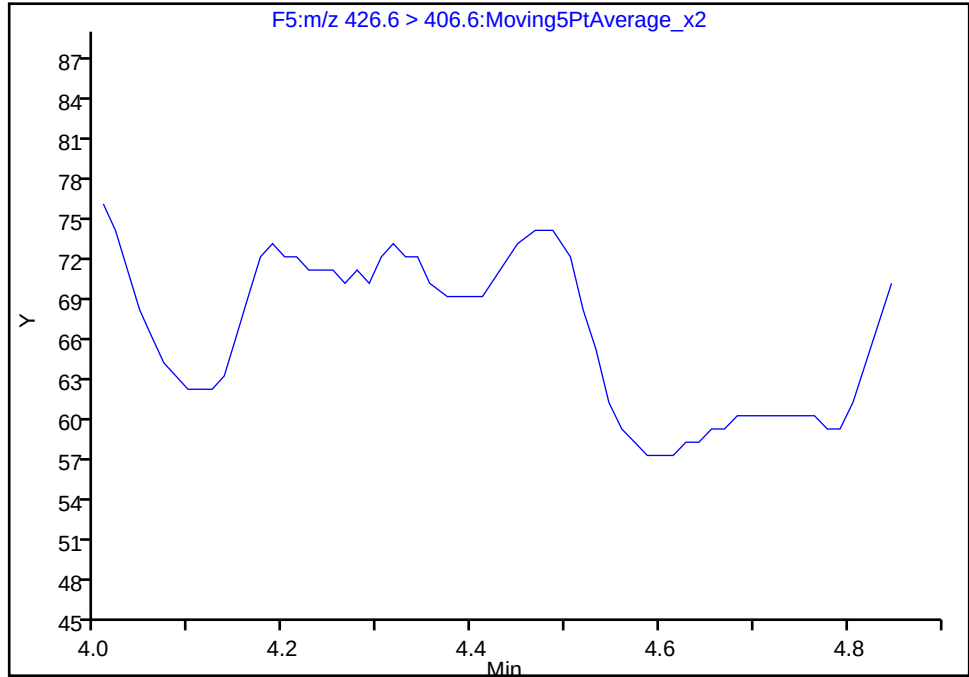
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

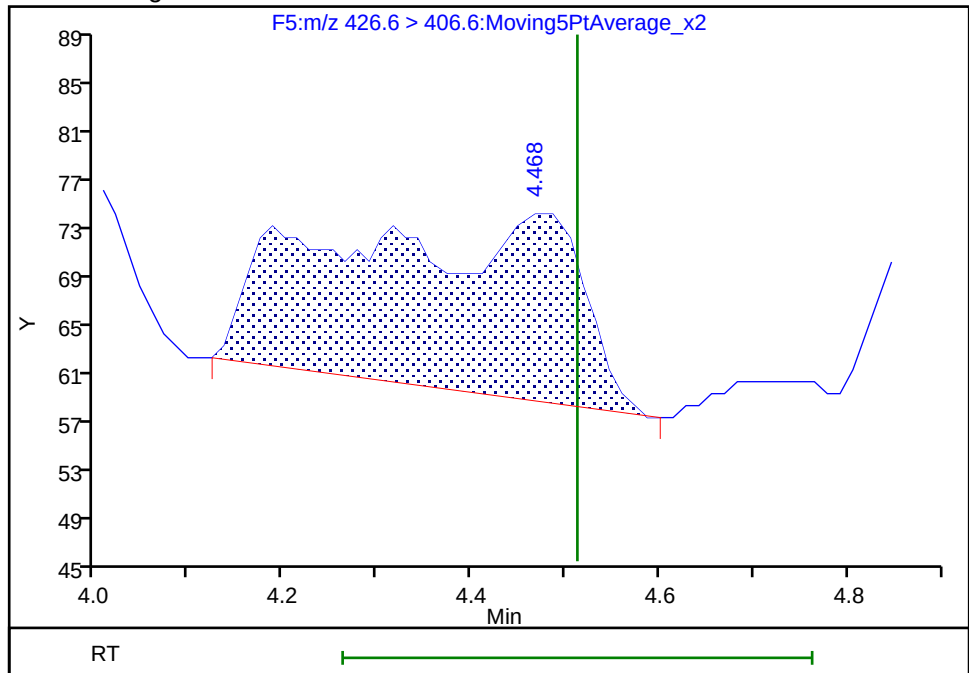
Not Detected
Expected RT: 4.51

Processing Integration Results



RT: 4.47
Area: 269
Amount: 1.547399
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:00:22

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

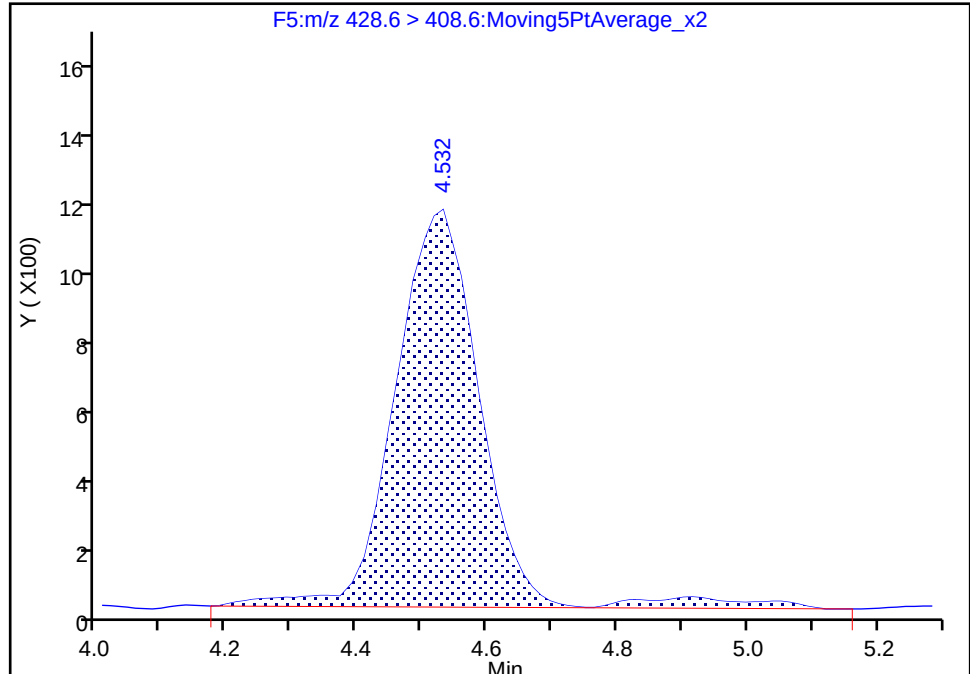
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

D 14 M2-6:2FTS, CAS: STL02279

Signal: 1

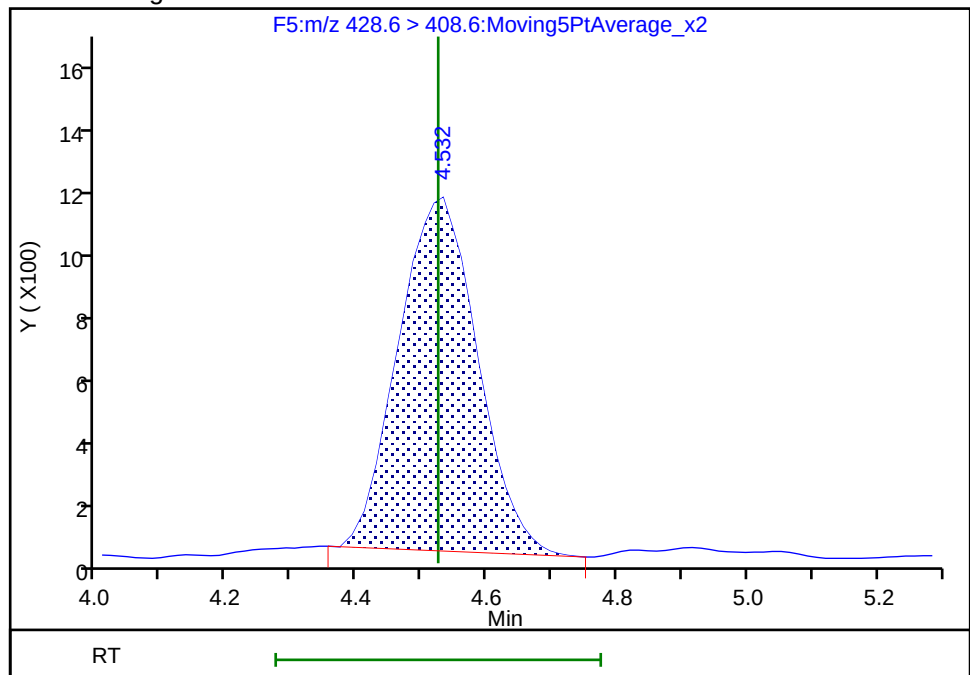
RT: 4.53
Area: 10080
Amount: 42.194348
Amount Units: ng/ml

Processing Integration Results



RT: 4.53
Area: 9119
Amount: 36.472752
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:02:00

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d

Injection Date: 27-Jun-2018 11:07:54

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:

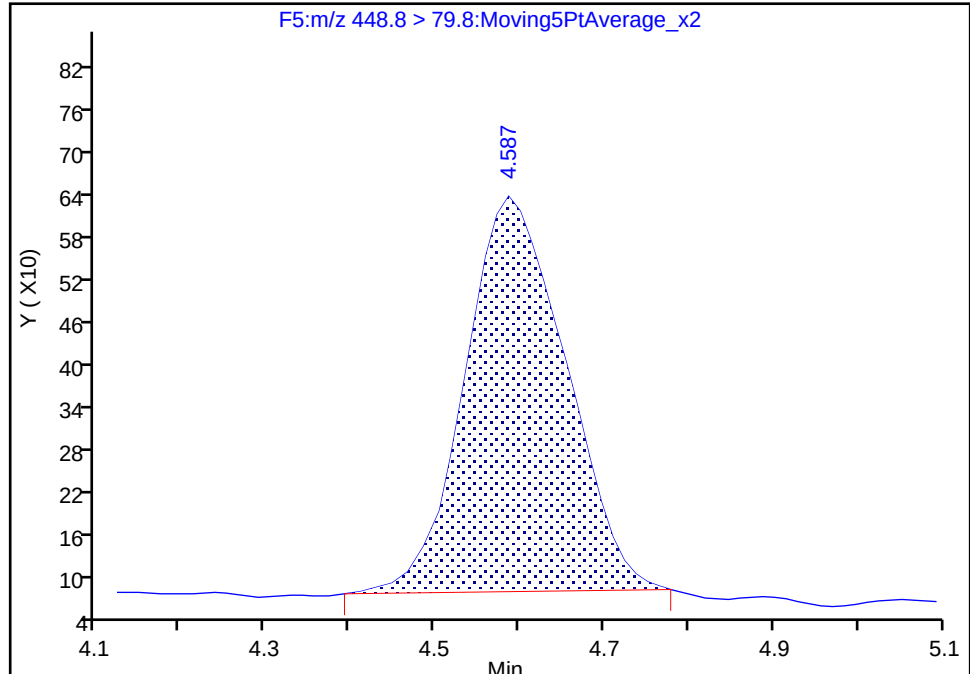
Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

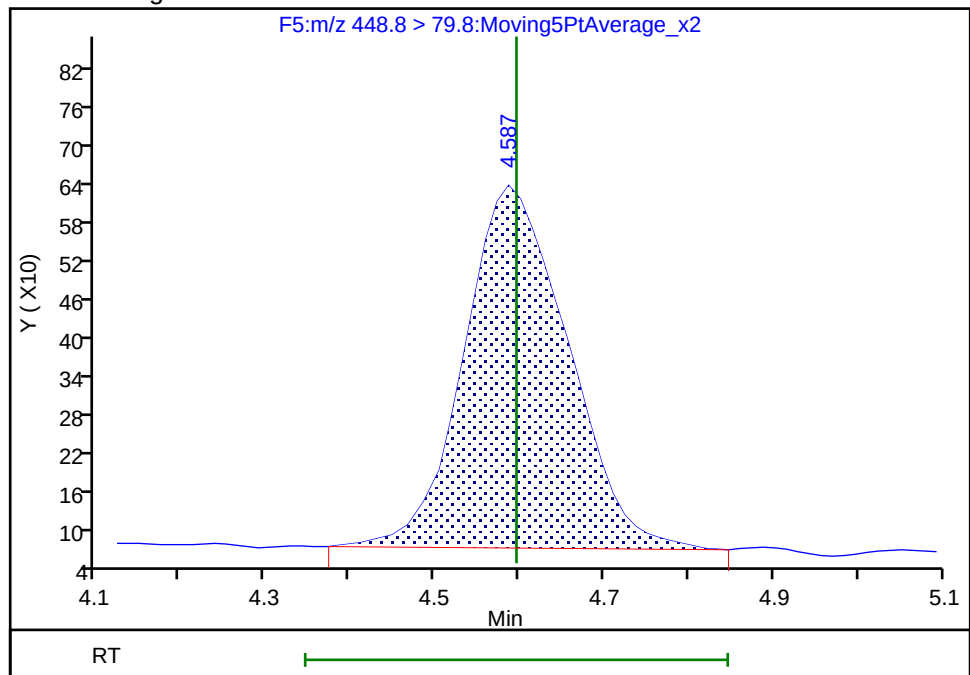
RT: 4.59
Area: 4601
Amount: 1.904000
Amount Units: ng/ml

Processing Integration Results



RT: 4.59
Area: 4814
Amount: 1.554206
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:02:09

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

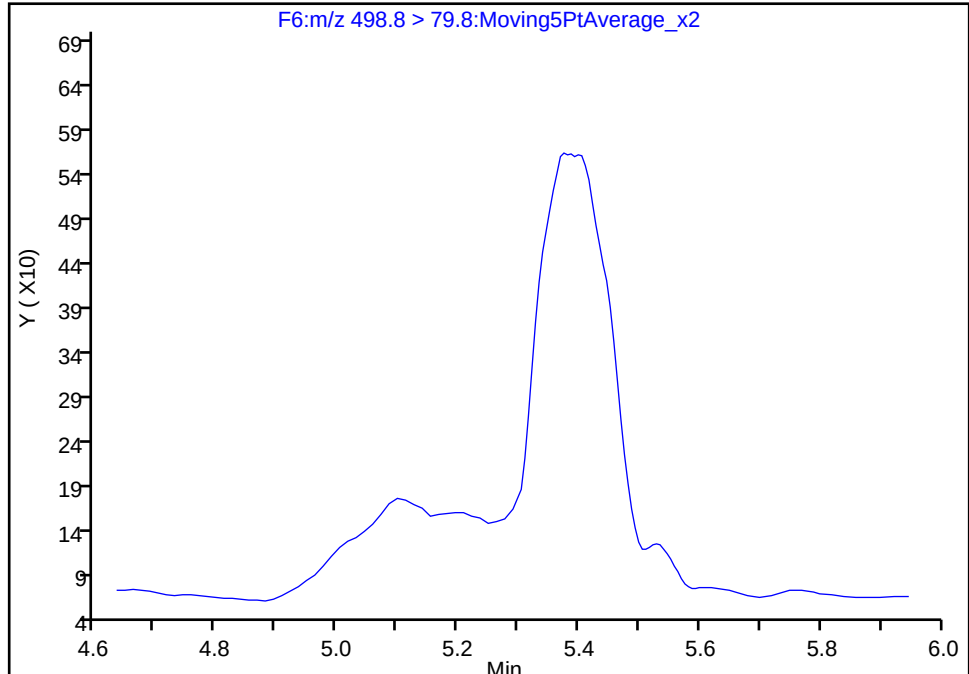
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d		
Injection Date:	27-Jun-2018 11:07:54	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F6:MRM
		Worklist Smp#:	7

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

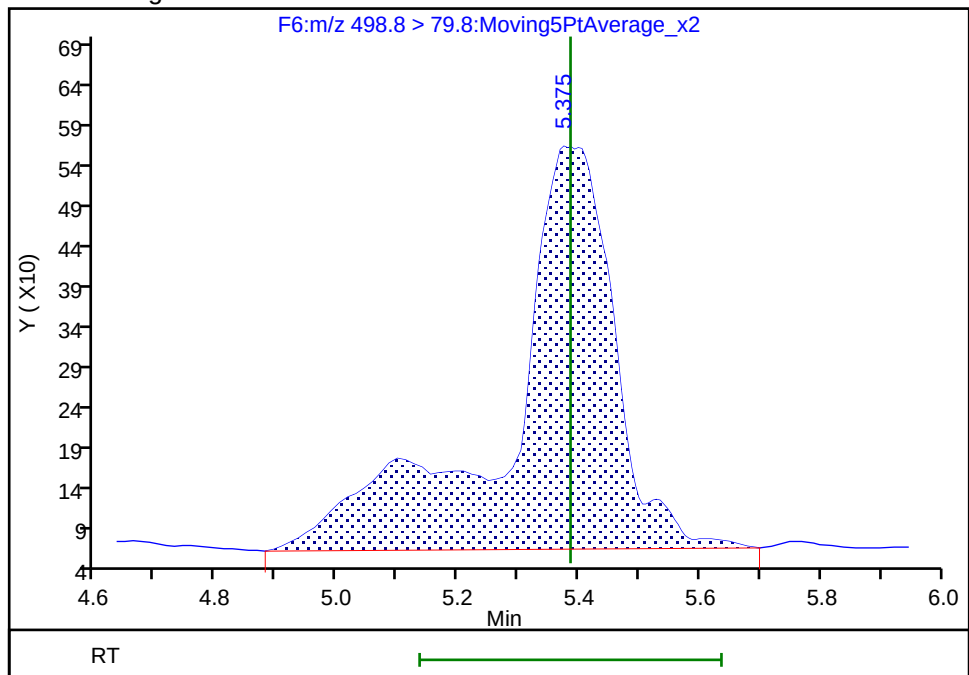
Signal: 1

Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.38
Area: 6203
Amount: 1.764755
Amount Units: ng/ml

Reviewer: chirgwinb, 27-Jun-2018 12:00:16

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

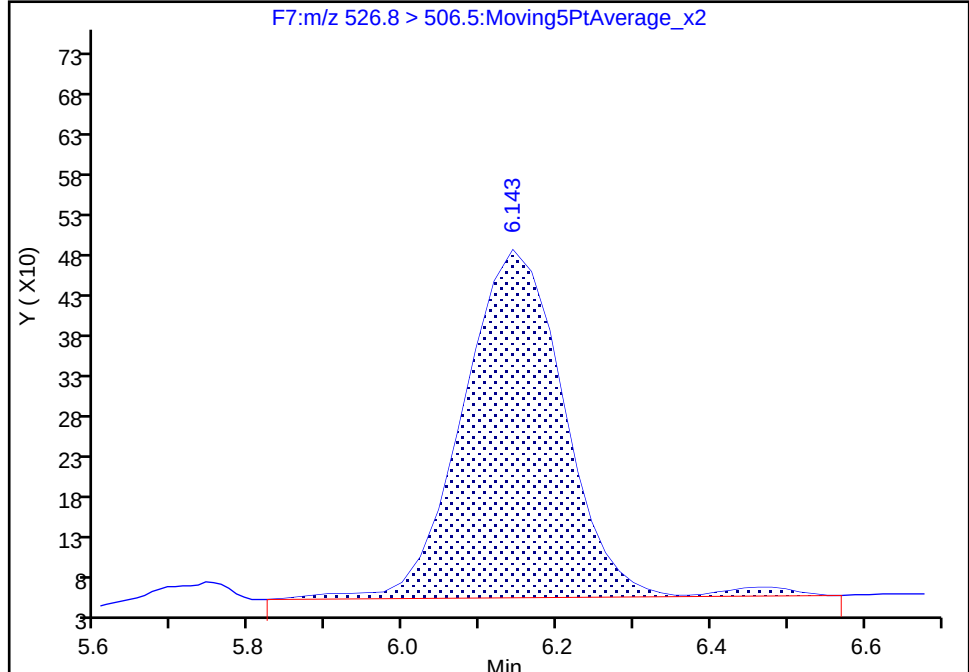
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F7:MRM

24 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

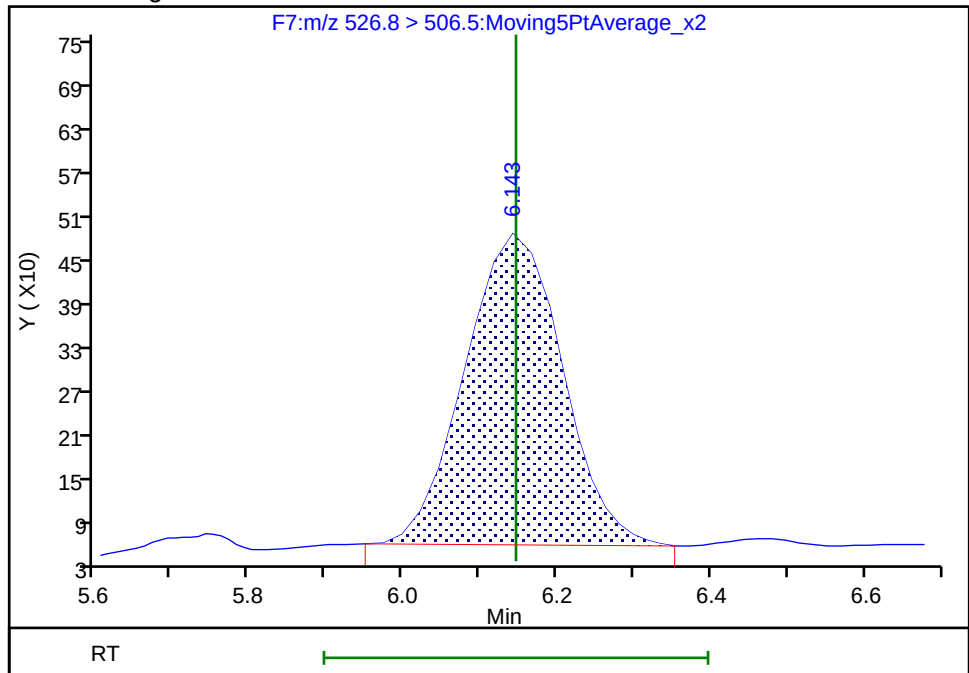
RT: 6.14
Area: 3979
Amount: 1.916000
Amount Units: ng/ml

Processing Integration Results



RT: 6.14
Area: 3775
Amount: 2.214896
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:02:17

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

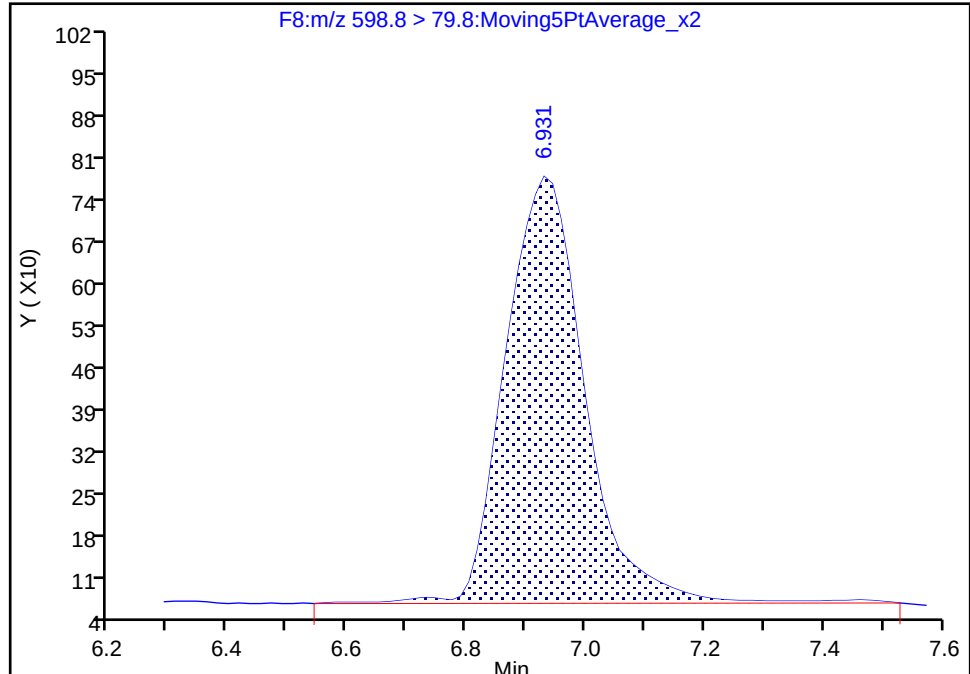
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A07.d
Injection Date: 27-Jun-2018 11:07:54 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

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

Signal: 1

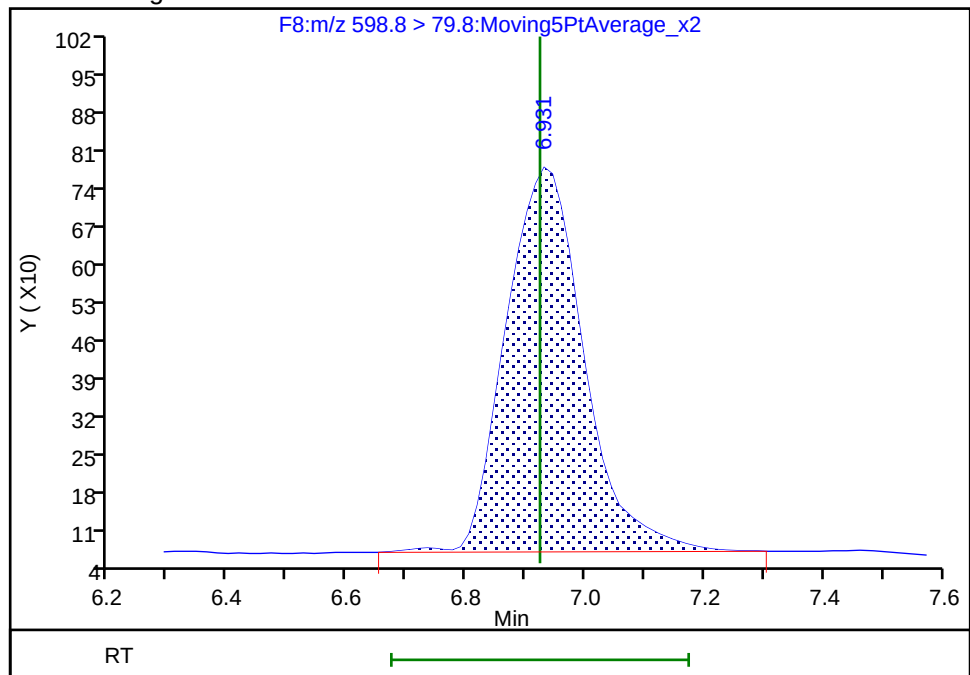
RT: 6.93
Area: 6595
Amount: 1.928000
Amount Units: ng/ml

Processing Integration Results



RT: 6.93
Area: 6439
Amount: 1.854163
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:02:29

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 3
 Inject. Date: 27-Jun-2018 11:24:00 ALS Bottle#: 0 Worklist Smp#: 8
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-008 IC 3
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:39:46 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.371	2.370	0.001	1.000	258511	44.9		89.9	330	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.371	2.375	-0.004	1.000	23258	4.33		86.7	67.6	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	102907	46.3		92.6	332	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.818	2.807	0.011	1.006	40196	4.50		89.9	131	M
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	180682	44.5		95.7	297	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.889	-0.006	1.000	25732	4.46		101	168	M
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.263	3.263	0.0	1.000	20015	4.52		90.3	184	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.263	3.265	-0.002	1.000	209376	46.8		93.5	1168	
D 10 13C4-PFHpA										
366.9 > 321.8	3.848	3.843	0.005	1.000	595604	49.2		98.5	1908	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.848	3.848	0.0	1.000	59604	4.56		91.3	711	
D 13 18O2 PFHxS										
402.9 > 83.8	3.893	3.889	0.004	1.000	223050	45.0		95.1	544	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.893	3.894	-0.001	1.000	25158	4.09		89.9	159	M
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.532	4.513	0.019	0.997	1101	4.71		99.3	11.0	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.546	4.525	0.021	1.000	10556	37.8		79.6	46.1	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	4.574	4.567	0.007	1.000	475878	48.4		96.7	1471	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.560	4.567	-0.007	0.997	52329	4.58		91.7	245	
* 49 13C2-PFOA										
414.9 > 369.8	4.574	4.569	0.005		539360	50.0			817	M
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.601	4.596	0.005	0.854	14510	4.13		86.8	147	M
D 21 13C5 PFNA										
467.8 > 422.8	5.357	5.363	-0.006	1.000	521226	49.0		97.9	2948	
19 Perfluorononanoic acid										
462.8 > 418.8	5.363	5.368	-0.005	1.001	50977	4.74		94.8	325	
D 22 13C4 PFOS										
502.8 > 79.8	5.387	5.382	0.005	1.000	171435	46.7		97.7	2817	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.410	5.386	0.024	1.004	16937	4.03		86.9	200	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.167	6.147	0.020	1.004	6254	3.16		66.0	31.6	M
D 23 M2-8:2FTS										
528.8 > 508.8	6.143	6.147	-0.004	1.000	146066	46.8		97.6	2228	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.167	6.186	-0.019	1.000	67520	4.46		89.1	369	
D 25 13C2 PFDA										
514.9 > 469.5	6.167	6.186	-0.019	1.000	739647	49.8		99.6	4939	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	158475	45.2		90.4	805	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.530	6.539	-0.009	1.000	18778	4.87		97.3	65.2	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.903	6.903	0.0	1.000	160307	48.6		97.2	1347	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.917	6.924	-0.007	1.284	17434	4.49		93.1	157	M
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.931	6.926	0.005	1.004	14880	4.26		85.1	107	
D 33 13C2 PFUnA										
564.8 > 519.8	6.931	6.942	-0.011	1.000	692538	49.7		99.4	4055	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.945	6.947	-0.002	1.002	61113	4.56		91.2	472	
D 35 13C8 FOSA										
505.8 > 77.8	7.147	7.154	-0.007	1.000	277355	48.9		97.7	1226	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.147	7.158	-0.011	1.000	19421	3.67		73.4	166	
D 36 13C2 PFDoA										
614.8 > 569.6	7.634	7.636	-0.002	1.000	687141	48.8		97.5	1665	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.647	7.640	0.007	1.002	62783	4.62		92.3	925	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.249	8.259	-0.010	1.080	65326	4.73		94.6	516	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d

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	8.803	8.805	-0.002	1.000	688306	48.6		97.2	2968	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.790	8.808	-0.018	0.998	58451	4.40		88.0	794	
712.8 > 168.8	8.830	8.808	0.022	1.003	11864		4.93(0.00-0.00)	88.0	130	
712.8 > 218.8	8.790	8.808	-0.018	0.998	5581		10.47(0.00-0.00)	88.0	45.7	

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\\20180626-31127.b\\PF062718A08.d

Injection Date: 27-Jun-2018 11:24:00

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

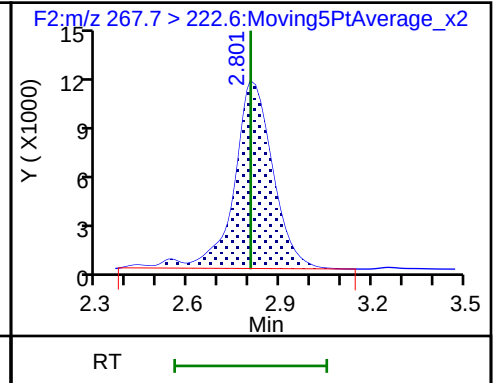
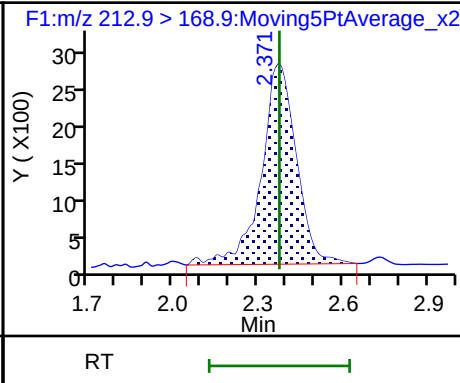
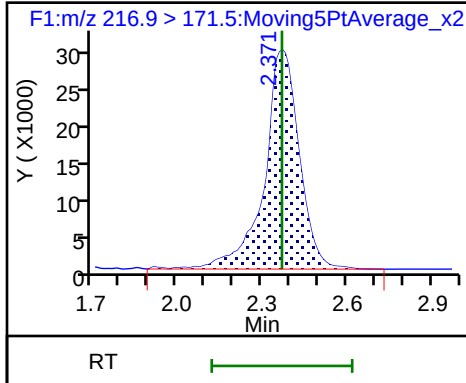
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

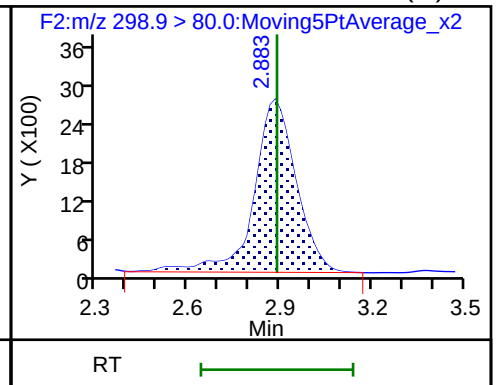
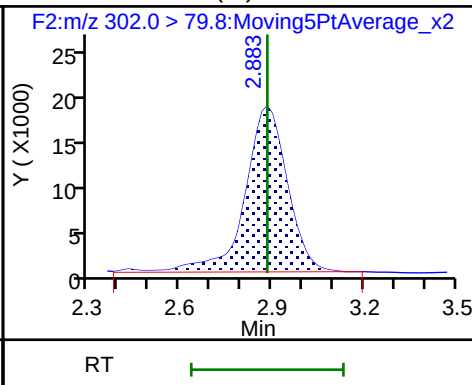
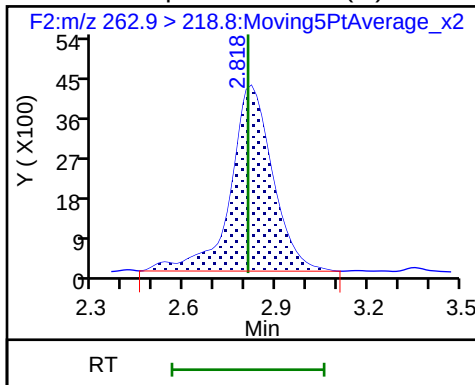
D 3 13C5-PFPeA (M)



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS (M)

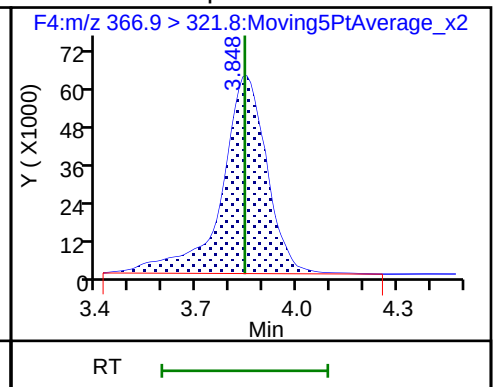
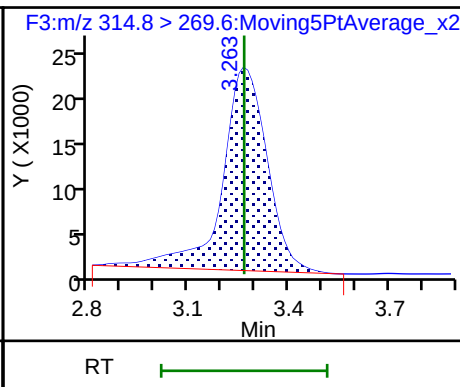
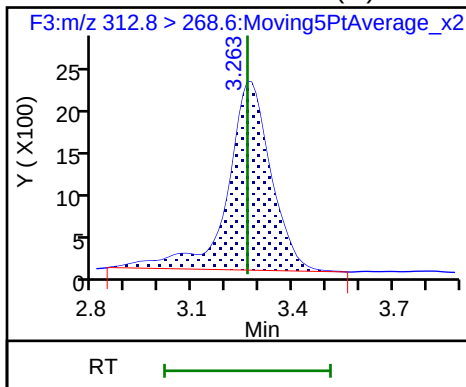
6 Perfluorobutanesulfonic acid (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA

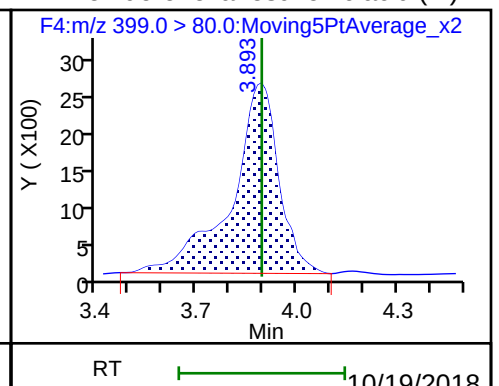
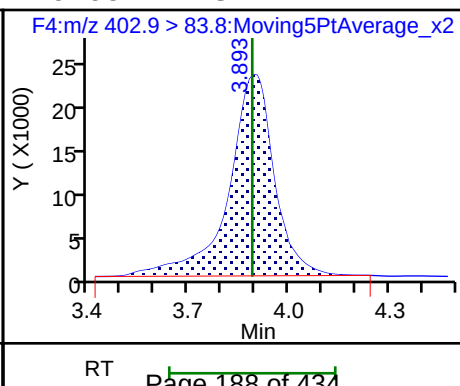
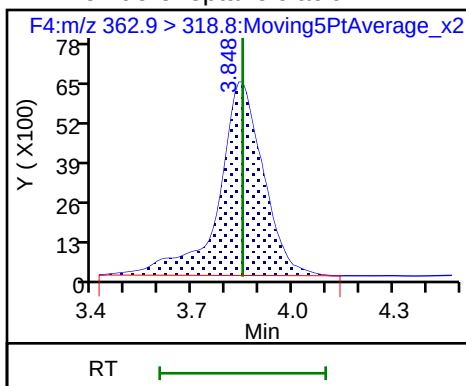
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

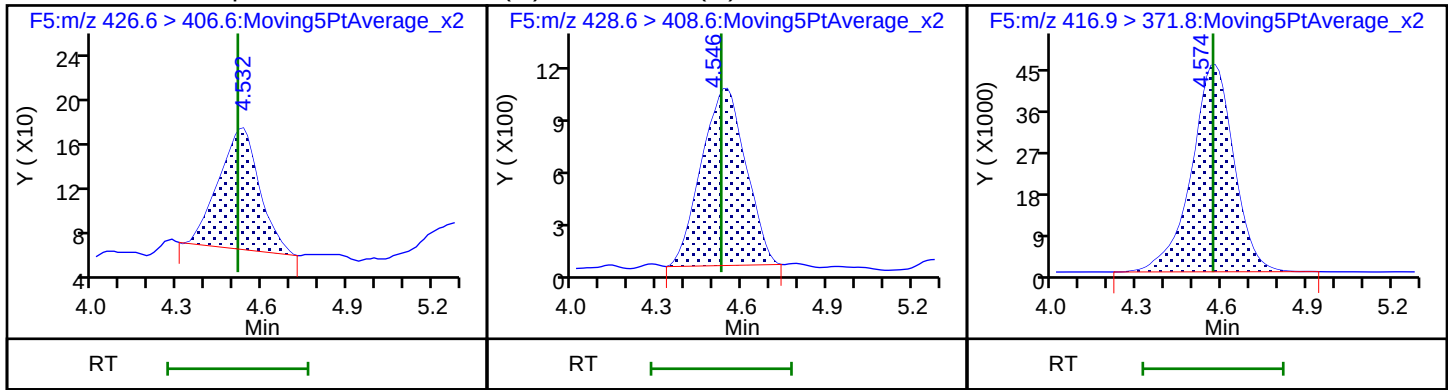
D 13 18O2 PFHxS

12 Perfluorohexanesulfonic acid (M)



15 1H,1H,2H,2H-perfluorooctanesulfonic acid (M) M2-6:2FTS (M)

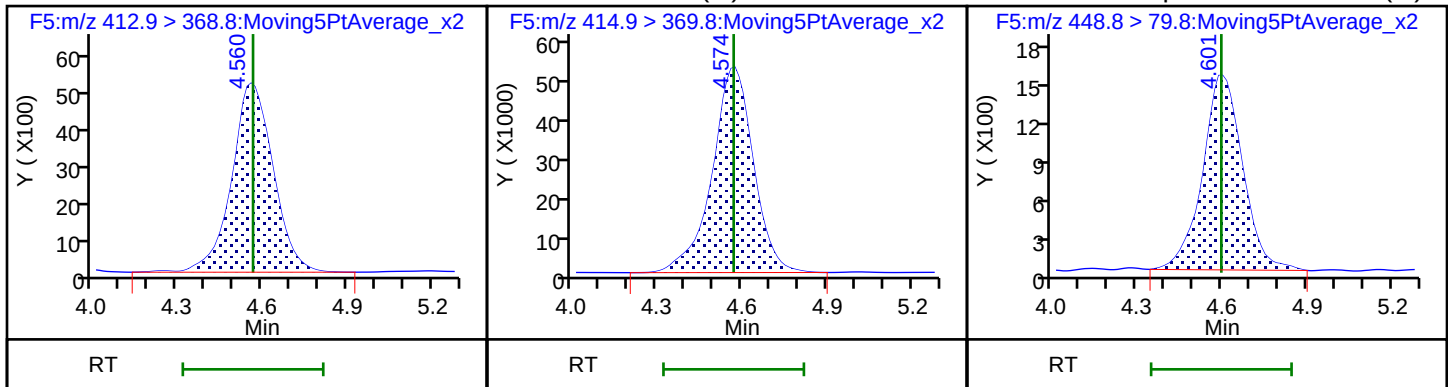
D 17 13C4 PFOA



16 Perfluorooctanoic acid

* 49 13C2-PFOA (M)

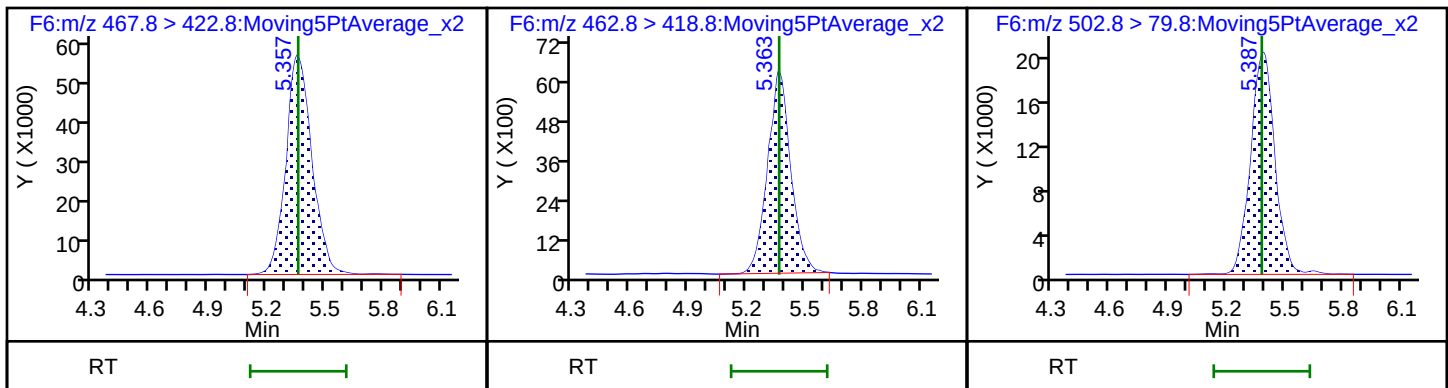
18 Perfluoroheptanesulfonic acid (M)



D 21 13C5 PFNA

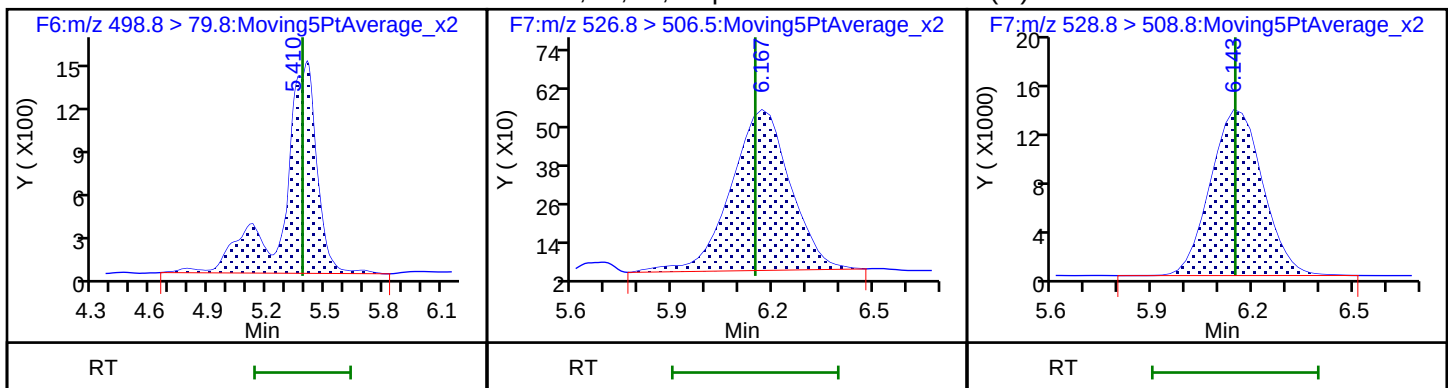
19 Perfluorononanoic acid

D 22 13C4 PFOS



20 Perfluorooctane sulfonic acid

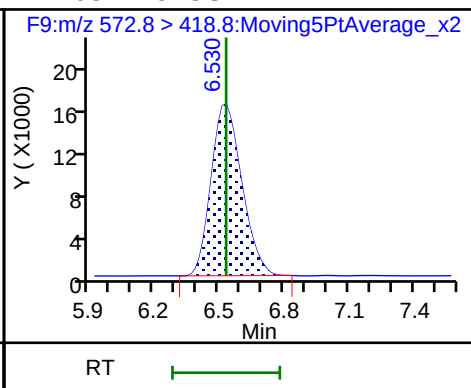
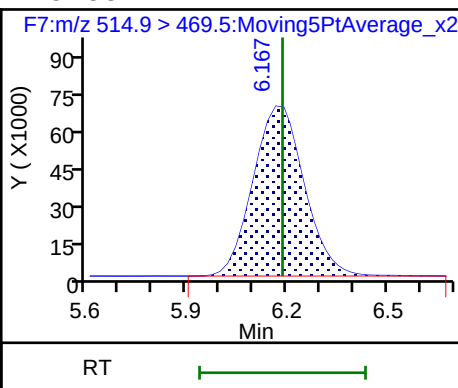
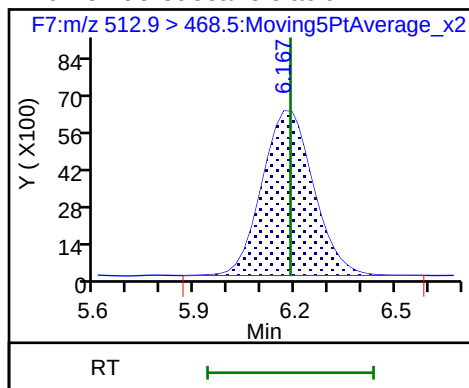
24 1H,1H,2H,2H-perfluorodecanesulfonic acid (M) M2-8:2FTS



26 Perfluorodecanoic acid

D 25 13C2 PFDA

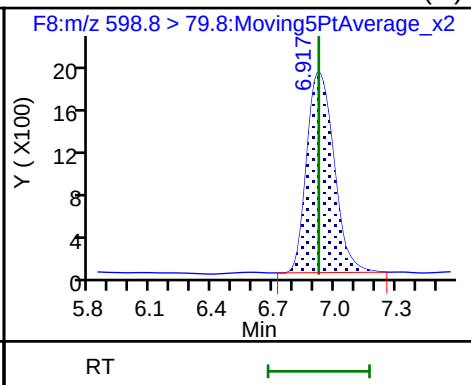
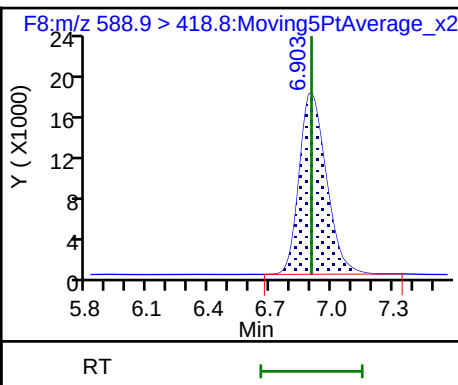
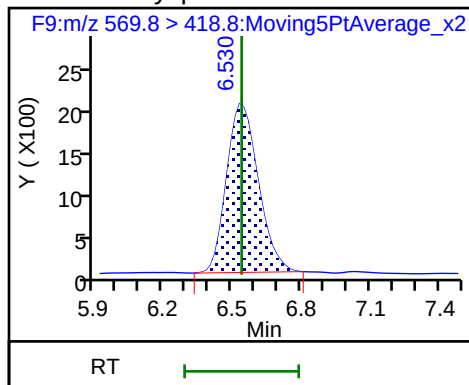
D 27 d3-NMeFOSAA



28 N-methyl perfluorooctane sulfonamid

D 29 d5-NEtFOSAA

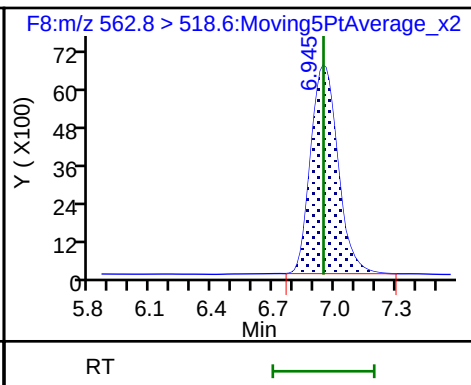
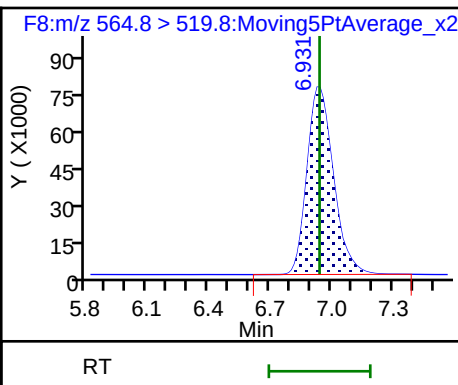
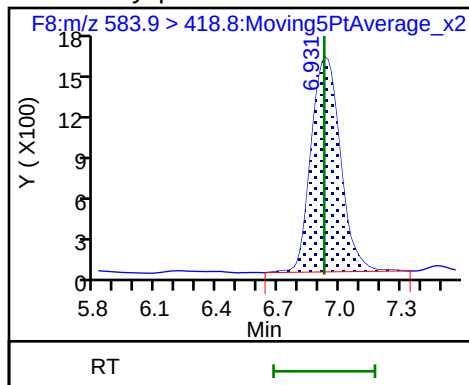
31 Perfluorodecane Sulfonic acid (M)



30 N-ethyl perfluorooctane sulfonamid

D 33 13C2 PFUnA

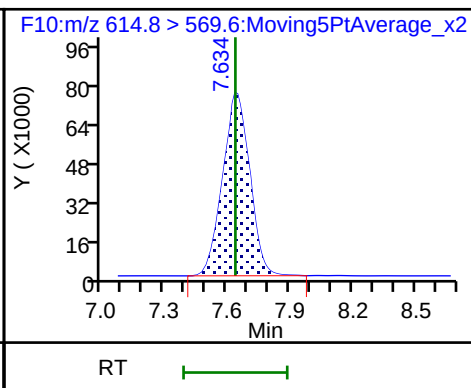
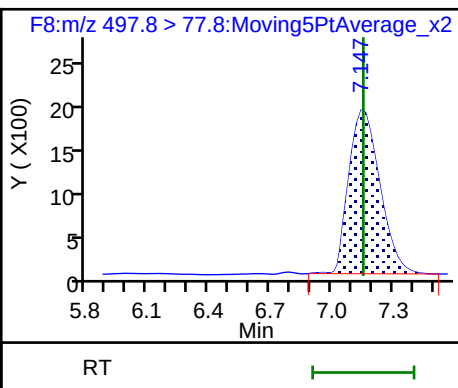
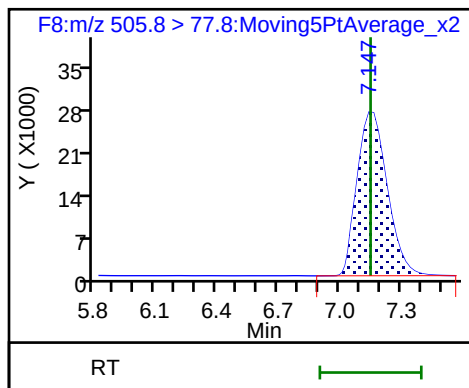
32 Perfluoroundecanoic acid



D 35 13C8 FOSA

34 Perfluorooctane Sulfonamide

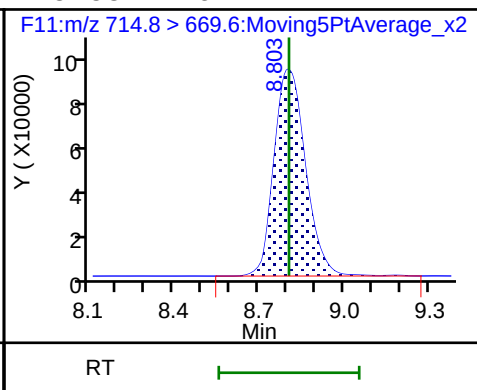
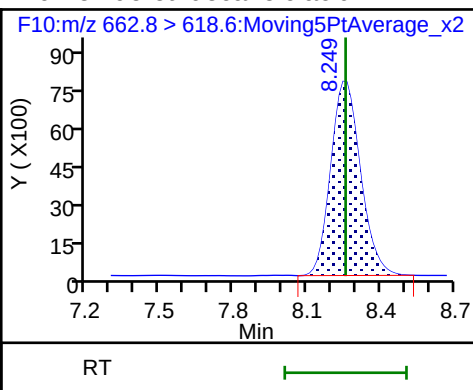
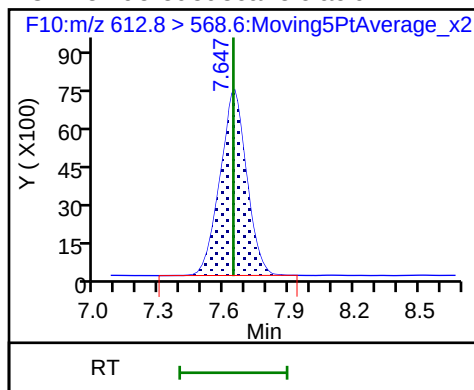
D 36 13C2 PFDaA



37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

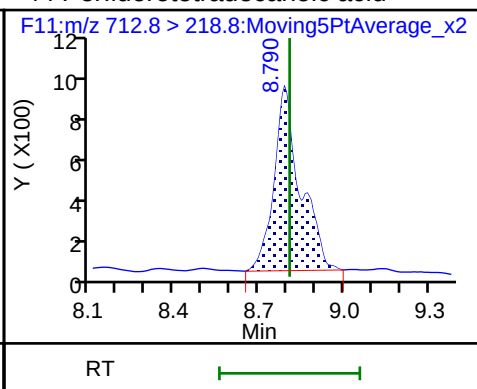
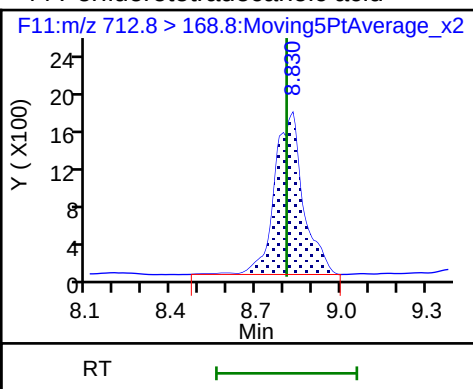
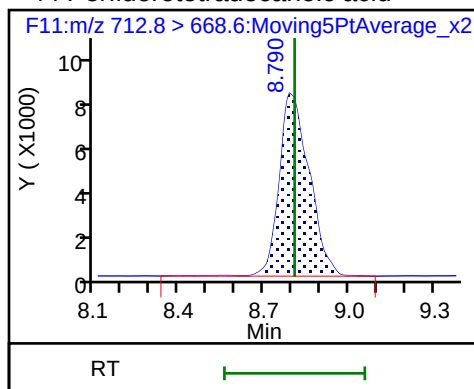
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

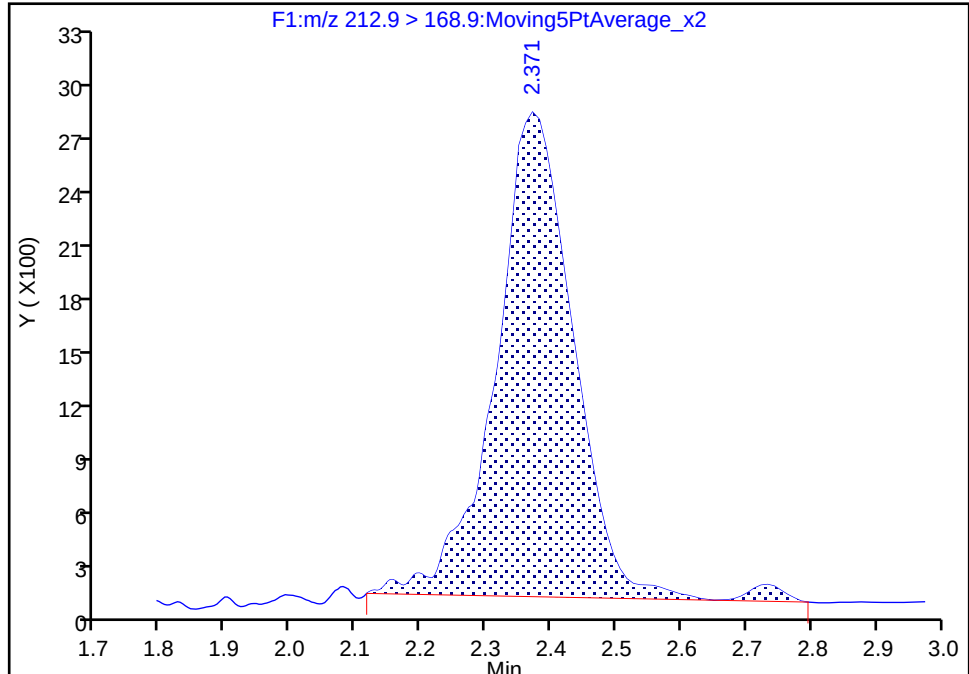
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Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 8
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

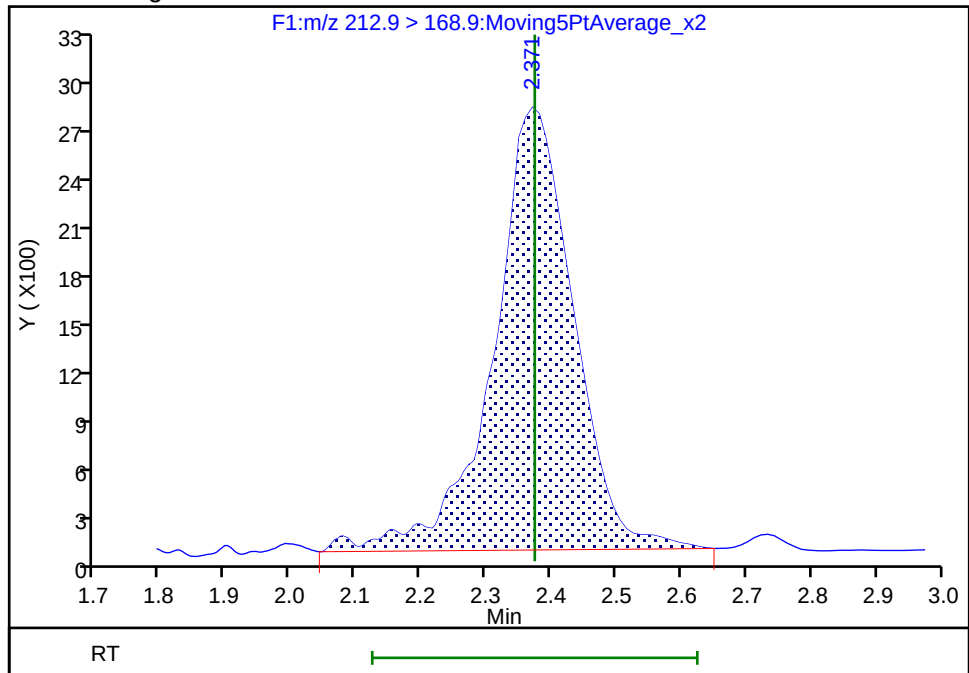
RT: 2.37
Area: 22482
Amount: 3.564398
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 23258
Amount: 4.333053
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:14:57

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

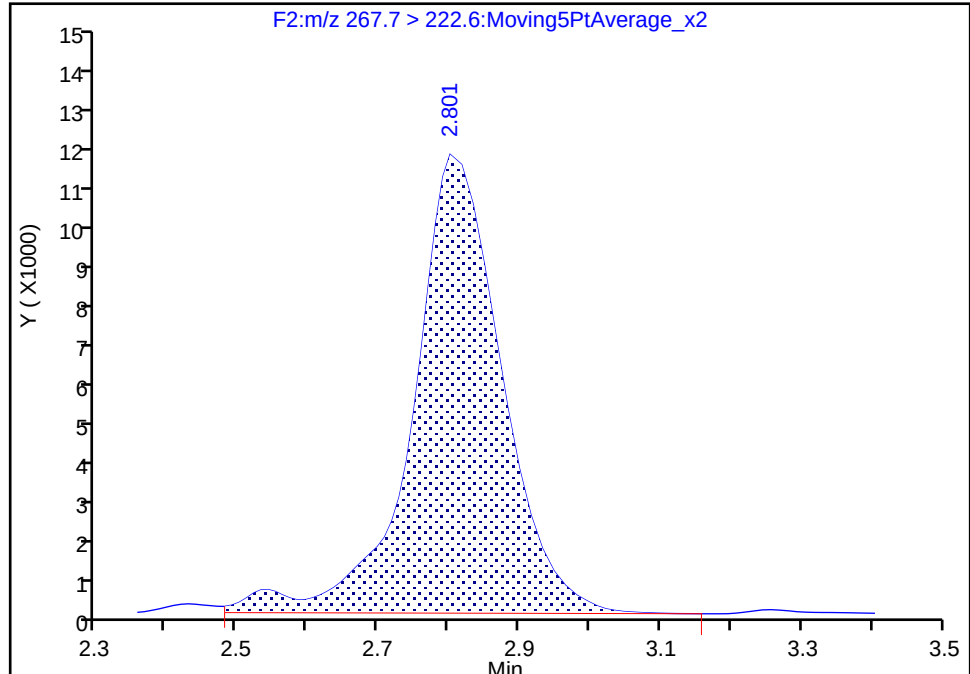
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d
Injection Date: 27-Jun-2018 11:24:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 3 13C5-PFPeA, CAS: STL01893

Signal: 1

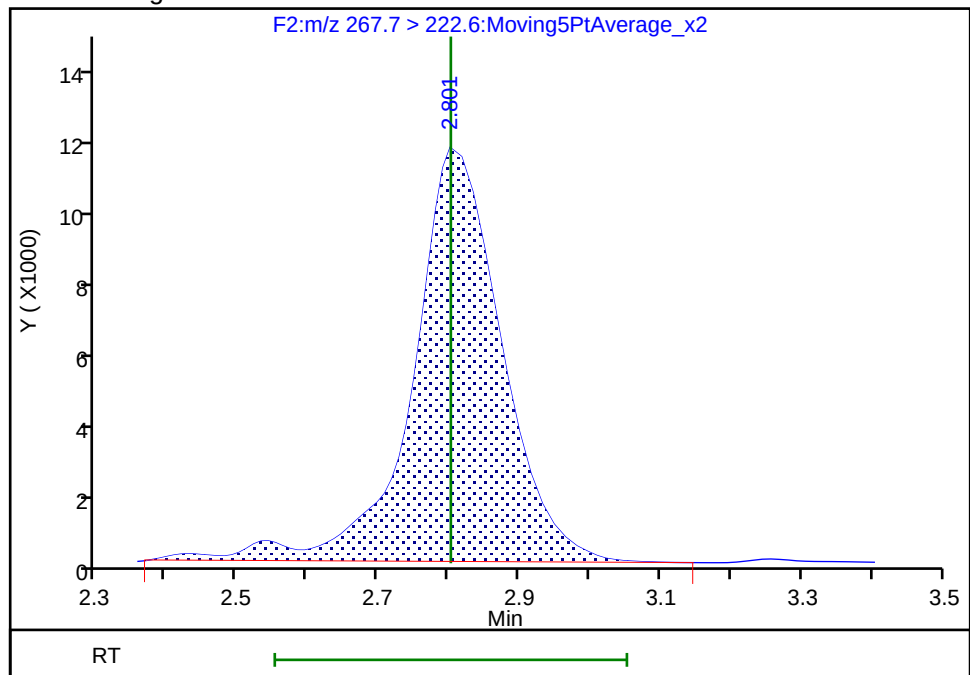
RT: 2.80
Area: 102863
Amount: 46.282678
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 102907
Amount: 46.296186
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:06
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 193 of 434

10/19/2018

TestAmerica Burlington

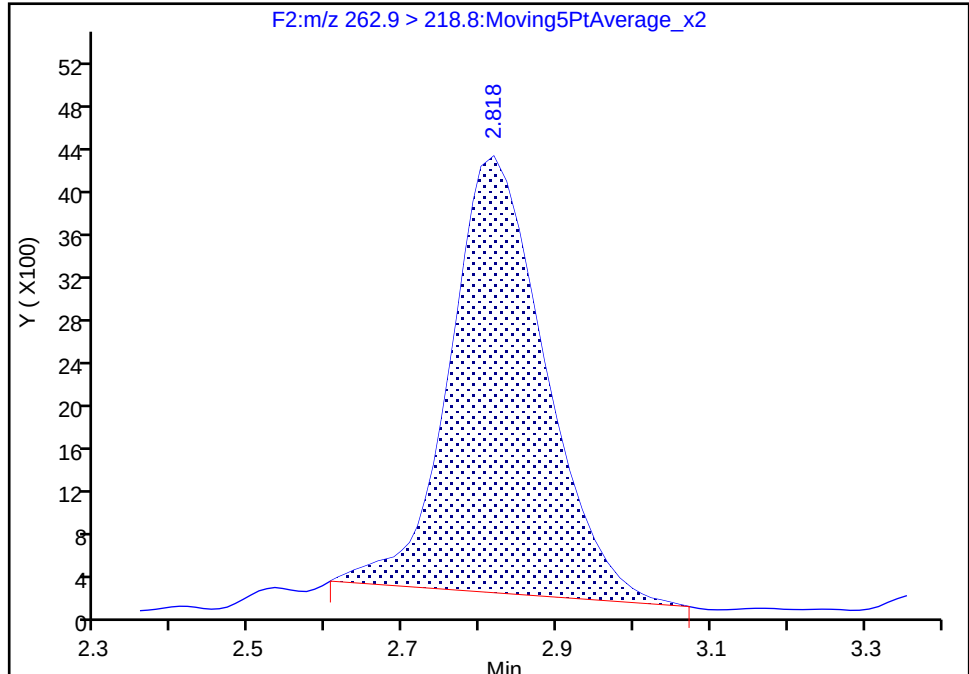
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Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 8
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

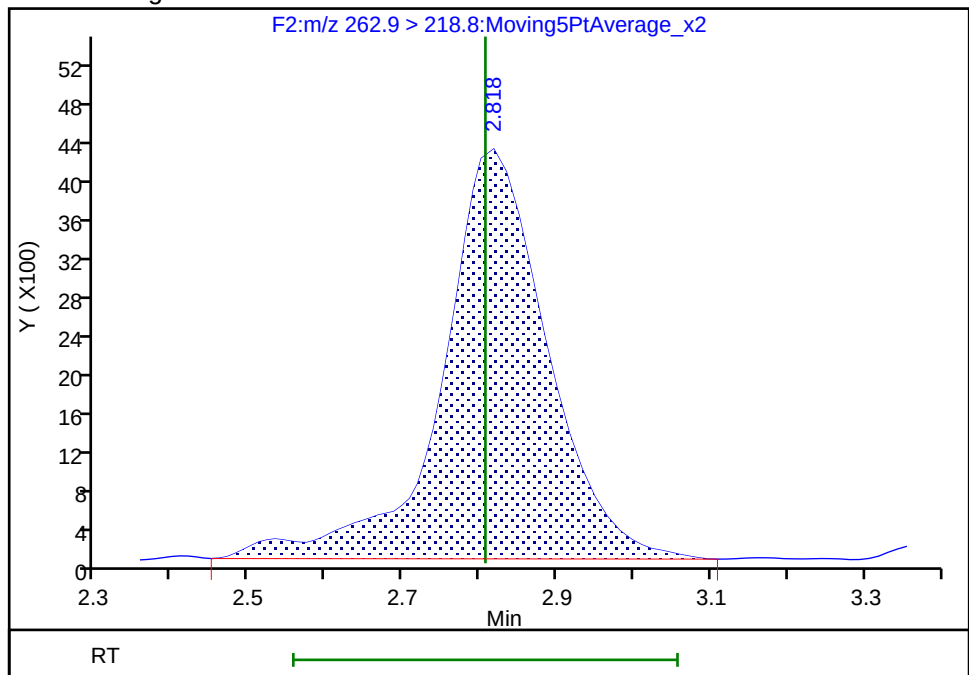
RT: 2.82
Area: 34815
Amount: 3.969438
Amount Units: ng/ml

Processing Integration Results



RT: 2.82
Area: 40196
Amount: 4.496237
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:09
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 194 of 434

10/19/2018

TestAmerica Burlington

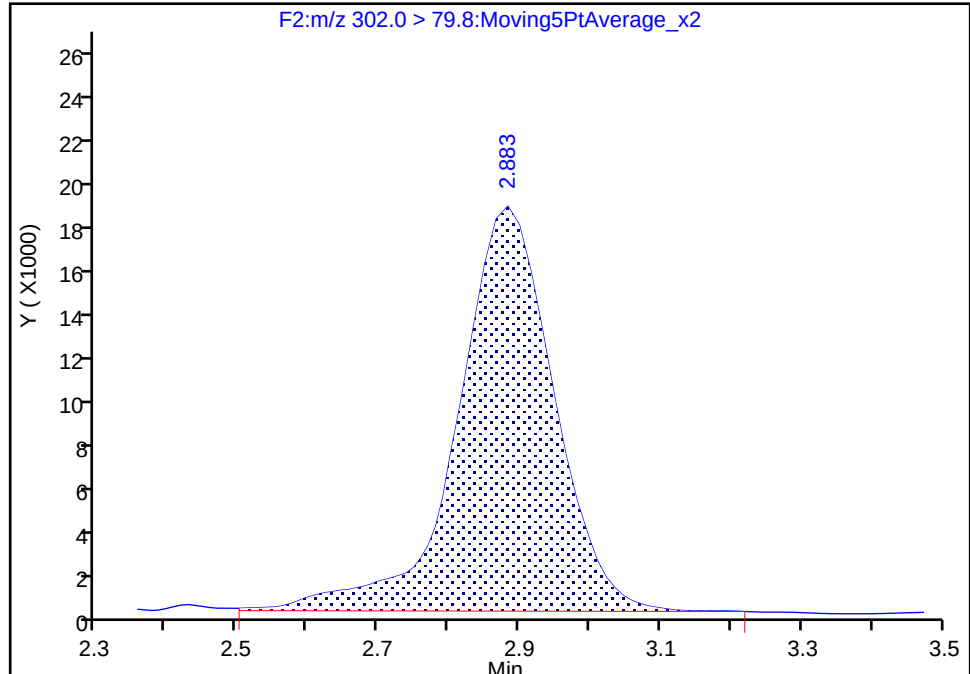
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Injection Date: 27-Jun-2018 11:24:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

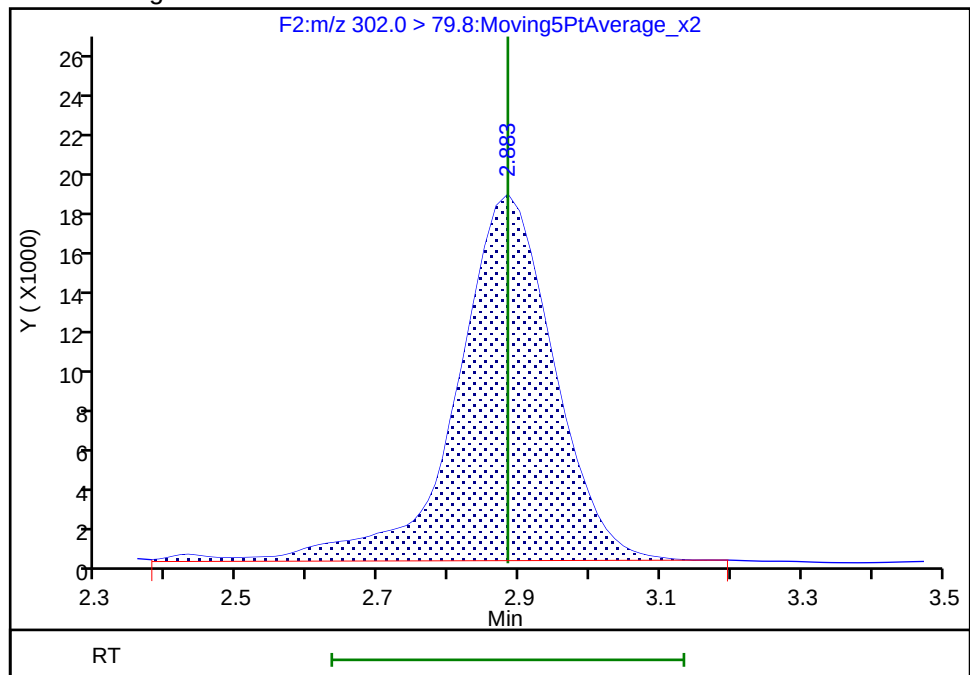
RT: 2.88
Area: 178126
Amount: 44.007145
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 180682
Amount: 44.485701
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:16

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

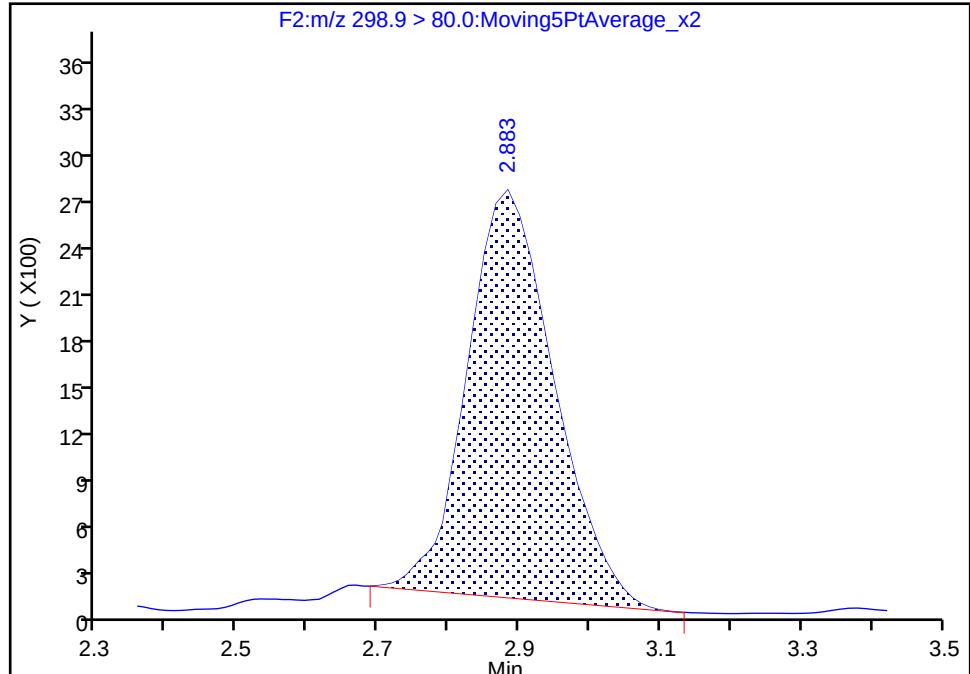
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Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 8
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

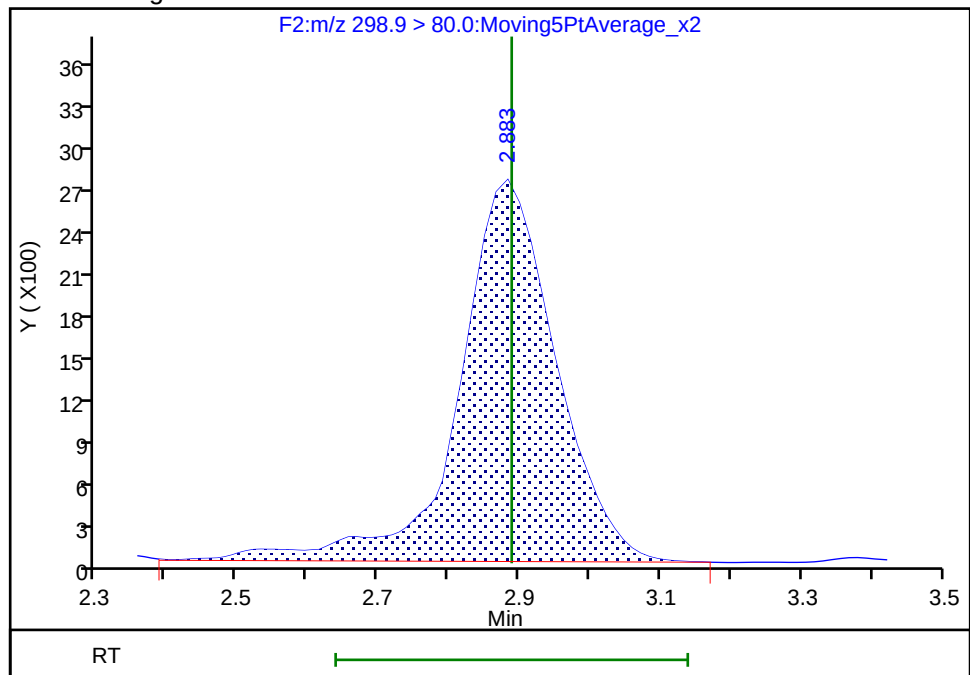
RT: 2.88
Area: 22283
Amount: 3.963766
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 25732
Amount: 4.455131
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:19

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

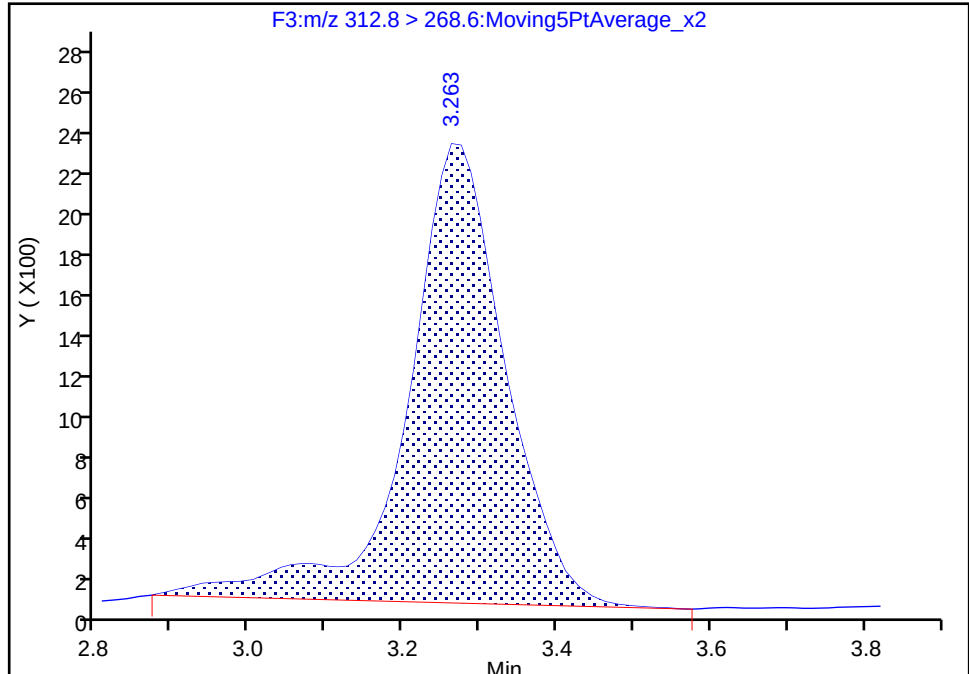
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Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 8
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

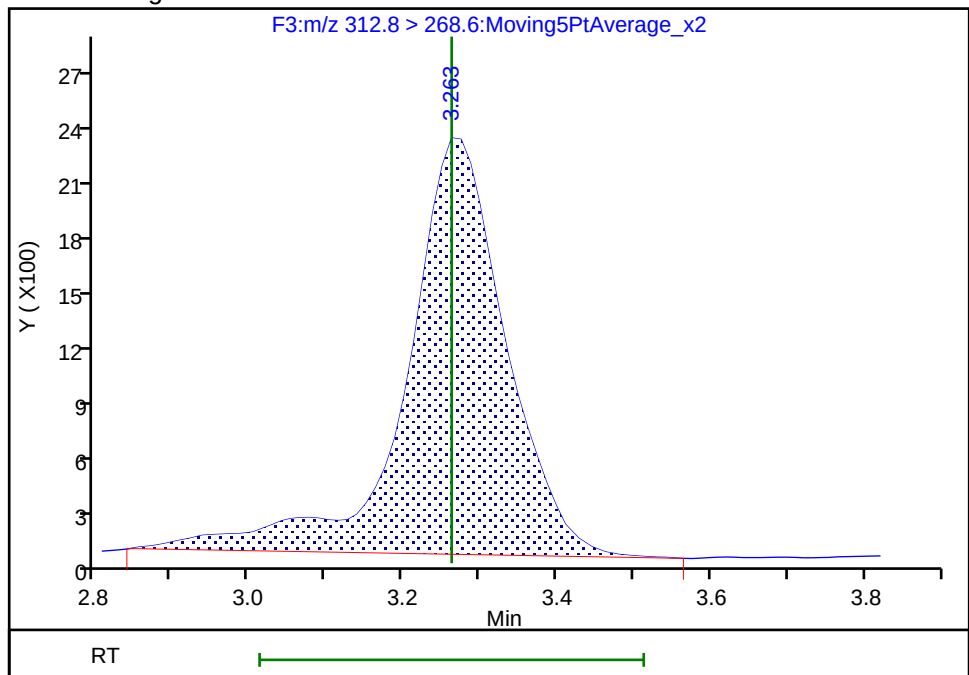
RT: 3.26
Area: 19654
Amount: 4.547346
Amount Units: ng/ml

Processing Integration Results



RT: 3.26
Area: 20015
Amount: 4.516748
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:24

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

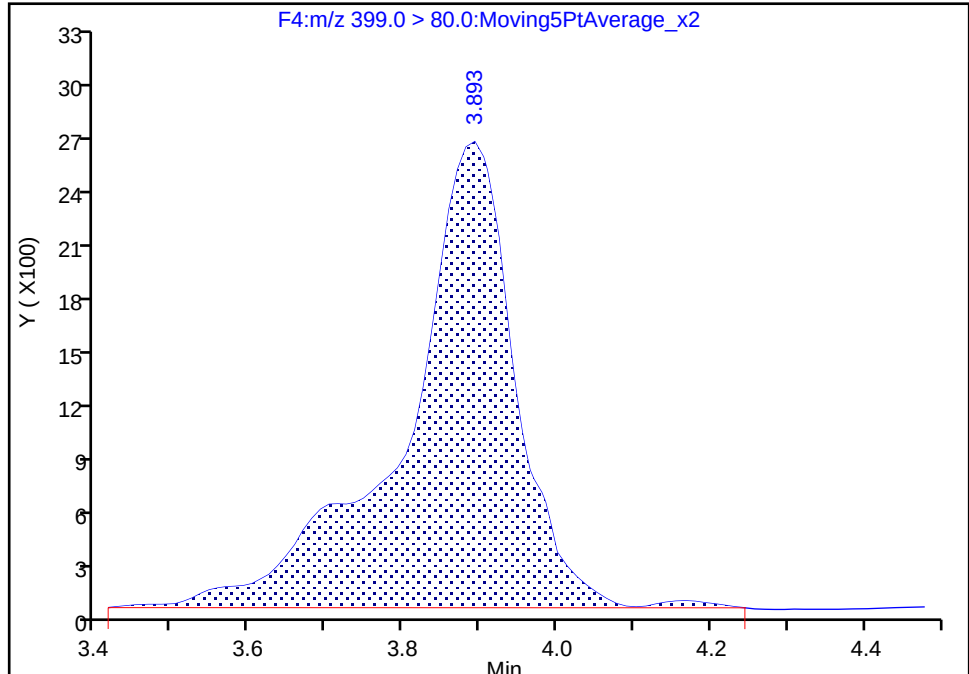
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Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F4:MRM
		Worklist Smp#:	8

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

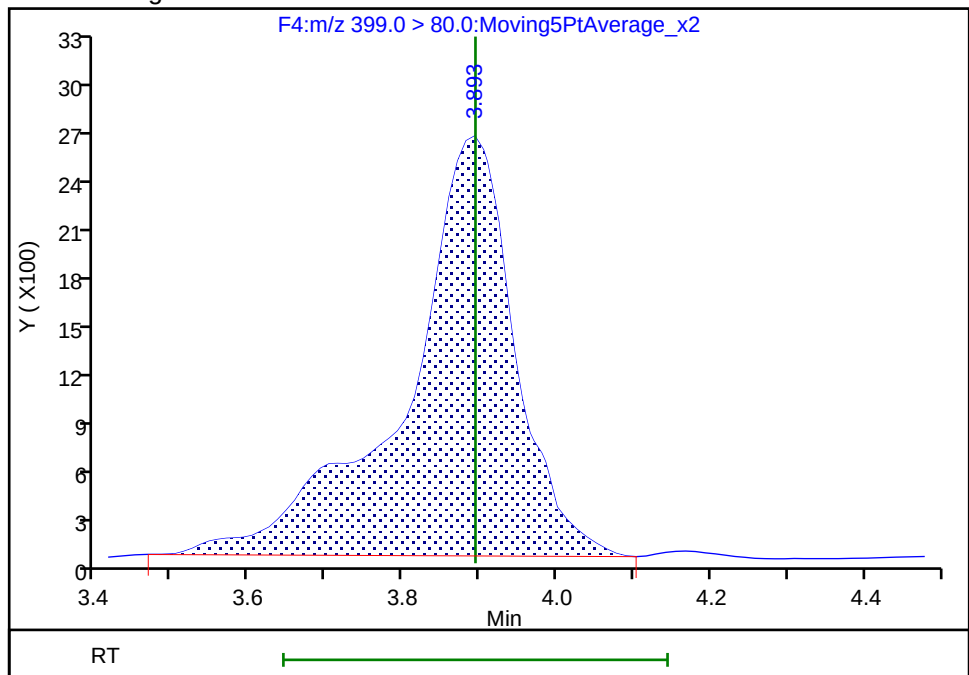
RT: 3.89
Area: 25751
Amount: 4.264086
Amount Units: ng/ml

Processing Integration Results



RT: 3.89
Area: 25158
Amount: 4.091650
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:16:38

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

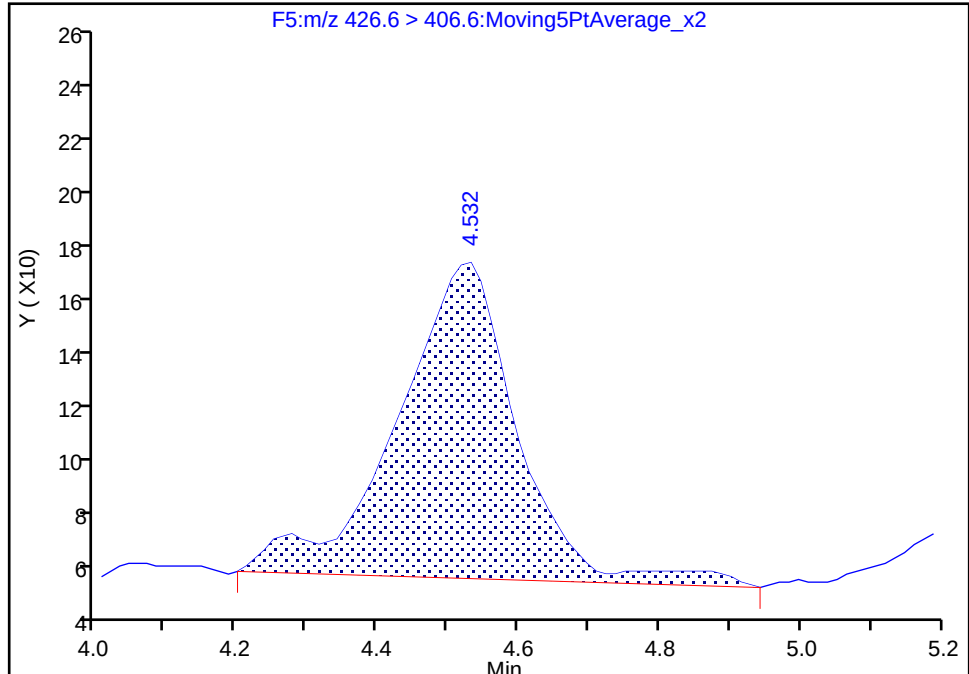
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Injection Date: 27-Jun-2018 11:24:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

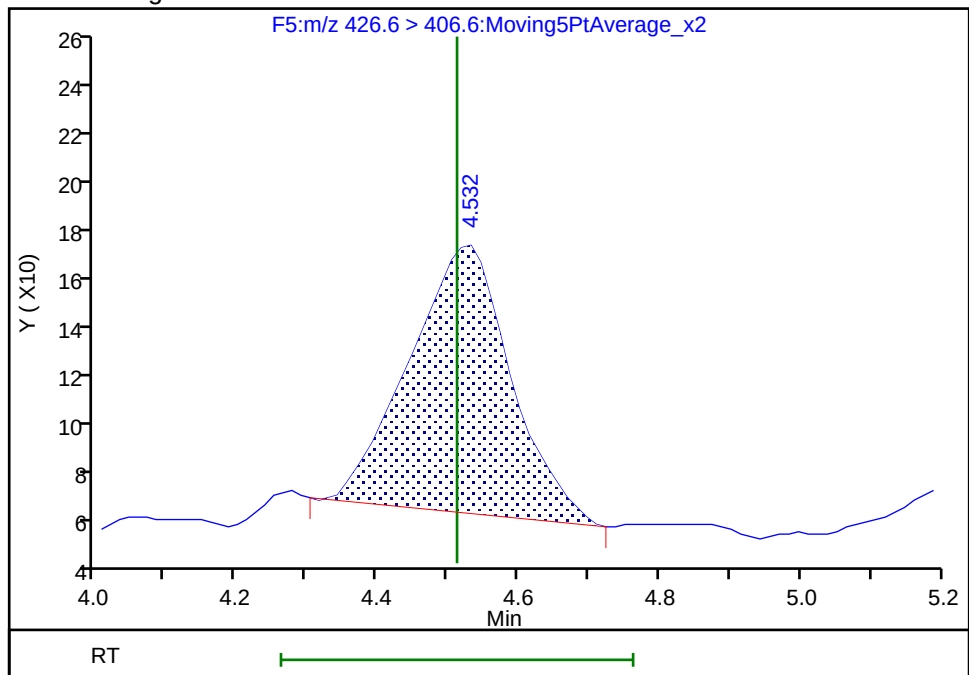
RT: 4.53
Area: 1403
Amount: 5.817723
Amount Units: ng/ml

Processing Integration Results



RT: 4.53
Area: 1101
Amount: 4.706387
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:36
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 199 of 434

10/19/2018

TestAmerica Burlington

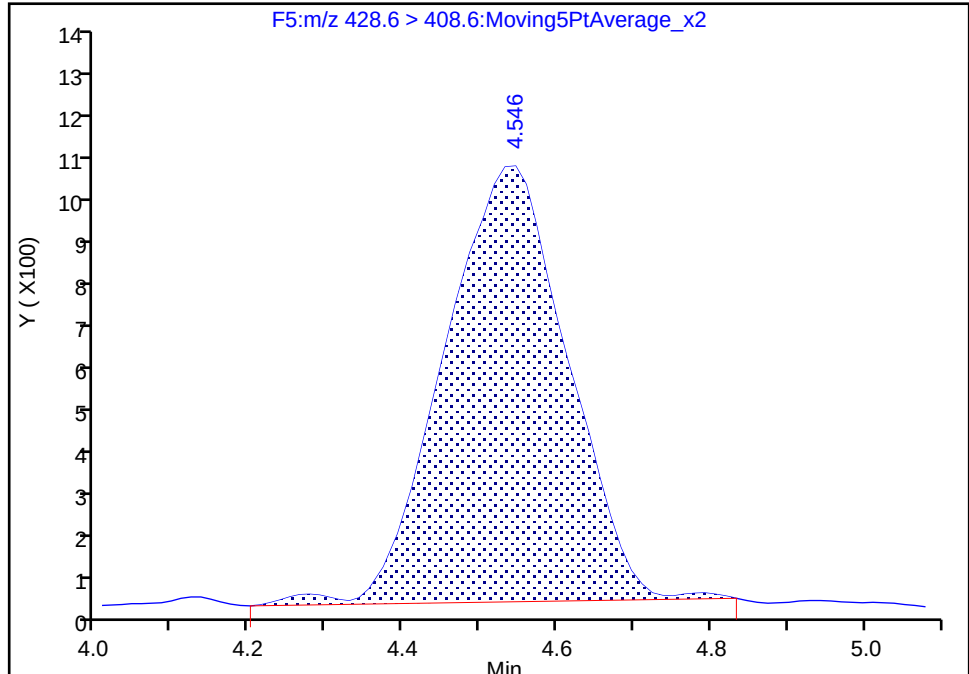
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d
Injection Date: 27-Jun-2018 11:24:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

D 14 M2-6:2FTS, CAS: STL02279

Signal: 1

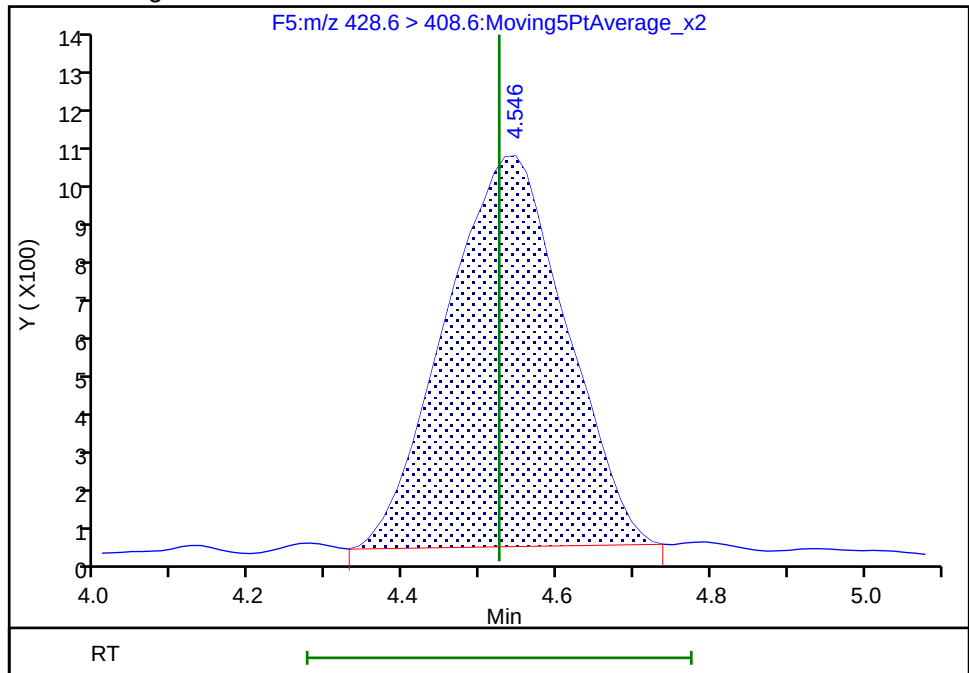
RT: 4.55
Area: 10912
Amount: 39.047082
Amount Units: ng/ml

Processing Integration Results



RT: 4.55
Area: 10556
Amount: 37.831562
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:41

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

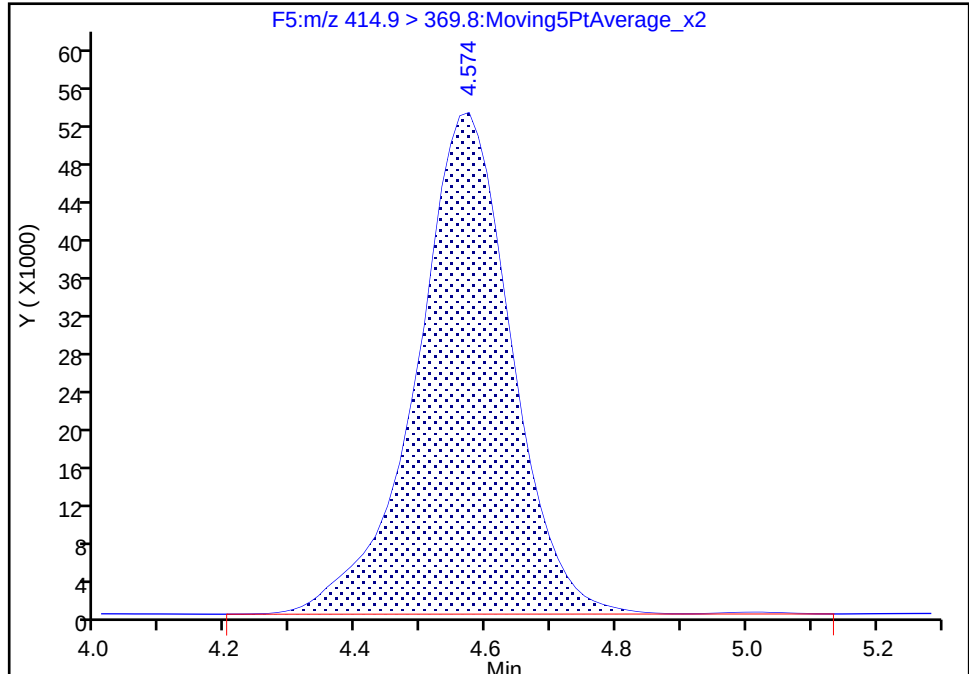
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d
Injection Date: 27-Jun-2018 11:24:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

* 49 13C2-PFOA, CAS: STL00623

Signal: 1

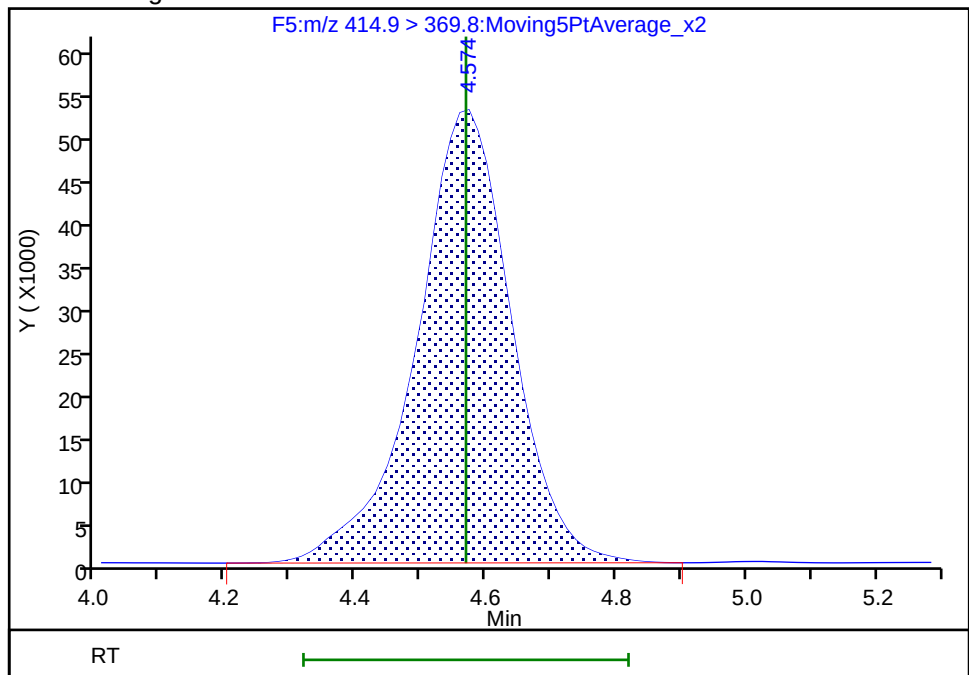
RT: 4.57
Area: 540899
Amount: 50.000000
Amount Units: ng/ml

Processing Integration Results



RT: 4.57
Area: 539360
Amount: 50.000000
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:49

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

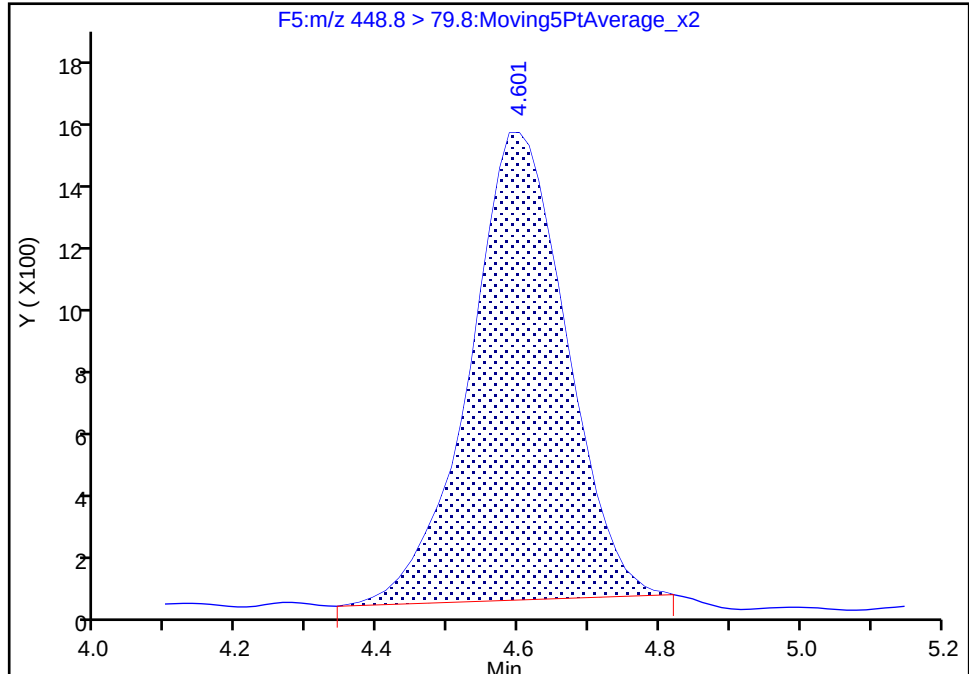
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d		
Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 8
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

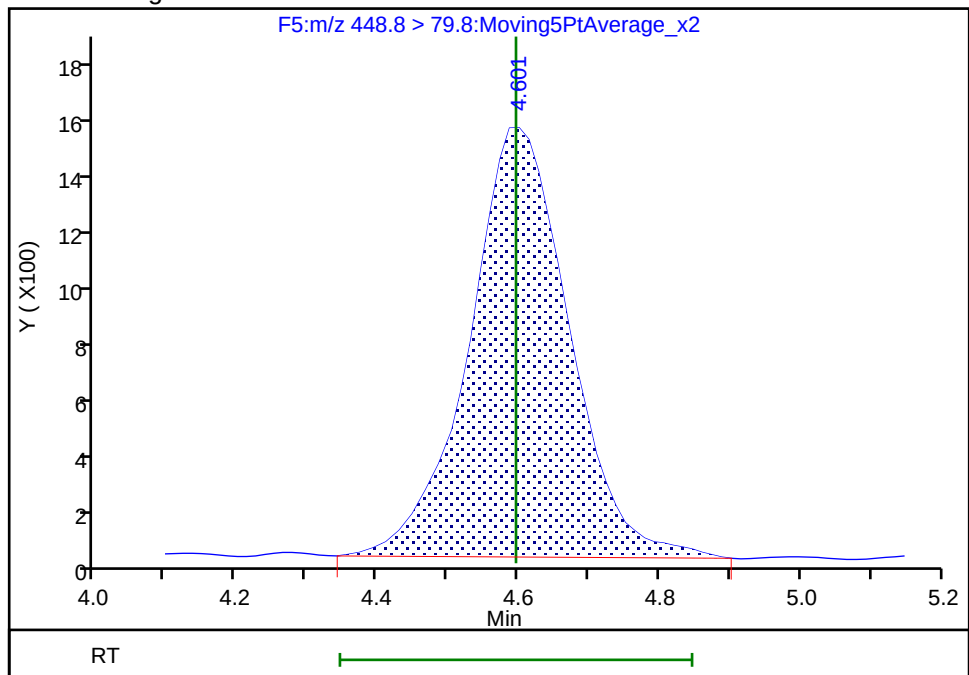
RT: 4.60
Area: 13795
Amount: 3.974615
Amount Units: ng/ml

Processing Integration Results



RT: 4.60
Area: 14510
Amount: 4.133712
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:15:53

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d

Injection Date: 27-Jun-2018 11:24:00

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:

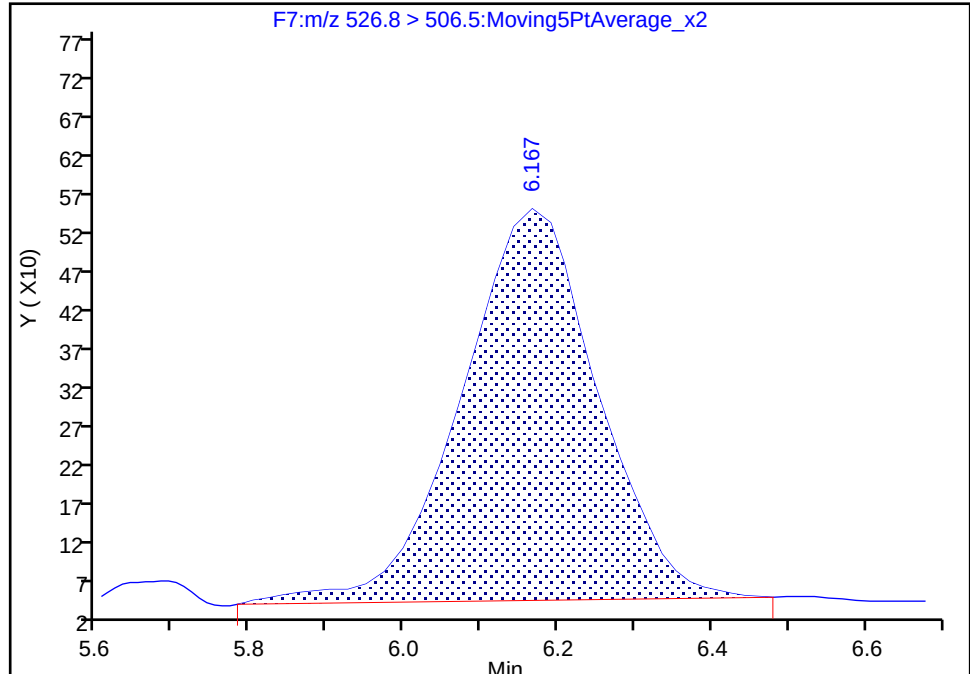
Detector F7:MRM

24 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

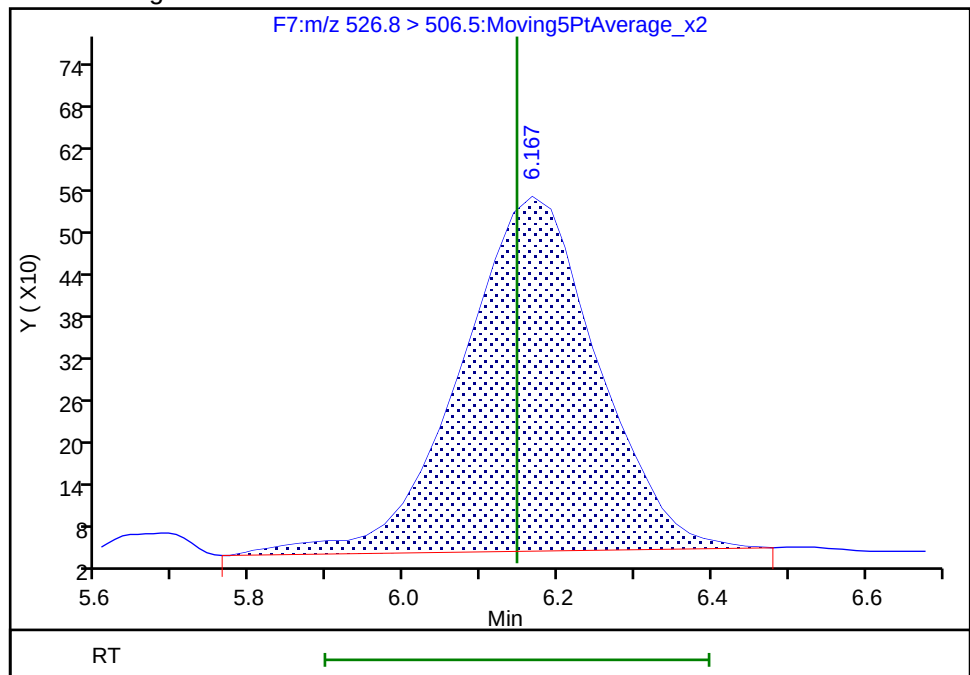
RT: 6.17
Area: 6218
Amount: 3.180127
Amount Units: ng/ml

Processing Integration Results



RT: 6.17
Area: 6254
Amount: 3.159613
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:16:06

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

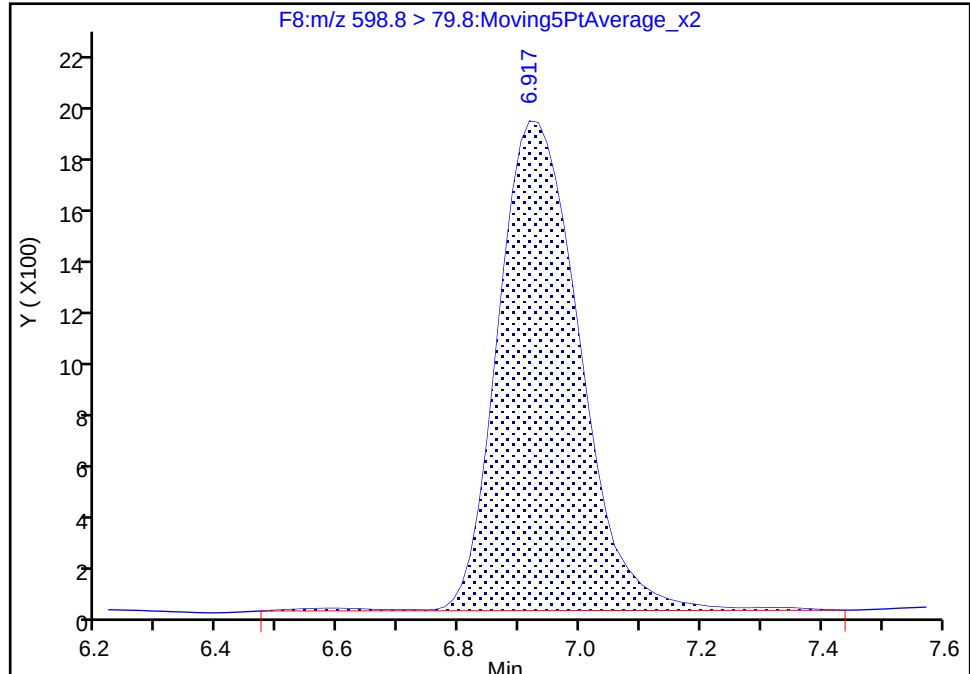
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A08.d		
Injection Date:	27-Jun-2018 11:24:00	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F8:MRM
		Worklist Smp#:	8

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

Signal: 1

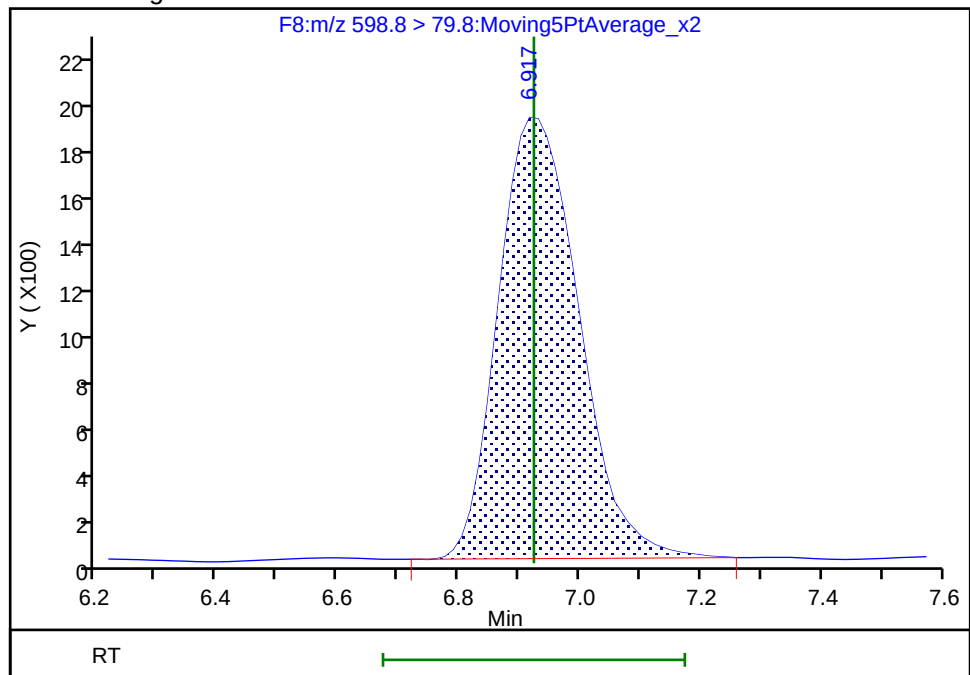
RT: 6.92
Area: 17780
Amount: 5.153238
Amount Units: ng/ml

Processing Integration Results



RT: 6.92
Area: 17434
Amount: 4.488209
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:16:15
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 204 of 434

10/19/2018

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d
 Lims ID: ICIS
 Client ID:
 Sample Type: ICIS Calib Level: 4
 Inject. Date: 27-Jun-2018 11:40:06 ALS Bottle#: 0 Worklist Smp#: 9
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-009 ICIS
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:39:49 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.371	2.370	0.001	1.000	253677	51.0		102	384	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.371	2.375	-0.004	1.000	102413	20.5		103	249	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.818	2.802	0.016	1.000	101992	53.1		106	253	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.818	2.807	0.011	1.000	171683	19.5		97.6	251	
D 5 13C3-PFBS										M
302.0 > 79.8	2.883	2.883	0.0	1.000	175205	49.9		107	577	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.889	-0.006	1.000	94820	16.7		94.2	179	M
8 Perfluorohexanoic acid										
312.8 > 268.6	3.275	3.263	0.012	1.004	89616	20.1		101	765	
D 7 13C2 PFHxA										
314.8 > 269.6	3.263	3.265	-0.002	1.000	208262	53.8		108	2020	
D 10 13C4-PFHpA										
366.9 > 321.8	3.848	3.843	0.005	1.000	509002	48.7		97.4	622	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.859	3.848	0.011	1.003	250150	21.7		108	1975	
D 13 18O2 PFHxS										M
402.9 > 83.8	3.893	3.889	0.004	1.000	209910	49.0		104	328	M
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.909	3.894	0.015	1.004	99842	17.0		93.2	316	
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.519	4.513	0.006	0.997	6324	22.9		121	37.8	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.532	4.525	0.007	1.000	11825	49.0		103	71.4	

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	4.574	4.567	0.007	1.000	446044	52.5		105	2987	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.574	4.567	0.007	1.000	201794	18.4		91.8	1755	
* 49 13C2-PFOA										
414.9 > 369.8	4.574	4.569	0.005		466072	50.0			3915	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.601	4.596	0.005	0.852	64531	19.1		100	325	
D 21 13C5 PFNA										
467.8 > 422.8	5.369	5.363	0.006	1.000	491383	53.4		107	1133	
19 Perfluorononanoic acid										
462.8 > 418.8	5.381	5.368	0.013	1.002	197849	19.5		97.3	3129	
D 22 13C4 PFOS										
502.8 > 79.8	5.399	5.382	0.017	1.000	160021	50.4		105	834	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.393	5.386	0.007	0.999	72313	17.3		93.1	1056	M
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.143	6.147	-0.004	0.996	43385	22.0		115	363	
D 23 M2-8:2FTS										
528.8 > 508.8	6.167	6.147	0.020	1.000	131732	48.8		102	856	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.190	6.186	0.004	1.000	270199	19.4		97.0	1482	
D 25 13C2 PFDA										
514.9 > 469.5	6.190	6.186	0.004	1.000	677556	52.8		106	3008	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	161202	53.2		106	946	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.548	6.539	0.009	1.003	71342	18.2		91.2	258	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.917	6.903	0.014	1.000	150811	52.9		106	2636	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.931	6.924	0.007	1.284	75287	20.2		105	1223	M
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.917	6.926	-0.009	1.000	63608	18.4		92.2	2289	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	6.942	0.003	1.000	615319	51.1		102	3936	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.959	6.947	0.012	1.002	236589	19.9		99.5	1461	
D 35 13C8 FOSA										
505.8 > 77.8	7.169	7.154	0.015	1.000	245319	50.0		100	2073	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.169	7.158	0.011	1.000	101555	19.5		97.6	758	
D 36 13C2 PFDoA										
614.8 > 569.6	7.647	7.636	0.011	1.000	666510	54.7		109	1374	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.647	7.640	0.007	1.000	239538	18.3		91.5	862	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.264	8.259	0.005	1.081	251426	19.2		96.2	1805	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d

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	8.803	8.805	-0.002	1.000	634392	51.8		104	7625	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.817	8.808	0.009	1.002	244077	19.9		99.6	1693	
712.8 > 168.8	8.810	8.808	0.002	1.001	51670		4.72(0.00-0.00)	99.6	472	
712.8 > 218.8	8.823	8.808	0.015	1.002	31198		7.82(0.00-0.00)	99.6	297	

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\\20180626-31127.b\\PF062718A09.d

Injection Date: 27-Jun-2018 11:40:06

Instrument ID: LC410

Lims ID: ICIS

Client ID:

Operator ID: BC

ALS Bottle#: 0

Worklist Smp#: 9

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

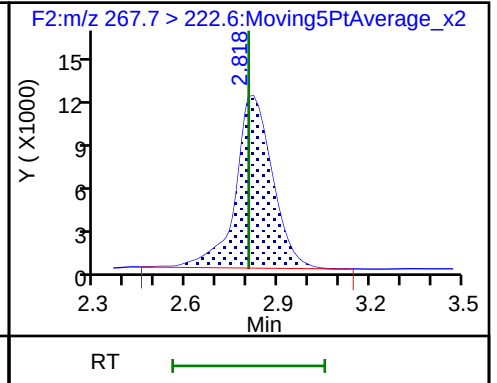
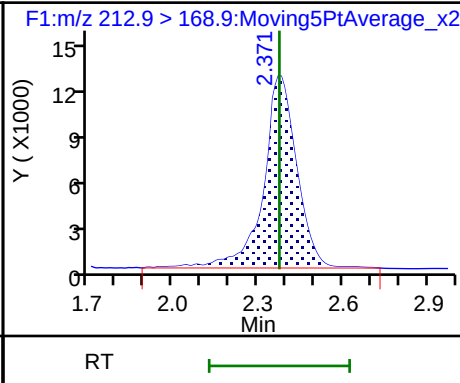
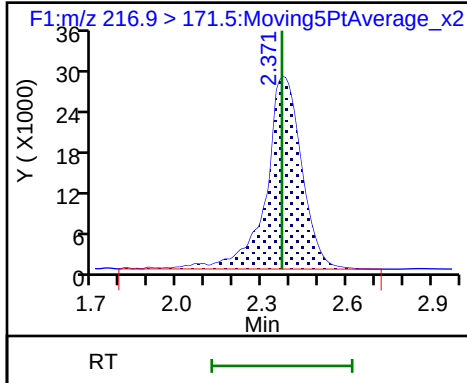
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

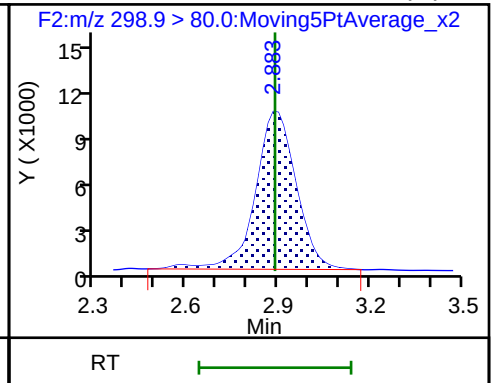
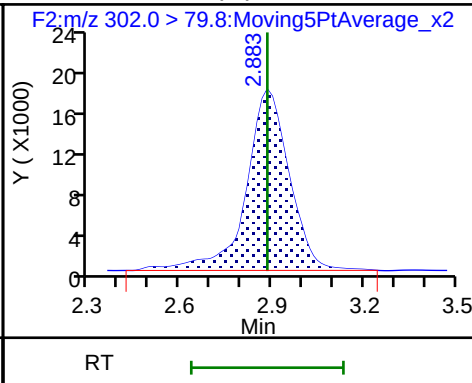
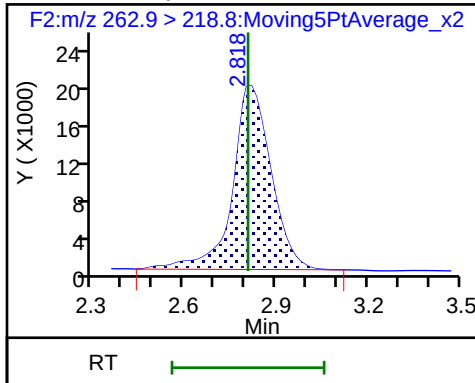
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 5 13C3-PFBS (M)

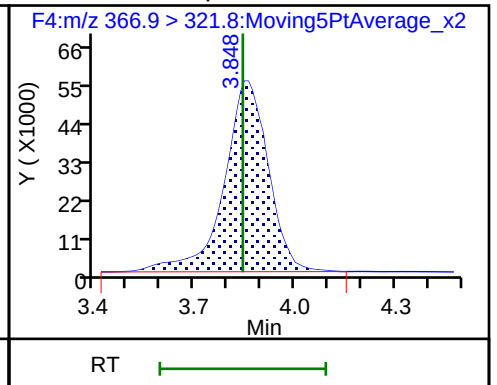
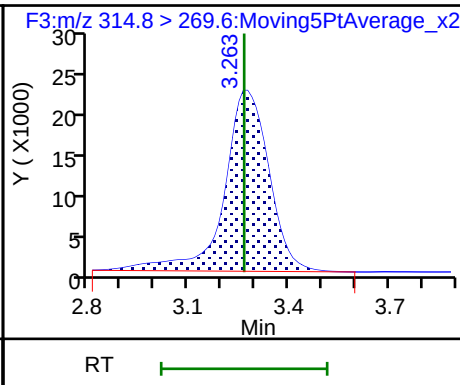
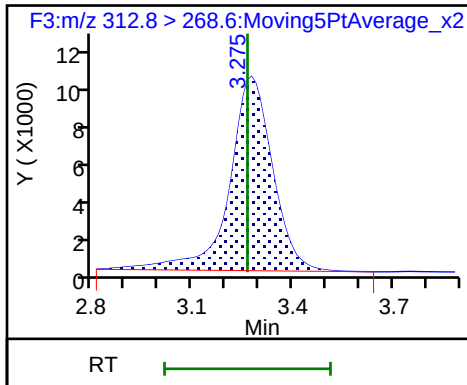
6 Perfluorobutanesulfonic acid (M)



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

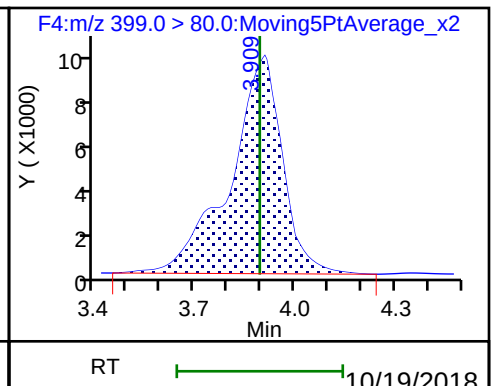
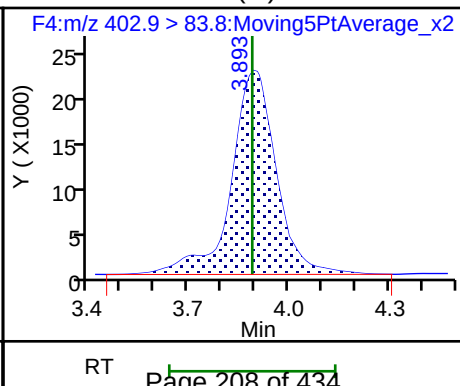
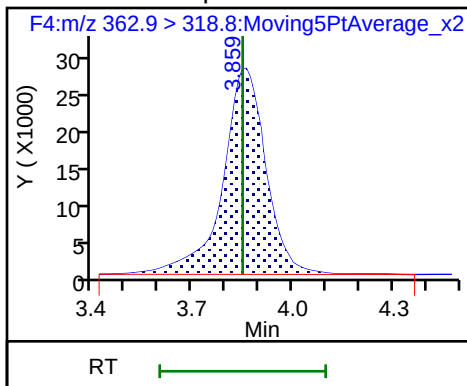
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

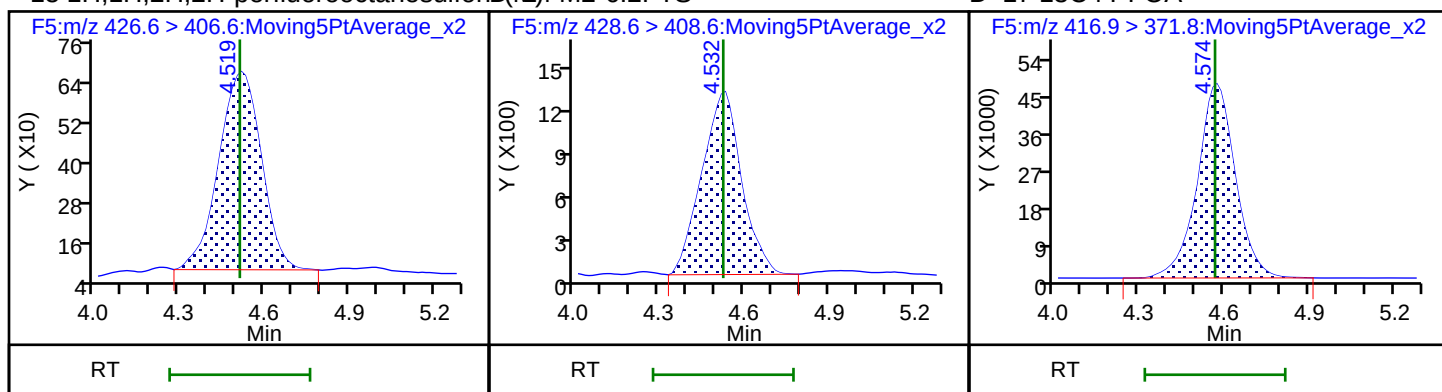
D 13 18O2 PFHxS (M)

12 Perfluorohexanesulfonic acid



15 1H,1H,2H,2H-perfluorooctanesulfonate (M) M2-6:2FTS

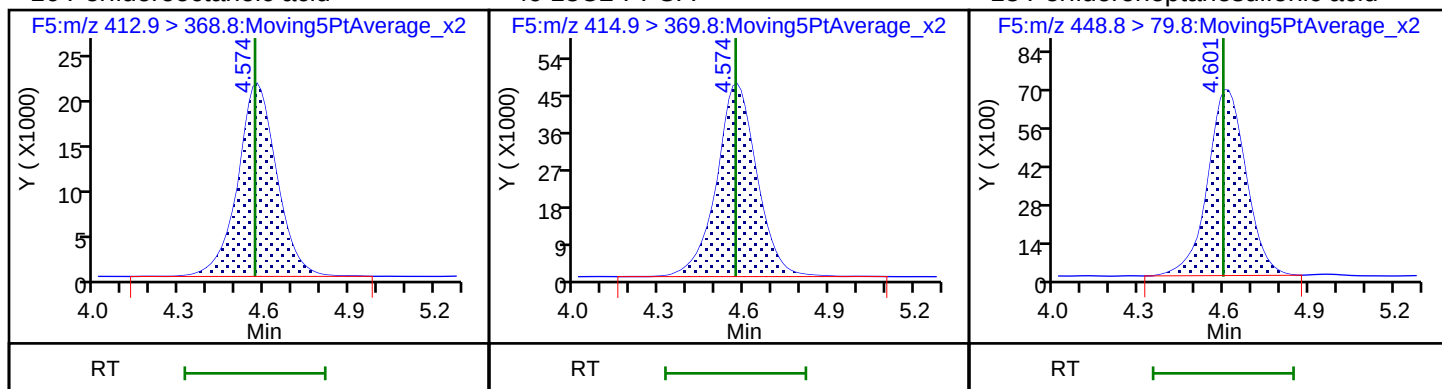
D 17 13C4 PFOA



16 Perfluorooctanoic acid

* 49 13C2-PFOA

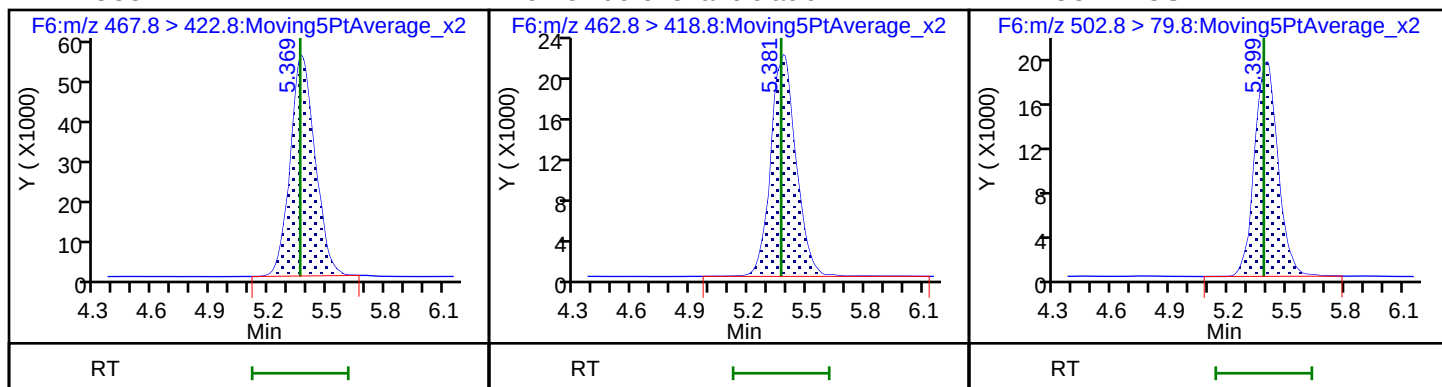
18 Perfluoroheptanesulfonic acid



D 21 13C5 PFNA

19 Perfluorononanoic acid

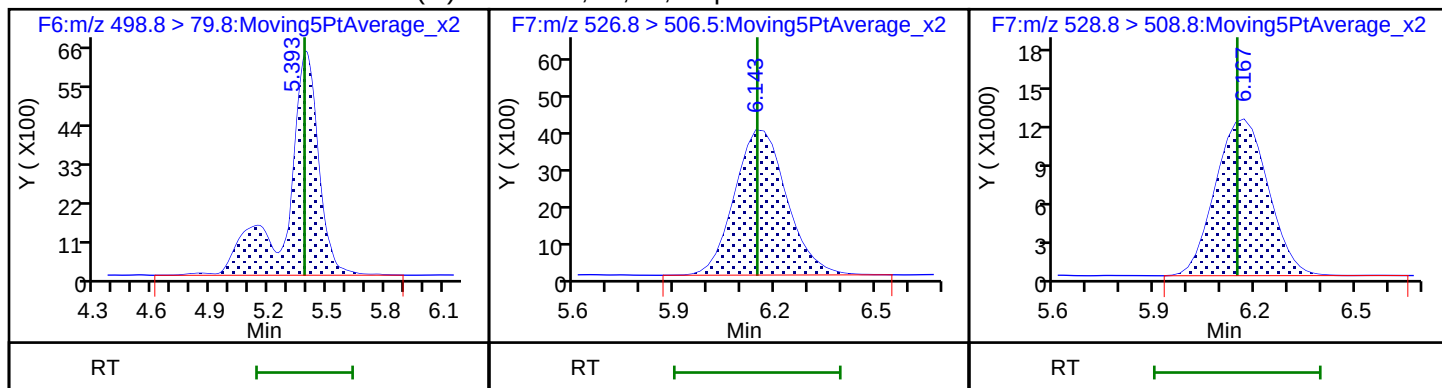
D 22 13C4 PFOS

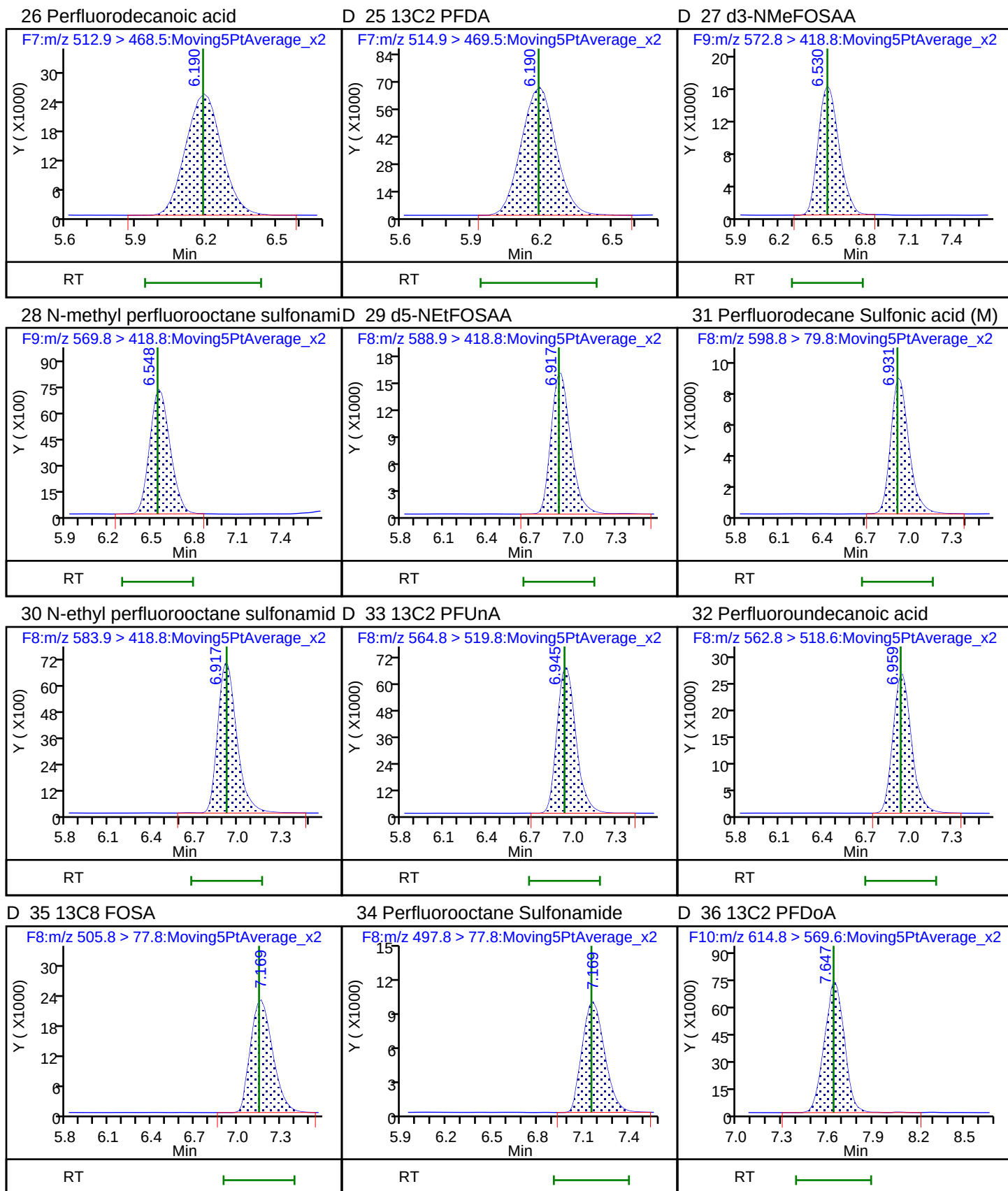


20 Perfluorooctane sulfonic acid (M)

24 1H,1H,2H,2H-perfluorodecanesulfonate (M) M2-8:2FTS

D 23 M2-8:2FTS

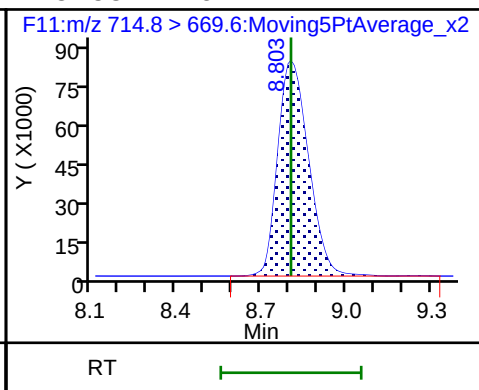
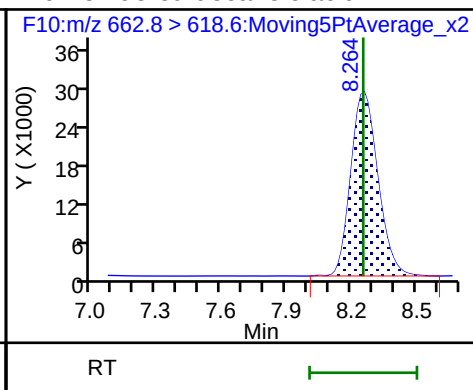
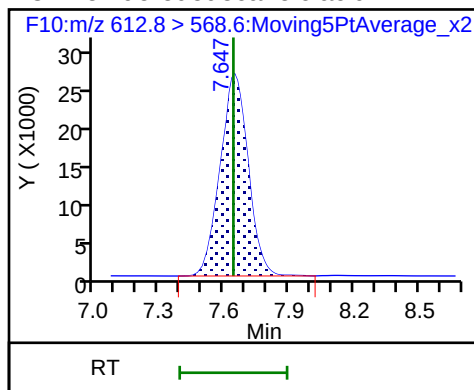




37 Perfluorododecanoic acid

40 Perfluorotridecanoic acid

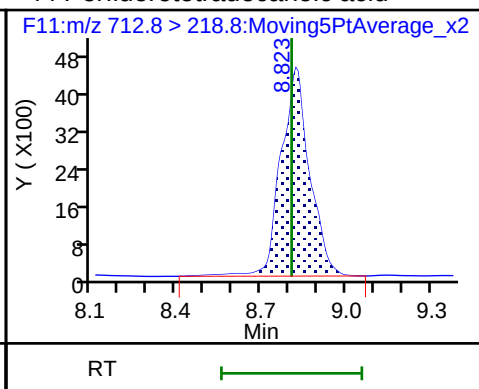
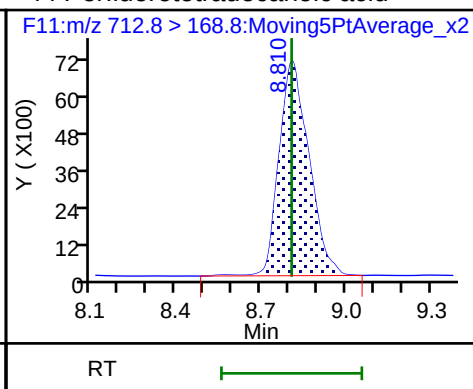
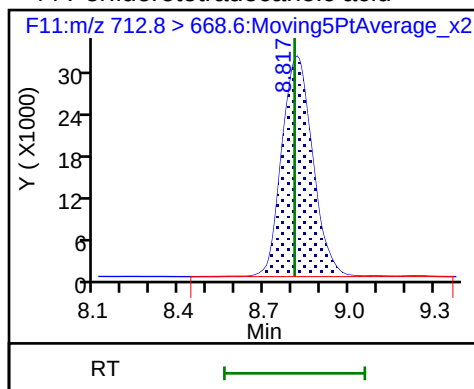
D 43 13C2-PFTeDA



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid



TestAmerica Burlington

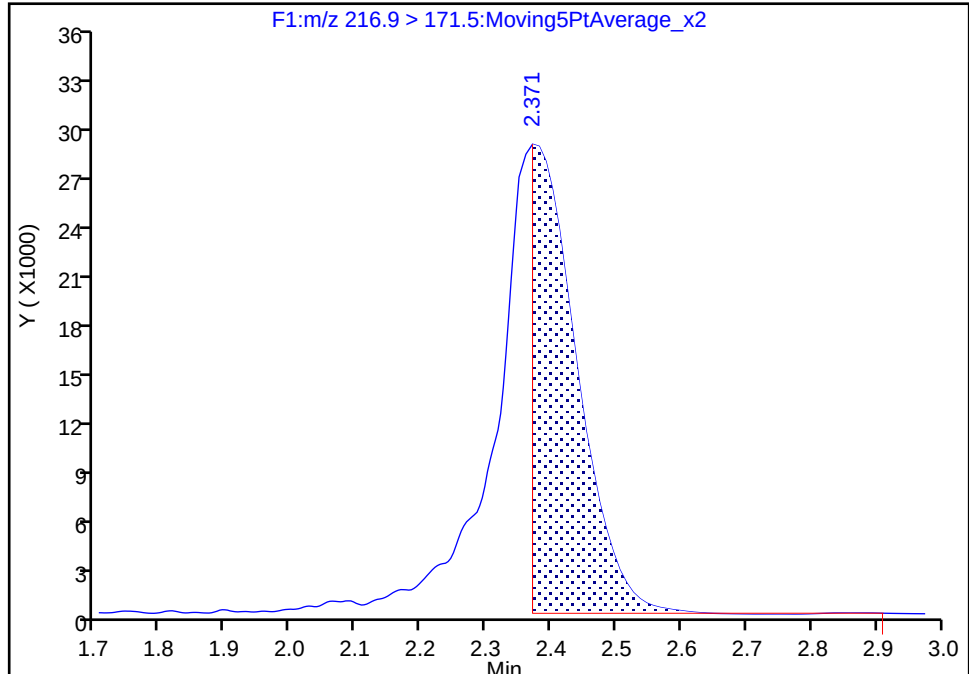
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d
Injection Date: 27-Jun-2018 11:40:06 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

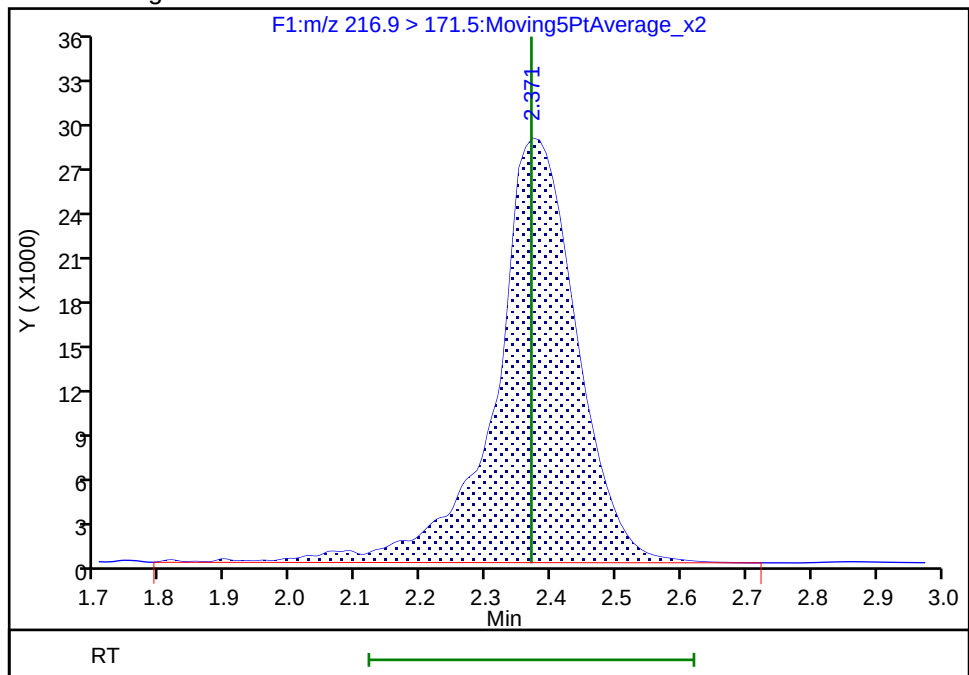
RT: 2.37
Area: 134253
Amount: 30.442441
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 253677
Amount: 51.043248
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:17:48

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

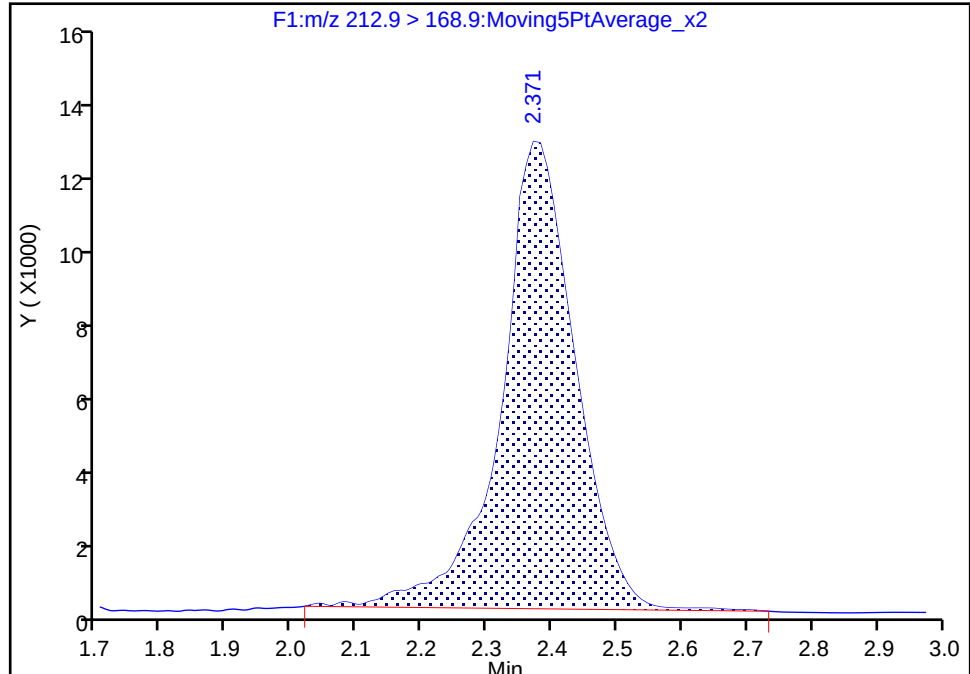
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d		
Injection Date:	27-Jun-2018 11:40:06	Instrument ID:	LC410
Lims ID:	ICIS		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 9
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

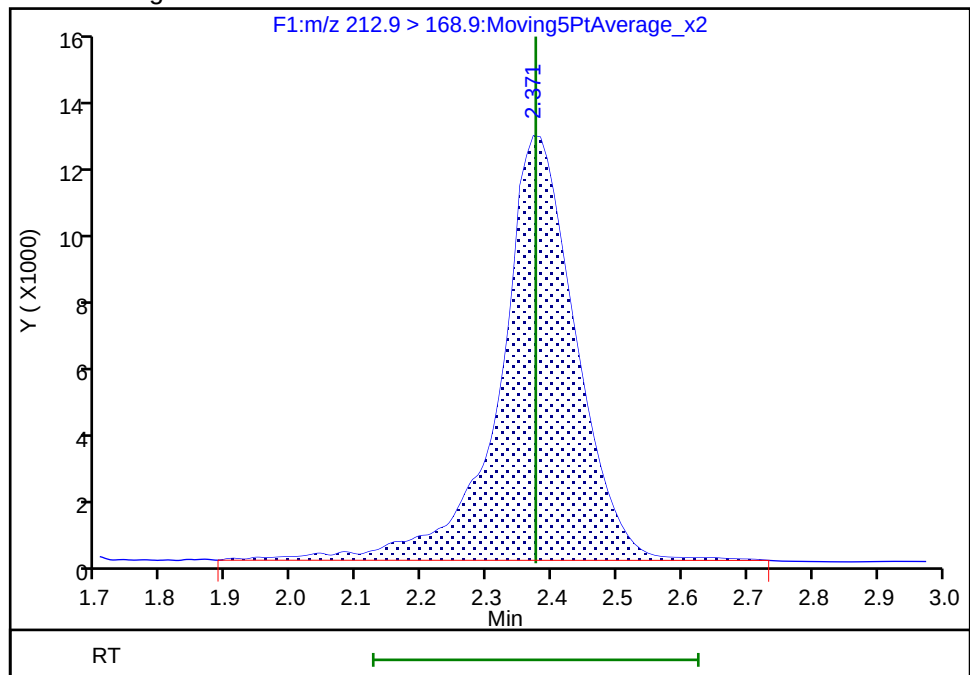
RT: 2.37
Area: 99159
Amount: 30.123564
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 102413
Amount: 20.514552
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:17:43

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d

Injection Date: 27-Jun-2018 11:40:06

Instrument ID: LC410

Lims ID: ICIS

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:

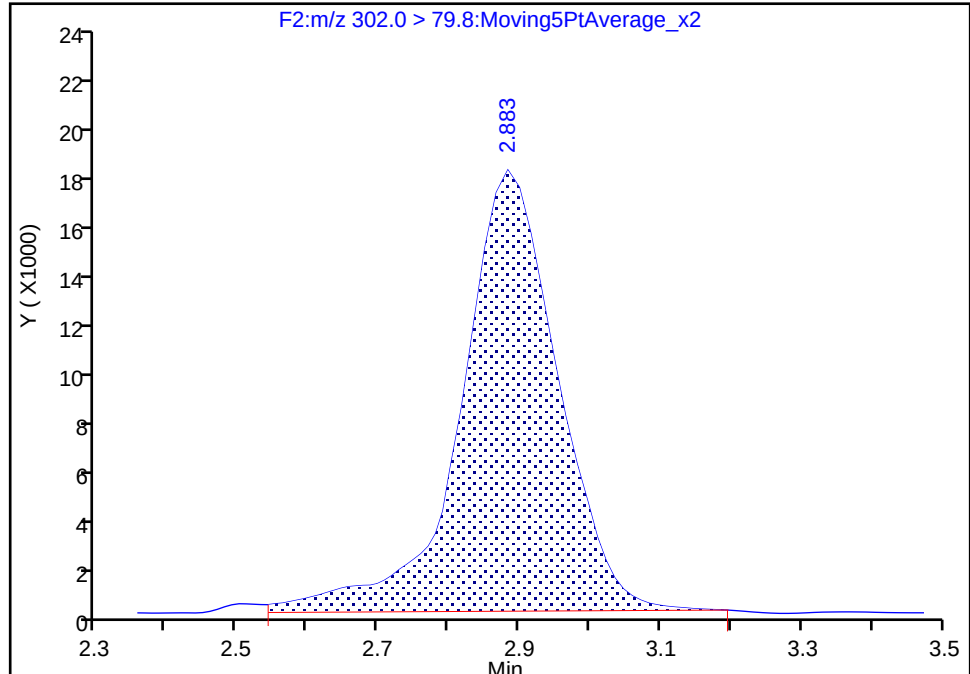
Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

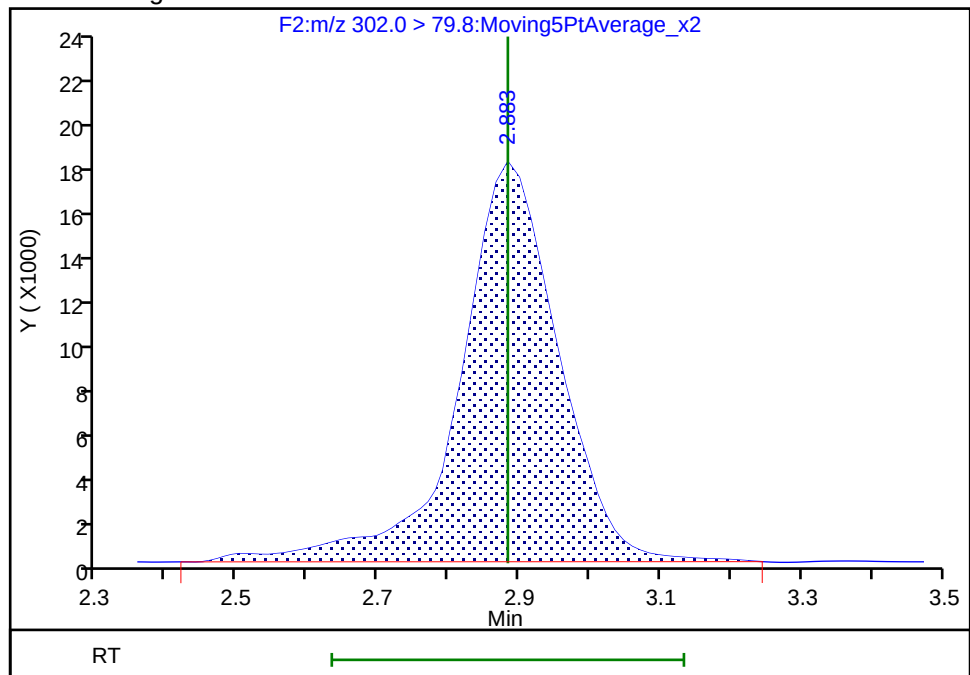
RT: 2.88
Area: 171282
Amount: 48.950327
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 175205
Amount: 49.920366
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:18:21

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

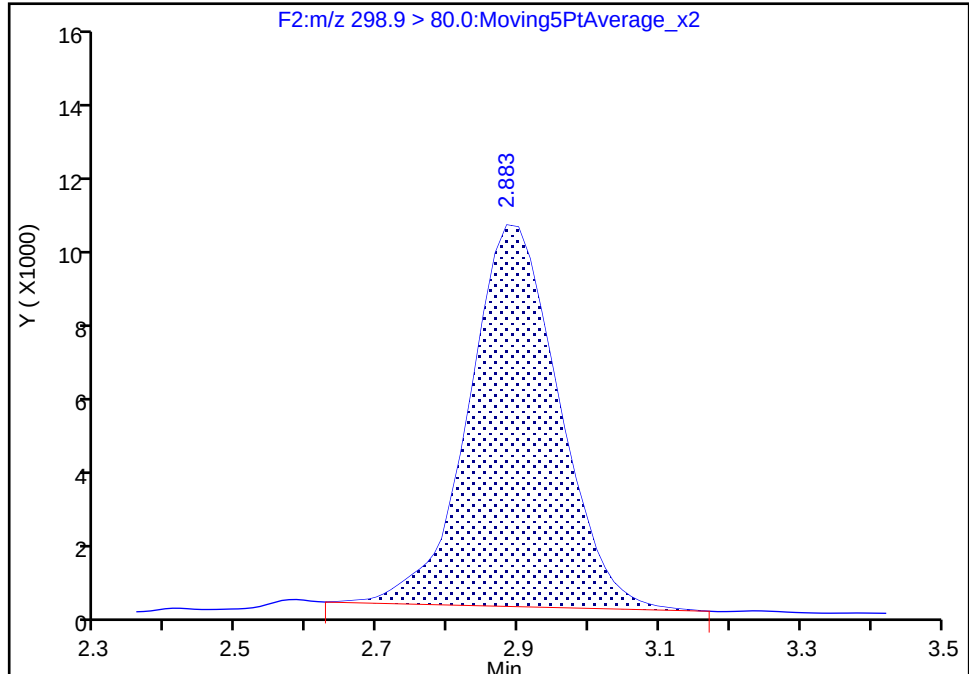
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d
Injection Date: 27-Jun-2018 11:40:06 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

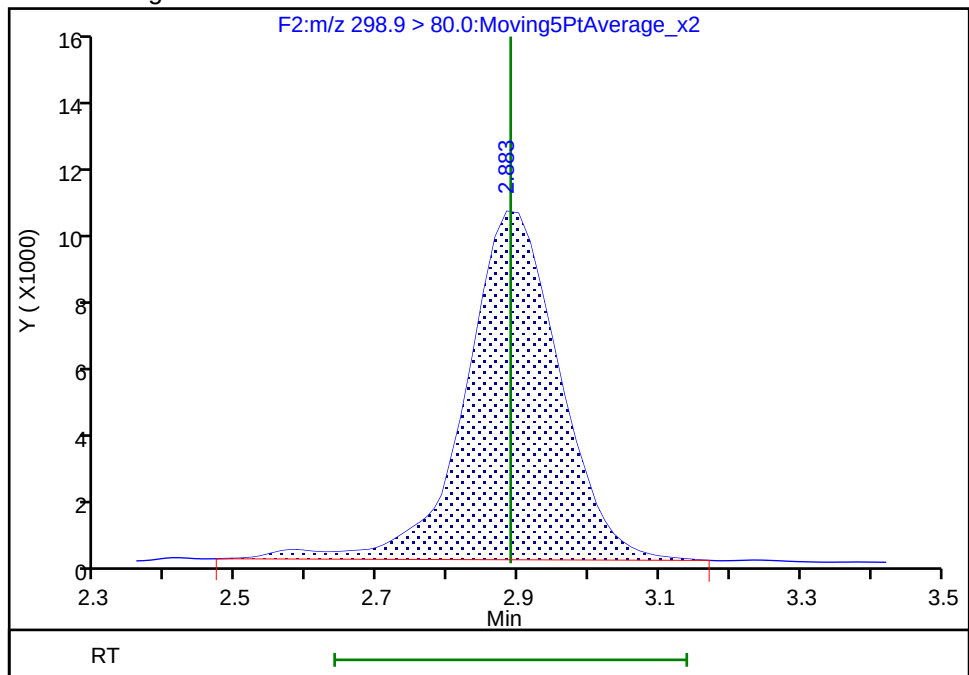
RT: 2.88
Area: 90154
Amount: 16.004736
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 94820
Amount: 16.652545
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:18:17

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d

Injection Date: 27-Jun-2018 11:40:06

Instrument ID: LC410

Lims ID: ICIS

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:

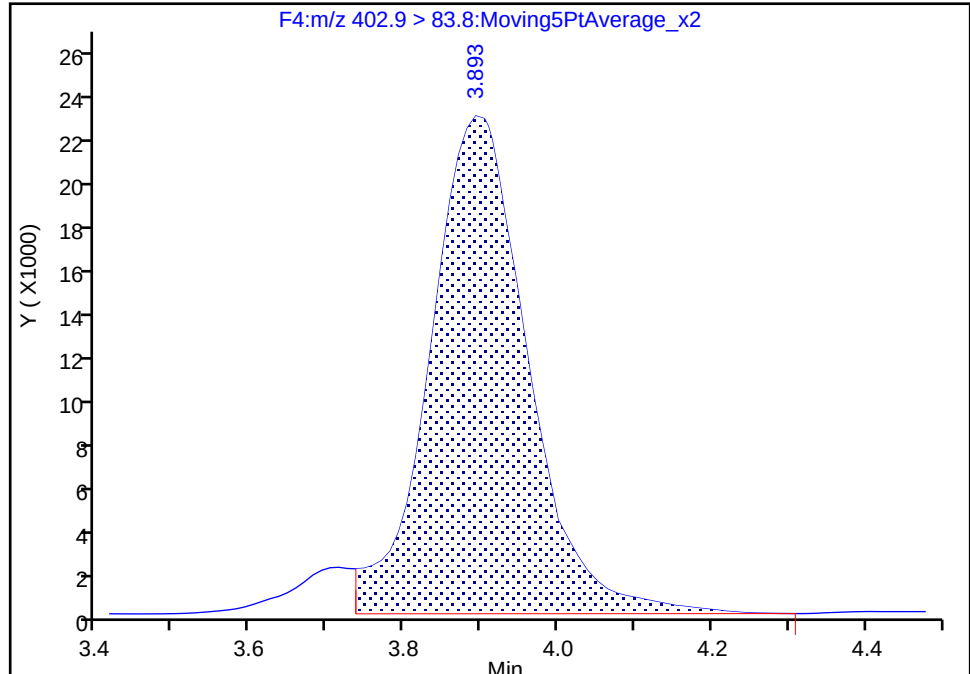
Detector F4:MRM

D 13 18O2 PFHxS, CAS: STL00994

Signal: 1

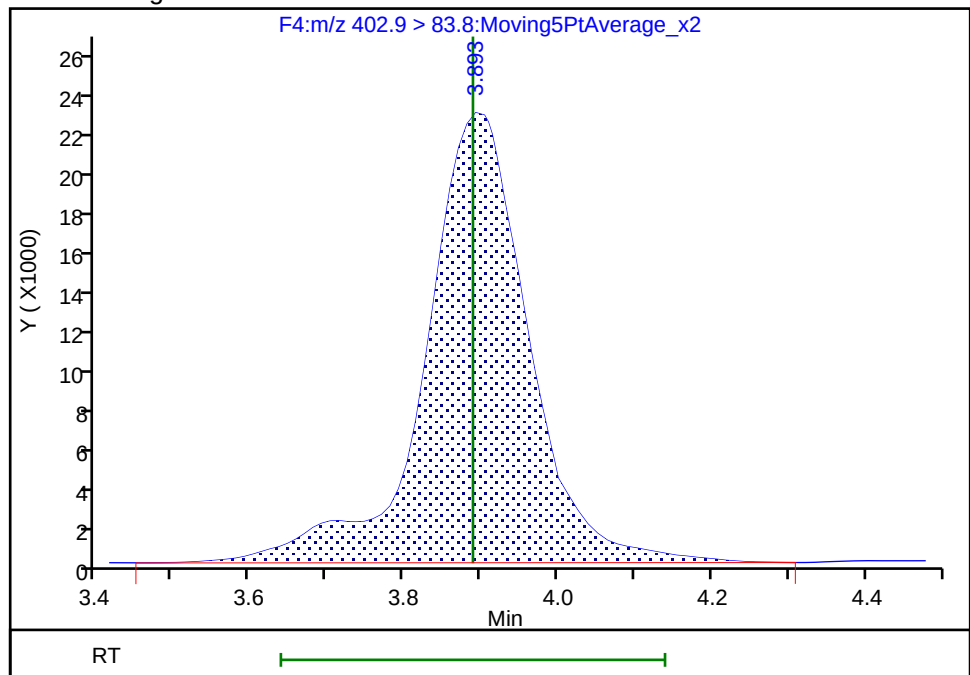
RT: 3.89
Area: 197755
Amount: 45.976504
Amount Units: ng/ml

Processing Integration Results



RT: 3.89
Area: 209910
Amount: 48.981562
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:18:31

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d

Injection Date: 27-Jun-2018 11:40:06

Instrument ID: LC410

Lims ID: ICIS

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:

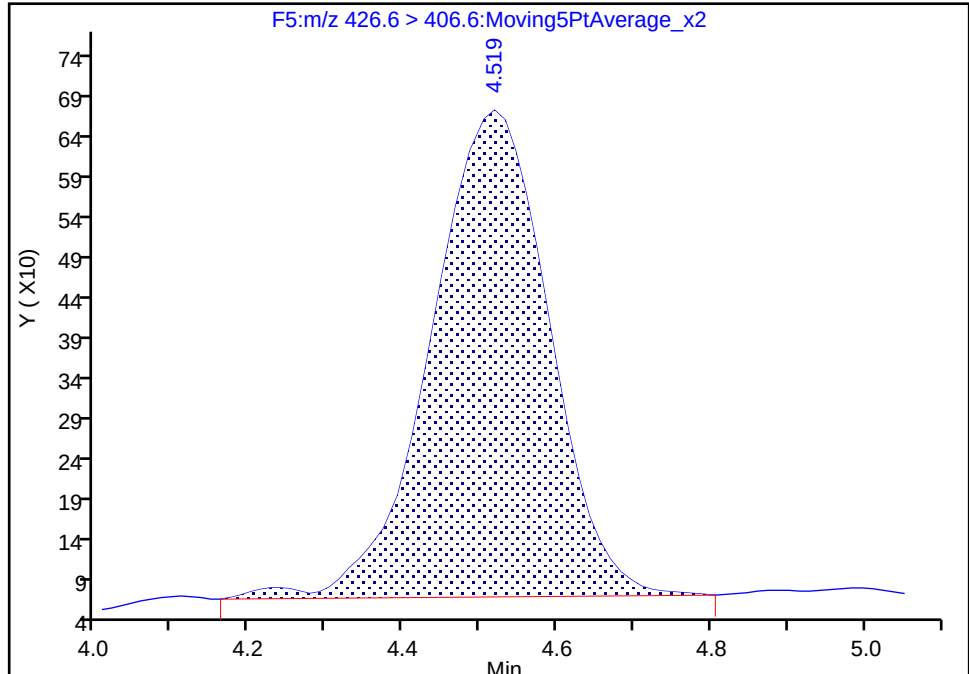
Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

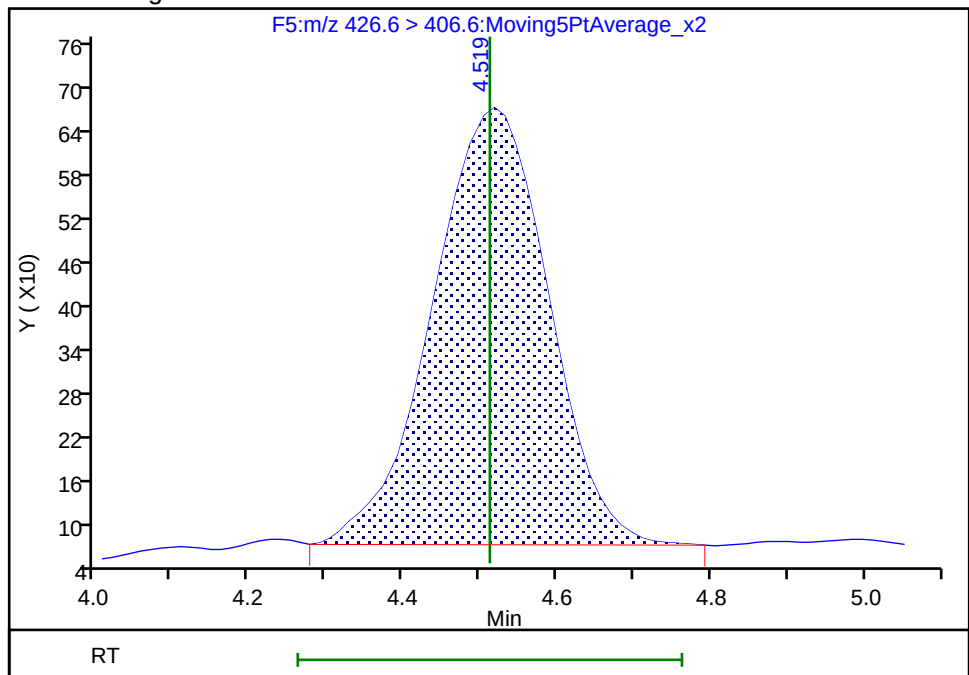
RT: 4.52
Area: 6496
Amount: 26.064660
Amount Units: ng/ml

Processing Integration Results



RT: 4.52
Area: 6324
Amount: 22.886897
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:18:38

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

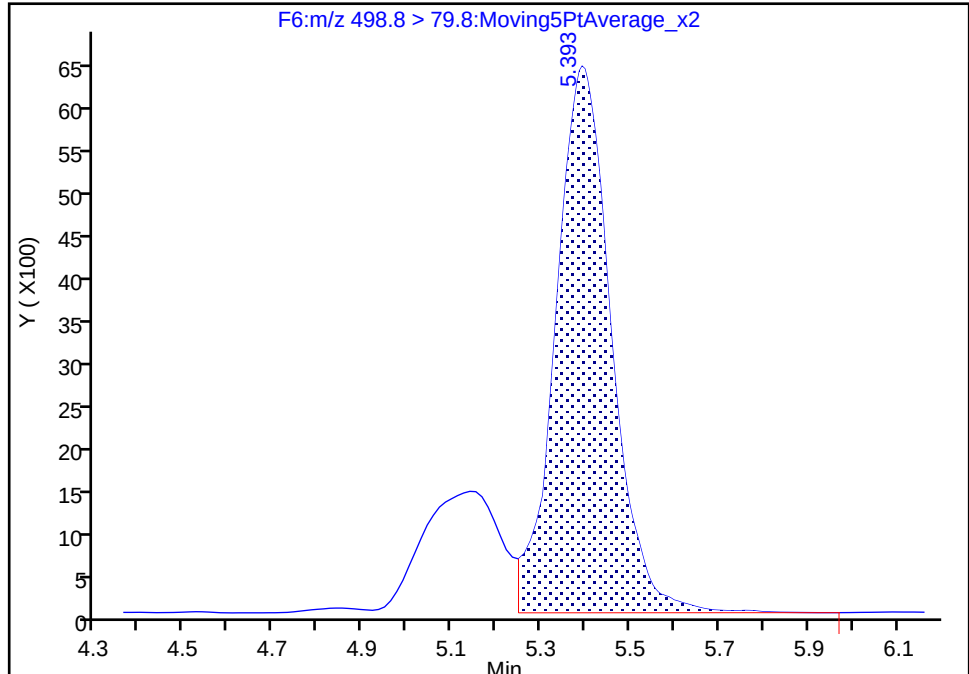
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d
Injection Date: 27-Jun-2018 11:40:06 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

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

Signal: 1

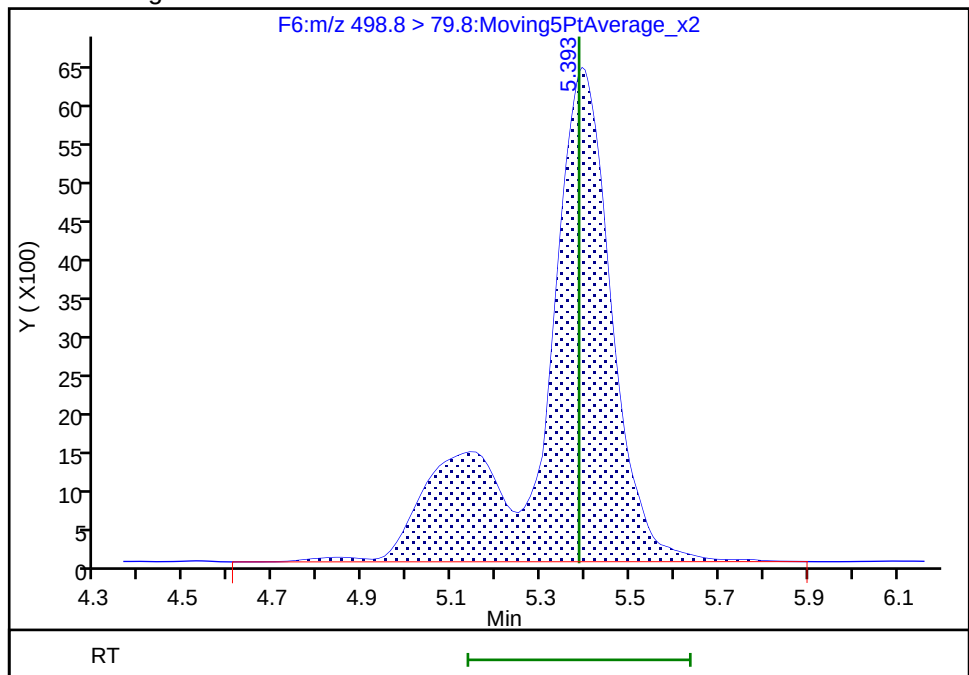
RT: 5.39
Area: 54875
Amount: 17.680971
Amount Units: ng/ml

Processing Integration Results



RT: 5.39
Area: 72313
Amount: 17.270292
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:18:53

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

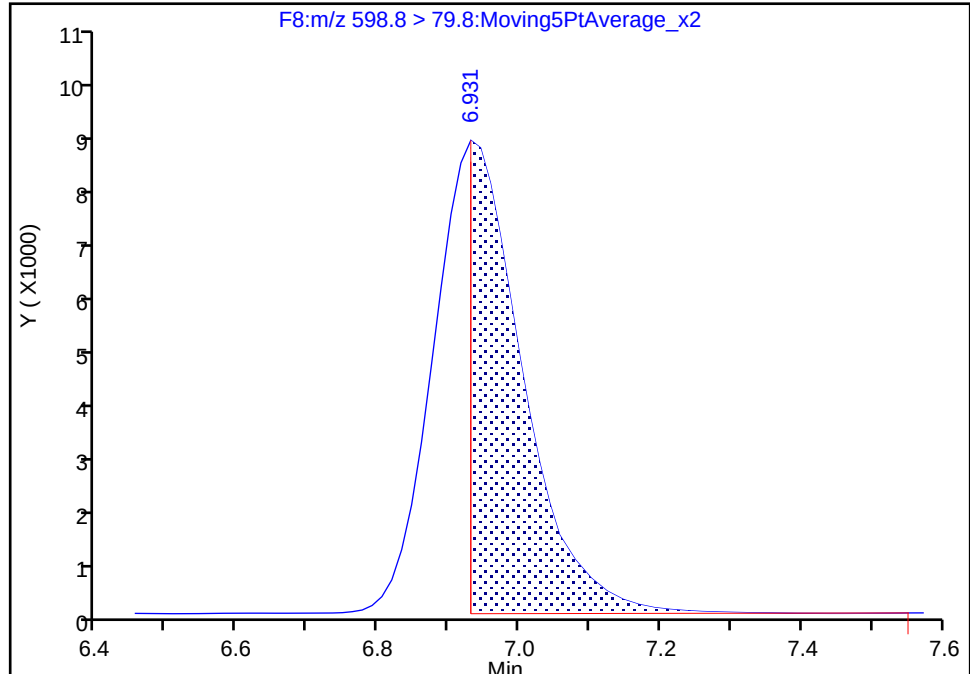
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A09.d
Injection Date: 27-Jun-2018 11:40:06 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

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

Signal: 1

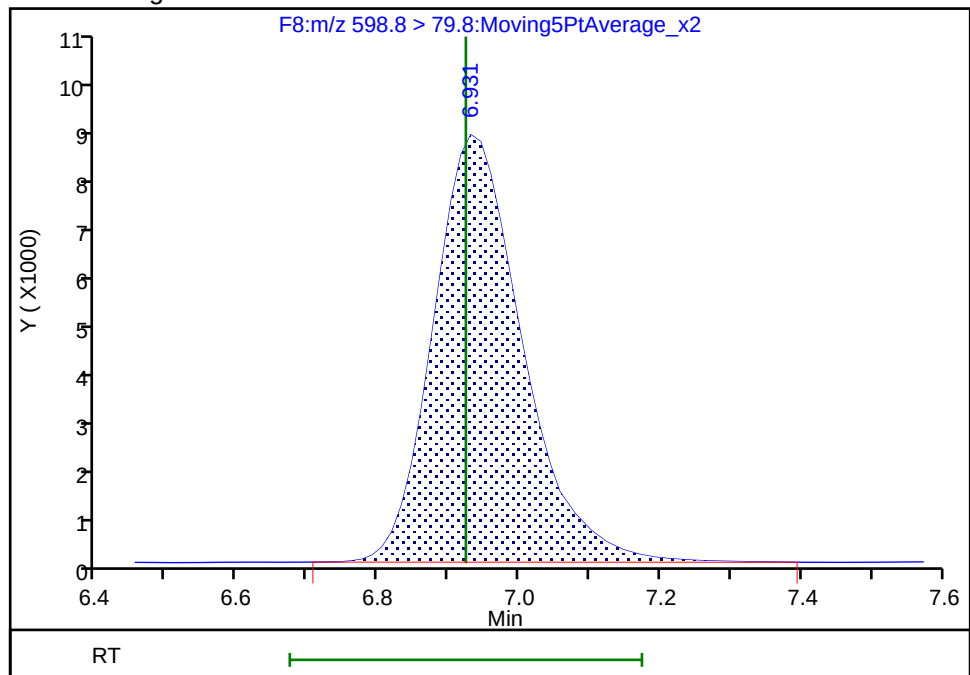
RT: 6.93
Area: 43943
Amount: 13.701610
Amount Units: ng/ml

Processing Integration Results



RT: 6.93
Area: 75287
Amount: 20.178959
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:19:20

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 27-Jun-2018 11:56:12 ALS Bottle#: 0 Worklist Smp#: 10
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-010 IC 5
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:39:54 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.371	2.370	0.001	1.000	243224	54.1		108	333	
1 Perfluorobutyric acid										
212.9 > 168.9	2.371	2.375	-0.004	1.000	237377	50.0		100	298	
D 3 13C5-PFPeA										
267.7 > 222.6	2.791	2.802	-0.011	1.000	91012	52.4		105	735	M
4 Perfluoropentanoic acid										
262.9 > 218.8	2.801	2.807	-0.006	1.004	399452	51.0		102	2731	
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	146852	46.3		99.5	336	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.883	2.889	-0.006	1.000	226158	47.2		107	364	M
8 Perfluorohexanoic acid										
312.8 > 268.6	3.263	3.263	0.0	1.000	198938	49.5		98.9	1056	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.263	3.265	-0.002	1.000	187843	53.7		107	971	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.837	3.843	-0.006	1.000	514592	54.5		109	3105	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.837	3.848	-0.011	1.000	560282	47.7		95.5	7600	
D 13 18O2 PFHxS										
402.9 > 83.8	3.871	3.889	-0.018	1.000	185671	47.9		101	461	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.904	3.894	0.010	1.009	237561	45.4		99.9	1016	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.505	4.513	-0.008	0.994	13404	42.6		90.0	216	
D 14 M2-6:2FTS										
428.6 > 408.6	4.532	4.525	0.007	1.000	13370	61.3		129	115	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	4.560	4.567	-0.007	1.000	379402	49.4		98.7	2192	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.560	4.567	-0.007	1.000	453012	48.2		96.4	1651	
* 49 13C2-PFOA										
414.9 > 369.8	4.560	4.569	-0.009		421412	50.0			6109	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.601	4.596	0.005	0.857	140727	47.7		100	499	
D 21 13C5 PFNA										
467.8 > 422.8	5.363	5.363	0.0	1.000	423908	51.0		102	1751	
19 Perfluorononanoic acid										
462.8 > 418.8	5.363	5.368	-0.005	1.000	443059	50.5		101	3871	
D 22 13C4 PFOS										
502.8 > 79.8	5.369	5.382	-0.013	1.000	139178	48.5		101	635	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.375	5.386	-0.011	1.001	158463	43.0		92.7	2281	M
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.143	6.147	-0.004	1.000	89656	54.1		113	426	
D 23 M2-8:2FTS										
528.8 > 508.8	6.143	6.147	-0.004	1.000	109680	45.0		93.8	647	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.190	6.186	0.004	1.000	603529	49.7		99.4	2550	
D 25 13C2 PFDA										
514.9 > 469.5	6.190	6.186	0.004	1.000	590911	50.9		102	2382	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	141495	51.7		103	614	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.548	6.539	0.009	1.003	170332	49.7		99.3	451	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.903	6.903	0.0	1.000	127975	49.6		99.3	1111	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.931	6.924	0.007	1.291	160719	49.3		102	3526	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.917	6.926	-0.009	1.002	140648	47.6		95.3	1469	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	6.942	0.003	1.000	542583	49.8		99.6	3070	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.945	6.947	-0.002	1.000	521971	49.8		99.6	4364	
D 35 13C8 FOSA										
505.8 > 77.8	7.147	7.154	-0.007	1.000	231965	52.3		105	1309	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.169	7.158	0.011	1.003	238423	47.8		95.6	2094	M
D 36 13C2 PFDoA										
614.8 > 569.6	7.634	7.636	-0.002	1.000	556899	50.6		101	1379	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.647	7.640	0.007	1.002	554962	50.9		102	8703	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.264	8.259	0.005	1.082	547810	50.4		101	4450	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d

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	8.803	8.805	-0.002	1.000	562884	50.9		102	2888	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.803	8.808	-0.005	1.000	561437	51.6		103	3439	
712.8 > 168.8	8.817	8.808	0.009	1.002	127325		4.41(0.00-0.00)	103	905	
712.8 > 218.8	8.810	8.808	0.002	1.001	64409		8.72(0.00-0.00)	103	631	

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\\20180626-31127.b\\PF062718A10.d

Injection Date: 27-Jun-2018 11:56:12

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

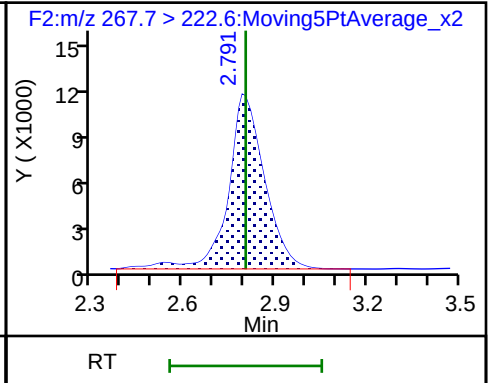
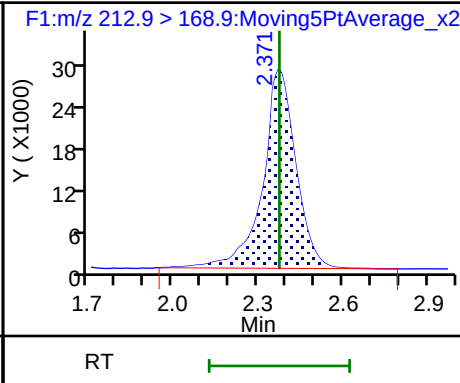
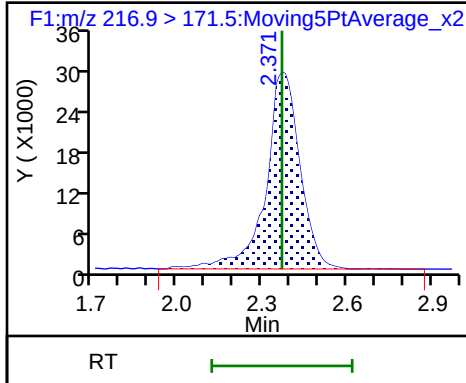
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

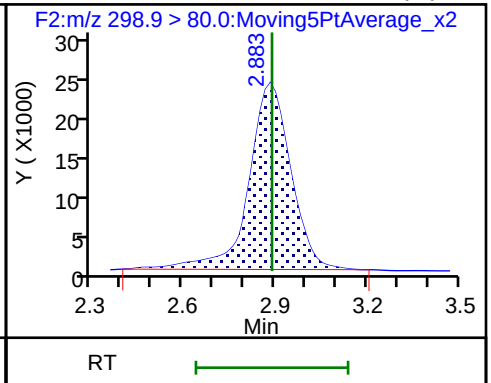
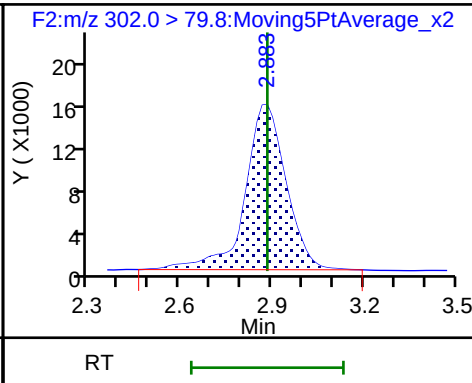
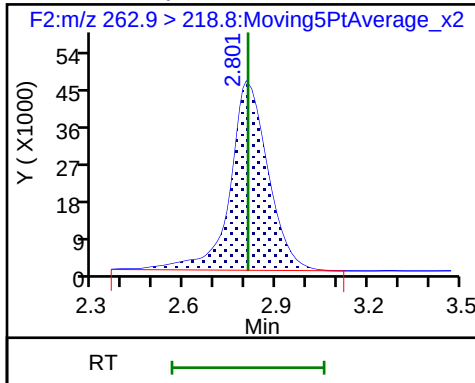
D 3 13C5-PFPeA (M)



4 Perfluoropentanoic acid

D 5 13C3-PFBS

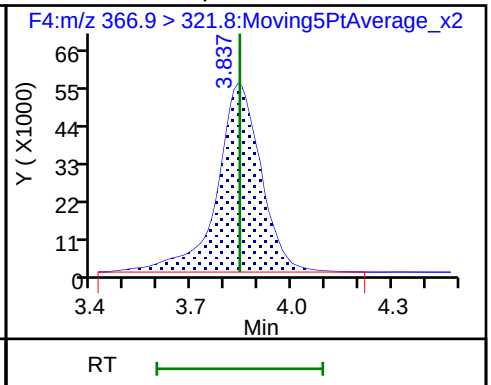
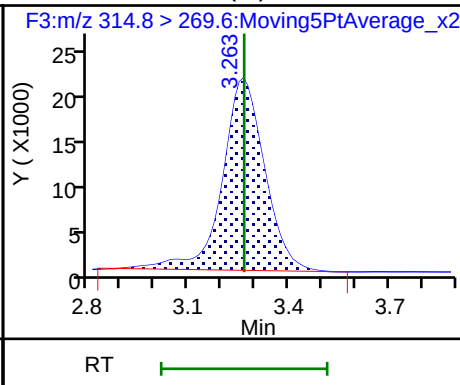
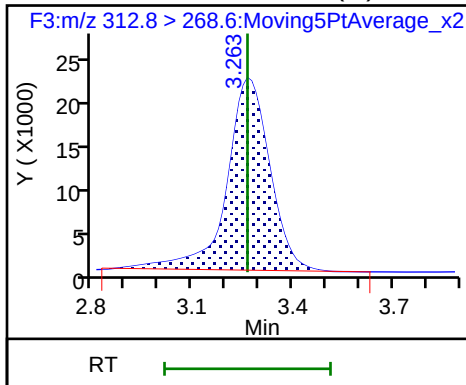
6 Perfluorobutanesulfonic acid (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA (M)

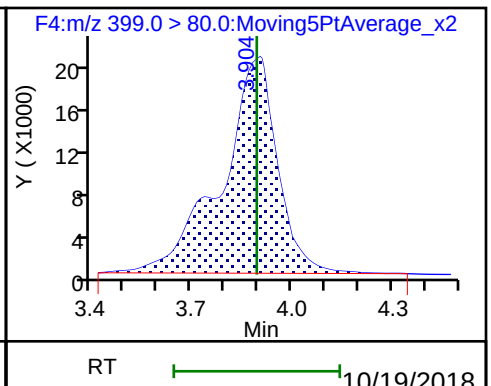
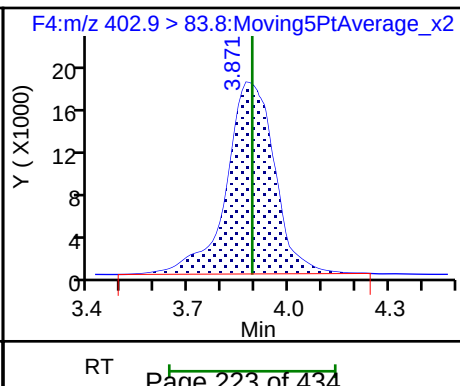
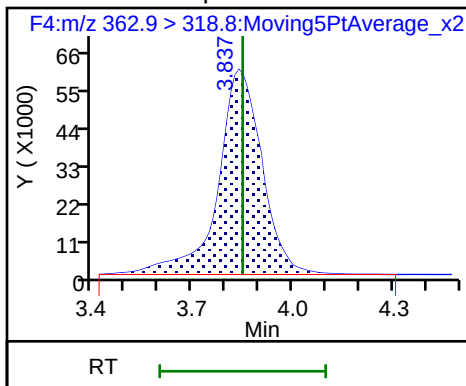
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

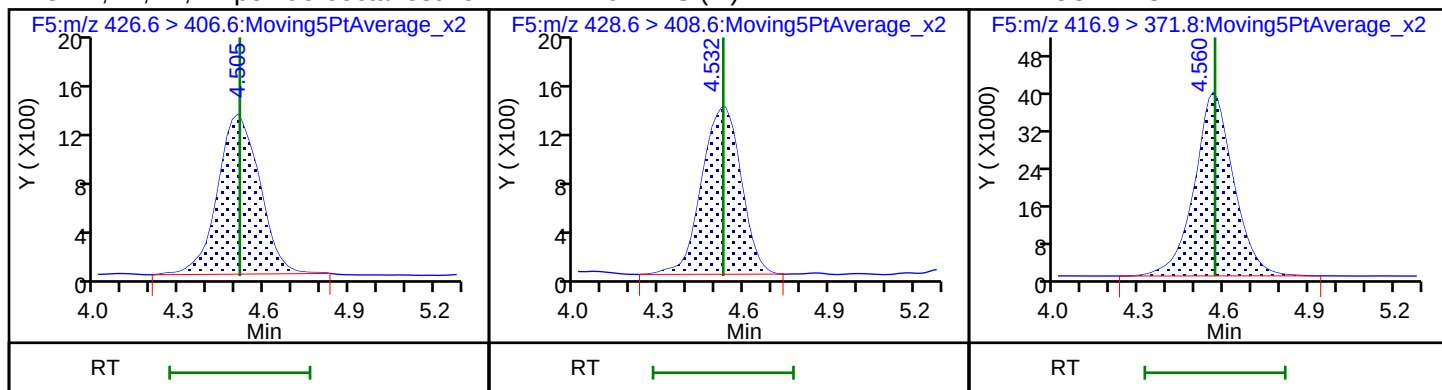
D 13 18O2 PFHxS

12 Perfluorohexanesulfonic acid



15 1H,1H,2H,2H-perfluorooctanesulfonD 14 M2-6:2FTS (M)

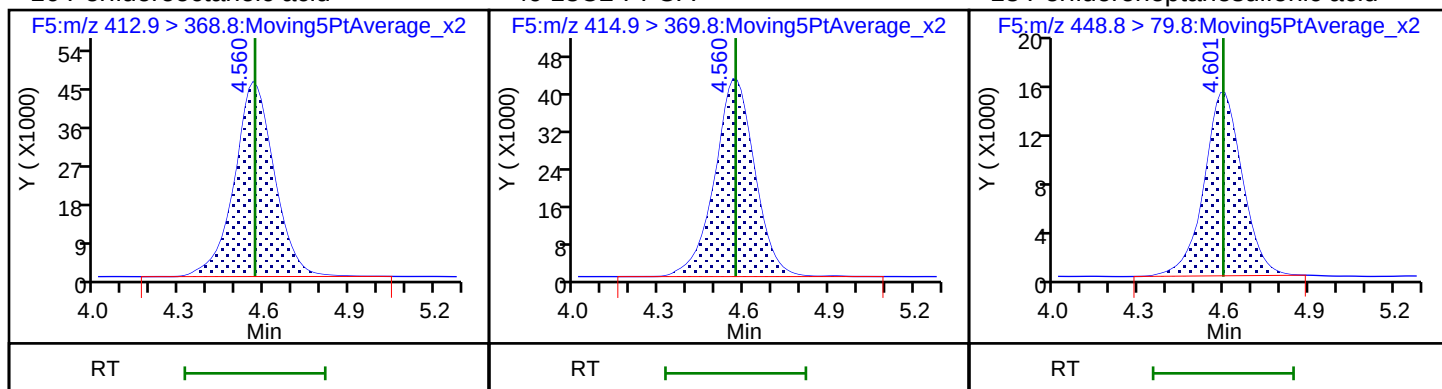
D 17 13C4 PFOA



16 Perfluorooctanoic acid

* 49 13C2-PFOA

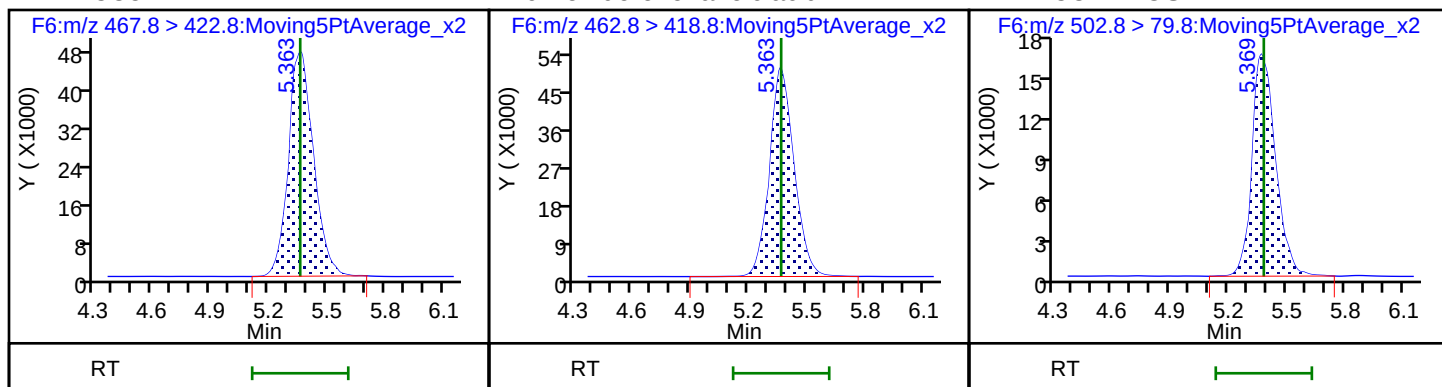
18 Perfluoroheptanesulfonic acid



D 21 13C5 PFNA

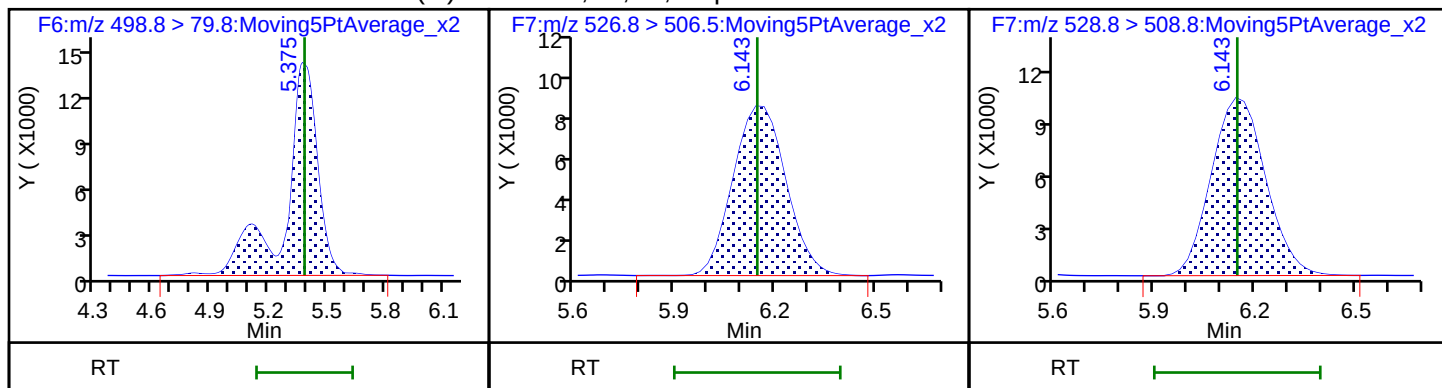
19 Perfluorononanoic acid

D 22 13C4 PFOS



20 Perfluorooctane sulfonic acid (M)

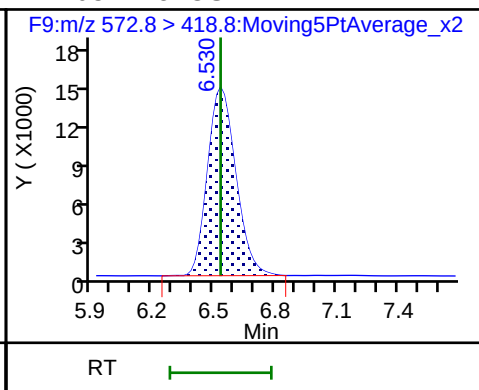
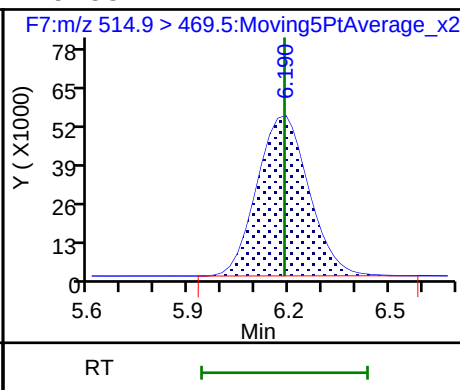
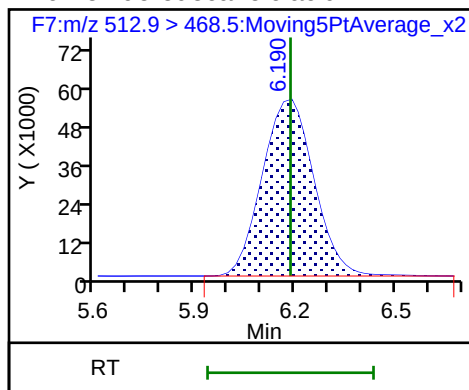
24 1H,1H,2H,2H-perfluorodecanesulfonD 23 M2-8:2FTS



26 Perfluorodecanoic acid

D 25 13C2 PFDA

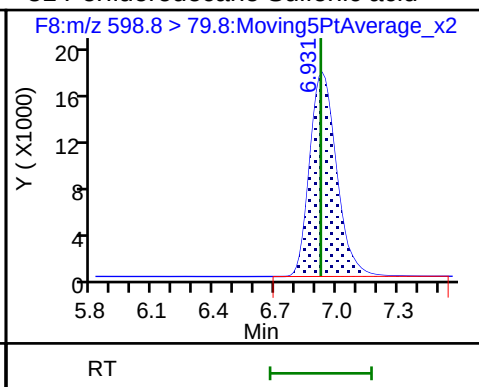
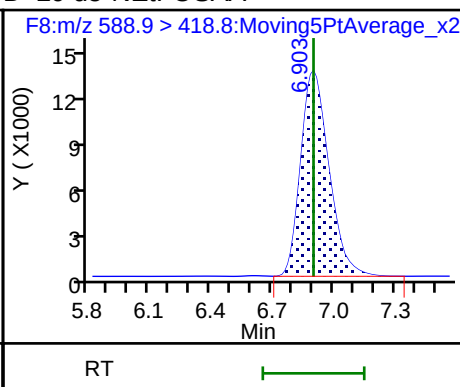
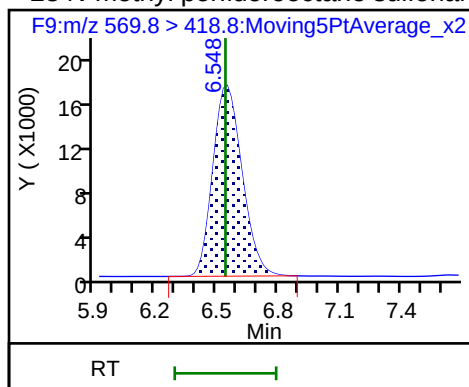
D 27 d3-NMeFOSAA



28 N-methyl perfluorooctane sulfonamid

D 29 d5-NEtFOSAA

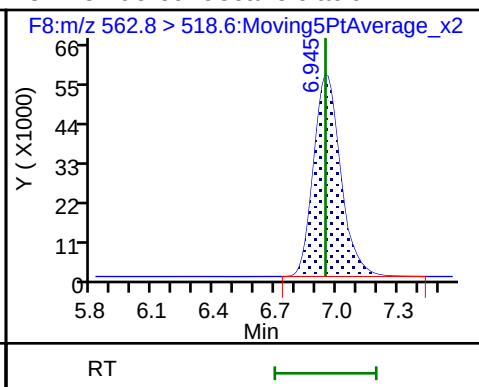
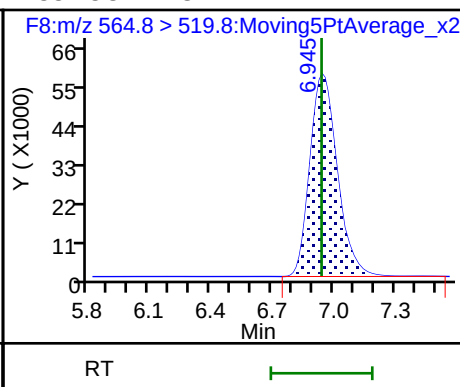
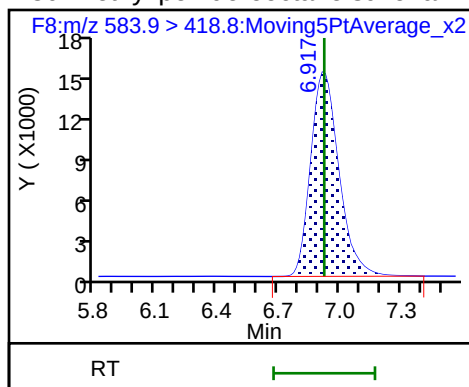
31 Perfluorodecane Sulfonic acid



30 N-ethyl perfluorooctane sulfonamid

D 33 13C2 PFUnA

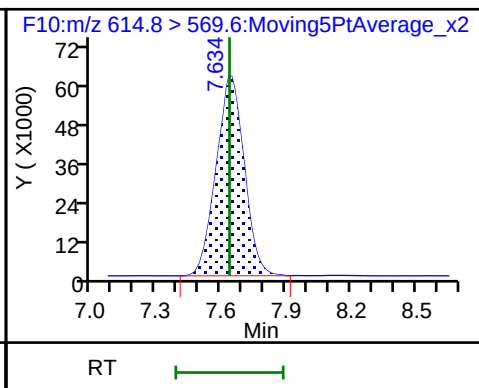
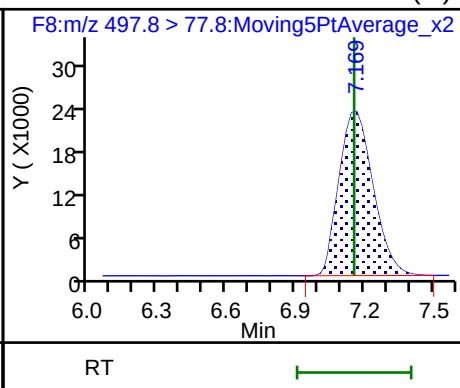
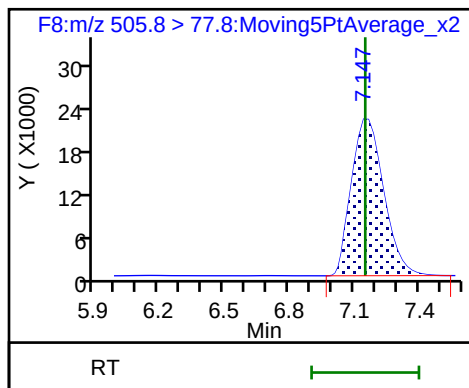
32 Perfluoroundecanoic acid



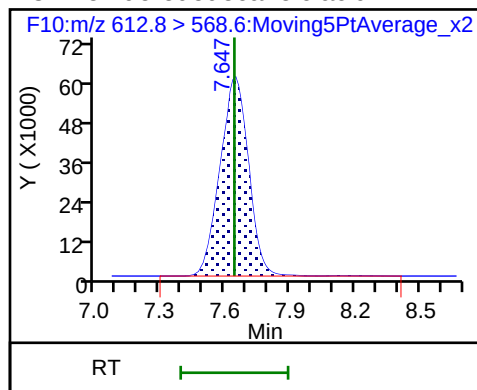
D 35 13C8 FOSA

34 Perfluorooctane Sulfonamide (M)

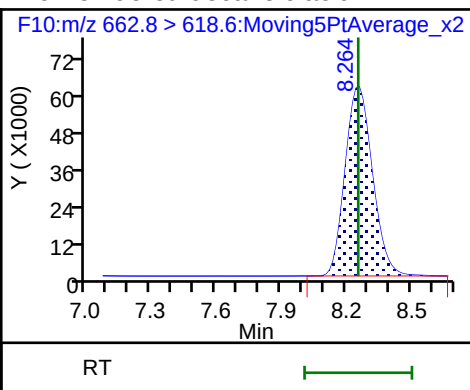
D 36 13C2 PFDoA



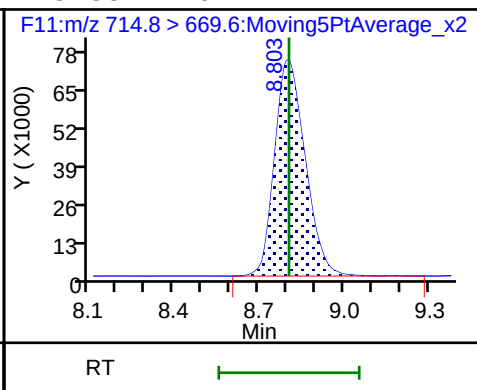
37 Perfluorododecanoic acid



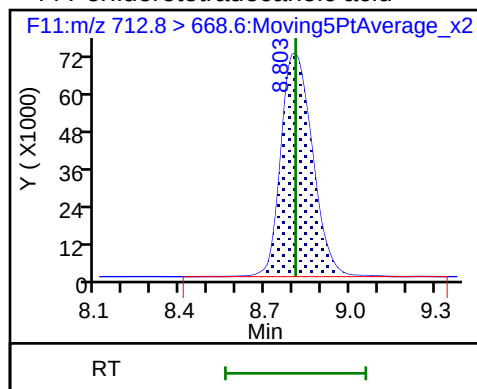
40 Perfluorotridecanoic acid



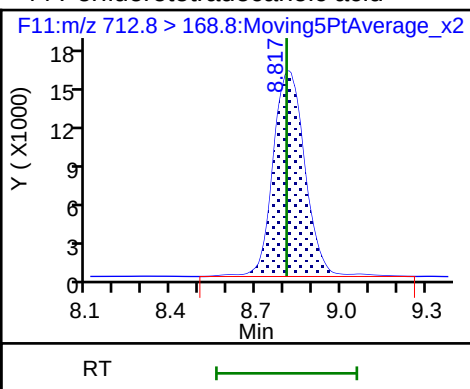
D 43 13C2-PFTeDA



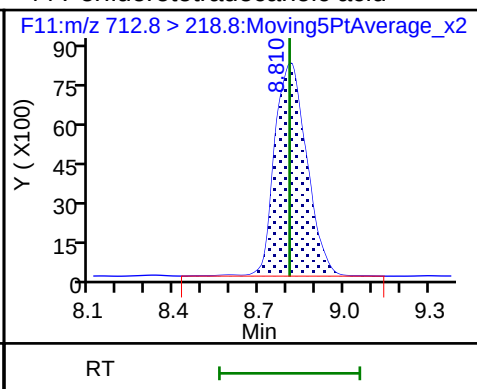
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid



TestAmerica Burlington

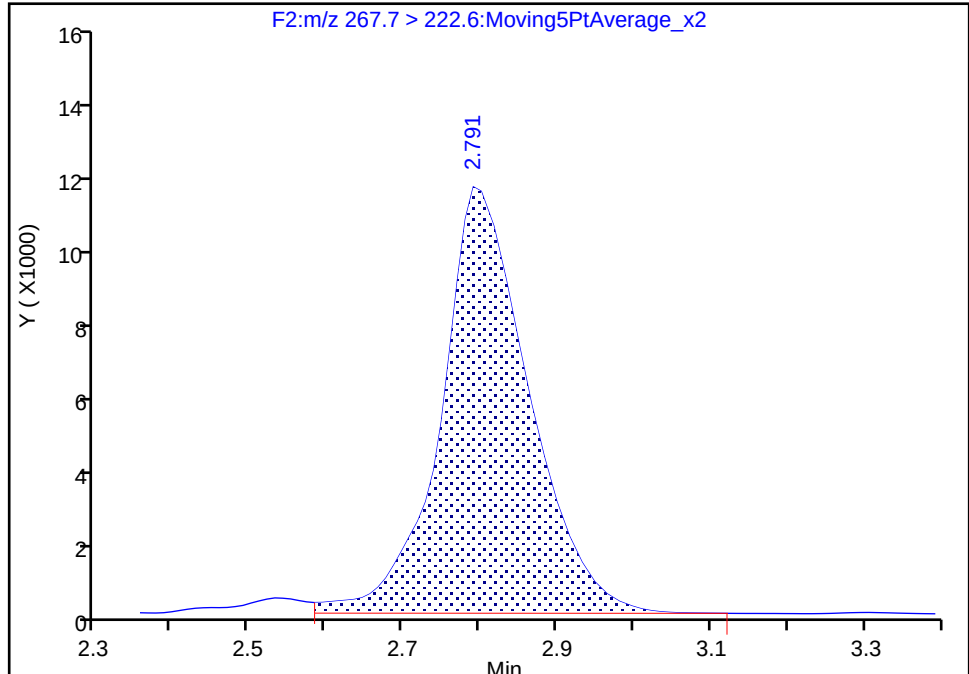
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d
Injection Date: 27-Jun-2018 11:56:12 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 3 13C5-PFPeA, CAS: STL01893

Signal: 1

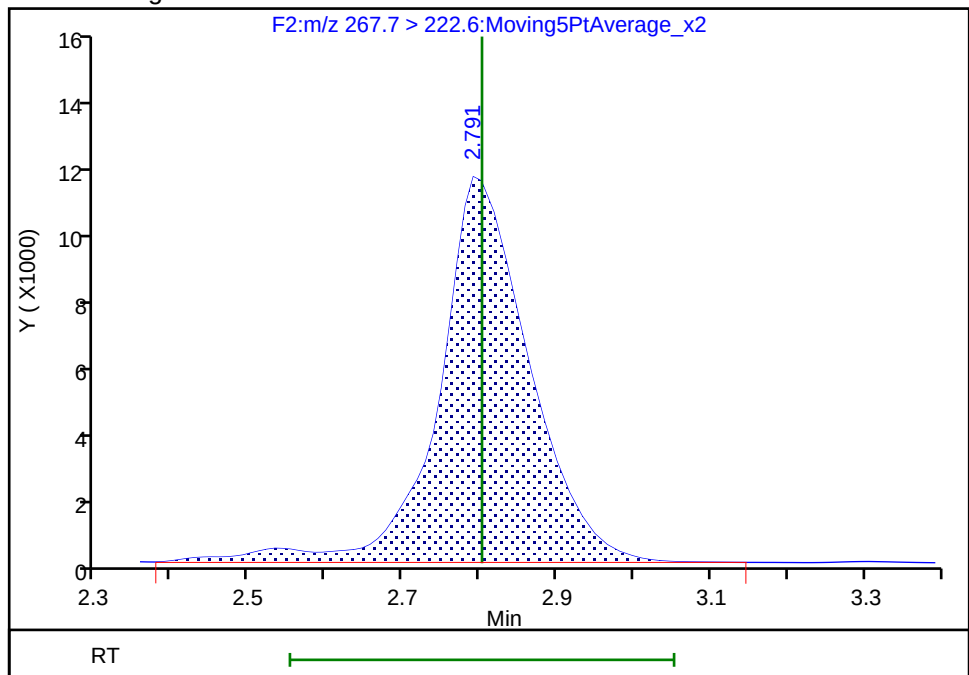
RT: 2.79
Area: 88187
Amount: 50.899008
Amount Units: ng/ml

Processing Integration Results



RT: 2.79
Area: 91012
Amount: 52.404767
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:01
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 227 of 434

10/19/2018

TestAmerica Burlington

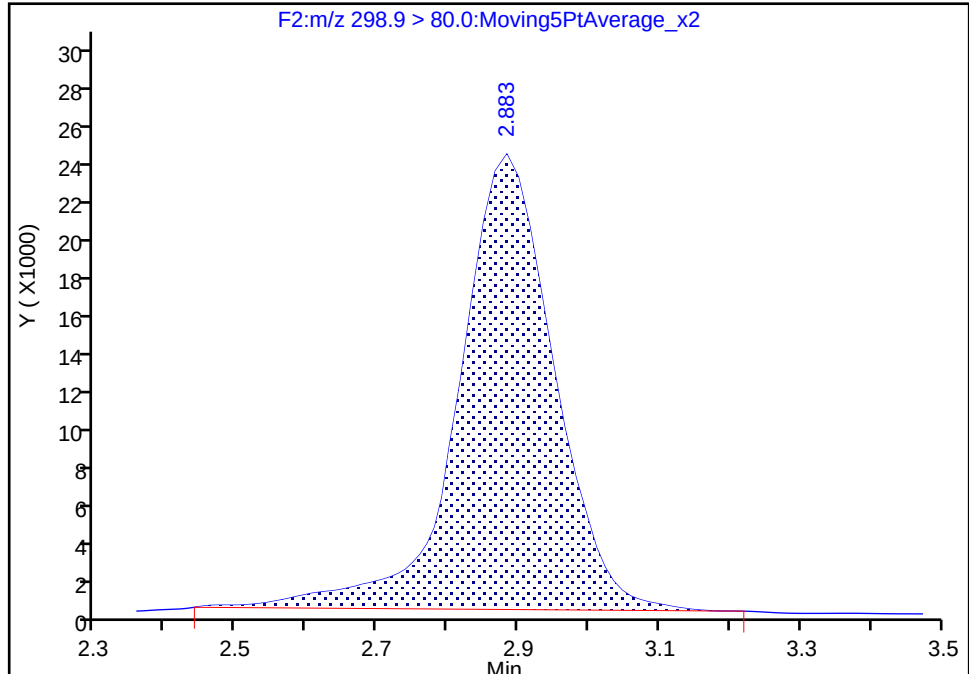
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d
Injection Date: 27-Jun-2018 11:56:12 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

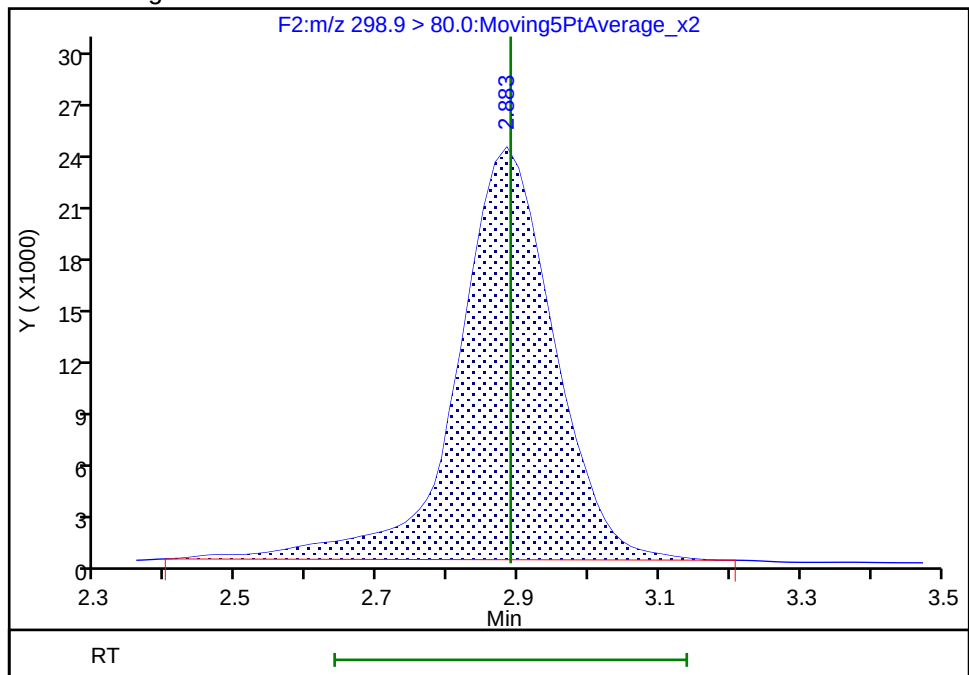
RT: 2.88
Area: 223282
Amount: 45.576415
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 226158
Amount: 47.204168
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:07
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 228 of 434

10/19/2018

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d

Injection Date: 27-Jun-2018 11:56:12

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:

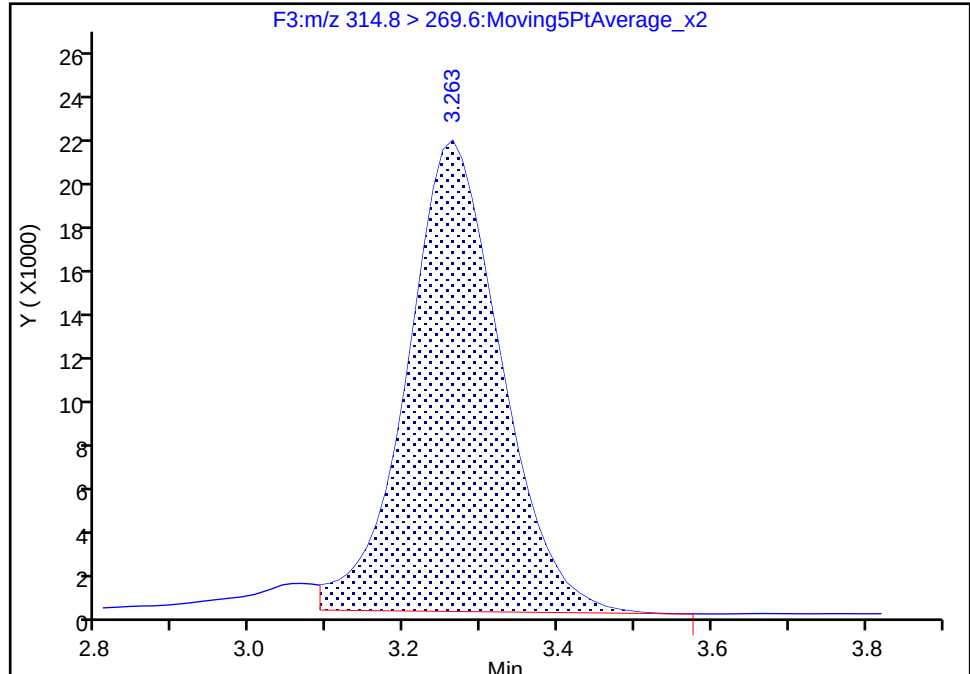
Detector F3:MRM

D 7 13C2 PFHxA, CAS: STL00993

Signal: 1

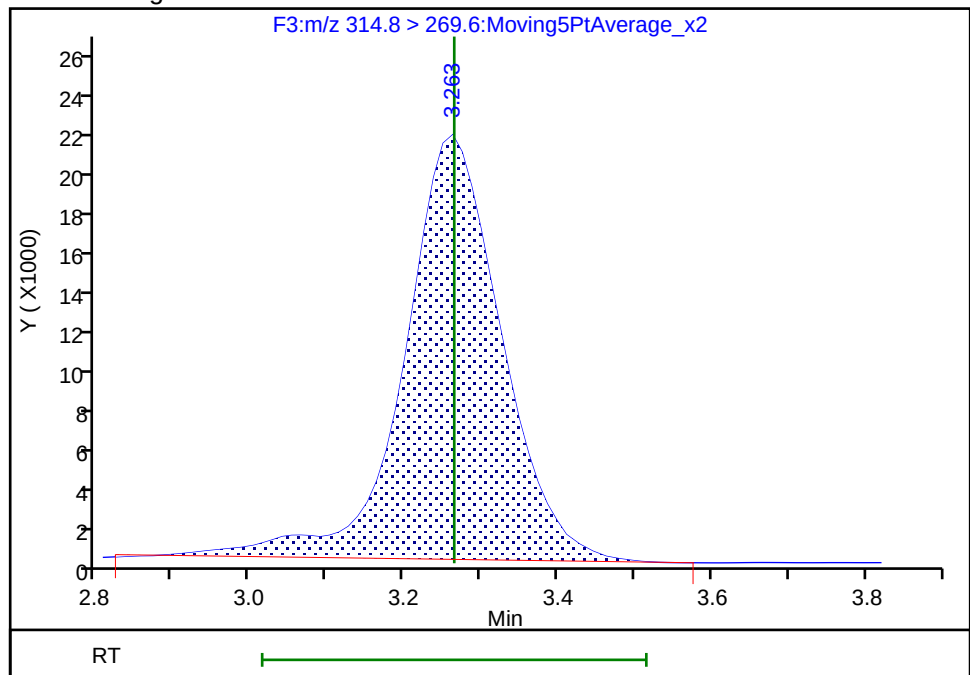
RT: 3.26
Area: 182460
Amount: 52.471282
Amount Units: ng/ml

Processing Integration Results



RT: 3.26
Area: 187843
Amount: 53.681855
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:16

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

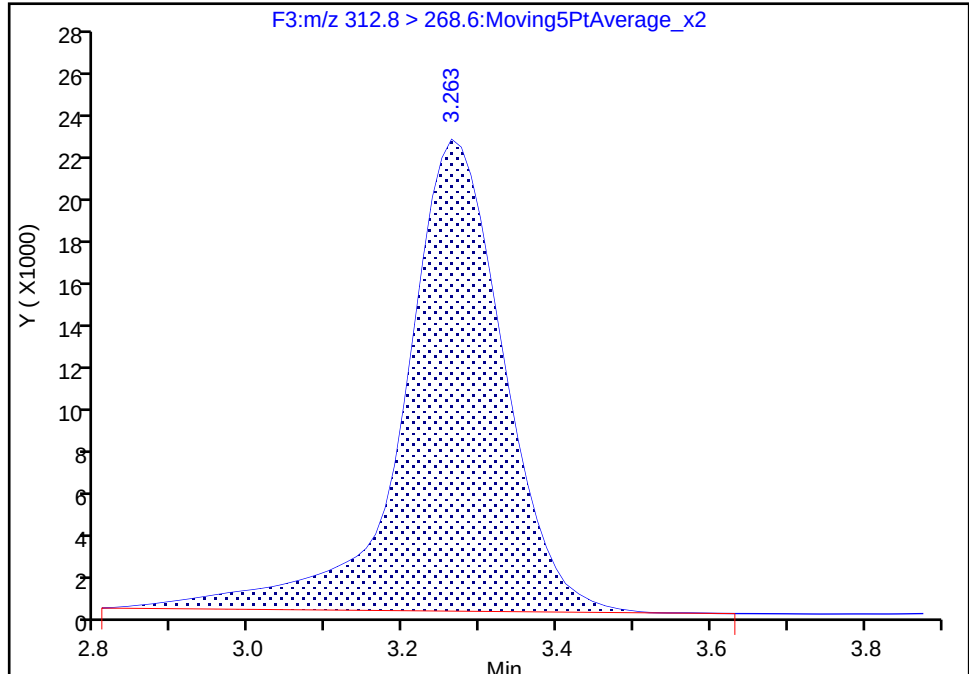
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d		
Injection Date:	27-Jun-2018 11:56:12	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0 Worklist Smp#: 10
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

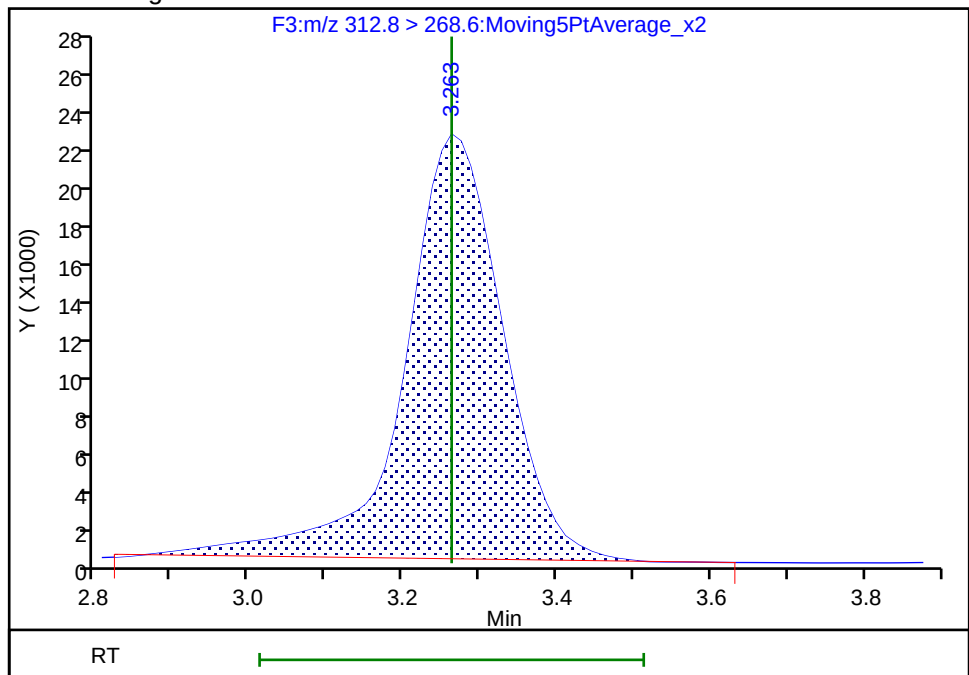
RT: 3.26
Area: 202963
Amount: 53.484438
Amount Units: ng/ml

Processing Integration Results



RT: 3.26
Area: 198938
Amount: 49.450832
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:13

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d

Injection Date: 27-Jun-2018 11:56:12

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:

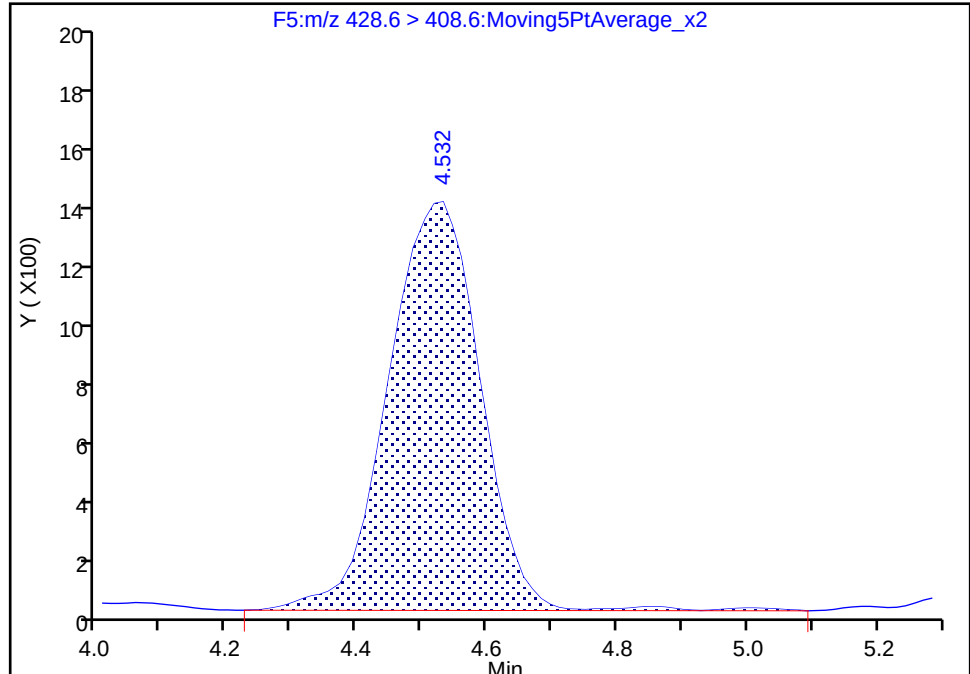
Detector F5:MRM

D 14 M2-6:2FTS, CAS: STL02279

Signal: 1

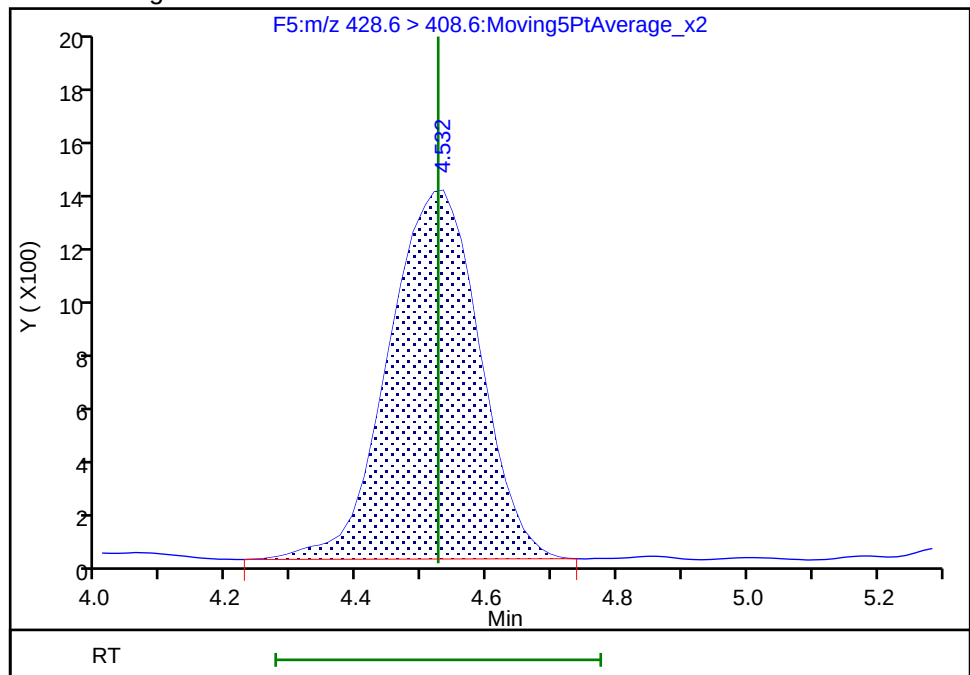
RT: 4.53
Area: 13565
Amount: 62.611042
Amount Units: ng/ml

Processing Integration Results



RT: 4.53
Area: 13370
Amount: 61.327906
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:27

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

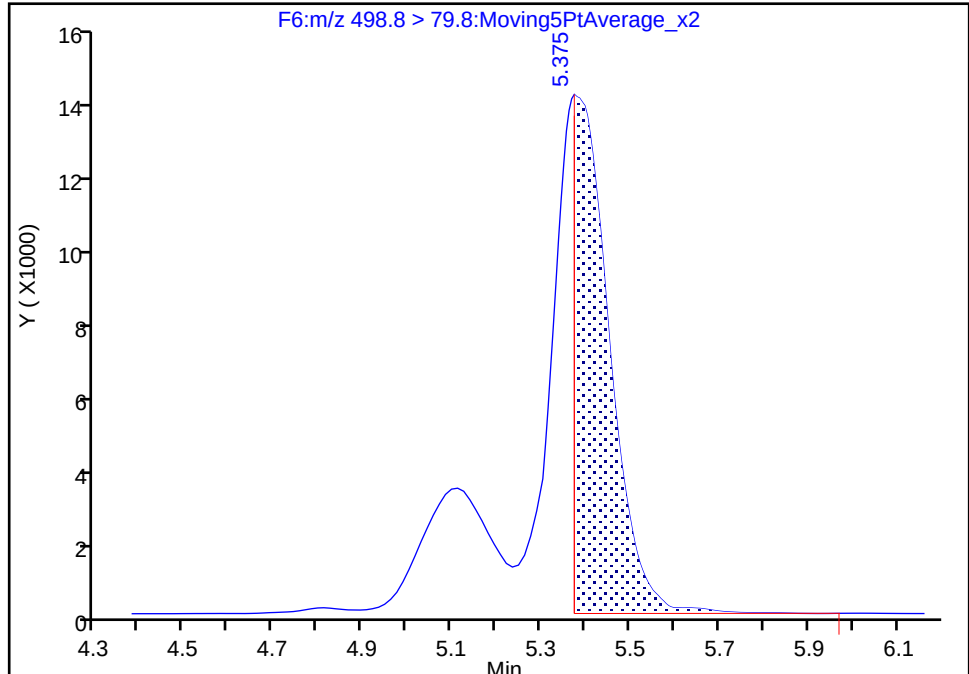
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d
Injection Date: 27-Jun-2018 11:56:12 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

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

Signal: 1

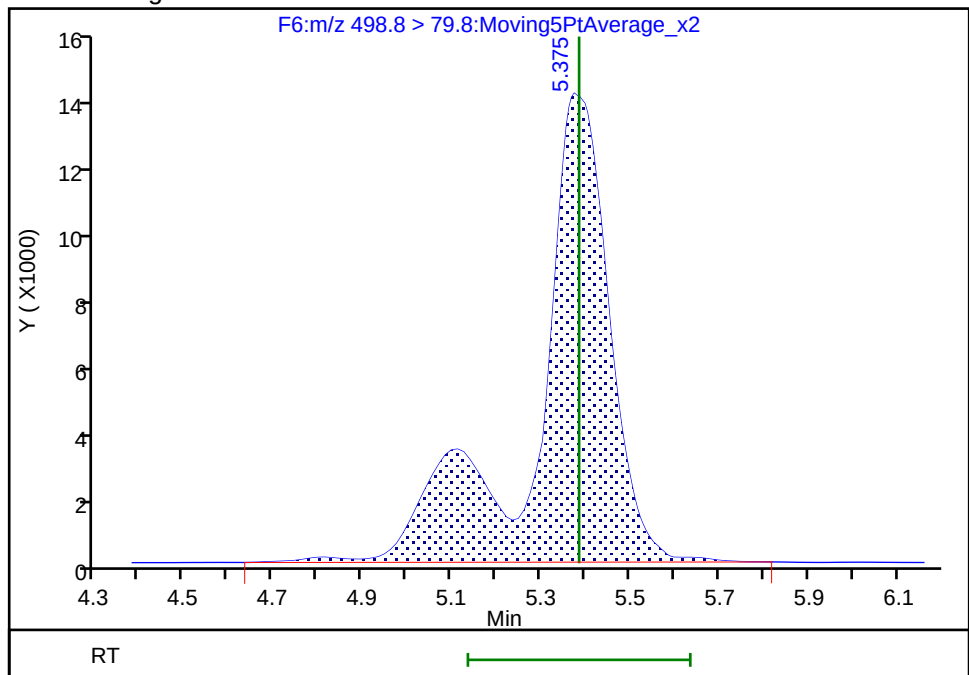
RT: 5.38
Area: 73826
Amount: 25.788025
Amount Units: ng/ml

Processing Integration Results



RT: 5.38
Area: 158463
Amount: 43.014755
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:39

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

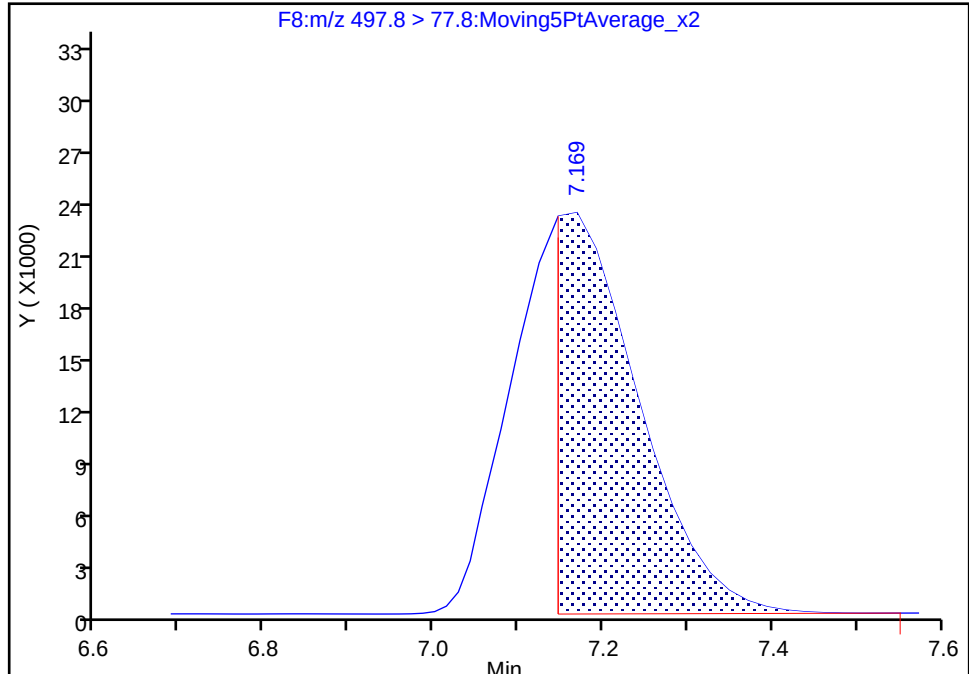
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A10.d
Injection Date: 27-Jun-2018 11:56:12 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

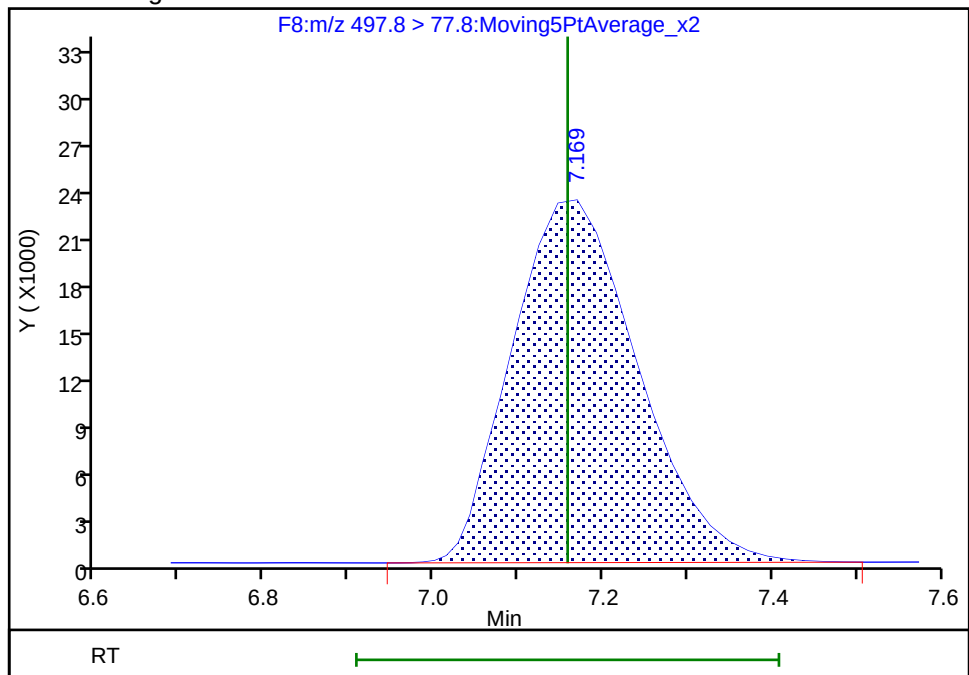
RT: 7.17
Area: 149467
Amount: 38.627529
Amount Units: ng/ml

Processing Integration Results



RT: 7.17
Area: 238423
Amount: 47.782865
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:20:48
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 233 of 434

10/19/2018

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 27-Jun-2018 12:12:18 ALS Bottle#: 0 Worklist Smp#: 11
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-011 IC 6
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:39:56 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.361	2.370	-0.009	1.000	225387	54.1		108	328	
1 Perfluorobutyric acid										
212.9 > 168.9	2.382	2.375	0.007	1.009	949074	216.9		108	274	
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	78801	49.0		97.9	377	M
4 Perfluoropentanoic acid										
262.9 > 218.8	2.801	2.807	-0.006	1.000	1495169	220.5		110	4107	
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	135510	46.1		99.1	268	M
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.883	2.889	-0.006	1.000	824178	186.1		105	1178	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.263	3.263	0.0	1.000	782824	225.2		113	2018	
D 7 13C2 PFHxA										
314.8 > 269.6	3.263	3.265	-0.002	1.000	162196	50.0		100	1424	
D 10 13C4-PFHpA										
366.9 > 321.8	3.837	3.843	-0.006	1.000	410898	46.9		93.8	13514	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.837	3.848	-0.011	1.000	1987858	211.5		106	126	
D 13 18O2 PFHxS										
402.9 > 83.8	3.893	3.889	0.004	1.000	156530	43.6		92.2	1002	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.893	3.894	-0.001	1.000	915395	207.4		114	9256	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.505	4.513	-0.008	1.004	45428	190.7		101	380	
D 14 M2-6:2FTS										
428.6 > 408.6	4.486	4.525	-0.039	1.000	10074	49.9		105	39.4	

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	4.560	4.567	-0.007	1.000	314804	44.2		88.4	2522	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.560	4.567	-0.007	1.000	1593672	203.8		102	2301	
* 49 13C2-PFOA										
414.9 > 369.8	4.560	4.569	-0.009		390487	50.0			1281	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.601	4.596	0.005	0.856	464937	190.9		100	694	
D 21 13C5 PFNA										
467.8 > 422.8	5.357	5.363	-0.006	1.000	353293	45.8		91.7	934	
19 Perfluorononanoic acid										
462.8 > 418.8	5.363	5.368	-0.005	1.001	1597072	218.3		109	18564	
D 22 13C4 PFOS										
502.8 > 79.8	5.375	5.382	-0.007	1.000	114512	43.1		90.1	564	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.381	5.386	-0.005	1.001	581457	190.7		103	1076	M
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.143	6.147	-0.004	1.000	361554	183.9		96.0	2581	
D 23 M2-8:2FTS										
528.8 > 508.8	6.143	6.147	-0.004	1.000	129560	57.3		120	397	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.190	6.186	0.004	1.000	2246588	220.1		110	2583	
D 25 13C2 PFDA										
514.9 > 469.5	6.190	6.186	0.004	1.000	496407	46.2		92.4	972	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	128882	50.8		102	885	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.530	6.539	-0.009	1.000	687748	220.2		110	1302	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.889	6.903	-0.014	1.000	103204	43.2		86.4	897	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.917	6.924	-0.007	1.287	522485	194.3		101	3542	M
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.917	6.926	-0.009	1.004	488696	204.5		102	5462	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	6.942	0.003	1.000	422733	41.9		83.8	2665	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.945	6.947	-0.002	1.000	1638406	200.7		100	4224	M
D 35 13C8 FOSA										
505.8 > 77.8	7.147	7.154	-0.007	1.000	193304	47.0		94.1	1477	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.147	7.158	-0.011	1.000	852721	203.6		102	3939	
D 36 13C2 PFDoA										
614.8 > 569.6	7.634	7.636	-0.002	1.000	476833	46.7		93.5	2278	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.634	7.640	-0.006	1.000	2084549	223.3		112	7620	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.249	8.259	-0.010	1.081	2041239	219.9		110	3807	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

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	8.808	8.805	0.003	1.000	499947	48.7		97.5	2686	
44 Perfluorotetradecanoic acid										M
712.8 > 668.6	8.801	8.808	-0.007	0.999	2051730	212.4		106	2183	M
712.8 > 168.8	8.808	8.808	0.0	1.000	454863		4.51(0.00-0.00)	106	2145	
712.8 > 218.8	8.809	8.808	0.001	0.000	0		0.00(0.00-0.00)	106		

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\20180626-31127.b\PF062718A11.d

Injection Date: 27-Jun-2018 12:12:18

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

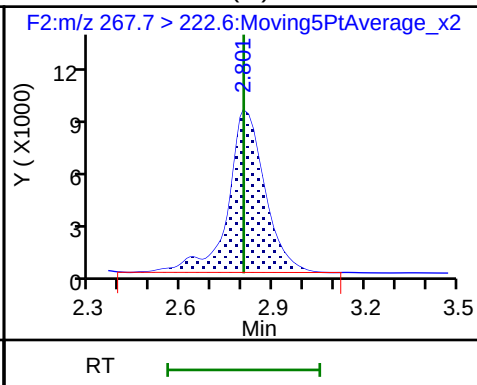
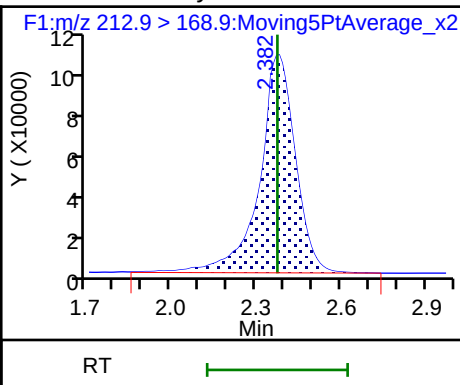
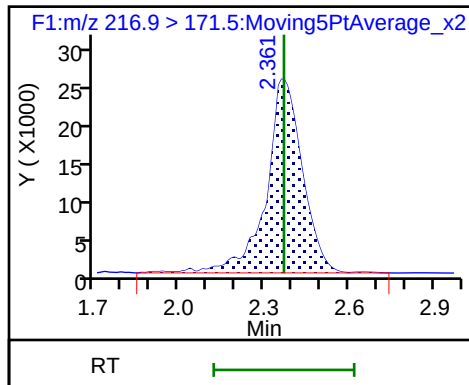
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

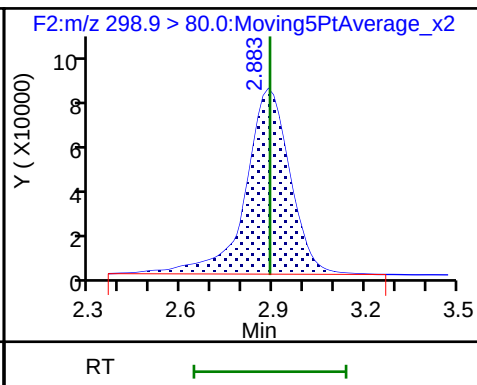
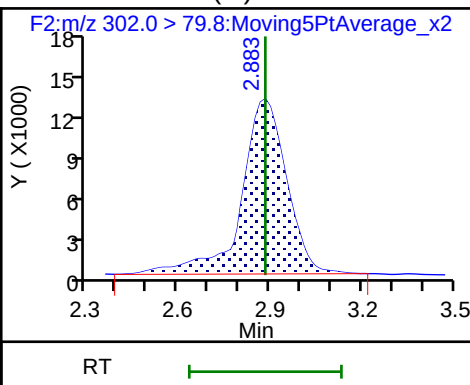
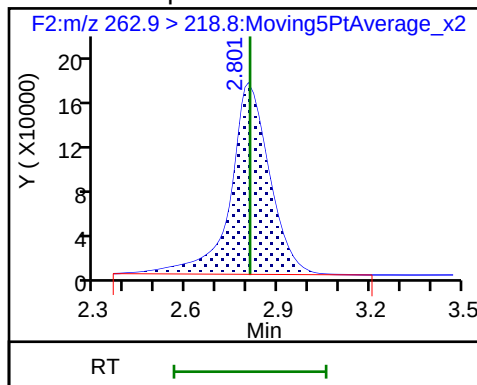
D 3 13C5-PFPeA (M)



4 Perfluoropentanoic acid

D 5 13C3-PFBS (M)

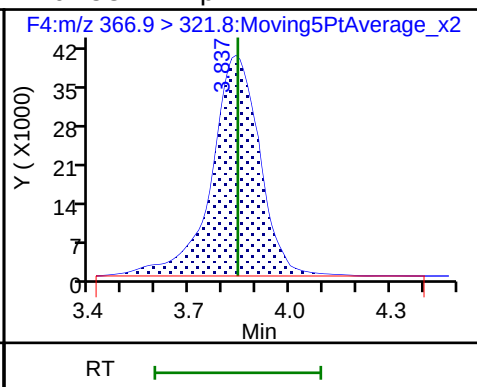
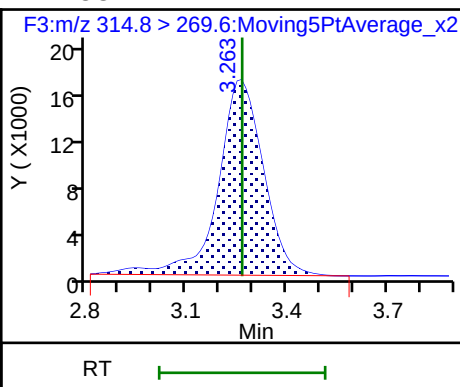
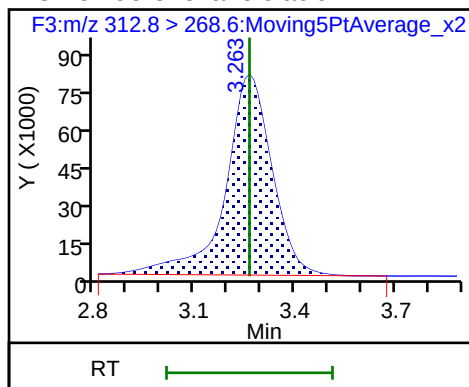
6 Perfluorobutanesulfonic acid



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

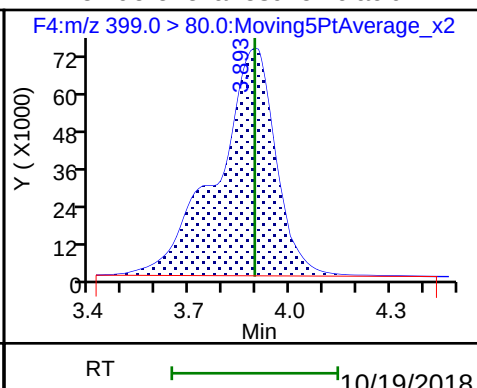
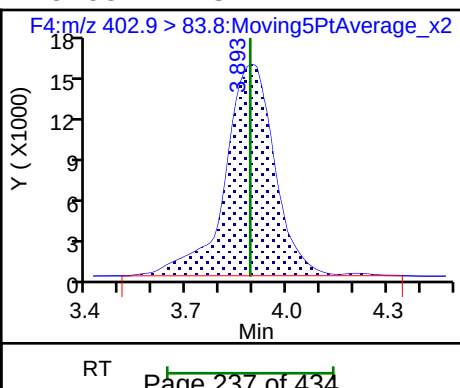
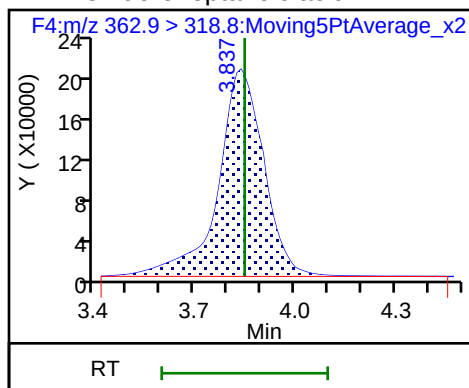
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

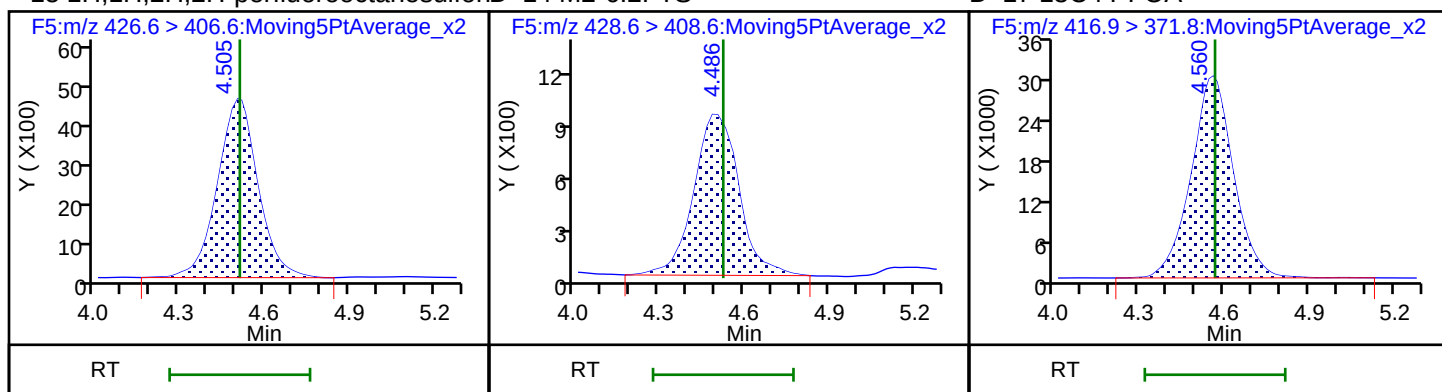
D 13 18O2 PFHxS

12 Perfluorohexanesulfonic acid



15 1H,1H,2H,2H-perfluorooctanesulfonD 14 M2-6:2FTS

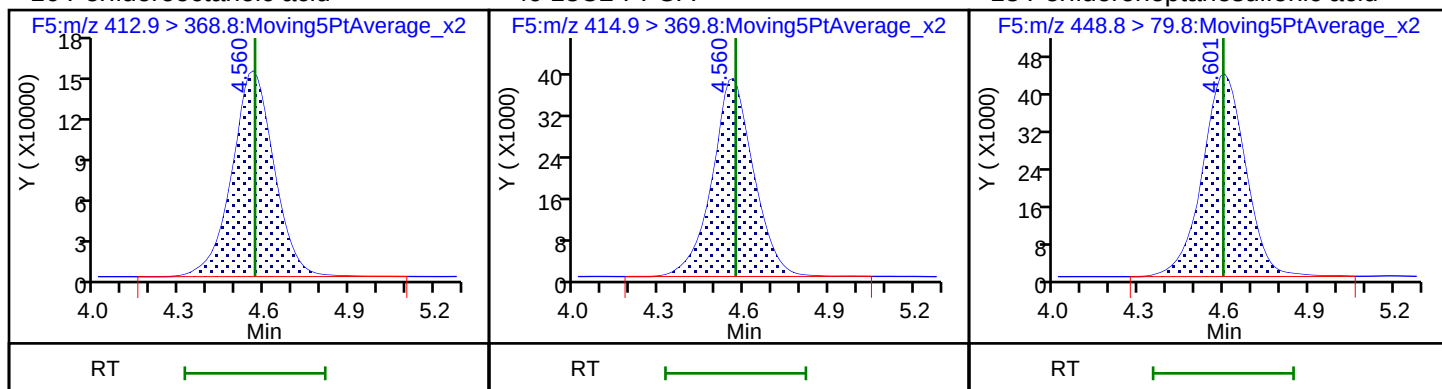
D 17 13C4 PFOA



16 Perfluorooctanoic acid

* 49 13C2-PFOA

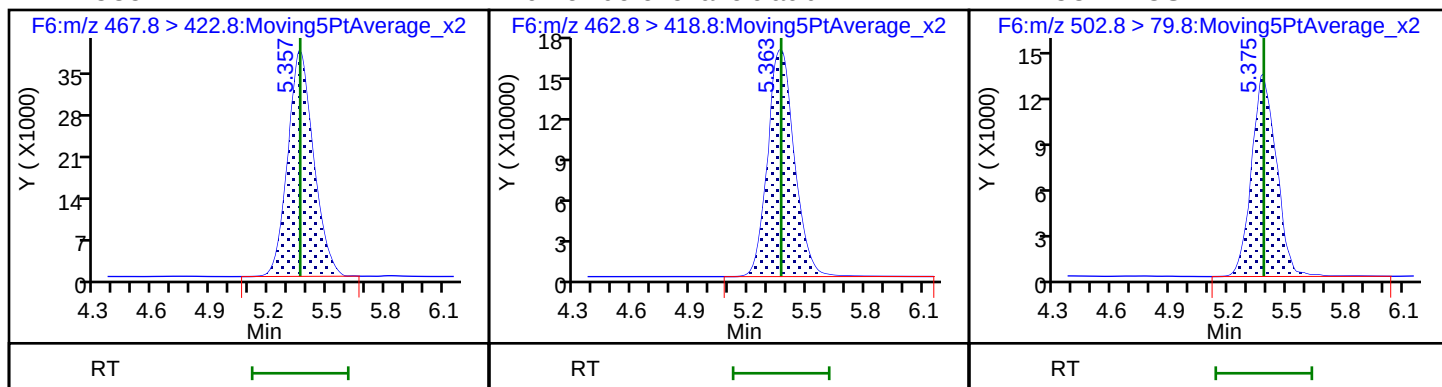
18 Perfluoroheptanesulfonic acid



D 21 13C5 PFNA

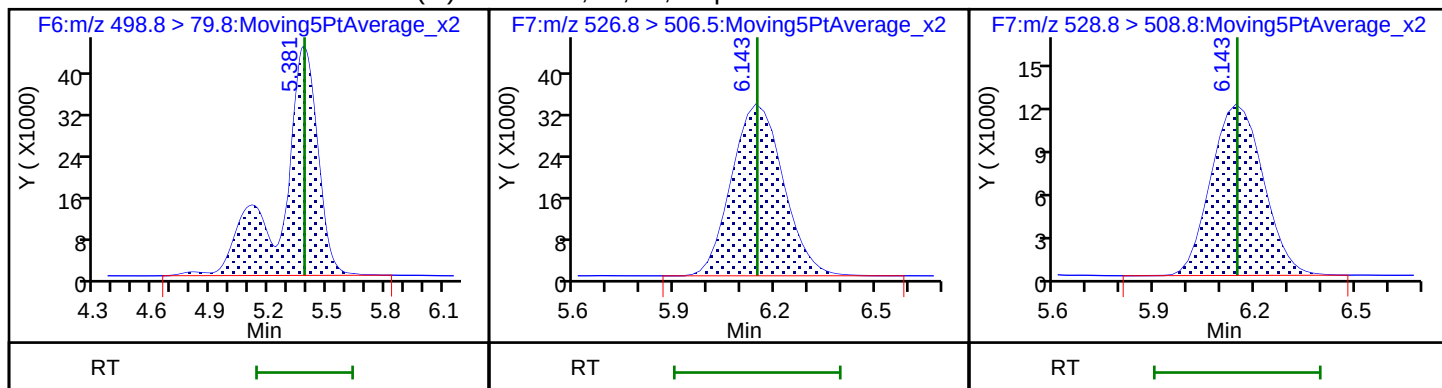
19 Perfluorononanoic acid

D 22 13C4 PFOS



20 Perfluorooctane sulfonic acid (M)

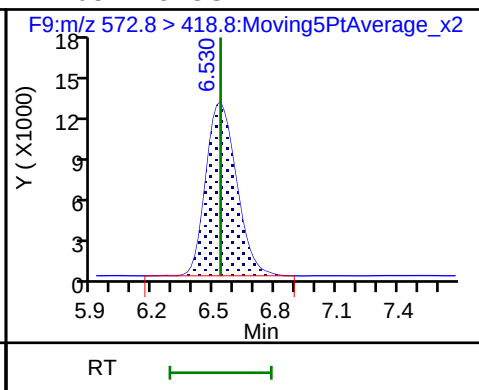
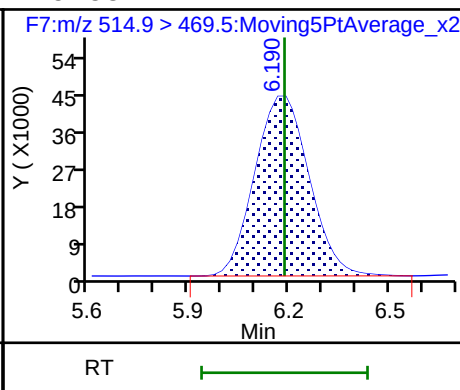
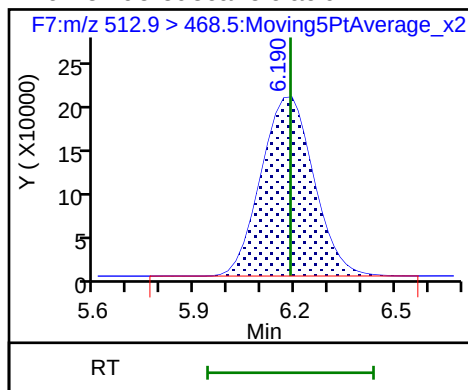
24 1H,1H,2H,2H-perfluorodecanesulfonD 23 M2-8:2FTS



26 Perfluorodecanoic acid

D 25 13C2 PFDA

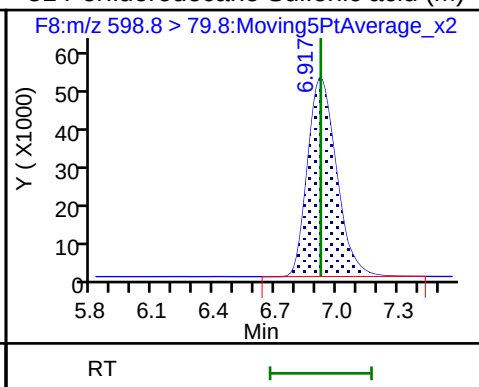
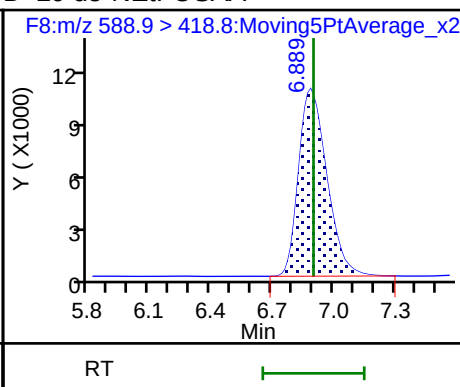
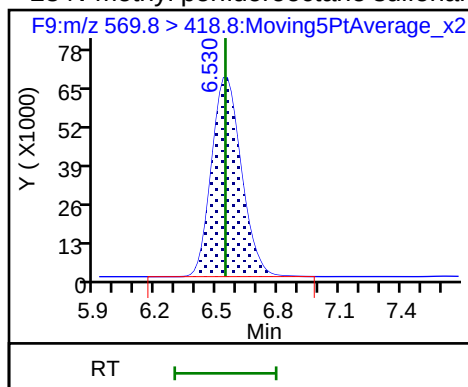
D 27 d3-NMeFOSAA



28 N-methyl perfluorooctane sulfonamid

D 29 d5-NEtFOSAA

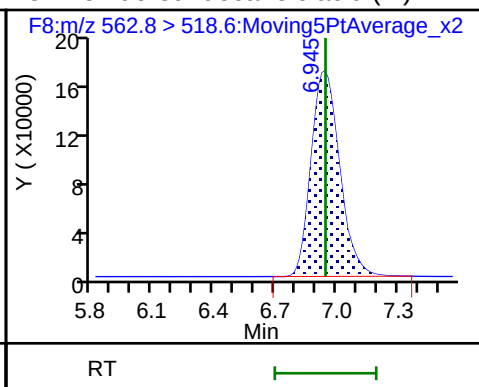
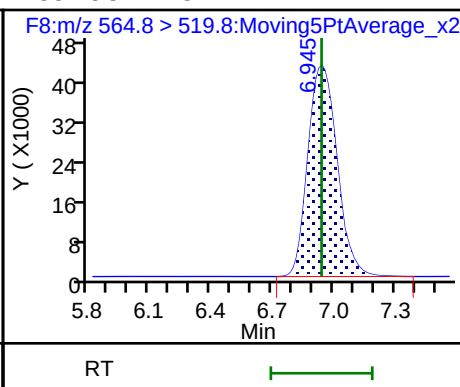
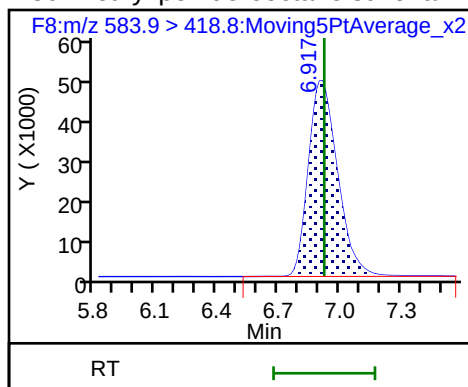
31 Perfluorodecane Sulfonic acid (M)



30 N-ethyl perfluorooctane sulfonamid

D 33 13C2 PFUnA

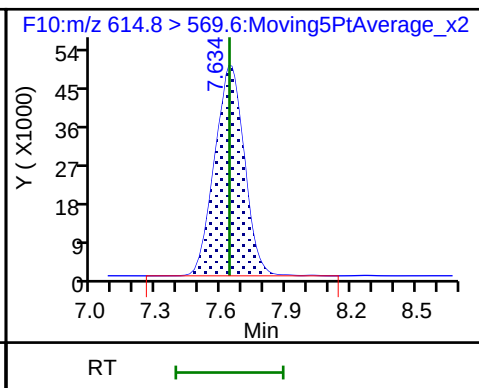
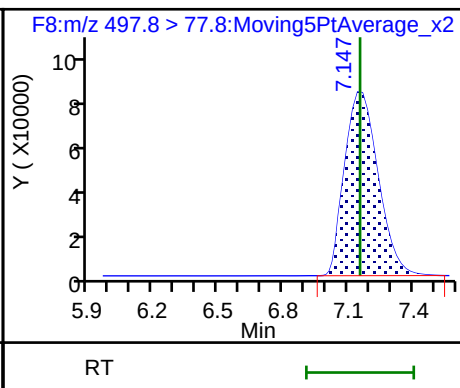
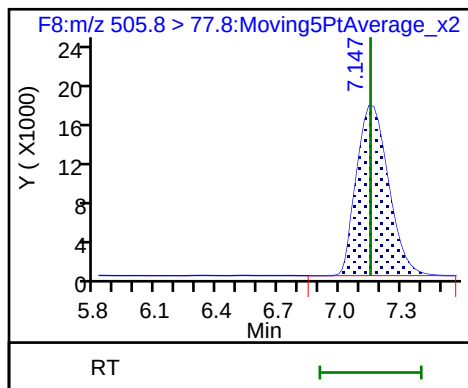
32 Perfluoroundecanoic acid (M)



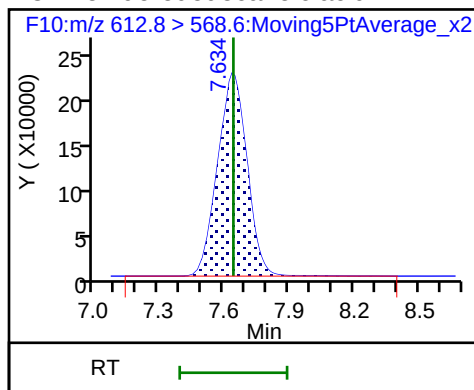
D 35 13C8 FOSA

34 Perfluorooctane Sulfonamide

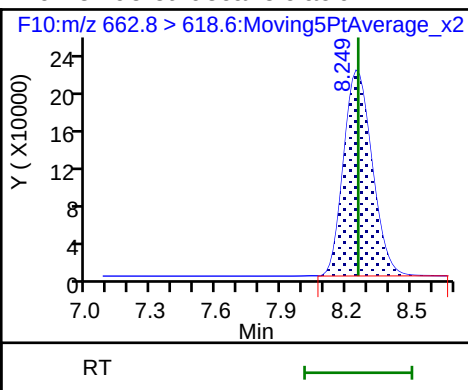
D 36 13C2 PFDoA



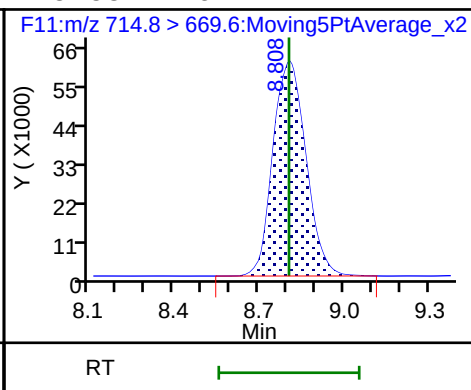
37 Perfluorododecanoic acid



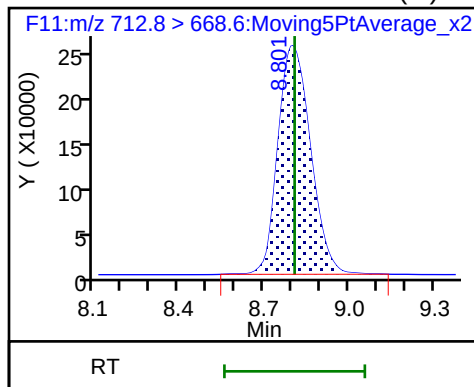
40 Perfluorotridecanoic acid



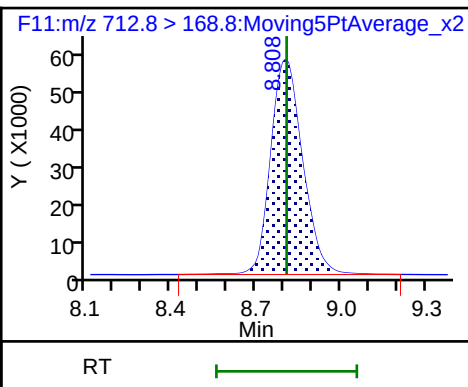
D 43 13C2-PFTeDA



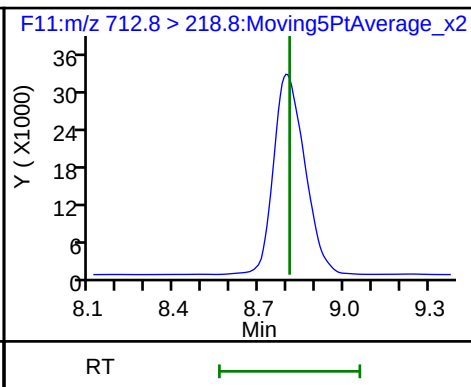
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid



TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Injection Date: 27-Jun-2018 12:12:18

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:

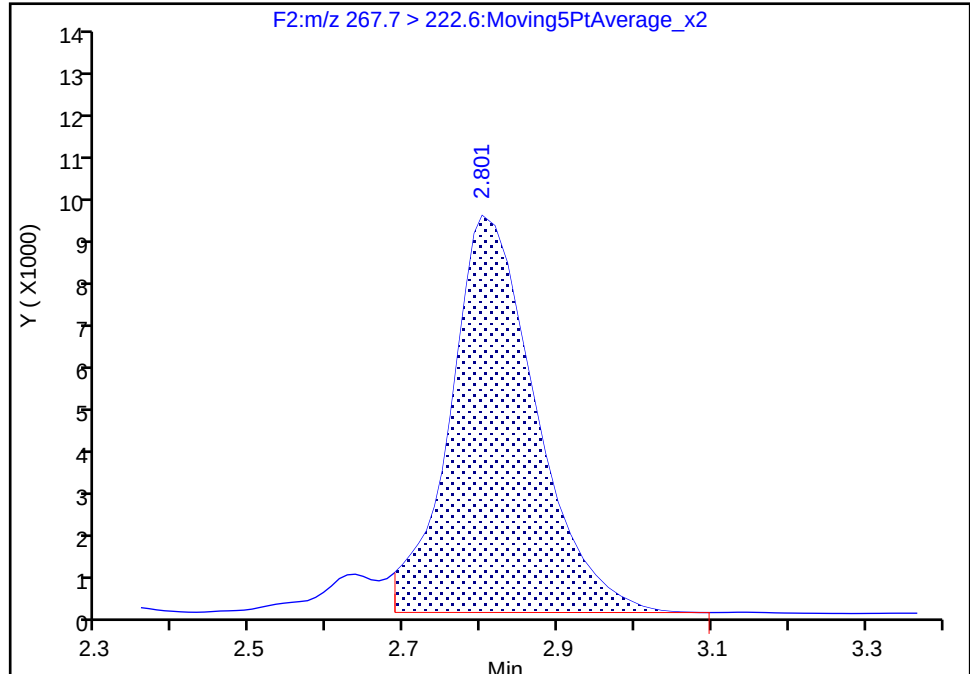
Detector F2:MRM

D 3 13C5-PFPeA, CAS: STL01893

Signal: 1

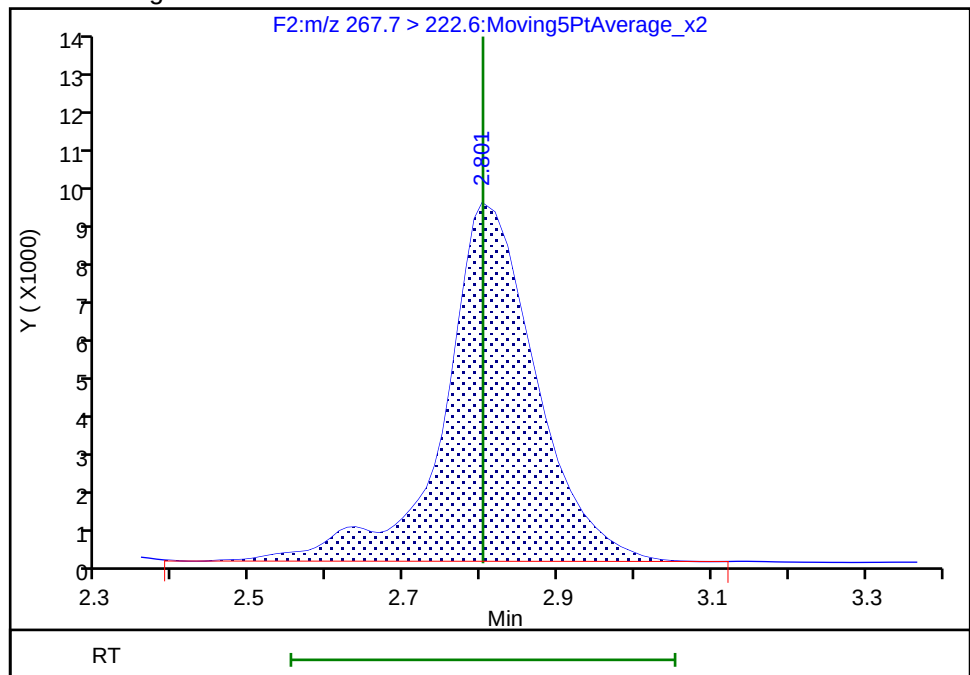
RT: 2.80
Area: 73209
Amount: 46.025306
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 78801
Amount: 48.967077
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:27:53

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

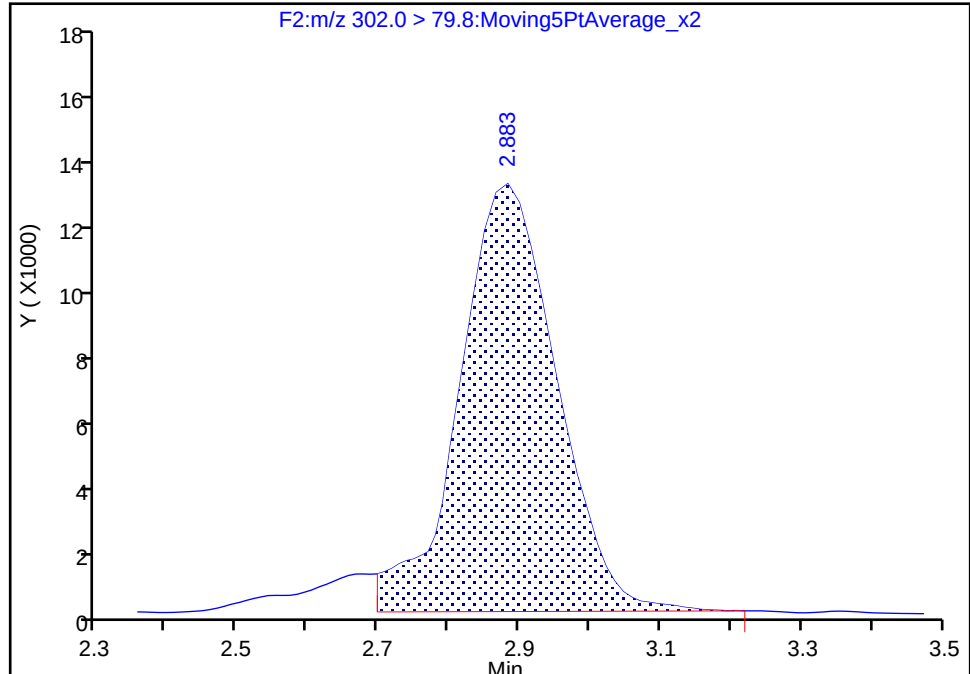
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
Injection Date: 27-Jun-2018 12:12:18 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

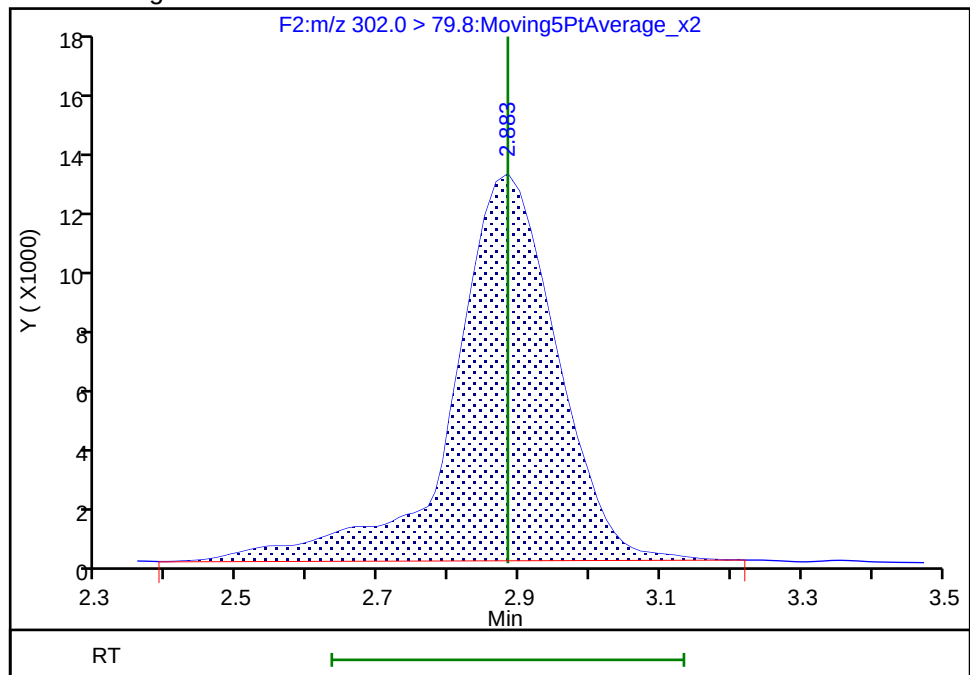
RT: 2.88
Area: 125969
Amount: 43.343271
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 135510
Amount: 46.083881
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:27:59

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

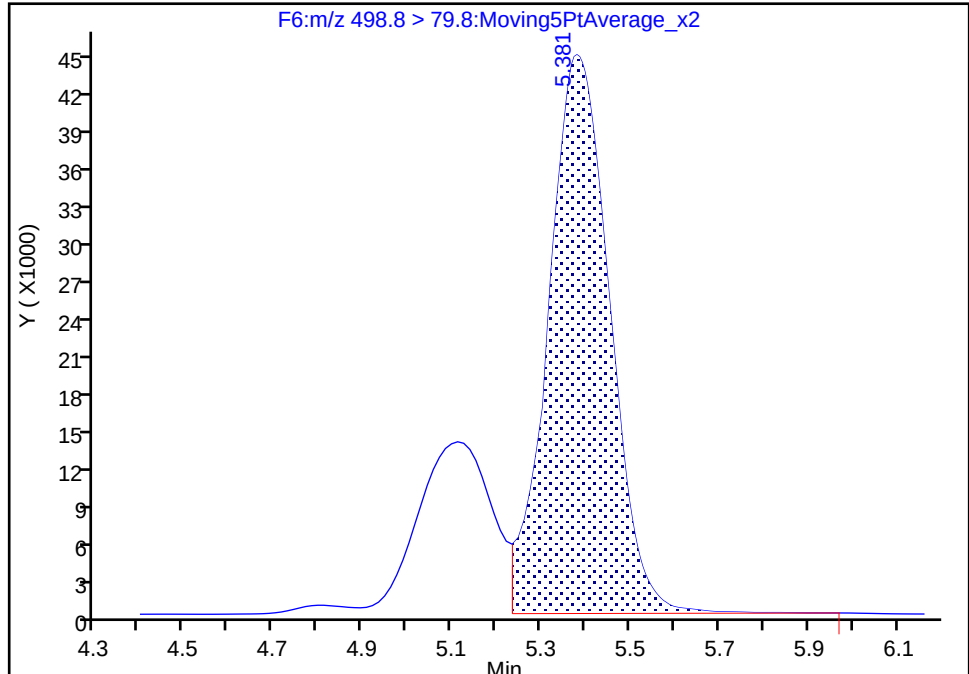
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d		
Injection Date:	27-Jun-2018 12:12:18	Instrument ID:	LC410
Lims ID:	IC		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F6:MRM
		Worklist Smp#:	11

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

Signal: 1

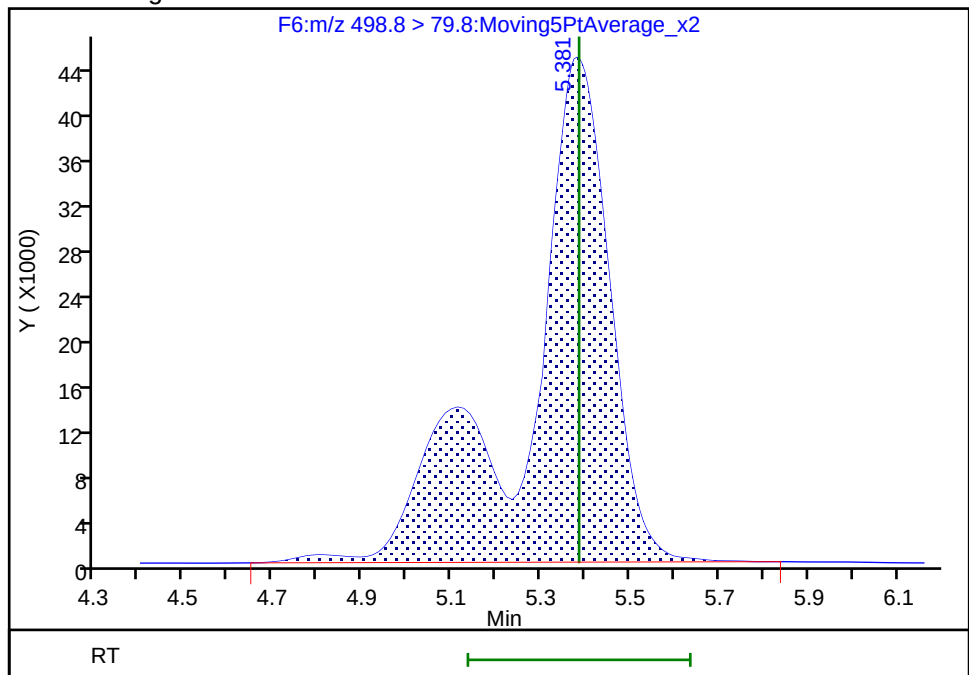
RT: 5.38
Area: 421340
Amount: 175.5859
Amount Units: ng/ml

Processing Integration Results



RT: 5.38
Area: 581457
Amount: 190.7004
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:28:15
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 243 of 434

10/19/2018

TestAmerica Burlington

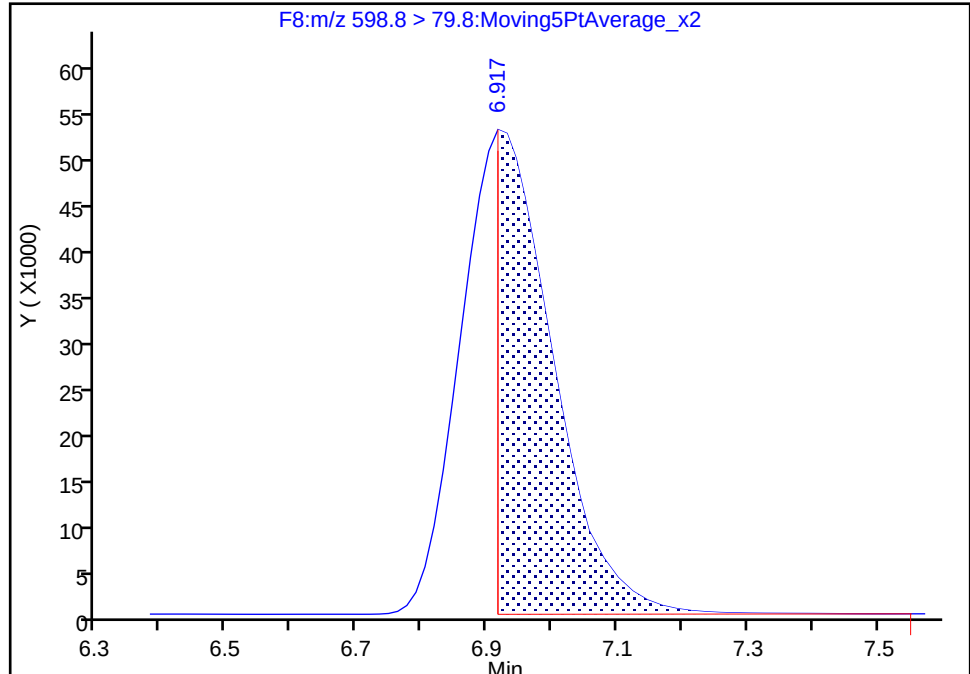
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
Injection Date: 27-Jun-2018 12:12:18 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

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

Signal: 1

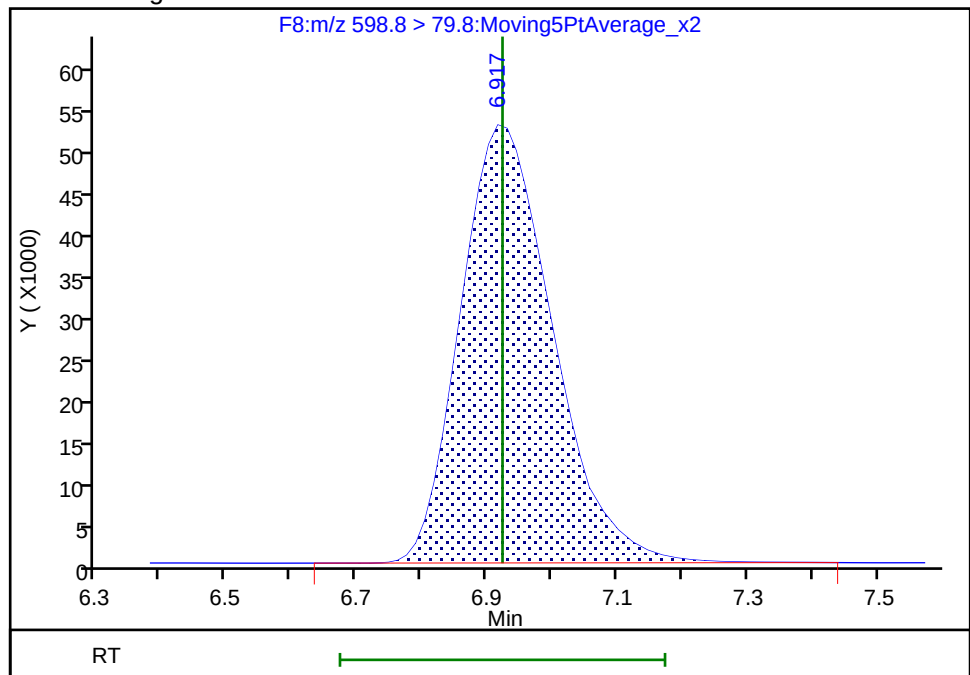
RT: 6.92
Area: 311921
Amount: 131.2755
Amount Units: ng/ml

Processing Integration Results



RT: 6.92
Area: 522485
Amount: 194.2904
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:28:25
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 244 of 434

10/19/2018

TestAmerica Burlington

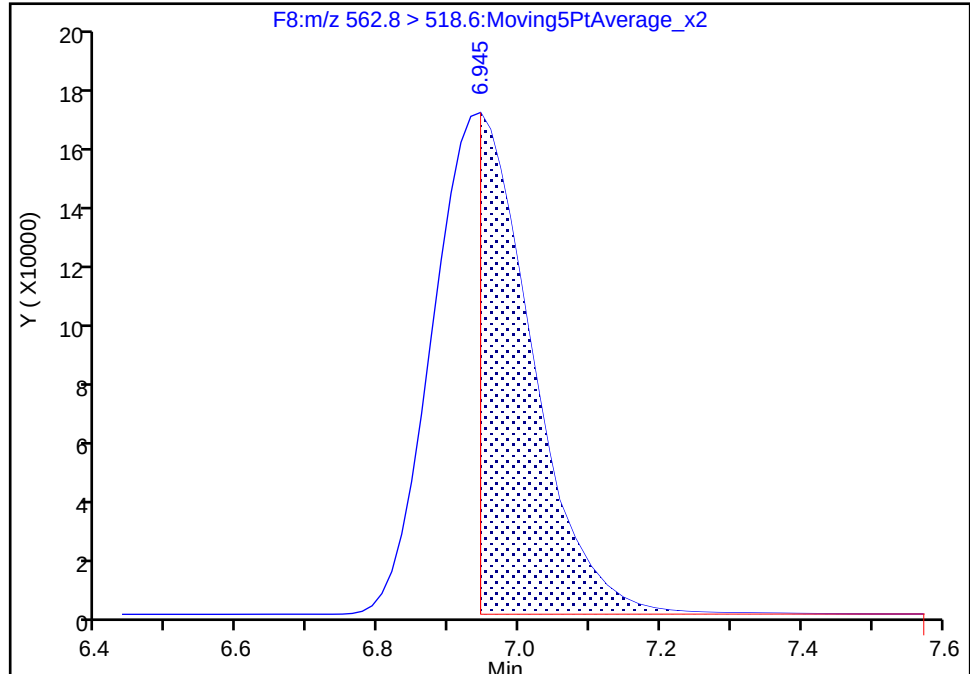
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
Injection Date: 27-Jun-2018 12:12:18 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

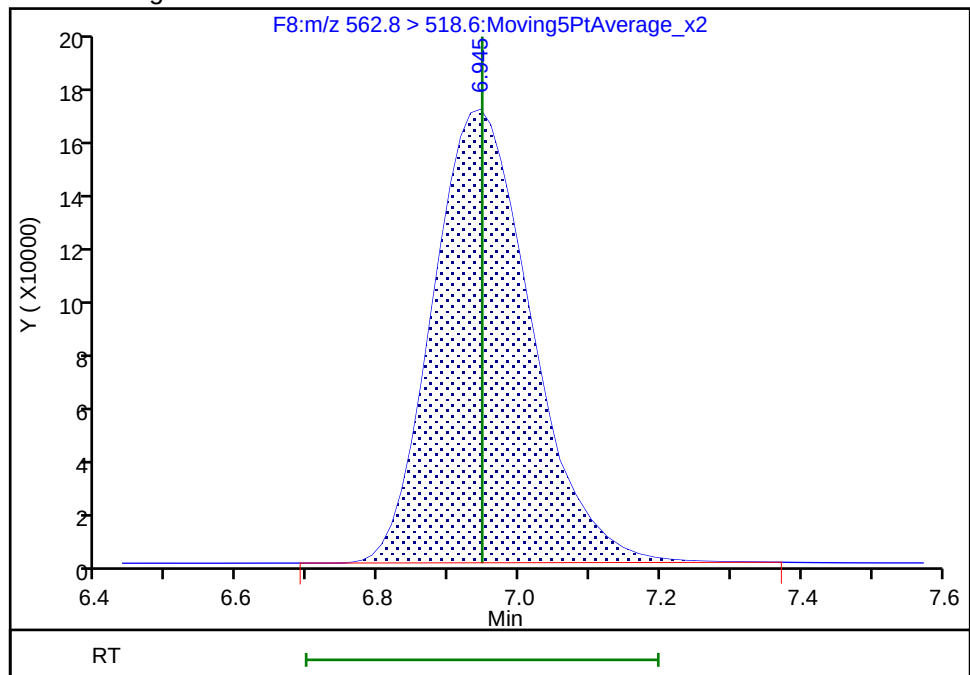
RT: 6.94
Area: 863272
Amount: 114.4400
Amount Units: ng/ml

Processing Integration Results



RT: 6.94
Area: 1638406
Amount: 200.7369
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:28:28
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 245 of 434

10/19/2018

TestAmerica Burlington

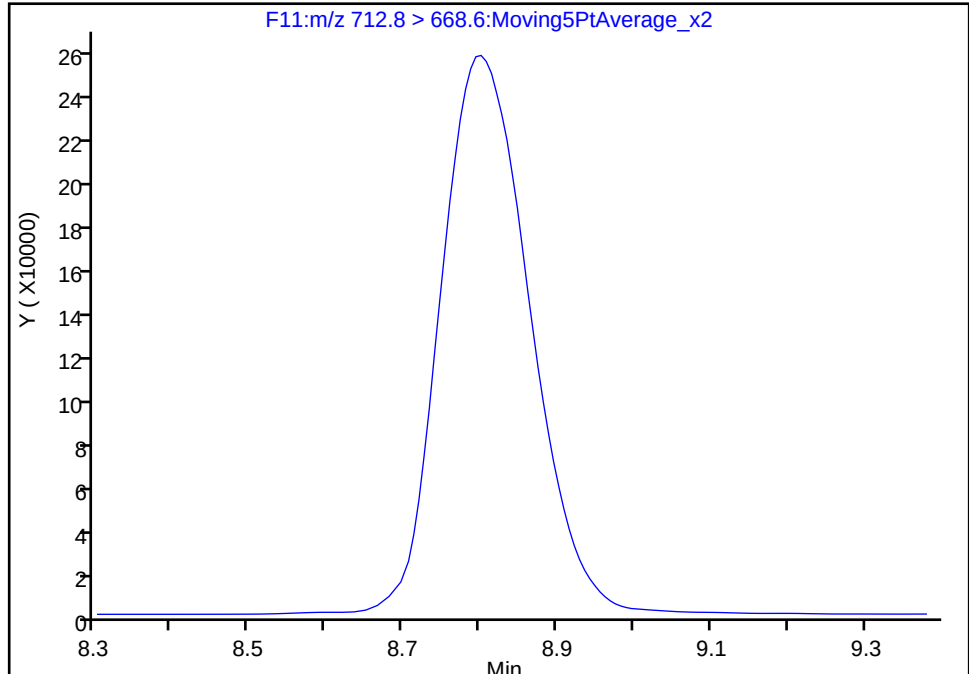
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
Injection Date: 27-Jun-2018 12:12:18 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

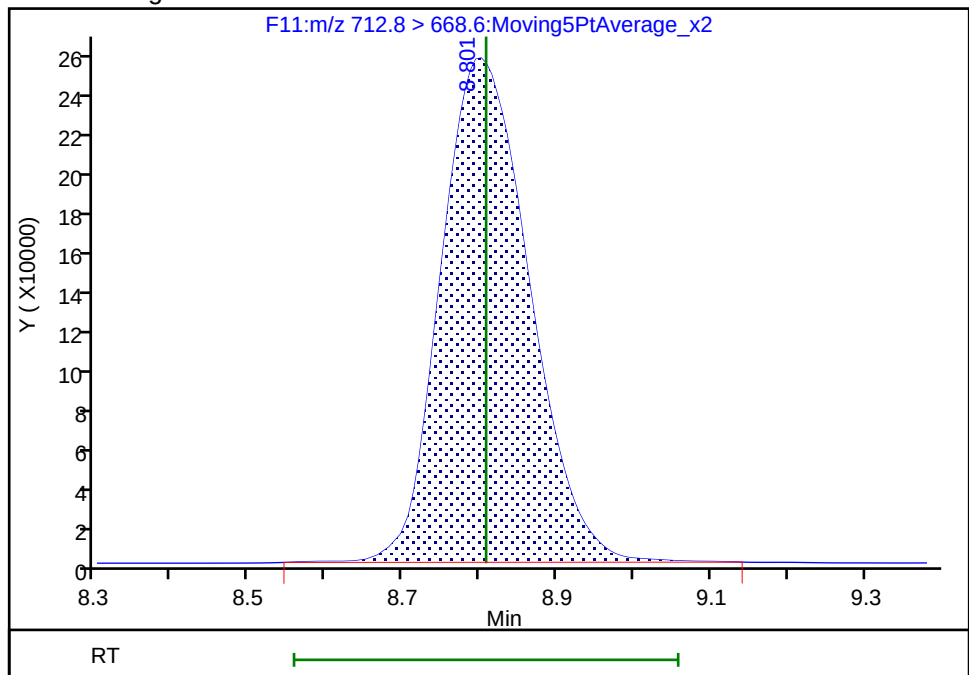
Not Detected
Expected RT: 8.81

Processing Integration Results



RT: 8.80
Area: 2051730
Amount: 212.3925
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 12:27:36
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 246 of 434

10/19/2018

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: ICV 200-131165/13 Calibration Date: 06/27/2018 12:44
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062718A13.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		1.002		20350	20000	1.8	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		5.983		27770	20000	38.8	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		1.625		18990	17700	7.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.141		21350	20000	6.7	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.134		20000	20000	0.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.379		18900	18200	3.8	40.0
6:2 FTS	L1ID		0.9265		15920	19000	-16.0	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.249		20260	20000	1.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L1ID		1.052		19850	19000	4.2	50.0
Perfluorononanoic acid (PFNA)	L2ID		1.109		21430	20000	7.1	40.0
Perfluorooctanesulfonic acid (PFOS)	L1ID		1.178		17470	18600	-5.8	40.0
8:2 FTS	L1ID		0.8047		21520	19200	12.3	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.050		20430	20000	2.2	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	L2ID		1.111		18310	20000	-8.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	L1ID		1.107		19350	20000	-3.2	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.135		19640	19300	1.9	50.0
Perfluoroundecanoic acid (PFUnA)	L1ID		1.019		21090	20000	5.5	40.0
Perfluorooctanesulfonamide (FOSA)	L1ID		1.074		20230	20000	1.2	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		0.9897		20170	20000	0.9	40.0
Perfluorotridecanoic acid (PFTrIA)	L2ID		1.050		21420	20000	7.1	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		1.024		21200	20000	6.0	40.0
13C4 PFBA	Ave	0.5332	0.5160		48390	50000	-3.2	50.0
13C5-PFPeA DNU	Ave	0.2061	0.1739		42190	50000	-15.6	50.0
13C3 PFBS	Ave	0.3765	0.3616		44650	46500	-4.0	50.0
13C2 PFHxA	Ave	0.4152	0.3988		48030	50000	-3.9	50.0
13C4 PFHpA	Ave	1.121	1.090		48610	50000	-2.8	50.0
18O2 PFHxS	Ave	0.4597	0.4247		43700	47300	-7.6	50.0
M2-6:2 FTS	Ave	0.0259	0.0226		41500	47500	-12.6	50.0
13C4 PFOA	Ave	0.9120	0.8354		45800	50000	-8.4	50.0
13C5 PFNA	Ave	0.9871	0.9297		47100	50000	-5.8	50.0
13C4 PFOS	Ave	0.3404	0.3178		44630	47800	-6.6	50.0
M2-8:2 FTS	Ave	0.2895	0.2612		43210	47900	-9.8	50.0
13C2 PFDA	Ave	1.376	1.274		46290	50000	-7.4	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: ICV 200-131165/13 Calibration Date: 06/27/2018 12:44
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062718A13.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.3249	0.3210		49400	50000	-1.2	50.0
d5-NEtFOSAA	Ave	0.3059	0.2776		45380	50000	-9.2	50.0
13C2 PFUnA	Ave	1.292	1.246		48210	50000	-3.6	50.0
13C8 FOSA	Ave	0.5262	0.4663		44310	50000	-11.4	50.0
13C2 PFDoA	Ave	1.306	1.229		47030	50000	-5.9	50.0
13C2 PFTeDA	Ave	1.313	1.209		46020	50000	-8.0	50.0

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d
 Lims ID: ICV
 Client ID:
 Sample Type: ICV
 Inject. Date: 27-Jun-2018 12:44:38 ALS Bottle#: 0 Worklist Smp#: 13
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031127-013 ICV
 Misc. Info.: PFAS21 062718A ICAL
 Operator ID: BC Instrument ID: LC410
 Sublist:
 Method: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 29-Jun-2018 22:40:04 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last Ical File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK036

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	2.371	2.370	0.001	1.000	250242	48.4		96.8	236	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.371	2.375	-0.004	1.000	100251	20.4			271	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	84310	42.2		84.4	572	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.801	2.807	-0.006	1.000	201771	27.8			167	M
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	163057	44.7		96.0	586	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.889	-0.006	1.000	100727	19.0			382	M
8 Perfluorohexanoic acid										
312.8 > 268.6	3.263	3.263	0.0	0.996	88290	21.3			1121	
D 7 13C2 PFHxA										
314.8 > 269.6	3.275	3.265	0.010	1.000	193406	48.0		96.1	479	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.848	3.843	0.005	1.000	528607	48.6		97.2	1949	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.848	3.848	0.0	1.000	239744	20.0			1873	
D 13 18O2 PFHxS										
402.9 > 83.8	3.893	3.889	0.004	1.000	194831	43.7		92.4	769	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.893	3.894	-0.001	1.000	103347	18.9			802	
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.519	4.513	0.006	1.000	3850	15.9			36.9	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.519	4.525	-0.006	1.000	10411	41.5		87.4	50.6	

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	4.560	4.567	-0.007	1.000	405124	45.8		91.6	2095	
16 Perfluorooctanoic acid										
412.9 > 368.8	4.574	4.567	0.007	1.003	202360	20.3			2018	
* 49 13C2-PFOA										
414.9 > 369.8	4.560	4.569	-0.009		484925	50.0			3227	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.601	4.596	0.005	0.855	61738	19.8			464	M
D 21 13C5 PFNA										
467.8 > 422.8	5.363	5.363	0.0	1.000	450845	47.1		94.2	2833	
19 Perfluorononanoic acid										
462.8 > 418.8	5.363	5.368	-0.005	1.000	199931	21.4			1730	
D 22 13C4 PFOS										
502.8 > 79.8	5.381	5.382	-0.001	1.000	147342	44.6		93.4	812	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.381	5.386	-0.005	1.000	67386	17.5			744	M
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.143	6.147	-0.004	1.000	39051	21.5			472	
D 23 M2-8:2FTS										
528.8 > 508.8	6.143	6.147	-0.004	1.000	121321	43.2		90.2	1104	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.167	6.186	-0.019	1.000	259410	20.4			3056	
D 25 13C2 PFDA										
514.9 > 469.5	6.167	6.186	-0.019	1.000	617832	46.3		92.6	2017	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.530	6.530	0.0	1.000	155654	49.4		98.8	617	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.530	6.539	-0.009	1.000	69167	18.3			265	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.903	6.903	0.0	1.000	134625	45.4		90.8	1104	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.917	6.924	-0.007	1.285	67447	19.6			921	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.917	6.926	-0.009	1.002	59623	19.4			801	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	6.942	0.003	1.000	604078	48.2		96.4	3965	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.945	6.947	-0.002	1.000	246137	21.1			1661	
D 35 13C8 FOSA										
505.8 > 77.8	7.147	7.154	-0.007	1.000	226122	44.3		88.6	1128	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.169	7.158	0.011	1.003	97142	20.2			722	
D 36 13C2 PFDoA										
614.8 > 569.6	7.634	7.636	-0.002	1.000	595837	47.0		94.1	2707	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.634	7.640	-0.006	1.000	235877	20.2			1315	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.249	8.259	-0.010	1.080	250155	21.4			1445	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d

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	8.803	8.805	-0.002	1.000	586195	46.0		92.0	2069	
44 Perfluorotetradecanoic acid										
712.8 > 668.6	8.803	8.808	-0.005	1.000	240099	21.2			3125	
712.8 > 168.8	8.796	8.808	-0.012	0.999	51126		4.70(0.00-0.00)		423	
712.8 > 218.8	8.796	8.808	-0.012	0.999	31174		7.70(0.00-0.00)		341	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS21ISICV_00002

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\\Burlington\\ChromData\\LC410\\20180626-31127.b\\PF062718A13.d

Injection Date: 27-Jun-2018 12:44:38

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

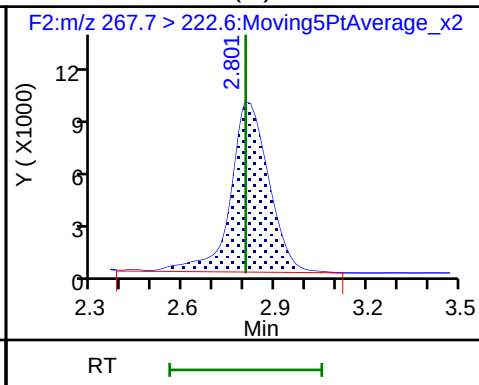
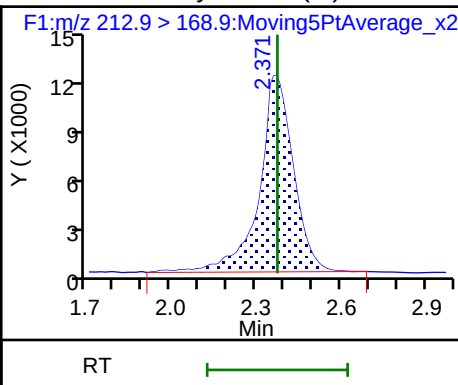
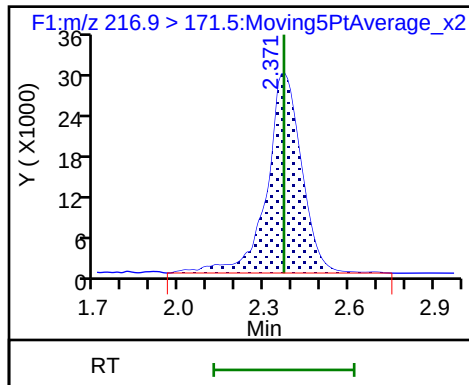
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

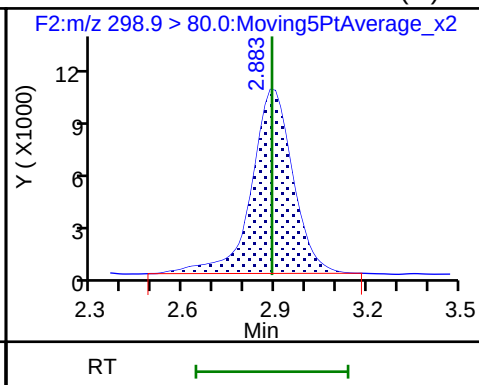
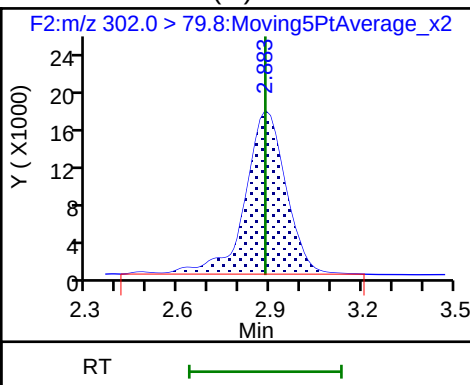
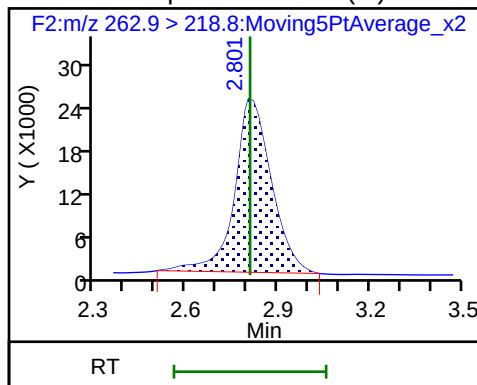
D 3 13C5-PFPeA (M)



4 Perfluoropentanoic acid (M)

D 5 13C3-PFBS (M)

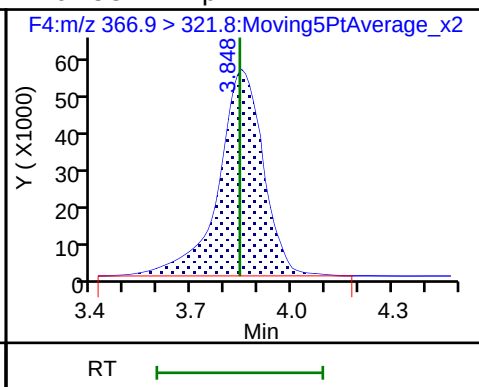
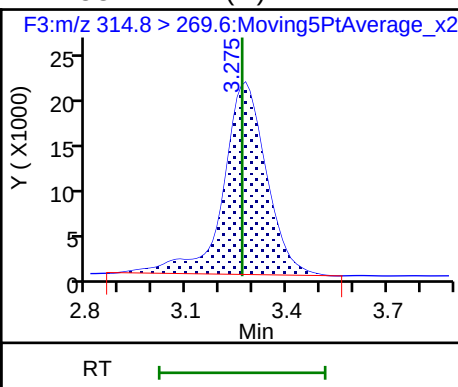
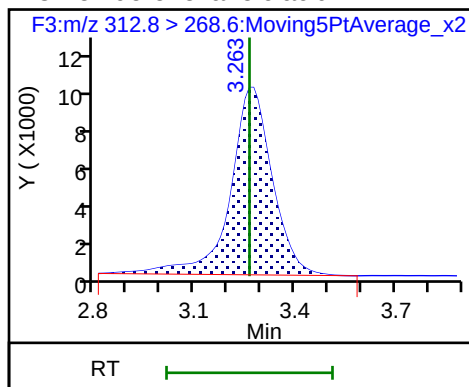
6 Perfluorobutanesulfonic acid (M)



8 Perfluorohexanoic acid

D 7 13C2 PFHxA (M)

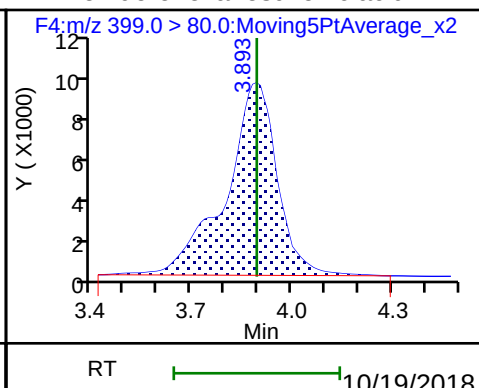
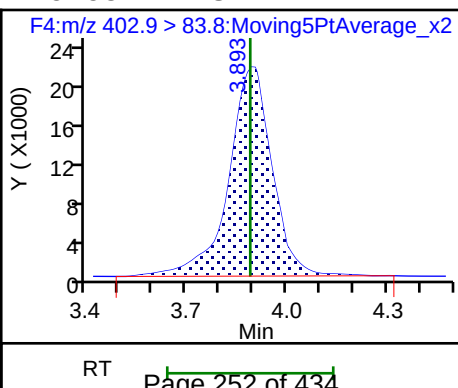
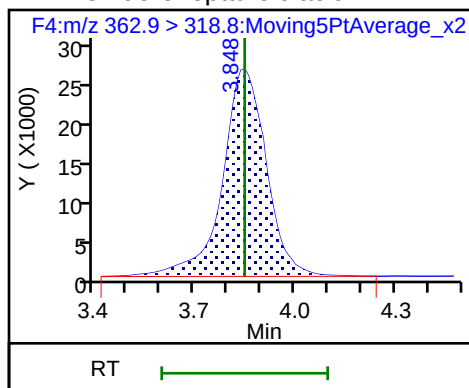
D 10 13C4-PFHpA



11 Perfluoroheptanoic acid

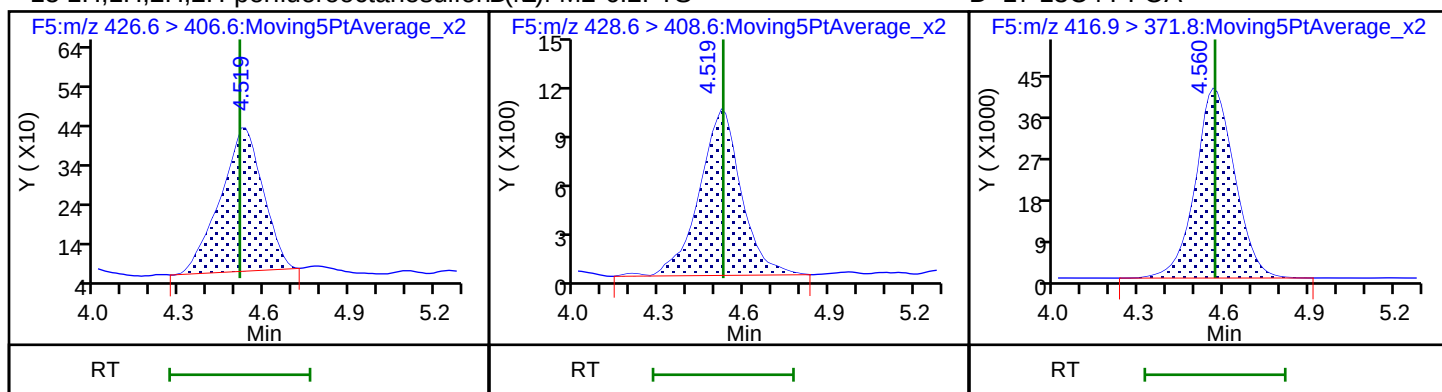
D 13 18O2 PFHxS

12 Perfluorohexanesulfonic acid



15 1H,1H,2H,2H-perfluorooctanesulfonate (M) M2-6:2FTS

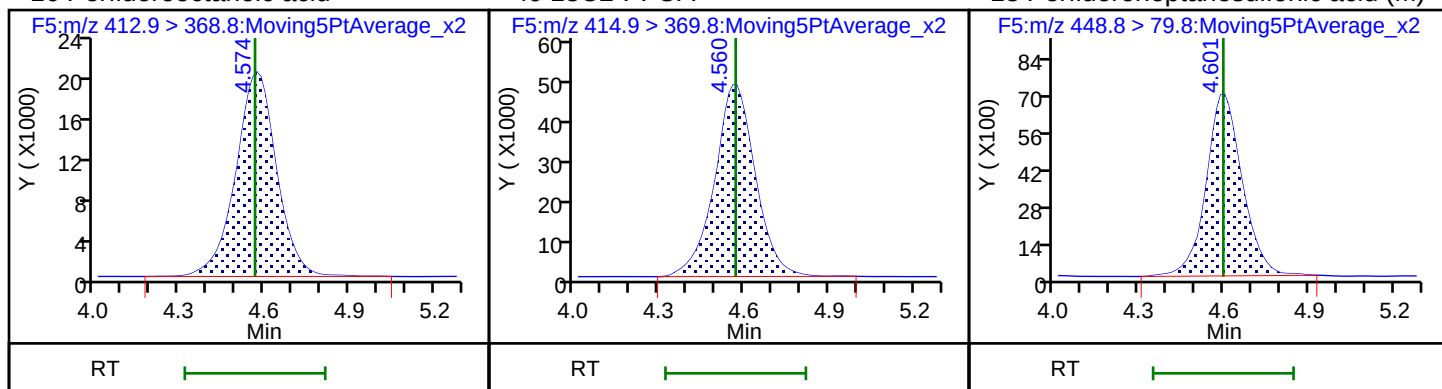
D 17 13C4 PFOA



16 Perfluorooctanoic acid

* 49 13C2-PFOA

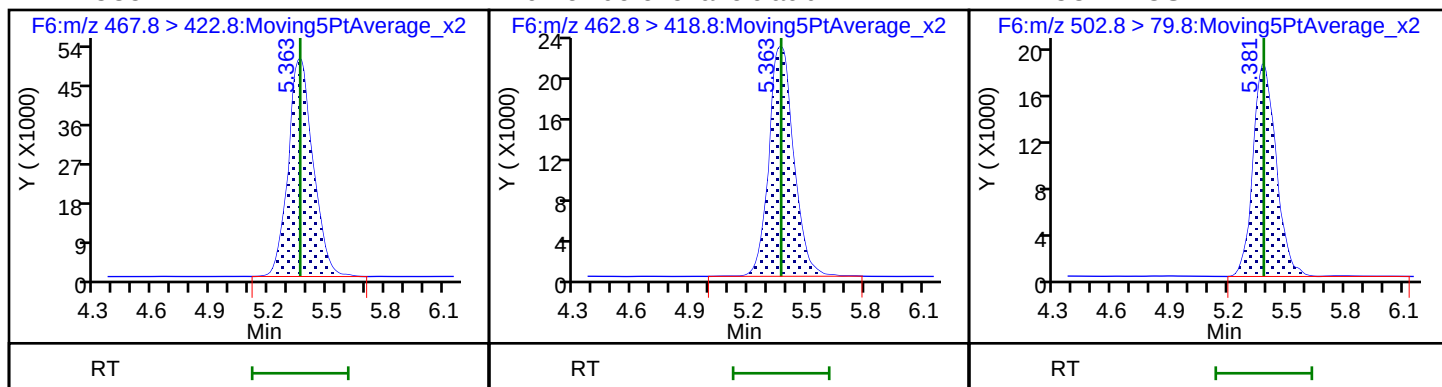
18 Perfluoroheptanesulfonic acid (M)



D 21 13C5 PFNA

19 Perfluorononanoic acid

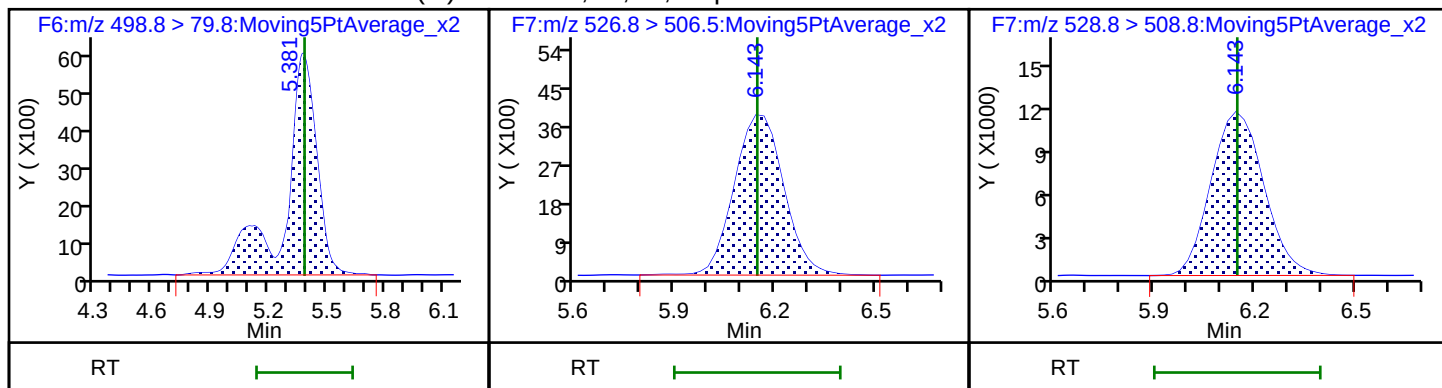
D 22 13C4 PFOS

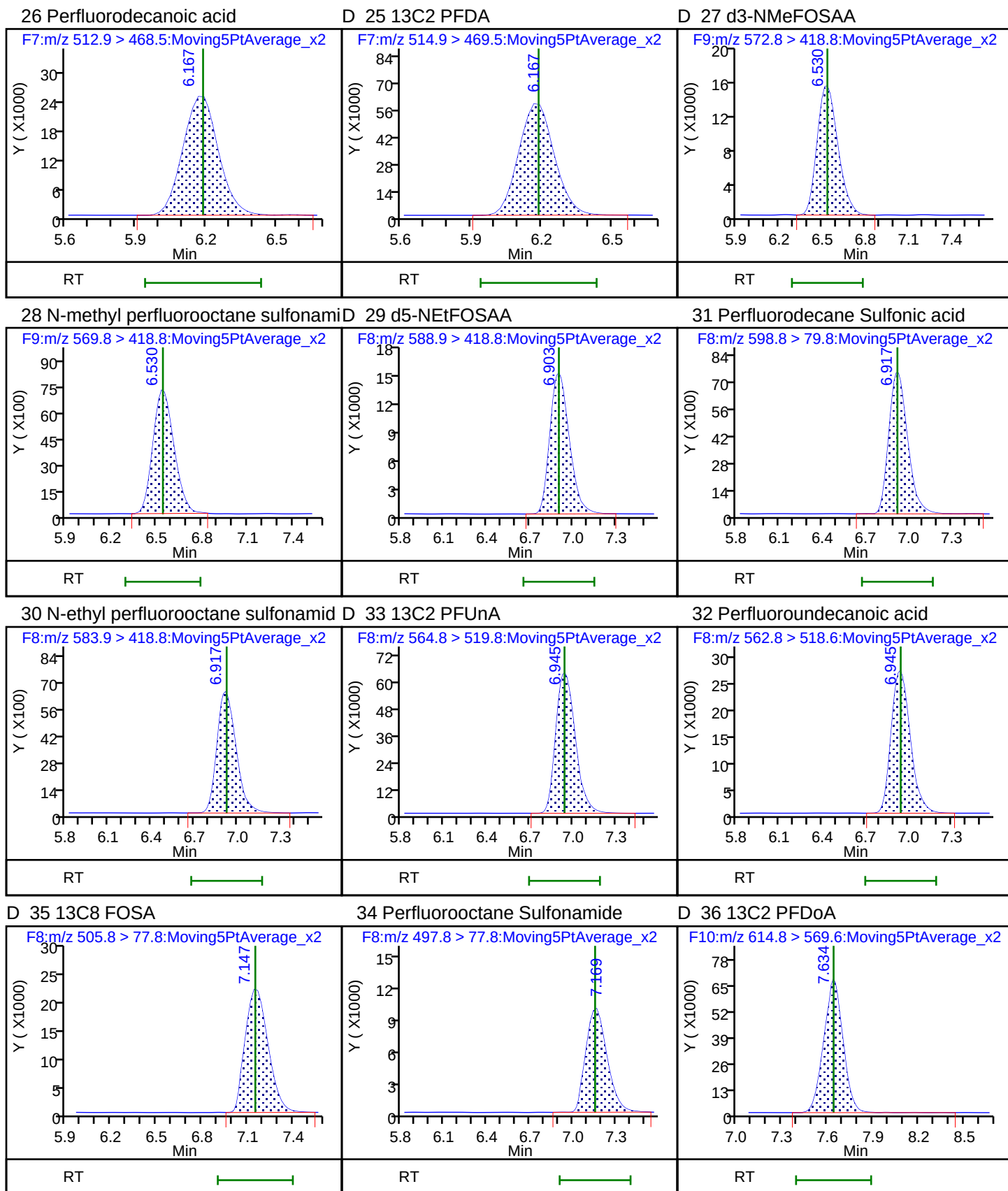


20 Perfluorooctane sulfonic acid (M)

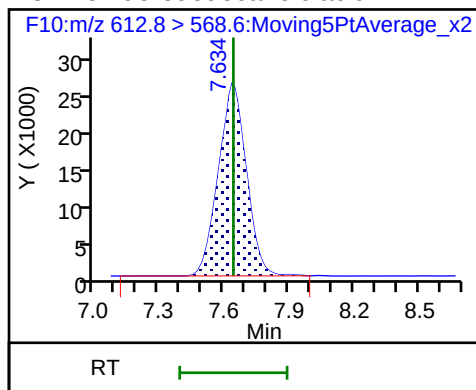
24 1H,1H,2H,2H-perfluorodecanesulfonate (M) M2-8:2FTS

D 23 M2-8:2FTS

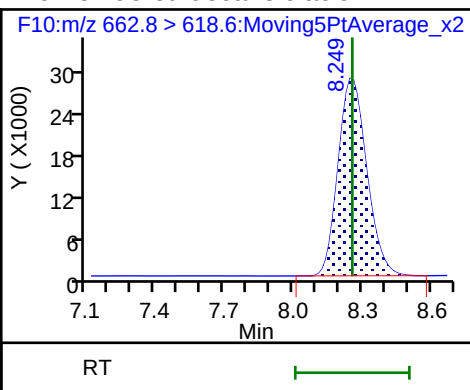




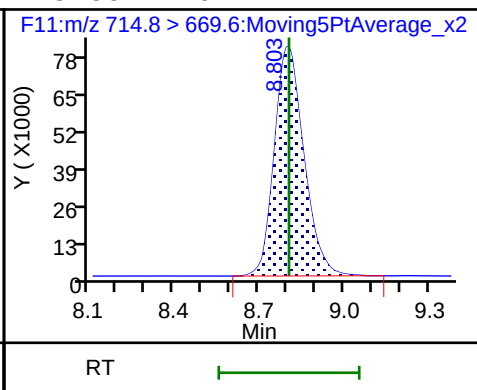
37 Perfluorododecanoic acid



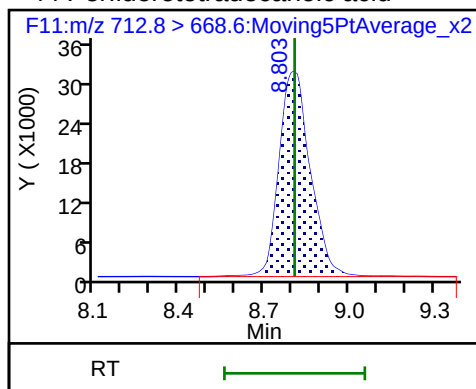
40 Perfluorotridecanoic acid



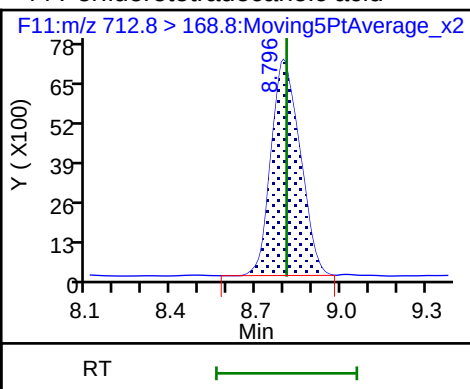
D 43 13C2-PFTeDA



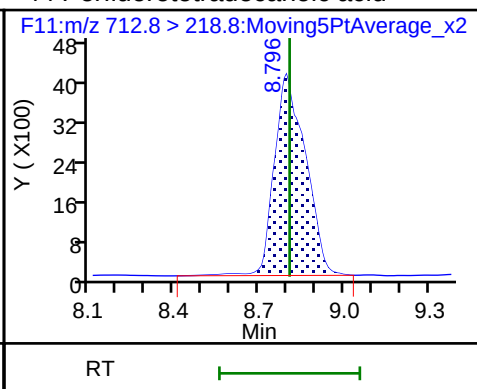
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid



TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d

Injection Date: 27-Jun-2018 12:44:38

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

Column:

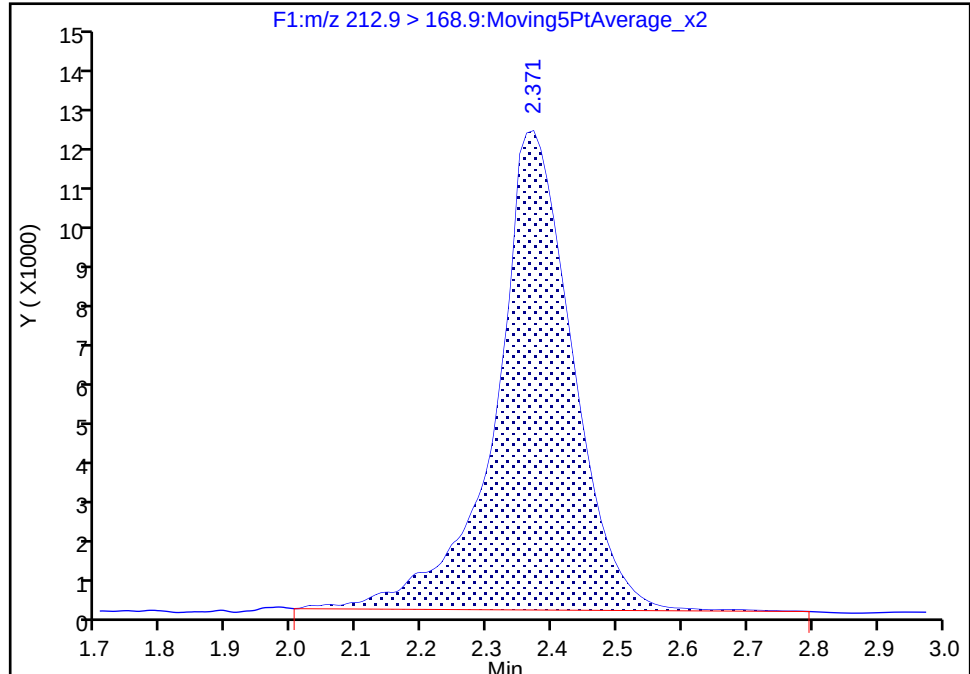
Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

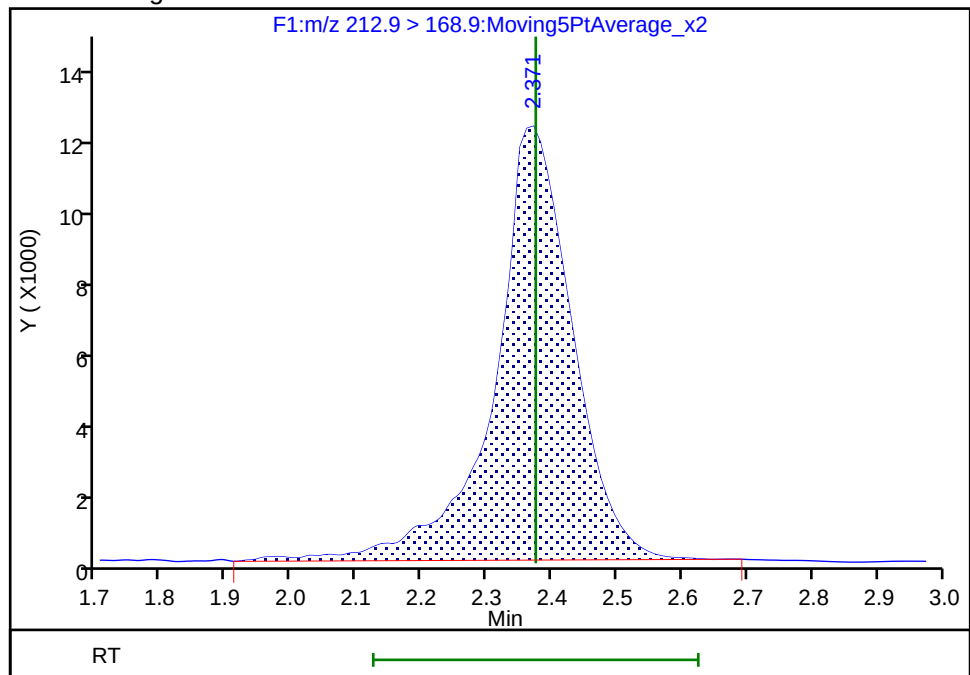
RT: 2.37
Area: 98825
Amount: 20.060872
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 100251
Amount: 20.354773
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:05:23

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

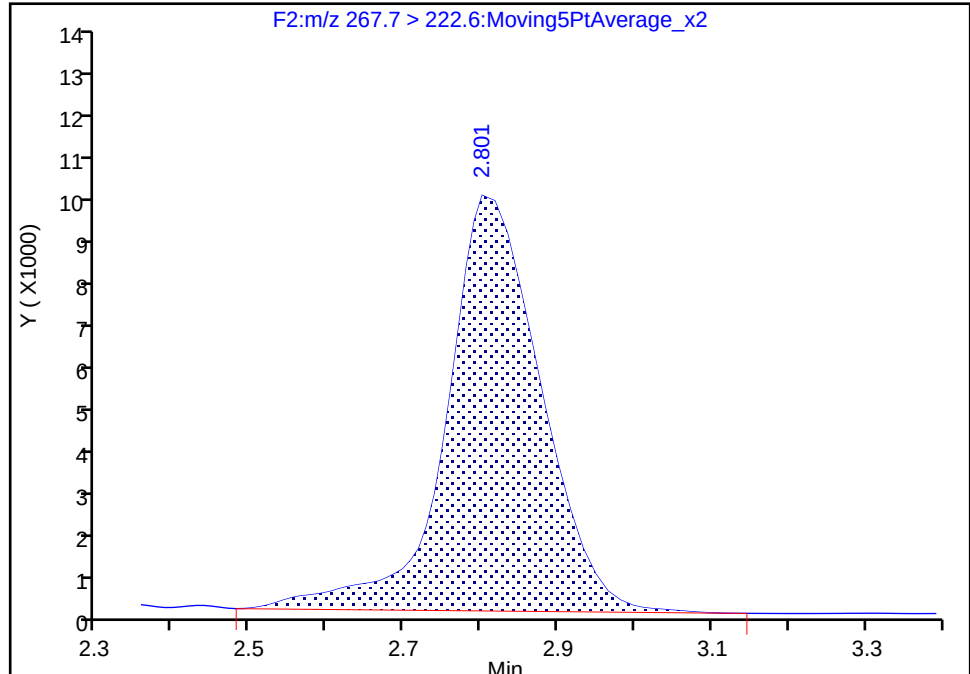
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d
Injection Date: 27-Jun-2018 12:44:38 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 3 13C5-PFPeA, CAS: STL01893

Signal: 1

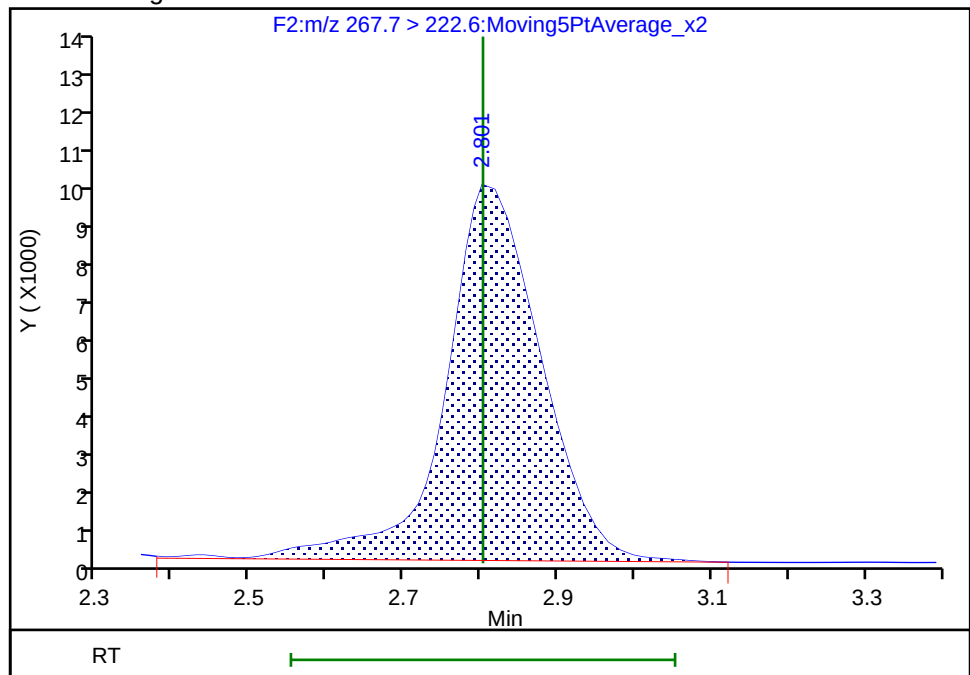
RT: 2.80
Area: 83718
Amount: 41.891248
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 84310
Amount: 42.187476
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:07:36
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 257 of 434

10/19/2018

TestAmerica Burlington

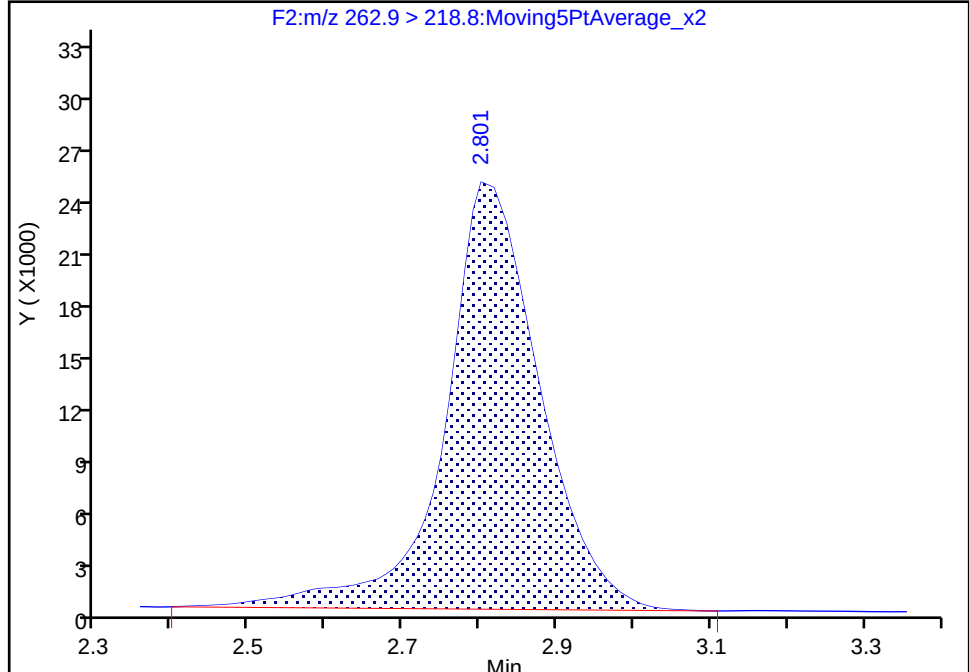
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d		
Injection Date:	27-Jun-2018 12:44:38	Instrument ID:	LC410
Lims ID:	ICV		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM
		Worklist Smp#:	13

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

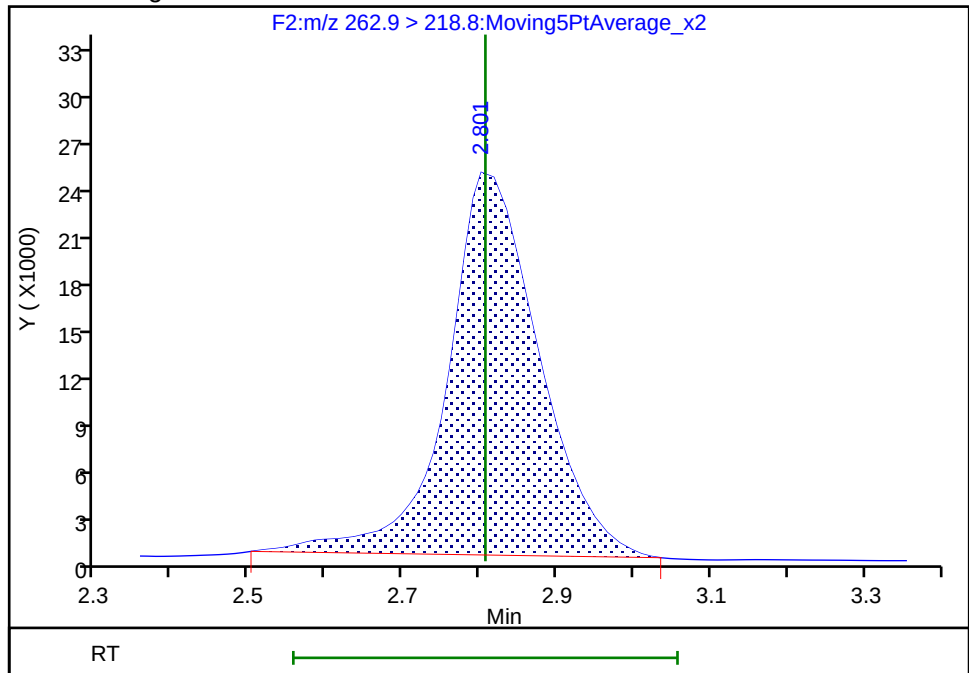
RT: 2.80
Area: 210004
Amount: 28.926991
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 201771
Amount: 27.769127
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:08:20
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 258 of 434

10/19/2018

TestAmerica Burlington

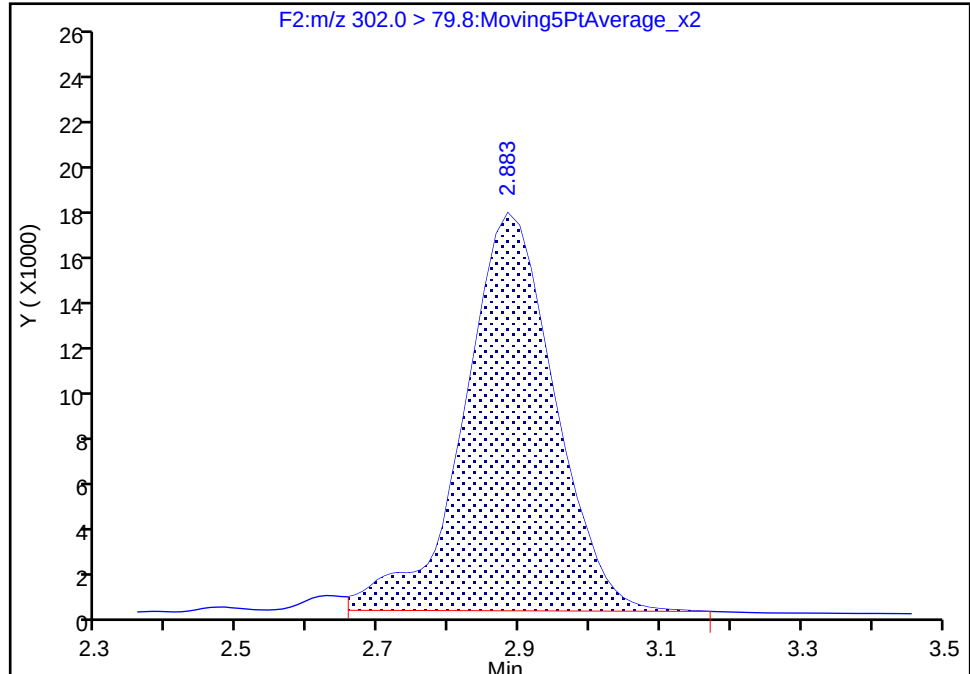
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d
Injection Date: 27-Jun-2018 12:44:38 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

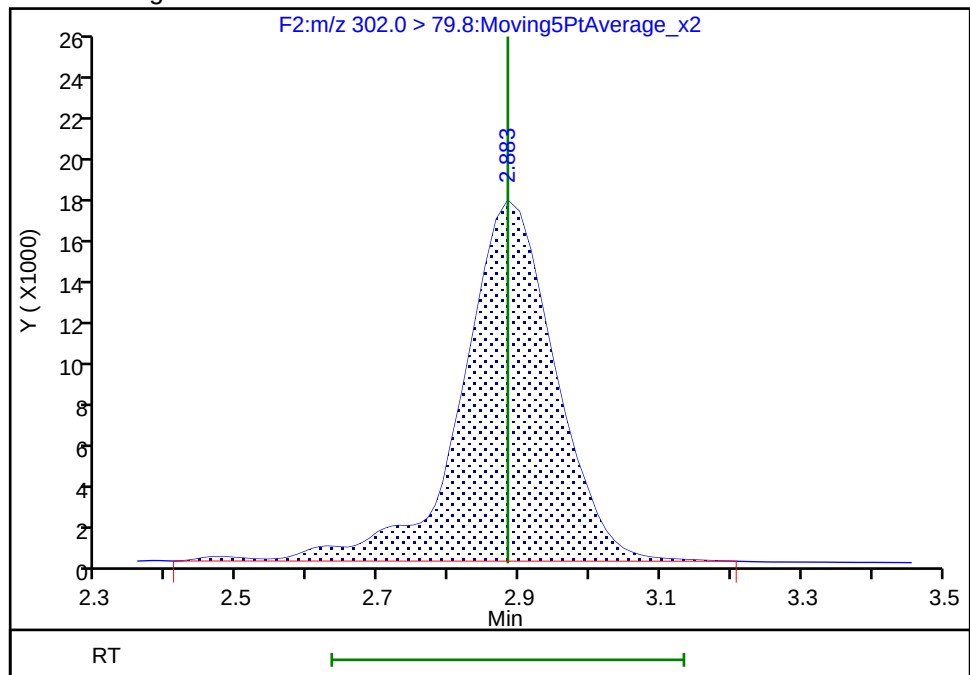
RT: 2.88
Area: 157312
Amount: 43.079590
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 163057
Amount: 44.652847
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:05:57

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

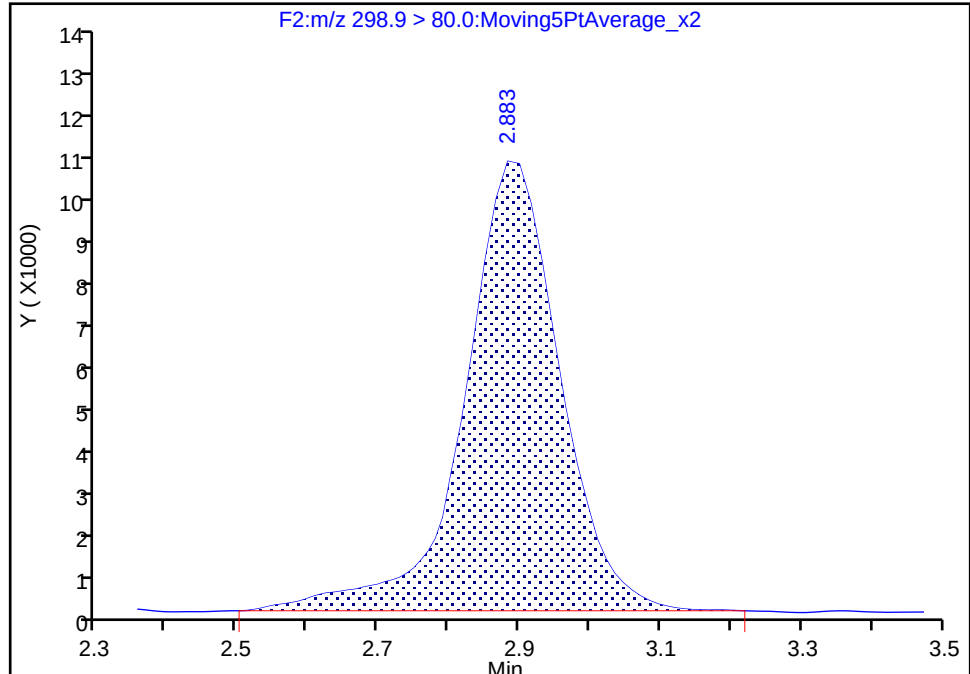
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d
Injection Date: 27-Jun-2018 12:44:38 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

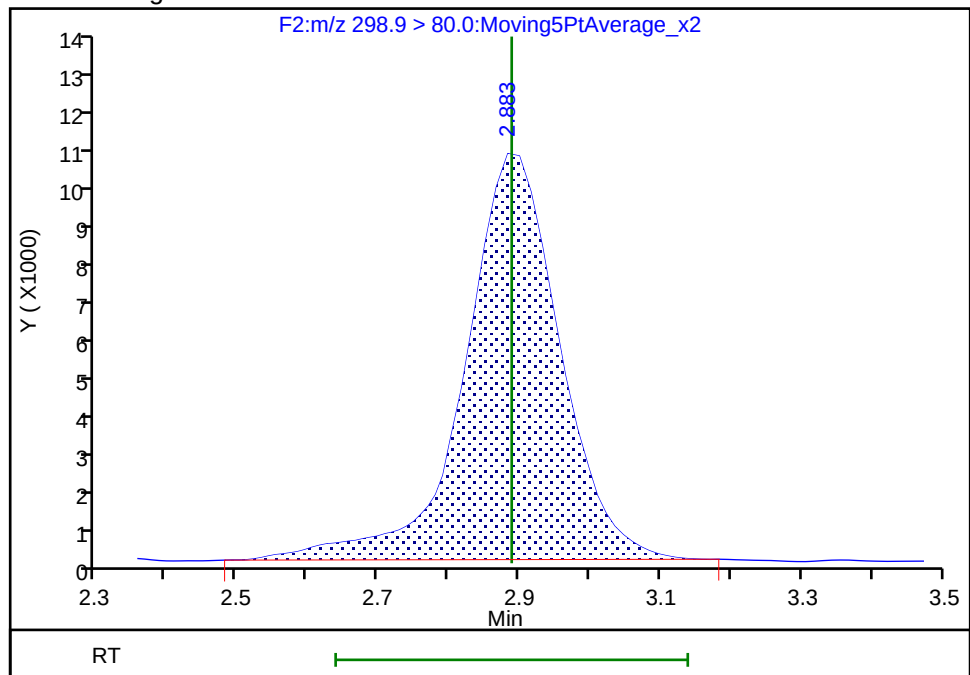
RT: 2.88
Area: 101088
Amount: 19.061583
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 100727
Amount: 18.993865
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:06:00
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 260 of 434

10/19/2018

TestAmerica Burlington

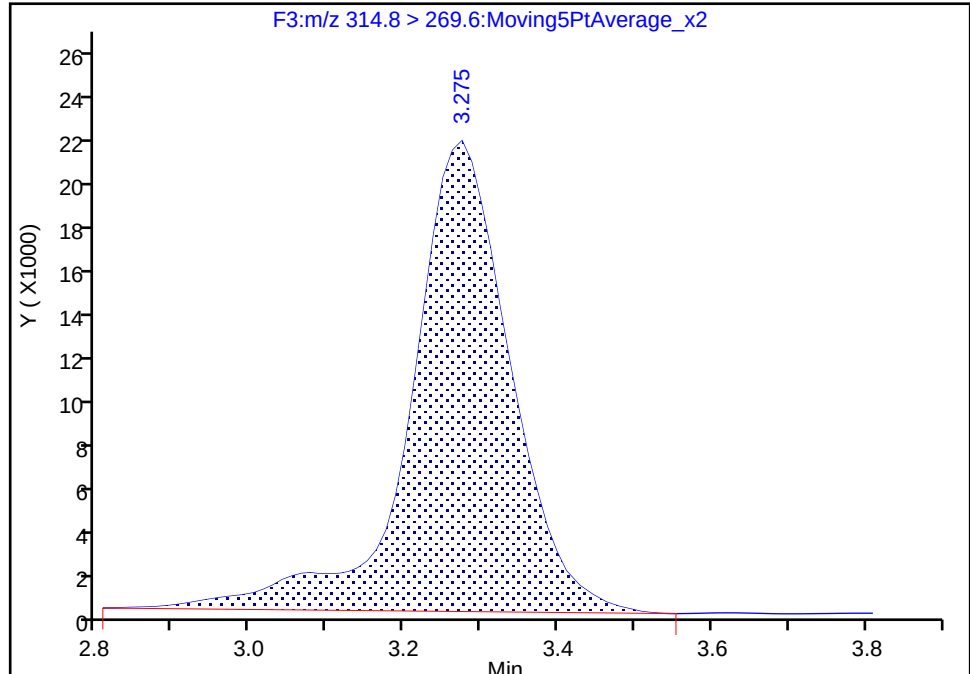
Data File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d
Injection Date: 27-Jun-2018 12:44:38 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: BC ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F3:MRM

D 7 13C2 PFHxA, CAS: STL00993

Signal: 1

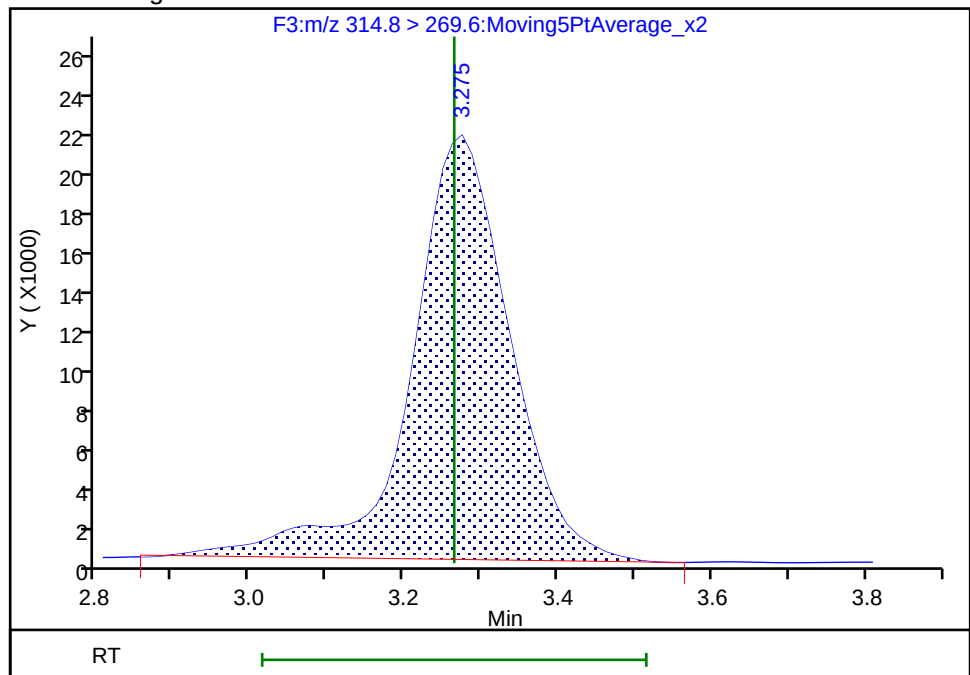
RT: 3.28
Area: 196425
Amount: 48.782222
Amount Units: ng/ml

Processing Integration Results



RT: 3.28
Area: 193406
Amount: 48.032453
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:06:05
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 261 of 434

10/19/2018

TestAmerica Burlington

Data File: \\ChromNA\\Burlington\\ChromData\\LC410\\20180626-31127.b\\PF062718A13.d

Injection Date: 27-Jun-2018 12:44:38

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

Column:

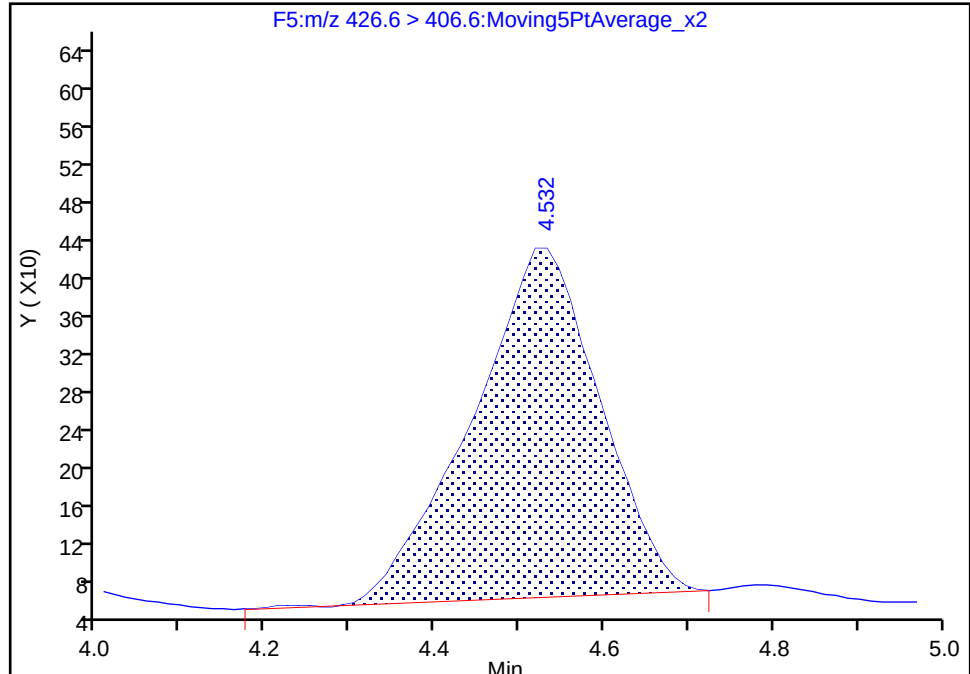
Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

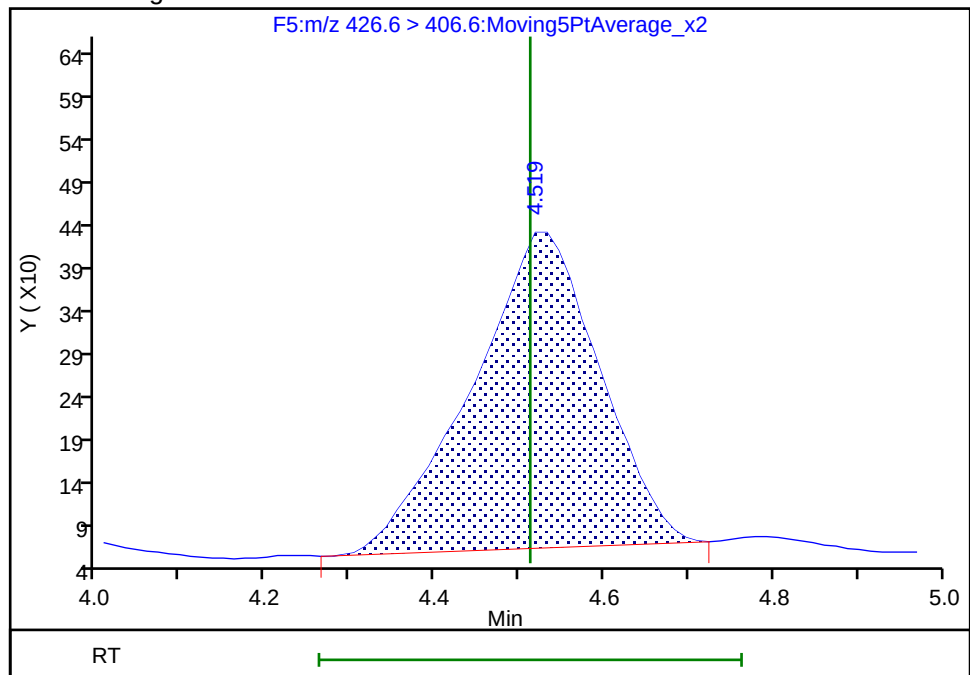
RT: 4.53
Area: 3853
Amount: 15.930984
Amount Units: ng/ml

Processing Integration Results



RT: 4.52
Area: 3850
Amount: 15.918815
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:06:16

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

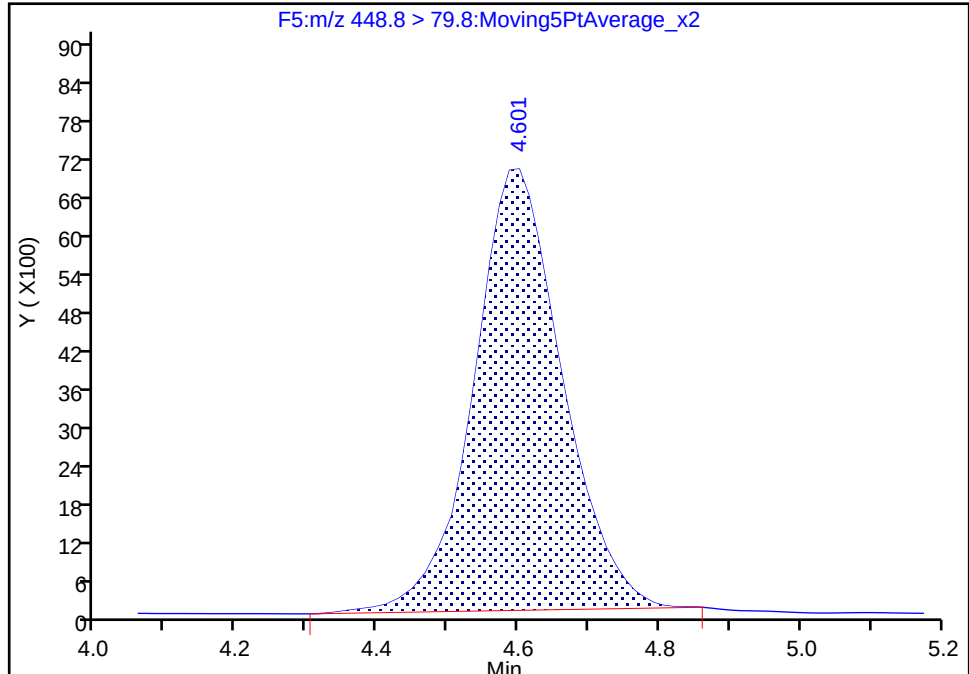
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d		
Injection Date:	27-Jun-2018 12:44:38	Instrument ID:	LC410
Lims ID:	ICV		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM
		Worklist Smp#:	13

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

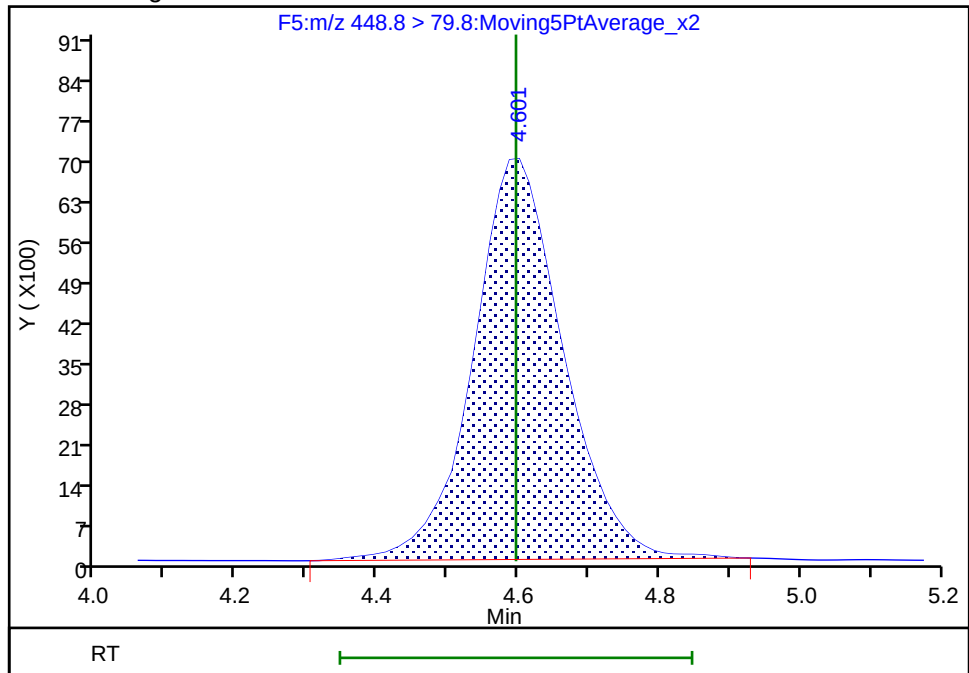
RT: 4.60
Area: 60636
Amount: 19.494729
Amount Units: ng/ml

Processing Integration Results



RT: 4.60
Area: 61738
Amount: 19.846183
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:06:25
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 263 of 434

10/19/2018

TestAmerica Burlington

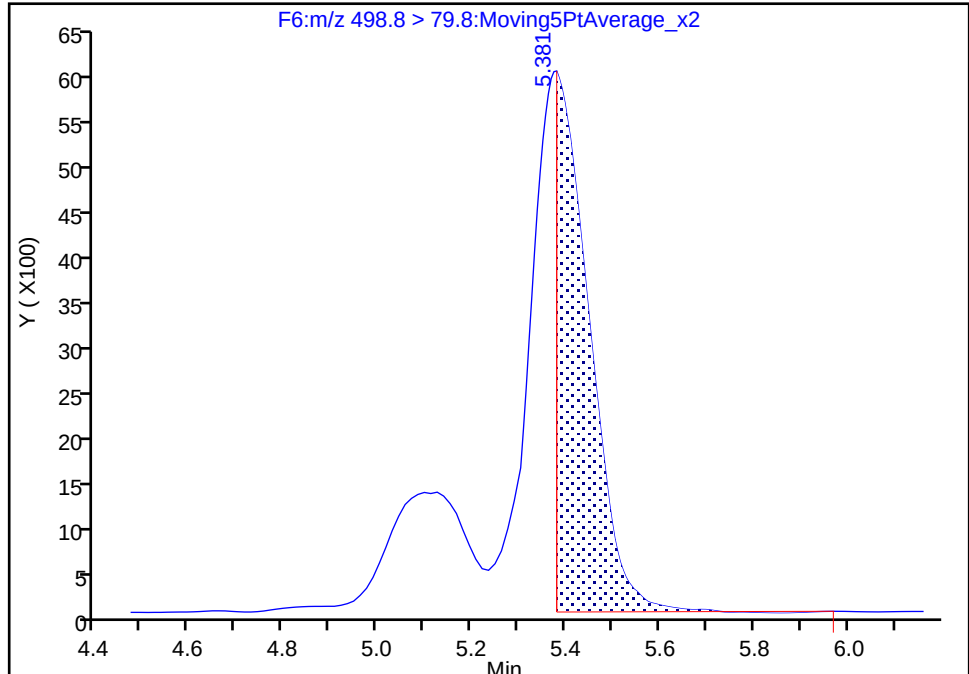
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A13.d		
Injection Date:	27-Jun-2018 12:44:38	Instrument ID:	LC410
Lims ID:	ICV		
Client ID:			
Operator ID:	BC	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F6:MRM
		Worklist Smp#:	13

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

Signal: 1

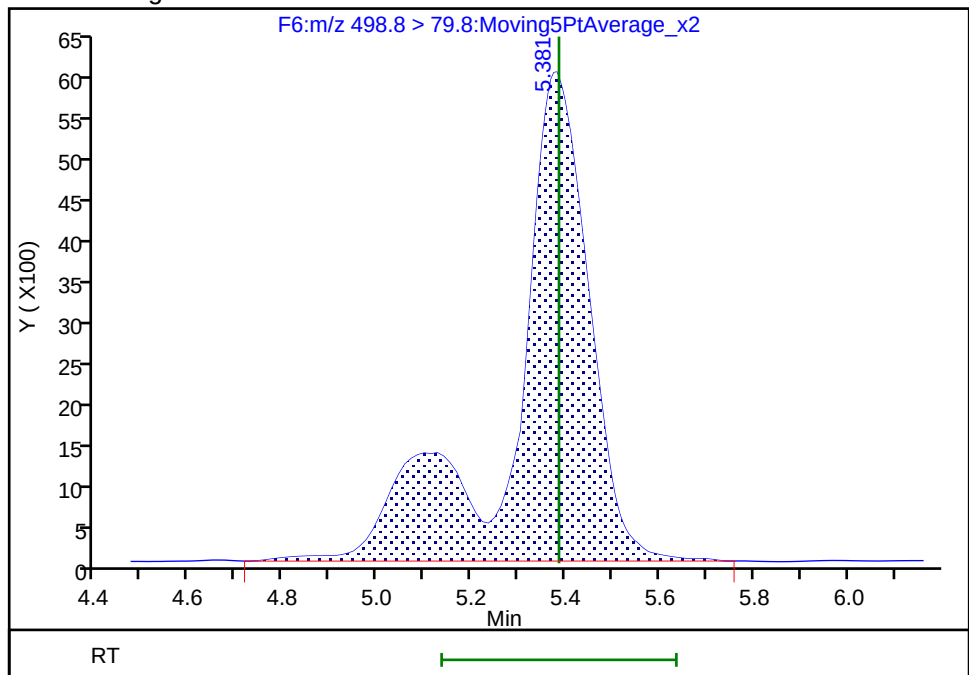
RT: 5.38
Area: 28193
Amount: 7.501656
Amount Units: ng/ml

Processing Integration Results



RT: 5.38
Area: 67386
Amount: 17.474519
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 27-Jun-2018 13:06:31

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: CCVIS 200-131275/2 Calibration Date: 06/28/2018 16:48
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062818A02.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		1.069		21740	20000	8.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		4.571		21210	20000	6.0	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		1.699		19860	17700	12.3	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.158		21660	20000	8.3	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.134		20010	20000	0.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.397		19150	18200	5.2	40.0
6:2 FTS	L1ID		1.099		18830	19000	-0.7	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.125		18260	20000	-8.7	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L1ID		1.071		20200	19000	6.1	50.0
Perfluorononanoic acid (PFNA)	L2ID		1.001		19360	20000	-3.2	40.0
Perfluorooctanesulfonic acid (PFOS)	L1ID		1.187		17610	18600	-5.1	40.0
8:2 FTS	L1ID		0.9564		25510	19200	33.1	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.031		20070	20000	0.4	40.0
N-methylperfluorooctanesulfo namidoacetic acid (NMeFOSAA)	L2ID		1.144		18870	20000	-5.7	40.0
N-ethylperfluorooctanesulfon amidoacetic acid (NEtFOSAA)	L1ID		1.233		21510	20000	7.6	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.141		19740	19300	2.4	50.0
Perfluoroundecanoic acid (PFUnA)	L1ID		0.9512		19700	20000	-1.5	40.0
Perfluorooctanesulfonamide (FOSA)	L1ID		1.048		19760	20000	-1.2	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		0.9608		19580	20000	-2.1	40.0
Perfluorotridecanoic acid (PFTrIA)	L2ID		1.012		20640	20000	3.2	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.9387		19440	20000	-2.8	40.0
13C4 PFBA	Ave	0.5332	0.4810		45110	50000	-9.8	50.0
13C5-PFPeA DNU	Ave	0.2061	0.1913		46410	50000	-7.2	50.0
13C3 PFBS	Ave	0.3765	0.3301		40760	46500	-12.3	50.0
13C2 PFHxA	Ave	0.4152	0.3939		47430	50000	-5.1	50.0
13C4 PFHpA	Ave	1.121	1.098		48980	50000	-2.0	50.0
18O2 PFHxS	Ave	0.4597	0.4204		43260	47300	-8.5	50.0
M2-6:2 FTS	Ave	0.0259	0.0294		54000	47500	13.7	50.0
13C4 PFOA	Ave	0.9120	0.9723		53300	50000	6.6	50.0
13C5 PFNA	Ave	0.9871	0.9914		50220	50000	0.4	50.0
13C4 PFOS	Ave	0.3404	0.2969		41690	47800	-12.8	50.0
M2-8:2 FTS	Ave	0.2895	0.2728		45140	47900	-5.8	50.0
13C2 PFDA	Ave	1.376	1.368		49710	50000	-0.6	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: CCVIS 200-131275/2 Calibration Date: 06/28/2018 16:48
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062818A02.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.3249	0.3254		50090	50000	0.2	50.0
d5-NEtFOSAA	Ave	0.3059	0.2735		44710	50000	-10.6	50.0
13C2 PFUnA	Ave	1.292	1.321		51140	50000	2.3	50.0
13C8 FOSA	Ave	0.5262	0.4955		47080	50000	-5.8	50.0
13C2 PFDoA	Ave	1.306	1.253		47980	50000	-4.0	50.0
13C2 PFTeDA	Ave	1.313	1.246		47430	50000	-5.1	50.0

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 28-Jun-2018 16:48:57 ALS Bottle#: 0 Worklist Smp#: 2
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-002 CCVIS
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:04:54 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK006

First Level Reviewer: chirgwinb

Date: 28-Jun-2018 18:12:28

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	2.361	2.370	-0.009	1.000	227028	45.1		90.2	1078	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.371	2.371	0.0	1.004	97035	21.7		109	268	M
4 Perfluoropentanoic acid										
262.9 > 218.8	2.801	2.801	0.0	1.004	165085	21.2		106	254	
D 3 13C5-PFPeA										M
267.7 > 222.6	2.791	2.802	-0.011	1.000	90280	46.4		92.8	411	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.883	0.0	1.000	93579	19.9		112	186	M
D 5 13C3-PFBS										M
302.0 > 79.8	2.883	2.883	0.0	1.000	144880	40.8		87.7	239	M
8 Perfluorohexanoic acid										
312.8 > 268.6	3.250	3.250	0.0	1.004	86099	21.7		108	2341	
D 7 13C2 PFHxA										M
314.8 > 269.6	3.238	3.265	-0.027	1.000	185896	47.4		94.9	703	M
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.804	3.804	0.0	1.003	235177	20.0		100	797	M
D 10 13C4-PFHpA										M
366.9 > 321.8	3.793	3.843	-0.050	1.000	518419	49.0		98.0	567	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.848	3.848	0.0	1.003	100913	19.1		105	242	M
D 13 18O2 PFHxS										M
402.9 > 83.8	3.837	3.889	-0.052	1.000	187729	43.3		91.5	580	M
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.449	4.449	0.0	0.996	5785	18.8		99.3	71.0	
* 49 13C2-PFOA										
414.9 > 369.8	4.505	4.505	0.0							

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.505	4.505	0.0	1.000	206420	18.3		91.3	1271	
D 14 M2-6:2FTS										
428.6 > 408.6	4.468	4.525	-0.057	1.000	13186	54.0		114	89.9	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.532	4.532	0.0	0.853	57139	20.2		106	297	
D 17 13C4 PFOA										
416.9 > 371.8	4.505	4.567	-0.062	1.000	458904	53.3		107	1673	
19 Perfluorononanoic acid										
462.8 > 418.8	5.304	5.304	0.0	1.005	187444	19.4		96.8	1456	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.304	5.304	0.0	0.998	61762	17.6		94.9	867	M
D 21 13C5 PFNA										
467.8 > 422.8	5.277	5.363	-0.086	1.000	467923	50.2		100	1213	
D 22 13C4 PFOS										
502.8 > 79.8	5.316	5.382	-0.066	1.000	133987	41.7		87.2	797	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.046	6.046	0.0	1.000	47191	25.5		133	270	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.070	6.070	0.0	1.000	266374	20.1		100	1445	
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	123357	45.1		94.2	427	
D 25 13C2 PFDA										
514.9 > 469.5	6.070	6.186	-0.116	1.000	645780	49.7		99.4	3604	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.421	6.421	0.0	1.000	70318	18.9		94.3	298	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.421	6.530	-0.109	1.000	153608	50.1		100	1134	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.804	6.804	0.0	1.280	61664	19.7		102	786	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.804	6.804	0.0	1.002	63650	21.5		108	666	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.832	6.832	0.0	1.002	237324	19.7		98.5	1368	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.790	6.903	-0.113	1.000	129097	44.7		89.4	983	
D 33 13C2 PFUnA										
564.8 > 519.8	6.818	6.942	-0.124	1.000	623720	51.1		102	2346	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.057	7.057	0.0	1.000	98072	19.8		98.8	1496	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	233875	47.1		94.2	1657	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.497	7.497	0.0	1.000	227385	19.6		97.9	1241	
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	591630	48.0		96.0	5232	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.112	8.112	0.0	1.082	239305	20.6		103	1440	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d

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	8.666	8.666	0.0	1.000	220804	19.4		97.2	1967	
712.8 > 168.8	8.666	8.666	0.0	1.000	53473		4.13(0.00-0.00)		790	
712.8 > 218.8	8.666	8.666	0.0	1.000	27298		8.09(0.00-0.00)		89.5	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.666	8.805	-0.139	1.000	588033	47.4		94.9	1229	

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\\20180628-31168.b\\PF062818A02.d

Injection Date: 28-Jun-2018 16:48:57

Instrument ID: LC410

Lims ID: CCVIS

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 2

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

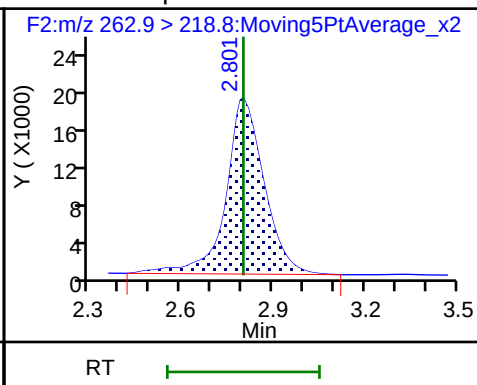
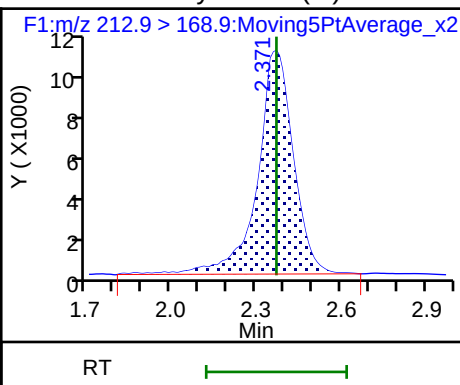
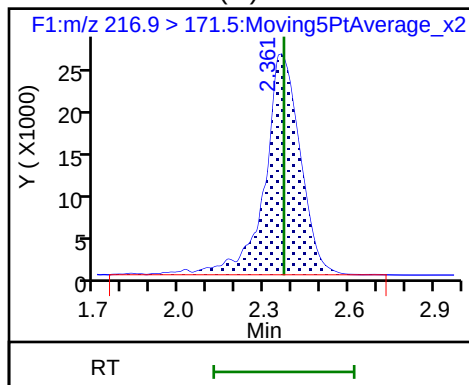
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

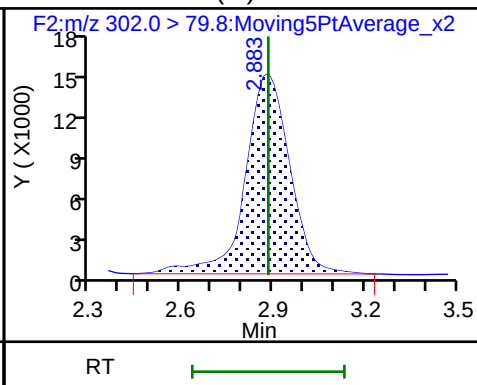
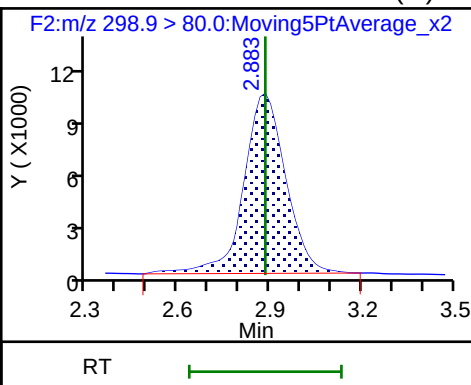
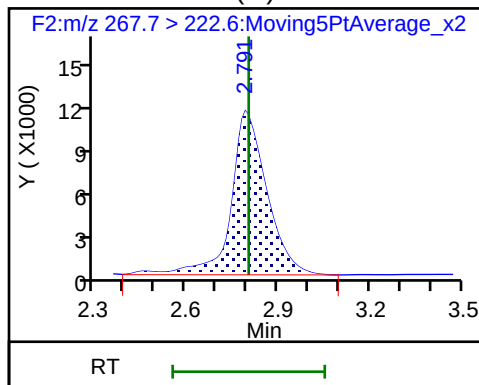
4 Perfluoropentanoic acid



D 3 13C5-PFPeA (M)

6 Perfluorobutanesulfonic acid (M)

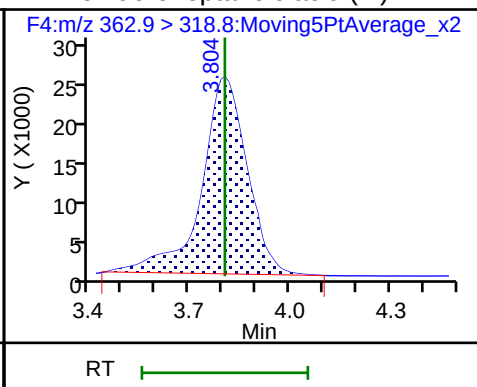
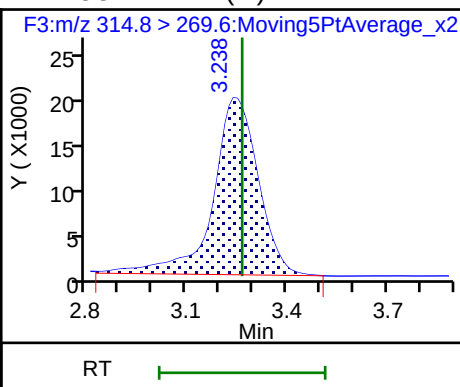
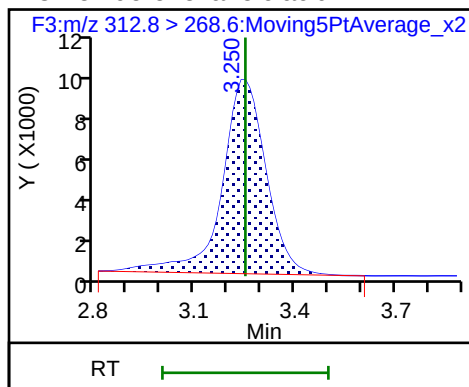
D 5 13C3-PFBS (M)



8 Perfluorohexanoic acid

D 7 13C2 PFHxA (M)

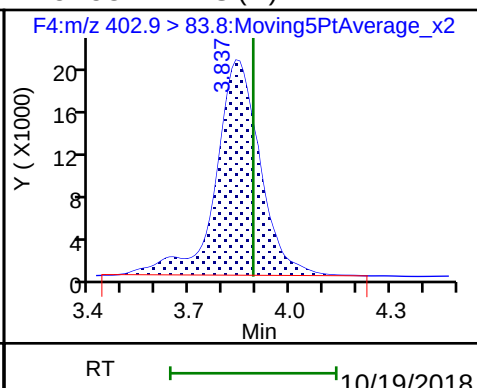
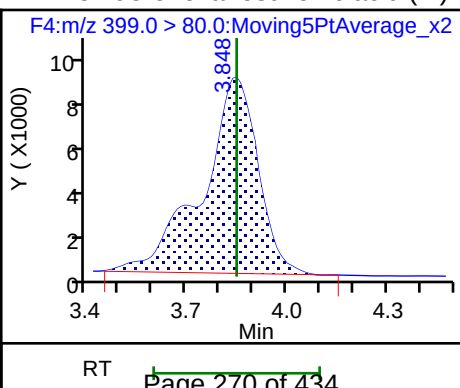
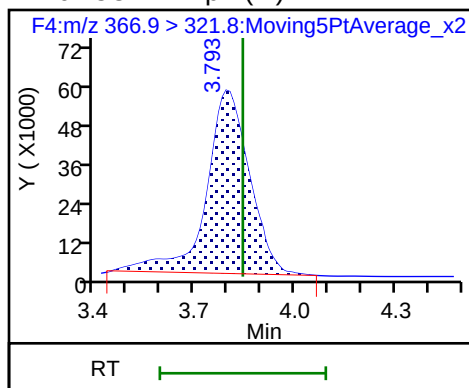
11 Perfluoroheptanoic acid (M)



D 10 13C4-PFHpA (M)

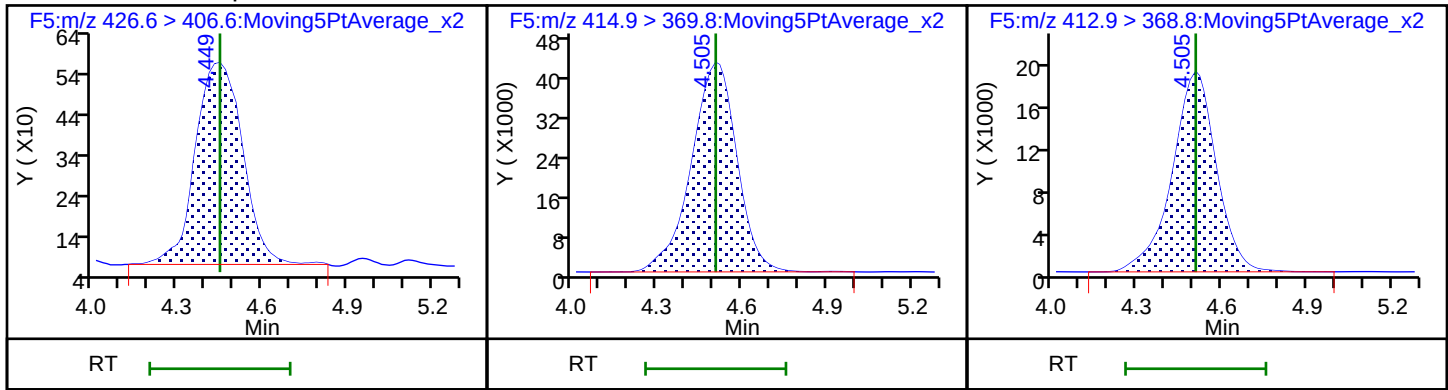
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS (M)



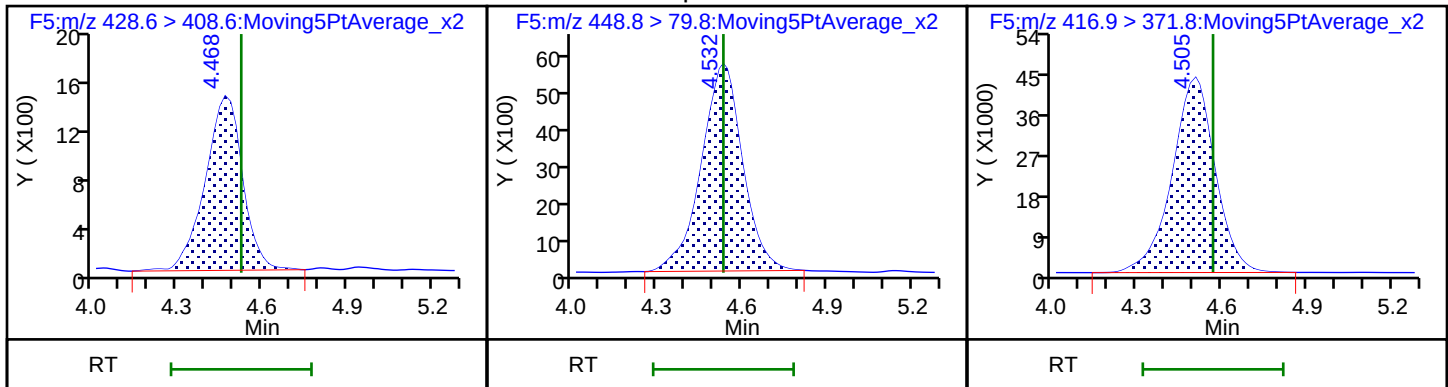
15 1H,1H,2H,2H-perfluorooctanesulfonate 49 13C2-PFOA

16 Perfluorooctanoic acid



18 Perfluoroheptanesulfonic acid

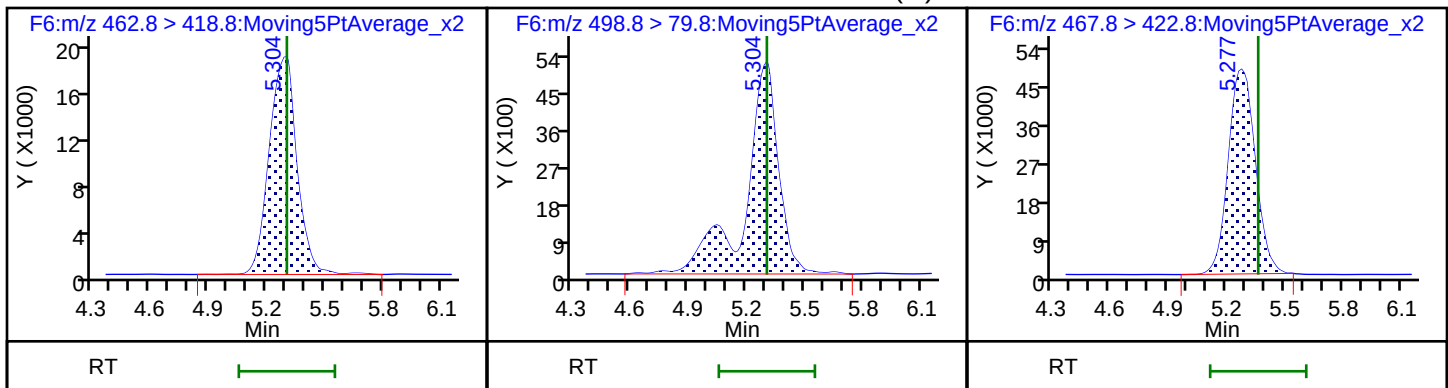
D 17 13C4 PFOA



19 Perfluorononanoic acid

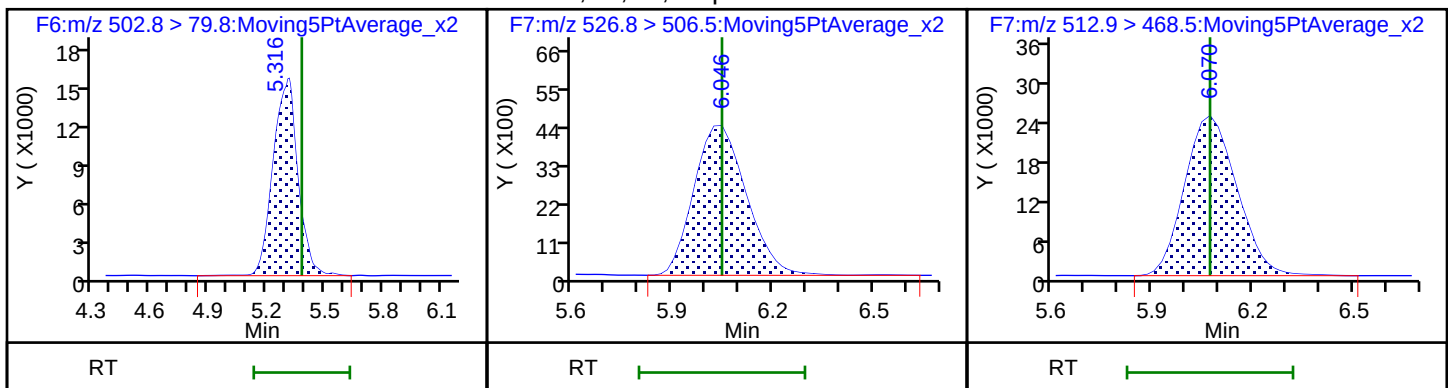
20 Perfluorooctane sulfonic acid (M)

D 21 13C5 PFNA



D 22 13C4 PFOS

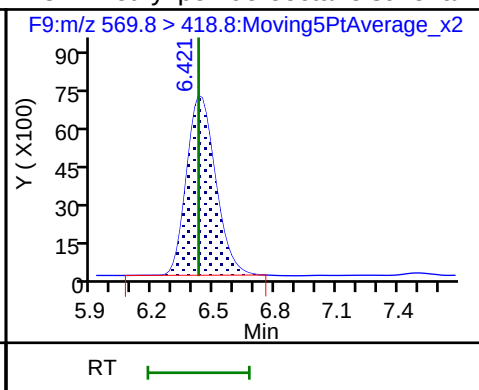
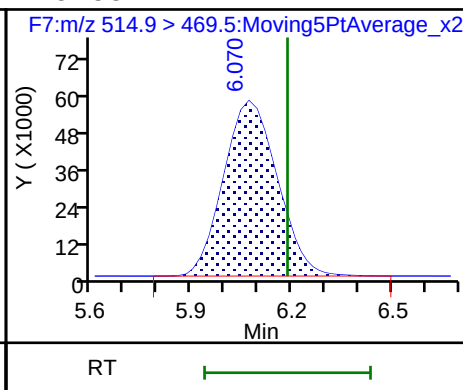
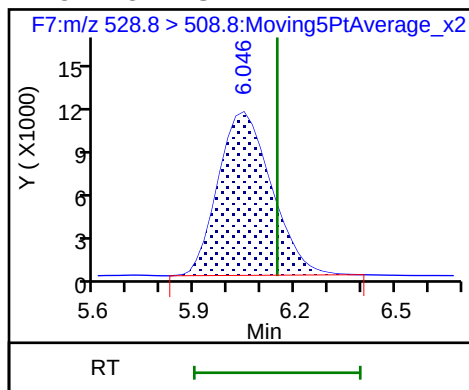
24 1H,1H,2H,2H-perfluorodecanesulfoni 26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

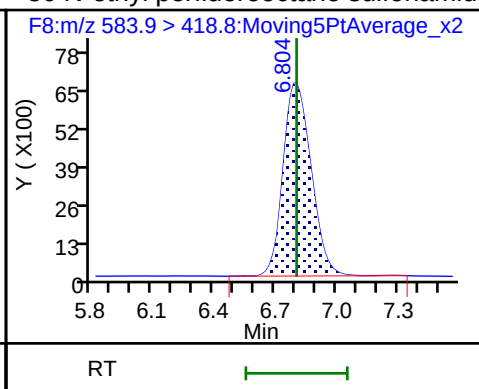
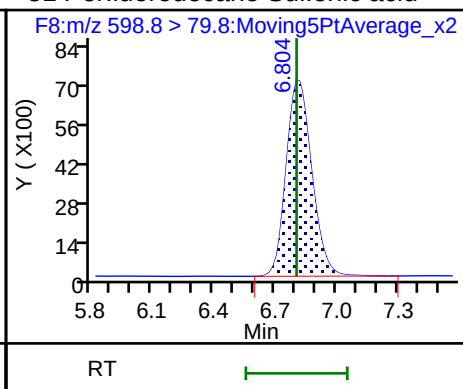
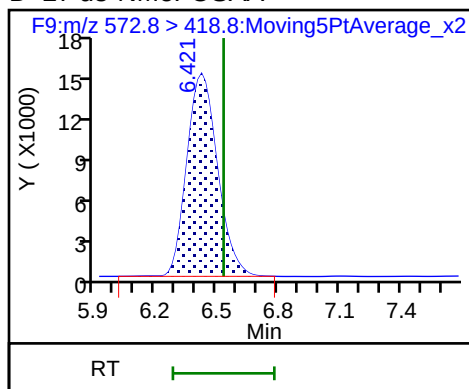
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

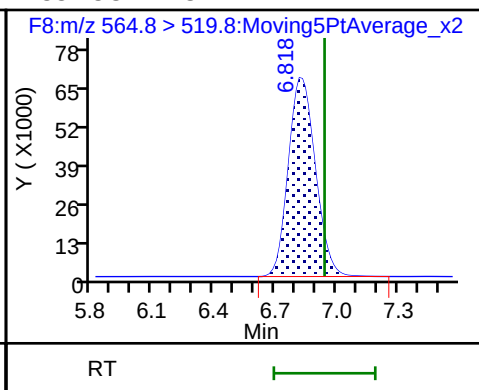
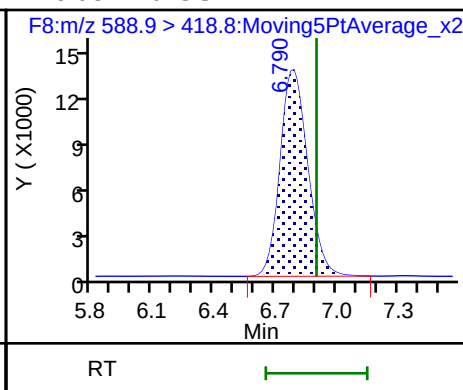
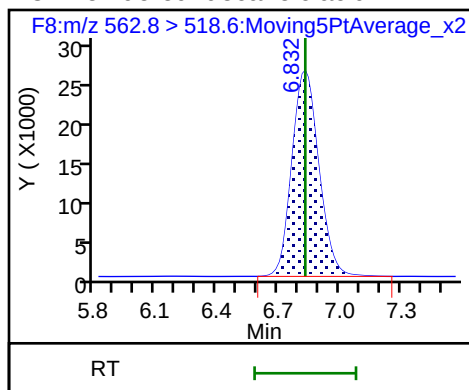
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

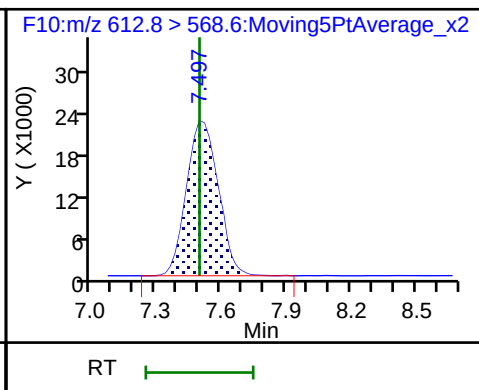
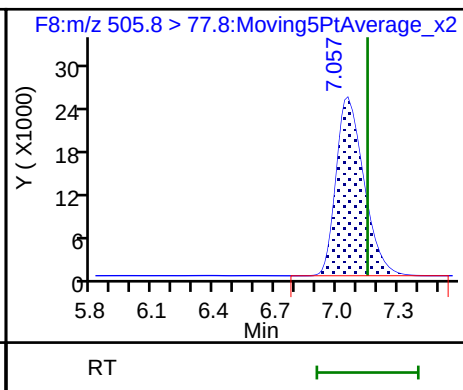
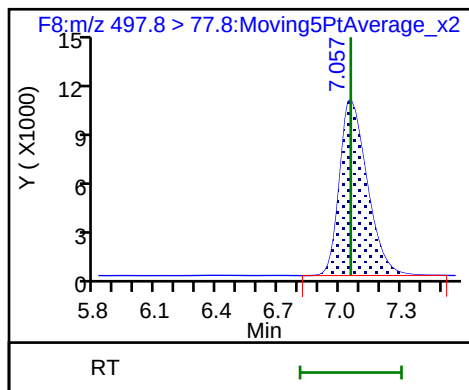
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide

D 35 13C8 FOSA

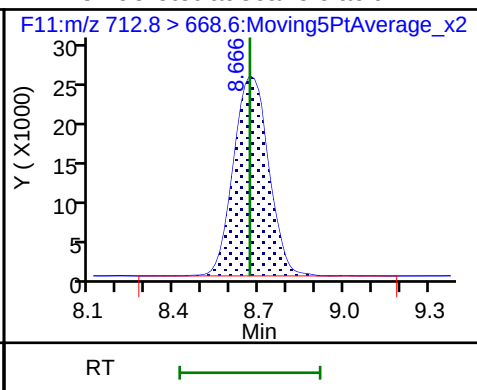
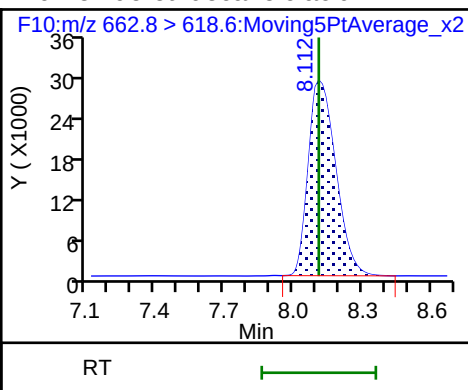
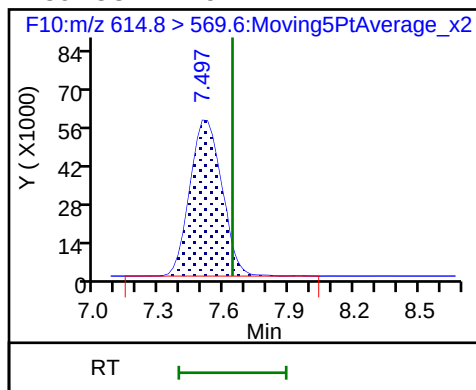
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

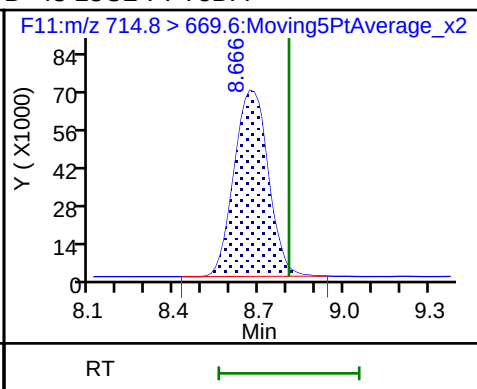
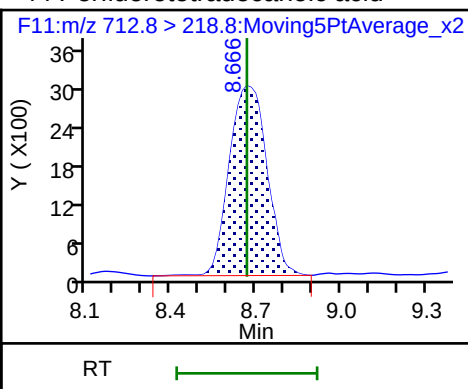
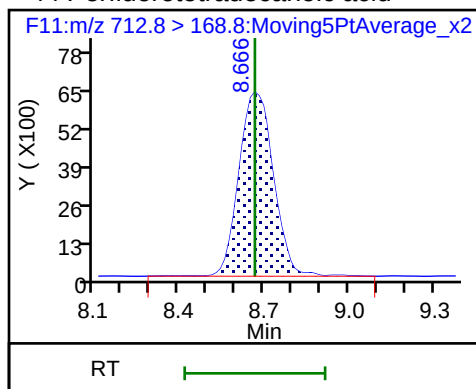
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

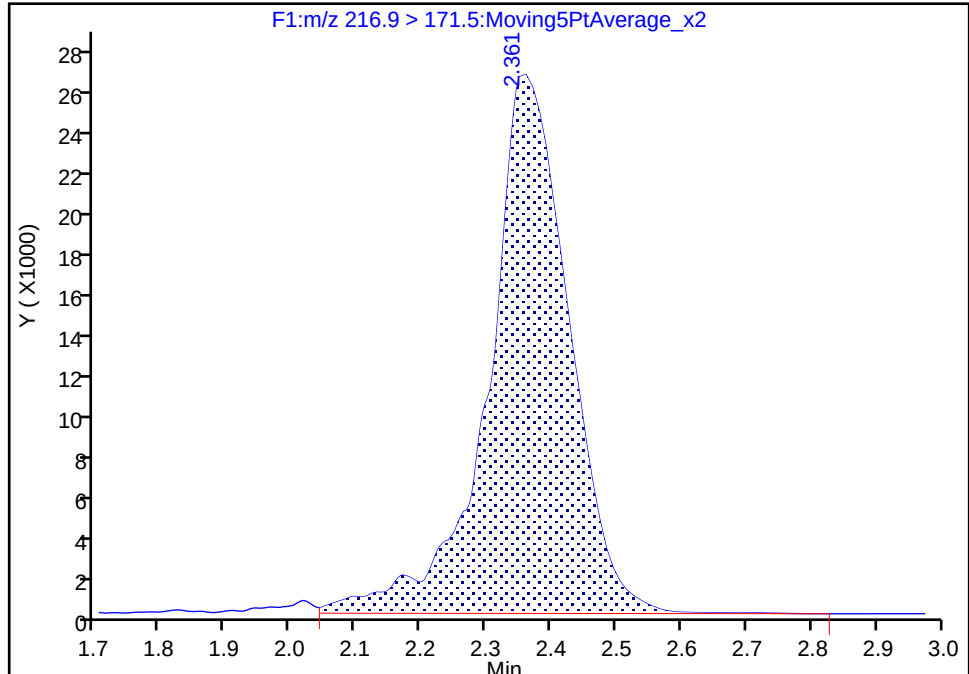
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Injection Date: 28-Jun-2018 16:48:57 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

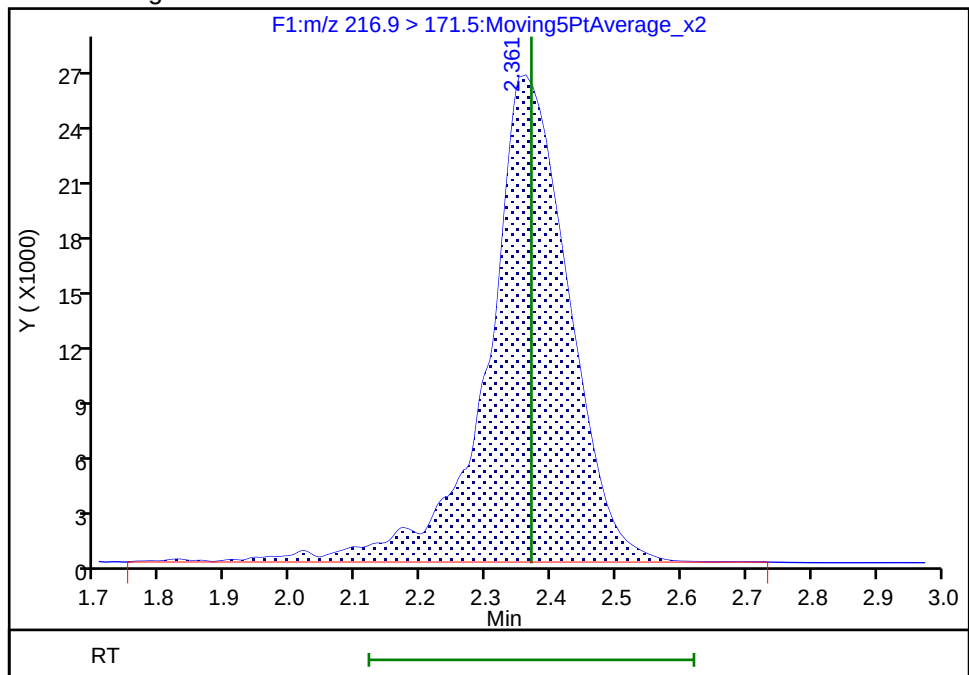
RT: 2.36
Area: 224748
Amount: 44.654758
Amount Units: ng/ml

Processing Integration Results



RT: 2.36
Area: 227028
Amount: 45.107767
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:10:29

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

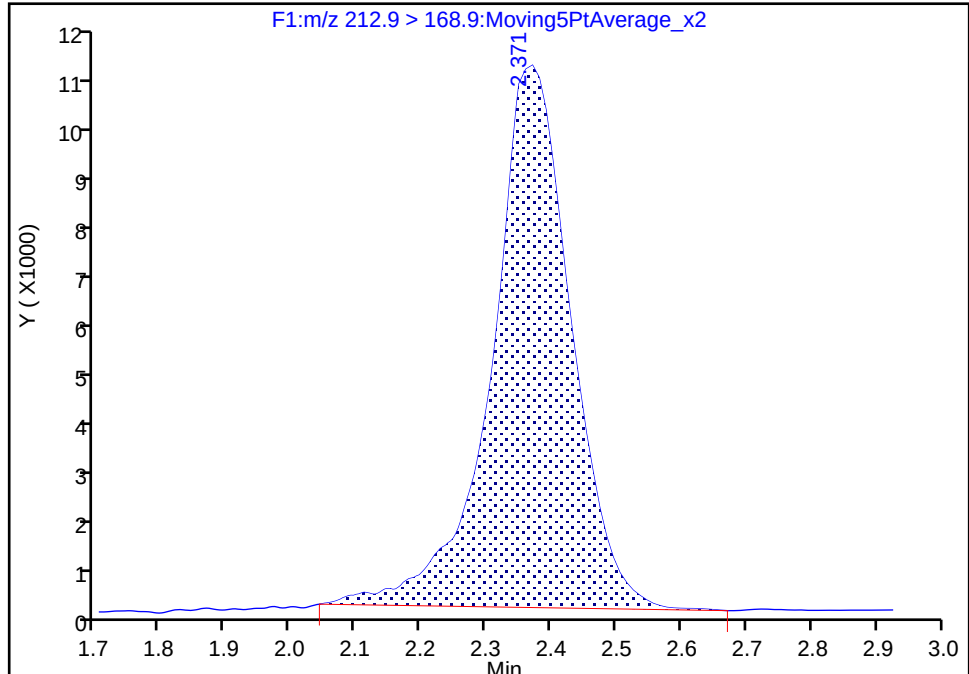
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Injection Date:	28-Jun-2018 16:48:57	Instrument ID:	LC410
Lims ID:	CCVIS		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F1:MRM
		Worklist Smp#:	2

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

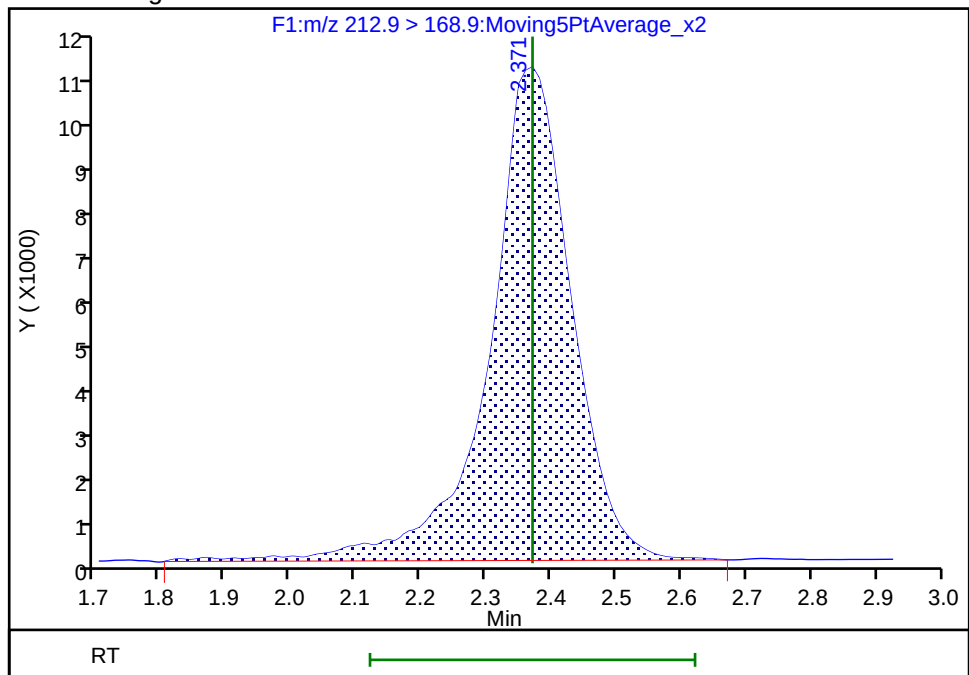
RT: 2.37
Area: 93026
Amount: 20.826142
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 97035
Amount: 21.736890
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:10:35

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

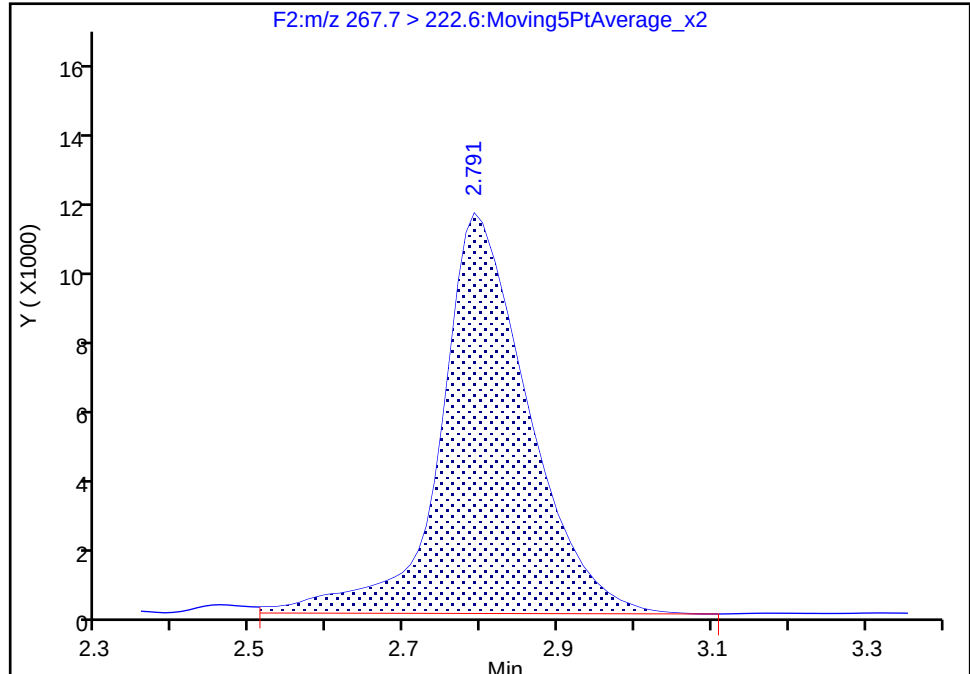
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Injection Date:	28-Jun-2018 16:48:57	Instrument ID:	LC410
Lims ID:	CCVIS		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 2
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM

D 3 13C5-PFPeA, CAS: STL01893

Signal: 1

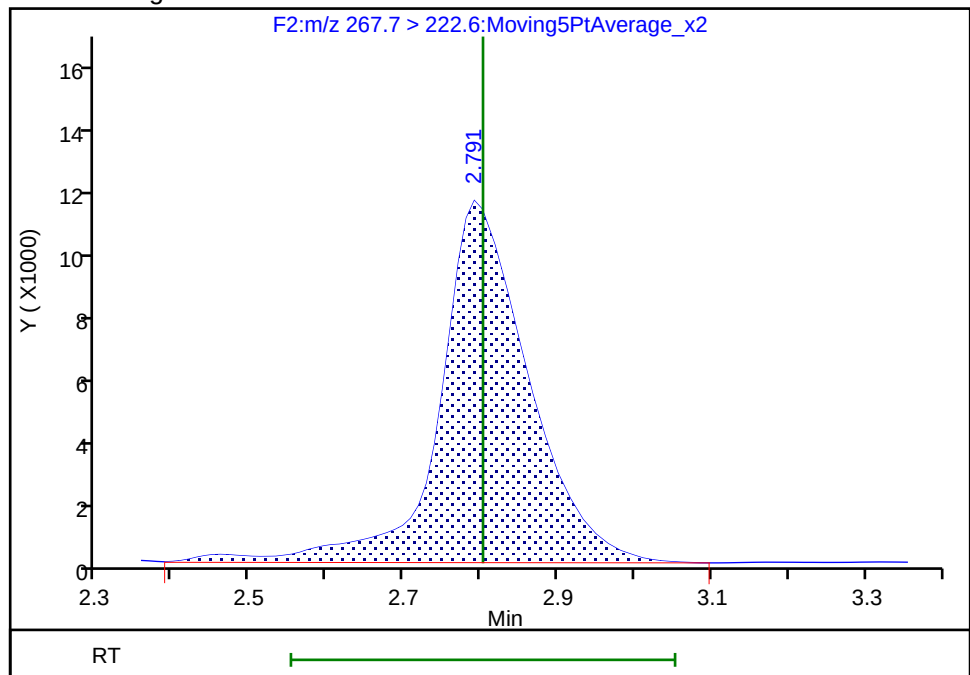
RT: 2.79
Area: 88890
Amount: 45.697624
Amount Units: ng/ml

Processing Integration Results



RT: 2.79
Area: 90280
Amount: 46.412212
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:10:41

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

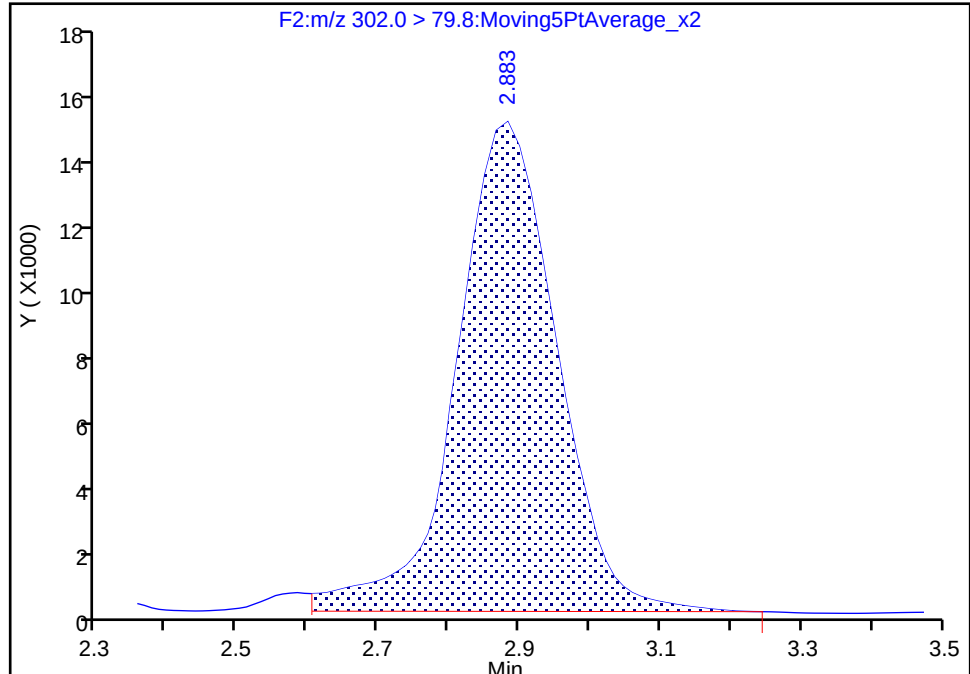
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d
Injection Date: 28-Jun-2018 16:48:57 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

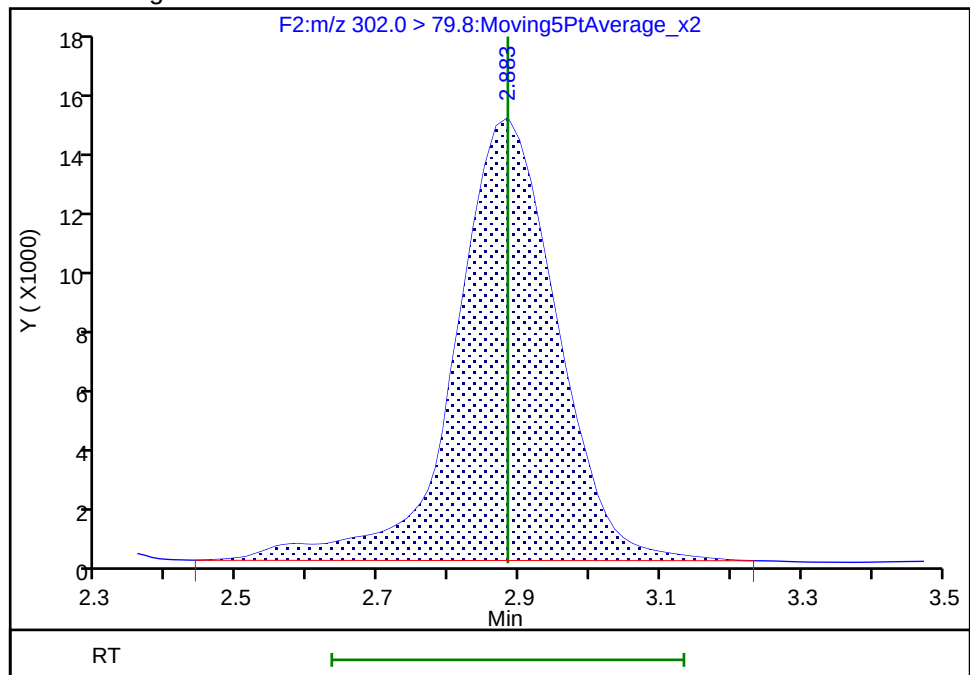
RT: 2.88
Area: 142427
Amount: 40.071748
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 144880
Amount: 40.761898
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:10:48
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 277 of 434

10/19/2018

TestAmerica Burlington

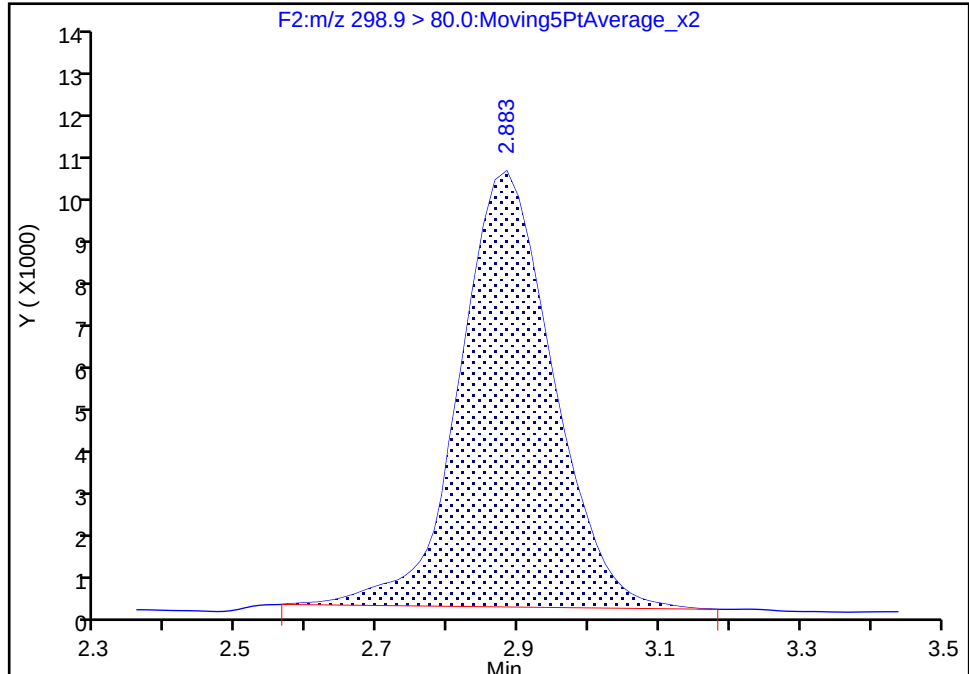
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d		
Injection Date:	28-Jun-2018 16:48:57	Instrument ID:	LC410
Lims ID:	CCVIS		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 2
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

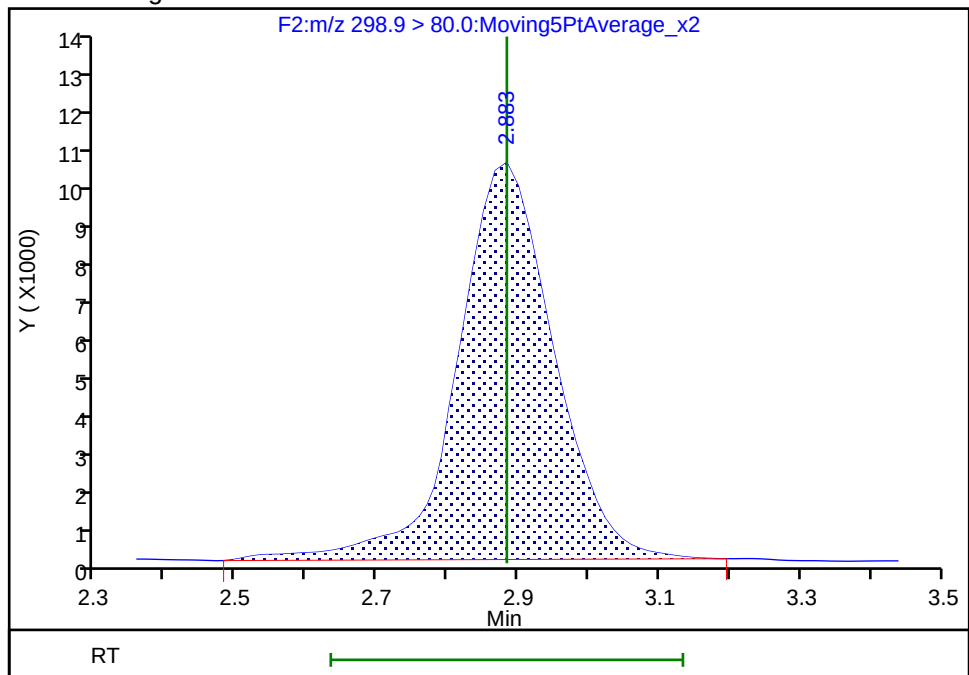
RT: 2.88
Area: 90278
Amount: 19.486728
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 93579
Amount: 19.855375
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:10:44

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

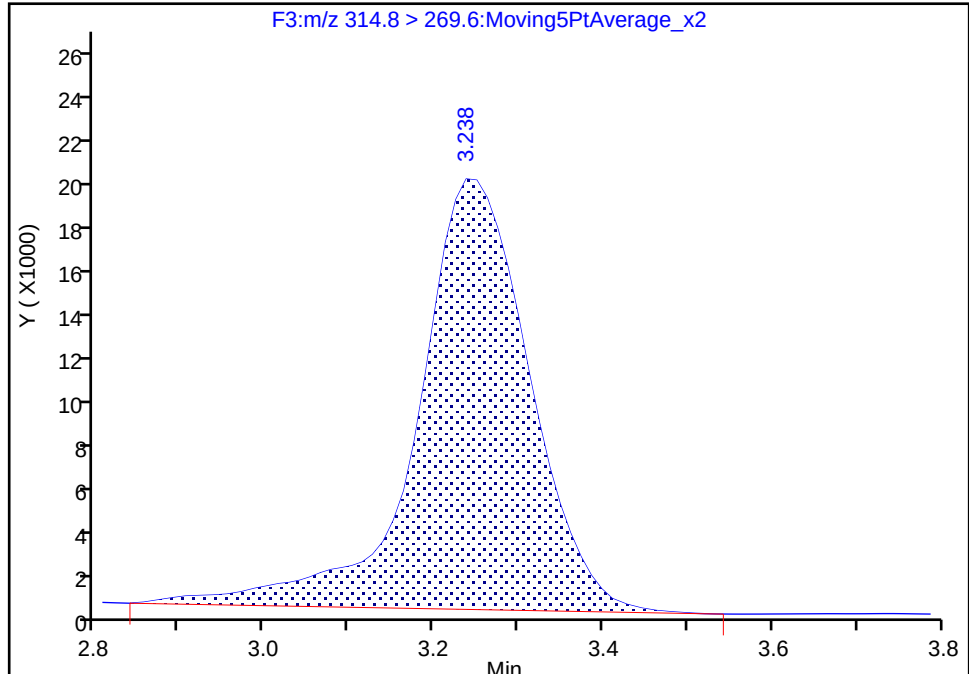
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d		
Injection Date:	28-Jun-2018 16:48:57	Instrument ID:	LC410
Lims ID:	CCVIS		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 2
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F3:MRM

D 7 13C2 PFHxA, CAS: STL00993

Signal: 1

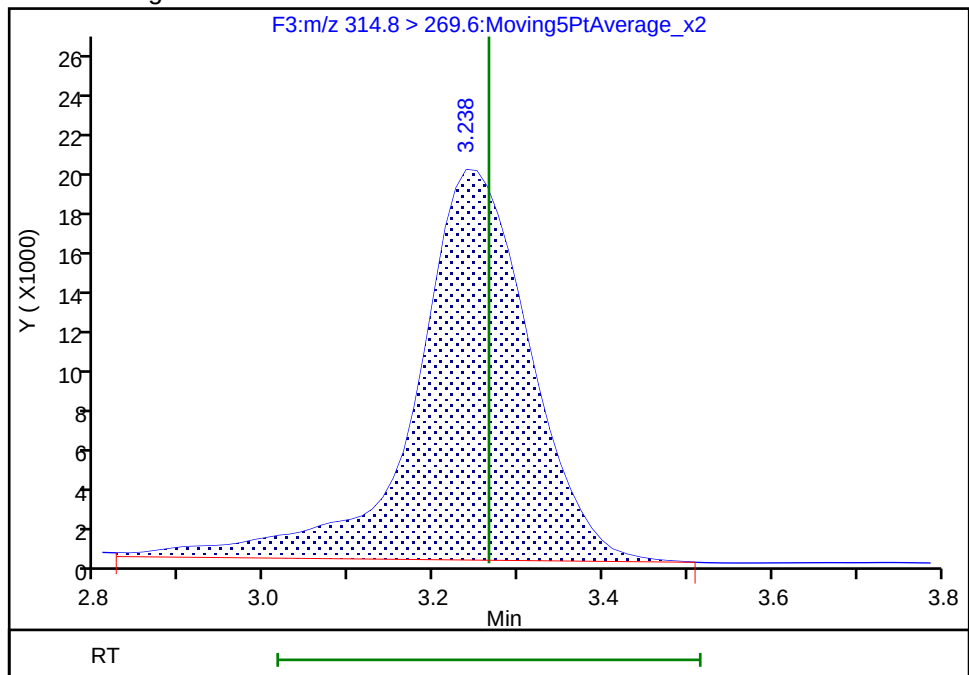
RT: 3.24
Area: 182771
Amount: 46.634612
Amount Units: ng/ml

Processing Integration Results



RT: 3.24
Area: 185896
Amount: 47.431965
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:10:54

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

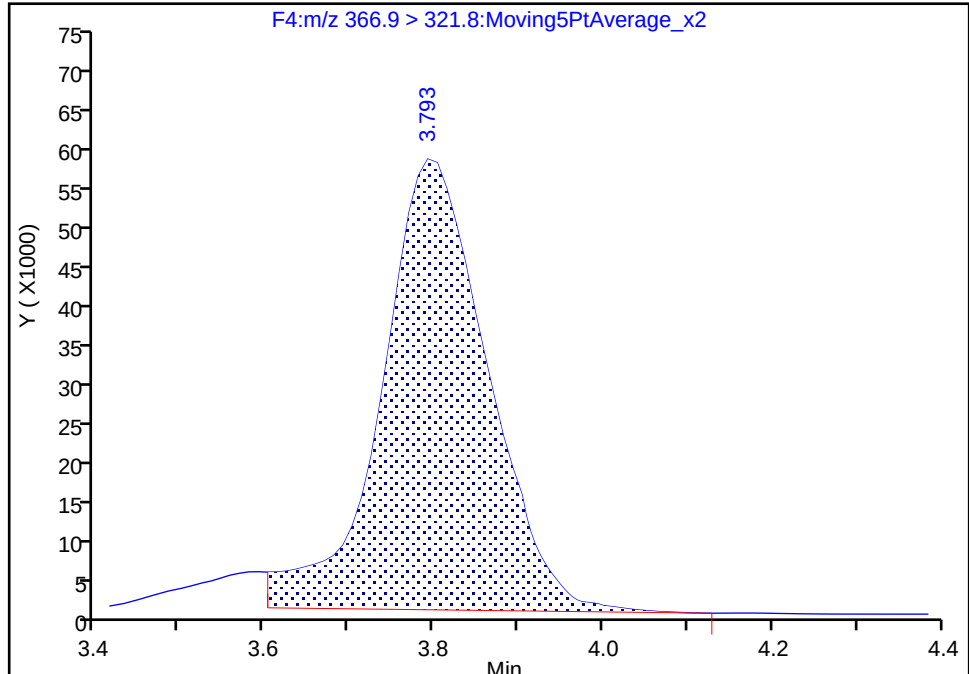
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d
Injection Date: 28-Jun-2018 16:48:57 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

D 10 13C4-PFHpA, CAS: STL01892

Signal: 1

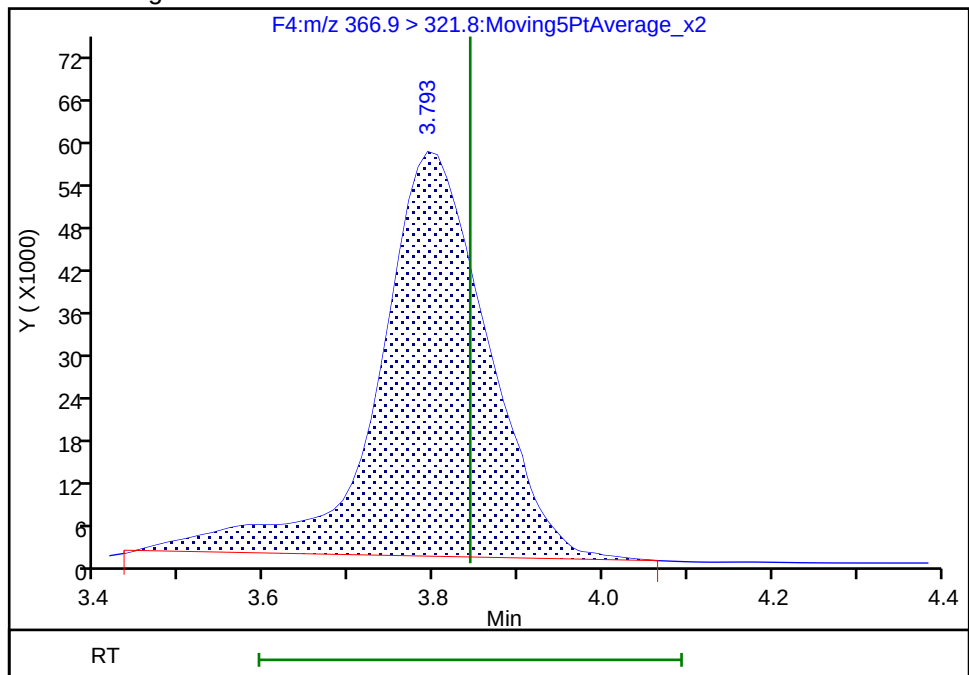
RT: 3.79
Area: 506509
Amount: 47.852266
Amount Units: ng/ml

Processing Integration Results



RT: 3.79
Area: 518419
Amount: 48.977460
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:11:08

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

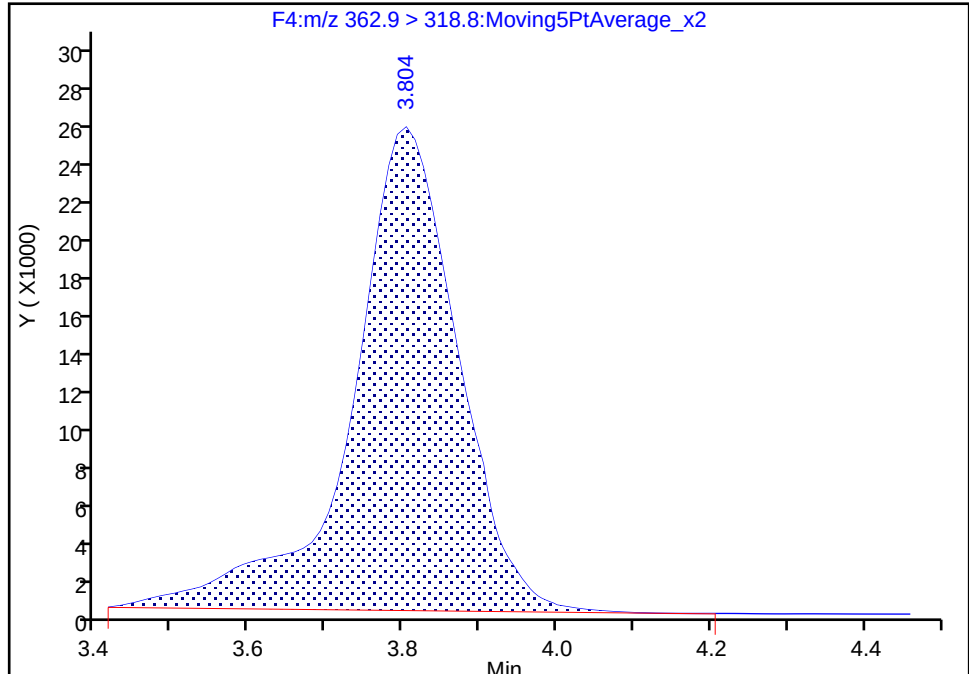
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d		
Injection Date:	28-Jun-2018 16:48:57	Instrument ID:	LC410
Lims ID:	CCVIS		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F4:MRM
		Worklist Smp#:	2

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

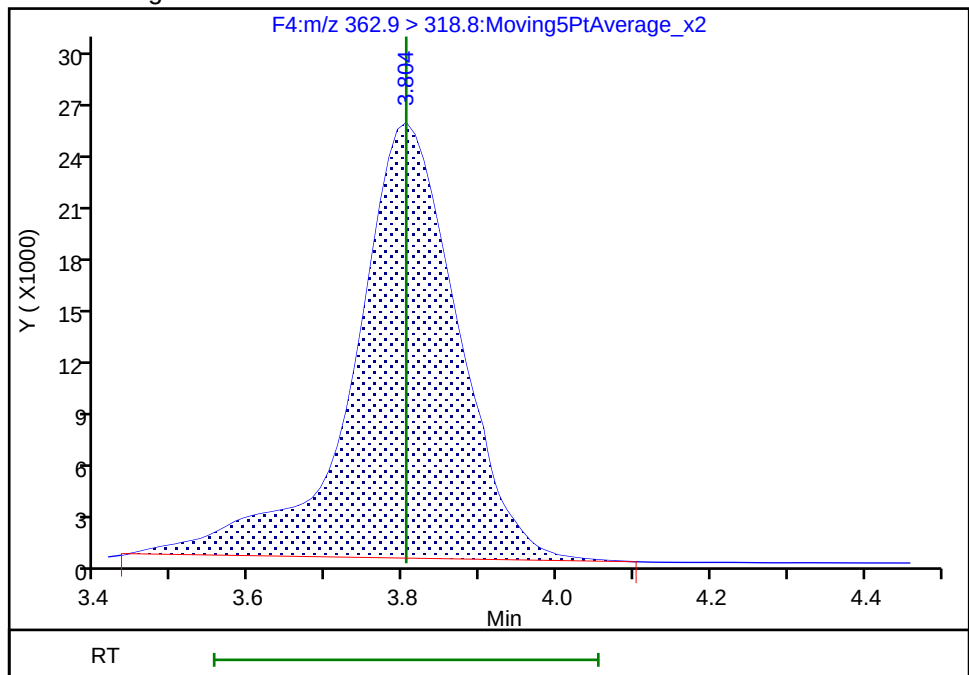
RT: 3.80
Area: 239396
Amount: 20.834729
Amount Units: ng/ml

Processing Integration Results



RT: 3.80
Area: 235177
Amount: 20.005161
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:11:03

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

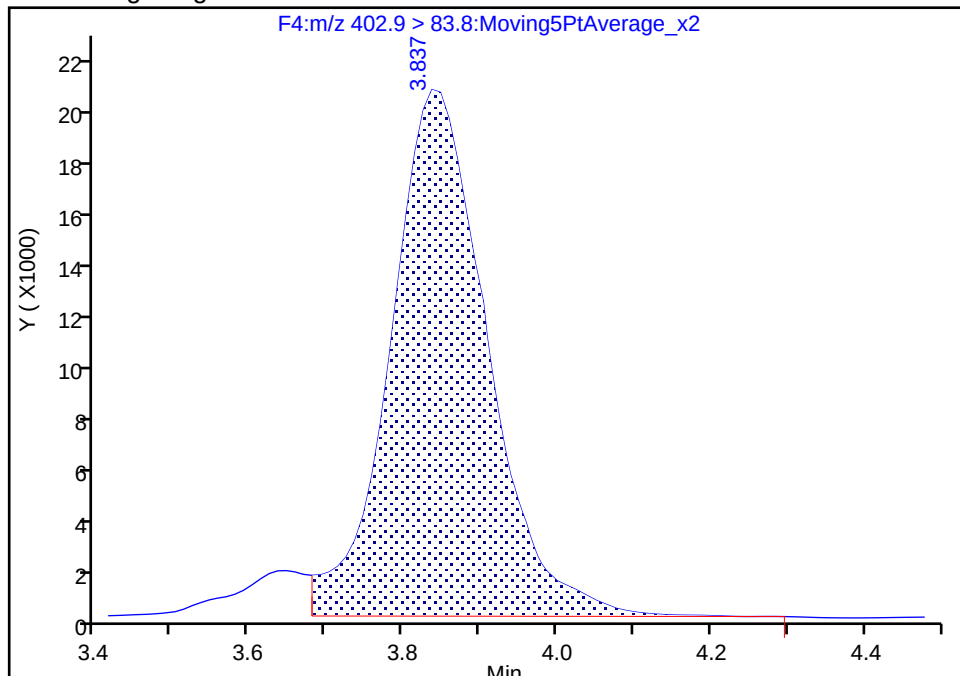
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d
Injection Date: 28-Jun-2018 16:48:57 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

D 13 18O2 PFHxS, CAS: STL00994

Signal: 1

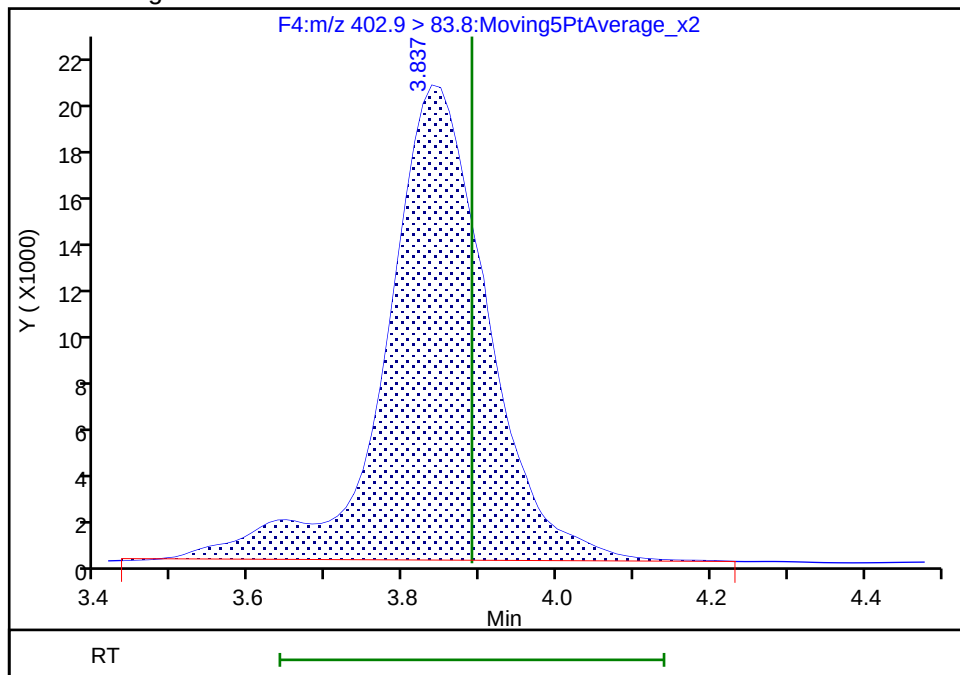
RT: 3.84
Area: 178357
Amount: 41.096454
Amount Units: ng/ml

Processing Integration Results



RT: 3.84
Area: 187729
Amount: 43.255921
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:11:19

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

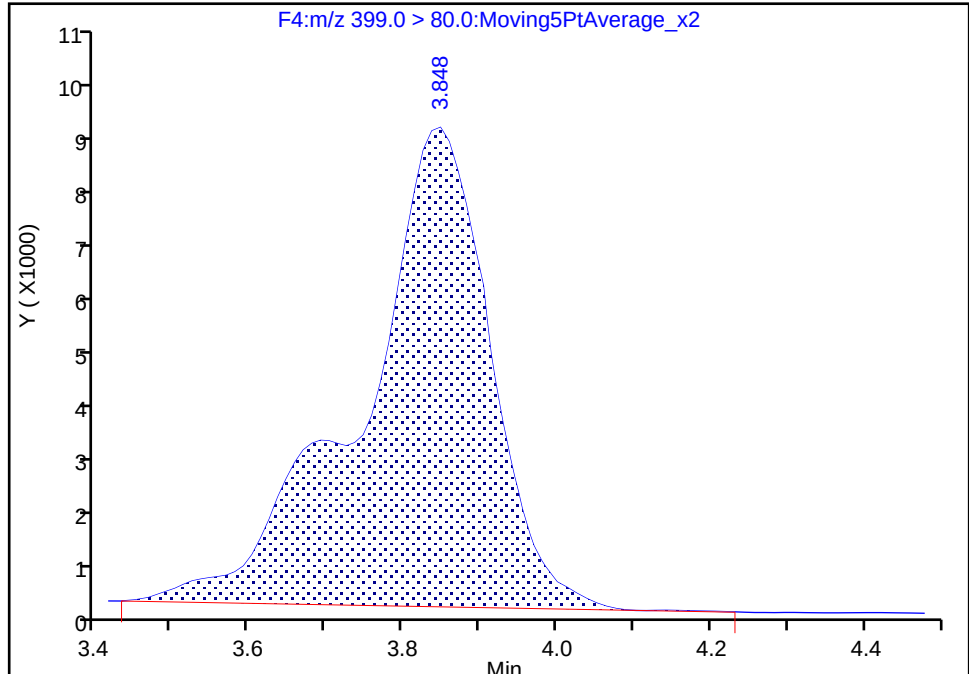
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d		
Injection Date:	28-Jun-2018 16:48:57	Instrument ID:	LC410
Lims ID:	CCVIS		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 2
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

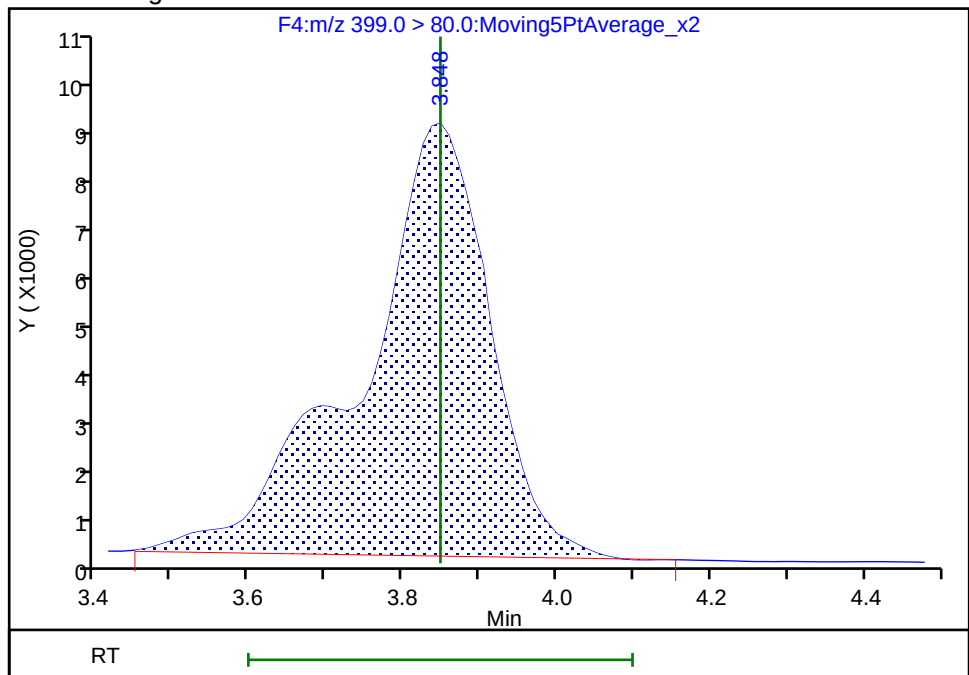
RT: 3.85
Area: 101274
Amount: 20.222041
Amount Units: ng/ml

Processing Integration Results



RT: 3.85
Area: 100913
Amount: 19.148984
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:11:15
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 283 of 434

10/19/2018

TestAmerica Burlington

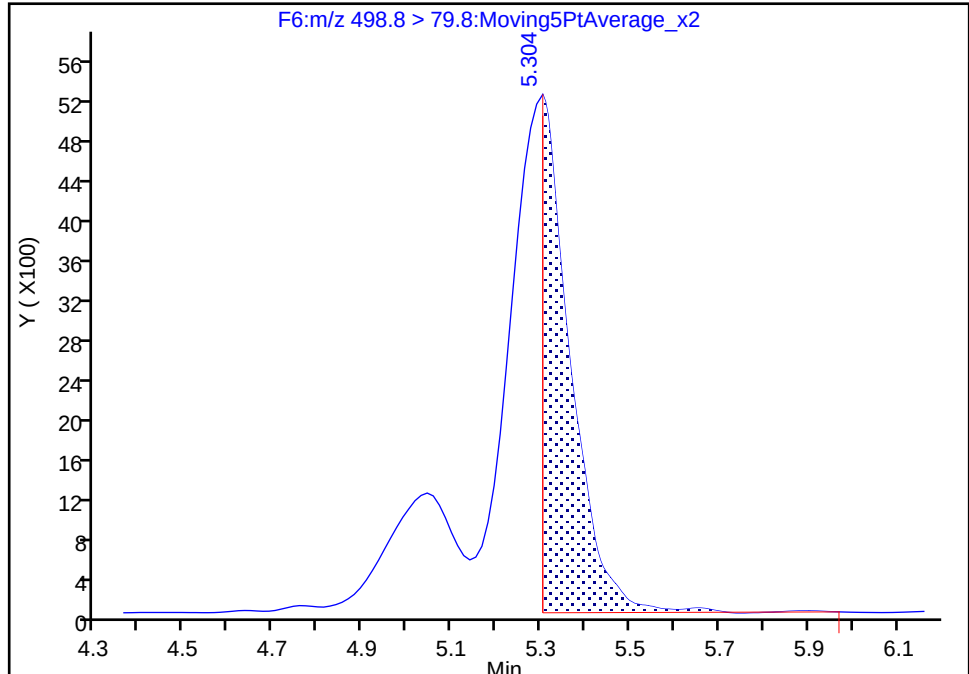
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A02.d
Injection Date: 28-Jun-2018 16:48:57 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

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

Signal: 1

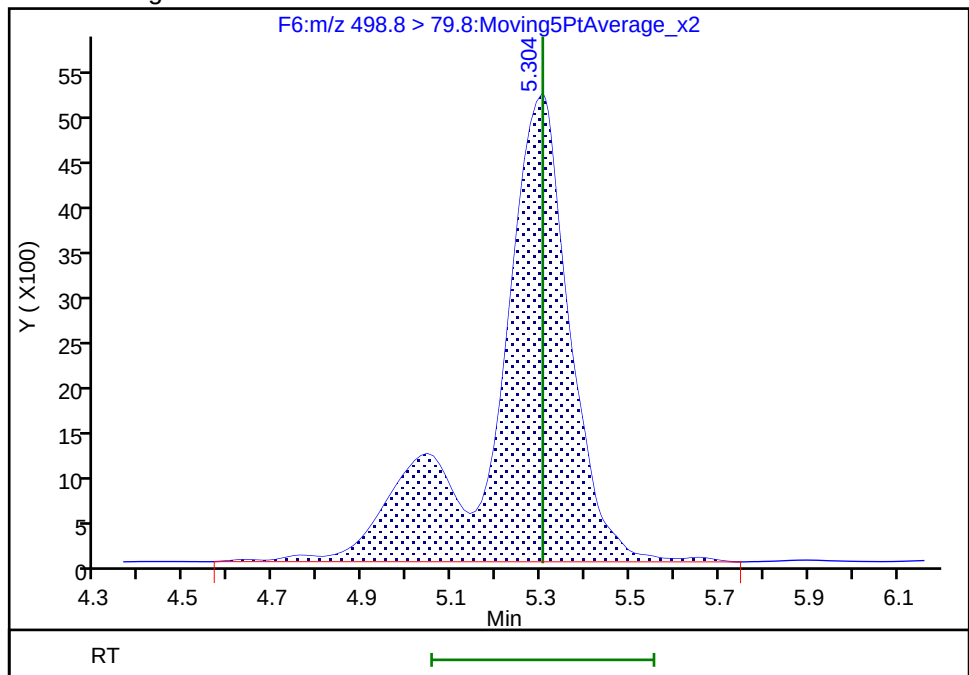
RT: 5.30
Area: 22925
Amount: 6.742622
Amount Units: ng/ml

Processing Integration Results



RT: 5.30
Area: 61762
Amount: 17.609903
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:12:13
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 284 of 434

10/19/2018

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1

SDG No.: _____

Lab Sample ID: CCVL 200-131275/3 Calibration Date: 06/28/2018 17:05

Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51

GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12

Lab File ID: PF062818A03.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		1.230		962	1000	-3.8	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		5.860		1319	1000	31.9	50.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		1.859		1180	884	33.5	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.029		1019	1000	1.9	50.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.071		1130	1000	13.0	50.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.584		1173	910	28.9	50.0
6:2 FTS	L1ID		1.309		1405	948	48.2	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	L1ID		0.6696		783	952	-17.7	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.098		1044	1000	4.4	50.0
Perfluorononanoic acid (PFNA)	L2ID		0.9576		943	1000	-5.7	50.0
Perfluorooctanesulfonic acid (PFOS)	L1ID		1.319		1288	928	38.8	50.0
8:2 FTS	L1ID		1.011		1673	958	74.6*	50.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9846		975	1000	-2.5	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	L2ID		1.225		989	1000	-1.1	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	L1ID		1.200		1288	1000	28.8	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.148		1147	964	19.0	50.0
Perfluoroundecanoic acid (PFUnA)	L1ID		0.9808		1005	1000	0.5	50.0
Perfluorooctanesulfonamide (FOSA)	L1ID		1.166		1519	1000	51.9*	50.0
Perfluorododecanoic acid (PFDoA)	L2ID		1.078		1051	1000	5.1	50.0
Perfluorotridecanoic acid (PFTrIA)	L2ID		0.9522		820	1000	-18.0	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.8955		933	1000	-6.7	50.0
13C4 PFBA	Ave	0.5332	0.5356		50230	50000	0.5	50.0
13C5-PFPeA DNU	Ave	0.2061	0.2011		48810	50000	-2.4	50.0
13C3 PFBS	Ave	0.3765	0.3351		41380	46500	-11.0	50.0
13C2 PFHxA	Ave	0.4152	0.4278		51520	50000	3.0	50.0
13C4 PFHpA	Ave	1.121	1.206		53800	50000	7.6	50.0
18O2 PFHxS	Ave	0.4597	0.4327		44520	47300	-5.9	50.0
M2-6:2 FTS	Ave	0.0259	0.0303		55650	47500	17.2	50.0
13C4 PFOA	Ave	0.9120	0.9821		53840	50000	7.7	50.0
13C5 PFNA	Ave	0.9871	1.014		51390	50000	2.8	50.0
13C4 PFOS	Ave	0.3404	0.3021		42420	47800	-11.3	50.0
13C2 PFDA	Ave	1.376	1.406		51090	50000	2.2	50.0
M2-8:2 FTS	Ave	0.2895	0.2720		45000	47900	-6.1	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: CCVL 200-131275/3 Calibration Date: 06/28/2018 17:05
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062818A03.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.3249	0.3208		49360	50000	-1.3	50.0
d5-NEtFOSAA	Ave	0.3059	0.3095		50590	50000	1.2	50.0
13C2 PFUnA	Ave	1.292	1.374		53160	50000	6.3	50.0
13C8 FOSA	Ave	0.5262	0.5028		47780	50000	-4.4	50.0
13C2 PFDoA	Ave	1.306	1.319		50490	50000	1.0	50.0
13C2 PFTeDA	Ave	1.313	1.349		51350	50000	2.7	50.0

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d
 Lims ID: CCVL
 Client ID:
 Sample Type: CCVL
 Inject. Date: 28-Jun-2018 17:05:03 ALS Bottle#: 0 Worklist Smp#: 3
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-003 CCVL
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:04:57 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last Ical File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK006

First Level Reviewer: chirgwinb

Date: 28-Jun-2018 18:17:54

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	2.351	2.370	-0.019	1.000	264867	50.2		100	255	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.361	2.371	-0.010	1.004	6518	0.9621		96.2	14.3	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.791	2.801	-0.010	0.996	11659	1.32		132	34.6	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	99472	48.8		97.6	184	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.883	0.0	1.006	5446	1.18		133	33.3	M
D 5 13C3-PFBS										M
302.0 > 79.8	2.867	2.883	-0.016	1.000	154106	41.4		89.0	240	M
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.238	3.250	-0.012	1.000	4355	1.02		102	43.5	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.238	3.265	-0.027	1.000	211555	51.5		103	916	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.793	3.804	-0.011	1.000	12776	1.13		113	151	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.793	3.843	-0.050	1.000	596648	53.8		108	1000	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.848	3.848	0.0	1.003	6168	1.17		129	39.8	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.837	3.889	-0.052	1.000	202431	44.5		94.1	2082	
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.449	4.449	0.0	1.000	372	1.41		148	2.5	M
* 49 13C2-PFOA										
414.9 > 369.8	4.486	4.505	-0.019		494548	50.0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.519	4.505	0.014	1.003	10662	1.04		104	106	
D 14 M2-6:2FTS										M
428.6 > 408.6	4.449	4.525	-0.076	1.000	14238	55.7		117	76.9	M
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.519	4.532	-0.013	0.854	1905	0.7832		82.3	15.7	M
D 17 13C4 PFOA										
416.9 > 371.8	4.505	4.567	-0.062	1.000	485699	53.8		108	1873	
19 Perfluorononanoic acid										M
462.8 > 418.8	5.291	5.304	-0.013	1.003	9608	0.9425		94.3	61.6	M
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.291	5.304	-0.013	1.000	3657	1.29		139	23.7	M
D 21 13C5 PFNA										
467.8 > 422.8	5.277	5.363	-0.086	1.000	501678	51.4		103	1450	
D 22 13C4 PFOS										
502.8 > 79.8	5.291	5.382	-0.091	1.000	142840	42.4		88.7	484	
24 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.022	6.046	-0.024	0.996	2605	1.67		175	19.5	M
26 Perfluorodecanoic acid										
512.9 > 468.5	6.070	6.070	0.0	1.004	13695	0.9750		97.5	64.1	
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	128852	45.0		93.9	717	
D 25 13C2 PFDA										
514.9 > 469.5	6.046	6.186	-0.140	1.000	695497	51.1		102	2189	
28 N-methyl perfluorooctane sulfonami										M
569.8 > 418.8	6.421	6.421	0.0	1.003	3887	0.9890		98.9	26.1	M
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.403	6.530	-0.127	1.000	158624	49.4		98.7	1167	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.804	6.804	0.0	1.286	3308	1.15		119	50.4	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.790	6.804	-0.014	1.002	3675	1.29		129	44.3	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.818	6.832	-0.014	1.000	13326	1.00		100	107	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.776	6.903	-0.127	1.000	153062	50.6		101	1070	
D 33 13C2 PFUnA										
564.8 > 519.8	6.818	6.942	-0.124	1.000	679319	53.2		106	3684	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	7.043	7.057	-0.014	1.000	5797	1.52		152	71.6	M
D 35 13C8 FOSA										
505.8 > 77.8	7.043	7.154	-0.111	1.000	248665	47.8		95.6	1716	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.497	7.497	0.0	1.000	14064	1.05		105	106	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	652327	50.5		101	1081	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.112	8.112	0.0	1.082	12428	40.8203		82.0	151	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d

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	8.697	8.666	0.031	1.005	11948	0.9329		93.3	69.6	M
712.8 > 168.8	8.666	8.666	0.0	1.002	2941		4.06(0.00-0.00)		18.6	
712.8 > 218.8	8.651	8.666	-0.015	1.000	494		24.19(0.00-0.00)		3.2	M
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	667084	51.4		103	2146	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS21-L1_00003

Amount Added: 100.00

Units: uL

TestAmerica Burlington

Data File: \\ChromNA\\Burlington\\ChromData\\LC410\\20180628-31168.b\\PF062818A03.d

Injection Date: 28-Jun-2018 17:05:03

Instrument ID: LC410

Lims ID: CCVL

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 3

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

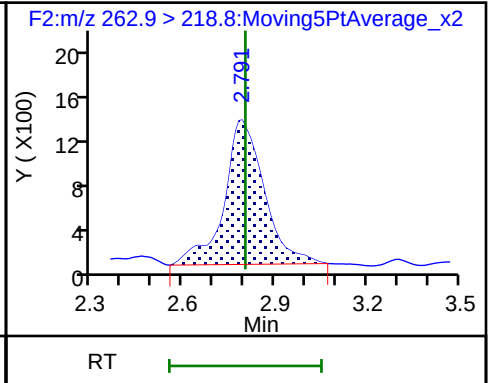
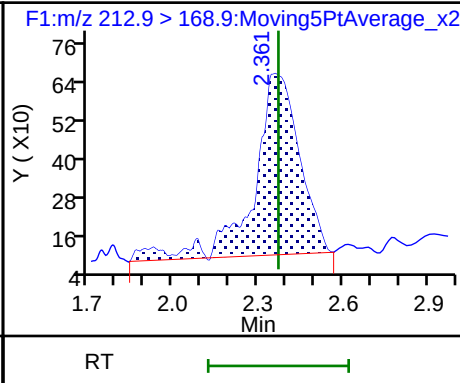
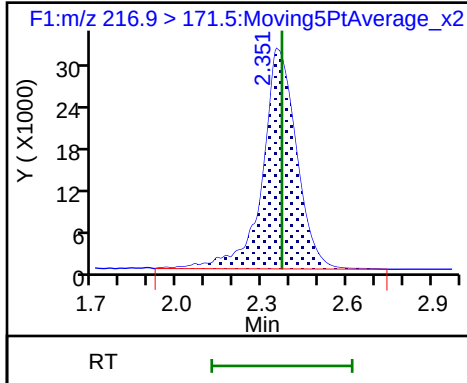
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

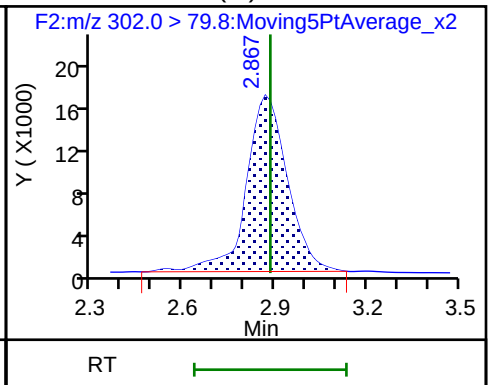
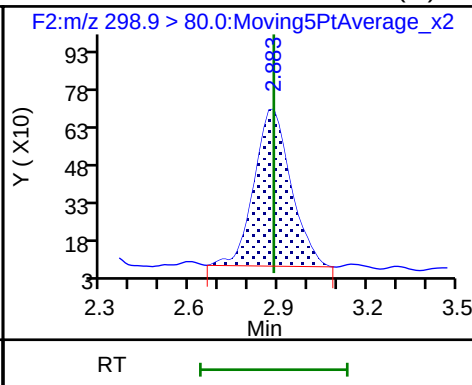
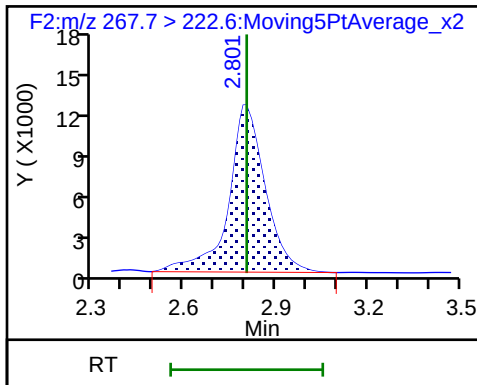
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (M)

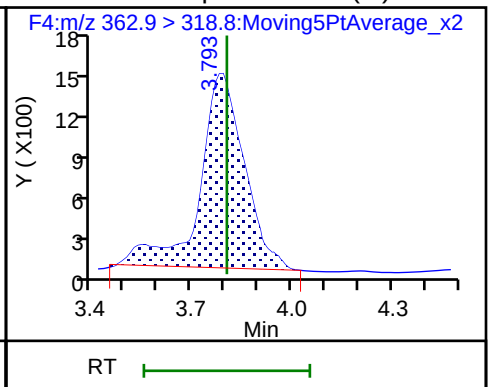
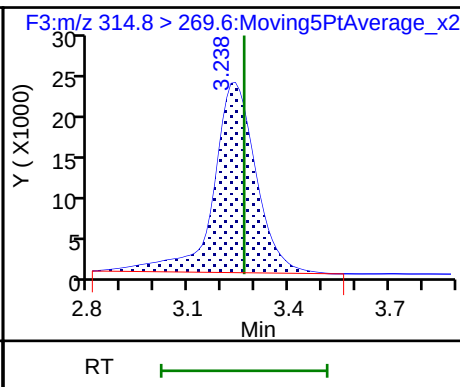
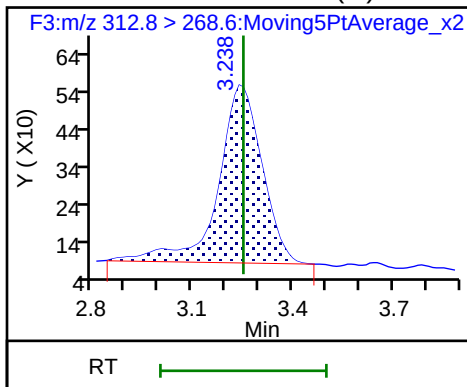
D 5 13C3-PFBS (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA

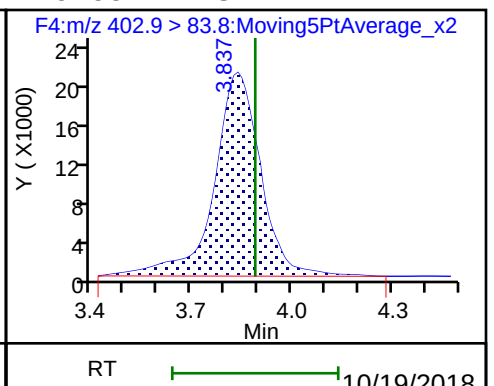
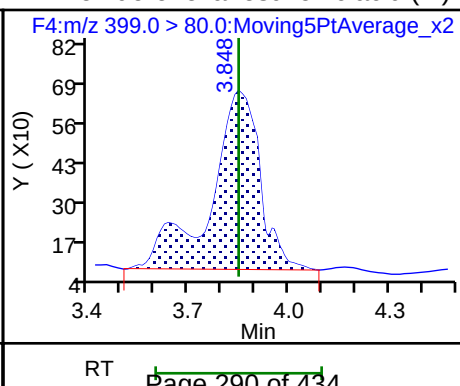
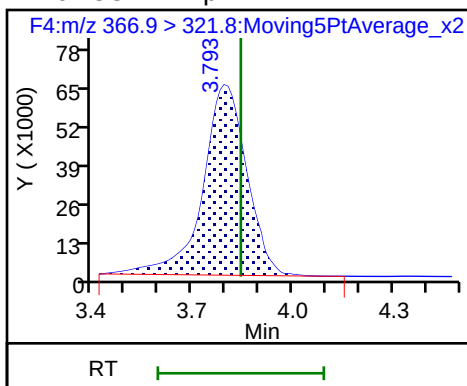
11 Perfluoroheptanoic acid (M)



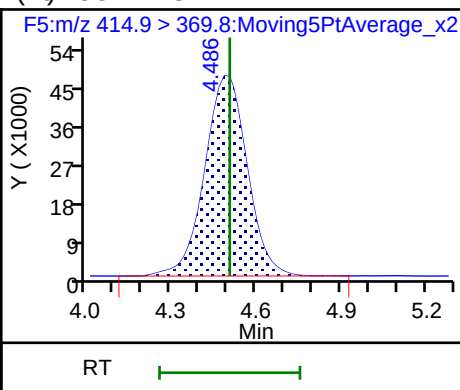
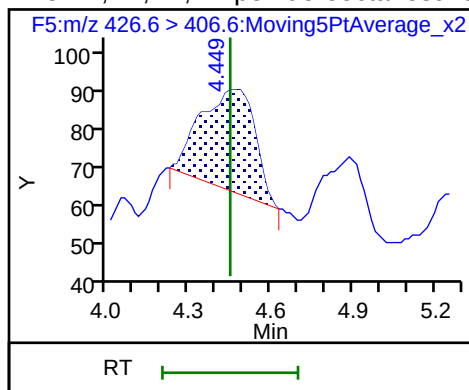
D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid (M)

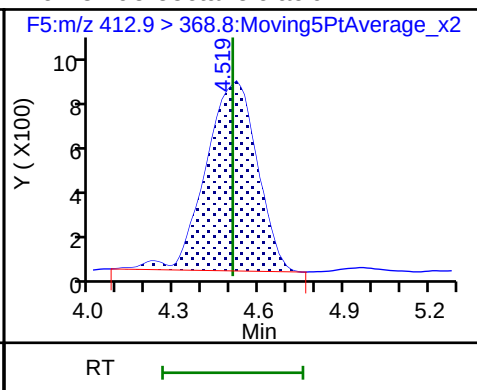
D 13 18O2 PFHxS



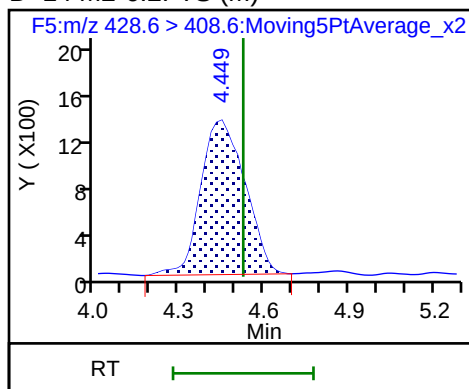
15 1H,1H,2H,2H-perfluorooctanesulfonate (M) 13C2-PFOA



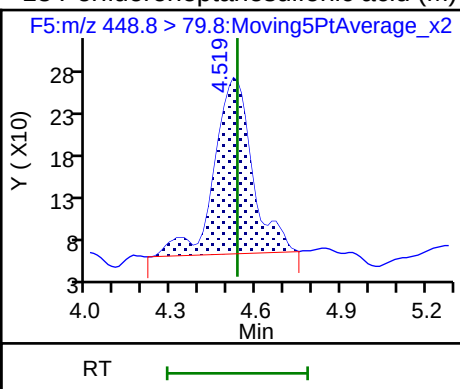
16 Perfluorooctanoic acid



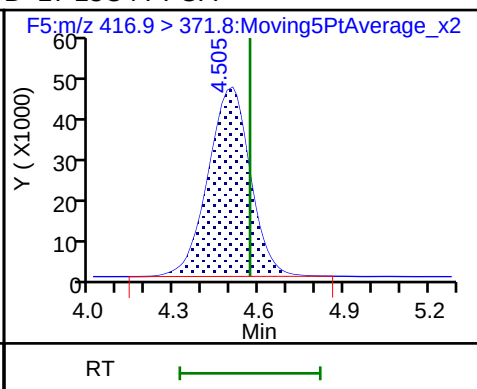
D 14 M2-6:2FTS (M)



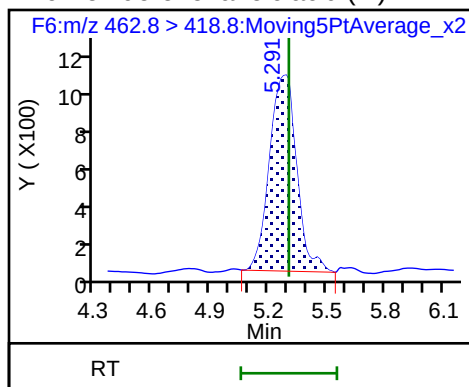
18 Perfluoroheptanesulfonic acid (M)



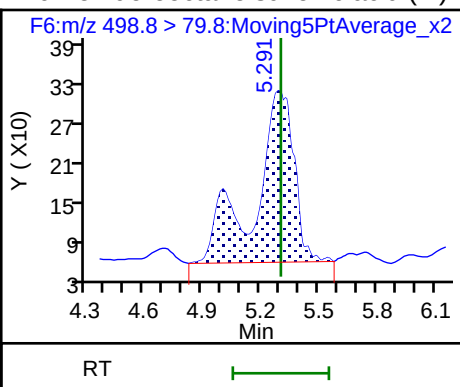
D 17 13C4 PFOA



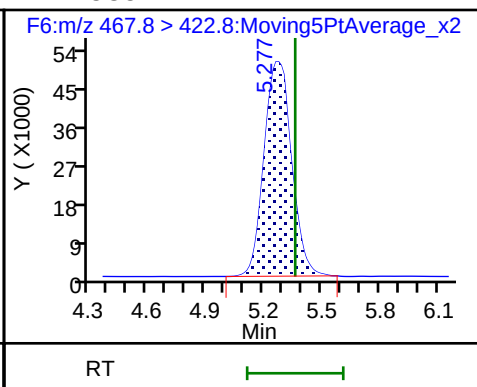
19 Perfluorononanoic acid (M)



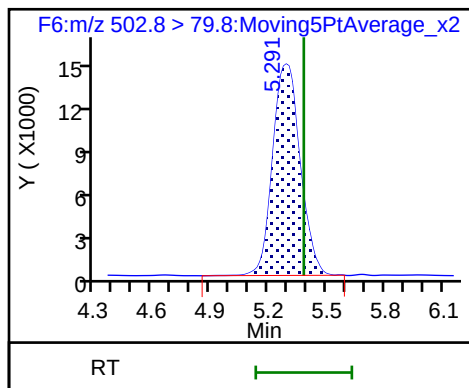
20 Perfluorooctane sulfonic acid (M)



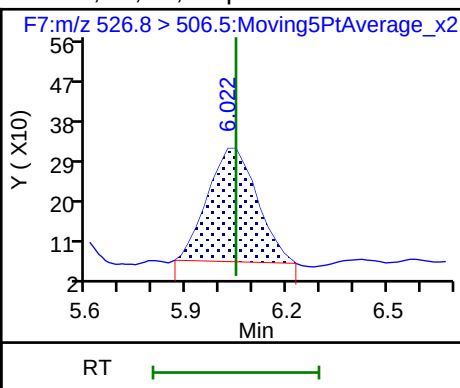
D 21 13C5 PFNA



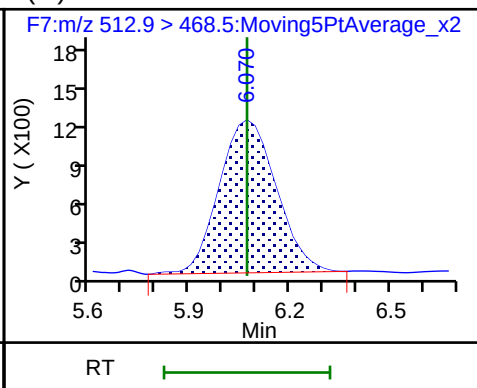
D 22 13C4 PFOS



24 1H,1H,2H,2H-perfluorodecanesulfonate (M) 13C4-PFOS



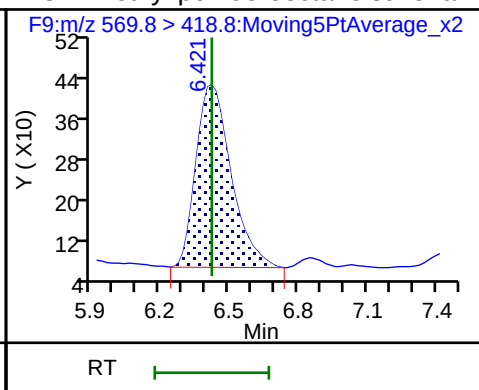
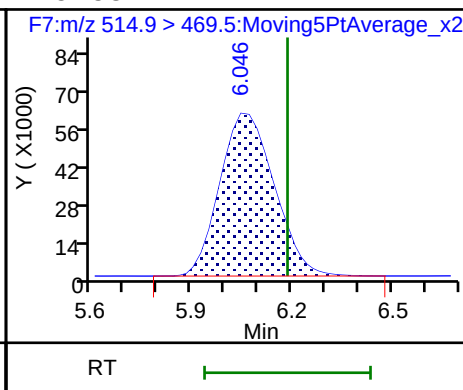
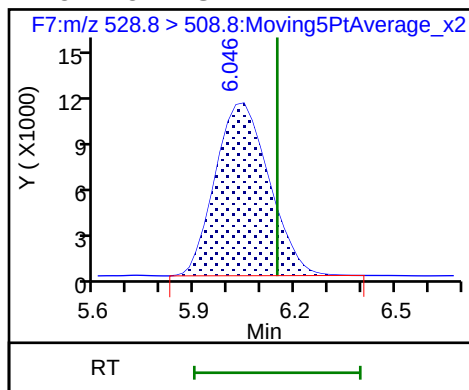
20 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

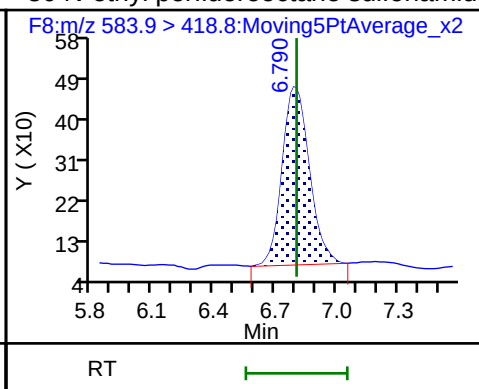
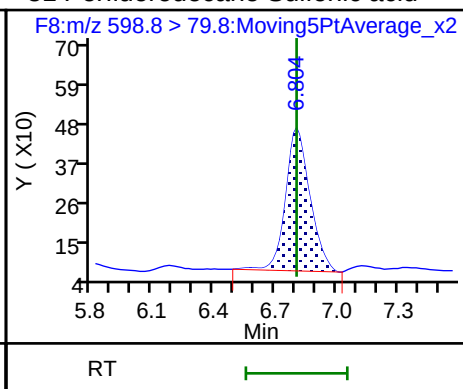
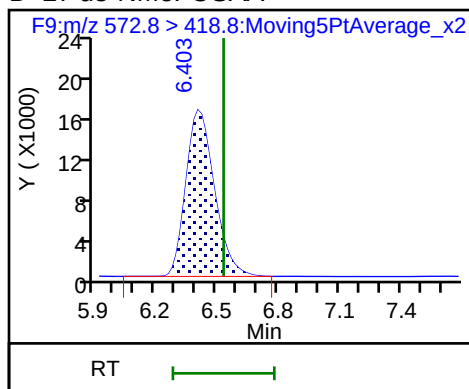
28 N-methyl perfluorooctane sulfonami (M)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

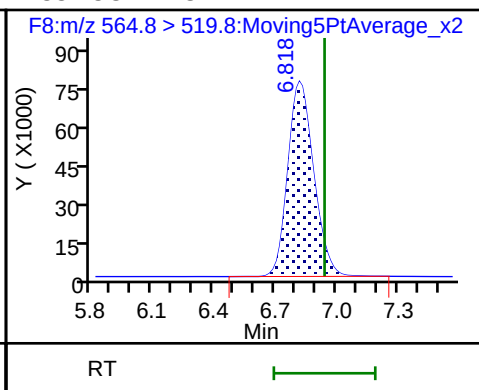
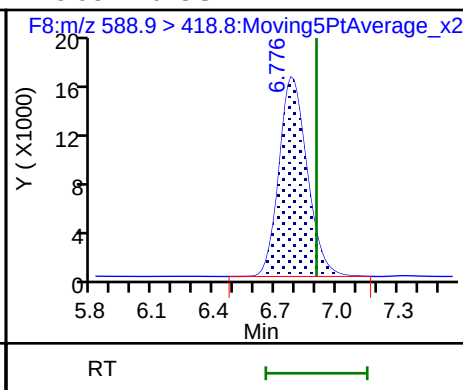
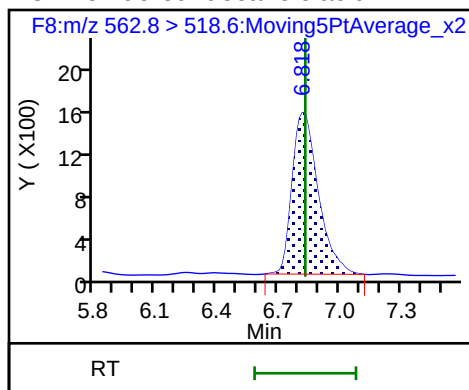
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

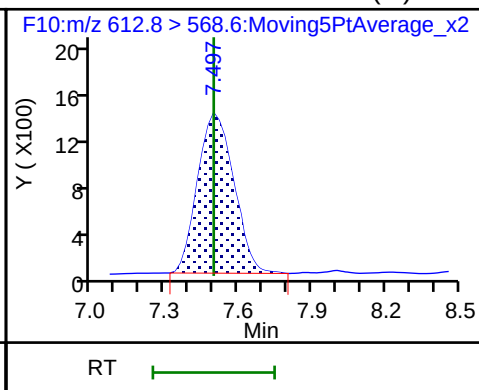
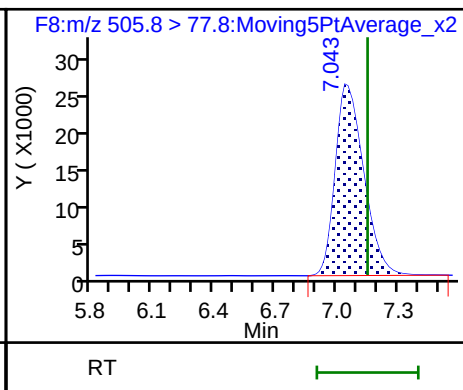
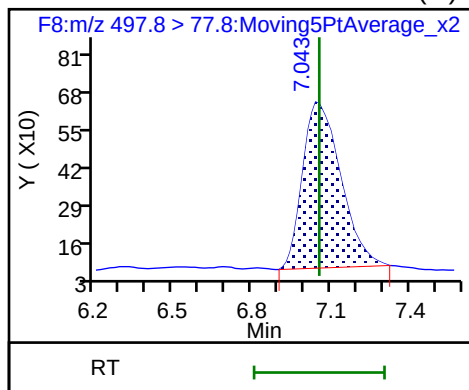
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (M)

D 35 13C8 FOSA

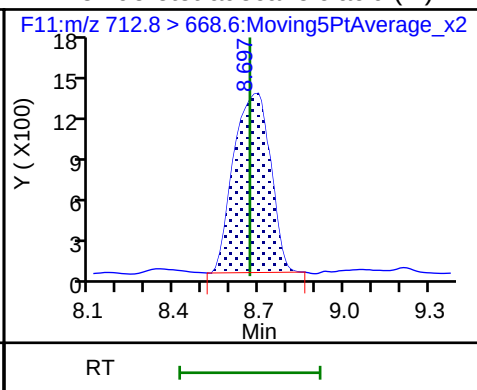
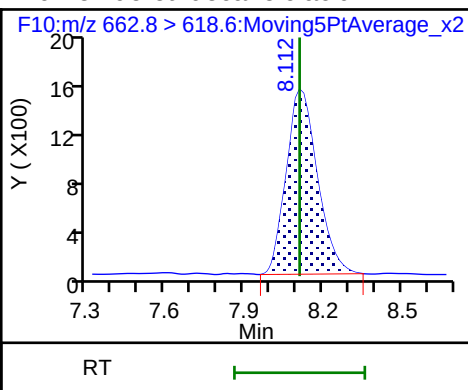
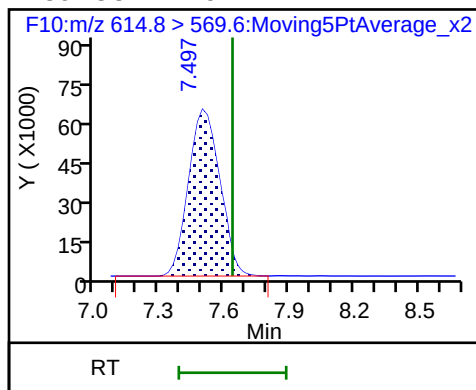
37 Perfluorododecanoic acid (M)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

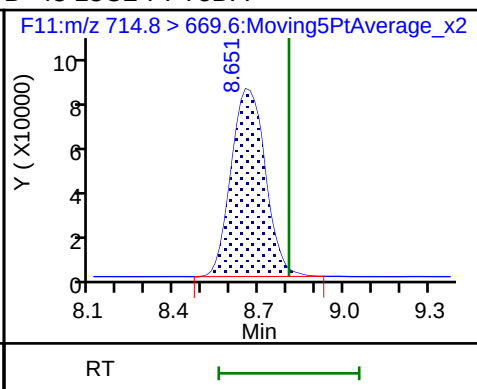
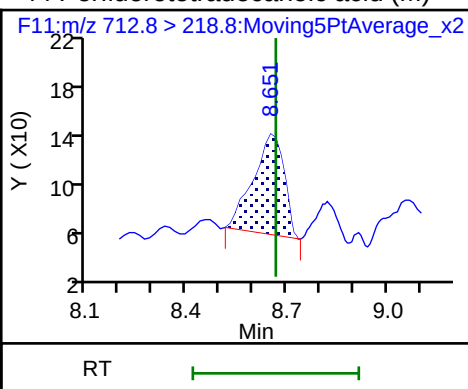
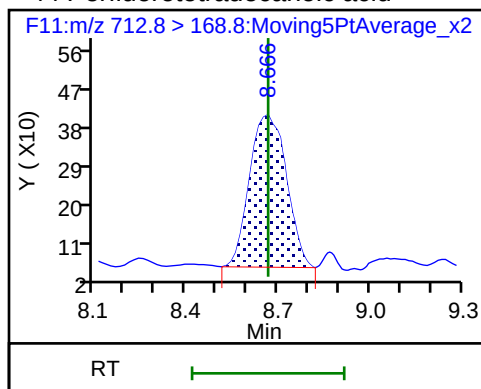
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid (M)

D 43 13C2-PFTeDA



TestAmerica Burlington

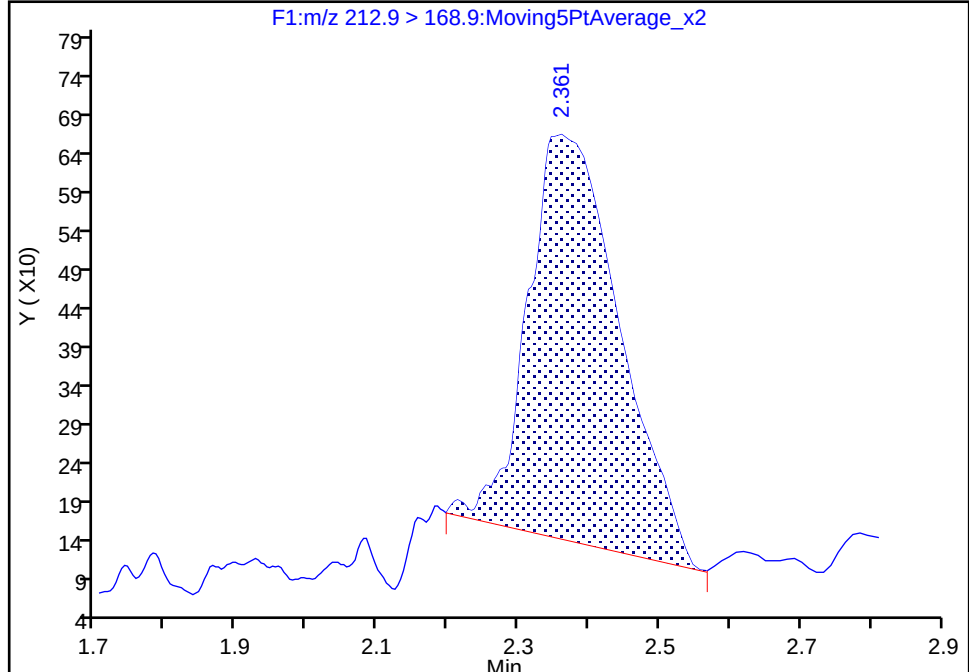
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Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

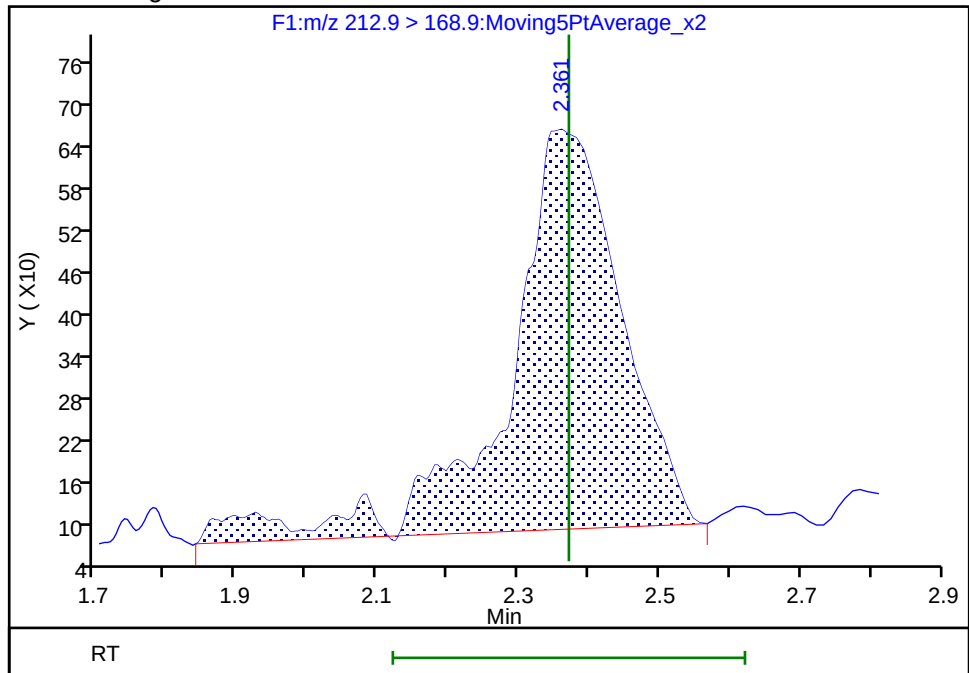
RT: 2.36
Area: 4802
Amount: 0.627922
Amount Units: ng/ml

Processing Integration Results



RT: 2.36
Area: 6518
Amount: 0.962064
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:04

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

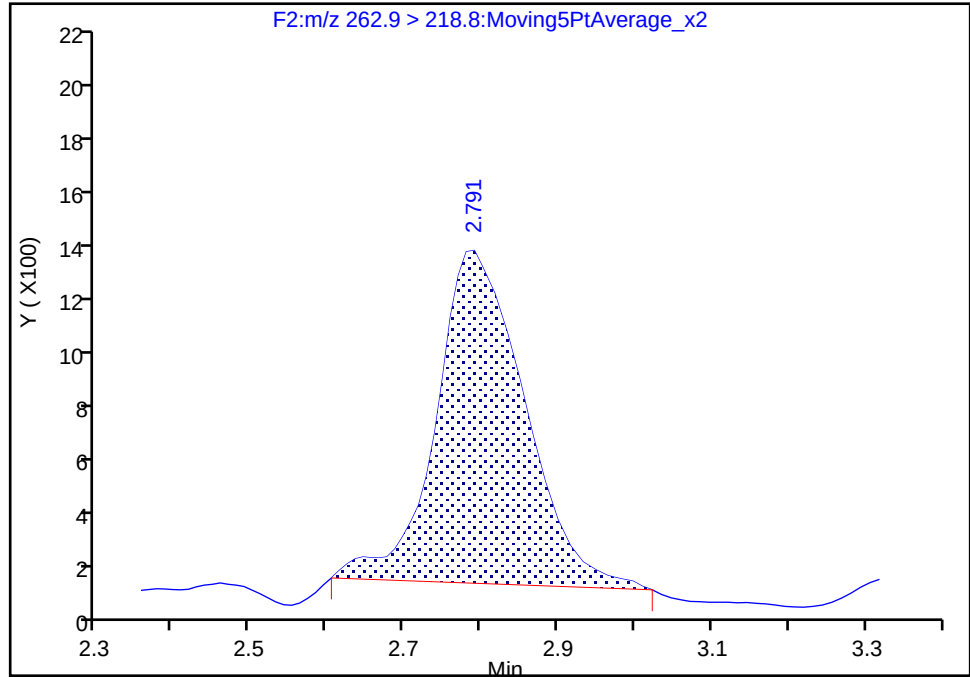
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Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM
		Worklist Smp#:	3

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

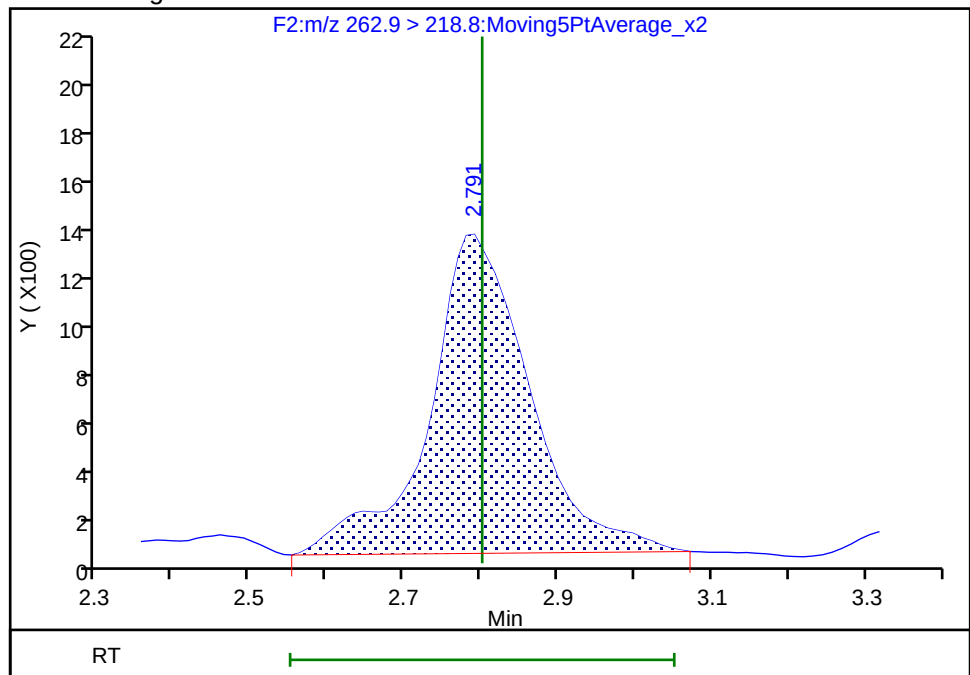
RT: 2.79
Area: 9720
Amount: 1.092471
Amount Units: ng/ml

Processing Integration Results



RT: 2.79
Area: 11659
Amount: 1.319005
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:09

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

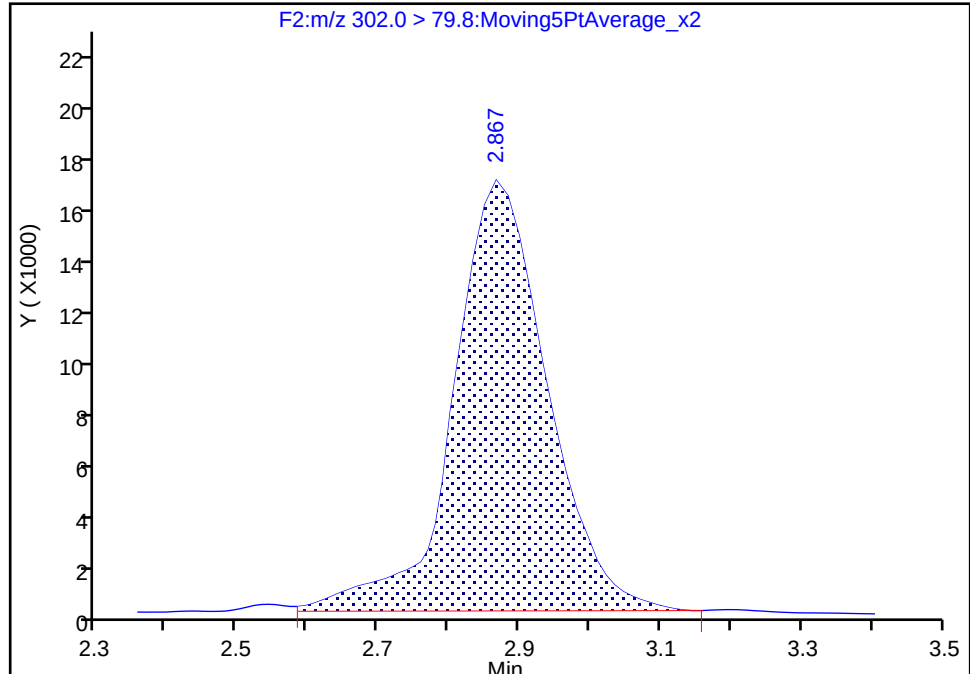
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Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

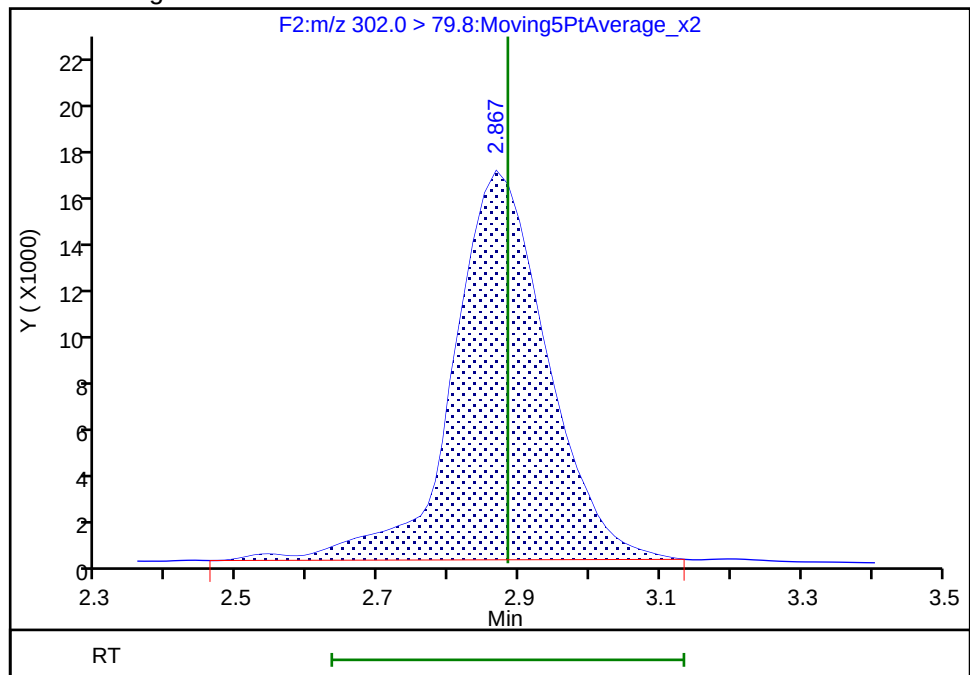
RT: 2.87
Area: 153450
Amount: 41.204317
Amount Units: ng/ml

Processing Integration Results



RT: 2.87
Area: 154106
Amount: 41.380466
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:20
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 296 of 434

10/19/2018

TestAmerica Burlington

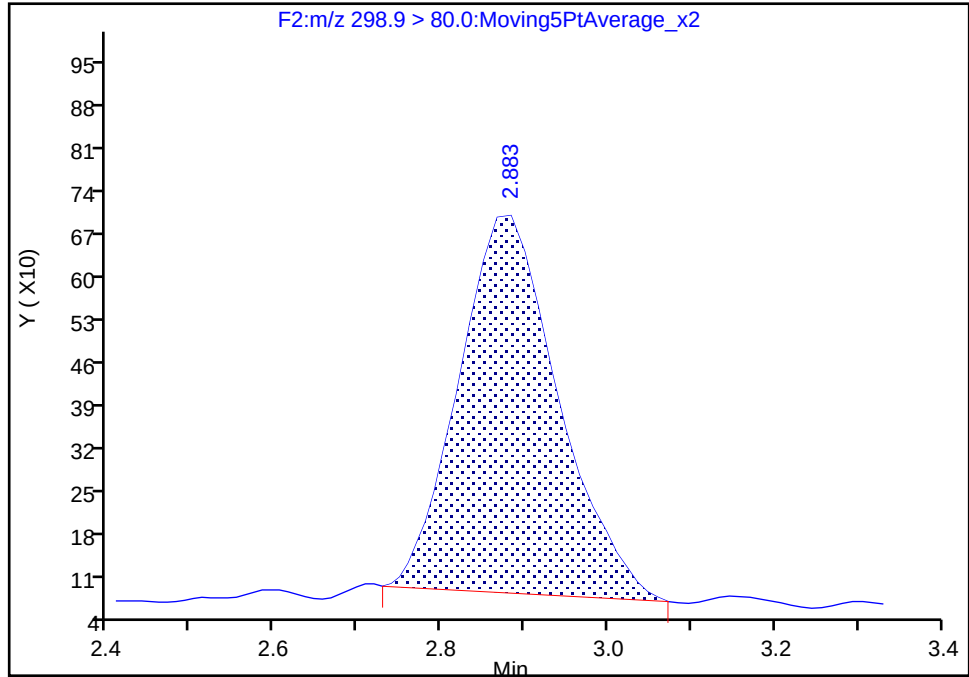
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Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

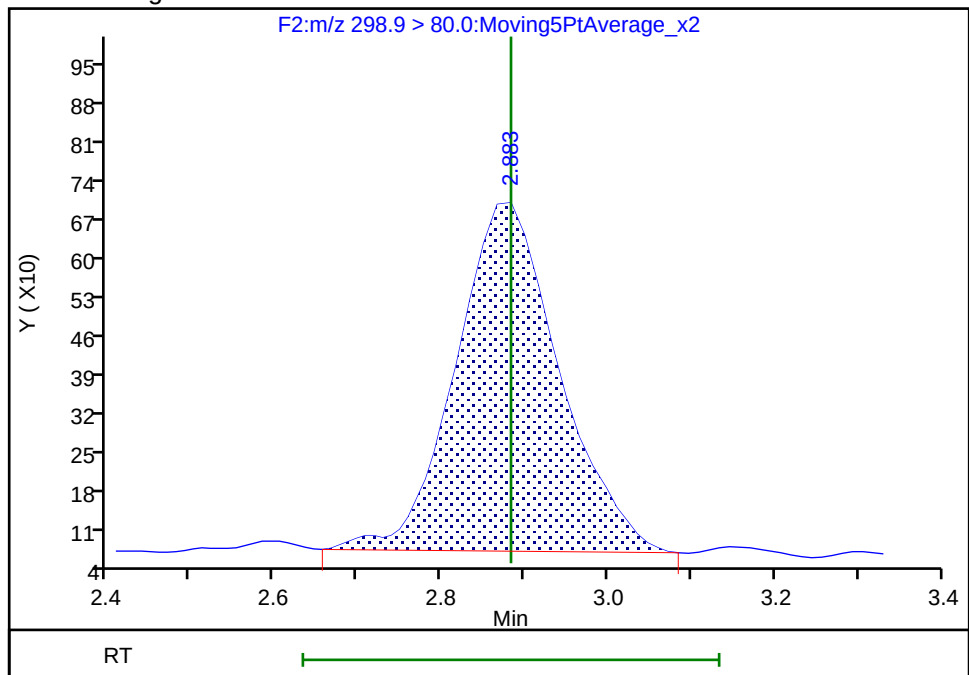
RT: 2.88
Area: 5133
Amount: 1.122216
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 5446
Amount: 1.179985
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:14

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

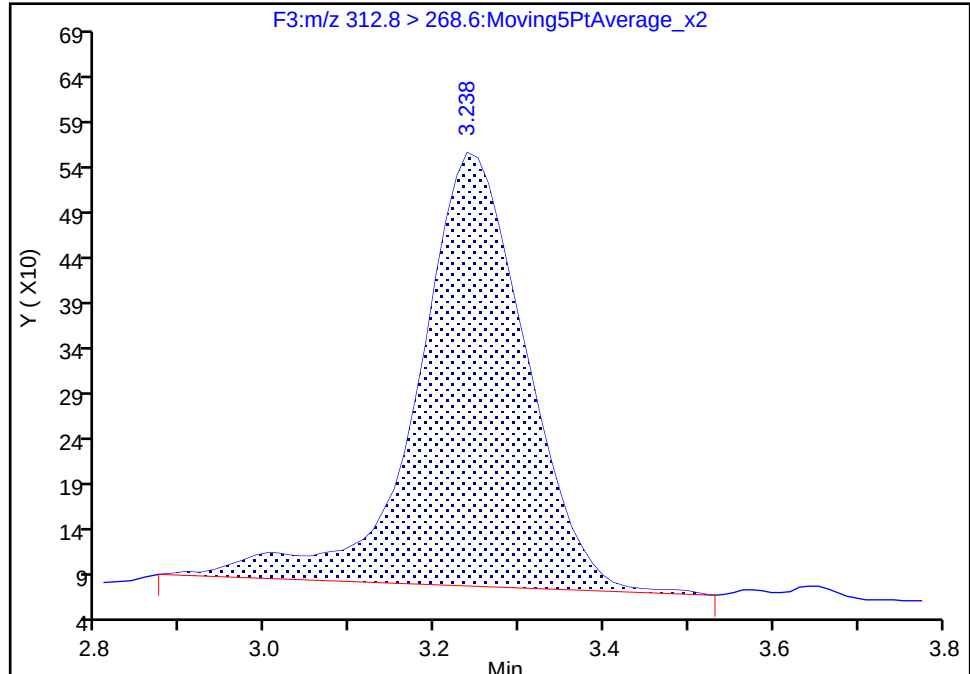
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Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

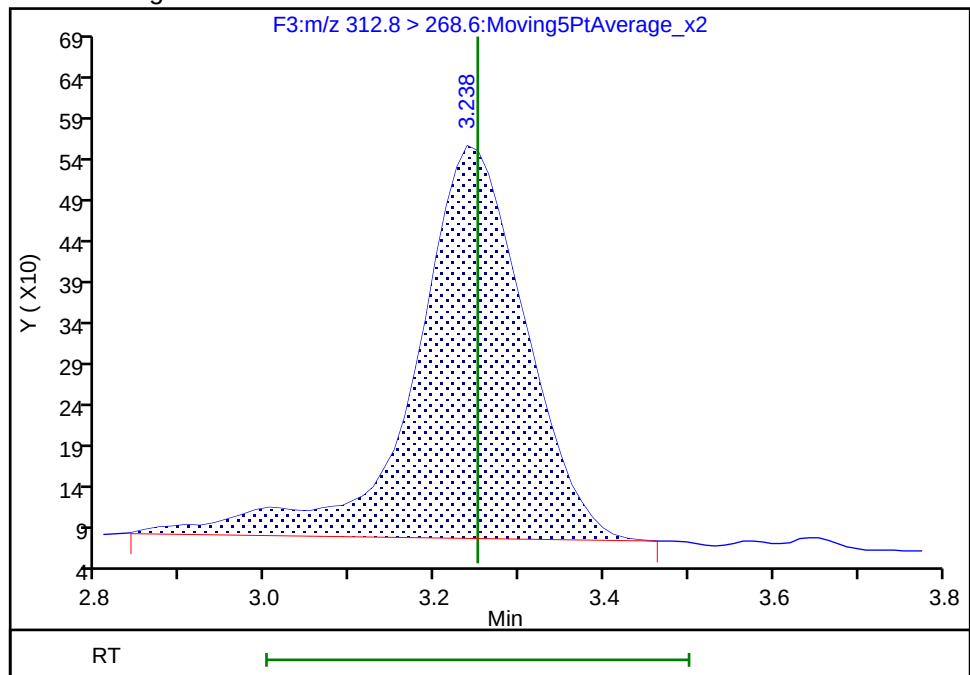
RT: 3.24
Area: 4273
Amount: 1.000476
Amount Units: ng/ml

Processing Integration Results



RT: 3.24
Area: 4355
Amount: 1.018553
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:27

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

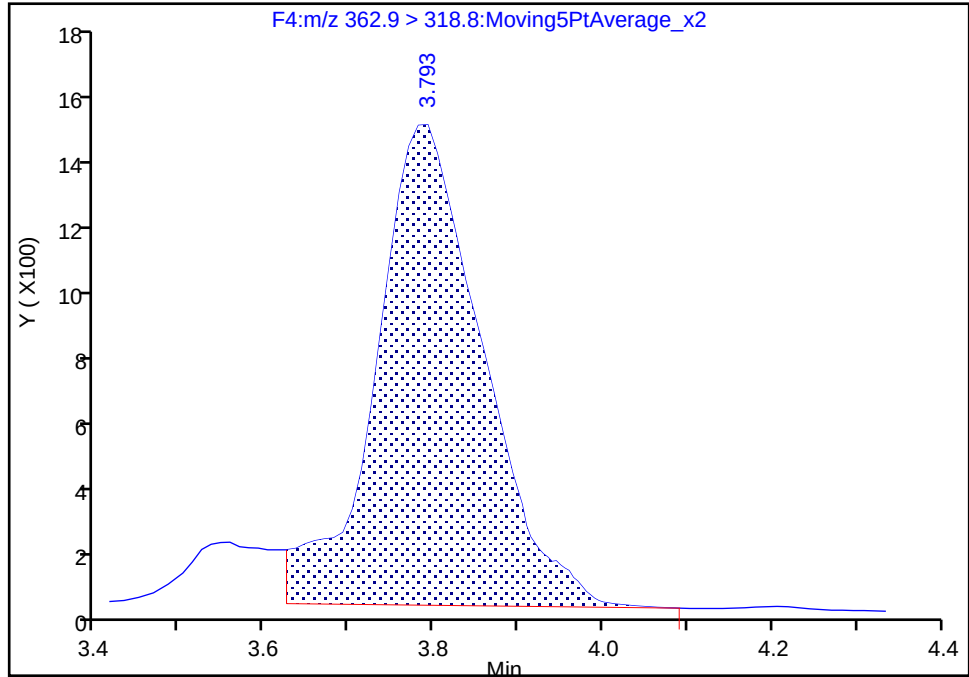
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Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

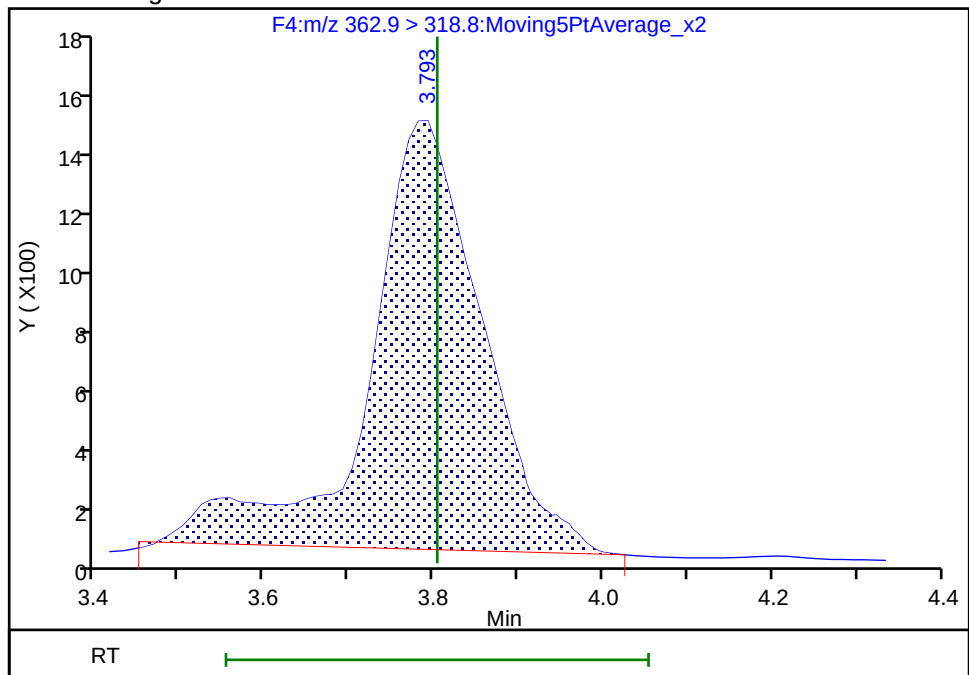
RT: 3.79
Area: 12177
Amount: 1.086024
Amount Units: ng/ml

Processing Integration Results



RT: 3.79
Area: 12776
Amount: 1.129865
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:32

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

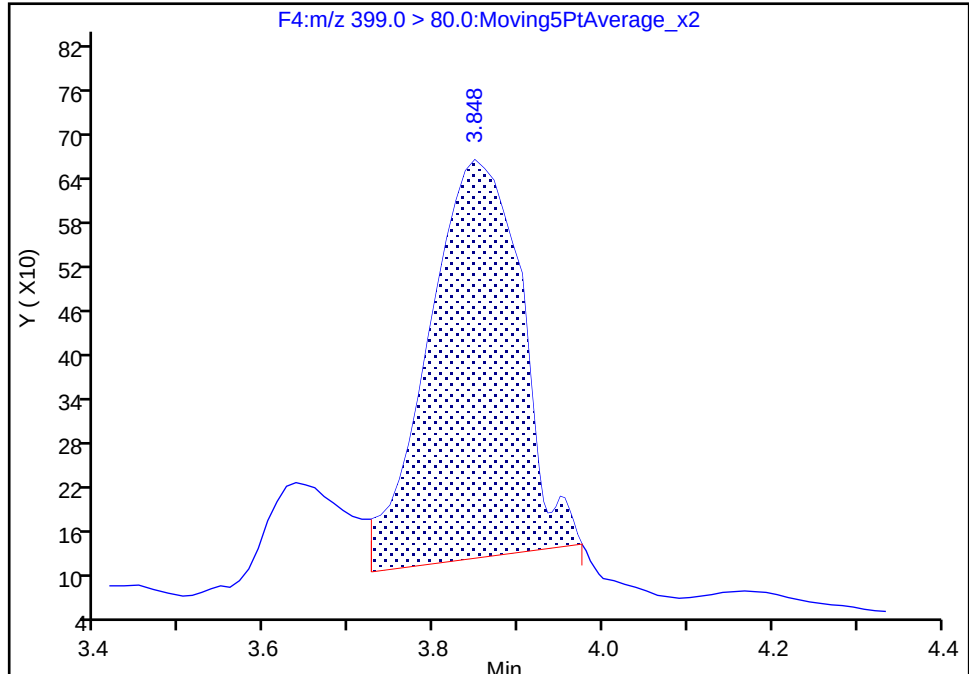
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Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

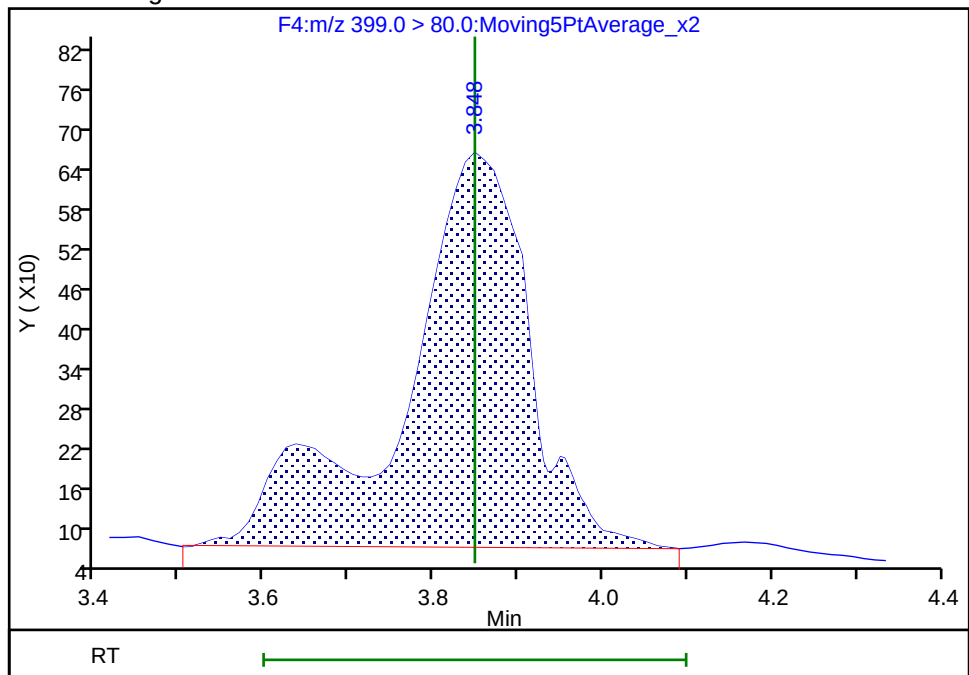
RT: 3.85
Area: 4149
Amount: 0.819846
Amount Units: ng/ml

Processing Integration Results



RT: 3.85
Area: 6168
Amount: 1.173410
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:13:36

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

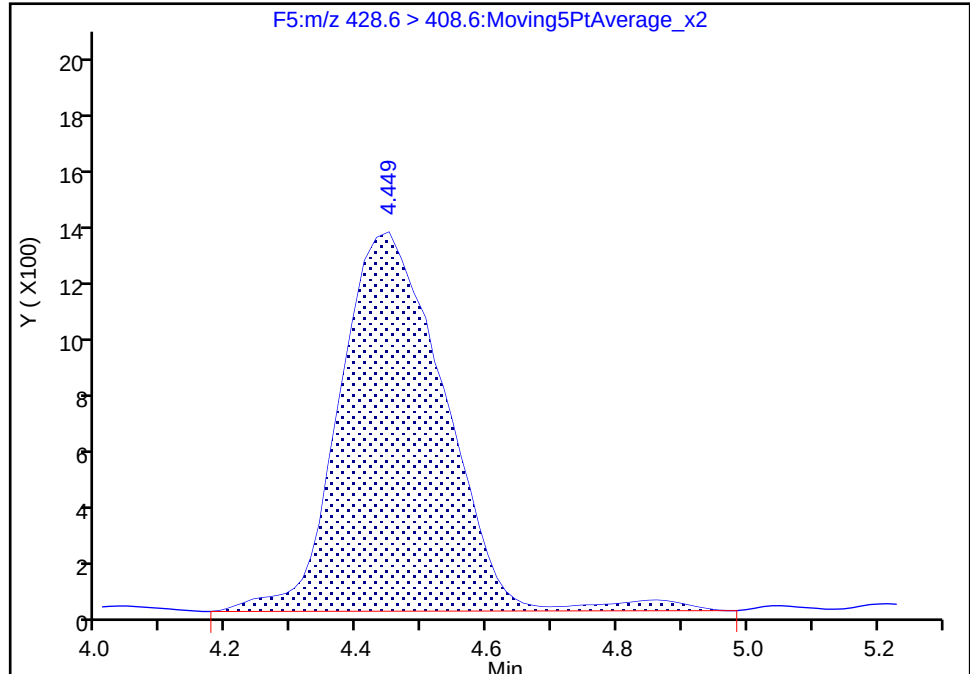
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Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM

D 14 M2-6:2FTS, CAS: STL02279

Signal: 1

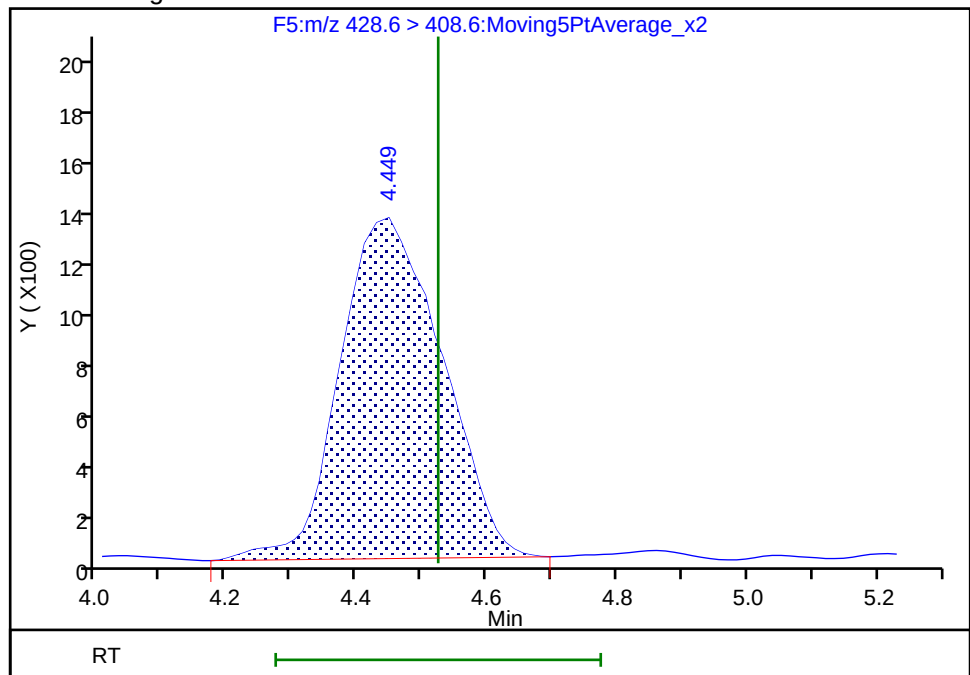
RT: 4.45
Area: 14784
Amount: 57.785268
Amount Units: ng/ml

Processing Integration Results



RT: 4.45
Area: 14238
Amount: 55.651153
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:14:07

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

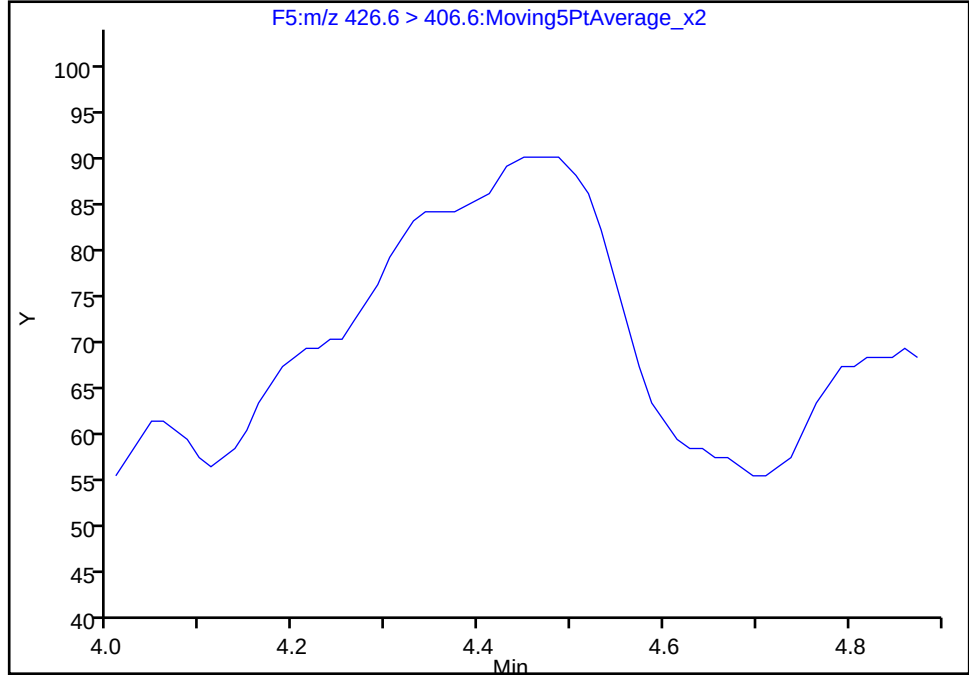
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d
Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

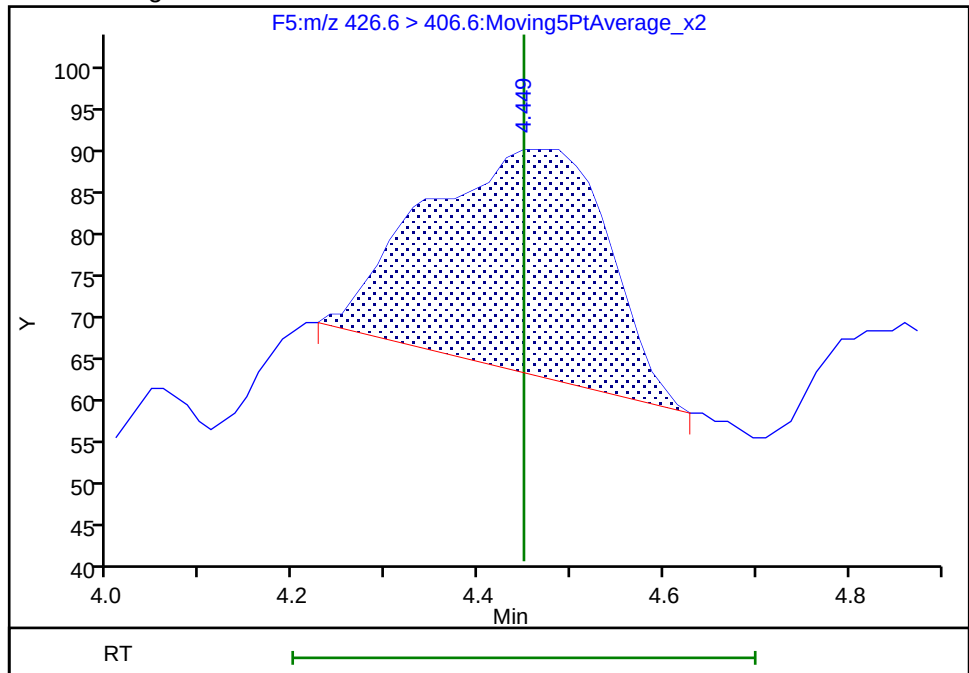
Signal: 1

Not Detected
Expected RT: 4.45

Processing Integration Results



Manual Integration Results



RT: 4.45
Area: 372
Amount: 1.405012
Amount Units: ng/ml

Reviewer: chirgwinb, 28-Jun-2018 18:13:53

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

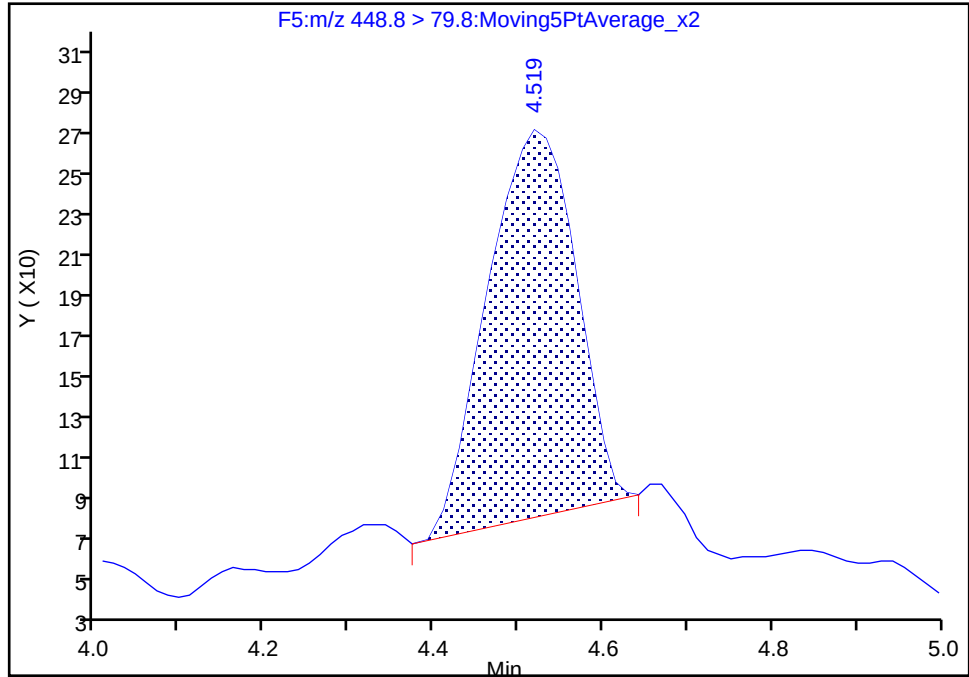
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d		
Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F5:MRM
		Worklist Smp#:	3

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

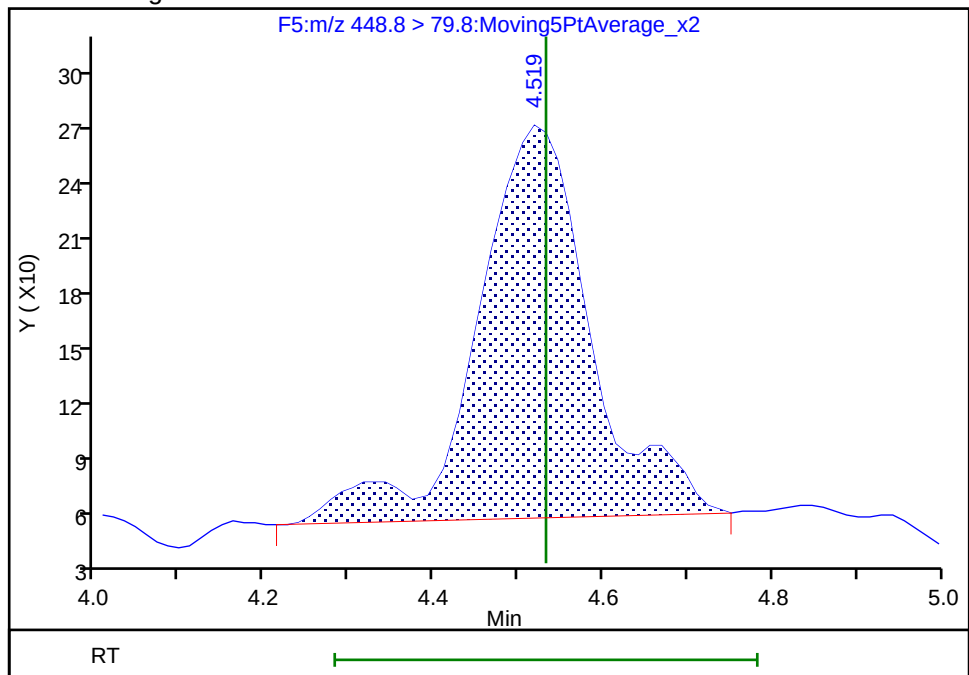
RT: 4.52
Area: 1322
Amount: 0.591383
Amount Units: ng/ml

Processing Integration Results



RT: 4.52
Area: 1905
Amount: 0.783176
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:14:32

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

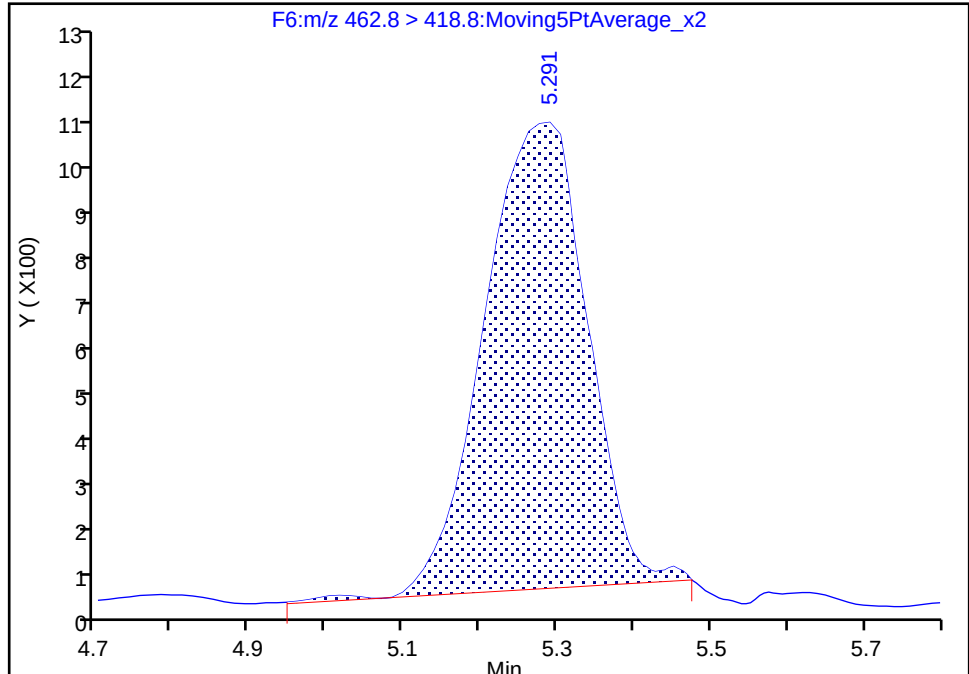
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d		
Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F6:MRM
		Worklist Smp#:	3

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

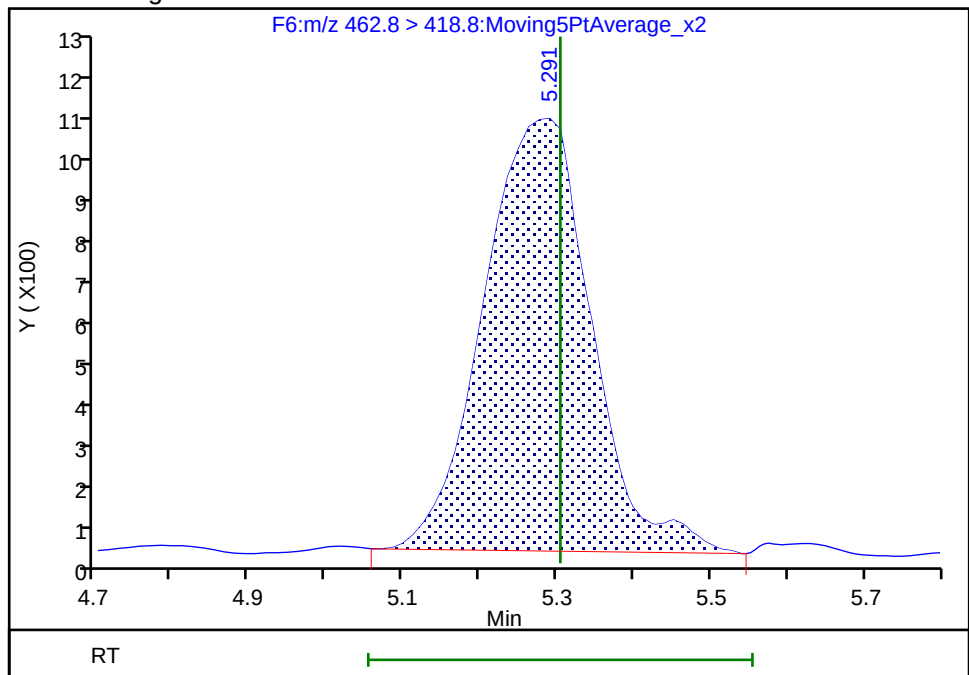
RT: 5.29
Area: 8999
Amount: 0.883917
Amount Units: ng/ml

Processing Integration Results



RT: 5.29
Area: 9608
Amount: 0.942525
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:14:41
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 304 of 434

10/19/2018

TestAmerica Burlington

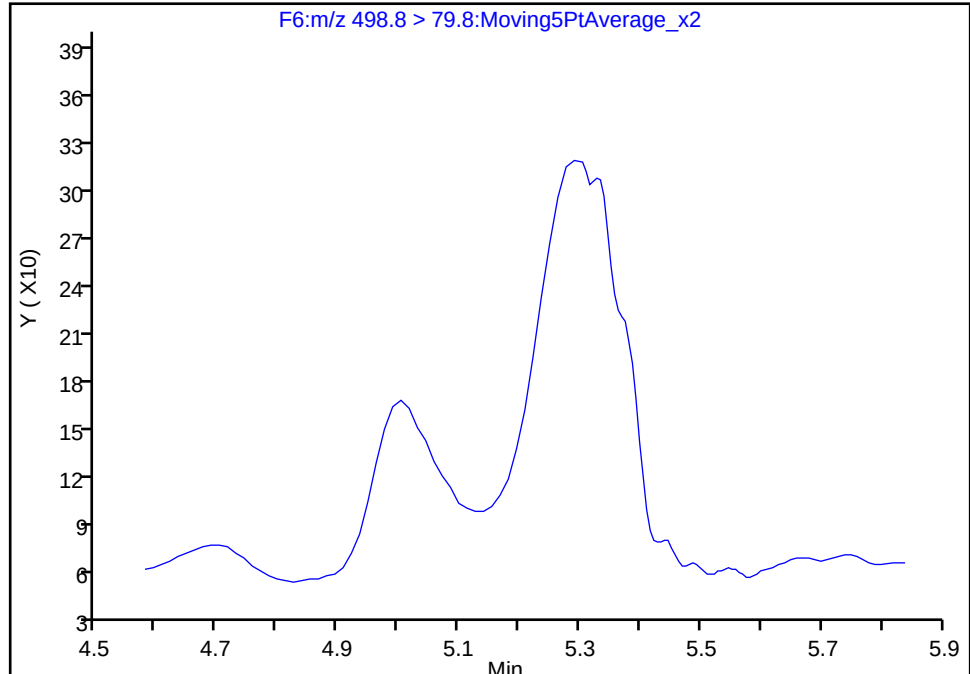
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d
Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

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

Signal: 1

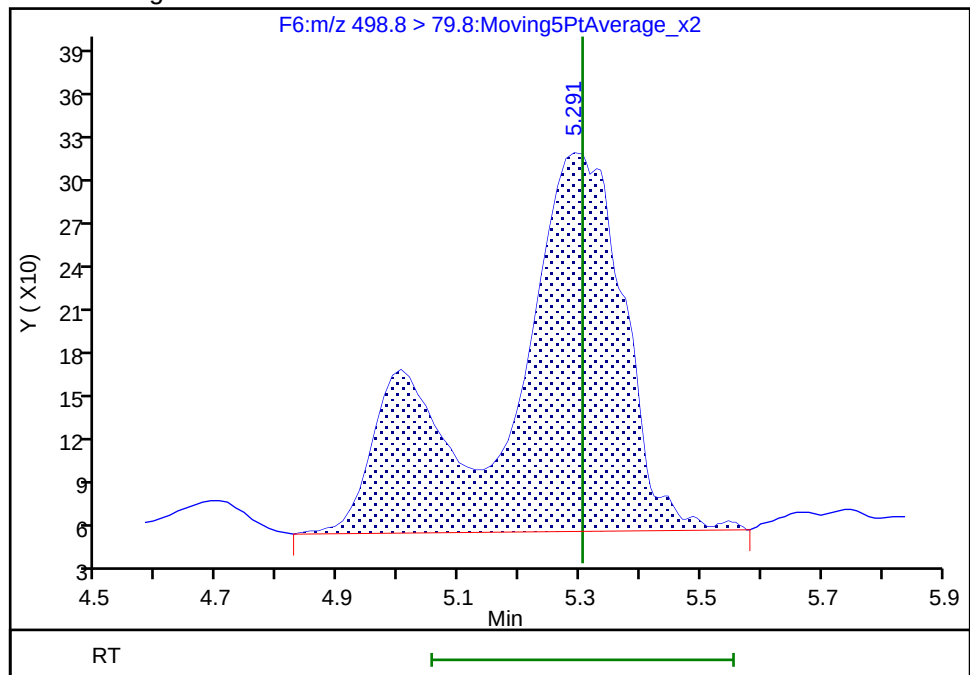
Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results

RT: 5.29
Area: 3657
Amount: 1.287672
Amount Units: ng/ml



Reviewer: chirgwinb, 28-Jun-2018 18:14:54

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

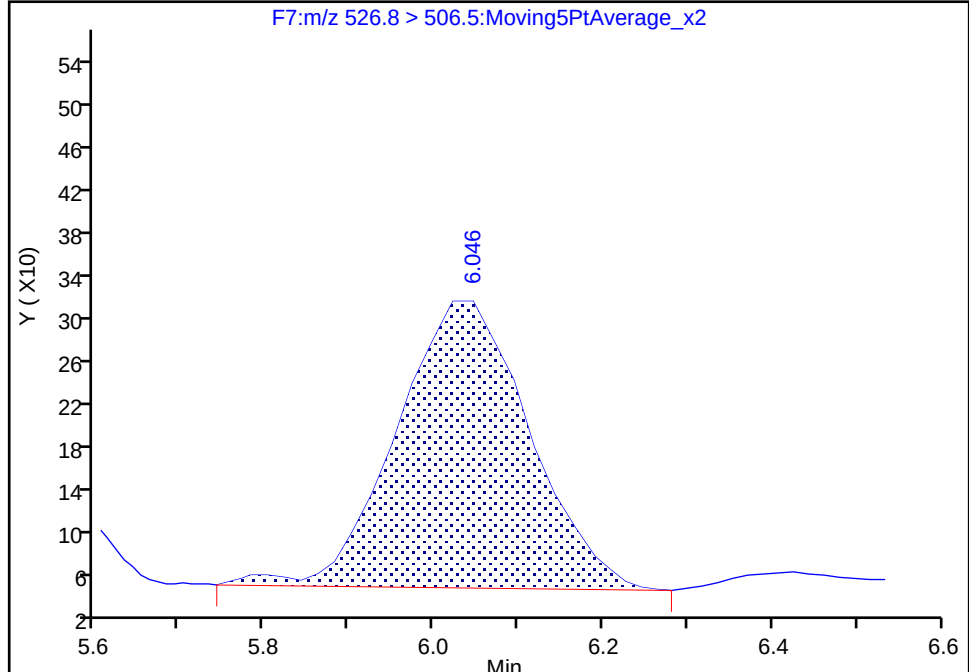
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d
Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F7:MRM

24 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

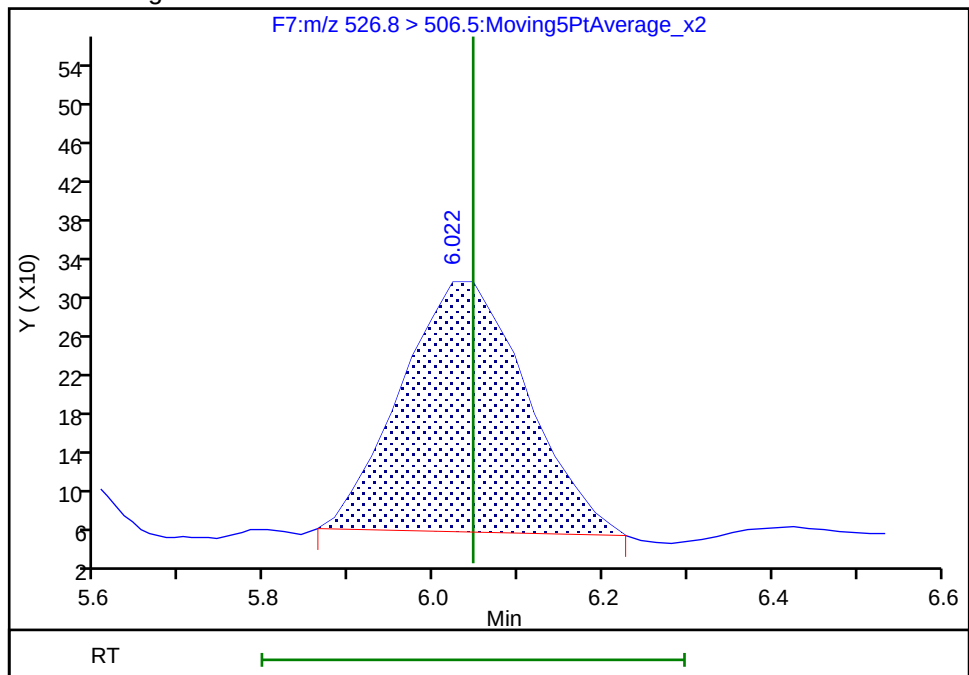
RT: 6.05
Area: 2865
Amount: 1.805705
Amount Units: ng/ml

Processing Integration Results



RT: 6.02
Area: 2605
Amount: 1.672967
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:15:15

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

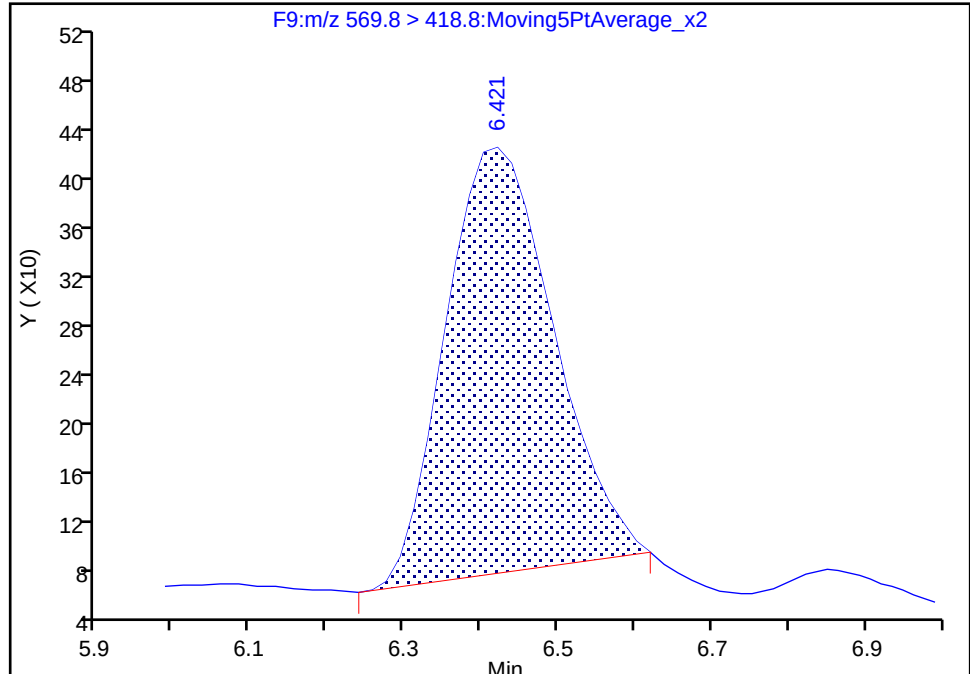
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d
Injection Date: 28-Jun-2018 17:05:03 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F9:MRM

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

Signal: 1

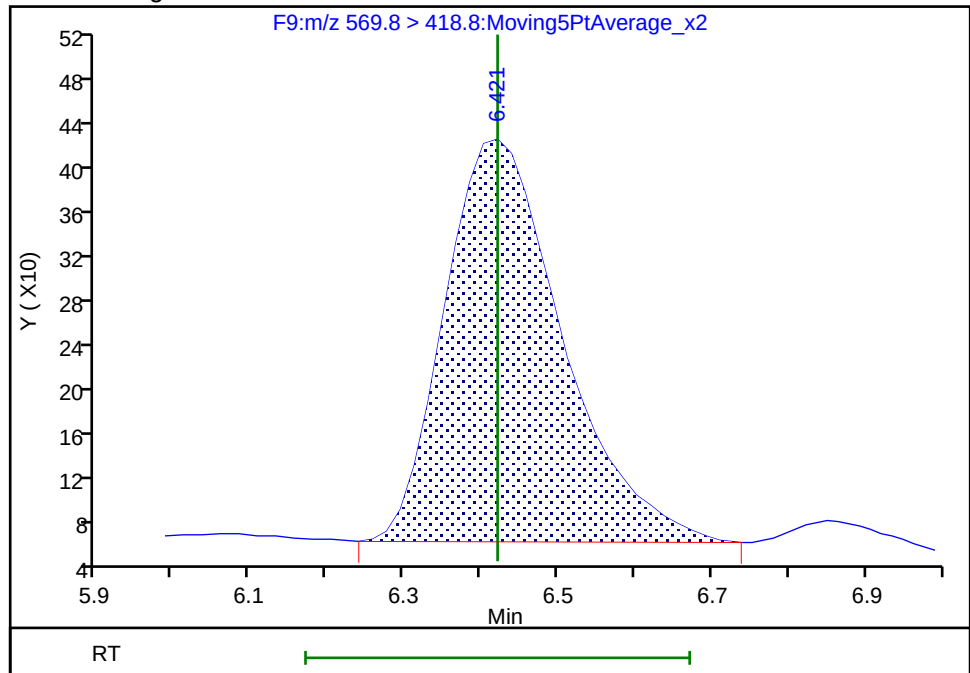
RT: 6.42
Area: 3420
Amount: 0.867479
Amount Units: ng/ml

Processing Integration Results



RT: 6.42
Area: 3887
Amount: 0.988968
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:15:37

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d

Injection Date: 28-Jun-2018 17:05:03

Instrument ID: LC410

Lims ID: CCVL

Client ID:

Operator ID: JWM

ALS Bottle#:

0

Worklist Smp#: 3

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

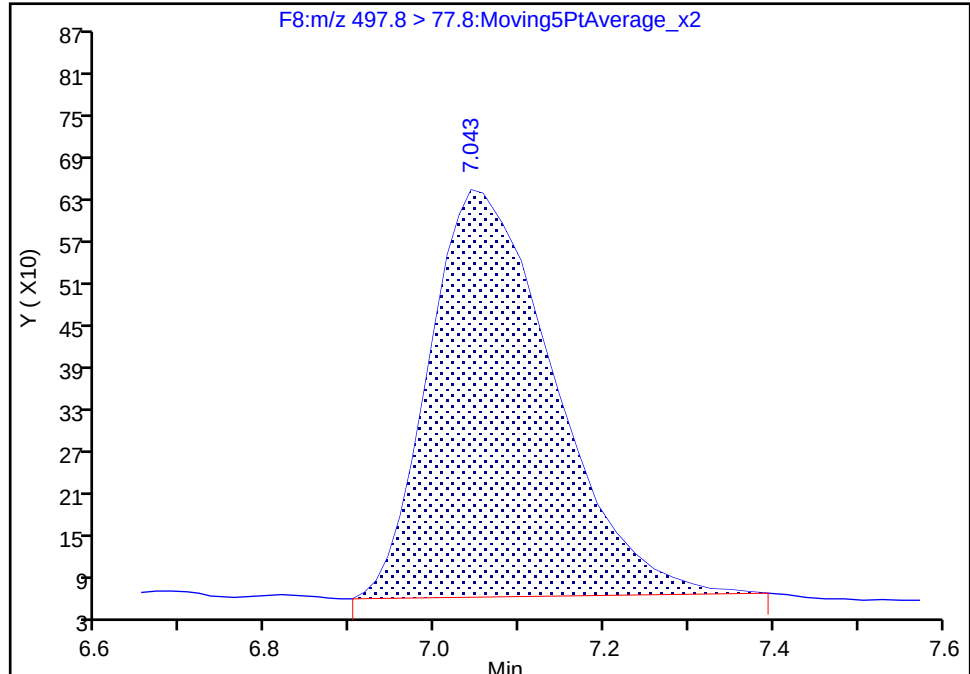
Detector F8:MRM

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

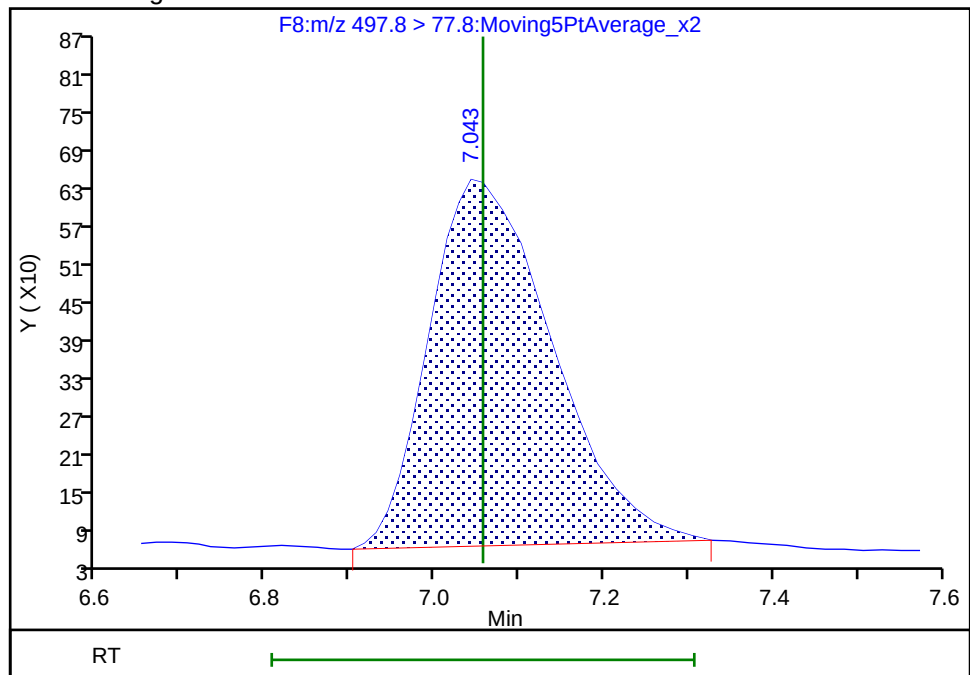
RT: 7.04
Area: 5903
Amount: 1.538162
Amount Units: ng/ml

Processing Integration Results



RT: 7.04
Area: 5797
Amount: 1.518529
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:17:36

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

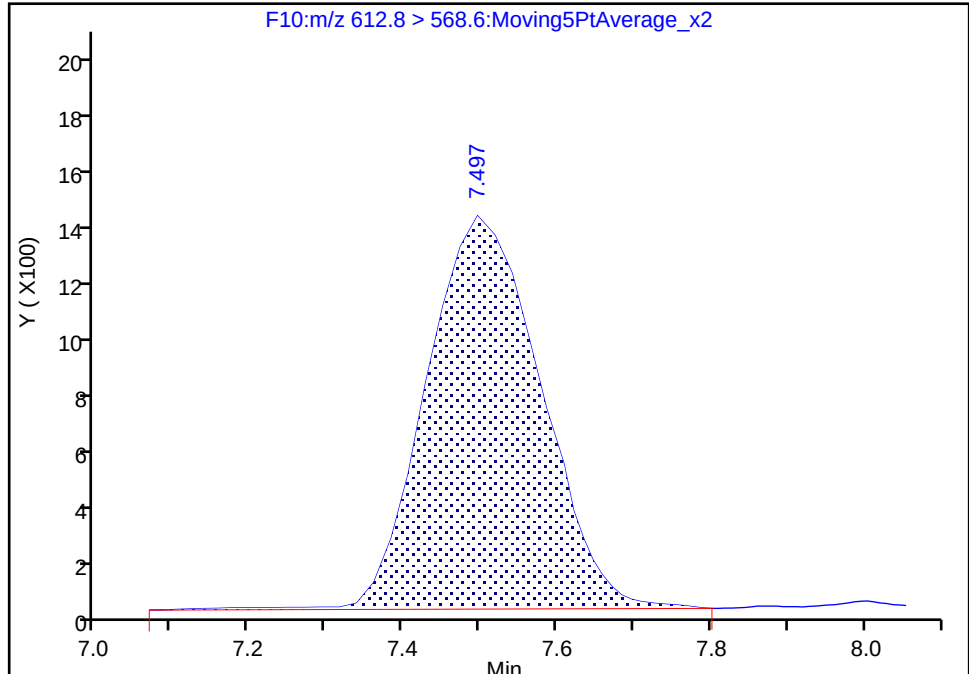
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d		
Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F10:MRM

37 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

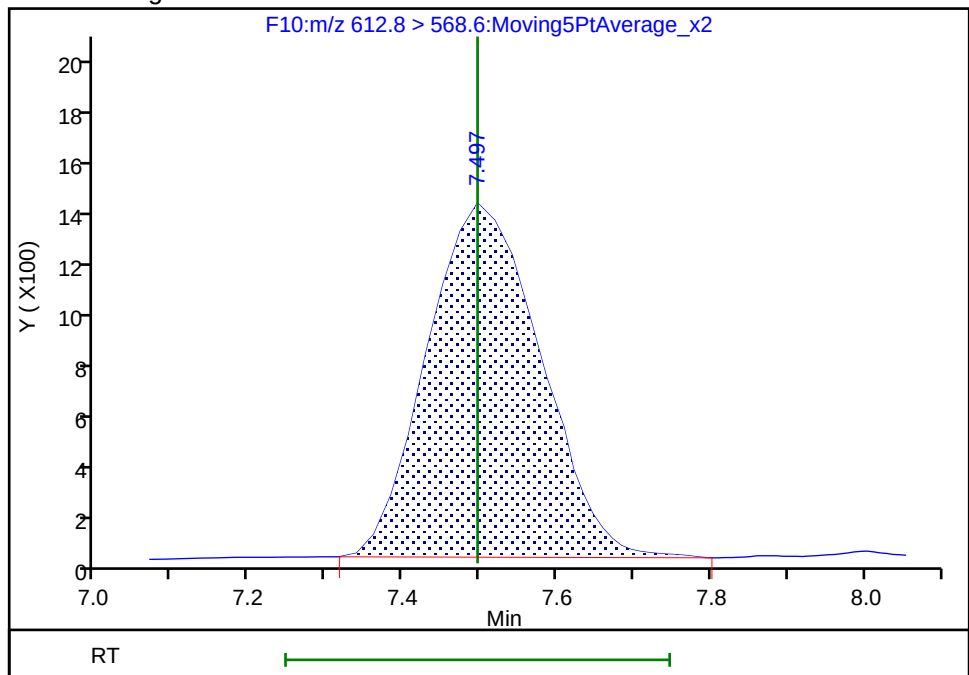
RT: 7.50
Area: 14263
Amount: 1.067030
Amount Units: ng/ml

Processing Integration Results



RT: 7.50
Area: 14064
Amount: 1.051448
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 28-Jun-2018 18:15:52

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

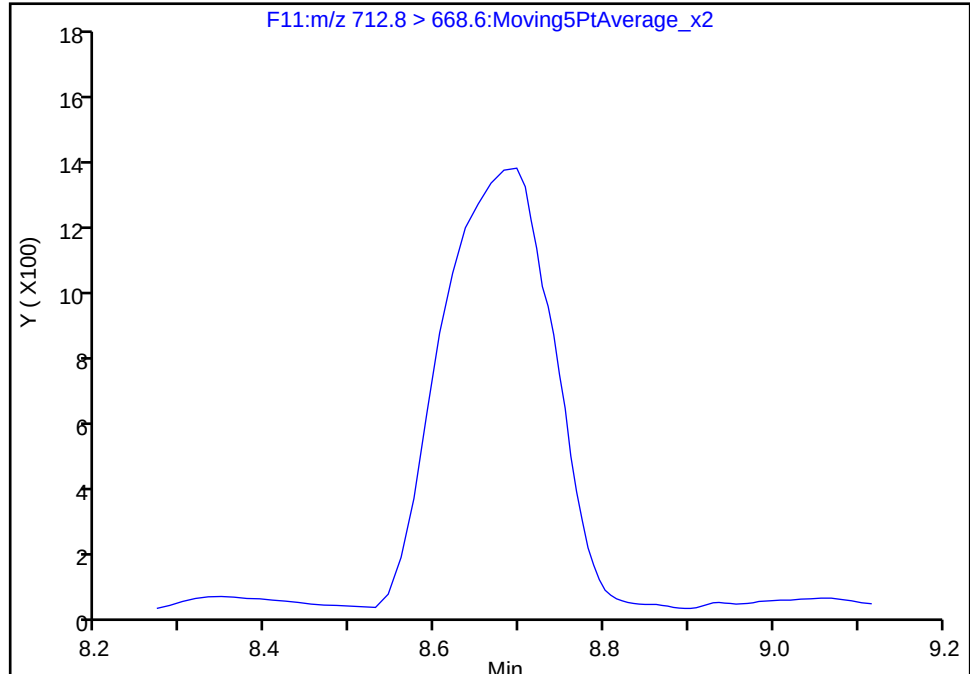
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d		
Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F11:MRM
		Worklist Smp#:	3

44 Perfluorotetradecanoic acid, CAS: 376-06-7

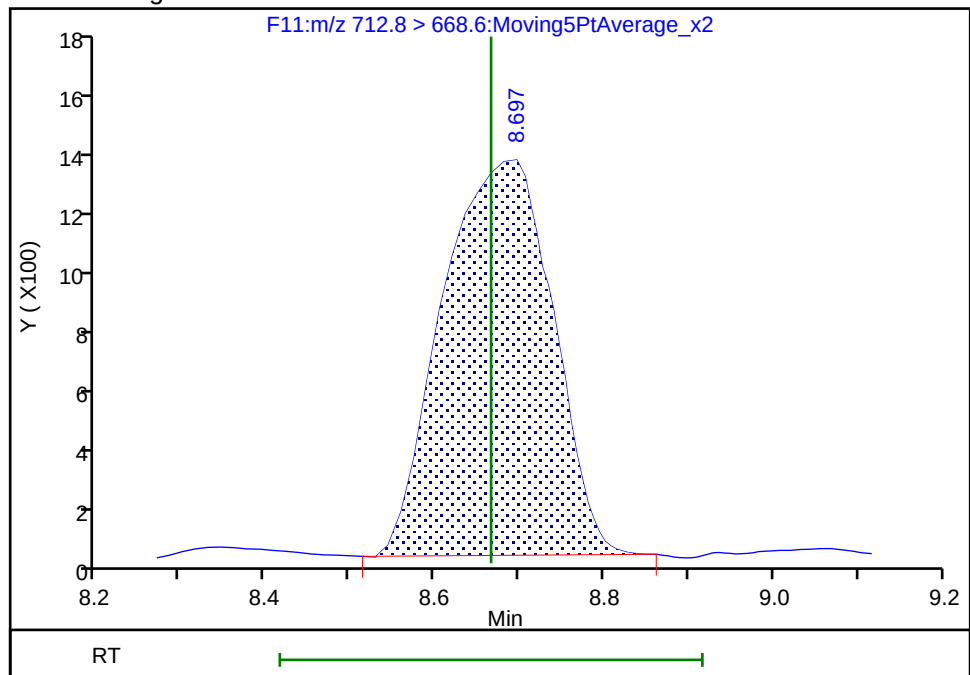
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results

RT: 8.70
Area: 11948
Amount: 0.932911
Amount Units: ng/ml

Reviewer: chirgwinb, 28-Jun-2018 18:16:05

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

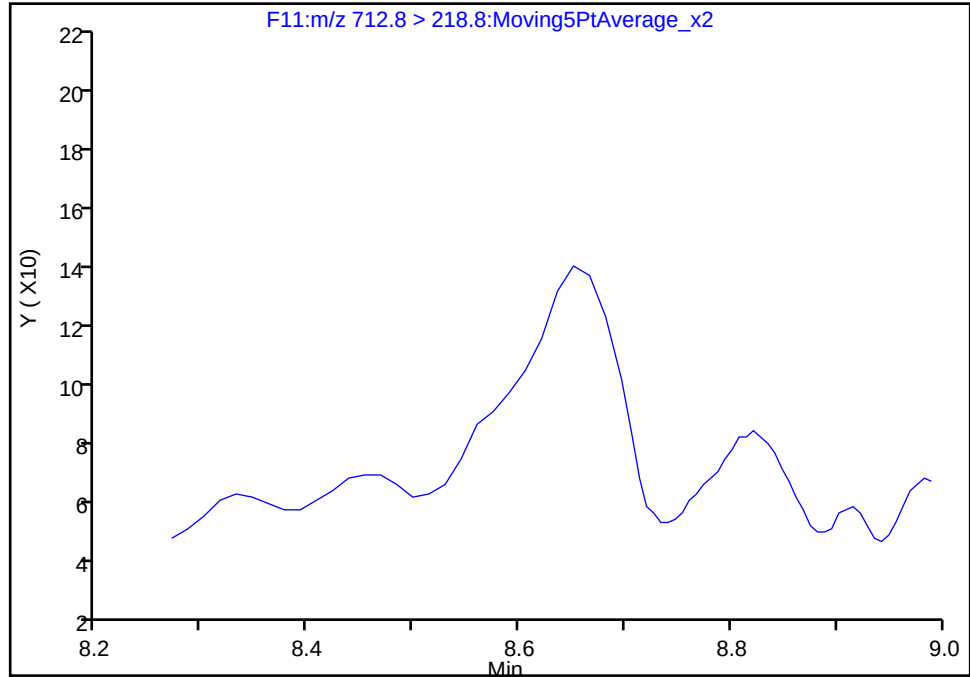
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A03.d		
Injection Date:	28-Jun-2018 17:05:03	Instrument ID:	LC410
Lims ID:	CCVL		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F11:MRM
		Worklist Smp#:	3

44 Perfluorotetradecanoic acid, CAS: 376-06-7

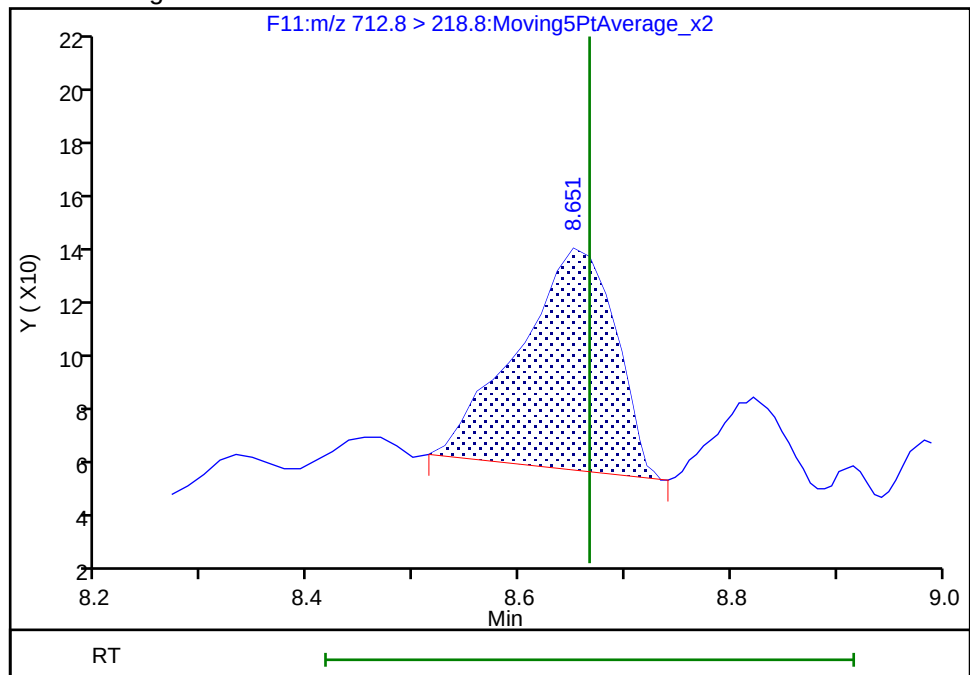
Signal: 3

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results

RT: 8.65
Area: 494
Amount: 0.932911
Amount Units: ng/ml

Reviewer: chirgwinb, 28-Jun-2018 18:16:09

Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 311 of 434

10/19/2018

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1

SDG No.: _____

Lab Sample ID: CCV 200-131275/10 Calibration Date: 06/28/2018 18:58

Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51

GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12

Lab File ID: PF062818A10.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8882		4274	5000	-14.5	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		3.821		4398	5000	-12.0	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		1.547		4595	4420	4.0	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8044		3810	5000	-23.8	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		0.9549		4365	5000	-12.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.313		4570	4550	0.4	40.0
6:2 FTS	L1ID		1.090		4896	4740	3.3	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.133		4720	5000	-5.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L1ID		0.8827		4287	4760	-9.9	50.0
Perfluorononanoic acid (PFNA)	L2ID		0.8945		4336	5000	-13.3	40.0
Perfluorooctanesulfonic acid (PFOS)	L1ID		1.037		4101	4640	-11.6	40.0
8:2 FTS	L1ID		0.6689		4743	4790	-1.0	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8474		4138	5000	-17.2	40.0
N-methylperfluorooctanesulfo namidoacetic acid (NMeFOSAA)	L2ID		1.089		4470	5000	-10.6	40.0
N-ethylperfluorooctanesulfon amidoacetic acid (NEtFOSAA)	L1ID		0.9733		4450	5000	-11.0	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.149		5090	4820	5.6	50.0
Perfluoroundecanoic acid (PFUnA)	L1ID		0.9101		4702	5000	-6.0	40.0
Perfluorooctanesulfonamide (FOSA)	L1ID		0.8302		4269	5000	-14.6	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		0.8863		4477	5000	-10.5	40.0
Perfluorotridecanoic acid (PFTrIA)	L2ID		0.997		4964	5000	-0.7	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.8008		4150	5000	-17.0	40.0
13C4 PFBA	Ave	0.5332	0.4585		43000	50000	-14.0	50.0
13C5-PFPeA DNU	Ave	0.2061	0.1703		41320	50000	-17.4	50.0
13C3 PFBS	Ave	0.3765	0.3072		37930	46500	-18.4	50.0
13C2 PFHxA	Ave	0.4152	0.4111		49500	50000	-1.0	50.0
13C4 PFHpA	Ave	1.121	1.032		46030	50000	-7.9	50.0
18O2 PFHxS	Ave	0.4597	0.3712		38190	47300	-19.3	50.0
M2-6:2 FTS	Ave	0.0259	0.0293		53730	47500	13.1	50.0
13C4 PFOA	Ave	0.9120	0.8472		46450	50000	-7.1	50.0
13C5 PFNA	Ave	0.9871	0.9687		49070	50000	-1.9	50.0
13C4 PFOS	Ave	0.3404	0.3028		42510	47800	-11.1	50.0
M2-8:2 FTS	Ave	0.2895	0.3087		51070	47900	6.6	50.0
13C2 PFDA	Ave	1.376	1.373		49880	50000	-0.2	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: CCV 200-131275/10 Calibration Date: 06/28/2018 18:58
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062818A10.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.3249	0.2893		44530	50000	-10.9	50.0
d5-NEtFOSAA	Ave	0.3059	0.3001		49050	50000	-1.9	50.0
13C2 PFUnA	Ave	1.292	1.341		51910	50000	3.8	50.0
13C8 FOSA	Ave	0.5262	0.4781		45430	50000	-9.1	50.0
13C2 PFDoA	Ave	1.306	1.252		47910	50000	-4.2	50.0
13C2 PFTeDA	Ave	1.313	1.289		49060	50000	-1.9	50.0

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d
 Lims ID: CCV L3
 Client ID:
 Sample Type: CCV
 Inject. Date: 28-Jun-2018 18:58:17 ALS Bottle#: 0 Worklist Smp#: 10
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-010 CCV L3
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:20 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 29-Jun-2018 08:50:06

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	2.382	2.370	0.012	1.000	283901	43.0		86.0	756	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.382	2.371	0.011	1.000	25216	4.27		85.5	61.1	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.801	2.801	0.0	1.000	40288	4.40		88.0	59.9	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	105428	41.3		82.6	930	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.883	0.0	1.000	25999	4.60		104	203	M
D 5 13C3-PFBS										M
302.0 > 79.8	2.883	2.883	0.0	1.000	176859	37.9		81.6	173	M
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.250	3.250	0.0	1.000	20473	3.81		76.2	264	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.250	3.265	-0.015	1.000	254501	49.5		99.0	2973	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.804	3.804	0.0	1.000	61026	4.36		87.3	107	M
D 10 13C4-PFHpA										M
366.9 > 321.8	3.804	3.843	-0.039	1.000	639057	46.0		92.1	365	M
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.848	3.848	0.0	1.003	27458	4.57		100	85.2	M
D 13 18O2 PFHxS										M
402.9 > 83.8	3.837	3.889	-0.052	1.000	217413	38.2		80.7	233	M
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.449	4.449	0.0	0.996	1872	4.90		103	16.4	M
* 49 13C2-PFOA										
414.9 > 369.8	4.505	4.505	0.0		519136	50.0		2708		

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.505	4.505	0.0	1.000	59449	4.72		94.4	159	
D 14 M2-6:2FTS										
428.6 > 408.6	4.468	4.525	-0.057	1.000	17209	53.7		113	179	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.532	4.532	0.0	0.854	15752	4.29		90.1	291	M
D 17 13C4 PFOA										
416.9 > 371.8	4.505	4.567	-0.062	1.000	524544	46.4		92.9	1140	
19 Perfluorononanoic acid										
462.8 > 418.8	5.277	5.304	-0.027	1.000	53643	4.34		86.7	243	
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.304	5.304	0.0	0.999	18034	4.10		88.4	136	M
D 21 13C5 PFNA										
467.8 > 422.8	5.277	5.363	-0.086	1.000	599728	49.1		98.1	1406	
D 22 13C4 PFOS										
502.8 > 79.8	5.310	5.382	-0.072	1.000	179194	42.5		88.9	688	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.070	6.046	0.024	1.004	12247	4.74		99.0	90.8	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.070	6.070	0.0	1.000	72036	4.14		82.8	246	
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	183083	51.1		107	1632	
D 25 13C2 PFDA										
514.9 > 469.5	6.070	6.186	-0.116	1.000	850073	49.9		99.8	4049	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.439	6.421	0.018	1.003	19502	4.47		89.4	79.5	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.421	6.530	-0.109	1.000	179139	44.5		89.1	1419	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.818	6.804	0.014	1.284	20757	5.09		106	266	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.804	6.804	0.0	1.002	18084	4.45		89.0	296	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.832	6.832	0.0	1.000	75582	4.70		94.0	551	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.790	6.903	-0.113	1.000	185798	49.1		98.1	1688	
D 33 13C2 PFUnA										
564.8 > 519.8	6.832	6.942	-0.110	1.000	830495	51.9		104	3389	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.079	7.057	0.022	1.003	24575	4.27		85.4	185	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	295998	45.4		90.9	1603	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.519	7.497	0.022	1.000	68682	4.48		89.5	449	
D 36 13C2 PFDaA										
614.8 > 569.6	7.519	7.636	-0.117	1.000	774938	47.9		95.8	2711	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.127	8.112	0.015	1.081	772315	4.96		99.3	1068	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d

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	8.681	8.666	0.015	1.002	63897	4.15		83.0	488	
712.8 > 168.8	8.681	8.666	0.015	1.002	14592		4.38(0.00-0.00)		136	
712.8 > 218.8	8.714	8.666	0.048	1.005	7153		8.93(0.00-0.00)		80.5	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.666	8.805	-0.139	1.000	797907	49.1		98.1	1730	

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\\20180628-31168.b\\PF062818A10.d

Injection Date: 28-Jun-2018 18:58:17

Instrument ID: LC410

Lims ID: CCV L3

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 10

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

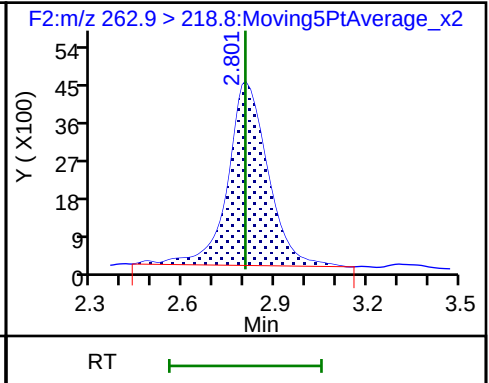
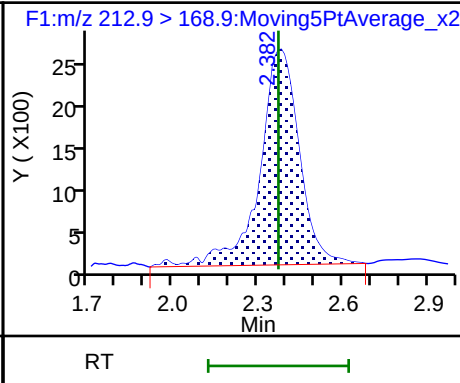
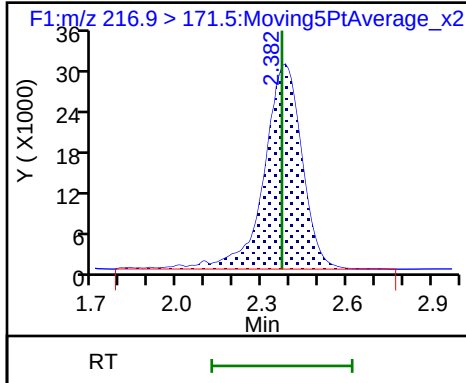
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

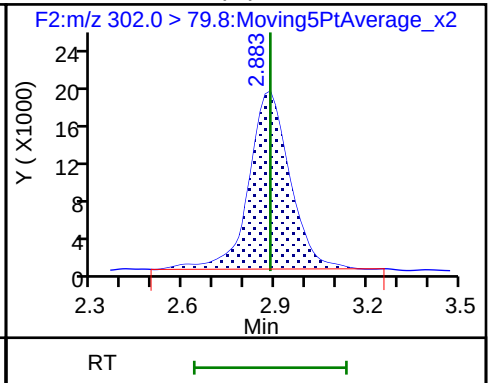
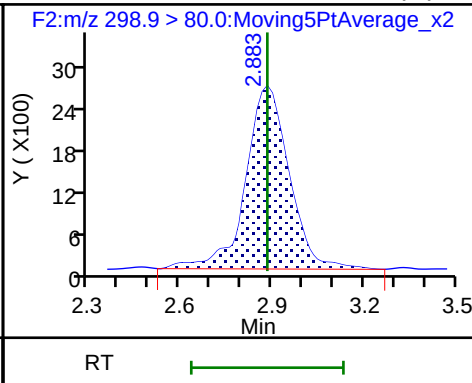
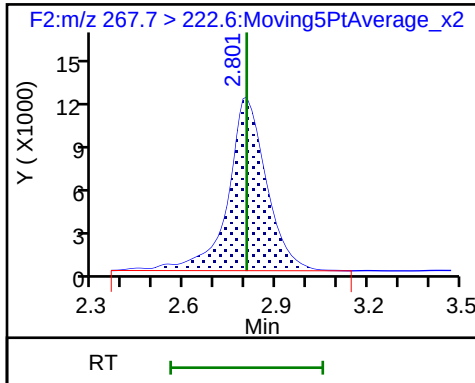
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (M)

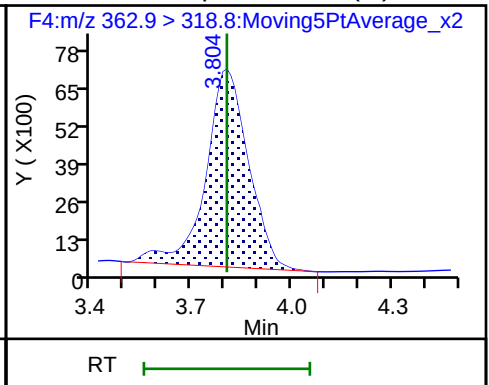
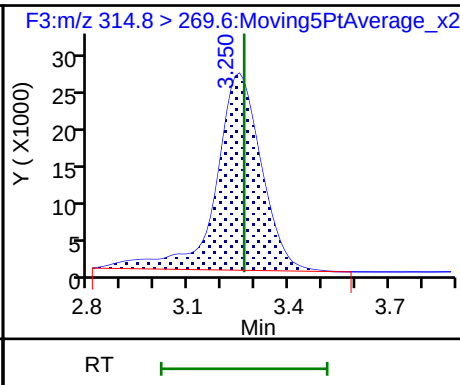
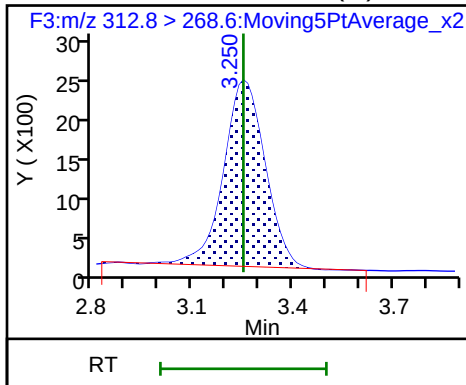
D 5 13C3-PFBS (M)



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA

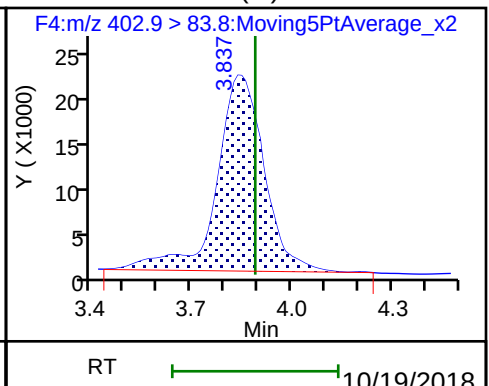
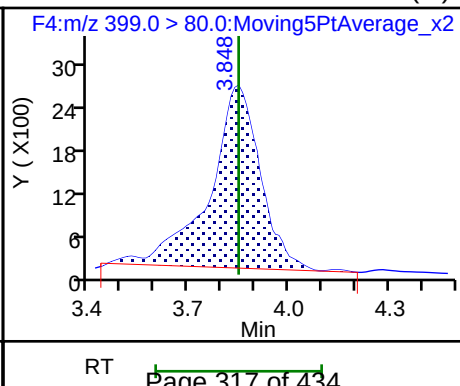
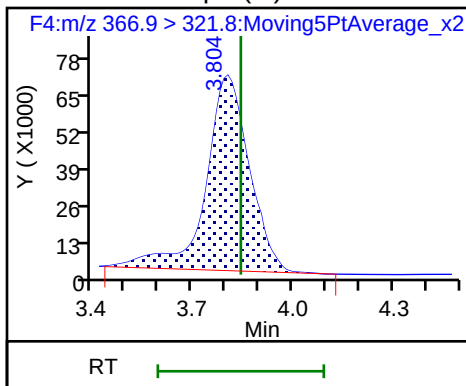
11 Perfluoroheptanoic acid (M)



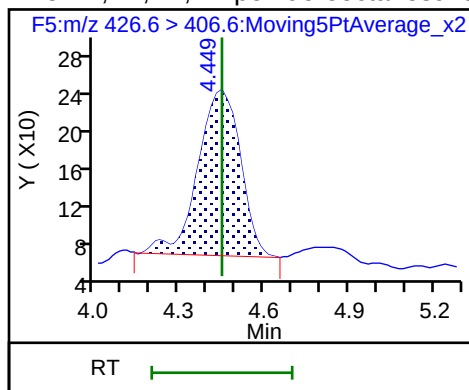
D 10 13C4-PFHpA (M)

12 Perfluorohexanesulfonic acid (M)

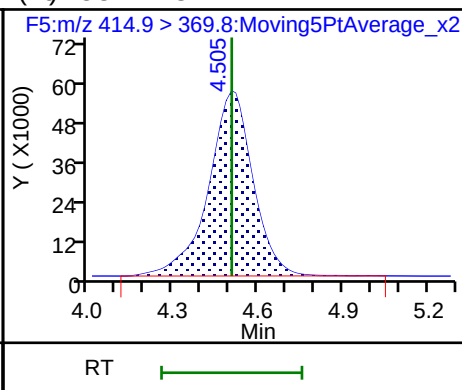
D 13 18O2 PFHxS (M)



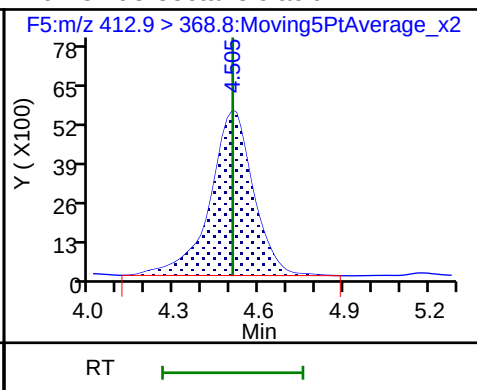
15 1H,1H,2H,2H-perfluorooctanesulfonate (M)



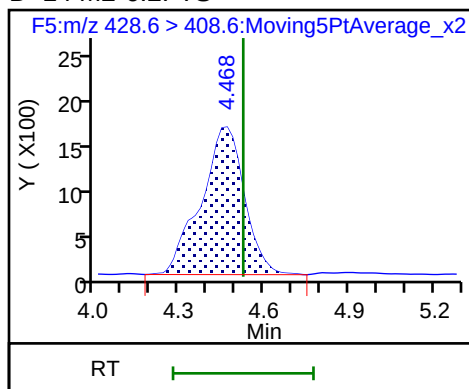
16 Perfluorooctanoic acid



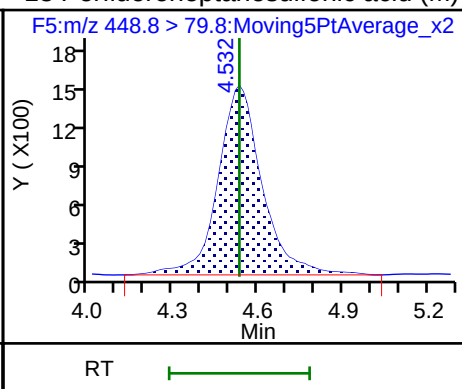
17 13C4 PFOA



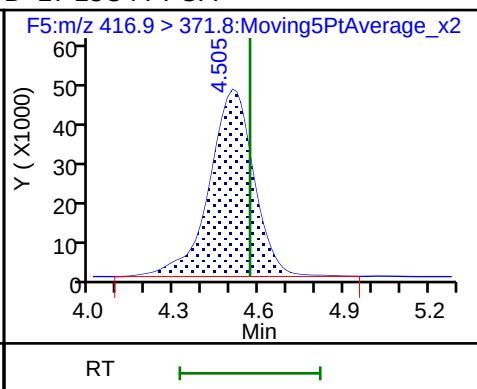
D 14 M2-6:2FTS



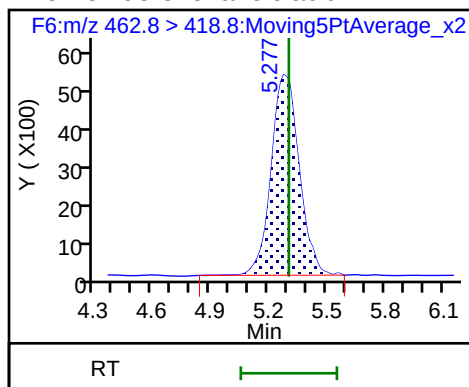
18 Perfluoroheptanesulfonic acid (M)



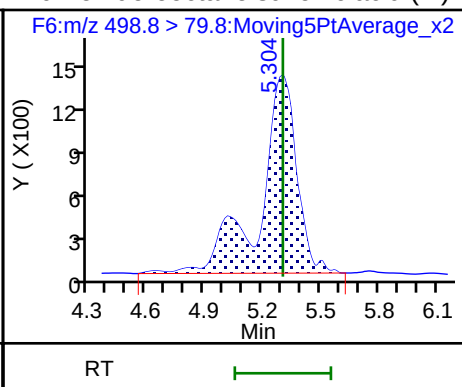
D 17 13C4 PFOA



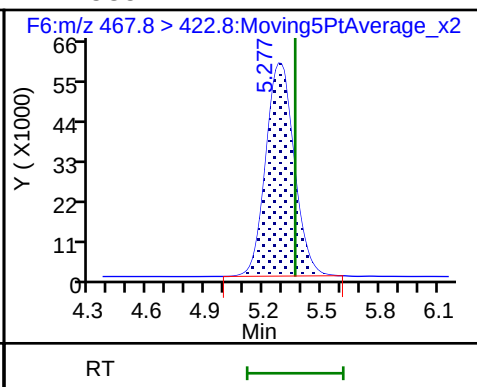
19 Perfluorononanoic acid



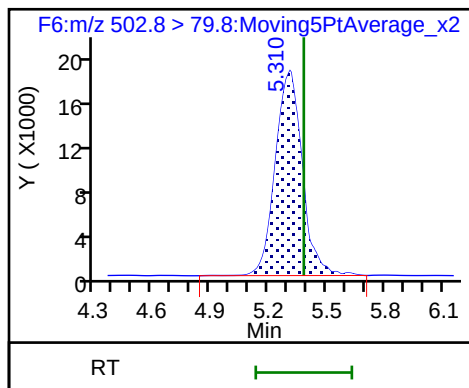
20 Perfluorooctane sulfonic acid (M)



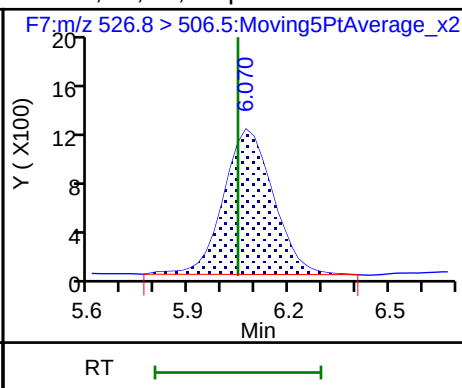
D 21 13C5 PFNA



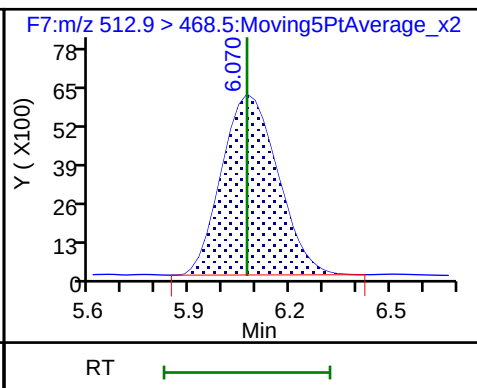
D 22 13C4 PFOS



24 1H,1H,2H,2H-perfluorodecanesulfonate



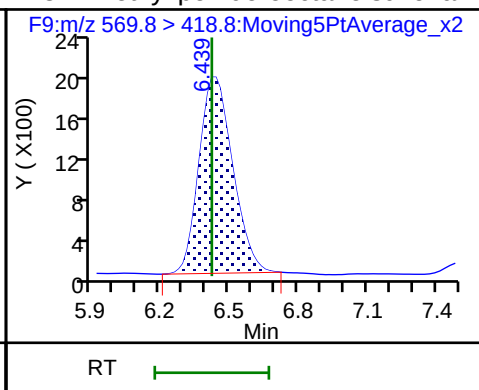
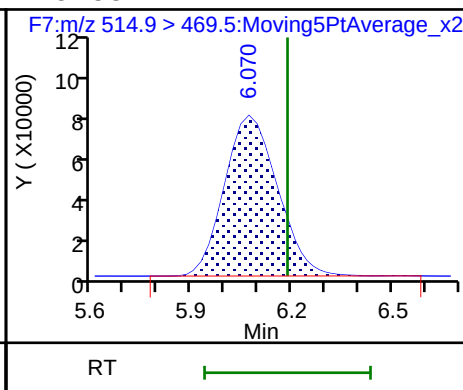
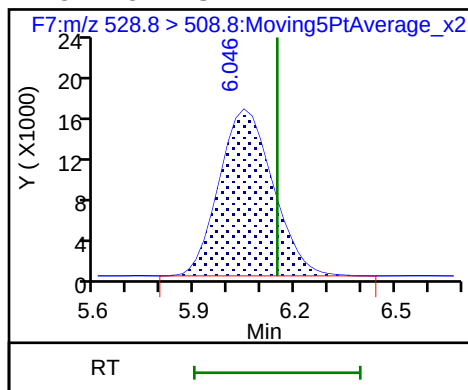
26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

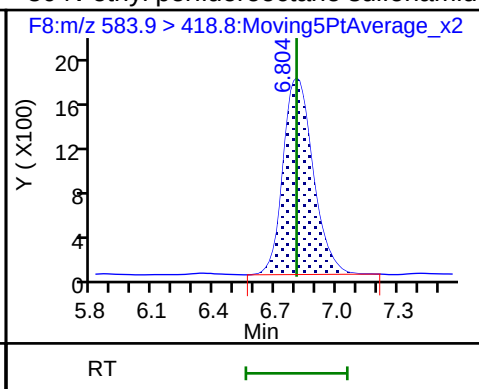
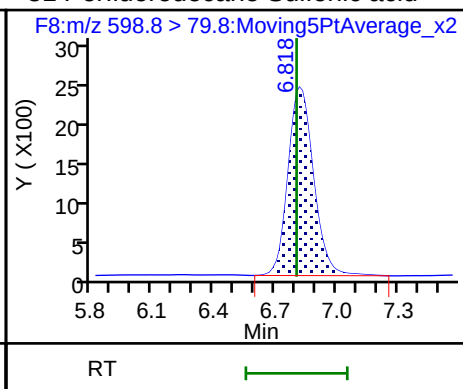
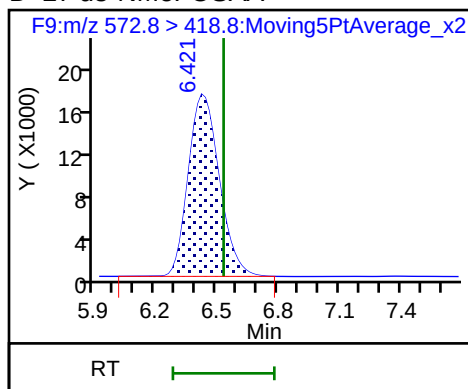
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

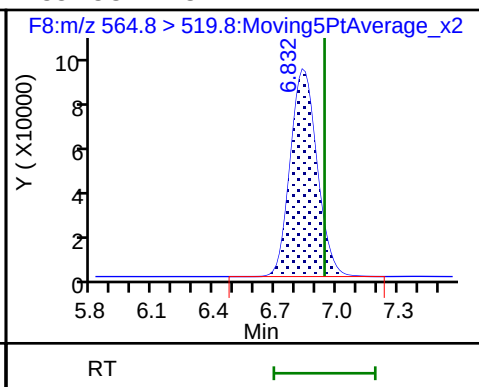
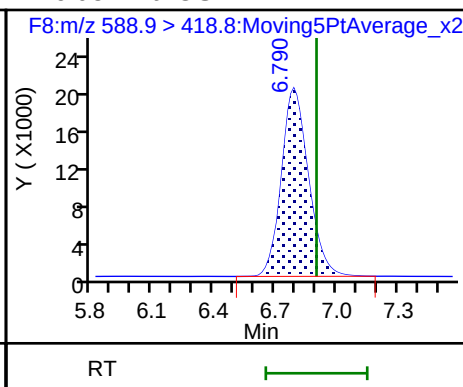
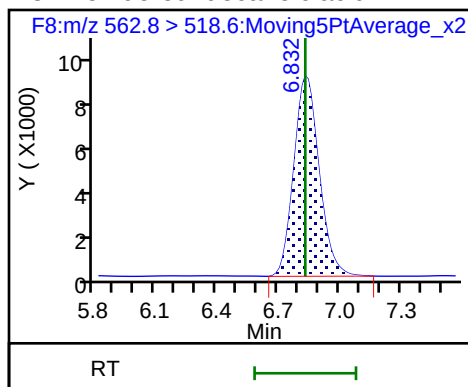
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

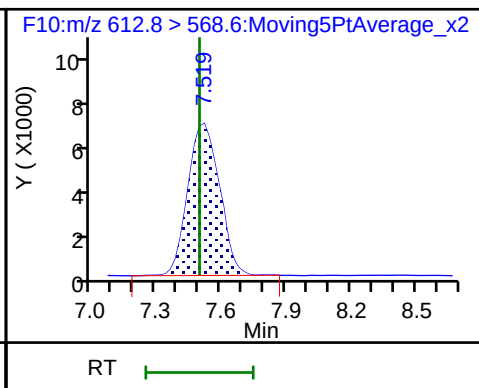
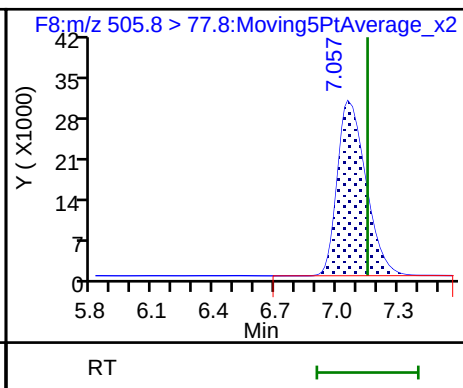
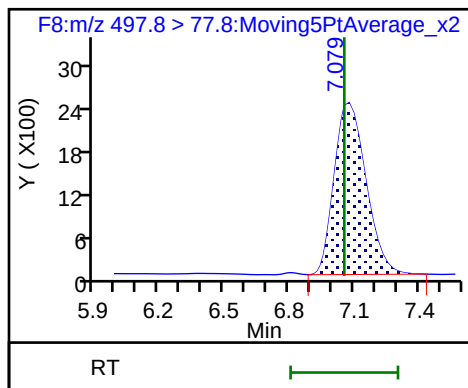
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide

D 35 13C8 FOSA

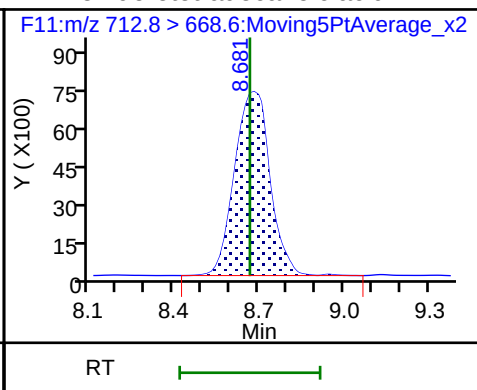
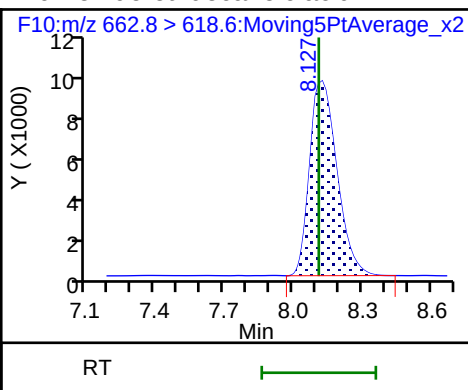
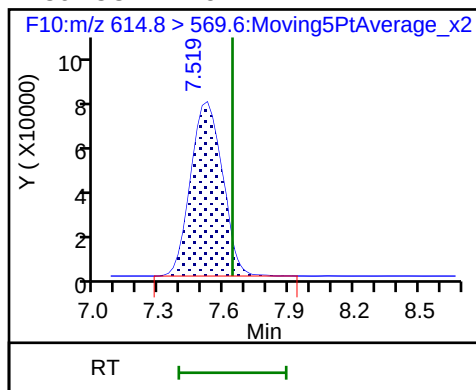
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

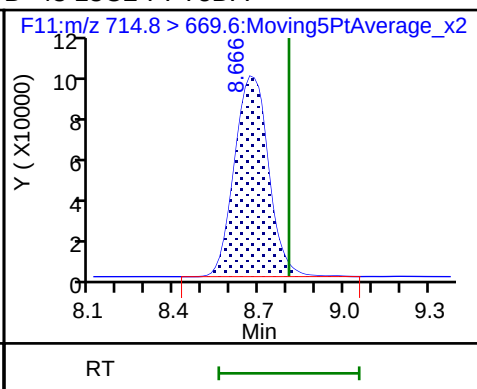
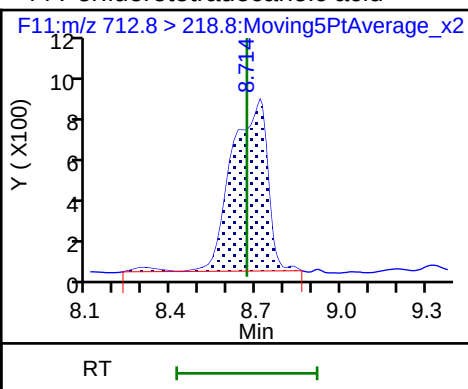
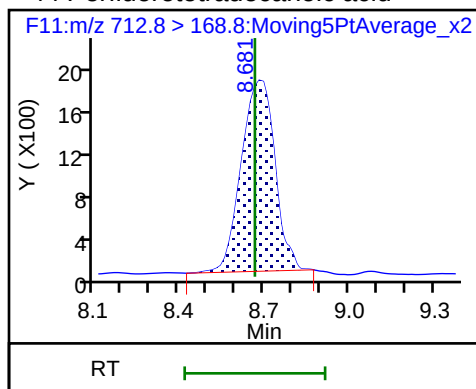
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

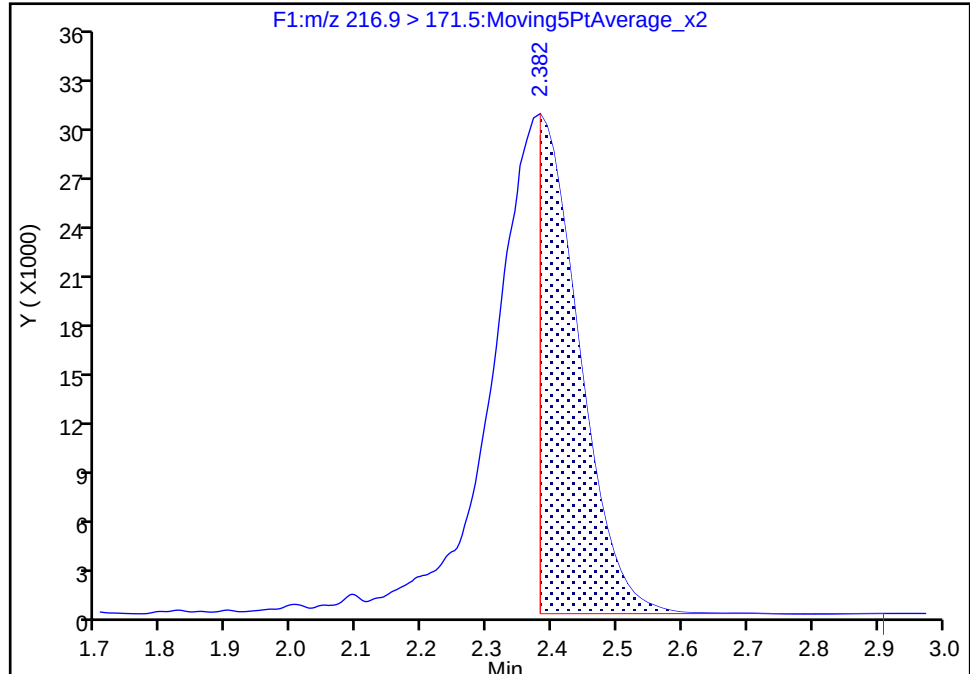
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Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

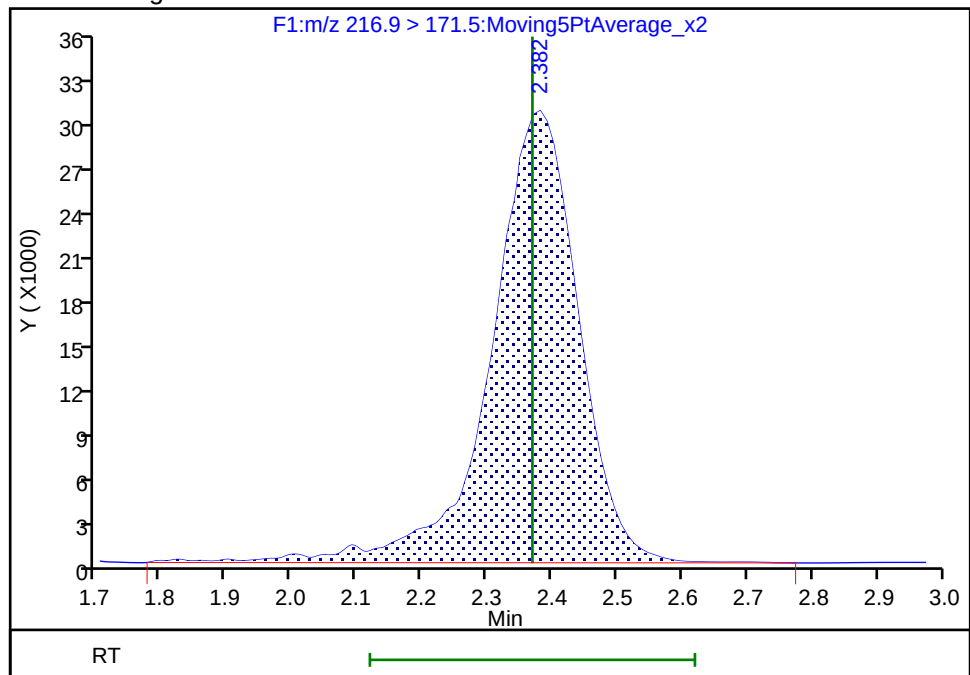
RT: 2.38
Area: 124700
Amount: 18.888202
Amount Units: ng/ml

Processing Integration Results



RT: 2.38
Area: 283901
Amount: 43.002241
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:46:38
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 321 of 434

10/19/2018

TestAmerica Burlington

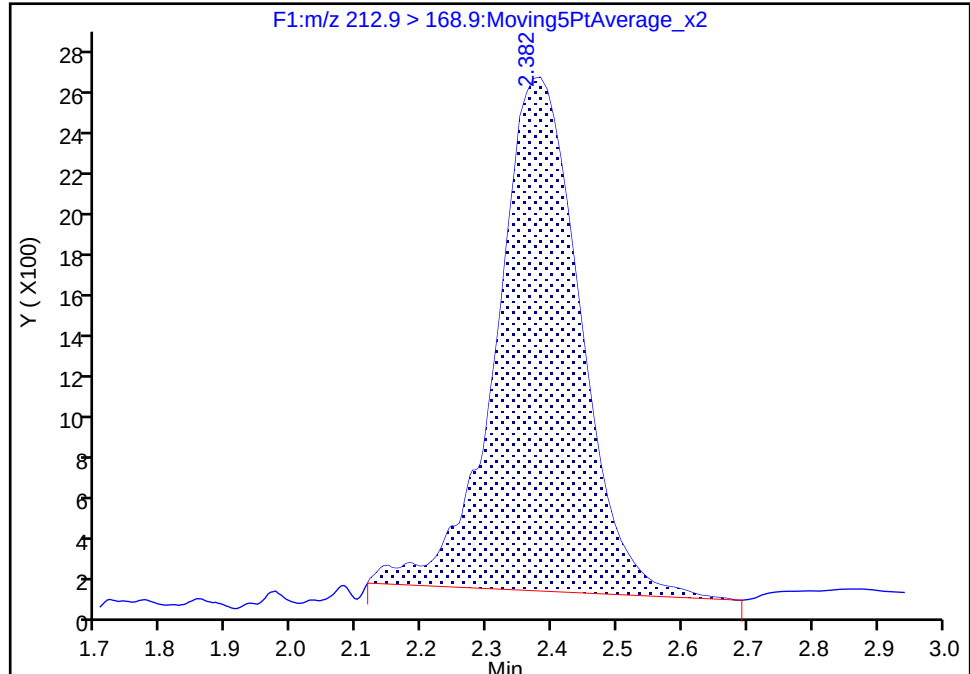
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Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

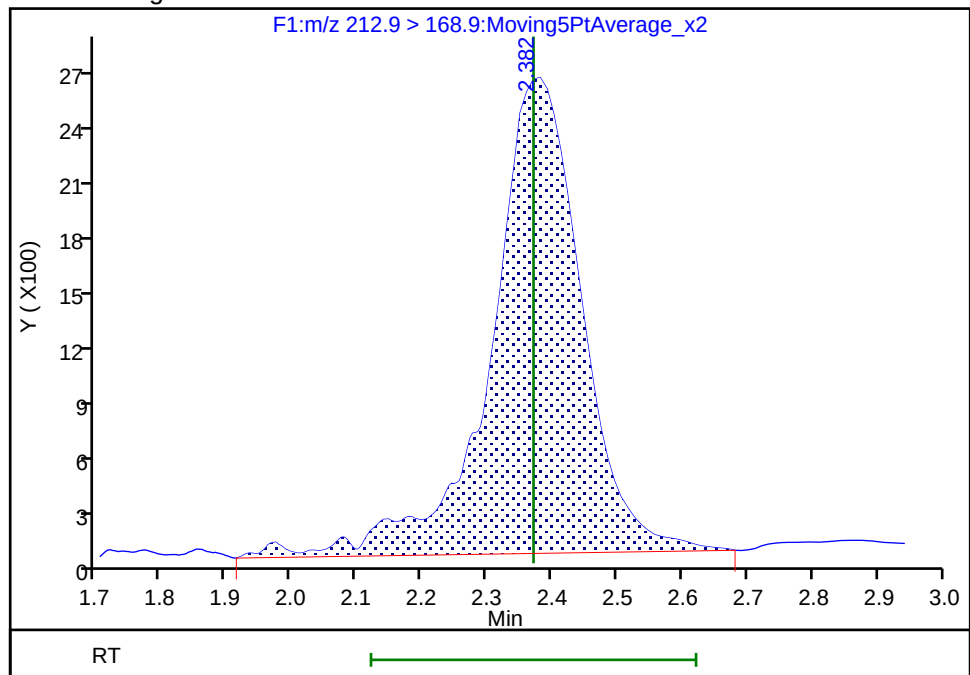
RT: 2.38
Area: 22707
Amount: 9.084373
Amount Units: ng/ml

Processing Integration Results



RT: 2.38
Area: 25216
Amount: 4.273772
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:46:28
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 322 of 434

10/19/2018

TestAmerica Burlington

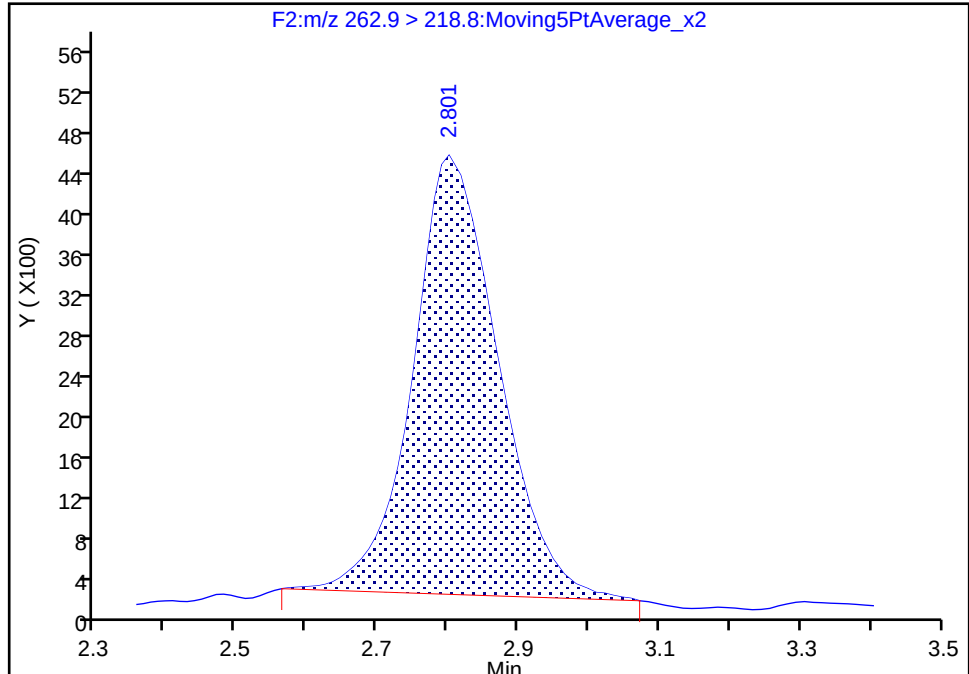
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Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

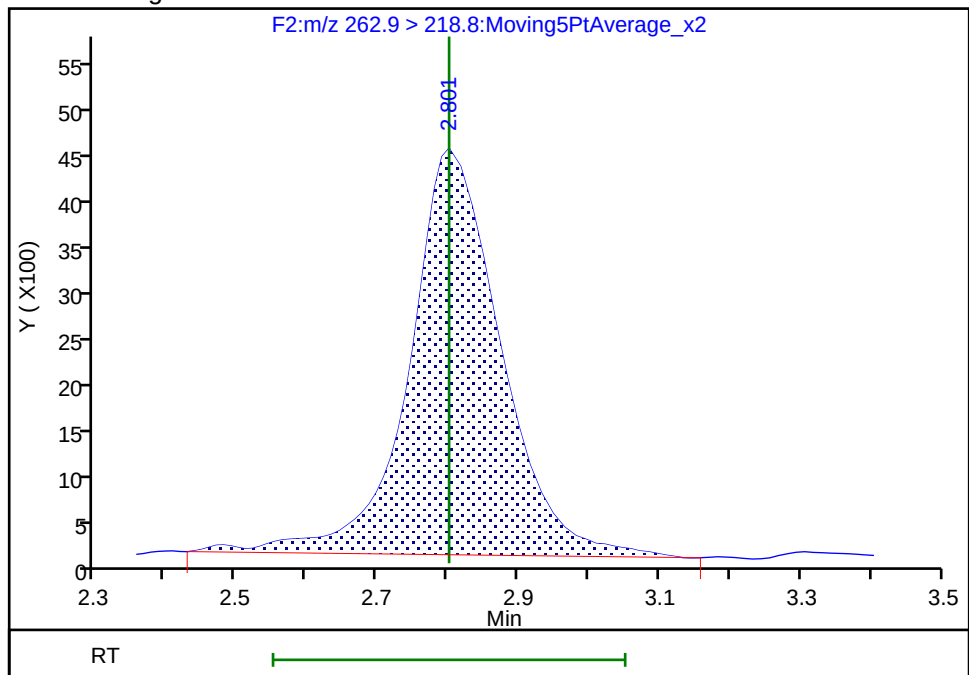
RT: 2.80
Area: 36564
Amount: 3.987336
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 40288
Amount: 4.397833
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:46:51
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 323 of 434

10/19/2018

TestAmerica Burlington

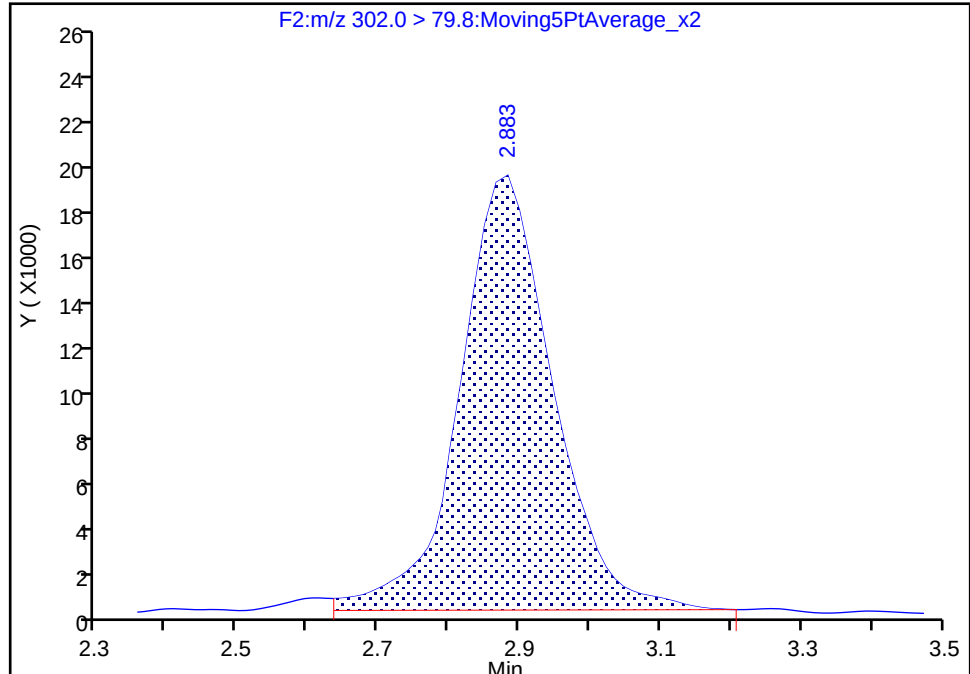
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Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

D 5 13C3-PFBS, CAS: STL02337

Signal: 1

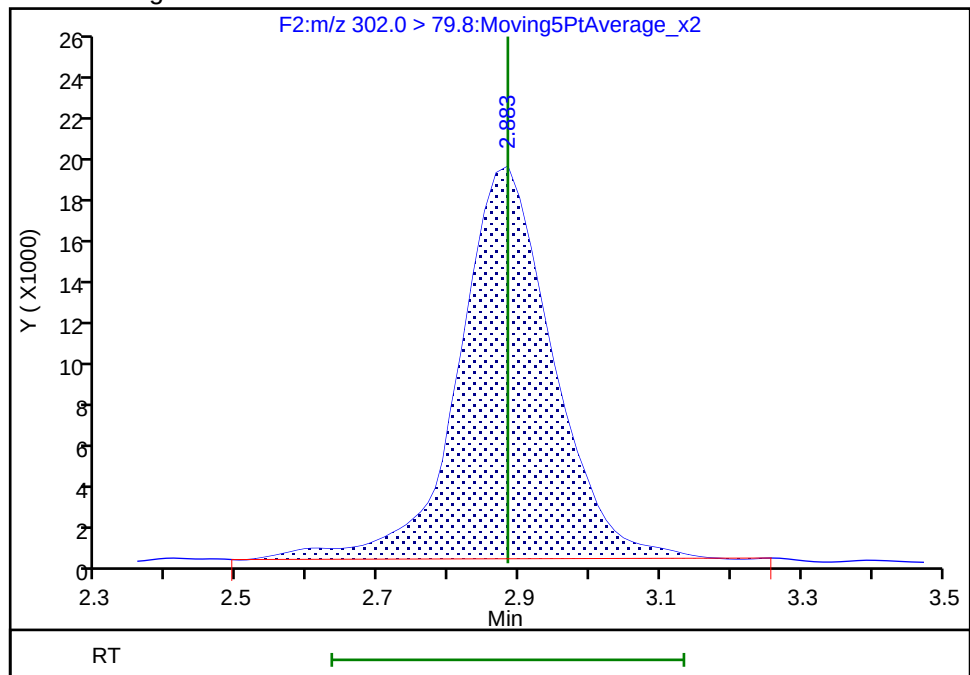
RT: 2.88
Area: 175630
Amount: 37.670113
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 176859
Amount: 37.933716
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:47:01
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 324 of 434

10/19/2018

TestAmerica Burlington

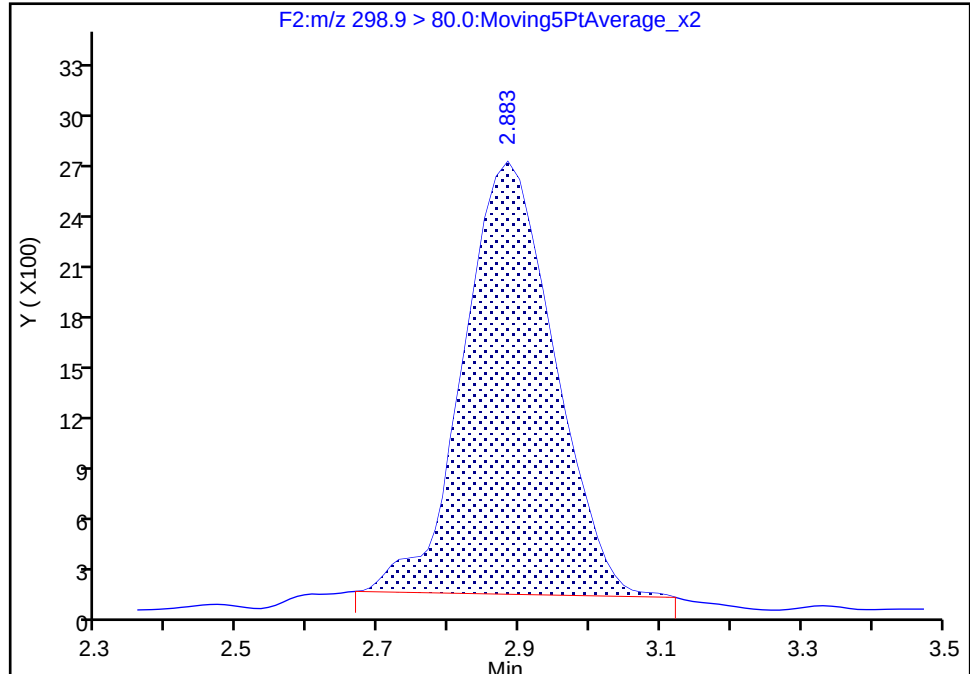
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Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

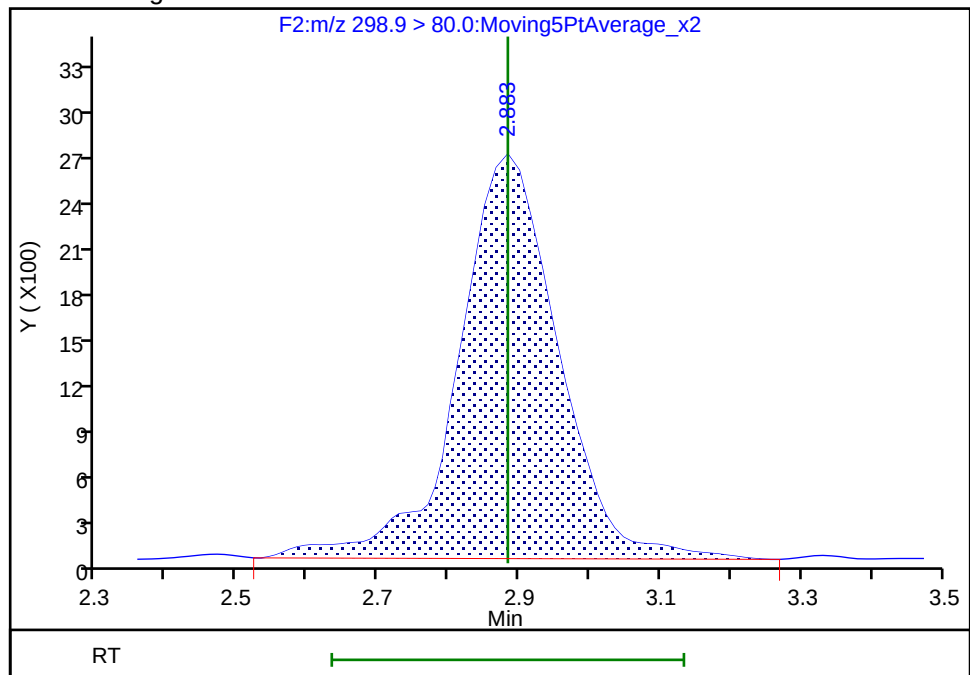
RT: 2.88
Area: 22845
Amount: 4.049999
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 25999
Amount: 4.595468
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:47:10
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 325 of 434

10/19/2018

TestAmerica Burlington

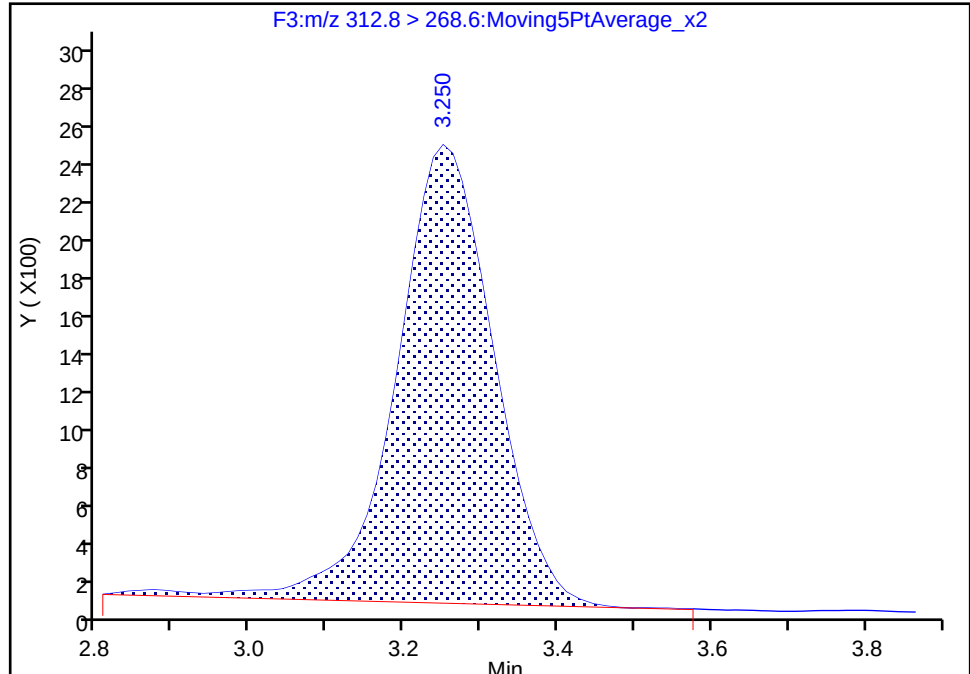
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Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

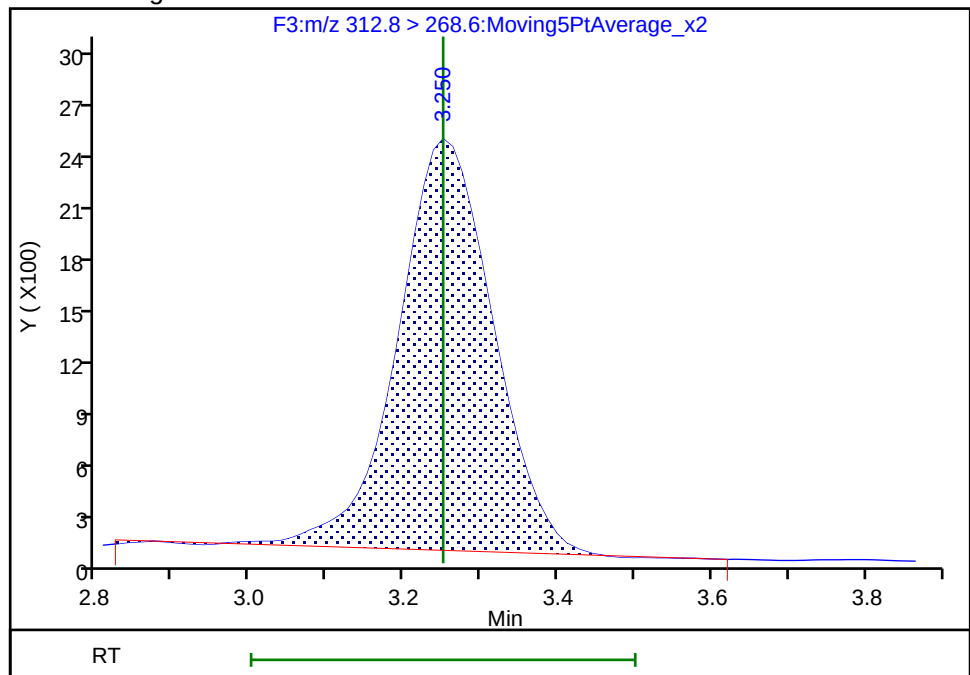
RT: 3.25
Area: 21249
Amount: 3.952396
Amount Units: ng/ml

Processing Integration Results



RT: 3.25
Area: 20473
Amount: 3.810192
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:47:26
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 326 of 434

10/19/2018

TestAmerica Burlington

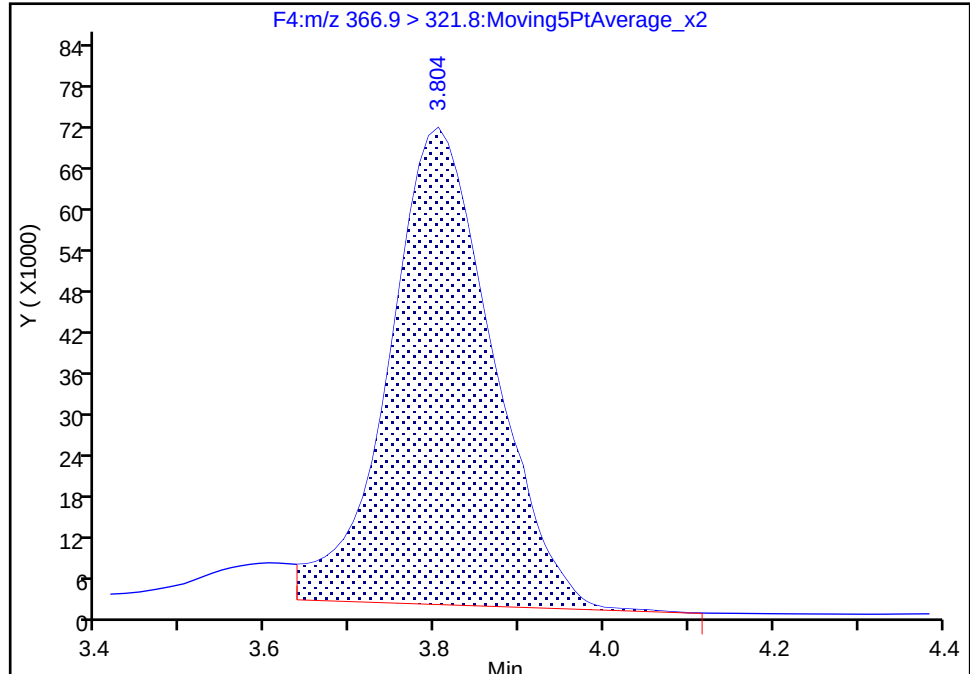
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Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

D 10 13C4-PFHpA, CAS: STL01892

Signal: 1

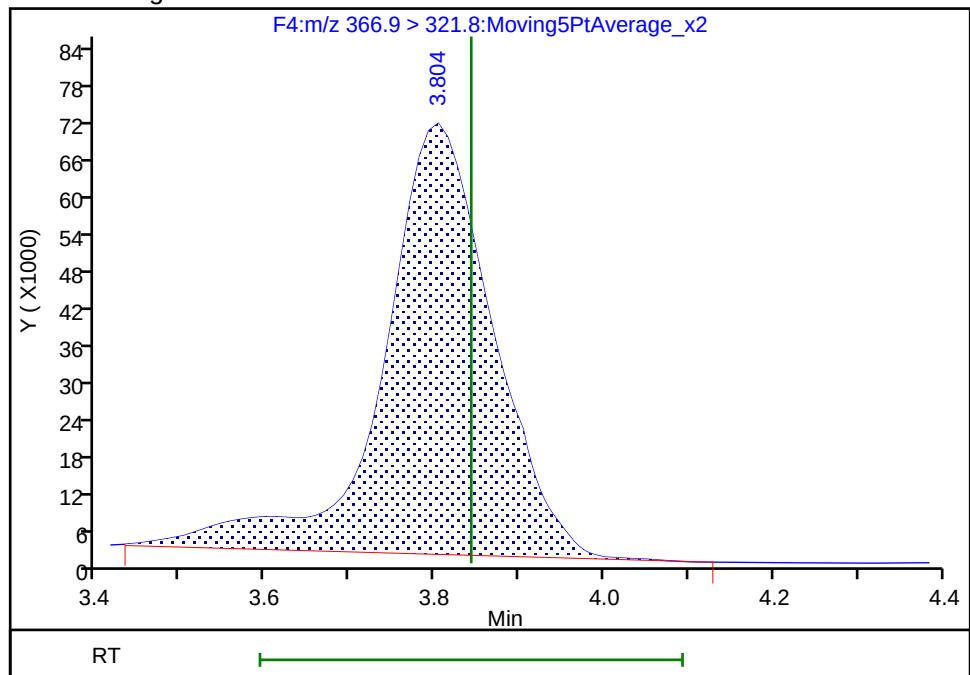
RT: 3.80
Area: 600994
Amount: 43.285032
Amount Units: ng/ml

Processing Integration Results



RT: 3.80
Area: 639057
Amount: 46.026421
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:47:40
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 327 of 434

10/19/2018

TestAmerica Burlington

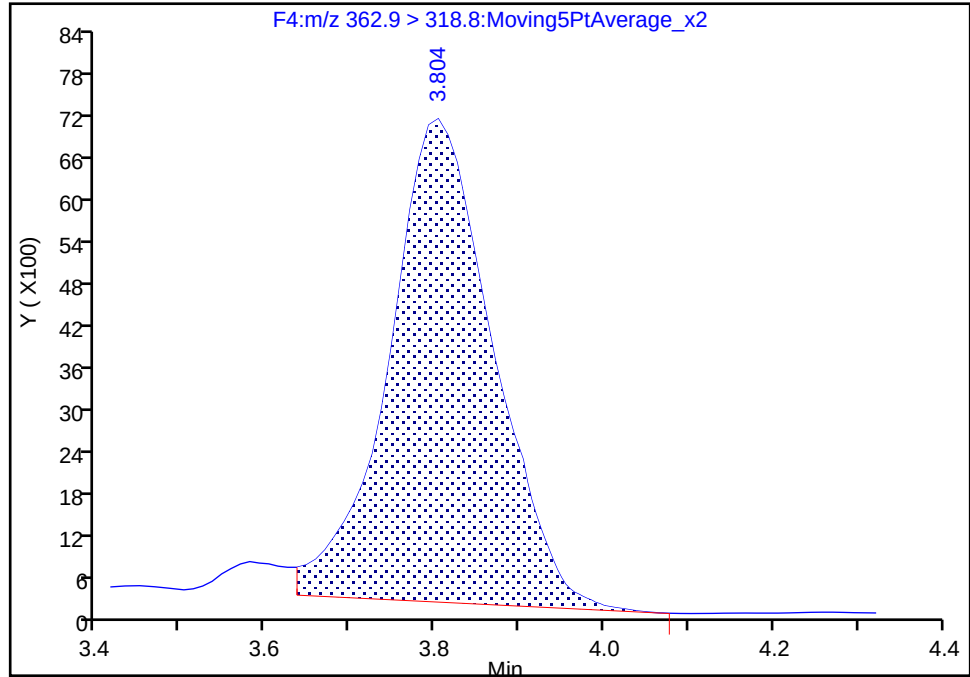
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d
Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

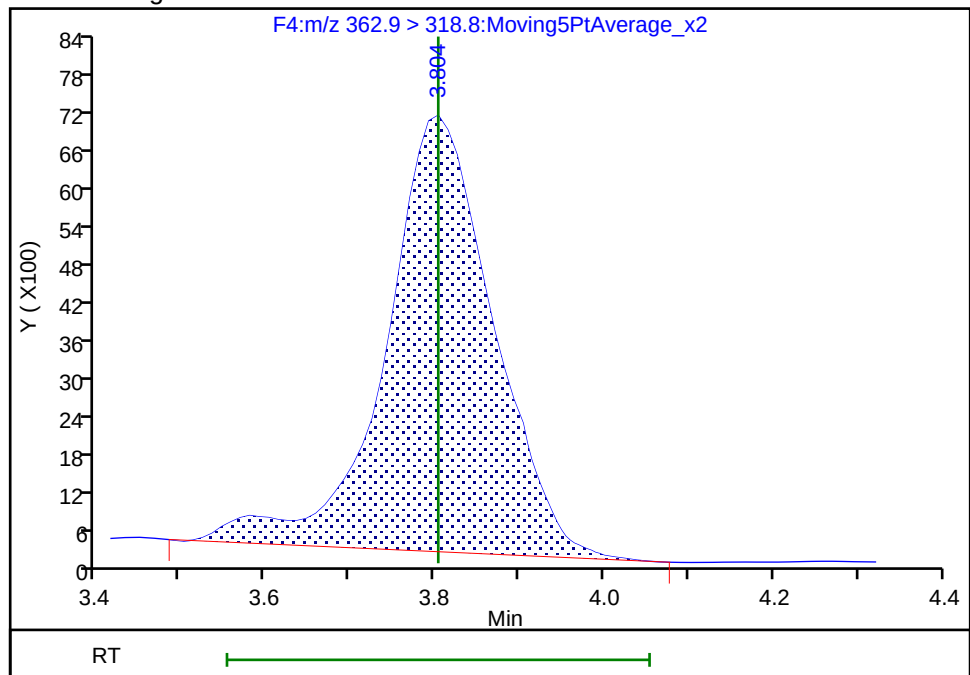
RT: 3.80
Area: 58953
Amount: 4.223289
Amount Units: ng/ml

Processing Integration Results



RT: 3.80
Area: 61026
Amount: 4.364947
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:47:45
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 328 of 434

10/19/2018

TestAmerica Burlington

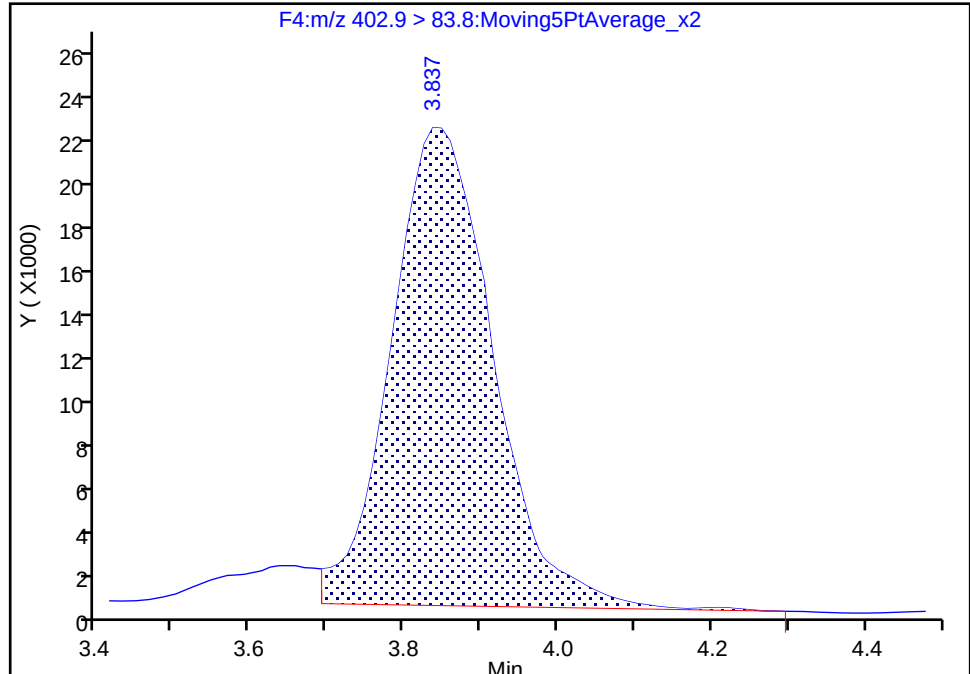
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d
Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

D 13 18O2 PFHxS, CAS: STL00994

Signal: 1

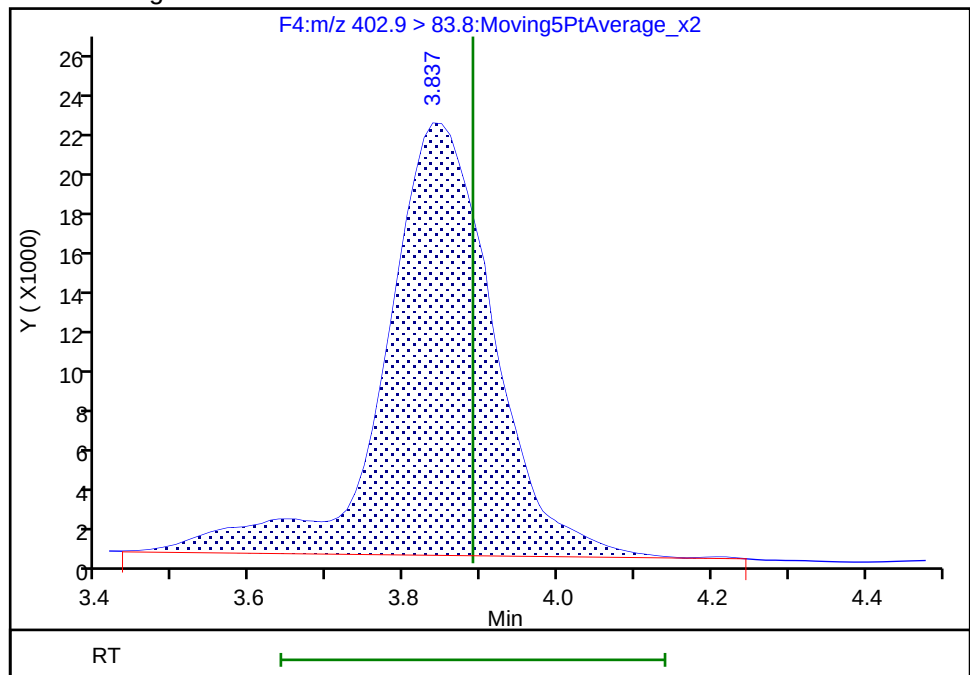
RT: 3.84
Area: 202375
Amount: 35.548667
Amount Units: ng/ml

Processing Integration Results



RT: 3.84
Area: 217413
Amount: 38.190203
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:48:07

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

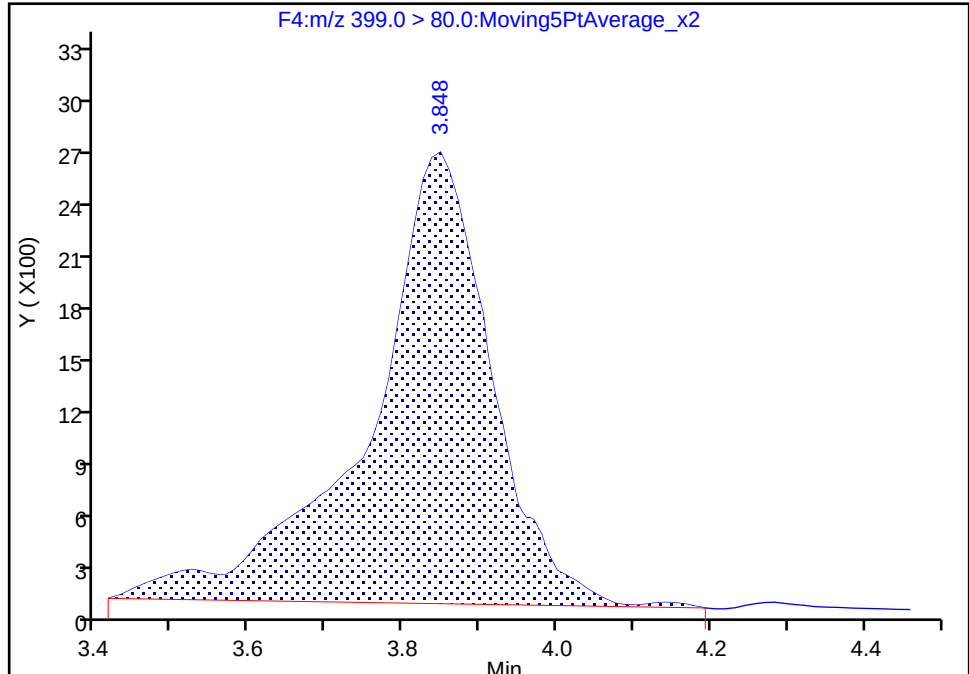
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d
Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

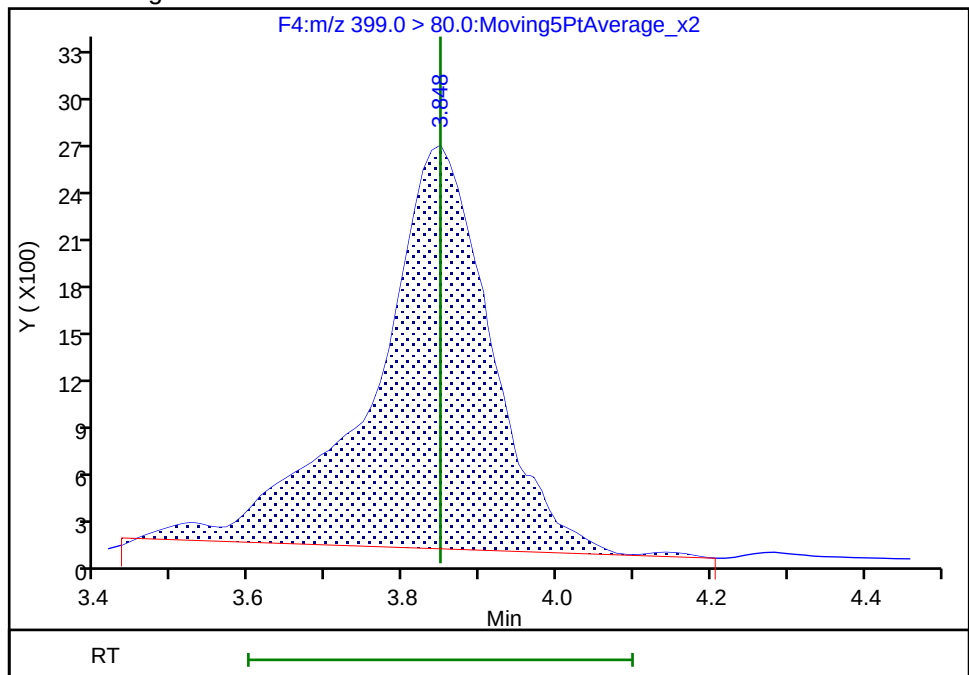
RT: 3.85
Area: 28928
Amount: 5.160511
Amount Units: ng/ml

Processing Integration Results



RT: 3.85
Area: 27458
Amount: 4.570336
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:48:00
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 330 of 434

10/19/2018

TestAmerica Burlington

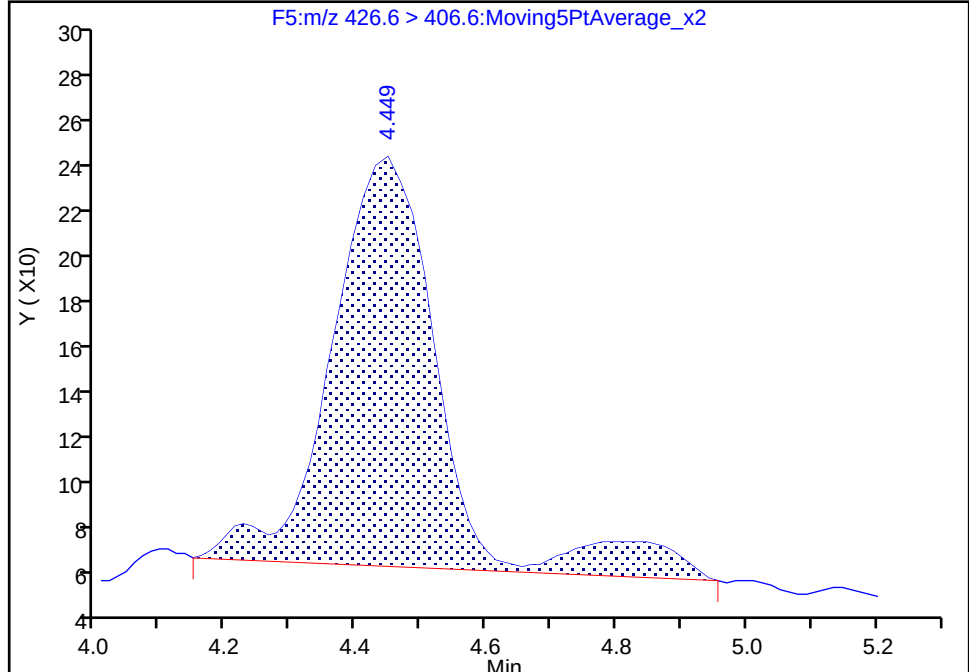
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d
Injection Date: 28-Jun-2018 18:58:17 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

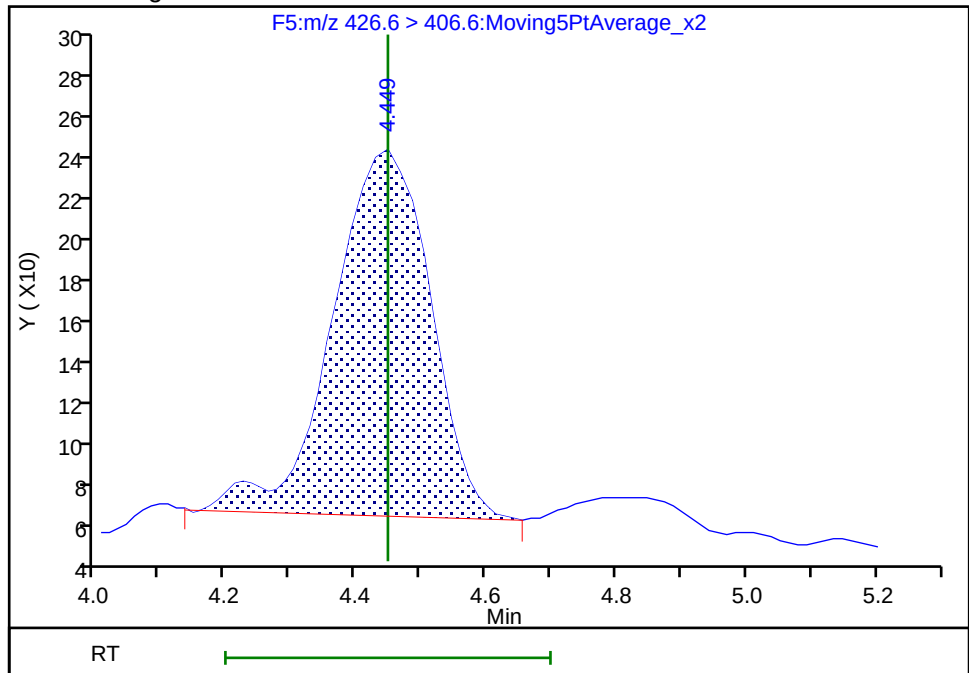
RT: 4.45
Area: 2101
Amount: 5.457530
Amount Units: ng/ml

Processing Integration Results



RT: 4.45
Area: 1872
Amount: 4.895558
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:48:51
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 331 of 434

10/19/2018

TestAmerica Burlington

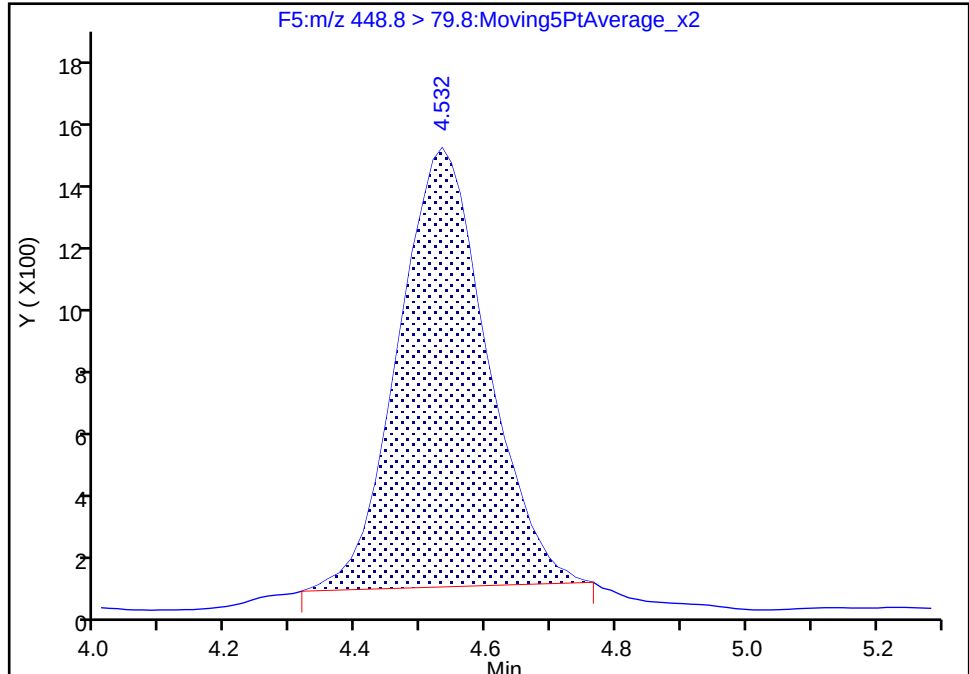
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d		
Injection Date:	28-Jun-2018 18:58:17	Instrument ID:	LC410
Lims ID:	CCV L3		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0 Worklist Smp#: 10
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

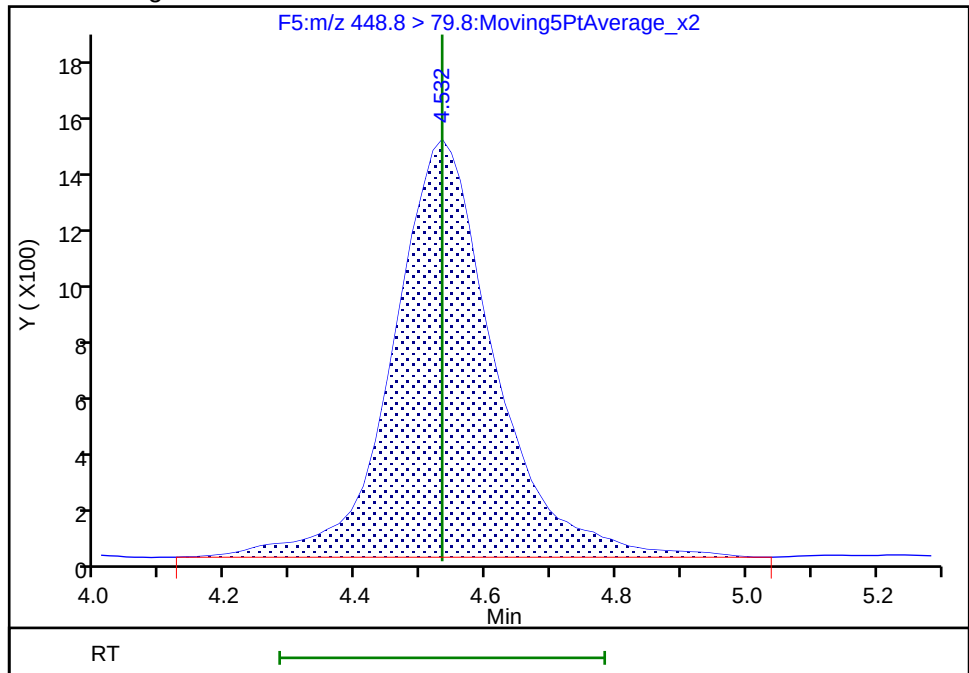
RT: 4.53
Area: 13112
Amount: 3.594896
Amount Units: ng/ml

Processing Integration Results



RT: 4.53
Area: 15752
Amount: 4.287195
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:49:06
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 332 of 434

10/19/2018

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A10.d

Injection Date: 28-Jun-2018 18:58:17

Instrument ID: LC410

Lims ID: CCV L3

Client ID:

Operator ID: JWM

ALS Bottle#:

0

Worklist Smp#: 10

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

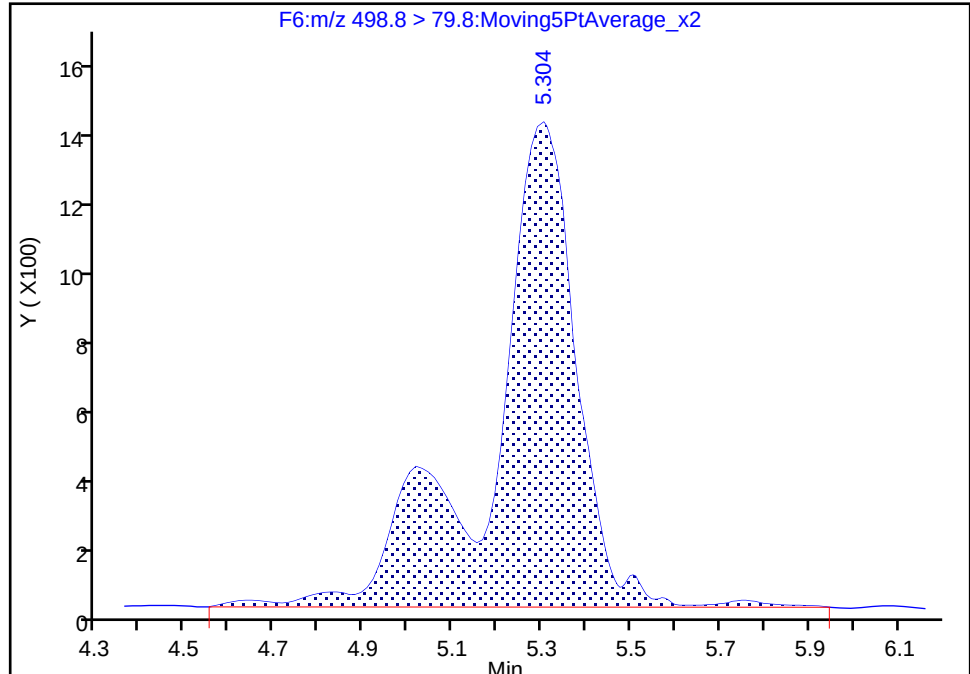
Detector F6:MRM

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

Signal: 1

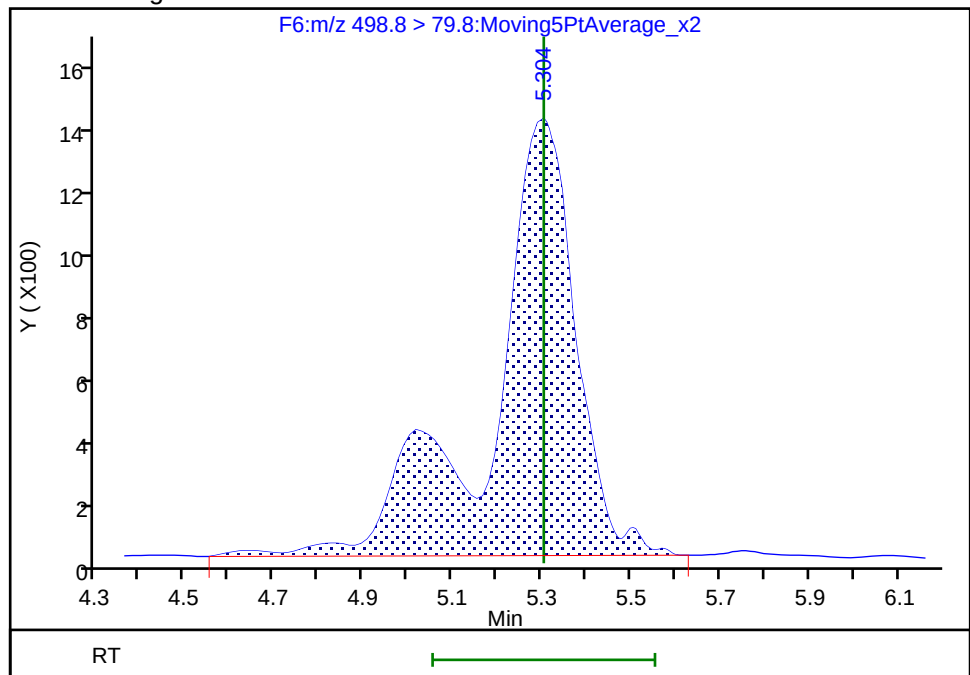
RT: 5.30
Area: 18344
Amount: 4.165832
Amount Units: ng/ml

Processing Integration Results



RT: 5.30
Area: 18034
Amount: 4.100972
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:49:28

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1

SDG No.: _____

Lab Sample ID: CCV 200-131275/23 Calibration Date: 06/28/2018 22:28

Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51

GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12

Lab File ID: PF062818A23.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9737		49910	50000	-0.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		4.525		52540	50000	5.1	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		1.679		48920	44200	10.7	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.119		52230	50000	4.5	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.152		50480	50000	1.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.369		46790	45500	2.8	40.0
6:2 FTS	L1ID		1.515		64140	47400	35.3	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.158		46730	50000	-6.5	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L1ID		0.9930		46620	47600	-2.1	50.0
Perfluorononanoic acid (PFNA)	L2ID		1.044		50440	50000	0.9	40.0
Perfluorooctanesulfonic acid (PFOS)	L1ID		1.175		43080	46400	-7.2	40.0
8:2 FTS	L1ID		0.8293		54900	47900	14.6	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.019		49570	50000	-0.9	40.0
N-methylperfluorooctanesulfo namidoacetic acid (NMeFOSAA)	L2ID		1.244		51300	50000	2.6	40.0
N-ethylperfluorooctanesulfon amidoacetic acid (NEtFOSAA)	L1ID		1.125		48770	50000	-2.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.143		49190	48200	2.1	50.0
Perfluoroundecanoic acid (PFUnA)	L1ID		1.036		53650	50000	7.3	40.0
Perfluorooctanesulfonamide (FOSA)	L1ID		1.041		48390	50000	-3.2	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		1.016		51830	50000	3.7	40.0
Perfluorotridecanoic acid (PFTrIA)	L2ID		1.086		55660	50000	11.3	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.9434		48830	50000	-2.3	40.0
13C4 PFBA	Ave	0.5332	0.5051		47370	50000	-5.3	50.0
13C5-PFPeA DNU	Ave	0.2061	0.1891		45880	50000	-8.2	50.0
13C3 PFBS	Ave	0.3765	0.3464		42780	46500	-8.0	50.0
13C2 PFHxA	Ave	0.4152	0.4175		50280	50000	0.6	50.0
13C4 PFHpA	Ave	1.121	1.153		51390	50000	2.8	50.0
18O2 PFHxS	Ave	0.4597	0.4611		47440	47300	0.3	50.0
M2-6:2 FTS	Ave	0.0259	0.0203		37230	47500	-21.6	50.0
13C4 PFOA	Ave	0.9120	0.9437		51740	50000	3.5	50.0
13C5 PFNA	Ave	0.9871	1.007		50990	50000	2.0	50.0
13C4 PFOS	Ave	0.3404	0.3500		49140	47800	2.8	50.0
M2-8:2 FTS	Ave	0.2895	0.3049		50440	47900	5.3	50.0
13C2 PFDA	Ave	1.376	1.481		53790	50000	7.6	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: CCV 200-131275/23 Calibration Date: 06/28/2018 22:28
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062818A23.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.3249	0.3401		52350	50000	4.7	50.0
d5-NEtFOSAA	Ave	0.3059	0.2962		48420	50000	-3.2	50.0
13C2 PFUnA	Ave	1.292	1.250		48390	50000	-3.2	50.0
13C8 FOSA	Ave	0.5262	0.5658		53770	50000	7.5	50.0
13C2 PFDoA	Ave	1.306	1.365		52240	50000	4.5	50.0
13C2 PFTeDA	Ave	1.313	1.411		53730	50000	7.5	50.0

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A23.d
 Lims ID: CCV L5
 Client ID:
 Sample Type: CCV
 Inject. Date: 28-Jun-2018 22:28:55 ALS Bottle#: 0 Worklist Smp#: 23
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-023 CCV L5
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 29-Jun-2018 08:52:06

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	2.371	2.370	0.001	1.000	276382	47.4		94.7	338	
1 Perfluorobutyric acid										
212.9 > 168.9	2.361	2.371	-0.010	0.996	269116	49.9		99.8	227	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.791	2.801	-0.010	1.000	468088	52.5		105	1727	
D 3 13C5-PFPeA										
267.7 > 222.6	2.791	2.802	-0.011	1.000	103443	45.9		91.8	410	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.867	2.883	-0.016	1.000	281342	48.9		111	514	
D 5 13C3-PFBS										
302.0 > 79.8	2.867	2.883	-0.016	1.000	176264	42.8		92.0	102	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.238	3.250	-0.012	1.000	255557	52.2		104	1834	
D 7 13C2 PFHxA										
314.8 > 269.6	3.238	3.265	-0.027	1.000	228441	50.3		101	243	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.793	3.804	-0.011	1.000	726213	50.5		101	2657	
D 10 13C4-PFHpA										
366.9 > 321.8	3.793	3.843	-0.050	1.000	630613	51.4		103	894	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.837	3.848	-0.011	1.000	314394	46.8		103	432	
D 13 18O2 PFHxS										
402.9 > 83.8	3.837	3.889	-0.052	1.000	238665	47.4		100	79.6	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.449	4.449	0.0	1.008	15927	64.1		135	126	
* 49 13C2-PFOA										
414.9 > 369.8	4.505	4.505	0.0		547142	50.0		115	119	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.505	4.505	0.0	1.000	597719	46.7		93.5	773	
D 14 M2-6:2FTS										
428.6 > 408.6	4.412	4.525	-0.113	1.000	10537	37.2		78.4	71.2	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.532	4.532	0.0	0.854	181019	46.6		97.9	701	
D 17 13C4 PFOA										
416.9 > 371.8	4.505	4.567	-0.062	1.000	516356	51.7		103	1085	
19 Perfluorononanoic acid										
462.8 > 418.8	5.277	5.304	-0.027	1.003	575121	50.4		101	1355	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.304	5.304	0.0	1.000	208764	43.1		92.8	4098	
D 21 13C5 PFNA										
467.8 > 422.8	5.263	5.363	-0.100	1.000	550702	51.0		102	1770	
D 22 13C4 PFOS										
502.8 > 79.8	5.304	5.382	-0.078	1.000	183071	49.1		103	1003	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.046	6.046	0.0	1.004	132512	54.9		115	1022	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.070	6.070	0.0	1.000	825726	49.6		99.1	1943	
D 23 M2-8:2FTS										
528.8 > 508.8	6.022	6.147	-0.125	1.000	159789	50.4		105	898	
D 25 13C2 PFDA										
514.9 > 469.5	6.070	6.186	-0.116	1.000	810150	53.8		108	2893	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.421	6.421	0.0	1.000	231463	51.3		103	1040	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.421	6.530	-0.109	1.000	186099	52.3		105	898	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.818	6.804	0.014	1.285	210965	49.2		102	3903	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.804	6.804	0.0	1.004	182351	48.8		97.5	6335	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.832	6.832	0.0	1.000	708848	53.7		107	6915	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.776	6.903	-0.127	1.000	162065	48.4		96.8	769	
D 33 13C2 PFUnA										
564.8 > 519.8	6.832	6.942	-0.110	1.000	684159	48.4		96.8	1580	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	7.057	7.057	0.0	1.000	322267	48.4		96.8	2388	M
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	309595	53.8		108	2348	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.497	7.497	0.0	1.000	758554	51.8		104	4606	
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	746781	52.2		104	1829	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.112	8.112	0.0	1.082	810985	55.7		111	3260	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A23.d

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	8.651	8.666	-0.015	0.998	728417	48.8		97.7	2536	M
712.8 > 168.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
D 43 13C2-PFTeDA										
714.8 > 669.6	8.666	8.805	-0.139	1.000	772148	53.7		107	1450	

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\\20180628-31168.b\\PF062818A23.d

Injection Date: 28-Jun-2018 22:28:55

Instrument ID: LC410

Lims ID: CCV L5

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 23

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

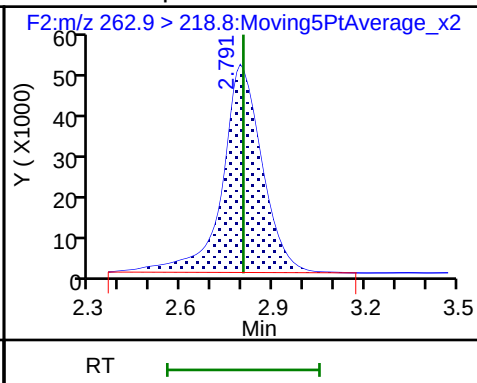
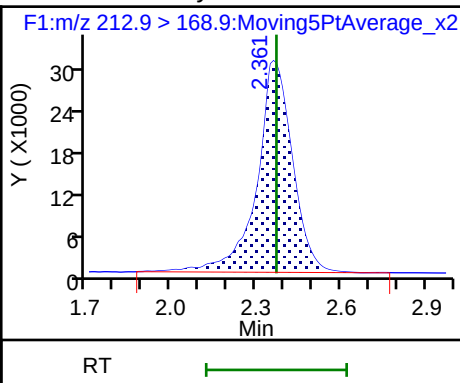
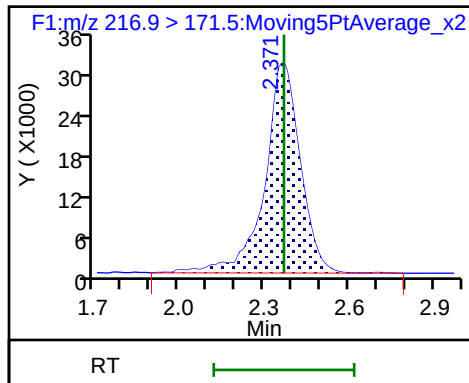
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

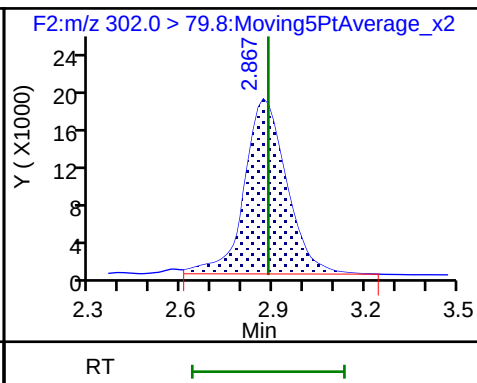
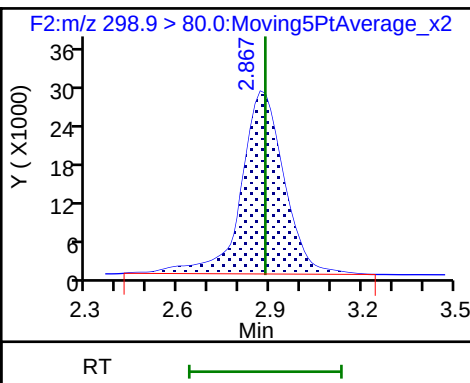
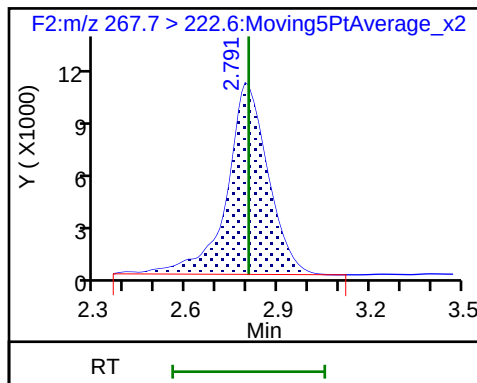
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid

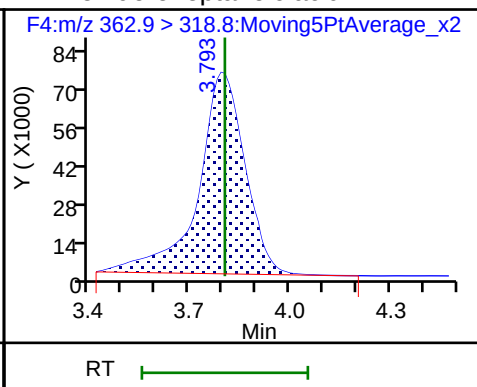
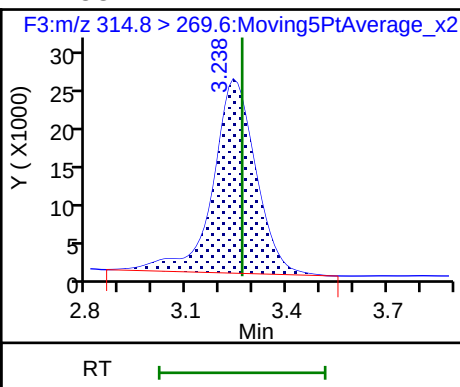
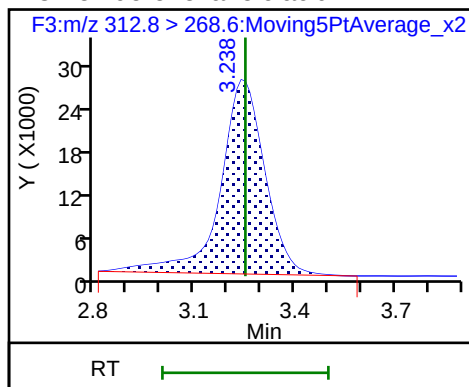
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

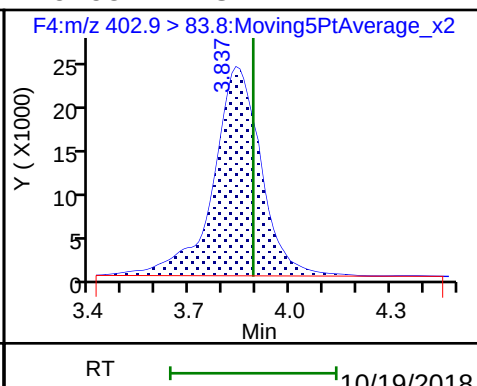
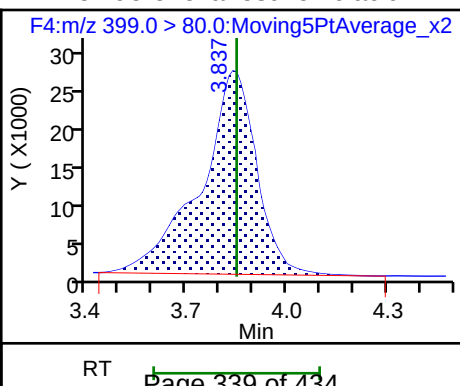
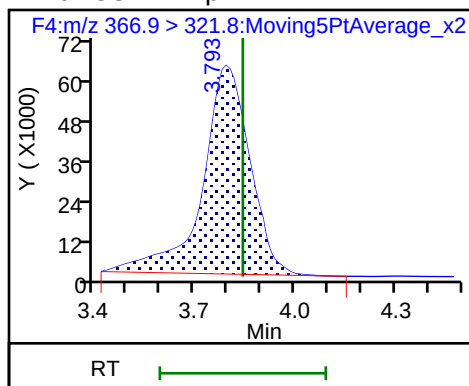
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

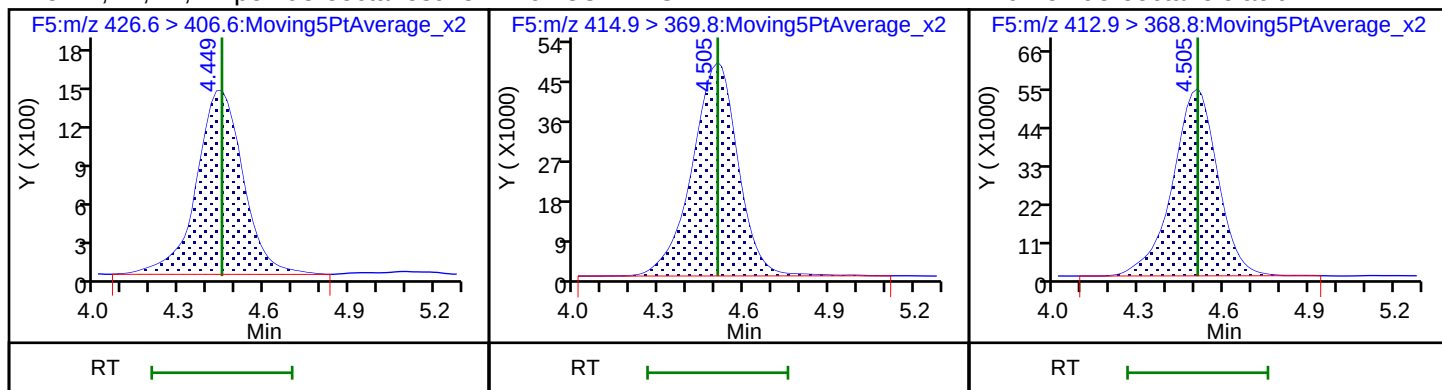
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



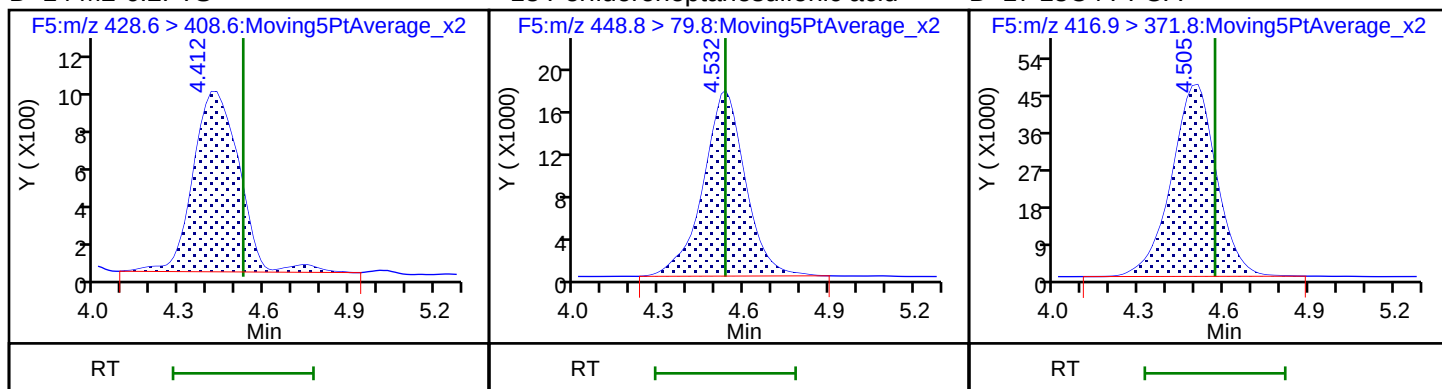
15 1H,1H,2H,2H-perfluorooctanesulfonate 49 13C2-PFOA

16 Perfluorooctanoic acid



18 Perfluoroheptanesulfonic acid

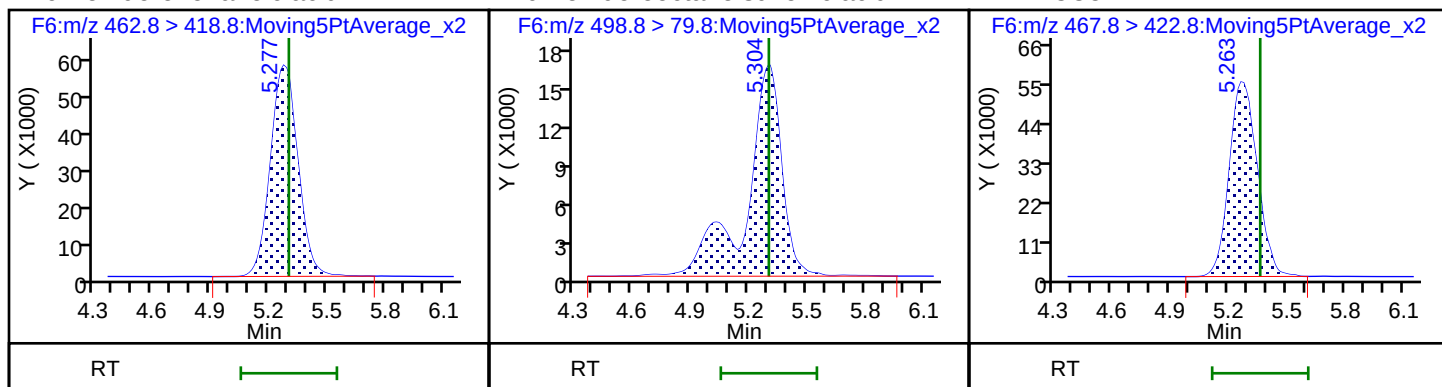
D 17 13C4 PFOA



19 Perfluorononanoic acid

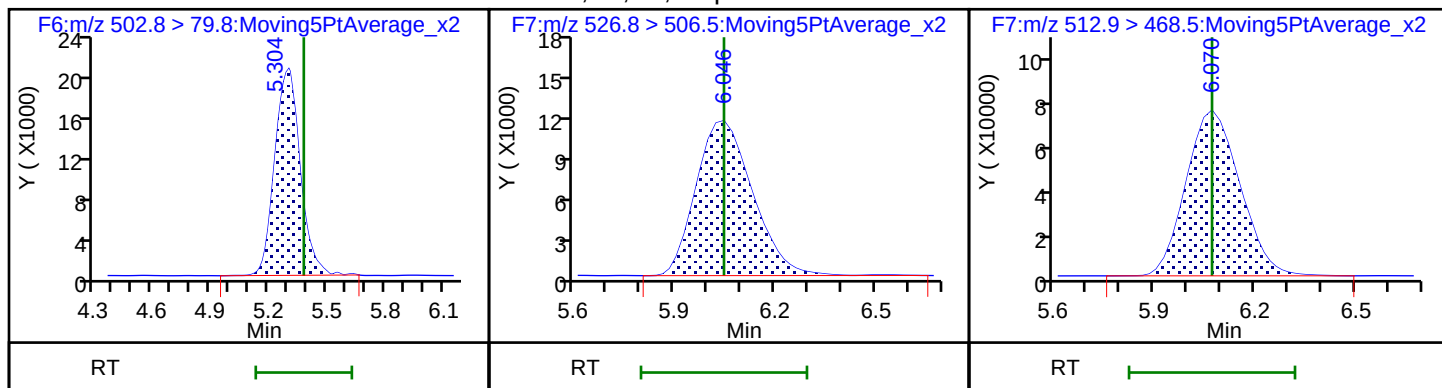
20 Perfluorooctane sulfonic acid

D 21 13C5 PFNA



D 22 13C4 PFOS

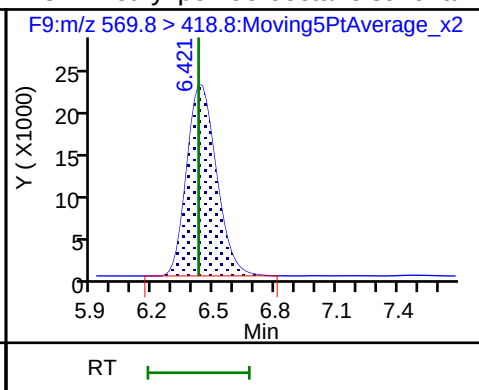
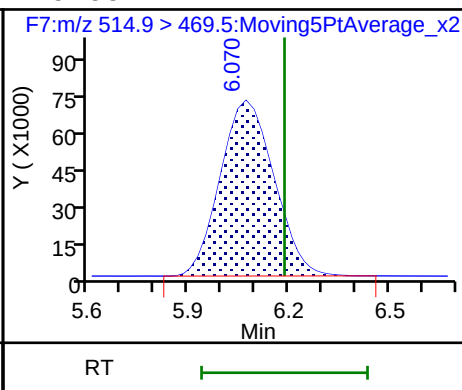
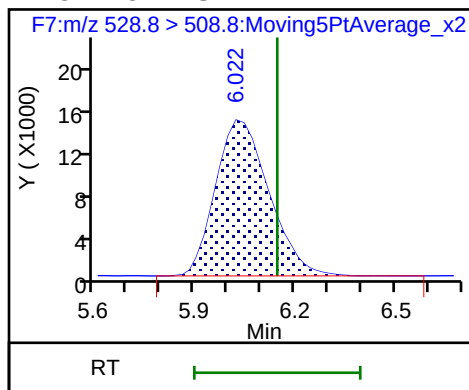
24 1H,1H,2H,2H-perfluorodecanesulfonate 26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

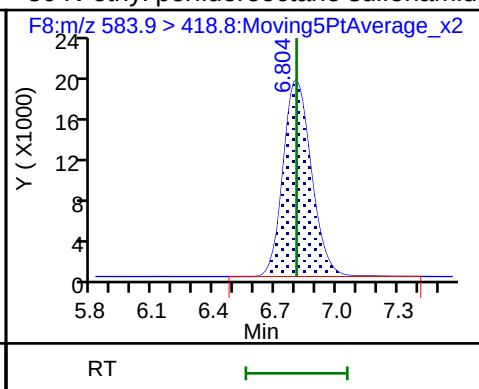
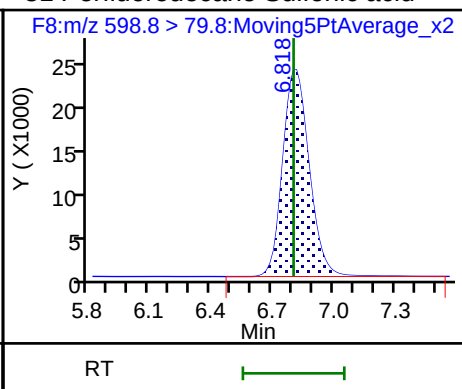
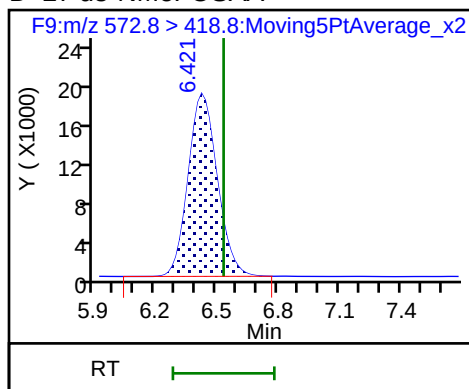
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

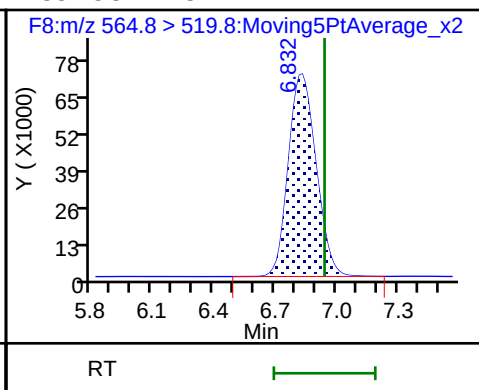
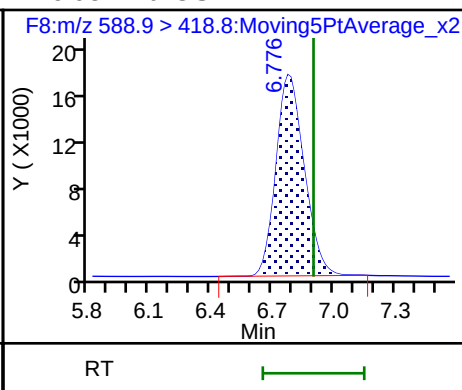
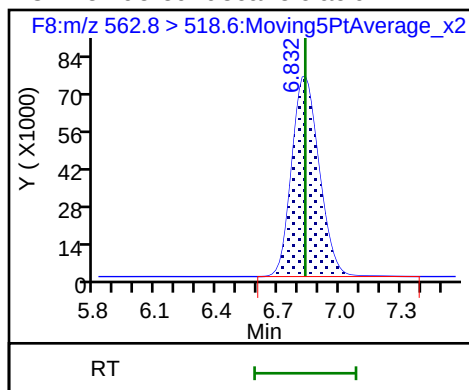
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

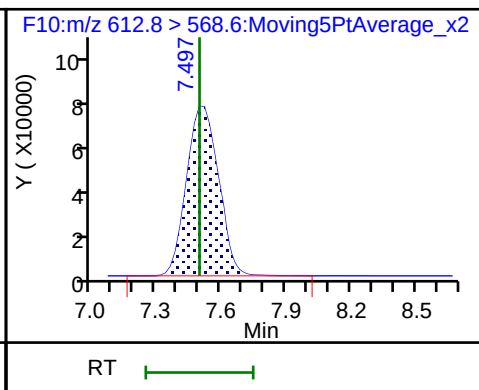
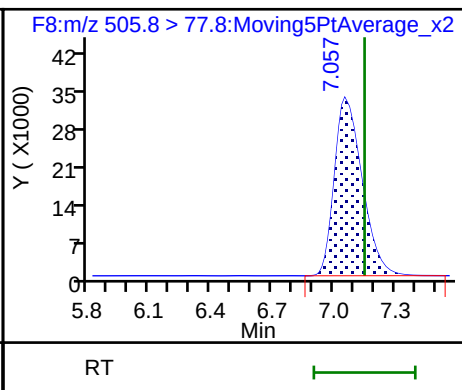
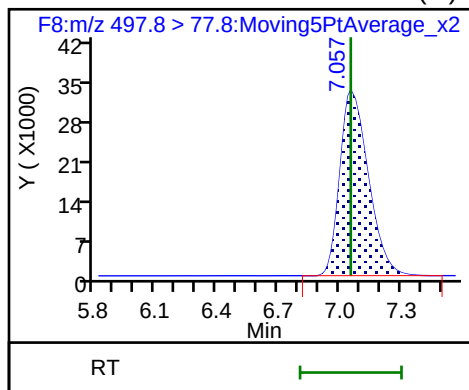
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (M)

D 35 13C8 FOSA

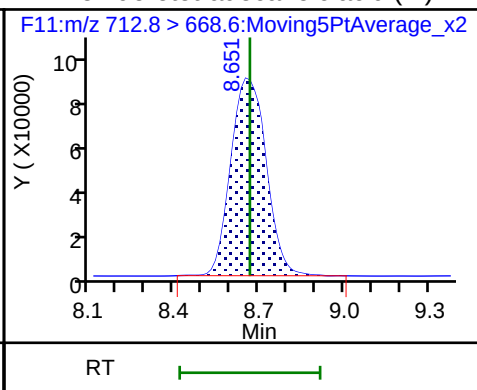
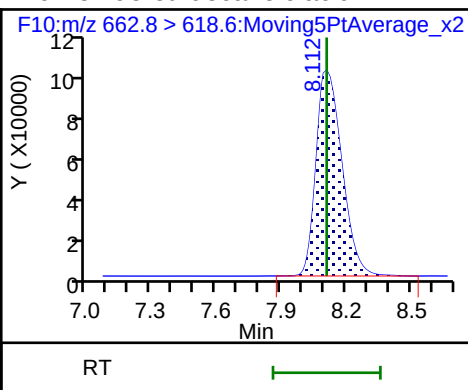
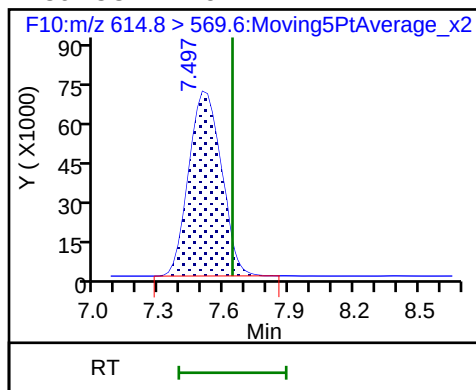
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

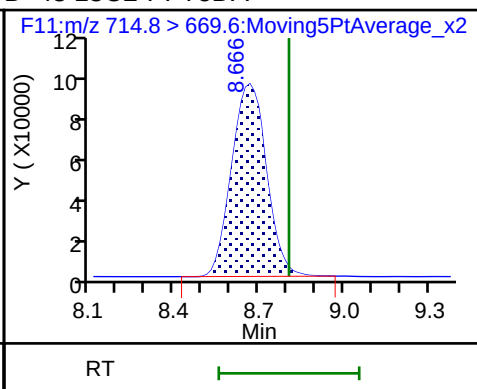
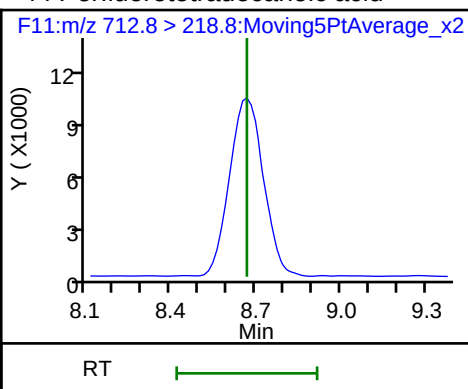
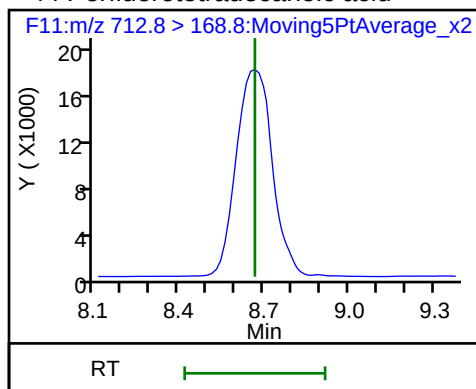
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

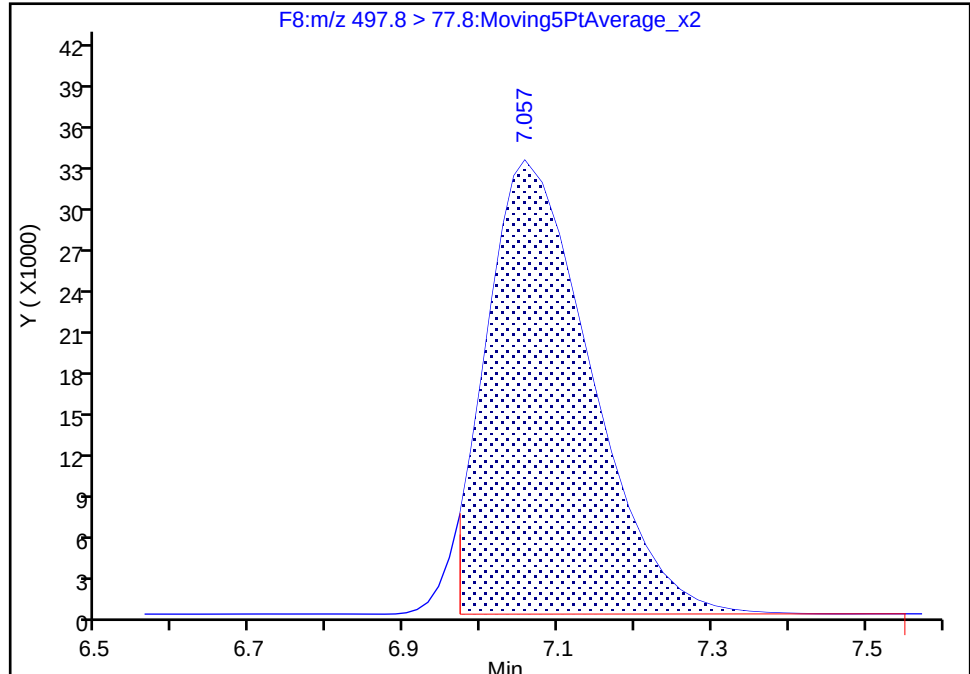
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Injection Date:	28-Jun-2018 22:28:55	Instrument ID:	LC410
Lims ID:	CCV L5		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F8:MRM
		Worklist Smp#:	23

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

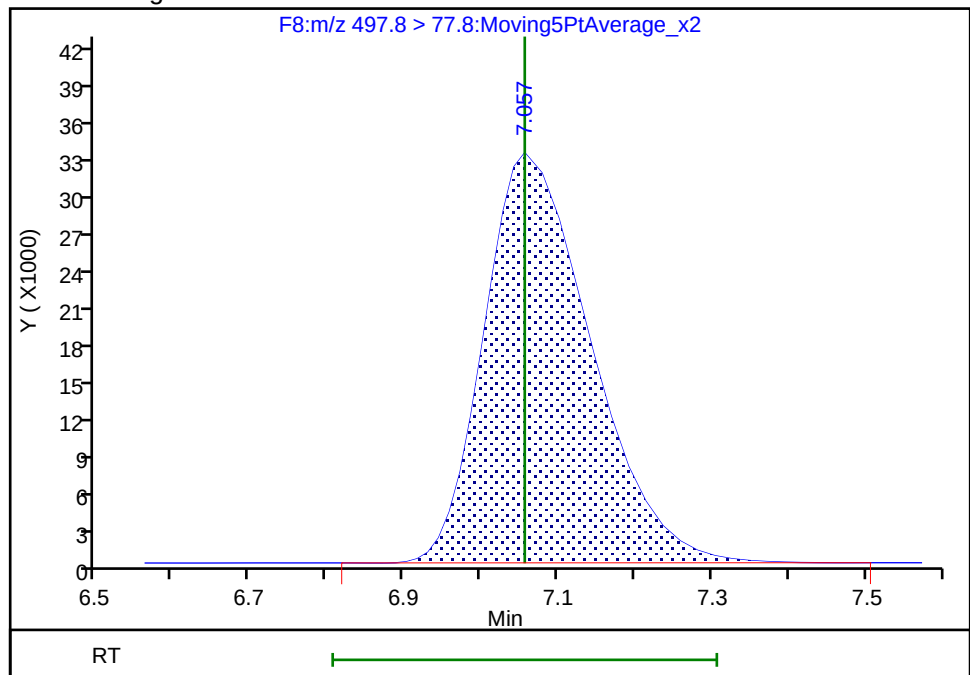
RT: 7.06
Area: 313161
Amount: 47.031136
Amount Units: ng/ml

Processing Integration Results



RT: 7.06
Area: 322267
Amount: 48.385758
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:51:43
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 343 of 434

10/19/2018

TestAmerica Burlington

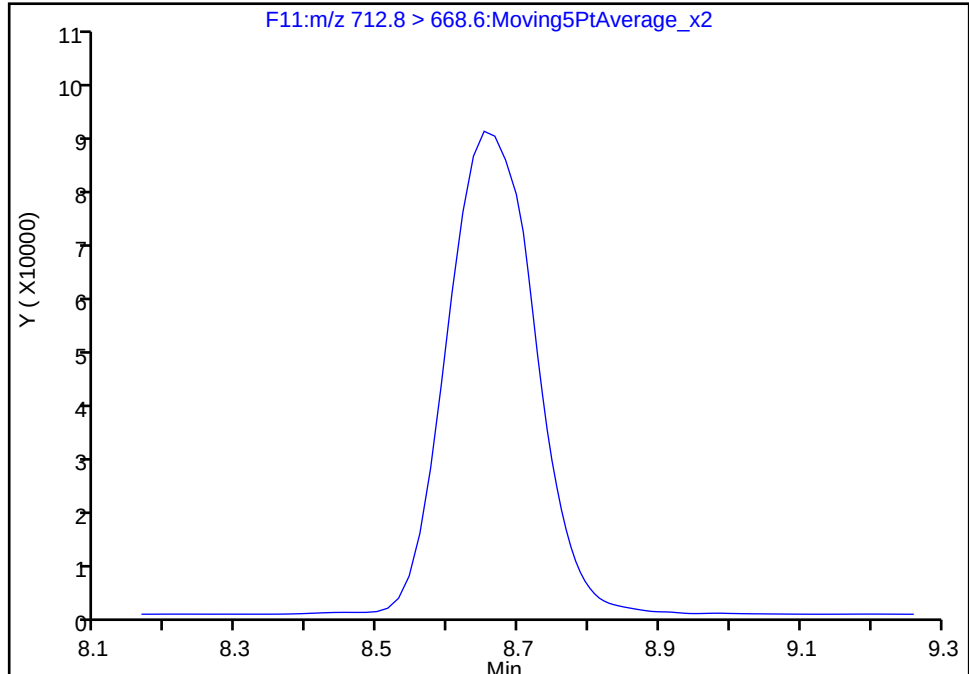
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A23.d		
Injection Date:	28-Jun-2018 22:28:55	Instrument ID:	LC410
Lims ID:	CCV L5		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F11:MRM
		Worklist Smp#:	23

44 Perfluorotetradecanoic acid, CAS: 376-06-7

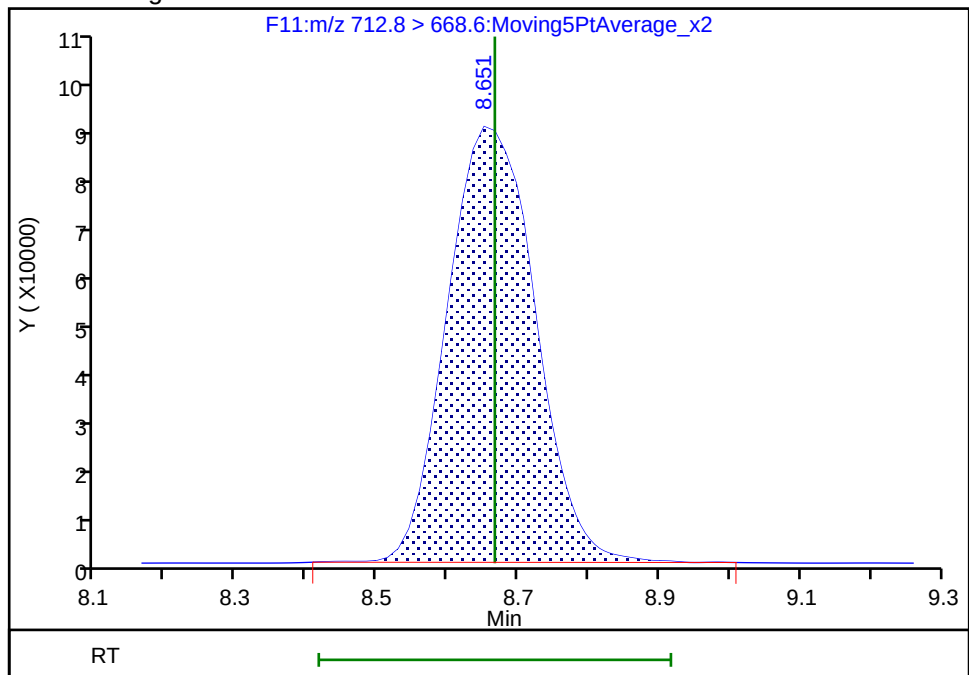
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:51:57

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1

SDG No.: _____

Lab Sample ID: CCV 200-131275/33 Calibration Date: 06/29/2018 01:11

Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51

GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12

Lab File ID: PF062818A33.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9534		19360	20000	-3.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		4.201		19490	20000	-2.6	40.0
Perfluorobutanesulfonic acid (PFBS)	L2ID		1.396		16330	17700	-7.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		1.039		19440	20000	-2.8	40.0
Perfluoroheptanoic acid (PFHpA)	L2ID		1.070		18880	20000	-5.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	L2ID		1.284		17610	18200	-3.2	40.0
6:2 FTS	L1ID		1.099		18820	19000	-0.7	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.211		19650	20000	-1.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	L1ID		1.003		18940	19000	-0.5	50.0
Perfluorononanoic acid (PFNA)	L2ID		1.023		19780	20000	-1.1	40.0
Perfluorooctanesulfonic acid (PFOS)	L1ID		1.196		17740	18600	-4.4	40.0
8:2 FTS	L1ID		0.7082		18980	19200	-1.0	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9620		18730	20000	-6.4	40.0
N-methylperfluorooctanesulfo namidoacetic acid (NMeFOSAA)	L2ID		1.089		17960	20000	-10.2	40.0
N-ethylperfluorooctanesulfon amidoacetic acid (NEtFOSAA)	L1ID		1.060		18540	20000	-7.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		1.209		20900	19300	8.4	50.0
Perfluoroundecanoic acid (PFUnA)	L1ID		1.038		21480	20000	7.4	40.0
Perfluorooctanesulfonamide (FOSA)	L1ID		1.082		20380	20000	1.9	40.0
Perfluorododecanoic acid (PFDoA)	L2ID		1.027		20930	20000	4.7	40.0
Perfluorotridecanoic acid (PFTrIA)	L2ID		1.108		22620	20000	13.1	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.8927		18490	20000	-7.6	40.0
13C4 PFBA	Ave	0.5332	0.4509		42280	50000	-15.4	50.0
13C5-PFPeA DNU	Ave	0.2061	0.1730		41980	50000	-16.0	50.0
13C3 PFBS	Ave	0.3765	0.3479		42960	46500	-7.6	50.0
13C2 PFHxA	Ave	0.4152	0.3952		47590	50000	-4.8	50.0
13C4 PFHpA	Ave	1.121	1.008		44970	50000	-10.1	50.0
18O2 PFHxS	Ave	0.4597	0.4268		43910	47300	-7.2	50.0
M2-6:2 FTS	Ave	0.0259	0.0286		52510	47500	10.6	50.0
13C4 PFOA	Ave	0.9120	0.8192		44910	50000	-10.2	50.0
13C5 PFNA	Ave	0.9871	0.9552		48380	50000	-3.2	50.0
13C4 PFOS	Ave	0.3404	0.3317		46580	47800	-2.5	50.0
M2-8:2 FTS	Ave	0.2895	0.2854		47220	47900	-1.4	50.0
13C2 PFDA	Ave	1.376	1.445		52490	50000	5.0	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Burlington Job No.: 200-44045-1
 SDG No.: _____
 Lab Sample ID: CCV 200-131275/33 Calibration Date: 06/29/2018 01:11
 Instrument ID: LC410 Calib Start Date: 06/27/2018 10:51
 GC Column: C-18 ID: 4.60 (mm) Calib End Date: 06/27/2018 12:12
 Lab File ID: PF062818A33.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.3249	0.3380		52020	50000	4.0	50.0
d5-NEtFOSAA	Ave	0.3059	0.3099		50660	50000	1.3	50.0
13C2 PFUnA	Ave	1.292	1.314		50830	50000	1.7	50.0
13C8 FOSA	Ave	0.5262	0.4825		45850	50000	-8.3	50.0
13C2 PFDoA	Ave	1.306	1.262		48300	50000	-3.4	50.0
13C2 PFTeDA	Ave	1.313	1.367		52040	50000	4.1	50.0

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d
 Lims ID: CCV L4
 Client ID:
 Sample Type: CCV
 Inject. Date: 29-Jun-2018 01:11:07 ALS Bottle#: 0 Worklist Smp#: 33
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-033 CCV L4
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Sublist: chrom-PFCISO_12MRM*sub4
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:06:08 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d

Column 1 : Det: F1:MRM

Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 29-Jun-2018 08:55:51

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	2.371	2.370	0.001	1.000	266076	42.3		84.6	445	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.371	2.371	0.0	1.000	101471	19.4		96.8	253	M
4 Perfluoropentanoic acid										
262.9 > 218.8	2.801	2.801	0.0	1.000	171594	19.5		97.4	240	
D 3 13C5-PFPeA										
267.7 > 222.6	2.801	2.802	-0.001	1.000	102113	42.0		84.0	667	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.883	2.883	0.0	1.000	101314	16.3		92.4	198	M
D 5 13C3-PFBS										
302.0 > 79.8	2.883	2.883	0.0	1.000	190929	43.0		92.4	138	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.250	3.250	0.0	0.996	96925	19.4		97.2	1704	
D 7 13C2 PFHxA										M
314.8 > 269.6	3.263	3.265	-0.002	1.000	233229	47.6		95.2	700	M
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.804	3.804	0.0	1.000	254613	18.9		94.4	1074	
D 10 13C4-PFHpA										
366.9 > 321.8	3.804	3.843	-0.039	1.000	595105	45.0		89.9	1695	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.848	3.848	0.0	0.997	117753	17.6		96.8	114	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.859	3.889	-0.030	1.000	238256	43.9		92.8	4711	
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.468	4.449	0.019	0.996	7032	18.8		99.3	69.4	M
* 49 13C2-PFOA										
414.9 > 369.8	4.519	4.505	0.014		590159	50.0		2623		

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.519	4.505	0.014	1.000	234194	19.6		98.2	1301	
D 14 M2-6:2FTS										M
428.6 > 408.6	4.486	4.525	-0.039	1.000	16033	52.5		111	102	M
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.546	4.532	0.014	0.854	74806	18.9		99.5	493	
D 17 13C4 PFOA										
416.9 > 371.8	4.519	4.567	-0.048	1.000	483447	44.9		89.8	634	
19 Perfluorononanoic acid										
462.8 > 418.8	5.304	5.304	0.0	1.000	230722	19.8		98.9	922	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.310	5.304	0.006	0.998	86927	17.7		95.6	662	
D 21 13C5 PFNA										
467.8 > 422.8	5.304	5.363	-0.059	1.000	563701	48.4		96.8	672	
D 22 13C4 PFOS										
502.8 > 79.8	5.322	5.382	-0.060	1.000	187167	46.6		97.5	1508	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.046	6.046	0.0	1.000	45706	19.0		99.0	162	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.071	6.070	0.001	1.000	328085	18.7		93.6	4903	
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	161354	47.2		98.6	1334	
D 25 13C2 PFDA										
514.9 > 469.5	6.071	6.186	-0.115	1.000	852593	52.5		105	1963	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.439	6.421	0.018	1.000	86906	18.0		89.8	384	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.439	6.530	-0.091	1.000	199481	52.0		104	842	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.833	6.804	0.029	1.284	91237	20.9		108	1152	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.818	6.804	0.014	1.002	77548	18.5		92.7	1189	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.847	6.832	0.015	1.002	321736	21.5		107	3152	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.804	6.903	-0.099	1.000	182914	50.7		101	1114	
D 33 13C2 PFUnA										
564.8 > 519.8	6.833	6.942	-0.109	1.000	775238	50.8		102	3029	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.079	7.057	0.022	1.000	123282	20.4		102	1128	
D 35 13C8 FOSA										
505.8 > 77.8	7.079	7.154	-0.075	1.000	284751	45.8		91.7	1788	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.519	7.497	0.022	1.000	305936	20.9		105	1100	
D 36 13C2 PFDaA										
614.8 > 569.6	7.519	7.636	-0.117	1.000	744680	48.3		96.6	1645	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.127	8.112	0.015	1.081	229929	22.6		113	1419	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d

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	8.681	8.666	0.015	1.002	288062	18.5		92.4	1040	
712.8 > 168.8	8.681	8.666	0.015	1.002	68428		4.21(0.00-0.00)		496	
712.8 > 218.8	8.681	8.666	0.015	1.002	33852		8.51(0.00-0.00)		323	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.666	8.805	-0.139	1.000	806729	52.0		104	1345	

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\20180628-31168.b\PF062818A33.d

Injection Date: 29-Jun-2018 01:11:07

Instrument ID: LC410

Lims ID: CCV L4

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 33

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

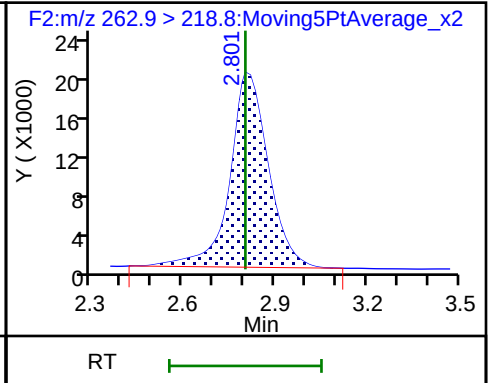
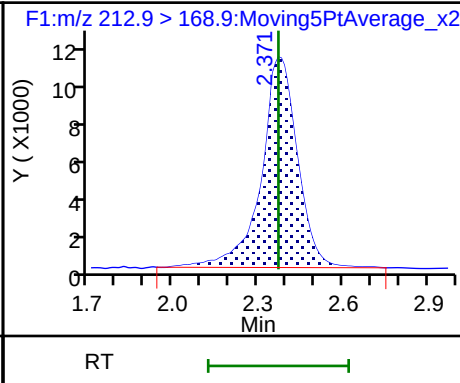
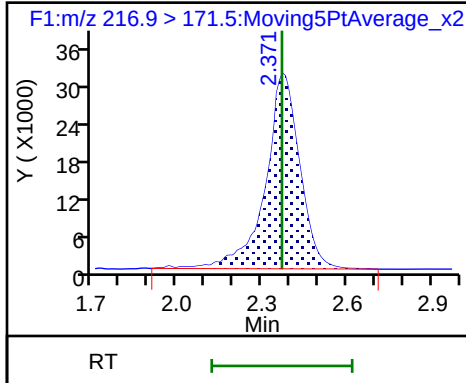
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

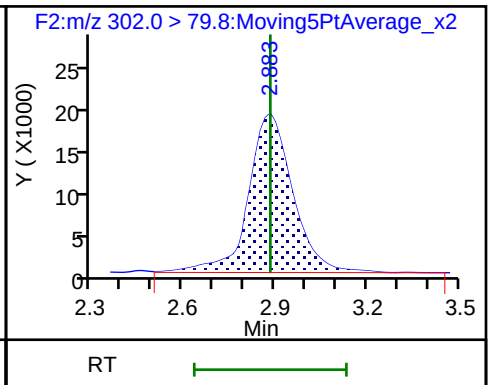
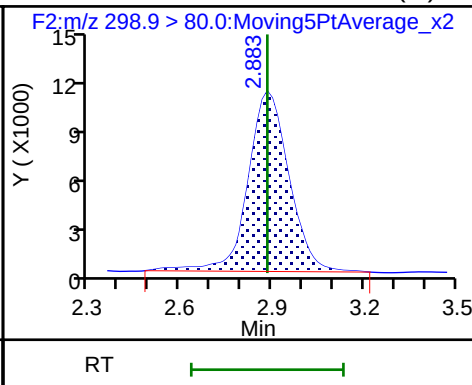
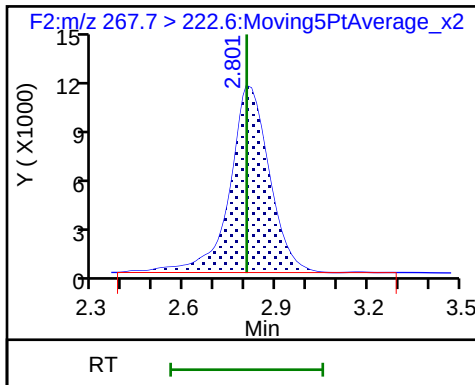
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (M)

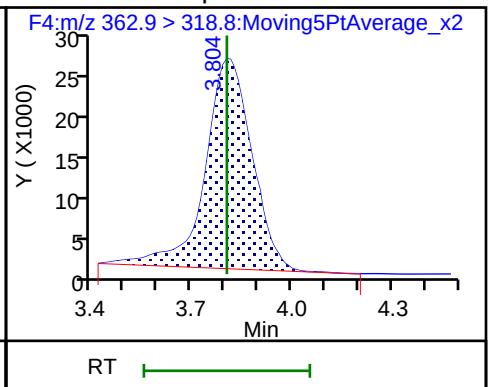
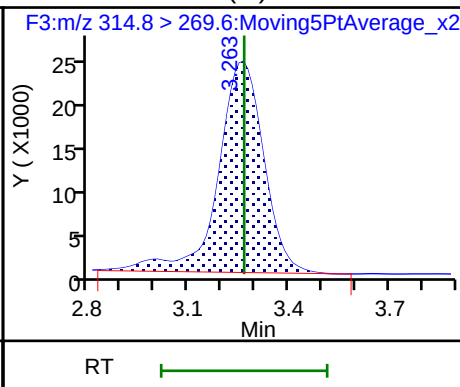
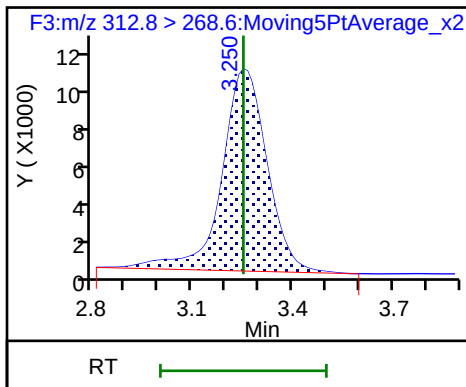
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA (M)

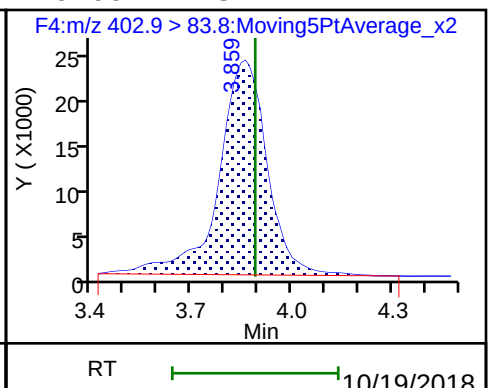
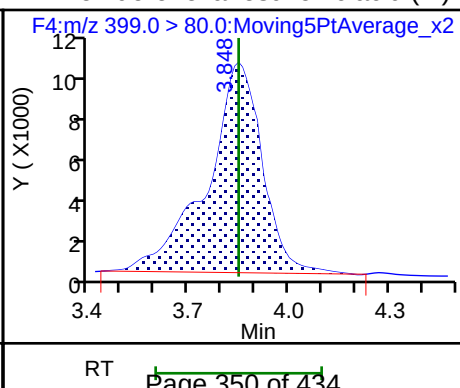
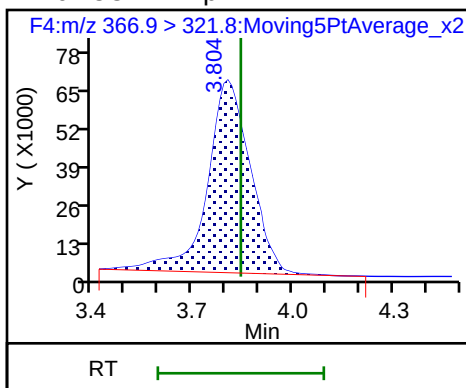
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

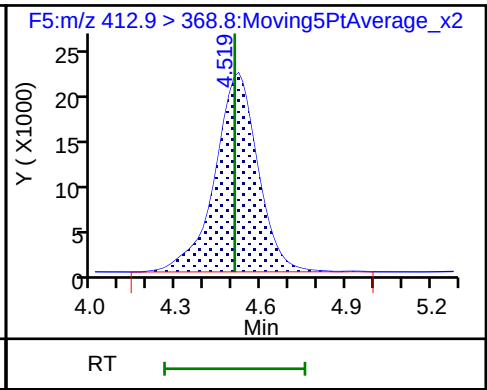
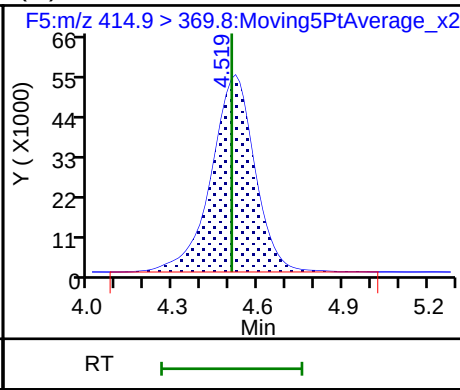
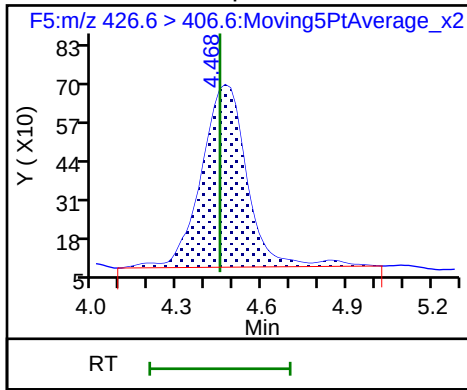
12 Perfluorohexanesulfonic acid (M)

D 13 18O2 PFHxS



15 1H,1H,2H,2H-perfluorooctanesulfonate (M) 13C2-PFOA

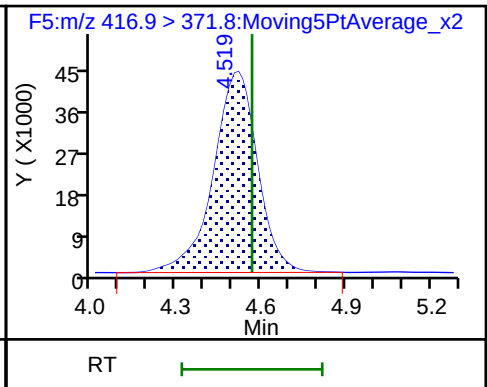
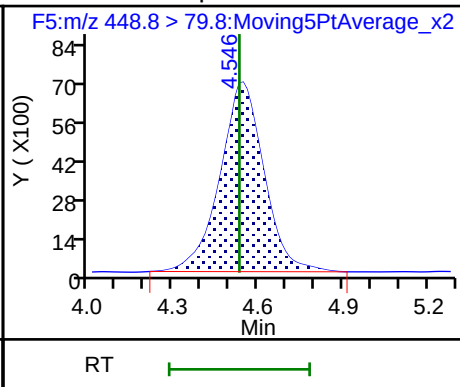
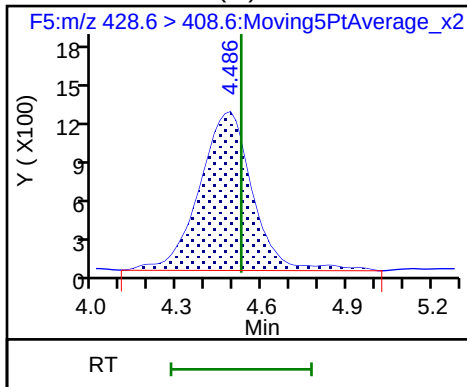
16 Perfluorooctanoic acid



D 14 M2-6:2FTS (M)

18 Perfluoroheptanesulfonic acid

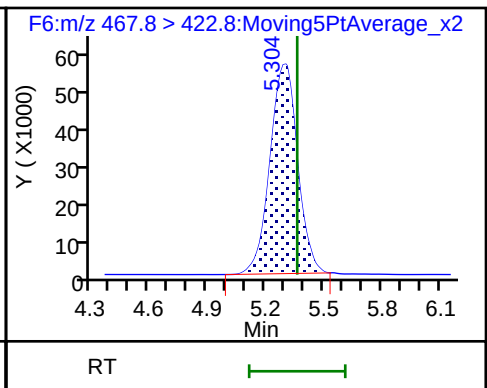
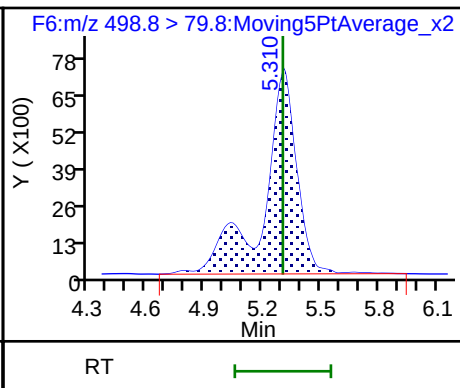
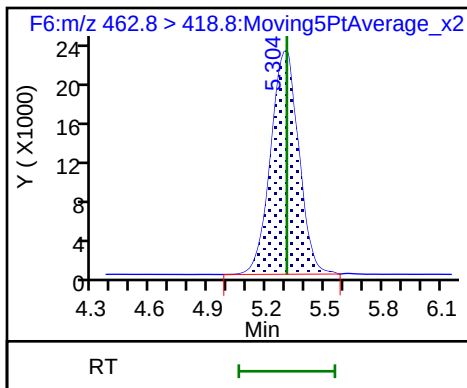
D 17 13C4 PFOA



19 Perfluorononanoic acid

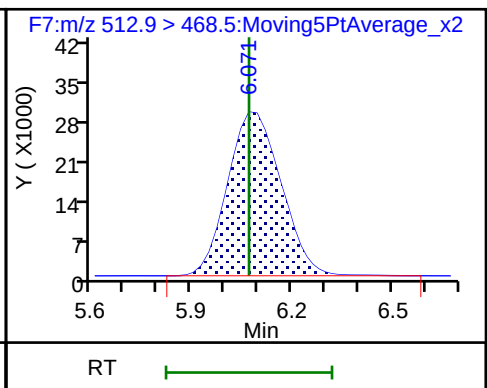
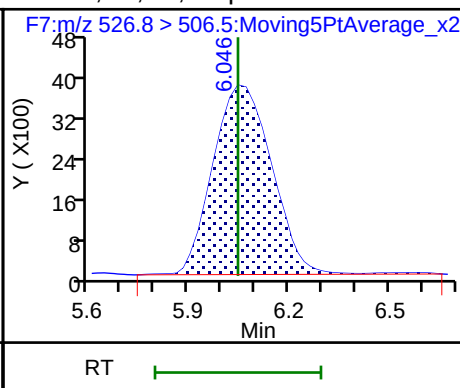
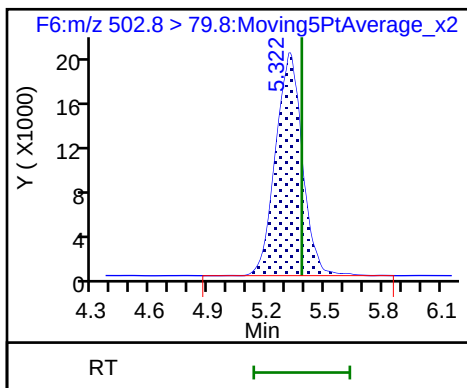
20 Perfluorooctane sulfonic acid

D 21 13C5 PFNA



D 22 13C4 PFOS

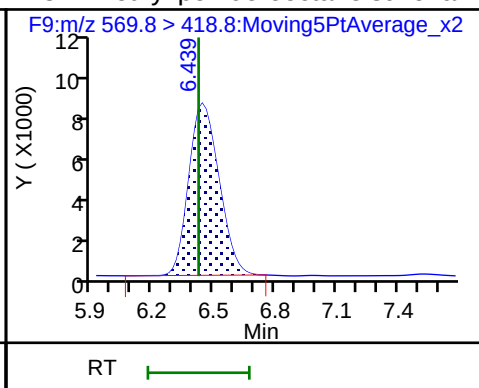
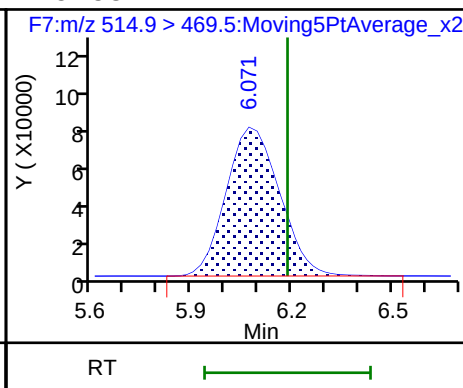
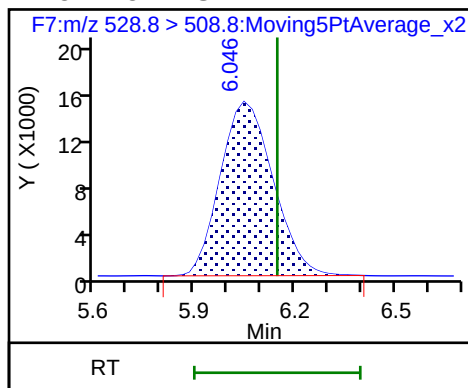
24 1H,1H,2H,2H-perfluorodecanesulfonate 26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

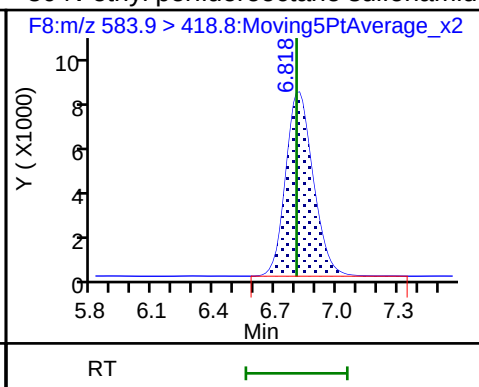
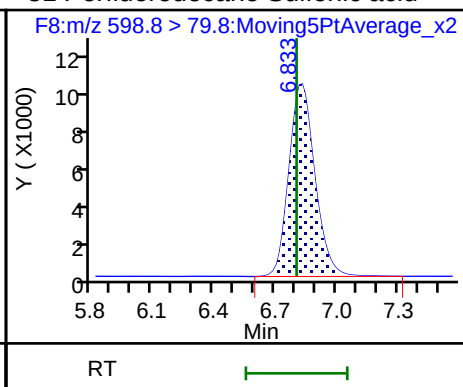
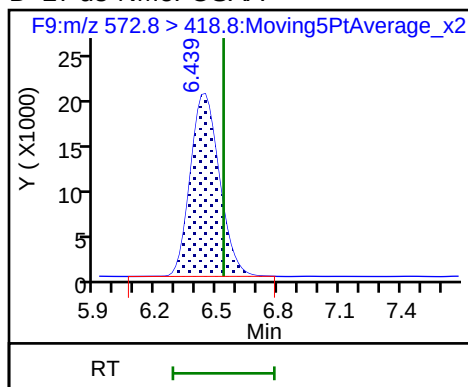
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

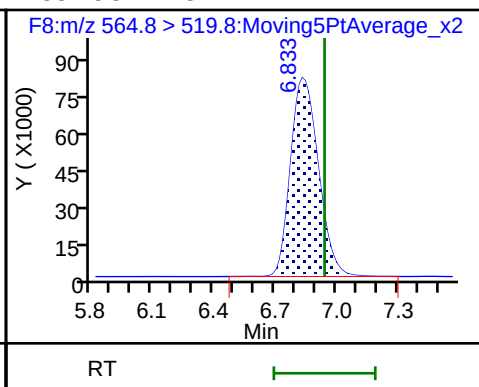
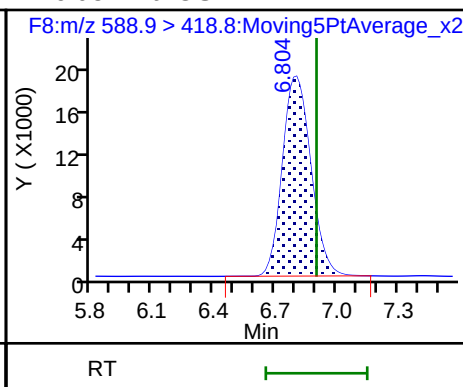
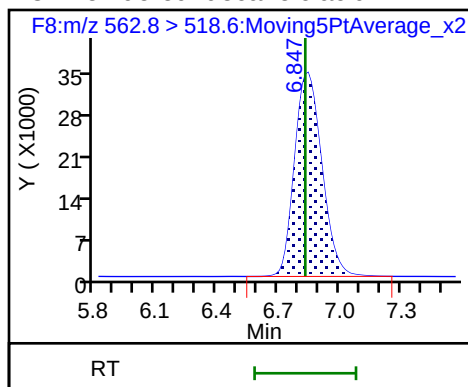
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

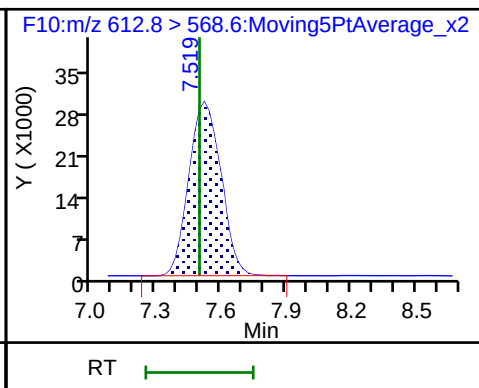
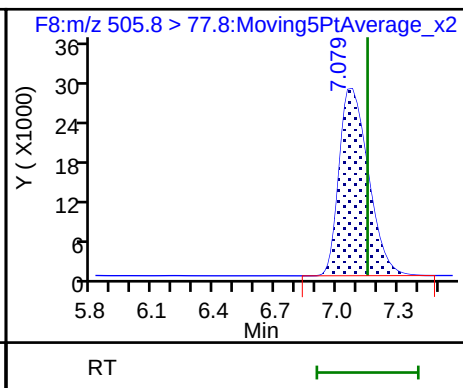
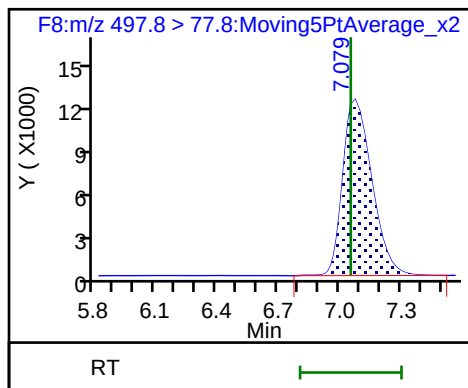
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide

D 35 13C8 FOSA

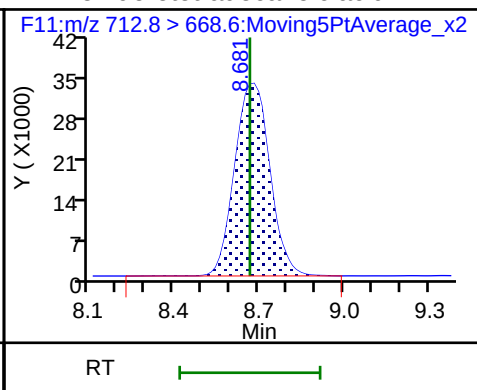
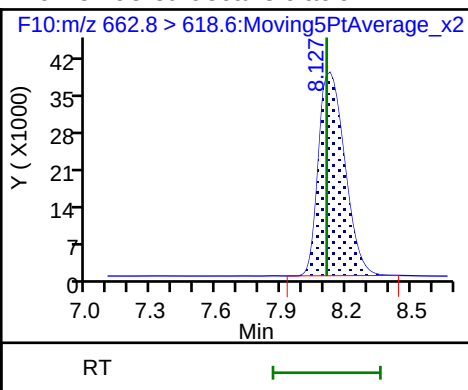
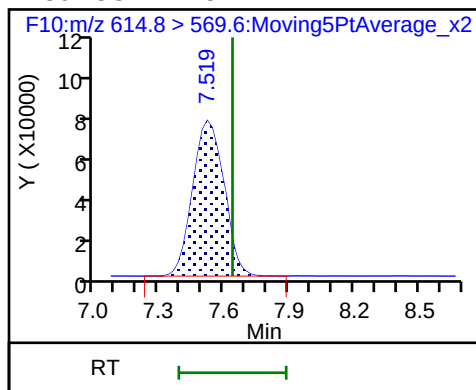
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

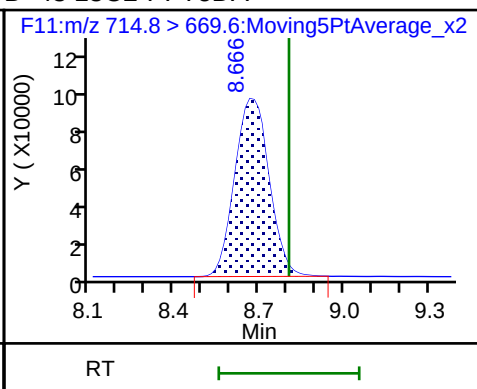
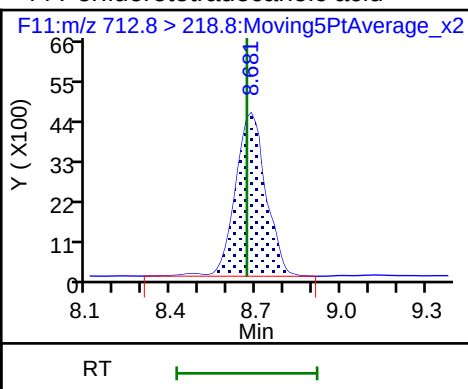
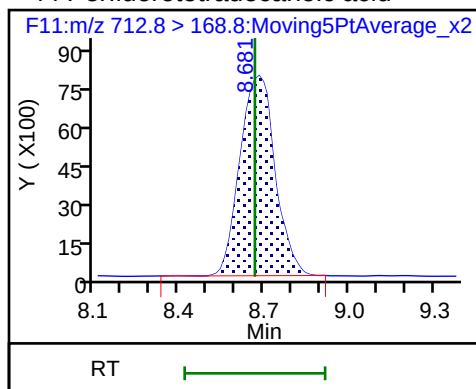
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

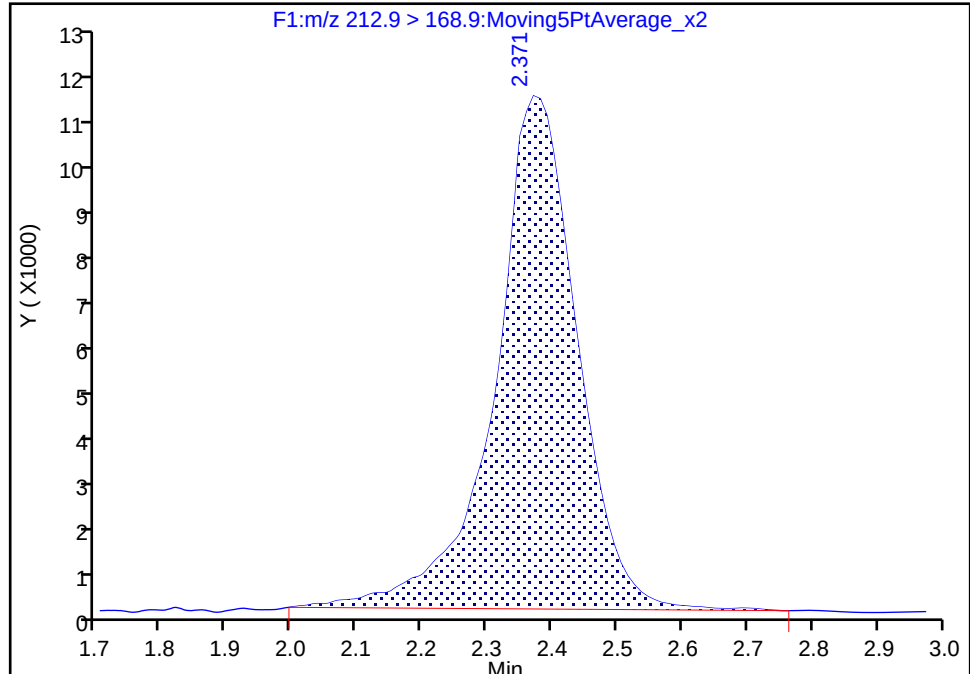
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d		
Injection Date:	29-Jun-2018 01:11:07	Instrument ID:	LC410
Lims ID:	CCV L4		
Client ID:			
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	33

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

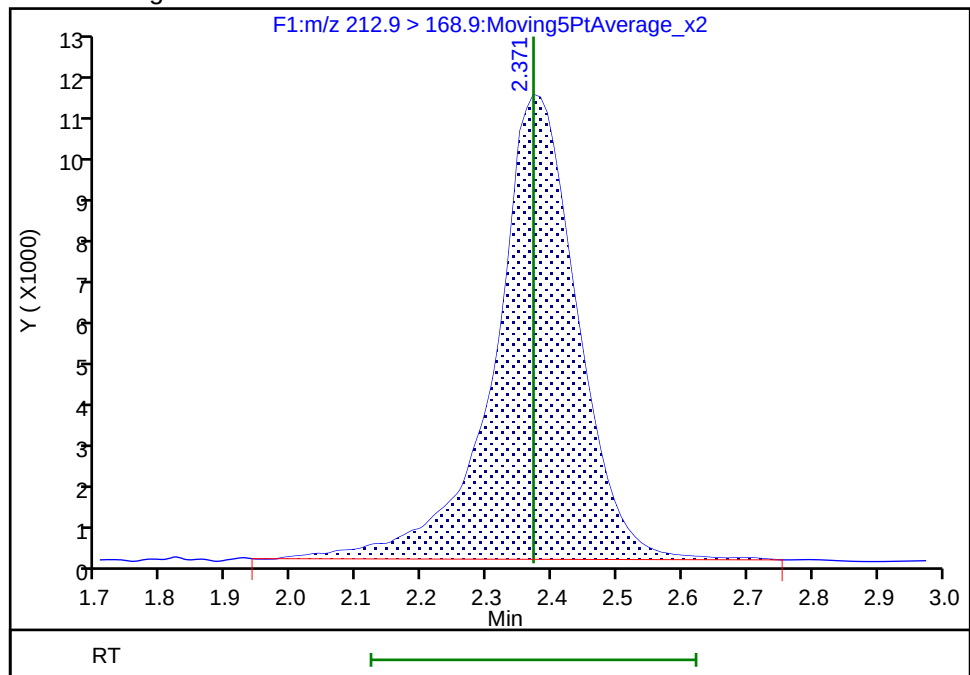
RT: 2.37
Area: 100410
Amount: 19.156017
Amount Units: ng/ml

Processing Integration Results



RT: 2.37
Area: 101471
Amount: 19.361678
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:52:39

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d

Injection Date: 29-Jun-2018 01:11:07

Instrument ID: LC410

Lims ID: CCV L4

Client ID:

Operator ID: JWM

ALS Bottle#:

0

Worklist Smp#: 33

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

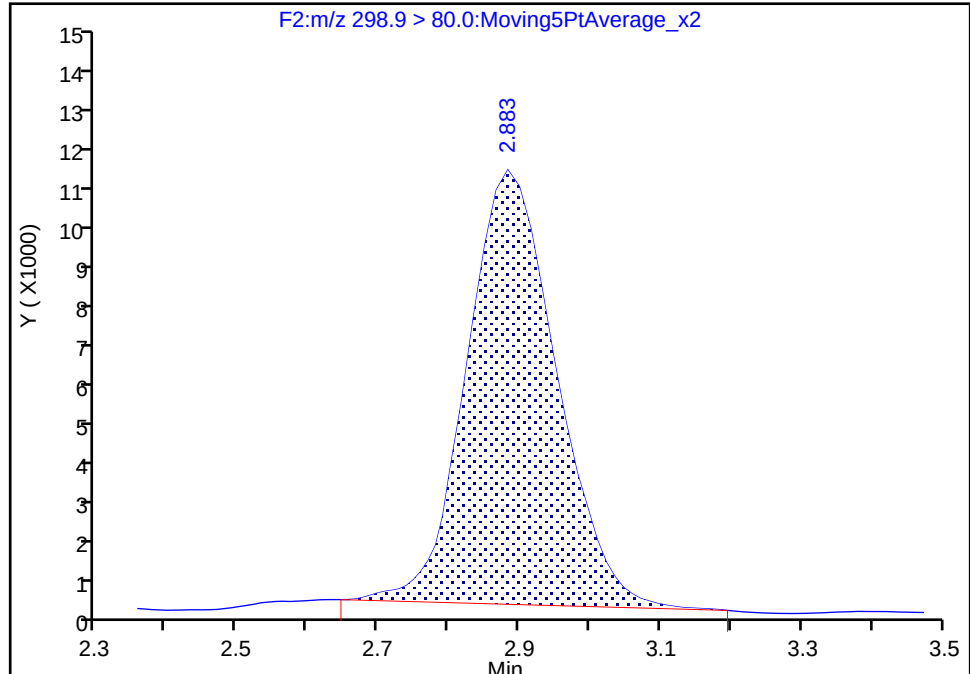
Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

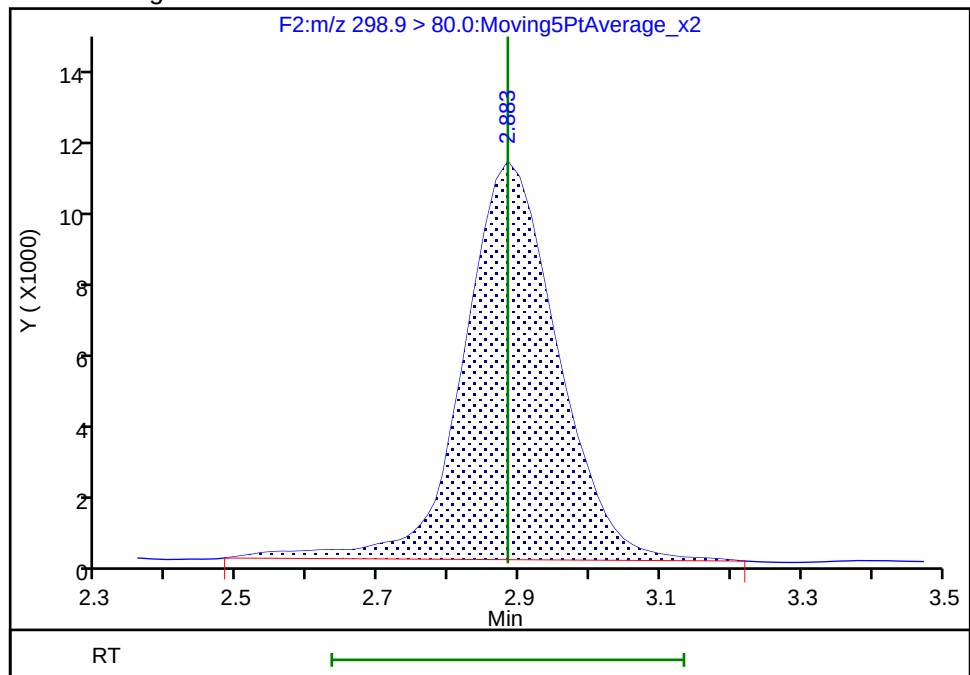
RT: 2.88
Area: 95159
Amount: 15.343587
Amount Units: ng/ml

Processing Integration Results



RT: 2.88
Area: 101314
Amount: 16.329622
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:52:50

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

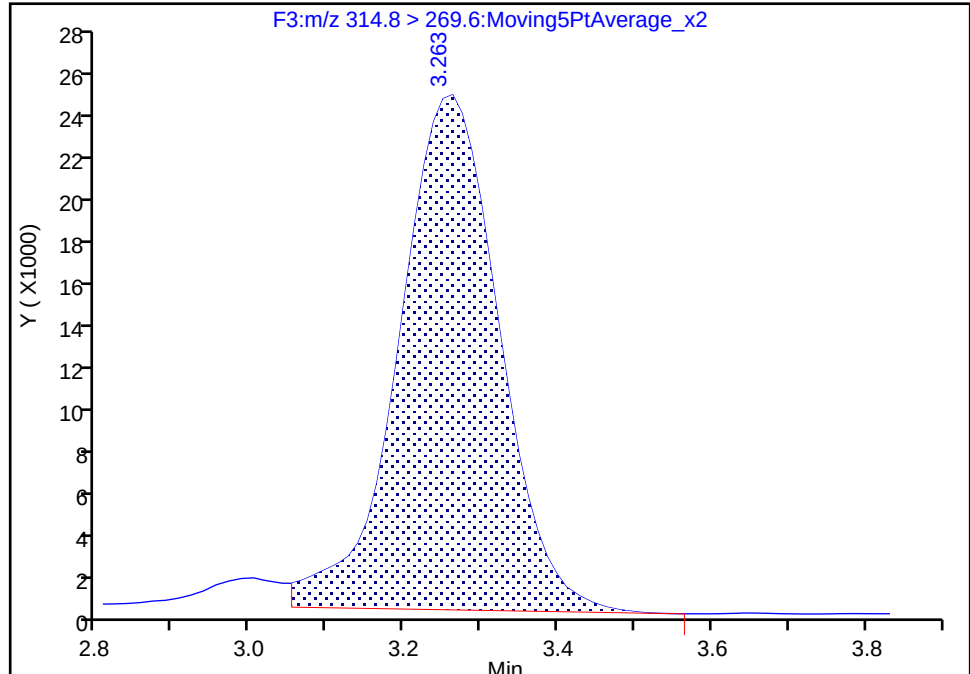
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Injection Date: 29-Jun-2018 01:11:07 Instrument ID: LC410
Lims ID: CCV L4
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 33
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F3:MRM

D 7 13C2 PFHxA, CAS: STL00993

Signal: 1

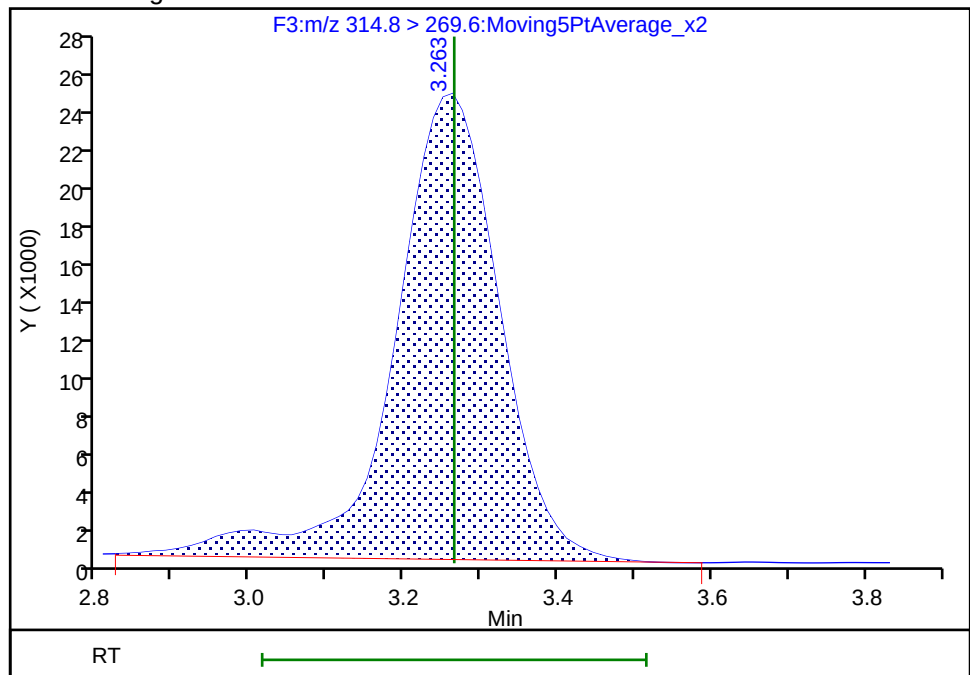
RT: 3.26
Area: 222556
Amount: 45.416082
Amount Units: ng/ml

Processing Integration Results



RT: 3.26
Area: 233229
Amount: 47.594077
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:53:04
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 356 of 434

10/19/2018

TestAmerica Burlington

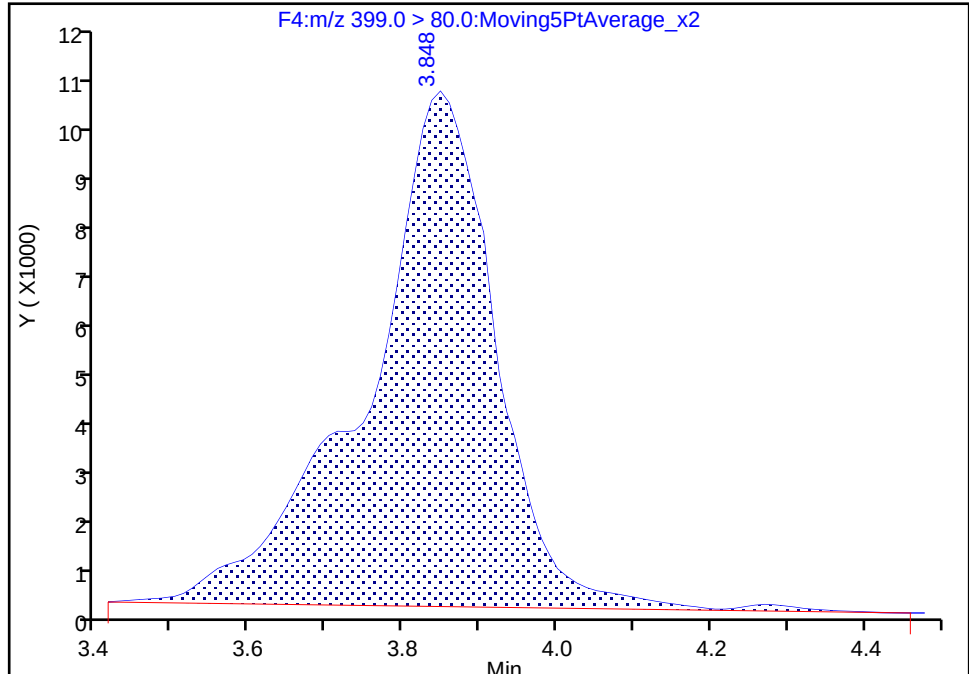
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Injection Date: 29-Jun-2018 01:11:07 Instrument ID: LC410
Lims ID: CCV L4
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 33
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

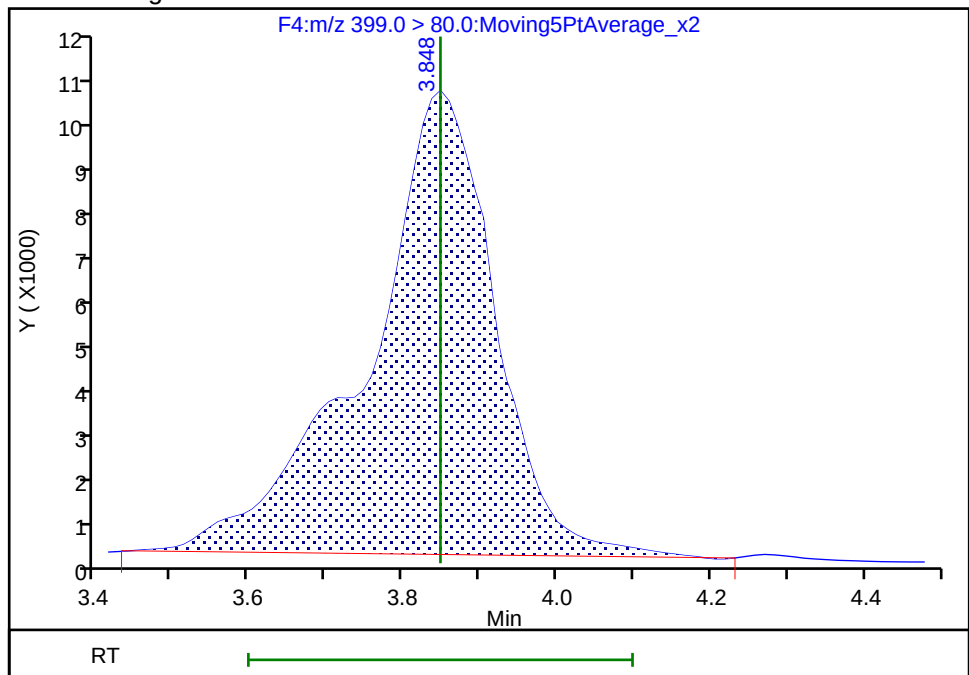
RT: 3.85
Area: 120134
Amount: 17.967674
Amount Units: ng/ml

Processing Integration Results



RT: 3.85
Area: 117753
Amount: 17.613412
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:53:41

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d

Injection Date: 29-Jun-2018 01:11:07

Instrument ID: LC410

Lims ID: CCV L4

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 33

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

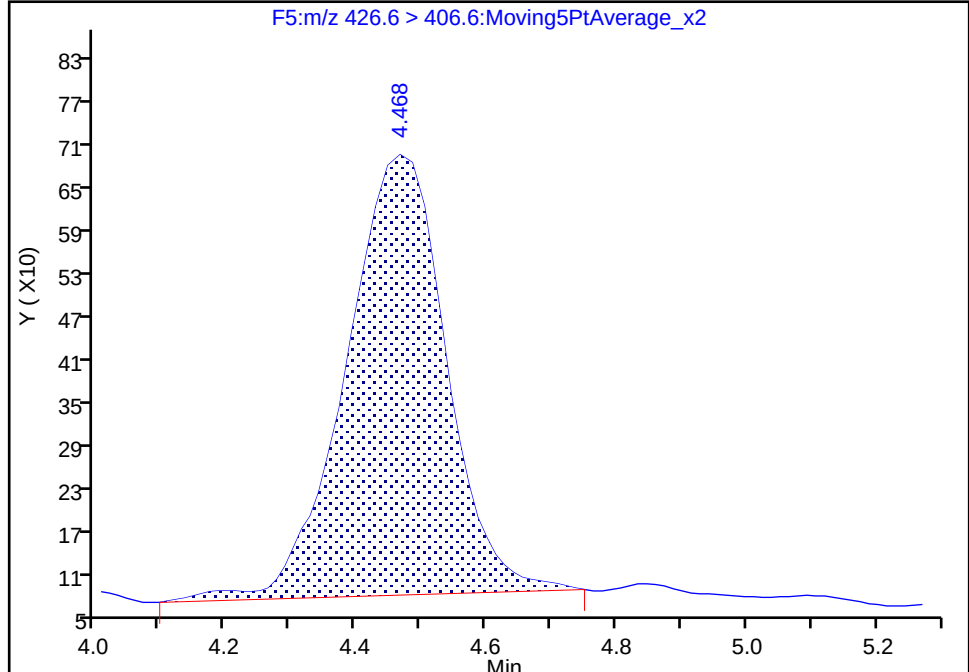
Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

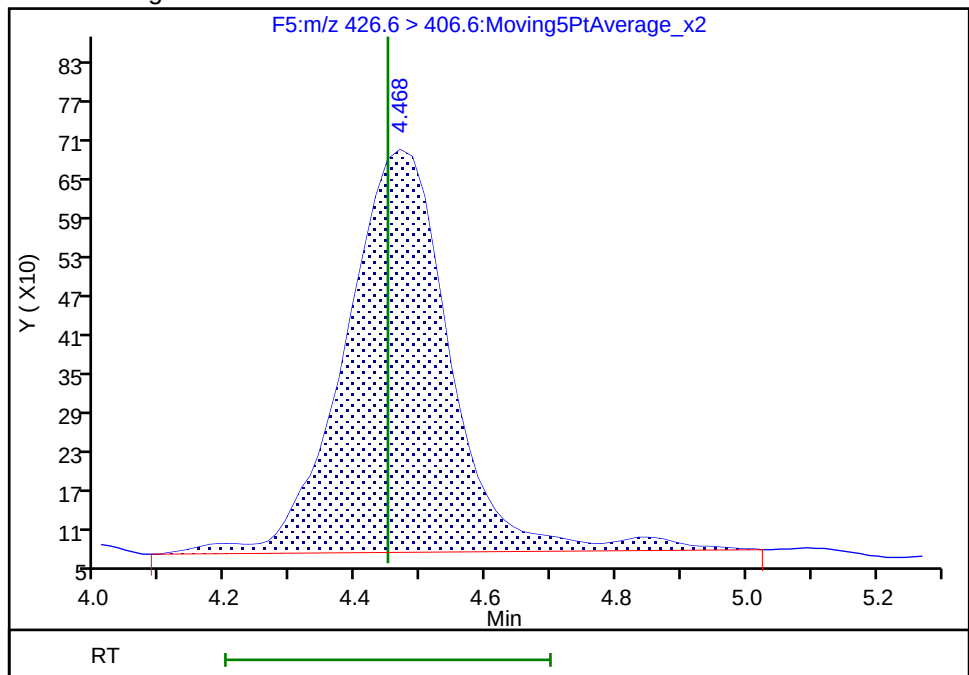
RT: 4.47
Area: 6611
Amount: 17.715161
Amount Units: ng/ml

Processing Integration Results



RT: 4.47
Area: 7032
Amount: 18.824086
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:54:09

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A33.d

Injection Date: 29-Jun-2018 01:11:07

Instrument ID: LC410

Lims ID: CCV L4

Client ID:

Operator ID: JWM

ALS Bottle#: 0 Worklist Smp#: 33

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

Column:

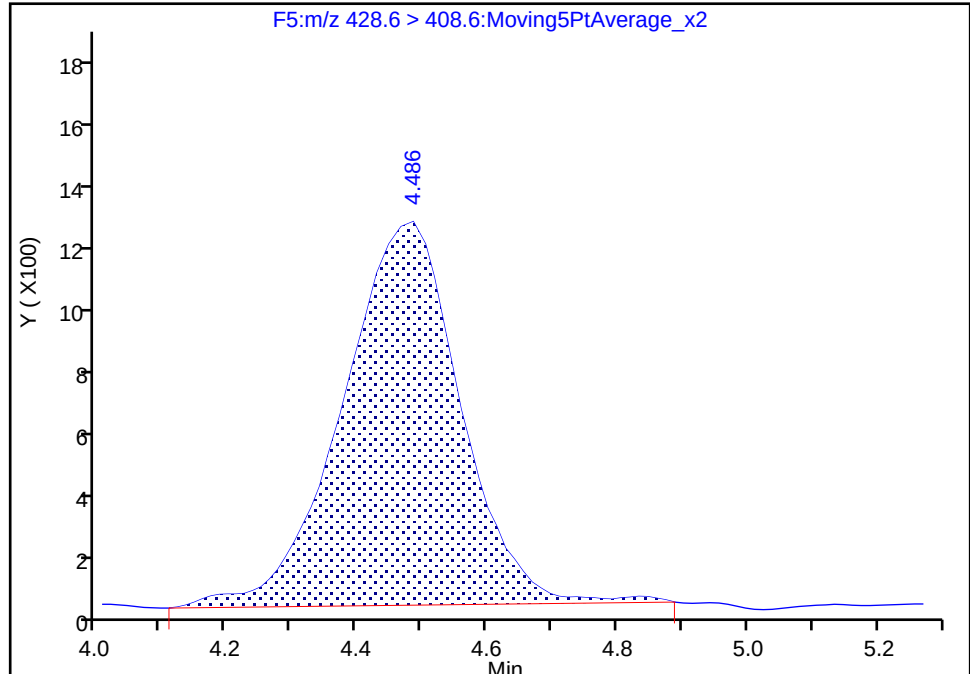
Detector F5:MRM

D 14 M2-6:2FTS, CAS: STL02279

Signal: 1

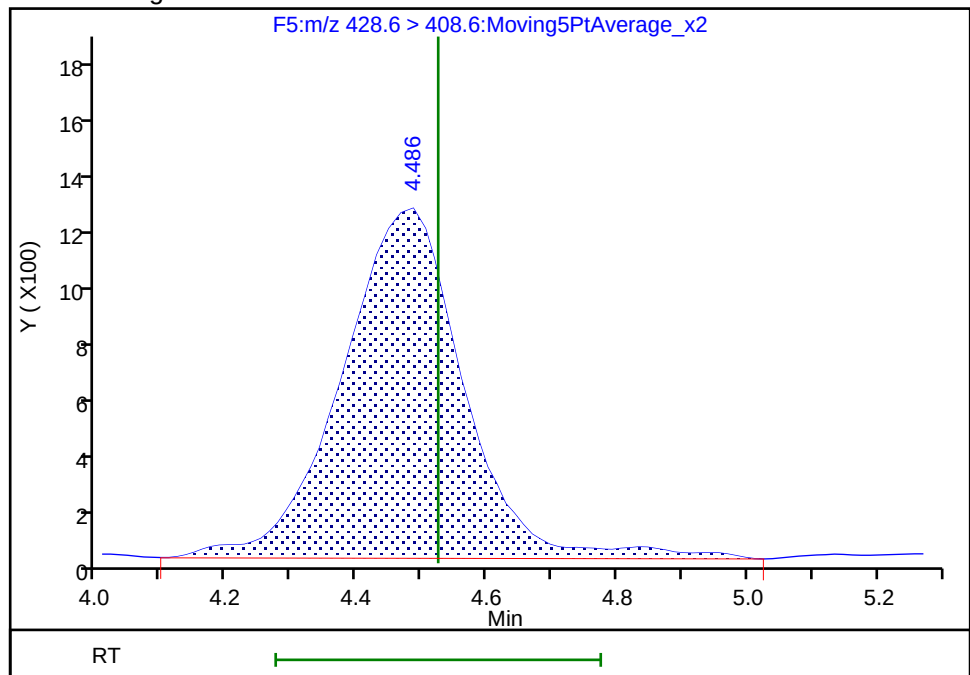
RT: 4.49
Area: 15341
Amount: 50.247940
Amount Units: ng/ml

Processing Integration Results



RT: 4.49
Area: 16033
Amount: 52.514518
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 29-Jun-2018 08:54:02

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-131185/1-A</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A11.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: _____
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>250 (mL)</u>	Date Analyzed: <u>06/28/2018 19:14</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.859	J	2.00	0.41
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.00	U	2.00	0.75
307-24-4	Perfluorohexanoic acid (PFHxA)	0.291	J	2.00	0.24
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.442	J	2.00	0.32
335-67-1	Perfluorooctanoic acid (PFOA)	0.586	J	2.00	0.32
375-95-1	Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.38
335-76-2	Perfluorodecanoic acid (PFDA)	2.00	U	2.00	0.38
2058-94-8	Perfluoroundecanoic acid (PFUnA)	2.00	U	2.00	0.25
307-55-1	Perfluorododecanoic acid (PFDoA)	2.00	U	2.00	0.35
72629-94-8	Perfluorotridecanoic acid (PFTriA)	2.00	U	2.00	0.24
376-06-7	Perfluorotetradecanoic acid (PFTeA)	2.00	U	2.00	0.45
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.447	J	2.00	0.26
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.829	J	2.00	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	2.00	U	2.00	0.53
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	0.76
754-91-6	Perfluorooctanesulfonamide (FOSA)	2.00	U	2.00	0.56
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	U	2.00	0.45
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	U	2.00	0.70
27619-97-2	6:2 FTS	2.00	U	2.00	1.00
39108-34-4	8:2 FTS	2.00	U	2.00	0.56

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>MB 200-131185/1-A</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A11.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: _____
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>250 (mL)</u>	Date Analyzed: <u>06/28/2018 19:14</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	42		25-150
STL00992	13C4 PFBA	74		25-150
STL01893	13C5-PFPeA DNU	79		25-150
STL00993	13C2 PFHxA	80		25-150
STL01892	13C4 PFHpA	81		25-150
STL00990	13C4 PFOA	89		25-150
STL00995	13C5 PFNA	86		25-150
STL00996	13C2 PFDA	83		25-150
STL00997	13C2 PFUnA	92		25-150
STL00998	13C2 PFDoA	75		25-150
STL02116	13C2 PFTeDA	62		25-150
STL02337	13C3 PFBS	78		25-150
STL00994	18O2 PFHxS	77		25-150
STL00991	13C4 PFOS	80		25-150
STL02118	d3-NMeFOSAA	67		25-150
STL02117	d5-NEtFOSAA	75		25-150
STL02279	M2-6:2 FTS	112		25-150
STL02280	M2-8:2 FTS	95		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
 Lims ID: MB 200-131185/1-A
 Client ID:
 Sample Type: MB
 Inject. Date: 28-Jun-2018 19:14:31 ALS Bottle#: 0 Worklist Smp#: 11
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-011 MB 185
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:20 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 08:29:41

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	2.361	2.370	-0.009	1.000	266636	37.2		74.3	323	
1 Perfluorobutyric acid										M
212.9 > 168.9	2.402	2.371	0.031	1.017	3809	0.4296			1.4	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.801	2.801	0.0	1.004	3680	0.3494			4.8	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.791	2.802	-0.011	1.000	108948	39.3		78.6	293	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.949	2.883	0.066	1.029	285	0.1465			2.8	M
D 5 13C3-PFBS										
302.0 > 79.8	2.867	2.883	-0.016	1.000	183716	36.2		78.0	232	
8 Perfluorohexanoic acid										M
312.8 > 268.6	3.263	3.250	0.013	1.011	420	0.1456			3.7	M
D 7 13C2 PFHxA										
314.8 > 269.6	3.226	3.265	-0.039	1.000	224836	40.2		80.5	946	
11 Perfluoroheptanoic acid										M
362.9 > 318.8	3.848	3.804	0.044	1.015	365	0.2208			2.6	M
D 10 13C4-PFHpA										
366.9 > 321.8	3.793	3.843	-0.050	1.000	611931	40.5		81.1	1432	
12 Perfluorohexanesulfonic acid										M
399.0 > 80.0	3.826	3.848	-0.022	1.000	824	0.2233			6.1	M
D 13 18O2 PFHxS										
402.9 > 83.8	3.826	3.889	-0.063	1.000	224676	36.3		76.8	1573	
15 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.486	4.449	0.037	1.013	82	0.4885			1.4	M
* 49 13C2-PFOA										
414.9 > 369.8	4.505	4.505	0.0		673073	50.0			1542	

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	4.468	4.505	-0.037	0.996	1789	0.2928			7.5	M
D 14 M2-6:2FTS										
428.6 > 408.6	4.430	4.525	-0.095	1.000	18526	53.2		112	111	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.697	4.532	0.165	0.890	958	0.4143			5.4	M
D 17 13C4 PFOA										
416.9 > 371.8	4.486	4.567	-0.081	1.000	546601	44.5		89.0	2620	
19 Perfluorononanoic acid										M
462.8 > 418.8	5.328	5.304	0.024	1.010	201	0.0348			2.2	M
20 Perfluorooctane sulfonic acid										M
498.8 > 79.8	5.291	5.304	-0.013	1.003	191	0.3688			2.3	M
D 21 13C5 PFNA										
467.8 > 422.8	5.277	5.363	-0.086	1.000	572489	43.1		86.2	1701	
D 22 13C4 PFOS										
502.8 > 79.8	5.277	5.382	-0.105	1.000	174576	38.1		79.7	1030	
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.094	6.070	0.024	1.004	549	0.0523			9.6	M
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	177256	45.5		95.0	835	
D 25 13C2 PFDA										
514.9 > 469.5	6.070	6.186	-0.116	1.000	768730	41.5		83.0	2237	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.421	6.530	-0.109	1.000	146902	33.6		67.2	696	
30 N-ethyl perfluorooctane sulfonamid										M
583.9 > 418.8	6.580	6.804	-0.224	0.971	178	0.3028			0.9	M
32 Perfluoroundecanoic acid										M
562.8 > 518.6	6.832	6.832	0.0	1.002	1236	0.0686			10.9	M
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.776	6.903	-0.127	1.000	154392	37.5		75.0	1230	
D 33 13C2 PFUnA										
564.8 > 519.8	6.818	6.942	-0.124	1.000	798643	45.9		91.8	6866	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	149965	21.2		42.3	1108	
37 Perfluorododecanoic acid										M
612.8 > 568.6	7.474	7.497	-0.023	0.997	69	-0.0444			1.0	M
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	655546	37.3		74.6	3270	
40 Perfluorotridecanoic acid										M
662.8 > 618.6	8.142	8.112	0.030	1.086	214	-0.1418			1.3	M
44 Perfluorotetradecanoic acid										a
712.8 > 668.6	8.605	8.666	-0.061	0.995	1077	0.1077			6.6	
712.8 > 168.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
712.8 > 218.8	8.666	8.666	0.0	0.000	0		0.00(0.00-0.00)			
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	548166	31.0		62.0	1171	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\\Burlington\\ChromData\\LC410\\20180628-31168.b\\PF062818A11.d

Injection Date: 28-Jun-2018 19:14:31

Instrument ID: LC410

Lims ID: MB 200-131185/1-A

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 11

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

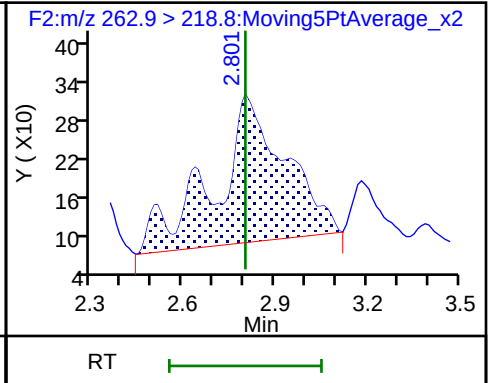
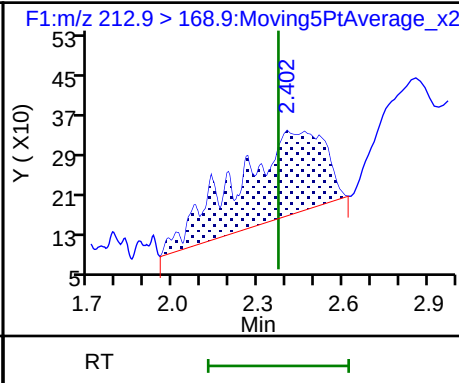
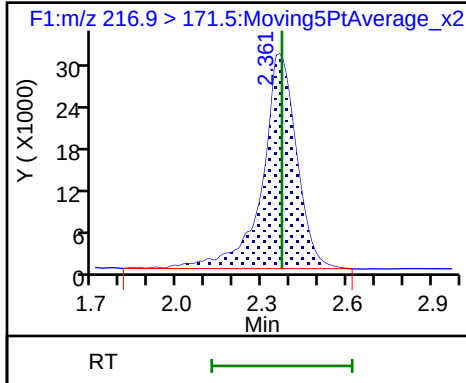
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid (M)

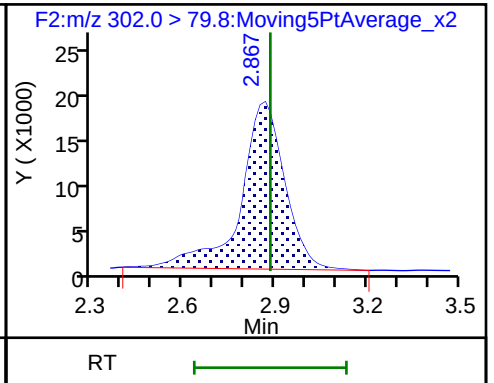
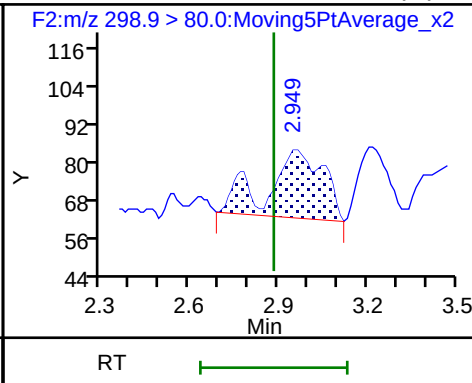
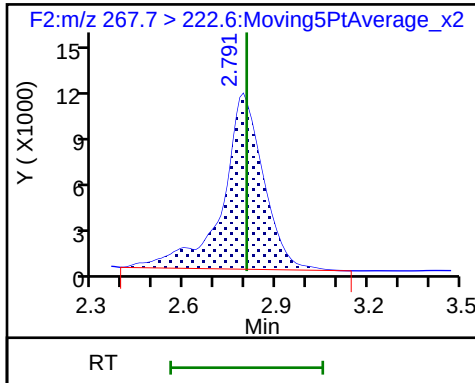
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (M)

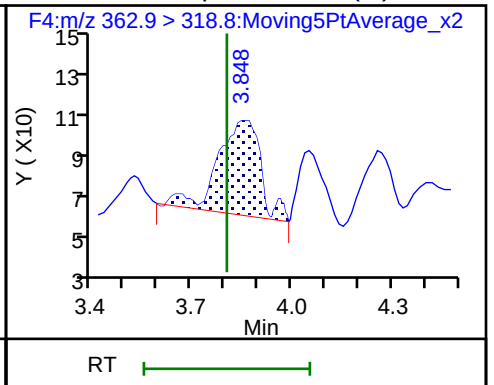
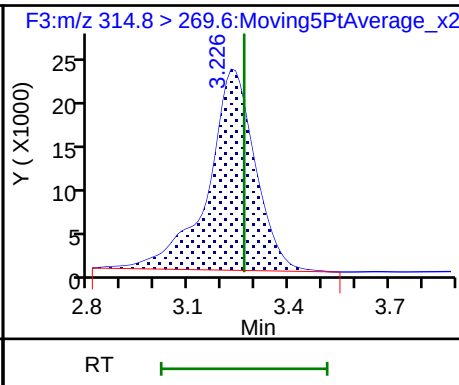
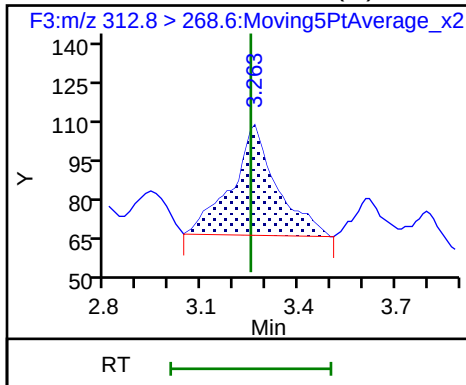
D 5 13C3-PFBS



8 Perfluorohexanoic acid (M)

D 7 13C2 PFHxA

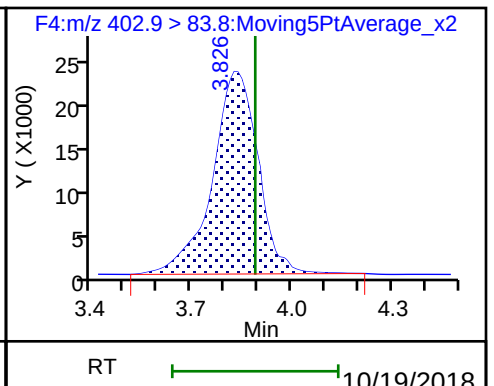
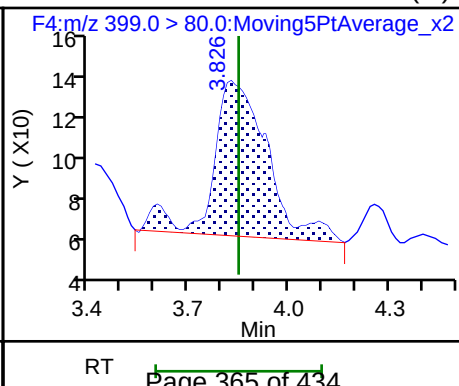
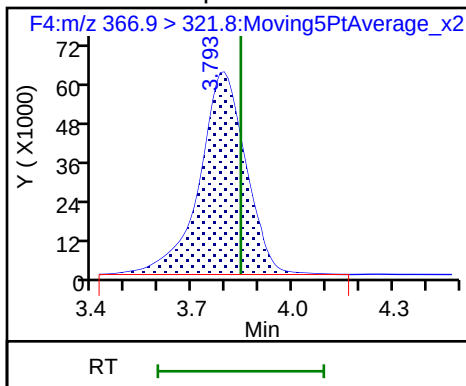
11 Perfluoroheptanoic acid (M)



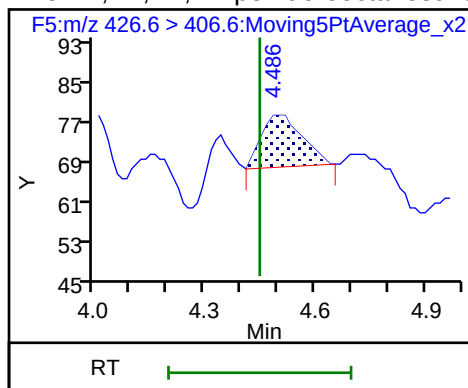
D 10 13C4-PFHpA

12 Perfluorohexanesulfonic acid (M)

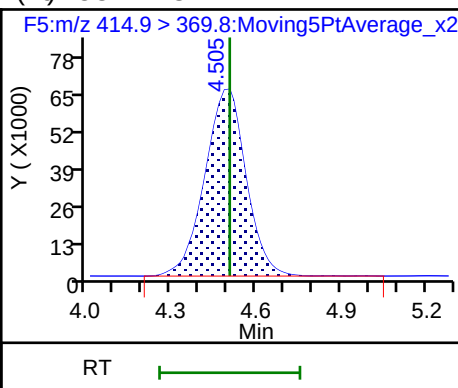
D 13 18O2 PFHxS



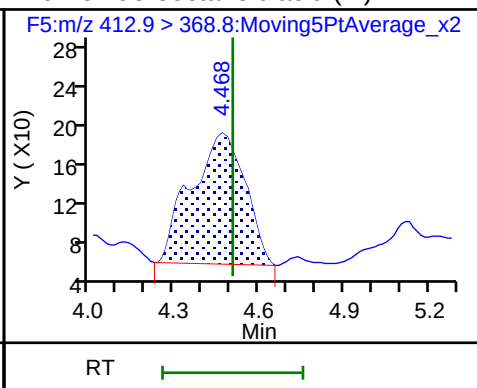
15 1H,1H,2H,2H-perfluorooctanesulfonate (M)



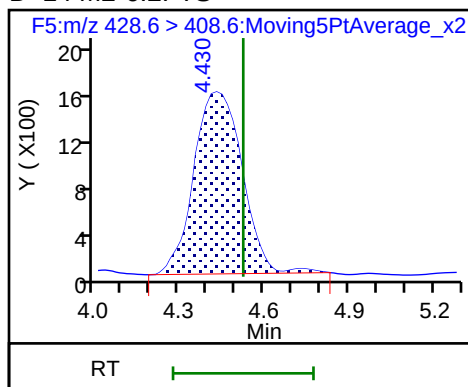
16 Perfluorooctanoic acid (M)



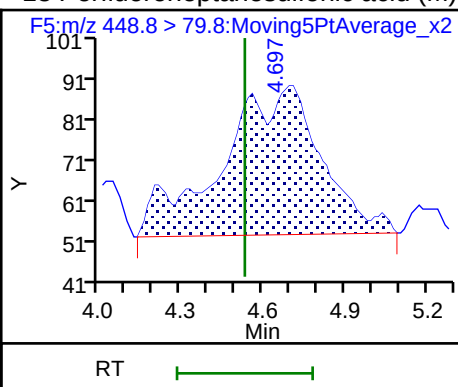
17 13C4 PFOA



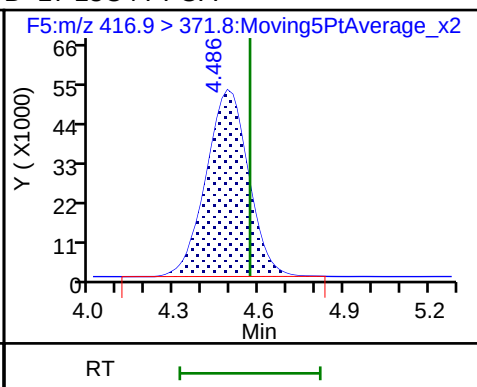
D 14 M2-6:2FTS



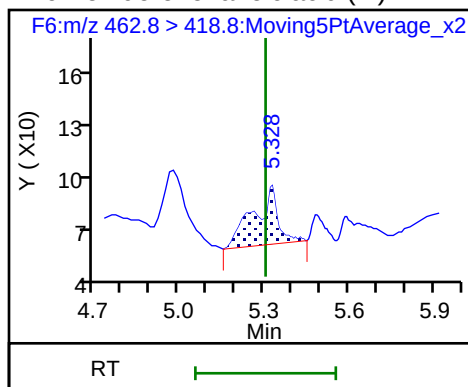
18 Perfluoroheptanesulfonic acid (M)



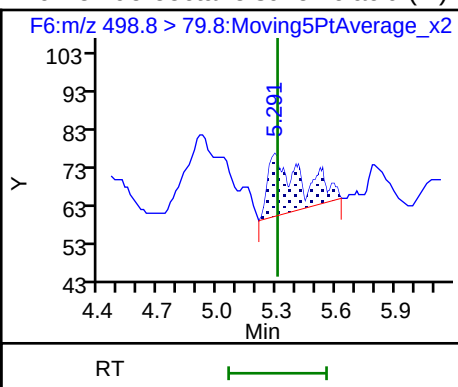
D 17 13C4 PFOA



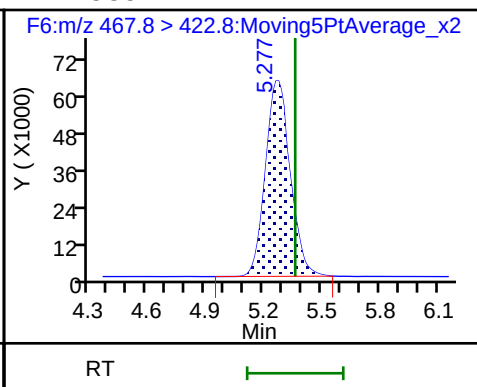
19 Perfluorononanoic acid (M)



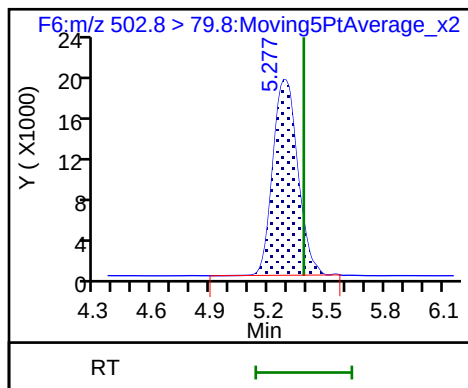
20 Perfluorooctane sulfonic acid (M)



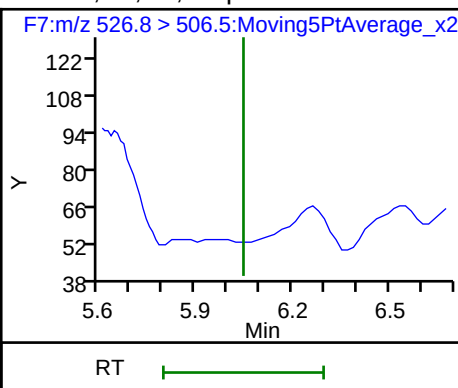
D 21 13C5 PFNA



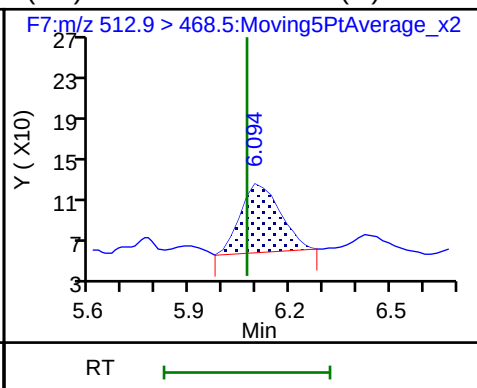
D 22 13C4 PFOS



24 1H,1H,2H,2H-perfluorodecanesulfonate (M)



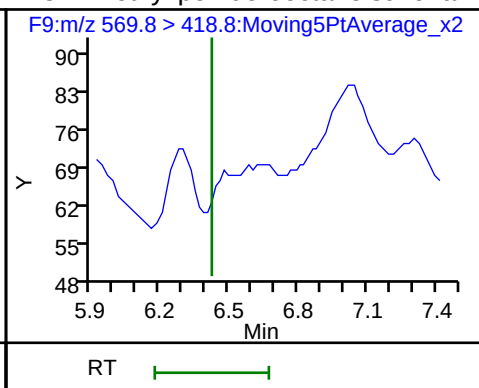
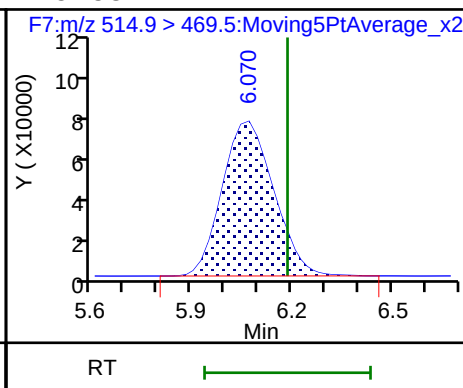
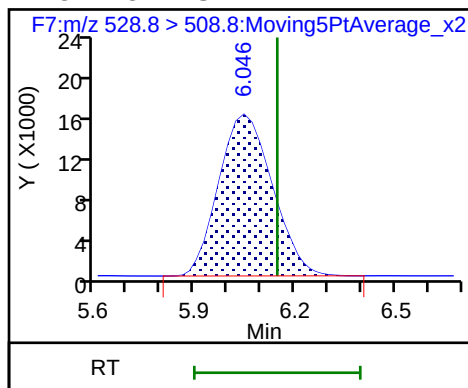
25 Perfluorodecanoic acid (M)



D 23 M2-8:2FTS

D 25 13C2 PFDA

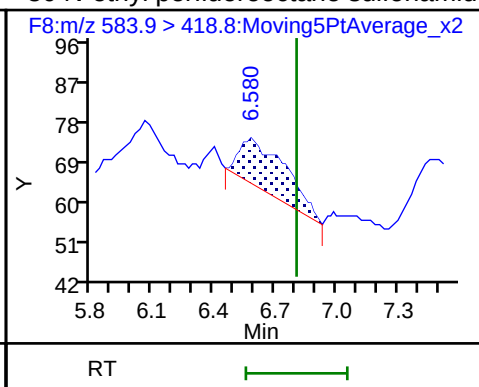
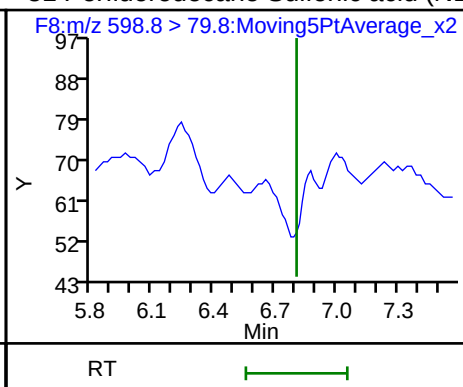
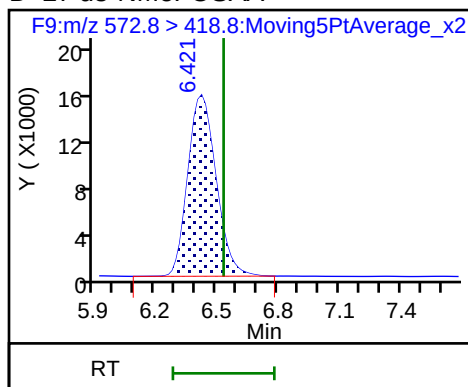
28 N-methyl perfluorooctane sulfonami (ND)



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid (ND)

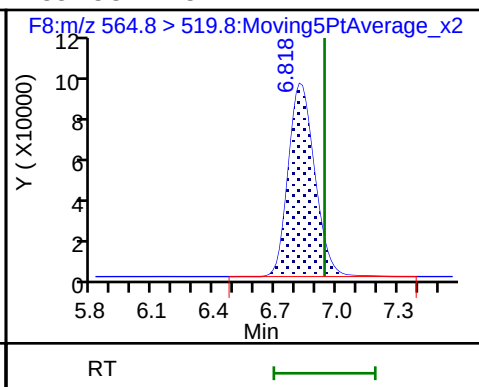
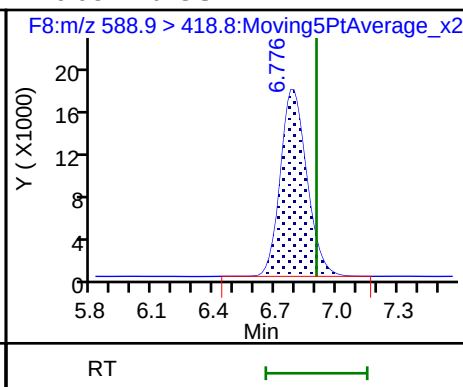
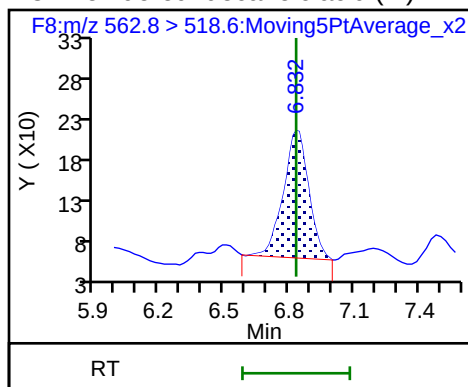
30 N-ethyl perfluorooctane sulfonamid (M)



32 Perfluoroundecanoic acid (M)

D 29 d5-NEtFOSAA

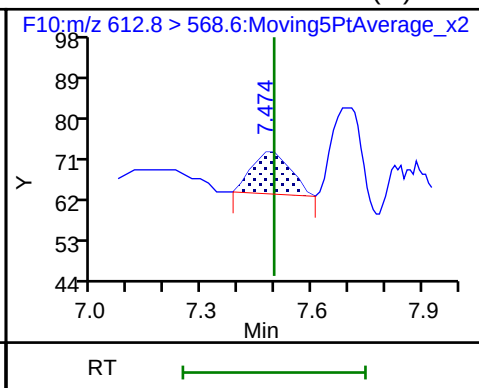
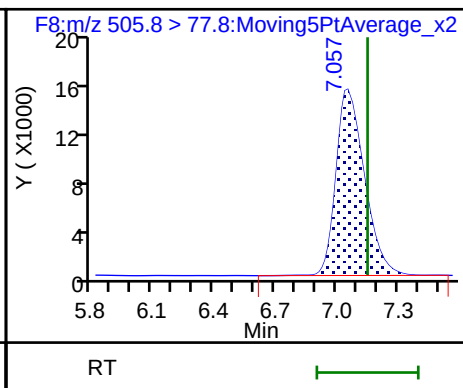
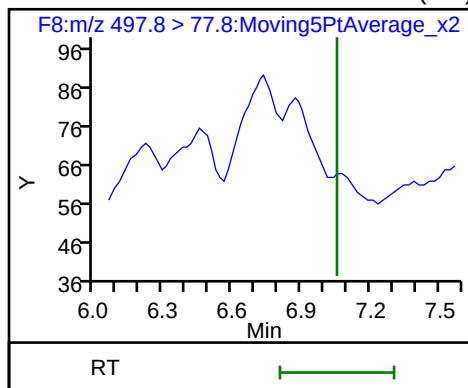
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (ND)

D 35 13C8 FOSA

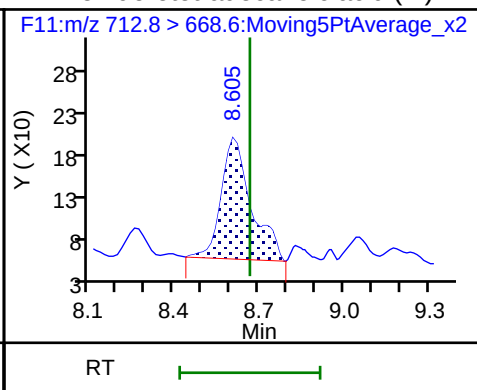
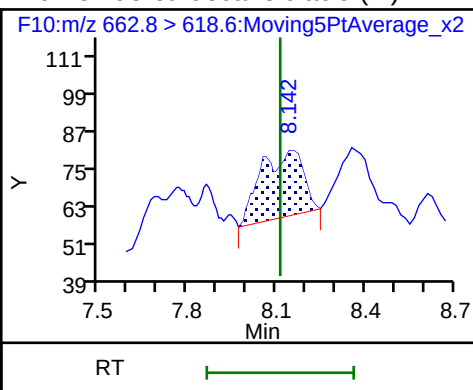
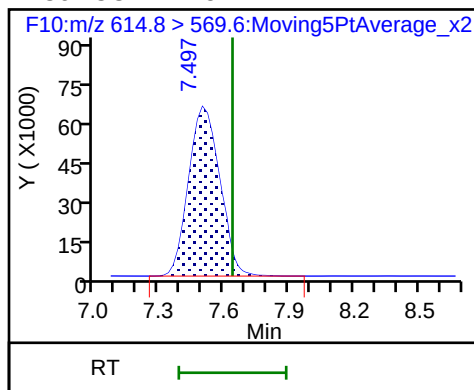
37 Perfluorododecanoic acid (M)



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid (M)

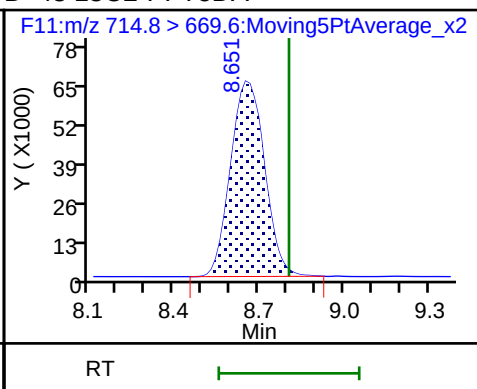
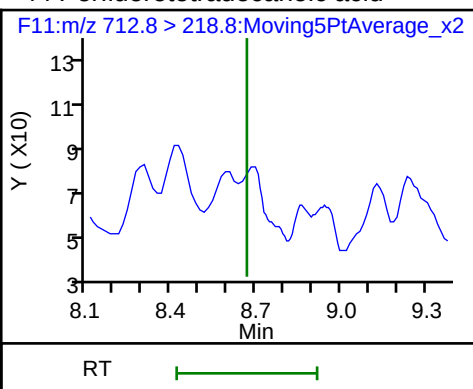
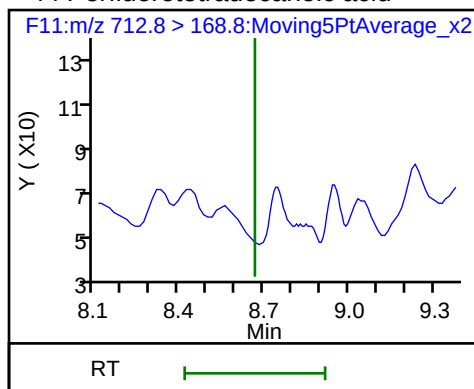
44 Perfluorotetradecanoic acid (M)



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

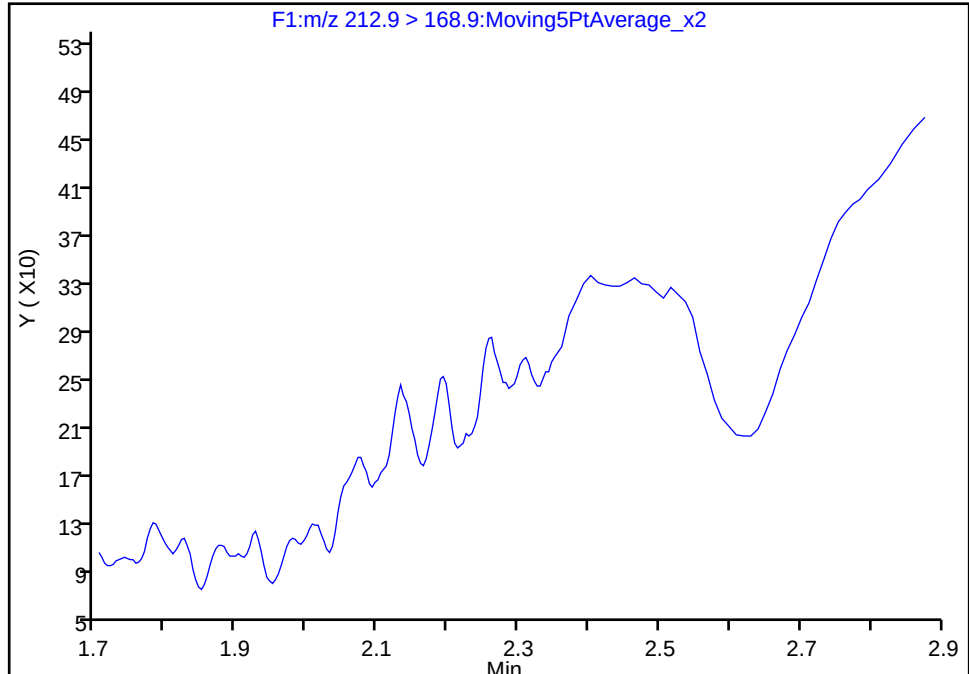
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Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

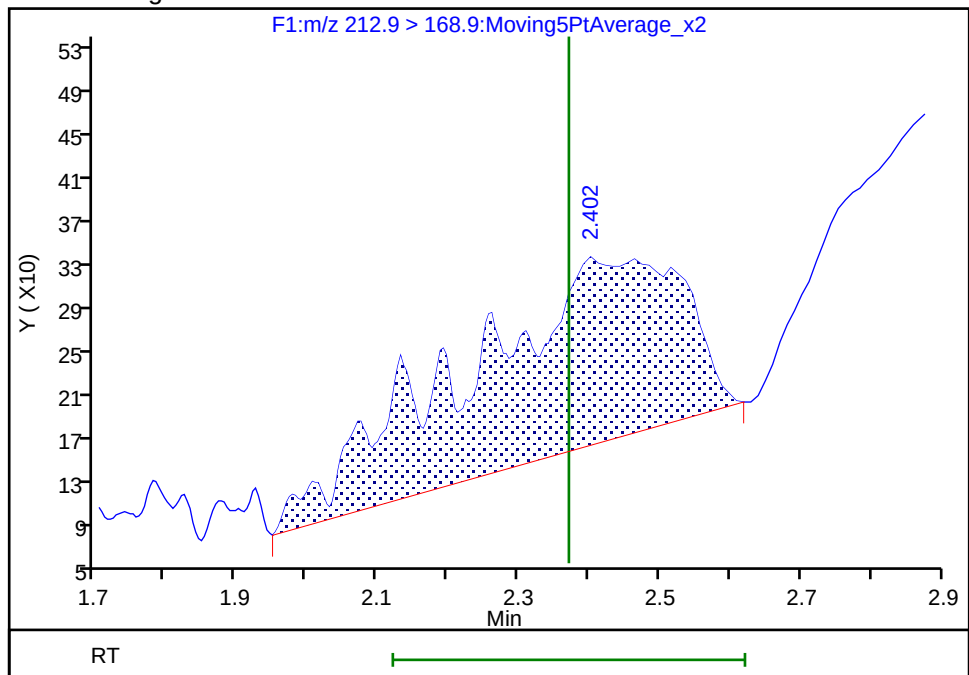
Signal: 1

Not Detected
Expected RT: 2.37

Processing Integration Results



Manual Integration Results



RT: 2.40
Area: 3809
Amount: 0.429643
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 08:24:48
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 369 of 434

10/19/2018

TestAmerica Burlington

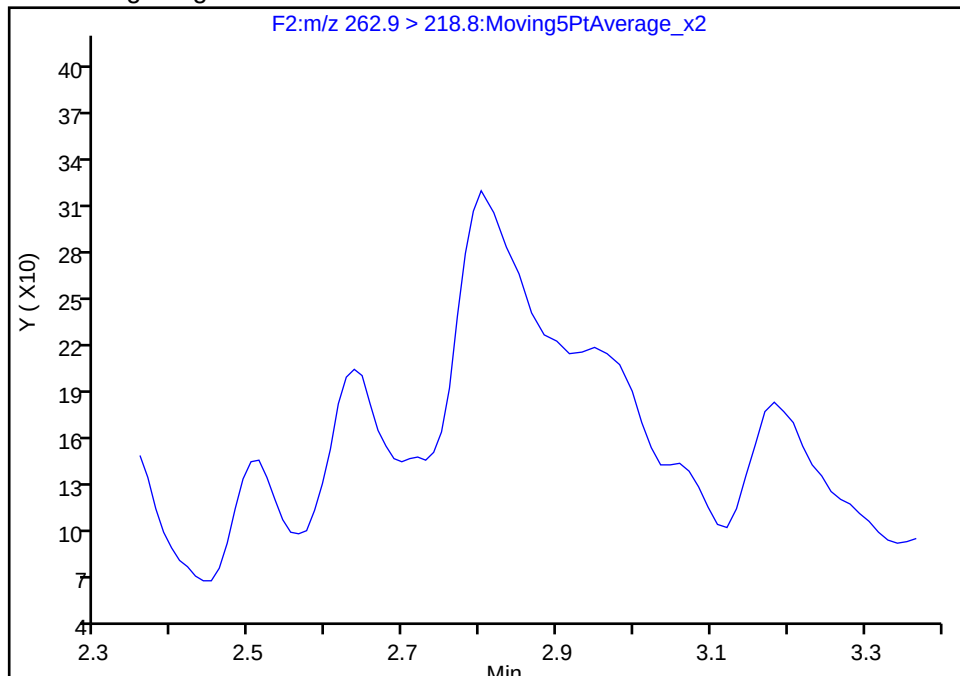
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Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

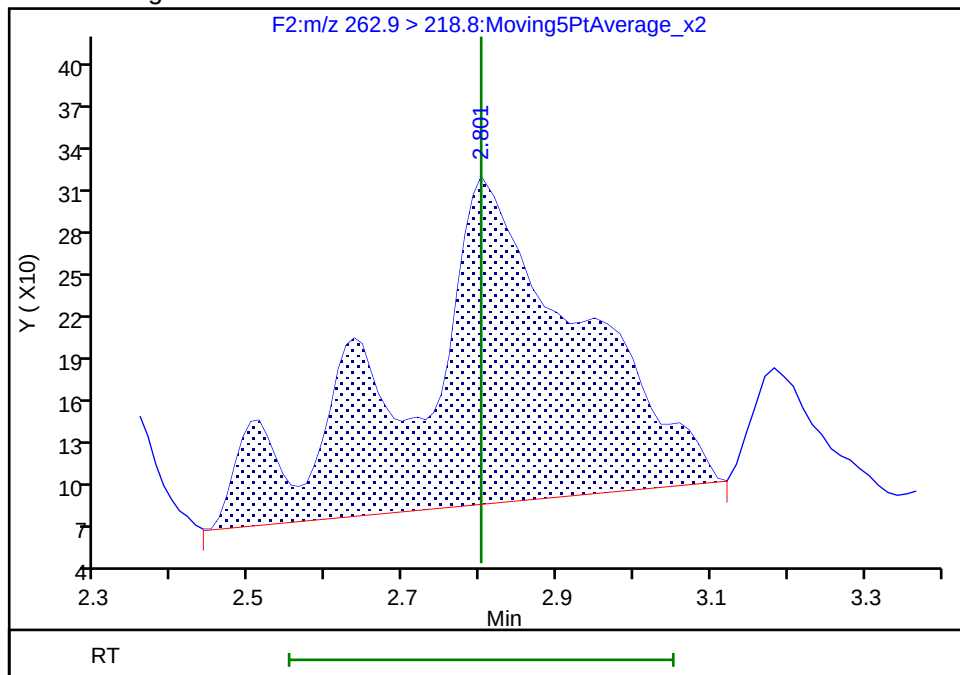
Not Detected
Expected RT: 2.80

Processing Integration Results



Manual Integration Results

RT: 2.80
Area: 3680
Amount: 0.349421
Amount Units: ng/ml



Reviewer: murrayjw, 02-Jul-2018 08:24:56
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 370 of 434

10/19/2018

TestAmerica Burlington

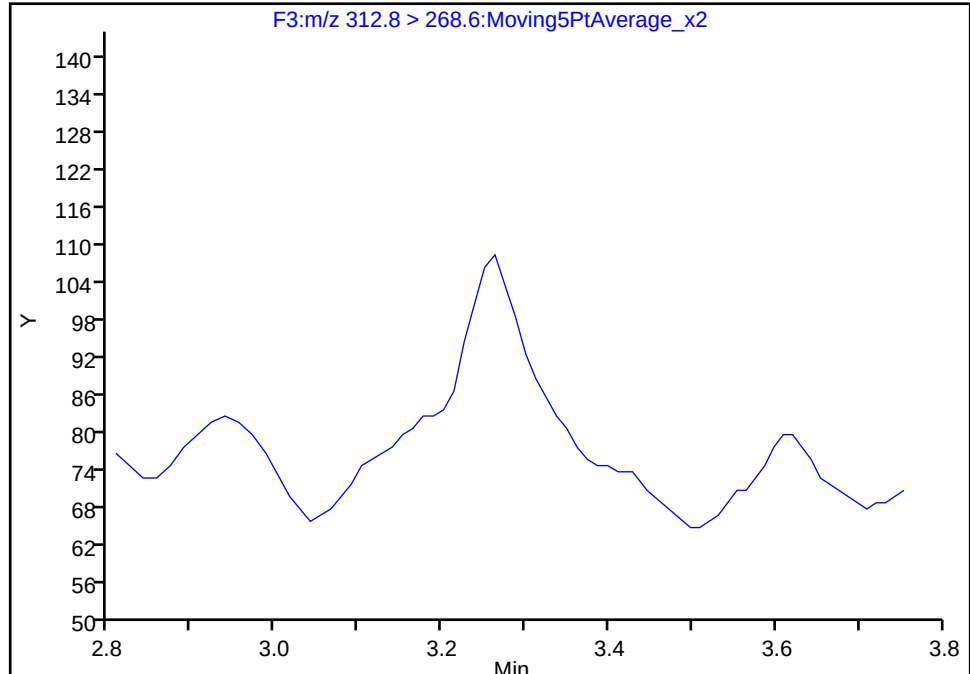
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F3:MRM

8 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

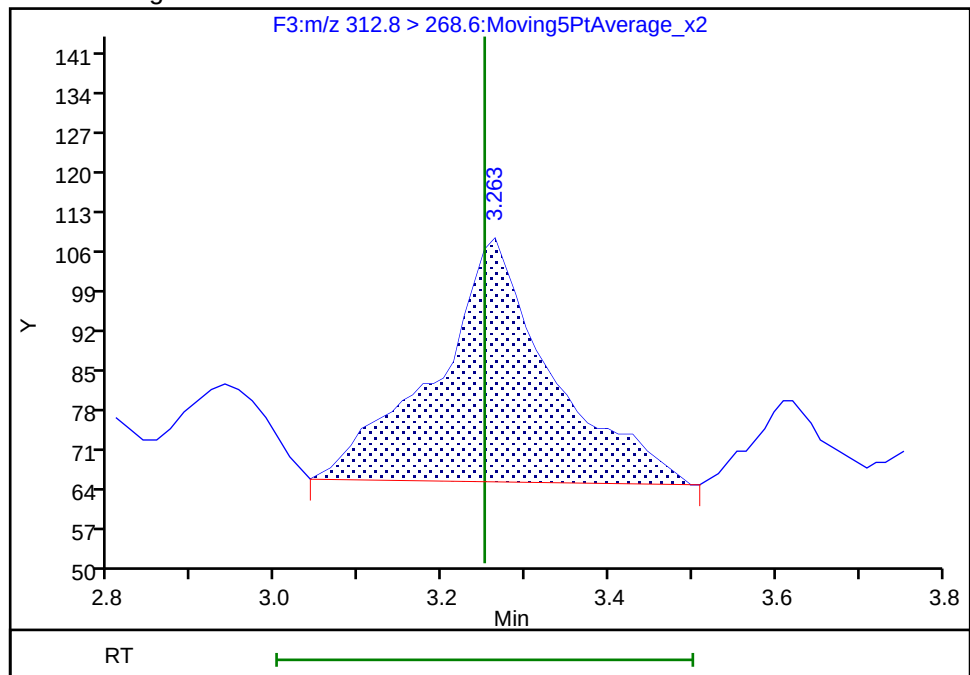
Not Detected
Expected RT: 3.25

Processing Integration Results



RT: 3.26
Area: 420
Amount: 0.145606
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:25:17

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

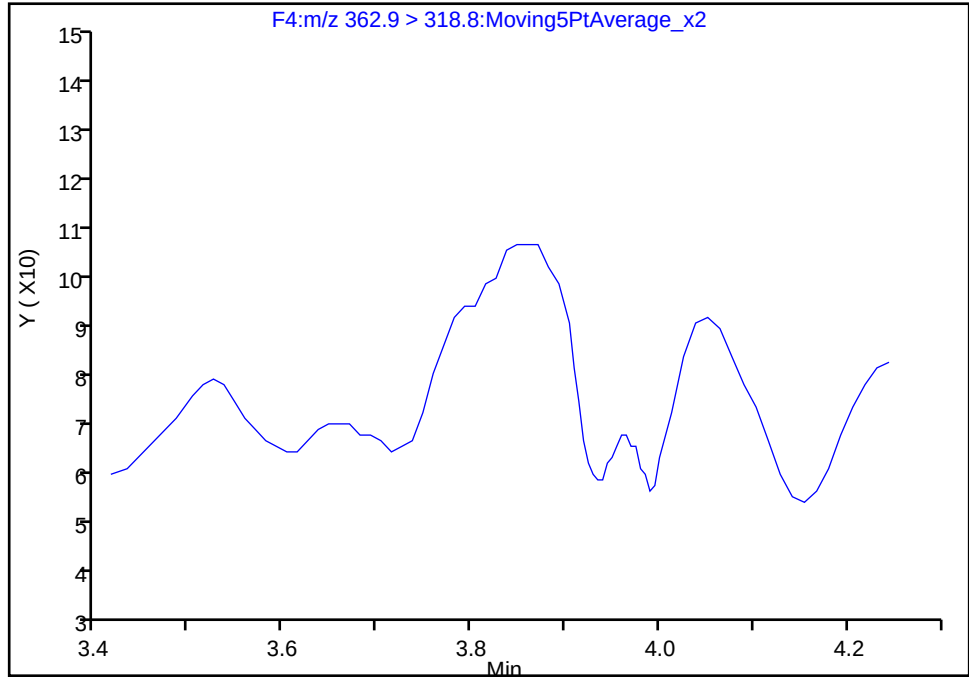
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

11 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

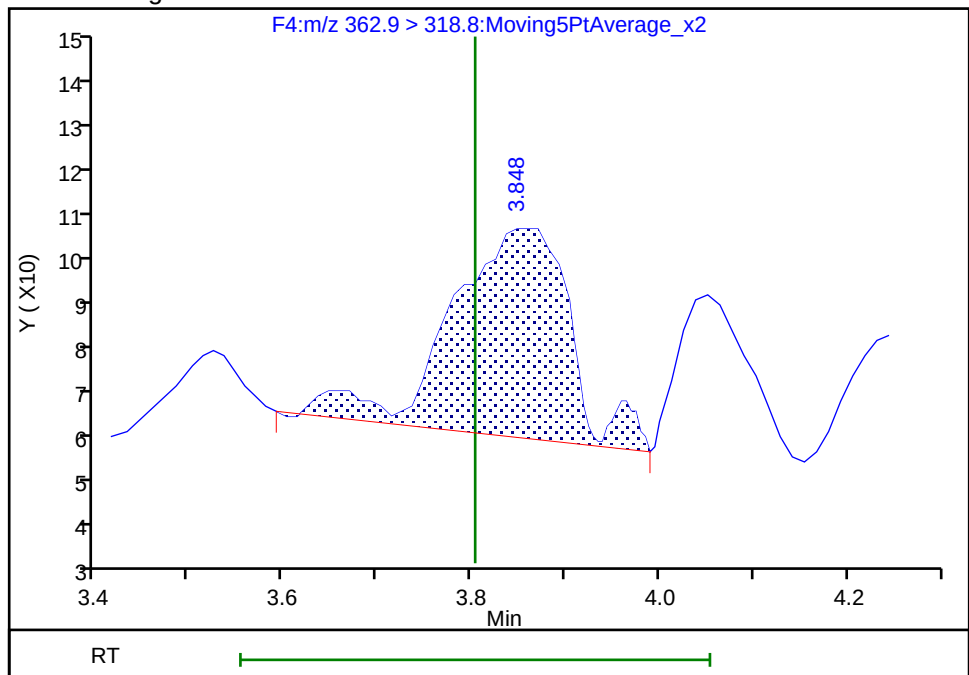
Not Detected
Expected RT: 3.80

Processing Integration Results



Manual Integration Results

RT: 3.85
Area: 365
Amount: 0.220818
Amount Units: ng/ml



Reviewer: murrayjw, 02-Jul-2018 08:25:36

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

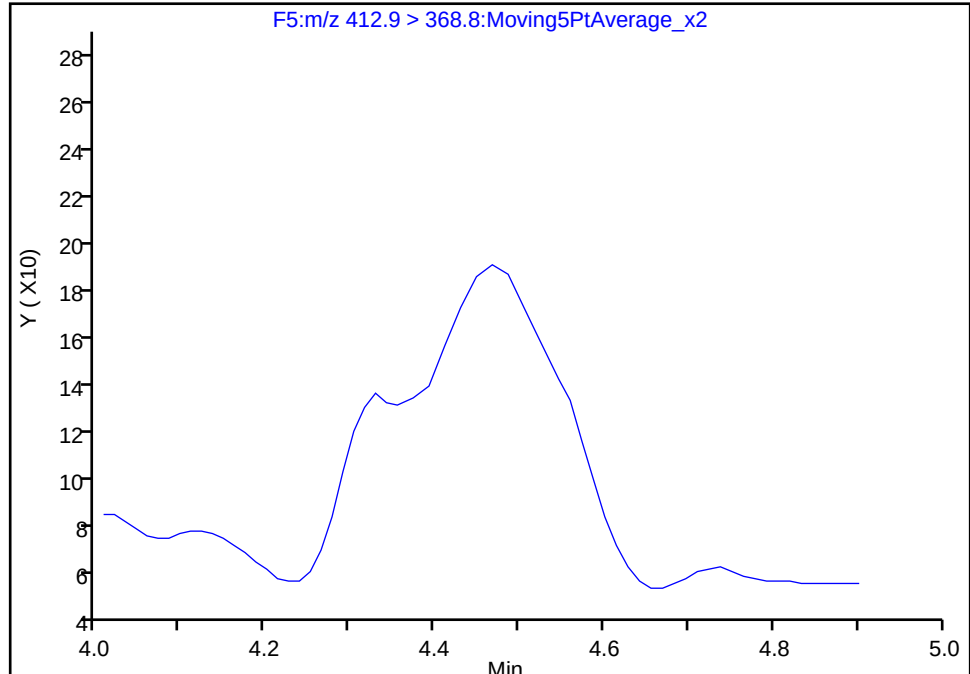
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

16 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

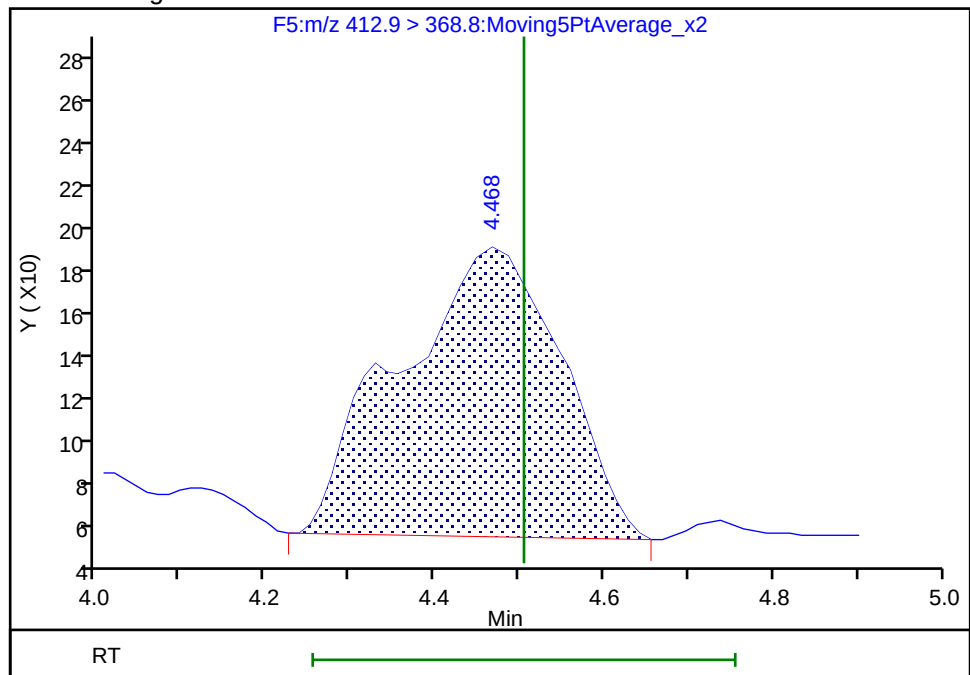
Not Detected
Expected RT: 4.51

Processing Integration Results



RT: 4.47
Area: 1789
Amount: 0.292758
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:26:21
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 373 of 434

10/19/2018

TestAmerica Burlington

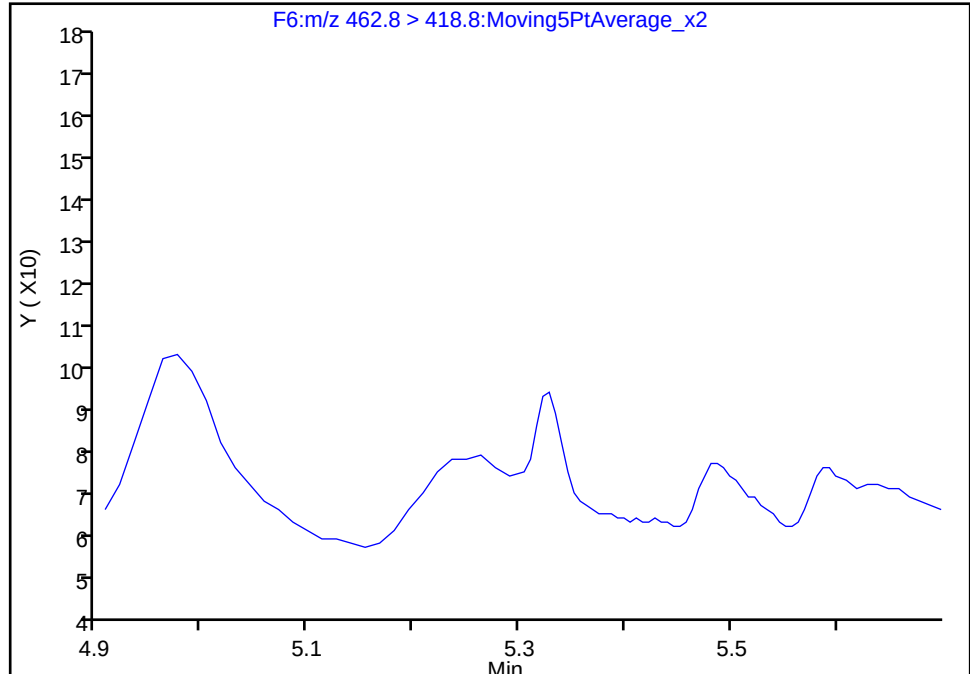
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

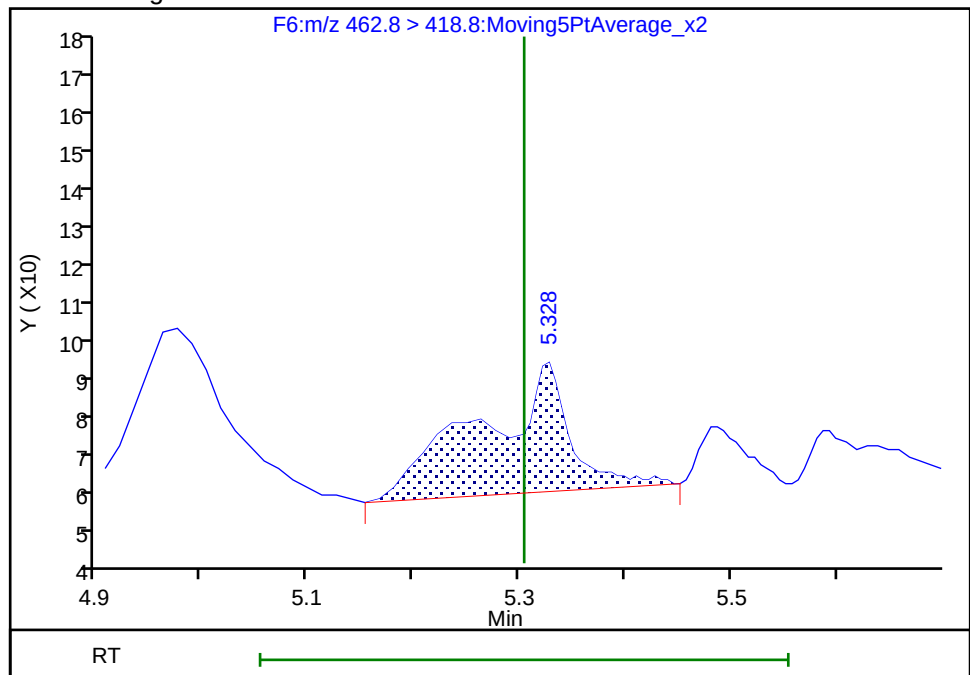
Not Detected
Expected RT: 5.30

Processing Integration Results



RT: 5.33
Area: 201
Amount: 0.034840
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:27:07

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

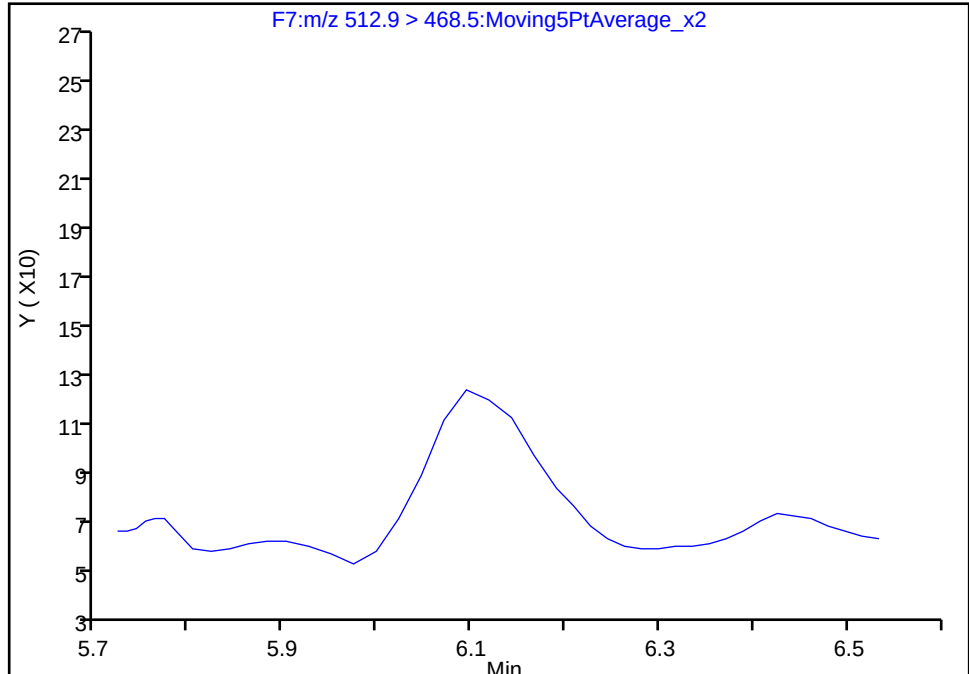
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

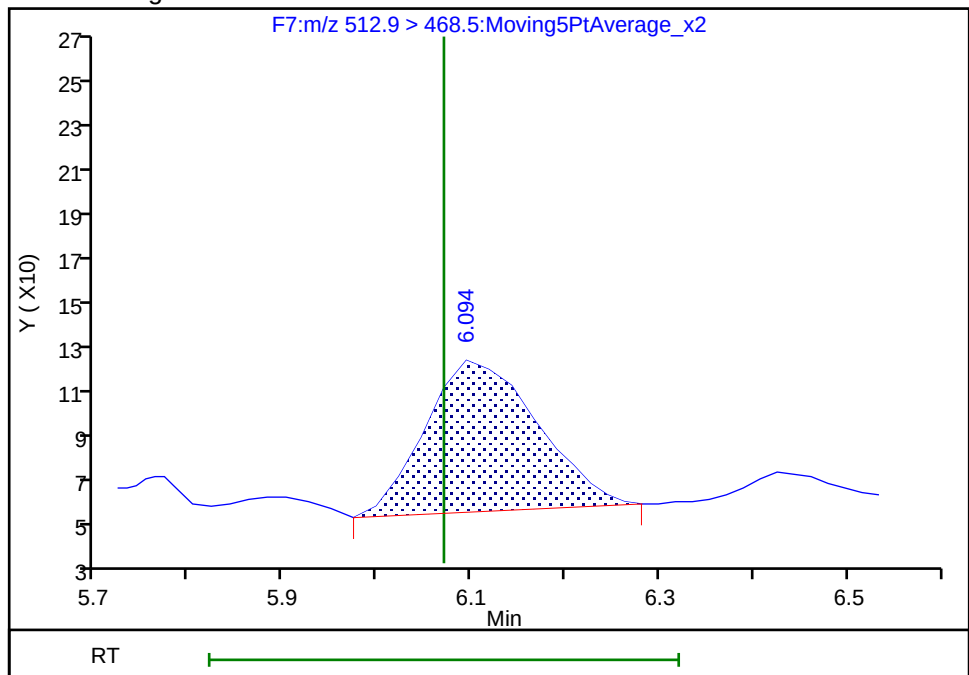
Not Detected
Expected RT: 6.07

Processing Integration Results



Manual Integration Results

RT: 6.09
Area: 549
Amount: 0.052284
Amount Units: ng/ml



Reviewer: murrayjw, 02-Jul-2018 08:27:37

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

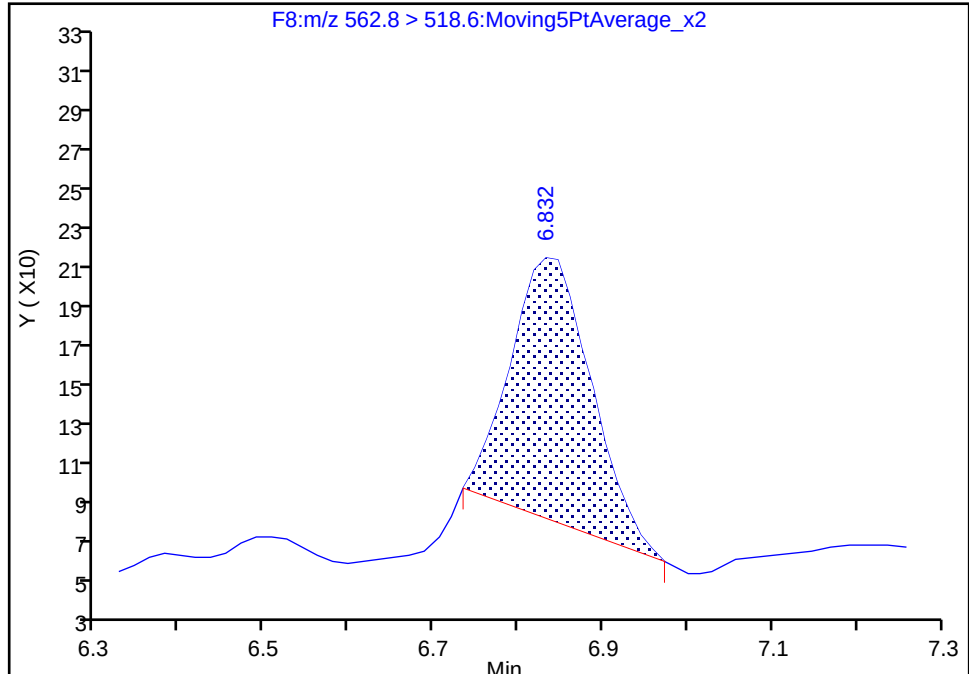
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

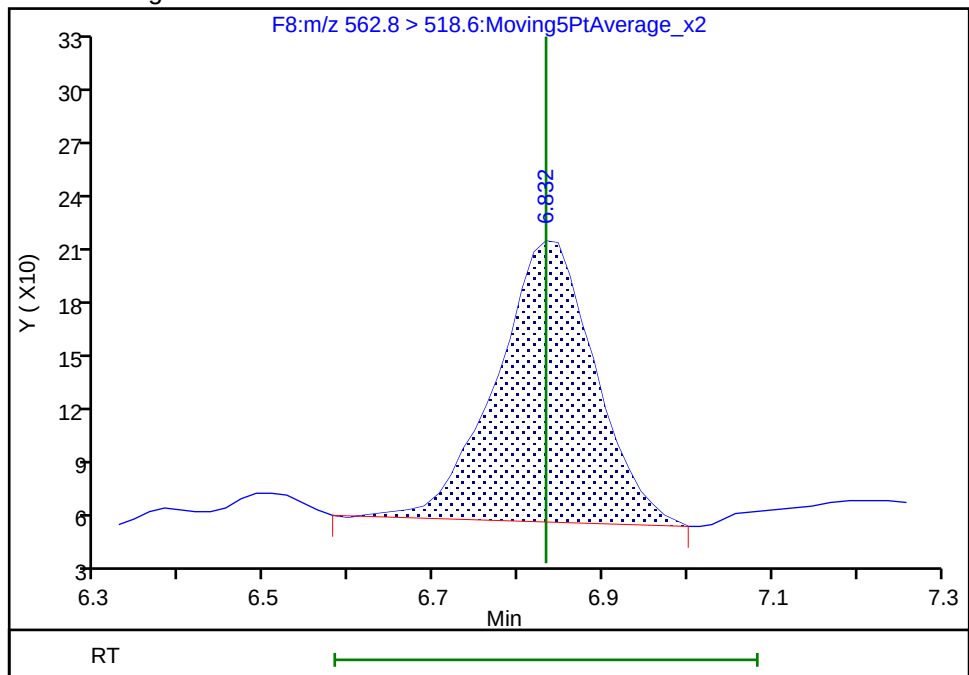
RT: 6.83
Area: 852
Amount: 0.043699
Amount Units: ng/ml

Processing Integration Results



RT: 6.83
Area: 1236
Amount: 0.068604
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:28:57

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

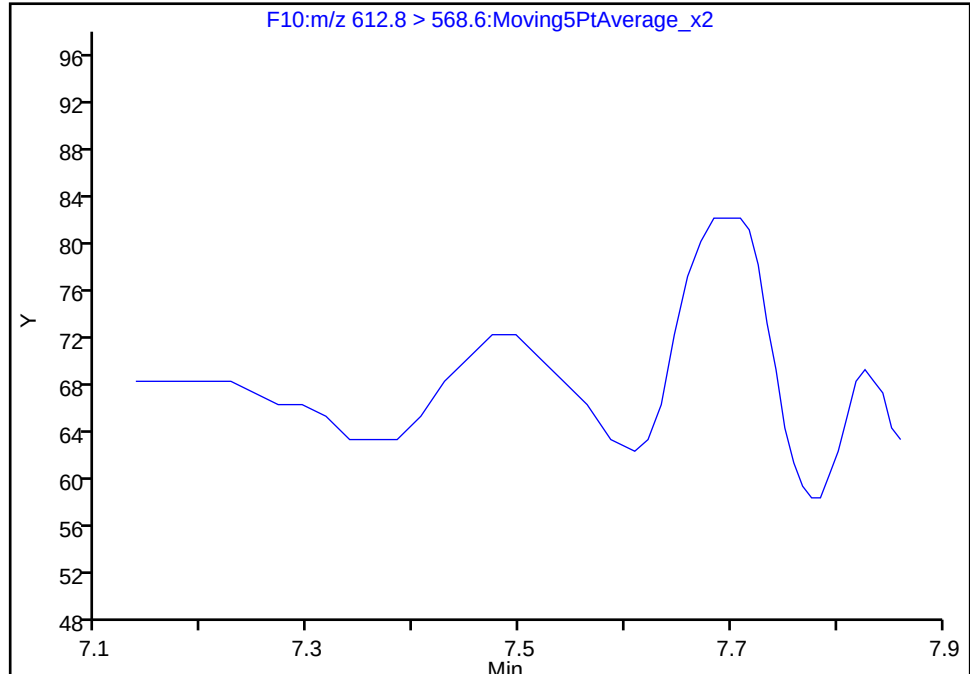
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F10:MRM

37 Perfluorododecanoic acid, CAS: 307-55-1

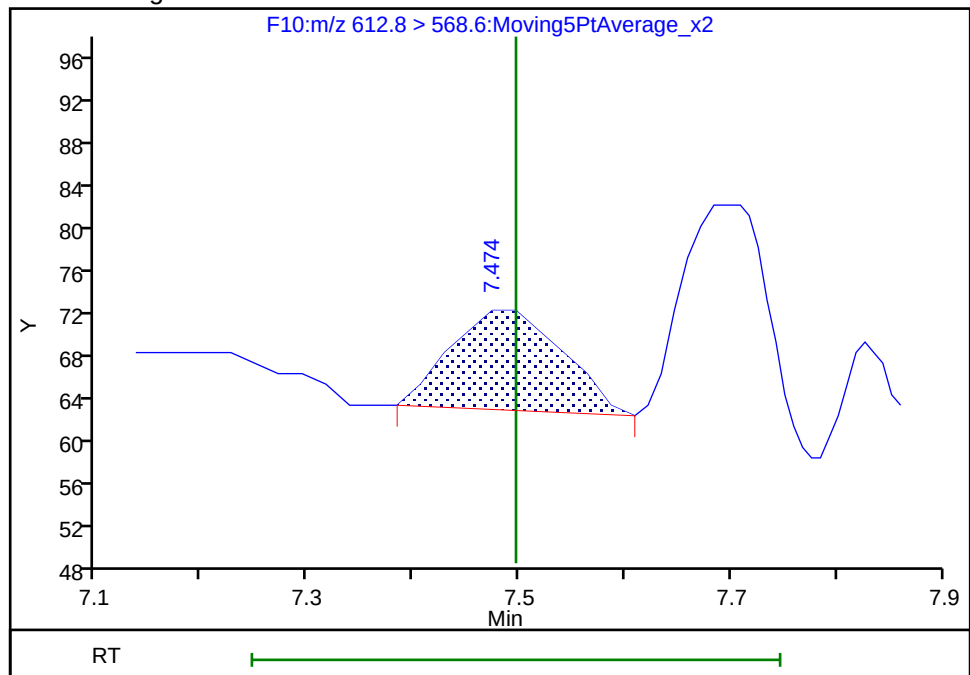
Signal: 1

Not Detected
Expected RT: 7.50

Processing Integration Results



Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:29:16

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

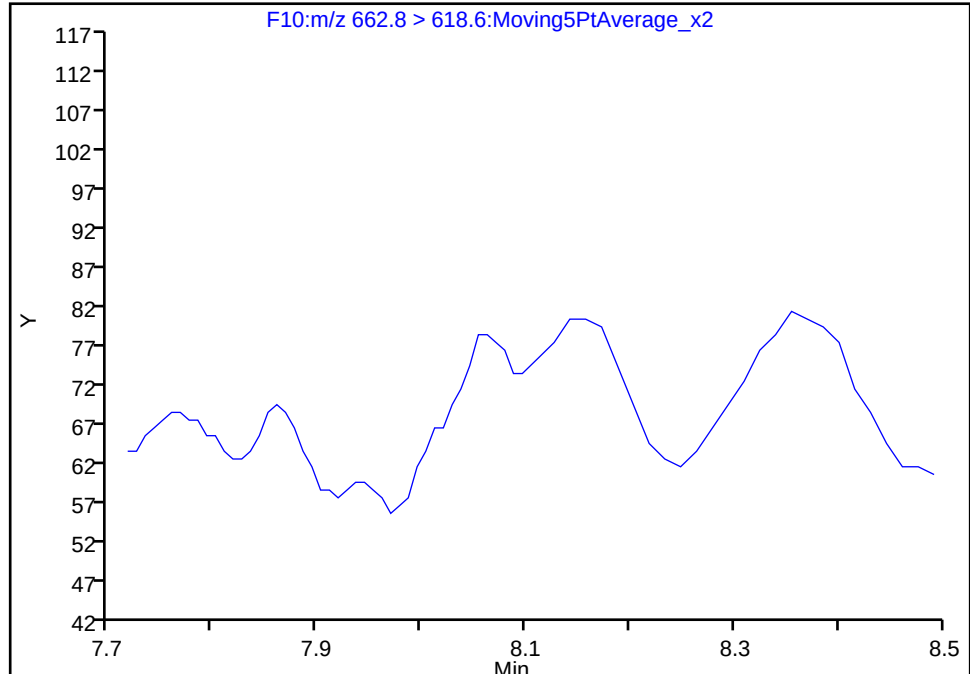
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F10:MRM

40 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

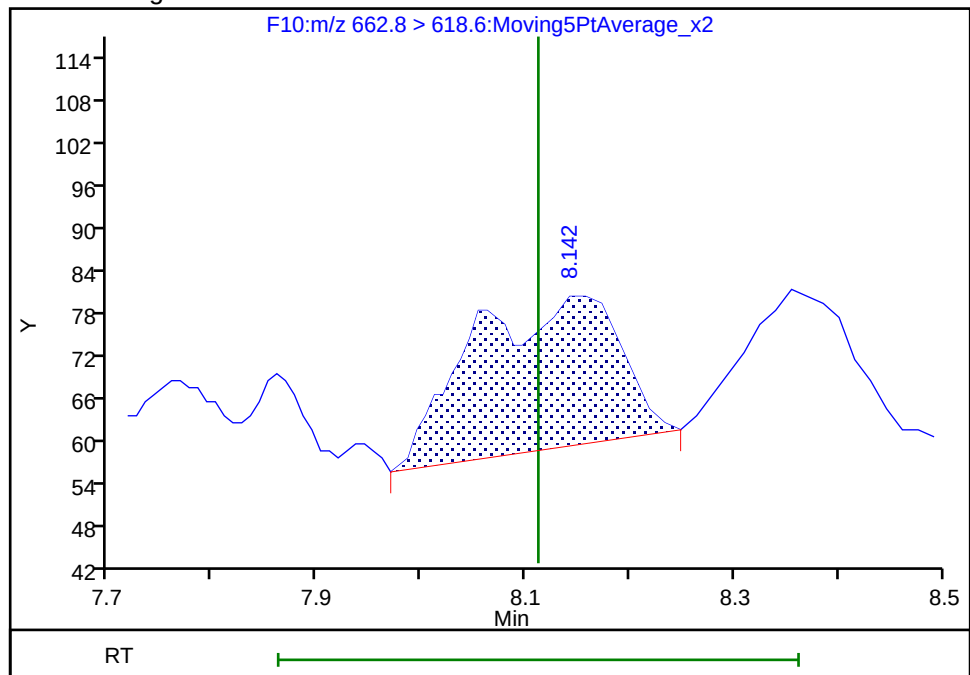
Not Detected
Expected RT: 8.11

Processing Integration Results



RT: 8.14
Area: 214
Amount: -0.141801
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:29:24
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 378 of 434

10/19/2018

TestAmerica Burlington

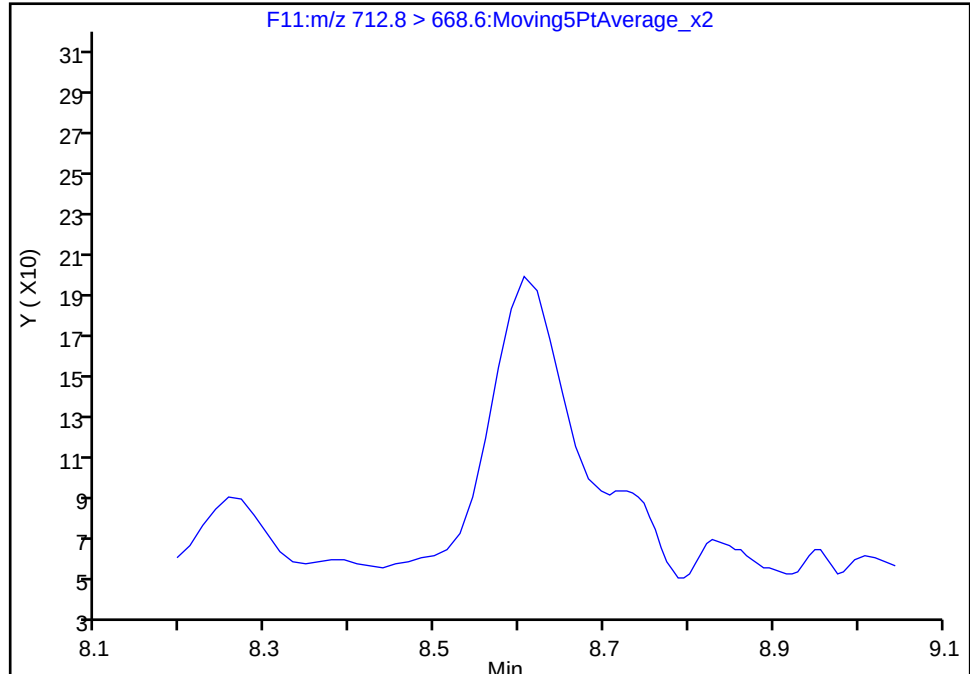
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F11:MRM

44 Perfluorotetradecanoic acid, CAS: 376-06-7

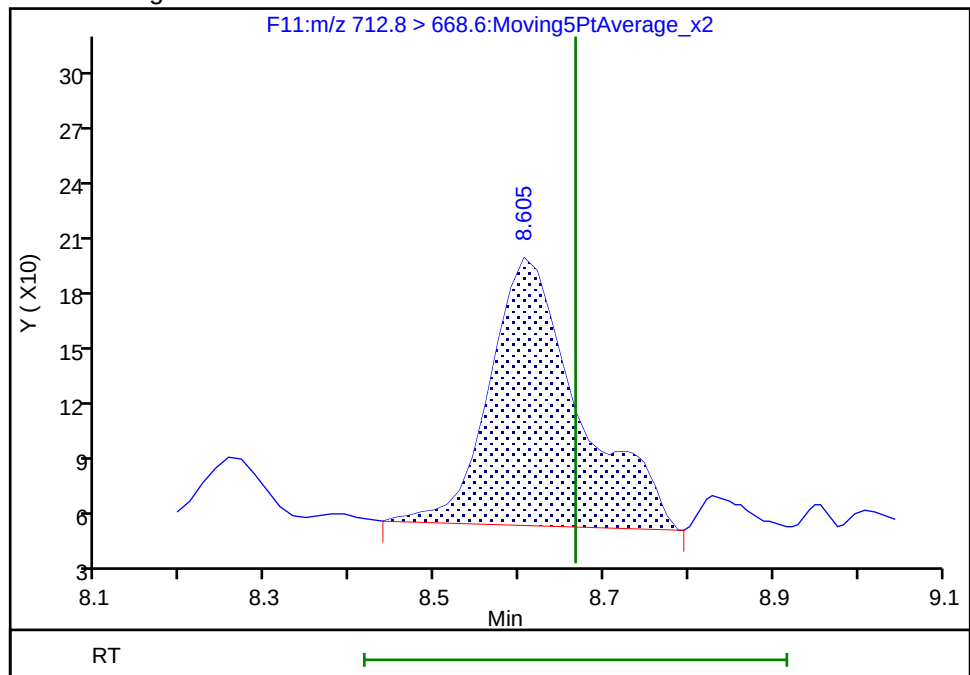
Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results



Manual Integration Results



RT: 8.61
Area: 1077
Amount: 0.107665
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 08:29:29
Audit Action: Assigned Compound ID

Audit Reason: Missed Peak
Page 379 of 434

10/19/2018

TestAmerica Burlington

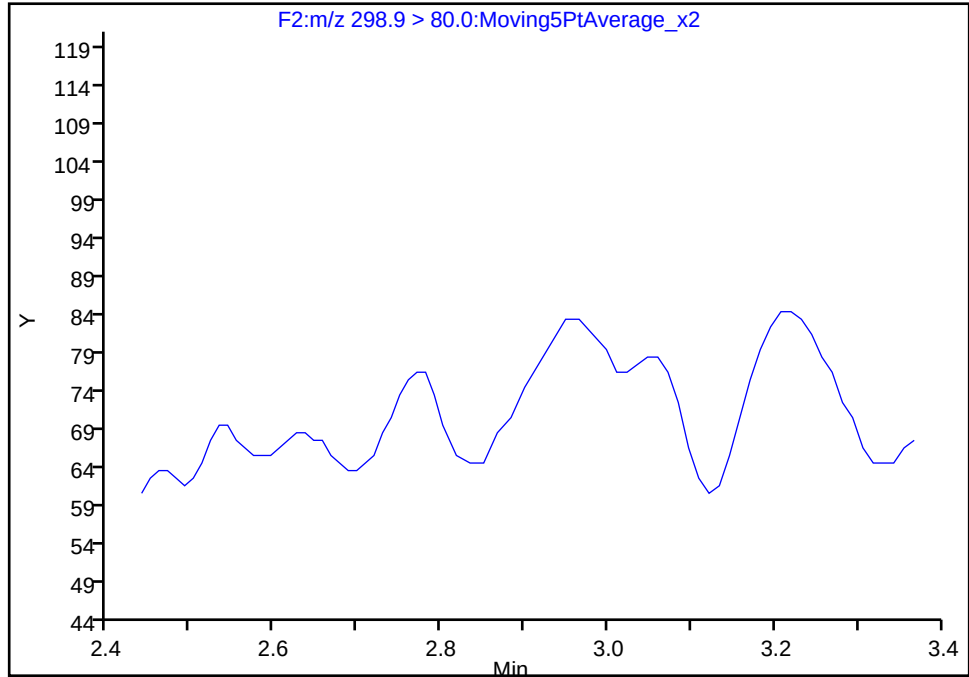
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

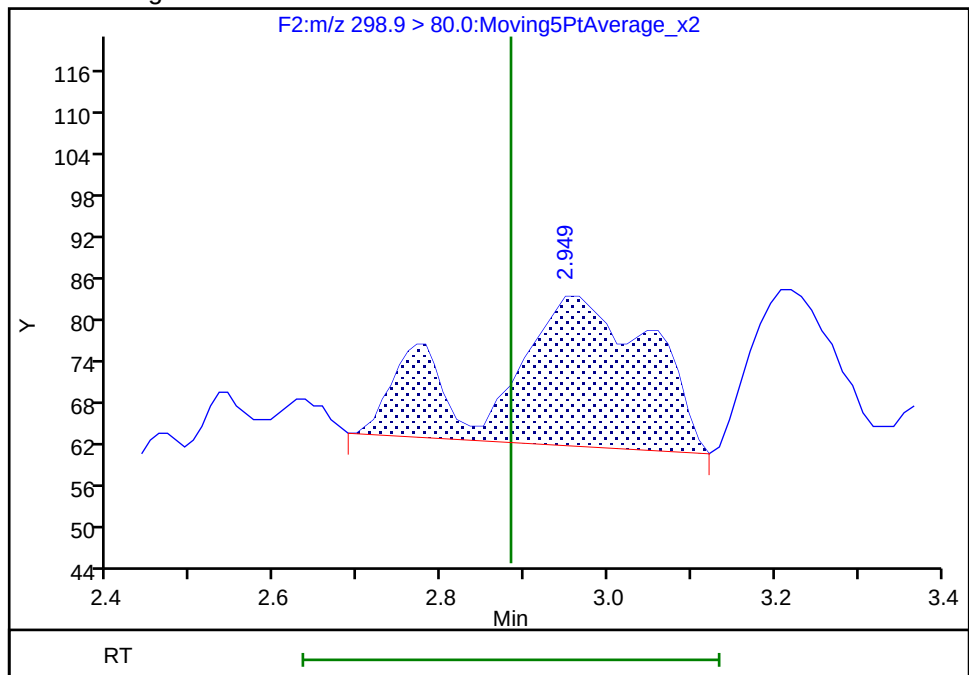
Not Detected
Expected RT: 2.88

Processing Integration Results



RT: 2.95
Area: 285
Amount: 0.146514
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:25:06
Audit Action: Manually Integrated

Audit Reason: Missed Peak
Page 380 of 434

10/19/2018

TestAmerica Burlington

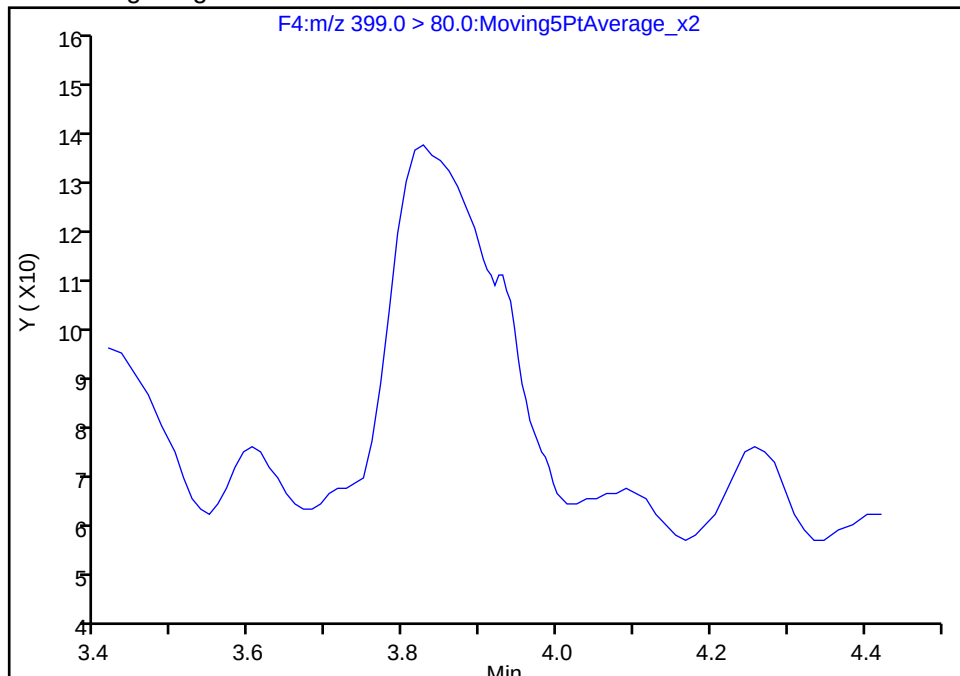
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F4:MRM

12 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

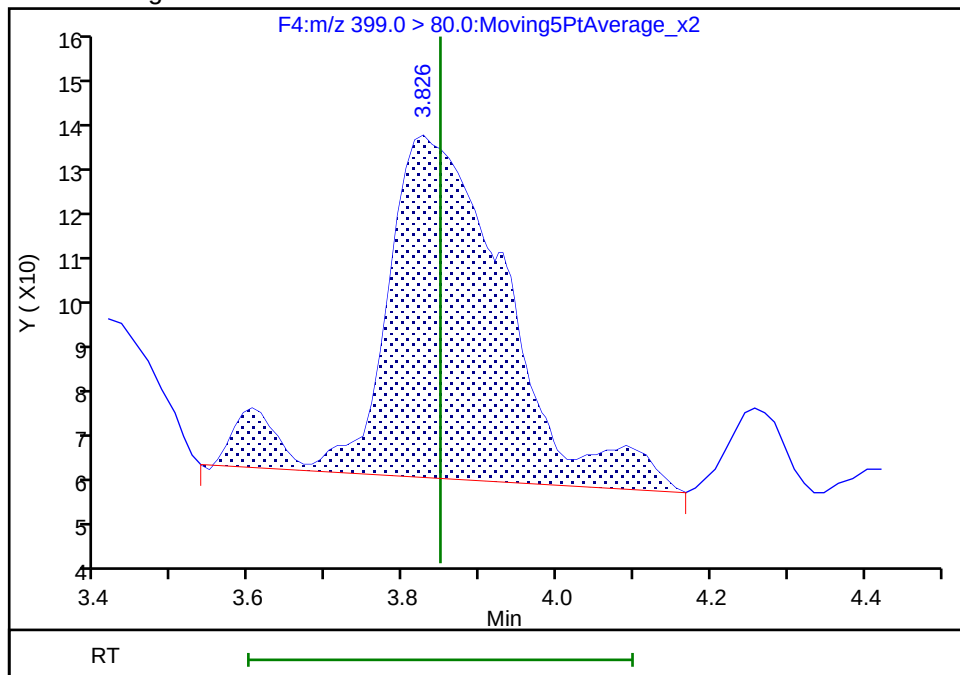
Not Detected
Expected RT: 3.85

Processing Integration Results



RT: 3.83
Area: 824
Amount: 0.223290
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:25:48

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

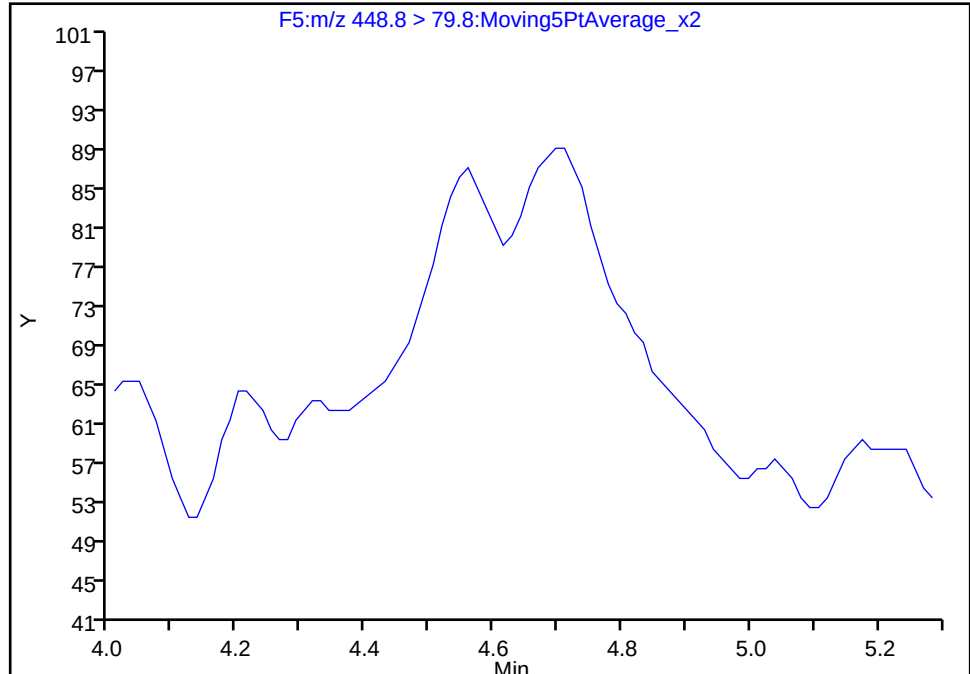
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

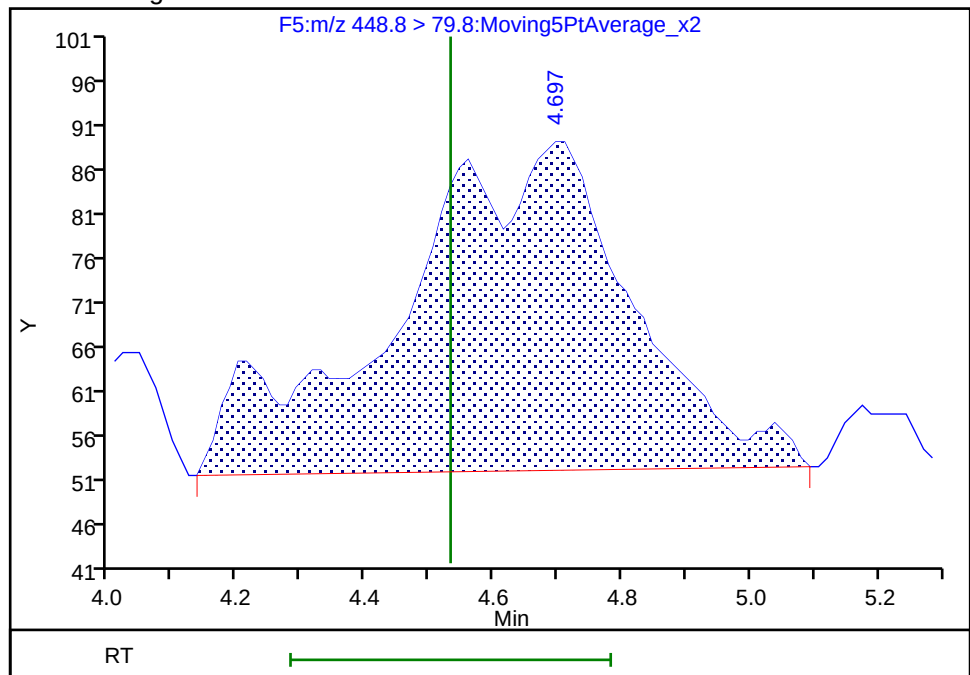
Not Detected
Expected RT: 4.53

Processing Integration Results



Manual Integration Results

RT: 4.70
Area: 958
Amount: 0.414344
Amount Units: ng/ml



Reviewer: murrayjw, 02-Jul-2018 08:26:58

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

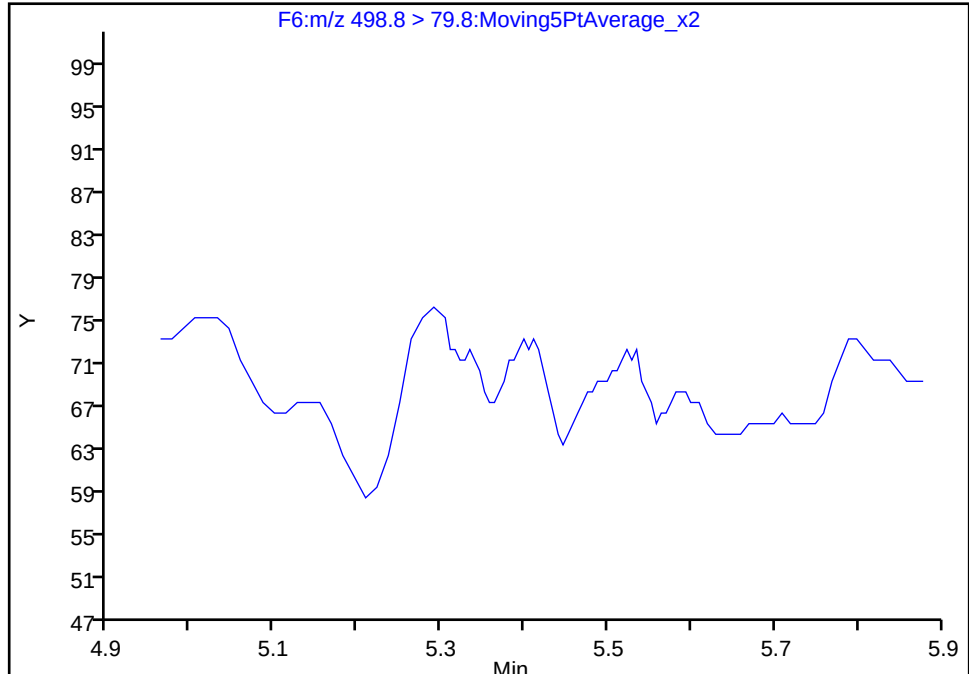
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F6:MRM

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

Signal: 1

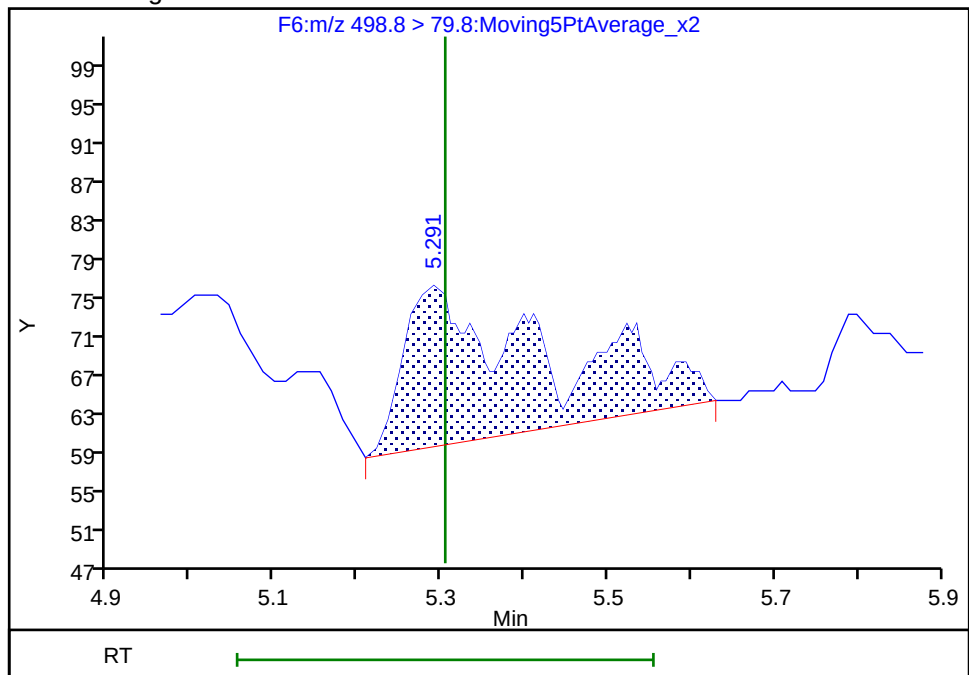
Not Detected
Expected RT: 5.30

Processing Integration Results



RT: 5.29
Area: 191
Amount: 0.368820
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 08:27:26

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

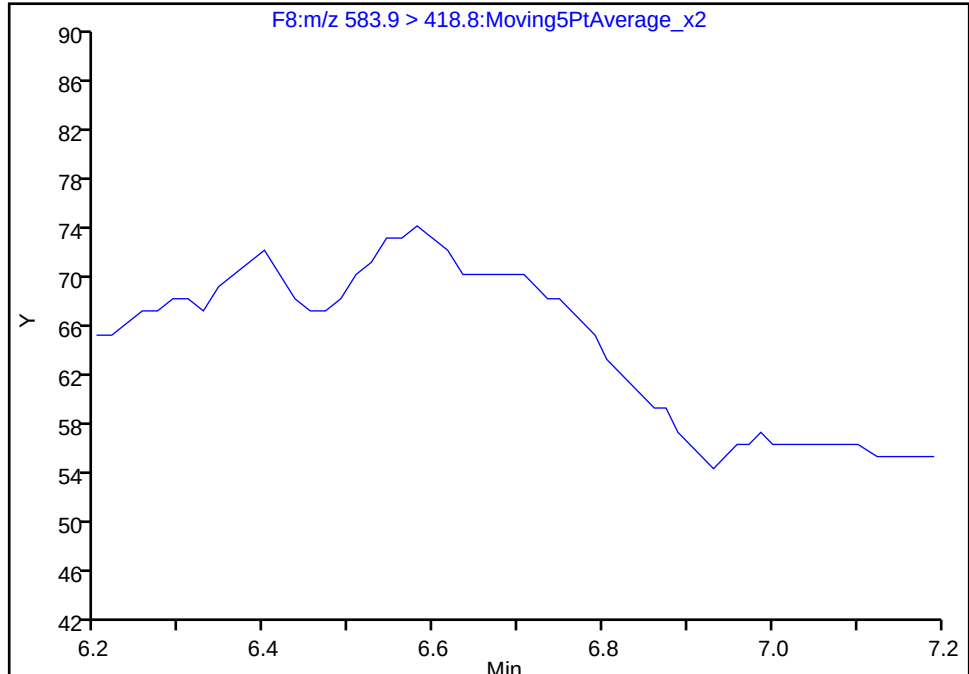
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F8:MRM

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

Signal: 1

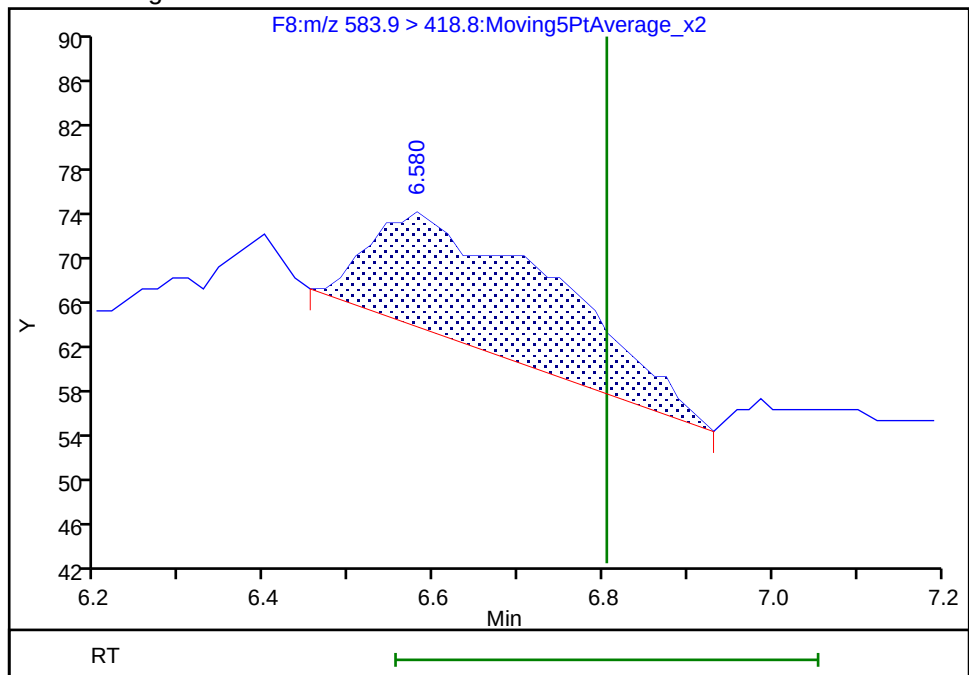
Not Detected
Expected RT: 6.80

Processing Integration Results



Manual Integration Results

RT: 6.58
Area: 178
Amount: 0.302841
Amount Units: ng/ml



Reviewer: murrayjw, 02-Jul-2018 08:28:42

Audit Action: Manually Integrated

Audit Reason: Missed Peak

TestAmerica Burlington

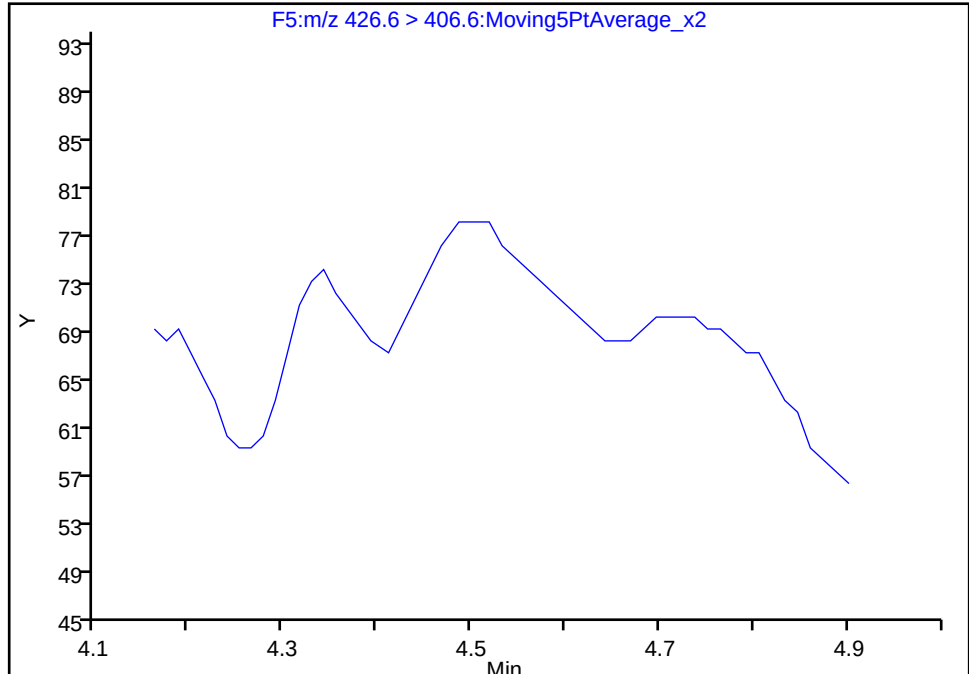
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A11.d
Injection Date: 28-Jun-2018 19:14:31 Instrument ID: LC410
Lims ID: MB 200-131185/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F5:MRM

15 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

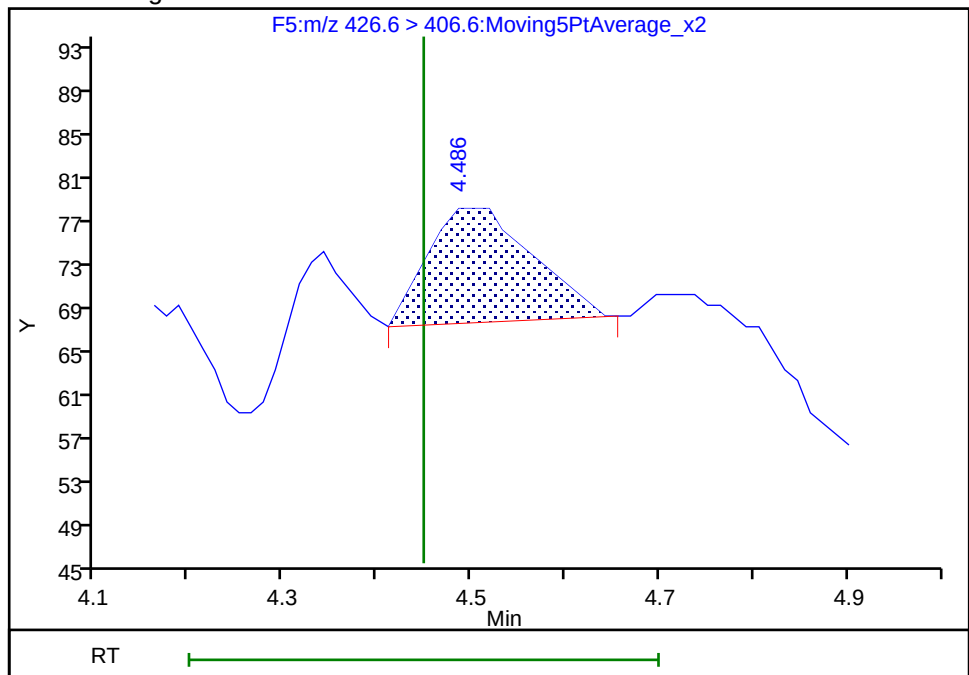
Not Detected
Expected RT: 4.45

Processing Integration Results



RT: 4.49
Area: 82
Amount: 0.488548
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 11-Jul-2018 17:48:26
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 385 of 434

10/19/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>LCS 200-131185/2-A</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A12.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: _____
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>250 (mL)</u>	Date Analyzed: <u>06/28/2018 19:30</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	41.38		2.00	0.41
2706-90-3	Perfluoropentanoic acid (PFPeA)	43.24		2.00	0.75
307-24-4	Perfluorohexanoic acid (PFHxA)	41.48		2.00	0.24
375-85-9	Perfluoroheptanoic acid (PFHpA)	41.64		2.00	0.32
335-67-1	Perfluorooctanoic acid (PFOA)	39.99		2.00	0.32
375-95-1	Perfluorononanoic acid (PFNA)	42.41		2.00	0.38
335-76-2	Perfluorodecanoic acid (PFDA)	41.37		2.00	0.38
2058-94-8	Perfluoroundecanoic acid (PFUnA)	40.74		2.00	0.25
307-55-1	Perfluorododecanoic acid (PFDoA)	40.13		2.00	0.35
72629-94-8	Perfluorotridecanoic acid (PFTriA)	35.12		2.00	0.24
376-06-7	Perfluorotetradecanoic acid (PFTeA)	38.68		2.00	0.45
375-73-5	Perfluorobutanesulfonic acid (PFBS)	34.54		2.00	0.44
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	40.06		2.00	0.26
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	43.58		2.00	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	38.77		2.00	0.53
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	40.01		2.00	0.76
754-91-6	Perfluorooctanesulfonamide (FOSA)	39.08		2.00	0.56
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	41.95		2.00	0.45
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	43.23		2.00	0.70
27619-97-2	6:2 FTS	48.68		2.00	1.00
39108-34-4	8:2 FTS	45.81		2.00	0.56

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>LCS 200-131185/2-A</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A12.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: _____
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>250 (mL)</u>	Date Analyzed: <u>06/28/2018 19:30</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	49		25-150
STL00992	13C4 PFBA	84		25-150
STL01893	13C5-PFPeA DNU	87		25-150
STL00993	13C2 PFHxA	93		25-150
STL01892	13C4 PFHpA	86		25-150
STL00990	13C4 PFOA	84		25-150
STL00995	13C5 PFNA	87		25-150
STL00996	13C2 PFDA	84		25-150
STL00997	13C2 PFUnA	89		25-150
STL00998	13C2 PFDoA	75		25-150
STL02116	13C2 PFTeDA	67		25-150
STL02337	13C3 PFBS	92		25-150
STL00994	18O2 PFHxS	78		25-150
STL00991	13C4 PFOS	77		25-150
STL02118	d3-NMeFOSAA	67		25-150
STL02117	d5-NEtFOSAA	67		25-150
STL02279	M2-6:2 FTS	105		25-150
STL02280	M2-8:2 FTS	100		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A12.d
 Lims ID: LCS 200-131185/2-A
 Client ID:
 Sample Type: LCS
 Inject. Date: 28-Jun-2018 19:30:37 ALS Bottle#: 0 Worklist Smp#: 12
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-012 LCS
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:20 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 08:30:23

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	2.351	2.370	-0.019	1.000	298237	42.1		84.2	192	
1 Perfluorobutyric acid										
212.9 > 168.9	2.361	2.371	-0.010	1.004	121415	20.7		103	114	
4 Perfluoropentanoic acid										
262.9 > 218.8	2.791	2.801	-0.010	1.000	223187	21.6		108	310	
D 3 13C5-PFPeA										
267.7 > 222.6	2.791	2.802	-0.011	1.000	119727	43.7		87.5	1109	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.867	2.883	-0.016	1.000	120187	17.3		97.7	143	
D 5 13C3-PFBS										
302.0 > 79.8	2.867	2.883	-0.016	1.000	214100	42.8		92.0	1886	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.238	3.250	-0.012	1.000	113624	20.7		104	1478	
D 7 13C2 PFHxA										
314.8 > 269.6	3.238	3.265	-0.027	1.000	256222	46.5		92.9	1959	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.793	3.804	-0.011	1.000	301012	20.8		104	1587	
D 10 13C4-PFHpA										
366.9 > 321.8	3.793	3.843	-0.050	1.000	637404	42.8		85.6	7475	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.826	3.848	-0.022	0.997	126590	20.0		110	1495	
D 13 18O2 PFHxS										
402.9 > 83.8	3.837	3.889	-0.052	1.000	225074	36.8		77.9	607	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.430	4.449	-0.019	1.004	9716	24.3		128	67.2	
* 49 13C2-PFOA										
414.9 > 369.8	4.505	4.505	0.0		664306	50.0			2316	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.505	4.505	0.0	1.004	251378	20.0		100.0	635	
D 14 M2-6:2FTS										
428.6 > 408.6	4.412	4.525	-0.113	1.000	17071	49.7		105	51.5	
18 Perfluoroheptanesulfonic acid										
448.8 > 79.8	4.532	4.532	0.0	0.854	76351	21.8		114	350	
D 17 13C4 PFOA										
416.9 > 371.8	4.486	4.567	-0.081	1.000	509916	42.1		84.2	1595	
19 Perfluorononanoic acid										
462.8 > 418.8	5.277	5.304	-0.027	1.000	249561	21.2		106	1894	
20 Perfluorooctane sulfonic acid										
498.8 > 79.8	5.304	5.304	0.0	0.999	87041	20.0		108	535	
D 21 13C5 PFNA										
467.8 > 422.8	5.277	5.363	-0.086	1.000	568657	43.4		86.7	1656	
D 22 13C4 PFOS										
502.8 > 79.8	5.310	5.382	-0.072	1.000	165856	36.7		76.7	548	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.046	6.046	0.0	1.000	62964	22.9		120	456	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.071	6.070	0.001	1.000	326188	20.7		103	1020	
D 23 M2-8:2FTS										
528.8 > 508.8	6.046	6.147	-0.101	1.000	183591	47.7		99.7	399	
D 25 13C2 PFDA										
514.9 > 469.5	6.071	6.186	-0.115	1.000	767320	42.0		83.9	1422	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.421	6.421	0.0	1.000	73817	21.0		105	682	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.421	6.530	-0.109	1.000	145079	33.6		67.2	1182	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.804	6.804	0.0	1.281	74944	19.4		101	1693	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.804	6.804	0.0	1.002	67655	21.6		108	1479	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.818	6.832	-0.014	1.000	300596	20.4		102	1245	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.791	6.903	-0.112	1.000	136580	33.6		67.2	852	
D 33 13C2 PFUnA										
564.8 > 519.8	6.818	6.942	-0.124	1.000	763849	44.5		89.0	2658	
34 Perfluorooctane Sulfonamide										
497.8 > 77.8	7.057	7.057	0.0	1.000	71070	19.5		97.7	547	
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	171415	24.5		49.0	825	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.497	7.497	0.0	1.000	254997	20.1		100	2553	
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	647551	37.3		74.6	2912	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.112	8.112	0.0	1.082	223249	17.6		87.8	2126	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A12.d

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	8.651	8.666	-0.015	1.000	217069	19.3		96.7	1719	
712.8 > 168.8	8.651	8.666	-0.015	1.000	49641		4.37(0.00-0.00)		369	
712.8 > 218.8	8.651	8.666	-0.015	1.000	22421		9.68(0.00-0.00)		154	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	581112	33.3		66.6	952	

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A12.d

Injection Date: 28-Jun-2018 19:30:37

Instrument ID: LC410

Lims ID: LCS 200-131185/2-A

Client ID:

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 12

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

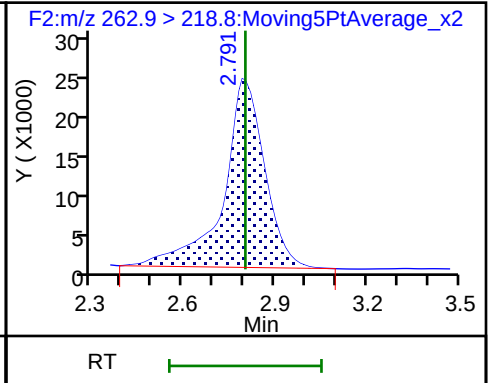
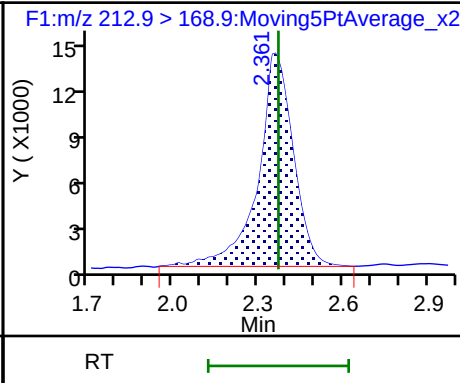
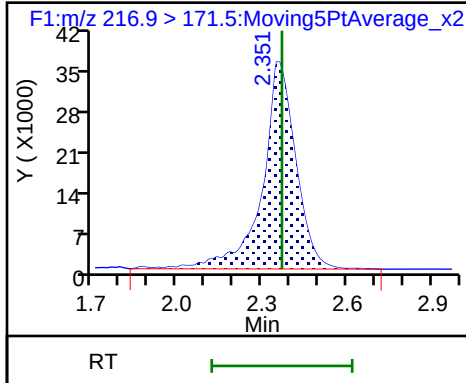
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA

1 Perfluorobutyric acid

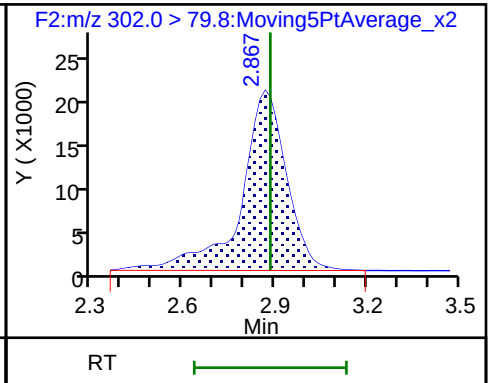
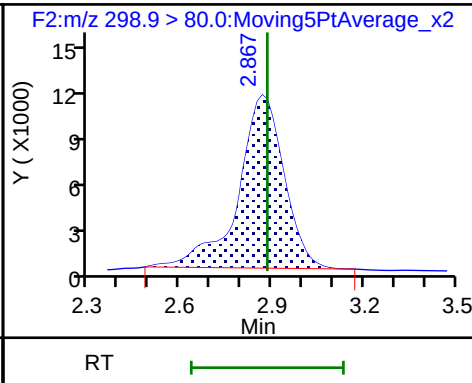
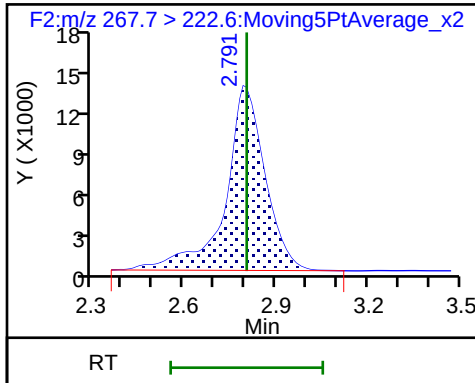
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid

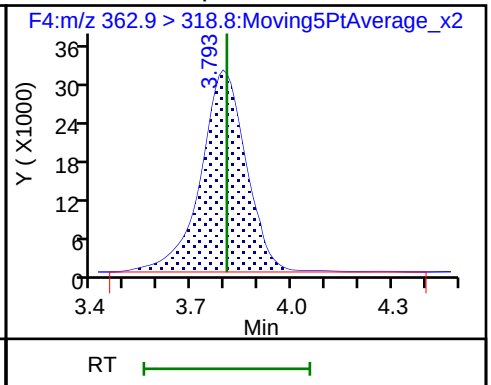
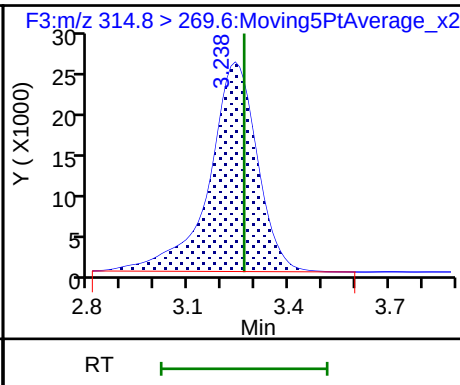
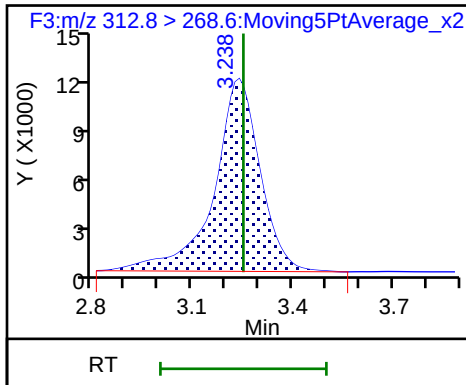
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

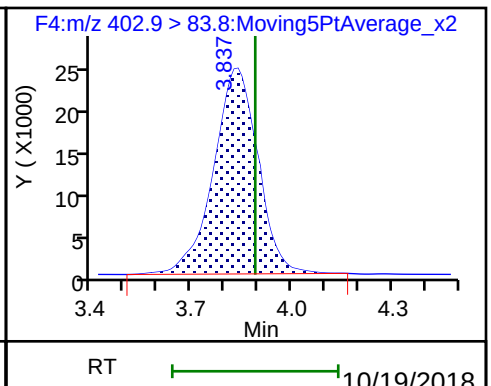
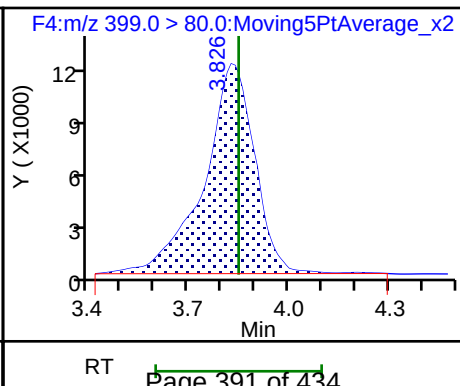
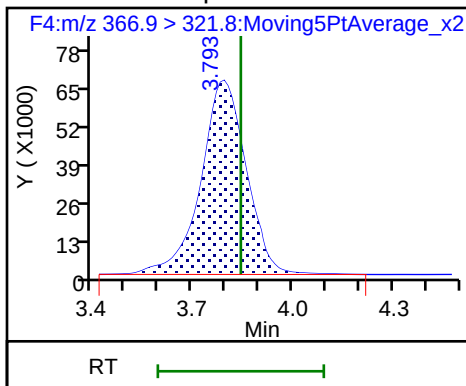
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

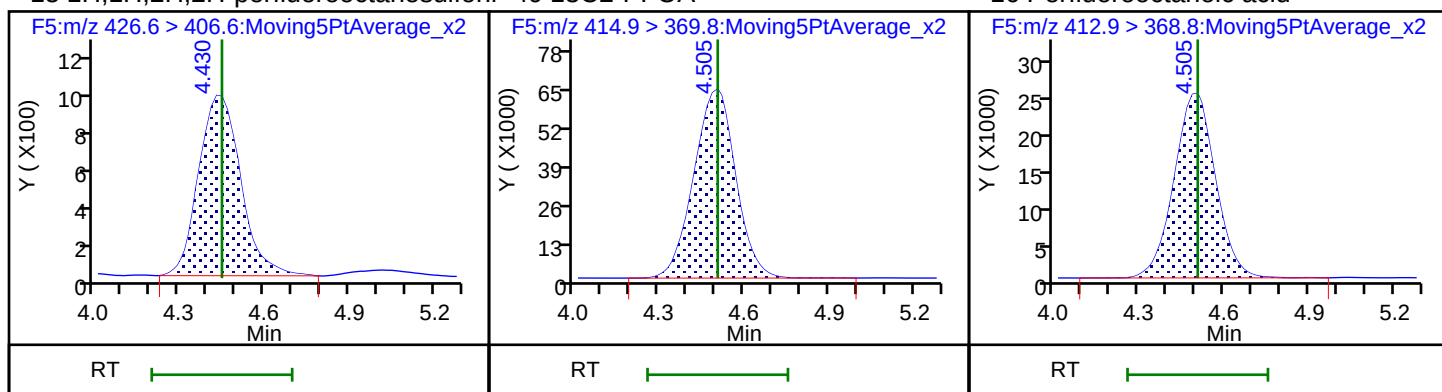
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



15 1H,1H,2H,2H-perfluorooctanesulfonate 49 13C2-PFOA

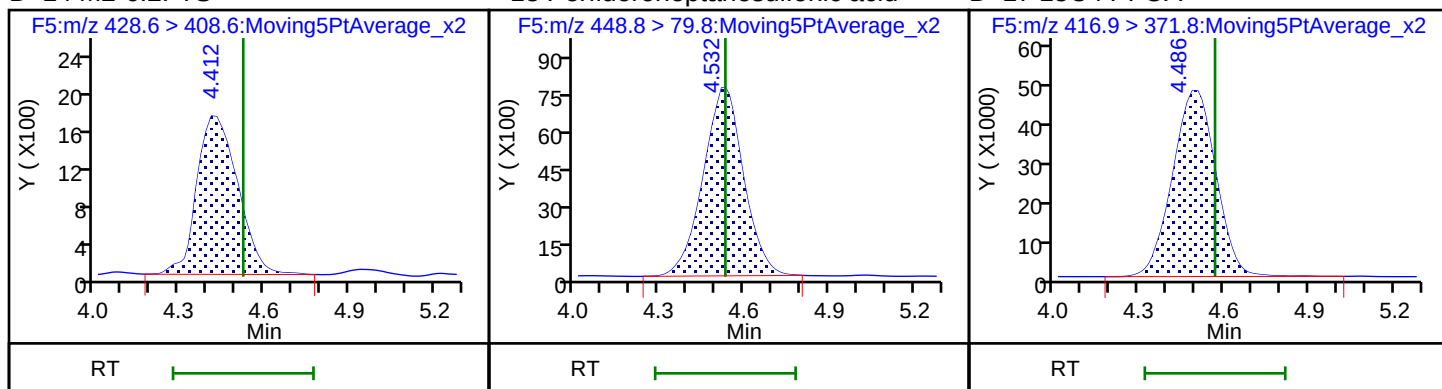
16 Perfluorooctanoic acid



D 14 M2-6:2FTS

18 Perfluoroheptanesulfonic acid

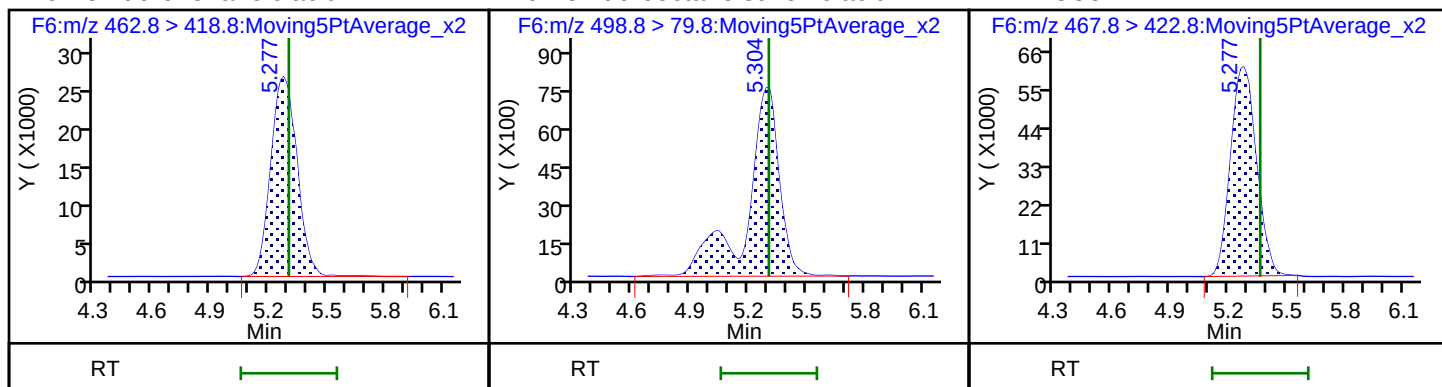
D 17 13C4 PFOA



19 Perfluorononanoic acid

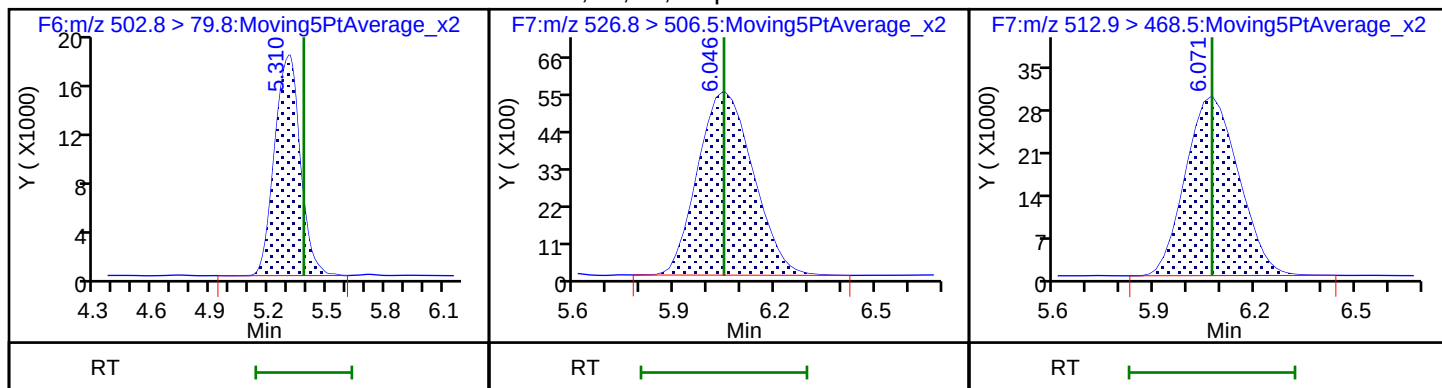
20 Perfluorooctane sulfonic acid

D 21 13C5 PFNA



D 22 13C4 PFOS

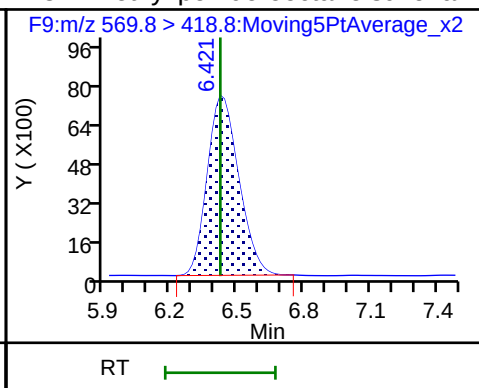
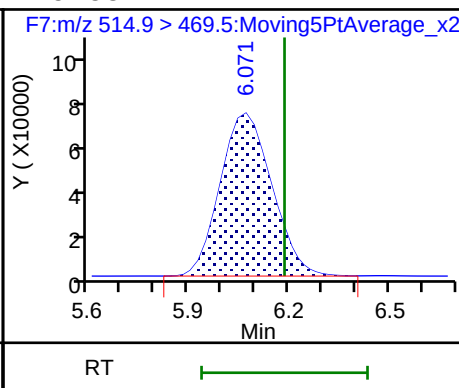
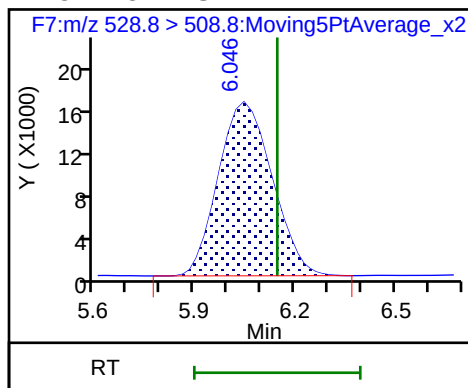
24 1H,1H,2H,2H-perfluorodecanesulfonate 26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

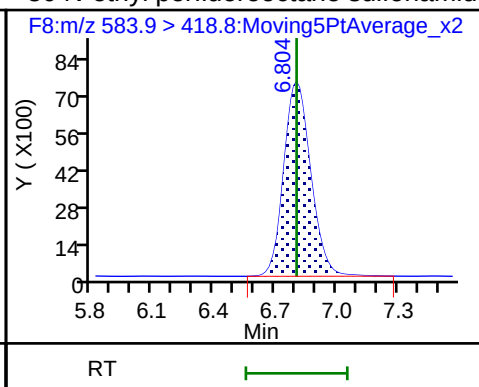
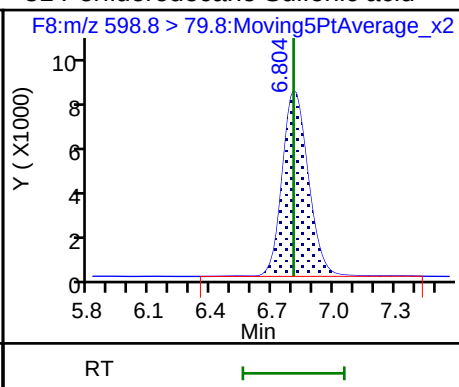
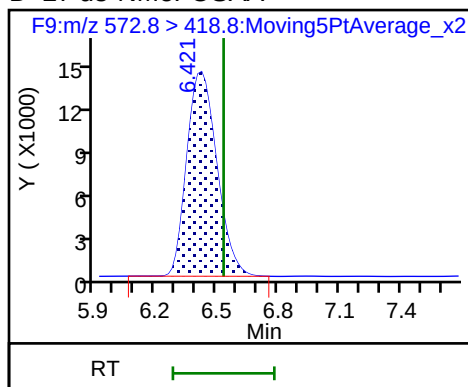
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

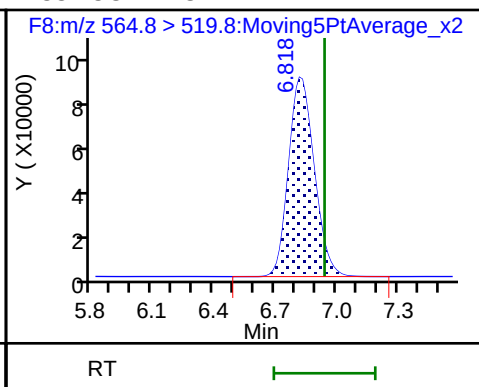
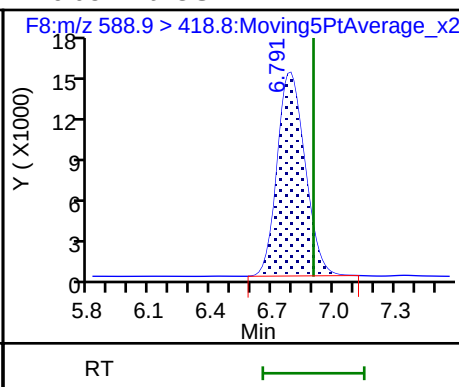
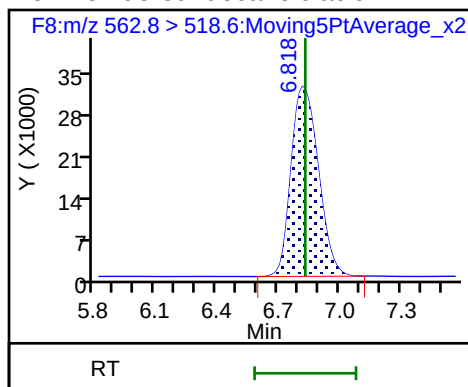
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

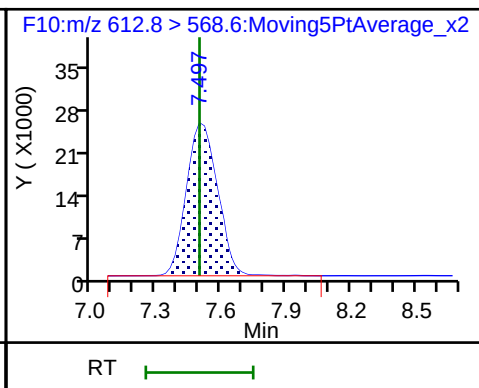
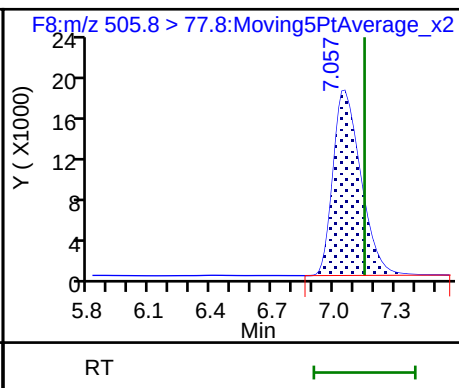
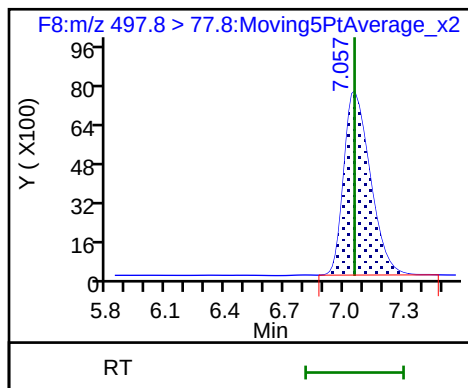
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide

D 35 13C8 FOSA

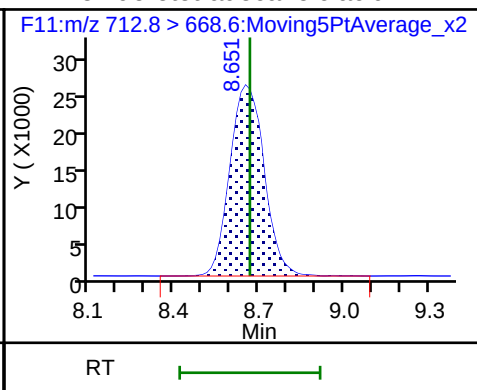
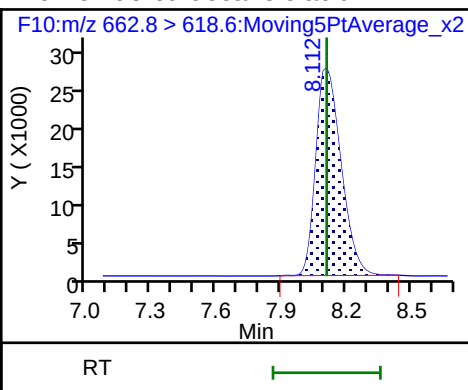
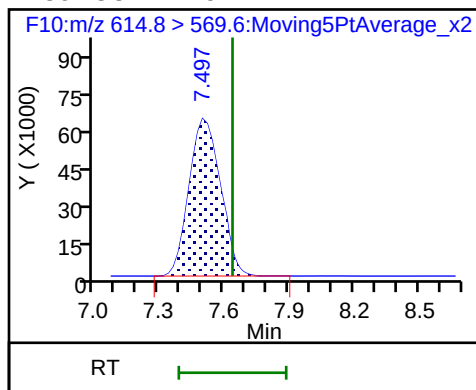
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

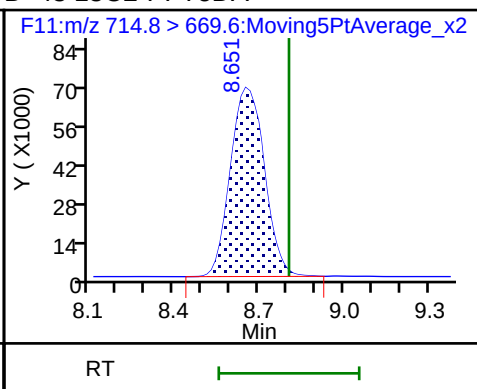
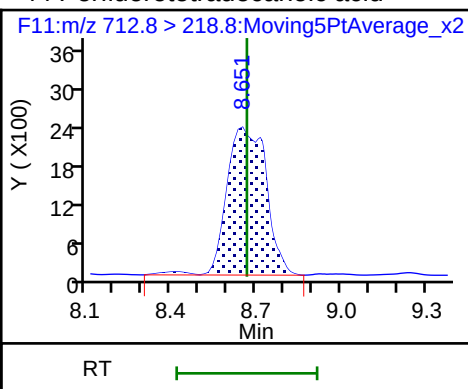
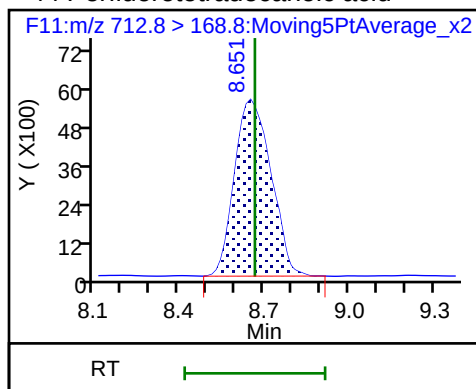
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-4 MS</u>	Lab Sample ID: <u>200-44045-2 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A28.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:35</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>292.4 (mL)</u>	Date Analyzed: <u>06/28/2018 23:49</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	81.36		1.71	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	65.24		1.71	0.64
307-24-4	Perfluorohexanoic acid (PFHxA)	48.81		1.71	0.21
375-85-9	Perfluoroheptanoic acid (PFHpA)	55.14		1.71	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	103.2		1.71	0.27
375-95-1	Perfluorononanoic acid (PFNA)	39.70		1.71	0.32
335-76-2	Perfluorodecanoic acid (PFDA)	34.82		1.71	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	36.76		1.71	0.21
307-55-1	Perfluorododecanoic acid (PFDoA)	34.06		1.71	0.30
72629-94-8	Perfluorotridecanoic acid (PFTriA)	36.51		1.71	0.21
376-06-7	Perfluorotetradecanoic acid (PFTeA)	34.78		1.71	0.38
375-73-5	Perfluorobutanesulfonic acid (PFBS)	42.00		1.71	0.38
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	48.92		1.71	0.22
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	44.04		1.71	0.70
335-77-3	Perfluorodecanesulfonic acid (PFDS)	35.20		1.71	0.45
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	66.20		1.71	0.65
754-91-6	Perfluorooctanesulfonamide (FOSA)	35.42		1.71	0.48
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.40		1.71	0.38
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	35.52		1.71	0.60
27619-97-2	6:2 FTS	34.46		1.71	0.85
39108-34-4	8:2 FTS	47.60		1.71	0.48

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-4 MS</u>	Lab Sample ID: <u>200-44045-2 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A28.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:35</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>292.4 (mL)</u>	Date Analyzed: <u>06/28/2018 23:49</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	72		25-150
STL00992	13C4 PFBA	22		25-150
STL01893	13C5-PFPeA DNU	33		25-150
STL00993	13C2 PFHxA	55		25-150
STL01892	13C4 PFHpA	68		25-150
STL00990	13C4 PFOA	84		25-150
STL00995	13C5 PFNA	101		25-150
STL00996	13C2 PFDA	106		25-150
STL00997	13C2 PFUnA	103		25-150
STL00998	13C2 PFDoA	103		25-150
STL02116	13C2 PFTeDA	103		25-150
STL02337	13C3 PFBS	68		25-150
STL00994	18O2 PFHxS	85		25-150
STL00991	13C4 PFOS	89		25-150
STL02118	d3-NMeFOSAA	77		25-150
STL02117	d5-NEtFOSAA	97		25-150
STL02279	M2-6:2 FTS	230		25-150
STL02280	M2-8:2 FTS	196		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A28.d
 Lims ID: 200-44045-B-2-B MS
 Client ID: RXMW-4
 Sample Type: MS
 Inject. Date: 28-Jun-2018 23:49:57 ALS Bottle#: 0 Worklist Smp#: 28
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-028 2 MS
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 15:47:34

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	2.326	2.370	-0.044	1.000	59279	11.1		22.1	38.7	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.318	2.371	-0.053	0.996	55041	47.6		238	13.1	M
4 Perfluoropentanoic acid										
262.9 > 218.8	2.750	2.801	-0.051	1.000	110513	38.1		191	42.4	
D 3 13C5-PFPeA										
267.7 > 222.6	2.750	2.802	-0.052	1.000	33627	16.3		32.5	21.0	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.801	2.883	-0.082	1.000	94965	24.6		139	27.5	
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.883	-0.082	1.000	118730	31.4		67.5	144	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.250	-0.086	1.000	69450	28.5		143	116	
D 7 13C2 PFHxA										
314.8 > 269.6	3.164	3.265	-0.101	1.000	113712	27.3		54.6	799	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.715	3.804	-0.089	1.000	279295	32.2		161	586	
D 10 13C4-PFHpA										
366.9 > 321.8	3.715	3.843	-0.128	1.000	380567	33.8		67.6	1060	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.759	3.848	-0.089	1.000	148800	28.6		157	221	
D 13 18O2 PFHxS										
402.9 > 83.8	3.759	3.889	-0.130	1.000	184988	40.1		84.7	775	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.355	4.449	-0.094	1.000	13319	20.2		106	136	
* 49 13C2-PFOA										
414.9 > 369.8	4.411	4.505	-0.094		502056	50.0			2152	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.411	4.505	-0.094	1.000	572316	60.3		302	4273	
D 14 M2-6:2FTS										
428.6 > 408.6	4.355	4.525	-0.170	1.000	28334	109.1		230	230	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.449	4.532	-0.083	0.850	79164	25.8		135	735	M
D 17 13C4 PFOA										
416.9 > 371.8	4.411	4.567	-0.156	1.000	382627	41.8		83.6	1044	
19 Perfluorononanoic acid										
462.8 > 418.8	5.209	5.304	-0.095	1.000	239621	23.2		116	770	
20 Perfluorooctane sulfonic acid										a
498.8 > 79.8	4.949	5.304	-0.355	0.945	148804	38.7		209	269	a
D 21 13C5 PFNA										
467.8 > 422.8	5.209	5.363	-0.154	1.000	498713	50.3		101	2427	
D 22 13C4 PFOS										
502.8 > 79.8	5.236	5.382	-0.146	1.000	145328	42.5		88.9	537	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	5.998	6.046	-0.048	1.000	113822	27.8		145	787	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.022	6.070	-0.048	1.000	307874	20.4		102	551	
D 23 M2-8:2FTS										
528.8 > 508.8	5.998	6.147	-0.149	1.000	272362	93.7		196	1761	
D 25 13C2 PFDA										
514.9 > 469.5	6.022	6.186	-0.164	1.000	735697	53.2		106	3230	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.385	6.421	-0.036	1.000	72042	23.6		118	264	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.385	6.530	-0.145	1.000	125725	38.5		77.1	637	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.790	6.804	-0.014	1.297	69769	20.6		107	658	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.776	6.804	-0.028	1.004	71093	20.8		104	1089	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.804	6.832	-0.028	1.002	276841	21.5		107	1830	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.748	6.903	-0.155	1.000	149423	48.6		97.3	941	
D 33 13C2 PFUnA										
564.8 > 519.8	6.790	6.942	-0.152	1.000	666686	51.4		103	5750	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	7.079	7.057	0.022	1.003	83167	20.7		104	1058	M
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	188953	35.8		71.5	1541	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.497	7.497	0.0	1.000	264476	19.9		99.6	1618	
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	676570	51.6		103	1927	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.112	8.112	0.0	1.082	283159	21.4		107	2014	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A28.d

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	8.651	8.666	-0.015	1.000	266482	20.3		102	1138	
712.8 > 168.8	8.666	8.666	0.0	1.002	56121		4.75(0.00-0.00)		597	
712.8 > 218.8	8.651	8.666	-0.015	1.000	34394		7.75(0.00-0.00)		207	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	678232	51.4		103	1755	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A28.d

Injection Date: 28-Jun-2018 23:49:57

Instrument ID: LC410

Lims ID: 200-44045-B-2-B MS

Client ID: RXMW-4

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 28

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

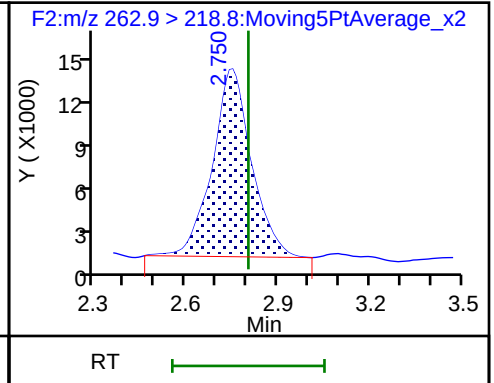
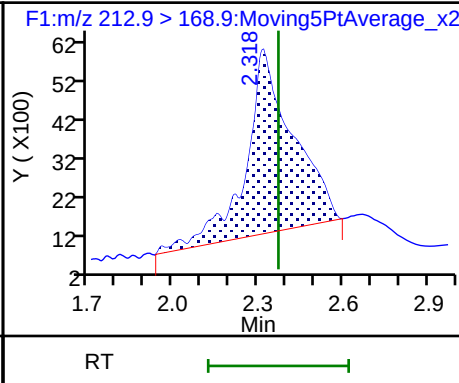
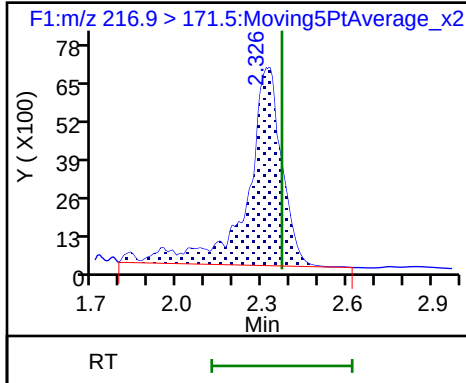
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

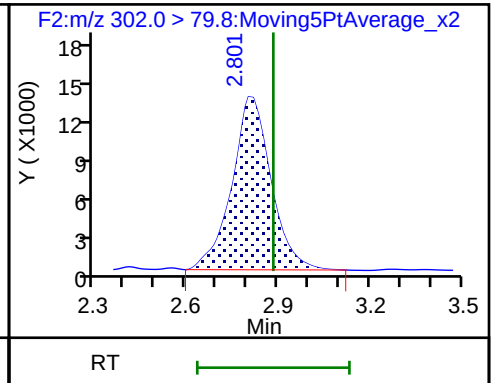
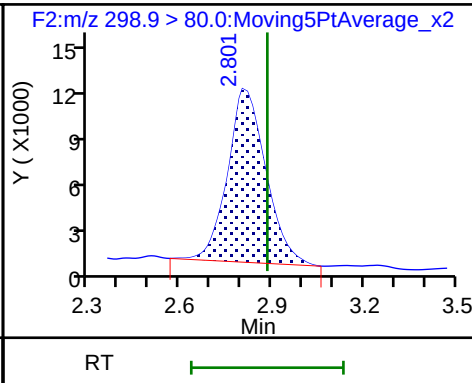
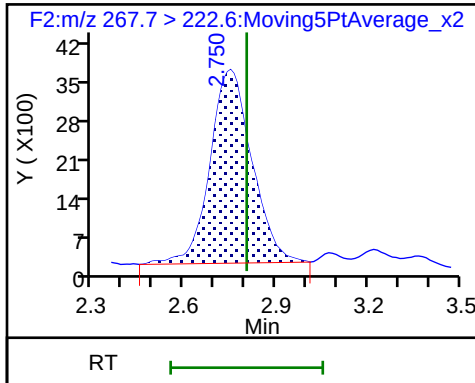
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid

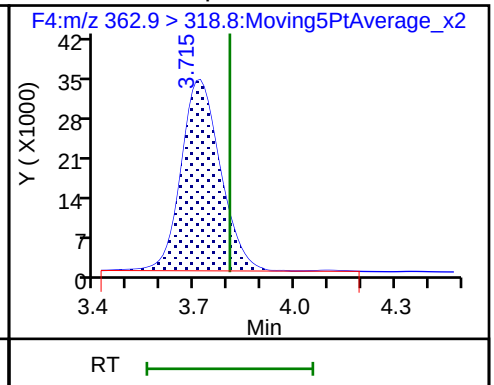
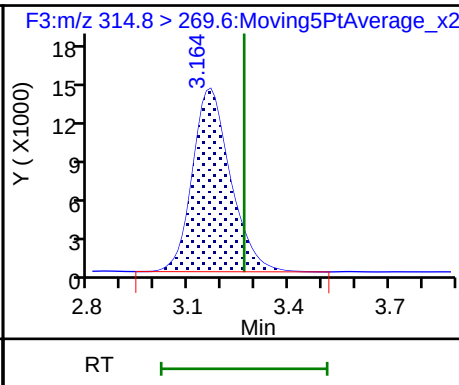
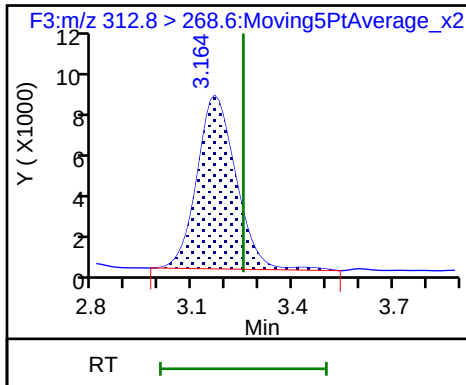
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

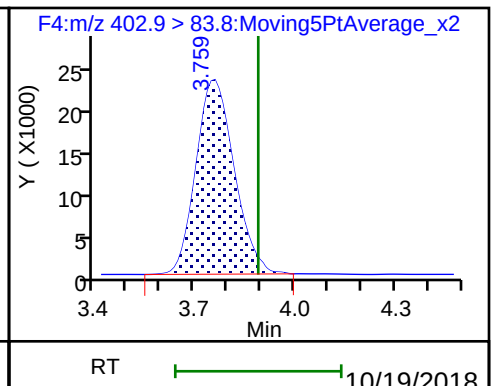
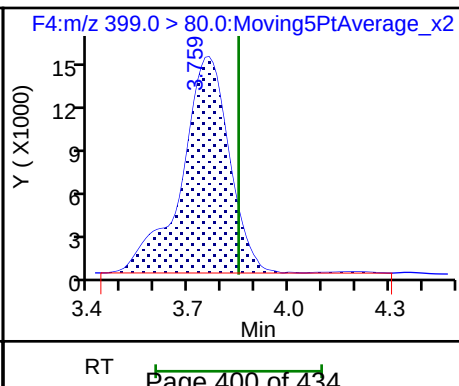
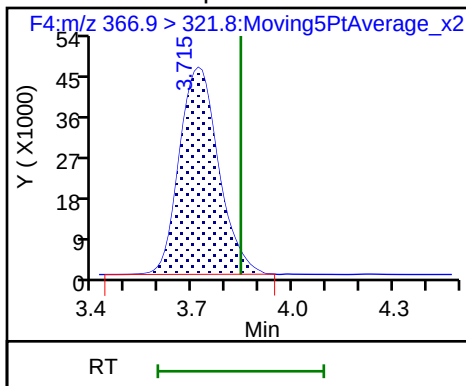
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

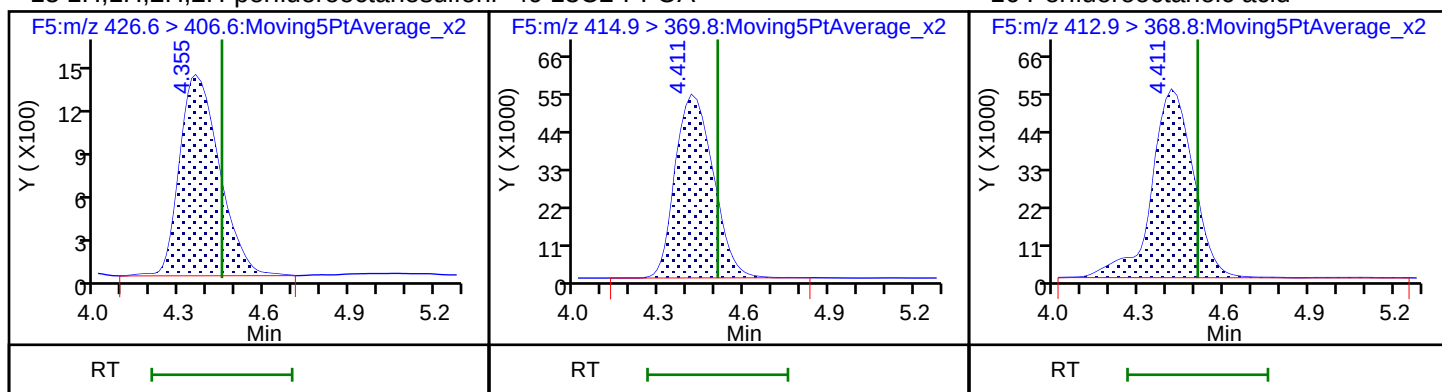
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



15 1H,1H,2H,2H-perfluorooctanesulfonate 49 13C2-PFOA

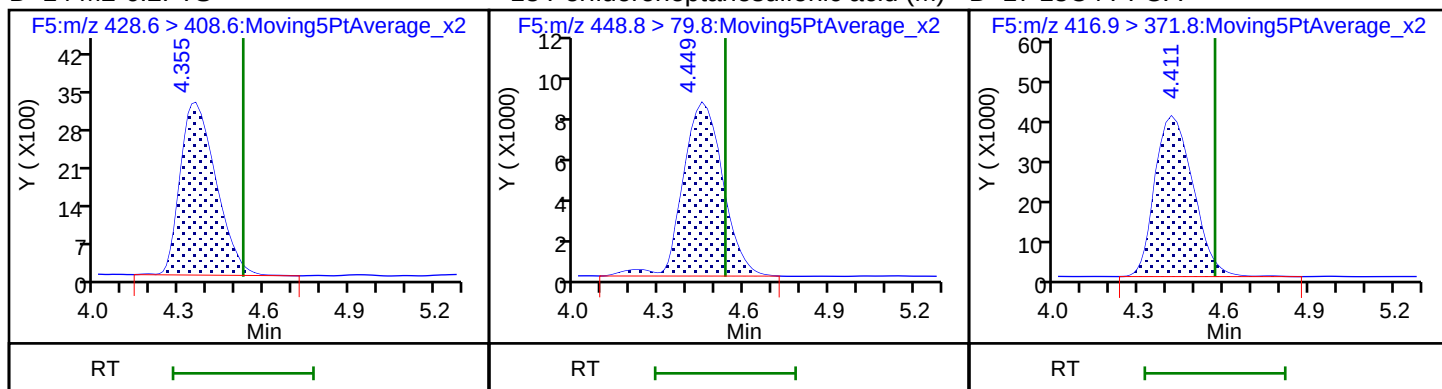
16 Perfluorooctanoic acid



D 14 M2-6:2FTS

18 Perfluoroheptanesulfonic acid (M)

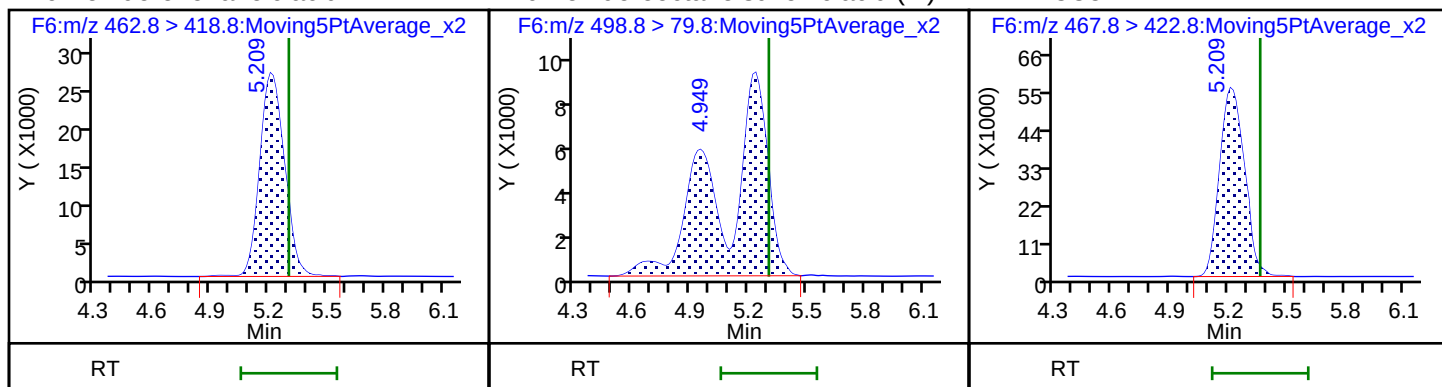
D 17 13C4 PFOA



19 Perfluorononanoic acid

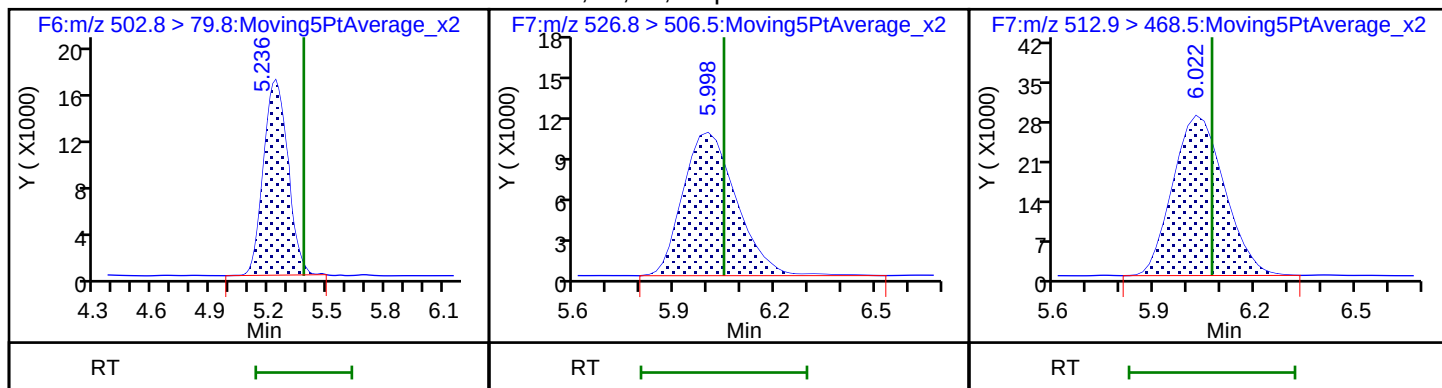
20 Perfluorooctane sulfonic acid (M)

D 21 13C5 PFNA



D 22 13C4 PFOS

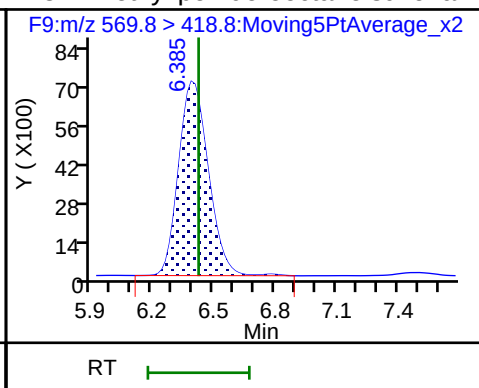
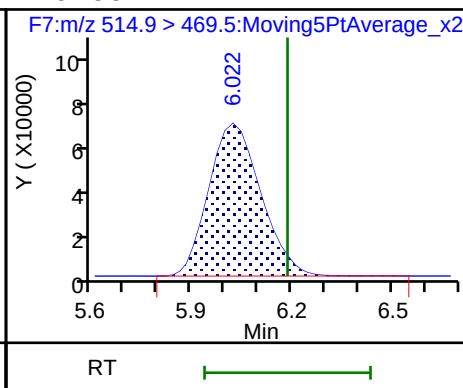
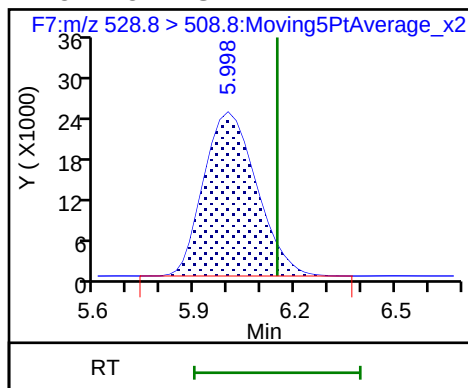
24 1H,1H,2H,2H-perfluorodecanesulfonate 26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

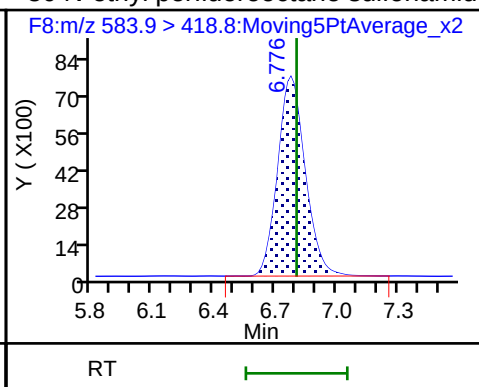
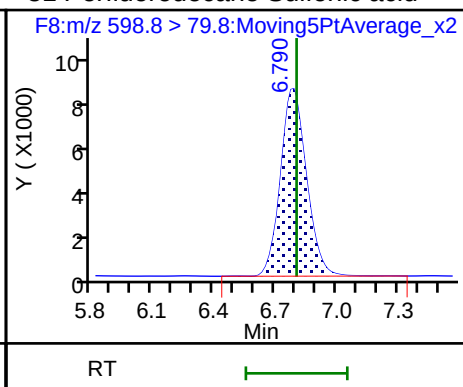
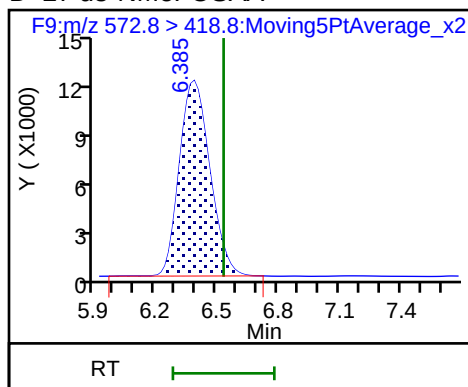
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

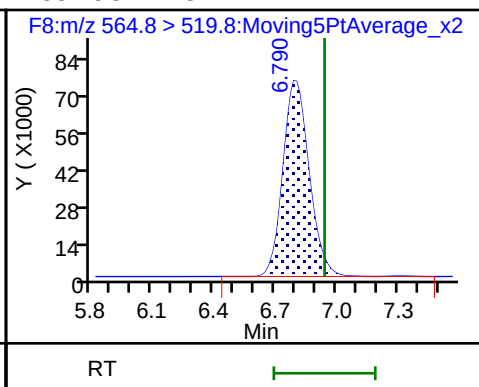
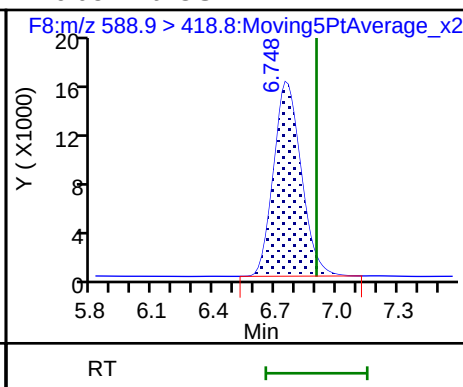
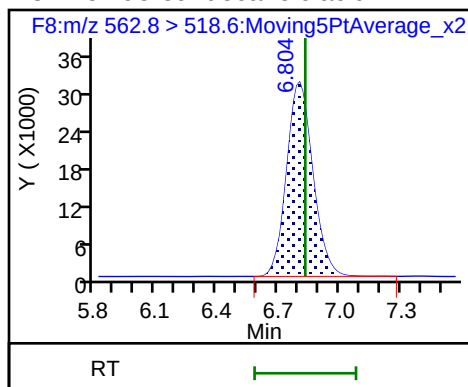
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

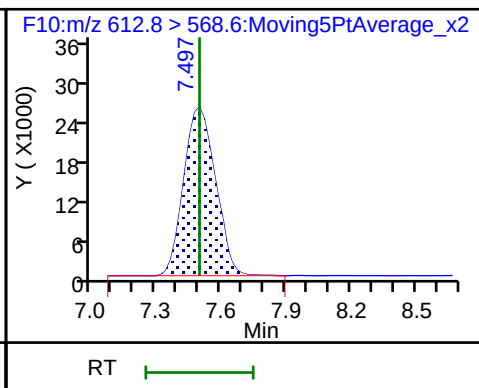
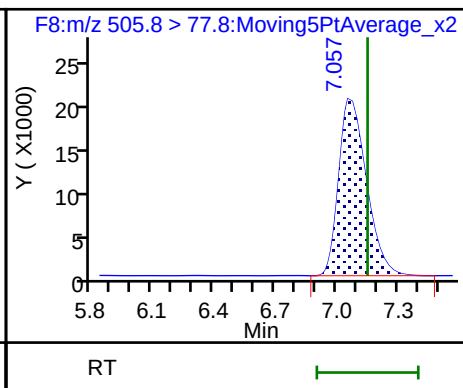
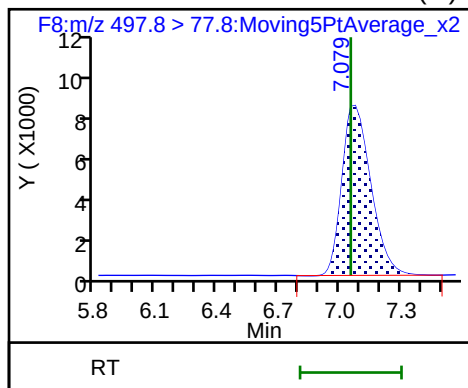
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (M)

D 35 13C8 FOSA

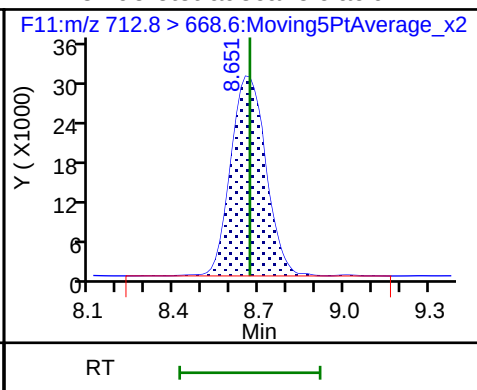
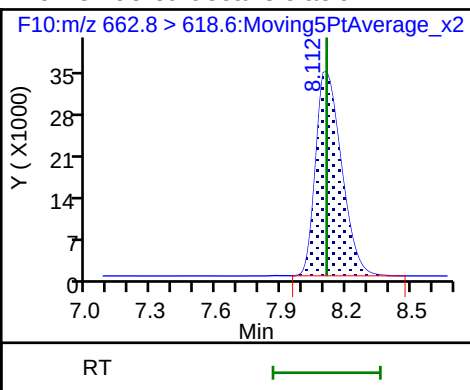
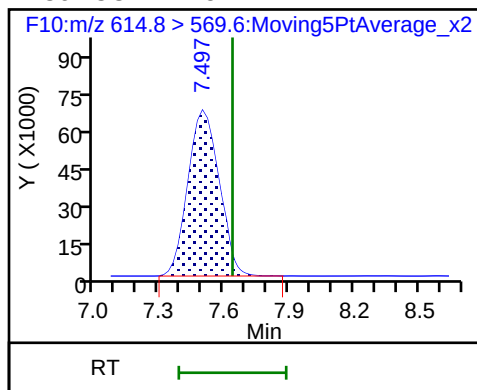
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

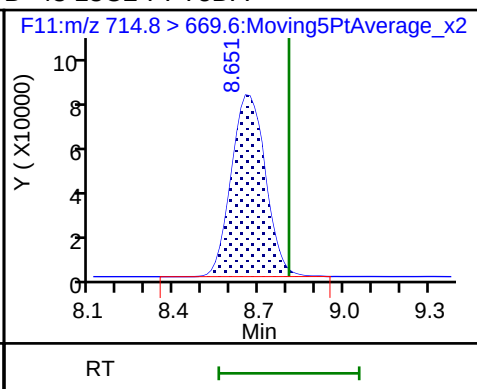
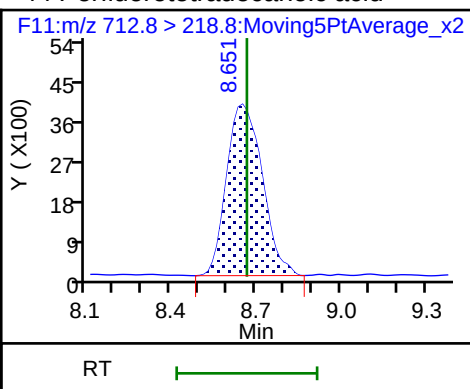
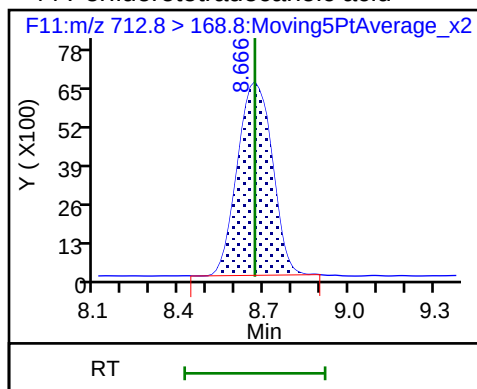
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

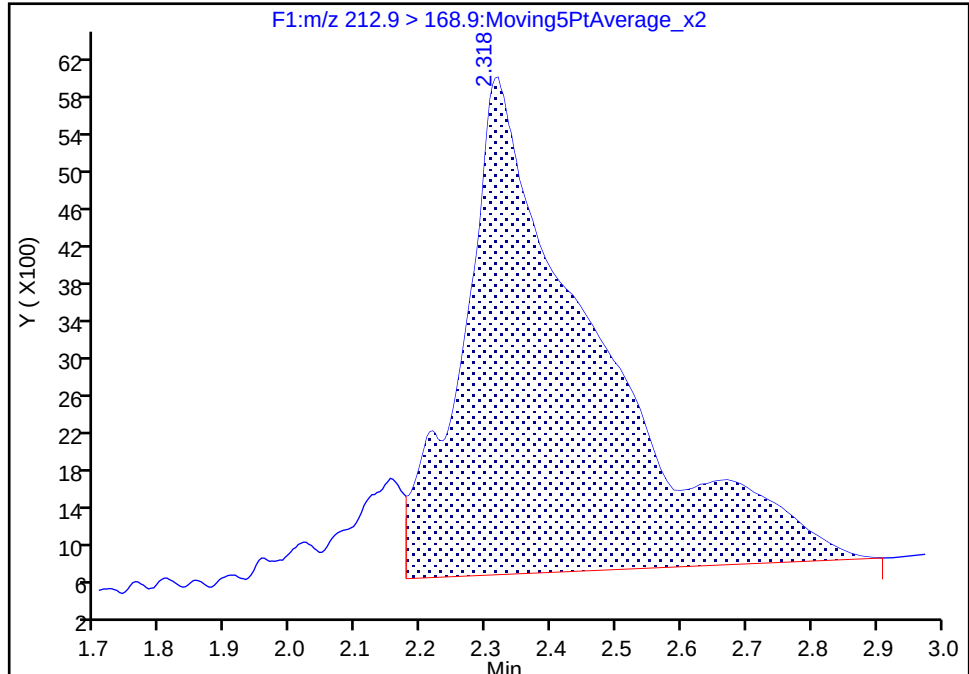
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Injection Date: 28-Jun-2018 23:49:57 Instrument ID: LC410
Lims ID: 200-44045-B-2-B MS
Client ID: RXMW-4
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

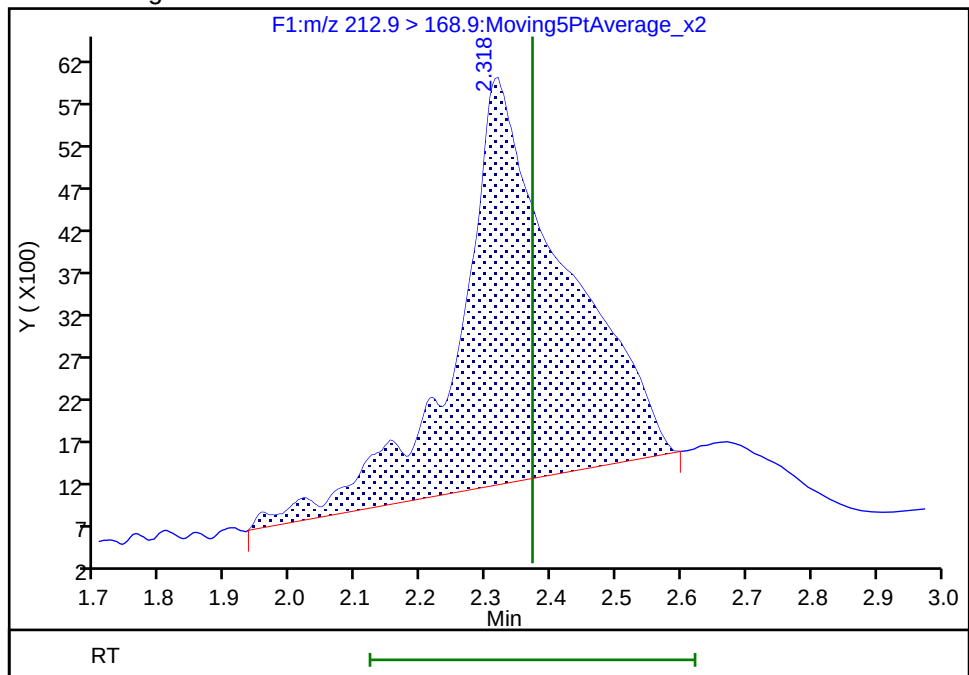
RT: 2.32
Area: 74212
Amount: 64.260536
Amount Units: ng/ml

Processing Integration Results



RT: 2.32
Area: 55041
Amount: 47.580932
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:46:55
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 404 of 434

10/19/2018

TestAmerica Burlington

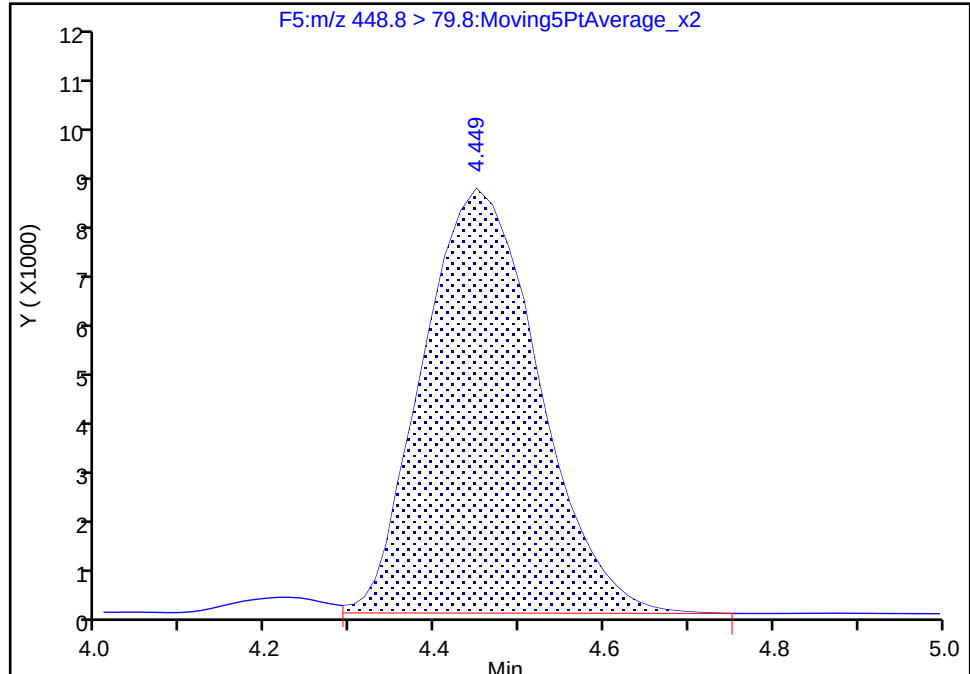
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Injection Date:	28-Jun-2018 23:49:57	Instrument ID:	LC410
Lims ID:	200-44045-B-2-B MS		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM
		Worklist Smp#:	28

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

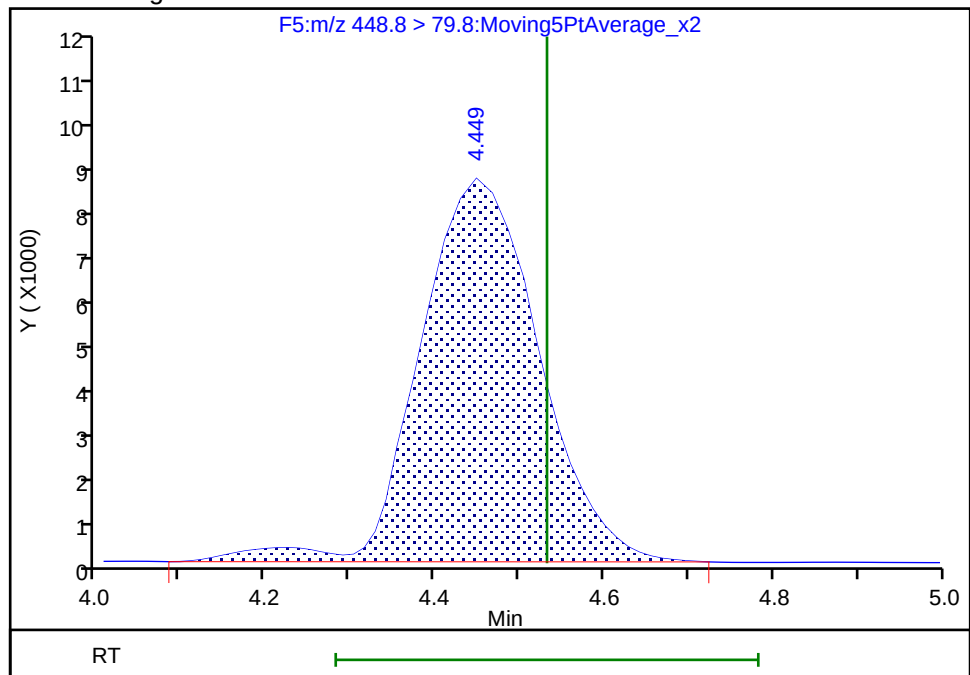
RT: 4.45
Area: 77193
Amount: 25.116320
Amount Units: ng/ml

Processing Integration Results



RT: 4.45
Area: 79164
Amount: 25.753630
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 12-Jul-2018 12:59:44
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 405 of 434

10/19/2018

TestAmerica Burlington

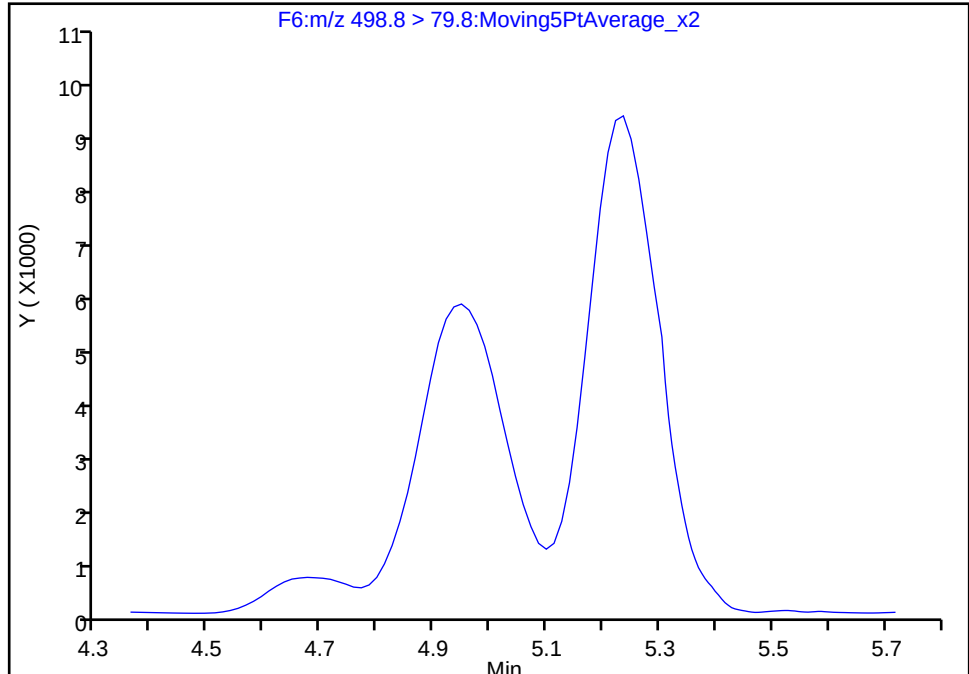
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Injection Date:	28-Jun-2018 23:49:57	Instrument ID:	LC410
Lims ID:	200-44045-B-2-B MS		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F6:MRM
		Worklist Smp#:	28

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

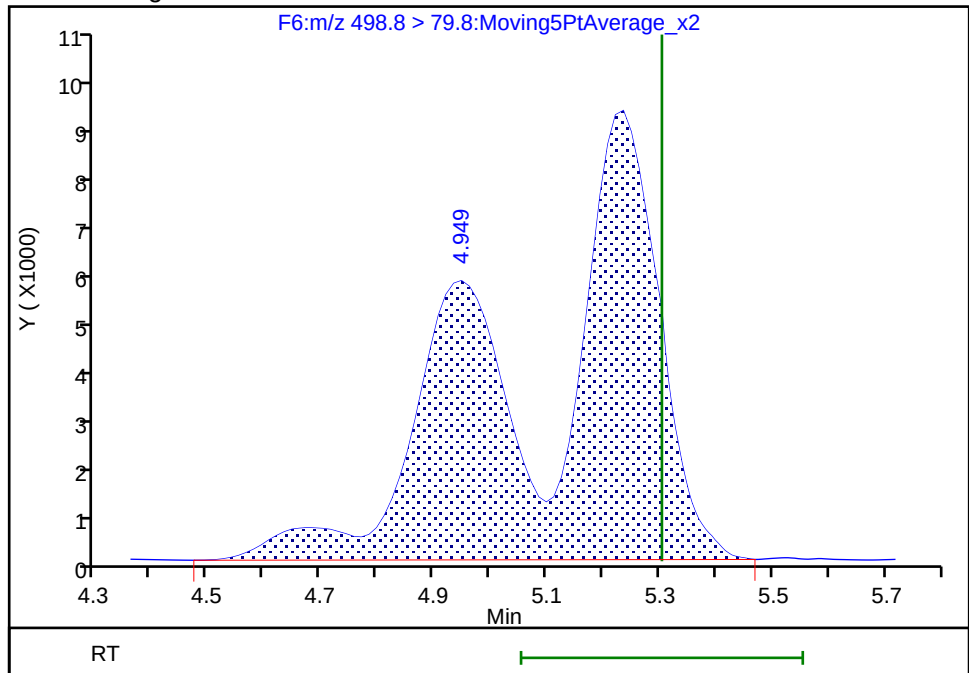
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results



RT: 4.95
Area: 148804
Amount: 38.716482
Amount Units: ng/ml

Reviewer: murrayjw, 02-Jul-2018 15:47:13
Audit Action: Assigned Compound IDAudit Reason: Incomplete Integration
Page 406 of 434

10/19/2018

TestAmerica Burlington

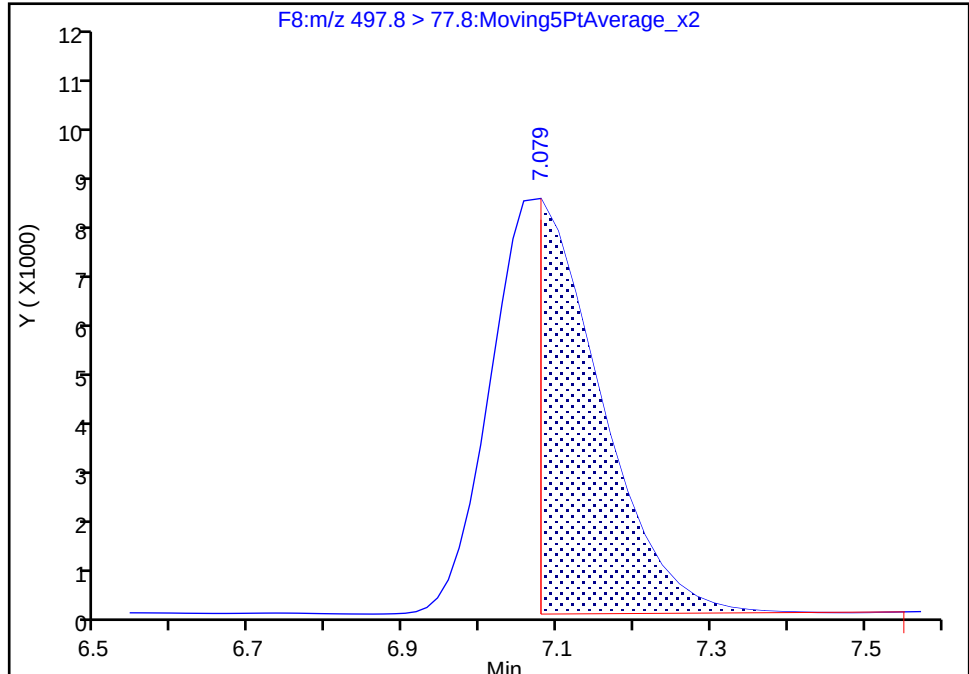
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Injection Date:	28-Jun-2018 23:49:57	Instrument ID:	LC410
Lims ID:	200-44045-B-2-B MS		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F8:MRM
		Worklist Smp#:	28

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

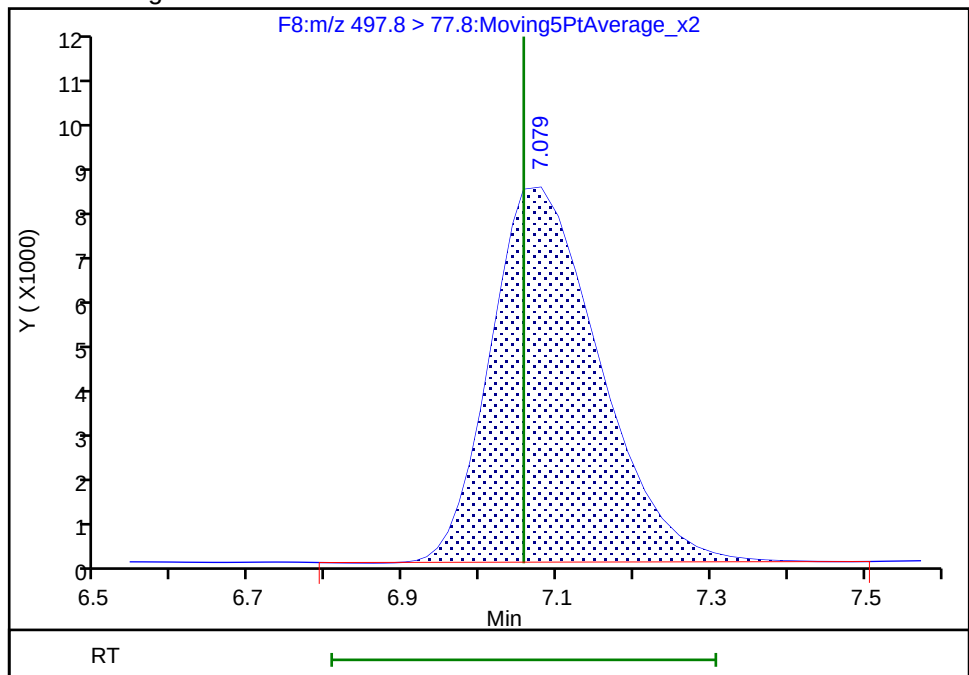
RT: 7.08
Area: 45722
Amount: 11.589230
Amount Units: ng/ml

Processing Integration Results



RT: 7.08
Area: 83167
Amount: 20.716152
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:47:24
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 407 of 434

10/19/2018

TestAmerica Burlington

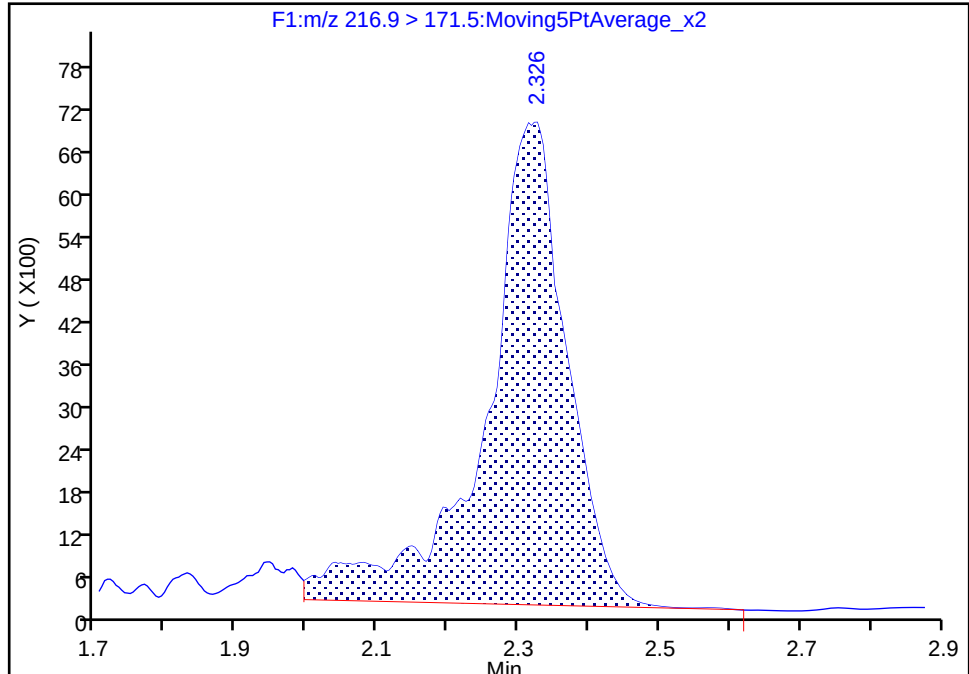
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A28.d
Injection Date: 28-Jun-2018 23:49:57 Instrument ID: LC410
Lims ID: 200-44045-B-2-B MS
Client ID: RXMW-4
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

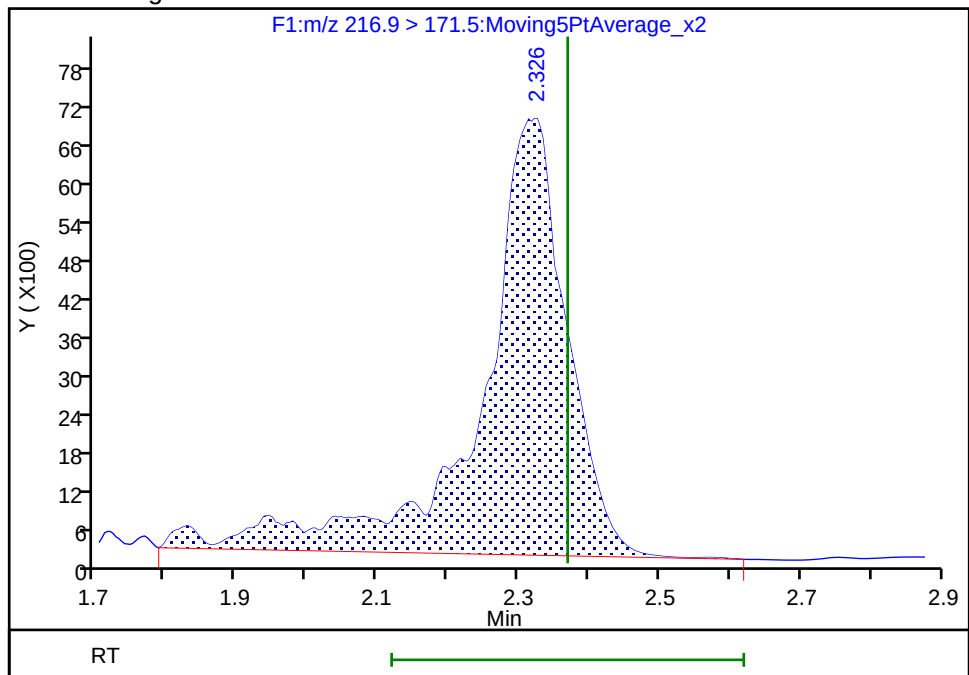
RT: 2.33
Area: 55506
Amount: 10.368072
Amount Units: ng/ml

Processing Integration Results



RT: 2.33
Area: 59279
Amount: 11.072838
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:46:38
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 408 of 434

10/19/2018

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-4 MSD</u>	Lab Sample ID: <u>200-44045-2 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A29.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:35</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>292.5 (mL)</u>	Date Analyzed: <u>06/29/2018 00:06</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	76.85		1.71	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	57.41		1.71	0.64
307-24-4	Perfluorohexanoic acid (PFHxA)	55.55		1.71	0.21
375-85-9	Perfluoroheptanoic acid (PFHpA)	55.40		1.71	0.27
335-67-1	Perfluorooctanoic acid (PFOA)	93.53		1.71	0.27
375-95-1	Perfluorononanoic acid (PFNA)	37.12		1.71	0.32
335-76-2	Perfluorodecanoic acid (PFDA)	35.97		1.71	0.32
2058-94-8	Perfluoroundecanoic acid (PFUnA)	34.41		1.71	0.21
307-55-1	Perfluorododecanoic acid (PFDoA)	35.37		1.71	0.30
72629-94-8	Perfluorotridecanoic acid (PFTriA)	35.81		1.71	0.21
376-06-7	Perfluorotetradecanoic acid (PFTeA)	36.45		1.71	0.38
375-73-5	Perfluorobutanesulfonic acid (PFBS)	40.48		1.71	0.38
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	46.77		1.71	0.22
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	37.44		1.71	0.70
335-77-3	Perfluorodecanesulfonic acid (PFDS)	29.18		1.71	0.45
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	60.25		1.71	0.65
754-91-6	Perfluorooctanesulfonamide (FOSA)	34.07		1.71	0.48
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	35.85		1.71	0.38
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	33.75		1.71	0.60
27619-97-2	6:2 FTS	28.47		1.71	0.85
39108-34-4	8:2 FTS	47.35		1.71	0.48

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Burlington</u>	Job No.: <u>200-44045-1</u>
SDG No.: _____	
Client Sample ID: <u>RXMW-4 MSD</u>	Lab Sample ID: <u>200-44045-2 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>PF062818A29.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>06/21/2018 09:35</u>
Extraction Method: <u>3535</u>	Date Extracted: <u>06/27/2018 09:42</u>
Sample wt/vol: <u>292.5 (mL)</u>	Date Analyzed: <u>06/29/2018 00:06</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>131275</u>	Units: <u>ng/L</u>

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	72		25-150
STL00992	13C4 PFBA	22		25-150
STL01893	13C5-PFPeA DNU	34		25-150
STL00993	13C2 PFHxA	47		25-150
STL01892	13C4 PFHpA	65		25-150
STL00990	13C4 PFOA	83		25-150
STL00995	13C5 PFNA	101		25-150
STL00996	13C2 PFDA	98		25-150
STL00997	13C2 PFUnA	103		25-150
STL00998	13C2 PFDoA	82		25-150
STL02116	13C2 PFTeDA	83		25-150
STL02337	13C3 PFBS	66		25-150
STL00994	18O2 PFHxS	80		25-150
STL00991	13C4 PFOS	92		25-150
STL02118	d3-NMeFOSAA	78		25-150
STL02117	d5-NEtFOSAA	93		25-150
STL02279	M2-6:2 FTS	261		25-150
STL02280	M2-8:2 FTS	184		25-150

TestAmerica Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d
 Lims ID: 200-44045-B-2-C MSD
 Client ID: RXMW-4
 Sample Type: MSD
 Inject. Date: 29-Jun-2018 00:06:11 ALS Bottle#: 0 Worklist Smp#: 29
 Injection Vol: 20.0 ul Dil. Factor: 1.0000
 Sample Info: 200-0031168-029 2 MSD
 Misc. Info.: PFAS21 062818A
 Operator ID: JWM Instrument ID: LC410
 Method: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PFCISO_12MRM.m
 Limit Group: LC_PFC_ICAL
 Last Update: 12-Jul-2018 13:05:47 Calib Date: 27-Jun-2018 12:12:18
 Integrator: Picker
 Quant Method: Isotopic Dilution Quant By: Initial Calibration
 Last ICal File: \\ChromNA\Burlington\ChromData\LC410\20180626-31127.b\PF062718A11.d
 Column 1 : Det: F1:MRM
 Process Host: XAWRK006

First Level Reviewer: murrayjw

Date: 02-Jul-2018 15:48:41

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	2.314	2.370	-0.056	1.000	60396	10.9		21.8	64.8	M
1 Perfluorobutyric acid										M
212.9 > 168.9	2.326	2.371	-0.045	1.005	53008	45.0		225	13.0	M
4 Perfluoropentanoic acid										M
262.9 > 218.8	2.750	2.801	-0.051	1.004	104167	33.6		168	22.3	M
D 3 13C5-PFPeA										
267.7 > 222.6	2.739	2.802	-0.063	1.000	36000	16.8		33.6	42.3	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.801	2.883	-0.082	1.000	92039	23.7		134	41.3	M
D 5 13C3-PFBS										
302.0 > 79.8	2.801	2.883	-0.082	1.000	119371	30.5		65.5	92.8	
8 Perfluorohexanoic acid										
312.8 > 268.6	3.164	3.250	-0.086	0.996	69923	32.5		162	95.8	
D 7 13C2 PFHxA										
314.8 > 269.6	3.177	3.265	-0.088	1.000	100536	23.3		46.5	625	
11 Perfluoroheptanoic acid										
362.9 > 318.8	3.715	3.804	-0.089	1.000	278664	32.4		162	219	
D 10 13C4-PFHpA										
366.9 > 321.8	3.715	3.843	-0.128	1.000	377760	32.4		64.7	933	
12 Perfluorohexanesulfonic acid										
399.0 > 80.0	3.759	3.848	-0.089	1.000	140145	27.4		150	343	
D 13 18O2 PFHxS										
402.9 > 83.8	3.759	3.889	-0.130	1.000	182180	38.1		80.5	2596	
15 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.355	4.449	-0.094	1.000	12903	16.7		87.8	110	
* 49 13C2-PFOA										
414.9 > 369.8	4.430	4.505	-0.075		520399	50.0			4661	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorooctanoic acid										
412.9 > 368.8	4.430	4.505	-0.075	1.000	536266	54.7		274	458	
D 14 M2-6:2FTS										
428.6 > 408.6	4.355	4.525	-0.170	1.000	33324	123.8		261	290	
18 Perfluoroheptanesulfonic acid										M
448.8 > 79.8	4.468	4.532	-0.064	0.853	71991	21.9		115	515	M
D 17 13C4 PFOA										
416.9 > 371.8	4.430	4.567	-0.137	1.000	395421	41.7		83.3	1630	
19 Perfluorononanoic acid										
462.8 > 418.8	5.222	5.304	-0.082	1.000	232827	21.7		109	756	
20 Perfluorooctane sulfonic acid										a
498.8 > 79.8	4.949	5.304	-0.355	0.945	144883	35.2		190	808	a
D 21 13C5 PFNA										
467.8 > 422.8	5.222	5.363	-0.141	1.000	518090	50.4		101	1768	
D 22 13C4 PFOS										
502.8 > 79.8	5.236	5.382	-0.146	1.000	155551	43.9		91.8	683	
24 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	5.998	6.046	-0.048	1.000	110247	27.7		145	618	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.022	6.070	-0.048	1.000	302198	21.0		105	1116	
D 23 M2-8:2FTS										
528.8 > 508.8	5.998	6.147	-0.149	1.000	265114	88.0		184	993	
D 25 13C2 PFDA										
514.9 > 469.5	6.022	6.186	-0.164	1.000	698782	48.8		97.6	7231	
28 N-methyl perfluorooctane sulfonami										
569.8 > 418.8	6.403	6.421	-0.018	1.003	67198	21.0		105	298	
D 27 d3-NMeFOSAA										
572.8 > 418.8	6.385	6.530	-0.145	1.000	132086	39.1		78.1	853	
31 Perfluorodecane Sulfonic acid										
598.8 > 79.8	6.790	6.804	-0.014	1.297	61828	17.1		88.6	777	
30 N-ethyl perfluorooctane sulfonamid										
583.9 > 418.8	6.776	6.804	-0.028	1.002	66641	19.7		98.7	1466	
32 Perfluoroundecanoic acid										
562.8 > 518.6	6.804	6.832	-0.028	1.000	269475	20.1		101	2545	
D 29 d5-NEtFOSAA										
588.9 > 418.8	6.762	6.903	-0.141	1.000	147440	46.3		92.6	932	
D 33 13C2 PFUnA										
564.8 > 519.8	6.804	6.942	-0.138	1.000	693057	51.5		103	4260	
34 Perfluorooctane Sulfonamide										M
497.8 > 77.8	7.079	7.057	0.022	1.003	83396	19.9		99.7	967	M
D 35 13C8 FOSA										
505.8 > 77.8	7.057	7.154	-0.097	1.000	197090	36.0		72.0	1869	
37 Perfluorododecanoic acid										
612.8 > 568.6	7.497	7.497	0.0	1.000	225353	20.7		103	1399	
D 36 13C2 PFDaA										
614.8 > 569.6	7.497	7.636	-0.139	1.000	555017	40.8		81.6	2134	
40 Perfluorotridecanoic acid										
662.8 > 618.6	8.112	8.112	0.0	1.082	227985	20.9		105	3140	

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d

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	8.651	8.666	-0.015	1.000	233680	21.3		107	979	
712.8 > 168.8	8.666	8.666	0.0	1.002	54156		4.31(0.00-0.00)		310	
712.8 > 218.8	8.636	8.666	-0.030	0.998	20498		11.40(0.00-0.00)		177	
D 43 13C2-PFTeDA										
714.8 > 669.6	8.651	8.805	-0.154	1.000	567293	41.5		83.0	1288	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

TestAmerica Burlington

Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d

Injection Date: 29-Jun-2018 00:06:11

Instrument ID: LC410

Lims ID: 200-44045-B-2-C MSD

Client ID: RXMW-4

Operator ID: JWM

ALS Bottle#: 0

Worklist Smp#: 29

Injection Vol: 20.0 ul

Dil. Factor: 1.0000

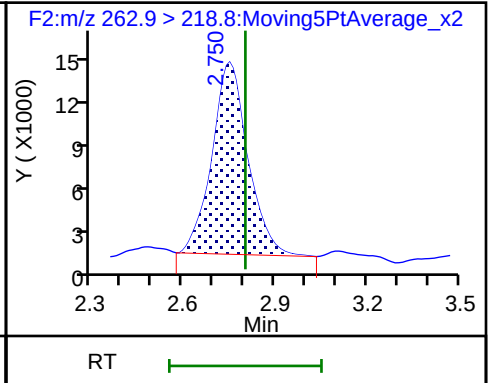
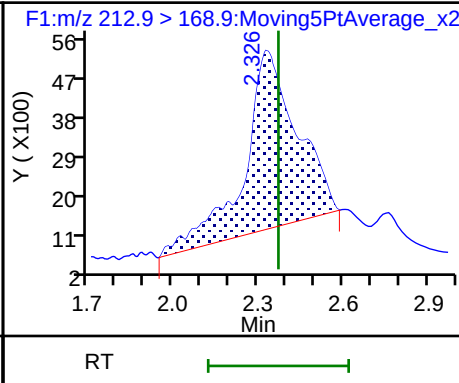
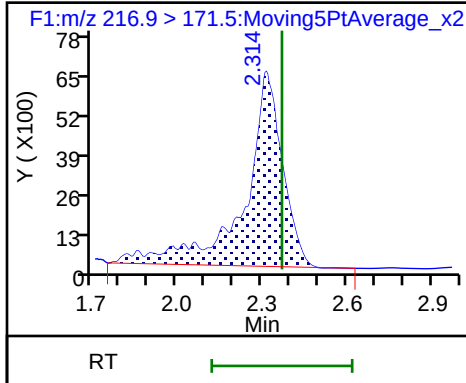
Method: PFCISO_12MRM

Limit Group: LC_PFC_ICAL

D 2 13C4 PFBA (M)

1 Perfluorobutyric acid (M)

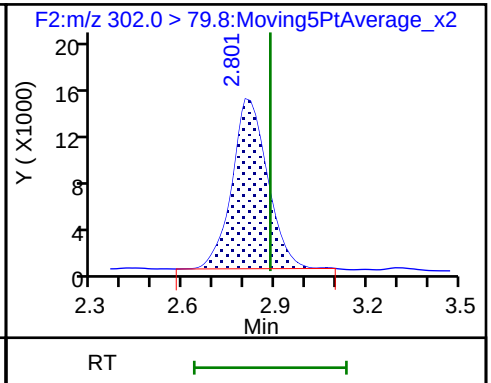
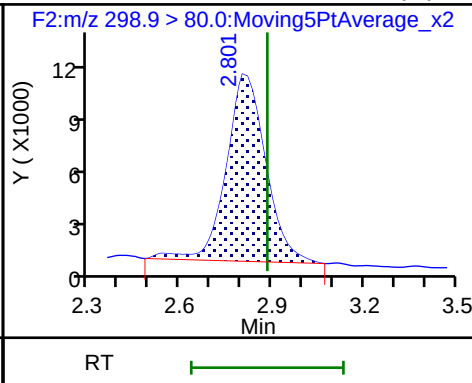
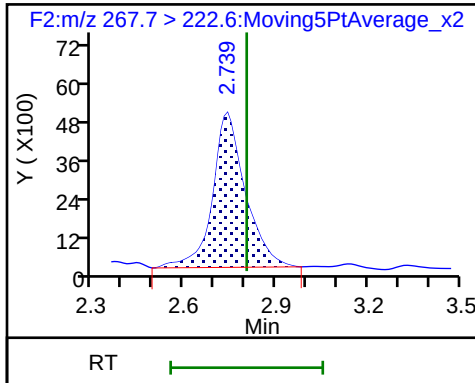
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

6 Perfluorobutanesulfonic acid (M)

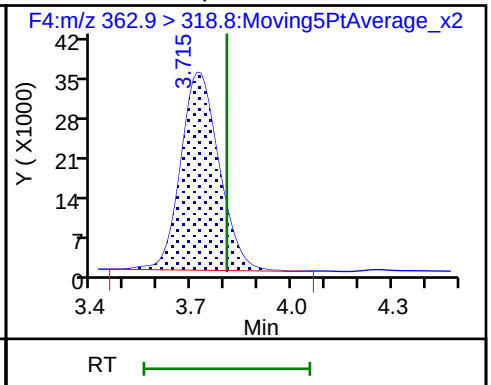
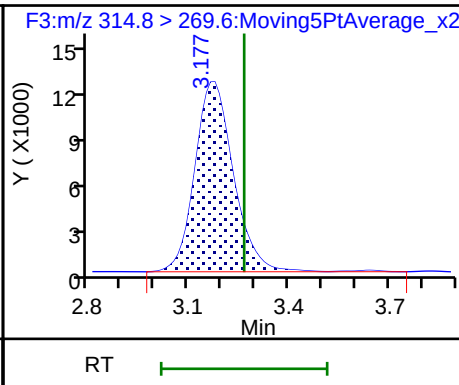
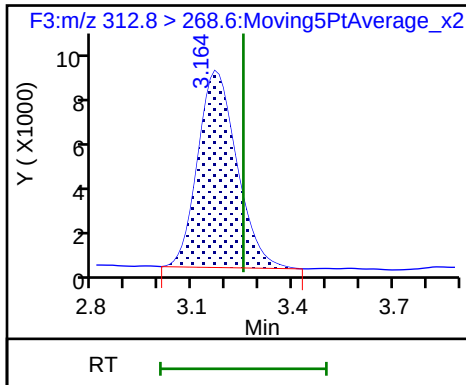
D 5 13C3-PFBS



8 Perfluorohexanoic acid

D 7 13C2 PFHxA

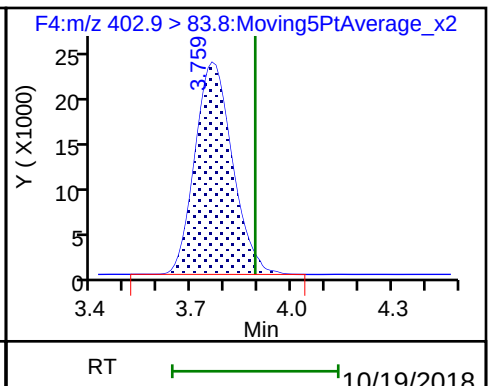
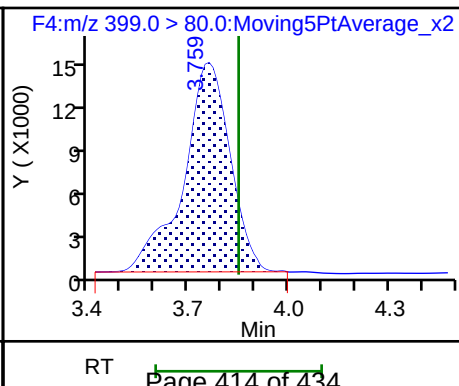
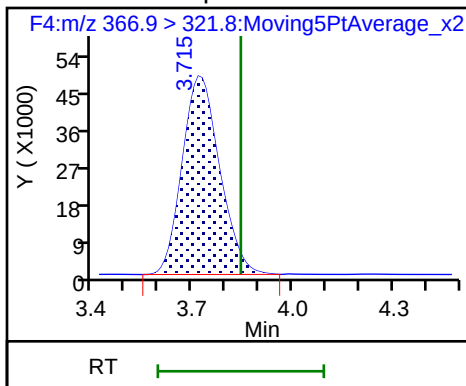
11 Perfluoroheptanoic acid



D 10 13C4-PFHpA

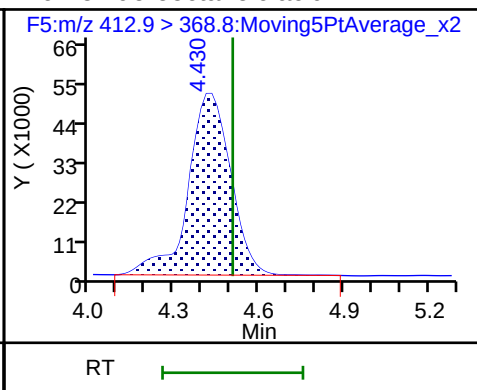
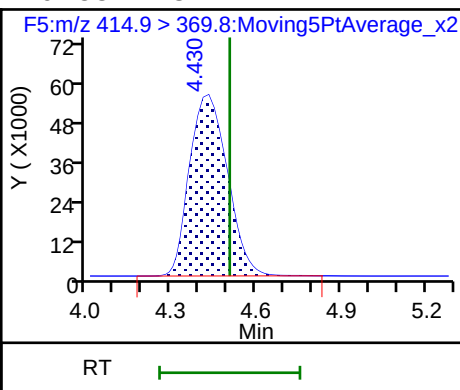
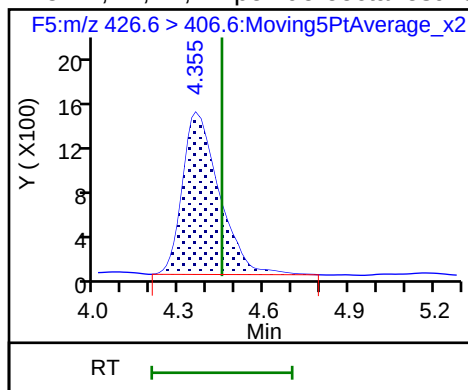
12 Perfluorohexanesulfonic acid

D 13 18O2 PFHxS



15 1H,1H,2H,2H-perfluorooctanesulfonate 49 13C2-PFOA

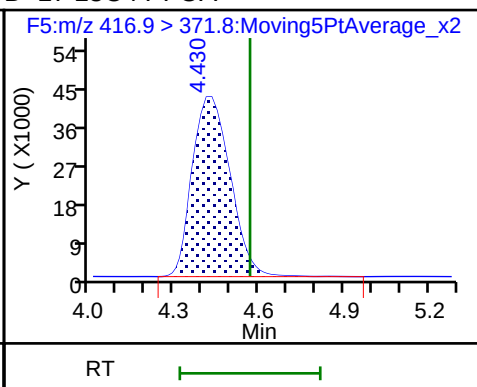
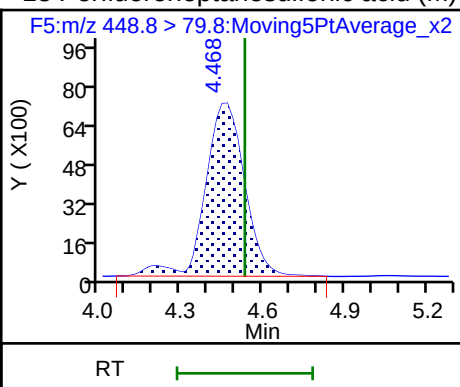
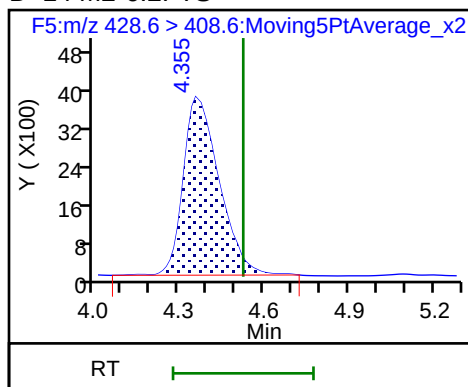
16 Perfluorooctanoic acid



D 14 M2-6:2FTS

18 Perfluoroheptanesulfonic acid (M)

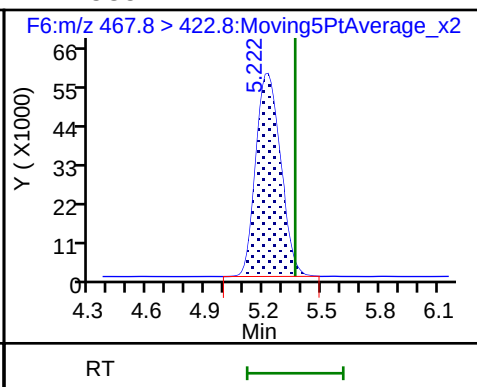
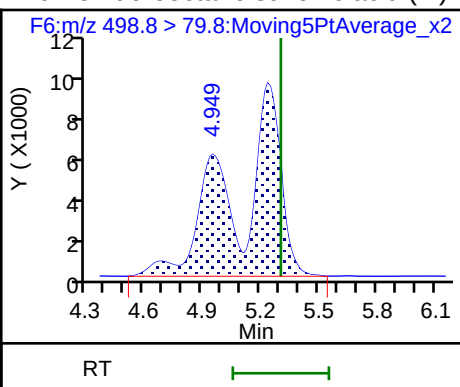
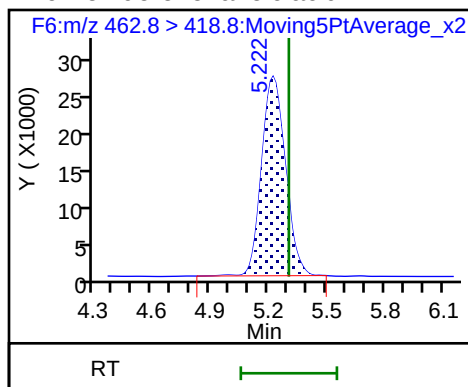
D 17 13C4 PFOA



19 Perfluorononanoic acid

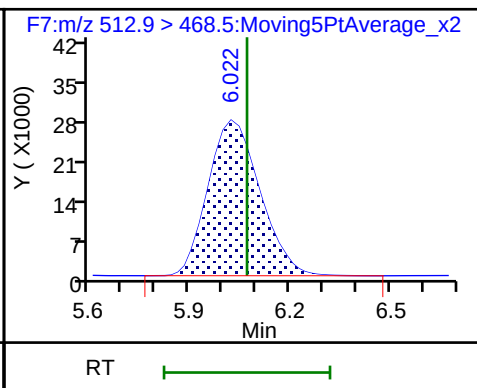
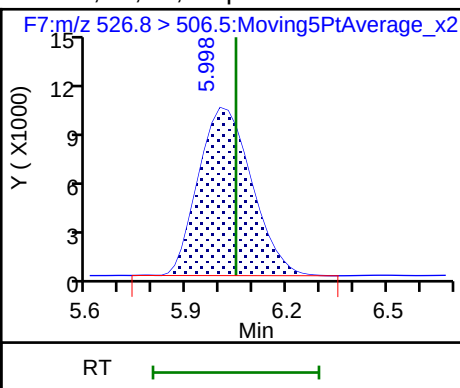
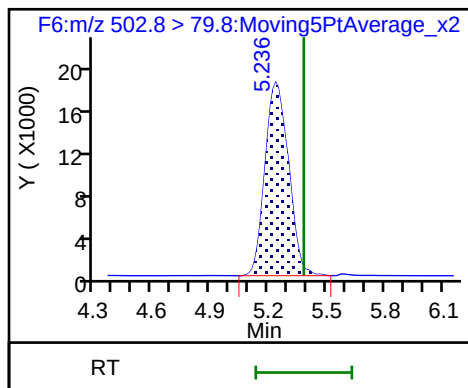
20 Perfluorooctane sulfonic acid (M)

D 21 13C5 PFNA



D 22 13C4 PFOS

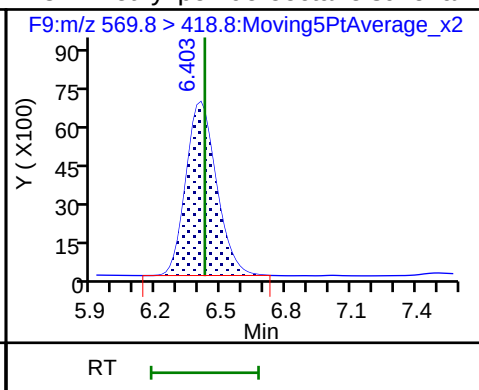
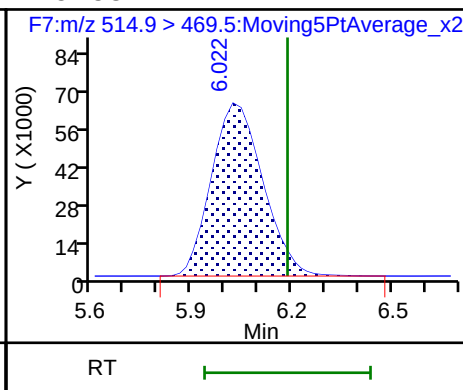
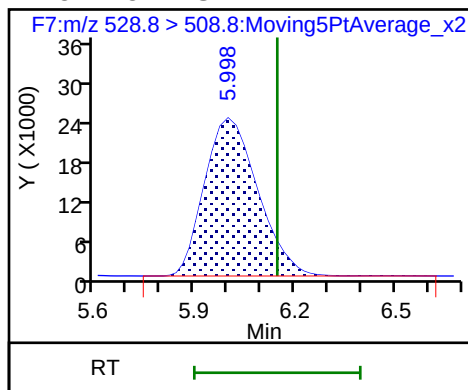
24 1H,1H,2H,2H-perfluorodecanesulfonate 26 Perfluorodecanoic acid



D 23 M2-8:2FTS

D 25 13C2 PFDA

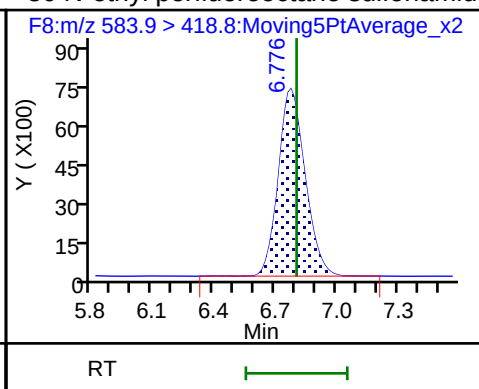
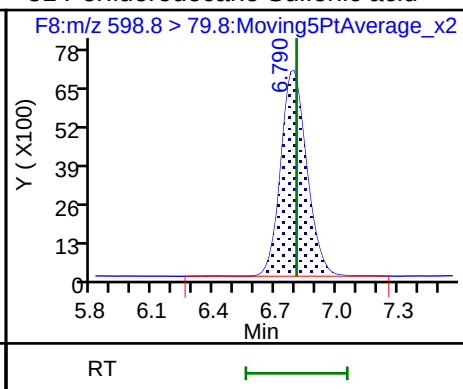
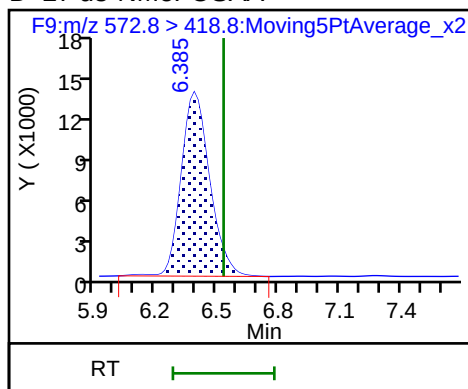
28 N-methyl perfluorooctane sulfonami



D 27 d3-NMeFOSAA

31 Perfluorodecane Sulfonic acid

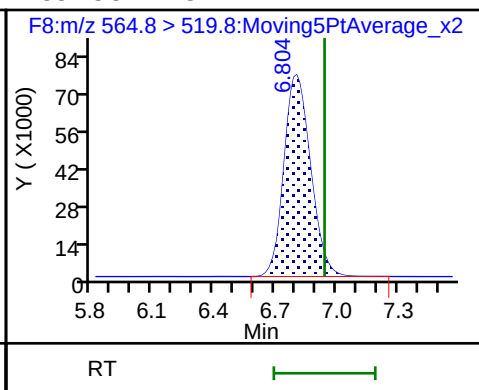
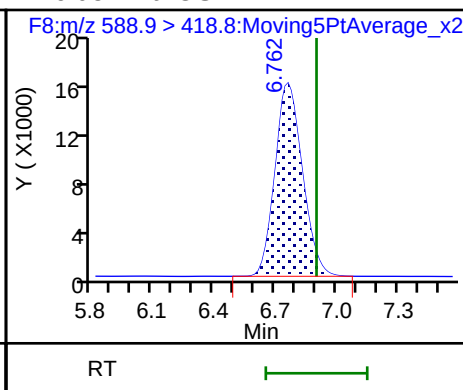
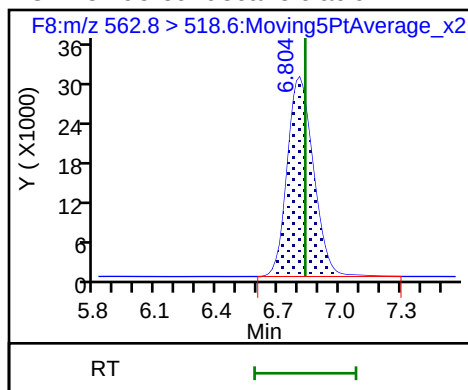
30 N-ethyl perfluorooctane sulfonamid



32 Perfluoroundecanoic acid

D 29 d5-NEtFOSAA

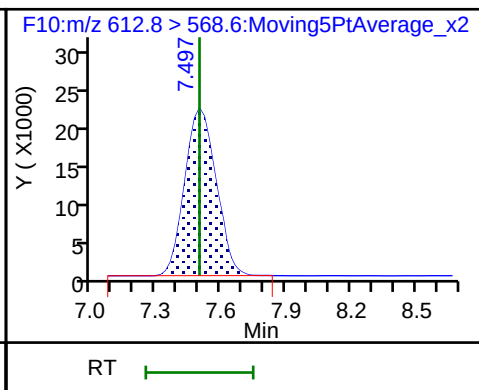
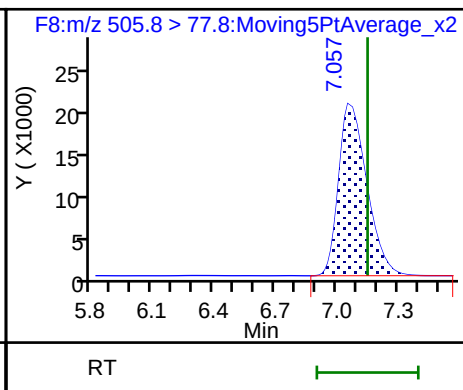
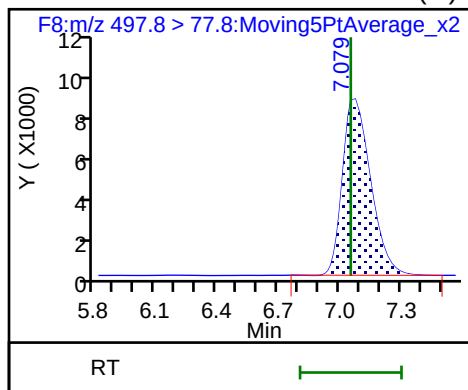
D 33 13C2 PFUnA



34 Perfluorooctane Sulfonamide (M)

D 35 13C8 FOSA

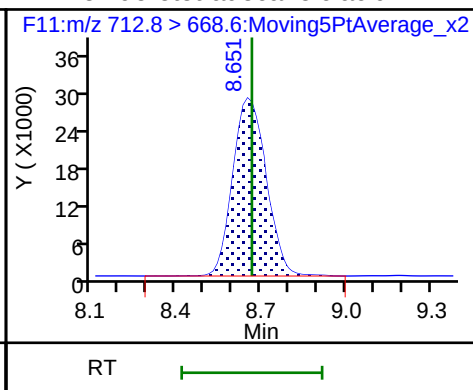
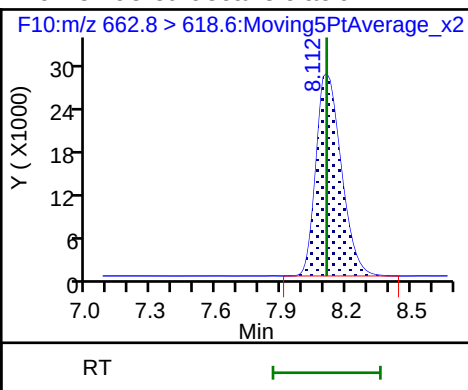
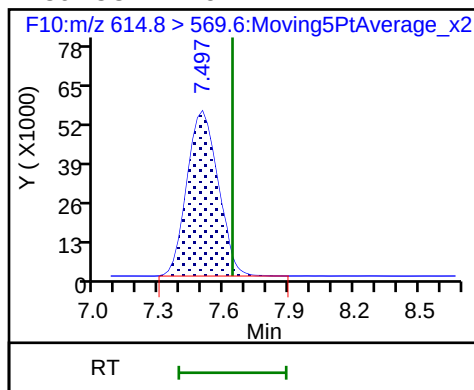
37 Perfluorododecanoic acid



D 36 13C2 PFDaA

40 Perfluorotridecanoic acid

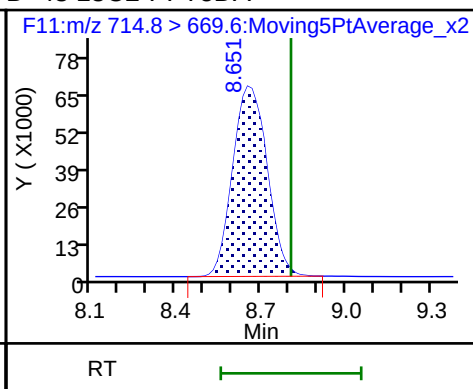
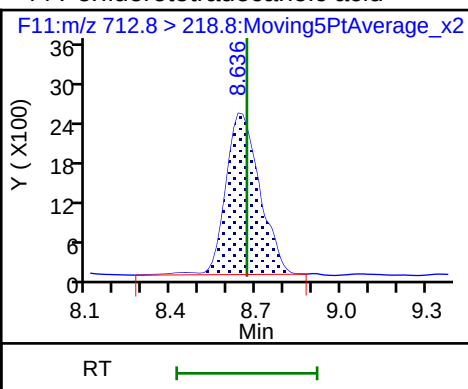
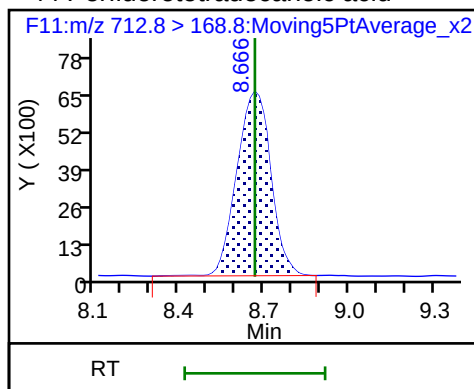
44 Perfluorotetradecanoic acid



44 Perfluorotetradecanoic acid

44 Perfluorotetradecanoic acid

D 43 13C2-PFTeDA



TestAmerica Burlington

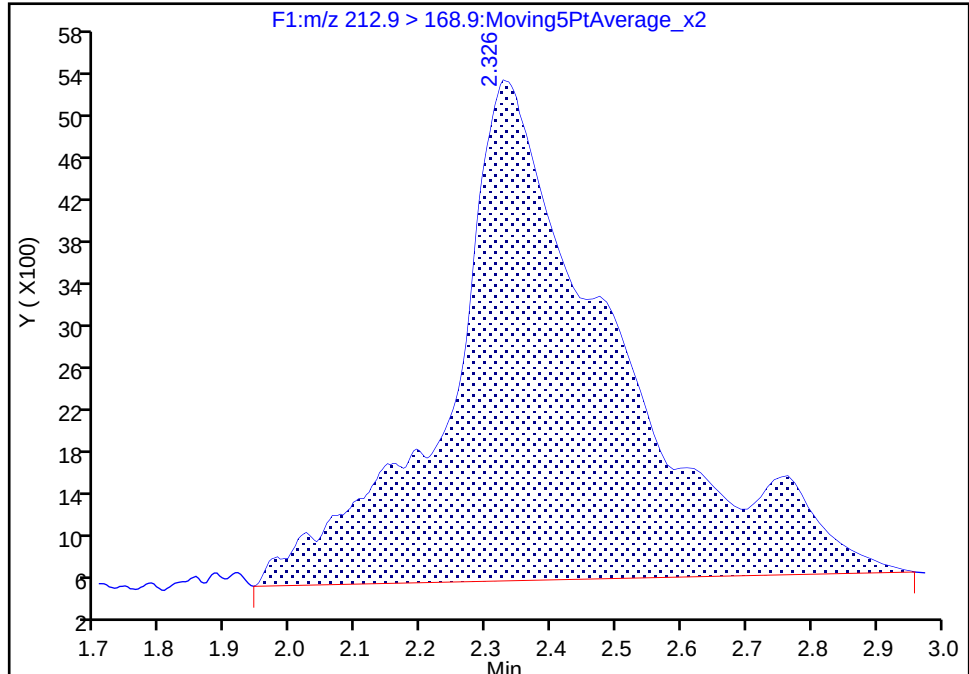
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Injection Date:	29-Jun-2018 00:06:11	Instrument ID:	LC410
Lims ID:	200-44045-B-2-C MSD		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F1:MRM
		Worklist Smp#:	29

1 Perfluorobutyric acid, CAS: 375-22-4

Signal: 1

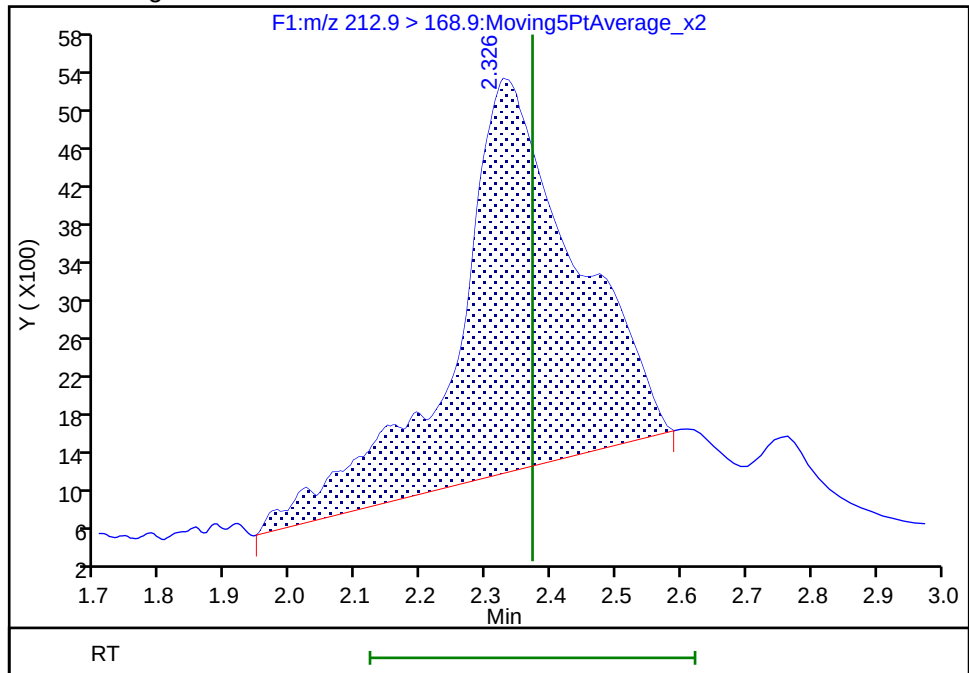
RT: 2.33
Area: 84950
Amount: 72.236123
Amount Units: ng/ml

Processing Integration Results



RT: 2.33
Area: 53008
Amount: 44.959176
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:47:59
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 418 of 434

10/19/2018

TestAmerica Burlington

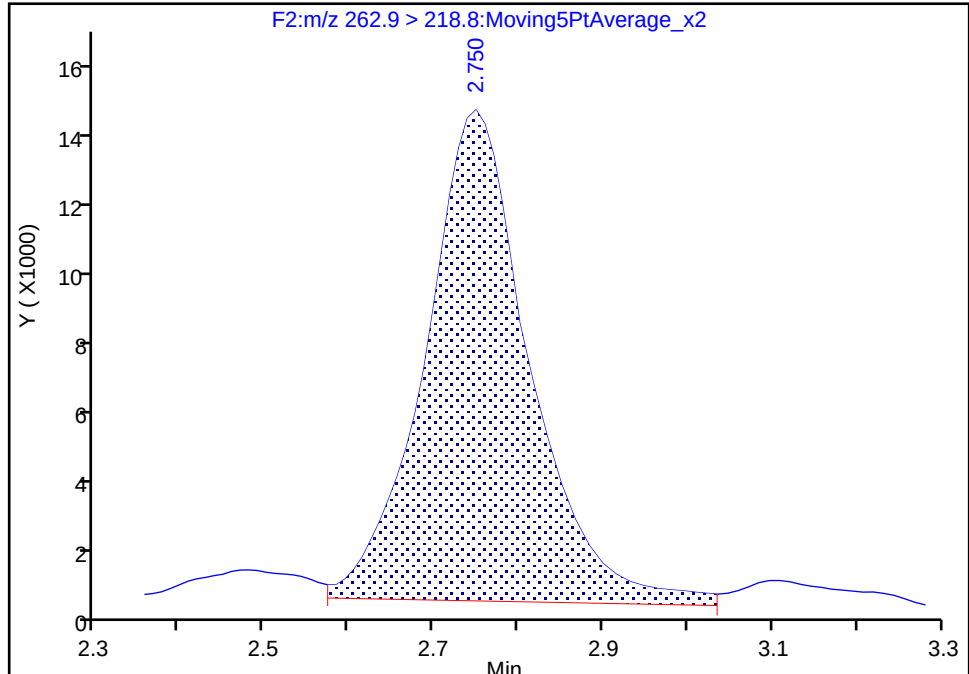
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d		
Injection Date:	29-Jun-2018 00:06:11	Instrument ID:	LC410
Lims ID:	200-44045-B-2-C MSD		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F2:MRM
		Worklist Smp#:	29

4 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

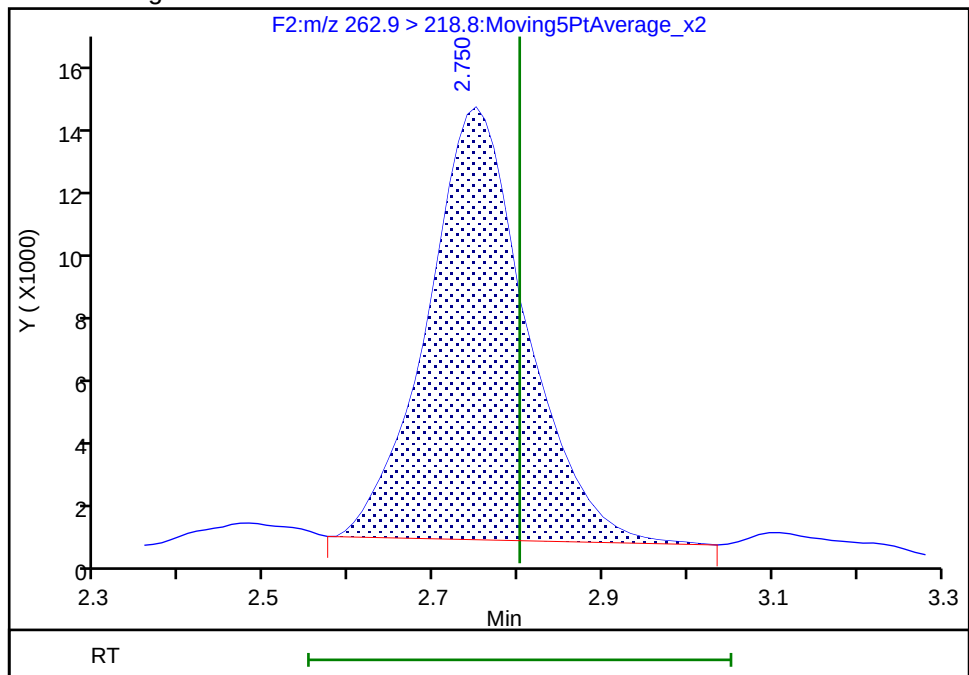
RT: 2.75
Area: 113278
Amount: 36.524735
Amount Units: ng/ml

Processing Integration Results



RT: 2.75
Area: 104167
Amount: 33.583566
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:48:07

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

TestAmerica Burlington

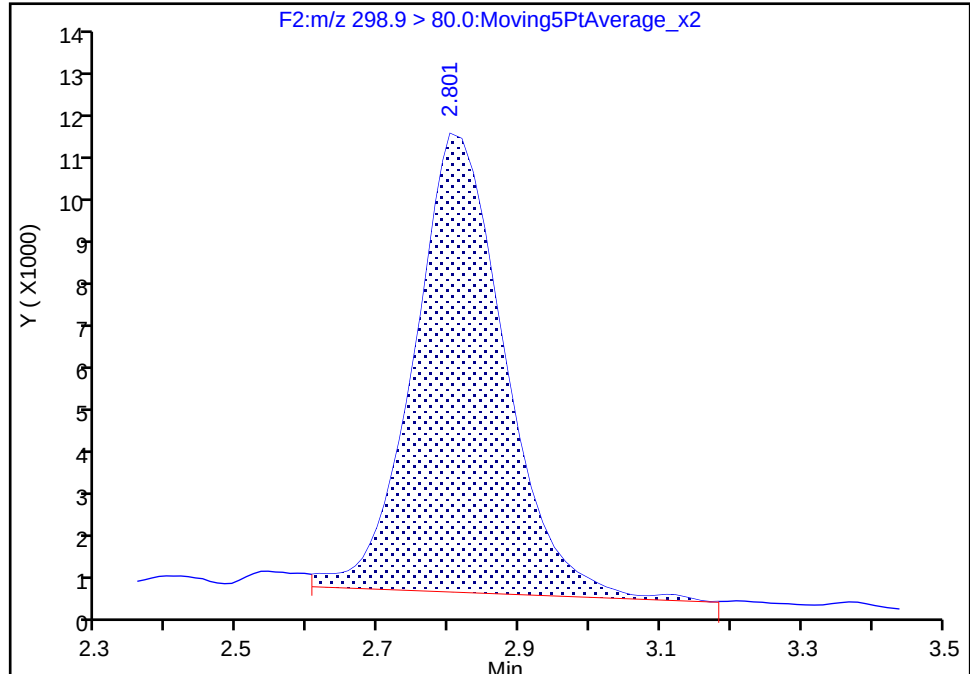
Data File: \\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d
Injection Date: 29-Jun-2018 00:06:11 Instrument ID: LC410
Lims ID: 200-44045-B-2-C MSD
Client ID: RXMW-4
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

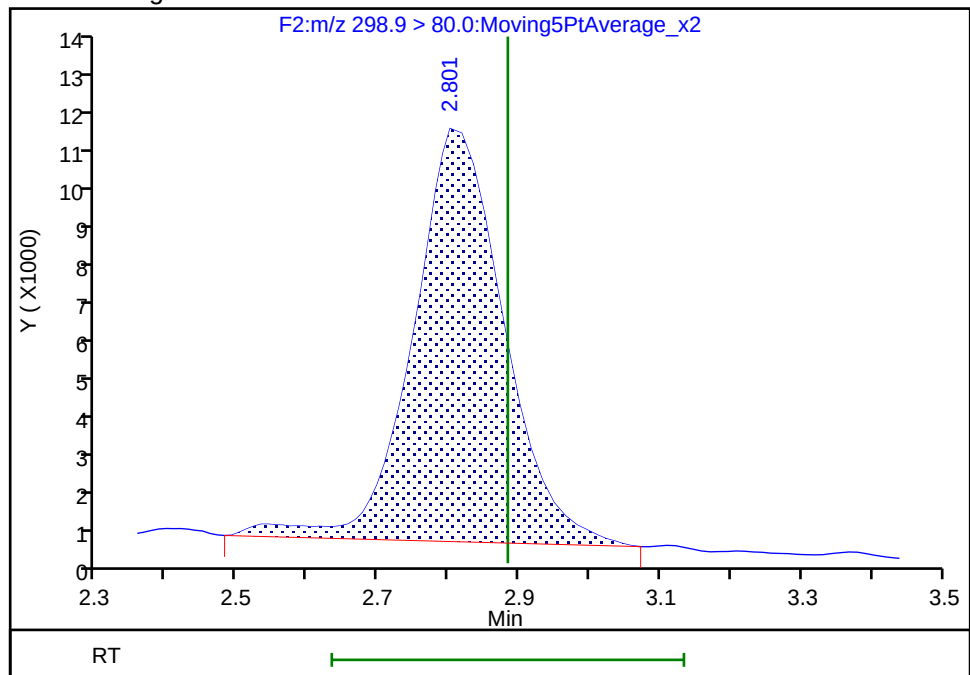
RT: 2.80
Area: 92024
Amount: 23.678758
Amount Units: ng/ml

Processing Integration Results



RT: 2.80
Area: 92039
Amount: 23.682601
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:48:14
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 420 of 434

10/19/2018

TestAmerica Burlington

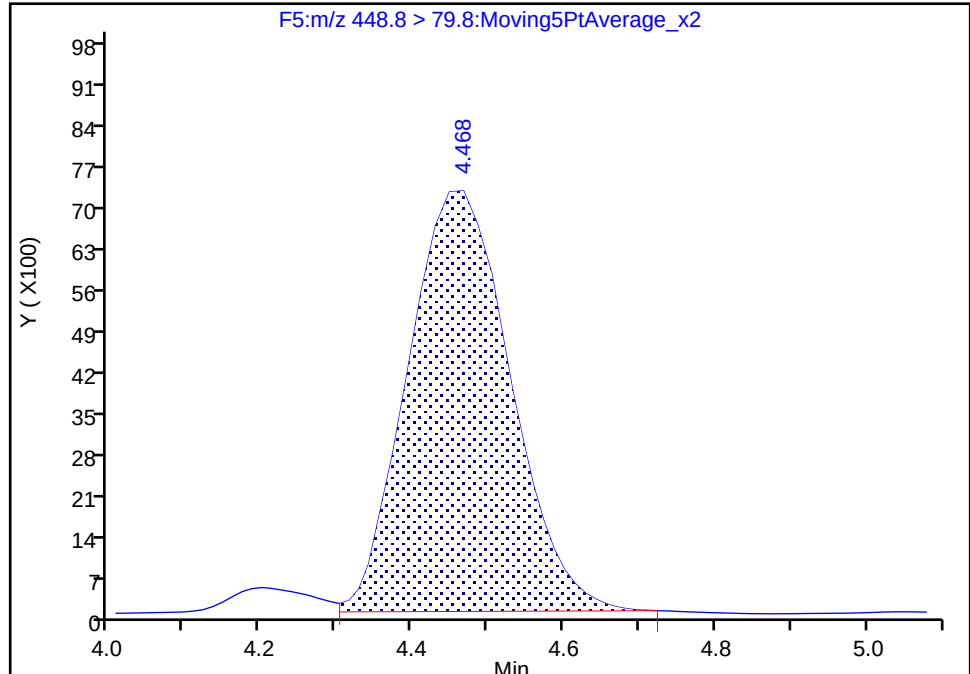
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d		
Injection Date:	29-Jun-2018 00:06:11	Instrument ID:	LC410
Lims ID:	200-44045-B-2-C MSD		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector	F5:MRM
		Worklist Smp#:	29

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

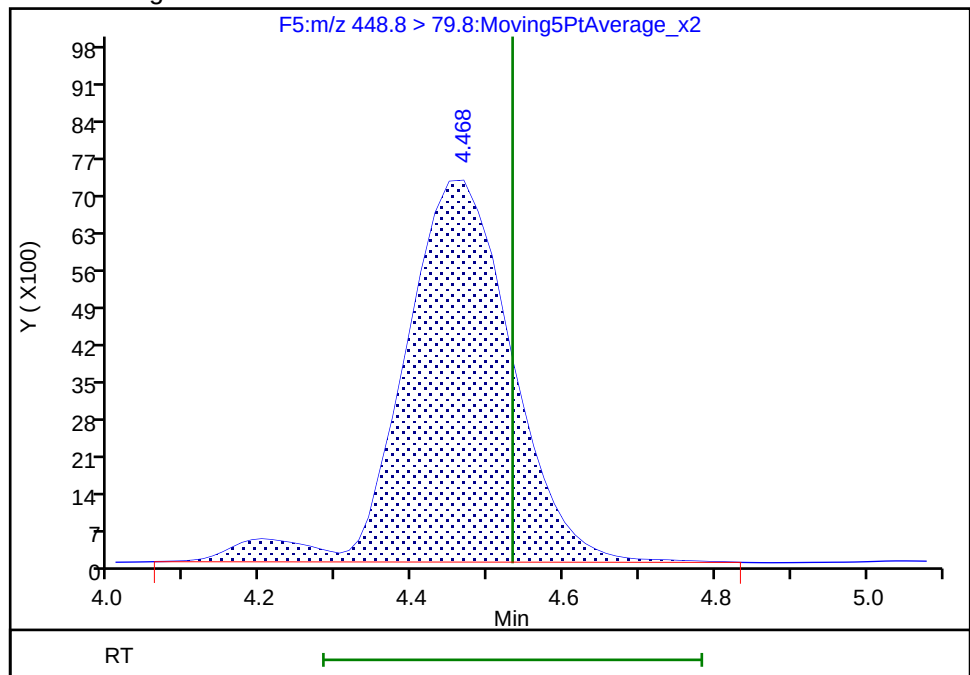
RT: 4.47
Area: 67836
Amount: 20.649247
Amount Units: ng/ml

Processing Integration Results



RT: 4.47
Area: 71991
Amount: 21.904443
Amount Units: ng/ml

Manual Integration Results



Reviewer: chirgwinb, 12-Jul-2018 12:59:56
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 421 of 434

10/19/2018

TestAmerica Burlington

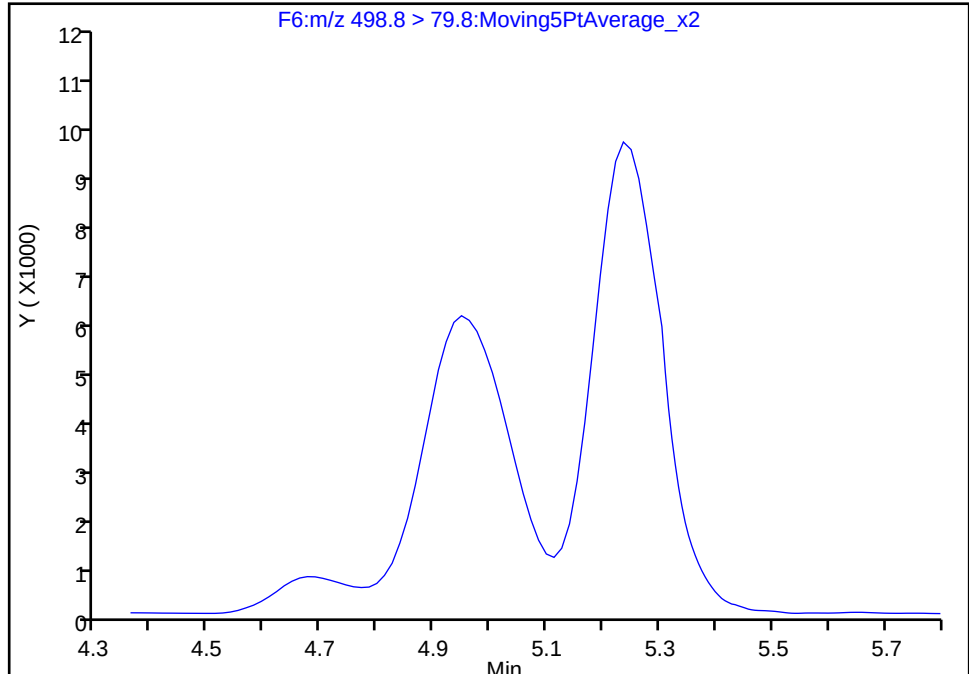
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Injection Date:	29-Jun-2018 00:06:11	Instrument ID:	LC410
Lims ID:	200-44045-B-2-C MSD		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F6:MRM
		Worklist Smp#:	29

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

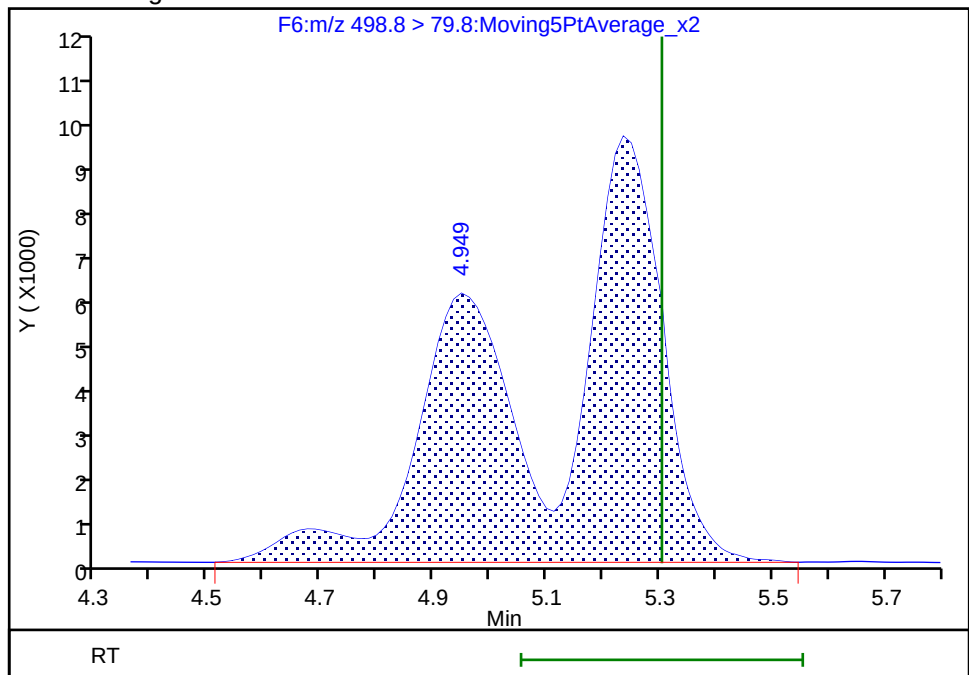
Signal: 1

Not Detected
Expected RT: 5.30

Processing Integration Results



Manual Integration Results



RT: 4.95
Area: 144883
Amount: 35.248466
Amount Units: ng/ml

TestAmerica Burlington

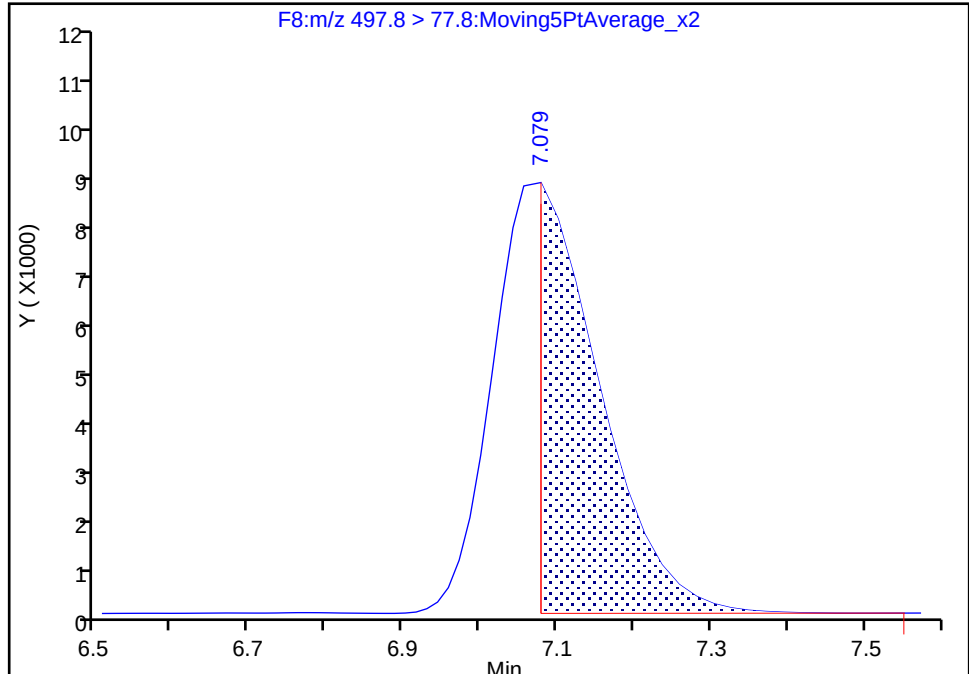
Data File:	\\ChromNA\Burlington\ChromData\LC410\20180628-31168.b\PF062818A29.d		
Injection Date:	29-Jun-2018 00:06:11	Instrument ID:	LC410
Lims ID:	200-44045-B-2-C MSD		
Client ID:	RXMW-4		
Operator ID:	JWM	ALS Bottle#:	0
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	PFCISO_12MRM	Limit Group:	LC_PFC_ICAL
Column:		Detector:	F8:MRM
		Worklist Smp#:	29

34 Perfluorooctane Sulfonamide, CAS: 754-91-6

Signal: 1

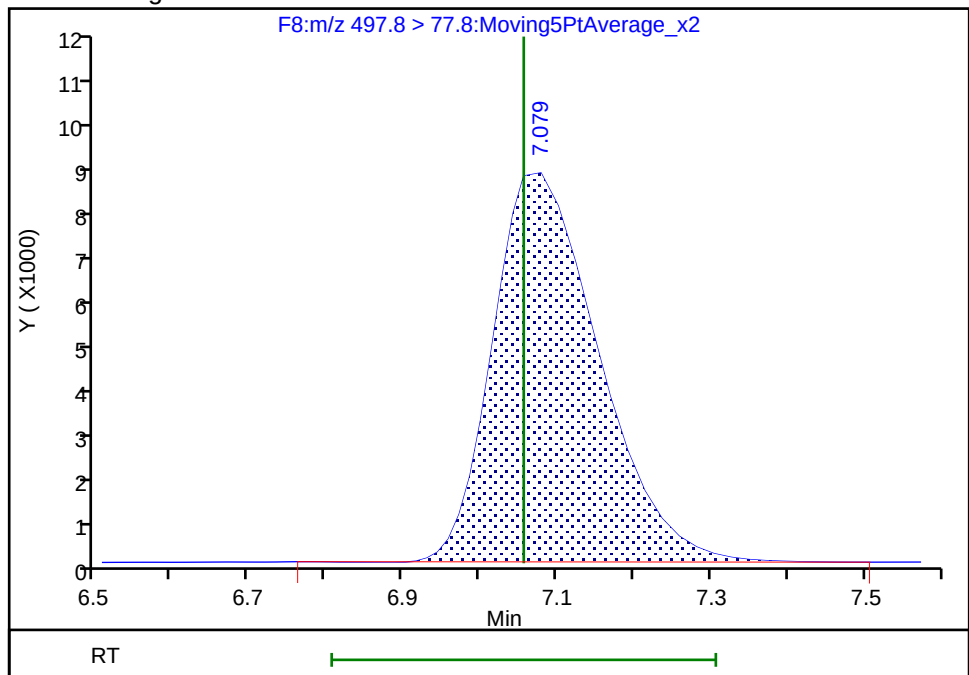
RT: 7.08
Area: 46479
Amount: 11.306021
Amount Units: ng/ml

Processing Integration Results



RT: 7.08
Area: 83396
Amount: 19.932750
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:48:36
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 423 of 434

10/19/2018

TestAmerica Burlington

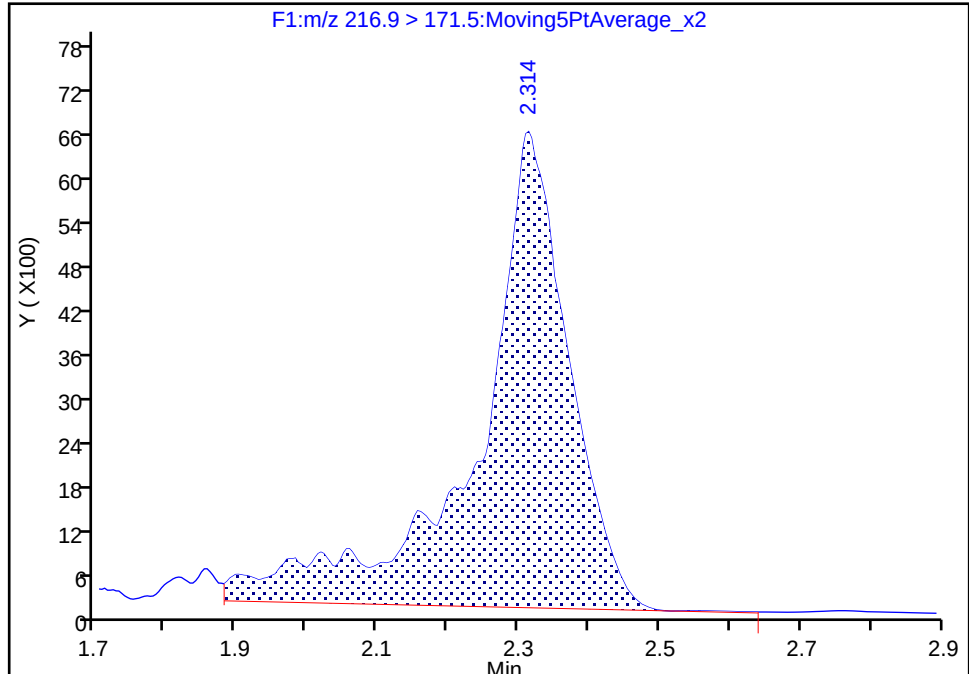
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Injection Date: 29-Jun-2018 00:06:11 Instrument ID: LC410
Lims ID: 200-44045-B-2-C MSD
Client ID: RXMW-4
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_12MRM Limit Group: LC_PFC_ICAL
Column: Detector F1:MRM

D 2 13C4 PFBA, CAS: STL00992

Signal: 1

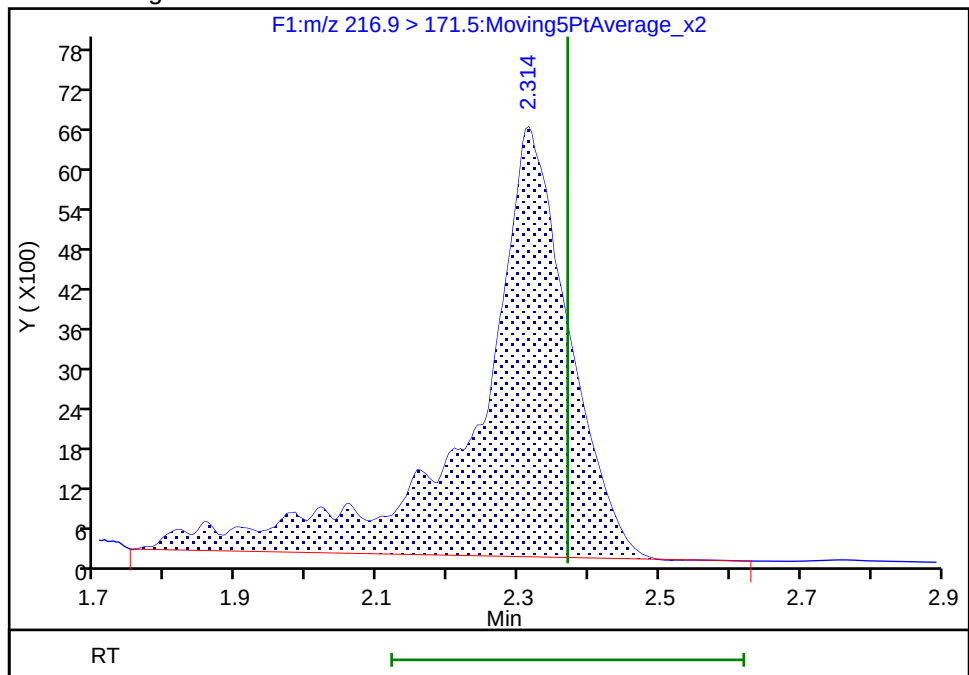
RT: 2.31
Area: 59057
Amount: 10.642537
Amount Units: ng/ml

Processing Integration Results



RT: 2.31
Area: 60396
Amount: 10.883835
Amount Units: ng/ml

Manual Integration Results



Reviewer: murrayjw, 02-Jul-2018 15:47:52

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-44045-1

SDG No.: _____

Instrument ID: LC410Start Date: 06/27/2018 09:22Analysis Batch Number: 131165End Date: 06/28/2018 16:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/27/2018 09:22	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 09:45	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 10:01	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 10:17	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 10:35	1		C-18 4.6 (mm)
IC 200-131165/6		06/27/2018 10:51	1	PF062718A06.d	C-18 4.6 (mm)
IC 200-131165/7		06/27/2018 11:07	1	PF062718A07.d	C-18 4.6 (mm)
IC 200-131165/8		06/27/2018 11:24	1	PF062718A08.d	C-18 4.6 (mm)
ICIS 200-131165/9		06/27/2018 11:40	1	PF062718A09.d	C-18 4.6 (mm)
IC 200-131165/10		06/27/2018 11:56	1	PF062718A10.d	C-18 4.6 (mm)
IC 200-131165/11		06/27/2018 12:12	1	PF062718A11.d	C-18 4.6 (mm)
ICB 200-131165/12		06/27/2018 12:28	1		C-18 4.6 (mm)
ICV 200-131165/13		06/27/2018 12:44	1	PF062718A13.d	C-18 4.6 (mm)
ZZZZZ		06/27/2018 13:00	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 13:16	100		C-18 4.6 (mm)
ZZZZZ		06/27/2018 13:32	10		C-18 4.6 (mm)
CCV 200-131165/17		06/27/2018 13:49	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 14:05	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 14:21	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 14:37	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 14:53	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 15:09	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 15:25	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 15:41	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 15:57	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 16:14	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 16:30	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 16:46	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 17:02	1		C-18 4.6 (mm)
CCV 200-131165/30		06/27/2018 17:18	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 17:34	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 17:50	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 18:06	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 18:23	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 18:39	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 18:55	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 19:11	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 19:27	1		C-18 4.6 (mm)
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ZZZZZ		06/27/2018 19:59	1		C-18 4.6 (mm)
CCV 200-131165/41		06/27/2018 20:15	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 20:31	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 20:48	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 21:04	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 21:20	1		C-18 4.6 (mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-44045-1

SDG No.: _____

Instrument ID: LC410Start Date: 06/27/2018 09:22Analysis Batch Number: 131165End Date: 06/28/2018 16:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/27/2018 21:36	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 21:52	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 22:08	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 22:24	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 22:40	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 22:56	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 23:13	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 23:29	1		C-18 4.6 (mm)
ZZZZZ		06/27/2018 23:45	1		C-18 4.6 (mm)
CCV 200-131165/55		06/28/2018 00:01	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 00:17	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 00:33	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 00:49	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 01:06	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 01:22	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 01:38	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 01:54	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 02:10	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 02:26	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 02:42	1		C-18 4.6 (mm)
CCV 200-131165/66		06/28/2018 02:58	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 03:14	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 03:31	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 03:47	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 04:03	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 04:19	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 04:35	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 04:51	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 05:07	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 05:23	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 05:40	1		C-18 4.6 (mm)
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ZZZZZ		06/28/2018 06:12	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 06:28	1		C-18 4.6 (mm)
CCV 200-131165/80		06/28/2018 06:44	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 07:00	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 07:16	1		C-18 4.6 (mm)
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ZZZZZ		06/28/2018 07:49	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 08:05	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 08:21	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 08:37	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 08:53	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 09:09	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 09:25	1		C-18 4.6 (mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-44045-1

SDG No.: _____

Instrument ID: LC410Start Date: 06/27/2018 09:22Analysis Batch Number: 131165End Date: 06/28/2018 16:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
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ZZZZZ		06/28/2018 10:30	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 10:46	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 11:02	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 11:18	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 11:35	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 11:51	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 12:07	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 12:23	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 12:39	1		C-18 4.6 (mm)
CCV 200-131165/103		06/28/2018 12:55	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 13:11	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 13:28	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 13:44	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 14:00	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 14:16	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 14:32	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 14:48	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 15:04	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 15:21	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 15:37	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 15:53	1		C-18 4.6 (mm)
CCV 200-131165/115		06/28/2018 16:09	1		C-18 4.6 (mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica BurlingtonJob No.: 200-44045-1

SDG No.: _____

Instrument ID: LC410Start Date: 06/28/2018 16:25Analysis Batch Number: 131275End Date: 06/29/2018 01:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/28/2018 16:25	1		C-18 4.6 (mm)
CCVIS 200-131275/2		06/28/2018 16:48	1	PF062818A02.d	C-18 4.6 (mm)
CCVL 200-131275/3		06/28/2018 17:05	1	PF062818A03.d	C-18 4.6 (mm)
ZZZZZ		06/28/2018 17:21	1		C-18 4.6 (mm)
200-42865-A-9-C MDLV		06/28/2018 17:37	1		C-18 4.6 (mm)
200-42865-A-10-J MDLV		06/28/2018 17:53	1		C-18 4.6 (mm)
200-42865-A-9-E MDLV		06/28/2018 18:09	1		C-18 4.6 (mm)
200-42865-A-10-I MDLV		06/28/2018 18:25	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 18:42	60		C-18 4.6 (mm)
CCV 200-131275/10		06/28/2018 18:58	1	PF062818A10.d	C-18 4.6 (mm)
MB 200-131185/1-A		06/28/2018 19:14	1	PF062818A11.d	C-18 4.6 (mm)
LCS 200-131185/2-A		06/28/2018 19:30	1	PF062818A12.d	C-18 4.6 (mm)
ZZZZZ		06/28/2018 19:46	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 20:03	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 20:19	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 20:35	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 20:51	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 21:07	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 21:23	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 21:40	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 21:56	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 22:12	1		C-18 4.6 (mm)
CCV 200-131275/23		06/28/2018 22:28	1	PF062818A23.d	C-18 4.6 (mm)
ZZZZZ		06/28/2018 22:45	1		C-18 4.6 (mm)
ZZZZZ		06/28/2018 23:01	1		C-18 4.6 (mm)
200-44045-1		06/28/2018 23:17	1	PF062818A26.d	C-18 4.6 (mm)
200-44045-2		06/28/2018 23:33	1	PF062818A27.d	C-18 4.6 (mm)
200-44045-2 MS		06/28/2018 23:49	1	PF062818A28.d	C-18 4.6 (mm)
200-44045-2 MSD		06/29/2018 00:06	1	PF062818A29.d	C-18 4.6 (mm)
200-44045-3		06/29/2018 00:22	1	PF062818A30.d	C-18 4.6 (mm)
200-44045-4		06/29/2018 00:38	1	PF062818A31.d	C-18 4.6 (mm)
200-44045-5		06/29/2018 00:54	1	PF062818A32.d	C-18 4.6 (mm)
CCV 200-131275/33		06/29/2018 01:11	1	PF062818A33.d	C-18 4.6 (mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Burlington Job No.: 200-44045-1

SDG No.: _____

Batch Number: 131185 Batch Start Date: 06/27/18 09:30 Batch Analyst: Murray, John WBatch Method: 3535 Batch End Date: 06/27/18 12:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFCIDA21 00002	LCPFC 21SP 00001
MB 200-131185/1		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	0.025 mL	
LCS 200-131185/2		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	0.025 mL	0.01 mL
200-44045-B-1	RXMW-2	3535, 537 (modified)	T	321.09 g	29.17 g	291.9 mL	0.5 mL	0.025 mL	
200-44045-B-2	RXMW-4	3535, 537 (modified)	T	314.98 g	27.84 g	287.1 mL	0.5 mL	0.025 mL	
200-44045-B-2 MS	RXMW-4	3535, 537 (modified)	T	321.65 g	29.27 g	292.4 mL	0.5 mL	0.025 mL	0.01 mL
200-44045-B-2 MSD	RXMW-4	3535, 537 (modified)	T	320.00 g	27.51 g	292.5 mL	0.5 mL	0.025 mL	0.01 mL
200-44045-B-3	RXMW-7	3535, 537 (modified)	T	336.28 g	27.38 g	308.9 mL	0.5 mL	0.025 mL	
200-44045-B-4	DUP062118	3535, 537 (modified)	T	329.22 g	29.17 g	300.1 mL	0.5 mL	0.025 mL	
200-44045-B-5	FB062118	3535, 537 (modified)	T	329.07 g	27.15 g	301.9 mL	0.5 mL	0.025 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00003	AnalysisComment				
MB 200-131185/1		3535, 537 (modified)		0.005 mL					
LCS 200-131185/2		3535, 537 (modified)		0.005 mL					
200-44045-B-1	RXMW-2	3535, 537 (modified)	T	0.005 mL					
200-44045-B-2	RXMW-4	3535, 537 (modified)	T	0.005 mL					
200-44045-B-2 MS	RXMW-4	3535, 537 (modified)	T	0.005 mL					
200-44045-B-2 MSD	RXMW-4	3535, 537 (modified)	T	0.005 mL					
200-44045-B-3	RXMW-7	3535, 537 (modified)	T	0.005 mL	112.63 mL of sample not extracted due to sample matrix				
200-44045-B-4	DUP062118	3535, 537 (modified)	T	0.005 mL					
200-44045-B-5	FB062118	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)

Page 1 of 2

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Burlington Job No.: 200-44045-1

SDG No.: _____

Batch Number: 131185 Batch Start Date: 06/27/18 09:30 Batch Analyst: Murray, John WBatch Method: 3535 Batch End Date: 06/27/18 12:30

Batch Notes	
Balance ID	M02926
First End time	1230
H2O ID	050918H
Hexane ID	1162618
Manifold ID	IDA 1, IDA 2
Methanol ID	198321
Pipette ID	V05476
Analyst ID - Reagent Drop	BC
Analyst ID - SU Reagent Drop	BC
Analyst ID - SU Reagent Drop Witness	JWM
Solvent Lot #	1162619
Solvent Name	0.3% NH4OH in MeOH
SOP Number	BR-LC-009r1
SPE Cartridge Type	Waters Oasis WAX 500mg Lot 003837354A
First Start time	0930

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

TestAmerica Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403
Phone (802) 660-1990

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Jeff Willis Company: Roux Environmental Eng & Geology DPC Address: 209 Shaffer St City: Islandia State, Zip: NY, 11749 Phone: 631-232-2600 Email: jwillis@rouxinc.com Project Name: The Peninsula Site: 1221 Spotted Ave, Bronx NY		Sampler: Rachel Miller Lab PM: Haas, Melissa Phone: 631-834-1458 E-Mail: melissa.haas@testamericainc.com		Carrier Tracking No(s): COC No: 460-99356-63314.1 Page: 3 of 3 Job #:					
Due Date Requested: TAT Requested (days): 10 days PO #: 2611.0002Y000 WO #: 46025992 Project #: 46025992 SSOW#:		Analysis Requested Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)							
Sample Identification RXMW-2 RXMW-4 RXMW-7 DUPO62118 FB062118		Sample Date 6/22/18 6/21/18 6/21/18 6/21/18 6/21/18	Sample Time 1405 935 1210 945 1500	Sample Type (C=Comp, G=grab) comp comp comp comp comp	Matrix (W=water, S=solid, O=soil, BT=Soil, A=Air) Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) N N N N N N N	PFC, IDA - PFA, Standard List (21 Analytes) N N N N N N N	Total Number of Containers 2 6 2 2 2 2 2 2	Special Instructions/Note: 200-44045 COC
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify) Cat B									
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:									
Empty Kit Relinquished by:									
Relinquished by: Rachel Miller Date/Time: 6/22/18 1525 Company: Roux									
Relinquished by: [Signature] Date/Time: 6/22/18 1700 Company: TA									
Relinquished by: [Signature] Date/Time: 6/25/18 1800 Company: TA									
Custody Seal Intact: Yes ☒ No ☐ Custody Seal No.: N/A									
Relinquished by: [Signature] Date/Time: 6/22/18 1530 Company: TA									
Relinquished by: [Signature] Date/Time: 6/22/18 1700 Company: TA									
Relinquished by: [Signature] Date/Time: 6/26/18 1005 Company: TA									
Cooler Temperature(s) °C and Other Remarks: 1.2									

10/19/2018

Login Sample Receipt Checklist

Client: Roux Environmental Eng & Geology DPC

Job Number: 200-44045-1

Login Number: 44045

List Source: TestAmerica Burlington

List Number: 1

Creator: Hahl, Victoria L

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	1.2°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	Rachel Miller
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.

Remedial Investigation Report
1221 Spofford Avenue, Bronx, New York

APPENDIX F

Data Usability Summary Report (*Provided in CD in bound copy*)

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

July 25, 2018

Jeffrey Wills
Roux Environmental Engineering and Geology, D. P. C.
209 Shafter St.
Islandia, NY 11747

RE: Validation of the The Peninsula, 1221 Spofford Avenue, Bronz, NY Analytical Data
TestAmerica SDG Nos. 200-43705, 200-43710, 200-44030, 200-44045, 460-154594-2,
460-156801, 460-156902, 460-158396, 460-158869, 460-158870, and 460-158993

Data Usability Summary Report (DUSR)

Dear Mr. Wills:

Review has been completed for the data packages generated by TestAmerica Laboratories that pertain to samples collected between 04/23/18 and 06/22/18 at the The Peninsula, 1221 Spofford Avenue site. Thirty six soil samples, fourteen aqueous samples, three field duplicates, and an aqueous field duplicate were processed for TCL volatiles, TCL semivolatiles, TCL pesticides, Aroclor PCBs, TCL herbicides, TAL metals, total cyanide, and hexavalent chromium. Fifteen soil samples were processed for TAL metals, and two soil samples were processed for TCL pesticides. All of the aqueous samples were also processed for filtered (dissolved) metals. Three of the aqueous samples were also processed for per- and polyfluoroalkyl substances (PFAS) by a modified USEPA method 537 and 1,4-dioxane by USEPA method 8270 SIM. An aqueous field duplicate was also processed for PFAS. Thirteen 6 L canister air samples were processed for volatiles by USEPA method TO-15. Analytical methodologies utilized other than those listed above are USEPA SW846.

The data packages submitted by the laboratory contain full deliverables for validation, and this usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents, and in consideration for the specific requirements of the analytical methodology.

The following items were reviewed:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Surrogate and Internal Standard Recoveries
- * Isotopic Standard Recoveries
- * Method/ Preparation Blanks

- * Matrix Spike Recoveries/Duplicate Correlations
- * Blind Field Duplicate Correlations
- * Laboratory Control Sample (LCS)
- * Instrumental Tunes
- * Initial and Continuing Calibration Standards
- * ICP Serial Dilution Evaluation
- * Method Compliance
- * Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review, as discussed in NYS DER-10 Appendix B Section 2.0 (c). Documentation of the outlying parameters cited in this report can be found in the laboratory data package.

In summary, results for the samples are usable either as reported or with minor qualification or edit, with the following exceptions, results for which are rejected and not usable:

- The volatile results for RXSB-17_0-2 are rejected due to an improper sealing of the Encore container. Although rejected, it is noted that the volatile data of the field duplicate of this sample is acceptable, and represents the constituency at that location.
- One volatile analyte result in one sample is rejected due to an apparent matrix effect
- Results for one semivolatile analyte in eight samples are rejected due to processing
- Results for three semivolatile analytes in one sample and one semivolatile analyte in each of two others are rejected due to apparent matrix effects
- The hexavalent chromium result in one sample is rejected due to delayed request for processing

Data completeness, accuracy, precision, representativeness, reproducibility, sensitivity, and comparability are acceptable.

Validation qualifier definitions and the client sample identification summaries are attached to this text. Also included in this report are client EDDs with recommended qualifiers and edits applied in red.

Chain-of-Custody/Sample Receipt

The requests for the analysis of herbicides, TAL metals, dissolved metals, total cyanide, and hexavalent chromium in MW-2 were made nine days after collection. Therefore, the analyses for herbicides and hexavalent chromium (Cr+6) were performed beyond the allowable holding times. The result for Cr+6 in that sample is therefore rejected, and the results for the herbicides are qualified as estimated in the sample.

The sample reported as RXSB-3AE_4-6 in SDG 460-156801 was received with no label, and identified at sample receipt by process of elimination.

The custody form for the samples reported in SDG 200-43705 does not show the final receipt entries. The date and time entries were not present on the custody forms for samples reported in SDGs 200-43710 and 460-158396.

A transcription error was made on the collection date for samples collected 06/22/18.

Strikeovers should have been dated and initialed.

The identification of the sample reported as RXSB-11_0-2 SDG 460-156801 was corrected to be RXSB-17_0-2 after data package and EDD generation.

Blind Field Duplicate

The blind field duplicate evaluations of RXMW-4, RXSB-14_0-2, RXSB-17_0-2, and RXMW-7-12-14 how correlations within validation guidelines, with the following exceptions, results for which are qualified as estimated in the parent sample and its duplicate:

- benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene in RXSB-14_0-2
- aluminum, copper, lead, iron, and vanadium in the total fraction of RXMW-4

TCL Volatile Analyses by EPA 8260C

The volatile results for RXSB-17_0-2 are rejected due to an improper sealing of the Encore container. Although rejected, it is noted that the volatile data of the field duplicate of this sample is acceptable, and represents the constituency at that location.

Due to presence in the associated blanks, the detected results for the following analytes are considered external contamination, and have been edited to reflect non-detection:

- Acetone and methylene chloride in the soil and aqueous project samples
- 2-Butanone in RXMW-8_1-3

The matrix spike/matrix spike duplicate evaluations were performed on RXMW-6 (9-11), RXTGW-12_4-6, RXMW-1_0-2, and RXMW-4. 1,1,2,2-Tetrachloroethane failed to recover in the matrix spikes of RXMW-1_0-2, and that result in that parent sample has therefore been rejected and is not usable. The other recoveries and correlations are within the ranges and limits used by the laboratory with the following exceptions, results for which are qualified as estimated in the indicated parent sample:

<u>Parent Sample</u>	<u>Analyte</u>	<u>Outlying % Recoveries</u>	<u>Outlying %RPD</u>
RXMW-6 (9-11)	1,2,3-trichlorobenzene	74	37
	1,4-dichlorobenzene	77	31
	dichlorodifluorobenzene	61,66	
RXTGW-12_4-6	1,4-dichlorobenzene	77,69	
RXMW-1_0-2	1,2,3-trichlorobenzene	34,37	
	1,2,4-trichlorobenzene	35,39	
	1,2-dichlorobenzene	57,59	
	1,3-dichlorobenzene	56,58	
	1,4-dichlorobenzene	50,53	
	chlorobenzene	69,71	
	chlorodibromomethane	64,66	
	methyl acetate	14,56	108
	m-xylene & p-xylene	77,76	
	o-xylene	76,77	
	styrene	61,64	

The following results are qualified as estimated due to outlying recoveries/correlations in the associated LCSs:

<u>Affected Samples</u>	<u>Analyte</u>	<u>Outlying % Recoveries</u>	<u>Outlying %RPD</u>
Nineteen samples reported in SDG 460-154594	dichlorodifluoromethane	55 to 68	
FB062118	bromoform	51,52	
	chlorodibromomethane	67,68	

Calibration standards showed acceptable responses, with the following exceptions, results for which are qualified as estimated in the indicated associated samples:

- Bromomethane (33%D to 38%D) in RXMW-2, RXMW-3, RXMW-8, and RXMW-9, and in the trip blanks reported in SDGs 460-154595 and 460-154594-2
- Vinyl chloride (26%D) in samples RXMW-4(13-15), and RXSB-15(6-8)
- Dichlorodifluoromethane (42%D to 44%D) in samples RXSB-11(0-2), RXMW-9(0-2), RXSB-12(0-2), RXMW-10(0-2), RXMW-11(0-2), RXMW-10(2-4), RXSB-14(0-2), RXSB-13(0-2), DUP042418, RXMW-4(0-2), RXMW-6(0-2), and RXMW-9(5-7)
- 1,2-Dibromo-3-chloropropane (44%D) in sample Trip Blank-3
- Dichlorobromomethane, chlorodibromomethane, and bromoform (22%D to 47%D) in samples RXMW-1_0-2 and RXMW-7_0-2
- Carbon tetrachloride, chlorodibromomethane, and bromoform (23%D to 46%D) in MW-01, MW-02, DUP062118, and Trip Blank, and in all samples associated with SDG 460-158869-1
- Bromomethane, carbon tetrachloride, chlorodibromomethane, bromoform, and 1,2-dibromo-3-chloropropane (25%D to 52%D) in sample FB062118

Holding times were met. Surrogate and internal standard responses are compliant. Instrument tunes meet fragmentation requirements.

TCL Semivolatile Analyses by EPA8270D

Due to an outlying internal standard recovery (32%D), indicating a matrix effect, the results for seven analytes in RXMW-11(0-2) have been qualified as estimated in value.

The result for dibenzofuran is edited to non-detection, and the result for n-nitrosodiphenylamine is qualified as tentative in identification and estimated in value due to poor mass spectral quality.

The matrix spike/matrix spike duplicate evaluations were performed on RXMW-6(9-11), RXTGW-12_0-2, RXTGW-12_4-6, RXMW-1_0-2, and RXMW-4. Hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4,6-dinitro-2-methylphenol failed to recover in the matrix spikes of RXMW-1_0-2, benzaldehyde failed to recover in RXMW-4, and 2,4-dinitro-phenol failed to recover in the matrix spikes of RXMW-6(9-11). Therefore the results for those analytes in the respective parent samples are rejected and not usable.

The matrix spikes of RXTGW-12_0-2, RXTGW-12_4-6, and RXMW-1_0-2 show numerous other outliers, indicating matrix effects. Results for all analytes in RXTGW-12_4-6 and RXMW-1_0-2, and for most analytes in RXTGW-12_0-2, have therefore been qualified as estimated in value. The other recoveries and correlations are within the ranges and limits used by the laboratory with the following exceptions, results for which are qualified as estimated in the indicated parent sample:

<u>Parent Sample</u>	<u>Analyte</u>	<u>Outlying % Recoveries</u>	<u>Outlying %RPD</u>
RXMW-6(9-11)	4,6-dinitro-2-methylphenol	19,28	35
	hexachloroethane	48,53	

Caprolactum failed to recover above 10% in an LCS associated with the samples reported in SDG 480-158993, and results for that compound in those samples have been rejected. The following results are qualified as estimated due to outlying recoveries/correlations in the associated LCSs:

<u>Affected Samples</u>	<u>Analyte</u>	<u>Outlying % Recoveries</u>	<u>Outlying %RPD</u>
RXSB-14(0-2), RXSB-13(0-2), DUP042418, and RXMW-4(0-2)	atrazine	60	
RXMW-4(13-15) and RXSB-15(6-8)	hexachloroethane	62	
	atrazine	61	
RXMW-3_1-3	4-methylphenol	59	
RXSB-16_1-3, RXSB-16_9-11, RXMW-8_1-3, and RXMW-8_9-11	2,4-dinitrophenol	33	
	4,6-dinitro-3-methylphenol	56	
Samples reported in SDG J158993	atrazine	-162%	140

Surrogate standard responses are compliant. Instrument tunes meet fragmentation requirements. Holding times were met. Blanks show no contamination affecting sample reported results.

Calibration standards show responses within validation action levels, with the exception of that for pentachlorophenol (33%D) in the calibration associated with sample RXMW-1_0-2, the result for which is qualified as estimated in value.

Tentatively Identified Compounds (TICs) reported with the "A" flag are considered external contamination and are to be removed from consideration as sample components. The TICs were not reported on the EDDs, and this edit has therefore not been performed during validation.

TCL Pesticide, Aroclor PCBs, and TCL Herbicides by EPA 8081B, 8151A, and 8082A

The results for the herbicides in MW-02 are qualified as estimated in value due to outlying holding time due to delayed request for analysis.

Aroclor 1016/1260 and pesticide matrix spikes of RXMW-5(12-14), RXMW-6(9-11), RXSB-15(0-2), RXMW-1_0-2, RXMW-4, herbicide matrix spikes of RXSB-11(0-2), RXMW-6(0-2), RXMW-6(9-11), RXMW-1_0-2, RXMW-4, and Aroclor 1016/1260 and herbicide matrix spikes of RXTGW-12_4-6 show recoveries and correlations that are within validation guidelines, with the exception of those for endrin ketone (57%; 75%RPD) in RXMW-5(12-14) and dieldrin (49%; 79%RPD) in RXMW-1_0-2, the results for which are qualified as estimated in those respective parent samples.

The result for 2,4,5-T in RXMW-5(12-14) is qualified as estimated due to low recovery (63%) in the associated LCS. The results for silvex in RXMW-1_0-2 and RXMW-7_0-2 are qualified as estimated due to low recoveries (72% and 72%) in the associated LCSs.

Surrogate and internal standard responses are compliant. Calibration standards show responses within validation action levels. Holding times were met, and blanks show no contamination.

TAL Metals Analyses by EPA 6010C, 6020A, and 7470A, and 7471B

The results for beryllium in the total fraction of RXMW-9 is considered external contamination and edited to reflect non-detection due to the presence of that element in the associated preparation blank.

The matrix spike and duplicate evaluations were performed on RXMW-10(2-4), RXMW-6(9-11), RXTGW-12_4-6, RXSB-16_1-3, RXMW-1_0-2, MW-02 (total), RXMW-4 (Total), and RXMW-4 (Dissolved). They show recoveries and correlations within validation guidelines, with the following exceptions, results for which are qualified as estimated in the indicated parent samples:

<u>Parent Sample</u>	<u>Element</u>	<u>Outlying % Recoveries</u>	<u>Outlying % RPD</u>
RXMW-10(2-4)	antimony	35	
RXMW-6(9-11)	antimony	25	
	cobalt	74	
	copper	44	
	lead	6	
	nickel	74	
	zinc	19	
RXTGW-12_4-6	antimony	47	
RXSB-16_1-3	antimony	25	
	cadmium	129	
RXMW-1_0-2	antimony	43	
	zinc	161	
	mercury	128	
	barium		44
	magnesium		49
MW-02 (total)	selenium	49	

The ICP serial dilution evaluations of RXMW-10(2-4), RXMW-6(9-11), RXTGW-12_4-6, RXSB-16_1-3, RXMW-1_0-2, MW-02 (total), RXMW-4 (Total), and RXMW-4 (Dissolved) show acceptable correlations within validation guidelines, with the following exceptions, results for which are qualified as estimated in the indicated parent samples:

Total and dissolved fractions correlate well.

Instrument performance is compliant.

Total Cyanide and Hexavalent Chromium Analyses by 9012 and 7196A

Review was conducted for method compliance, holding times, transcription, calculations, standard and blank acceptability, accuracy and precision.

Due to the delayed holding time (13 days, beyond the allowable 24 hours), the result for hexavalent chromium in MW-02 is rejected and not usable.

Due to presence in the associated preparation blanks, the detections of total cyanide in RXMW-4(13-15) and RXTGW-12_4-6 are considered external contamination and edited to reflect non-detection.

Hexavalent chromium matrix spike/duplicate evaluations were performed on RXMW-9(0-2), RXTGW-12_4-6, RXMW-1_0-2, RXMW-2, and RXMW-4. Recoveries and correlations fall within laboratory acceptance ranges. Matrix spikes of MW-2 are not pertinent due to the outlying holding time.

Total cyanide matrix spike/duplicate evaluations were performed on RXMW-9(0-2), RXMW-4(0-2), RXMW-6(9-11), RXSB-15(0-2), RXTGW-12_4-6, RXMW-1_0-2, RXMW-2_0-2, and RXMW-4. Recoveries and correlations fall within laboratory acceptance ranges, with the exception of those for RXMW-9(0-2) (33%; 87%RPD) and RXMW-1_0-2 (120% and 123%). The results for total cyanide in those samples have been qualified as estimated in value.

Volatile Analyses by EPA TO-15

RXSS-2, RXSV-4, and RXSS-5 were received with no residual vacuum, and results for those samples have therefore been qualified as estimated in value.

Holding times were met, surrogate and internal standard responses are compliant, and instrument tunes meet fragmentation requirements. Method and canister blanks show no contamination.

The detections of 2-butanone in RXSV-11 and RXSV-9 have been edited to non-detection due to poor mass spectral quality.

Man of the subslab/soil vapor samples collected 05/23/18 and 06/04/18 were processed only at a tenfold dilution, with little response either for target analytes or other matrix interferences. This resulted in elevated reporting limits. One of the diluted samples collected 06/04/18, RXSS-4, does show significant matrix interferences.

Initial and continuing calibration standard (ICV and CCV) linearity and calibration verification responses are within validation guidelines. LCS recoveries are within validation guidelines.

PFAS by Modified EPA Method 537

PFAS compounds are identified by their common acronyms in this report. The EDDs reference both the technical names and the acronyms.

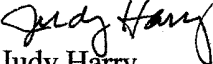
Due to presence in the associated blanks, the detections of PFHpS in RXMW-7 and DUP062118 are considered external contamination and edited to reflect non-detection.

Matrix spikes of RXMW-4 show recoveries and correlations within laboratory ranges/limits.

Holding times were met, and isotopic/internal standard recoveries are within laboratory acceptance limits.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,


Judy Harry

Attachments: Validation Qualifier Definitions
 Sample Identifications
 Qualified EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

- U** The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
- J** The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
- J-** The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
- J+** The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- UJ** The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ** The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
- EMPC** The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Client and Laboratory Sample IDs

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-154594-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-154594-1	RXSB-11(0-2)	Solid	04/23/18 10:45	04/23/18 19:00
460-154594-2	RXMW-9(0-2)	Solid	04/23/18 11:20	04/23/18 19:00
460-154594-3	RXSB-12(0-2)	Solid	04/23/18 11:55	04/23/18 19:00
460-154594-4	RXMW-10(0-2)	Solid	04/23/18 14:10	04/23/18 19:00
460-154594-5	RXMW-10(2-4)	Solid	04/23/18 14:15	04/23/18 19:00
460-154594-6	Trip Blank	Water	04/23/18 15:00	04/23/18 19:00
460-154594-7	FB042318	Water	04/23/18 15:30	04/23/18 19:00
460-154594-8	RXMW-11(0-2)	Solid	04/23/18 15:35	04/23/18 19:00
460-154673-1	RXSB-14(0-2)	Solid	04/24/18 10:30	04/24/18 17:50
460-154673-2	RXSB-13(0-2)	Solid	04/24/18 11:40	04/24/18 17:50
460-154673-3	DUP042418	Solid	04/24/18 12:00	04/24/18 17:50
460-154673-4	RXMW-4(0-2)	Solid	04/24/18 13:25	04/24/18 17:50
460-154775-1	TRIP BLANK	Water	04/25/18 15:00	04/25/18 19:30
460-154775-2	RXMW-6(0-2)	Solid	04/25/18 13:05	04/25/18 19:30
460-154775-3	RXMW-9(5-7)	Solid	04/25/18 13:15	04/25/18 19:30
460-154852-1	TRIP BLANK	Water	04/26/18 15:00	04/26/18 20:20
460-154852-2	RXSB-15(0-2)	Solid	04/26/18 10:15	04/26/18 20:20
460-154852-3	RXSB-11(3-5)	Solid	04/26/18 09:00	04/26/18 20:20
460-154852-4	RXSB-12(6-8)	Solid	04/26/18 10:00	04/26/18 20:20
460-154852-5	RXMW-5(0-2)	Solid	04/26/18 12:30	04/26/18 20:20
460-154852-6	RXSB-13(13-15)	Solid	04/26/18 13:15	04/26/18 20:20
460-154958-1	TRIP BLANK	Water	04/27/18 15:00	04/27/18 19:10
460-154958-2	RXMW-11(11-13)	Solid	04/27/18 10:15	04/27/18 19:10
460-154958-3	RXMW-6(9-11)	Solid	04/27/18 13:55	04/27/18 19:10
460-155091-1	TRIP BLANK	Water	05/01/18 15:00	05/01/18 18:30
460-155091-2	RXMW-4(13-15)	Solid	05/01/18 09:50	05/01/18 18:30
460-155091-3	RXSB-15(6-8)	Solid	05/01/18 14:10	05/01/18 18:30
460-155184-1	Trip Blank	Water	05/02/18 07:00	05/02/18 19:42
460-155184-2	RXMW-5(12-14)	Solid	05/02/18 08:45	05/02/18 19:42
460-155184-3	FB050218	Water	05/02/18 09:30	05/02/18 19:42

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-156801-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-156801-1	Trip Blank	Water	05/22/18 13:00	05/23/18 20:50
460-156801-2	RXSB-3A_0-2	Solid	05/22/18 10:30	05/23/18 20:50
460-156801-3	RXSB-3A_2-4	Solid	05/22/18 10:35	05/23/18 20:50
460-156801-4	RXSB-3A_4-6	Solid	05/22/18 10:40	05/23/18 20:50
460-156801-5	RXSB-3AS_0-2	Solid	05/22/18 11:15	05/23/18 20:50
460-156801-6	RXSB-3AS_2-4	Solid	05/22/18 11:20	05/23/18 20:50
460-156801-7	RXSB-3AS_4-6	Solid	05/22/18 11:25	05/23/18 20:50
460-156801-8	RXSB-3AN_0-2	Solid	05/22/18 12:15	05/23/18 20:50
460-156801-9	RXSB-3AN_2-4	Solid	05/22/18 12:20	05/23/18 20:50
460-156801-10	RXSB-3AN_4-6	Solid	05/22/18 12:25	05/23/18 20:50
460-156801-11	RXSB-3AW_0-2	Solid	05/22/18 13:35	05/23/18 20:50
460-156801-12	RXSB-3AW_2-4	Solid	05/22/18 13:40	05/23/18 20:50
460-156801-13	RXSB-3AW_4-6	Solid	05/22/18 13:45	05/23/18 20:50
460-156801-14	RXSB-3AE_0-2	Solid	05/22/18 14:10	05/23/18 20:50
460-156801-15	RXSB-3AE_2-4	Solid	05/22/18 14:15	05/23/18 20:50
460-156801-16	RXSB-3AE_4-6	Solid	05/22/18 14:20	05/23/18 20:50
460-156801-17	RXSB-11_0-2	Solid	05/23/18 11:30	05/23/18 20:50
460-156801-18	RXSB-11_5-7	Solid	05/23/18 11:35	05/23/18 20:50
460-156801-19	DUP05232018	Solid	05/23/18 14:00	05/23/18 20:50

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-43705-1
SDG: 200-43705-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-43705-1	RXSV-9	Air	05/23/18 10:35	06/05/18 08:15
200-43705-2	RXSV-11	Air	05/23/18 10:46	06/05/18 08:15

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-156902-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-156902-1	TRIP BLANK-1	Water	05/24/18 13:00	05/24/18 18:30
460-156902-2	RXTGW-12_0-2	Solid	05/24/18 11:35	05/24/18 18:30
460-156902-3	RXTGW-12_4-6	Solid	05/24/18 11:40	05/24/18 18:30
460-157006-1	TRIP BLANK-2	Water	05/25/18 14:30	05/25/18 18:40
460-157006-2	RXMW-3_1-3	Solid	05/25/18 09:00	05/25/18 18:40
460-157112-1	Trip Blank-3	Water	05/29/18 13:15	05/29/18 19:20
460-157112-2	RXSB-16_1-3	Solid	05/29/18 08:45	05/29/18 19:20
460-157112-3	RXSB-16_9-11	Solid	05/29/18 08:50	05/29/18 19:20
460-157112-4	RXMW-8_1-3	Solid	05/29/18 10:00	05/29/18 19:20
460-157112-5	RXMW-8_9-11	Solid	05/29/18 10:05	05/29/18 19:20

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: NY Project

TestAmerica Job ID: 200-43710-1
SDG: 200-43710-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-43710-1	RXSS-2	Air	06/04/18 11:26	06/05/18 10:30
200-43710-2	RXSV-4	Air	06/04/18 11:17	06/05/18 10:30
200-43710-3	RXSS-4	Air	06/04/18 11:40	06/05/18 10:30
200-43710-4	RXSS-3	Air	06/04/18 11:51	06/05/18 10:30
200-43710-5	RXSS-5	Air	06/04/18 11:39	06/05/18 10:30
200-43710-6	RXSV-7	Air	06/04/18 11:55	06/05/18 10:30
200-43710-7	RXSV-5	Air	06/04/18 12:56	06/05/18 10:30
200-43710-8	RXSV-10	Air	06/04/18 12:18	06/05/18 10:30

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44030-1
SDG: 200-44030-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-44030-1	RXSV-12	Air	06/22/18 12:40	06/23/18 11:00
200-44030-2	RXSV-13	Air	06/22/18 12:35	06/23/18 11:00
200-44030-3	RXSV-14	Air	06/22/18 12:30	06/23/18 11:00

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-158396-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-158396-1	Trip Blank	Water	06/14/18 18:15	06/14/18 20:30
460-158396-2	RXTGW-12_0-2	Solid	06/14/18 09:30	06/14/18 20:30
460-158396-3	RXTGW-12_4-6	Solid	06/14/18 09:35	06/14/18 20:30
460-158396-4	RXMW-1_0-2	Solid	06/14/18 12:15	06/14/18 20:30
460-158396-5	RXMW-7_0-2	Solid	06/14/18 15:20	06/14/18 20:30
460-158435-1	Trip Blank	Water	06/15/18 15:00	06/15/18 21:30
460-158435-2	FB061518	Water	06/15/18 18:00	06/15/18 21:30
460-158435-3	RXMW-2_0-2	Solid	06/15/18 14:30	06/15/18 21:30
460-158435-4	RXMW-7_12-14	Solid	06/15/18 09:30	06/15/18 21:30
460-158435-5	RXMW-2_13-15	Solid	06/15/18 15:54	06/15/18 21:30
460-158435-6	DUP06152018	Solid	06/15/18 12:00	06/15/18 21:30
460-158435-7	RXMW-1_7-9	Solid	06/15/18 13:30	06/15/18 21:30

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-158869-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-158869-1	RXMW-4	Water	06/21/18 09:35	06/21/18 20:00
460-158869-2	RXMW-5	Water	06/21/18 11:35	06/21/18 20:00
460-158869-3	RXMW-6	Water	06/21/18 09:50	06/21/18 20:00
460-158869-4	RXMW-7	Water	06/21/18 12:10	06/21/18 20:00

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-158870-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-158870-1	MW-01	Water	06/21/18 13:30	06/21/18 20:00
460-158870-2	MW-02	Water	06/21/18 13:20	06/21/18 20:00
460-158870-3	DUP062118	Water	06/21/18 09:45	06/21/18 20:00
460-158870-4	FB062118	Water	06/21/18 15:00	06/21/18 20:00
460-158870-5	Trip Blank	Water	06/21/18 15:15	06/21/18 20:00

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 460-158993-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
460-158993-1	RXMW-1	Water	06/22/18 13:35	06/22/18 19:00
460-158993-2	RXMW-2	Water	06/22/18 14:05	06/22/18 19:00
460-158993-3	RXMW-3	Water	06/22/18 09:35	06/22/18 19:00
460-158993-4	RXMW-8	Water	06/22/18 08:00	06/22/18 19:00
460-158993-5	RXMW-9	Water	06/22/18 10:30	06/22/18 19:00
460-158993-6	RXMW-10	Water	06/22/18 09:10	06/22/18 19:00
460-158993-7	RXMW-11	Water	06/22/18 08:10	06/22/18 19:00
460-158993-8	MW-6	Water	06/22/18 11:05	06/22/18 19:00
460-158993-9	Trip Blank	Water	06/22/18 14:55	06/22/18 19:00

Sample Summary

Client: Roux Environmental Eng & Geology DPC
Project/Site: The Peninsula

TestAmerica Job ID: 200-44045-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-44045-1	RXMW-2	Water	06/22/18 14:05	06/26/18 10:05
200-44045-2	RXMW-4	Water	06/21/18 09:35	06/26/18 10:05
200-44045-3	RXMW-7	Water	06/21/18 12:10	06/26/18 10:05
200-44045-4	DUP062118	Water	06/21/18 09:45	06/26/18 10:05
200-44045-5	FB062118	Water	06/21/18 15:00	06/26/18 10:05

Petroleum Fingerprint Analysis Results



Torkelson Geochemistry, Inc.

2528 S. Columbia Place
Tulsa, OK 74114-3233

Phone: 918-749-8441
Fax: 918-749-6005

e-mail: BTorkelson@torkelsongeochemistry.com

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project: The Peninsula
Location: 1221 Spofford Avenue, Bronx, New York

Proj. No.: 2611.0001Y000
P.O.:
Sampled By: RM

Report/Bill To: Roux D.P.C.
Address: 209 Shafter Street
Islandia, New York 11749

Phone: 631-232-2600
Fax: 631-232-9898
e-mail: jwills@rouxinc.com

Additional Instructions

Requested Turn-Around Time: Standard

ITEM NO.	SAMPLE DESCRIPTION	DATE	MATRIX	LAB NO.	Total # OF Vials	PRESERVATIVES						ANALYSES REQUESTED												REMARKS									
						None						GC Characterization	Density	Viscosity	Water Surface Tension	NAPL Surface Tension	NAPL/Water Interfac. Tens.	Lead	Sulfur														
1	MW-5_Product	6/22/2018	oil		2											X																	Petroleum Fingerprint Analysis
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	

RELINQUISHED BY			DATE	TIME	ACCEPTED BY			DATE	TIME
Jeff Wills (Roux)			6/26/18	15:30	Barbara Torkelson			6-27-18	0930

Torkelson Geochemistry, Inc.

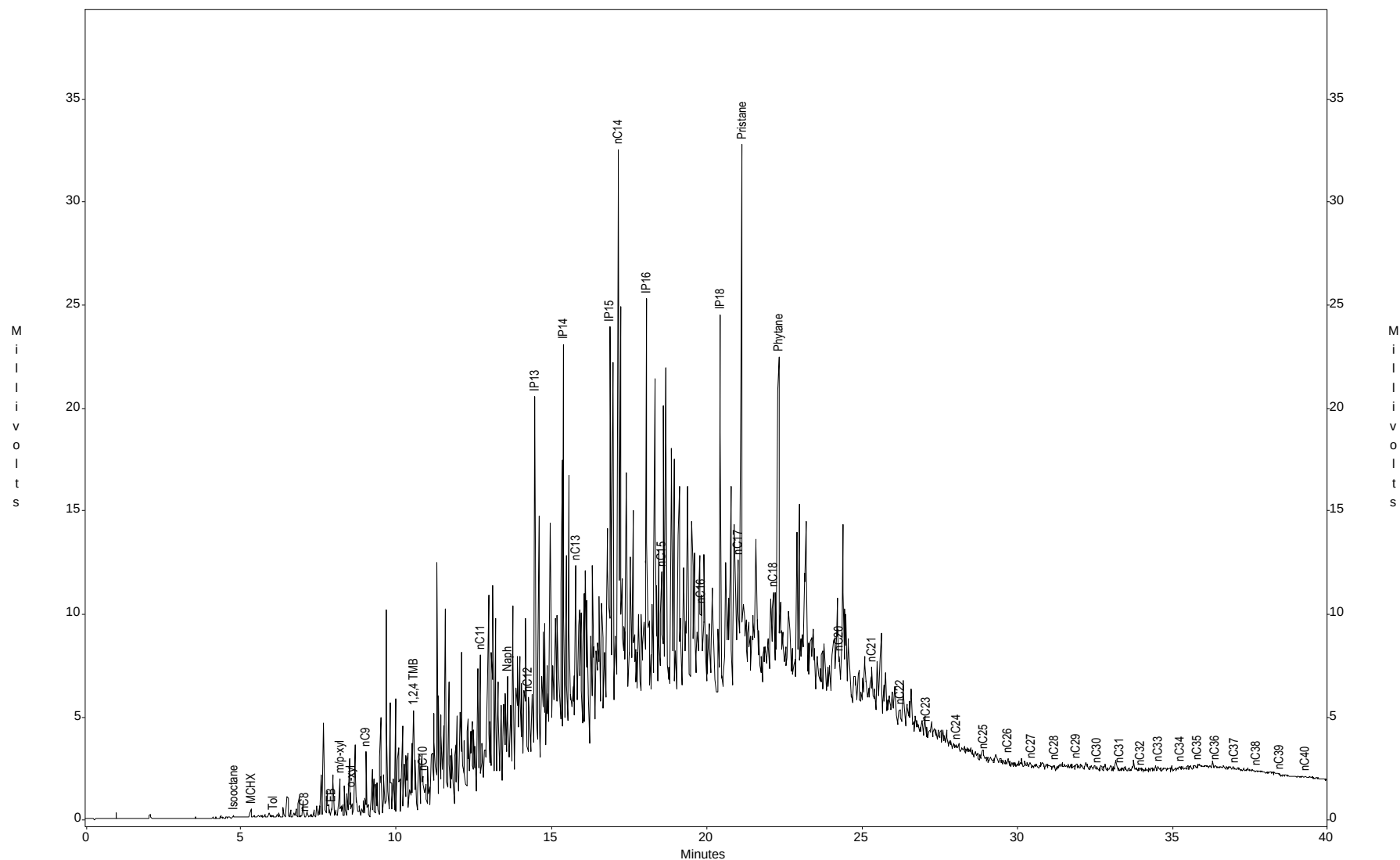
GC/FID

The Peninsula, 1221 Spofford Avenue, Bronx, New York

Sample ID : MW-5 Product

Acquired : Jul 06, 2018 10:26:17

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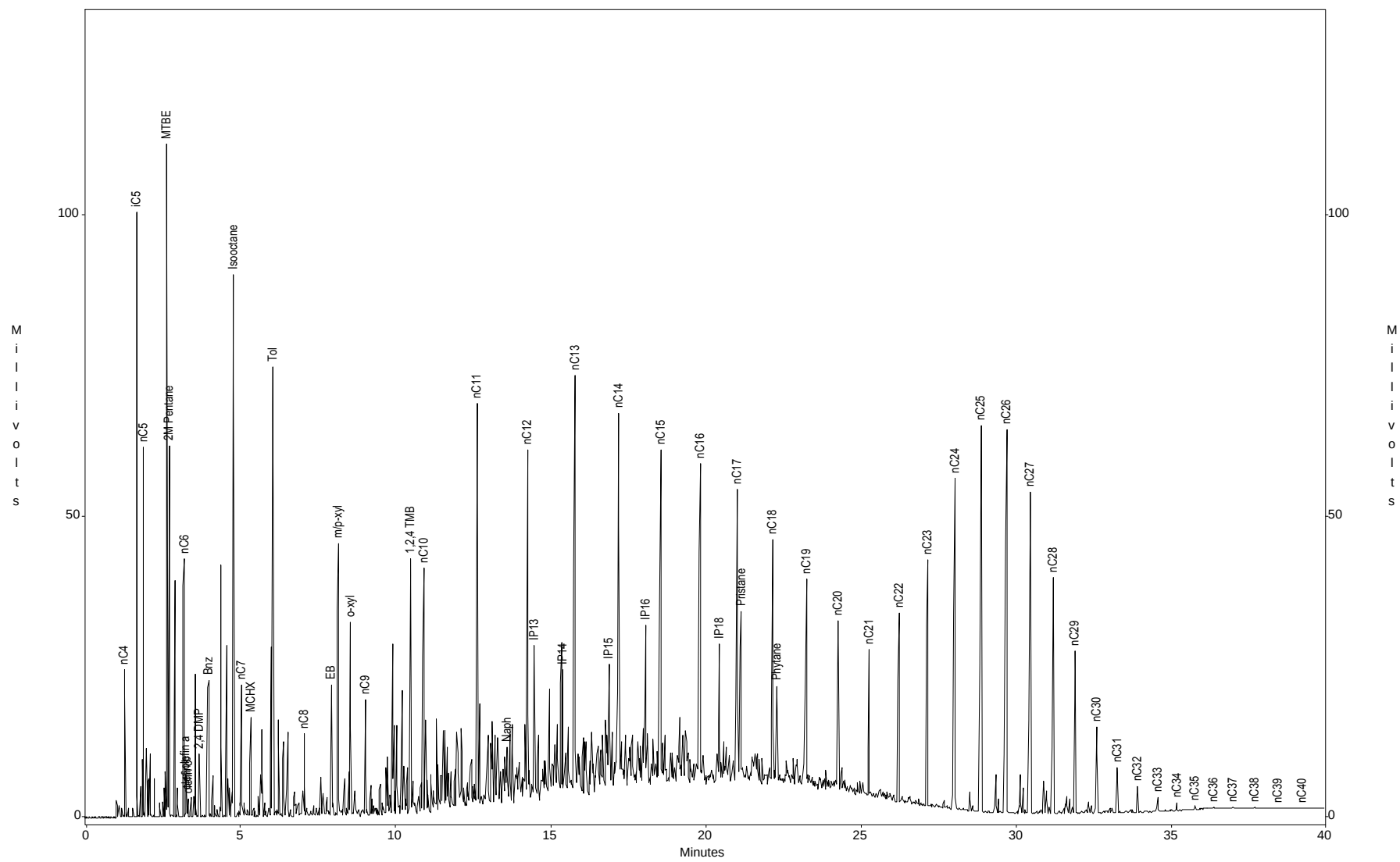
Torkelson Geochemistry, Inc.
GC/FID

The Peninsula, 1221 Spofford Avenue, Bronx, New York

Sample ID : Gas/Dies/Wax std

Acquired : Jul 06, 2018 11:16:11

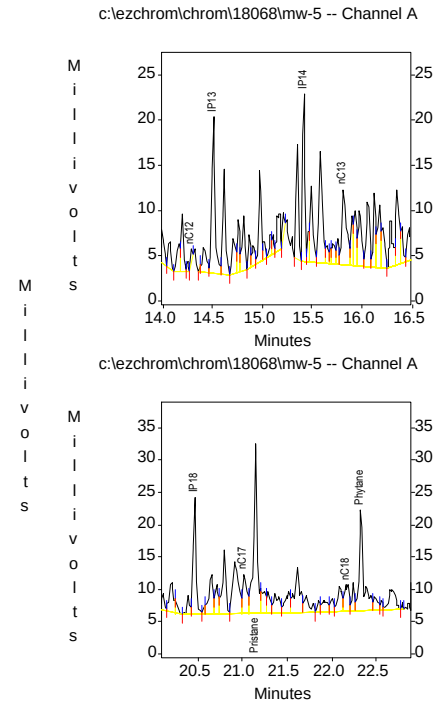
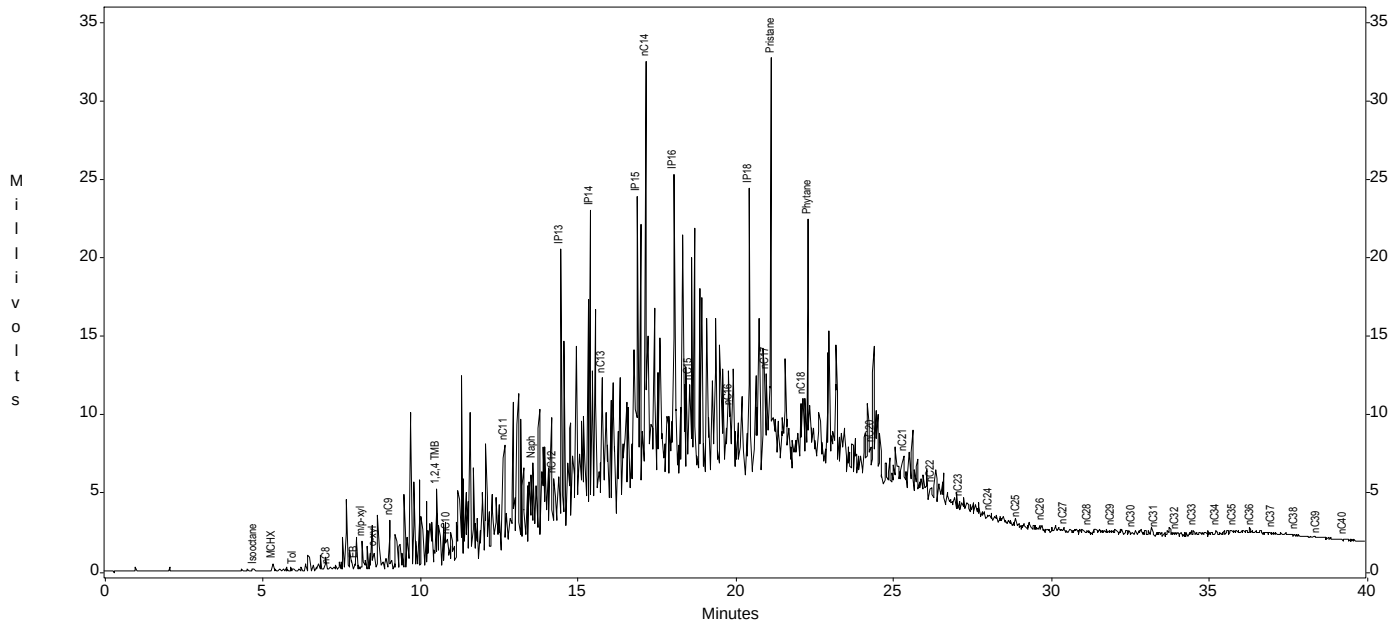
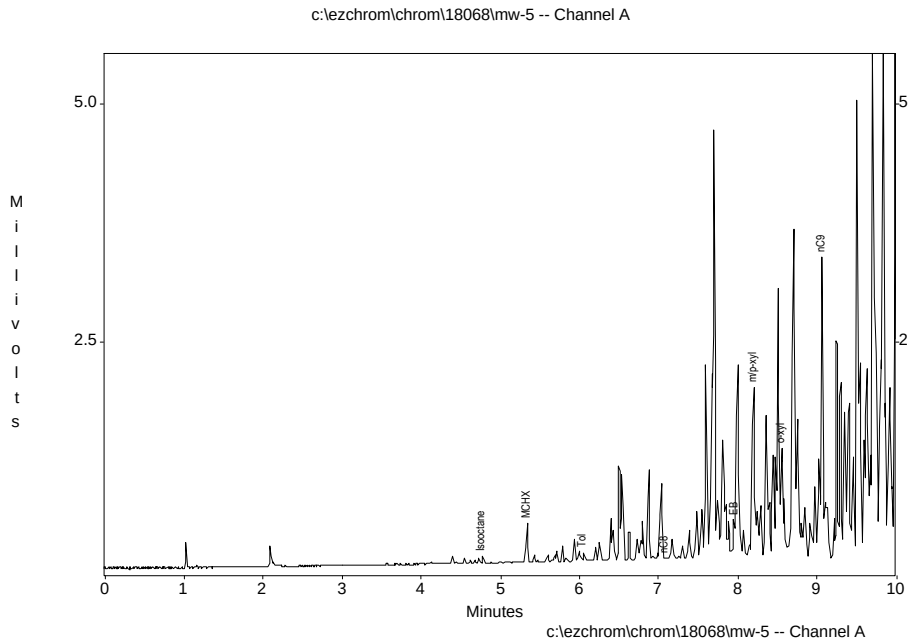
c:\ezchrom\chrom\18068\gadiwax2 -- Channel A



The Peninsula, 1221 Spofford Avenue, Bronx, New York
Sample ID : MW-5 Product
Acquired : Jul 06, 2018 10:26:17

Torkelson Geochemistry, Inc.

GC/FID



Channel A Results

Peak	Area	Height
nC4	0	0
iC5	0	0
nC5	0	0
MTBE	0	0
2M Pentane	0	0
nC6	0	0
olefin a	0	0
olefin b	0	0
olefin c	0	0
2,4 DMP	0	0
Bnz	0	0
Isooctane	82	67
nC7	0	0
MCHX	476	405
Tol	88	72
nC8	15	13
EB	702	410
m/p-xyI	3198	1798
o-xyI	1617	1156
nC9	4961	3180
1,2,4 TMB	10053	4849
nC10	4617	1628
nC11	11019	6604
Naph	10600	4803
nC12	1625	1440
IP13	32807	17392
IP14	26672	18535
nC13	24667	8255
IP15	20724	15367
nC14	59560	26476
IP16	48136	19014
nC15	15538	5503
nC16	10610	3573
IP18	43160	18275
nC17	19942	6213
Pristane	76348	26305
nC18	15900	4209
Phytane	53071	15610
nC19	0	0
nC20	4327	2022
nC21	5701	2016
nC22	2787	814
nC23	1046	528
nC24	655	240
nC25	404	334
nC26	741	360
nC27	314	203
nC28	303	206
nC29	398	190
nC30	139	85
nC31	351	134
nC32	57	5
nC33	285	181
nC34	149	136
nC35	160	121
nC36	89	60
nC37	120	74
nC38	188	61
nC39	53	10
nC40	35	39

Torkelson Geochemistry, Inc.

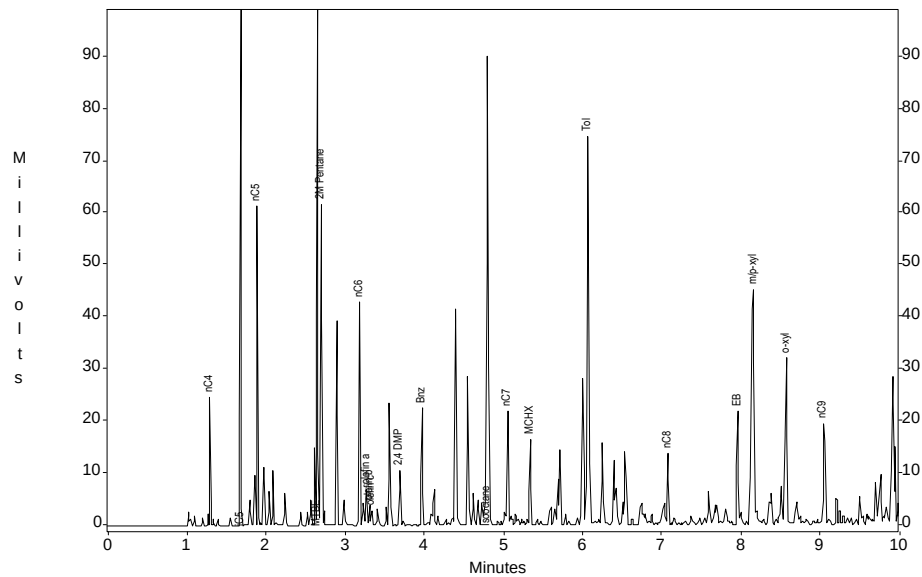
GC/FID

The Peninsula, 1221 Spofford Avenue, Bronx, New York

Sample ID : Gas/Dies/Wax std

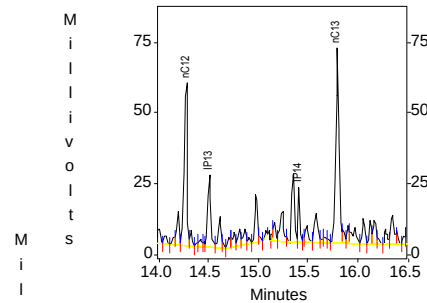
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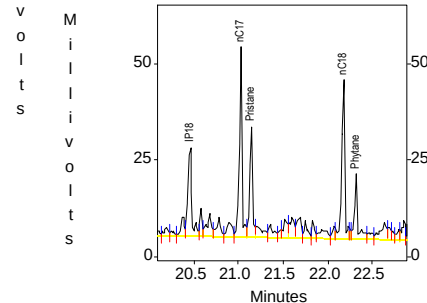


c:\ezchrom\chrom\18068\gadiwax2 -- Channel A

c:\ezchrom\chrom\18068\gadiwax2 -- Channel A

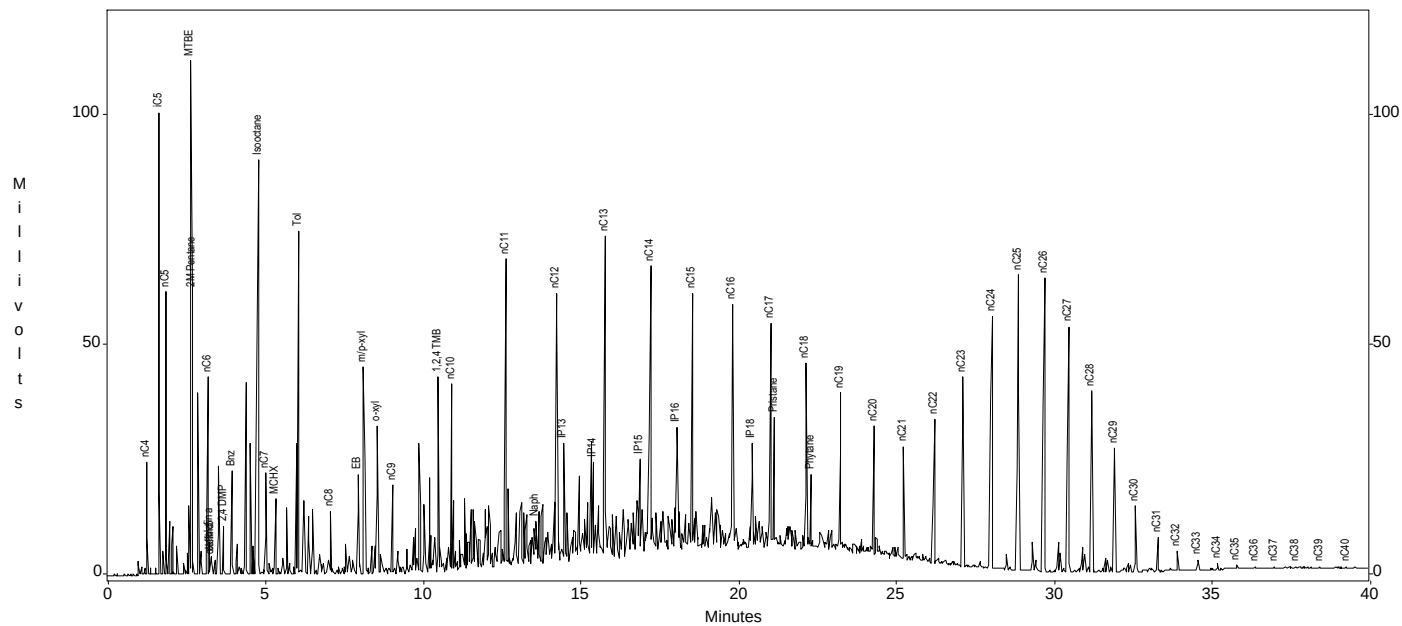


c:\ezchrom\chrom\18068\gadiwax2 -- Channel A



Channel A Results

Peak	Area	Height
nC4	13669	24487
iC5	65887	100569
nC5	43051	61492
MTBE	108113	111717
2M Pentane	53445	61656
nC6	42210	43062
olefin a	7640	7045
olefin b	3686	3767
olefin c	3584	3032
2,4 DMP	10651	10474
Bnz	26357	22623
Isooctane	133413	90065
nC7	26859	22022
MCHX	20076	16507
Tol	118285	74692
nC8	16998	13733
EB	30379	21756
m/p-xy	111356	45212
o-xy	49110	32083
nC9	28762	19396
1,2,4 TMB	76280	42464
nC10	63971	40716
nC11	117969	66851
Naph	23762	8472
nC12	106145	57791
IP13	47201	25470
IP14	27774	19578
nC13	141733	69298
IP15	43998	21028
nC14	132241	62604
IP16	57509	26492
nC15	121273	55092
nC16	122924	53223
IP18	61588	23352
nC17	112209	49515
Pristane	66743	29026
nC18	98566	41500
Phytane	52323	17272
nC19	76013	35526
nC20	59621	28807
nC21	45929	24642
nC22	58241	31424
nC23	95424	41058
nC24	148870	55148
nC25	181854	64334
nC26	143861	63700
nC27	148153	53471
nC28	78353	39308
nC29	52854	26944
nC30	25143	14143
nC31	13702	7556
nC32	7162	4201
nC33	3895	2302
nC34	2186	1274
nC35	1246	715
nC36	618	354
nC37	499	205
nC38	276	114
nC39	173	65
nC40	109	48





Torkelson Geochemistry, Inc.

2528 South Columbia Place, Tulsa, Oklahoma 74114-3233
Voice 918-749-8441

Hi Jeff,

Based on the characteristics of the gas chromatogram it is my opinion that the MW-5 product sample is probably a mixture of extremely weathered middle distillate, either diesel fuel or fuel oil, and a smaller amount of an unidentified heavy material. The middle distillate portion of the sample was probably released to the environment about 18 +/-2 years ago.

Bruce Torkelson

APPENDIX H

Geophysical Survey Map

Legend

- Power
- Sewer/Drainage
- Unknown
- UST

Remedial Investigation Report
1221 Spofford Avenue, Bronx, New York

APPENDIX I

CAMP Reports

Roux Environmental Engineering and Geology
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/23/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
8:55 AM	0.018	8:55 AM	0.037	0.019
9:10 AM	0.014	9:10 AM	0.027	0.013
9:25 AM	0.012	9:25 AM	0.024	0.012
9:40 AM	0.020	9:40 AM	0.022	0.002
9:55 AM	0.011	9:55 AM	0.024	0.013
10:10 AM	0.011	10:10 AM	0.028	0.017
10:25 AM	0.012	10:25 AM	0.027	0.015
10:40 AM	0.018	10:40 AM	0.024	0.006
10:55 AM	0.024	10:55 AM	0.022	-0.002
11:10 AM	0.013	11:10 AM	0.023	0.010
11:25 AM	0.024	11:25 AM	0.024	0.000
11:40 AM	0.024	11:40 AM	0.026	0.002
11:55 AM	0.020	11:55 AM	0.025	0.005
12:10 PM	0.013	12:10 PM	0.025	0.012
12:25 PM	0.013	12:25 PM	0.027	0.014
12:40 PM	0.013	12:40 PM	0.027	0.014
12:55 PM	0.013	12:55 PM	0.028	0.015
1:10 PM	0.014	1:10 PM	0.028	0.014
1:25 PM	0.023	1:25 PM	0.065	0.042
1:40 PM	0.012	1:40 PM	0.027	0.015
1:55 PM	0.012	1:55 PM	0.026	0.014
2:10 PM	0.011	2:10 PM	0.025	0.014
2:25 PM	0.008	2:25 PM	0.025	0.017
2:40 PM	0.008	2:40 PM	0.024	0.016
2:55 PM	0.007	2:55 PM	0.025	0.018
3:10 PM	0.010	3:10 PM	0.035	0.025
3:25 PM	0.014	3:25 PM	0.035	0.021
3:40 PM	0.019	3:40 PM	0.036	0.017

NM - Not Measured

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/23/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
8:59 AM	0.0	8:59 AM	0.0	0.0
9:14 AM	0.0	9:14 AM	0.0	0.0
9:29 AM	0.0	9:29 AM	0.0	0.0
9:44 AM	0.0	9:44 AM	0.0	0.0
9:59 AM	0.0	9:59 AM	0.0	0.0
10:14 AM	0.0	10:14 AM	0.0	0.0
10:29 AM	0.0	10:29 AM	0.0	0.0
10:44 AM	0.0	10:44 AM	0.0	0.0
10:59 AM	0.0	10:59 AM	0.0	0.0
11:14 AM	0.0	11:14 AM	0.0	0.0
11:29 AM	0.0	11:29 AM	0.0	0.0
11:44 AM	0.0	11:44 AM	0.0	0.0
11:59 AM	0.0	11:59 AM	0.0	0.0
12:14 PM	0.0	12:14 PM	0.0	0.0
12:29 PM	0.0	12:29 PM	0.0	0.0
12:44 PM	0.0	12:44 PM	0.0	0.0
12:59 PM	0.0	12:59 PM	0.0	0.0
1:14 PM	0.0	1:14 PM	0.0	0.0
1:29 PM	0.0	1:29 PM	0.0	0.0
1:44 PM	0.0	1:44 PM	0.0	0.0
1:59 PM	0.0	1:59 PM	0.0	0.0
2:14 PM	0.0	2:14 PM	0.0	0.0
2:29 PM	0.0	2:29 PM	0.0	0.0
2:44 PM	0.0	2:44 PM	0.1	0.1
2:59 PM	0.0	2:59 PM	0.0	0.0
3:14 PM	0.0	3:14 PM	0.0	0.0
3:29 PM	0.0	3:29 PM	0.0	0.0
3:44 PM	0.0	3:44 PM	0.0	0.0

VOC - Volatile Organic Compound

PPM - parts per million

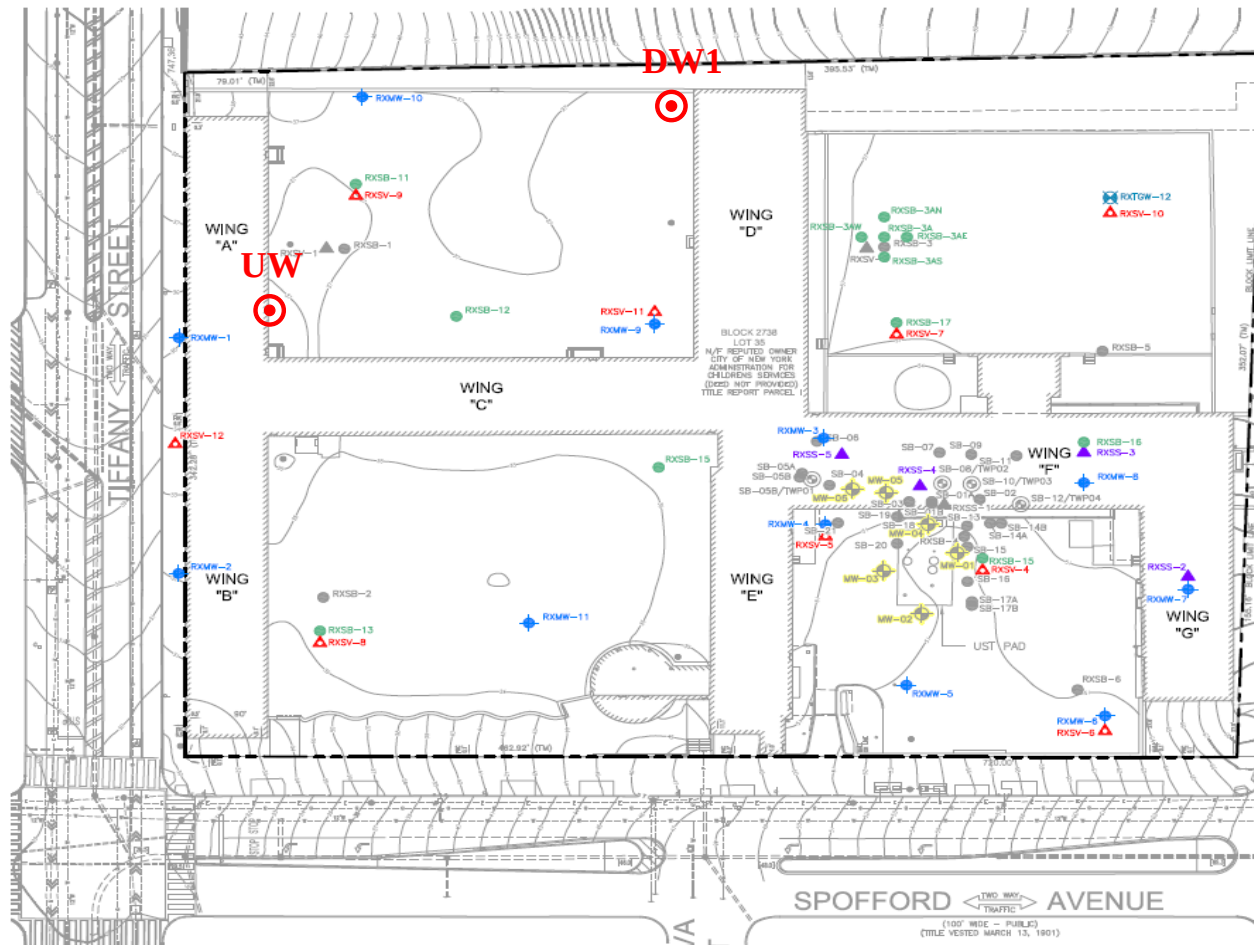
Roux Environmental Engineering and Geology
Community Air Monitoring Program - Weather

Field Representative: Rachel Miller

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/23/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
4/23/2018	7:51 AM	West	3.5 mph	64.0 °F	29.91 in	84%	
4/23/2018	8:51 AM	NW	3.5 mph	66.9 °F	29.92 in	79%	
4/23/2018	9:51 AM	NW	6.9 mph	68.0 °F	29.92 in	76%	
4/23/2018	10:51 AM	NNW	11.5 mph	71.1 °F	29.94 in	70%	
4/23/2018	11:18 AM	North	9.2 mph	71.1 °F	29.94 in	70%	
4/23/2018	11:51 AM	NNE	8.1 mph	71.1 °F	29.94 in	70%	
4/23/2018	11:58 AM	North	11.5 mph	72.0 °F	29.94 in	66%	
4/23/2018	12:51 PM	NNW	10.4 mph	72.0 °F	29.94 in	64%	
4/23/2018	1:51 PM	NW	9.2 mph	75.0 °F	29.94 in	55%	
4/23/2018	2:51 PM	North	10.4 mph	78.1 °F	29.94 in	43%	
4/23/2018	3:51 PM	NNW	9.2 mph	79.0 °F	29.93 in	39%	
4/23/2018	4:51 PM	NW	6.9 mph	82.0 °F	29.92 in	35%	

Project: The Peninsula JV LLC
Project Number: 2611.0002Y000
Project Manager: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/23/2018
Times: 9:00 AM to 15:45 PM



UW - Upwind CAMP Station
DW - Downwind CAMP Station



Wind Direction

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/24/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
7:22 AM	0.061	7:22 AM	0.063	0.002
7:37 AM	0.059	7:37 AM	0.065	0.006
7:52 AM	0.060	7:52 AM	0.084	0.024
8:07 AM	0.064	8:07 AM	0.088	0.024
8:22 AM	0.055	8:22 AM	0.074	0.019
8:37 AM	0.058	8:37 AM	0.072	0.014
8:52 AM	0.055	8:52 AM	0.062	0.007
9:07 AM	0.047	9:07 AM	0.057	0.010
9:22 AM	0.044	9:22 AM	0.055	0.011
9:37 AM	0.043	9:37 AM	0.053	0.010
9:52 AM	0.038	9:52 AM	0.050	0.012
10:07 AM	0.030	10:07 AM	0.037	0.007
10:22 AM	0.027	10:22 AM	0.032	0.005
10:37 AM	0.018	10:37 AM	0.022	0.004
10:52 AM	0.019	10:52 AM	0.020	0.001
11:07 AM	0.013	11:07 AM	0.015	0.002
11:22 AM	0.019	11:22 AM	0.016	-0.003
11:37 AM	0.017	11:37 AM	0.016	-0.001
11:52 AM	0.017	11:52 AM	0.023	0.006
12:07 PM	0.035	12:07 PM	0.020	-0.015
12:22 PM	0.013	12:22 PM	0.013	0.000
12:37 PM	0.010	12:37 PM	0.016	0.006
12:52 PM	0.013	12:52 PM	0.017	0.004
1:07 PM	0.013	1:07 PM	0.014	0.001
1:22 PM	0.011	1:22 PM	0.012	0.001
1:37 PM	0.011	1:37 PM	0.012	0.001
1:52 PM	0.012	1:52 PM	0.014	0.002
2:07 PM	0.008	2:07 PM	0.010	0.002
2:22 PM	0.013	2:22 PM	0.016	0.003
2:37 PM	0.013	2:37 PM	0.017	0.004
2:52 PM	0.014	2:52 PM	0.016	0.002

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/24/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
7:26 AM	0.0	7:26 AM	0.0	0.0
7:41 AM	0.0	7:41 AM	0.0	0.0
7:56 AM	0.0	7:56 AM	0.0	0.0
8:11 AM	0.0	8:11 AM	0.0	0.0
8:26 AM	0.0	8:26 AM	0.0	0.0
8:41 AM	0.0	8:41 AM	0.0	0.0
8:56 AM	0.0	8:56 AM	0.0	0.0
9:11 AM	0.0	9:11 AM	0.0	0.0
9:26 AM	0.0	9:26 AM	0.0	0.0
9:41 AM	0.0	9:41 AM	0.0	0.0
9:56 AM	0.0	9:56 AM	0.0	0.0
10:11 AM	0.0	10:11 AM	0.0	0.0
10:26 AM	0.0	10:26 AM	0.0	0.0
10:41 AM	0.0	10:41 AM	0.0	0.0
10:56 AM	0.0	10:56 AM	0.0	0.0
11:11 AM	0.0	11:11 AM	0.0	0.0
11:26 AM	0.0	11:26 AM	0.0	0.0
11:41 AM	0.0	11:41 AM	0.0	0.0
11:56 AM	0.0	11:56 AM	0.0	0.0
12:11 PM	0.0	12:11 PM	0.0	0.0
12:26 PM	0.0	12:26 PM	0.1	0.1
12:41 PM	0.0	12:41 PM	0.0	0.0
12:56 PM	0.0	12:56 PM	0.0	0.0
1:11 PM	0.0	1:11 PM	0.0	0.0
1:26 PM	0.0	1:26 PM	0.0	0.0
1:41 PM	0.0	1:41 PM	0.0	0.0
1:56 PM	0.0	1:56 PM	0.0	0.0
2:11 PM	0.0	2:11 PM	0.0	0.0
2:26 PM	0.0	2:26 PM	0.0	0.0
2:41 PM	0.0	2:41 PM	0.0	0.0
2:56 PM	0.0	2:56 PM	0.0	0.0

VOC - Volatile Organic Compound
 PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

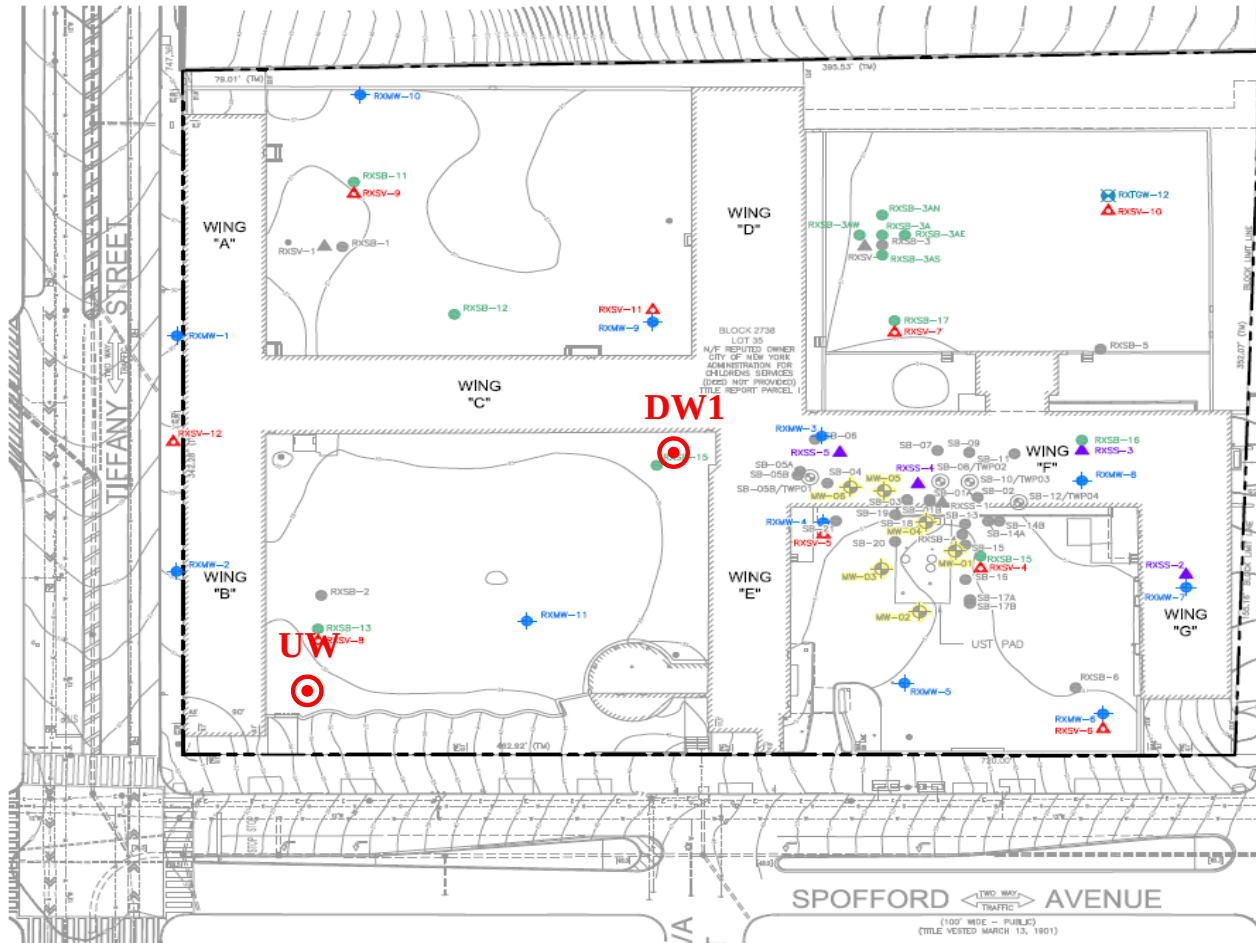
Field Representative: Laura Sugano

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/24/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
4/24/2018	6:51 AM	NW	4.6 mph	66.9 °F	30.10 in	61%	
4/24/2018	7:51 AM	WNW	5.8 mph	68.0 °F	30.12 in	56%	
4/24/2018	8:51 AM	NNW	6.9 mph	72.0 °F	30.13 in	40%	
4/24/2018	9:51 AM	North	10.4 mph	73.9 °F	30.12 in	30%	
4/24/2018	10:51 AM	North	12.7 mph	75.0 °F	30.13 in	24%	
4/24/2018	11:51 AM	NNE	8.1 mph	78.1 °F	30.13 in	21%	
4/24/2018	12:51 PM	NNE	10.4 mph	79.0 °F	30.12 in	20%	
4/24/2018	1:51 PM	NE	5.8 mph	80.1 °F	30.11 in	20%	
4/24/2018	2:51 PM	NW	3.5 mph	82.0 °F	30.10 in	20%	
4/24/2018	3:51 PM	Variable	4.6 mph	84.0 °F	30.08 in	19%	
4/24/2018	4:51 PM	Variable	6.9 mph	84.9 °F	30.06 in	20%	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
Project Number: 2611.0002Y000
Project Manager: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/24/2018
Times: 7:20 AM to 15:00 PM



UW - Upwind CAMP Station
DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/26/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
8:23 AM	0.007	8:23 AM	0.011	0.004
8:38 AM	0.011	8:38 AM	0.012	0.001
8:53 AM	0.009	8:53 AM	0.011	0.002
9:08 AM	0.009	9:08 AM	0.012	0.003
9:23 AM	0.021	9:23 AM	0.013	-0.008
9:38 AM	0.010	9:38 AM	0.013	0.003
9:53 AM	0.008	9:53 AM	0.014	0.006
10:08 AM	0.010	10:08 AM	0.015	0.005
10:23 AM	0.008	10:23 AM	0.014	0.006
10:38 AM	0.009	10:38 AM	0.031	0.022
10:53 AM	0.009	10:53 AM	0.024	0.015
11:08 AM	0.014	11:08 AM	0.018	0.004
11:23 AM	0.016	11:23 AM	0.014	-0.002
11:38 AM	0.011	11:38 AM	0.013	0.002
11:53 AM	0.011	11:53 AM	0.014	0.003
12:08 PM	0.011	12:08 PM	0.013	0.002
12:23 PM	0.011	12:23 PM	0.011	0.000
12:38 PM	0.009	12:38 PM	0.011	0.002
12:53 PM	0.007	12:53 PM	0.010	0.003
1:08 PM	0.006	1:08 PM	0.010	0.004
1:23 PM	0.012	1:23 PM	0.010	-0.002
1:38 PM	0.008	1:38 PM	0.009	0.001
1:53 PM	0.007	1:53 PM	NM	0.007
2:08 PM	0.006	2:08 PM	NM	0.006
2:23 PM	0.005	2:23 PM	NM	0.005

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/26/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
8:29 AM	0.0	8:29 AM	0.1	0.1
8:44 AM	0.0	8:44 AM	0.0	0.0
8:59 AM	0.0	8:59 AM	0.0	0.0
9:14 AM	0.0	9:14 AM	0.0	0.0
9:29 AM	0.0	9:29 AM	0.0	0.0
9:44 AM	0.0	9:44 AM	0.1	0.1
9:59 AM	0.0	9:59 AM	0.0	0.0
10:14 AM	0.0	10:14 AM	0.0	0.0
10:29 AM	0.0	10:29 AM	0.0	0.0
10:44 AM	0.0	10:44 AM	0.1	0.1
10:59 AM	0.0	10:59 AM	0.1	0.1
11:14 AM	0.0	11:14 AM	0.1	0.1
11:29 AM	0.0	11:29 AM	0.0	0.0
11:44 AM	0.0	11:44 AM	0.0	0.0
11:59 AM	0.0	11:59 AM	0.0	0.0
12:14 PM	0.0	12:14 PM	0.0	0.0
12:29 PM	0.0	12:29 PM	0.0	0.0
12:44 PM	0.0	12:44 PM	0.0	0.0
12:59 PM	0.0	12:59 PM	0.0	0.0
1:14 PM	0.0	1:14 PM	0.0	0.0
1:29 PM	0.0	1:29 PM	0.0	0.0
1:44 PM	0.0	1:44 PM	0.0	0.0
1:59 PM	0.0	1:59 PM	NM	0.0
2:14 PM	0.0	2:14 PM	NM	0.0
2:29 PM	0.0	2:29 PM	NM	0.0

VOC - Volatile Organic Compound
 PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

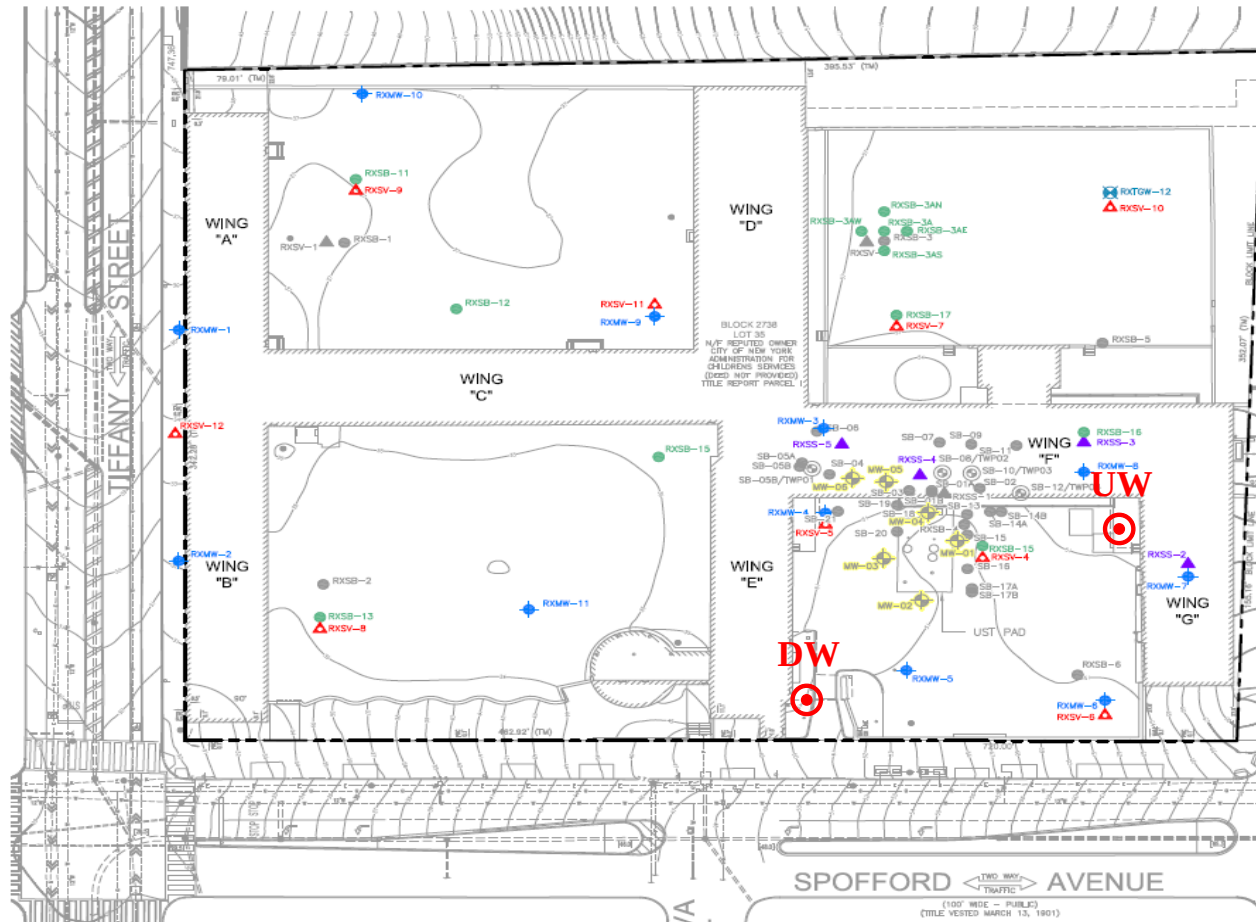
Field Representative: Laura Sugano

Project: The Peninsula JV, LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/26/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
4/26/2018	7:51 AM	SW	10.4 mph	77.0 °F	3:50 PM	64.9 °F	
4/26/2018	8:51 AM	WSW	4.6 mph	80.1 °F	2:24 PM	64.9 °F	
4/26/2018	9:51 AM	WSW	4.6 mph	82.9 °F	12:57 PM	64.9 °F	
4/26/2018	10:51 AM	WNW	5.8 mph	84.0 °F	12:14 PM	64.0 °F	
4/26/2018	11:51 AM	West	10.4 mph	89.1 °F	9:36 AM	62.1 °F	
4/26/2018	12:51 PM	SW	9.2 mph	90.0 °F	10:04 AM	64.0 °F	
4/26/2018	1:51 PM	SSW	12.7 mph	91.0 °F	9:21 AM	63.0 °F	
4/26/2018	2:51 PM	WSW	10.4 mph	90.0 °F	9:07 AM	61.0 °F	
4/26/2018	3:51 PM	SW	10.4 mph	90.0 °F	9:21 AM	62.1 °F	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/26/2018
 Times: 8:00 AM to 2:30 PM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/30/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
7:31 AM	0.016	7:31 AM	0.059	0.043
7:46 AM	0.008	7:46 AM	0.033	0.025
8:01 AM	0.008	8:01 AM	0.047	0.039
8:16 AM	0.011	8:16 AM	0.014	0.003
8:31 AM	0.010	8:31 AM	0.037	0.027
8:46 AM	0.010	8:46 AM	0.053	0.043
9:01 AM	0.010	9:01 AM	0.027	0.017
9:16 AM	0.007	9:16 AM	0.031	0.024
9:31 AM	0.009	9:31 AM	0.051	0.042
9:46 AM	0.008	9:46 AM	0.040	0.032
10:01 AM	0.010	10:01 AM	0.060	0.050
10:16 AM	0.008	10:16 AM	0.087	0.079
10:31 AM	0.007	10:31 AM	0.058	0.051
10:46 AM	0.007	10:46 AM	0.051	0.044
11:01 AM	0.007	11:01 AM	0.055	0.048
11:16 AM	0.008	11:16 AM	0.052	0.044
11:31 AM	0.007	11:31 AM	0.031	0.024
11:46 AM	0.039	11:46 AM	0.050	0.011
12:01 PM	0.013	12:01 PM	0.049	0.036
12:16 PM	0.011	12:16 PM	0.419	0.408
12:31 PM	0.010	12:31 PM	0.013	0.003
12:46 PM	0.008	12:46 PM	0.012	0.004
1:01 PM	0.008	1:01 PM	0.012	0.004
1:16 PM	0.008	1:16 PM	0.012	0.004
1:31 PM	0.008	1:31 PM	0.012	0.004
1:46 PM	0.008	1:46 PM	0.013	0.005
2:01 PM	0.008	2:01 PM	0.012	0.004
2:16 PM	0.007	2:16 PM	NM	0.007

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 4/30/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
7:26 AM	0.0	7:26 AM	0.0	0.0
7:41 AM	0.0	7:41 AM	0.0	0.0
7:56 AM	0.0	7:56 AM	0.0	0.0
8:11 AM	0.0	8:11 AM	0.0	0.0
8:26 AM	0.0	8:26 AM	0.0	0.0
8:41 AM	0.0	8:41 AM	0.0	0.0
8:56 AM	0.0	8:56 AM	0.0	0.0
9:11 AM	0.0	9:11 AM	0.0	0.0
9:26 AM	0.0	9:26 AM	0.0	0.0
9:41 AM	0.0	9:41 AM	0.0	0.0
9:56 AM	0.0	9:56 AM	0.0	0.0
10:11 AM	0.0	10:11 AM	0.0	0.0
10:26 AM	0.0	10:26 AM	0.0	0.0
10:41 AM	0.0	10:41 AM	0.0	0.0
10:56 AM	0.0	10:56 AM	0.0	0.0
11:11 AM	0.0	11:11 AM	0.0	0.0
11:26 AM	0.0	11:26 AM	0.0	0.0
11:41 AM	0.0	11:41 AM	0.0	0.0
11:56 AM	0.0	11:56 AM	0.0	0.0
12:11 PM	0.0	12:11 PM	0.4	0.4
12:26 PM	0.0	12:26 PM	0.0	0.0
12:41 PM	0.0	12:41 PM	0.0	0.0
12:56 PM	0.0	12:56 PM	0.0	0.0
1:11 PM	0.0	1:11 PM	0.0	0.0
1:26 PM	0.0	1:26 PM	0.0	0.0
1:41 PM	0.0	1:41 PM	0.0	0.0
1:56 PM	0.0	1:56 PM	0.0	0.0
2:11 PM	0.0	2:11 PM	NM	0.0

VOC - Volatile Organic Compound
 PPM - parts per million

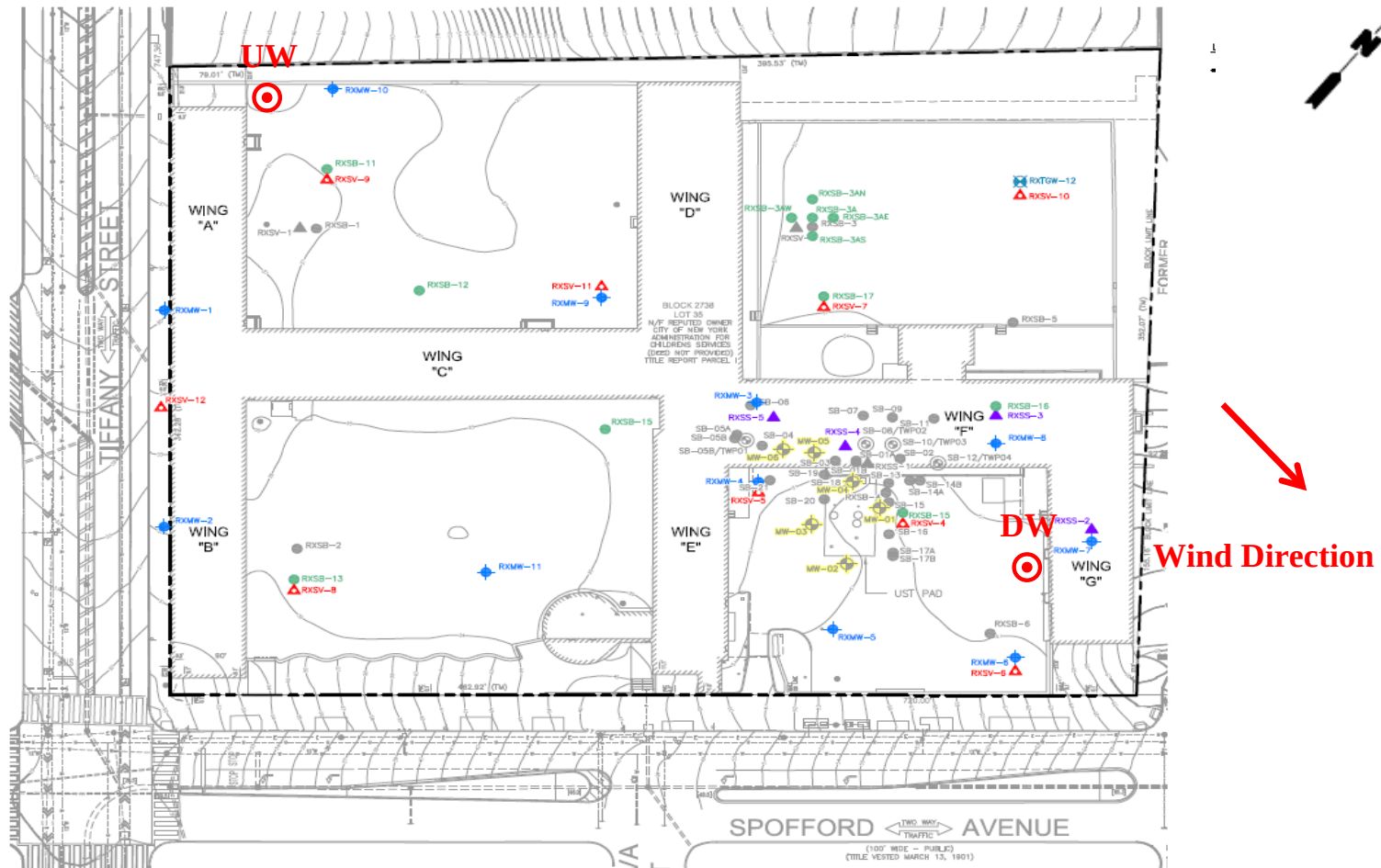
Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

Field Representative: Laura Sugano

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/30/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
4/30/2018	6:51 AM	NE	8.1 mph	63.0 °F	30.11 in	97%	
4/30/2018	7:27 AM	NE	8.1 mph	63.0 °F	30.12 in	97%	
4/30/2018	7:51 AM	NE	8.1 mph	63.0 °F	30.12 in	97%	
4/30/2018	8:03 AM	NE	8.1 mph	64.0 °F	30.13 in	93%	
4/30/2018	8:17 AM	NE	8.1 mph	64.0 °F	30.13 in	93%	
4/30/2018	8:51 AM	NE	10.4 mph	64.0 °F	30.14 in	93%	
4/30/2018	9:51 AM	NE	10.4 mph	64.0 °F	30.14 in	90%	
4/30/2018	10:47 AM	NE	12.7 mph	64.4 °F	30.14 in	88%	
4/30/2018	10:51 AM	NE	11.5 mph	64.9 °F	30.14 in	87%	
4/30/2018	11:23 AM	NE	11.5 mph	66.9 °F	30.15 in	81%	
4/30/2018	11:51 AM	NE	9.2 mph	66.9 °F	30.14 in	81%	

Project: The Peninsula JV LLC
Project Number: 2611.0002Y000
Project Manager: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 4/30/2018
Times: 7:00 AM to 14:15 PM



Notes: CAMP - Community Air Monitoring Program
UW - Upwind CAMP Station
DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/1/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
7:49 AM	0.022	7:49 AM	0.027	0.005
8:04 AM	0.020	8:04 AM	0.026	0.006
8:19 AM	0.019	8:19 AM	0.027	0.008
8:34 AM	0.020	8:34 AM	0.029	0.009
8:49 AM	0.022	8:49 AM	0.031	0.009
9:04 AM	0.023	9:04 AM	0.033	0.010
9:19 AM	0.024	9:19 AM	0.033	0.009
9:34 AM	0.021	9:34 AM	0.028	0.007
9:49 AM	0.020	9:49 AM	0.028	0.008
10:04 AM	0.020	10:04 AM	0.028	0.008
10:19 AM	0.018	10:19 AM	0.027	0.009
10:34 AM	0.018	10:34 AM	0.026	0.008
10:49 AM	0.017	10:49 AM	0.025	0.008
11:04 AM	0.018	11:04 AM	0.026	0.008
11:19 AM	0.016	11:19 AM	0.025	0.009
11:34 AM	0.017	11:34 AM	0.026	0.009
11:49 AM	0.017	11:49 AM	0.028	0.011
12:04 PM	0.021	12:04 PM	0.034	0.013
12:19 PM	0.023	12:19 PM	0.031	0.008
12:34 PM	0.021	12:34 PM	0.030	0.009
12:49 PM	0.022	12:49 PM	0.032	0.010
1:04 PM	0.029	1:04 PM	0.034	0.005
1:19 PM	0.023	1:19 PM	0.033	0.010
1:34 PM	0.023	1:34 PM	0.034	0.011
1:49 PM	0.023	1:49 PM	0.035	0.012
2:04 PM	0.022	2:04 PM	0.035	0.013
2:19 PM	0.020	2:19 PM	0.033	0.013

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/1/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
7:53 AM	0.0	7:53 AM	0.0	0.0
8:08 AM	0.0	8:08 AM	0.0	0.0
8:23 AM	0.1	8:23 AM	0.0	-0.1
8:38 AM	0.1	8:38 AM	0.0	-0.1
8:53 AM	0.1	8:53 AM	0.0	-0.1
9:08 AM	0.2	9:08 AM	0.0	-0.2
9:23 AM	0.2	9:23 AM	0.0	-0.2
9:38 AM	0.2	9:38 AM	0.0	-0.2
9:53 AM	0.2	9:53 AM	0.0	-0.2
10:08 AM	0.2	10:08 AM	0.0	-0.2
10:23 AM	0.2	10:23 AM	0.0	-0.2
10:38 AM	0.2	10:38 AM	0.0	-0.2
10:53 AM	0.2	10:53 AM	0.0	-0.2
11:08 AM	0.2	11:08 AM	0.0	-0.2
11:23 AM	0.2	11:23 AM	0.0	-0.2
11:38 AM	0.2	11:38 AM	0.0	-0.2
11:53 AM	0.3	11:53 AM	0.0	-0.3
12:08 PM	0.3	12:08 PM	0.0	-0.3
12:23 PM	0.3	12:23 PM	0.0	-0.3
12:38 PM	0.3	12:38 PM	0.0	-0.3
12:53 PM	0.3	12:53 PM	0.0	-0.3
1:08 PM	0.3	1:08 PM	0.0	-0.3
1:23 PM	0.3	1:23 PM	0.0	-0.3
1:38 PM	0.3	1:38 PM	0.0	-0.3
1:53 PM	0.3	1:53 PM	0.0	-0.3
2:08 PM	0.3	2:08 PM	0.0	-0.3
2:23 PM	0.3	2:23 PM	0.0	-0.3

NM - Not Measured
 VOC - Volatile Organic Compound
 PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

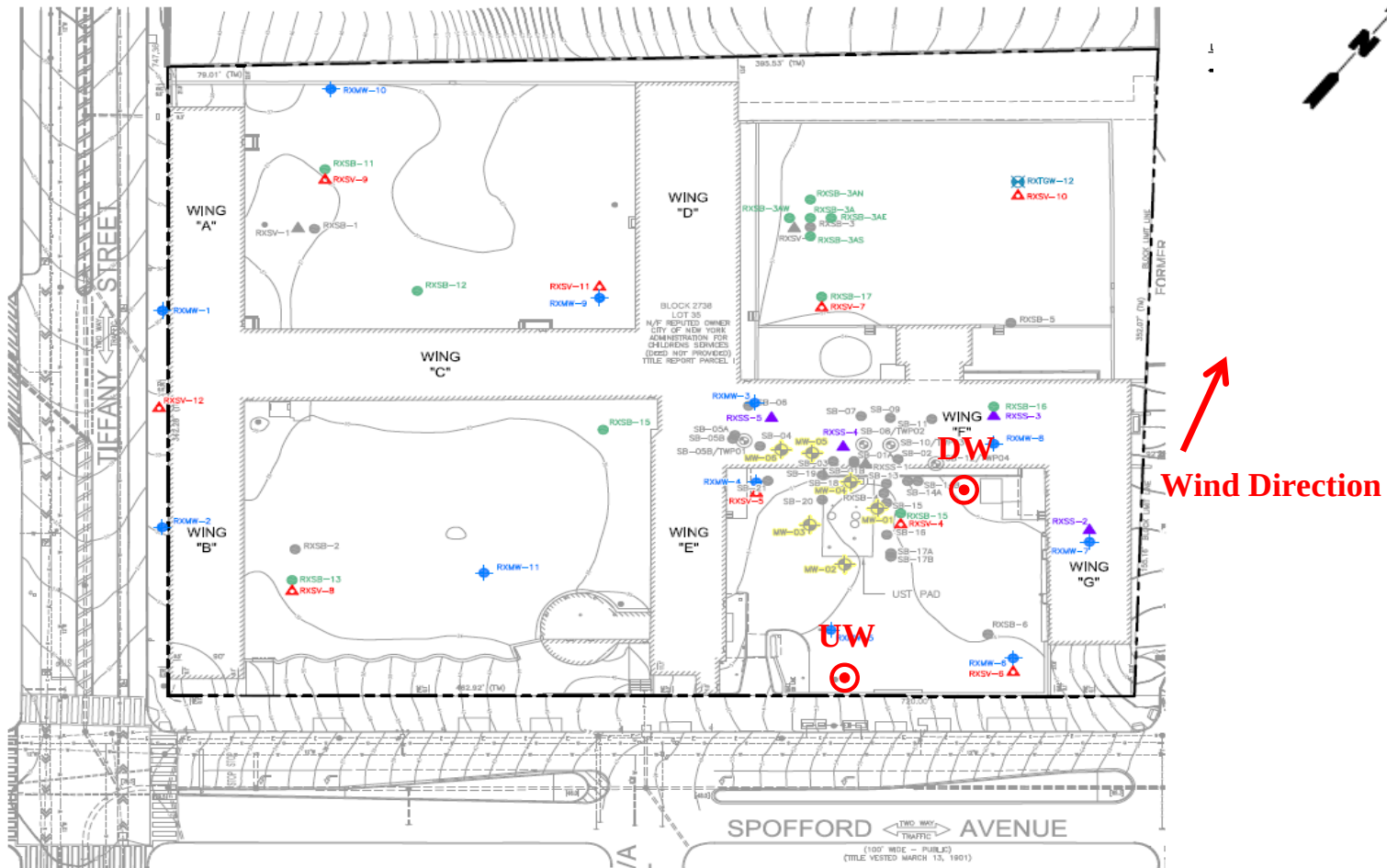
Field Representative: Laura Sugano

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 5/1/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
5/1/2018	6:51 AM	West	3.5 mph	52.0 °F	30.06 in	49%	
5/1/2018	7:51 AM	NW	6.9 mph	54.0 °F	30.07 in	47%	
5/1/2018	8:51 AM	WNW	11.5 mph	57.0 °F	30.08 in	39%	
5/1/2018	9:51 AM	NW	12.7 mph	60.1 °F	30.08 in	32%	
5/1/2018	10:51 AM	NW	8.1 mph	64.9 °F	30.07 in	26%	
5/1/2018	11:51 AM	WNW	19.6 mph	68.0 °F	30.05 in	19%	
5/1/2018	12:51 PM	NW	16.1 mph	70.0 °F	30.04 in	22%	
5/1/2018	1:51 PM	NNW	11.5 mph	73.0 °F	30.03 in	18%	
5/1/2018	2:51 PM	NW	11.5 mph	75.0 °F	30.01 in	18%	
5/1/2018	3:51 PM	NW	11.5 mph	75.9 °F	30.01 in	19%	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/1/2018
 Times: 7:00 AM to 14:15 PM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/2/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
7:37 AM	0.024	7:37 AM	0.027	0.003
7:52 AM	0.026	7:52 AM	0.033	0.007
8:07 AM	0.030	8:07 AM	0.037	0.007
8:22 AM	0.026	8:22 AM	0.032	0.006
8:37 AM	0.024	8:37 AM	0.029	0.005
8:52 AM	0.023	8:52 AM	0.028	0.005
9:07 AM	0.026	9:07 AM	0.027	0.001
9:22 AM	0.021	9:22 AM	0.026	0.005
9:37 AM	0.021	9:37 AM	0.026	0.005
9:52 AM	0.022	9:52 AM	0.027	0.005

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/2/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
7:44 AM	0.2	7:44 AM	0.0	-0.2
7:59 AM	0.2	7:59 AM	0.0	-0.2
8:14 AM	0.2	8:14 AM	0.0	-0.2
8:29 AM	0.2	8:29 AM	0.1	-0.1
8:44 AM	0.2	8:44 AM	0.1	-0.1
8:59 AM	0.2	8:59 AM	0.1	-0.1
9:14 AM	0.2	9:14 AM	0.1	-0.1
9:29 AM	0.2	9:29 AM	0.1	-0.1
9:44 AM	0.2	9:44 AM	0.1	-0.1
9:59 AM	0.2	9:59 AM	0.1	-0.1

VOC - Volatile Organic Compound

PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

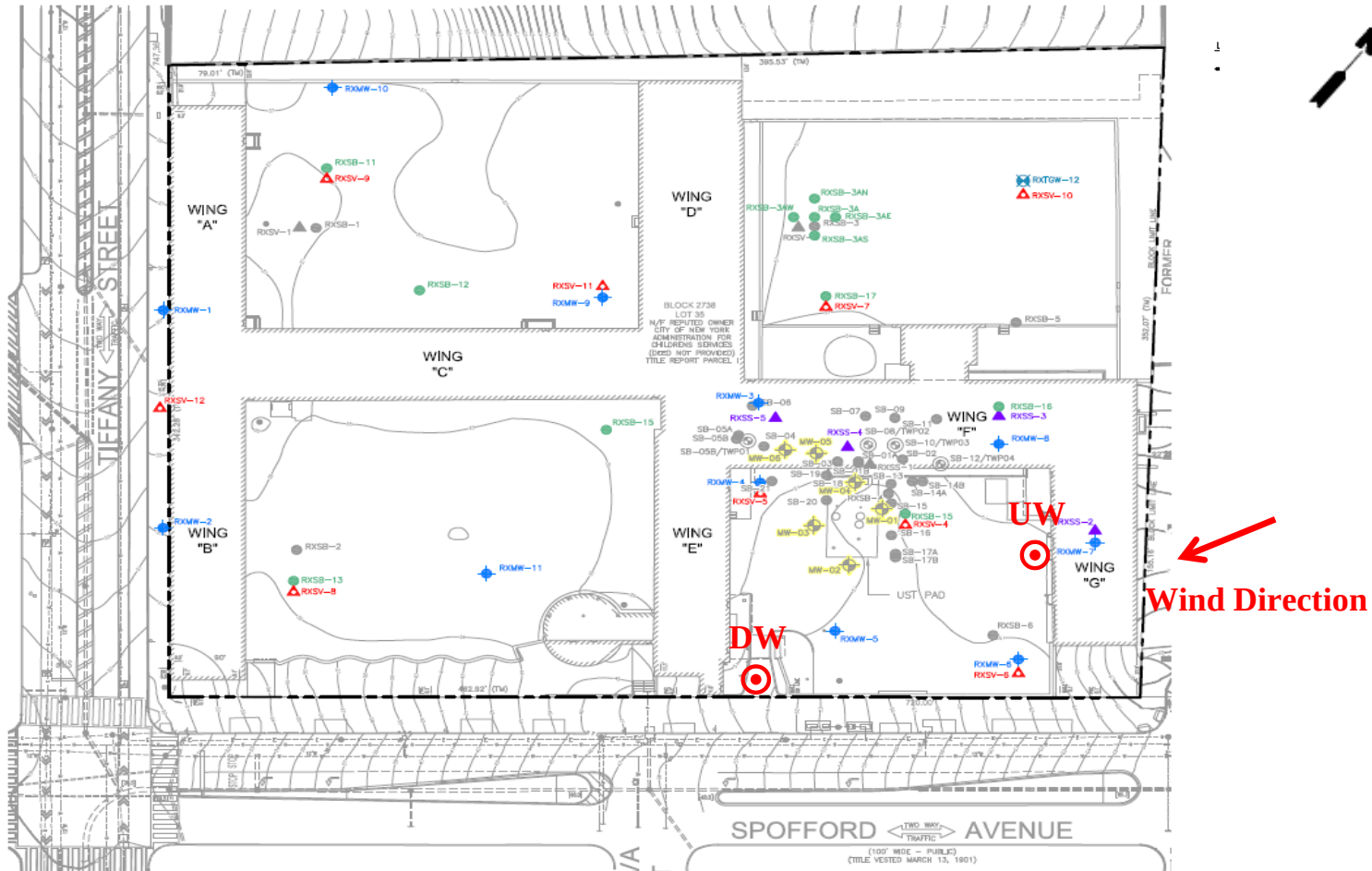
Field Representative: Laura Sugano

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 5/2/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
5/2/2018	6:51 AM	SW	5.8 mph	66.0 °F	30.08 in	32%	
5/2/2018	7:51 AM	SW	6.9 mph	70.0 °F	30.09 in	28%	
5/2/2018	8:51 AM	SW	9.2 mph	75.0 °F	30.08 in	22%	
5/2/2018	9:51 AM	WSW	9.2 mph	80.1 °F	30.08 in	17%	
5/2/2018	10:51 AM	WSW	9.2 mph	82.0 °F	30.07 in	18%	
5/2/2018	12:51 PM	SSW	15.0 mph	86.0 °F	30.04 in	16%	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/2/2018
 Times: 7:00 AM to 10:00 AM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/22/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
9:08 AM	0.055	9:08 AM	0.046	-0.009
9:23 AM	0.054	9:23 AM	0.043	-0.011
9:38 AM	0.046	9:38 AM	0.043	-0.003
9:53 AM	0.045	9:53 AM	0.036	-0.009
10:08 AM	0.036	10:08 AM	0.035	-0.001
10:23 AM	0.036	10:23 AM	0.034	-0.002
10:38 AM	0.035	10:38 AM	0.035	0.000
10:53 AM	0.035	10:53 AM	0.039	0.004
11:08 AM	0.022	11:08 AM	0.035	0.013
11:23 AM	0.035	11:23 AM	0.031	-0.004
11:38 AM	0.035	11:38 AM	0.022	-0.013
11:53 AM	0.034	11:53 AM	0.017	-0.017
12:08 PM	0.035	12:08 PM	0.018	-0.017
12:23 PM	0.039	12:23 PM	0.018	-0.021
12:38 PM	0.046	12:38 PM	0.021	-0.025
12:53 PM	0.043	12:53 PM	0.016	-0.027
1:08 PM	0.043	1:08 PM	0.014	-0.029
1:23 PM	0.018	1:23 PM	0.015	-0.003
1:38 PM	0.021	1:38 PM	0.015	-0.006
1:53 PM	0.016	1:53 PM	0.015	-0.001
2:08 PM	0.022	2:08 PM	0.013	-0.009
2:23 PM	0.017	2:23 PM	0.015	-0.002

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/22/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
9:02 AM	0.1	9:02 AM	0.0	-0.1
9:17 AM	0.7	9:17 AM	0.0	-0.7
9:32 AM	1.1	9:32 AM	0.0	-1.1
9:47 AM	1.5	9:47 AM	0.0	-1.5
10:02 AM	1.8	10:02 AM	0.0	-1.8
10:17 AM	2.2	10:17 AM	0.0	-2.2
10:32 AM	1.9	10:32 AM	0.0	-1.9
10:47 AM	1.6	10:47 AM	0.0	-1.6
11:02 AM	2.1	11:02 AM	0.0	-2.1
11:17 AM	2.0	11:17 AM	0.0	-2.0
11:32 AM	2.2	11:32 AM	0.0	-2.2
11:47 AM	2.4	11:47 AM	0.0	-2.4
12:02 PM	2.3	12:02 PM	0.1	-2.2
12:17 PM	2.5	12:17 PM	0.1	-2.4
12:32 PM	2.3	12:32 PM	0.1	-2.2
12:47 PM	2.3	12:47 PM	0.0	-2.3
1:02 PM	2.1	1:02 PM	0.0	-2.1
1:17 PM	2.2	1:17 PM	0.0	-2.2
1:32 PM	2.0	1:32 PM	0.0	-2.0
1:47 PM	2.1	1:47 PM	0.0	-2.1
2:02 PM	2.5	2:02 PM	0.0	-2.5
2:17 PM	2.3	2:17 PM	0.0	-2.3

VOC - Volatile Organic Compound
 PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

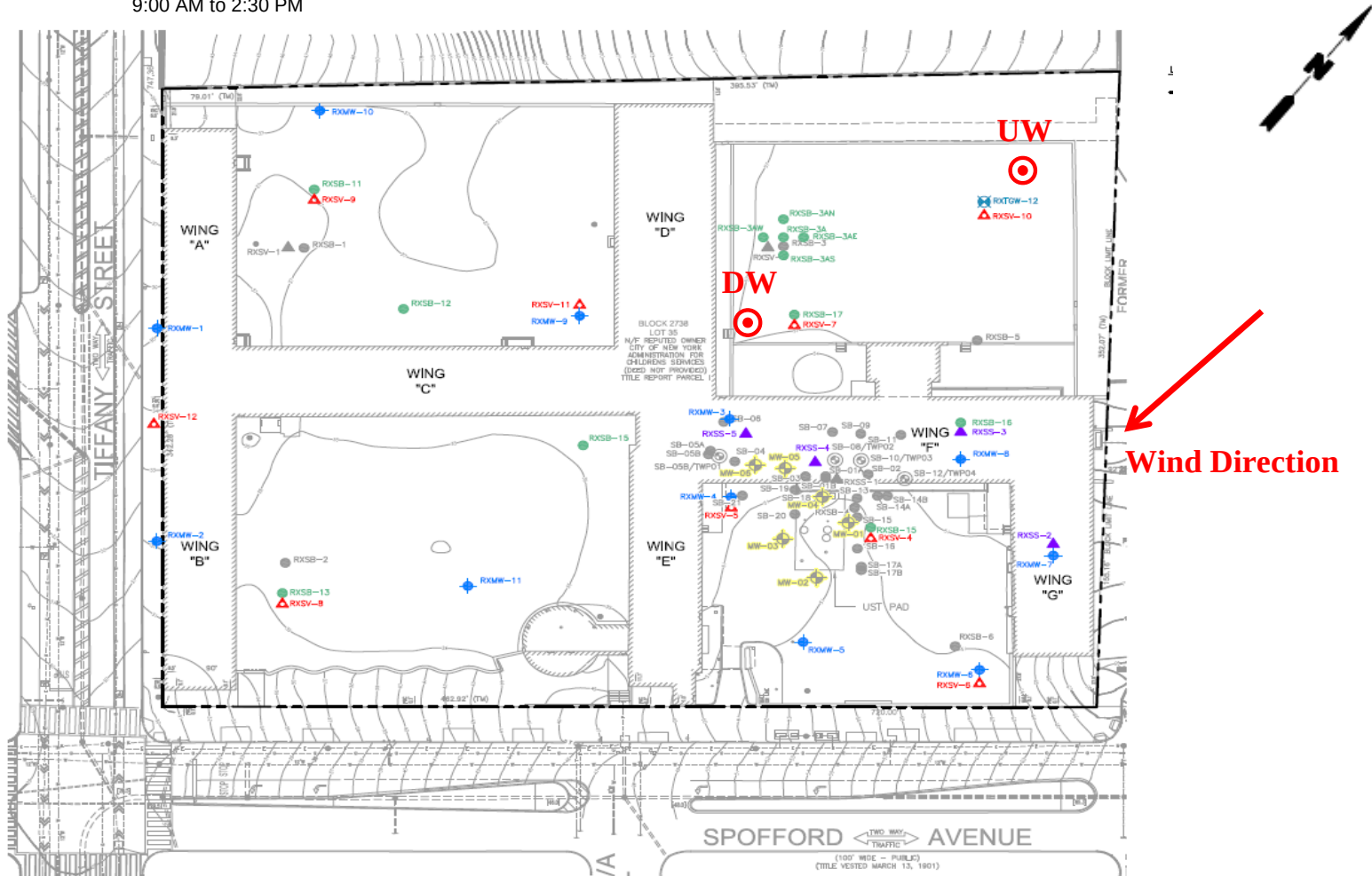
Field Representative: Laura Sugano

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 5/22/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
5/22/2018	8:51 AM	Calm	Calm	69.1 °F	30.16 in	54%	
5/22/2018	9:51 AM	South	5.8 mph	68.0 °F	30.15 in	56%	
5/22/2018	10:51 AM	South	8.1 mph	66.0 °F	30.15 in	65%	
5/22/2018	11:51 AM	South	6.9 mph	66.0 °F	30.14 in	59%	
5/22/2018	12:51 PM	South	15.0 mph	64.9 °F	30.12 in	61%	
5/22/2018	1:51 PM	South	10.4 mph	64.9 °F	30.11 in	56%	
5/22/2018	2:51 PM	SSE	6.9 mph	63.0 °F	30.11 in	67%	
5/22/2018	3:51 PM	Calm	Calm	60.1 °F	30.08 in	64%	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/22/2018
 Times: 9:00 AM to 2:30 PM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DCP.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/23/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
8:02 AM	0.078	8:02 AM	0.062	-0.016
8:17 AM	0.057	8:17 AM	0.043	-0.014
8:32 AM	0.053	8:32 AM	0.036	-0.017
8:47 AM	0.049	8:47 AM	0.028	-0.021
9:02 AM	0.056	9:02 AM	0.035	-0.021
9:17 AM	0.048	9:17 AM	0.037	-0.011
9:32 AM	0.044	9:32 AM	0.032	-0.012
9:47 AM	0.035	9:47 AM	0.028	-0.007
10:02 AM	0.030	10:02 AM	0.022	-0.008
10:17 AM	0.027	10:17 AM	0.020	-0.007
10:32 AM	0.018	10:32 AM	0.015	-0.003
10:47 AM	0.015	10:47 AM	0.015	0.000
11:02 AM	0.014	11:02 AM	0.012	-0.002
11:17 AM	0.016	11:17 AM	0.013	-0.003
11:32 AM	0.026	11:32 AM	0.013	-0.013
11:47 AM	0.025	11:47 AM	0.013	-0.012
12:02 PM	0.026	12:02 PM	0.013	-0.013
12:17 PM	0.028	12:17 PM	0.012	-0.016
12:32 PM	0.028	12:32 PM	0.012	-0.016
12:47 PM	0.027	12:47 PM	0.012	-0.015
1:02 PM	0.026	1:02 PM	0.010	-0.016
1:17 PM	0.017	1:17 PM	0.010	-0.007
1:32 PM	0.035	1:32 PM	0.009	-0.026
1:47 PM	0.013	1:47 PM	0.010	-0.003
2:02 PM	NM	2:02 PM	0.010	0.010

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DCP.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/23/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
8:17 AM	0.0	8:32 AM	0.0	0.0
8:32 AM	0.0	8:47 AM	0.0	0.0
8:47 AM	0.0	9:02 AM	0.0	0.0
9:02 AM	0.0	9:17 AM	0.0	0.0
9:17 AM	0.0	9:32 AM	0.0	0.0
9:32 AM	0.0	9:47 AM	0.0	0.0
9:47 AM	0.0	10:02 AM	0.0	0.0
10:02 AM	0.0	10:17 AM	0.0	0.0
10:17 AM	0.0	10:32 AM	0.0	0.0
10:32 AM	0.0	10:47 AM	0.0	0.0
10:47 AM	0.0	11:02 AM	0.0	0.0
11:02 AM	0.0	11:17 AM	0.0	0.0
11:17 AM	0.0	11:32 AM	0.0	0.0
11:32 AM	0.0	11:47 AM	0.0	0.0
11:47 AM	0.0	12:02 PM	0.0	0.0
12:02 PM	0.0	12:17 PM	0.0	0.0
12:17 PM	0.0	12:32 PM	0.0	0.0
12:32 PM	0.0	12:47 PM	0.0	0.0
12:47 PM	0.0	1:02 PM	0.0	0.0
1:02 PM	0.0	1:17 PM	0.0	0.0
1:17 PM	0.0	1:32 PM	0.0	0.0
1:32 PM	0.0	1:47 PM	0.0	0.0
1:47 PM	0.0	2:02 PM	NM	0.0
2:02 PM	0.0	2:17 PM	NM	0.0
2:17 PM	0.0	12:00 AM	NM	0.0

VOC - Volatile Organic Compound
 PPM - parts per million

**Roux Environmental Engineering and Geology, DCP.
Community Air Monitoring Program - Weather**

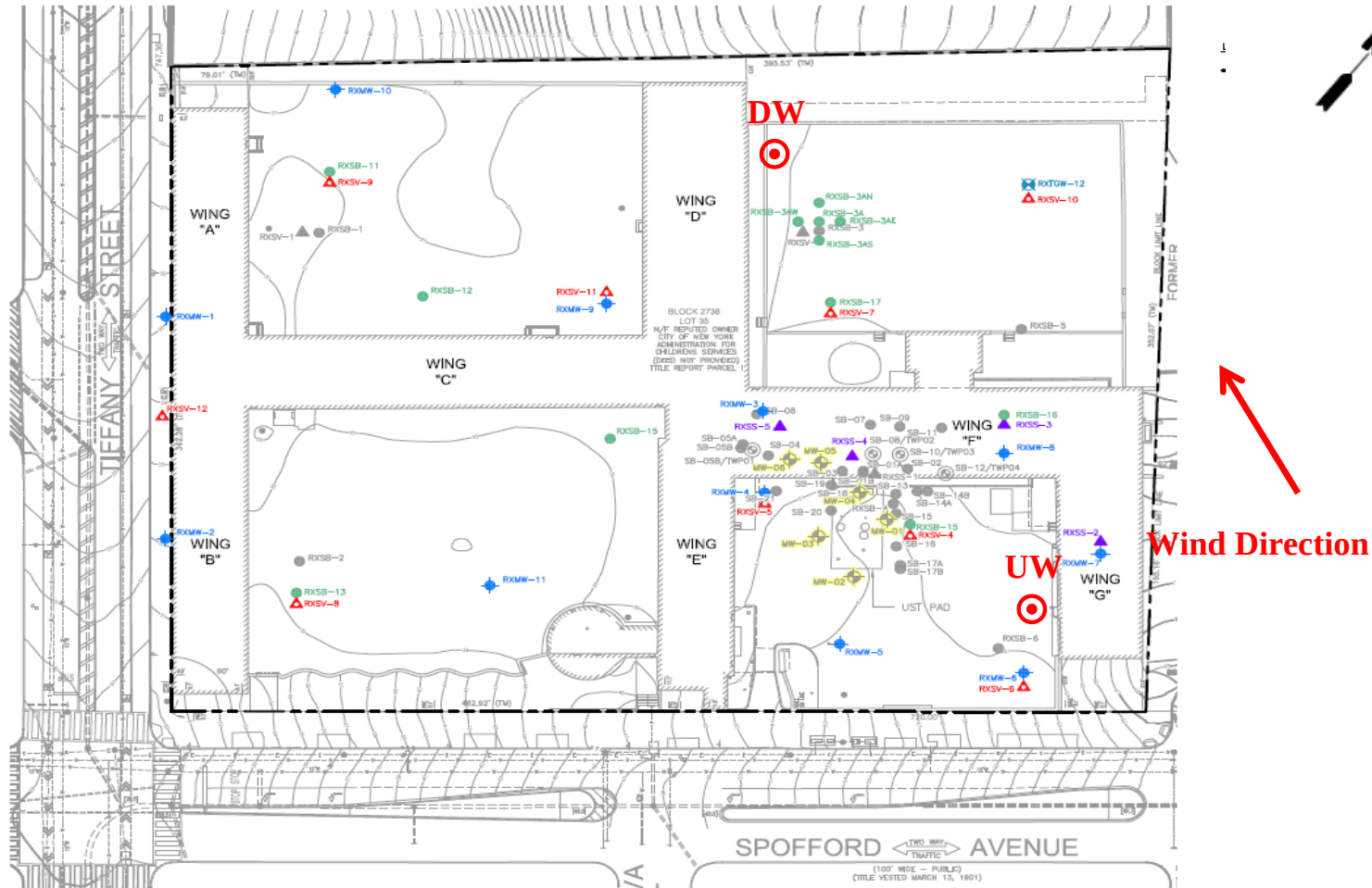
Field Representative: Rachel Miller

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 5/23/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
5/23/2018	7:51 AM	West	3.5 mph	64.0 °F	29.91 in	84%	
5/23/2018	8:51 AM	NW	3.5 mph	66.9 °F	29.92 in	79%	
5/23/2018	9:51 AM	NW	6.9 mph	68.0 °F	29.92 in	76%	
5/23/2018	10:51 AM	NNW	11.5 mph	71.1 °F	29.94 in	70%	
5/23/2018	11:18 AM	North	9.2 mph	71.1 °F	29.94 in	70%	
5/23/2018	11:51 AM	NNE	8.1 mph	71.1 °F	29.94 in	70%	
5/23/2018	11:58 AM	North	11.5 mph	72.0 °F	29.94 in	66%	
5/23/2018	12:51 PM	NNW	10.4 mph	72.0 °F	29.94 in	64%	

Roux Environmental Engineering and Geology, DCP.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/23/2018
 Times: 8:00 AM to 2:30 PM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/24/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
8:08 AM	0.032	8:08 AM	NM	0.032
8:23 AM	0.032	8:23 AM	NM	0.032
8:38 AM	0.033	8:38 AM	NM	0.033
8:53 AM	0.030	8:53 AM	NM	0.030
9:08 AM	0.027	9:08 AM	NM	0.027
9:23 AM	0.023	9:23 AM	NM	0.023
9:38 AM	0.021	9:38 AM	NM	0.021
9:53 AM	0.018	9:53 AM	NM	0.018
10:08 AM	0.016	10:08 AM	NM	0.016
10:23 AM	0.014	10:23 AM	NM	0.014
10:38 AM	0.009	10:38 AM	NM	0.009
10:53 AM	0.014	10:53 AM	NM	0.014
11:08 AM	0.014	11:08 AM	NM	0.014
11:23 AM	0.014	11:23 AM	NM	0.014
11:38 AM	0.014	11:38 AM	NM	0.014
11:53 AM	0.014	11:53 AM	NM	0.014

* There was a malfunction in the Downwind DustTrak that could not be fixed

NM - Not Measured

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/24/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
8:09 AM	0.1	8:09 AM	0.1	0.0
8:24 AM	0.1	8:24 AM	0.3	0.2
8:39 AM	0.2	8:39 AM	0.4	0.2
8:54 AM	0.2	8:54 AM	0.3	0.1
9:09 AM	0.2	9:09 AM	0.3	0.1
9:24 AM	0.2	9:24 AM	0.3	0.1
9:39 AM	0.2	9:39 AM	0.3	0.1
9:54 AM	0.2	9:54 AM	0.4	0.2
10:09 AM	0.2	10:09 AM	0.4	0.2
10:24 AM	0.2	10:24 AM	0.3	0.1
10:39 AM	0.2	10:39 AM	0.3	0.1
10:54 AM	0.2	10:54 AM	0.2	0.0
11:09 AM	0.1	11:09 AM	0.2	0.1
11:24 AM	0.1	11:24 AM	0.2	0.1
11:39 AM	0.1	11:39 AM	NM	0.1
11:54 AM	0.1	11:54 AM	NM	0.1

VOC - Volatile Organic Compound
 PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

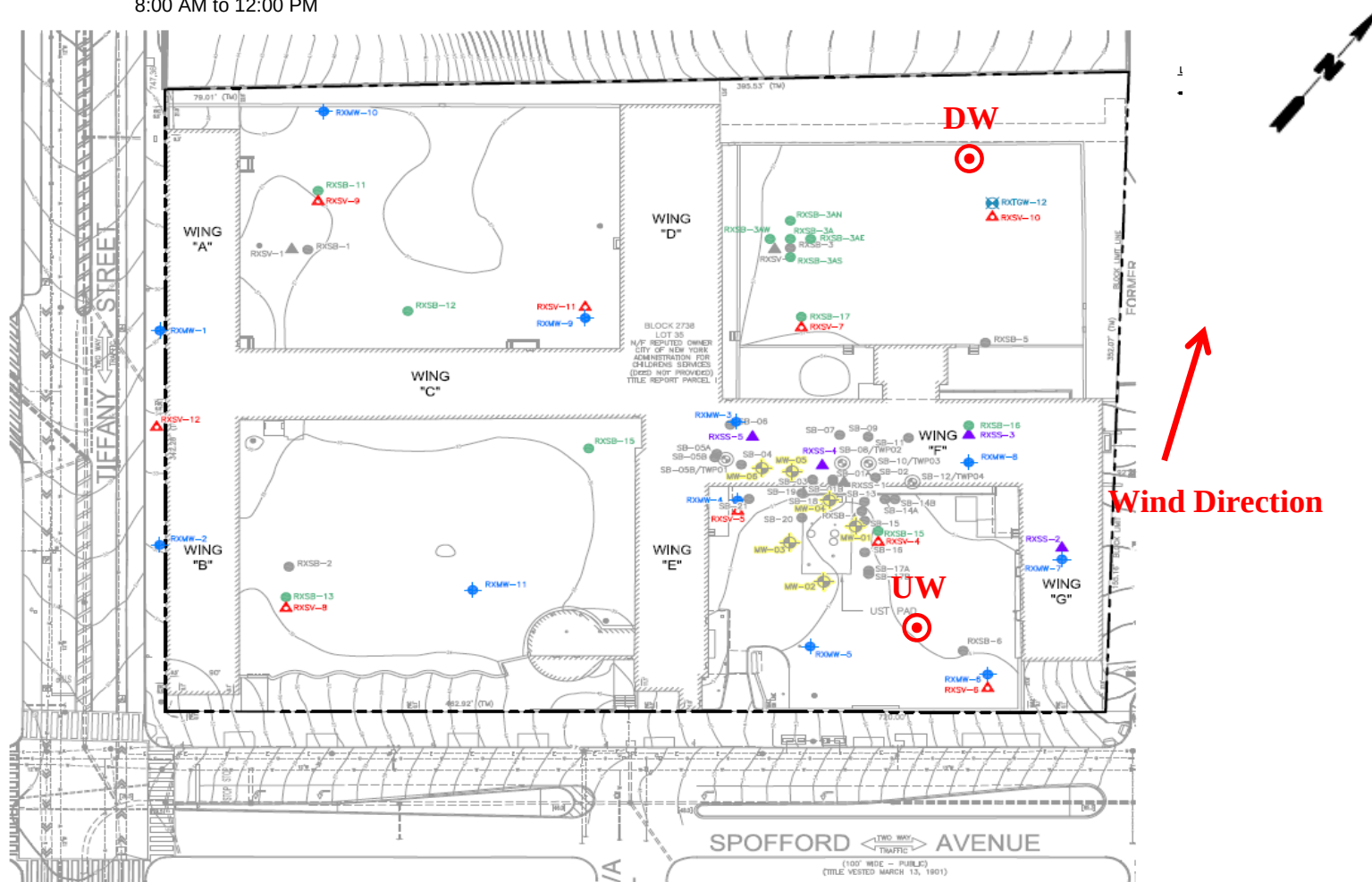
Field Representative: Laura Sugano

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 5/24/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
5/24/2018	7:51 AM	WNW	5.8 mph	68.0 °F	30.12 in	56%	
5/24/2018	8:51 AM	NNW	6.9 mph	72.0 °F	30.13 in	40%	
5/24/2018	9:51 AM	North	10.4 mph	73.9 °F	30.12 in	30%	
5/24/2018	10:51 AM	North	12.7 mph	75.0 °F	30.13 in	24%	
5/24/2018	11:51 AM	NNE	8.1 mph	78.1 °F	30.13 in	21%	
5/24/2018	12:51 PM	NNE	10.4 mph	79.0 °F	30.12 in	20%	
5/24/2018	1:51 PM	NE	5.8 mph	80.1 °F	30.11 in	20%	
5/24/2018	2:51 PM	NW	3.5 mph	82.0 °F	30.10 in	20%	
5/24/2018	3:51 PM	Variable	4.6 mph	84.0 °F	30.08 in	19%	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 5/24/2018
 Times: 8:00 AM to 12:00 PM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/14/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
3:02 PM	0.015	3:02 PM	0.013	-0.002
3:17 PM	0.006	3:17 PM	0.034	0.028
3:32 PM	0.011	3:32 PM	0.036	0.025
3:47 PM	0.004	3:47 PM	0.055	0.051
4:02 PM	0.005	4:02 PM	0.092	0.087
4:17 PM	0.004	4:17 PM	0.041	0.037
4:32 PM	0.003	4:32 PM	0.031	0.028
4:47 PM	0.002	4:47 PM	0.021	0.019
5:02 PM	0.001	5:02 PM	0.012	0.011

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/14/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
3:05 PM	0.0	3:03 PM	0.0	0.0
3:20 PM	0.0	3:18 PM	0.0	0.0
3:35 PM	0.0	3:33 PM	0.0	0.0
3:50 PM	0.0	3:48 PM	0.0	0.0
4:05 PM	0.0	4:03 PM	0.0	0.0
4:20 PM	0.0	4:18 PM	0.0	0.0
4:35 PM	0.0	4:33 PM	0.0	0.0
4:50 PM	0.0	4:48 PM	0.0	0.0
5:05 PM	0.0	5:03 PM	0.0	0.0

NM - Not Measured
 VOC - Volatile Organic Compound
 PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

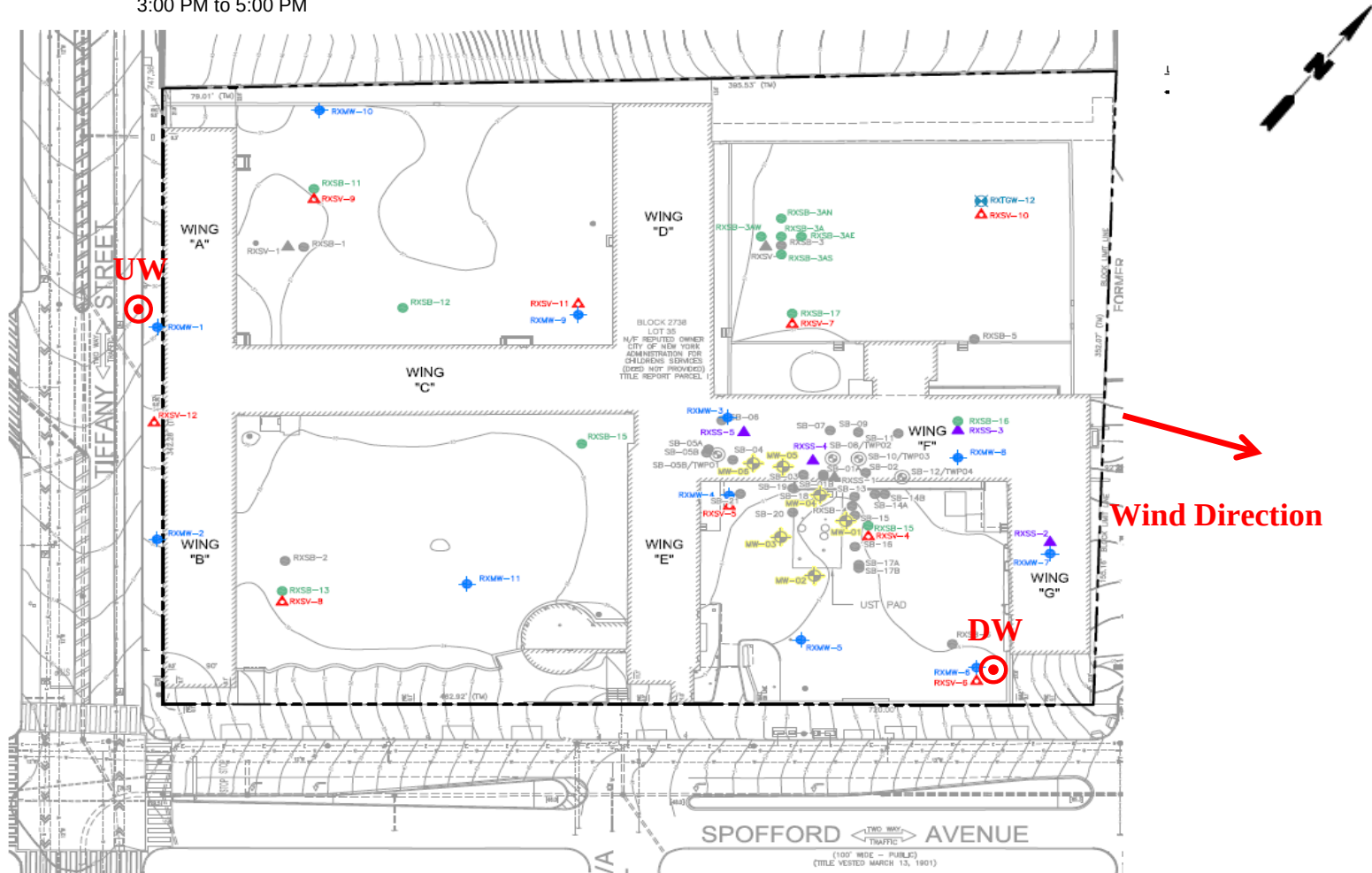
Field Representative: Rachel Miller

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 6/14/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
6/14/2018	12:51 PM	WNW	15.0 mph	80.1 °F	29.75 in	31%	
6/14/2018	1:51 PM	NW	18.4 mph	82.0 °F	29.75 in	29%	
6/14/2018	2:51 PM	WNW	18.4 mph	82.9 °F	29.74 in	28%	
6/14/2018	3:51 PM	West	18.4 mph	84.9 °F	29.74 in	25%	
6/14/2018	4:51 PM	NW	18.4 mph	84.0 °F	29.75 in	28%	
6/14/2018	5:51 PM	WNW	17.3 mph	82.9 °F	29.75 in	27%	

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/14/2018
 Times: 3:00 PM to 5:00 PM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind Dust No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/15/2018

Upwind Station		Downwind Station		15-min Average (Corrected for Background)
Time	15-min Avg. (mg/m ³)	Time	15-min Avg. (mg/m ³)	
7:31 AM	0.008	7:31 AM	0.009	0.001
7:46 AM	0.003	7:46 AM	0.005	0.002
8:01 AM	0.005	8:01 AM	0.005	0.000
8:16 AM	0.012	8:16 AM	0.007	-0.005
8:31 AM	0.009	8:31 AM	0.008	-0.001
8:46 AM	0.008	8:46 AM	0.008	0.000
9:01 AM	0.010	9:01 AM	0.007	-0.003
9:16 AM	0.008	9:16 AM	0.007	-0.001
9:31 AM	0.005	9:31 AM	0.007	0.002
9:46 AM	0.002	9:46 AM	0.005	0.003
10:01 AM	0.001	10:01 AM	0.004	0.003
10:16 AM	0.000	10:16 AM	0.005	0.005
10:31 AM	0.000	10:31 AM	0.004	0.004
10:46 AM	0.005	10:46 AM	0.006	0.001
11:01 AM	0.002	11:01 AM	0.006	0.004
11:16 AM	0.069	11:16 AM	0.006	-0.063
11:31 AM	0.001	11:31 AM	0.007	0.006
11:46 AM	0.002	11:46 AM	0.009	0.007
12:01 PM	0.000	12:01 PM	0.006	0.006
12:16 PM	0.000	12:16 PM	0.004	0.004
12:31 PM	0.000	12:31 PM	0.003	0.003
12:46 PM	0.000	12:46 PM	0.004	0.004
1:01 PM	0.000	1:01 PM	0.003	0.003
1:16 PM	0.000	1:16 PM	0.003	0.003
1:31 PM	0.012	1:31 PM	0.014	0.002
1:46 PM	0.003	1:46 PM	0.040	0.037
2:01 PM	0.002	2:01 PM	0.026	0.024
2:16 PM	0.002	2:16 PM	0.012	0.010
2:31 PM	0.001	2:31 PM	0.007	0.006
2:46 PM	0.005	2:46 PM	0.015	0.010
3:01 PM	0.003	3:01 PM	0.033	0.030
3:16 PM	0.001	3:16 PM	0.014	0.013
3:31 PM	0.006	3:31 PM	0.025	0.019
3:46 PM	0.008	3:46 PM	0.020	0.012
4:01 PM	0.001	4:01 PM	0.021	0.020
4:16 PM	0.001	4:16 PM	0.014	0.013
4:31 PM	0.002	4:31 PM	0.014	0.012
4:46 PM	0.004	4:46 PM	0.023	0.019
5:01 PM	0.004	5:01 PM	0.023	0.019
5:16 PM	0.003	5:16 PM	0.016	0.013
5:31 PM	0.019	5:31 PM	0.000	-0.019

NM - Not Measured

mg/m³ - milligrams per meters cubed

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Downwind VOC No. 1

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/15/2018

Upwind Station		Downwind Station #1		15-min Average (Corrected for Background)
Time	15-min Avg. (PPM)	Time	15-min Avg. (PPM)	
7:35 AM	0.1	7:31 AM	0.1	0.0
7:50 AM	0.1	7:46 AM	0.2	0.1
8:05 AM	0.2	8:01 AM	0.2	0.0
8:20 AM	0.2	8:16 AM	0.2	0.0
8:35 AM	0.3	8:31 AM	0.3	0.0
8:50 AM	0.3	8:46 AM	0.3	0.0
9:05 AM	0.2	9:01 AM	0.3	0.1
9:20 AM	0.2	9:16 AM	0.3	0.1
9:35 AM	0.2	9:31 AM	0.3	0.1
9:50 AM	0.2	9:46 AM	0.3	0.1
10:05 AM	0.2	10:01 AM	0.3	0.1
10:20 AM	0.2	10:16 AM	0.3	0.1
10:35 AM	0.2	10:31 AM	0.4	0.2
10:50 AM	0.1	10:46 AM	0.4	0.3
11:05 AM	0.1	11:01 AM	0.3	0.2
11:20 AM	0.1	11:16 AM	0.3	0.2
11:35 AM	0.1	11:31 AM	0.2	0.1
11:50 AM	0.2	11:46 AM	0.3	0.1
12:05 PM	0.4	12:01 PM	0.4	0.0
12:20 PM	0.5	12:16 PM	0.5	0.0
12:35 PM	0.5	12:31 PM	0.5	0.0
12:50 PM	0.5	12:46 PM	0.5	0.0
1:05 PM	0.6	1:01 PM	0.5	-0.1
1:20 PM	0.6	1:16 PM	0.5	-0.1
1:35 PM	0.6	1:31 PM	0.5	-0.1
1:50 PM	0.3	1:46 PM	0.3	0.0
2:05 PM	0.4	2:01 PM	0.4	0.0
2:20 PM	0.2	2:16 PM	0.4	0.2
2:35 PM	0.2	2:31 PM	0.3	0.1
2:50 PM	0.1	2:46 PM	0.2	0.1
3:05 PM	0.1	3:01 PM	0.2	0.1
3:20 PM	0.1	3:16 PM	0.2	0.1
3:35 PM	0.1	3:31 PM	0.2	0.1
3:50 PM	0.1	3:46 PM	0.2	0.1
4:05 PM	0.1	4:01 PM	0.2	0.1
4:20 PM	0.1	4:16 PM	0.2	0.1
4:35 PM	0.1	4:31 PM	0.2	0.1
4:50 PM	0.1	4:46 PM	0.3	0.2
5:05 PM	0.1	5:01 PM	0.2	0.1
5:20 PM	0.1	5:16 PM	0.2	0.1
5:35 PM	0.2	5:31 PM	0.2	0.0
5:50 PM	0.4	5:46 PM	0.4	0.0

VOC - Volatile Organic Compound

PPM - parts per million

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Weather

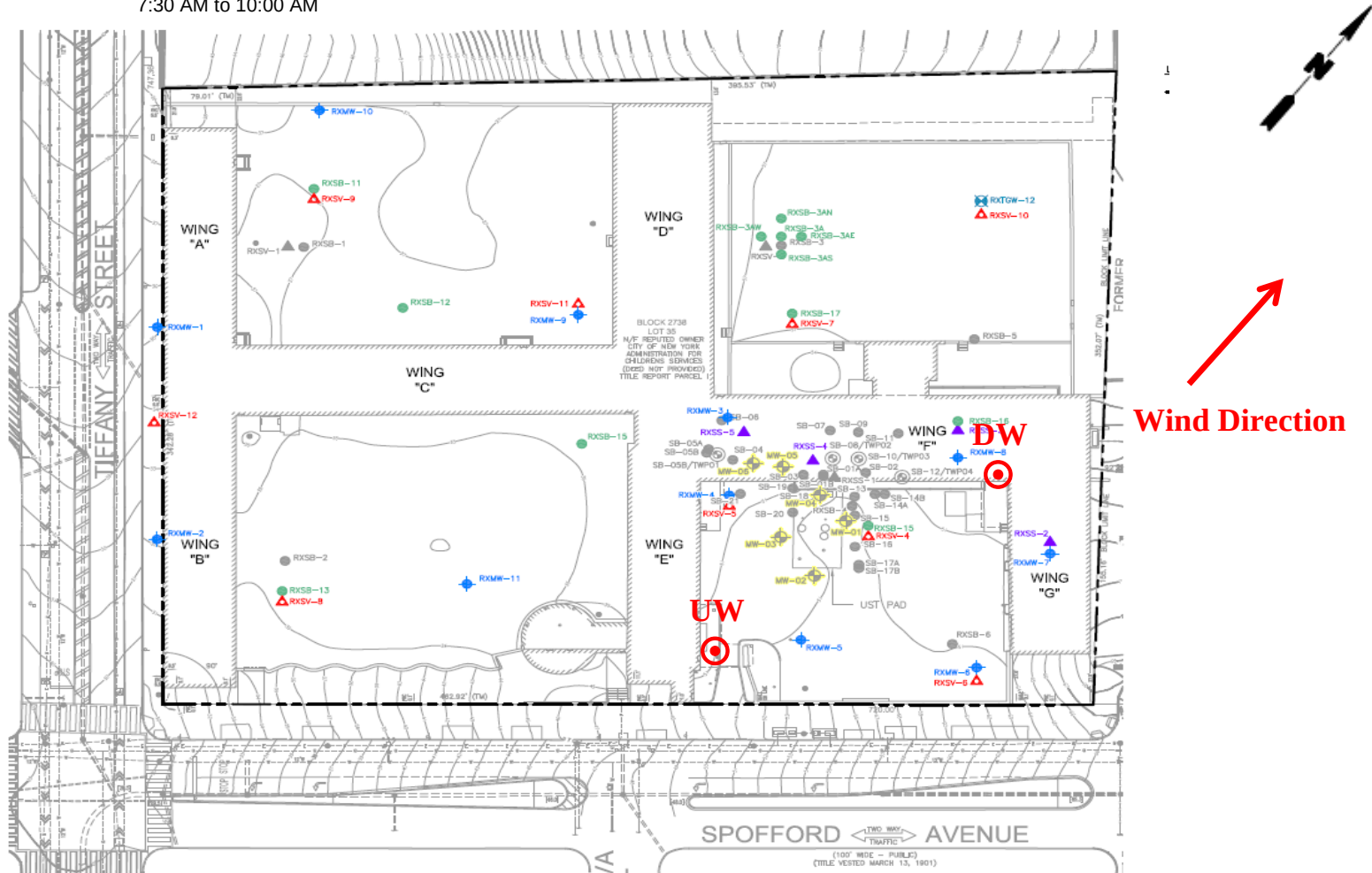
Field Representative: Rachel Miller

Project: The Peninsula JV LLC
PM: Jeff Wills
Location: 1221 Spofford Avenue, Bronx, NY
Date: 6/15/2018

Date	Time	Wind Direction	Wind Speed (mph)	Temperature (F)	Barometer (in)	Humidity (%)	Comments
6/15/2018	6:51 AM	NNW	15.0 mph	64.9 °F	29.90 in	58%	
6/15/2018	7:51 AM	NNW	13.8 mph	66.0 °F	29.92 in	59%	
6/15/2018	8:51 AM	NNW	12.7 mph	68.0 °F	29.94 in	55%	
6/15/2018	9:51 AM	NNW	9.2 mph	69.1 °F	29.94 in	53%	
6/15/2018	10:51 AM	North	13.8 mph	70.0 °F	29.94 in	51%	
6/15/2018	11:51 AM	North	10.4 mph	71.1 °F	29.94 in	51%	
6/15/2018	12:51 PM	NNW	10.4 mph	71.1 °F	29.94 in	49%	
6/15/2018	1:51 PM	North	9.2 mph	73.0 °F	29.93 in	46%	
6/15/2018	2:51 PM	North	6.9 mph	73.9 °F	29.94 in	45%	
6/15/2018	3:51 PM	North	5.8 mph	75.9 °F	29.95 in	42%	
6/15/2018	4:51 PM	NNE	6.9 mph	73.9 °F	29.95 in	43%	
6/15/2018	5:51 PM	North	11.5 mph	75.0 °F	29.95 in	41%	
6/15/2018	6:51 PM	North	11.5 mph	75.0 °F	29.94 in	41%	
6/15/2018	7:51 PM	North	6.9 mph	75.0 °F	29.96 in	41%	

Roux Environmental Engineering and Geology, DCP.
Community Air Monitoring Program - Meter Locations

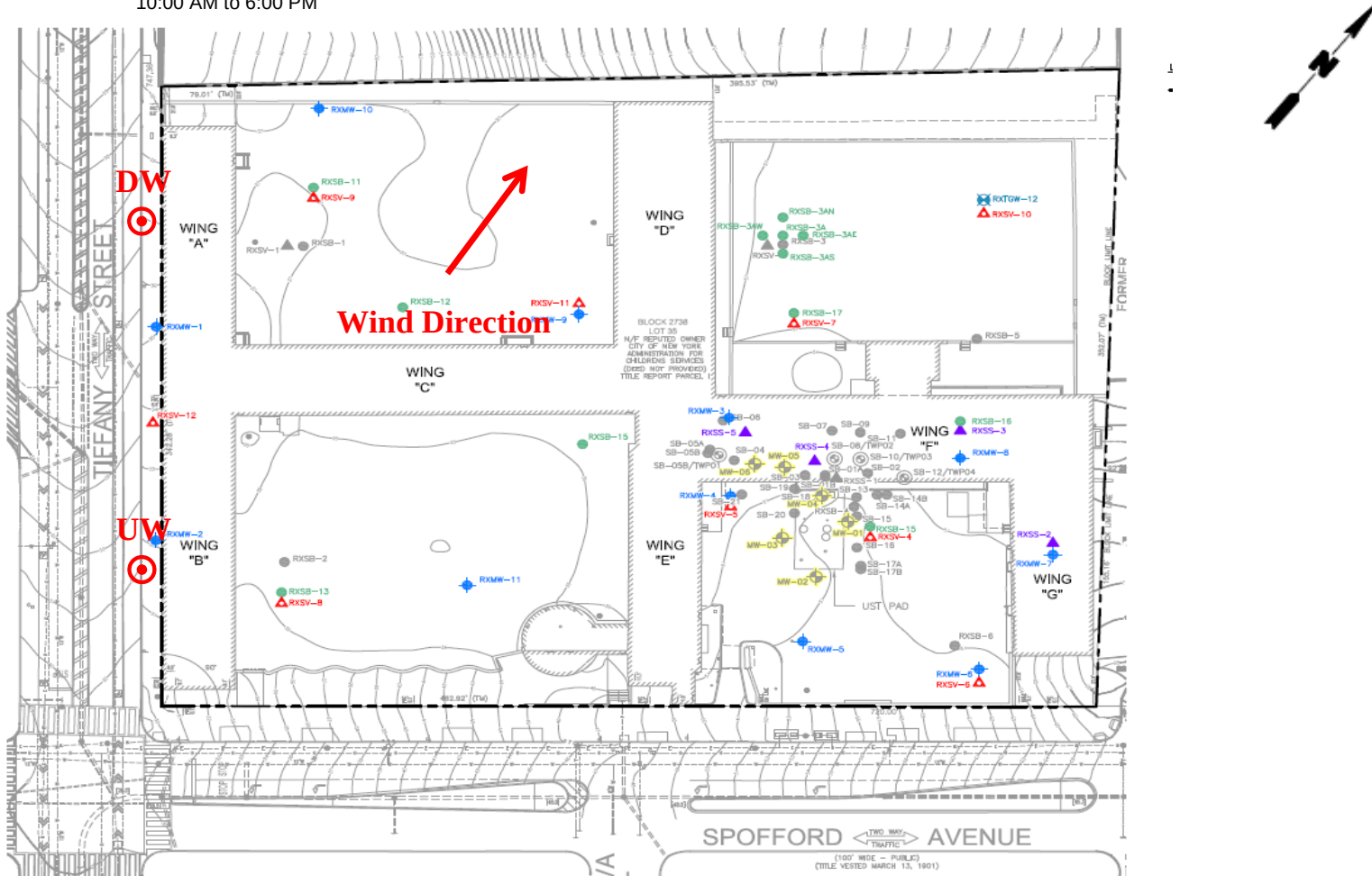
Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/15/2018
 Times: 7:30 AM to 10:00 AM



Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Roux Environmental Engineering and Geology, DPC.
Community Air Monitoring Program - Meter Locations

Project: The Peninsula JV LLC
 Project Number: 2611.0002Y000
 Project Manager: Jeff Wills
 Location: 1221 Spofford Avenue, Bronx, NY
 Date: 6/15/2018
 Times: 10:00 AM to 6:00 PM



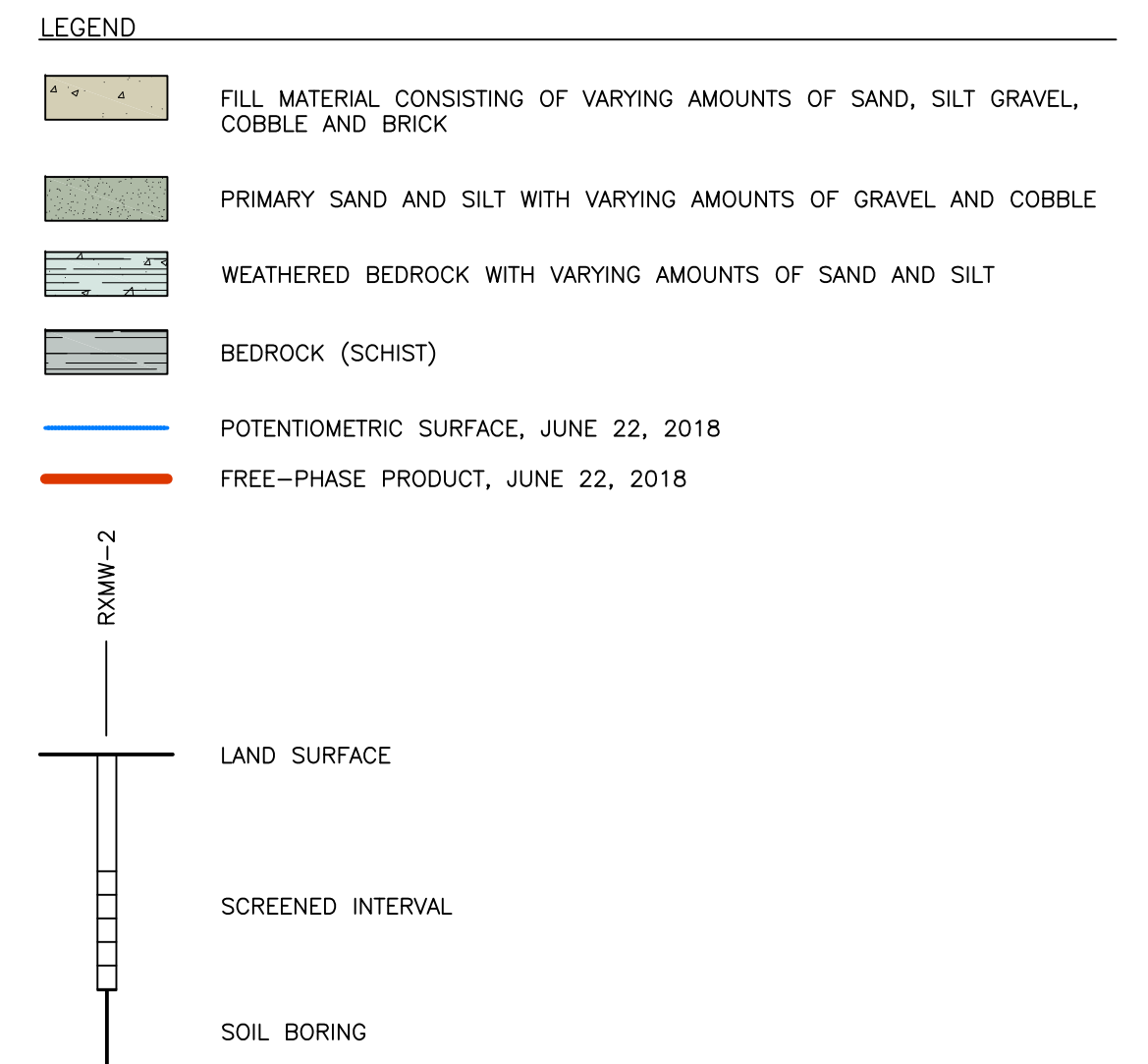
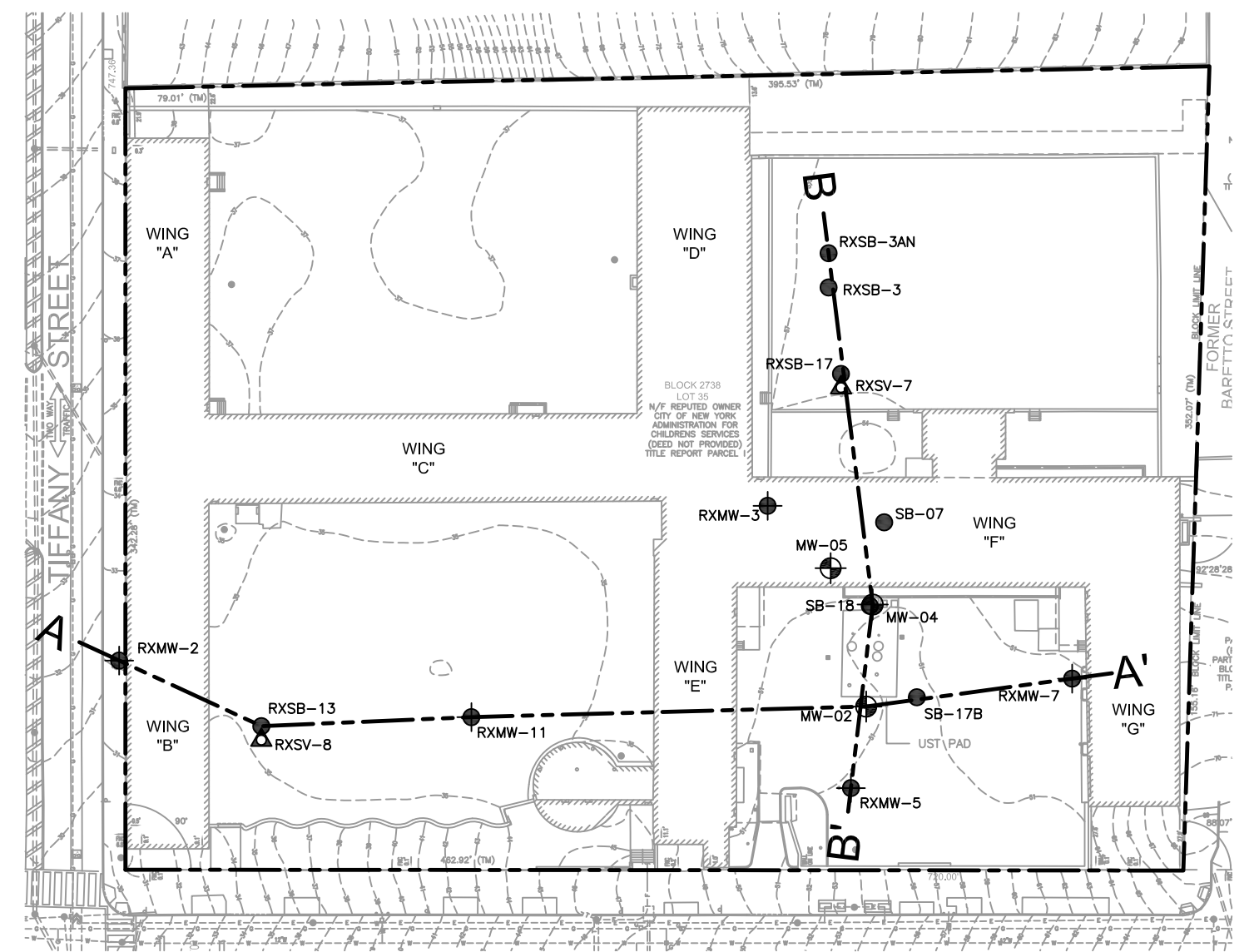
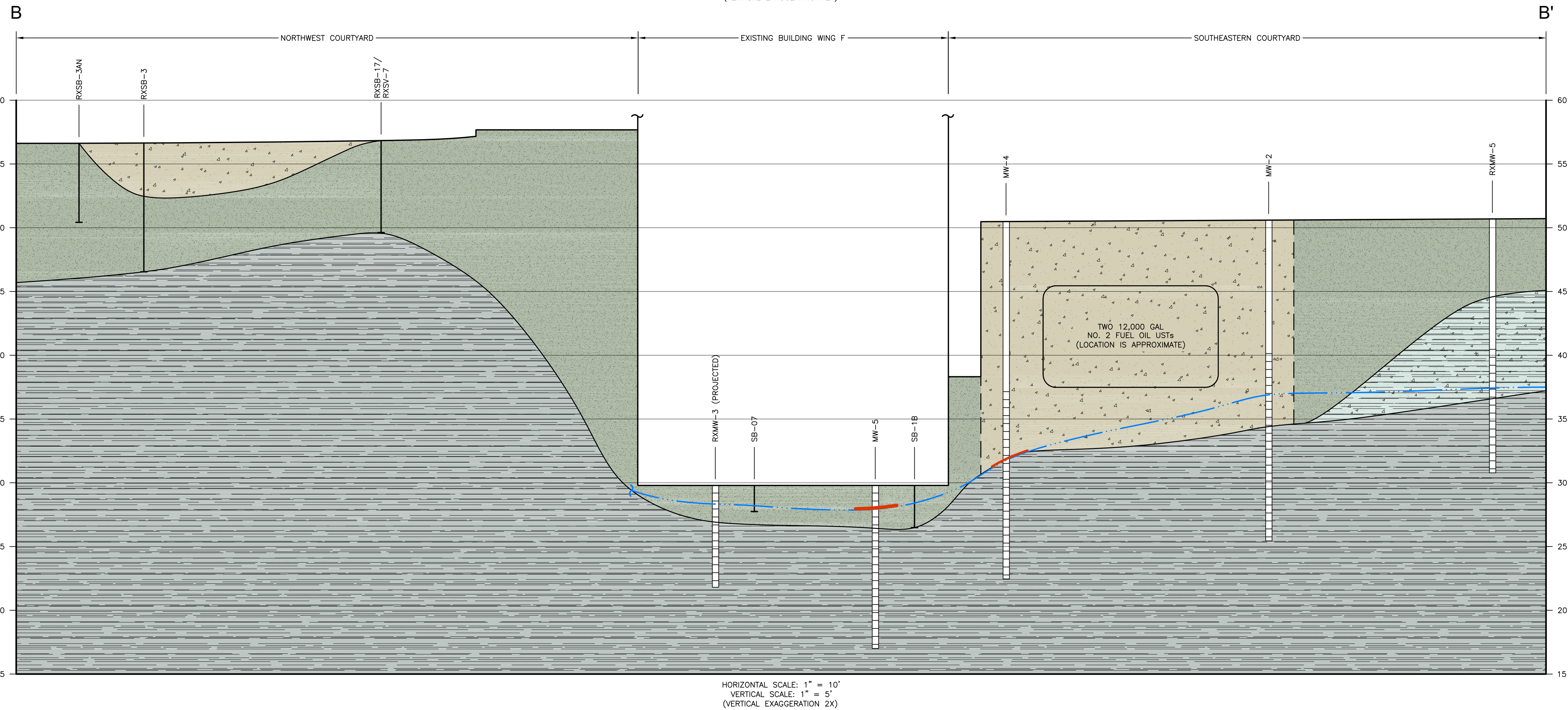
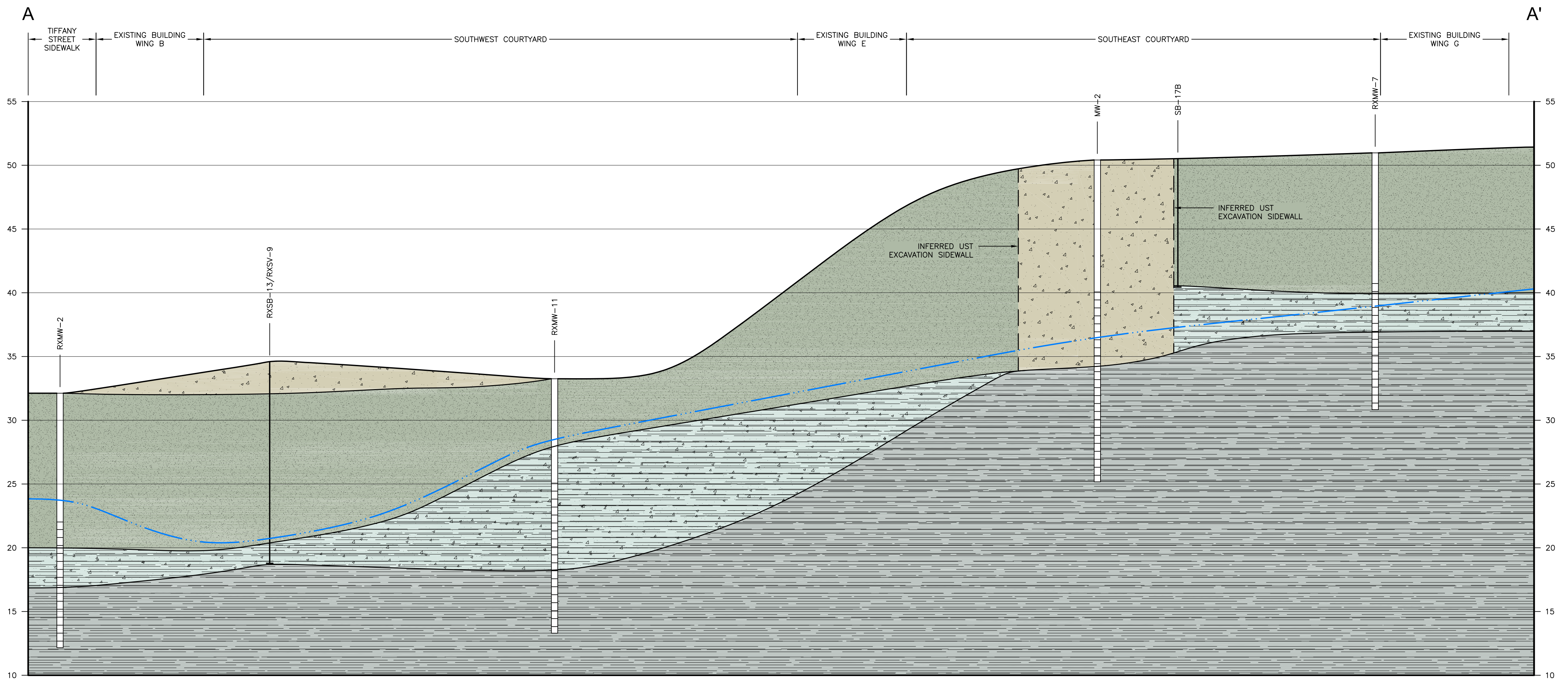
Notes: CAMP - Community Air Monitoring Program
 UW - Upwind CAMP Station
 DW - Downwind CAMP Station

Remedial Investigation Report
1221 Spofford Avenue, Bronx, New York

PLATES

1. Generalized Geologic Cross Section
2. Soil Results
3. Groundwater Results
4. Soil Vapor Results

V:\GEO\PROJECTS\2611Y\0002Y\113\2611.0002Y113.03.DWG



NOTE

1. NAVD88 — NORTH AMERICAN VERTICAL DATUM OF 1988.

Title: GENERALIZED HYDROGEOLOGIC CROSS SECTIONS A-A' AND B-B'				
1221 SPOFFORD AVENUE BRONX, NEW YORK				
Prepared For: THE PENINSULA JV, LLC				
ROUX	Compiled by: J.W.	Date: 9JUL18	PLATE	1
	Prepared by: G.M.	Scale: AS SHOWN		
	Project Mgr: J.W.	Project: 2611.0002Y000		
	File: 2611.0002Y113.03.DWG			

RXMW-10	6/22/2018
Parameter (µg/L)	
VOCs	ND
SVOCs	ND
Metals	
Iron (total)	1,560
Iron (dissolved)	850
Magnesium (total)	651
Magnesium (dissolved)	632
Sodium (total)	25,600
Sodium (dissolved)	22,000
PCBs	ND
Pesticides	ND

RXMW-9	6/22/2018
Parameter (µg/L)	
VOCs	ND
SVOCs	ND
Metals	
Iron (total)	14,600
Iron (dissolved)	NE
PCBs	ND
Pesticides	ND

RXMW-3	06/22/2018
Parameter (µg/L)	
VOCs	NE
SVOCs	ND
Metals	
Iron (total)	2,520
Iron (dissolved)	960
Magnesium (total)	37,300
Magnesium (dissolved)	35,900
Manganese (total)	506
Manganese (dissolved)	480
Sodium (total)	27,300
Sodium (dissolved)	26,100
PCBs	ND
Pesticides	ND

MW-6	06/22/2018
Parameter (µg/L)	
VOCs	NE
SVOCs	ND
Metals	
Iron (total)	4,270
Iron (dissolved)	1,310
Magnesium (total)	59,800
Magnesium (dissolved)	56,600
Manganese (total)	495
Manganese (dissolved)	464
Sodium (total)	251,000
Sodium (dissolved)	151,000
PCBs	ND
Pesticides	ND

MW-1	06/21/2018
Parameter (µg/L)	
VOCs	
Ethylbenzene	10
SVOCs	NE
Metals	
Iron (total)	2,820
Iron (dissolved)	1,770
Manganese (total)	526
Manganese (dissolved)	486
PCBs	ND
Pesticides	ND

RXMW-1	06/22/2018
Parameter (µg/L)	
VOCs	NE
Chloroform	7.3
SVOCs	ND
Metals	
Iron (total)	14,800
Iron (dissolved)	NE
Lead (total)	26
Lead (dissolved)	NE
Sodium (total)	21,100
Sodium (dissolved)	23,200
PCBs	ND
Pesticides	ND

RXMW-2	06/22/2018
Parameter (µg/L)	
VOCs	NE
SVOCs	ND
Metals	
Iron (total)	973
Iron (dissolved)	NE
Manganese (total)	606
Manganese (dissolved)	525
Sodium (total)	70,900
Sodium (dissolved)	68,500
PCBs	ND
Pesticides	ND

RXMW-11	6/22/2018
Parameter (µg/L)	
VOCs	ND
SVOCs	ND
Metals	
Iron (total)	2,250
Iron (dissolved)	1,060
Magnesium (total)	681
Magnesium (dissolved)	616
Sodium (total)	34,700
Sodium (dissolved)	32,400
PCBs	ND
Pesticides	ND

RXMW-4	6/21/2018	6/21/2018
Parameter (µg/L)		DUP
VOCs	ND	NE
SVOCs	NE	ND
Metals		
Antimony (total)	3.2	ND
Antimony (dissolved)	ND	ND
Iron (total)	5190	12,100
Iron (dissolved)	NE	NE
Magnesium (total)	37,800	37,200
Magnesium (dissolved)	NE	NE
Manganese (total)	655	653
Manganese (dissolved)	548	543
Sodium (total)	132,000	123,000
Sodium (dissolved)	128,000	129,000
PCBs	ND	ND
Pesticides	ND	ND

RXMW-5	6/21/2018
Parameter (µg/L)	
VOCs	NE
SVOCs	ND
Metals	
Magnesium (total)	61,800
Magnesium (dissolved)	54,800
Sodium (total)	245,000
Sodium (dissolved)	206,000
PCBs	ND
Pesticides	ND

MW-2	06/21/2018
Parameter (µg/L)	
VOCs	NE
Ethylbenzene	6.8
Isopropylbenzene	6.1
SVOCs	NE
Metals	
Iron (total)	2,330
Iron (dissolved)	353
Manganese (total)	533
Manganese (dissolved)	428
Sodium (total)	22,900
Sodium (dissolved)	NE
PCBs	ND
Pesticides	ND

RXMW-8	6/22/2018
Parameter (µg/L)	
VOCs	ND
SVOCs	ND
Metals	
Manganese (total)	49,600
Manganese (dissolved)	47,100
Sodium (total)	40,200
Sodium (dissolved)	37,700
PCBs	ND
Pesticides	ND

RXMW-7	6/21/2018
Parameter (µg/L)	
VOCs	NE
SVOCs	NE
Metals	
Iron (total)	766
Iron (dissolved)	NE
Sodium (total)	44,800
Sodium (dissolved)	42,200
PCBs	ND
Pesticides	ND

RXMW-6	6/21/2018
Parameter (µg/L)	
VOCs	
Tert-Butyl Methyl Ether	67
SVOCs	ND
Metals	
Iron (total)	1,190
Iron (dissolved)	NE
Magnesium (total)	46,100
Magnesium (dissolved)	NE
Manganese (total)	500
Manganese (dissolved)	482
Sodium (total)	48,800
Sodium (dissolved)	50,500
PCBs	ND
Pesticides	ND

LEGEND	
	SITE BOUNDARY
 RXMW-1	SOIL BORING AND GROUNDWATER WELL LOCATION AND DESIGNATION
 RXTOW-11	SOIL BORING AND TEMPORARY GROUNDWATER WELL LOCATION (OVBURDEN)
 RXSB-15	SOIL BORING LOCATION AND DESIGNATION
 RXSV-4	SOIL VAPOR LOCATION AND DESIGNATION
 RXSS-2	SUB-SLAB SOIL VAPOR LOCATION AND DESIGNATION
 SB-06	SOIL BORING LOCATION AND DESIGNATION FROM LOUIS BERGER AND ASSOCIATES, 2009 INVESTIGATION
 SB-08/ TWP02	COLOCATED SOIL BORING AND TEMPORARY WELL LOCATION AND DESIGNATION FROM LOUIS BERGER AND ASSOCIATES, 2009 INVESTIGATION
 MW-03	MONITORING WELL LOCATION AND DESIGNATION INSTALLED BY URS, 2014
 RXSB-3	APPROXIMATE SOIL BORING LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
 RXSS-1 RXSV-2	APPROXIMATE SUB-SLAB/ SOIL VAPOR POINT LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
 MW-06	MONITORING WELL RESAMPLING LOCATION AND DESIGNATION

DATA BOX KEY

The diagram illustrates the structure of a data table with four main components: Sample Location, Sample Date, Analyte, and Results. Arrows indicate the flow of information from these components into the table's columns.

SAMPLE LOCATION	SAMPLE DATE
RXMW-9	6/22/2018
Parameter (µg/L)	
VOCs	ND
SVOCs	ND
Metals	
Iron (total)	14,600
Iron (dissolved)	NE
PCBs	ND
Pesticides	ND
ANALYTE	RESULTS

Parameter	NYSDEC AWQSGVs
VOCs (µg/L)	
Chloroform	7
Ethylbenzene	5
Isopropylbenzene	5
Tert-Butyl Methyl Ether	10
Metals (µg/L)	
Antimony	3
Iron	300
Lead	25
Magnesium	35,000
Manganese	300
Sodium	20,000

µg/L – MICROGRAMS PER LITER

NYSDEC - NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

AWQSGV - AMBIENT GROUNDWATER QUALITY
STANDARD AND GUIDANCE VALUE

DUP = DUPLICATE SAMPLE

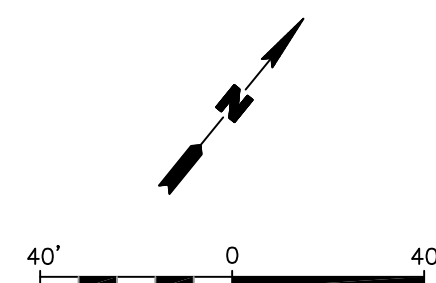
VOCs – VOLATILE ORGANIC COMPOUNDS

NE - NO EXCEEDANCE

ND - NO DETECTION

NS - NOT SAMPLED (MEASURABLE PRODUCT
DETECTED IN WELL)

BOLD - DATA INDICATES PARAMETER WAS
DETECTED ABOVE NYSDEC AWQSGV



Title: **GROUNDWATER RESULTS**

1221 SPOFFORD AVENUE
BRONX, NEW YORK

Prepared For: THE PENINSULA JV, LLC

ROUX	Compiled by: J.W.	Date: 9JUL18	PLATE 3
	Prepared by: G.M.	Scale: AS SHOWN	
	Project Mgr: J.W.	Project: 2611.0002Y000	
	File: 2611.0002Y113.03.DWG		

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RXSV-13 (7) Time 12:35	6/22/2018
VOCs (µg/m³)	
n-Butane	2.5 J
Chloromethane	1.2 J
n-Butane	23
Trichlorofluoromethane	6.4
Freon TF	0.75 J
Acetone	23 J
Carbon disulfide	19
Methylene Chloride	1.9 J
tert-Butyl alcohol	13 J
n-Hexane	4.8
Methyl Ethyl Ketone	1.9 J
Chloroform	16
Cyclohexane	2.6
Carbon tetrachloride	0.39 J
Benzene	1.5
n-Heptane	8.4
Trichloroethene	1.2
methyl isobutyl ketone	4.3
Toluene	9.2
Tetrachloroethene	5.1
Ethylbenzene	2.2
m,p-Xylene	5.5
Xylene, o-	1.8
Xylene (total)	7.4
Styrene	1.1 J
1,2,4-Trimethylbenzene	0.9 J

RXSV-9 (4) Time 10:35	5/23/2018
VOCs (µg/m³)	
n-Butane	8.5 J
1,1-Dichloroethene	1.6
Acetone	630
Carbon disulfide	13 J
tert-Butyl alcohol	64 J
Methyl Ethyl Ketone	110
Cyclohexane	2.3 J
Benzene	5.4 J
Toluene	22
Tetrachloroethene	6 J

RXSV-11 (5.5) Time 10:46	5/23/2018
VOCs (µg/m³)	
Acetone	410
Carbon disulfide	19
Methyl Ethyl Ketone	54
Benzene	5.4 J
Toluene	22
Tetrachloroethene	8.9 J

RXSS-5 Time 11:39	06/04/2018
VOCs (µg/m³)	
Acetone	64 J
tert-Butyl alcohol	96 J
Methyl Ethyl Ketone	6.4 J
Cyclohexane	3.4 J
Toluene	3.8 J

RXSV-7 (6) Time 11:55	06/04/2018
VOCs (µg/m³)	
Carbon disulfide	4.9 J

RXSV-10 (4) Time 12:18	06/04/2018
VOCs (µg/m³)	
n-Butane	40
Acetone	220
Carbon disulfide	20
tert-Butyl alcohol	45 J
Cyclohexane	8.9
2,2,4-Trimethylpentane	11
Toluene	2.9 J
Tetrachloroethene	5.3 J

RXSS-4 Time 11:40	06/04/2018
VOCs (µg/m³)	
n-Butane	8500
n-Hexane	2500
Cyclohexane	7200
2,2,4-Trimethylpentane	3800
n-Heptane	520
Trichloroethene	25

RXSS-3 Time 11:51	06/04/2018
VOCs (µg/m³)	
n-Butane	9.5 J
Cyclohexane	8.6
2,2,4-Trimethylpentane	5.1 J
Trichloroethene	3.4
Tetrachloroethene	9.3 J

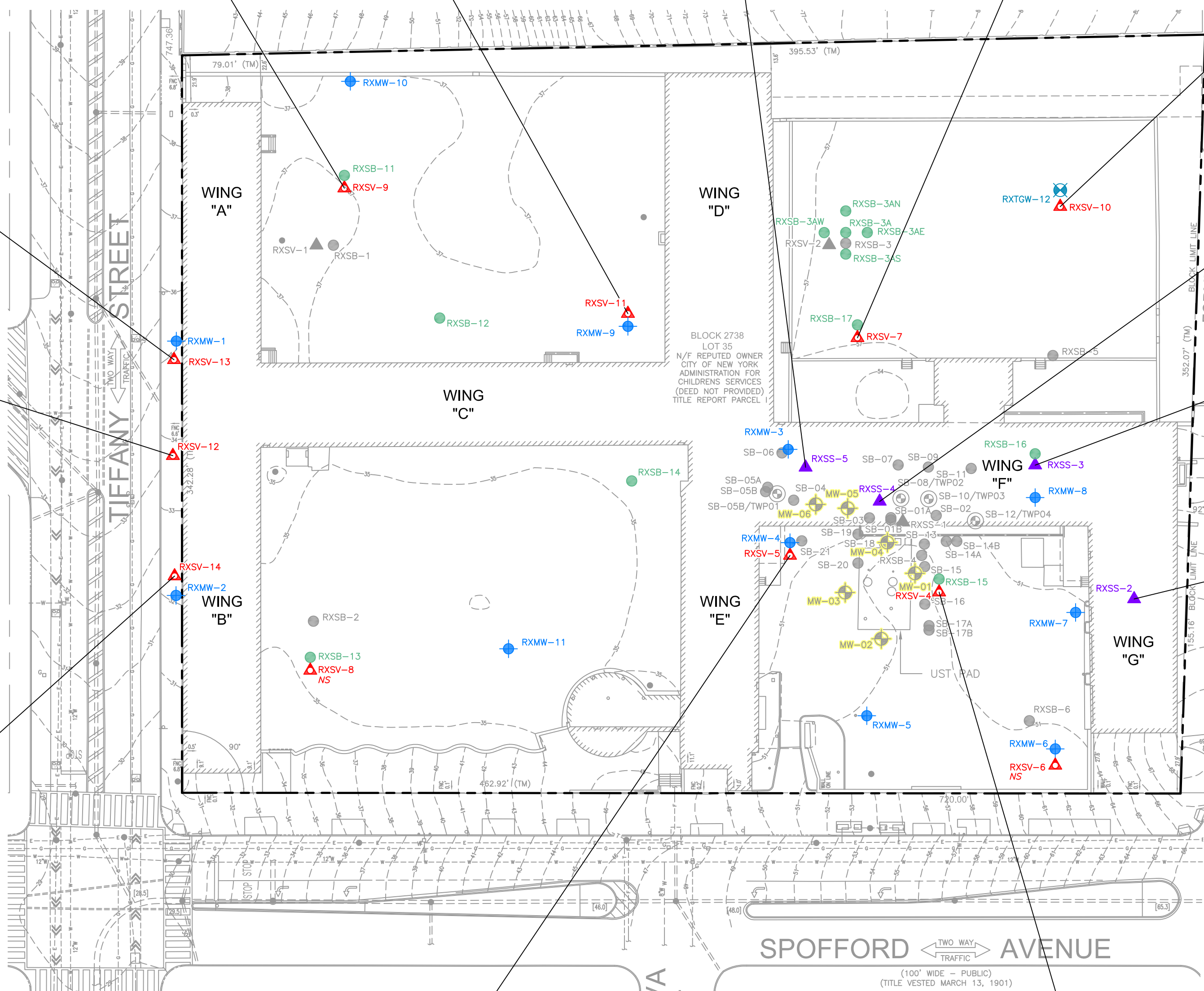
RXSS-2 Time 11:26	06/04/2018
VOCs (µg/m³)	
Methyl Ethyl Ketone	22

RXSV-12 (7) Time 12:40	6/22/2018
VOCs (µg/m³)	
n-Butane	27
Trichlorofluoromethane	33
Freon TF	1.1 J
Carbon disulfide	200
Methylene Chloride	6.4
Methyl Ethyl Ketone	2.3 J
Chloroform	150
Cyclohexane	3.5
Carbon tetrachloride	0.85 J
2,2,4-Trimethylpentane	6.6
Benzene	1.5 J
n-Heptane	1.8 J
Trichloroethene	1.7
Bromodichloromethane	3.3 J
Toluene	17
Tetrachloroethene	46
Ethylbenzene	57
m,p-Xylene	250
Xylene, o-	93
Xylene (total)	340
Cumene	2.8 J
n-Propylbenzene	1.1 J
4-Ethyltoluene	1.2 J
1,3,5-Trimethylbenzene	1.6 J
1,2,4-Trimethylbenzene	3.3
1,4-Dichlorobenzene	1.5 J

RXSV-14 (12) Time 12:30	6/22/2018
VOCs (µg/m³)	
n-Butane	3300
1,3-Butadiene	64
Carbon disulfide	78 J
n-Hexane	310
Chloroform	280
n-Heptane	77
Toluene	150
Tetrachloroethene	13 J
m,p-Xylene	32 J

RXSV-5 (14) Time 12:56	06/04/2018
VOCs (µg/m³)	
n-Butane	31
Acetone	1400
Carbon disulfide	13 J
Methyl Ethyl Ketone	31
Chloroform	7.4 J
Cyclohexane	11 J
Tetrachloroethene	9.7 J

RXSV-4 (7) Time 11:17	06/04/2018
VOCs (µg/m³)	
n-Butane	40
Carbon disulfide	8.2 J
n-Hexane	6.3 J
Tetrachloroethene	4.1 J

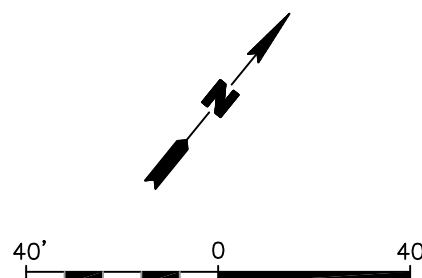


- LEGEND
- SITE BOUNDARY
 - RXMW-1 SOIL BORING AND GROUNDWATER WELL LOCATION AND DESIGNATION
 - RXTGW-11 SOIL BORING AND TEMPORARY GROUNDWATER WELL LOCATION (OVERBURDEN)
 - RXSB-15 SOIL BORING LOCATION AND DESIGNATION
 - RXSV-4 SOIL VAPOR LOCATION AND DESIGNATION
 - RXSS-2 SUB-SLAB SOIL VAPOR LOCATION AND DESIGNATION
 - SB-06 SOIL BORING LOCATION AND DESIGNATION FROM LOUIS BERGER AND ASSOCIATES, 2009 INVESTIGATION
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 - RXSB-3 APPROXIMATE SOIL BORING LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
 - RXSS-1 APPROXIMATE SUB SLAB/SOIL VAPOR POINT LOCATION AND DESIGNATION FROM ROUX ASSOCIATES 2017 INVESTIGATION
 - MW-06 MONITORING WELL RESAMPLING LOCATION AND DESIGNATION

DATA BOX KEY

SAMPLE LOCATION DEPTH/TIME	SAMPLE DATE
RXSV-7 (6) Time 11:55	06/04/2018
VOCs (µg/m³)	
Carbon disulfide	4.9 J
ANALYTE	RESULTS

µg/M³ - MICROGRAMS PER CUBIC METER
J - ESTIMATED VALUE
NS - NOT SAMPLED (WATER DETECTED IN SAMPLE TUBING)
BOLD - DATA INDICATES PARAMETER WAS DETECTED



Title:			
SOIL VAPOR RESULTS			
1221 SPOFFORD AVENUE BRONX, NEW YORK			
Prepared For:			
THE PENINSULA JV, LLC			
Compiled by: J.W.	Date: 9JUL18	PLATE	4
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